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2 AIR AND DIRT SEPARATION DEVICES

3 VALVES AND ACCESSORIES FOR RADIATORS

4 ZONE AND MOTORISED VALVES, MIXING VALVES, DISTRIBUTION MANIFOLDS, BOXES AND ACCESSORIES

5 RADIANT PANEL SYSTEM CONTROL

6 COMPONENTS FOR DOMESTIC WATER SYSTEMS

7 BACKFLOW PREVENTION DEVICES

8 BALANCING DEVICES

9 FITTINGS

10 GAS SAFETY

11 EXPANSION VESSELS, CHRONO-THERMOSTATS, THERMOSTATS

12 HEAT SYSTEMS

13 COMPONENTS FOR RENEWABLE ENERGY SYSTEMS

14 SPARE PARTS - For spare parts, please contact the appropriate department

15 FITTING COUPLING - PRODUCT DIMENSIONS are available on www.caleffi.com
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<td>30-121-123</td>
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</table>

**GENERAL INDEX**

**THE CALEFFI GROUP**

Caleffi S.p.A. - Corporate Headquarters - Plant 1
Fontanetto d’Agogna - ITALY

Caleffi S.p.A. - Plant 2
Fontanetto d’Agogna - ITALY

Caleffi S.p.A. - Plant 3
Gattico - ITALY

PRESSCO S.p.A. - Hot pressing and mechanical processing of brass components
Invisto - ITALY

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**THE CALEFFI GROUP**
Safety relief valves
Fuel shut-off valves
Temperature relief valves
Differential by-pass valve
Air separators
Instrument holders
Automatic filling units
Automatic water treatment unit
Chemical additives
Flow switches
Automatic shut-off cocks
Thermostats and pressure switches
Pressure gauges and temperature gauges
Strainers
Hydraulic separators
Manifolds for central heating system
Distribution units
Temperature regulators
**527 EST**  
Safety relief valve.  
Female connections.  
Discharge overpressure 10%.  
Closing differential 20%.  
PN 10.  
Temperature range: 5–110 °C.  
Settings: 2.25 - 2.5 - 2.7 - 3 - 3.5 - 4 - 4.5 - 5 - 5.4 - 6 bar.

**5521**  
Elbow tundish.

**5520**  
Straight tundish.

**5520**  
Pre-formed “special” tundish.

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<th>Code</th>
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<tr>
<td>5276 EST</td>
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<tr>
<td>5277 EST</td>
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**527 EST Special settings**

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<td>2.5</td>
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</table>

**527 EST tech. broch. 01253**

**5521 tech. broch. 01253**

**5520 tech. broch. 01253**

**5520 tech. broch. 01253**
### 311 tech. broch. 01253
Safety relief valve.
- Female connections.
- Discharge overpressure 20%.
- Closing differential 20%.
- PN 10.
- Temperature range: 5–110°C.
- Settings: 1.5 - 2.5 - 3 - 3.5 - 4 - 5 - 6 - 7 - 8 bar for 1/2” size;
  2 - 2.5 - 3 - 3.5 - 4 - 5 - 5.5 - 6 - 7 - 8 - 9 bar for 3/4” size.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Setting Options</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3114 **</td>
<td>1/2”</td>
<td>1 50</td>
<td></td>
</tr>
<tr>
<td>3115 **</td>
<td>3/4”</td>
<td>1 50</td>
<td></td>
</tr>
</tbody>
</table>

### 312 tech. broch. 01253
Safety relief valve.
- Male - female connections.
- Discharge overpressure 20%.
- Closing differential 20%.
- PN 10.
- Temperature range: 5–110°C.
- Settings: 1.8 - 2.5 - 3 - 3.5 - 4 - 5 - 6 - 7 - 8 bar.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
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<th>Remarks</th>
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<tbody>
<tr>
<td>3124 **</td>
<td>1/2”</td>
<td>1 50</td>
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</table>

### 313 tech. broch. 01253
Safety relief valve.
- Female connections.
- With pressure gauge connection.
- Discharge overpressure 20%.
- Closing differential 15%.
- Power rating: 110 kW.
- Temperature range: 5–110°C.
- Certified to NF P 52-001 - Class 2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Setting Options</th>
<th>Remarks</th>
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<tbody>
<tr>
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<tr>
<td>3135 **</td>
<td>3/4”</td>
<td>1 50</td>
<td></td>
</tr>
<tr>
<td>313432</td>
<td>1/2” 3 bar</td>
<td>1 50</td>
<td></td>
</tr>
<tr>
<td>313532</td>
<td>3/4” 3 bar</td>
<td>1 50</td>
<td></td>
</tr>
</tbody>
</table>

### 314 tech. broch. 01253
Safety relief valve.
- Male - female connections.
- Discharge overpressure 20%.
- Closing differential 20%.
- PN 10.
- Temperature range: 5–110°C.
- Max. pressure gauge temperature: 90°C.
- Settings: 2.5 - 3 - 6 - 7 - 8 bar.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Setting Options</th>
<th>Remarks</th>
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<tbody>
<tr>
<td>3144 **</td>
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<tr>
<td>314432</td>
<td>1/2” 3 bar</td>
<td>1 50</td>
<td></td>
</tr>
<tr>
<td>314462</td>
<td>1/2” 6 bar</td>
<td>1 50</td>
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</table>

### 5121
Safety relief valve.
- Male - female connections.
- With pressure gauge connection.
- Discharge overpressure 20%.
- Closing differential 15%.
- Power rating: 110 kW.
- Temperature range: 5–110°C.
- Certified to NF P 52-001 - Class 2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Setting Options</th>
<th>Remarks</th>
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</thead>
<tbody>
<tr>
<td>512131</td>
<td>1/2” 3 bar</td>
<td>50 –</td>
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</table>

### 5320
Safety relief valve.
- Female connections.
- Discharge overpressure 20%.
- Closing differential 20%.
- Power rating: 50 kW.
- Max. percentage of glycol: 50%.
- Temperature range: 5–120°C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Setting Options</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>532042</td>
<td>1/2” x 3/4” 2,5 bar</td>
<td>1 50</td>
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<tr>
<td>532043</td>
<td>1/2” x 3/4” 3 bar</td>
<td>1 50</td>
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</tbody>
</table>
Safety relief valve for domestic water systems.
Female connections.
Discharge overpressure 20%.
Closing differential 20%.
Max. percentage of glycol: 50%.
Medium: water.
Temperature range: 5–95 °C.
Settings: 4 - 6 - 8 - 10 bar.

5321
Safety relief valve. Female connections. With pressure gauge.
Discharge overpressure 20%.
Closing differential 20%.
Power rating: 50 kW.
Max. percentage of glycol: 50%.
Temperature range: 5–120 °C.
Max. pressure gauge temperature: 90 °C.

5322
Safety relief valve. Female connections. With pressure gauge connection.
Discharge overpressure 20%.
Closing differential 20%.
Power rating: 50 kW.
Max. percentage of glycol: 50%.
Temperature range: 5–120 °C.
Max. pressure gauge temperature: 90 °C.

5327
Discharge overpressure 20%.
Closing differential 20%.
Power rating: 50 kW.
Max. percentage of glycol: 50%.
Temperature range: 5–120 °C.

530
Safety relief valve. Female connections.
Discharge overpressure 20%.
Closing differential 20%.
Max. percentage of glycol: 50%.
Temperature range: 5–120 °C.

5321
Code
532122 1/2” x 3/4” 2,5 bar 1 50
532143 1/2” x 3/4” 3 bar 1 50

5322
Code
532222 1/2” x 3/4” 2,5 bar 1 50
532243 1/2” x 3/4” 3 bar 1 50

5327
Code
532722 1/2” x 3/4” 2,5 bar 48 –
532743 1/2” x 3/4” 3 bar 48 –

530
Code
530525 3/4” x 1” 2,5 bar 1 25
530530 3/4” x 1” 3 bar 1 25

5322
Code
5306 ** 1” x 1 1/4” 1 25
5307 ** 1 1/4” x 1 1/2” 1 10

5327
Code
5314 ** 1/2” x 3/4” 1 50
5315 ** 3/4” x 1” 1 25

531
Code
5316 ** 1” x 1 1/4” 1 25
5317 ** 1 1/4” x 1 1/2” 1 10
513  
**Safety relief valve.**
Female connections.  
Discharge overpressure 20%.  
Closing differential 20%.  
PN 10.  
Temperature range: 5–110 °C.  

**Code**  
5134 ** 1/2” 1,5 - 2 - 2,5 - 3 - 3,5 - 6 - 7 - 8 bar  1 50  
5136 ** 1” x 1 1/4”  1 25  
5137 ** 1 1/4” x 1 1/2”  1 10  

513  
**Safety relief valve.**
Female connections.  
Discharge overpressure 20%.  
Closing differential 20%.  
PN 10.  
Temperature range: 5–110 °C.  
Settings: 1,5 - 2 - 2,5 - 3 - 3,5 - 4 - 5 - 6 - 7 - 8 - 9 bar for 1” x 1 1/4” size; 2,5 - 3 - 3,5 - 6 - 7 - 8 bar for 1 1/4” x 1 1/2” size.  

**Code**  
5134 ** 1/2” M x Ø 15 - 3 bar 50 –  
5136 ** 1” x 1 1/4” M x Ø 15 - 3 bar 50 –  
5137 ** 1 1/4” x 1 1/2” M x Ø 15 - 3 bar 50 –  

514  
**Safety relief valve.**
Male - female connections.  
Discharge overpressure 20%.  
Closing differential 20%.  
PN 10.  
Temperature range: 5–110 °C.  
Settings: 2 - 2,5 - 3 - 3,5 - 4 - 5 - 6 - 7 - 8 - 9 bar.  

**Code**  
5141 ** 1/2”  1 50  

312  
**Safety relief valve.**
 dezincification resistant alloy body.  
For domestic water systems.  
M x Ø 15 compression end.  
With stainless steel seat.  
Discharge overpressure 20%.  
Closing differential 20%.  
Temperature range: 5–110 °C.  
Settings: 100 - 200 - 400 - 600 kPa.  
5 - 8 bar.  

**Code**  
312417  1/2” M x Ø 15 - 100 kPa 50 –  
312406  1/2” M x Ø 15 - 200 kPa 50 –  
312405  1/2” M x Ø 15 - 400 kPa 50 –  
312407  1/2” M x Ø 15 - 600 kPa 50 –  
312415  1/2” M x Ø 15 - 5 bar 50 –  
312418  1/2” M x Ø 15 - 8 bar 50 –  

309  
**Temperature and pressure relief valve.**
 dezincification resistant alloy body.  
For domestic water systems,  
to protect the hot water storage.  
Set temperature: 95 °C.  
Discharge rating: 1/2” - 3/4” x Ø 15: 10 kW.  
3/4” x Ø 22: 25 kW.  
Settings: 3 - 4 - 6 - 7 - 10 bar.  
Settings certified to EN 1490: 4 - 7 - 10 bar.  

**Code**  
309430  1/2” M x Ø 15 - 3 bar 100  1 20  
309440  1/2” M x Ø 15 - 4 bar 100  1 20  
309460  1/2” M x Ø 15 - 6 bar 100  1 20  
309470  1/2” M x Ø 15 - 7 bar 100  1 20  
309400  1/2” M x Ø 15 - 10 bar 100  1 20  
309542  3/4” M x Ø 15 - 4 bar 100  1 20  
309530  3/4” M x Ø 22 - 3 bar 100  1 20  
309560  3/4” M x Ø 22 - 6 bar 100  1 20  
309570  3/4” M x Ø 22 - 7 bar 100  1 20  
309500  3/4” x Ø 22 - 10 bar 100  1 20  
309435  1/2” M x Ø 15 - 3 bar 200  1 20  
309445  1/2” M x Ø 15 - 4 bar 200  1 20  
309465  1/2” M x Ø 15 - 6 bar 200  1 20  
309475  1/2” M x Ø 15 - 7 bar 200  1 20  
309405  1/2” M x Ø 15 - 10 bar 200  1 20  
309547  3/4” M x Ø 15 - 4 bar 200  1 20  
309535  3/4” M x Ø 22 - 3 bar 200  1 20  
309565  3/4” M x Ø 22 - 6 bar 200  1 20  
309575  3/4” M x Ø 22 - 7 bar 200  1 20  
309505  3/4” M x Ø 22 - 10 bar 200  1 20  

309  
**Temperature and pressure relief valve.**
 dezincification resistant alloy body.  
For domestic water systems,  
to protect the hot water storage.  
Set temperature: 95 °C.  
Discharge rating: 25 kW.  
Setting: 6 bar.  
For systems with nominal pressure of 400 kPa.  

**Code**  
309563  3/4” M x Ø 22 - 6 bar 100  1 20  

**Code completion**  

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</table>
**FUEL SHUT-OFF VALVES**

### 541  tech. broch. 01046

Fuel shut-off valve.
Brass body.
Female threaded connections.
Max. working pressure: 50 kPa.
Capillary length: 5 or 10 m.
Settings: 98 °C, 110 °C, 120 °C.

| Code     | Settings |  |  |
|----------|----------|  |  |
| 54104    | 1/2"  | ... °C | 1  |
| 54105    | 3/4"  | ... °C | 1  |
| 54106    | 1"    | ... °C | 1  |
| 54107    | 1 1/4"| ... °C | 1  |
| 54108    | 1 1/2"| ... °C | 1  |
| 54109    | 2"    | ... °C | 1  |
| 54110*   | 1/2"  | 110 °C | 1  |
| 541150*  | 3/4"  | 110 °C | 1  |
| 541150*  | 1"    | 110 °C | 1  |
| 541170*  | 1 1/4"| 110 °C | 1  |
| 541180*  | 1 1/2"| 110 °C | 1  |
| 541190*  | 2"    | 110 °C | 1  |

* Capillary length 5 m only

### 541  tech. broch. 01046

Fuel shut-off valve.
Bronze body.
Flanged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.
Max. working pressure: 50 kPa.
Capillary length: 5 or 10 m.
Settings: 98 °C, 110 °C, 120 °C.

| Code     | Settings |  |  |
|----------|----------|  |  |
| 54161    | DN 65   | ... °C | 1  |
| 54181    | DN 80   | ... °C | 1  |
| 541630*  | DN 65   | 110 °C | 1  |
| 541830*  | DN 80   | 110 °C | 1  |

* Capillary length 5 m only

### Code completion

| Code |  | capillary |  | capillary |
|------|  |  |  |  |
| 541  |  | 5 m | 2 | 3 |
| 540  |  | 10 m | 0 | 1 |

setting 98 °C 97 °C 120 °C 120 °C
**FUEL SHUT-OFF VALVES**

**540** tech. broch. 01074
Fuel shut-off valve.
Aluminium body.
Flanged connections PN 16.
Max. working pressure: 10 bar.
Capillary length: 5 m.
Settings: 97 °C, 99 °C, 110 °C.

**540** tech. broch. 01074
Fuel shut-off valve.
Aluminium body.
Female threaded connections.
Max. working pressure: 50 kPa.
Capillary length: 5 m.
Setting: 98 °C.

**540** tech. broch. 01074
Fuel shut-off valve.
Aluminium body.
Flanged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.
Max. working pressure: 50 kPa.
Capillary length: 5 or 10 m.
Settings: 97 °C, 110 °C, 120 °C.

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**TEMPERATURE RELIEF VALVES**

**542** tech. broch. 01001
Temperature relief valve, with fail-safe action.
Manual reset for burner switch off or alarm activation.
Working pressure: 0.3 bar ≤ P ≤ 10 bar.
Temperature range: 5–100 °C.
Setting temperature: 98 °C and 99 °C.
Discharge rating:
1 1/2" x 1 1/4" - 136 kW.
1 1/2" x 1 1/2" - 419 kW.

**543** tech. broch. 01057
Temperature safety relief valve, with double safety sensor, for solid fuel generators.
Brass body. Chrome plated.
Max. working pressure: 10 bar.
Temperature range: 5–110 °C.
Setting temperature: 98 °C (0/-5 °C).
Discharge flow rate with Δp of 1 bar and T=110 °C: 3000 l/h.
Capillary length: 1300 mm.
Certified to EN 14597.

**544** tech. broch. 01058
Temperature relief valve, with positive action with automatic filling.
For solid fuel generators.
Max working pressure: 6 bar.
Max. working temperature: 110 °C.
Temperature range: 5–110 °C.
Ambient temperature range: 1–50 °C.
Setting temperature: 100 °C (0/-5 °C).
Discharge flow rate with Δp of 1 bar and T=110 °C: 1600 l/h.
Capillary length: 1300 mm.

**544**
Temperature relief valve with automatic filling for solid fuel generators, with knob for manual discharge.
Max. working pressure: 6 bar.
Max. working temperature: 120 °C.
Setting temperature: 100 °C (0/-5 °C).
Discharge flow rate with Δp of 1 bar and T=110 °C: 1800 l/h.
**529**  
Draught regulating valve.  
Male threaded connection.  
Adjustment temperature range: 30–90 °C.  
Certified to EN 14597.

<table>
<thead>
<tr>
<th>Code</th>
<th>Pocket length (mm)</th>
<th></th>
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<tbody>
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<td>529050</td>
<td>3/4” M ISO 7/1</td>
<td>58</td>
</tr>
<tr>
<td>529150</td>
<td>3/4” M ISO 7/1</td>
<td>58</td>
</tr>
<tr>
<td>529151</td>
<td>3/4” M ISO 7/1</td>
<td>78</td>
</tr>
</tbody>
</table>

**547**  
Air separator.  
Cast iron body.  
Female connections.

<table>
<thead>
<tr>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>547060</td>
<td>1”</td>
</tr>
<tr>
<td>547070</td>
<td>1 1/4”</td>
</tr>
<tr>
<td>547080</td>
<td>1 1/2”</td>
</tr>
<tr>
<td>547090</td>
<td>2”</td>
</tr>
<tr>
<td>547200</td>
<td>2 1/2”</td>
</tr>
<tr>
<td>547300</td>
<td>3”</td>
</tr>
</tbody>
</table>

**327**  
**BALLSTOP**  
Ball valve with built-in check valve for heating systems.  
Low head losses.  
Max. working pressure: 16 bar.  
Temperature range: 5–110 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>327400</td>
<td>1/2” butterfly handle</td>
</tr>
<tr>
<td>327500</td>
<td>3/4” butterfly handle</td>
</tr>
<tr>
<td>327600</td>
<td>1” lever handle</td>
</tr>
<tr>
<td>327700</td>
<td>1 1/4” lever handle</td>
</tr>
<tr>
<td>327800</td>
<td>1 1/2” lever handle</td>
</tr>
<tr>
<td>327900</td>
<td>2” lever handle</td>
</tr>
</tbody>
</table>

**510**  
Anti-thermosiphon check valve to prevent natural circulation of water.  
Removable cap allows straight or angled installations.  
Max. working pressure: 10 bar.  
Temperature range: 5–110 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>510500</td>
<td>3/4”</td>
</tr>
<tr>
<td>510600</td>
<td>1”</td>
</tr>
<tr>
<td>510700</td>
<td>1 1/4”</td>
</tr>
</tbody>
</table>

**519**  
Differential by-pass valve, adjustable with graduated scale.  
Max. working pressure: 10 bar.  
Temperature range: 0–110 °C.  
Max. percentage of glycol: 30 %.

<table>
<thead>
<tr>
<th>Code</th>
<th>Setting range m w.g.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>519500</td>
<td>3/4”</td>
<td>1–6</td>
</tr>
<tr>
<td>519504</td>
<td>3/4”</td>
<td>10–40</td>
</tr>
<tr>
<td>519700</td>
<td>1 1/4”</td>
<td>1–6</td>
</tr>
</tbody>
</table>
336
Instrument holder for heating systems. Equipped with automatic shut-off cock for expansion vessel and male connection for safety valve 531 series. Max. working temperature: 110 °C. Up to 50 kW.

336
Assembled instrument holder for heating systems. Equipped with air vent, safety relief valve, pressure gauge and automatic shut-off cock for expansion vessel. Max. working temperature: 110 °C. Up to 50 kW.

305
Instrument holder kit in composite material for heating systems. Equipped with air vent, safety relief valve in composite material, pressure gauge, automatic shut-off cock for expansion vessel and fixing bracket. With insulation. Temperature range: 5–90 °C. Up to 50 kW.

305
Instrument holder in composite material for heating systems. Equipped with air vent, safety relief valve in composite material and pressure gauge. With insulation. Temperature range: 5–90 °C. Up to 50 kW.

305
Instrument holder in composite material for heating systems. Equipped with air vent, safety relief valve and pressure gauge. With insulation. Temperature range: 5–90 °C. Up to 50 kW.

302
Combined air separator with heating system accessories. Equipped with air vent, safety relief valve and pressure gauge. Max. working temperature: 110 °C. Up to 50 kW.

Code
33600  3/4”  2  10

Code
33630  3/4”  3 bar with automatic shut-off cock  1  5
33631  3/4”  3 bar with automatic ball shut-off cock  1  5

Code
30503  3/4”  3 bar TÜV  1  10

Code
30563  1”  3 bar TÜV  1  5

Code
30572  3/4”  2,5 bar TÜV  1  5
30571  1”  1,8 bar  1  5
30573  1”  3 bar NF  1  5
30574  1”  4 bar without insulation  1  5

Code
30260  1”  3 bar  1  10
30261  1”  3 bar with pre-formed insulation  1  10
3006
ROBOFIL
Boiler filling loop. dezincification resistant alloy body. Equipped with double check valve with shut-off valve, hose connection and shut-off valve.
Max. working pressure: 10 bar.
Max. working temperature: 95 °C.
Flexible hose length: 400 mm.

553
Pre-adjustable automatic filling unit, anti-scale, inspectionable, with pressure setting indicator, manual cock, strainer, check valve. With hose connection.
Setting pressure range: 0.2–4 bar.
Max. inlet pressure: 16 bar.
Max. working temperature: 65 °C.

554
Pre-adjustable automatic filling unit for high flow rates, with double shut-off valve, check valve. Self-contained replaceable cartridge.
Setting pressure range: 1–6 bar.
Max. inlet pressure: 16 bar.
Max. working temperature: 60 °C.

573001
Automatic filling unit with CA type backflow preventer and shut-off valve.
Filling unit setting pressure range: 0.2–4 bar.
Max. working pressure: 10 bar.
Max. working temperature: 65 °C.
Backflow preventer certified to EN 14367 standard.

574011
Compact automatic charging unit with BA type backflow preventer, shut-off valve and strainer.
With pre-formed insulation.
Filling unit setting pressure range: 0.2–4 bar.
Max. working pressure: 10 bar.
Max. working temperature: 65 °C.
Backflow preventer certified to EN 12729 standard.
574000  tech. broch. 01061
Automatic charging unit with **BA type** backflow preventer, Y-strainer and shut-off valve.
Filling unit setting pressure range: 0.2–4 bar.
Max. working pressure: 10 bar.
Max. working temperature: 65 °C.
Backflow preventer certified to EN 12729 standard.

574001  tech. broch. 01125
Automatic charging unit with **BA type** backflow preventer, Y-strainer and shut-off valve.
Pressure reducing valve setting pressure range: 1–6 bar.
Max. working pressure: 10 bar.
Max. working temperature: 65 °C.
Backflow preventer certified to EN 12729 standard.

580010  tech. broch. 01333
Automatic compact charging unit to EN 1717 standard with **BA type** backflow preventer, shut-off valve, strainer, pressure test ports for controlling the backflow preventer, pressure reducing valve.
For horizontal or vertical installations.
**CR** dezincification resistant alloy body.
**With insulation.**
Filling unit setting pressure range: 0.8–4 bar.
Max. working pressure: 10 bar.
Max. working temperature: 65 °C.
Backflow preventer certified to EN 12729 standard.
Pressure reducing valve certified to EN 1567 standard.
AUTOMATIC WATER TREATMENT UNIT

580020

Automatic water treatment unit for softening and demineralisation. It includes a positive displacement meter with built-in conductivity measuring cell, by-pass regulator, downstream ball shut-off valve, drain cock and air vent cock.

With insulation.

Working temperature range: 4–30 °C. Max. working pressure: 4 bar. Max. working temperature: 30 °C.

Function

The automatic water treatment unit, installed on the inlet pipe, is used to treat water in the closed circuits of heating and cooling systems. It is complete with a by-pass regulator to adjust the outlet water hardness at the softening treatment.

Electronic controller

The unit is equipped with an electronic controller, which is capable of handling water demineralisation and softening treatments alike. It is possible to set parameters and data relating to a specific treatment, directly from the front panel of the controller. The software will automatically calculate all parameters for correct operation (refer to instruction sheet H0007428).

Backflow prevention reference standards

To avoid water backflow from the heating system, which is polluted and hazardous for human health, it is indispensable to install an automatic charging unit with a backflow preventer. The correct use of hydraulic backflow preventers is governed by the European reference standard EN 1717: 2000 ("Protection against pollution of potable water in water installations and general requirements of devices to prevent pollution by backflow").

580011

Automatic compact charging unit to EN 1717 standard with BA type backflow preventer, shut-off valve, strainer, pressure test ports for controlling the backflow preventer, pressure reducing valve.

For horizontal or vertical installations. Brass body.


Connection fitting with nut and gasket. For codes 580020 and 580011.

Automatic compact charging unit (code 580011)

Softening cartridge (code 580902-580903)

Demineralisation cartridge (code 580900-580901)

Automatic water treatment unit (code 580020)

Connection fitting (code F0001298)
DISPOSABLE SOFTENING CARTRIDGES

580
Disposable softening cartridge.
Max. working pressure: 4 bar.
Working temperature range: 4–30 °C.
Warehouse storage temperature range: 0–40 °C.
Nominal flow rate: 2 l/min (code 580902), 4 l/min (code 580903).

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensioning coefficient (hardness °f)</th>
<th>Dimensioning coefficient (hardness °dH)</th>
</tr>
</thead>
<tbody>
<tr>
<td>580902</td>
<td>26</td>
<td>14</td>
</tr>
<tr>
<td>580903</td>
<td>43</td>
<td>24</td>
</tr>
</tbody>
</table>

Softening cartridge sizing
The volume of treatable water depends on the hardness of the filling water and must be calculated as follows:

\[
\text{Volume of treatable water (m}^3\) = \frac{\text{Dimensioning coefficient}}{\text{hardness IN} - \text{hardness OUT}}
\]

\[
\text{hardness IN} = \text{raw water hardness (°f/°dH)}
\]

\[
\text{hardness OUT} = \text{treated water hardness (°f/°dH)}
\]

5750
Hardness measurement kit.
Accuracy: 1°f / 1°dH.

<table>
<thead>
<tr>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>575003</td>
<td>1</td>
</tr>
</tbody>
</table>

DISPOSABLE DEMINERALISATION CARTRIDGES

580
Disposable demineralisation cartridge.
Max. working pressure: 4 bar.
Working temperature range: 4–30 °C.
Warehouse storage temperature range: 0–40 °C.
Nominal flow rate: 2 l/min (code 580900), 4 l/min (code 580901).

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensioning coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>580900</td>
<td>140</td>
</tr>
<tr>
<td>580901</td>
<td>180</td>
</tr>
</tbody>
</table>

Demineralisation cartridge sizing
The volume of treatable water depends on the electrical conductivity of the filling water, and must be calculated as follows:

\[
\text{Volume of treatable water (m}^3\) = \frac{\text{Sizing coefficient}}{\text{Electrical conductivity (μS/cm)}}
\]
### CHEMICAL ADDITIVES

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Description</th>
<th>Dose</th>
</tr>
</thead>
<tbody>
<tr>
<td>570911</td>
<td>C3 CLEANER</td>
<td>Removes sludge, limescale and debris.</td>
<td>0.5 litres of product every 150 litres of water in the system</td>
</tr>
<tr>
<td>570912</td>
<td>C1 HINIBITOR</td>
<td>Protects against corrosion and limescale.</td>
<td>0.5 litres of product every 150 litres of water in the system</td>
</tr>
<tr>
<td>570913</td>
<td>C7 BIOCIDE</td>
<td>Prevents bacterial and fungal growth.</td>
<td>0.5 litres of product every 150 litres of water in the system</td>
</tr>
<tr>
<td>570914</td>
<td>C4 LEAK SEALER</td>
<td>Liquid sealer.</td>
<td>0.5 litres of product every 150 litres of water in the system</td>
</tr>
<tr>
<td>570915</td>
<td>C3 FAST CLEANER</td>
<td>Removes sludge, limescale and debris.</td>
<td>0.4 litres of product every 150 litres of water in the system</td>
</tr>
<tr>
<td>570916</td>
<td>C1 FAST INHIBITOR</td>
<td>Protects against corrosion and limescale.</td>
<td>0.4 litres of product every 150 litres of water in the system</td>
</tr>
</tbody>
</table>

Chemical additives filling

Chemical additives pouring
315 tech. broch. 01184
Flow switch with magnetically operated contacts. 230 V - 0.02 A (an appropriate relais must be used in case of higher power consumption). Max. working pressure: 6 bar. Temperature range: -15–100 °C.

Contact closing with increasing flow rate at:
- 156 l/h (1/2”)
- 456 l/h (3/4”)

Contact opening with decreasing flow rate at:
- 108 l/h (1/2”)
- 348 l/h (3/4”)

558 Automatic shut-off cock, for expansion vessels.
For domestic water circuit.
Max. working pressure: 10 bar.
Max. working temperature: 110 °C.

558 Automatic shut-off cock, for expansion vessel, with drain cock.
For domestic water circuit.
Max. working pressure: 6 bar.
Max. working temperature: 85 °C.

5580 Ball shut-off valve, for expansion vessels, with drain cock.
For domestic water circuit.
Max. working pressure: 6 bar.
Max. working temperature: 85 °C.

538 Drain cock with hose connection and cap. Max. working pressure: 10 bar. Max. working temperature: 110 °C.

Application diagram of shut-off valve 5580 series
**683 tech. broch. 01040**
Flow rate metering device.
Female connections.
Equipped with pressure test ports.
Max. working pressure: 10 bar.
Temperature range: 5–110 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>683005</td>
<td>3/4&quot;</td>
<td>1</td>
</tr>
<tr>
<td>683006</td>
<td>1&quot;</td>
<td>1</td>
</tr>
</tbody>
</table>

**683 tech. broch. 01040**
Flow rate metering device.
Steel body. Flanged connections.
To be coupled with flat counterflanges EN 1092-1
DN 32–DN 100, PN 6;
DN 125–DN 200, PN 16.
Temperature range: 5–110 °C.
Equipped with pressure test ports, counterflanges, bolts and seals.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>683030</td>
<td>32</td>
<td>1</td>
</tr>
<tr>
<td>683040</td>
<td>40</td>
<td>1</td>
</tr>
<tr>
<td>683050</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>683060</td>
<td>65</td>
<td>1</td>
</tr>
<tr>
<td>683080</td>
<td>80</td>
<td>1</td>
</tr>
<tr>
<td>683100</td>
<td>100</td>
<td>1</td>
</tr>
<tr>
<td>683120</td>
<td>DN 125</td>
<td>1</td>
</tr>
<tr>
<td>683150</td>
<td>DN 150</td>
<td>1</td>
</tr>
<tr>
<td>683170</td>
<td>DN 175</td>
<td>1</td>
</tr>
<tr>
<td>683200</td>
<td>DN 200</td>
<td>1</td>
</tr>
</tbody>
</table>

*For flow rate measurement, the electronic measuring station 130 series (page 223), can be used.*

**690**
Three way tap for INAIL master pressure gauge.
Max. working pressure: 15 bar.
Temperature range: 5–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>690200</td>
<td>1/4&quot;</td>
<td>5</td>
</tr>
<tr>
<td>690300</td>
<td>3/8&quot;</td>
<td>5</td>
</tr>
<tr>
<td>690400</td>
<td>1/2&quot;</td>
<td>5</td>
</tr>
</tbody>
</table>

**691**
Water hammer reducing loop.
In chrome plated copper.

**692**
Thermometer in sleeve.
1/2" pocket connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Pocket length</th>
<th>°C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>692000</td>
<td>45 mm</td>
<td>0–120</td>
<td>1</td>
</tr>
</tbody>
</table>

**693**
Bulb thermometer.

<table>
<thead>
<tr>
<th>Code</th>
<th>°C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>693000</td>
<td>0–120</td>
<td>1</td>
</tr>
</tbody>
</table>

**694**
INAIL test pocket, 1/2" connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Pocket length</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>694045</td>
<td>45 mm</td>
<td>1</td>
</tr>
<tr>
<td>694100</td>
<td>100 mm</td>
<td>1</td>
</tr>
</tbody>
</table>
**621**
Adjustable contact thermostat.
Temperature range: 20–90 °C.
Protection class: IP 20.

**622**
Adjustable immersion thermostat.
Temperature range: 0–90 °C.
With 1/2” connection pocket.
Protection class: IP 40.

**623**
Double immersion thermostat:
- safety thermostat with manual reset,
  setting 100 °C (+0 °C -6 °C),
  setting 110 °C (+0 °C -6 °C)
- adjustment thermostat,
  temperature range: 0–90 °C,
  temperature range: 0–100 °C.
  With 1/2” connection pocket.
Protection class: IP 40.

**624**
Immersion safety thermostat,
with manual reset,
- setting 100 °C (+0 °C -6 °C),
- setting 110 °C (+0 °C -6 °C).
  With 1/2” connection pocket.
Protection class: IP 40.

**625**
Safety pressure switch, with manual reset.
250 V - 16 (10) A.
Max. working pressure: 5 bar.
Ambient temperature range: 0–50 °C.
Medium temperature range: 20–110 °C.
1/4” female connection.
Protection class: IP 44.

**625**
Minimum pressure safety switch, with manual reset.
250 V - 16 (10) A.
Max. working pressure: 5 bar.
Ambient temperature range: 0–50 °C.
Medium temperature range: 20–110 °C.
1/4” female connection.
Protection class: IP 44.

**625**
Pressure switch for boosting sets and domestic water applications.
Up to 500 V three-pole - 16 (10) A.
Ambient temperature range: 0–55 °C.
Medium temperature range: 0–55 °C.
1/4” female connection.
Protection class: IP 44.

**613**
Float switch,
250 V - 10 A.
Heavy duty approved.
**557**
Pressure gauge.  
Accuracy class: UNI 2,5.  
Temperature range: -20–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>bar</th>
<th>Position</th>
<th>Ø</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>557104</td>
<td>0–4</td>
<td>1/4&quot; central back conn.</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>557204</td>
<td>0–4</td>
<td>1/4&quot; &quot;off-centred&quot; back conn.</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>557304</td>
<td>0–4</td>
<td>1/4&quot; bottom conn.</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>557106</td>
<td>0–6</td>
<td>1/4&quot; central back conn.</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>557306</td>
<td>0–6</td>
<td>1/4&quot; bottom conn.</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>557110</td>
<td>0–10</td>
<td>1/4&quot; bottom conn.</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>557410</td>
<td>0–10</td>
<td>1/4&quot; central back conn.</td>
<td>63</td>
<td>1</td>
</tr>
<tr>
<td>557425</td>
<td>0–25</td>
<td>1/4&quot; central back conn.</td>
<td>63</td>
<td>1</td>
</tr>
<tr>
<td>557704</td>
<td>0–4</td>
<td>3/8&quot; bottom conn.</td>
<td>80</td>
<td>1</td>
</tr>
<tr>
<td>557706</td>
<td>0–6</td>
<td>3/8&quot; bottom conn.</td>
<td>80</td>
<td>1</td>
</tr>
<tr>
<td>557710</td>
<td>0–10</td>
<td>3/8&quot; bottom conn.</td>
<td>80</td>
<td>1</td>
</tr>
</tbody>
</table>

**688**
Temperature gauge.  
1/2" central back connection.  
With pocket.  
Ø 80 mm.  
Accuracy class: UNI 2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Pocket length</th>
<th>°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>688000</td>
<td>45 mm</td>
<td>0–120</td>
</tr>
<tr>
<td>688010</td>
<td>100 mm</td>
<td>0–120</td>
</tr>
<tr>
<td>688011</td>
<td>without pocket</td>
<td>0–120</td>
</tr>
</tbody>
</table>

**503**
Temperature/pressure gauge.  
1/2" central back connection.  
With shut-off pocket.  
Ø 80 mm.  
Accuracy class: - temperature gauge UNI 2; - pressure gauge UNI 2,5.

<table>
<thead>
<tr>
<th>Code</th>
<th>bar</th>
<th>°C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>503040</td>
<td>0–4</td>
<td>0–120</td>
<td>1</td>
</tr>
<tr>
<td>503060</td>
<td>0–6</td>
<td>0–120</td>
<td>1</td>
</tr>
</tbody>
</table>

**688**
Temperature gauge.  
1/2" bottom connection.  
With pocket.  
Ø 80 mm.  
Accuracy class: UNI 2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Pocket length</th>
<th>°C</th>
</tr>
</thead>
<tbody>
<tr>
<td>688100</td>
<td>45 mm</td>
<td>0–120</td>
</tr>
</tbody>
</table>

**687**
Temperature gauge for cooling systems.  
1/2" central back connection.  
With pocket.  
Ø 80 mm.  
Accuracy class: UNI 2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Pocket length</th>
<th>°C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>687000</td>
<td>45 mm</td>
<td>-30–50</td>
<td>1</td>
</tr>
<tr>
<td>687010</td>
<td>100 mm</td>
<td>-30–50</td>
<td>1</td>
</tr>
</tbody>
</table>

**503**
Temperature/pressure gauge.  
1/2" bottom connection.  
With shut-off pocket.  
Ø 80 mm.  
Accuracy class: - temperature gauge UNI 2; - pressure gauge UNI 2,5.

<table>
<thead>
<tr>
<th>Code</th>
<th>bar</th>
<th>°C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>503140</td>
<td>0–4</td>
<td>0–120</td>
<td>1</td>
</tr>
<tr>
<td>503160</td>
<td>0–6</td>
<td>0–120</td>
<td>1</td>
</tr>
</tbody>
</table>

**687**
Temperature gauge for cooling.  
1/2" bottom connection.  
With pocket.  
Ø 80 mm.  
Accuracy class: UNI 2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Pocket length</th>
<th>°C</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>687110</td>
<td>100 mm</td>
<td>-30–50</td>
<td>1</td>
</tr>
</tbody>
</table>

**5560**
Pressure gauge for expansion vessel pressure test.  
Accuracy class: UNI 2,5.

<table>
<thead>
<tr>
<th>Code</th>
<th>bar</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>556000</td>
<td>0–10</td>
<td>1</td>
</tr>
</tbody>
</table>

**689**
Flow gauge.  
3/8" bottom connection.  
With pocket.  
Ø 80 mm.  
Accuracy class: UNI 2,5.  
Temperature range: -20–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>m w.g.</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>689010</td>
<td>0–10</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>689016</td>
<td>0–16</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>689025</td>
<td>0–25</td>
<td>1</td>
<td>30</td>
</tr>
</tbody>
</table>

For higher pressures see pressure gauges 557 series.
**STRAINERS**

**577**
Y-strainer.
Bronze body.
1/2"–2", PN 16,
2 1/2" - 3"; PN 10.
Female connections.
Temperature range: -20–110 ºC.
Max. percentage of glycol: 30 %.
Strainer on stainless steel stretched plate.

<table>
<thead>
<tr>
<th>Code</th>
<th>Mesh size</th>
<th>Ø (mm)</th>
<th>Kx (m³/h)</th>
<th>Qty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>577004</td>
<td>1/2&quot;</td>
<td>0,40</td>
<td>3,4</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>577005</td>
<td>3/4&quot;</td>
<td>0,40</td>
<td>7</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>577006</td>
<td>1&quot;</td>
<td>0,40</td>
<td>10</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>577007</td>
<td>1 1/4&quot;</td>
<td>0,47</td>
<td>16</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>577008</td>
<td>1 1/2&quot;</td>
<td>0,47</td>
<td>24</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>577009</td>
<td>2&quot;</td>
<td>0,53</td>
<td>35</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>577010</td>
<td>2 1/2&quot;</td>
<td>0,53</td>
<td>57</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>577010</td>
<td>3&quot;</td>
<td>0,53</td>
<td>73</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>

**579**
Y-strainer for heating systems.
Grey cast iron body, grey epoxy coating.
Max. working pressure: 16 bar.
Temperature range: -10–100 ºC.
Max. percentage of glycol: 50 %.
Flanged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.
Filtering mesh in stainless steel AISI 304.

<table>
<thead>
<tr>
<th>Code</th>
<th>Mesh size</th>
<th>Ø (mm)</th>
<th>Kx (m³/h)</th>
<th>Qty</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>579051</td>
<td>DN 50</td>
<td>0,87</td>
<td>54</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>579061</td>
<td>DN 65</td>
<td>0,87</td>
<td>76</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>579081</td>
<td>DN 80</td>
<td>1,55</td>
<td>108</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>579101</td>
<td>DN 100</td>
<td>1,55</td>
<td>170</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>579121</td>
<td>DN 125</td>
<td>1,55</td>
<td>295</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>579151</td>
<td>DN 150</td>
<td>1,55*</td>
<td>408</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>579201**</td>
<td>DN 200</td>
<td>1,55*</td>
<td>725</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>579251**</td>
<td>DN 250</td>
<td>1,55*</td>
<td>938</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>

* Rhomboidal reinforcing mesh
** Blue epoxy coating
### HYDRAULIC SEPARATORS

**548**

**Hydraulic separator.**

- Epoxy resin coated steel body.
- With pre-formed insulation. Female union connections. Max. working pressure: 10 bar.
- Temperature range: 0–100 °C.

**Complete with:**
- Air vent with automatic shut-off cock, drain cock.

### Choice of hydraulic separator 548 series

The hydraulic separator should be sized according to the maximum flow rate value at the inlet. The selected design value must be the greatest between the primary circuit and the secondary circuit.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate m³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>548006</td>
<td>1” 2,5</td>
</tr>
<tr>
<td>548007</td>
<td>1 1/4” 4</td>
</tr>
<tr>
<td>548008</td>
<td>1 1/2” 6</td>
</tr>
<tr>
<td>548009</td>
<td>2” 8,5</td>
</tr>
</tbody>
</table>

**548**

**Hydraulic separator.**

- Epoxy resin coated steel body. Flanged connections PN 16.
- To be coupled with flat counterflanges EN 1092-1. Max. working pressure: 10 bar.
- Temperature range: 0–110 °C. Temperature probe connection: 1/2” F.

**Complete with:**
- Automatic air vent, shut-off valve, drain valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate m³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>548052</td>
<td>DN 50 9</td>
</tr>
<tr>
<td>548062</td>
<td>DN 65 18</td>
</tr>
<tr>
<td>548082</td>
<td>DN 80 28</td>
</tr>
<tr>
<td>548102</td>
<td>DN 100 56</td>
</tr>
<tr>
<td>548122</td>
<td>DN 125 75</td>
</tr>
<tr>
<td>548152</td>
<td>DN 150 110</td>
</tr>
</tbody>
</table>

**548**

**Hydraulic separator.**

- Epoxy resin coated steel body. Flanged connections PN 16.
- To be coupled with flat counterflanges EN 1092-1. Max. working pressure: 10 bar.
- Temperature range: 0–105 °C (DN 50–DN 100), 0–100 °C (DN 125–DN 150). Temperature probe connection: 1/2” F.

**Complete with:**
- Automatic air vent, shut-off valve, drain valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate m³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>548050</td>
<td>DN 50 9</td>
</tr>
<tr>
<td>548060</td>
<td>DN 65 18</td>
</tr>
<tr>
<td>548080</td>
<td>DN 80 28</td>
</tr>
<tr>
<td>548100</td>
<td>DN 100 56</td>
</tr>
<tr>
<td>548120</td>
<td>DN 125 75</td>
</tr>
<tr>
<td>548150</td>
<td>DN 150 110</td>
</tr>
</tbody>
</table>

**548**

**Hydraulic separator.**

- Epoxy resin coated steel body. Flanged connections PN 10.
- To be coupled with flat counterflanges EN 1092-1. Max. working pressure: 10 bar.
- Temperature range: 0–110 °C. Temperature probe connection: 1/2” F.

**Complete with:**
- Automatic air vent, shut-off valve, drain valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate m³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>548200</td>
<td>DN 200 180</td>
</tr>
<tr>
<td>548250</td>
<td>DN 250 300</td>
</tr>
<tr>
<td>548300</td>
<td>DN 300 420</td>
</tr>
</tbody>
</table>
**Function**

The multifunction hydraulic separator combines different functional components, each of them to satisfy specific needs of air conditioning system circuits.

It is supplied complete with hot pre-formed shell insulation to ensure perfect thermal insulation when used with both hot and chilled water.

The device is designed to carry out the following functions:

- **Hydraulic separation**
  To keep connected hydraulic circuits totally independent from each other.

- **Deaeration**
  Utilises the combined action of several physics principles: the widening of the cross section decreases the flow velocity and the technopolymer mesh creates whirling movements so as to facilitate the release of micro-bubbles. The bubbles, fusing with each other, increase in volume and, rising towards the top of the unit, are released through a float-operated automatic air vent.

- **Dirt separation**
  The dirt separator separates and collects any impurities in the circuits as they collide with the surface of the internal element.

- **Removal of magnetic particles**
  The special patented magnetic system also attracts ferromagnetic impurities in the water: the ferromagnetic particles are trapped in the collection zone, meaning they are prevented from being recirculated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate m³/h</th>
<th>1</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>549506</td>
<td>1&quot;</td>
<td>2,5</td>
<td>1</td>
</tr>
<tr>
<td>549507</td>
<td>1 1/4&quot;</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>549508</td>
<td>1 1/2&quot;</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>549509</td>
<td>2&quot;</td>
<td>8,5</td>
<td>1</td>
</tr>
</tbody>
</table>

**Code**

- 5495 tech. broch. 01249
- 5495 SEP

Multifunction hydraulic separator.

Epoxy resin coated steel body.

*With pre-formed insulation.*

Female union connections.

Max. working pressure: 10 bar.

Temperature range: 0–100 °C.

Complete with:

- hydraulic separator,
- automatic air vent,
- dirt separator,
- magnetic ring,
- drain cock with hose connection.

**Hydraulic separation**

**Deaeration**

**Dirt removal**

**Removal of magnetic particles**
HYDRAULIC SEPARATORS-MANIFOLDS

**559 SEPCOLL 2+2**
Hydraulic separator-manifold for heating systems. Steel body, PN 6. *With pre-formed insulation.*
1 1/4” F main connections.
1 1/2” outlet connections with captive nut:
two at the top and two at the bottom.
Temperature range: 0–110 °C.
Complete with mounting brackets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet centre distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>559222</td>
<td>125 mm</td>
</tr>
</tbody>
</table>

**559 SEPCOLL 3+1**
Hydraulic separator-manifold for heating systems. Steel body, PN 6. *With pre-formed insulation.*
1 1/4” F main connections.
1 1/2” outlet connections with captive nut: three at the top and one at the bottom (can be inverted).
Temperature range: 0–110 °C.
Complete with mounting brackets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet centre distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>559231</td>
<td>125 mm</td>
</tr>
</tbody>
</table>

**559 SEPCOLL 2**
Hydraulic separator-manifold for heating systems. Steel body, PN 6. *With pre-formed insulation.*
1” F main connections.
Outlet connections: two 1 1/2” at the top with captive nut.
Temperature range: 0–100 °C.
Complete with mounting brackets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet centre distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>559221</td>
<td>125 mm</td>
</tr>
</tbody>
</table>

**559 SEPCOLL 3+1**
Hydraulic separator-manifold for heating and air conditioning systems. Steel body, PN 6. *With pre-formed insulation.*
1 1/4” F main connections.
1 1/2” outlet connections with captive nut: three at the top and one at the bottom (can be inverted).
Temperature range: 0–100 °C.
Complete with mounting brackets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet centre distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>559233</td>
<td>125 mm</td>
</tr>
</tbody>
</table>

**559 SEPCOLL 2**
Hydraulic separator-manifold for heating and air conditioning systems. Steel body, PN 6.

| Maximum recommended flow rate at inlets of SEPCOLL separator 559 series |
|----------------|----------------|----------------|
| Outlets       | Primary         | Secondary (total) |
| 2+1 / 2       | 2 m³/h          | 5 m³/h          |
| 2+2           | 2,5 m³/h        | 6 m³/h          |
| 3+1           | 2,5 m³/h        | 6 m³/h          |

**559 Pocket with magnetic insert.**
For 559 series.

**559 Pair of plugs with gaskets for unused outlets.**
For 559 and 550 series with 125 mm outlet centre distance.
MANIFOLDS FOR CENTRAL HEATING SYSTEM

550 2 tech. broch. 01261
Manifold for heating and air conditioning systems.
Steel body.
1 1/4" M main connections.
Outlet connections: 1 1/2" F with captive nut.
Max. working pressure: 10 bar.
Temperature range: 5–110 °C.

Code | Outlet centre distance
--- | ---
55020 | 125 mm

550 3 tech. broch. 01261
Manifold for heating and air conditioning systems.
Steel body.
1 1/2" M main connections.
Outlet connections: 1 1/2" F with captive nut.
Max. working pressure: 10 bar.
Temperature range: 5–110 °C.

Code | Outlet centre distance
--- | ---
55030 | 125 mm

550 4 tech. broch. 01261
Manifold for heating and air conditioning systems.
Steel body.
1 1/2" M main connections.
Outlet connections: 1 1/2" F with captive nut.
Max. working pressure: 10 bar.
Temperature range: 5–110 °C.

Code | Outlet centre distance
--- | ---
55040 | 125 mm

559
Pair of fittings with gaskets.
For 559 and 550 series with 125 mm outlet centre distance.

Code | 
--- | ---
559002 | 1 1/2" M x 1" M

550 2+1 tech. broch. 01261
Manifold for heating and air conditioning systems.
Steel body.
1 1/4" M main connections.
Outlet connections: 1 1/2" F with captive nut.
Max. working pressure: 10 bar.
Temperature range: 5–110 °C.

Code | Outlet centre distance
--- | ---
55021 | 125 mm

550 3+1 tech. broch. 01261
Manifold for heating and air conditioning systems.
Steel body.
1 1/2" M main connections.
Outlet connections: 1 1/2" F with captive nut.
Max. working pressure: 10 bar.
Temperature range: 5–110 °C.

Code | Outlet centre distance
--- | ---
55031 | 125 mm

550 4+1
Insulation for manifolds for central heating system 550 series.
For heating and air conditioning systems.

Code | 
--- | ---
CBN550020 | for manifold 2
CBN550021 | for manifold 2+1
CBN550030 | for manifold 3
CBN550031 | for manifold 3+1
CBN550040 | for manifold 4

550
Kit for 550 series manifold pipe connection to 548 series hydraulic separator.

Code | 
--- | ---
550001 | 1 1/4" x 1 1/4"
550002 | 1 1/2" x 1 1/4"
550003 | 1 1/2" x 1 1/2"
550004 | 2" x 1 1/2"
COMPACT MANIFOLDS - DN 25

**550 2**
Manifold for heating systems.  
Steel body. **With pre-formed insulation.**  
Main connections: 1 1/2” M.  
Outlet connections: 1 1/2” F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.  
Complete with steel mounting brackets.

**550 2+1**
Manifold for heating systems.  
Steel body. **With pre-formed insulation.**  
Main connections: 1 1/2” M.  
Outlet connections: 1 1/2” F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.

**550 3**
Manifold for heating systems.  
Steel body. **With pre-formed insulation.**  
Main connections: 1 1/2” M.  
Outlet connections: 1 1/2” F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.  
Complete with steel mounting brackets.

**550 4**
Manifold for heating systems.  
Steel body. **With pre-formed insulation.**  
Main connections: 1 1/2” M.  
Outlet connections: 1 1/2” F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.  
Complete with steel mounting brackets.

**550**
Hydraulic separator for heating systems.  
For manifolds 550 series DN 25.  
Steel body. **With pre-formed insulation.**  
Main connections: 1 1/2” M.  
Outlet connections: 1 1/2” F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.

---

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet centre distance</th>
<th>Max. recommended flow rate m³/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>559220</td>
<td>125 mm</td>
<td>4</td>
</tr>
<tr>
<td>559221</td>
<td>125 mm</td>
<td>4</td>
</tr>
<tr>
<td>559230</td>
<td>125 mm</td>
<td>4</td>
</tr>
<tr>
<td>559240</td>
<td>125 mm</td>
<td>4</td>
</tr>
<tr>
<td>559205</td>
<td>125 mm</td>
<td>4</td>
</tr>
</tbody>
</table>

Application diagram of manifold 550 series DN 25
COMPACT MANIFOLDS - DN 32

550 2  
Manifold for heating systems.  
Steel body. With pre-formed insulation.  
Main connections: 2" M.  
Outlet connections: 1 1/2" F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.  
Complete with steel mounting brackets.

550 3  
Manifold for heating systems.  
Steel body. With pre-formed insulation.  
Main connections: 2" M.  
Outlet connections: 1 1/2" F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.  
Complete with steel mounting brackets.

550 4  
Manifold for heating systems.  
Steel body. With pre-formed insulation.  
Main connections: 2" M.  
Outlet connections: 1 1/2" F with captive nut.  
Max. working pressure: 6 bar.  
Temperature range: 5–110 °C.  
Complete with steel mounting brackets.

559  
Pair of plugs with gaskets for unused outlets.  
For 559 and 550 series with 125 mm outlet centre distance.

559  
Pair of fittings with gaskets.  
For 559 and 550 series with 125 mm outlet centre distance.
DIRECT SUPPLY UNITS

165 tech. broch. 01237
Direct supply unit for heating systems.
With pre-formed insulation.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.
Supply: 230 V - 50/60 Hz.
System side connection: 1" F.
Boiler side connection: 1 1/2" M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual prevalence 4 m w.g.</th>
<th>RH to LH convertible</th>
</tr>
</thead>
<tbody>
<tr>
<td>165600A2L</td>
<td>1” F</td>
<td>UPM3 Auto L 25-70</td>
<td>1,8 m³/h</td>
<td>1 –</td>
</tr>
<tr>
<td>165601UPM</td>
<td>1” F</td>
<td>UPM 25-105</td>
<td>3,4 m³/h</td>
<td>1 –</td>
</tr>
</tbody>
</table>

165 tech. broch. 01255
Direct supply unit for heating and air conditioning systems.
With pre-formed insulation.
Max. working pressure: 10 bar.
Primary inlet temperature range: 5–100 °C.
Supply: 230 V - 50/60 Hz.
System side connection: 1" F.
Boiler side connection: 1 1/2" M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual prevalence 4 m w.g.</th>
<th>RH to LH convertible</th>
</tr>
</thead>
<tbody>
<tr>
<td>165640WYP</td>
<td>1” F</td>
<td>PARA 25/7</td>
<td>1,6 m³/h</td>
<td>1 –</td>
</tr>
<tr>
<td>165641UPM</td>
<td>1” F</td>
<td>UPM 25-105</td>
<td>3,4 m³/h</td>
<td>1 –</td>
</tr>
</tbody>
</table>

MOTORISED REGULATING UNITS

167 tech. broch. 01351
Motorised regulating unit for heating systems.
With pre-formed insulation.
Regulation with sector three-way valve.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.
System side connection: 1" F.
Boiler side connection: 1 1/2" M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

Actuator with 3-point control signal
Supply: 230 V.
Operating time: 150 s (90° rotation).
Can be connected to digital regulators code 161010 and 1520 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual prevalence 4 m w.g.</th>
<th>RH to LH convertible</th>
</tr>
</thead>
<tbody>
<tr>
<td>167652HE1</td>
<td>1” F</td>
<td>UPM3 Auto L 25-70</td>
<td>1,8 m³/h</td>
<td>1 –</td>
</tr>
<tr>
<td>167652HE2</td>
<td>1” F</td>
<td>UPM 25-105</td>
<td>3,7 m³/h</td>
<td>1 –</td>
</tr>
</tbody>
</table>

167 tech. broch. 01254
Motorised regulating unit for heating and air conditioning systems.
With pre-formed insulation.
Regulation with sector three-way valve.
Max. working pressure: 10 bar.
Primary inlet temperature range: 5–100 °C.
System side connection: 1" F.
Boiler side connection: 1 1/2" M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

Actuator with 0–10 V control signal
Supply: 24 V.
Operating time: 75 s (90° rotation).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual prevalence 4 m w.g.</th>
<th>RH to LH convertible</th>
</tr>
</thead>
<tbody>
<tr>
<td>167654HE1</td>
<td>1” F</td>
<td>UPM3 Auto L 25-70</td>
<td>1,8 m³/h</td>
<td>1 –</td>
</tr>
<tr>
<td>167654HE2</td>
<td>1” F</td>
<td>UPM 25-105</td>
<td>3,7 m³/h</td>
<td>1 –</td>
</tr>
</tbody>
</table>

THERMOSTATIC REGULATING UNIT

166 tech. broch. 01238
Thermostatic regulating unit for heating systems.
With pre-formed insulation.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.
Supply: 230 V - 50/60 Hz.
System side connection: 1" F.
Boiler side connection: 1 1/2" M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

Actuator with 3-point control signal
Supply: 230 V.
Operating time: 50 s (90° rotation).
Can be connected to digital regulators code 160100 and 1520 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual prevalence 4 m w.g.</th>
<th>RH to LH convertible</th>
</tr>
</thead>
<tbody>
<tr>
<td>166600A2L</td>
<td>1” F</td>
<td>UPM3 Auto L 25-70</td>
<td>1,4 m³/h 25–50 °C 1 –</td>
<td>–</td>
</tr>
<tr>
<td>166601UPM</td>
<td>1” F</td>
<td>UPM 25-105</td>
<td>2,4 m³/h 25–50 °C 1 –</td>
<td>–</td>
</tr>
<tr>
<td>166605A2L</td>
<td>1” F</td>
<td>UPM3 Auto L 25-70</td>
<td>1,4 m³/h 40–70 °C 1 –</td>
<td>–</td>
</tr>
</tbody>
</table>

166 tech. broch. 01255
Thermostatic regulating unit for heating and air conditioning systems.
With pre-formed insulation.
Primary inlet temperature range: 5–100 °C.
Max. working pressure: 10 bar.
Supply: 230 V - 50/60 Hz.
System side connection: 1” F.
Boiler side connection: 1 1/2” M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

Actuator with 3-point control signal
Supply: 230 V.
Operating time: 75 s (90° rotation).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual prevalence 4 m w.g.</th>
<th>RH to LH convertible</th>
</tr>
</thead>
<tbody>
<tr>
<td>167640WYP</td>
<td>1” F</td>
<td>PARA 25/7</td>
<td>1,5 m³/h</td>
<td>1 –</td>
</tr>
<tr>
<td>167641UPM</td>
<td>1” F</td>
<td>UPM 25-105</td>
<td>3,0 m³/h</td>
<td>1 –</td>
</tr>
</tbody>
</table>

166 tech. broch. 01254
Thermostatic regulating unit for heating and air conditioning systems.
With pre-formed insulation.
Primary inlet temperature range: 5–100 °C.
Supply: 230 V - 50/60 Hz.
System side connection: 1” F.
Boiler side connection: 1 1/2” M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

Actuator with 3-point control signal
Supply: 230 V.
Operating time: 75 s (90° rotation).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual prevalence 4 m w.g.</th>
<th>RH to LH convertible</th>
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</thead>
<tbody>
<tr>
<td>167650WYP</td>
<td>1” F</td>
<td>PARA 25/7</td>
<td>1,5 m³/h</td>
<td>1 –</td>
</tr>
<tr>
<td>167651UPM</td>
<td>1” F</td>
<td>UPM 25-105</td>
<td>3,0 m³/h</td>
<td>1 –</td>
</tr>
</tbody>
</table>
TEMPERATURE REGULATORS

161
Digital regulator with synoptic diagram for heating and cooling complete with immersion flow probes with pocket and Pt1000 Ø 6 mm return probe (pocket to be chosen according to the pipe, see accessories). Optional outside compensated probe. Temperature adjustment range: 5–95 °C. Supply: 230 V - 50/60 Hz. Protection class: IP 20 / EN 60529. Probe cable length: 1.5 m.

1520

For accessories see page 125

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>16110</td>
<td>Digital regulator with synoptic</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td></td>
<td>diagram for heating and cooling</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>complete with immersion flow probes</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>return probe (pocket to be chosen</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>according to the pipe, see</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>accessories). Optional outside</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>compensated probe. Temperature</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>adjustment range: 5–95 °C. Supply:</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>230 V - 50/60 Hz. Protection class:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>IP 20 / EN 60529. Probe cable</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>length: 1.5 m.</td>
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<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>152021</td>
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1520

<table>
<thead>
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<th>Description</th>
<th>Quantity</th>
<th>Price</th>
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</thead>
<tbody>
<tr>
<td>152001</td>
<td>1 channel</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>152002</td>
<td>2 channels</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>152003</td>
<td>3 channels</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>
Automatic air vents
End plug for radiators with automatic air vent, AERCAL
Manual air vents
Drain cocks
Deaerators in composite, DISCALSLIM®
Deaerators, DISCAL®
Deaerators-dirt separators, DISCALDIRT®
Dirt separators, DI RTCAL®
Dirt separators with magnet, DIRTMAG®
Self-cleaning dirt separator filter with magnet, DIRTMAGCLEAN®
Manual cleaning dirt separator filter with magnet, DIRTMAGCLEAN®
Dirt separators in composite with magnet, DIRTMAG®
Multifunction device in composite with dirt separator and strainer, DIRTMAGPLUS®
Chemical additives
Composite under-boiler dirt separators with magnet, DIRTMAGSLIM®
Under-boiler dirt separators strainer with magnet, DIRTMAGMINI®
Under-boiler magnetic filter, CALEFFI XS®
501 MAXCAL  tech. broch. 01031
Automatic air vent for heating, air conditioning and refrigeration.
High discharge capacity.
Brass body and cover, stainless steel internal components.
Max. working pressure: 16 bar.
Max. discharge pressure: 6 bar.
Temperature range: -20–120 °C.

Code
501500  3/4” F x 3/8” F  1  5

551 DISCAL  tech. broch. 01124
High performance automatic air vent.
Brass body.
Female connection.
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range: 0–110 °C.

Code
551004  1/2”  1  10

5020 MINICAL  tech. broch. 01054
Automatic air vent. In hot-stamped brass.
Chrome plated.
Max. working pressure: 10 bar.
Max. discharge pressure: 2.5 bar.
Max. working temperature: 120 °C.

Code
502031  3/8” M  10  50
502041  1/2” M  10  50

5020 MINICAL  tech. broch. 01054
Automatic air vent. In hot-stamped brass.
With automatic shut-off cock.
Max. working pressure: 10 bar.
Max. discharge pressure: 2.5 bar.
Max. working temperature: 120 °C.

Code
502051  3/4” M  2  50
502061  1” M  2  50

5020 MINICAL  tech. broch. 01054
Automatic air vent. In hot-stamped brass.
With hygroscopic safety cap.
Max. working pressure: 10 bar.
Max. discharge pressure: 2.5 bar.
Max. working temperature: 120 °C.

Code
502030  3/8” M  10  50
502040  1/2” M  10  50

5021 MINICAL  tech. broch. 01054
Automatic air vent. In hot-stamped brass.
With automatic shut-off cock.
Max. working pressure: 10 bar.
Max. discharge pressure: 2.5 bar.
Max. working temperature: 110 °C.

Code
502130  3/8” M  10  100
502140  1/2” M  10  100

5020 MINICAL  tech. broch. 01054
Automatic air vent. In hot-stamped brass.
With hygroscopic safety cap.
Max. working pressure: 10 bar.
Max. discharge pressure: 2.5 bar.
Max. working temperature: 120 °C.

Code
502050  3/4” M  2  50
502060  1” M  2  50

5021 MINICAL  tech. broch. 01054
Automatic air vent. In hot-stamped brass.
Chrome plated.
Max. working pressure: 10 bar.
Max. discharge pressure: 2.5 bar.
Max. working temperature: 110 °C.

Code
502131  3/8” M  10  100
502141  1/2” M  10  100
5021 MINICAL tech. broch. 01054
Automatic air vent.
In hot-stamped brass.
Chrome plated.
With automatic shut-off cock and hygroscopic safety cap.
Max. working pressure: 10 bar.
Max. discharge pressure: 4 bar.
Max. working temperature: 110 °C.

Code
502132 3/8” M
502142 1/2” M

5022 VALCALTech. broch. 01054
Automatic air vent.
In hot-stamped brass.
Chrome plated.
Max. working pressure: 10 bar.
Max. discharge pressure: 4 bar.
Max. working temperature: 120 °C.

Code
502221 1/4” M
502231 3/8” M
502241 1/2” M

5024 ROBOCAL tech. broch. 01033
Automatic air vent.
In hot-stamped brass.
Max. working pressure: 10 bar.
Max. discharge pressure: 4 bar.
Max. working temperature: 115 °C.

Code
502420 1/4” M
502430 3/8” M

5025 ROBOCAL tech. broch. 01033
Automatic air vent.
In hot-stamped brass.
With automatic shut-off cock.
Max. working pressure: 10 bar.
Max. discharge pressure: 6 bar.
Max. working temperature: 110 °C.

Code
502533 3/8” M
502543 1/2” M

5026 ROBOCAL tech. broch. 01033
Automatic air vent.
In hot-stamped brass.
With automatic shut-off cock.
Max. working pressure: 10 bar.
Max. discharge pressure: 6 bar.
Max. working temperature: 115 °C.

Code
502630 3/8” M
502640 1/2” M

5027 ROBOCAL tech. broch. 01033
Automatic air vent.
In hot-stamped brass.
Max. working pressure: 10 bar.
Max. discharge pressure: 6 bar.
Max. working temperature: 110 °C.

Code
502730 3/8” M

561 tech. broch. 01054
Automatic shut-off cock.
For automatic air vents 502, series.
PTFE seal on thread.
Max. working pressure: 10 bar.
Max. working temperature: 110 °C.

Code
561230 1/4” x 3/8” M
561300 3/8” x 3/8” M
561340 3/8” x 1/2” M
561400 1/2” x 1/2” M without PTFE seal on thread

561 tech. broch. 01054
Automatic shut-off cock.
For automatic air vents 5020 and 5022 series.
Chrome plated.
PTFE seal on thread.
Max. working pressure: 10 bar.
Max. working temperature: 110 °C.

Code
561301 3/8” x 3/8” M
561401 1/2” x 1/2” M without PTFE seal on thread
**507 AERCAL**


<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>507611</td>
<td>1” M right</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>507621</td>
<td>1” M left</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>507711</td>
<td>1 1/4” M right</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>507721</td>
<td>1 1/4” M left</td>
<td>1</td>
<td>25</td>
</tr>
</tbody>
</table>

---

**R59720 AQUASTOP**

Hygroscopic safety cap. For end plugs 507 series. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>R59720</td>
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**504 AERCAL**


<table>
<thead>
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<th>Description</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>504401</td>
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<td>25</td>
</tr>
<tr>
<td>504501</td>
<td>3/4” M</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>504611</td>
<td>1” M right</td>
<td>1</td>
<td>25</td>
</tr>
<tr>
<td>504621</td>
<td>1” M left</td>
<td>1</td>
<td>25</td>
</tr>
</tbody>
</table>

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**R59681 AQUASTOP**

Hygroscopic safety cap. For automatic air vents 5020 and 5021 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>R59681</td>
<td>1</td>
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</tr>
</tbody>
</table>

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**5620 AQUASTOP**

Hygroscopic safety cap. For automatic air vents 5020, 5021, 5022 and 504 series. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>562000</td>
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</tr>
</tbody>
</table>

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**5621**

Anti-vacuum cap. For automatic air vents 5020, 5021 and 5022 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Qty</th>
<th>Unit</th>
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</thead>
<tbody>
<tr>
<td>562100</td>
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</tr>
</tbody>
</table>

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**5622**

Anti-vacuum cap. For automatic air vents 5026 and 5027 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>562200</td>
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</table>
**505** tech. broch. 01056
Manual air vent for radiators.
Chrome plated.
White POM (acetal resin) knob.
PTFE seal on thread.
Max. working pressure: 10 bar.
Max. working temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>505111</td>
<td>1/8&quot; M</td>
<td>50</td>
</tr>
<tr>
<td>505121</td>
<td>1/4&quot; M</td>
<td>50 500</td>
</tr>
<tr>
<td>505131</td>
<td>3/8&quot; M</td>
<td>50 500</td>
</tr>
</tbody>
</table>

**5055** tech. broch. 01056
Manual air vent for radiators.
Rubber seal.
Chrome plated.
White POM (acetal resin) knob.
PTFE seal on thread.
Max. working pressure: 10 bar.
Max. working temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>505511</td>
<td>1/8&quot; M</td>
<td>50 100</td>
</tr>
<tr>
<td>505521</td>
<td>1/4&quot; M</td>
<td>50 100</td>
</tr>
<tr>
<td>505531</td>
<td>3/8&quot; M</td>
<td>50 100</td>
</tr>
<tr>
<td>505541</td>
<td>1/2&quot; M</td>
<td>50 50</td>
</tr>
</tbody>
</table>

**Manual air vent for radiators 5055 series**

The identifying detail of this valve is an internal seal in a special elastic material which provides a tight seal in relation to limited tightening of the knob and possible temperature changes.

The knob of the valve is shaped so as to be similar in appearance to Caleffi thermostatic valve heads, which enhances the uniformity of the radiator component range.

For all the radiator air vents, the knob should be tightened with the system still cold.

**5054** tech. broch. 01056
Manual air vent for radiators.
Chrome plated.
White POM (acetal resin) knob.
Adjustable outlet.
PTFE seal on thread.
Max. working pressure: 10 bar.
Max. working temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>505411</td>
<td>1/8&quot; M</td>
<td>50</td>
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<tr>
<td>505421</td>
<td>1/4&quot; M</td>
<td>50</td>
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<tr>
<td>505431</td>
<td>3/8&quot; M</td>
<td>50</td>
</tr>
<tr>
<td>505441</td>
<td>1/2&quot; M</td>
<td>50</td>
</tr>
</tbody>
</table>

**5080** tech. broch. 01056
Automatic hygroscopic air vent for radiators. Chrome plated.
White POM (acetal resin) knob.
PTFE seal on thread.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>508011</td>
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<tr>
<td>508021</td>
<td>1/4&quot; M</td>
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</tr>
<tr>
<td>508031</td>
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<td>25</td>
</tr>
<tr>
<td>508041</td>
<td>1/2&quot; M</td>
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**5081** tech. broch. 01056
Spare hygroscopic cartridge for 5080 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>508100</td>
<td>12 p.1,5</td>
</tr>
</tbody>
</table>

**337**
Drain cock.
Adjustable outlet.
PTFE seal on thread.
Max. working pressure: 6 bar.
Max. working temperature: 85 °C.
Medium: water, glycol solutions.
Max. percentage of glycol: 30 %.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
<td>337121</td>
<td>1/4&quot;</td>
<td>50 200</td>
</tr>
<tr>
<td>337131</td>
<td>3/8&quot;</td>
<td>50 200</td>
</tr>
</tbody>
</table>

**337**
Drain cock with metal seal.
Adjustable outlet.
PTFE seal on thread.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
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<tbody>
<tr>
<td>337221</td>
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<td>80 400</td>
</tr>
<tr>
<td>337231</td>
<td>3/8&quot;</td>
<td>50 250</td>
</tr>
</tbody>
</table>

**560** tech. broch. 01056
Drain cock for radiators and wall-mounted boilers.
Chrome plated.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>560421</td>
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<tr>
<td>560000</td>
<td>extractor drain hose</td>
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</tbody>
</table>

* One extractor drain hose code 560000 is included in each 10-item package
### DEAERATORS

**551 DISCALSLIM®**
- Deaerator. Technopolymer body.
- Female connections.
- Adjustable for horizontal and vertical pipes.
- With hydraulic safety cap.
- Max. working pressure: 3 bar.
- Max. working temperature: 110 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
<th>Code</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>551805</td>
<td>3/4&quot; F</td>
<td>551806</td>
<td>1&quot; F</td>
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</table>

**551 DISCALSLIM®**
- Deaerator. Technopolymer body.
- Ø 18 and Ø 22 mm with compression ends.
- Adjustable for horizontal and vertical pipes.
- With hygroscopic safety cap.
- Max. working pressure: 3 bar.
- Max. working temperature: 110 °C.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Code</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
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<td>551802</td>
<td>Ø 22</td>
</tr>
</tbody>
</table>

**551 DISCAL®**
- Deaerator. Brass body.
- Female and male connections and Ø 22 and Ø 28 mm with compression ends.
- Adjustable for horizontal and vertical pipes.
- Max. working pressure: 10 bar.
- Max. discharge pressure: 10 bar.
- Temperature range: 0–110 °C.

<table>
<thead>
<tr>
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</table>

**551 DISCAL®**
- Deaerator. Brass body.
- With drain.
- Max. working pressure: 10 bar.
- Max. discharge pressure: 10 bar.
- Temperature range: 0–110 °C.

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<tr>
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<td>Ø 22</td>
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</table>

**Operating principle**

Thanks to its special internal configuration, DISCALSLIM® has a very low pressure drop. The internal shape diverts a part of flow in the deaeration chamber. In the above mentioned chamber the flow slows down and is subdivided by the fins present in secondary chambers which cause appropriate turbulences. Thanks to these mini-vortices, the micro bubbles of air present in the flow are separated, collected in the lower part of the chamber, and after aggregating into larger bubbles, they rise upwards through the drain ducts located aside the float. Once the top of the valve is reached, the aggregate bubbles push the float downwards, causing the air vent to open and therefore to discharge the air.

Insulation for deaerators DISCAL® 551 series.

**Code**

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<td>551007-551008</td>
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**Insulation for deaerators DISCALSLIM® 551 series.**

**Code**

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<tbody>
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DEAERATORS

551 DISCAL®
Deaerator.
Epoxy resin coated steel body.
**Flanged connections PN 16.**
To be coupled with flat counterflanges EN 1092-1.
**With insulation.**
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range:
0–105 °C (DN 50–DN 100),
0–100 °C (DN 125-DN 150),
0–110 °C (without insulation).

**Code**

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<tr>
<td>551150</td>
<td>150 without insulation</td>
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</table>

551 DISCAL®
Deaerator.
Epoxy resin coated steel body.
**Weld ends.**
**With insulation.**
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range:
0–110 °C.
**Temperature probe connection:** 1/2” F.

**Code**

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551 DISCAL®
Deaerator.
Epoxy resin coated steel body.
**Flanged connections PN 10.**
To be coupled with flat counterflanges EN 1092-1.
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range:
0–110 °C.

**Code**

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
<td>551151</td>
<td>150 without insulation</td>
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</table>
**Operating principle**

The deaerator-dirt separator uses the combined action of several physical principles. The active part consists of an assembly of concentric metal mesh surfaces. These elements create the whirling movement required to facilitate the release of micro-bubbles and their adhesion to these surfaces. The bubbles, fusing with each other, increase in volume until the hydrostatic thrust is such as to overcome the adhesion force to the structure. They rise towards the top of the unit from which they are released through a float-operated automatic air release valve.

The impurities in the water, colliding with the metal surfaces of the internal element, are separated out and fall to the bottom of the valve body.
Deaerator-dirt separator.
Epoxy resin coated steel body.
Flanged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.

**With insulation.**
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range:
- 0–105 °C (DN 50–DN 100),
- 0–100 °C (DN 125–DN 150),
- 0–110 °C (without insulation).
Particle separation rating down to 5 μm.

### DISCALDirt®

<table>
<thead>
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<th>Code</th>
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<td>without insulation</td>
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<td>546150</td>
<td>150</td>
<td>without insulation</td>
</tr>
</tbody>
</table>

Deaerator-dirt separator.
Epoxy resin coated steel body.
Weld ends.

**With insulation.**
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range:
- 0–105 °C (DN 50–DN 100),
- 0–100 °C (DN 125–DN 150),
- 0–110 °C (without insulation).
Particle separation rating down to 5 μm.

### DISCALDirt®

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>With/without insulation</th>
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<tr>
<td>546151</td>
<td>150</td>
<td>without insulation</td>
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</table>
Operating principle

The magnetic dirt separator, in addition to the traditional dirt separation function, is equipped with a patented device to collect ferrous impurities contained within the system water. For the threaded version a specific ring, featuring two slots for housing the magnets, is placed outside the body in the part for collecting the impurities while, for the flanged version, the magnet is inserted in a specific pocket positioned inside the body, extractable for cleaning from magnetic dirt particles. The ferrous particles are trapped in this way in the collection zone, thus avoiding they return in circulation.
**DIRT SEPARATORS WITH MAGNET**

### **5466 DIRT MAG**

**DIRTMAG®**

Dirt separator with magnet.
Epoxy resin coated steel body.
**Flanged connections PN 16.**
To be coupled with flat counterflanges EN 1092-1.

**With insulation.**
Max. working pressure: 10 bar.
Temperature range: 0–100 °C.
Particle separation rating down to 5 μm.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
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</tr>
</tbody>
</table>

**5466 DIRT MAG**

Dirt separator with magnet.
Epoxy resin coated steel body.
**Flanged connections PN 10.**
To be coupled with flat counterflanges EN 1092-1.
Max. working pressure: 10 bar.
Temperature range: 0–100 °C.
Particle separation rating down to 5 μm.

<table>
<thead>
<tr>
<th>Code</th>
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</table>
**Self-cleaning dirt separator filter with magnet**

**5790 DIRTmag CLEAN®**


### Operating principle

The device is used in heating systems controllers to remove dirt and impurities from the circuit progressively and completely. This prevents potential functional faults from occurring in the components and the flow rate regulation valves on the terminals.

The device operates through the continuous action of special filtering elements, located in a chamber through which the system water flows. The extremely fine filter mesh progressively blocks particles down to 2 μm in diameter. At the same time, ferrous particles are separated out by the magnets on the surface of the filter element. Pressure drops are kept to a minimum due to the large area of the filter mesh.

Automatic cleaning of the filtering elements takes place mechanically by means of washing with pressurised mains water while the filtering elements rotate. In all its functional phases - operation, cleaning, filling and draining - the device is controlled by a special digital regulator, which can also be managed remotely using a BMS system running MODBUS-RTU protocol.

### Characteristics components

1. Strainer unit with magnets
2. Electronic regulator
3. Single-phase electric motor
4. Solenoid valve with built-in check valve
5. Drain valve
6. Ball inlet valve
7. Automatic air vent valve with built-in strainer
8. Insulation
9. Adjustable support feet
10. Clapet check valve
11. Vacuum breaker valve
12. Temperature and pressure probe S1
13. Temperature and pressure probe S2
14. 1/2” connection with pressure gauge plug
15. 1/2” connection with additional drain valve plug
16. Additives chemicals inlet

### Application diagrams

**Installation in by-pass**

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2020 Sezione 02 GB.indd 44 2020 Sezione 02 GB.indd 44 14/02/20 12:03
MANUAL CLEANING DIRT SEPARATOR FILTER WITH MAGNET

5790
DI RT MA G CLEAN®
Manual cleaning dirt separator filter with magnet. Body and support feet in stainless steel AISI 304. Connections: inlet 2” F, outlet 2” F, drain 1” M with union, flushing 1” F. Max working pressure: 10 bar. Temperature range: 5–85 °C. Particle separation rating down to 2 μm. PATENT PENDING.

Operating principle
The device allows the removal of dirt and impurities from central heating system controllers. In the same way as its motorised version code 579000, this manual version code 579001 works by means of the continuous action of special filtering elements located in a chamber, blocking particles up to 2 μm. Ferrous particles are separated out by the special magnets on the surface of the filter element. Periodic cleaning takes place after the heating circuit has been shut off, by means of high-pressure nozzles, while the corresponding knob is used to carry out the necessary rotation. The medium containing the impurities is then drained and normal operation is restored. As there are no electrical connections, the device is easy to install while maintaining the same filtering efficiency as the motorised version of the same product.

Characteristics components
1) Strainer unit with magnets 8) Adjustable support feet
2) Handwheel for manual cleaning 9) Clapet check valve
3) Inlet valve for cleaning nozzles 10) Vacuum breaker valve
with built-in check valve 11) System pressure gauge
4) Drain valve 12) Strainer pressure gauge
5) Inlet gate valve 13) 1/2” connection with pressure
gauge plug
6) Automatic air vent valve with 14) 1/2” connection with additional
built-in strainer drain valve plug
7) Insulation 15) Additives chemicals inlet

Application diagrams

Installation in by-pass with pump
DIRT SEPARATORS IN COMPOSITE WITH MAGNET

5453 DIRTMAG®
Dirt separator with magnet.
Technopolymer body.
Female connections and Ø 22 and Ø 28 mm with compression ends.
Adjustable for horizontal and vertical pipes.
Drain cock with hose connection.
Max. working pressure: 3 bar.
Temperature range: 0–90 °C.

Code
545305 3/4”  1 5
545306 1”  1 5
545302 Ø 22  1 5
545303 Ø 28  1 5

Insulation for dirt separators 5453 series.
Code
CBN545305  1 –

5453 DIRTMAG®
Dirt separator with shut-off valves and magnet.
Technopolymer body.
Adjustable for horizontal, vertical or 45° pipes.
Drain cock with hose connection.
Max. working pressure: 3 bar.
Temperature range: 0–90 °C.

Code
545345 3/4”  1 5
545346 1”  1 5
545347 1 1/4”  1 5

Protection pack
Package consisting of:
- dirt separator with shut-off valves and magnet;
- C3 CLEANER;
- C1 INHIBITOR.

Code
KIT545345 with dirt separator 3/4”  1 –
KIT545346 with dirt separator 1”  1 –

MULTIFUNCTION DEVICE IN COMPOSITE WITH DIRT SEPARATOR AND STRAINER

5453 DIRTMAG®
Multifunction device with dirt separator and strainer.
Specific for the complete cleaning of the hydraulic circuit, to protect continuously generator and components.
Technopolymer body.
Dirt separator with tecnopolimer internal element, with magnet.
Two inspectable strainers with stainless steel mesh:
1 for initial cleaning (blue colour) already installed, 1 for maintenance (grey colour) in package.
Shut-off valves with nuts, brass body.
Female connections and Ø 22 and Ø 28 mm with compression ends.
Adjustable for horizontal, vertical or 45° pipes.
Drain cock with hose connection.
Max. working pressure: 3 bar.
Temperature range: 0–90 °C.

Code
545375 3/4”  1 5
545376 1”  1 5
545372 Ø 22  1 5
545373 Ø 28  1 5

Accessory kit for circuit filling and flushing and strainer accessories for device DIRTMAGPLUS® 5453 series.

Code
F49476 accessory kit  1 10
F49474/BL first cleaning strainer (blue colour)  1 10
F49474/GR maintenance strainer (grey colour)  1 10

Operating principle
The multifunction device is obtained by coupling a dirt separator and a cartridge strainer arranged in series.
The water circulating in the system flows, in sequence, first through the dirt separator and then through the cartridge strainer.
The dirt separator separates the impurities contained in the water by means of the action of the internal element.
Ferrous impurities are also trapped inside the body of the device thanks to the action of the two magnets inserted in a special removable outer ring.
The first passage through the dirt separator makes it possible to separate a high percentage of the impurities in the circulating water, down to minimal particle sizes.
The cartridge strainer separates impurities by means of mechanical selection of the particles in accordance with their size,
by means of a special metal mesh.
All the particles with diameter bigger than the mesh size are automatically stopped and separated, with maximum separation efficiency at the first passage.
The dirt separator can be used as an access point to inject chemical additives into the circuit for the cleaning and the protection of the system.

**CHEMICAL ADDITIVES**

<table>
<thead>
<tr>
<th>Code</th>
<th>Name</th>
<th>Description</th>
<th>Dose</th>
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<tr>
<td>570911</td>
<td>C3 CLEANER</td>
<td>Removes sludge, limescale and debris. 0.5 litres of product every 150 litres of water in the system.</td>
<td>0.5 litres</td>
</tr>
<tr>
<td>570912</td>
<td>C1 HINIBITOR</td>
<td>Protects against corrosion and limescale. 0.5 litres of product every 150 litres of water in the system.</td>
<td>0.5 litres</td>
</tr>
<tr>
<td>570913</td>
<td>C7 BIOCIDE</td>
<td>Prevents bacterial and fungal growth. 0.5 litres of product every 150 litres of water in the system.</td>
<td>0.5 litres</td>
</tr>
<tr>
<td>570914</td>
<td>C4 LEAK SEALER</td>
<td>Liquid sealer. 0.5 litres of product every 150 litres of water in the system.</td>
<td>0.5 litres</td>
</tr>
<tr>
<td>570915</td>
<td>C3 FAST CLEANER</td>
<td>Removes sludge, limescale and debris. 0.4 litres of product every 150 litres of water in the system.</td>
<td>0.4 litres</td>
</tr>
<tr>
<td>570916</td>
<td>C1 FAST HINIBITOR</td>
<td>Protects against corrosion and limescale. 0.4 litres of product every 150 litres of water in the system.</td>
<td>0.4 litres</td>
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Additives dosing

The dirt separator can be used as an access point to inject chemical additives into the circuit for the cleaning and the protection of the system.
COMPOSITE UNDER-BOILER DIRT SEPARATORS WITH MAGNET

**DIRTMAG SLIM**

**5451**


**Installation code 545105**

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<th>Installation code</th>
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**Installation code 545101**

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**Installation code 545135**

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**Installation code 545155**

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<tbody>
<tr>
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</tbody>
</table>
COMPOSITE UNDER-BOILER DIRT SEPARATORS WITH MAGNET

**5454**

Dirt separator **with magnet** for under-boiler installation.
Specific configuration for installation with Vaillant boilers with horizontal connections in new line template.
Technopolymer body.
Drain cock with hose connection.
Fitting for wall connection: 3/4” M.
Fitting for boiler connection: 3/4” F.
Max. working pressure: 3 bar.
Temperature range: 0–90 °C.

**Code**

545455 3/4” M x 3/4” F 1 6

**5452**

Dirt separator **with magnet** for under-boiler installation.
Specific configuration for installation with Vaillant boilers with horizontal connections in old W inverted template.
Technopolymer body.
Drain cock with hose connection.
Fitting for wall connection: 3/4” M.
Fitting for boiler connection: 3/4” F.
Max. working pressure: 3 bar.
Temperature range: 0–90 °C.

**Code**

545255 3/4” M x 3/4” F 1 6

**Operating principle**

The DIRTMAGSLIM® magnetic dirt separator removes and collects impurities present in the circuit thanks to an internal deflector located in the medium flow. This device creates turbulence in the medium that helps to transfer impurities to the decanting chamber where, thanks to the low medium velocity, the particles are captured and unable to return to the circuit. This operating principle makes it possible to keep the head loss inside the device to the minimum.
Separation efficacy is enhanced by the presence of an external magnetic collar.
Filtration, dirt separation and self-cleaning

The high performance of the dirt separator is based on the combined action of the filter and dirt separation function. With its mesh size of 800 μm, the filter mesh can capture non-magnetic residues such as sand, soldering residues and residues of sealants such as hemp or PTFE. The magnet, which is not in direct contact with the medium, separates and captures magnetic particles. The medium from the system is slowed down, so that the smaller particles that are not stopped by the filter separate and deposit, and are thereby removed from circulation. The special profile of the bottom allows the impurities to be captured and drained effectively.

Operating principle

The DIRTMA McG t® magnetic dirt separator filter separates and captures impurities in the system thanks to the combined action of the strainer and dirt separator. Ferrous impurities are also captured inside the body, thanks to the action of a removable magnet. Opening a dedicated cock drains the captured impurities. It is possible to drain the impurities without disassembling the body, just by removing the magnet and opening the dedicated cock. Only perform this operation when the system is not in operation. A self-cleaning function activates during draining, using the same system water (which is then collected in a dedicated container and disposed of in accordance with the regulations in force) to clean the filter. For this reason, there is normally no need to open the filter body to clean it manually, although this may be required during extraordinary maintenance.

Installation

The magnetic dirt separator filter should be installed in the return circuit to protect the boiler from all the impurities in the system, especially during the start-up phase. It may be installed either vertically or horizontally, with the drain cock always in a suitable position, in accordance with the flow direction indicated by the arrows on the valve body.
NEW

UNDER-BOILER MAGNETIC FILTER

5459

CALEFFI XS®

Under-boiler magnetic filter.
Brass body. Chrome plated.
Connections: 3/4“ M x 3/4“ F.
Max. working pressure: 3 bar.
Temperature range: 0–90 °C.
PATENT PENDING.

Operating principle

The under-boiler magnetic filter mechanically separates the impurities in heating systems using a triple effect: a steel mesh strainer (mesh size Ø 0,80 mm) for light non-ferrous particles, a powerful neodymium magnet for the ferrous components, and a large calming chamber to collect the heavier particles. The chamber has transparent windows, allowing the user to check whether the internal elements need to be cleaned.

Protection pack

Package consisting of:
- Under-boiler magnetic filter;
- C3 FAST CLEANER;
- C1 FAST INHIBITOR.

Can be used with kit code F0001037.

Installation of code 545900

The very small size of the magnetic filter makes it suitable for installation on the return line under the boiler.
The tailpiece with captive nut supplied with the product allows the strainer to be connected directly to the boiler using a hose or extensions when attached to the wall.

Maintenance

1. Flushing kit and additives addition.
2. Connection fitting with nut and gasket. Chrome plated.

Connection fitting

F0001297 3/4“ F x 3/4“ F

Flushing kit and additives addition.

F0001037

Kit code 545900

Kit 545900

1

10

Patent pending.

Kit code 545900

1

10

Kit 545900
Convertible radiator and lockshield valves
Convertible radiator valves with pre-setting
Convertible radiator valves for designer heating systems
Dynamic thermostatic radiator valves
Thermostatic radiator valves
Double-angled thermostatic radiator and lockshield valves
Thermostatic control heads
Wall-covering plates
Thermo-electric actuators
Remote thermal regulation system for radiators
Manual radiator and lockshield valves
One-pipe and two-pipe radiator valves
Drain cock
Fittings
Calibrator for multilayer pipes
Valves for panel radiators
## CONVERTIBLE RADIATOR AND LOCKSHIELD VALVES

### 338 tech. broch. 01009
**Angled convertible radiator valve**
- Fitted for thermostatic control heads and thermo-electric actuators.
- Chrome plated.
- For copper, single and multilayer plastic pipes.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Pipe</th>
<th>Kv (m³/h)</th>
<th>23 p.1,5</th>
<th>fully open</th>
</tr>
</thead>
<tbody>
<tr>
<td>338302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>2.22</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>338402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>2.70</td>
<td>10</td>
<td>50</td>
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<tr>
<td>338452</td>
<td>1/2&quot;</td>
<td>3/4&quot;</td>
<td>2.70</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 339 tech. broch. 01009
**Straight convertible radiator valve**
- Fitted for thermostatic control heads and thermo-electric actuators.
- Chrome plated.
- For copper, single and multilayer plastic pipes.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Pipe</th>
<th>Kv (m³/h)</th>
<th>23 p.1,5</th>
<th>fully open</th>
</tr>
</thead>
<tbody>
<tr>
<td>339302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>1.35</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>339402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1.79</td>
<td>10</td>
<td>50</td>
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<tr>
<td>339452</td>
<td>1/2&quot;</td>
<td>3/4&quot;</td>
<td>1.79</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 342 tech. broch. 01009
**Angled lockshield valve**
- Chrome plated.
- For copper, single and multilayer plastic pipes.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Pipe</th>
<th>Kv (m³/h)</th>
<th>23 p.1,5</th>
<th>fully open</th>
</tr>
</thead>
<tbody>
<tr>
<td>342302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>2.42</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>342402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>3.99</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>342452</td>
<td>1/2&quot;</td>
<td>3/4&quot;</td>
<td>3.99</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 343 tech. broch. 01009
**Straight lockshield valve**
- Chrome plated.
- For copper, single and multilayer plastic pipes.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Pipe</th>
<th>Kv (m³/h)</th>
<th>23 p.1,5</th>
<th>fully open</th>
</tr>
</thead>
<tbody>
<tr>
<td>343302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>1.32</td>
<td>10</td>
<td>50</td>
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<tr>
<td>343402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>2.17</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>343452</td>
<td>1/2&quot;</td>
<td>3/4&quot;</td>
<td>2.17</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 401 tech. broch. 01009
**Angled convertible radiator valve**
- Fitted for thermostatic control heads and thermo-electric actuators.
- Chrome plated.
- For steel pipe.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Kv (m³/h)</th>
<th>2020 Sezione 03 GB.indd   54</th>
</tr>
</thead>
<tbody>
<tr>
<td>401302</td>
<td>3/8&quot;</td>
<td>2.22</td>
<td>10</td>
</tr>
<tr>
<td>401402</td>
<td>1/2&quot;</td>
<td>2.70</td>
<td>10</td>
</tr>
<tr>
<td>401500</td>
<td>3/4&quot;</td>
<td>3.36</td>
<td>5</td>
</tr>
<tr>
<td>401603</td>
<td>1&quot;</td>
<td>4.47</td>
<td>5</td>
</tr>
</tbody>
</table>

### 402 tech. broch. 01009
**Straight convertible radiator valve**
- Fitted for thermostatic control heads and thermo-electric actuators.
- Chrome plated.
- For steel pipe.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Kv (m³/h)</th>
<th>2020 Sezione 03 GB.indd   54</th>
</tr>
</thead>
<tbody>
<tr>
<td>402302</td>
<td>3/8&quot;</td>
<td>1.35</td>
<td>10</td>
</tr>
<tr>
<td>402402</td>
<td>1/2&quot;</td>
<td>1.79</td>
<td>10</td>
</tr>
<tr>
<td>402500</td>
<td>3/4&quot;</td>
<td>2.58</td>
<td>5</td>
</tr>
<tr>
<td>402603</td>
<td>1&quot;</td>
<td>4.43</td>
<td>5</td>
</tr>
</tbody>
</table>

### 403 tech. broch. 01009
**Angular convertible radiator valve**
- Chrome plated.
- For steel pipe.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Kv (m³/h)</th>
<th>2020 Sezione 03 GB.indd   54</th>
</tr>
</thead>
<tbody>
<tr>
<td>403302</td>
<td>3/8&quot;</td>
<td>2.42</td>
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</tr>
<tr>
<td>403402</td>
<td>1/2&quot;</td>
<td>3.99</td>
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<tr>
<td>403503</td>
<td>3/4&quot;</td>
<td>4.52</td>
<td>5</td>
</tr>
<tr>
<td>403603</td>
<td>1&quot;</td>
<td>5.64</td>
<td>5</td>
</tr>
</tbody>
</table>

### 404 tech. broch. 01009
**Angular lockshield valve**
- Chrome plated.
- For steel pipe.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator</th>
<th>Kv (m³/h)</th>
<th>2020 Sezione 03 GB.indd   54</th>
</tr>
</thead>
<tbody>
<tr>
<td>404302</td>
<td>3/8&quot;</td>
<td>1.32</td>
<td>10</td>
</tr>
<tr>
<td>404402</td>
<td>1/2&quot;</td>
<td>2.17</td>
<td>10</td>
</tr>
<tr>
<td>404503</td>
<td>3/4&quot;</td>
<td>2.58</td>
<td>5</td>
</tr>
<tr>
<td>404603</td>
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<td>4.81</td>
<td>5</td>
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</tbody>
</table>
CONVERTIBLE RADIATOR VALVES WITH PRE-SETTING

425 tech. broch. 01195
Angled convertible radiator valve fitted for thermostatic control heads and thermo-electric actuators. With pre-setting. Chrome plated. For copper, single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>425302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>1</td>
</tr>
<tr>
<td>425402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

426 tech. broch. 01195
Straight convertible radiator valve fitted for thermostatic control heads and thermo-electric actuators. With pre-setting. Chrome plated. For copper, single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>426302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>1</td>
</tr>
<tr>
<td>426402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>50</td>
</tr>
</tbody>
</table>

Pre-setting device
The convertible radiator valves are equipped with an internal device for pre-setting the head loss hydraulic characteristics. Specific passage cross sections can be selected by means of the control nut, in order to generate the required resistance to the motion of the medium.

Each passage cross section determines a specific Kv value for the creation of the head loss, which corresponds to a setting position on a graduated scale.

Depending on the position in the system, the valve can be pre-setted so as to obtain an immediate balancing of the hydraulic circuit, valid for both manual and thermostatic operation.

Pre-setting operation
Remove the valve knob.

421 tech. broch. 01195
Angled convertible radiator valve fitted for thermostatic control heads and thermo-electric actuators. With pre-setting. Chrome plated. For steel pipe. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>421302</td>
<td>3/8&quot;</td>
<td>1</td>
</tr>
<tr>
<td>421402</td>
<td>1/2&quot;</td>
<td>1</td>
</tr>
<tr>
<td>421500</td>
<td>3/4&quot; without rubber seal</td>
<td>1</td>
</tr>
</tbody>
</table>

422 tech. broch. 01195
Straight convertible radiator valve fitted for thermostatic control heads and thermo-electric actuators. With pre-setting. Chrome plated. For steel pipe. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>422302</td>
<td>3/8&quot;</td>
<td>1</td>
</tr>
<tr>
<td>422402</td>
<td>1/2&quot;</td>
<td>1</td>
</tr>
<tr>
<td>422500</td>
<td>3/4&quot; without rubber seal</td>
<td>1</td>
</tr>
</tbody>
</table>

Pre-setting operation
Remove the valve knob.

Lift the special control ring nut (supplied in package) of the pre-setting device and turn the control stem to select the required position on the graduated scale.

Lower the ring nut again.

Position the manual knob, thermostatic control head or thermo-electric actuator on the valve.
**HIGH-STYLE CONVERTIBLE RADIATOR VALVES FOR DESIGNER HEATING SYSTEMS**

**4001**

Pair consisting of:
- angled-convertible radiator valve fitted for thermostatic control head code 200015;
- angled lockshield valve;
- two pipe-covering/wall-covering shells and allen key.

To be used with fittings 437, 447, 681 and 679 series.

*High chrome finish.*

Max. working pressure: 10 bar.

Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>$K_v$ (m$^3$/h) valve</th>
<th>$K_v$ (m$^3$/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400100</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>2,0</td>
<td>1,92</td>
</tr>
</tbody>
</table>

**4003**

Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head code 200015;
- lockshield valve, double-angled connections;
- two pipe-covering/wall-covering shells and allen key.

*Right-hand version.*

To be used with fittings 437, 447, 681 and 679 series.

*High chrome finish.*

Max. working pressure: 10 bar.

Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>$K_v$ (m$^3$/h) valve</th>
<th>$K_v$ (m$^3$/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400300</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>1,27</td>
<td>1,37</td>
</tr>
</tbody>
</table>

**4004**

Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head code 200015;
- lockshield valve, double-angled connections;
- two pipe-covering/wall-covering shells and allen key.

*Left-hand version.*

To be used with fittings 437, 447, 681 and 679 series.

*High chrome finish.*

Max. working pressure: 10 bar.

Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>$K_v$ (m$^3$/h) valve</th>
<th>$K_v$ (m$^3$/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400400</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>1,27</td>
<td>1,37</td>
</tr>
</tbody>
</table>

**200**

Thermostatic control head for designer heating system valves. Built-in sensor with liquid-filled element. For valves 4001, 4003, 4004 and 3380 series.

*High chrome finish.*

Graduated scale from 1 to 5 corresponding to a temperature adjustment range from 7 °C to 28 °C. With adapter, tamper-proof cap and special key for tamper-proof cap.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>$K_v$ (m$^3$/h) valve</th>
<th>$K_v$ (m$^3$/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>200015</td>
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<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**209**

Tamper-proof anti-theft cap for use in public places. For thermostatic control heads 200 series.

*High chrome finish.*

To be used with special allen key code 209001.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>$K_v$ (m$^3$/h) valve</th>
<th>$K_v$ (m$^3$/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>209004</td>
<td>1</td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example of HIGH-STYLE valve installation for designer heating systems, right-hand version, with thermostatic control head**
HIGH-STYLE CONVERTIBLE RADIATOR VALVES FOR DESIGNER HEATING SYSTEMS

4003

Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head code 200015;
- lockshield valve, double-angled connections;
- pipe-covering/wall-covering shell, connections: 50 mm centre distance.

Central connections.
Right-hand version.

To be used with fittings 437, 447, 681 and 679 series.

High chrome finish.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>( K_v ) (m(^3)/h) valve</th>
<th>( K_v ) (m(^3)/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4003</td>
<td>0.5&quot;</td>
<td>23 p.1.5</td>
<td>1.27</td>
<td>1.37</td>
</tr>
</tbody>
</table>

Example of HIGH-STYLE valve installation for designer heating systems with central connection, left-hand version, with thermostatic control head.

4004

Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head code 200015;
- lockshield valve, double-angled connections;
- pipe-covering/wall-covering shell, connections: 50 mm centre distance.

Central connections.
Left-hand version.

To be used with fittings 437, 447, 681 and 679 series.

High chrome finish.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>( K_v ) (m(^3)/h) valve</th>
<th>( K_v ) (m(^3)/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4004</td>
<td>0.5&quot;</td>
<td>23 p.1.5</td>
<td>1.27</td>
<td>1.37</td>
</tr>
</tbody>
</table>

CONVERTIBLE RADIATOR VALVES FOR DESIGNER HEATING SYSTEMS

3380

Pair consisting of:
- convertible radiator valve fitted for thermostatic control heads;
- lockshield valve.

Angled connections.
High chrome finish.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>( K_v ) (m(^3)/h) valve</th>
<th>( K_v ) (m(^3)/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3380</td>
<td>1/2&quot; M</td>
<td>23 p.1.5</td>
<td>2.70</td>
<td>3.99</td>
</tr>
</tbody>
</table>

437

Compression fitting, for annealed copper, hard copper, brass, mild and stainless steel pipes.
With O-Ring seal. High chrome finish.
Max. working pressure: 10 bar.
Temperature range: -25–120 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>( K_v ) (m(^3)/h) valve</th>
<th>( K_v ) (m(^3)/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>437</td>
<td>23 p.1.5 - Ø 12</td>
<td></td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>437</td>
<td>23 p.1.5 - Ø 14</td>
<td></td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>437</td>
<td>23 p.1.5 - Ø 15</td>
<td></td>
<td>1</td>
<td>50</td>
</tr>
<tr>
<td>437</td>
<td>23 p.1.5 - Ø 16</td>
<td></td>
<td>1</td>
<td>50</td>
</tr>
</tbody>
</table>

681

Self-adjustable diameter fitting for single and multilayer plastic pipes.
High chrome finish.
Max. working pressure: 10 bar.
Temperature range:
- 5–80 °C (PE-X)
- 5–75 °C (Multilayer marked 95 °C).

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>( \phi_{\text{inside}} )</th>
<th>( \phi_{\text{outside}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>681</td>
<td>23 p.1.5</td>
<td></td>
<td>9.5–10</td>
<td>12–14</td>
</tr>
<tr>
<td>681</td>
<td>23 p.1.5</td>
<td></td>
<td>11.5–12</td>
<td>14–16</td>
</tr>
</tbody>
</table>

383

Fitting for conversion from copper to steel connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>( \phi_{\text{outside}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>383</td>
<td>23 p.1.5 F x 3/8&quot; F</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>383</td>
<td>23 p.1.5 F x 1/2&quot; F</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
**HIGH-STYLE CONVERTIBLE RADIATOR VALVES FOR DESIGNER HEATING SYSTEMS**

**4001**
Pair consisting of:
- angled convertible radiator valve fitted for thermostatic control head 205 series;
- angled lockshield valve;
- two pipe-covering/wall-covering shells and allen key.
To be used with fittings 437, 447, 681 and 679 series.
**White finish.**
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h) valve</th>
<th>Kv (m³/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400101</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>2,0</td>
<td>1,92</td>
</tr>
</tbody>
</table>

**4003**
Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head 205 series;
- lockshield valve, double-angled connections;
- two pipe-covering/wall-covering shells and allen key.
**Right-hand version.**
To be used with fittings 437, 447, 681 and 679 series.
**White finish.**
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h) valve</th>
<th>Kv (m³/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400301</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,27</td>
<td>1,37</td>
</tr>
</tbody>
</table>

**4004**
Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head 205 series;
- lockshield valve, double-angled connections;
- two pipe-covering/wall-covering shells and allen key.
**Left-hand version.**
To be used with fittings 437, 447, 681 and 679 series.
**White finish.**
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h) valve</th>
<th>Kv (m³/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400401</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,27</td>
<td>1,37</td>
</tr>
</tbody>
</table>

**205**
Thermostatic control head for designer heating system valves. Built-in sensor with liquid-filled element. For valves 4001, 4003 and 4004 series.
**White finish.**
Graduated scale from 0 to 5 corresponding to a temperature adjustment range from 7 °C to 28 °C. With adapter, tamper-proof cap and special key for tamper-proof cap.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h) valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>205005</td>
<td>1 10</td>
</tr>
</tbody>
</table>

**209**
Tamper-proof anti-theft cap for use in public places. For thermostatic control heads 200, 204, 202 and 205 series.
To be used with special allen key code 209001.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h) valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>209000</td>
<td>1 5</td>
</tr>
</tbody>
</table>

**Example of HIGH-STYLE valve installation for designer heating systems, right-hand version, with thermostatic control head**
HIGH-STYLE CONVERTIBLE RADIATOR VALVES FOR DESIGNER HEATING SYSTEMS

4003 tech. broch. 01140
Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head 205 series;
- lockshield valve, double-angled connections;
- pipe-covering/wall-covering shell,
  connections: 50 mm centre distance.
Central connections.
Right-hand version.
To be used with fittings 437, 447, 681 and 679 series.
White finish. Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h) valve</th>
<th>Kv (m³/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400311</td>
<td>1/2&quot; p.1,5</td>
<td>23</td>
<td>1,27</td>
<td>1,37</td>
</tr>
</tbody>
</table>

4004 tech. broch. 01140
Pair consisting of:
- double-angled convertible radiator valve fitted for thermostatic control head 205 series;
- lockshield valve, double-angled connections;
- pipe-covering/wall-covering shell,
  connections: 50 mm centre distance.
Central connections.
Left-hand version.
To be used with fittings 437, 447, 681 and 679 series.
White finish. Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h) valve</th>
<th>Kv (m³/h) lockshield valve (f.o.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>400411</td>
<td>1/2&quot; p.1,5</td>
<td>23</td>
<td>1,27</td>
<td>1,37</td>
</tr>
</tbody>
</table>

Example of HIGH-STYLE valve installation for designer heating systems with central connection, left-hand version, with thermostatic control head

CONVERTIBLE RADIATOR AND LOCKSHIELD VALVES WITH PUSH FIT CONNECTION

338
Angled convertible radiator valve fitted for thermostatic control head and thermo-electric actuators. Chrome plated.
Push fit connection for Ø 15 hard and annealed copper pipes or for extension code 936415.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h) fully open</th>
</tr>
</thead>
<tbody>
<tr>
<td>338415</td>
<td>1/2&quot; p.1,5</td>
<td>Ø 15</td>
<td>2,70</td>
</tr>
</tbody>
</table>

342
Angled lockshield valve. Chrome plated.
Push fit connection for Ø 15 hard and annealed copper pipes or for extension code 936415.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>342415</td>
<td>1/2&quot; p.1,5</td>
<td>Ø 15</td>
</tr>
</tbody>
</table>

936
Extension for convertible radiator valves with push fit connection to wall connection fitting.
In polished stainless steel.
With shaped rubber seal.
Length: 100 mm (useful 88 mm).

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>936415</td>
<td>1/2&quot; x Ø 15</td>
</tr>
</tbody>
</table>

Installation of the valve on the pipe and locking with suitable clamps
Release by pressing on the outer ring
**DYNAMIC THERMOSTATIC RADIATOR VALVES**

**230**
**DYNAMICAL®**
Angled dynamic thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For steel pipe. Max. working pressure: 10 bar. Temperature range: 5–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>230302</td>
<td>3/8”</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>230402</td>
<td>1/2”</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>230500</td>
<td>3/4” without rubber seal</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

**231**
**DYNAMICAL®**
Straight dynamic thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For steel pipe. Max. working pressure: 10 bar. Temperature range: 5–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>231302</td>
<td>3/8”</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>231402</td>
<td>1/2”</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>231500</td>
<td>3/4” without rubber seal</td>
<td></td>
<td>5</td>
</tr>
</tbody>
</table>

**232**
**DYNAMICAL®**
Angled thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For copper, single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>232302</td>
<td>3/8”</td>
<td>23 p.1,5</td>
<td>10</td>
</tr>
<tr>
<td>232402</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>10</td>
</tr>
</tbody>
</table>

**233**
**DYNAMICAL®**
Straight dynamic thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For copper, single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>233302</td>
<td>3/8”</td>
<td>23 p.1,5</td>
<td>10</td>
</tr>
<tr>
<td>233402</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>10</td>
</tr>
</tbody>
</table>
DYNAMIC THERMOSTATIC RADIATOR VALVES

Pre-setting operation

Remove the valve knob.

To pre-set the flow rate, place the specific shaped ring. The setting position reference is determined by the orientation of the flat lateral surface (1) of the control stem.

Rotate the control stem to select the desired position.

Remove the setting nut and place the thermostatic control head on the valve.

Function

The DYNAMICAL® valve allows dynamic system balancing and a regulation of the thermal medium independent from the pressure within the radiators of two-pipe heating systems. The device, in conjunction with a thermostatic control head, combines different functions in a single component.

A. The differential pressure regulator automatically cancels the effect of pressure fluctuation characterising variable flow rate systems and prevents noisy functioning.

B. The flow rate pre-setting device makes it possible to directly set the maximum flow rate value, thanks to the combination with the differential pressure regulator.

C. Flow rate adjustment according to the room temperature, thanks to the combination with a thermostatic, electronic or thermo-electric control head. The flow rate adjustment is optimised because it is made pressure independent.

Measurement of working Δp

To measure the working Δp of the valves, it is available a special instrument and accessories.

230
Kit for measuring Δp in the circuits with dynamic valves.

Code
230100

1 –
### THERMOSTATIC RADIATOR VALVES

#### 220
**tech. broch. 01034**
Angled thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For steel pipe. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kvs (m³/h) *</th>
<th>028</th>
<th>029</th>
<th>030</th>
<th>031</th>
</tr>
</thead>
<tbody>
<tr>
<td>220302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>2,29</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>220402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>2,39</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>220500</td>
<td>3/4&quot; without rubber seal</td>
<td>3,19</td>
<td>5</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 221
**tech. broch. 01034**
Straight thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For steel pipe. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kvs (m³/h) *</th>
<th>028</th>
<th>029</th>
<th>030</th>
<th>031</th>
</tr>
</thead>
<tbody>
<tr>
<td>221302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>1,05</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>221402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,52</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>221500</td>
<td>3/4&quot; without rubber seal</td>
<td>2,20</td>
<td>5</td>
<td>25</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 222
**tech. broch. 01034**
Angled thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For copper, single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kvs (m³/h) *</th>
<th>028</th>
<th>029</th>
<th>030</th>
<th>031</th>
</tr>
</thead>
<tbody>
<tr>
<td>223302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>2,29</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>223402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>2,39</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Without EN 215 certification*

#### 223
**tech. broch. 01034**
Straight thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For copper, single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kvs (m³/h) *</th>
<th>028</th>
<th>029</th>
<th>030</th>
<th>031</th>
</tr>
</thead>
<tbody>
<tr>
<td>233302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>1,05</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>233402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,52</td>
<td>10</td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Without EN 215 certification*

#### 224
**tech. broch. 01034**
Reverse thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For steel pipe. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kvs (m³/h) *</th>
<th>028</th>
<th>029</th>
<th>030</th>
<th>031</th>
</tr>
</thead>
<tbody>
<tr>
<td>24302</td>
<td>3/8&quot;</td>
<td>23 p.1,5</td>
<td>0,93</td>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>24402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,39</td>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 227
**tech. broch. 01034**
Reverse thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. Chrome plated. For copper, single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kvs (m³/h) *</th>
<th>028</th>
<th>029</th>
<th>030</th>
<th>031</th>
</tr>
</thead>
<tbody>
<tr>
<td>277402</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,39</td>
<td>1</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 4490
Knob for thermostatic radiator valves. For valves 220, 221, 222, 223, 224, 225, 226, 227 series.

<table>
<thead>
<tr>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>449010</td>
<td>1</td>
</tr>
</tbody>
</table>

*Kvs: flow rate for the valve equipped with thermostatic control head at the maximum open position.*

**The EN 215 certification covers the combination of codes 200000/200001 and 201, 204 series thermostatic control heads with valves 220, 221, 222, 223, 224, 225, 226 and 227 series.**
DOUBLE-ANGLED THERMOSTATIC RADIATOR AND LOCKSHIELD VALVES

225  
Double-angled thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators.  
Right-hand version.  
Chrome plated.  
For steel pipe.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>225312</td>
<td>3/8&quot;</td>
<td>0,96</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>225412</td>
<td>1/2&quot;</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

225  
Double-angled lockshield valve.  
Right-hand version.  
Chrome plated.  
For steel pipe.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>225352</td>
<td>3/8&quot;</td>
<td>1,05</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>225452</td>
<td>1/2&quot;</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

225  
Double-angled thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators.  
Left-hand version.  
Chrome plated.  
For steel pipe.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>225322</td>
<td>3/8&quot;</td>
<td>0,96</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>225422</td>
<td>1/2&quot;</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

225  
Double-angled lockshield valve.  
Left-hand version.  
Chrome plated.  
For steel pipe.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>225362</td>
<td>3/8&quot;</td>
<td>1,05</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>225462</td>
<td>1/2&quot;</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

226  
Double-angled thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators.  
Right-hand version.  
Chrome plated.  
For copper, single and multilayer plastic pipes.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Pipe connection</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>226412</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

226  
Double-angled lockshield valve.  
Right-hand version.  
Chrome plated.  
For copper, single and multilayer plastic pipes.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Pipe connection</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>226452</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

226  
Double-angled thermostatic radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators.  
Left-hand version.  
Chrome plated.  
For copper, single and multilayer plastic pipes.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Pipe connection</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>226422</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

226  
Double-angled lockshield valve.  
Left-hand version.  
Chrome plated.  
For copper, single and multilayer plastic pipes.  
Max. working pressure: 10 bar.  
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Pipe connection</th>
<th>Kvs (m³/h)*</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>226462</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,40</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

*Kvs: flow rate for the valve equipped with thermostatic control head at the maximum open position.

The EN 215 certification covers the combination of codes 200000/200001 and 201, 204 series thermostatic control heads with valves 220, 221, 222, 223, 224, 225, 226 and 227 series.
**Thermostatic control heads in I Class**

EUneited Valves (The European Valve Manufacturers Association set up in Brussels) has prepared a classification system for products that manage home comfort and water responsibly in the residential field and, more specifically, for thermostatic valves.

Caleffi thermostatic control heads were included in the list of TELL-approved (Thermostatic Efficiency Label) products and were placed in the I Efficiency Class.

This classification guarantees that thermostatic valves are able to contribute to the energy saving of heating systems.

---

**Thermostatic control head for thermostatic and convertible radiator valves.**

With remote sensor.


Graduated scale from H to 5 corresponding to a temperature adjustment range from 7 °C to 28 °C.

Capillary length: 2 m.

With adapter.

---

**Tamper-proof anti-theft cap**

For use in public places.

For thermostatic control heads 200, 204, 202 and 205 series.

To be used with special allen key code 209001.

---

**Special allen key for tamper-proof anti-theft cap.**

To be used with tamperproof cap 209 series.
**THERMOSTATIC CONTROL HEADS**

204

Graduated scale from 0 to 5 corresponding to a temperature adjustment range from 7 °C to 28 °C. With adapter.

<table>
<thead>
<tr>
<th>Code</th>
<th>Room temperature indicator range</th>
</tr>
</thead>
<tbody>
<tr>
<td>204000</td>
<td>16–26 °C</td>
</tr>
</tbody>
</table>

202

Graduated scale from 0 to 5 corresponding to a temperature adjustment range from 7 °C to 28 °C. Room temperature indicator range: 16–26 °C. With adapter.

<table>
<thead>
<tr>
<th>Code</th>
<th>Visibility with sufficient lighting</th>
</tr>
</thead>
<tbody>
<tr>
<td>202000</td>
<td></td>
</tr>
</tbody>
</table>

203

Thermostatic control head for thermostatic and convertible radiator valves; with contact probe, for medium temperature limiting. For valves 220, 221, 222, 223, 224, 225, 226, 227, 338, 339, 401, 402 and 455 series.
Pre-set temperature scale.
Capillary length: 2 m.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature range</th>
</tr>
</thead>
<tbody>
<tr>
<td>203502</td>
<td>20–50 °C</td>
</tr>
<tr>
<td>203702</td>
<td>40–90 °C</td>
</tr>
</tbody>
</table>

475

Contact probe mounting bracket. For thermostatic control heads 203 series.

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>475001</td>
</tr>
</tbody>
</table>

475

Probe pocket. For thermostatic control heads 203 series.

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>475002</td>
</tr>
<tr>
<td>475003</td>
</tr>
</tbody>
</table>

472

Thermostatic control head with remote adjusting knob, liquid-filled element. For valves 220, 221, 222, 223, 224, 225, 226, 227 series (direct coupling).
For valves 338, 339, 401, 402, 455 series (coupling with adapter).
Temperature range: 6–28 °C. Capillary length: 2 m.

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>472000</td>
</tr>
</tbody>
</table>
WALL-COVERING PLATES

4499
Single wall-covering plate.
White colour RAL 9010.
For pipes with external diameter from 12 to 20 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>449900</td>
<td>1 40</td>
</tr>
</tbody>
</table>

4499
Double wall-covering plate.
White colour RAL 9010.
For pipes with external diameter from 12 to 20 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet centre distance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>449901</td>
<td>35 mm</td>
<td>1 50</td>
</tr>
<tr>
<td>449902</td>
<td>40 mm</td>
<td>1 50</td>
</tr>
</tbody>
</table>

4499
Single wall-covering plate.
Chrome plated.
For pipes with external diameter from 12 to 20 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>449910</td>
<td>1 40</td>
</tr>
</tbody>
</table>

4499
Double wall-covering plate.
Chrome plated.
For pipes with external diameter from 12 to 20 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet centre distance</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>449911</td>
<td>35 mm</td>
<td>1 50</td>
</tr>
<tr>
<td>449912</td>
<td>40 mm</td>
<td>1 50</td>
</tr>
</tbody>
</table>
THERMO-ELECTRIC ACTUATORS

6563  tech. broch. 01142
Thermo-electric actuator.
With manual opening and position indicator.
Normally closed. With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC)/(DC).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Ambient temperature range: 0–50 °C.
Protection class: IP 40.
Cable length: 80 cm.

With low power consumption

6561  tech. broch. 01042
Thermo-electric actuator.
Normally closed. With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0.8 A (230 V).
Starting current: ≤ 1 A.
Ambient temperature range: 0–50 °C.
Protection class: IP 44 (vertical stem).
Cable length: 80 cm.

6562  tech. broch. 01198
Thermo-electric actuator.
With opening position indicator.
Quick-coupling installation, with a clip adapter.
Normally closed. With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0.8 A (230 V).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Ambient temperature range: 0–50 °C.
Protection class: IP 54.
Cable length: 80 cm.

6564  tech. broch. 01198
Thermo-electric actuator.
With low power consumption.
Quick-coupling installation, with a clip adapter.
Normally closed. With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0.8 A (230 V).
Power consumption: 3 W.
Starting current: ≤ 250 mA.
Ambient temperature range: 0–50 °C.
Protection class: IP 54.
Cable length: 80 cm.

Adapter for installing thermostatic and thermo-electric actuator with valves 338, 339, 401, 402, 425, 426, 421, 422, 455 and 456 series.

Code | Supply voltage V | F36077
---|---|---
656412 | 230 | 1
656414 | 24 | 1
656402 | 230 | 1
656404 | 24 | 1
**REMOTE THERMAL REGULATION SYSTEM FOR RADIATORS**

---

**215**

**Comfort control**

**Code**
215510

---

**215**

**Sensor**

**Code**
215001

---

**215**

**Sensor PRO**

**Code**
215002

---

**215**

**Gateway**

**Code**
215000

---

**215**

**Gateway PRO**

**Code**
215015

---

Accessories for thermal regulation electronic system 215 series.

**Code**
210005 tamper-proof kit for actuators

1 10
REMOTE THERMAL REGULATION SYSTEM FOR RADIATORS

215
Comfort control
Wireless electronic control for thermostatic or convertible radiator valves. Operates through Gateway, Gateway PRO, APP Caleffi CODE® and front buttons.
Built-in temperature sensor.
Radio communication: RF 868 MHz.
Quick-coupling installation with adapter.
Battery electric supply: 2 x AA batteries 1.5 V (in package).
Compatible with rechargeable batteries.
Protection class: IP 30.
Ambient temperature range: 0–55 °C.
Black colour RAL 9004.

Code
215510 BLK

215
Sensor
Wireless ambient temperature sensor.
Operates through Gateway, Gateway PRO and APP Caleffi CODE®.
Radio communication: RF 868 MHz.
Battery electric supply: 2 x AAA batteries 1.5 V (in package).
Compatible with rechargeable batteries.
Protection class: IP 30.
Ambient temperature range: 0–45 °C.
Black colour RAL 9004.

Code
215001 BLK

215
Sensor PRO
Wireless ambient temperature sensor with boiler contact.
Operates through Gateway, Gateway PRO and APP Caleffi CODE®.
Radio communication: RF 868 MHz.
Battery electric supply: 2 x AAA batteries 1.5 V (in package).
Compatible with rechargeable batteries.
Boiler contact, max. 24 V (DC) 1 A.
Protection class: IP 30.
Ambient temperature range: 0–45 °C.
Black colour RAL 9004.

Code
215002 BLK

215
Gateway
Wireless multi-zone temperature regulation gateway.
Operation through Caleffi CODE® APP (Wi-Fi or Ethernet network connectivity required), Weekly programmable clock.
Settable time bands: up to 8 per day. Settable zones: up to 64.
Boiler contact, max. 24 V (DC) 1 A.
Compatible with OpenTherm connectivity.
Radio communication: RF 868 MHz, Wi-Fi, BLE.
Powered from USB type C power supply, (supplied in package), input: 100–240 V (AC) - 0.5 A 50/60 Hz, output: 5 V (DC), 2 A.
Class: IV-VIII [Ecodesign Directive].
Protection class: IP 30.
Ambient temperature range: 0–55 °C.
Black colour RAL 9004.

Code
215015 BLK

215
Gateway PRO
Wireless multi-zone temperature regulation gateway, with built-in GSM, UMTS, LTE modem. Operation through Caleffi CODE® APP. It works with micro SIM (not supplied).
Compatible with MODBUS-RTU connectivity. Weekly programmable clock.
Settable time bands: up to 8 per day. Settable zones: up to 64.
Boiler contact, max. 24 V (DC) 1 A.
Compatible with OpenTherm connectivity.
Radio communication: RF 868 MHz, Wi-Fi, BLE.
Powered from USB type C power supply, (supplied in package), input: 100–240 V (AC) - 0.5 A 50/60 Hz, output: 5 V (DC), 2 A.
Class: IV-VIII [Ecodesign Directive].
Protection class: IP 30.
Ambient temperature range: 0–55 °C.
Black colour RAL 9004.

Code
449300 BLK

Accessories for thermal regulation electronic system 215 series.

Code
210005 tamper-proof kit for actuators

Knob for lockshields.
The devices are configured through an intuitive guided procedure with step-by-step instructions from the Caleffi CODE® App. To install the devices correctly, it is first necessary to subscribe to the “Caleffi Connect” Cloud and have a smartphone with a Bluetooth® connection and Wi-Fi. The system components are paired using the Bluetooth® and Wi-Fi connections with the QR codes on the various devices, or by entering a simple serial code.

Simply and directly, Caleffi CODE® App can control remotely all heating system functions in each room. Each zone can be controlled separately by creating customised programs, which can be rapidly adapted. The system can be controlled simultaneously using multiple devices once the Caleffi CODE® App is installed. Using its quick functions, it is possible to set rapidly different scenarios in each independent zone. Available functions are: Auto (automatic), Eco (energy saving), Clean, Boost (fast heating), Holiday and OFF (antifreeze). The smartphone or tablet displays all information about the various zones: temperature, operating status, and any faults.

Caleffi CODE® App ensures an effective assistance service in the event of malfunctioning, making it easier and faster to solve any problems.

In addition to the system management, this device allows to estimate and monitor heating consumptions. All data is stored on the “Caleffi Connect” Cloud, analysed and sent to the user in a periodic bulletin, allowing the comparison between current and previous period. Furthermore, recommendations are sent to optimise the system, according to the characteristics of the system and to the user’s habits in order to minimise the heating consumptions.
The Caleffi CODE® system is used to monitor the ambient temperature in a heating system through the “Comfort control” code 215510, 215510 BLK coupled with the Gateway code 215100, 215100 BLK, 215015, 215015 BLK.

Caleffi CODE® App for Android® and iOS® smartphones and tablets makes it easy to control home comfort and optimise consumption.

The actual temperature is measured by “Comfort Control” or by optional sensors code 215001, 215001 BLK, 215002, 215002 BLK.

Along with temperature parameters and set time-slots, the Gateway can manage both comfort controls and the operation of the boiler through an ON/OFF contact or the OpenTherm protocol.

The pairing between the Gateway and the house router can be implemented via Ethernet cable or Wi-Fi connection. Without an internet network, the system can work in local mode.

- **Main function**
  - **Regulation in a centralized heating system with riser**
  - **Room regulation in independent heating system**
  - **Room regulation in independent heating system with Gateway and boiler management via “Sensor PRO”**
  - **Room regulation in independent heating system without home Wi-Fi**

  The Caleffi CODE® Sensor Pro (ambient temperature sensor with boiler contact) code 215002, 215002 BLK can switch on the boiler in place of the existing thermostat, without dedicated electrical wiring.

  Without a domestic Wi-Fi network, it is possible to insert a micro SIM (not included) inside the built-in GSM, UMTS, LTE modem installed in the Caleffi CODE® Gateway PRO code 215015, 215015 BLK.
ELECTRONIC THERMAL CONTROL SYSTEM FOR RADIATORS

STAND ALONE system

210 WiCal®

Stand alone chrono-thermostatic control head, with backlit display.
For thermostatic and convertible radiator valves.
Touch button operation, built-in temperature sensor.
Programmable directly, with displaying of temperatures and comfort-set back cycles.
Battery electric supply: 2 x 1,5 V AA (in package).
Quick-coupling installation with adaptor.
Protection class: IP 30.

Code 210500

RADIO WAVE system

210 WiCal®

Electronic radio wave control head.
For thermostatic and convertible radiator valves.
Touch button operation, built-in temperature sensor.
Can be connected to multi-zone thermal controller code 210100.
Radio communication RF 868 MHz.
Battery electric supply: 2 x 1,5 V AA (in package).
Quick-coupling installation with adaptor.
Protection class: IP 30.

Code 210510

Operating principle

The radio wave thermal control system comprises:
- multi-zone thermal controller
- electronic control head for radiator valve
- ambient temperature sensor (optional)
The thermal controller manages the temperature in different rooms by controlling the electronic actuators installed on the valves on each radiator. The actual temperature is measured by the sensors in the room and/or integrated into the control head. Depending on the set temperature parameters and the comfort or set back cycles, the controller sends a modulating opening or closing signal to the actuators and an ON/OFF signal to the boiler. The system is managed by radio wave signals.

The functional details include:
- easy and quick linking of wireless devices for rapid installation;
- management of up to 8 temperature zones, which in turn are each able to control up to 4 actuators, thus with maximum system expansion of up to 32 actuators;
- easy individual time band programming for each zone, for every day of the week. Pre-set time band programmes and customisable programmes.
**ELECTRONIC THERMAL CONTROL SYSTEM FOR RADIATORS**

**RADIO WAVE system**

**210 WiCal®**

Radio wave ambient temperature sensor.
For individual zone or room temperature control.
Radio communication RF 868 MHz.
Can be connected to multi-zone thermal controller 210 series.
Electric supply with photovoltaic cell and buffer battery.
Protection class: IP 30.

**210 WiCal®**

Radio wave open window sensor.
For individual zone or room heating temporary interruption.
Radio communication RF 868 MHz.
Can be connected to multi-zone thermal controller 210 series.
Electric supply with photovoltaic cell and buffer battery.
Protection class: IP 30.

**210**

GSM interface module for remote control of WiCal®,
complete with room temperature probe.
Radio communication RF 868 MHz.
Electric supply: 230 V (AC).
GSM / GPRS Quadri-band.
Power consumption: max. 1.4 W.
Installation in DIN template.

**Operating principle**
The module allows a GSM connection to the WiCal® controller. Through an SMS it is possible to set the WiCal® controller in the operating mode “AUTO” or “OFF”. The module shows, via SMS, the temperature as detected by the on-board sensor.

**210**

1st and 2nd level wireless signal repeater with plug for power output.
Recessed or false ceiling version.
Electric supply: 230 V (AC).
Radio communication RF 868 MHz.
Transmission distance 30 m in closed rooms.
Stand-by power consumption: 0.6 W.

**210**

1st and 2nd level wireless signal repeater with antenna.
Accessories and spare parts for electronic thermal control system 210 series.

**210**

Click switch - Radio wave and battery-less switch transmitter.
Radio communication RF 868 MHz.
The three buttons allow to activate for all the zones the operating modes ECO (saving mode), AUTO (automatic mode), OFF (switched off mode) without acting directly on the controller.

**210**

Pair of lithium batteries.

**Accessories and spare parts**

- Code 210005: tamper-proof kit for actuators
- Code 210006: power supply unit spare part for code 210100
- Code 210007: radio signals checking and validation tester
- Code 210008: adapter for 455 series

**210**

GSM interface module for remote control of WiCal®,
complete with room temperature probe.
Radio communication RF 868 MHz.
Electric supply: 230 V (AC).
GSM / GPRS Quadri-band.
Power consumption: max. 1.4 W.
Installation in DIN template.
**MANUAL RADIATOR AND LOCKSHIELD VALVES**

### 340 tech. broch. 01030
Angled manual radiator valve.
Chrome plated.
For steel pipe.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>340302</td>
<td>3/8”</td>
<td>23 p.1,5</td>
<td>2,42</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>340402</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>3,99</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>340452</td>
<td>1/2” 3/4”</td>
<td></td>
<td>3,99</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 341 tech. broch. 01030
Straight manual radiator valve.
Chrome plated.
For steel pipe.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>341302</td>
<td>3/8”</td>
<td>23 p.1,5</td>
<td>1,32</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>341402</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>2,17</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 411 tech. broch. 01030
Angled manual radiator valve.
Chrome plated.
For steel pipe.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>411302</td>
<td>3/8”</td>
<td>2,42</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>411402</td>
<td>1/2”</td>
<td>3,99</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>401500*</td>
<td>3/4” without rubber seal</td>
<td>3,36</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>401603*</td>
<td>1” without rubber seal</td>
<td>4,47</td>
<td>5</td>
<td>25</td>
</tr>
</tbody>
</table>

* convertible radiator valve

### 342 tech. broch. 01030
Angled lockshield valve.
Chrome plated.
For copper, single and multilayer plastic pipes.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>342302</td>
<td>3/8”</td>
<td>23 p.1,5</td>
<td>2,42</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>342402</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>3,99</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>342452</td>
<td>1/2” 3/4”</td>
<td></td>
<td>3,99</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 343 tech. broch. 01030
Straight lockshield valve.
Chrome plated.
For copper, single and multilayer plastic pipes.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>343302</td>
<td>3/8”</td>
<td>23 p.1,5</td>
<td>1,32</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>343402</td>
<td>1/2”</td>
<td>23 p.1,5</td>
<td>2,17</td>
<td>10</td>
<td>50</td>
</tr>
</tbody>
</table>

### 412 tech. broch. 01030
Straight manual radiator valve.
Chrome plated.
For steel pipe.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>412302</td>
<td>3/8”</td>
<td>1,32</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>412402</td>
<td>1/2”</td>
<td>2,17</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>412503</td>
<td>3/4” without rubber seal</td>
<td>2,58</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>402603*</td>
<td>1” without rubber seal</td>
<td>4,43</td>
<td>5</td>
<td>25</td>
</tr>
</tbody>
</table>

* convertible radiator valve

### 431 tech. broch. 01030
Angled lockshield valve.
Chrome plated.
For steel pipe.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>431302</td>
<td>3/8”</td>
<td>2,42</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>431402</td>
<td>1/2”</td>
<td>3,99</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>431503</td>
<td>3/4” without rubber seal</td>
<td>4,52</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>431603</td>
<td>1” without rubber seal</td>
<td>5,64</td>
<td>5</td>
<td>25</td>
</tr>
</tbody>
</table>

### 432 tech. broch. 01030
Straight lockshield valve.
Chrome plated.
For steel pipe.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Kv (m³/h)</th>
<th>P</th>
<th>K</th>
</tr>
</thead>
<tbody>
<tr>
<td>432302</td>
<td>3/8”</td>
<td>1,32</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>432402</td>
<td>1/2”</td>
<td>2,17</td>
<td>10</td>
<td>50</td>
</tr>
<tr>
<td>432503</td>
<td>3/4” without rubber seal</td>
<td>2,58</td>
<td>5</td>
<td>25</td>
</tr>
<tr>
<td>432603</td>
<td>1” without rubber seal</td>
<td>4,81</td>
<td>5</td>
<td>25</td>
</tr>
</tbody>
</table>

* convertible radiator valve

---

* Code: Radiator connection, Pipe connection, Kv (m³/h)
### ONE-PIPE AND TWO-PIPE RADIATOR VALVES FOR DESIGNER HEATING SYSTEMS

#### 4005
Convertible radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. High chrome finish. Factory set for one-pipe systems, adjustable for two-pipe systems. **Right-hand version.**

- For copper, single and multilayer plastic pipes.
- Flow rate to the radiator:
  - with manual control knob: 45 %,
  - with thermostatic control head (proportional band 2K): 30 %.
- Outlet centre distance: 40 mm.
- Brass probe: 40 cm.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>400510</td>
<td>1/2&quot;</td>
<td>23 p.1.5</td>
<td>1,6</td>
<td>0,96</td>
</tr>
</tbody>
</table>

#### 4005
Convertible radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. High chrome finish. Factory set for one-pipe systems, adjustable for two-pipe systems. **Left-hand version.**

- For copper, single and multilayer plastic pipes.
- Flow rate to the radiator:
  - with manual control knob: 45 %,
  - with thermostatic control head (proportional band 2K): 30 %.
- Outlet centre distance: 40 mm.
- Brass probe: 40 cm.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>400520</td>
<td>1/2&quot;</td>
<td>23 p.1.5</td>
<td>1,6</td>
<td>0,96</td>
</tr>
</tbody>
</table>

### VALVES FOR ONE-PIPE SYSTEMS

#### 456
Convertible radiator valve fitted for thermostatic and electronic control heads, thermo-electric actuators. For one-pipe systems. For copper, single and multilayer plastic pipes. **Flow and return connections can be inverted by means of the rotation of the specific deflector.**

- Flow rate to the radiator:
  - with manual control knob: 27 %,
  - with thermostatic control head (proportional band 2K): 20 %.
- Outlet centre distance: 35 mm.
- PP probe: 33 cm.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>456400</td>
<td>1/2&quot;</td>
<td>23 p.1.5</td>
<td>1,6</td>
<td>10</td>
</tr>
<tr>
<td>456500</td>
<td>3/4&quot;</td>
<td>23 p.1.5</td>
<td>1,6</td>
<td>10</td>
</tr>
</tbody>
</table>
ONE-PIPE AND TWO-PIPE RADIATOR VALVES

455
Convertable radiator valve fitted for thermostatic control heads and thermo-electric actuator. Chrome plated. Factory set for one-pipe systems, adjustable for two-pipe systems. For copper, single and multilayer plastic pipes. Outlet centre distance: 40 mm. Brass probe: 30 cm. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h) one-pipe</th>
<th>Kv (m³/h) two-pipe</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>455400</td>
<td>1/2&quot;</td>
<td>23 p.1.5</td>
<td>2,00</td>
<td>1,10</td>
<td>10 –</td>
</tr>
<tr>
<td>455500</td>
<td>3/4&quot;</td>
<td>23 p.1.5</td>
<td>2,00</td>
<td>1,10</td>
<td>10 –</td>
</tr>
<tr>
<td>455600</td>
<td>1&quot; right</td>
<td>23 p.1.5</td>
<td>2,00</td>
<td>1,10</td>
<td>10 –</td>
</tr>
<tr>
<td>455601</td>
<td>1&quot; left</td>
<td>23 p.1.5</td>
<td>2,00</td>
<td>1,10</td>
<td>10 –</td>
</tr>
</tbody>
</table>

One-pipe application
Flow and return connections can be inverted

Two-pipe application

4501
Radiator valve for one-pipe systems. Chrome plated. For copper, single and multilayer plastic pipes. Flow rate to the radiator: 100 %. Without template and wall-covering plate. Outlet centre distance: 40 mm. Brass probe: 30 cm. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>450140</td>
<td>1/2&quot;</td>
<td>23 p.1.5</td>
<td>3,20</td>
</tr>
<tr>
<td>450150</td>
<td>3/4&quot;</td>
<td>23 p.1.5</td>
<td>3,70</td>
</tr>
</tbody>
</table>

348
Radiator valve for one-pipe systems. Chrome plated. For copper, single and multilayer plastic pipes. Flow rate to the radiator: 100 %. With front adjusting handle. Without template and wall-covering plate. Outlet centre distance: 40 mm. Brass probe: 30 cm. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>348400</td>
<td>1/2&quot;</td>
<td>23 p.1.5</td>
<td>3,10</td>
</tr>
<tr>
<td>348500</td>
<td>3/4&quot;</td>
<td>23 p.1.5</td>
<td>3,50</td>
</tr>
</tbody>
</table>

452
Radiator valve for one-pipe systems. Chrome plated. For copper, single and multilayer plastic pipes. Flow rate to the radiator: 50 %. For Ø 15 mm outside probe (454 series). Wall connections. Complete with template, wall-covering plate and probe connection. Outlet centre distance: 40 mm. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>452400</td>
<td>1/2&quot;</td>
<td>23 p.1.5</td>
<td>2,20</td>
</tr>
</tbody>
</table>
ONE-PIPE AND TWO-PIPE RADATOR VALVES AND ACCESSORIES

452
Radiator valve for two-pipe systems.
Chrome plated.
For copper, single and multilayer plastic pipes.
For Ø 15 mm outside probe (454 series).
Wall connections.
Complete with template, wall-covering plate and probe connection.
Outlet centre distance: 40 mm.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Kv (m³/h)</th>
<th>1</th>
<th>25</th>
</tr>
</thead>
<tbody>
<tr>
<td>45201</td>
<td>1/2&quot;</td>
<td>23 p.1,5</td>
<td>1,80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

459
Angled connection for one-pipe valves 328 and 452 series and convertible radiator valves code 339402.
Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>459001</td>
<td>1/2&quot; M x 3/4&quot; F nut</td>
<td>10</td>
<td>-</td>
</tr>
</tbody>
</table>

4496
Wall template.
For valves 4501, 452, 328, 348 and 455 series.
Outlet centre distance: 40 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>449601</td>
<td>10</td>
<td>-</td>
</tr>
</tbody>
</table>

453
Brass pipe extension for probe.
For valves 348, 4501 and 455 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>453020</td>
<td>200 mm (x 348-4501-455400-455500)</td>
<td>10</td>
<td>-</td>
</tr>
<tr>
<td>453030</td>
<td>300 mm (x 455600-455601)</td>
<td>10</td>
<td>-</td>
</tr>
</tbody>
</table>

454
Ø 15 mm brass outside probe. Chrome plated.
To be connected with valves 452 and 328 series at the bottom and radiator valves 223, 227, 339 and 341 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Qty</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>454060</td>
<td>600 mm</td>
<td>5</td>
<td>-</td>
</tr>
<tr>
<td>454090</td>
<td>900 mm</td>
<td>5</td>
<td>-</td>
</tr>
</tbody>
</table>
383  
Connection fitting with O-Ring seal for use with 3/4" 679 and 681 series. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>383551</td>
<td>3/4&quot; M x 23 p.1.5 F</td>
<td>10 100</td>
</tr>
</tbody>
</table>

382  
Reduced tailpiece. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>382532</td>
<td>3/4&quot; F nut x 3/8&quot; M</td>
<td>1 –</td>
</tr>
</tbody>
</table>

381  
Telescopic union tailpiece with nut for radiator valves and lockshield valves. Extension range: 15 mm. Max. working pressure: 10 bar. Max. working temperature: 100 °C. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>381032</td>
<td>1/2&quot; F nut x 3/8&quot; M</td>
<td>1 10</td>
</tr>
<tr>
<td>381402</td>
<td>3/4&quot; F nut x 1/2&quot; M</td>
<td>1 10</td>
</tr>
</tbody>
</table>

383  
Female fitting - olive coupling. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>383151</td>
<td>3/4&quot; M x 23 p.1.5 F</td>
<td>10 –</td>
</tr>
</tbody>
</table>

384  
Male fitting - olive coupling. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>384031</td>
<td>3/8&quot; M x 23 p.1.5 M</td>
<td>10 –</td>
</tr>
<tr>
<td>384041</td>
<td>1/2&quot; M x 23 p.1.5 M</td>
<td>10 –</td>
</tr>
</tbody>
</table>

942  
Sleeve. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>942551</td>
<td>3/4&quot; M x 3/4&quot;</td>
<td>1 –</td>
</tr>
<tr>
<td>942561</td>
<td>3/4&quot; M x 1&quot;</td>
<td>1 –</td>
</tr>
</tbody>
</table>

936  
Extension for connection between elbow fitting 933 series and radiator valves. Annealed copper, chrome plated. With shaped rubber seal. Length: 200 mm (useful 188 mm).

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>936400</td>
<td>1/2&quot; x Ø 16</td>
<td>1 50</td>
</tr>
</tbody>
</table>

3871  
Universal key. Use for 3/8" to 1" union tailpiece.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>387127</td>
<td>–</td>
<td>1 10</td>
</tr>
</tbody>
</table>

3871  

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>387100</td>
<td>–</td>
<td>1 4</td>
</tr>
</tbody>
</table>

560  
Drain cock for radiators and wall-mounted boilers. Max. working pressure: 10 bar. Max. working temperature: 100 °C. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>560421</td>
<td>1/2&quot;</td>
<td>10 –</td>
</tr>
<tr>
<td>560000</td>
<td>extractor hose connection</td>
<td>25 –</td>
</tr>
</tbody>
</table>

*One extractor hose connection code 560000 is included in each 10-item package.*
3872

Code
387201
1 –

3872
Adapting kit for headwork tool code 387200 to new headwork tool code 387201.

Code
387211
1 –

230
Δp measuring kit for circuit with dynamic valves.

Code
230100
1 –


Code
F39146
1 –

Spare headworks for convertible radiator valves with pre-setting 425, 426, 421 and 422 series. Only for 3/8" and 1/2" sizes.

Code
F49290
1 –


Code
338000
1 –

Spare headworks for reverse flow for convertible and thermostatic radiator valves 338, 339, 401, 402, 220, 221, 222, 223, 224, 227, 225 and 226 series. Only for 3/8" and 1/2" sizes. PATENT PENDING.

Code
421000
1 –

Installation with reverse flow
Example: 681 series fitting selection

Known both the outside and inside diameters (ex.: 17 mm and 13 mm); or known the outside diameter (ex.: th. 2 mm) and considering that:

\[ \text{\( \phi_{\text{outside}} = 2 \cdot \text{th.} \cdot \phi_{\text{inside}} \)} \]

17 - 2 - 2 = 13 mm

Look within the table for the code matching both diameters:

<table>
<thead>
<tr>
<th>Code</th>
<th>( \phi_{\text{inside}} )</th>
<th>( \phi_{\text{outside}} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>681035</td>
<td>23 p.1,5</td>
<td>12,5–13</td>
</tr>
</tbody>
</table>
Fittings

679 DAR CAL
Fitting for multilayer plastic pipes for continuous high temperature use. Max. working pressure: 10 bar. Temperature range: 0–95 °C. Chrome plated.

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series (see page 82).

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4&quot; - Ø 20x2</th>
<th>10</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>679264</td>
<td>3/4&quot; - Ø 20x2</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>679265</td>
<td>3/4&quot; - Ø 20x2,25</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>679266</td>
<td>3/4&quot; - Ø 20x2,5</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

681 DAR CAL

<table>
<thead>
<tr>
<th>Code</th>
<th>Ø inside Ø outside</th>
<th>10</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>681502</td>
<td>3/4&quot; 7,5–8 12–14</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681500</td>
<td>3/4&quot; 9 – 9,5 14–16</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681501</td>
<td>3/4&quot; 9,5–10 12–14</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681506</td>
<td>3/4&quot; 9,5–10 14–16</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681515</td>
<td>3/4&quot; 10,5–11 14–16</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681517</td>
<td>3/4&quot; 10,5–11 16–18</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681524</td>
<td>3/4&quot; 11,5–12 14–16</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681526</td>
<td>3/4&quot; 11,5–12 16–18</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681535</td>
<td>3/4&quot; 12,5–13 16–18</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681537</td>
<td>3/4&quot; 12,5–13 18–20</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681546</td>
<td>3/4&quot; 13,5–14 18–20</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681555</td>
<td>3/4&quot; 14,5–15 18–20</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681556</td>
<td>3/4&quot; 15 – 15,5 18–20</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>681564</td>
<td>3/4&quot; 15,5–16 18–20</td>
<td>10</td>
<td>100</td>
</tr>
</tbody>
</table>

437 Compression fitting, for annealed copper, hard copper, brass, mild and stainless steel pipes. With O-Ring seal. Max. working pressure: 10 bar. Temperature range: -25–120 °C. Chrome plated. For connecting pipes to special valves for panel radiators.

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4&quot; - Ø 10</th>
<th>100</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>437510</td>
<td>3/4&quot; - Ø 10</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>437512</td>
<td>3/4&quot; - Ø 12</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>437514</td>
<td>3/4&quot; - Ø 14</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>437515</td>
<td>3/4&quot; - Ø 15</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>437516</td>
<td>3/4&quot; - Ø 16</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>437518</td>
<td>3/4&quot; - Ø 18</td>
<td>10</td>
<td>–</td>
</tr>
</tbody>
</table>

438 Compression fitting for copper pipe, with PTFE seal. Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4&quot; - Ø 12</th>
<th>100</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>438512</td>
<td>3/4&quot; - Ø 12</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>438514</td>
<td>3/4&quot; - Ø 14</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>438515</td>
<td>3/4&quot; - Ø 15</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>438516</td>
<td>3/4&quot; - Ø 16</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>438518</td>
<td>3/4&quot; - Ø 18</td>
<td>100</td>
<td>–</td>
</tr>
</tbody>
</table>
CALIBRATOR FOR MULTILAYER PIPES

679
Calibrator and handle to adjust multilayer pipes diameter before use with fittings 679 series.

Multilayer pipe calibration and installation of fitting components 679 series

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>679001</td>
<td>calibrator Ø 14x2</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>679002</td>
<td>calibrator Ø 16x2</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>679003</td>
<td>calibrator Ø 16x2,25</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>679004</td>
<td>calibrator Ø 18x2</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>679006</td>
<td>calibrator Ø 20x2</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>679007</td>
<td>calibrator Ø 20x2,25</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>679008</td>
<td>calibrator Ø 20x2,5</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>679009</td>
<td>handle for calibrator</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>
VALVES FOR PANEL RADIATORS

3010
Valve for panel radiators with built-in thermostatic valve unit. Single valve straight version (floor connections) with 1/2" F radiator connections. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>301040</td>
<td>1/2&quot; M</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>

3011
Valve for panel radiators with built-in thermostatic valve unit. Single valve angled version (wall connections) with 1/2" F radiator connections. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>301140</td>
<td>1/2&quot; M</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>

3012
Valve for panel radiators with built-in thermostatic valve unit. One-pipe straight version (floor connections) with 1/2" F radiator connections. With adjustable by-pass. With non-return device. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>301241</td>
<td>1/2&quot; M</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>

3013
Valve for panel radiators with built-in thermostatic valve unit. One-pipe angled version (wall connections) with 1/2" F radiator connections. With adjustable by-pass. With non-return device. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>301341</td>
<td>1/2&quot; M</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>
### VALVES FOR PANEL RADIATORS

#### 3010
Valve for panel radiators with built-in thermostatic valve unit.
- Single valve straight version (floor connections) with ¾” M radiator connections.
- Max. working pressure: 10 bar.
- Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Qty</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>301050</td>
<td>¾” F</td>
<td>¾”</td>
<td>1</td>
<td>25</td>
</tr>
</tbody>
</table>

#### 3011
Valve for panel radiators with built-in thermostatic valve unit.
- Single valve angled version (wall connections) with ¾” M radiator connections.
- Max. working pressure: 10 bar.
- Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Qty</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>301150</td>
<td>¾” F</td>
<td>¾”</td>
<td>1</td>
<td>25</td>
</tr>
</tbody>
</table>

#### 3012
Valve for panel radiators with built-in thermostatic valve unit.
- One-pipe straight version (floor connections) with ¾” M radiator connections.
- With adjustable by-pass.
- With non-return device.
- Max. working pressure: 10 bar.
- Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Qty</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>301250</td>
<td>¾” F</td>
<td>¾”</td>
<td>1</td>
<td>25</td>
</tr>
</tbody>
</table>

#### 3013
Valve for panel radiators with built-in thermostatic valve unit.
- One-pipe angled version (wall connections) with ¾” M radiator connections.
- With adjustable by-pass.
- Max. working pressure: 10 bar.
- Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Qty</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>301350</td>
<td>¾” F</td>
<td>¾”</td>
<td>1</td>
<td>25</td>
</tr>
</tbody>
</table>

#### 3014
Straight single valve for panel radiators with built-in thermostatic valve unit (floor connections) with ½” F radiator connections.
- Max. working pressure: 10 bar.
- Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Qty</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>301440</td>
<td>½” M</td>
<td>¾”</td>
<td>1</td>
<td>50</td>
</tr>
</tbody>
</table>

#### 3015
Angled single valve for panel radiators with built-in thermostatic valve unit (wall connections) with ½” F radiator connections.
- Max. working pressure: 10 bar.
- Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Radiator connection</th>
<th>Pipe connection</th>
<th>Qty</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>301540</td>
<td>½” M</td>
<td>¾”</td>
<td>1</td>
<td>50</td>
</tr>
</tbody>
</table>
Inspection wall boxes
Motorised ball zone valves
Thermo-electric zone piston valves
Motorised zone valves with spring return
Motorised ball valves
Motorised valves for central heating systems
Mixing valves
Regulating globe valves
Single and dual distribution manifolds
Single distribution manifolds for air conditioning systems
Distribution manifolds with shut-off and pre-regulating valves
Thermo-electric actuators
Accessories and fittings for distribution manifolds
PLASTIC INSPECTION WALL BOXES

361
Plastic inspection wall port, with zinc plated sheet steel frame. White colour RAL 9010.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w)</th>
<th>Code</th>
<th>Dim. (h x w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>361032</td>
<td>320 x 250</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>361050</td>
<td>500 x 250</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

360
Pair of mounting brackets for 3/4” and 1” dual distribution manifolds 356, 356 IS and 357 series. For plastic inspection boxes 360 and 362 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
<th>Dim. (h x w x d)</th>
<th>Code</th>
<th>Code</th>
<th>Dim. (h x w x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>360032</td>
<td>1</td>
<td>320 x 250 x 90</td>
<td>1</td>
<td>10</td>
<td>320 x 250 x 90</td>
</tr>
<tr>
<td>360050</td>
<td>1</td>
<td>500 x 250 x 90</td>
<td>1</td>
<td>10</td>
<td>500 x 250 x 90</td>
</tr>
</tbody>
</table>

363
Inspection wall port and frame in plastic. Ventilated. White colour RAL 9010.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w)</th>
<th>Code</th>
<th>Dim. (h x w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>363036</td>
<td>360 x 270</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>363056</td>
<td>560 x 330</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>363073</td>
<td>730 x 360</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

362

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w x d)</th>
<th>Code</th>
<th>Dim. (h x w x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>362036</td>
<td>360 x 270 x 100/80</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>362056</td>
<td>560 x 330 x 100/80</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>362073</td>
<td>730 x 360 x 100/80</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
**SHEET STEEL INSPECTION WALL BOXES**

## 5890
Recessed inspection wall port with frame. In zinc plated sheet steel.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>589003</td>
<td>370 x 275</td>
<td>1</td>
</tr>
<tr>
<td>589005</td>
<td>540 x 275</td>
<td>1</td>
</tr>
</tbody>
</table>

## 5891
Recessed inspection wall box with frame. For dual distribution manifolds 356 series. In zinc plated sheet steel. Adjustable depth 70, 90 or 110 mm. Supplied with manifold mounting bracket.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w x d)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>589103</td>
<td>370 x 275 x 70/90/110</td>
<td>1</td>
</tr>
<tr>
<td>589105</td>
<td>540 x 275 x 70/90/110</td>
<td>1</td>
</tr>
</tbody>
</table>

## 659
Inspection wall box for distribution manifolds 349, 350, 592, 662, 671, 664 and 665 series. Complete with specific support for manifold brackets. Closure with a push-fit clamp. In painted sheet steel. Adjustable depth from 80 to 120 mm.

### 659045
500 x 400 x 80–120

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w x d)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>659045</td>
<td>500 x 400 x 80–120</td>
<td>1</td>
</tr>
</tbody>
</table>

### 659065
500 x 600 x 80–120

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w x d)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>659065</td>
<td>500 x 600 x 80–120</td>
<td>1</td>
</tr>
</tbody>
</table>

### 659085
500 x 800 x 80–120

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w x d)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>659085</td>
<td>500 x 800 x 80–120</td>
<td>1</td>
</tr>
</tbody>
</table>

### 659105
500 x 1000 x 80–120

<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w x d)</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>659105</td>
<td>500 x 1000 x 80–120</td>
<td>1</td>
</tr>
</tbody>
</table>

## 658
Pair of mounting brackets for distribution manifolds 592, 350 and 351 series. With insulating clamps, screws and wall anchors. To be used with boxes 659 series or directly wall mounted.

### 658000
1 x 20

## 658
Pair of mounting brackets for distribution manifolds 662 and 664 series. To be used with boxes code 659..5 or directly wall mounted.

### 658101
1 x 20

## 658
Pair of mounting brackets for distribution manifolds 663 and 668...51 series. With screws and wall anchors. To be used with boxes 659 series or directly wall mounted.

### 658200
1 x 20
MOTORISED BALL ZONE VALVES

6460  tech. broch. 01015
Actuator for ball zone valves 6470, 6480 and 6489 series.
Supply: 230 V (AC) or 24 V (AC).
With auxiliary microswitch.
Power consumption: 4 VA.
Auxiliary microswitch contact rating: 0,8 A (230 V) - 1,3 A (24 V).
Operating time: 50 s.
Max. ambient temperature: 55 °C.
Protection class: IP 43.

6470  tech. broch. 01015
Two-way ball zone valve.
Max. working pressure: 10 bar.
Temperature range: -5–110 °C.
New O-Ring seal.

6480  tech. broch. 01015
Three-way ball zone valve.
3/4” F by-pass connection.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.
New O-Ring seal.

6490  tech. broch. 01015
Balanced by-pass tee.
For ball zone valves 6480 series.
Max. working pressure: 10 bar.
Temperature range: -5–110 °C.
New O-Ring seal.

6489  tech. broch. 01015
Three-way ball zone valve with by-pass tee.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.
Tee complete with nozzle U6.
Adjustable outlet centre distance from 49 to 63 mm.
New O-Ring seal.

Wiring diagram for 6460 series, two point actuator with internal relais, valve in closed position
- R relay
- MC1 opening end microswitch.
- MC2 closing end microswitch.
- MC3 free auxiliary microswitch.
With the valve open, the free microswitch contacts are closed.
MOTORISED BALL ZONE VALVES WITH INSULATION

6452 tech. broch. 01199
Motorised two-way ball zone valve, for heating and air conditioning systems. With manual opening lever.
With insulation. Max. working pressure: 10 bar. Max. Δp: 10 bar. Temperature range: -10–110 °C.
Ambient temperature range: -10–55 °C. Operating time: 50 s (90° rotation). Length of supply cable: 80 cm.

6459 tech. broch. 01199
By-pass tee. For motorised ball zone valves 6452 series. With insulation. Max. working pressure: 10 bar. Max. Δp: 10 bar. Temperature range: -10–110 °C.

6453 tech. broch. 01199
Motorised three-way ball zone valve, for heating and air conditioning systems. With manual opening lever.
With insulation. Max. working pressure: 10 bar. Max. Δp: 10 bar. Temperature range: -10–110 °C.
Ambient temperature range: -10–55 °C. Operating time: 50 s (90° rotation). Length of supply cable: 80 cm.

6450 tech. broch. 01199
Spare actuator for motorised ball zone valves 6452 and 6453 series. Supply: 230 V (AC) or 24 V (AC).

6459 Shell insulation for motorised ball zone valves 6452 and 6453 series. Fitted for manifolds 356... IS series.

Wiring diagram for 6452 and 6453 series valves, two point actuator with internal relais, valve in closed position:
- R relay
- MC1 opening end microswitch
- MC2 closing end microswitch
- MICRO AUX free auxiliary microswitch.
MOTORISED BALL ZONE VALVES

6442 tech. broch. 01131
Motorised two-way ball zone valve.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.

Equipped with actuator with 3-contact control.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Power consumption: 4 VA.
Auxiliary microswitch contact rating: 0.8 A (230 V).
Ambient temperature range: 0–55 °C.
Protection class: IP 44 (vertical stem), IP 40 (horizontal stem).
Operating time: 40 s (90° rotation).
Lenght of supply cable: 100 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Kv (m³/h) straight</th>
<th>Kv (m³/h) by-pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>644222</td>
<td>1/2&quot;</td>
<td>230</td>
<td>11,1</td>
</tr>
<tr>
<td>644222</td>
<td>3/4&quot;</td>
<td>230</td>
<td>11,1</td>
</tr>
<tr>
<td>644224</td>
<td>1&quot;</td>
<td>230</td>
<td>11,1</td>
</tr>
</tbody>
</table>

6443.. 3BY tech. broch. 01131
Motorised three-way ball zone valve.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.

Equipped with actuator with 3-contact control.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Power consumption: 4 VA.
Auxiliary microswitch contact rating: 0.8 A (230 V).
Ambient temperature range: 0–55 °C.
Protection class: IP 44 (vertical stem), IP 40 (horizontal stem).
Operating time: 40 s (90° rotation).
Lenght of supply cable: 100 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Kv (m³/h) straight</th>
<th>Kv (m³/h) by-pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>644322</td>
<td>1/2&quot;</td>
<td>230</td>
<td>10,3</td>
</tr>
<tr>
<td>644322</td>
<td>3/4&quot;</td>
<td>230</td>
<td>10,3</td>
</tr>
<tr>
<td>644324</td>
<td>1&quot;</td>
<td>230</td>
<td>10,3</td>
</tr>
</tbody>
</table>

6444 tech. broch. 01131
Motorised three-way ball zone valve with telescopic by-pass tee.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.
Tee complete with nozzle U6.
Adjustable outlet centre distance from 49 to 63 mm.

Equipped with actuator with 3-contact control.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Power consumption: 4 VA.
Auxiliary microswitch contact rating: 0.8 A (230 V).
Ambient temperature range: 0–55 °C.
Protection class: IP 44 (vertical stem), IP 40 (horizontal stem).
Operating time: 40 s (90° rotation).
Lenght of supply cable: 100 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Kv (m³/h) straight</th>
<th>Kv (m³/h) by-pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>644442</td>
<td>1/2&quot;</td>
<td>230</td>
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<tr>
<td>644452</td>
<td>3/4&quot;</td>
<td>230</td>
<td>10,3</td>
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<tr>
<td>644462</td>
<td>1&quot;</td>
<td>230</td>
<td>10,3</td>
</tr>
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<td>644444</td>
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<td>10,3</td>
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<td>644454</td>
<td>3/4&quot;</td>
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<td>644464</td>
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<td>10,3</td>
</tr>
</tbody>
</table>

6440 tech. broch. 01131
3-contact control spare actuator for motorised ball zone valves 6442, 6443..3BY and 6444 series.
Operating time 40 s.
Supply: 230 V (AC) or 24 V (AC).

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>644002</td>
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</tr>
<tr>
<td>644004</td>
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<td>1</td>
</tr>
</tbody>
</table>

Wiring diagram for valves 6442 - 6443..3BY - 6444 series with 3-contact actuator
**THERMO-ELECTRIC PISTON ZONE VALVES**

### 632 tech. broch. 01039

Two-way piston zone valve.
- Max. working pressure: 10 bar.
- Max. Δp: 1 bar.
- Temperature range: -5–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>632400</td>
<td>1/2“</td>
<td>4,91</td>
</tr>
<tr>
<td>632500</td>
<td>3/4“</td>
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<td>632600</td>
<td>1“</td>
<td>6,38</td>
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</table>

### 633 tech. broch. 01039

Three-way piston zone valve.
- 3/4“ F by-pass connection.
- Max. working pressure: 10 bar.
- Max. Δp: 1 bar.
- Temperature range: -5–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h) straight</th>
<th>Kv (m³/h) by-pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>633400</td>
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<tr>
<td>633600</td>
<td>1“</td>
<td>6,45</td>
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</table>

### 635 tech. broch. 01039

Balanced by-pass tee.
- For zone valves 633 series.
- Max. working pressure: 10 bar.
- Max. Δp: 1 bar.
- Temperature range: -5–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h) tee + valve in by-pass</th>
</tr>
</thead>
<tbody>
<tr>
<td>635440</td>
<td>1/2“ U4</td>
</tr>
<tr>
<td>635460</td>
<td>1/2“ U6</td>
</tr>
<tr>
<td>635480</td>
<td>1/2“ U8</td>
</tr>
<tr>
<td>635540</td>
<td>3/4“ U4</td>
</tr>
<tr>
<td>635560</td>
<td>3/4“ U6</td>
</tr>
<tr>
<td>635580</td>
<td>3/4“ U8</td>
</tr>
<tr>
<td>635640</td>
<td>1“ U4</td>
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<td>635660</td>
<td>1“ U6</td>
</tr>
<tr>
<td>635680</td>
<td>1“ U8</td>
</tr>
</tbody>
</table>

### 630 tech. broch. 01039

Thermo-electric actuator.
- For zone valves 632 and 633 series.
- Normally closed.
- Supply: 230 V (AC) or 24 V (AC).
- With auxiliary microswitch.
- Power consumption: - starting 11 W.
- Auxiliary microswitch contact rating: 6 (3) A (230 V).
- Max. ambient temperature: 55 °C.
- Protection class: IP 44 (vertical stem), IP 42 (horizontal stem).

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
</tr>
</thead>
<tbody>
<tr>
<td>630002</td>
<td>230</td>
</tr>
<tr>
<td>630004</td>
<td>24</td>
</tr>
</tbody>
</table>

### Installation

1. The 2-way zone valve 632 series should be installed on the circuit flow pipe.
   - The 2-way valve cannot be converted into 3-way valve by removing the plug.
2. The 3-way zone valve 633 series should be always installed on the circuit return pipe.
   - The 3-way valve cannot be converted into 2-way valve by applying a plug.

---

**Wiring diagram for piston zone valves 632 and 633 series with thermo-electric actuator**
## THERMO-ELECTRIC PISTON ZONE VALVES

### 676 tech. broch. 01343
Two-way zone valve with high flow rate. Fitted for thermo-electric actuators 6563, 6561, 6562 and 6564 series. Max. working pressure: 10 bar. Max. Ap: 2.5 bar. Temperature range: 0–95 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
<th>Supply voltage V</th>
<th>Max. Ap (bar)</th>
<th>Temp. range °C</th>
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<tbody>
<tr>
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<td>4.77</td>
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### 676 tech. broch. 01072

<table>
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<th>Kv (m³/h)</th>
<th>Supply voltage V</th>
<th>Max. Ap (bar)</th>
<th>Temp. range °C</th>
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<tbody>
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<tr>
<td>676050</td>
<td>3.7</td>
<td>24</td>
<td>1</td>
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<td>0–95</td>
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### 677 tech. broch. 01072

<table>
<thead>
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<th>Supply voltage V</th>
<th>Max. Ap (bar)</th>
<th>Temp. range °C</th>
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<td>0–95</td>
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<td>3.7</td>
<td>1.0</td>
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### 678 tech. broch. 01072

<table>
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<th>Max. Ap (bar)</th>
<th>Temp. range °C</th>
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<tr>
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<td>1</td>
<td>0–95</td>
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<td>3.7</td>
<td>1.0</td>
<td>24</td>
<td>1</td>
<td>0–95</td>
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<tr>
<td>678060</td>
<td>3.7</td>
<td>1.0</td>
<td>230</td>
<td>1</td>
<td>0–95</td>
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### 6563 tech. broch. 01142

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<td>IP 40</td>
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<tr>
<td>656314</td>
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<td>1</td>
<td>0–95</td>
<td>IP 40</td>
</tr>
<tr>
<td>656302</td>
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<td>0–95</td>
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### 6561 tech. broch. 01042

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<td>IP 44</td>
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### 6562 tech. broch. 01198

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### 6564 tech. broch. 01198

<table>
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<td>IP 54</td>
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</table>

### 6563 tech. broch. 01042
MOTORISED ZONE VALVES WITH SPRING RETURN

642 tech. broch. 01115

Motorised two-way zone valve. Normally closed.
With auxiliary microswitch.
Supply: 230 V (AC).
Power consumption: 6,5 W; 7 VA.
Auxiliary microswitch contact rating: 0,8 A (230 V).
Opening time: 70–75 s.
Closing time: 5–7 s.
Protection class: IP 20.
Max. ambient temperature: 40 °C.
Max. working pressure: 16 bar.
Temperature range: 0–90 °C.
Cable length: 95 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kᵥ (m³/h)</th>
<th>Max. Δp (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>642042</td>
<td>1/2&quot; 2,5</td>
<td>2,10</td>
</tr>
<tr>
<td>642052</td>
<td>3/4&quot; 4,5</td>
<td>1,50</td>
</tr>
<tr>
<td>642062</td>
<td>1&quot; 6</td>
<td>1,00</td>
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</tbody>
</table>

643 tech. broch. 01115

Motorised three-way zone valve. Normally closed.
With auxiliary microswitch.
Supply: 230 V (AC).
Power consumption: 6,5 W; 7 VA.
Auxiliary microswitch contact rating: 0,8 A (230 V).
Opening time: 70–75 s.
Closing time: 5–7 s.
Protection class: IP 20.
Max. ambient temperature: 40 °C.
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Cable length: 95 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kᵥ (m³/h)</th>
<th>Max. Δp (bar)</th>
</tr>
</thead>
<tbody>
<tr>
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</tr>
<tr>
<td>643052</td>
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<tr>
<td>643062</td>
<td>1&quot; 6</td>
<td>1,00</td>
</tr>
</tbody>
</table>

641 tech. broch. 01115

Spare actuator for motorised zone valves 642 and 643 series.
Supply: 230 V (AC).

Removable actuator

Installation
The 3-way valve cannot be converted into 2-way valve and viceversa.

2-way valve installed on the flow

2-way valve installed on the return

3-way valve installed on the flow with diverting position and ON/OFF use mode

3-way valve installed on the return with mixing position and ON/OFF use mode

Wiring diagram for spring return valves 642 and 643 series
### Operating time 10 s

**6442**

Motorised two-way ball valve.  
Max. working pressure: 10 bar.  
Max. Δp: 10 bar.  
Temperature range: -5–110 °C.  
Equipped with actuator with 3-contact control.  
With auxiliary microswitch.  
Supply: 230 V (AC) or 24 V (AC).  
Power consumption: 8 VA.  
Auxiliary microswitch contact rating: 0.8 A (230 V).  
Ambient temperature range: 0–55 °C.  
Protection class: IP 44 (vertical stem).  
IP 40 (horizontal stem).  
Operating time: 10 s (rotation 90°).  
Cable length: 100 cm.

**Code** | **Supply voltage V** | **Kv (m³/h)** | **Contact rating**  
--- | --- | --- | ---  
6442/6 | 1/2” | 230 | 11,1 | 0,8 A  
6442/5 | 3/4” | 230 | 11,1 | 0,8 A  
6442/8 | 1/2” | 24 | 11,1 | 0,8 A  
6442/9 | 3/4” | 24 | 11,1 | 0,8 A

**6440**

3-contact control spare actuator for motorised ball zone valves 6442 series.  
Operating time 10 s.  
Supply: 230 V (AC) or 24 V (AC).

**Code** | **Supply voltage V** | **Kv (m³/h)** | **Contact rating**  
--- | --- | --- | ---  
644012 | 230 | | 0,8 A  
644014 | 24 | | 0,8 A

### Wiring diagram for valves 6442 and 6443 series, with 3-contact actuator

Connection diagram for room thermostat (RT) and electric supply.  
The illustrated connection makes it possible to open and close the valve according to the signal provided by the 3-contact room thermostat.

### Connection diagram - with ON/OFF switch device

The illustrated connection makes it possible to open and close the valve when the switch allows, using an intermediate relay device.

### Pump disconnection diagram when no zone is in operation

This diagram, using the auxiliary microswitch, allows the pump to be deactivated when the diverter valve used as a zone valve is closed.  
If the pump has a power consumption level over 0.8 A (170 VA), an intermediate contactor must be used.
MOTORISED THREE-WAY BALL DIVERTER VALVES

Operating time 10 s

6443 tech. broch. 01132
Motorised three-way diverter valve.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.
Equipped with actuator with 3-contact control.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Power consumption: 8 VA.
Auxiliary microswitch contact rating: 0.8 A (230 V).
Ambient temperature range: 0–55 °C.
Protection class: IP 44 (vertical stem).
IP 40 (horizontal stem).
Operating time: 10 s (rotation 90°).
Cable length: 100 cm.

6440 tech. broch. 01132
3-contact control spare actuator for motorised ball zone valves 6443 series.
Operating time 10 s.
Supply: 230 V (AC) or 24 V (AC).

Operating time 40 s

6443 tech. broch. 01132
Motorised three-way diverter valve.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.
Equipped with actuator with 3-contact control.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Power consumption: 8 VA.
Auxiliary microswitch contact rating: 0.8 A (230 V).
Ambient temperature range: 0–55 °C.
Protection class: IP 44 (vertical stem).
IP 40 (horizontal stem).
Operating time: 40 s (90° rotation).
Cable length: 100 cm.

6440 tech. broch. 01132
3-contact control spare actuator for motorised ball zone valve 6443 series.
Operating time 40 s.
Supply: 230 V (AC) or 24 V (AC).

Applications

<table>
<thead>
<tr>
<th>Diverter</th>
<th>Mixing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 inlet - 2 outlets</td>
<td>2 inlets - 1 outlet</td>
</tr>
</tbody>
</table>

Operating diagram for 6443 series valve
Operating time 10 s and 40 s - with “T” drilling
MOTORISED TWO-WAY BALL VALVES FOR HIGH FLOW RATES

638 tech. broch. 01196


<table>
<thead>
<tr>
<th>Code</th>
<th>Actuator torque (N·m)</th>
<th>Supply voltage (V)</th>
<th>Kv (m³/h)</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>638052</td>
<td>3/4&quot;</td>
<td>15</td>
<td>230</td>
<td>16</td>
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<td>638062</td>
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<td>15</td>
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<td>36,5</td>
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<tr>
<td>638072</td>
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<td>15</td>
<td>230</td>
<td>48</td>
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<td>638082</td>
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<td>230</td>
<td>77</td>
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Spare actuators for motorised two-way valves 638 series. 90° rotation. Supply: 230 V (AC) or 24 V (AC).

<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>638014</td>
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</table>

Insulation kit for heating and air conditioning systems. Medium temperature range: -10–110 °C. For motorised two-way ball valves 638 series.

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<td>CBN638072</td>
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<td>CBN638082</td>
<td>1 1/2&quot;-2&quot;</td>
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</table>

Insulation kit for heating and air conditioning systems. Medium temperature range: -10–110 °C. For motorised three-way ball valves 638 series.

<table>
<thead>
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<th>Code</th>
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<tr>
<td>CBN638063</td>
<td>1&quot; with &quot;L&quot; drilling</td>
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<td>CBN638073</td>
<td>1 1/4&quot; with &quot;L&quot; drilling</td>
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<td>1 1/2&quot;-2&quot; with &quot;L&quot; drilling</td>
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<tr>
<td>CBN638153</td>
<td>3/4&quot; with &quot;T&quot; drilling</td>
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<td>CBN638163</td>
<td>1&quot; with &quot;T&quot; drilling</td>
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<tr>
<td>CBN638173</td>
<td>1 1/4&quot; with &quot;T&quot; drilling</td>
</tr>
<tr>
<td>CBN638183</td>
<td>1 1/2&quot;-2&quot; with &quot;T&quot; drilling</td>
</tr>
</tbody>
</table>

Wiring diagram for two-way and three-way ball valves 638 series with 3-contact actuator. Internal diagram with valve in the following position:
- Closed, for two-way valve.
- Port A closed for three-way valves.

![Wiring diagram](image-url)
MOTORISED THREE-WAY BALL VALVES FOR HIGH FLOW RATES

638 tech. broch. 01196

Motorised three-way ball valve. With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Max. working pressure: 16 bar.
Max. Δp: 10 bar.
Temperature range: -10–110 °C.
Ambient temperature range: -10–55 °C.
Power consumption: 6 VA.
Auxiliary microswitch contact rating: 6 (2) A - 230 V (AC).
Protection class: IP 65.
Operating time: 50 s (90° rotation).
With “T” drilling. Reduced bore.

638 tech. broch. 01196

Motorised three-way ball valve. With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Max. working pressure: 16 bar.
Max. Δp: 10 bar.
Temperature range: -10–110 °C.
Ambient temperature range: -10–55 °C.
Power consumption: 6 VA.
Auxiliary microswitch contact rating: 6 (2) A - 230 V (AC).
Protection class: IP 65.
Operating time: 100 s (180° rotation).
With “L” drilling. Reduced bore.

Applications

Diverter
1 inlet - 2 outlets

Mixing
2 inlets - 1 outlet

Operating diagram of valves 638 series - “T” drilling

Operating diagram of valves 638 series - “L” drilling

Spare actuators for motorised three-way valves 638 series.
With “T” drilling. 90° rotation.
Supply: 230 V (AC) or 24 V (AC).

Spare actuators for motorised three-way valves 638 series.
With “L” drilling. 180° rotation.
Supply: 230 V (AC) or 24 V (AC).
Motorised two-way ball valve with manual opening.
Full bore.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Max. working pressure (static): 2 1/2": 40 bar; 3": 25 bar; 4": 16 bar.
Max. Δp: 6 bar.
Temperature range: -10–95 °C.
Max. ambient temperature: 55 °C.
Power consumption: 10.5 VA.
Auxiliary microswitch contact rating: 16 (6) A - 250 V (AC) - double switch.
Protection class: IP 65.
Operating time: 150 s (90° rotation).

Motorised two-way ball valve with manual opening. Full bore.
Flanged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Max. working pressure (static):
DN 65: 40 bar; DN 80: 25 bar; DN 100: 16 bar.
Max. Δp: 6 bar.
Temperature range: -10–95 °C.
Max. ambient temperature: 55 °C.
Power consumption: 10.5 VA.
Auxiliary microswitch contact rating: 16 (6) A - 250 V (AC) - double switch.
Protection class: IP 65.
Operating time: 150 s (90° rotation).

### Spare actuators for motorised two-way ball valves 637 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Actuator torque (N·m)</th>
<th>Supply voltage (V)</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>637022</td>
<td>2 1/2&quot;</td>
<td>120</td>
<td>230</td>
</tr>
<tr>
<td>637032</td>
<td>3&quot;</td>
<td>120</td>
<td>230</td>
</tr>
<tr>
<td>637042</td>
<td>4&quot;</td>
<td>120</td>
<td>24</td>
</tr>
<tr>
<td>637052</td>
<td>3 1/2&quot;</td>
<td>120</td>
<td>24</td>
</tr>
<tr>
<td>637062</td>
<td>4&quot;</td>
<td>120</td>
<td>24</td>
</tr>
<tr>
<td>637072</td>
<td>4 1/2&quot;</td>
<td>120</td>
<td>24</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Actuator torque (N·m)</th>
<th>Supply voltage (V)</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>637212</td>
<td>DN 65</td>
<td>120</td>
<td>230</td>
</tr>
<tr>
<td>637232</td>
<td>DN 80</td>
<td>120</td>
<td>230</td>
</tr>
<tr>
<td>637242</td>
<td>DN 100</td>
<td>120</td>
<td>230</td>
</tr>
<tr>
<td>637252</td>
<td>DN 65</td>
<td>120</td>
<td>24</td>
</tr>
<tr>
<td>637272</td>
<td>DN 80</td>
<td>120</td>
<td>24</td>
</tr>
<tr>
<td>637292</td>
<td>DN 100</td>
<td>120</td>
<td>24</td>
</tr>
</tbody>
</table>
### MIXING VALVES

**610**
Three-way sector mixing valve, threaded connections. 
Brass body. PN 10.
Max. working pressure: 10 bar. 
Temperature range: 5–110 °C.
Factory configuration: boiler inlet on the RH connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Tension V</th>
<th>Actuator torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>610400</td>
<td>230</td>
<td>5</td>
</tr>
<tr>
<td>610500</td>
<td>230</td>
<td>5</td>
</tr>
<tr>
<td>610600</td>
<td>230</td>
<td>5</td>
</tr>
<tr>
<td>610700</td>
<td>230</td>
<td>5</td>
</tr>
<tr>
<td>610800</td>
<td>230</td>
<td>5</td>
</tr>
<tr>
<td>610900</td>
<td>230</td>
<td>5</td>
</tr>
</tbody>
</table>

**Legend:**
- **Red**: System flow
- **Yellow**: System return

### Wiring diagram

#### Actuator

- Black (L) - GND
- Blue (N)
- Brown (L)

**6370**
Actuator for mixing valves codes 610.00 from 1/2" to 2".
Supply: 230 V - 50 Hz.
Control signal: 3 points. 
Power consumption: 3 VA. 
Protection class: IP 44.
Rotation 90°.
Operating time: 150 s.
Ambient temperature range: 0–55 °C.
Storage temperature range: -10–70 °C.
Supply cable length: 1.5 m.
**Three-way butterfly mixing valve.**

Max. working pressure: 6 bar.

Temperature range: 2–110 °C.

Heavy series.

Factory configuration: boiler inlet on the RH connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>610005</td>
<td>3/4&quot; 7,5</td>
</tr>
<tr>
<td>610006</td>
<td>1&quot; 11,9</td>
</tr>
<tr>
<td>610007</td>
<td>1 1/4&quot; 16,8</td>
</tr>
<tr>
<td>610008</td>
<td>1 1/2&quot; 30</td>
</tr>
<tr>
<td>610009</td>
<td>2&quot; 45</td>
</tr>
<tr>
<td>610020</td>
<td>2 1/2&quot; 72</td>
</tr>
</tbody>
</table>

---

**Four-way butterfly mixing valve.**

Threaded connections.

Max. working pressure: 6 bar.

Temperature range: 2–110 °C.

Heavy series.

Factory configuration: boiler inlet on the RH connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>611005</td>
<td>3/4&quot; 7,8</td>
</tr>
<tr>
<td>611006</td>
<td>1&quot; 12,3</td>
</tr>
<tr>
<td>611007</td>
<td>1 1/4&quot; 18,5</td>
</tr>
<tr>
<td>611008</td>
<td>1 1/2&quot; 30</td>
</tr>
<tr>
<td>611009</td>
<td>2&quot; 53</td>
</tr>
<tr>
<td>611020</td>
<td>2 1/2&quot; 80</td>
</tr>
</tbody>
</table>

---

**Three-way sector mixing valve.**

Threaded connections.

Max. working pressure: 6 bar.

Temperature range: 2–110 °C.

Heavy series.

Factory configuration: boiler inlet on the RH connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>612005</td>
<td>3/4&quot; 7,2</td>
</tr>
<tr>
<td>612006</td>
<td>1&quot; 11,9</td>
</tr>
<tr>
<td>612007</td>
<td>1 1/4&quot; 16,5</td>
</tr>
<tr>
<td>612008</td>
<td>1 1/2&quot; 30</td>
</tr>
<tr>
<td>612009</td>
<td>2&quot; 42</td>
</tr>
<tr>
<td>612020</td>
<td>2 1/2&quot; 62</td>
</tr>
</tbody>
</table>

---

**Four-way butterfly mixing valve.**

Body PN 6.

Flanged connections.

To be coupled with flat counterflanges EN 1092-1.

Max. working pressure: 6 bar.

Temperature range: 2–110 °C.

Heavy series.

Factory configuration: boiler inlet on the RH connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>611050</td>
<td>DN 50 (2&quot;) 53</td>
</tr>
<tr>
<td>611060</td>
<td>DN 65 (2 1/2&quot;) 80</td>
</tr>
<tr>
<td>611080</td>
<td>DN 80 (3&quot;) 140</td>
</tr>
<tr>
<td>611100</td>
<td>DN 100 (4&quot;) 230</td>
</tr>
<tr>
<td>611120</td>
<td>DN 125 (5&quot;) 410</td>
</tr>
</tbody>
</table>

---

**Three-way sector mixing valve.**

Body PN 6.

Flanged connections.

To be coupled with flat counterflanges EN 1092-1.

Max. working pressure: 6 bar.

Temperature range: 2–110 °C.

Heavy series.

Factory configuration: boiler inlet on the RH connection.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>612050</td>
<td>DN 50 (2&quot;) 42</td>
</tr>
<tr>
<td>612060</td>
<td>DN 65 (2 1/2&quot;) 62</td>
</tr>
<tr>
<td>612080</td>
<td>DN 80 (3&quot;) 123</td>
</tr>
<tr>
<td>612100</td>
<td>DN 100 (4&quot;) 172</td>
</tr>
<tr>
<td>612120</td>
<td>DN 125 (5&quot;) 340</td>
</tr>
</tbody>
</table>
**MOTORISED MIXING VALVES**

**6120**

*Boiler inlet on the RH connection*

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Kv (m³/h)</th>
<th>Actuator torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>612025</td>
<td>3/4&quot;</td>
<td>230</td>
<td>7,2</td>
</tr>
<tr>
<td>612026</td>
<td>1&quot;</td>
<td>230</td>
<td>11,9</td>
</tr>
<tr>
<td>612027</td>
<td>1 1/4&quot;</td>
<td>230</td>
<td>16,5</td>
</tr>
<tr>
<td>612028</td>
<td>1 1/2&quot;</td>
<td>230</td>
<td>30</td>
</tr>
<tr>
<td>612029</td>
<td>2&quot;</td>
<td>230</td>
<td>53</td>
</tr>
<tr>
<td>612030</td>
<td>2 1/2&quot;</td>
<td>230</td>
<td>80</td>
</tr>
</tbody>
</table>

**Boiler inlet on the LH connection**

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Kv (m³/h)</th>
<th>Actuator torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>612015</td>
<td>3/4&quot;</td>
<td>230</td>
<td>7,2</td>
</tr>
<tr>
<td>612016</td>
<td>1&quot;</td>
<td>230</td>
<td>11,9</td>
</tr>
<tr>
<td>612017</td>
<td>1 1/4&quot;</td>
<td>230</td>
<td>16,5</td>
</tr>
<tr>
<td>612018</td>
<td>1 1/2&quot;</td>
<td>230</td>
<td>30</td>
</tr>
<tr>
<td>612019</td>
<td>2&quot;</td>
<td>230</td>
<td>53</td>
</tr>
<tr>
<td>612020</td>
<td>2 1/2&quot;</td>
<td>230</td>
<td>80</td>
</tr>
</tbody>
</table>

**ACTUATORS**

**6370**

*Boiler inlet on the RH connection*

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Actuator torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>637002</td>
<td>230</td>
<td>15</td>
</tr>
<tr>
<td>637004</td>
<td>24</td>
<td>15</td>
</tr>
</tbody>
</table>

**6370**

*Boiler inlet on the LH connection*

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Actuator torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>637012</td>
<td>230</td>
<td>35</td>
</tr>
<tr>
<td>637014</td>
<td>24</td>
<td>35</td>
</tr>
</tbody>
</table>

**6370**

*Boiler inlet on the LH connection*

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>Actuator torque (N·m)</th>
</tr>
</thead>
<tbody>
<tr>
<td>637001</td>
<td>230</td>
<td>15</td>
</tr>
<tr>
<td>637003</td>
<td>24</td>
<td>15</td>
</tr>
</tbody>
</table>
**REGULATING VALVES**

**636**

Two-way regulating globe valve, threaded. Female union connections. Dezincification resistant alloy body. PN 16. Equipercentage regulation. Max. working pressure: 16 bar. Temperature range: 0–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Conn</th>
<th>Kv (m³/h)</th>
<th>Tension V</th>
<th>Nominal force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>636000</td>
<td>15</td>
<td>1/2”</td>
<td>4</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636010</td>
<td>20</td>
<td>3/4”</td>
<td>6.3</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636020</td>
<td>25</td>
<td>1”</td>
<td>10</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636030</td>
<td>32</td>
<td>1 1/4”</td>
<td>16</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636040</td>
<td>40</td>
<td>1 1/2”</td>
<td>22</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636050</td>
<td>50</td>
<td>2”</td>
<td>28</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>

Application diagram of threaded two-way regulating valve

**636**


<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Conn</th>
<th>Kv (m³/h)</th>
<th>Tension V</th>
<th>Nominal force (N)</th>
</tr>
</thead>
<tbody>
<tr>
<td>636002</td>
<td>15</td>
<td>1/2”</td>
<td>4</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636012</td>
<td>20</td>
<td>3/4”</td>
<td>6.3</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636022</td>
<td>25</td>
<td>1”</td>
<td>10</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636032</td>
<td>32</td>
<td>1 1/4”</td>
<td>16</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636042</td>
<td>40</td>
<td>1 1/2”</td>
<td>22</td>
<td>1</td>
<td>–</td>
</tr>
<tr>
<td>636052</td>
<td>50</td>
<td>2”</td>
<td>28</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>

Application diagram of threaded three-way regulating valve

**Max. Δp table: actuator + threaded valve body 636 series**

<table>
<thead>
<tr>
<th>Code</th>
<th>Actuator code 636004</th>
<th>Actuator code 636002</th>
<th>Actuator code 636014</th>
</tr>
</thead>
<tbody>
<tr>
<td>6364.0</td>
<td>4 bar</td>
<td>6 bar</td>
<td>6 bar</td>
</tr>
<tr>
<td>6365.0</td>
<td>4 bar</td>
<td>5 bar</td>
<td>5 bar</td>
</tr>
<tr>
<td>6366.0</td>
<td>4 bar</td>
<td>4 bar</td>
<td>4 bar</td>
</tr>
<tr>
<td>6367.0</td>
<td>3 bar</td>
<td>3,5 bar</td>
<td>3,5 bar</td>
</tr>
<tr>
<td>6368.0</td>
<td>1,9 bar</td>
<td>3 bar</td>
<td>3 bar</td>
</tr>
<tr>
<td>6369.0</td>
<td>1 bar</td>
<td>2,4 bar</td>
<td>2,4 bar</td>
</tr>
</tbody>
</table>
Two/three-way regulating globe valve, flanged.
Grey cast iron body.
Flanged connections, PN 16.
To be coupled with flat counterflanges EN 1092-1.
Equipercentage regulation (two-way).
Equipercentage/linear regulation (three-way).
Max. working pressure: 16 bar.
Temperature range: 0–100 °C.
The valve can be transformed into a three-way valve by opening the central third port.

Actuator for flanged regulating valves 636 series.
Supply: 24 V.
Control signal: 2 points, 3 points, 0–10 V.
Power consumption: 3.5 VA.
Operating time: 80 s / 120 s.
Ambient temperature range: -10–55 °C.

Max. Δp table: actuator + flanged valve body 636 series

<table>
<thead>
<tr>
<th>Code</th>
<th>Actuator code 636024</th>
<th>Actuator code 636034</th>
</tr>
</thead>
<tbody>
<tr>
<td>636060</td>
<td>2.5 bar</td>
<td>3 bar</td>
</tr>
<tr>
<td>636080</td>
<td>1.5 bar</td>
<td>3 bar</td>
</tr>
<tr>
<td>636100</td>
<td>-</td>
<td>2 bar</td>
</tr>
<tr>
<td>636125</td>
<td>-</td>
<td>1.5 bar</td>
</tr>
<tr>
<td>636150</td>
<td>-</td>
<td>1 bar</td>
</tr>
</tbody>
</table>
SINGLE DISTRIBUTION MANIFOLDS

349
Modular single distribution manifold.
For heating and air conditioning systems.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 35 mm.

350
Modular single distribution manifold.
For heating and air conditioning systems.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 50 mm for 3/4" and 1".
Outlet centre distance: 60 mm for 1 1/4".
PTFE seal on coupling.

351
Blind single distribution manifold.
For heating and air conditioning systems.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 50 mm.
**DUAL DISTRIBUTION MANIFOLDS AND FITTINGS**

### 356

**tech. broch. 01014**

Cast monoblock dual distribution manifold. For heating and air conditioning systems. Max. working pressure: 10 bar. Temperature range: -10–110 °C. Main centre distance: 60 mm. Outlet centre distance: 40 mm.

**Code** | **Connections** | **Outlet No.** | **Outlets**
---|---|---|---
356502 | 3/4" | 2+2 | 23 p.1,5 M 1 5
356504 | 3/4" | 4+4 | 23 p.1,5 M 1 5
356506 | 3/4" | 6+6 | 23 p.1,5 M 1 5
356508 | 3/4" | 8+8 | 23 p.1,5 M 1 5
356510 | 3/4" | 10+10 | 23 p.1,5 M 1 5
356604 | 1" | 4+4 | 23 p.1,5 M 1 5
356606 | 1" | 6+6 | 23 p.1,5 M 1 5
356608 | 1" | 8+8 | 23 p.1,5 M 1 5
356610 | 1" | 10+10 | 23 p.1,5 M 1 5
356612 | 1" | 12+12 | 23 p.1,5 M 1 5

### 356

**tech. broch. 01014**

Cast monoblock dual distribution manifold. For heating and air conditioning systems. With insulation. Max. working pressure: 10 bar. Temperature range: 0–100 °C. Main centre distance: 60 mm. Outlet centre distance: 40 mm.

**Code** | **Connections** | **Outlet No.** | **Outlets**
---|---|---|---
356604 IS | 1" | 4+4 | 23 p.1,5 M 1 5
356606 IS | 1" | 6+6 | 23 p.1,5 M 1 5
356608 IS | 1" | 8+8 | 23 p.1,5 M 1 5
356610 IS | 1" | 10+10 | 23 p.1,5 M 1 5

### 357

**tech. broch. 01014**

Single sided cast monoblock dual distribution manifold. For heating and air conditioning systems. Max. working pressure: 10 bar. Temperature range: -10–110 °C. Main centre distance: 60 mm. Outlet centre distance: 40 mm.

**Code** | **Connections** | **Outlet No.** | **Outlets**
---|---|---|---
357502 | 3/4" | 2+2 | 23 p.1,5 M 1 10
357503 | 3/4" | 3+3 | 23 p.1,5 M 1 10
357504 | 3/4" | 4+4 | 23 p.1,5 M 1 5
357505 | 3/4" | 5+5 | 23 p.1,5 M 1 –
357506 | 3/4" | 6+6 | 23 p.1,5 M 1 –

### 356

**tech. broch. 01014**

Differential by-pass for dual distribution manifolds 356 and 357 series. 3/8” connection for automatic air vent. Fixed differential by-pass setting: 20 kPa (2000 mm w.g.). Max. working pressure: 10 bar. Temperature range: -10–110 °C.

**Code** | **Connections** | **Outlet No.** | **Outlets**
---|---|---|---
356650 | 3/4" M | 1 20

### 3640

**End fitting.** For distribution manifolds 356 and 357 series.

**Code** | **Connections** | **Outlet No.** | **Outlets**
---|---|---|---
364050 | 3/4" M x 23 p.1,5 M | 2 –
364060 | 1" M x 23 p.1,5 M | 2 –

### 3641

**Plug.** For distribution manifolds 356 and 357 series.

**Code** | **Connections** | **Outlet No.** | **Outlets**
---|---|---|---
364150 | 3/4" M | 2 –
364160 | 1" M | 2 –

### 3642

**End fitting for air vent connection.** For distribution manifolds 356 and 357 series.

**Code** | **Connections** | **Outlet No.** | **Outlets**
---|---|---|---
364253 | 3/4" M x 3/8" F | 2 –
364254 | 3/4" M x 1/2" F | 2 –
364263 | 1" M x 3/8" F | 2 –
### SINGLE DISTRIBUTION MANIFOLDS

**349**
Modular single distribution manifold.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 35 mm.
Outlet male connections.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
<th>Outlet male connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>349130</td>
<td>3/4” x 3</td>
<td>1/2” M</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>349140</td>
<td>3/4” x 4</td>
<td>1/2” M</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>349150</td>
<td>3/4” x 5</td>
<td>1/2” M</td>
<td>5</td>
<td>50</td>
</tr>
</tbody>
</table>

**349**
Modular single distribution manifold.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 35 mm.
Outlet male connections.
With flat seat.
For press-fittings.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
<th>Outlet male connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>349230</td>
<td>3/4” x 3</td>
<td>1/2” M Ø 13</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>349240</td>
<td>3/4” x 4</td>
<td>1/2” M Ø 13</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>349250</td>
<td>3/4” x 5</td>
<td>1/2” M Ø 13</td>
<td>5</td>
<td>50</td>
</tr>
</tbody>
</table>

**349**
Modular single distribution manifold.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 35 mm.
Outlet female connections.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
<th>Outlet female connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>349330</td>
<td>3/4” x 3</td>
<td>1/2” F</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>349340</td>
<td>3/4” x 4</td>
<td>1/2” F</td>
<td>5</td>
<td>50</td>
</tr>
<tr>
<td>349350</td>
<td>3/4” x 5</td>
<td>1/2” F</td>
<td>5</td>
<td>50</td>
</tr>
</tbody>
</table>

**354**
Modular single distribution manifold with shut-off valves.
CR dezincification resistant alloy body.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.
Outlet centre distance: 35 mm.
Outlet male connections.
With flat seat.
For press-fittings.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
<th>Outlet male connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>354252</td>
<td>3/4” x 2</td>
<td>1/2” M Ø 13</td>
<td>2</td>
<td>30</td>
</tr>
<tr>
<td>354253</td>
<td>3/4” x 3</td>
<td>1/2” M Ø 13</td>
<td>2</td>
<td>20</td>
</tr>
<tr>
<td>354254</td>
<td>3/4” x 4</td>
<td>1/2” M Ø 13</td>
<td>2</td>
<td>10</td>
</tr>
<tr>
<td>354255</td>
<td>3/4” x 5</td>
<td>1/2” M Ø 13</td>
<td>2</td>
<td>10</td>
</tr>
</tbody>
</table>

**592**
Modular single distribution manifold.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
PTFE seal on coupling.
Outlet male connections.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
<th>Outlet centre distance</th>
</tr>
</thead>
<tbody>
<tr>
<td>59225</td>
<td>3/4” x 2</td>
<td>1/2” M</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>59235</td>
<td>3/4” x 3</td>
<td>1/2” M</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>59245</td>
<td>3/4” x 4</td>
<td>1/2” M</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>59265</td>
<td>1” x 2</td>
<td>1/2” M</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>59265</td>
<td>1” x 3</td>
<td>1/2” M</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>59265</td>
<td>1” x 4</td>
<td>1/2” M</td>
<td>50</td>
<td>2</td>
</tr>
<tr>
<td>59266</td>
<td>1” x 2</td>
<td>1/2” M</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>59266</td>
<td>1” x 3</td>
<td>1/2” M</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>59266</td>
<td>1” x 4</td>
<td>1/2” M</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>592736</td>
<td>1 1/4” x 2</td>
<td>1/2” M</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>592736</td>
<td>1 1/4” x 3</td>
<td>1/2” M</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>592736</td>
<td>1 1/4” x 4</td>
<td>1/2” M</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>592622</td>
<td>1” x 2</td>
<td>3/4” M</td>
<td>60</td>
<td>2</td>
</tr>
<tr>
<td>592622</td>
<td>1” x 3</td>
<td>3/4” M</td>
<td>60</td>
<td>2</td>
</tr>
</tbody>
</table>

* Without PTFE on coupling
### SINGLE DISTRIBUTION MANIFOLDS

**598**
Blind single distribution manifold.
For heating and air conditioning systems.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 50 mm.
**Outlet male connections.**

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>598521</td>
<td>3/4” x 2</td>
<td>1/2” M</td>
<td>2 –</td>
</tr>
<tr>
<td>598531</td>
<td>3/4” x 3</td>
<td>1/2” M</td>
<td>2 –</td>
</tr>
<tr>
<td>598541</td>
<td>3/4” x 4</td>
<td>1/2” M</td>
<td>2 –</td>
</tr>
<tr>
<td>598631</td>
<td>1” x 3</td>
<td>1/2” M</td>
<td>2 –</td>
</tr>
<tr>
<td>598641</td>
<td>1” x 4</td>
<td>1/2” M</td>
<td>2 –</td>
</tr>
</tbody>
</table>

**598**
Blind single distribution manifold.
For heating and air conditioning systems.
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Outlet centre distance: 50 mm.
**Outlet female connections.**

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>598522</td>
<td>3/4” x 2</td>
<td>1/2” F</td>
<td>2 –</td>
</tr>
<tr>
<td>598532</td>
<td>3/4” x 3</td>
<td>1/2” F</td>
<td>2 –</td>
</tr>
<tr>
<td>598542</td>
<td>3/4” x 4</td>
<td>1/2” F</td>
<td>2 –</td>
</tr>
<tr>
<td>598622</td>
<td>1” x 2</td>
<td>1/2” F</td>
<td>2 –</td>
</tr>
<tr>
<td>598632</td>
<td>1” x 3</td>
<td>1/2” F</td>
<td>2 –</td>
</tr>
<tr>
<td>598642</td>
<td>1” x 4</td>
<td>1/2” F</td>
<td>2 –</td>
</tr>
</tbody>
</table>

### SINGLE DISTRIBUTION MANIFOLDS FOR AIR CONDITIONING SYSTEMS

**650**
Modular single distribution manifold.
For air conditioning systems.
With insulation.
Max. working pressure: 10 bar.
Temperature range: -40–95 °C.
Outlet centre distance: 60 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>650722</td>
<td>1 1/4” x 2</td>
<td>3/4” M</td>
<td>2 –</td>
</tr>
<tr>
<td>650732</td>
<td>1 1/4” x 3</td>
<td>3/4” M</td>
<td>2 –</td>
</tr>
<tr>
<td>650742</td>
<td>1 1/4” x 4</td>
<td>3/4” M</td>
<td>2 –</td>
</tr>
</tbody>
</table>

**615**
Super-bright glue, to seal the insulation of manifolds 650 series, deaerators 551 DISCAL® series and separator-manifold 559 SEPCOLL series.
Content: 125 g.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>615500</td>
<td>1 –</td>
</tr>
</tbody>
</table>
DISTRIBUTION MANIFOLDS WITH SHUT-OFF AND PRE-REGULATING VALVES

662
Distribution manifold group.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.
Outlet centre distance: 50 mm.

Consisting of:
- return manifold complete with shut-off valves fitted for thermo-electric actuator;
- flow manifold complete with lockshield valves for flow rate pre-regulation;
- end fittings consisting of double radial end fitting, manual air vent and plugs;
- steel mounting brackets for use with box 659 series or for direct wall fixing.

Insulation for distribution manifolds 662, 664 and 665 series.
For heating and cooling systems.
For use with box code 659..4 (adjustable depth from 110 to 140 mm).

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBN6646F1</td>
<td>for manifolds from 2 to 6 outlets</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>CBN6646N1</td>
<td>for manifolds from 7 to 12 outlets</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>CBN6646O1</td>
<td>for manifolds with 13 outlets</td>
<td>1 –</td>
<td></td>
</tr>
</tbody>
</table>

Code

662685  1* x 2  3/4" M  1 –
6626CS  1* x 3  3/4" M  1 –
6626DS  1* x 4  3/4" M  1 –
6626ES  1* x 5  3/4" M  1 –
6626FS  1* x 6  3/4" M  1 –
6626GS  1* x 7  3/4" M  1 –
6626HS  1* x 8  3/4" M  1 –
6626LS  1* x 9  3/4" M  1 –
6626MS  1* x 10 3/4" M  1 –
6626NS  1* x 11 3/4" M  1 –
6626OS  1* x 12 3/4" M  1 –
6626OS  1* x 13 3/4" M  1 –
DISTRIBUTION MANIFOLDS WITH SHUT-OFF AND PRE-REGULATING VALVES

**662**
Pair of manifolds equipped with shut-off and lockshield valves for flow rate pre-regulation. Max. working pressure: 10 bar. Temperature range: 5–100 °C. Outlet centre distance: 50 mm.

**5996**
End fitting consisting of double radial end fitting, air vent cock and plug. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

**6620**
Return manifold equipped with shut-off valves, fitted for thermo-electric actuator. Max. working pressure: 10 bar. Temperature range: 5–100 °C. Outlet centre distance: 50 mm.

**6621**
Flow manifold equipped with lockshield valves for flow rate pre-regulation. Max. working pressure: 10 bar. Temperature range: 5–100 °C. Outlet centre distance: 50 mm.

**5996**
End fitting consisting of double radial end fitting, air vent cock and plug. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

**6622**
Fixed setting differential by-pass kit 20 kPa (2000 mm w.g.), with flexible hose. For distribution manifolds 662 series. Max. working pressure: 10 bar. Temperature range: 0–100 °C.

**658**
Pair of steel mounting brackets for distribution manifolds 662 and 664 series. To be used with boxes code 659.5 or directly wall mounted.

**658**
Polymer mounting brackets with adjustable centre distance, for distribution manifolds 662 series. With screws and wall anchors. To be used with boxes code 659.4 (depth 110–140 mm) or directly wall mounted.
**DISTRIBUTION MANIFOLDS WITH SHUT-OFF AND PRE-REGULATING VALVES**

**663**

Pre-assembled distribution manifold.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.
Outlet centre distance: 50 mm.

Consisting of:
- 1 return distribution manifold complete with shut-off valves fitted for thermo-electric actuator;
- 1 flow distribution manifold complete with lockshield valves for flow rate pre-regulation;
- 2 mounting brackets code 658100;
- 2 reduction fittings 1 1/4" M x 1" F code 364276;
- 2 double radial end fittings with plugs.

---

**663**

Pre-assembled distribution manifold for air conditioning systems.
With insulation.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.
Outlet centre distance: 50 mm.

Consisting of:
- 1 return distribution manifold complete with shut-off valves fitted for thermo-electric actuator;
- 1 flow distribution manifold complete with lockshield valve for flow rate pre-regulation;
- 2 mounting brackets code 658100;
- 2 reduction fittings 1 1/4" M x 1" F code 364276;
- 2 double radial end fittings with plugs.

---

### Connections

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>6637C5</td>
<td>1 1/4&quot; x 3</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637D5</td>
<td>1 1/4&quot; x 4</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637E5</td>
<td>1 1/4&quot; x 5</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637F5</td>
<td>1 1/4&quot; x 6</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637G5</td>
<td>1 1/4&quot; x 7</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637H5</td>
<td>1 1/4&quot; x 8</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637I5</td>
<td>1 1/4&quot; x 9</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637J5</td>
<td>1 1/4&quot; x 10</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637M5</td>
<td>1 1/4&quot; x 11</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637N5</td>
<td>1 1/4&quot; x 12</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6637O5</td>
<td>1 1/4&quot; x 13</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
</tbody>
</table>
DISTRIBUTION MANIFOLDS WITH SHUT-OFF AND PRE-REGULATING VALVES

**663** tech. broch. 01065
Pair of distribution manifolds equipped with shut-off and lockshield valves for flow rate pre-regulation.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.
Outlet centre distance: 50 mm.

**6630** tech. broch. 01065
Return distribution manifold equipped with shut-off valves, fitted for thermo-electric actuator.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.
Outlet centre distance: 50 mm.

**391** tech. broch. 01065
Flow distribution manifold equipped with lockshield valve for flow rate pre-regulation.
Max. working pressure: 10 bar.
Temperature range: 5–100 °C.
Outlet centre distance: 50 mm.
Thermo-electric actuators

**6563**
Thermo-electric actuator.
With manual opening and position indicator.
For distribution manifolds 662 and 663 series.
Normally closed.
**With auxiliary microswitch.**
Supply: 230 V (AC) or 24 V (AC)/(DC).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Starting current (656344/54): ≤ 250 mA.
Auxiliary microswitch contact rating: 0,8 A (230 V).
Ambient temperature range: 0–50 °C.
Protection class: IP 40.
Cable length: 80 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>656312</td>
<td>230</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656314</td>
<td>24</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656302</td>
<td>230 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656304</td>
<td>24 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

With low power consumption

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>656354</td>
<td>24</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656364</td>
<td>24 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

**6561**
Thermo-electric actuator.
For distribution manifolds 662 and 663 series.
Normally closed.
**With auxiliary microswitch.**
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0,8 A (230 V).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Ambient temperature range: 0–50 °C.
Protection class: IP 44 (vertical stem).
Cable length: 80 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>656112</td>
<td>230</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656114</td>
<td>24</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656102</td>
<td>230 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656104</td>
<td>24 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

**6562**
Thermo-electric actuator.
With opening position indicator.
Quick-coupling installation, with a clip adapter.
For distribution manifolds 662 and 663 series.
Normally closed.
**With auxiliary microswitch.**
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0,8 A (230 V).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Ambient temperature range: 0–50 °C.
Protection class: IP 54.
Cable length: 80 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>656212</td>
<td>230</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656214</td>
<td>24</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656202</td>
<td>230 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656204</td>
<td>24 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>

**6564**
Thermo-electric actuator with low power consumption.
With opening position indicator.
Quick-coupling installation, with a clip adapter.
For distribution manifolds 662 and 663 series.
Normally closed.
**With auxiliary microswitch.**
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0,8 A (230 V).
Power consumption: 3 W.
Starting current: ≤ 250 mA.
Ambient temperature range: 0–50 °C.
Protection class: IP 54.
Cable length: 80 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>656412</td>
<td>230</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656414</td>
<td>24</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656402</td>
<td>230 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>656404</td>
<td>24 without auxiliary microswitch</td>
<td>1</td>
<td>10</td>
</tr>
</tbody>
</table>
### 385
Shut-off ball cock, for distribution manifold outlets.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.
With handle.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>385000</td>
<td>23 p.1,5 M x F nut</td>
<td>10 bar</td>
<td>100 °C</td>
</tr>
</tbody>
</table>

### 385
Shut-off ball cook, for distribution manifold outlets.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.
Without handle.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>385010</td>
<td>23 p.1,5 M x F nut</td>
<td>10 bar</td>
<td>100 °C</td>
</tr>
</tbody>
</table>

### 386
Screw plug with nut for distribution manifold outlets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>386000</td>
<td>23 p.1,5</td>
<td>10 bar</td>
<td></td>
</tr>
</tbody>
</table>

### 383
Female-female fitting.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>383240</td>
<td>23 p.1,5 F x 1/2&quot; F</td>
<td>10 bar</td>
<td></td>
</tr>
</tbody>
</table>

### 383
Female fitting to nut and olive coupling.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>384030</td>
<td>3/8&quot; M x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>384040</td>
<td>1/2&quot; M x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>384050</td>
<td>3/4&quot; M x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
</tbody>
</table>

### 384
Male fitting to nut and olive coupling.
Chrome plated.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>384031</td>
<td>3/8&quot; M x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>384041</td>
<td>1/2&quot; M x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
</tbody>
</table>

### 383
Female-female fitting.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>383030</td>
<td>3/8&quot; F x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>383040</td>
<td>1/2&quot; F x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>383050</td>
<td>3/4&quot; F x 23 p.1,5 M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>383140</td>
<td>23 p.1,5 F x 1/2&quot; M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>383150</td>
<td>23 p.1,5 F x 3/4&quot; M</td>
<td>10 bar</td>
<td></td>
</tr>
<tr>
<td>383151</td>
<td>23 p.1,5 F x 3/4&quot; M chrome plated</td>
<td>10 bar</td>
<td></td>
</tr>
</tbody>
</table>

### 382
Fitting with 23 p.1,5 captive nut.
Chrome plated.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>382000</td>
<td>23 p.1,5 M x nut 23 p.1,5 F</td>
<td>10 bar</td>
<td></td>
</tr>
</tbody>
</table>

### 383
Connection fitting with O-Ring seal for use with 3/4" 347, 679 and 680 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>383550</td>
<td>3/4&quot; M x 23 p.1,5</td>
<td>10 bar</td>
<td></td>
</tr>
</tbody>
</table>

### 383
Adapter with flat seat with O-Ring.
Transformation from 3/4" Euroconus to 3/4" flat seat.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. working pressure</th>
<th>Max. working temperature</th>
</tr>
</thead>
<tbody>
<tr>
<td>383000</td>
<td>3/4&quot;</td>
<td>1 bar</td>
<td></td>
</tr>
</tbody>
</table>
392
Temperature gauge fitting. For distribution manifolds 592 and 350 series. Temperature gauge 0–80 °C, Ø 40 mm.

Code
392600 1” F x M with PTFE seal 1 –
392700 1 1/4” F x M without PTFE seal 1 –

657
Temperature gauge fitting. Temperature gauge 0–80 °C, Ø 40 mm.

Code
657400 1/2” M x 1/2” F 5 –

657
Temperature gauge fitting. For distribution manifold outlets. Temperature gauge 0–80 °C, Ø 40 mm.

Code
657050 3/4” M x 3/4” F nut 1 12

669

Code
669050 3/4” M x 3/4” F nut 1 10

688
Temperature gauge with pocket. Scale 0–80 °C. Ø 40 mm.

Code
688002 1/4” 2 –

3642
Reduction fitting.

Code
364276 1” F x 1 1/4” M 2 –

5991
End fitting. For distribution manifolds 349, 350, 592, 650 and 663 series.

Code
599153 3/4” F x 3/8” F 2 –
599154 3/4” F x 1/2” F 2 –
599163 1” F x 3/8” F 2 –
599164 1” F x 1/2” F 2 –
599173 1 1/4” F x 3/8” F 2 –
599174 1 1/4” F x 1/2” F 2 –

5993
Plug. For distribution manifolds 349, 350, 592, 650 and 663 series.

Code
599350 3/4” F 2 10
599360 1” F 2 10
599370 1 1/4” F 2 10

5994
Double radial end fitting. For distribution manifolds 349, 350, 592, 650 and 663 series.

Code
599453 3/4” F x 1/2” F x 3/8” F 2 –
599454 3/4” F x 1/2” F x 1/2” F 2 –
599463 1” F x 1/2” F x 3/8” F 2 –
599464 1” F x 1/2” F x 1/2” F 2 –
599473 1 1/4” F x 1/2” F x 3/8” F 2 –
599474 1 1/4” F x 1/2” F x 1/2” F 2 –

5995
Single radial end fitting. For distribution manifolds 349, 350, 592, 650 and 663 series.

Code
599553 3/4” F x 3/8” F 2 –
599563 1” F x 3/8” F 2 –
599573 1 1/4” F x 3/8” F 2 –
**586**
Female blind end plug.

<table>
<thead>
<tr>
<th>Code</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>586300</td>
<td>Ø 10 0,75</td>
</tr>
<tr>
<td>586400</td>
<td>Ø 12 0,75</td>
</tr>
<tr>
<td>586600</td>
<td>Ø 15 0,75</td>
</tr>
</tbody>
</table>

**583**
Female compression fitting for outlets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>583034</td>
<td>Ø 16 1</td>
</tr>
<tr>
<td>583045</td>
<td>Ø 18 1</td>
</tr>
<tr>
<td>583064</td>
<td>Ø 18 1</td>
</tr>
<tr>
<td>583065</td>
<td>Ø 18 1</td>
</tr>
</tbody>
</table>

**584**
Male compression fitting for outlets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>584053</td>
<td>Ø 12 0,75</td>
</tr>
<tr>
<td>584054</td>
<td>Ø 16 0,75</td>
</tr>
<tr>
<td>584055</td>
<td>Ø 18 0,75</td>
</tr>
<tr>
<td>584065</td>
<td>Ø 18 1</td>
</tr>
</tbody>
</table>

**585**
Stiffener for copper pipe with wall thickness 0,75 and 1 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>585010</td>
<td>Ø 10 1</td>
</tr>
<tr>
<td>585012</td>
<td>Ø 12 1</td>
</tr>
<tr>
<td>585014</td>
<td>Ø 14 1</td>
</tr>
<tr>
<td>585015</td>
<td>Ø 15 1</td>
</tr>
<tr>
<td>585016</td>
<td>Ø 16 1</td>
</tr>
<tr>
<td>585018</td>
<td>Ø 18 1</td>
</tr>
<tr>
<td>585110</td>
<td>Ø 10 1</td>
</tr>
<tr>
<td>585115</td>
<td>Ø 15 1</td>
</tr>
<tr>
<td>585116</td>
<td>Ø 16 1</td>
</tr>
<tr>
<td>585118</td>
<td>Ø 18 1</td>
</tr>
</tbody>
</table>

**386**
Screw plug with nut for distribution manifold outlets.

<table>
<thead>
<tr>
<th>Code</th>
<th>Thickness (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>386500</td>
<td>3/4&quot; 10</td>
</tr>
</tbody>
</table>
**679 DAR CAL**
Fitting for multilayer plastic pipe for continuous high temperature use. Max. working pressure: 10 bar. Temperature range: 5–80 °C (PE-X), 5–75 °C (Multilayer marked 95 °C).

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series (see page 82).

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
</tr>
</thead>
<tbody>
<tr>
<td>679114</td>
<td>23 p.1,5</td>
<td>Ø14 x 2</td>
</tr>
<tr>
<td>679124</td>
<td>23 p.1,5</td>
<td>Ø16 x 2</td>
</tr>
<tr>
<td>679125</td>
<td>23 p.1,5</td>
<td>Ø16 x 2,25</td>
</tr>
<tr>
<td>679144</td>
<td>23 p.1,5</td>
<td>Ø18 x 2</td>
</tr>
</tbody>
</table>

**446**
Pre-assembled compression ends fitting, for annealed copper, hard copper, brass, mild steel and stainless steel pipes. With O-Ring seal. Max. working pressure: 10 bar. Temperature range: -25–120 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
</tr>
</thead>
<tbody>
<tr>
<td>446010</td>
<td>23 p.1,5</td>
<td>Ø10</td>
</tr>
<tr>
<td>446012</td>
<td>23 p.1,5</td>
<td>Ø12</td>
</tr>
<tr>
<td>446014</td>
<td>23 p.1,5</td>
<td>Ø14</td>
</tr>
<tr>
<td>446015</td>
<td>23 p.1,5</td>
<td>Ø15</td>
</tr>
<tr>
<td>446016</td>
<td>23 p.1,5</td>
<td>Ø16</td>
</tr>
</tbody>
</table>

**680 DAR CAL**
Self-adjustable diameter fitting for single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–80 °C (PE-X), 5–75 °C (Multilayer marked 95 °C).

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
</tr>
</thead>
<tbody>
<tr>
<td>680000</td>
<td>23 p.1,5</td>
<td>7.5–8</td>
</tr>
<tr>
<td>680002</td>
<td>23 p.1,5</td>
<td>9–9.5</td>
</tr>
<tr>
<td>680001</td>
<td>23 p.1,5</td>
<td>9.5–10</td>
</tr>
<tr>
<td>680008</td>
<td>23 p.1,5</td>
<td>9.5–10</td>
</tr>
<tr>
<td>680013</td>
<td>23 p.1,5</td>
<td>10.5–11</td>
</tr>
<tr>
<td>680017</td>
<td>23 p.1,5</td>
<td>10.5–11</td>
</tr>
<tr>
<td>680024</td>
<td>23 p.1,5</td>
<td>11.5–12</td>
</tr>
<tr>
<td>680026</td>
<td>23 p.1,5</td>
<td>11.5–12</td>
</tr>
<tr>
<td>680035</td>
<td>23 p.1,5</td>
<td>12.5–13</td>
</tr>
</tbody>
</table>

**347**
Compression ends fitting, for annealed copper, hard copper, brass, mild steel and stainless steel pipes. With O-Ring seal. Max. working pressure: 10 bar. Temperature range: -25–120 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
</tr>
</thead>
<tbody>
<tr>
<td>347010</td>
<td>23 p.1,5</td>
<td>Ø10</td>
</tr>
<tr>
<td>347012</td>
<td>23 p.1,5</td>
<td>Ø12</td>
</tr>
<tr>
<td>347014</td>
<td>23 p.1,5</td>
<td>Ø14</td>
</tr>
<tr>
<td>347015</td>
<td>23 p.1,5</td>
<td>Ø15</td>
</tr>
<tr>
<td>347016</td>
<td>23 p.1,5</td>
<td>Ø16</td>
</tr>
</tbody>
</table>

**Example: 680 series fitting selection**

Known both the outside and inside diameters (ex.: 17 mm and 13 mm); or known the outside diameter (ex.: Ø 17 mm) and the thickness (ex.: th. 2 mm) and considering that:

\[
\text{Øoutside} - 2 \cdot \text{th.} = \text{Øinside}
\]

17 – 2 · 2 = 13 mm

Look within the table for the code matching both diameters:

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
</tr>
</thead>
<tbody>
<tr>
<td>680035</td>
<td>23 p.1,5</td>
<td>12.5–13</td>
</tr>
</tbody>
</table>
**679 DAR CAL**
Fitting for multilayer pipes with continuous high temperature use.
Max. working pressure: 10 bar.
Temperature range: 0–95 °C.

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series (see page 82).

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4&quot; - Ø</th>
<th>Ø inside</th>
<th>Ø outside</th>
<th>10</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>679514</td>
<td>14x2</td>
<td>105–12</td>
<td>10–12</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>679524</td>
<td>16x2</td>
<td>120–14</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>679525</td>
<td>16x2.25</td>
<td>120–14</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>679544</td>
<td>18x2</td>
<td>120–14</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>679564</td>
<td>20x2</td>
<td>120–14</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>679565</td>
<td>20x2.25</td>
<td>120–14</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>679566</td>
<td>20x2.5</td>
<td>120–14</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**680 DAR CAL**
Self-adjustable diameter fitting for single and multilayer plastic pipes.
Max. working pressure: 10 bar.
Temperature range: 5–80 °C (PE-X)
5–75 °C (Multilayer marked 95 °C).

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4&quot; - Ø</th>
<th>Ø inside</th>
<th>Ø outside</th>
<th>10</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>680507</td>
<td>3/4&quot;</td>
<td>7.5–8</td>
<td>10.5–12</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680502</td>
<td>3/4&quot;</td>
<td>7.5–8</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680503</td>
<td>3/4&quot;</td>
<td>8.5–9</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680500</td>
<td>3/4&quot;</td>
<td>9–9.5</td>
<td>14–16</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680501</td>
<td>3/4&quot;</td>
<td>9.5–10</td>
<td>12–14</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680506</td>
<td>3/4&quot;</td>
<td>9.5–10</td>
<td>14–16</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680515</td>
<td>3/4&quot;</td>
<td>10.5–11</td>
<td>14–16</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680517</td>
<td>3/4&quot;</td>
<td>10.5–11</td>
<td>16–18</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680524</td>
<td>3/4&quot;</td>
<td>11.5–12</td>
<td>16–18</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680526</td>
<td>3/4&quot;</td>
<td>11.5–12</td>
<td>18–20</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680535</td>
<td>3/4&quot;</td>
<td>12.5–13</td>
<td>16–18</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680537</td>
<td>3/4&quot;</td>
<td>12.5–13</td>
<td>18–20</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680544</td>
<td>3/4&quot;</td>
<td>13.5–14</td>
<td>16–18</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680546</td>
<td>3/4&quot;</td>
<td>13.5–14</td>
<td>18–20</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680555</td>
<td>3/4&quot;</td>
<td>14.5–15</td>
<td>18–20</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680556</td>
<td>3/4&quot;</td>
<td>15–15.5</td>
<td>18–20</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680564</td>
<td>3/4&quot;</td>
<td>15.5–16</td>
<td>18–20</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>680565</td>
<td>3/4&quot;</td>
<td>17</td>
<td>22.5</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**680 DAR CAL**
Self-adjustable diameter fitting for plastic pipes.
Max. working pressure: 10 bar.
Temperature range: 5–80 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Ø inside</th>
<th>Ø outside</th>
<th>10</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>586067</td>
<td>1&quot;</td>
<td>17.5</td>
<td>25</td>
<td>100</td>
</tr>
<tr>
<td>586065</td>
<td>1&quot;</td>
<td>19.5</td>
<td>25</td>
<td>100</td>
</tr>
</tbody>
</table>

**347 DAR CAL**
Compression ends fitting, for annealed copper, hard copper, brass, mild steel and stainless steel pipes. With O-Ring seal.
Max. working pressure: 10 bar.
Temperature range: -25–120 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4&quot; - Ø</th>
<th>100</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>347510</td>
<td>10</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>347512</td>
<td>12</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>347514</td>
<td>14</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>347515</td>
<td>15</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>347516</td>
<td>16</td>
<td>100</td>
<td>–</td>
</tr>
<tr>
<td>347518</td>
<td>18</td>
<td>10</td>
<td>–</td>
</tr>
</tbody>
</table>

**591**
Fitting for plastic pipes.

<table>
<thead>
<tr>
<th>Code</th>
<th>1/2&quot;</th>
<th>Ø inside</th>
<th>Ø outside</th>
<th>10</th>
<th>–</th>
</tr>
</thead>
<tbody>
<tr>
<td>591401</td>
<td>8</td>
<td>13</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>591402</td>
<td>10</td>
<td>12</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>591405</td>
<td>10</td>
<td>15</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>591414</td>
<td>11.6</td>
<td>16</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>591424</td>
<td>12</td>
<td>16</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>591433</td>
<td>13</td>
<td>16</td>
<td>10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>591565</td>
<td>3/4&quot;</td>
<td>16</td>
<td>21</td>
<td></td>
<td></td>
</tr>
<tr>
<td>591566</td>
<td>3/4&quot;</td>
<td>16</td>
<td>22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**5812**
Nut and olive or single groove seal in PTFE. For copper pipe.

<table>
<thead>
<tr>
<th>Code</th>
<th>1/2&quot;</th>
<th>Ø inside</th>
<th>Ø outside</th>
<th>10</th>
<th>250</th>
</tr>
</thead>
<tbody>
<tr>
<td>581240</td>
<td>1</td>
<td>10</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>581242</td>
<td>1</td>
<td>10</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>581244</td>
<td>1</td>
<td>10</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>581245</td>
<td>1</td>
<td>10</td>
<td>250</td>
<td></td>
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</tr>
<tr>
<td>581246</td>
<td>1</td>
<td>10</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>581254</td>
<td>3/4&quot;</td>
<td>10</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>581256</td>
<td>3/4&quot;</td>
<td>10</td>
<td>250</td>
<td></td>
<td></td>
</tr>
<tr>
<td>581258</td>
<td>3/4&quot;</td>
<td>10</td>
<td>250</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Distribution units for SEPCOLL
Temperature regulators
Modulating temperature regulating units
Set point thermostatic regulating units
Thermostatic mixing valve for radiant panel systems

Distribution manifolds for radiant panel systems
DIRECT SUPPLY UNITS

165 tech. broch. 01237

166 tech. broch. 01238
Thermostatic regulating unit for heating systems. With pre-formed insulation. Max. working pressure: 10 bar. System side connection: 1" F. Boiler side connection: 1 1/2" M. Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

THERMOSTATIC REGULATING UNIT

165 tech. broch. 01255

166
Thermostatic mixing valve. Max. working pressure: 10 bar. Connections: 1 1/2" M x 1 1/4" M x 1 1/2" F with captive nut.

RH to LH convertible

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual head 4 m w.g.</th>
<th>Temperature adjustment range</th>
</tr>
</thead>
<tbody>
<tr>
<td>165600A2L</td>
<td>1&quot; F</td>
<td>UPM3 Auto L 25-70</td>
<td>1,8 m³/h</td>
<td>25–50 °C</td>
</tr>
<tr>
<td>165601UPM</td>
<td>1&quot; F</td>
<td>UPNL 25-105</td>
<td>3,4 m³/h</td>
<td>25–50 °C</td>
</tr>
</tbody>
</table>

Upward flow - flow on RH side
Downward flow - flow on LH side

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual head 4 m w.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>165640WYP</td>
<td>1&quot; F</td>
<td>PARA 25/7</td>
<td>1,6 m³/h</td>
</tr>
<tr>
<td>165641UPM</td>
<td>1&quot; F</td>
<td>UPNL 25-105</td>
<td>3,4 m³/h</td>
</tr>
</tbody>
</table>

Spare parts for regulating units 165, 166 and 167 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment range</th>
</tr>
</thead>
<tbody>
<tr>
<td>166001</td>
<td>25–50 °C</td>
</tr>
<tr>
<td>166005</td>
<td>40–70 °C</td>
</tr>
</tbody>
</table>

Flow rate with residual head 4 m w.g.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual head 4 m w.g.</th>
</tr>
</thead>
<tbody>
<tr>
<td>R19441</td>
<td></td>
<td>WJLO PARA 25-7 pump</td>
<td></td>
</tr>
<tr>
<td>F19486</td>
<td></td>
<td>UPML 25-105 pump</td>
<td></td>
</tr>
<tr>
<td>F19101/R</td>
<td></td>
<td>flow temperature gauge</td>
<td></td>
</tr>
<tr>
<td>F19101/BL</td>
<td></td>
<td>return temperature gauge</td>
<td></td>
</tr>
<tr>
<td>R12090</td>
<td></td>
<td>spare spanner for 165 series</td>
<td></td>
</tr>
<tr>
<td>F0001252</td>
<td></td>
<td>UPM35 pump (to replace the UPM3 Auto L pump)</td>
<td></td>
</tr>
</tbody>
</table>
MOTORISED REGULATING UNIT FOR HEATING SYSTEMS

167 tech. broch. 01351
Motorised regulating unit for heating systems.
With pre-formed insulation.
Regulation with sector three-way valve.
Max. working pressure: 10 bar.
Max. working temperature: 100 °C.
System side connection: 1" F.
Boiler side connection: 1 1/2" M.
Centre distance:
125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

Actuator with 3-point control signal
Supply: 230 V.
Operating time: 150 s (90° rotation).
Can be connected to digital regulators code 161010 and 1520 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual head</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>167652HE1</td>
<td>1&quot; F</td>
<td>UPM3 Auto L 25-70</td>
<td>1.8 m³/h</td>
<td>1</td>
</tr>
<tr>
<td>167662HE2</td>
<td>1&quot; F</td>
<td>UPM 25-105</td>
<td>3.7 m³/h</td>
<td>1</td>
</tr>
</tbody>
</table>

Actuator with 0–10 V control signal
Supply: 24 V.
Operating time: 75 s (90° rotation).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Pump</th>
<th>Flow rate with residual head</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>167654HE1</td>
<td>1&quot; F</td>
<td>UPM3 Auto L 25-70</td>
<td>1.8 m³/h</td>
<td>1</td>
</tr>
<tr>
<td>167664HE2</td>
<td>1&quot; F</td>
<td>UPM 25-105</td>
<td>3.7 m³/h</td>
<td>1</td>
</tr>
</tbody>
</table>

Three-way mixing valve, threaded.
Brass body.
PN 10.
Max. working pressure: 10 bar.
Max. temp. 1 bar.
Temperature range: 5–110 °C.

6370 tech. broch. 01353
Actuator for unit 167 series.
Supply: 230 V - 50 Hz or 24 V.
Control signal: 3 points or 0–10 V.
Power consumption: 3 VA (code 637042) or 2 W (code 637044).
Protection class: IP 44.
Rotation 90°.
Operating time: 150 s (code 637044 – 75 s).
Ambient temperature range: 0–55 °C.
Storage temperature range: -10–70 °C.
Supply cable length: 1.5 m.

Application diagrams of units 167 series
MOTORISED REGULATING UNIT
FOR HEATING AND AIR CONDITIONING SYSTEMS

167 tech. broch. 01254
Motorised regulating unit for heating and air conditioning systems.
With pre-formed insulation.
Regulation with sector three-way valve.
With auxiliary microswitch.
Max. working pressure: 10 bar.
Primary inlet temperature range: 5–100 °C.
System side connection: 1” F.
Boiler side connection: 1 1/2” M.
Centre distance: 125 mm fitted for SEPCOLL 559 series and manifolds 550 series.

Actuator with 3-point control signal
Supply: 230 V.
Operating time: 50 s (90° rotation).
Can be connected to digital regulators code 161010 and 1520 series.

Upward flow - flow on RH side
Downward flow - flow on LH side

<table>
<thead>
<tr>
<th>Code</th>
<th>Connection</th>
<th>Pump</th>
<th>Flow rate with residual head 4 m w.g.</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>167640WYP</td>
<td>1” F</td>
<td>PARA 25/7</td>
<td>1,5 m³/h</td>
<td>1 – 6,3</td>
<td>167032</td>
<td>6,3</td>
</tr>
<tr>
<td>167641UPM</td>
<td>1” F</td>
<td>UPML 25-105</td>
<td>3,0 m³/h</td>
<td>1 – 6,3</td>
<td>167042</td>
<td>6,3</td>
</tr>
</tbody>
</table>

Upward flow - flow on LH side
Downward flow - flow on RH side

<table>
<thead>
<tr>
<th>Code</th>
<th>Connection</th>
<th>Pump</th>
<th>Flow rate with residual head 4 m w.g.</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Supply voltage V</th>
<th>Code</th>
<th>Supply voltage V</th>
</tr>
</thead>
<tbody>
<tr>
<td>167650WYP</td>
<td>1” F</td>
<td>PARA 25/7</td>
<td>1,5 m³/h</td>
<td>1 – 6,3</td>
<td>167012</td>
<td>right-hand version</td>
<td>230</td>
<td>1 – 167014 right-hand version</td>
</tr>
<tr>
<td>167651UPM</td>
<td>1” F</td>
<td>UPML 25-105</td>
<td>3,0 m³/h</td>
<td>1 – 6,3</td>
<td>167022</td>
<td>left-hand version</td>
<td>230</td>
<td>1 – 167014 right-hand version</td>
</tr>
</tbody>
</table>
**SPARE PARTS AND ACCESSORIES FOR UNITS 165 - 166 - 167 SERIES**

### 165

**Hydraulic separator kit** for units 165, 166 and 167 series.

*Code: 165010 1 1/2" F x 1" F 1 –*

### 519

**Differential by-pass valve** for units 165, 166 and 167 series. Max. working pressure: 10 bar. Max. working temperature: 100 °C.

*Code: 519006 0.2–3 1 –*

### 165

**Pair of eccentric tailpieces** for units 165, 166 and 167 series. Centre distance: 105–145 mm.

*Code: 165006 1 1/2" F x 1" F 1 –*

### 165

**Safety thermostat kit** for units 165, 166 and 167 series. Protection class: IP 65. M4 threading.

*Code: 165004 Max. temperature safety thermostat 55 °C ± 3 1 –*
*Code: 165007 Min. temperature safety thermostat 10 °C ± 3 1 –*

### 165

**Sensor holder extension** for units 165, 166 and 167 series. Side connections: M4 F x M4 F x 1/8" F x 1/4" F.

*Code: 165003 1" M x 1" F 1 –*

### 165

**Mounting bracket in stainless steel** for units 165, 166 and 167 series.

*Code: 165001 1 –*

### 165

**Female union with captive nut complete with gasket** for units 165, 166 and 167 series.

*Code: 165002 1 1/2" F x 1" F 1 –*

---

**TEMPERATURE REGULATORS**

### 161

**Digital regulator with synoptic diagram** for heating and cooling complete with immersion flow probe with pocket and Pt100Ø 6 mm return probe (pocket to be chosen according to the pipe; see accessories). Optional outside compensated probe. Temperature adjustment range: 5–95 °C. Supply: 230 V - 50/60 Hz. Protection class: IP 20 / EN 60529. Probe cable length: 1,5 m.

*Code: 161010 1 –*

---

### 1520


*Code: 152001 1 channel 1 –*
*Code: 152002 2 channels 1 –*
*Code: 152003 3 channels 1 –*

### 1520

**Digital temperature controller for heating and cooling.** Complete with flow probe, outside probe and max. relative humidity probe. Supply: 230 V - 50/60 Hz. Power consumption: 5.5 VA. Protection class: IP 40.

*Code: 152021 1 channel 1 –*
MODULATING TEMPERATURE REGULATING UNIT WITH DIGITAL REGULATOR

171

Modulating temperature regulating unit. Pre-assembled in inspection wall box. Equipped with:
- temperature regulating unit with compensated set point digital regulator, convertible outside compensated,
- panel manifolds with built-in flow meters and shut-off valves,
- primary circuit by-pass kit,
- primary circuit shut-off valves,
- high-efficiency pump,
- inspection wall box, with floor supports.

Max. working pressure: 6 bar.

Adjustment temperature range: 5–95 °C.

Supply: 230 V - 50/60 Hz.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Outlet No. to panels</th>
<th>Outlet No. to radiators</th>
<th>Box length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>171SC5A2L</td>
<td>3/4” M</td>
<td>3</td>
<td>3/4” M</td>
<td>600</td>
</tr>
<tr>
<td>171SD5A2L</td>
<td>3/4” M</td>
<td>4</td>
<td>3/4” M</td>
<td>600</td>
</tr>
<tr>
<td>171SE5A2L</td>
<td>3/4” M</td>
<td>5</td>
<td>3/4” M</td>
<td>800</td>
</tr>
<tr>
<td>171SF5A2L</td>
<td>3/4” M</td>
<td>6</td>
<td>3/4” M</td>
<td>800</td>
</tr>
<tr>
<td>171SG5A2L</td>
<td>3/4” M</td>
<td>7</td>
<td>3/4” M</td>
<td>800</td>
</tr>
<tr>
<td>171SH5A2L</td>
<td>3/4” M</td>
<td>8</td>
<td>3/4” M</td>
<td>800</td>
</tr>
<tr>
<td>171SA2L</td>
<td>3/4” M</td>
<td>9</td>
<td>3/4” M</td>
<td>1000</td>
</tr>
<tr>
<td>171SLA2L</td>
<td>3/4” M</td>
<td>10</td>
<td>3/4” M</td>
<td>1000</td>
</tr>
<tr>
<td>171SMA2L</td>
<td>3/4” M</td>
<td>11</td>
<td>3/4” M</td>
<td>1000</td>
</tr>
<tr>
<td>171SN5A2L</td>
<td>3/4” M</td>
<td>12</td>
<td>3/4” M</td>
<td>1200</td>
</tr>
<tr>
<td>171SO5A2L</td>
<td>3/4” M</td>
<td>13</td>
<td>3/4” M</td>
<td>1200</td>
</tr>
</tbody>
</table>

MODULATING TEMPERATURE REGULATING UNIT WITH DIGITAL REGULATOR AND MEDIUM DISTRIBUTION KIT FOR PRIMARY CIRCUIT

171

Modulating temperature regulating unit. Pre-assembled in inspection wall box. Equipped with:
- temperature regulating unit with compensated set point digital regulator, convertible outside compensated,
- medium distribution kit with built-in lockshields and shut-off valves for primary circuit,
- panel manifolds with built-in flow meters and shut-off valves,
- primary circuit by-pass kit,
- primary circuit shut-off valves,
- high-efficiency pump,
- inspection wall box, with floor supports.

Max. working pressure: 6 bar.

Adjustment temperature range: 5–95 °C.

Supply: 230 V - 50/60 Hz.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Outlet No. to panel</th>
<th>Outlet No. to radiators</th>
<th>Box length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>171SE5A2L</td>
<td>3/4” M</td>
<td>5 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>800</td>
</tr>
<tr>
<td>171SF5A2L</td>
<td>3/4” M</td>
<td>6 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>1000</td>
</tr>
<tr>
<td>171SG5A2L</td>
<td>3/4” M</td>
<td>7 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>1000</td>
</tr>
<tr>
<td>171SH5A2L</td>
<td>3/4” M</td>
<td>8 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>1000</td>
</tr>
<tr>
<td>171SI5A2L</td>
<td>3/4” M</td>
<td>9 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>1000</td>
</tr>
<tr>
<td>171SL5A2L</td>
<td>3/4” M</td>
<td>10 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>1200</td>
</tr>
<tr>
<td>171SM5A2L</td>
<td>3/4” M</td>
<td>11 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>1200</td>
</tr>
<tr>
<td>171SN5A2L</td>
<td>3/4” M</td>
<td>12 x 3/4” M</td>
<td>3 x 3/4” M</td>
<td>1200</td>
</tr>
</tbody>
</table>
ACCESSORIES AND SPARE PARTS
FOR MODULATING TEMPERATURE REGULATING UNIT

161
Outside compensated temperature probe.

Code

| Code | 161002 | 1 | – |

161
Pressure safety switch complete with cable for wiring. Working range: 0.5–10 bar. Max. working temperature: 100 °C. Cable length: 1 m.

Code

| Code | 161003 | 1 | – |

Application diagram with code 161003

161
Dew point detector. Working range: 30–100 UR %.

Code

| Code | 161004 | 1 | – |

161
Centralised probe for regulator 161 series.

Code

| Code | 161020 | 1 | – |

161
Remote regulator. Functions:
- translation of the regulating curves, from +15 K to -15 K,
- maximum temperature,
- OFF position.

Code

| Code | 161005 | 1 | – |

Application diagram with code 161005

Accessories for regulator code 161010.

Code

<table>
<thead>
<tr>
<th>Code</th>
<th>161012</th>
<th>Pt1000 contact probe for pipes Ø 6 mm, cable L 2.5 m</th>
</tr>
</thead>
<tbody>
<tr>
<td>161013</td>
<td>Pt1000 immersion pocket for probe 1/2&quot;, 60 mm</td>
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<tr>
<td>161014</td>
<td>Pt1000 immersion pocket for probe 1/2&quot;, 100 mm</td>
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</tr>
<tr>
<td>161015</td>
<td>Pt1000 probe Ø 6 mm, L cable 1.5 m</td>
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<tr>
<td>161006</td>
<td>Pt1000 probe Ø 6 mm, L cable 2.5 m</td>
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Spare parts for regulating units code 1715.SA2L.

Code

<table>
<thead>
<tr>
<th>Code</th>
<th>161010</th>
<th>digital regulator</th>
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<tbody>
<tr>
<td>F19233</td>
<td>mixing valve group with actuator support</td>
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</tr>
<tr>
<td>645312</td>
<td>actuator for mixing valve for code 1715.SA2L</td>
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</tr>
<tr>
<td>F0001252</td>
<td>UPM35 pump (to replace the UPM3 Auto I pump)</td>
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<tr>
<td>F0000560</td>
<td>pocket 1/8&quot; Ø 6 mm for probe Pt1000 L 20 mm</td>
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</tr>
<tr>
<td>161015</td>
<td>probe Pt1000 Ø 6 mm, L cable 1.5 m</td>
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Transformation from modulating for heating to modulating for heating and cooling with code 161004

Transformation from modulating for heating to modulating for heating and cooling with codes 161002 and 161004

Transformation from modulating for heating to compensated temperature for heating with code 161002

Transformation from modulating for heating to compensated temperature for heating and cooling with codes 161002 and 161004
172

Set point regulating unit.
Pre-assembled in inspection wall box. Equipped with:
- set point thermostatic regulating unit,
- panel manifolds with built-in flow meters and shut-off valves
  and differential by-pass kit,
- primary circuit by-pass kit,
- primary circuit shut-off valves,
- safety thermostat,
- high-efficiency pump, UPM3 Auto L 25-70,
- inspection wall box, with floor supports.
Max. working pressure: 10 bar.
Adjustment temperature range: 25–55 °C.
Supply: 230 V - 50/60 Hz.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn. to panels</th>
<th>Outlet No. to panels</th>
<th>Outlet No. to radiators</th>
<th>Box length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1725C1A2L</td>
<td>3/4” M x 3 x 3</td>
<td>3/4” M x 3</td>
<td>600</td>
<td>1 –</td>
</tr>
<tr>
<td>1725D1A2L</td>
<td>3/4” M x 4 x 4</td>
<td>3/4” M x 4</td>
<td>600</td>
<td>1 –</td>
</tr>
<tr>
<td>1725E1A2L</td>
<td>3/4” M x 5 x 5</td>
<td>3/4” M x 5</td>
<td>800</td>
<td>1 –</td>
</tr>
<tr>
<td>1725F1A2L</td>
<td>3/4” M x 6 x 6</td>
<td>3/4” M x 6</td>
<td>800</td>
<td>1 –</td>
</tr>
<tr>
<td>1725G1A2L</td>
<td>3/4” M x 7 x 7</td>
<td>3/4” M x 7</td>
<td>800</td>
<td>1 –</td>
</tr>
<tr>
<td>1725H1A2L</td>
<td>3/4” M x 8 x 8</td>
<td>3/4” M x 8</td>
<td>1000</td>
<td>1 –</td>
</tr>
<tr>
<td>1725I1A2L</td>
<td>3/4” M x 9 x 9</td>
<td>3/4” M x 9</td>
<td>1000</td>
<td>1 –</td>
</tr>
<tr>
<td>1725L1A2L</td>
<td>3/4” M x 10 x 10</td>
<td>3/4” M x 10</td>
<td>1000</td>
<td>1 –</td>
</tr>
<tr>
<td>1725M1A2L</td>
<td>3/4” M x 11 x 11</td>
<td>3/4” M x 11</td>
<td>1000</td>
<td>1 –</td>
</tr>
<tr>
<td>1725N1A2L</td>
<td>3/4” M x 12 x 12</td>
<td>3/4” M x 12</td>
<td>1200</td>
<td>1 –</td>
</tr>
<tr>
<td>1725O1A2L</td>
<td>3/4” M x 13 x 13</td>
<td>3/4” M x 13</td>
<td>1200</td>
<td>1 –</td>
</tr>
</tbody>
</table>
SET POINT THERMOSTATIC REGULATING UNIT

**182**

*Set point regulating unit.*
Pre-assembled in inspection wall box. Equipped with:
- set point thermostatic regulating unit,
- distribution manifolds in composite with built-in flow meters and shut-off valves,
- safety thermostat,
- high-efficiency pump, UPM3 Auto L 25-70,
- inspection wall box, with floor supports.
Max. working pressure: 6 bar.
Adjustment temperature range: 25–55 °C.
Supply: 230 V - 50/60 Hz.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Outlet No. to panels</th>
<th>Outlet No. to radiators</th>
<th>Box length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1825C1A2L</td>
<td>3/4&quot; M</td>
<td>x 3</td>
<td>3/4&quot; M</td>
<td>600</td>
</tr>
<tr>
<td>1825D1A2L</td>
<td>3/4&quot; M</td>
<td>x 4</td>
<td>3/4&quot; M</td>
<td>600</td>
</tr>
<tr>
<td>1825E1A2L</td>
<td>3/4&quot; M</td>
<td>x 5</td>
<td>3/4&quot; M</td>
<td>600</td>
</tr>
<tr>
<td>1825F1A2L</td>
<td>3/4&quot; M</td>
<td>x 6</td>
<td>3/4&quot; M</td>
<td>800</td>
</tr>
<tr>
<td>1825G1A2L</td>
<td>3/4&quot; M</td>
<td>x 7</td>
<td>3/4&quot; M</td>
<td>800</td>
</tr>
<tr>
<td>1825H1A2L</td>
<td>3/4&quot; M</td>
<td>x 8</td>
<td>3/4&quot; M</td>
<td>800</td>
</tr>
<tr>
<td>1825I1A2L</td>
<td>3/4&quot; M</td>
<td>x 9</td>
<td>3/4&quot; M</td>
<td>800</td>
</tr>
<tr>
<td>1825L1A2L</td>
<td>3/4&quot; M</td>
<td>x 10</td>
<td>3/4&quot; M</td>
<td>1000</td>
</tr>
<tr>
<td>1825M1A2L</td>
<td>3/4&quot; M</td>
<td>x 11</td>
<td>3/4&quot; M</td>
<td>1000</td>
</tr>
<tr>
<td>1825N1A2L</td>
<td>3/4&quot; M</td>
<td>x 12</td>
<td>3/4&quot; M</td>
<td>1200</td>
</tr>
<tr>
<td>1825O1A2L</td>
<td>3/4&quot; M</td>
<td>x 13</td>
<td>3/4&quot; M</td>
<td>1200</td>
</tr>
</tbody>
</table>

SET POINT THERMOSTATIC REGULATING UNIT WITH MEDIUM DISTRIBUTION KIT FOR PRIMARY CIRCUIT

**182**

*Set point regulating unit.*
Pre-assembled in inspection wall box. Equipped with:
- set point thermostatic regulating unit,
- medium distribution kit with built-in lockshields and shut-off valves for primary circuit,
- distribution manifolds in composite with built-in flow meters and shut-off valves,
- primary circuit by-pass kit,
- safety thermostat,
- high-efficiency pump, UPM3 Auto L 25-70,
- inspection wall box, with floor supports.
Max. working pressure: 6 bar.
Adjustment temperature range: 25–55 °C.
Supply: 230 V - 50/60 Hz.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Outlet No. to panels</th>
<th>Outlet No. to radiators</th>
<th>Box length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1826C1A2L</td>
<td>1&quot; F</td>
<td>3 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>800</td>
</tr>
<tr>
<td>1826D1A2L</td>
<td>1&quot; F</td>
<td>4 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>800</td>
</tr>
<tr>
<td>1826E1A2L</td>
<td>1&quot; F</td>
<td>5 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>800</td>
</tr>
<tr>
<td>1826F1A2L</td>
<td>1&quot; F</td>
<td>6 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
</tr>
<tr>
<td>1826G1A2L</td>
<td>1&quot; F</td>
<td>7 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
</tr>
<tr>
<td>1826H1A2L</td>
<td>1&quot; F</td>
<td>8 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
</tr>
<tr>
<td>1826I1A2L</td>
<td>1&quot; F</td>
<td>9 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
</tr>
<tr>
<td>1826L1A2L</td>
<td>1&quot; F</td>
<td>10 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
</tr>
<tr>
<td>1826M1A2L</td>
<td>1&quot; F</td>
<td>11 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1200</td>
</tr>
<tr>
<td>1826N1A2L</td>
<td>1&quot; F</td>
<td>12 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1200</td>
</tr>
<tr>
<td>1826O1A2L</td>
<td>1&quot; F</td>
<td>13 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1200</td>
</tr>
</tbody>
</table>
SET POINT THERMOSTATIC REGULATING UNIT

182
Pre-assembled set point thermostatic regulating unit.
Equipped with:
- set point thermostatic regulating unit,
- distribution manifolds in composite with built-in flow meters and shut-off valves,
- high efficiency pump, UPM3 Auto L 25-70.
Max. working pressure: 6 bar.
Adjustment temperature range: 25–55 °C.
Supply: 230 V - 50/60 Hz.

182
Pre-assembled set point regulating unit.
Equipped with:
- thermostatic set point regulating unit,
- medium distribution kit with built-in lockshields and shut-off valves for primary circuit,
- distribution manifolds in composite with built-in flow meters and shut-off valves,
- primary circuit by-pass kit,
- safety thermostat,
- high-efficiency pump, UPM3 Auto L 25-70.
Max. working pressure: 6 bar.
Adjustment temperature range: 25–55 °C.
Supply: 230 V - 50/60 Hz.

---

661
Box for manifolds 662, 671 and 668...S1 series and regulating units 182 series.
Closure with a push-fit clamp.
In painted steel.
With supports for installation on floor.
Adjustable depth from 110 to 150 mm.
Adjustable height from 270 to 410 mm.

---

182
Differential by-pass kit with fixed setting 25 kPa (2.500 mm w.g.) complete with flexible hose.
For regulating units 182 series and manifolds 670 and 671 series.
Max. working pressure: 10 bar.
Temperature range: 0–100 °C.

---

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Outlet No.</th>
<th>Outlets</th>
<th>Box choice (mm)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
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<td>3/4&quot; M x 3</td>
<td>3/4&quot; M</td>
<td>600</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825D5A2L</td>
<td>3/4&quot; M x 4</td>
<td>3/4&quot; M</td>
<td>600</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825E5A2L</td>
<td>3/4&quot; M x 5</td>
<td>3/4&quot; M</td>
<td>600</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825F5A2L</td>
<td>3/4&quot; M x 6</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825G5A2L</td>
<td>3/4&quot; M x 7</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825H5A2L</td>
<td>3/4&quot; M x 8</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825I5A2L</td>
<td>3/4&quot; M x 9</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825L5A2L</td>
<td>3/4&quot; M x 10</td>
<td>3/4&quot; M</td>
<td>1000</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825M5A2L</td>
<td>3/4&quot; M x 11</td>
<td>3/4&quot; M</td>
<td>1000</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1825N5A2L</td>
<td>3/4&quot; M x 12</td>
<td>3/4&quot; M</td>
<td>1200</td>
<td>1 –</td>
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<tr>
<td>1825O5A2L</td>
<td>3/4&quot; M x 13</td>
<td>3/4&quot; M</td>
<td>1200</td>
<td>1 –</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Outlet No.</th>
<th>Outlet No. to panels</th>
<th>Outlet No. to radiators</th>
<th>Box choice (mm)</th>
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<tbody>
<tr>
<td>1826C5A2L</td>
<td>1&quot; F</td>
<td>3 x 3/4&quot; M</td>
<td>1 x 3/4&quot; M</td>
<td>800</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1826D5A2L</td>
<td>1&quot; F</td>
<td>4 x 3/4&quot; M</td>
<td>1 x 3/4&quot; M</td>
<td>800</td>
<td>1 –</td>
<td></td>
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<tr>
<td>1826E5A2L</td>
<td>1&quot; F</td>
<td>5 x 3/4&quot; M</td>
<td>1 x 3/4&quot; M</td>
<td>800</td>
<td>1 –</td>
<td></td>
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<tr>
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<td>1&quot; F</td>
<td>6 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
<td>1 –</td>
<td></td>
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<td>7 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
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<td></td>
</tr>
<tr>
<td>1826H5A2L</td>
<td>1&quot; F</td>
<td>8 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
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<tr>
<td>1826I5A2L</td>
<td>1&quot; F</td>
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<td>2 x 3/4&quot; M</td>
<td>1000</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1826L5A2L</td>
<td>1&quot; F</td>
<td>10 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1000</td>
<td>1 –</td>
<td></td>
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<tr>
<td>1826M5A2L</td>
<td>1&quot; F</td>
<td>11 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1200</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1826N5A2L</td>
<td>1&quot; F</td>
<td>12 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1200</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>1826O5A2L</td>
<td>1&quot; F</td>
<td>13 x 3/4&quot; M</td>
<td>2 x 3/4&quot; M</td>
<td>1200</td>
<td>1 –</td>
<td></td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Dim. (h x w x d)</th>
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<tbody>
<tr>
<td>66104S</td>
<td>500 x 400 x 110–150</td>
<td>1 –</td>
</tr>
<tr>
<td>66106S</td>
<td>500 x 600 x 110–150</td>
<td>1 –</td>
</tr>
<tr>
<td>66108S</td>
<td>500 x 800 x 110–150</td>
<td>1 –</td>
</tr>
<tr>
<td>66110S</td>
<td>500 x 1000 x 110–150</td>
<td>1 –</td>
</tr>
<tr>
<td>66112S</td>
<td>500 x 1200 x 110–150</td>
<td>1 –</td>
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<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>182000</td>
<td>3/4&quot;</td>
<td>1 5</td>
</tr>
</tbody>
</table>
182

Set point regulating unit.
Pre-assembled in inspection wall box. Equipped with:
- set point thermostatic regulating unit,
- return manifold with built-in shut-off valves
  fitted for thermo-electric actuator;
- flow manifold complete with flow meters with 0–5 l/m scale and flow rate balancing valves;
- end fittings with automatic air vent and drain cock;
- safety thermostat,
- high-efficiency pump, UPM3 Auto L 25-70,
- inspection wall box, with floor supports.
Max. working pressure: 6 bar.
Adjustment temperature range: 25–55 °C.
Supply: 230 V - 50/60 Hz.

**SET POINT THERMOSTATIC REGULATING UNIT**

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Outlet No.</th>
<th>Outlet</th>
<th>Box length (mm)</th>
<th>Box length (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1825C7A2L</td>
<td>3/4&quot; M x 3</td>
<td>3/4&quot; M</td>
<td>600</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825D7A2L</td>
<td>3/4&quot; M x 4</td>
<td>3/4&quot; M</td>
<td>600</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825E7A2L</td>
<td>3/4&quot; M x 5</td>
<td>3/4&quot; M</td>
<td>600</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825F7A2L</td>
<td>3/4&quot; M x 6</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825G7A2L</td>
<td>3/4&quot; M x 7</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825H7A2L</td>
<td>3/4&quot; M x 8</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825I7A2L</td>
<td>3/4&quot; M x 9</td>
<td>3/4&quot; M</td>
<td>800</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825L7A2L</td>
<td>3/4&quot; M x 10</td>
<td>3/4&quot; M</td>
<td>1000</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825M7A2L</td>
<td>3/4&quot; M x 11</td>
<td>3/4&quot; M</td>
<td>1000</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825N7A2L</td>
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<td>3/4&quot; M</td>
<td>1000</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>1825O7A2L</td>
<td>3/4&quot; M x 13</td>
<td>3/4&quot; M</td>
<td>1000</td>
<td>1 -</td>
<td></td>
</tr>
</tbody>
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**Spare parts for regulating units 172 and 182 series.**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F0000972</td>
<td>safety thermostat</td>
</tr>
<tr>
<td>F19153</td>
<td>thermostatic mixing valve group for 172 series</td>
</tr>
<tr>
<td>F19267</td>
<td>thermostatic mixing valve group for 182 series</td>
</tr>
<tr>
<td>116010</td>
<td>temperature gauge 0–80 °C</td>
</tr>
<tr>
<td>F0001252</td>
<td>UPM3 Auto L 25-70 pump</td>
</tr>
<tr>
<td>F19219</td>
<td>spare electronic board</td>
</tr>
</tbody>
</table>
THERMOSTATIC MIXING VALVE FOR RADIANT PANEL SYSTEMS

5202
Adjustable thermostatic mixing valve with knob. For radiant panel systems.
CR dezincification resistant alloy body.
Max. working pressure: 10 bar.
Max. inlet temperature: 90 °C.

Operating principle
The purpose of the thermostatic mixing valve is to adjust the temperature of the medium supplied to the radiant panels. The thermostatic mixing valve mixes the hot and cold water at the inlet so as to maintain the mixed water constantly at the set temperature at the outlet. A thermostatic element is fully immersed in the mixed water flow. It contracts or expands, moving an obturator which controls the passage of hot or cold water at the inlet. If the inlet temperature changes, the internal element automatically reacts to restore the set temperature at the outlet. A circulator must be installed downstream of the mixing valve so as to allow correct distribution of the medium at the radiant panel system manifold.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Conn.</th>
<th>Temperature adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>520251</td>
<td>20</td>
<td>3/4&quot; M</td>
<td>20–43 °C</td>
</tr>
<tr>
<td>520261</td>
<td>25</td>
<td>1&quot; M</td>
<td>20–43 °C</td>
</tr>
</tbody>
</table>
Composite distribution manifolds
Brass distribution manifolds for radiant panel systems
Differential pressure control valve for distribution manifolds
Boxes for distribution manifolds
Thermo-electric actuators
Control bar
Pre-assembled distribution manifold.
Max. working pressure: 6 bar.
Temperature range: 5–60 °C.

Equipped with:
- technopolymer flow manifold with built-in flow meters and flow rate balancing valves;
- technopolymer return manifold with built-in shut-off valves fitted for thermo-electric actuator;
- technopolymer end fittings with automatic air vent with hygroscopic cap, discharge valve and fill/drain cock;
- pair of ball shut-off valves;
- LCD thermometers on flow and return manifolds;
- adhesive labels indicating the rooms;
- pair of mounting brackets for box installation;
- box with adjustable height and depth;
- coupling adapter with clip code 675850, for manifold outlets (in package);
- template for cutting pipe code 675002 (in package).
## ACCESSORIES FOR COMPOSITE DISTRIBUTION MANIFOLDS

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
</table>
| 675    | **675** tech. broch. 01126  
Push-fit thermometer for panel piping.  
For pipes with outer diameter from 15 to 18 mm.  
Thermometer scale: 5–50 °C.  
Thermometer fluid: alcohol.  
Thermo-conductive paste supplied in package. |
| 675002 | Cutting pipe template.                                                                                                                               |
| 182    | **182**  
Differential by-pass kit  
with fixed setting 25 kPa (2.500 mm w.g.)  
complete with flexible hose.  
For regulating units 182 series  
and manifolds 670 and 671 series.  
Max. working pressure: 10 bar.  
Temperature range: 0–100 °C. |
| 182000 | **182**  
Differential by-pass kit  
with fixed setting 25 kPa (2.500 mm w.g.)  
complete with flexible hose.  
For regulating units 182 series  
and manifolds 670 and 671 series.  
Max. working pressure: 10 bar.  
Temperature range: 0–100 °C. |

### Cutting pipe template

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>675800</td>
<td>1 1/4&quot;</td>
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</tbody>
</table>

### Push-fit thermometer for panel piping

<table>
<thead>
<tr>
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<th>Description</th>
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</thead>
<tbody>
<tr>
<td>675900</td>
<td>10 100</td>
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</table>

### Coupling adapter with clip

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>675950</td>
<td>3/4&quot; Ø 18 mm</td>
</tr>
</tbody>
</table>
**BRASS DISTRIBUTION MANIFOLDS FOR RADIANT PANEL SYSTEMS**

### 668...S1

Pre-assembled distribution manifold.
Max. working pressure: 10 bar.
Temperature range: 0–80 °C.

- Equipped with:
  - flow manifold with built-in flow meters and flow rate balancing valves;
  - return manifold with built-in shut-off valves fitted for thermo-electric actuator;
  - end fittings with multi-position ball valve, automatic air vent and fill/drain hose connection;
  - off-centre by-pass kit with fixed setting and with connecting pipe;
  - ball shut-off valves;
  - mounting brackets for box or wall mounting.

---

### 666...S1

Return manifold, with built-in shut-off valves fitted for thermo-electric actuator.
Max. working pressure: 10 bar.
Temperature range: 0–80 °C.
Outlet centre distance: 50 mm.

---

### 667...S1

Flow manifold, with built-in flow meters and flow rate balancing valves.
Max. working pressure: 10 bar.
Temperature range: 0–80 °C.
Outlet centre distance: 50 mm.

---

### 668...S1

Pair of manifolds, with built-in flow meters and flow rate balancing valves and shut-off valves.
Max. working pressure: 10 bar.
Temperature range: 0–80 °C.
Outlet centre distance: 50 mm.
# ACCESSORIES FOR DISTRIBUTION MANIFOLDS

## 668...S1 tech. broch. 01144
Off-centre by-pass kit with fixed setting 25 kPa (2.500 mm w.g.), complete with pipe for manifold connection. For manifolds 668...S1 series. Max. working pressure: 10 bar. Temperature range: 0–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>6680051</td>
<td>1” nut x 3/4” nut</td>
<td>1 : 10</td>
</tr>
</tbody>
</table>

## 391...S1 tech. broch. 01144
Pair of ball shut-off valves. Female - male connections with union with O-Ring seal. With temperature gauge, scale 0–80 °C, Ø 40 mm. Max. working pressure: 10 bar. Temperature range: 0–100 °C.

<table>
<thead>
<tr>
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<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>39116751</td>
<td>1” x 1 1/4”</td>
<td>1 : 5</td>
</tr>
<tr>
<td>39117751</td>
<td>1 1/4” x 1 1/4”</td>
<td>1 : 5</td>
</tr>
</tbody>
</table>

## 391...S1 tech. broch. 01144
Pair of ball shut-off valves. Female - male connections with union with O-Ring seal. With temperature gauge connection. Max. working pressure: 10 bar. Temperature range: 0–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>39106751</td>
<td>1” x 1 1/4”</td>
<td>1 : –</td>
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<tr>
<td>39107751</td>
<td>1 1/4” x 1 1/4”</td>
<td>1 : –</td>
</tr>
</tbody>
</table>

## 5996 tech. broch. 01144
Flow end fitting complete with double radial end fitting with two-position ball valve, automatic air vent and fill/drain hose connection. Max. working pressure: 10 bar. Max. discharge pressure: 2.5 bar. Temperature range: 0–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>599674</td>
<td>1 1/4”</td>
<td>1 : 10</td>
</tr>
</tbody>
</table>

## 5996 tech. broch. 01144
Return end fitting complete with double radial end fitting with three-position ball valve, by-pass connection with plug and fill/drain hose connection. Max. working pressure: 10 bar. Temperature range: 0–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>599675</td>
<td>1 1/4”</td>
<td>1 : 10</td>
</tr>
</tbody>
</table>

## 347...S1 tech. broch. 01144
Compression fitting for annealed copper, hard copper, brass, mild steel and stainless steel pipes. With O-Ring seal. Specific to be used with manifolds 668...S1 series. Max. working pressure: 10 bar. Temperature range: -25–120 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>34751251</td>
<td>3/4” - Ø 12</td>
<td>1 : 50</td>
</tr>
<tr>
<td>34751451</td>
<td>3/4” - Ø 14</td>
<td>1 : 50</td>
</tr>
</tbody>
</table>

## 5020 tech. broch. 01144
Automatic air vent with hygroscopic cap. In hot-stamped brass. For manifolds end fittings 668...S1 series. Max. working pressure: 10 bar. Max. discharge pressure: 2.5 bar. Max. working temperature: 110 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>502043</td>
<td>1/2” M</td>
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</table>

## 3642...S1 tech. broch. 01144
Reduction fitting.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>36427851</td>
<td>1” F x 1 1/4” M</td>
<td>2 : 10</td>
</tr>
</tbody>
</table>

## 658 tech. broch. 01144
Pair of brackets for use with boxes, 659 and 661 series or directly on the wall. With screws and plugs.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>658100</td>
<td></td>
<td>1 : 20</td>
</tr>
</tbody>
</table>
DISTRIBUTION MANIFOLDS FOR RADIANT PANEL SYSTEMS

**664**
Pre-assembled distribution manifold.
Max. working pressure: 6 bar.
Temperature range: 5–60 °C.
Outlet centre distance: 50 mm.
Equipped with:
- return manifold with built-in shut-off valves
  fitted for thermo-electric actuator;
- flow manifold complete with flow meters with 0–5 l/m scale
  and flow rate balancing valves;
- end fittings with automatic air vent and drain cock;
- steel mounting brackets for use with box or for direct wall mounting.

**662**
Pre-assembled distribution manifold.
Max. working pressure: 10 bar.
Temperature range: 5–80 °C.
Outlet centre distance: 50 mm.
Equipped with:
- return manifold with built-in shut-off valves
  fitted for thermo-electric actuator;
- flow manifold with micrometric preregulating valves;
- end fittings with automatic air vent and drain cock;
- polymer mounting brackets with adjustable centre distance
  for use with box 659 series or for direct wall mounting.

---

**Outlet No. Outlets Connections Code**

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>6646B1</td>
<td>1&quot; x 2</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646C1</td>
<td>1&quot; x 3</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646D1</td>
<td>1&quot; x 4</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646E1</td>
<td>1&quot; x 5</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646F1</td>
<td>1&quot; x 6</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646G1</td>
<td>1&quot; x 7</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646H1</td>
<td>1&quot; x 8</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646I1</td>
<td>1&quot; x 9</td>
<td>3/4&quot; M</td>
<td>1 –</td>
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<tr>
<td>6646L1</td>
<td>1&quot; x 10</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646M1</td>
<td>1&quot; x 11</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646N1</td>
<td>1&quot; x 12</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6646O1</td>
<td>1&quot; x 13</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
</tbody>
</table>

---

**Outlet No. Outlets Connections Code**

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>6626B6</td>
<td>1&quot; x 2</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626C6</td>
<td>1&quot; x 3</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626D6</td>
<td>1&quot; x 4</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626E6</td>
<td>1&quot; x 5</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626F6</td>
<td>1&quot; x 6</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626G6</td>
<td>1&quot; x 7</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626H6</td>
<td>1&quot; x 8</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626I6</td>
<td>1&quot; x 9</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626L6</td>
<td>1&quot; x 10</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626M6</td>
<td>1&quot; x 11</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626N6</td>
<td>1&quot; x 12</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>6626O6</td>
<td>1&quot; x 13</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
</tbody>
</table>
DYNAMIC DISTRIBUTION MANIFOLDS FOR RADIANT PANEL SYSTEMS

665
DYNAMICAL®
Pre-assembled distribution manifold.
Max. working pressure: 6 bar.
Temperature range: 5–60 °C.
Outlet centre distance: 50 mm.
Equipped with:
- return manifold complete with flow adjustment valves DYNAMICAL®
  fitted for thermo-electric actuator, with flow rate adjustment 25–150 l/h
  and shut-off valves;
- flow manifold complete with flow indicators;
- end fittings with automatic air vent with hygroscopic cap and drain cock;
- steel mounting brackets for use with box or for direct wall mounting.

Function
The DYNAMICAL® distribution manifold allows automatic dynamic balancing
and a regulation of the thermal medium independent from the pressure
in the individual circuits of underfloor heating systems. The device, in
conjunction with a thermo-electric control head, combines different
functions in a single component.

### Table: Code, Connections, Outlet No., Outlets

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlet No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>665D1</td>
<td>1&quot; x 4</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>665E1</td>
<td>1&quot; x 5</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>665F1</td>
<td>1&quot; x 6</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>665G1</td>
<td>1&quot; x 7</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>665H1</td>
<td>1&quot; x 8</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>665I1</td>
<td>1&quot; x 9</td>
<td>3/4&quot; M</td>
<td>1 –</td>
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<tr>
<td>665L1</td>
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<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>665M1</td>
<td>1&quot; x 11</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
<tr>
<td>665N1</td>
<td>1&quot; x 12</td>
<td>3/4&quot; M</td>
<td>1 –</td>
</tr>
</tbody>
</table>

A. **The differential pressure regulator** automatically cancels the effect of
pressure fluctuation characterising variable flow rate systems and
prevents noisy functioning.

B. **The flow rate pre-setting device** makes it possible to directly set the
maximum flow rate value, thanks to the combination with the
differential pressure regulator.

C. **Flow rate adjustment ON/OFF according to the room temperature**,
thanks to the combination with a thermo-electric control head. The flow
rate adjustment is optimised because it is made pressure independent.
ACCESSORIES FOR DISTRIBUTION MANIFOLDS

Insulation for distribution manifolds 662, 664 and 665 series. For heating and cooling systems. For use with box code 659.4 (adjustable depth from 110 to 140 mm).

680 DAR Self-adjustable diameter fitting for single and multilayer plastic pipes. Max. working pressure: 10 bar. Temperature range: 5–80 °C (PE-X) 5–75 °C (Multilayer marked 95 °C).

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
<th>10</th>
<th>100</th>
</tr>
</thead>
<tbody>
<tr>
<td>680507</td>
<td>3/4&quot;</td>
<td>7.5–8</td>
<td>10</td>
<td>100</td>
</tr>
<tr>
<td>680502</td>
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<td>7.5–8</td>
<td>12</td>
<td>100</td>
</tr>
<tr>
<td>680503</td>
<td>3/4&quot;</td>
<td>8.5–9</td>
<td>12</td>
<td>100</td>
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<td>680500</td>
<td>3/4&quot;</td>
<td>9–9.5</td>
<td>14</td>
<td>100</td>
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<td>680501</td>
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<td>9.5–10</td>
<td>14</td>
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<td>680506</td>
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<td>16</td>
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</tr>
<tr>
<td>680515</td>
<td>3/4&quot;</td>
<td>10.5–11</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>680517</td>
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<td>10.5–11</td>
<td>16</td>
<td>100</td>
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<tr>
<td>680524</td>
<td>3/4&quot;</td>
<td>11.5–12</td>
<td>14</td>
<td>100</td>
</tr>
<tr>
<td>680526</td>
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<td>11.5–12</td>
<td>16</td>
<td>100</td>
</tr>
<tr>
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<td>12.5–13</td>
<td>16</td>
<td>100</td>
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<td>20</td>
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<td>13.5–14</td>
<td>16</td>
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<tr>
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<td>15.5–16</td>
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<tr>
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<td>17</td>
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</tbody>
</table>

391 Pair of ball shut-off valves with O-Ring seal. For distribution manifolds 664 and 665 series. Female - male connections with union with O-Ring seal. Max. working pressure: 10 bar. Temperature range: 5–100 °C.

<table>
<thead>
<tr>
<th>Code</th>
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<th>100</th>
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<tbody>
<tr>
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</tr>
</tbody>
</table>

662 Off-centre by-pass kit with fixed setting 25 kPa (2.500 mm w.g.). For distribution manifolds 664 and 665 series. Max. working pressure: 10 bar. Temperature range: -10 to 110 °C.

<table>
<thead>
<tr>
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<tbody>
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</table>

386 Screw plug with nut, for manifold outlets.

<table>
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<tbody>
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<td>675900</td>
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</table>
DIFFERENTIAL PRESSURE CONTROL VALVE FOR DISTRIBUTION MANIFOLDS

140 tech. broch. 01344

Differential pressure control valve for 1” distribution manifolds 671, 662 and 664 series.
Complete with capillary pipe and metering device for connection.
Max. working pressure: 16 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50 %.
Length of capillary pipe Ø 3 mm: 1,5 m.

Connection of differential pressure control valve 140 series with distribution manifold 671 series

Connection of differential pressure control valve 140 series with distribution manifold 662 series

Connection of differential pressure control valve 140 series with distribution manifold 664 series

Operating principle

The regulator $\Delta p$, fitted at the inlet of the distribution manifold for a radiant panel system, allows the distribution system to operate in constant load conditions even when the system conditions change.
The differential pressure control valve acts proportionally to re-establish the preselected $\Delta p$ conditions on the valve itself while the flow rate is varied by shut-off devices.
The flow pressure value is brought to the top surface of the membrane by means of the connecting capillary tube; the return pressure value is brought to the bottom surface of the membrane through the connecting passage inside the control stem. The force generated by the pressure differential on the membrane exerts a thrust on the obturator stem, closing the passage of medium on the return of the circuit zone until the thrust force of the membrane and the counter-thrust force of the counter-spring reach equilibrium on the set $\Delta p$ value.
This is the pressure differential value that is kept constant between flow and return of the circuit zone.
The regulator action allows the flow rate regulation valves, fitted to the flow manifold, to operate in constant load conditions; this means they can keep the flow rate at a constant level even when the operating conditions for the rest of the system change.
### BOXES FOR DISTRIBUTION MANIFOLDS

#### 659
**tech. broch. 01144**

*Inspection wall box for distribution manifolds.*
- 349, 350, 592, 662, 663, 668...51, 671, 664 and 665 series.
- Wall or floor installation (with 660 series).
- Closure with a push-fit clamp.
- In painted sheet steel.
- **Adjustable depth from 110 to 140 mm.**

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
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<td>659064</td>
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<tr>
<td>659084</td>
<td>500 x 800 x 110–140</td>
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<td>659104</td>
<td>500 x 1000 x 110–140</td>
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</tr>
<tr>
<td>659124</td>
<td>500 x 1200 x 110–140</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 660
**tech. broch. 01144**

*Floor installation kit for box 659 series.*
- Consisting of:
  - 2 supports height cm. 20,
  - 2 side panels,
  - 1 pipe-bending bar.

<table>
<thead>
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<td>660060</td>
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<tr>
<td>660080</td>
<td>for 659084</td>
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<td>for 659104</td>
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<tr>
<td>660120</td>
<td>for 659124</td>
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</tr>
</tbody>
</table>

#### 661
**tech. broch. 01144**

*Box for manifolds 662, 671, 668...51, 664 and 665 series and regulating units 182 series.*
- With supports for installation on floor.
- Closure with a push-fit clamp.
- In painted sheet steel.
- **Adjustable depth from 110 to 150 mm.**
- **Adjustable height from 270 to 410 mm.**

<table>
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<td>661065</td>
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<td>661085</td>
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</tr>
<tr>
<td>661105</td>
<td>500 x 1000 x 110–150</td>
<td>-</td>
</tr>
<tr>
<td>661125</td>
<td>500 x 1200 x 110–150</td>
<td>-</td>
</tr>
</tbody>
</table>

#### 675

*Box with adjustable depth and height.*
- Equipped with mounting brackets for manifolds 671 series.
- **Adjustable depth: 80 to 120 mm.**
- **Adjustable height: 235 to 325 mm.**
**THERMO-ELECTRIC ACTUATORS**

**6563**
Thermo-electric actuator.
With manual opening and position indicator.
For distribution manifolds 670, 671, 668...S1, 6626, 664 and 665 series. Normally closed.
*With auxiliary microswitch.*
Supply: 230 V (AC) or 24 V (AC)/(DC).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Auxiliary microswitch contact rating: 0,8 A (230 V).
Ambient temperature range: 0–50 °C.
Protection class: IP 40.
Cable length: 80 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
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<tr>
<td>656312</td>
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<tr>
<td>656314</td>
<td>24</td>
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<td></td>
</tr>
<tr>
<td>656302</td>
<td>230 without auxiliary microswitch</td>
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<td></td>
</tr>
<tr>
<td>656304</td>
<td>24 without auxiliary microswitch</td>
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</table>

With low power consumption

<table>
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<td>656354</td>
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<tr>
<td>656344</td>
<td>24 without auxiliary microswitch</td>
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</tbody>
</table>

**6562**
Thermo-electric actuator.
With opening position indicator.
Quick-coupling installation, with a clip adapter.
For distribution manifolds 670, 671, 668...S1, 6626, 664 and 665 series. Normally closed.
*With auxiliary microswitch.*
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0,8 A (230 V).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Ambient temperature range: 0–50 °C.
Protection class: IP 54.
Cable length: 80 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
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<tr>
<td>656214</td>
<td>24</td>
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<td></td>
</tr>
<tr>
<td>656202</td>
<td>230 without auxiliary microswitch</td>
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<tr>
<td>656204</td>
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</table>

**6564**
Thermo-electric actuator with low power consumption.
With opening position indicator.
Quick-coupling installation, with a clip adapter.
For distribution manifolds 670, 671, 668...S1, 6626, 664 and 665 series. Normally closed.
*With auxiliary microswitch.*
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0,8 A (230 V).
Power consumption: 3 W.
Starting current (656344/54): ≤ 250 mA.
Auxiliary microswitch contact rating: 0,8 A (230 V).
Ambient temperature range: 0–50 °C.
Protection class: IP 54.
Cable length: 80 cm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Supply voltage V</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
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<tr>
<td>656402</td>
<td>230 without auxiliary microswitch</td>
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</tr>
<tr>
<td>656404</td>
<td>24 without auxiliary microswitch</td>
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</table>

**6561**
Thermo-electric actuator.
For distribution manifolds 670, 671, 668...S1, 6626, 664 and 665 series. Normally closed.
*With auxiliary microswitch.*
Supply: 230 V (AC) or 24 V (AC)/(DC).
Auxiliary microswitch contact rating: 0,8 A (230 V).
Power consumption: 3 W.
Starting current: ≤ 1 A.
Max. ambient temperature: 50 °C.
Protection class: IP 44 (vertical stem).
Cable length: 80 cm.

<table>
<thead>
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</thead>
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<td>656102</td>
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<tr>
<td>656104</td>
<td>24 without auxiliary microswitch</td>
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**6205**
Control bar.
Supply: 230 V - 50/60 Hz.
Power consumption: 5,5 VA max (8 outputs).
Changeover contacts: 10 A.
Protection class: IP 30 (with rubber cable clamps).
Output command for pump.
Input for SUMMER - WINTER.
Input for timer.

<table>
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<tr>
<th>Code</th>
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</tr>
<tr>
<td>620582</td>
<td>8 channels</td>
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COMPONENTS FOR DOMESTIC WATER SYSTEMS

This diagram is just an indication.
COMPONENTS FOR DOMESTIC WATER SYSTEMS

Modern domestic cold and hot water distribution systems need special protective and control devices, which are chosen according to the intended use and security level to be guaranteed for the utilities. Depending on the application type, for example home, commercial or public use, different rules are used to dimension systems, and they are fitted with different equipment. Below we describe the most important device classifications to help make the right choice.

Pressure adjustment
- Pressure reducing valves

Temperature adjustment
- Thermostatic and electronic mixing valves

Flow rate adjustment
- Thermostatic regulator for recirculation circuits

Cold and hot water distribution
- Distribution manifolds

Safety and protection of hot water storage
- Safety groups - Safety valves - Expansion vessels

Water hammer phenomenon
- Water hammer arrester

Anti-freeze protection
- Shut-off cock with anti-freeze safety device

Shut off medium
- Ball valves with built-in check valve
Pressure reducing valves
Pressure reducing and stabilising valves

Domestic Water Sizer
DOMESTIC WATER SYSTEM SIZER ALSO FOR SMARTPHONE
Download the version for your iOS and Android® mobile phone.
**INCLINED MICRO PRESSURE REDUCING VALVE FOR SPECIAL APPLICATIONS**

**533...H**
Inclined micro pressure reducing valve for special applications: for dispensing water, beverages and coffee machines.
Replaceable cartridge and strainer.
CR dezincification resistant alloy body “LOW LEAD”.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 0,8–4 bar.
Max. working temperature: 80 °C.
Max. recommended flow rate: 6 l/min.
Certified to EN 1567.
PATENT PENDING.

<table>
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<th>Description</th>
<th>Code</th>
<th>DN</th>
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<td>533410H</td>
<td>8</td>
<td>3/8”</td>
<td>533210H</td>
<td>8</td>
<td>3/8” with pressure gauge 0–10 bar</td>
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</table>

<table>
<thead>
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<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F0002665</td>
<td>pressure gauge 0–10 bar</td>
</tr>
</tbody>
</table>

**Applications**
The 533...H series of micro pressure reducing valves has been specially created for applications where it is necessary to reduce and precisely stabilise the pressure arriving from the mains in the presence of low flow rate values.
The 533...H series is typically installed for service in appliances that also have important dimensions and intermittent operation. The performance of this series of micro pressure reducing valves complies with the requirements of standard EN 1567, for use with cold water and hot water up to 80 °C.

The typical applications of these micro pressure reducing valves are appliances for dispensing water, beverages and coffee machines.

**INCLINED PRESSURE REDUCING VALVES**

**533**
Inclined pressure reducing valve.
Replaceable cartridge and strainer.
Brass body. Chrome plated.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–6 bar.
Max. working temperature: 40 °C.

<table>
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</tr>
<tr>
<td>53305</td>
<td>3/4”</td>
</tr>
</tbody>
</table>

**5332**
Inclined pressure reducing valve.
Replaceable cartridge and strainer.
Brass body. Chrome plated.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–6 bar.
Max. working temperature: 40 °C.
With pressure gauge: 0–10 bar.

<table>
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<tr>
<td>53325</td>
<td>3/4”</td>
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</table>

**5331**
Inclined pressure reducing valve for safety group.
Replaceable cartridge and strainer.
Brass body. Chrome plated.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–6 bar.
Max. working temperature: 40 °C.

<table>
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<tr>
<td>53315</td>
<td>3/4” M x nut 3/4” F</td>
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</table>

**5334**
Inclined pressure reducing valve.
Replaceable cartridge and strainer.
Brass body. Chrome plated.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–6 bar.
Max. working temperature: 40 °C.
With 1/4” F pressure gauge connection.

<table>
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<td>53346</td>
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INCLINED PRESSURE REDUCING VALVES

**5336**

**5337**

**5338**

**5339**

**5335**

**5335**

**5339**

**5330**
Spare cartridge. For inclined pressure reducing valves 5330, 5331, 5332, 5334, 5335, 5336, 5337, 5338 and 5339 series.
**INCLINED PRESSURE REDUCING VALVES FOR HIGH TEMPERATURE**

**5330..H**
Inclined pressure reducing valve.
For high temperature.
Replaceable cartridge and strainer.
Brass body. Chrome plated.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–5,5 bar.
Max. working temperature: 80 °C.
Certified to EN 1567.

**5331..H**
Inclined pressure reducing valve for safety group.
For high temperature.
Replaceable cartridge and strainer.
 dezincification resistant alloy body.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–5,5 bar.
Max. working temperature: 80 °C.
Certified to EN 1567.

**5332..H**
Inclined pressure reducing valve.
Replaceable cartridge and strainer.
Brass body. Chrome plated.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–5,5 bar.
Max. working temperature: 80 °C.
With pressure gauge: 0–10 bar.
Certified to EN 1567.

**5333..H**
Inclined pressure reducing valve.
Replaceable cartridge and strainer.
 dezincification resistant alloy body.
Chrome plated.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–5,5 bar.
Max. working temperature: 80 °C.
With 1/4" F pressure gauge connection.
Certified to EN 1567.

**5334..H**
Inclined pressure reducing valve.
For high temperature.
Replaceable cartridge and strainer.
Max. upstream pressure: 16 bar.
Downstream pressure setting range: 1–5,5 bar.
Max. working temperature: 80 °C.
With 1/4" F pressure gauge connection.
Certified to EN 1567.
INCLINED PRESSURE REDUCING VALVES FOR HIGH TEMPERATURE

**5336..H** tech. broch. 01252
Inclined pressure reducing valve with compression ends. For high temperature. Replaceable cartridge and strainer. 
CR dezincification resistant alloy body. Chrome plated. 
Max. upstream pressure: 16 bar. 
Downstream setting pressure range: 1–5.5 bar. 
Max. working temperature: 80 °C. 
Certified to EN 1567.

<table>
<thead>
<tr>
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<th>Ø 28</th>
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<td>533651H</td>
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</table>

**5337..H** tech. broch. 01252
Inclined pressure reducing valve with compression ends. For high temperature. Replaceable cartridge and strainer. 
CR dezincification resistant alloy body. Chrome plated. 
Max. upstream pressure: 16 bar. 
Downstream setting pressure range: 1–5.5 bar. 
Max. working temperature: 80 °C. 
Certified to EN 1567.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Ø 28</th>
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<td>533761H</td>
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<td>28</td>
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</tbody>
</table>

**5338..H** tech. broch. 01252
Inclined pressure reducing valve with compression ends. For high temperature. Replaceable cartridge and strainer. 
CR dezincification resistant alloy body. Chrome plated. 
Max. upstream pressure: 16 bar. 
Downstream setting pressure range: 1–5.5 bar. 
Max. working temperature: 80 °C. 
With pressure gauge: 0–10 bar. 
Certified to EN 1567.

<table>
<thead>
<tr>
<th>Code</th>
<th>Ø 15</th>
<th>Ø 22</th>
<th>Ø 28</th>
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<tr>
<td>533861H</td>
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</tbody>
</table>

**5335..H**
Inclined pressure reducing valve. 
Replaceable cartridge and strainer. 
CR dezincification resistant alloy body. 
Max. inlet pressure: 2000 kPa. 
Downstream setting pressure range: 100–600 kPa. 
Max. working temperature: 80 °C. 
With 1/4" F pressure gauge connection.

<table>
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<th>Code</th>
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<th>1&quot;</th>
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<tbody>
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<td>533565H AUS</td>
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</tbody>
</table>

**5335..H**
Three-way inclined pressure reducing valve. 
Replaceable cartridge and strainer. 
CR dezincification resistant alloy body. 
Interchangeable outlet, with plug. 
Max. inlet pressure: 2000 kPa. 
Downstream setting pressure range: 100–600 kPa. 
Max. working temperature: 80 °C.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>533550H AUS</td>
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</tbody>
</table>

**5335..H**
Two-way inclined pressure reducing valve. 
Replaceable cartridge and strainer. 
CR dezincification resistant alloy body. 
Interchangeable outlet, with plug. 
Max. inlet pressure: 2000 kPa. 
Downstream setting pressure: 500 kPa. 
Max. working temperature: 80 °C.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>533551H AUS</td>
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**5330..H**
Spare cartridge. 
For inclined pressure reducing valves 5330H, 5331H, 5332H, 5334H, 5335H, 5336H, 5337H, 5338H and 5339H series.

<table>
<thead>
<tr>
<th>Code</th>
<th>100</th>
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</table>
PRE-ADJUSTABLE PRESSURE REDUCING VALVES

**5350**
Pressure reducing valve with self-contained replaceable cartridge. dezincification resistant alloy body. With pressure regulating scale for manual pressure adjustment. Male union connections.
Max. upstream pressure: 25 bar.
Downstream setting pressure range: 1–6 bar.
Max. working temperature: 40 °C.
Certified to EN 1567.

With pressure gauge 0–10 bar

<table>
<thead>
<tr>
<th>Code</th>
<th>1/2”</th>
<th>3/4”</th>
<th>1”</th>
<th>1 1/4” with 1” reduced cartridge</th>
<th>1 1/2”</th>
<th>2”</th>
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</table>

* Without DVGW certification

With 1/4” F pressure gauge connection

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<th>1”</th>
<th>1 1/4” with 1” reduced cartridge</th>
<th>1 1/2”</th>
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</table>

* Without DVGW certification

**5351**
Pressure reducing valve with self-contained replaceable cartridge. Brass body. With pressure regulating scale for manual pressure adjustment.
Stainless steel strainer cartridge with transparent housing.
Male union connections.
Max. upstream pressure: 25 bar.
Downstream setting pressure range: 1–6 bar.
Max. working temperature: 40 °C.
Strainer mesh size Ø: 0,28 mm.
Certified to EN 1567.
With replacement strainer and key to service strainer and cartridge.

With stainless steel pressure gauge 0–10 bar

<table>
<thead>
<tr>
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<th>1”</th>
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</thead>
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<tr>
<td>535161</td>
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</table>

With 1/4” F pressure gauge connection

<table>
<thead>
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<th>3/4”</th>
<th>1”</th>
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</tr>
<tr>
<td>535160</td>
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</tbody>
</table>

**5350**
Spare cartridge and key to service strainer and cartridge.
For pressure reducing valves 5350 and 5351 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>1/2” - 3/4”</th>
<th>1”</th>
</tr>
</thead>
<tbody>
<tr>
<td>535004</td>
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</tr>
<tr>
<td>535006</td>
<td></td>
<td></td>
</tr>
<tr>
<td>535017</td>
<td>1 1/4” (535074 - 535075)</td>
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<tr>
<td>535007</td>
<td>1 1/4” - 1 1/2” - 2”</td>
<td></td>
</tr>
<tr>
<td>RS2484*</td>
<td>key to service strainer and cartridge</td>
<td></td>
</tr>
</tbody>
</table>

* Only for 1/2”, 3/4”, 1” reducing valves

---

**5350**
Pressure reducing valve with self-contained replaceable cartridge. dezincification resistant alloy body. With pressure regulating scale for manual pressure adjustment.
Ø 22 mm with compression ends.
Max. upstream pressure: 25 bar.
Downstream setting pressure range: 1–6 bar.
Max. working temperature: 40 °C.
Certified to EN 1567.

With 1/4” F pressure gauge connection

<table>
<thead>
<tr>
<th>Code</th>
<th>Ø 22</th>
</tr>
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<tbody>
<tr>
<td>535022</td>
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**5351**
Pressure reducing valve with self-contained replaceable cartridge. Brass body. With pressure regulating scale for manual pressure adjustment.
Stainless steel strainer cartridge with transparent housing.
Male union connections.
Max. upstream pressure: 25 bar.
Downstream setting pressure range: 1–6 bar.
Max. working temperature: 40 °C.
Strainer mesh size Ø: 0,28 mm.
Certified to EN 1567.
With replacement strainer and key to service strainer and cartridge.
PRE-ADJUSTABLE PRESSURE REDUCING VALVES FOR HIGH TEMPERATURE

5350..H Pressure reducing valve with self-contained replaceable cartridge. For high temperature. dezincification resistant alloy body “LOW LEAD”. With pressure regulating scale for manual pressure adjustment. Male union connections.

Max. inlet pressure: 25 bar (static - EN 1567).
Max. inlet pressure: 16 bar (working - EN 1567).
Downstream setting pressure range: 1–6 bar.
Max. working temperature: 80 °C. Certified to EN 1567.

With pressure gauge 0–10 bar

<table>
<thead>
<tr>
<th>Code</th>
<th>06H</th>
<th>09H</th>
</tr>
</thead>
<tbody>
<tr>
<td>53501H</td>
<td>Ø 1/2&quot;</td>
<td>Ø 1/2&quot;</td>
</tr>
<tr>
<td>53501H</td>
<td>Ø 3/4&quot;</td>
<td>Ø 3/4&quot;</td>
</tr>
<tr>
<td>53503H</td>
<td>Ø 1&quot;</td>
<td>Ø 1&quot;</td>
</tr>
<tr>
<td>53503H</td>
<td>Ø 1 1/4&quot;</td>
<td>Ø 1 1/4&quot;</td>
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<td>Ø 1 1/2&quot;</td>
<td>Ø 1 1/2&quot;</td>
</tr>
<tr>
<td>53503H</td>
<td>Ø 2&quot;</td>
<td>Ø 2&quot;</td>
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</tbody>
</table>

With 1/4" F pressure gauge connection

<table>
<thead>
<tr>
<th>Code</th>
<th>06H</th>
<th>09H</th>
</tr>
</thead>
<tbody>
<tr>
<td>53504H</td>
<td>Ø 1/2&quot;</td>
<td>Ø 1/2&quot;</td>
</tr>
<tr>
<td>53504H</td>
<td>Ø 3/4&quot;</td>
<td>Ø 3/4&quot;</td>
</tr>
<tr>
<td>53506H</td>
<td>Ø 1&quot;</td>
<td>Ø 1&quot;</td>
</tr>
<tr>
<td>53506H</td>
<td>Ø 1 1/4&quot;</td>
<td>Ø 1 1/4&quot;</td>
</tr>
<tr>
<td>53506H</td>
<td>Ø 1 1/2&quot;</td>
<td>Ø 1 1/2&quot;</td>
</tr>
<tr>
<td>53506H</td>
<td>Ø 2&quot;</td>
<td>Ø 2&quot;</td>
</tr>
</tbody>
</table>

5350..H Pressure reducing valve with self-contained replaceable cartridge. For high temperature. dezincification resistant alloy body “LOW LEAD”. With pressure regulating scale for manual pressure adjustment.

Max. upstream pressure: 2000 kPa.
Downstream setting pressure range: 100–600 kPa.
Max. working temperature: 80 °C.

With 1/4" F pressure gauge connection

<table>
<thead>
<tr>
<th>Code</th>
<th>06H</th>
<th>09H</th>
</tr>
</thead>
<tbody>
<tr>
<td>53504H</td>
<td>Ø 1/2&quot;</td>
<td>Ø 1/2&quot;</td>
</tr>
<tr>
<td>53504H</td>
<td>Ø 3/4&quot;</td>
<td>Ø 3/4&quot;</td>
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<tr>
<td>53506H</td>
<td>Ø 1&quot;</td>
<td>Ø 1&quot;</td>
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<td>Ø 1 1/4&quot;</td>
<td>Ø 1 1/4&quot;</td>
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<td>Ø 1 1/2&quot;</td>
<td>Ø 1 1/2&quot;</td>
</tr>
<tr>
<td>53506H</td>
<td>Ø 2&quot;</td>
<td>Ø 2&quot;</td>
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</tbody>
</table>

5350..H Spare cartridge for pressure reducing valves 5350H series.

<table>
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<tbody>
<tr>
<td>53500H</td>
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</table>

PRESSURE REDUCING VALVE


With 1/4" F double pressure gauge connection

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>539250</td>
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</table>

153
**PRESSURE REDUCING VALVES**

**5360**  
Pressure reducing valve with replaceable cartridge. dezincification resistant alloy body.  
Male union connections.  
Max. upstream pressure: 25 bar.  
Downstream setting pressure range: 0,5–6 bar.  
Max. working temperature: 80 °C.  
Certified to EN 1567.

<table>
<thead>
<tr>
<th></th>
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<tbody>
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<td>53605</td>
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<td>5</td>
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<td>5</td>
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<tr>
<td>53606</td>
<td>1&quot;</td>
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<td>1 1/4&quot;</td>
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<tr>
<td>53608</td>
<td>1 1/2&quot;</td>
<td>4</td>
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</tr>
</tbody>
</table>

- 1 With pressure gauge 0–10 bar  
- 0 With 1/4" F pressure gauge connection

**5362**  
Pressure reducing valve with replaceable cartridge. dezincification resistant alloy body.  
Female connections.  
Max. upstream pressure: 25 bar.  
Downstream setting pressure range: 0,5–6 bar.  
Max. working temperature: 80 °C.

<table>
<thead>
<tr>
<th></th>
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<tr>
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<td>3/4&quot;</td>
<td>5</td>
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<td>5</td>
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<td>5</td>
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</tbody>
</table>

- 1 With pressure gauge 0–10 bar  
- 0 With 1/4" F pressure gauge connection

**5365**  
Max. upstream pressure: 25 bar.  
Downstream setting pressure range: 0,5–6 bar.  
Pressure gauge upstream: 0–25 bar.  
Pressure gauge downstream: 0–10 bar.  
Max. working temperature: 80 °C.  
Certified to EN 1567.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
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<tbody>
<tr>
<td>53656</td>
<td>1 1/2&quot;</td>
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<tr>
<td>53659</td>
<td>2&quot;</td>
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</tbody>
</table>

- 1 With double pressure gauge in glycerine bath  
- 0 With 1/4" F double pressure gauge connection

**5366**  
To be coupled with flat counterflanges EN 1092-1.  
Max. upstream pressure: 16 bar.  
Downstream setting pressure range: 0,5–6 bar.  
Pressure gauge upstream: 0–25 bar.  
Pressure gauge downstream: 0–10 bar.  
Max. working temperature: 80 °C.  
With double pressure gauge in glycerine bath.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Code</th>
<th>Code</th>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>53666</td>
<td>DN 65</td>
<td>1</td>
<td>–</td>
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</tbody>
</table>

**5360**  
Pressure reducing valve with replaceable cartridge. Dezincification resistant alloy body.  
Female connections.  
Max. upstream pressure: 25 bar.  
Downstream setting pressure range: 0,5–6 bar.  
Max. working temperature: 80 °C.  
Certified to EN 1567.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
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<tbody>
<tr>
<td>53604</td>
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<td>53607</td>
<td>1 1/4&quot;</td>
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<tr>
<td>53608</td>
<td>1 1/2&quot;</td>
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</table>

- 1 With pressure gauge 0–10 bar  
- 0 With 1/4" F pressure gauge connection

**5365**  
Max. upstream pressure: 25 bar.  
Downstream setting pressure range: 0,5–6 bar.  
Pressure gauge upstream: 0–25 bar.  
Pressure gauge downstream: 0–10 bar.  
Max. working temperature: 80 °C.  
Certified to EN 1567.

<table>
<thead>
<tr>
<th>Code</th>
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<td>1 1/2&quot;</td>
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<td>53659</td>
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- 1 With double pressure gauge in glycerine bath  
- 0 With 1/4" F double pressure gauge connection

**537**  
Soldering union connections.

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<td>53702</td>
<td>1&quot; x Ø 22</td>
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<td>53708</td>
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<td>537035</td>
<td>1 1/2&quot; x Ø 35</td>
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**PRESSURE REDUCING VALVES FOR FIRST STAGE CONTROL**

**5360**

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<th>Quantity</th>
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<td>5</td>
</tr>
<tr>
<td>536063 AUS</td>
<td>1&quot;</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>536073 AUS</td>
<td>1 1/4&quot;</td>
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<td>4</td>
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<tr>
<td>536083 AUS</td>
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</table>

**Application diagram of pressure reducing valve code 5360.3 AUS**

---

**PRESSURE REDUCING AND STABILISING VALVES**

**576**

<table>
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<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
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<tbody>
<tr>
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<td>576082</td>
<td>DN 80</td>
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<td>576102</td>
<td>DN 100</td>
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<td>576122</td>
<td>DN 125</td>
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</tr>
<tr>
<td>576152</td>
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**578**

<table>
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<td>1</td>
<td>–</td>
</tr>
<tr>
<td>578082</td>
<td>DN 80</td>
<td>1</td>
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<td>578102</td>
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<td>1</td>
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<tr>
<td>578122</td>
<td>DN 125</td>
<td>1</td>
<td>–</td>
</tr>
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<td>578152</td>
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</tr>
<tr>
<td>578302</td>
<td>DN 300</td>
<td>1</td>
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</table>
Thermostatic mixing valves
Hybrid electronic mixing valves, LEGIOMIX® 2.0
Electronic mixing valves with thermal disinfection and interface, LEGIOMIX®
Anti-scald device
Unit for temperature control and thermal disinfection, LEGIOFLOW®
Timer for valves operation
Multi-function thermostatic regulator

Domestic Water Sizer
DOMESTIC WATER SYSTEM SIZER ALSO FOR SMARTPHONE
Download the version for your iOS and Android® mobile phone.
THERMOSTATIC MIXING VALVES FOR SMALL APPLICATIONS

520 tech. broch. 01064
Max. working pressure: 10 bar. Max. inlet temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Flow rate (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>520430</td>
<td>1/2&quot; 30–48 °C</td>
<td>1.30 1</td>
</tr>
<tr>
<td>520440</td>
<td>1/2&quot; 40–60 °C</td>
<td>1.30 1</td>
</tr>
<tr>
<td>520530</td>
<td>3/4&quot; 30–48 °C</td>
<td>1.80 1</td>
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<tr>
<td>520540</td>
<td>3/4&quot; 40–60 °C</td>
<td>1.80 1</td>
</tr>
<tr>
<td>520630</td>
<td>1&quot; 30–48 °C</td>
<td>2.75 1</td>
</tr>
<tr>
<td>520640</td>
<td>1&quot; 40–60 °C</td>
<td>2.75 1</td>
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</tbody>
</table>

522 tech. broch. 01064
Adjustable thermostatic mixing valve. For hot water storage heaters.
Brass body. Chrome plated.
Max. working pressure: 10 bar.
Max. inlet temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Flow rate (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>522430</td>
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<td>1.30 1</td>
</tr>
<tr>
<td>522440</td>
<td>1/2&quot; 40–60 °C</td>
<td>1.30 1</td>
</tr>
</tbody>
</table>

521 tech. broch. 01050
Adjustable anti-scale thermostatic mixing valve with check valves.
 dezincification resistant alloy body.
“LOW LEAD”. Chrome plated.
Max. working pressure: 14 bar.
Max. inlet temperature: 85 °C.
Certified to EN 1287.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Flow rate (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521503</td>
<td>3/4&quot; 30–65 °C</td>
<td>2.6 1</td>
</tr>
</tbody>
</table>

521 tech. broch. 01050
Adjustable anti-scale thermostatic mixing valve with check valves, strainers at the inlets and compression ends.
 dezincification resistant alloy body.
Chrome plated.
Max. working pressure: 14 bar.
Max. inlet temperature: 85 °C.
Certified to EN 1287.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Flow rate (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521115</td>
<td>Ø 15 30–65 °C</td>
<td>2.6 1</td>
</tr>
<tr>
<td>521122</td>
<td>Ø 22 30–65 °C</td>
<td>2.6 1</td>
</tr>
</tbody>
</table>

Application diagram of thermostatic mixing valve 521 series
TEMPERING VALVE FOR INSTALLATION AT THE POINT OF DISTRIBUTION

**5219**
Tempering valve adjustable with knob.
For temperature control at the point of distribution.
With thermal shut-off function.
CR dezincification resistant alloy body.
“LOW LEAD”, Chrome plated.
Max. working pressure: 10 bar.
Max. inlet temperature: 90 °C.
PATENT.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521934</td>
<td>1/2&quot;</td>
<td>35–65 °C</td>
<td>1,5</td>
<td>1/2&quot;</td>
<td>45–65 °C</td>
</tr>
<tr>
<td>521935</td>
<td>3/4&quot;</td>
<td>35–65 °C</td>
<td>1,7</td>
<td>3/4&quot;</td>
<td>45–65 °C</td>
</tr>
<tr>
<td>521936</td>
<td>1&quot;</td>
<td>35–65 °C</td>
<td>3,0</td>
<td>1&quot;</td>
<td>45–65 °C</td>
</tr>
</tbody>
</table>

With check valves and strainers

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521914</td>
<td>1/2&quot;</td>
<td>1,5</td>
</tr>
<tr>
<td>521915</td>
<td>3/4&quot;</td>
<td>1,7</td>
</tr>
<tr>
<td>521916</td>
<td>1&quot;</td>
<td>3,0</td>
</tr>
</tbody>
</table>

**5218**
Tempering valve adjustable with knob,
with check valves and strainers.
Specific to control the temperature at the point of distribution.
With thermal shut-off function.
CR dezincification resistant alloy body.
“LOW LEAD”, Chrome plated.
Max. working pressure: 10 bar.
Max. inlet temperature: 90 °C.
Certified to EN 15092.
PATENT.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521814</td>
<td>1/2&quot;</td>
<td>45–65 °C</td>
</tr>
<tr>
<td>521815</td>
<td>3/4&quot;</td>
<td>45–65 °C</td>
</tr>
<tr>
<td>521816</td>
<td>1&quot;</td>
<td>45–65 °C</td>
</tr>
</tbody>
</table>

**European certification**

European standard EN 15092 “Inline hot water supply tempering valves. - Tests and requirements” specifies the performance characteristics for tempering valves installed at the point of distribution in domestic water systems made in accordance with the recent European standards EN 806-1/2/3/4/5.
The 5218 series tempering valves are certified as compliant with these standards by the certification agency Buildcert and DTC (UK).

**Application diagram of thermostatic mixing valve at the point of distribution**

- Storage T ≥ 60 °C
- Distribution T ≥ 55 °C
- Distribution return T ≥ 50 °C
- (Drawn water T ≤ 50 °C)
- Cold water T ≤ 25 °C
- Peripheral anti-scald mixing valve
- Tempering valve at the point of distribution
- T ≥ 55 °C
- T > 50 °C
- Setting=38–43 °C
- T ≥ 60 °C
- T ≥ 50 °C
- T ≥ 25 °C
ANTI-SCALD THERMOSTATIC MIXING VALVES FOR INSTALLATION AT THE POINT OF USE

5213 tech. broch. 01092
Adjustable thermostatic mixing valve with check valves and strainers at the inlets. Enhanced thermal performance device with anti-scald safety function.
- dezincification resistant alloy body.
- Chrome plated.
- Max. working pressure: 10 bar.
- Max. inlet temperature: 85 °C.
- Certified to NHS D08, BS 7942, EN 1111 and EN 1287.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521304</td>
<td>1/2&quot; 30–50 °C</td>
<td>1,5</td>
<td>521303</td>
<td>3/4&quot; 30–50 °C</td>
<td>1,7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

5213 tech. broch. 01092
Adjustable thermostatic mixing valve with check valves, strainers and compression ends. Enhanced thermal performance device with anti-scald safety function.
- dezincification resistant alloy body.
- Chrome plated.
- Max. working pressure: 10 bar.
- Max. inlet temperature: 85 °C.
- Certified to NHS D08, BS 7942, EN 1111 and EN 1287.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521315</td>
<td>Ø 15 30–50 °C</td>
<td>1,5</td>
<td>521322</td>
<td>Ø 22 30–50 °C</td>
<td>1,7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

5217 tech. broch. 01145
Thermostatic mixing valve, adjustable with knob, with check valves and strainers at the inlets. Enhanced thermal performance device with anti-scald safety function.
- dezincification resistant alloy body.
- Chrome plated.
- Max. working pressure: 10 bar.
- Max. inlet temperature: 85 °C.
- Certified to NF 079 Doc. 8.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>521714</td>
<td>1/2&quot; 30–50 °C</td>
<td>1,50</td>
<td>521713</td>
<td>3/4&quot; 30–50 °C</td>
<td>1,85</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

Pre-formed shell insulation for 1/2" and 3/4" thermostatic mixing valves 5213, 5217, 5218 and 5219 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>CBNS21814</td>
<td>1 25</td>
</tr>
<tr>
<td>CBNS21815</td>
<td>1 25</td>
</tr>
</tbody>
</table>
**ADJUSTABLE THERMOSTATIC MIXING VALVE FOR UNDER SINK INSTALLATION**

**5212**
Adjustable thermostatic mixing valve for under sink installation.
- With check valves and strainers at the inlets.
- Enhanced thermal performance device with anti-scald safety function.
- Complete with mounting brackets and adjustment key.
- CR dezincification resistant alloy body.
- "LOW LEAD".
- Max. working pressure: 10 bar.
- Max. inlet temperature: 90 °C.
- Certified to AS 4032.1.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kg (m³/h)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>521201</td>
<td>3/8&quot; 35–50 °C</td>
<td>0.45</td>
<td>1</td>
<td>–</td>
</tr>
</tbody>
</table>

**ANTI-SCALD TEMPERING AND THERMOSTATIC MIXING VALVES**

**5213**
Adjustable anti-scald tempering valve with check valves and strainers at the inlets.
- CR dezincification resistant alloy body.
- Chrome plated.
- Male union connections.
- Max. working pressure: 1400 kPa.
- Max. inlet temperature: 85 °C.
- Certified to AS 4032.2, NHS D08, BS 7942, EN 1111 and EN 1287.

**5213**
Adjustable thermostatic mixing valve with check valves and strainers at the inlets.
- Enhanced thermal performance device with anti-scald safety function.
- CR dezincification resistant alloy body.
- Chrome plated.
- Max. working pressure: 1400 kPa.
- Max. inlet temperature: 85 °C.
- Certified to AS 4032.1.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kg (m³/h)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>521312AUS</td>
<td>DN 15 30–50 °C</td>
<td>1.5</td>
<td>1 10</td>
</tr>
<tr>
<td>521319AUS</td>
<td>DN 20 30–50 °C</td>
<td>1.7</td>
<td>1 10</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kg (m³/h)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>521312TMX AUS</td>
<td>1/2&quot; 30–50 °C</td>
<td>1.3</td>
<td>1 10</td>
</tr>
<tr>
<td>521319TMX AUS</td>
<td>3/4&quot; 30–50 °C</td>
<td>1.4</td>
<td>1 10</td>
</tr>
</tbody>
</table>

**ADJUSTABLE THERMOSTATIC MIXING VALVE FOR UNDER SINK INSTALLATION**
“L” PATTERN ADJUSTABLE THERMOSTATIC MIXING VALVE

5200 Adjustable thermostatic mixing valve with knob, complete with check valves and strainers at the inlets. Dezincification resistant alloy body “LOW LEAD”. Male union connections. Max. working pressure: 10 bar. Max. inlet temperature: 90 °C. Certified to EN 1111 and EN 1287.

<table>
<thead>
<tr>
<th>Code</th>
<th>Body DN</th>
<th>Conn.</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
<th>1</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>5200i0</td>
<td>15</td>
<td>1/2&quot;</td>
<td>35–65 °C</td>
<td>1.5</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>5200i5</td>
<td>20</td>
<td>3/4&quot;</td>
<td>35–65 °C</td>
<td>1.7</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>5200i6</td>
<td>25</td>
<td>1&quot;</td>
<td>35–65 °C</td>
<td>3.0</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

Application diagrams

Water supply network

Temperature/pressure safety relief valve

Pressure reducing valve

Y-strainer

Thermostat

Pump

Expansion vessel

Temperature gauge

Ball valve

Ball valve with check valve

Cold

Mixed

Hot
CONTROL UNIT FOR DOMESTIC HOT WATER TEMPERATURE

5201 tech. broch. 01267

Control unit for domestic hot water temperature at the point of distribution.
Consisting of:
- thermostatic mixing valve with thermal shut-off function,
- tee for cold water connection complete with check valves.
Max. working pressure: 10 bar.
Max. inlet temperature: 90 °C.
Mixing valve certified to EN 1111 and EN 1287 standards.

520

Accessory kit for recirculation connection complete with check valves.
Max. working pressure: 10 bar.
Max. inlet temperature: 90 °C.

6480

Pair of off-centre fittings for connecting temperature control unit to any storage with outlet centre distance between 100 and 120 mm.

Specifications
The control unit for domestic hot water temperature is equipped with a high performance thermostatic mixing valve with a thermal shut-off function. This makes it possible to maintain a flow temperature at the distribution point that is perfectly stable at the required value.
The domestic hot water temperature control unit allows easy connection between pipes serving the domestic hot water and storage system, making it possible to minimise space requirements for installation. The unit is supplied with the check valves that allow correct operation of the mixing valve in the presence of recirculation. The group's modularity makes it extremely flexible, since it allows orientation of the various pipe connections in accordance with installation requirements. The shut-off valves with connection ports and temperature gauge on the mixed water outlet facilitate commissioning, checking and maintenance operations.

Interchangeable cold/recirculation connections

Without recirculation circuit

Storage without recirculation connection

Storage with recirculation connection
## THERMOSTATIC MIXING VALVES FOR MEDIUM-LARGE APPLICATIONS

### 5231 tech. broch. 01256

Adjustable thermostatic mixing valve, for centralised systems.
- dezincification resistant alloy body.
- Antiscal inner regulator in technopolymer.
- Max. working pressure: 14 bar.
- Max. inlet temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
<th>Temperature Adjustment</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Temperature Adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>523140</td>
<td>1/2&quot;</td>
<td>35–65 °C</td>
<td>4,3</td>
<td>523040</td>
<td>1/2&quot;</td>
<td>30–65 °C</td>
</tr>
<tr>
<td>523150</td>
<td>3/4&quot;</td>
<td>35–65 °C</td>
<td>4,5</td>
<td>523050</td>
<td>3/4&quot;</td>
<td>30–65 °C</td>
</tr>
<tr>
<td>523160</td>
<td>1&quot;</td>
<td>35–65 °C</td>
<td>5,5</td>
<td>523060</td>
<td>1&quot;</td>
<td>30–65 °C</td>
</tr>
<tr>
<td>523170</td>
<td>1 1/4&quot;</td>
<td>35–65 °C</td>
<td>7,6</td>
<td>523070</td>
<td>1 1/4&quot;</td>
<td>30–65 °C</td>
</tr>
<tr>
<td>523180</td>
<td>1 1/2&quot;</td>
<td>35–65 °C</td>
<td>11,0</td>
<td>523080</td>
<td>1 1/2&quot;</td>
<td>36–60 °C</td>
</tr>
<tr>
<td>523190</td>
<td>2&quot;</td>
<td>35–65 °C</td>
<td>13,3</td>
<td>523090</td>
<td>2&quot;</td>
<td>36–60 °C</td>
</tr>
</tbody>
</table>

### 5230 tech. broch. 01080

Adjustable thermostatic mixing valve, with replaceable cartridge, for centralised systems.
- Brass body.
- Max. working pressure: 14 bar.
- Max. inlet temperature: 85 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
<th>Temperature Adjustment</th>
<th>Kv (m³/h)</th>
<th>Code</th>
<th>Temperature Adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>523043</td>
<td>1/2&quot;</td>
<td>30–65 °C</td>
<td>4,0</td>
<td>523043</td>
<td>1/2&quot;</td>
<td>30–65 °C</td>
</tr>
<tr>
<td>523053</td>
<td>3/4&quot;</td>
<td>30–65 °C</td>
<td>4,5</td>
<td>523053</td>
<td>3/4&quot;</td>
<td>30–65 °C</td>
</tr>
<tr>
<td>523063</td>
<td>1&quot;</td>
<td>30–65 °C</td>
<td>6,9</td>
<td>523063</td>
<td>1&quot;</td>
<td>30–65 °C</td>
</tr>
<tr>
<td>523073</td>
<td>1 1/4&quot;</td>
<td>30–65 °C</td>
<td>9,1</td>
<td>523073</td>
<td>1 1/4&quot;</td>
<td>30–65 °C</td>
</tr>
</tbody>
</table>

### With check valves

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
<th>Temperature Adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>523162</td>
<td>Ø 28</td>
<td>35–65 °C</td>
<td>7,6</td>
</tr>
</tbody>
</table>

### With check valves and compression ends

<table>
<thead>
<tr>
<th>Code</th>
<th>Diameter</th>
<th>Temperature Adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>523052</td>
<td>Ø 22</td>
<td>30–65 °C</td>
<td>4,5</td>
</tr>
<tr>
<td>523062</td>
<td>Ø 28</td>
<td>30–65 °C</td>
<td>6,9</td>
</tr>
</tbody>
</table>

### Application diagram of mixing valve 5231 series
THERMOSTATIC MIXING VALVE FOR MEDIUM-LARGE APPLICATIONS

524
Adjustable thermostatic mixing valve for centralised systems.
Max. working pressure: 10 bar.
Max. inlet temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Body DN</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>524400*</td>
<td>1 1/8&quot;</td>
<td>30–65 °C</td>
<td>1,4</td>
</tr>
<tr>
<td>524500</td>
<td>1 1/4&quot;</td>
<td>30–65 °C</td>
<td>2,5</td>
</tr>
<tr>
<td>524600</td>
<td>1 1/2&quot;</td>
<td>30–65 °C</td>
<td>4,0</td>
</tr>
<tr>
<td>524700</td>
<td>2&quot;</td>
<td>30–65 °C</td>
<td>7,7</td>
</tr>
<tr>
<td>524800</td>
<td>2 1/4&quot;</td>
<td>36–60 °C</td>
<td>11,5</td>
</tr>
<tr>
<td>524900</td>
<td>2 3/4&quot;</td>
<td>36–60 °C</td>
<td>15,0</td>
</tr>
</tbody>
</table>

* Without recirculation connection

524
Connection kit for mixing valves with threaded connections, 524 series.
Complete with:
- 2 female unions with check valves, strainers and seals;
- 1 female union with seal.

<table>
<thead>
<tr>
<th>Code</th>
<th>Body DN</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>524004</td>
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<td>for 524400</td>
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</tr>
<tr>
<td>524005</td>
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<td>for 524500</td>
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<tr>
<td>524006</td>
<td>1&quot;</td>
<td>for 524600</td>
<td>1</td>
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<tr>
<td>524007</td>
<td>1 1/4&quot;</td>
<td>for 524700</td>
<td>1</td>
</tr>
<tr>
<td>524008</td>
<td>1 1/2&quot;</td>
<td>for 524800</td>
<td>1</td>
</tr>
<tr>
<td>524009</td>
<td>2&quot;</td>
<td>for 524900</td>
<td>1</td>
</tr>
</tbody>
</table>

Application diagram of mixing valve 524 series
HYBRID ELECTRONIC MIXING VALVE

6000 LEGIOMIX® 2.0

Hybrid electronic mixing valve.
Complete with:
- hybrid mixing valve with motorised actuator
- electronic regulator with programming of temperature levels and thermal disinfection cycles, built into the actuator casing
- integrated flow temperature probe
- circuit return temperature probe
- flow temperature gauge.
Fitted for data saving function (optional), with recording of temperatures and functional parameters.
Fitted for connection to remote control system (optional).
CR dezincification resistant alloy body.
Electric supply: 230 V - 50/60 Hz.
Max working pressure: 10 bar.
Max. inlet temperature: 90 °C.
Disinfection temperature range: 50–85 °C.
Adjustment temperature range in mixing mode: 35–65 °C.
Max. inlet temperature: 90 °C.
Max working pressure: 10 bar.
Electric supply: 230 V - 50/60 Hz.
dezincification resistant alloy body.

Operating principle

The electronic hybrid mixing valve combines the typical function of the mechanical thermostatic mixing valve and the management efficiency of an electronic mixing valve in a single device.
The thermostatic mixing valve uses the mechanical action performed by the internal control thermostatic element, which responds promptly to any variation in temperature, pressure and inlet flow rate to quickly restore the mixed water temperature value at the outlet.
Fast and accurate temperature control guaranteed, indispensable for use in domestic hot water distribution circuits.
This basic mixer is effectively managed by a motor-controlled actuator that, based on a signal coming from the temperature probes and under the control of a specific regulator, modifies the set point temperature of the mixed water. The latter is monitored continuously by means of temperature probes, which indicate the operation status of the domestic water circuit.
The electronic regulator, directly on the actuator, allows the mixed water temperature control according to different functional programs, both for normal control and for the thermal disinfection for the prevention of Legionella. This phase can be controlled and checked automatically in terms of temperatures and disinfection times, for optimal system management.
An optional memory system allows continuous recording of flow temperature, return temperature, alarm and functional statuses, useful for monitoring the operating status of the entire system.
Appropriate relays are used to manage the alarms and external appliances, for example for loading accumulation hot water and switching on/off the recirculation pump.
The regulator is fitted for remote control with specific MODBUS-RTU transmission protocols, through optional board, for use in Building Management Systems (BMS).

Characteristic components
1 Digital regulator with actuator in single casing
2 Control knob and LCD display
3 Fitted for cable seals and cable glands, with holes
4 Valve body
5 Mixed water temperature probe
6 Mixed water temperature gauge
7 System return temperature probe

Spare parts for electronic mixing valve 6000 series, LEGIOMIX® 2.0.

<table>
<thead>
<tr>
<th>Code</th>
<th>Body DN</th>
<th>Conn.</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>600045 EST</td>
<td>15</td>
<td>1/2&quot;</td>
<td>4,3</td>
</tr>
<tr>
<td>600055 EST</td>
<td>20</td>
<td>3/4&quot;</td>
<td>4,3</td>
</tr>
<tr>
<td>600065 EST</td>
<td>25</td>
<td>1”</td>
<td>7,6</td>
</tr>
<tr>
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<td>32</td>
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<td>10,0</td>
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<tr>
<td>600085 EST</td>
<td>40</td>
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<td>13,0</td>
</tr>
<tr>
<td>600095 EST</td>
<td>50</td>
<td>2”</td>
<td>18,0</td>
</tr>
</tbody>
</table>

Spare parts for electronic mixing valve 6000 series, LEGIOMIX® 2.0.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F69807</td>
<td>mixed water probe for 1/2”–2”</td>
</tr>
<tr>
<td>F69591</td>
<td>recirculation probe for check on disinfection</td>
</tr>
<tr>
<td>F69531</td>
<td>contact probe holder for check on disinfection</td>
</tr>
<tr>
<td>F29571</td>
<td>temperature gauge 0–120 °C</td>
</tr>
<tr>
<td>F0000970</td>
<td>digital regulator with actuator for DN 15-DN 20</td>
</tr>
<tr>
<td>F0000971</td>
<td>digital regulator with actuator for DN 25–DN 50</td>
</tr>
</tbody>
</table>

Code
F0000964 body without unions for DN 15
F0000965 body without unions for DN 20
F0000966 body without unions for DN 25
F0000967 body without unions for DN 32
F0000968 body without unions for DN 40
F0000969 body without unions for DN 50
ACCESSORIES FOR HYBRID ELECTRONIC MIXING VALVE

**Code 600001**  
Optional board MODBUS-RTU transmission and logs  
By installing the board on the device, it will be possible to manage the device through a specific MODBUS-RTU transmission protocol for use in Building Management Systems (BMS). The package includes the optional board, main board connection cable and logs.

**Code 600002**  
RS-485 USB cable and Caleffi Software  
Using the cable with RS-485 USB interface and the Caleffi Software included in the package, it is possible to manage the device from PC. The two Software are used to manage the mixing valves LEGIOMIX® 24 V and LEGIOMIX® 2.0.

### Application diagram of electronic mixing valve 6000 EST LEGIOMIX® 2.0 series

![Application diagram of electronic mixing valve 6000 EST LEGIOMIX® 2.0 series](image)
ELECTRONIC MIXING VALVE WITH THERMAL DISINFECTION - 230 V

6000 LEGIOMIX®
Electronic mixing valve with programmable thermal disinfection and check on disinfection. Male threaded connections with union. Consisting of:
- three-way ball valve,
- actuator,
- regulator,
- flow temperature probe,
- return temperature probe.
With auxiliary microswitches for disinfection management and other devices. Suitable for remote control connection with interface code 600100 and proprietary protocol.
Electric supply: 230 V - 50/60 Hz - (6,5+6) VA.
Max. working pressure: 10 bar.
Max. inlet temperature: 100 °C.
Adjustment temperature range: 20–85 °C.
Disinfection temperature range: 40–85 °C.
Protection class: IP 65 (actuator).
PATENT.

Function
This particular series of electronic mixing valves is equipped with a special regulator that controls a set of programs for circuit thermal disinfection. In addition it enables checking the temperature and time for thermal disinfection are actually reached and undertaking the appropriate corrective action. All the parameters are updated every day and logged, recording the temperatures by time.

Spare parts for mixing valve. Consisting of:
- three-way ball valve,
- actuator,
- flow temperature probe,
- temperature gauge,
- holder accessories fitting.

Code
600251 for code 600051
600261 for code 600061
600271 for code 600071
600281 for code 600081
600291 for code 600091

Code
645112 actuator 230 V (AC) for 600051–600091
F69798 valve body without unions and probe holder for 3/4”
F69799 valve body without unions and probe holder for 1”
F69801 valve body without unions and probe holder for 1 1/4”
F69803 valve body without unions and probe holder for 1 1/2”-2”
F69807 flow probe for 3/4”-1”-1 1/4”
F69804 flow probe for 1 1/2”-2”
F69591 recirculation probe for check on disinfection
F69531 contact probe holder for recirculation loop
F69433 regulator with check on disinfection
R19101 temperature gauge 0–80 °C
F69752 electronic board
F69888 spare battery

ANTI-SCALD DEVICE


Function
The purpose of the anti-scald device is to cut off the flow of water if its temperature reaches the setting value. Designed to be used in domestic hot water systems with electronic mixing valves with programmable thermal disinfection. Installed directly at the point of use, it prevents the hot water from scalding the user during the thermal disinfection period (T>50 °C).

Code
600140 1/2” 1 10
**6000 LEGIOMIX®**

Electronic mixing valve with programmable thermal disinfection and check on disinfection. Flanged connection PN 16. Consisting of:
- three-way ball valve,
- actuator,
- regulator,
- flow temperature probe,
- return temperature probe.

With auxiliary microswitches for disinfection management and other devices. Suitable for remote control connection with interface code 600100 and proprietary protocol.

Electric supply: 230 V - 50/60 Hz - (6.5+10.5) VA.

Max. working pressure: 10 bar.

Max. inlet temperature: 100 °C.

Adjustment temperature range: 20–85 °C.

Disinfection temperature range: 40–80 °C.

To be coupled with counterflanges EN 1092-1.

Protection class: IP 65 (actuator).

**6001 LEGIOMIX® interface**

LEGIOMIX® interface for local or remote transmission and management of the electronic mixing valve 6000 series. Complete with:
- RS232 interface-computer connection cable,
- LEGIOMIX® interface connection cable with telephone connector,
- USB/serial adaptor,
- transmission and management software.

Supply: 230 V - 50 Hz - 5 VA.

Dimensions: 165 x 120 x 40 mm.

---

**Application diagram of electronic mixing valve 6000 series**
**NEW**

**6000 LEGIOMIX®**

Electronic mixing valve with programmable thermal disinfection and check on disinfection. Male threaded connections with union.

Consisting of:
- three-way ball valve,
- actuator,
- regulator,
- flow temperature probe,
- return temperature probe.

With auxiliary microswitches for disinfection management and other devices. Fitted for remote control connection with RS-485 and MODBUS-RTU protocols.

Electric supply: 24 V - 50/60 Hz - (6,5+6) VA.
Max. working pressure: 10 bar.
Max. inlet temperature: 100 °C.
Adjustment temperature range: 20–85 °C.
Disinfection temperature range: 40–85 °C.
Protection class: IP 65 (actuator).

**Function**

This particular series of electronic mixing valves is equipped with a special regulator that controls a set of programs for circuit thermal disinfection. In addition it enables checking the temperature and time for thermal disinfection are actually reached and undertaking the appropriate corrective action. All the parameters are updated every day and logged, recording the temperatures by time.

**Spare parts for electronic mixing valve with programmable thermal disinfection 6000 series with threaded connections, 24 V.**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
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<tbody>
<tr>
<td>645114</td>
<td>actuator 24 V (AC) for 600054–600094</td>
</tr>
<tr>
<td>F69798</td>
<td>valve body without unions and probe holder for 3/4&quot;</td>
</tr>
<tr>
<td>F69799</td>
<td>valve body without unions and probe holder for 1&quot;</td>
</tr>
<tr>
<td>F69801</td>
<td>valve body without unions and probe holder for 1 1/4&quot;</td>
</tr>
<tr>
<td>F69803</td>
<td>valve body without unions and probe holder for 1 1/2&quot;-2&quot;</td>
</tr>
<tr>
<td>F69807</td>
<td>flow probe for 3/4&quot;, 1&quot;-1 1/4&quot;</td>
</tr>
<tr>
<td>F69804</td>
<td>flow probe for 1 1/2&quot;-2&quot;</td>
</tr>
<tr>
<td>F69591</td>
<td>recirculation probe for check on disinfection</td>
</tr>
<tr>
<td>F69531</td>
<td>contact probe holder for recirculation loop</td>
</tr>
<tr>
<td>F0000961</td>
<td>regulator with check on disinfection</td>
</tr>
<tr>
<td>R19101</td>
<td>temperature gauge 0-80 °C</td>
</tr>
<tr>
<td>F69888</td>
<td>spare battery</td>
</tr>
</tbody>
</table>

**Kv (m³/h)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
<th>3/4&quot;</th>
<th>1&quot;</th>
<th>1 1/4&quot;</th>
<th>1 1/2&quot;</th>
<th>2&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>600054</td>
<td>3/4&quot;</td>
<td>8.4</td>
<td>-</td>
<td>1 1/4&quot;</td>
<td>-</td>
<td>-</td>
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<tr>
<td>600064</td>
<td>1&quot;</td>
<td>10.6</td>
<td>-</td>
<td>-</td>
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</tr>
<tr>
<td>600074</td>
<td>1 1/4&quot;</td>
<td>21.2</td>
<td>-</td>
<td>-</td>
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<td>-</td>
</tr>
<tr>
<td>600084</td>
<td>1 1/2&quot;</td>
<td>32.5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>600094</td>
<td>2&quot;</td>
<td>41.0</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
6000 
LEGIOMIX®

Electronic mixing valve with programmable thermal disinfection and check on disinfection. Flanged connection PN 16. Consisting of:
- three-way ball valve,
- actuator,
- regulator,
- flow temperature probe,
- return temperature probe.
Fitted for remote control connection with RS-485 and MODBUS-RTU protocols.
Electric supply: 24 V - 50/60 Hz - (6,5+10,5) VA.
Max. working pressure: 10 bar.
Max. inlet temperature: 100 °C.
Adjustment temperature range: 20–85 °C.
Disinfection temperature range: 40–85 °C.
To be coupled with counterflanges EN 1092-1.
Protection class: IP 65 (actuator).

7550
MODBUS-RTU/BACnet converter for connection with BMS systems.
Interface for products with MODBUS-RTU transmission with systems using BACnet protocol.
Supply: 9–30 V (dc), 12–24 V (AC), 50/60 Hz
2,5 W / a 12 V 150 mA.
Certification: CE, IEC, FCC, RHOS.
Inputs/Outputs:
Ethernet port 10/100
RS-485 port + / - / GND.
Working temperature: -40–75 °C.
Relative humidity: 5–90 % without condensation.
The converter is preconfigured for use with the following products:
- LEGIOMIX® 6000 series (for MODBUS-RTU version)
- LEGIOMIX® 2.0 6000 EST series
- CONTECA EASY 750 series.
LEGIOFLOW®

Multi-function compact unit for temperature control, thermal disinfection and distribution for domestic water system. Consisting of:
- anti-scald thermostatic mixing valve,
- automatic flushing valve for thermal disinfection with thermo-electric actuator,
- shut-off ball valve with built-in strainers and check valves,
- cold water circuit outlet kit.

Inlet connections: 3/4” M with union.
Outlet connections: 3/4” M with union.

*With thermo-electric actuator*

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Kv (m³/h) mixing valve</th>
<th>Kv (m³/h) flushing valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>600500</td>
<td>3/4”</td>
<td>1,75</td>
<td>1,80</td>
</tr>
</tbody>
</table>

*Without thermo-electric actuator*

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Kv (m³/h) mixing valve</th>
<th>Kv (m³/h) flushing valve</th>
</tr>
</thead>
<tbody>
<tr>
<td>600501</td>
<td>3/4”</td>
<td>1,75</td>
<td>1,80</td>
</tr>
</tbody>
</table>

Version without cold water circuit outlet kit.
For applications with push button or photo-cell activated user taps.

**Mixing valve**

 dezincification resistant alloy body.
Max. working pressure: 10 bar.
Adjustment temperature range: 30–50 °C.
Factory setting: 43 °C.
Max. inlet temperature at primary circuit: 85 °C.
Performance to standards NF 079 doc. 8, EN 1111 and EN 1287.

**Thermo-electric actuator**

 Normally closed.
Supply: 230 V (AC).
Power consumption: 3 W.
Protection class: IP 44.
Cable length: 80 cm.

**Distribution manifolds**

 dezincification resistant alloy body.
Max. working pressure: 10 bar.
Working temperature range: 5–100 °C.
Outlet centre distance: 35 mm.

**With thermo-electric actuator**

<table>
<thead>
<tr>
<th>Code</th>
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<th>Outlets No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
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<td>3/4”</td>
<td>3,2</td>
<td>23 p.1,5 M</td>
</tr>
<tr>
<td>600540</td>
<td>3/4”</td>
<td>4,3</td>
<td>23 p.1,5 M</td>
</tr>
<tr>
<td>600550</td>
<td>3/4”</td>
<td>5,4</td>
<td>23 p.1,5 M</td>
</tr>
</tbody>
</table>

**Without thermo-electric actuator**

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlets No.</th>
<th>Outlets</th>
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</thead>
<tbody>
<tr>
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<td>3/4”</td>
<td>3,2</td>
<td>23 p.1,5 M</td>
</tr>
<tr>
<td>600541</td>
<td>3/4”</td>
<td>4,3</td>
<td>23 p.1,5 M</td>
</tr>
<tr>
<td>600551</td>
<td>3/4”</td>
<td>5,4</td>
<td>23 p.1,5 M</td>
</tr>
</tbody>
</table>
UNIT FOR TEMPERATURE CONTROL AND THERMAL DISINFECTION

Thermal disinfection
To be more certain that there is no growth of Legionella, all sections of the network must be subjected to thermal disinfection. Even in the section downstream of the mixing valve, as far as the user tap, it must be possible to flush the system at temperatures exceeding 60 °C. This means by-passing the thermostatic mixing valve, which is set at lower values, and activating another valve that allows the taps to be fed directly with the hot water arriving from the distribution network.

Function
The multi-function unit is used in domestic water systems to control the hot and cold water delivered to user taps, serving a bathroom or a dwelling. A high-performance adjustable thermostatic mixing valve keeps the hot water temperature at the desired level and protects the user from the danger of scalding. A flushing valve is used for the circuit thermal disinfection all the way to the tap, in compliance with anti-Legionella regulations.

Hydraulic diagram
With mixing
- Flushing valve closed
- Cold water valve open
With thermal disinfection
- Flushing valve open
- Cold water valve closed

 application diagram multi-function unit code 600550

TIMER FOR VALVE OPERATION

6002
Timer with programmable key, settings from 0.25 to 15 minutes. To operate the valves used to carry out thermal disinfection of circuit sections, up to the taps. Supply: 230 V (AC).
Multi-Function Thermostatic Regulator 116 series

Function

In domestic hot water distribution circuits, to respect modern plant requirements for the prevention of Legionnaires' disease, it is essential to ensure that all sections are kept at the correct temperature. The recirculation network must be balanced, to avoid non-uniform temperature distribution, with cold sections at risk of Legionella proliferation.

The thermostatic regulator, installed on each return branch of the recirculation circuit, automatically maintains the set temperature. This device modulates the medium flow rate in accordance with the water inlet temperature by means of the action of a dedicated internal thermostatic cartridge. When the water temperature approaches the set value, the obturator progressively reduces the passage. The medium flow rate supplied by the recirculation pump is thus distributed to the other network branches, resulting in effective automatic thermal balancing.

If necessary, the regulator is already equipped with a thermal disinfection function, which is useful if the system temperature is to be increased to values over 55–60 °C. This function can be completely automatic, activated by a dedicated second thermostatic cartridge that trips at 70 °C, or controlled with a thermo-electric actuator.

Cartridge replacement for electrically controlled disinfection

Insulation for 1/2" and 3/4" multifunction thermostatic regulator 116 series.

Application diagram of thermostatic regulator 116 series

Accessory temperature gauge for thermostatic regulators 116 series. Temperature gauge scale: 0–80 °C.

---

**116**

Thermostatic regulator for domestic hot water recirculation circuits. Complete with automatic thermostatic thermal disinfection function.

- With temperature gauge for circuit temperature check.
- CR dezincification resistant alloy body “LOW LEAD”.
- Female connections.
- Max. working pressure: 16 bar.
- Adjustment temperature range: 35–60 °C.
- Disinfection temperature: 70°C.

**Function**

In domestic hot water distribution circuits, to respect modern plant requirements for the prevention of Legionnaires’ disease, it is essential to ensure that all sections are kept at the correct temperature. The recirculation network must be balanced, to avoid non-uniform temperature distribution, with cold sections at risk of Legionella proliferation.

The thermostatic regulator, installed on each return branch of the recirculation circuit, automatically maintains the set temperature. This device modulates the medium flow rate in accordance with the water inlet temperature by means of the action of a dedicated internal thermostatic cartridge. When the water temperature approaches the set value, the obturator progressively reduces the passage. The medium flow rate supplied by the recirculation pump is thus distributed to the other network branches, resulting in effective automatic thermal balancing.

If necessary, the regulator is already equipped with a thermal disinfection function, which is useful if the system temperature is to be increased to values over 55–60 °C. This function can be completely automatic, activated by a dedicated second thermostatic cartridge that trips at 70 °C, or controlled with a thermo-electric actuator.

**Cartridge replacement for electrically controlled disinfection**

Insulation for 1/2" and 3/4" multifunction thermostatic regulator 116 series.

**Application diagram of thermostatic regulator 116 series**

**Accessory temperature gauge** for thermostatic regulators 116 series. Temperature gauge scale: 0–80 °C.
MULTI-FUNCTION THERMOSTATIC REGULATOR

Operating modes
Here following the regulator’s operating modes according to the variation of the water temperature of the circuit it is installed on.

Diagram of thermostatic regulator 116 series

Key:
A Thermostatic regulator
B Thermostatic regulator with automatic thermostatic disinfection function
C Thermostatic regulator with disinfection function controlled by an actuator

Minimum flow rate
Thermostatic adjustment
Thermostatic disinfection
Thermal closing
Electrically controlled disinfection

116

116
Thermostatic regulator for domestic hot water recirculation circuits. Fitted for automatic or controlled thermal disinfection function. With temperature gauge. dezincification resistant alloy body “LOW LEAD”. Female connections. Max. working pressure: 16 bar. Adjustment temperature range: 40–65 °C.

<table>
<thead>
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<tr>
<td>116250 AUS</td>
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<td>3/4&quot;</td>
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</table>

<table>
<thead>
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<td>116140 AUS</td>
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<td>1/2&quot;</td>
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<tr>
<td>116150 AUS</td>
<td>20</td>
<td>3/4&quot;</td>
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</table>
THERMOSTATIC REGULATOR FOR DOMESTIC HOT WATER RECIRCULATION CIRCUITS

Operating principle

The thermostatic regulator, installed on each branch of the recirculation circuit, automatically maintains the set temperature. This device modulates the medium flow rate in accordance with the water inlet temperature by means of the action of a dedicated internal thermostatic cartridge. When the water temperature approaches the set value, the obturator progressively reduces the passage.

This specific version of the regulator has one single cartridge which allows the adjustment of the set temperature up to 65 °C. This device can be used in cases where the temperature of the hot water network is constantly distributed at higher values, without the need to perform extra thermal disinfection.

Hydraulic characteristics

The graph shows the variation of the Kv value depending on the device configuration and on the inlet temperature of the domestic water.

Hydraulic characteristic graph:

1. Thermostatic regulation
2. Minimum flow rate

116 tech. broch. 01362
Thermostatic regulator for domestic hot water recirculation circuits. With temperature gauge for circuit temperature check.
- dezincification resistant alloy body “LOW LEAD”.
- Female connections.
- Max. working pressure: 16 bar.
- Adjustment temperature range: 40–65 °C.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>116441</td>
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<td>116451</td>
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</table>

116 tech. broch. 01362
Thermostatic regulator for domestic hot water recirculation circuits. With pocket for temperature gauge. dezincification resistant alloy body “LOW LEAD”.
- Female connections.
- Max. working pressure: 16 bar.
- Adjustment temperature range: 40–65 °C.

<table>
<thead>
<tr>
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<tbody>
<tr>
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<td>116450</td>
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<td>Rp 3/4”</td>
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</table>

116 tech. broch. 01362
Thermostatic regulator for domestic hot water recirculation circuits. With pocket for temperature gauge. dezincification resistant alloy body “LOW LEAD”.
- Compression fittings connections.
- Max. working pressure: 16 bar.
- Adjustment temperature range: 40–65 °C.

<table>
<thead>
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<td>116415</td>
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<td>Ø 15</td>
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<tr>
<td>116420</td>
<td>20</td>
<td>Ø 22</td>
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</table>

116 tech. broch. 01325
Accessory temperature gauge for thermostatic regulators 116 series. Temperature gauge scale: 0–80 °C.

<table>
<thead>
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<tbody>
<tr>
<td>116010</td>
<td>1 20</td>
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</table>
MANIFOLDS FOR DOMESTIC WATER SYSTEMS

This diagram is just an indication

Distribution manifolds with individual shut-off valves
Distribution manifolds with main shut-off valves
Unit with main shut-off valves
359 Domestic water distribution manifolds pre-assembled in boxes with individual shut-off valves.
Brass body.
Max. working pressure: 10 bar.
Temperature range: 5–90 °C.
Outlet centre distance: 35 mm.
Consisting of:
- pair of manifolds with shut-off knobs;
- box for manifolds (270 x 190 x 80 mm) complete with manifold supports and fixing brackets;
- protection cover for installation;
- 2 end fitting plugs with fixing clips.
PATENT PENDING.

Specifications
Manifolds 359 series are used to control and distribute the medium in domestic water circuits. They are supplied already assembled in a plastic inspection box to facilitate positioning and installation. The manifolds are equipped with shut-off valves with handwheels for each individual circuit, and labels summarising the utilities served.

Application diagram
DISTRIBUTION MANIFOLDS WITH INDIVIDUAL SHUT-OFF VALVES

Box installation procedure

The first step is to embed the wall-mounting box and fasten it with the brackets provided. Once the box has been embedded, connect the pipes to the manifold using the fixing clips. Use the protection cover before plastering the walls. Remove the protection cover when this step is complete. The box will then be aligned with the wall surface.

Installation procedure for the recessed door with push-to-open frame

Fasten the door frame to the box and set its depth with the adjustment screws to align it with the wall surface. Plaster or tile the door to make it uniform with the wall.

Installation procedure for the aesthetic cover plate

To install the cover plate, fasten the support plate to the box. Fasten the plate to the support plate.

Individual shut-off cartridge

The special cartridge designed to shut off the 359 series manifold outlets has a double sealing gasket to provide high long-term operating reliability. The materials used in its construction offer a low opening/closing torque and significantly reduce jamming problems due to limescale. When required, the cartridge can be replaced simply by extracting it from the front of the manifold and inserting the replacement one.

Possible manifold configurations

Installation with T joint for recirculation circuit.

Installation with T joint for recirculation circuit and with through outlet.
359
Domestic water distribution manifolds pre-assembled in boxes with main shut-off valves.
Brass body.
Max. working pressure: 10 bar.
Temperature range: 5–90 °C.
Outlet centre distance: 35 mm.
Consisting of:
- pair of manifolds;
- box for manifolds (270 x 190 x 80 mm) complete with manifold supports and fixing brackets;
- cover;
- 4 plugs with fixing clip.
PATENT PENDING.

359
Specifications
Manifolds 359 series are used to control and distribute the medium in domestic water circuits. They are supplied already assembled in a plastic inspection box to facilitate positioning and installation. The manifolds have main shut-off valves on the hot and cold inlets.

359
Plate with hidden knobs.
High chrome finish.

359
Application diagram
The push-to-open system allows the knob to be hidden, so that the look of the room is not compromised. Just press it to extract it and open or close the shut-off valves.
DISTRIBUTION MANIFOLDS WITH MAIN SHUT-OFF VALVES

Box installation procedure
The first step is to embed the wall-mounting box and fasten it with the brackets provided. Once the box has been embedded, connect the pipes to the manifold using the fixing clips.

Refit the protection cover before plastering the walls. Use the adjustment screws to ensure that the mask is aligned with the finished wall surface.

Plaster the walls up to the level of the protection mask.

Main shut-off cartridge
The special cartridge designed to shut off the 359 series manifold has a double sealing gasket to provide high long-term operating reliability. The materials used in its construction offer a low opening/closing torque and significantly reduce jamming problems due to limescale. When required, the cartridge can be replaced simply by extracting it from the front of the manifold and inserting the replacement one.

Installation procedure for the finishing plate
Remove the protection mask from the shut-off valves and use the built-in template to cut the stems so that the knobs are aligned correctly.

Fasten the knobs with the fixing screws and press fit the chrome plated covers.

Fit the finishing plate.

Possible manifold configurations
Installation with side inlet and recirculation circuit at the bottom. T joint for additional outlet and through outlet.

Installation with inlet at the bottom and recirculation at the side. T joint for additional outlet and through outlet.
UNIT WITH MAIN SHUT-OFF VALVES

359
Unit with main shut-off valves.
Brass body.
Max. working pressure: 10 bar.
Temperature range: 5–90 °C.
Consisting of:
- valves unit;
- box for manifolds (190 x 190 x 80) complete with manifold supports and fixing brackets;
- cover;
- 4 plugs with fixing clip.

Specifications
The 359 series units with main shut-off valves are used to control and shut off the medium in domestic water circuits. They are supplied already assembled in a plastic inspection box to facilitate positioning and installation. The units have main shut-off valves on the inlets.

359
Plate with hidden knobs. High chrome finish.

Possible manifold configurations
Installation with horizontal pipes.
Installation with pipes form below.

L-shaped installation with recirculation circuit.
L-shaped installation with hot and cold water recirculation extension T and through joint.

Application diagram
Distribution with T connections

Code
359001
359002
359024
359064
Tee with hidden knobs.
Blind plug with hidden knobs.
Ø 16x2 pressfitting.
Ø 20x2 pressfitting.

Code
359100*
359002
Desincification resistant alloy body "LOW LEAD" available on request with the code extension: 001.
UNIT WITH MAIN SHUT-OFF VALVES

Box installation procedure

The first step is to embed the wall-mounting box and fasten it with the brackets provided. Once the box has been embedded, connect the pipes to the manifold using the fixing clips.

Refit the protection cover before plastering the walls. Use the adjustment screws to ensure that the mask is aligned with the finished wall surface.

Plaster the walls up to the level of the protection mask.

Installation procedure for the finishing plate

Remove the protection mask from the shut-off valves and use the built-in template to cut the stems so that the knobs are aligned correctly.

Fasten the knobs with the fixing screws and press fit the chrome plated covers.

Fit the finishing plate.

Application diagrams

Flow through loop distribution

Flow through distribution with flushing point

Hot and cold water recirculation
### ACCESSORIES FOR MANIFOLDS 359 SERIES

**359**
- Tee with fixing clip.
- Brass body.
- Max. working pressure: 10 bar.
- Temperature range: 5–90 °C.

**359**
- Blind plug with fixing clip.
- Technopolymer body.

*dezincification resistant alloy body “LOW LEAD” available on request with the code extension: 001.

<table>
<thead>
<tr>
<th>Code</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359001*</td>
<td></td>
<td>Tee with fixing clip. Brass body. Max. working pressure: 10 bar. Temperature range: 5–90 °C.</td>
</tr>
<tr>
<td>359002</td>
<td></td>
<td>Blind plug with fixing clip. Technopolymer body.</td>
</tr>
</tbody>
</table>

### SPARE PARTS FOR MANIFOLDS 359 SERIES

**359**
- Manifold with individual shut-off valves (blue knobs).

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359240*</td>
<td>4</td>
<td>Manifold with individual shut-off valves (blue knobs).</td>
</tr>
<tr>
<td>359250*</td>
<td>5</td>
<td>Manifold with individual shut-off valves (blue knobs).</td>
</tr>
</tbody>
</table>

**359**
- Manifold with individual shut-off valves (red knobs).

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359330*</td>
<td>3</td>
<td>Manifold with individual shut-off valves (red knobs).</td>
</tr>
<tr>
<td>359340*</td>
<td>4</td>
<td>Manifold with individual shut-off valves (red knobs).</td>
</tr>
</tbody>
</table>

**359**
- Manifold with main shut-off valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359630*</td>
<td>3</td>
<td>Manifold with main shut-off valve.</td>
</tr>
<tr>
<td>359640*</td>
<td>4</td>
<td>Manifold with main shut-off valve.</td>
</tr>
</tbody>
</table>

**359**
- Unit with main shut-off valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359101*</td>
<td>Unit with main shut-off valve.</td>
</tr>
</tbody>
</table>

**359**
- Fixing clip.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359007</td>
<td>Fixing clip.</td>
</tr>
</tbody>
</table>

### SPARE PARTS FOR MANIFOLDS 359 SERIES

**359**
- Individual shut-off valves cartridge.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F001305</td>
<td>Individual shut-off valves cartridge.</td>
</tr>
</tbody>
</table>

**359**
- Main shut-off valves cartridge.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F001306</td>
<td>Main shut-off valves cartridge.</td>
</tr>
</tbody>
</table>

**359**
- Spare protection cover.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359010</td>
<td>Spare protection cover.</td>
</tr>
</tbody>
</table>

**359**
- Box bottom.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>359011</td>
<td>Box bottom.</td>
</tr>
<tr>
<td>359012</td>
<td>Box bottom.</td>
</tr>
<tr>
<td>359013</td>
<td>Box bottom.</td>
</tr>
<tr>
<td>359014</td>
<td>Box bottom.</td>
</tr>
</tbody>
</table>

---

*LOW LEAD* dezincification resistant alloy body available on request with the code extension: 001.
PRESS FITTING FOR MANIFOLDS 359 SERIES

359
Multi-crimp tool pressfittings for multilayer pipes with fixing clips. dezincification resistant alloy body “LOW LEAD”. Max. working pressure: 10 bar. Temperature range: 5–90 °C.
Can be used with H - TH - U profile crimp tool.

679
Calibrator and handle to adjust multilayer pipes diameter before use with fittings 359 series.

Multilayer pipe calibration and installation of fitting 359 series
After calibrating the pipe with the calibrator, fit the pipe onto the fitting, taking care to insert it as far as it will go. Check the pipe position through the peepholes.
Crimp the pipe with the crimp tool until it clicks automatically.

Insert the pipe complete with fitting into the seat on the manifold. Fasten it with the dedicated fixing clip.
**PRE-ASSEMBLED DISTRIBUTION MANIFOLDS**

### 360
Domestic water distribution manifolds pre-assembled in inspection wall box.
- dezincification resistant alloy body.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.
- Outlet centre distance: 35 mm.
Consisting of:
- pair of manifolds 354 series;
- pair of stainless steel mounting brackets, code 360210;
- inspection wall box code 360032 (320 x 250 x 90), with cover.

### 354
Modular single distribution manifold with shut-off valve.
- dezincification resistant alloy body.
- Max. working pressure: 10 bar.
- Temperature range: 5–100 °C.
- Outlet centre distance: 35 mm.

<table>
<thead>
<tr>
<th>Code</th>
<th>Connections</th>
<th>Outlets No.</th>
<th>Outlets</th>
</tr>
</thead>
<tbody>
<tr>
<td>354052</td>
<td>3/4&quot;</td>
<td>2</td>
<td>23 p.1,5 M</td>
</tr>
<tr>
<td>354053</td>
<td>3/4&quot;</td>
<td>3</td>
<td>23 p.1,5 M</td>
</tr>
<tr>
<td>354054</td>
<td>3/4&quot;</td>
<td>4</td>
<td>23 p.1,5 M</td>
</tr>
<tr>
<td>354055</td>
<td>3/4&quot;</td>
<td>5</td>
<td>23 p.1,5 M</td>
</tr>
</tbody>
</table>

### 360
Pair of stainless steel mounting brackets for manifolds 354 series. For inspection box 360 and 362 series.

| Code    |  |
|---------|  |
| 360210  | 1 10 |

### 3642
End fitting. For distribution manifolds 360 series.

| Code    |  |
|---------|  |
| 364254  | 3/4" M x 1/2" F |

### 3641
Plug. For distribution manifolds 360 series.

| Code    |  |
|---------|  |
| 364150  | 3/4" M |

### 5991
End fitting. For distribution manifolds 360 series.

| Code    |  |
|---------|  |
| 599154  | 3/4" F x 1/2" F |

### 5993
Plug. For distribution manifolds 360 series.

| Code    |  |
|---------|  |
| 599350  | 3/4" F |

---

**Example of distribution composition**
Expansion groups hot water storage heaters  
Hydraulic safety groups  
Temperature and pressure relief valves  
Expansion vessels  
Flow limiter  
Housing and strainer cartridges  
Water hammer arresters  
Ball valves with built-in check valve, BALLSTOP  
Single and double check valves  
Anti-freeze safety device
EXPANSION GROUPS FOR HOT WATER STORAGE HEATERS

528
Expansion group for hot water storage heaters, for horizontal or vertical installation. Brass body and expansion relief valve. With shut-off valve and controllable check valve. Max. working pressure: 10 bar. Max. working temperature: 40 °C. Settings: 7, 8, 10 bar. Certified to EN 1488.

<table>
<thead>
<tr>
<th>Code</th>
<th>Ø</th>
<th>Pressure</th>
<th>1</th>
<th>20</th>
</tr>
</thead>
<tbody>
<tr>
<td>528518</td>
<td>15</td>
<td>8 bar</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>528547</td>
<td>1/2&quot;</td>
<td>7 bar</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>528548</td>
<td>1/2&quot;</td>
<td>8 bar</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>528540</td>
<td>1/2&quot;</td>
<td>10 bar</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

Application diagram 528 series

5280 SICAL®
Expansion group for hot water storage heaters, for horizontal or vertical installation. Brass body and expansion relief valve. With shut-off cock and controllable check valve. With insulation. Max. working pressure: 10 bar. Max. working temperature: 40 °C. Max. volume of domestic water storage: 200 l. Max. power of domestic water storage: 75 kW. Certified to EN 1488.

<table>
<thead>
<tr>
<th>Code</th>
<th>1/2&quot; M</th>
<th>Pressure</th>
<th>1</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>528046</td>
<td>1/2&quot; M</td>
<td>6 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528048</td>
<td>1/2&quot; M</td>
<td>8 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528041</td>
<td>1/2&quot; M</td>
<td>10 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528056</td>
<td>3/4&quot; M</td>
<td>6 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528058</td>
<td>3/4&quot; M</td>
<td>8 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528051</td>
<td>3/4&quot; M</td>
<td>10 bar</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>

5281 SICAL®
Expansion group for hot water storage heaters, for horizontal or vertical installation. Brass body and expansion relief valve. With shut-off cock and controllable check valve. With insulation. Max. working pressure: 10 bar. Max. working temperature: 40 °C. Max. volume of domestic water storage: 1000 l. Max. power of domestic water storage: 150 kW. Settings: 6, 8, 10 bar. Certified to EN 1488.

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4&quot; M</th>
<th>Pressure</th>
<th>1</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>528156</td>
<td>3/4&quot; M</td>
<td>6 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528158</td>
<td>3/4&quot; M</td>
<td>8 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528151</td>
<td>3/4&quot; M</td>
<td>10 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528166</td>
<td>1&quot; M</td>
<td>6 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528168</td>
<td>1&quot; M</td>
<td>8 bar</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>528161</td>
<td>1&quot; M</td>
<td>10 bar</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
HYDRAULIC SAFETY GROUPS FOR HOT WATER STORAGE HEATERS

5261  tech. broch. 01019
Hydraulic safety group for hot water storage heaters, with shut-off valve and controllable check valve. 
**With stainless steel seat.**
Brass body, Chrome plated.
Max. working pressure: 10 bar.
Max. working temperature: 120 °C.
Setting: 7 bar.
Max. power rating: 1/2" - 4 kW, 3/4" - 10 kW.
Certified to EN 1487.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>526142</td>
<td>1/2&quot;</td>
<td>1 30</td>
</tr>
<tr>
<td>526152</td>
<td>3/4&quot;</td>
<td>1 30</td>
</tr>
</tbody>
</table>

5261  tech. broch. 01019
Hydraulic safety group for hot water storage heaters, with shut-off valve and controllable check valve. 
Brass body, Chrome plated.
Max. working pressure: 10 bar.
Max. working temperature: 120 °C.
Setting: 7 bar.
Max. power rating: 3/4" - 10 kW, 1" - 18 kW.
Certified to EN 1487.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>526153</td>
<td>3/4&quot;</td>
<td>1  10</td>
</tr>
<tr>
<td>526163</td>
<td>1&quot;</td>
<td>1  10</td>
</tr>
</tbody>
</table>

319  tech. broch. 01019
Plastic discharge tundish for safety groups 5261 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>319601</td>
<td>1&quot;</td>
<td>1  25</td>
</tr>
</tbody>
</table>

6509  tech. broch. 01019
Connection kit for unit code 526163.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>650972</td>
<td>1 1/4&quot; F x 1&quot; M</td>
<td>1  25</td>
</tr>
</tbody>
</table>

Application diagram of safety group 5261 series

Application diagram of kit code 650972 with unit code 526163
SAFETY GROUP FOR HOT WATER STORAGE HEATERS

5265

Application diagram safety group 5265 series

TEMPERATURE AND PRESSURE RELIEF VALVES - EXPANSION VESSELS - FLOW LIMITER

309
Temperature and pressure relief valve. CR dezincification resistant alloy body. For domestic water system, to protect the hot water storage. Setting temperature: 90 °C. Discharge rating: 1/2” - 3/4” x Ø 15: 10 kW. 3/4” x Ø 22: 25 kW. Settings: 3 - 4 - 6 - 7 - 10 bar. Settings certified to EN 1490: 4 - 7 - 10 bar.

Code
309563 3/4" M x Ø 22

Code
309563

Probe length (mm)

100

1

20

Key to code

flow direction M  F = 1

flow direction F  M = 2

534
### EXPANSION VESSELS

#### 5557 tech. broch. 01079

<table>
<thead>
<tr>
<th>Code</th>
<th>Litres</th>
<th>Conn.</th>
<th>Precharge (bar)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>555702</td>
<td>2</td>
<td>1/2&quot;</td>
<td>2.5</td>
<td>4</td>
</tr>
<tr>
<td>555705</td>
<td>5</td>
<td>3/4&quot;</td>
<td>2.5</td>
<td>1</td>
</tr>
<tr>
<td>555708</td>
<td>8</td>
<td>3/4&quot;</td>
<td>2.5</td>
<td>1</td>
</tr>
</tbody>
</table>

For bigger capacity see page 248

### HOUSING AND STRAINER CARTRIDGES

#### 5370 tech. broch. 01028
Housing for strainer cartridges of standard nominal size 10". Brass body, transparent plastic housing. Max. working pressure: 16 bar. Temperature range: 5–40 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>537050</td>
<td>3/4&quot;</td>
<td>1</td>
</tr>
<tr>
<td>537060</td>
<td>1&quot;</td>
<td>1</td>
</tr>
</tbody>
</table>

### WATER HAMMER ARRESTERS

#### 525 ANTISHOCK tech. broch. 01020

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>525040*</td>
<td>1/2&quot;</td>
<td>1</td>
</tr>
<tr>
<td>525041**</td>
<td>yellow brass body</td>
<td>1</td>
</tr>
</tbody>
</table>

* Certified WRAS only
** Certified ACS only

#### 525 ANTISHOCK tech. broch. 01020
Water hammer arrester for fitting under sinks, wash-hand basins and washing machine (3/4"). Brass body. Chrome plated. Max. working pressure: 10 bar. Max. working temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>525130*</td>
<td>3/8&quot; F nut x 3/8&quot; M</td>
<td>1</td>
</tr>
<tr>
<td>525131**</td>
<td>yellow brass body</td>
<td>1</td>
</tr>
<tr>
<td>525150*</td>
<td>3/4&quot; F nut x 3/4&quot; M</td>
<td>1</td>
</tr>
<tr>
<td>525151**</td>
<td>yellow brass body</td>
<td>1</td>
</tr>
</tbody>
</table>

* Certified WRAS only
** Certified ACS only

#### Installation diagrams of water hammer arrester 525 series

![Installation diagrams](image-url)
**BALL VALVE WITH BUILT-IN CHECK VALVE**

### 3230 BALLSTOP  
**tech. broch. 01021**

Ball valve with built-in check valve.  
Brass body.  
Female connections.  
Butterfly handle.  
Max. working pressure: 16 bar.  
Temperature range: 5–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>323040</td>
<td>1/2&quot;</td>
<td>10</td>
</tr>
<tr>
<td>323050</td>
<td>3/4&quot;</td>
<td>10</td>
</tr>
</tbody>
</table>

### 333 BALLSTOP  
**tech. broch. 01021**

Ball valve with built-in check valve.  
Brass body.  
Female - nut connection.  
Drilled tamper-proof safety nut.  
Butterfly handle.  
Max. working pressure: 16 bar.  
Temperature range: 5–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>333400</td>
<td>1/2&quot; F x nut 3/4&quot; F</td>
<td>10</td>
</tr>
<tr>
<td>333500</td>
<td>3/4&quot; F x nut 3/4&quot; F</td>
<td>10</td>
</tr>
</tbody>
</table>

### 3230 BALLSTOP  
**tech. broch. 01021**

Ball valve with built-in check valve.  
Brass body.  
Female connections.  
Lever handle.  
Max. working pressure: 16 bar.  
Temperature range: 5–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>323060</td>
<td>1&quot;</td>
<td>4</td>
</tr>
<tr>
<td>323070</td>
<td>1 1/4&quot;</td>
<td>4</td>
</tr>
<tr>
<td>323080</td>
<td>1 1/2&quot;</td>
<td>2</td>
</tr>
<tr>
<td>323090</td>
<td>2&quot;</td>
<td>1</td>
</tr>
</tbody>
</table>

### 334 BALLSTOP  
**tech. broch. 01021**

Ball valve with built-in check valve.  
Brass body.  
Male - nut connection.  
Drilled tamper-proof safety nut.  
Butterfly handle.  
Max. working pressure: 16 bar.  
Temperature range: 5–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>334400</td>
<td>1/2&quot; M x nut 3/4&quot; F</td>
<td>10</td>
</tr>
<tr>
<td>334500</td>
<td>3/4&quot; M x nut 3/4&quot; F</td>
<td>10</td>
</tr>
</tbody>
</table>

### 332 BALLSTOP  
**tech. broch. 01021**

Ball valve with built-in check valve.  
Brass body.  
Male - female connections.  
Butterfly handle.  
Max. working pressure: 16 bar.  
Temperature range: 5–90 °C.

<table>
<thead>
<tr>
<th>Code</th>
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<th>Price</th>
</tr>
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<tbody>
<tr>
<td>332400</td>
<td>1/2&quot; M x 1/2&quot; F</td>
<td>10</td>
</tr>
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**SINGLE AND DOUBLE CHECK VALVES**

### 3037 ROBOCHECK-1  
15 mm single check valve with compression ends.  
CR dezincification resistant alloy body.  
Chrome plated.  
Max. working pressure: 10 bar.  
Max. working temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>303715</td>
<td>Ø 15</td>
<td>10 100</td>
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</tbody>
</table>

### 3038 ROBOCHECK-2  
15 mm controllable double check valve with compression ends.  
CR dezincification resistant alloy body.  
Chrome plated.  
Max. working pressure: 10 bar.  
Max. working temperature: 90 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>303815</td>
<td>Ø 15</td>
<td>10 100</td>
</tr>
</tbody>
</table>
**ANTI-FREEZE SAFETY DEVICE**

**603**

Garden tap, ball type, with anti-freeze safety device.
Brass body. Chrome plated.
Stainless steel lever and fixing nut.
Hose connection for Ø 15 mm pipe.
Max. working pressure: 10 bar.
Ambient temperature range: -30–90 °C.
Opening temperature: 3 °C.
Closing temperature: 4 °C.

**Function**

The anti-freeze safety device prevents ice build-up in domestic water circuits, avoiding possible damage to pipes in hydraulic and irrigation systems. When the minimum intervention temperature is reached, it automatically opens so that a minimum quantity of water may flow toward the drain, enabling a small continuous inflow of water; this prevents the circuit from freezing.

A particular product has been developed by combining the anti-freeze safety device with a garden tap ball type, specifically constructed for these installations. The valve is fitted with ball with blow-out proof design, O-ring seal and packing gland; the control lever and fixing nut are made of stainless steel, for total resistance against corrosion in different climatic conditions.

**Anti-freeze group spare part, chrome plated for code 603450.**

**Function**

The anti-freeze safety device prevents ice build-up in domestic water circuits, avoiding possible damage to pipes in hydraulic and irrigation systems. When the minimum intervention temperature is reached, it automatically opens so that a minimum quantity of water may flow toward the drain, enabling a small continuous inflow of water; this prevents the circuit from freezing.

A particular product has been developed by combining the anti-freeze safety device with a garden tap ball type, specifically constructed for these installations. The valve is fitted with ball with blow-out proof design, O-ring seal and packing gland; the control lever and fixing nut are made of stainless steel, for total resistance against corrosion in different climatic conditions.
Backflow preventers
Pre-assembled group with backflow preventer, Y-strainers and shut-off valves
Y-strainers for backflow preventers
Spare parts for backflow preventers
Backflow preventers with multifunction geometry
Anti-pollution check valves with built-in shut-off valve
Ball valves with built-in check valves, BALLSTOP - Single and double check valves
Anti-pollution check valves
BACKFLOW PREVENTERS

572
Non controllable backflow preventer with different pressure zones for wall mounted boilers. **CAb type**. Brass body. PN 10. Ø 6 copper pipe connections. Max. working temperature: 40 °C. To standard EN 14367.

Code

<table>
<thead>
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<tr>
<td>572006</td>
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</table>

573
Non controllable backflow preventer with different pressure zones. **CAa type**. Brass body. PN 10. Female union connections. Max. working temperature: 65 °C. To standard EN 14367.

Code

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
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<tr>
<td>573515</td>
<td>3/4&quot;</td>
<td>1 - 10</td>
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</table>

574

Upstream of the backflow preventer is mandatory to install a strainer 577 series.

Code

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<tr>
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<tbody>
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<td>574050</td>
<td>1&quot;</td>
<td>1 - 10</td>
</tr>
</tbody>
</table>
**LOW LEAD**

574 tech. broch. 01022

Controllable, reduced pressure zone backflow preventer.  
**BA type.** dezincification resistant alloy body "LOW LEAD".  
PN 10. Male union connections.  
Max. working temperature: 65 °C.  
Discharge opening differential pressure to: 14 kPa.  
To standard EN 12729.  
Upstream of the backflow preventer is mandatory to install a strainer 577 series.

<table>
<thead>
<tr>
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<th>Description</th>
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</tbody>
</table>

575 tech. broch. 01022

Controllable, reduced pressure zone backflow preventer.  
**BA type.** Bronze body, PN 10. Flanged connections PN 16.  
Max. working temperature: 65 °C.  
Discharge opening differential pressure to: 14 kPa.  
To standard EN 12729.  
Upstream of the backflow preventer is mandatory to install a strainer 579 series.

<table>
<thead>
<tr>
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<th>Size</th>
<th>Price</th>
<th>Description</th>
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</thead>
<tbody>
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<td>575006</td>
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<tr>
<td>575008</td>
<td>DN 80</td>
<td>1</td>
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</tr>
<tr>
<td>575010</td>
<td>DN 100</td>
<td>1</td>
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</tr>
</tbody>
</table>

574 tech. broch. 01022

Controllable, reduced pressure zone backflow preventer.  
**BA type.** Bronze body, PN 10. Male union connections.  
Max. working temperature: 65 °C.  
Discharge opening differential pressure to: 14 kPa.  
To standard EN 12729.  
Upstream of the backflow preventer is mandatory to install a strainer 577 series.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
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</table>

575 tech. broch. 01022

Controllable, reduced pressure zone backflow preventer.  
**BA type.** Bronze body, PN 10. Flanged connections PN 16.  
Max. working temperature: 65 °C.  
Discharge opening differential pressure to: 14 kPa.  
To standard EN 12729.  
Upstream of the backflow preventer is mandatory to install a strainer 579 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
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<tbody>
<tr>
<td>575005</td>
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<td>575008</td>
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<tr>
<td>575010</td>
<td>DN 100</td>
<td>1</td>
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</tr>
</tbody>
</table>

570 tech. broch. 01022

Pre-assembled group consisting of:  
backflow preventer 574 series;  
Y-strainer 577 series for backflow preventers;  
manual shut-off valves.  
PN 10. Female connections.  
Max. working temperature: 65 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Price</th>
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<tr>
<td>570009</td>
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</tr>
</tbody>
</table>
**BACKFLOW PREVENTERS**

**570**
Pre-assembled group consisting of:
- Backflow preventer 575 series;
- Y-strainer 579 series for backflow preventers;
PN 10. Flanged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.
Max. working temperature: 65 °C.

**575**
Controllable, reduced pressure zone backflow preventer.
BA type. Cast iron body, with epoxy coating.
PN 10. Flanged connections.
To be coupled with flat counterflanges EN 1092-1.
Discharge opening differential pressure to: 14 kPa.
To standard EN 12729.
Upstream of the backflow preventer is mandatory to install a strainer 579 series.

**577**
Y-strainer, for backflow preventers 573 and 574 series.
Bronze body, 1/2” – 3”: PN 16.
Max. working pressure: 16 bar.
Max. working temperature: 65 °C.
Stainless steel mesh.
With drain cock.

**Y-STRAINERS AND TEST KIT FOR BACKFLOW PREVENTERS**

**577**
Y-strainer, for backflow preventers 573 and 574 series.
Bronze body, 1/2” – 3”: PN 16.
Female connections.
Temperature range: -20 – 110 °C.
Max. percentage of glycol: 30%.
Strainer in stainless steel stretched plate.

**(219,421),(378,725)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Mesh size (ø mm)</th>
<th>Kv (m³/h)</th>
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<tbody>
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<tr>
<td>57705</td>
<td>3/4”</td>
<td>0.40</td>
</tr>
<tr>
<td>57706</td>
<td>1”</td>
<td>0.40</td>
</tr>
<tr>
<td>57707</td>
<td>1 1/4”</td>
<td>0.47</td>
</tr>
<tr>
<td>57708</td>
<td>1 1/2”</td>
<td>0.47</td>
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<tr>
<td>57709</td>
<td>2”</td>
<td>0.53</td>
</tr>
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<td>57720</td>
<td>2 1/2”</td>
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</tr>
<tr>
<td>57730</td>
<td>3”</td>
<td>0.53</td>
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</tbody>
</table>

* Rhomboidal reinforcing mesh
## SPARE PARTS FOR BACKFLOW PREVENTERS

### Discharge device for backflow preventers 574 and 575 series.

<table>
<thead>
<tr>
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<th>Description</th>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>59978</td>
<td>1/2” (574004)</td>
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</tr>
<tr>
<td>59471</td>
<td>1/2” (574004) - 3/4” - 1” (574006)</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>59457</td>
<td>1” (574000) - 1 1/4”</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>59461</td>
<td>1 1/2” - 2” - DN 50</td>
<td>1 –</td>
<td></td>
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</tbody>
</table>

### Discharge valve seat for backflow preventers 574 and 575 series.

<table>
<thead>
<tr>
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<th>Description</th>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>59472</td>
<td>1/2” (574004) - 3/4” - 1” (574006)</td>
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<td></td>
</tr>
<tr>
<td>59458</td>
<td>1” (574000) - 1 1/4”</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>59462</td>
<td>1 1/2” - 2” - DN 50 - DN 65</td>
<td>1 –</td>
<td></td>
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</tbody>
</table>

### Upstream check valve for backflow preventers 574 and 575 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>59977</td>
<td>1/2” (574004)</td>
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</tr>
<tr>
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<td>1/2” (574004) - 3/4” (574010)</td>
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</tr>
<tr>
<td>59469</td>
<td>3/4” (574000) - 1” (574006)</td>
<td>1 –</td>
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</tr>
<tr>
<td>59455</td>
<td>1” (574000) - 1 1/4”</td>
<td>1 –</td>
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</tr>
<tr>
<td>59459</td>
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### Downstream check valve for backflow preventer 575 series.

<table>
<thead>
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<th>Description</th>
<th>Quantity</th>
<th>Code</th>
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<tbody>
<tr>
<td>59979</td>
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</tr>
<tr>
<td>59470</td>
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</tr>
<tr>
<td>59456</td>
<td>1” (574000) - 1 1/4”</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>59460</td>
<td>1 1/2” - 2” - DN 50</td>
<td>1 –</td>
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</table>

### Discharge device for backflow preventer 575 series.

<table>
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<tr>
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<tr>
<td>59629</td>
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</table>

### Discharge valve seat for backflow preventer 575 series.

<table>
<thead>
<tr>
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<th>Quantity</th>
<th>Code</th>
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<tbody>
<tr>
<td>59630</td>
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### Upstream check valve for backflow preventer 575 series.

<table>
<thead>
<tr>
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<th>Description</th>
<th>Quantity</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>59627</td>
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<tr>
<td>59631</td>
<td>DN 80 (579008) - DN 100 (579010)</td>
<td>1 –</td>
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</tr>
</tbody>
</table>

### Downstream check valve for backflow preventer 575 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Quantity</th>
<th>Code</th>
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<tbody>
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<td>59632</td>
<td>DN 80 (579008) - DN 100 (579010)</td>
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</tbody>
</table>
**BACKFLOW PREVENTERS WITH MULTIFUNCTION GEOMETRY**

**580** tech. broch. 01322

Backflow preventer with multifunction geometry. **BA type.** dezincification resistant alloy body. Threaded union connections. For linear installation on horizontal or vertical pipes. Complete with strainer at the inlet. Max. working pressure: 10 bar. Max. working temperature: 65 °C. Certified to EN 12729 standard.

**Code**

- **580040** DN 15 1/2” M 1 5
- **580040** DN 15 (Cartridge DN 20) 1/2” M 1 5
- **580050** DN 20 3/4” M 1 5
- **580060** DN 25 1” M 1 –
- **580070** DN 32 1 1/4” M 1 –

**Discharge tundish**

Thanks to the possibility of orienting the tundish, the same body can be used in three different configurations: installation on horizontal or vertical pipes or for special applications.

**Self-contained cartridge**

The self-contained cartridge comprises, all in one piece, the membrane, the upstream check valve, the discharge valve and the whole activation system. In case of maintenance, it can be easily extracted from the body without the aid of further sealing elements.

**Application diagram**

- Code 580104/580150
- Code 580240/580250

**580** tech. broch. 01322


**Code**

- **580140** DN 15 3/4” nut x 3/4” M 1 5
- **580150** DN 20 3/4” nut x 3/4” M 1 5

**Application diagram**

- Code 580104/580150
- Code 580240/580250

**580** tech. broch. 01322

Backflow preventer with multifunction geometry. **BA type.** dezincification resistant alloy body. Complete with isolating valve at the inlet and hose connection at the outlet. For vertical installation. Complete with strainer at the inlet. Max. working pressure: 10 bar. Max. working temperature: 65 °C. Certified to EN 12729 and W570-3 standard.

**Code**

- **580240** DN 15 (Cartridge DN 20) 1/2” M x 3/4” M 1 5
- **580250** DN 20 3/4” M x 3/4” M 1 5
ANTI-POLLUTION CHECK VALVES WITH BUILT-IN SHUT-OFF VALVE

324 tech. broch. 01341
Anti-pollution check valve with built-in shut-off valve. EA type.
Pressure test ports upstream and downstream.
Replaceable check valve cartridge.
CR dezincification resistant alloy body “LOW LEAD”.
Medium: drinking water.
Max. working pressure: 10 bar.
Check valve minimum opening pressure (Δp): 0,5 kPa.
Max. working temperature: 65 °C.
To EN 13959 and EN 13828 standards.
PATENT PENDING.

Operating principle
The anti-pollution check valve with built-in shut-off valve is comprised of a valve body (1), a check valve (2), two test ports (3), one downstream for operation checks and one downstream for system pressure testing, a shut-off ball valve (4) with control lever (5). The check valve (2) delimits two distinct zones: one upstream or at the inlet (A), and one downstream or at the outlet (B).

Operation check
To test the seal of the check valve, check that the valve closes each time the pressure in the upstream water supply so as to prevent water from the installation flowing back into the supply system:
- to maintain pressure in the installation in the absence of flow, close all shut-off valves and users downstream of the valve. Using the downstream test port, check that the pressure is greater than 0,5 bar;
- close the built-in shut-off valve, rotating it clockwise through 90° relative to the longitudinal position, and open the check valve test port. The flow should stop after the small amount of fluid contained in the valve body between the shut-off valve and pressure test port has drained off;
- if not, check the seal of the built-in shut-off valve: if this valve is sealing correctly but the flow from the test port continues, replace the check valve, as the flow can only be caused by imperfect sealing of the valve.

Replacement of the check valve
Thanks to the special patented design, all operation check and replacement operations can be carried out using just one shut-off valve:
- position the lever perpendicular to the valve body by raising it slightly and rotating it anti-clockwise through 90° relative to the longitudinal position, and open the check valve test port. The flow should stop after the small amount of fluid contained in the valve body between the shut-off valve and pressure test port has drained off;
- if not, check the seal of the built-in shut-off valve: if this valve is sealing correctly but the flow from the test port continues, replace the check valve, as the flow can only be caused by imperfect sealing of the valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN internal check valve</th>
<th>Conn.</th>
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<tbody>
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</tr>
<tr>
<td>324150</td>
<td>20</td>
<td>3/4&quot; M</td>
</tr>
</tbody>
</table>

324 tech. broch. 01341
Anti-pollution check valve with built-in shut-off valve. EA type.
Pressure test ports upstream and downstream.
Replaceable check valve cartridge.
CR dezincification resistant alloy body “LOW LEAD”.
Medium: drinking water.
Max. working pressure: 10 bar.
Check valve minimum opening pressure (Δp): 0,5 kPa.
Max. working temperature: 65 °C.
To EN 13959 and EN 13828 standards.
PATENT PENDING.

<table>
<thead>
<tr>
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<tbody>
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</tbody>
</table>

324 tech. broch. 01341
Anti-pollution check valve with built-in shut-off valve. EA type.
Pressure test ports upstream and downstream.
Replaceable check valve cartridge.
CR dezincification resistant alloy body “LOW LEAD”.
Medium: drinking water.
Max. working pressure: 10 bar.
Check valve minimum opening pressure (Δp): 0,5 kPa.
Max. working temperature: 65 °C.
To EN 13959 and EN 13828 standards.
PATENT PENDING.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN internal check valve</th>
<th>Conn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>324110</td>
<td>20</td>
<td>Ø 15</td>
</tr>
<tr>
<td>324120</td>
<td>20</td>
<td>Ø 22</td>
</tr>
</tbody>
</table>

Code
F0002665 pressure gauge 0–10 bar | – |
BALL VALVE WITH BUILT-IN CHECK VALVE

3230 BALLSTOP

333 BALLSTOP

3230 BALLSTOP

333 BALLSTOP

3230 BALLSTOP

333 BALLSTOP

3037 ROBOCHECK-1
15 mm single check valve with compression ends. dezincification resistant alloy body. Chrome plated. Max. working pressure: 10 bar. Max. working temperature: 90 °C.

3038 ROBOCHECK-2
15 mm controllable double check valve with compression ends. dezincification resistant alloy body. Chrome plated. Max. working pressure: 10 bar. Max. working temperature: 90 °C.
<table>
<thead>
<tr>
<th>Code</th>
<th>Inside check device DN</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>304540 1/2&quot;</td>
<td>10 100</td>
<td></td>
</tr>
<tr>
<td>304550 3/4&quot;</td>
<td>10 50</td>
<td></td>
</tr>
<tr>
<td>304560 1&quot;</td>
<td>5 25</td>
<td></td>
</tr>
<tr>
<td>304570 1 1/4&quot;</td>
<td>5 25</td>
<td></td>
</tr>
<tr>
<td>304580 1 1/2&quot;</td>
<td>2 20</td>
<td></td>
</tr>
<tr>
<td>304590 2&quot;</td>
<td>1 10</td>
<td></td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Code</th>
<th>Inside check device DN</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>304640 1/2&quot;</td>
<td>10 100</td>
<td></td>
</tr>
<tr>
<td>304650 3/4&quot;</td>
<td>10 50</td>
<td></td>
</tr>
<tr>
<td>304660 1&quot;</td>
<td>5 25</td>
<td></td>
</tr>
<tr>
<td>304670 1 1/4&quot;</td>
<td>5 25</td>
<td></td>
</tr>
<tr>
<td>304680 1 1/2&quot;</td>
<td>4 20</td>
<td></td>
</tr>
<tr>
<td>304690 2&quot;</td>
<td>2 10</td>
<td></td>
</tr>
</tbody>
</table>

* Without NF and SVGW certification


<table>
<thead>
<tr>
<th>Code</th>
<th>Inside check device DN</th>
<th>Connections</th>
</tr>
</thead>
<tbody>
<tr>
<td>304740 1/2&quot;</td>
<td>10 100</td>
<td></td>
</tr>
<tr>
<td>304750 3/4&quot;</td>
<td>10 50</td>
<td></td>
</tr>
<tr>
<td>304760 1&quot;</td>
<td>5 25</td>
<td></td>
</tr>
</tbody>
</table>


ANTIPOLLUTION CHECK VALVES
Connection and regulation kit for HVAC terminal units
Pressure independent control valve (PICV) FLOWMATIC®
Actuators for kit and control valves
Automatic flow rate regulators AUTOFLOW®
Strainers
Automatic flow rate regulator with stainless steel cartridge - flanged version AUTOFLOW®
Balancing valve with flow meter
Balancing valves
Counterflanges
Differential pressure control valve (DPCV)
Electronic flow rate and differential pressure measuring station
Circuit balancing devices can be classified in accordance with their method of action and the type of control they perform in relation to the hydronic circuit.

### Dynamic balancing and control devices

- **Connection and regulation kit for HVAC terminal units**
  - 149 series

- **Pressure independent control valve (PICV)**
  - 145-146 series

### Static balancing devices

- **Balancing valve with flow meter**
  - 132 series

- **Manual balancing valve, with Venturi device**
  - 130 series

- **Manual balancing valve, with variable orifice**
  - 130 series

### Differential pressure control devices

- **Differential pressure control valve**
  - 140 series

- **Shut-off and pre-regulation valve**
  - 142 series

- **Differential by-pass valve**
  - 519 series
Connection and regulation kit for HVAC terminal units. dezincification resistant alloy body.

Complete with:
- pressure independent control valve,
- three-way shut-off valve,
- integrated by-pass,
- Venturi device with pressure test ports (only in codes 149.00...),
- filtering cartridge,
- - fill/drain cock,
- pre-formed shell insulation.

Max. working pressure: 25 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50%.
Centre distance: 80 mm.

Fitted for 145 series actuator and 6565/6566 series thermo-electric actuator.

With Venturi device

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Ke Venturi</th>
<th>Flow rates range (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>149400 H10</td>
<td>15</td>
<td>0,25</td>
<td>0,02–0,10</td>
</tr>
<tr>
<td>149400 H20</td>
<td>15</td>
<td>0,50</td>
<td>0,10–0,20</td>
</tr>
<tr>
<td>149400 H40</td>
<td>15</td>
<td>1,10</td>
<td>0,20–0,40</td>
</tr>
<tr>
<td>149400 H80</td>
<td>15</td>
<td>2,35</td>
<td>0,40–0,80</td>
</tr>
<tr>
<td>149500 H10</td>
<td>20</td>
<td>0,25</td>
<td>0,02–0,10</td>
</tr>
<tr>
<td>149500 H20</td>
<td>20</td>
<td>0,50</td>
<td>0,10–0,20</td>
</tr>
<tr>
<td>149500 H40</td>
<td>20</td>
<td>1,10</td>
<td>0,20–0,40</td>
</tr>
<tr>
<td>149500 H80</td>
<td>20</td>
<td>2,35</td>
<td>0,40–0,80</td>
</tr>
<tr>
<td>149600 H18</td>
<td>25</td>
<td>5,00</td>
<td>0,80–1,20</td>
</tr>
<tr>
<td>149600 H18</td>
<td>25</td>
<td>5,00</td>
<td>1,20–1,80</td>
</tr>
<tr>
<td>149600 H30</td>
<td>25</td>
<td>9,60</td>
<td>1,80–3,00</td>
</tr>
<tr>
<td>149600 H37</td>
<td>25</td>
<td>9,60</td>
<td>1,85–3,70</td>
</tr>
</tbody>
</table>

Without Venturi device

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Flow rates range (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>149410 H20</td>
<td>15</td>
<td>0,02–0,20</td>
</tr>
<tr>
<td>149410 H40</td>
<td>15</td>
<td>0,08–0,40</td>
</tr>
<tr>
<td>149410 H80</td>
<td>15</td>
<td>0,08–0,80</td>
</tr>
<tr>
<td>149510 H20</td>
<td>20</td>
<td>0,02–0,20</td>
</tr>
<tr>
<td>149510 H40</td>
<td>20</td>
<td>0,08–0,40</td>
</tr>
<tr>
<td>149510 H80</td>
<td>20</td>
<td>0,08–0,80</td>
</tr>
<tr>
<td>149510 H12</td>
<td>20</td>
<td>0,12–1,20</td>
</tr>
<tr>
<td>149610 H18</td>
<td>25</td>
<td>0,18–1,80</td>
</tr>
<tr>
<td>149610 H30</td>
<td>25</td>
<td>0,30–3,00</td>
</tr>
<tr>
<td>149610 H37</td>
<td>25</td>
<td>0,37–3,70</td>
</tr>
</tbody>
</table>

Optional drain cock for 149 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>F0000680</td>
<td>3/4” M x 3/4” F DN 15</td>
</tr>
<tr>
<td>F0000681</td>
<td>1” M x 1” F DN 20</td>
</tr>
<tr>
<td>F0000682</td>
<td>1 1/4” M x 1 1/4” F DN 25</td>
</tr>
</tbody>
</table>
PRESSURE INDEPENDENT CONTROL VALVE (PICV)

145 FLOWMATIC®
Pressure independent control valve FLOWMATIC®, CR dezincification resistant alloy body.
Male connections. Flow rate regulator in polymer with membrane in EPDM. Graduated scale indicator.
Max. working pressure: 25 bar.
Temperature range: -20–120 °C.
Max. percentage of glycol: 50 %.
Δp range: 25–400 kPa.
With pressure test ports.
Fitted for 145 series actuator and 6556/6556 series thermo-electric actuator.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Conn.</th>
<th>Flow rate range (m³/h)</th>
<th>1/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>145437 H20</td>
<td>15</td>
<td>1/2”</td>
<td>0,02–0,20</td>
<td>1</td>
</tr>
<tr>
<td>145447 H40</td>
<td>15</td>
<td>3/4”</td>
<td>0,08–0,40</td>
<td>1</td>
</tr>
<tr>
<td>145447 H80</td>
<td>15</td>
<td>3/4”</td>
<td>0,08–0,80</td>
<td>1</td>
</tr>
<tr>
<td>145557 H40</td>
<td>20</td>
<td>1”</td>
<td>0,08–0,40</td>
<td>1</td>
</tr>
<tr>
<td>145557 H80</td>
<td>20</td>
<td>1”</td>
<td>0,08–0,80</td>
<td>1</td>
</tr>
<tr>
<td>145557 H12</td>
<td>20</td>
<td>1”</td>
<td>0,12–1,20</td>
<td>1</td>
</tr>
<tr>
<td>145667 H8</td>
<td>25</td>
<td>1/4”</td>
<td>0,18–1,80</td>
<td>1</td>
</tr>
<tr>
<td>145667 H80</td>
<td>25</td>
<td>1/4”</td>
<td>0,30–3,00</td>
<td>1</td>
</tr>
<tr>
<td>145667 H7</td>
<td>25</td>
<td>1/4”</td>
<td>0,37–3,70</td>
<td>1</td>
</tr>
</tbody>
</table>

Union with gasket.

145 FLOWMATIC®
Pressure independent control valve FLOWMATIC®, CR dezincification resistant alloy body.
Male connections. Flow rate regulator in polymer with membrane in EPDM. Graduated scale indicator.
Max. working pressure: 25 bar.
Temperature range: -20–120 °C.
Max. percentage of glycol: 50 %.
Δp range: 25–400 kPa.
Fitted for connection of pressure test ports.
Fitted for 145 series actuator and 6565/6566 series thermo-electric actuator.

<table>
<thead>
<tr>
<th>Code</th>
<th>DN</th>
<th>Conn.</th>
<th>Flow rate range (m³/h)</th>
<th>1/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>145434 H20</td>
<td>15</td>
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<td>0,02–0,20</td>
<td>1</td>
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<tr>
<td>145444 H40</td>
<td>15</td>
<td>3/4”</td>
<td>0,08–0,40</td>
<td>1</td>
</tr>
<tr>
<td>145444 H80</td>
<td>15</td>
<td>3/4”</td>
<td>0,08–0,80</td>
<td>1</td>
</tr>
<tr>
<td>145554 H20</td>
<td>20</td>
<td>1”</td>
<td>0,08–0,20</td>
<td>1</td>
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<tr>
<td>145554 H40</td>
<td>20</td>
<td>1”</td>
<td>0,08–0,40</td>
<td>1</td>
</tr>
<tr>
<td>145554 H80</td>
<td>20</td>
<td>1”</td>
<td>0,08–0,80</td>
<td>1</td>
</tr>
<tr>
<td>145554 H12</td>
<td>20</td>
<td>1”</td>
<td>0,12–1,20</td>
<td>1</td>
</tr>
<tr>
<td>145664 H8</td>
<td>25</td>
<td>1/4”</td>
<td>0,18–1,80</td>
<td>1</td>
</tr>
<tr>
<td>145664 H80</td>
<td>25</td>
<td>1/4”</td>
<td>0,30–3,00</td>
<td>1</td>
</tr>
<tr>
<td>145664 H7</td>
<td>25</td>
<td>1/4”</td>
<td>0,37–3,70</td>
<td>1</td>
</tr>
</tbody>
</table>

ACTUATORS FOR KITS AND CONTROL VALVES (PICV)

145 FLOWMATIC®
Proportional linear actuator for FLOWMATIC® 145 series control valve and 149 series kit.
Supply: 24 V (AC)/(DC).
Control signal: 0–10 V.
Feedback signal: 0–10 V.
Ambient temperature range: 0–50 °C.
Protection class: IP 54.
Connection: M 30 p.1,5.
Supply cable length: 2 m.

<table>
<thead>
<tr>
<th>Code</th>
<th>Tension V</th>
<th>Control signal</th>
<th>Feedback signal</th>
<th>1/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>145013</td>
<td>24</td>
<td>0–10 V</td>
<td>0–10 V</td>
<td>1</td>
</tr>
</tbody>
</table>

NEW

6565 FLOWMATIC®
Proportional thermo-electric actuator for FLOWMATIC® 145 series control valve and 149 series kit.
Quick-coupling installation, with a clip adapter.
Normally closed.
Supply: 24 V (AC)/(DC).
Control signal: 0–10 V.
Feedback signal: 0–10 V.
Power consumption: 1,2 W.
Ambient temperature range: 0–60 °C.
Protection class: IP 54.
Connection: M 30 p.1,5.
Supply cable length: 1 m.

<table>
<thead>
<tr>
<th>Code</th>
<th>Tension V</th>
<th>Control signal</th>
<th>Feedback signal</th>
<th>1/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>656524</td>
<td>24</td>
<td>0–10 V</td>
<td>0–10 V</td>
<td>100</td>
</tr>
</tbody>
</table>

NEW

6565/6566 FLOWMATIC®
Thermo-electric actuator for FLOWMATIC® 145 series control valve and 149 series kit.
Quick-coupling installation, with a clip adapter.
Supply: 230 V (AC) or 24 V (AC)/(DC).
Control signal: ON/OFF.
Power consumption: 1 W.
Ambient temperature range: 0–60 °C.
Protection class: IP 54.
Connection: M 30 p.1,5.
Supply cable length: 1 m.

<table>
<thead>
<tr>
<th>Code</th>
<th>Tension V</th>
<th>Control signal</th>
<th>Feedback signal</th>
<th>1/10</th>
</tr>
</thead>
<tbody>
<tr>
<td>656502</td>
<td>230</td>
<td>ON/OFF</td>
<td>normally closed</td>
<td>100</td>
</tr>
<tr>
<td>656504</td>
<td>24</td>
<td>ON/OFF</td>
<td>normally closed</td>
<td>100</td>
</tr>
<tr>
<td>656602</td>
<td>230</td>
<td>ON/OFF</td>
<td>normally open</td>
<td>100</td>
</tr>
<tr>
<td>656604</td>
<td>24</td>
<td>ON/OFF</td>
<td>normally open</td>
<td>100</td>
</tr>
</tbody>
</table>
PRESSURE INDEPENDENT CONTROL VALVE (PICV)

145
Pressure independent control valve.
Cast iron body.
Max. working pressure: 25 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50 %.
Δp range: 30–400 kPa.
With pressure test ports.

145
Rotational proportional actuator for pressure independent control valve 145 series.
Supply: 24 V (AC)/(DC).
Control signal: 0(2)–10 V.
Feedback signal: 2–10 V.
Ambient temperature range: -30–50 °C.
Protection class: IP 54.
Manual override.

145
Pressure independent control valve.
Cast iron body.
Max. working pressure: 25 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50 %.
Δp range: 30–400 kPa.
With pressure test ports.

145
Rotational proportional actuator for pressure independent control valve 145 series.
Supply: 24 V (AC)/(DC).
Control signal: 0(2)–10 V.
Feedback signal: 2–10 V.
Ambient temperature range: -30–50 °C.
Protection class: IP 54.
Manual override.

145
Pressure independent control valve.
Cast iron body.
Max. working pressure: 25 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50 %.
Δp range: 30–400 kPa.
With pressure test ports.

145
Rotational proportional actuator for pressure independent control valve 145 series.
Supply: 24 V (AC)/(DC).
Control signal: 0(2)–10 V.
Feedback signal: 2–10 V.
Ambient temperature range: -30–50 °C.
Protection class: IP 54.
Manual override.
COMPACT AUTOMATIC FLOW RATE REGULATOR
WITH HIGH RESISTANCE POLYMER CARTRIDGE

127
AUTOFLOW®
Compact automatic flow rate regulator.
Brass body.
AUTOFLOW® cartridge:
1/2”–1 1/4” in high resistance polymer,
1 1/2” - 2” in high resistance polymer and stainless steel.
Max. working pressure: 16 bar.
Temperature range: 0–100 °C.
Max. percentage of glycol: 50 %.
Flow rates: 0,02–0,06 m³/h - Δp range: 20–200 kPa - Accuracy: ± 15 %.
Flow rates: 0,085–11,0 m³/h - Δp range: 15–200 kPa - Accuracy: ± 10 %.

Minimum differential pressure required
Equal to the minimum working Δp of the AUTOFLOW® cartridge (15 or 20 kPa).
Pump head $H = Δp_{\text{circuit}} + Δp_{\text{magnet}}$

Spare AUTOFLOW® polymer cartridge complete with adhesive label. For 127 series.
COMPACT AUTOMATIC FLOW RATE REGULATOR WITH HIGH RESISTANCE POLYMER CARTRIDGE

128 AUTOFLOW®
Compact automatic flow rate regulator.
Brass body.
AUTOFLOW® cartridge: in high resistance polymer.
Max. working pressure: 16 bar.
Temperature range: 0–100 °C.
Max. percentage of glycol: 50%.
Flow rates: 0.02–0.06 m³/h - Δp range: 20–200 kPa - Accuracy: ± 15%.
Flow rates: 0.085–1.4 m³/h - Δp range: 15–200 kPa - Accuracy: ± 10%.

Spare AUTOFLOW® polymer cartridge complete with identification metal plate.
For 128 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Flow rate (m³/h)</th>
<th>Code</th>
<th>Flow rate (m³/h)</th>
<th>Code</th>
<th>Flow rate (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>02M02 XXL</td>
<td>0,02</td>
<td>02M25 XXL</td>
<td>0,25</td>
<td>02M80 XXL</td>
<td>0,80</td>
</tr>
<tr>
<td>02M04 XXL</td>
<td>0,04</td>
<td>02M30 XXL</td>
<td>0,30</td>
<td>02M90 XXL</td>
<td>0,90</td>
</tr>
<tr>
<td>02M06 XXL</td>
<td>0,06</td>
<td>02M35 XXL</td>
<td>0,35</td>
<td>02M10 XXL</td>
<td>1,00</td>
</tr>
<tr>
<td>02M08 XXL</td>
<td>0,085</td>
<td>02M40 XXL</td>
<td>0,40</td>
<td>02M12 XXL</td>
<td>1,20</td>
</tr>
<tr>
<td>02M12 XXL</td>
<td>0,12</td>
<td>02M50 XXL</td>
<td>0,50</td>
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<td>1,40</td>
</tr>
<tr>
<td>02M15 XXL</td>
<td>0,15</td>
<td>02M60 XXL</td>
<td>0,60</td>
<td>02M15 XXL</td>
<td>1,20</td>
</tr>
<tr>
<td>02M20 XXL</td>
<td>0,20</td>
<td>02M70 XXL</td>
<td>0,70</td>
<td>02M30 XXL</td>
<td>0,90</td>
</tr>
</tbody>
</table>

Minimum differential pressure required

Equal to the minimum working Δp of the AUTOFLOW® cartridge (15 or 20 kPa).

Pump head H = Δp_min + Δp_req

211
AUTOMATIC FLOW RATE REGULATOR
WITH HIGH RESISTANCE POLYMER CARTRIDGE AND BALL VALVE

121

AUTOFLOW®

Combination of automatic flow rate regulator and ball valve.

CR dezincification resistant alloy body.

AUTOFLOW® cartridge:
1/2”–11/4” in high resistance polymer and stainless steel.
Max. working pressure: 25 bar.
Temperature range: -20–100 °C.
Max. percentage of glycol: 50 %.
Δp range: 15–200 kPa.
Flow rates: 0.085–11.0 m³/h.
Accuracy: ± 10 %.

Fitted for connection of pressure ports and drain valve.

NOTE:
When ordering, give the full code of the AUTOFLOW® device into which the cartridge is to be fitted (code shown on the metal plate supplied with every AUTOFLOW® unit).

Minimum differential pressure required

This is given by the sum of two values:
1. the minimum working Δp of the AUTOFLOW® cartridge;
2. the Δp required for the nominal flow rate to pass through the valve body. This value can be determined on the basis of the values of Kv shown above referring to the valve body. 

Pump head H = Δp + Δp

Spare AUTOFLOW® polymer cartridge complete with metal identification plate and metal chain for fixing to the body of the AUTOFLOW® device. For 121 and 126 series.
AUTOMATIC FLOW RATE REGULATOR
WITH HIGH RESISTANCE POLYMER CARTRIDGE

126 AUTOFLOW®
Automatic flow rate regulator.
CR dezincification resistant alloy body.
AUTOFLOW® cartridge:
1/2"–11/4" in high resistance polymer,
1 1/2" - 2" in high resistance polymer and stainless steel.
Max. working pressure: 25 bar.
Temperature range: -20-100 °C.
Max. percentage of glycol: 50%.
Δp range: 15–200 kPa.
Flow rates: 0.085–11.0 m³/h.
Accuracy: ± 10%.
Fitted for connection of pressure ports and drain valve.

Method of coding AUTOFLOW® 121 - 126 - 127 - 128 series

For correct identification of the device, fill in the form indicating: series, size, flow rate and Δp range.

Complete code

1st 2nd 3rd 4th 5th 6th 7th 8th 9th
SERIES SIZE FLOW RATE - Δp RANGE

SERIES

1st 2nd 3rd
The first three digits indicate the series

SIZE

5th
The fifth digit indicates the size

FLOW RATE - Δp RANGE

7th 8th 9th
The last three digits indicate the available flow rate

Δp range 15-200 kPa

<table>
<thead>
<tr>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
</tr>
</thead>
<tbody>
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<td>M08</td>
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<td>M2</td>
</tr>
<tr>
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<td>M50</td>
<td>1.40</td>
<td>M4</td>
</tr>
<tr>
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<td>M6</td>
</tr>
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<td>0.70</td>
<td>M70</td>
<td>1.80</td>
<td>M8</td>
</tr>
<tr>
<td>0.25</td>
<td>M25</td>
<td>0.80</td>
<td>M80</td>
<td>2.00</td>
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</tr>
<tr>
<td>0.30</td>
<td>M30</td>
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<td>M90</td>
<td>2.25</td>
<td>M12</td>
</tr>
<tr>
<td>0.35</td>
<td>M35</td>
<td>1.00</td>
<td>M100</td>
<td>2.50</td>
<td>M15</td>
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</tbody>
</table>

Δp range 20-200 kPa

<table>
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<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
</tr>
</thead>
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<td>0.04</td>
<td>M04</td>
<td>0.06</td>
<td>M06</td>
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</table>

This is given by the sum of two values:
1. the minimum working Δp of the AUTOFLOW® cartridge;
2. the Δp required for the nominal flow rate to pass through the valve body. This value can be determined on the basis of the values of Kv shown above referring to the valve body.
Pump head H = Δp_{min} + Δp_{req}.
120

AUTOFLOW®

Combination of automatic flow rate regulator and ball valve.

CR dezincification resistant alloy body.

Stainless steel AUTOFLOW® cartridge.

Max. working pressure: 25 bar.

Max. percentage of glycol: 50%.

Δp range: 10–95 kPa; 22–210 kPa; 40–390 kPa.

Flow rates: 0,12–15,5 m³/h.

Accuracy: ± 5%.

Fitted for connection of pressure ports and drain valve.

---

**Code**

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<th>1 1/2”</th>
<th>2”</th>
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<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
<td>⬤</td>
</tr>
</tbody>
</table>

---

**Minimum differential pressure required**

This is given by the sum of two values:

1. the minimum working Δp of the AUTOFLOW® cartridge;
2. the Δp required for the nominal flow rate to pass through the valve body. This value can be determined on the basis of the values of Kv shown above referring to the valve body.

\[
H = \Delta p_{\text{min}} + \Delta p_{\text{valve}}
\]
AUTOMATIC FLOW RATE REGULATOR
WITH STAINLESS STEEL CARTRIDGE

125

**AUTOFLOW®**

Automatic flow rate regulator.

CR dezincification resistant alloy body.

Stainless steel AUTOFLOW® cartridge.

Max. working pressure: 25 bar.

Temperature range: -20–110 °C.

Max. percentage of glycol: 50 %.

Δp range: 10–95 kPa; 22–210 kPa; 40–390 kPa.

Flow rates: 0.12–17 m³/h.

Accuracy: ± 5 %.

Fitted for connection of pressure ports and drain valve.

---

<table>
<thead>
<tr>
<th>Code</th>
<th>K (m³/h)</th>
<th>Min. working Δp (kPa)</th>
<th>Δp range (kPa)</th>
<th>Flow rates (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1251</td>
<td>6.69</td>
<td>10</td>
<td>10–95</td>
<td>0.45; 0.5; 0.6; 0.7; 0.8; 0.9; 1.0</td>
</tr>
<tr>
<td>1252</td>
<td>7.58</td>
<td>10</td>
<td>10–95</td>
<td>0.45; 0.5; 0.6; 0.7; 0.8; 0.9; 1.0</td>
</tr>
<tr>
<td>1253</td>
<td>13.42</td>
<td>10</td>
<td>10–95</td>
<td>0.7; 0.8; 0.9; 1.0; 1.2; 1.4; 1.6; 1.8</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Code</th>
<th>K (m³/h)</th>
<th>Min. working Δp (kPa)</th>
<th>Δp range (kPa)</th>
<th>Flow rates (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1251</td>
<td>6.69</td>
<td>22</td>
<td>22–210</td>
<td>0.12; 0.15; 0.2; 0.25; 0.3; 0.35; 0.4; 0.5; 0.6; 0.7; 0.8; 0.9; 1.0; 1.2; 1.4; 1.6; 1.8</td>
</tr>
<tr>
<td>1252</td>
<td>7.58</td>
<td>22</td>
<td>22–210</td>
<td>0.12; 0.15; 0.2; 0.25; 0.3; 0.35; 0.4; 0.5; 0.6; 0.7; 0.8; 0.9; 1.0; 1.2; 1.4; 1.6; 1.8</td>
</tr>
<tr>
<td>1253</td>
<td>13.42</td>
<td>22</td>
<td>22–210</td>
<td>0.7; 0.8; 0.9; 1.0; 1.2; 1.4; 1.6; 1.8; 2.0; 2.25; 2.5; 2.75; 3.0; 3.25; 3.5; 3.75; 4.0; 4.25</td>
</tr>
<tr>
<td>1251</td>
<td>13.26</td>
<td>22</td>
<td>22–210</td>
<td>0.7; 0.8; 0.9; 1.0; 1.2; 1.4; 1.6; 1.8; 2.0; 2.25; 2.5; 2.75; 3.0; 3.25; 3.5; 3.75; 4.0; 4.25</td>
</tr>
<tr>
<td>1252</td>
<td>34.72</td>
<td>22</td>
<td>22–210</td>
<td>2.75; 3.0; 3.25; 3.5; 3.75; 4.0; 4.25; 4.5; 5.0; 5.5; 6.0; 6.5; 7.0; 7.5; 8.0; 8.5; 9.0; 9.5; 10.0; 11.0</td>
</tr>
<tr>
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<td>37.38</td>
<td>22</td>
<td>22–210</td>
<td>2.75; 3.0; 3.25; 3.5; 3.75; 4.0; 4.25; 4.5; 5.0; 5.5; 6.0; 6.5; 7.0; 7.5; 8.0; 8.5; 9.0; 9.5; 10.0; 11.0</td>
</tr>
<tr>
<td>1251</td>
<td>75.82</td>
<td>22</td>
<td>22–210</td>
<td>9.0; 9.5; 10.0; 11.0; 12.0; 13.5; 14.5; 15.5; 16.5; 17.0</td>
</tr>
<tr>
<td>1252</td>
<td>75.82</td>
<td>40</td>
<td>40–390</td>
<td>0.25; 0.35; 0.45; 0.55; 0.7; 0.8; 1.1; 1.4; 1.6; 1.8; 2.0; 2.25; 2.5; 2.75</td>
</tr>
<tr>
<td>1253</td>
<td>13.42</td>
<td>40</td>
<td>40–390</td>
<td>0.25; 0.35; 0.45; 0.55; 0.7; 0.9; 1.1; 1.4; 1.6; 1.8; 2.0; 2.25; 2.5; 2.75</td>
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<tr>
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<td>13.26</td>
<td>40</td>
<td>40–390</td>
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</tr>
<tr>
<td>1252</td>
<td>34.72</td>
<td>40</td>
<td>40–390</td>
<td>2.5; 2.75; 3.0; 3.25; 3.5; 3.75; 4.0; 4.25; 4.5; 5.0; 5.5; 6.0</td>
</tr>
<tr>
<td>1253</td>
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<td>40</td>
<td>40–390</td>
<td>3.0; 3.25; 3.5; 3.75; 4.0; 4.25; 4.5; 6.5; 7.0; 7.5; 8.0; 8.5; 9.0; 9.5; 10.0; 11.0; 12.0; 13.0; 14.5; 15.5</td>
</tr>
<tr>
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<td>40</td>
<td>40–390</td>
<td>6.5; 7.0; 7.5; 8.5; 9.0; 9.5; 11.0</td>
</tr>
</tbody>
</table>

*** For code completion see method of coding on page 216

---

**Minimum differential pressure required**

This is given by the sum of two values:
1. the minimum working Δp of the AUTOFLOW® cartridge;
2. the Δp required for the nominal flow rate to pass through the valve body. This value can be determined on the basis of the values of Kv shown above referring to the valve body.

Pump head $H = \Delta p_{\text{elem}} + \Delta p_{\text{sys}}$
For correct identification of the device, fill in the form indicating: series, size, flow rate and Δp range.

Complete code

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
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</thead>
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<tr>
<td>SERIES</td>
<td>SIZE</td>
<td>FLOW RATE AND Δp RANGE</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**SERIES**

The first three digits indicate the series:

- 120 AUTOFLOW® regulator and ball valve
- 125 AUTOFLOW® regulator

**SIZE**

The fifth digit indicates the size:

<table>
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<th>Digit</th>
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<tr>
<td>1&quot;</td>
<td>6</td>
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<tr>
<td>2 1/2&quot;</td>
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**FLOW RATE AND Δp RANGE**

The last three digits indicate the available flow rates.

### Δp range 10–95 kPa

<table>
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<tr>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
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<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
</tr>
</thead>
<tbody>
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<td>0.45</td>
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<td>S60</td>
<td>0.80</td>
<td>S80</td>
<td>1.00</td>
<td>S100</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Δp range 22–210 kPa

<table>
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<tr>
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<th>digit</th>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
</tr>
</thead>
<tbody>
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<td>L12</td>
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<td>L60</td>
<td>1.80</td>
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<td>3.75</td>
<td>L37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.15</td>
<td>L15</td>
<td>0.70</td>
<td>L70</td>
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<td>L20</td>
<td>4.00</td>
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</tr>
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<td>L80</td>
<td>2.25</td>
<td>L22</td>
<td>4.25</td>
<td>L42</td>
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<tr>
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<tr>
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<td>5.50</td>
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<td>L14</td>
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<td>L16</td>
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### Δp range 40–390 kPa

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<th>digit</th>
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<th>digit</th>
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<th>digit</th>
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<td>1.40</td>
<td>H14</td>
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<td>4.50</td>
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<td></td>
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</table>

<table>
<thead>
<tr>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
<th>digit</th>
<th>m³/h</th>
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<th>m³/h</th>
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<th>digit</th>
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</thead>
<tbody>
<tr>
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<td>H25</td>
<td>4.00</td>
<td>H40</td>
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<td>H10H</td>
</tr>
<tr>
<td>1.40</td>
<td>H14</td>
<td>2.75</td>
<td>H27</td>
<td>4.25</td>
<td>H42</td>
<td>7.00</td>
<td>H70</td>
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<td>H11H</td>
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<td>H45</td>
<td>7.50</td>
<td>H75</td>
<td>12.0</td>
<td>H12H</td>
</tr>
<tr>
<td>1.80</td>
<td>H18</td>
<td>3.25</td>
<td>H32</td>
<td>5.00</td>
<td>H50</td>
<td>8.00</td>
<td>H80</td>
<td>13.0</td>
<td>H13H</td>
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<td>6.00</td>
<td>H60</td>
<td>9.00</td>
<td>H90</td>
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<td>H15H</td>
</tr>
</tbody>
</table>
STAINLESS STEEL CARTRIDGES

Spare AUTOFLOW® cartridge complete with metal tag and metal chain for fixing to the body of the AUTOFLOW® device.
Available in different models depending on the flow rate.
The different colours identify the available models.

NOTE: When ordering, give the full code of the AUTOFLOW® device into which the cartridge is to be fitted (code shown on the metal plate supplied with every AUTOFLOW® device).
**120 STRAINER**
Combination of Y-strainer and ball valve.
CR dezincification resistant alloy body.
Stainless steel strainer cartridge.
Max. working pressure: 25 bar.
Temperature range: 0–110 °C.
Max. percentage of glycol: 50 %.
Strainer mesh size Ø: 1/2"–1 1/4": 0,87 mm; 1 1/2" and 2": 0,73 mm.
Fitted for connection of pressure ports and drain valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>120141 000</td>
<td>6,88</td>
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<tr>
<td>120151 000</td>
<td>7,25</td>
</tr>
<tr>
<td>120161 000</td>
<td>16,65</td>
</tr>
<tr>
<td>120171 000</td>
<td>17,23</td>
</tr>
<tr>
<td>120181 000</td>
<td>39,13</td>
</tr>
<tr>
<td>120191 000</td>
<td>39,69</td>
</tr>
</tbody>
</table>

**Pressure drop**
- The indicated Kv value refers to the valve complete with strainer.

---

**125 STRAINER**
Y-strainer.
CR dezincification resistant alloy body.
Stainless steel strainer cartridge.
Max. working pressure: 25 bar.
Temperature range: 0–110 °C.
Max. percentage of glycol: 50 %.
Strainer mesh size Ø: 1/2"–1 1/4": 0,87 mm; 1 1/2"–2": 0,73 mm.
Fitted for connection of pressure ports and drain valve.

<table>
<thead>
<tr>
<th>Code</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>125141 000</td>
<td>6,88</td>
</tr>
<tr>
<td>125151 000</td>
<td>7,05</td>
</tr>
<tr>
<td>125161 000</td>
<td>14,10</td>
</tr>
<tr>
<td>125171 000</td>
<td>14,94</td>
</tr>
<tr>
<td>125181 000</td>
<td>32,27</td>
</tr>
<tr>
<td>125191 000</td>
<td>36,21</td>
</tr>
<tr>
<td>125101 000</td>
<td>68,25</td>
</tr>
</tbody>
</table>

**Pressure drop**
- The indicated Kv value refers to the valve complete with strainer.
**AUTOMATIC FLOW REGULATOR WITH STAINLESS STEEL CARTRIDGE**

**103 AUTOFLOW®**


Supplied with flat counterflanges EN 1092-1 PN 16, rods, gasket and quick-fit pressure test ports.

Minimum differential pressure required

This is equal to the min. working Δp of the AUTOFLOW® cartridge (22, 40 or 55 kPa). Pump head H = Δp_{circuit} + Δp_{prequise}.

### Method of coding AUTOFLOW® 103 series

For correct identification of the device, fill in the form indicating: size, Δp range and the flow rate.

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
<th>6th</th>
<th>7th</th>
<th>8th</th>
<th>9th</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Series</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[size]</td>
<td>[Δp range]</td>
<td>[flow rate]</td>
</tr>
<tr>
<td><strong>(*)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SIZE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Δp RANGE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>FLOW RATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Complete code**

- **Series**: 103
- **Size**: 100
- **Δp range**: 22–220 kPa
- **Flow rate**: 35–410 m³/h

* Supplied with ANSI flanges.
** Supplied with flanges EN 1092-1 PN 25.

They are available on request in sizes DN 350 to DN 1000, with flow rates up to 4400 m³/h.

To identify AUTOFLOW® devices and their codes correctly, contact Caleffi technical support in advance.

---

**AUTOMATIC FLOW REGULATOR WITH STAINLESS STEEL CARTRIDGE**

**103 AUTOFLOW®**


Supplied with flat counterflanges EN 1092-1 PN 16, rods, gasket and quick-fit pressure test ports.

Minimum differential pressure required

This is equal to the min. working Δp of the AUTOFLOW® cartridge (22, 40 or 55 kPa). Pump head H = Δp_{circuit} + Δp_{prequise}.

### Method of coding AUTOFLOW® 103 series

For correct identification of the device, fill in the form indicating: size, Δp range and the flow rate.

<table>
<thead>
<tr>
<th>1st</th>
<th>2nd</th>
<th>3rd</th>
<th>4th</th>
<th>5th</th>
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<td>[size]</td>
<td>[Δp range]</td>
<td>[flow rate]</td>
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<tr>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>SIZE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Δp RANGE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td><strong>FLOW RATE</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Complete code**

- **Series**: 103
- **Size**: 100
- **Δp range**: 22–220 kPa
- **Flow rate**: 35–410 m³/h

* Supplied with ANSI flanges.
** Supplied with flanges EN 1092-1 PN 25.

They are available on request in sizes DN 350 to DN 1000, with flow rates up to 4400 m³/h.

To identify AUTOFLOW® devices and their codes correctly, contact Caleffi technical support in advance.
BALANCING VALVE WITH FLOW METER

132


With insulation.
Max. working pressure: 10 bar. Temperature range: -10–110 °C. Max. percentage of glycol: 50 %. PATENT PENDING.

Flow rate adjustment
The flow rate is adjusted by carrying out the following operations:

1. With the aid of the indicator (1), mark the reference flow rate at which the valve has to be set.
2. Use the ring (2) to open the obturator that shuts off the flow of medium in the flow meter (3) under normal operating conditions.
3. Keeping the obturator open, apply a wrench on the control stem of the valve (4) to adjust the flow rate. It is indicated by a metal ball (5) that runs inside a transparent guide (6) marked by a graduated scale in l/min.
4. After completing the balancing, release the ring (2) of the flow meter obturator that, thanks to an internal spring, will automatically go back into the closed position.
5. After completing the balancing, the indicator (1) can be used to keep in memory the selected setting in case of future inspections.

Complete opening and closing of the valve
Complete opening of the valve
Complete closing of the valve
130 **tech. broch. 01251**
Balancing valve for hydraulic systems. Flow rate measurement with Venturi device. dezincification resistant alloy body, stainless steel obturator. Complete with pressure ports. Max. working pressure: 16 bar. Temperature range: -20–120 °C. Max. percentage of glycol: 50 %.

**Pre-formed insulation for balancing valves with threaded connections 130 series. For heating and air conditioning system.**

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
</table>
| 130400   | 1/2"  | 1   | 5  
| 130500   | 3/4"  | 1   | 5  
| 130600   | 1"    | 1   | 5  
| 130700   | 1 1/4"| 1   | 5  
| 130800   | 1 1/2"| 1   | 5  
| 130900   | 2"    | 1   | 5  

130 **tech. broch. 01251**

617 **slip-on flat counterflanges for welding, EN 1092-1, PN 16. Complete with bolts and gaskets.**

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Qty</th>
</tr>
</thead>
</table>
| 617060   | DN 65 | 1   | –  
| 617080   | DN 80 | 1   | –  
| 617100   | DN 100| 1   | –  
| 617120   | DN 125| 1   | –  
| 617150   | DN 150| 1   | –  
| 617200   | DN 200| 1   | –  

142 **Balancing valve. dezincification resistant alloy body. Max. working pressure: 16 bar. Temperature range: -10–120 °C. Max. percentage of glycol: 50 %.
DIFFERENTIAL PRESSURE CONTROL VALVE (DPCV)

140 tech. broch. 01250
Differential pressure control valve (DPCV).
 dezincification resistant alloy body.
Complete with capillary pipe for connection to the valve on the flow pipe.
With insulation.
Max. working pressure: 16 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50 %.
Length of capillary pipe Ø 3 mm: 1.5 m.

140 tech. broch. 01250
Differential pressure control valve (DPCV).
Cast iron body.
Complete with pressure test ports for connection of capillary pipe.
With insulation.
Max. working pressure: 16 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50 %.
Flagged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.

<table>
<thead>
<tr>
<th>Code</th>
<th>Differential pressure adjustable set (mbar)</th>
<th>Code</th>
<th>Differential pressure adjustable set (mbar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>140340</td>
<td>1/2” 50–300</td>
<td>140506</td>
<td>DN 65 200–800</td>
</tr>
<tr>
<td>140440</td>
<td>1/2” 250–600</td>
<td>140606</td>
<td>DN 65 800–1600</td>
</tr>
<tr>
<td>140350</td>
<td>3/4” 50–300</td>
<td>140508</td>
<td>DN 80 200–800</td>
</tr>
<tr>
<td>140450</td>
<td>3/4” 250–600</td>
<td>140608</td>
<td>DN 80 800–1600</td>
</tr>
<tr>
<td>140360</td>
<td>1” 50–300</td>
<td>140510</td>
<td>DN 100 200–800</td>
</tr>
<tr>
<td>140460</td>
<td>1” 250–600</td>
<td>140610</td>
<td>DN 100 800–1600</td>
</tr>
<tr>
<td>140342</td>
<td>1/2” 50–300 without insulation</td>
<td>140512</td>
<td>DN 125 200–800</td>
</tr>
<tr>
<td>140442</td>
<td>1/2” 250–600 without insulation</td>
<td>140515</td>
<td>DN 150 200–800</td>
</tr>
<tr>
<td>140352</td>
<td>3/4” 50–300 without insulation</td>
<td>140420</td>
<td>1/2” 100–1600 without insulation</td>
</tr>
<tr>
<td>140452</td>
<td>3/4” 250–600 without insulation</td>
<td>140425</td>
<td>3/4” 100–1600 without insulation</td>
</tr>
<tr>
<td>140362</td>
<td>1” 50–300 without insulation</td>
<td>140426</td>
<td>1” 100–1600 without insulation</td>
</tr>
<tr>
<td>140462</td>
<td>1” 250–600 without insulation</td>
<td>140210</td>
<td>1/4” 100–1600 without insulation</td>
</tr>
<tr>
<td>140240</td>
<td>1/2” without insulation</td>
<td>140215</td>
<td>3/4” without insulation</td>
</tr>
<tr>
<td>140260</td>
<td>1” without insulation</td>
<td>140265</td>
<td>1” without insulation</td>
</tr>
</tbody>
</table>

142 tech. broch. 01250
Shut-off and pre-regulation valve.
 dezincification resistant alloy body.
Complete with pressure test ports for connection of capillary pipe.
With insulation.
Max. working pressure: 16 bar.
Temperature range: -10–120 °C.
Max. percentage of glycol: 50 %.

<table>
<thead>
<tr>
<th>Code</th>
<th>Differential pressure adjustable set (mbar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>140370</td>
<td>1 1/4” 50–300</td>
</tr>
<tr>
<td>140470</td>
<td>1 1/4” 250–600</td>
</tr>
<tr>
<td>140380</td>
<td>1 1/2” 50–300</td>
</tr>
<tr>
<td>140480</td>
<td>1 1/2” 250–600</td>
</tr>
<tr>
<td>140372</td>
<td>1 1/4” 50–300 without insulation</td>
</tr>
<tr>
<td>140472</td>
<td>1 1/4” 250–600 without insulation</td>
</tr>
<tr>
<td>140382</td>
<td>1 1/2” 50–300 without insulation</td>
</tr>
<tr>
<td>140482</td>
<td>1 1/2” 250–600 without insulation</td>
</tr>
<tr>
<td>140392</td>
<td>2” 50–300 without insulation</td>
</tr>
<tr>
<td>140492</td>
<td>2” 250–600 without insulation</td>
</tr>
<tr>
<td>140270</td>
<td>1 1/4” without insulation</td>
</tr>
<tr>
<td>140280</td>
<td>1 1/2” without insulation</td>
</tr>
<tr>
<td>140290</td>
<td>2” without insulation</td>
</tr>
</tbody>
</table>
**519**
Differential by-pass valve, adjustable with graduated scale.
Max. working pressure: 10 bar.
Temperature range: 0–110 °C.
Max. percentage of glycol: 30 %.

<table>
<thead>
<tr>
<th>Code</th>
<th>Setting range</th>
<th>m.w.p.</th>
<th>1 50</th>
</tr>
</thead>
<tbody>
<tr>
<td>519500</td>
<td>3/4&quot;</td>
<td>1–6</td>
<td>1</td>
</tr>
<tr>
<td>519504</td>
<td>3/4&quot;</td>
<td>10–40</td>
<td>1</td>
</tr>
<tr>
<td>519700</td>
<td>1 1/4&quot;</td>
<td>1–6</td>
<td>1</td>
</tr>
</tbody>
</table>

**130**
Electronic flow rate and differential pressure measuring station.
Supplied complete with shut-off and connection fittings.
Can be used for measuring the flow rate of balancing valves 130, 142 series and of the flow metering device 683 series.
Suitable for Δp measurement of automatic flow rate regulators.
Electric supply from battery.
Bluetooth® transmission between Δp measuring station and remote control unit.
Versions complete with remote control unit with Android® application for Smartphone and Tablet.
Measurement range: 0–1000 kPa.
Static Pmax: 1000 kPa.

**100**
Pair of fast-plug pressure/temperature test ports.
Their special construction allows rapid and accurate measurements while ensuring leaktightness.
Can be used for:
- checking the working range of AUTOFLOW®;
- checking the clog degree of strainers;
- checking the heat output of the terminals.
Cap cover facing available in:
  - Red for upstream pressure test port.
  - Green for downstream pressure test port.
Brass body.
EPDM seals.
Max. working pressure: 30 bar.
Temperature range: -5–130 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>1/4&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>100000</td>
<td>1 10</td>
</tr>
</tbody>
</table>

**538**
Drain cock with hose connection and cap.
Max. working pressure: 10 bar.
Max. working temperature: 110 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>1/4&quot; M</th>
</tr>
</thead>
<tbody>
<tr>
<td>538201</td>
<td>1 10</td>
</tr>
<tr>
<td>538400</td>
<td>1 100</td>
</tr>
</tbody>
</table>
Three-piece union fittings
Fittings for polyethylene pipes (PE-X)
Mechanical fittings with O-Ring seal
DECA-fittings for polyethylene pipes
Dezincification resistant alloy fittings for polyethylene pipes
DECA-fittings for steel pipes
THREE-PIECE UNION FITTINGS

**for gas and hydrocarbons - EN 549 standard**

**for hydraulic and domestic water systems - EN 681.1 standard**

Fittings highlighted in yellow are supplied with two O-Rings: yellow to be used for gas and fluid hydrocarbons - black to be used for hydraulic systems.

To be used for gas systems with power output up to 35 kW, according to UNI 7129-2015 standard only.

---

**588**
Three-piece straight union fitting, PN 16.
For gas and fluid hydrocarbons: yellow O-Ring according to EN 549 standard.
Temperature range: -20–100 °C.
For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard.
Max. working pressure: 16 bar.
Temperature range: -25–120 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>588030</td>
<td>3/8” F x M with union</td>
<td>1 50</td>
<td></td>
</tr>
<tr>
<td>588040</td>
<td>1/2” F x M with union</td>
<td>1 50</td>
<td></td>
</tr>
<tr>
<td>588050</td>
<td>3/4” F x M with union</td>
<td>1 25</td>
<td></td>
</tr>
<tr>
<td>588060</td>
<td>1” F x M with union</td>
<td>1 20</td>
<td></td>
</tr>
<tr>
<td>588070</td>
<td>1 1/4” F x M with union</td>
<td>1 10</td>
<td></td>
</tr>
<tr>
<td>588080</td>
<td>1 1/2” F x M with union</td>
<td>1 –</td>
<td></td>
</tr>
<tr>
<td>588090</td>
<td>2” F x M with union</td>
<td>1 –</td>
<td></td>
</tr>
</tbody>
</table>

---

**5881**
Three-piece elbow union fitting, PN 16.
For gas and fluid hydrocarbons: yellow O-Ring according to EN 549 standard.
Temperature range: -20–100 °C.
For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard.
Max. working pressure: 16 bar.
Temperature range: -25–120 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Description</th>
<th>Qty</th>
</tr>
</thead>
<tbody>
<tr>
<td>588130</td>
<td>3/8” F x M with union</td>
<td>1 50</td>
<td></td>
</tr>
<tr>
<td>588140</td>
<td>1/2” F x M with union</td>
<td>1 25</td>
<td></td>
</tr>
<tr>
<td>588150</td>
<td>3/4” F x M with union</td>
<td>1 25</td>
<td></td>
</tr>
<tr>
<td>588160</td>
<td>1” F x M with union</td>
<td>1 15</td>
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</tr>
<tr>
<td>588170</td>
<td>1 1/4” F x M with union</td>
<td>1 10</td>
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</tbody>
</table>

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**UNIONS**

Flat seat union with gasket.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th>Description</th>
<th>Qty</th>
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</thead>
<tbody>
<tr>
<td>RS9787</td>
<td>3/4” F x 1/2” M</td>
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<td></td>
</tr>
<tr>
<td>RS9788</td>
<td>1” F x 3/4” M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS9789</td>
<td>1 1/4” F x 1” M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS9485</td>
<td>1 1/2” F x 1 1/4” M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS9581</td>
<td>2” F x 1 1/2” M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RS9487</td>
<td>2 1/2” F x 2” M</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Fittings for Polyethylene Pipes (PE-X)

**933**
Elbow fitting with plastic wall mounting case.

**930**
Male elbow fitting with wall connection. Fitted for coupling with fittings 347, 438 and 680 series for water use.

**933**
Elbow fitting with plastic wall mounting case with 10 mm collar.

**936**
Extension for connection between elbow fitting 933 series and radiator valve. Annealed copper, chrome plated. With shaped rubber seal. Length: 200 mm (useful 188 mm).

**R96006**
Plastic case plug for elbow fitting 933 series.
**FITTINGS FOR POLYETHYLENE PIPES (PE-X)**
Fitted for coupling with 680 and 679 series

### Male fitting.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>940300</td>
<td>3/8&quot; M x 23 p.1,5</td>
<td>50</td>
<td>944400</td>
</tr>
<tr>
<td>940400</td>
<td>1/2&quot; M x 23 p.1,5</td>
<td>50</td>
<td>944550</td>
</tr>
<tr>
<td>940450</td>
<td>1/2&quot; M x 3/4&quot;</td>
<td>50</td>
<td>944550</td>
</tr>
<tr>
<td>940500</td>
<td>3/4&quot; M x 23 p.1,5</td>
<td>50</td>
<td>944550</td>
</tr>
<tr>
<td>942550</td>
<td>3/4&quot; M x 3/4&quot;</td>
<td>50</td>
<td>945400</td>
</tr>
<tr>
<td>942560</td>
<td>3/4&quot; M x 1&quot;</td>
<td>50</td>
<td>945550</td>
</tr>
<tr>
<td>942650</td>
<td>1&quot; M x 3/4&quot;</td>
<td>50</td>
<td>945550</td>
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</tbody>
</table>

### Female fitting.

<table>
<thead>
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<th>Description</th>
<th>Code</th>
<th>Description</th>
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</thead>
<tbody>
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<td>50</td>
<td>944400</td>
</tr>
<tr>
<td>941400</td>
<td>1/2&quot; F x 23 p.1,5</td>
<td>50</td>
<td>944550</td>
</tr>
<tr>
<td>941450</td>
<td>1/2&quot; F x 3/4&quot;</td>
<td>50</td>
<td>944550</td>
</tr>
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### Sleeve.

<table>
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### Elbow fitting.

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### Male elbow fitting.

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### Female elbow fitting.

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### Tee piece.

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### Side male tee piece.

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### Central male tee piece.

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</table>
MECHANICAL FITTINGS WITH O-RING SEAL

according to EN 1254-2 and EN 1254-4 standards

for gas and fluid hydrocarbons - EN 549 standard
for hydraulic and domestic water systems - EN 681.1 standard

Fittings highlighted in yellow are supplied with two O-Rings: yellow to be used for gas and fluid hydrocarbons - black to be used for hydraulic systems

**900**

Female fitting. For annealed copper, hard copper, brass, mild steel and stainless steel pipes. Double O-Ring. According to EN 1254-4 standard.

*For gas and fluid hydrocarbons:* yellow O-Ring according to EN 549 standard. Temperature range: -20–100 °C.

*For hydraulic and domestic water systems:* black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

**904**


*For gas and fluid hydrocarbons:* yellow O-Ring according to EN 549 standard. Temperature range: -20–100 °C.

*For hydraulic and domestic water systems:* black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

**903**

Coupling sleeve. For annealed copper, hard copper, brass, mild steel and stainless steel pipes. According to EN 1254-2 standard.

*For hydraulic and domestic water systems:* black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

**9050**

Elbow fitting. For annealed copper, hard copper, brass, mild steel and stainless steel pipes. According to EN 1254-2 standard.

*For hydraulic and domestic water systems:* black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

---

**Code**

- **900308** 3/8" F - Ø 8
- **900310** 3/8" F - Ø 10
- **900312** 3/8" F - Ø 12
- **900314** 3/8" F - Ø 14
- **900410** 1/2" F - Ø 10
- **900412** 1/2" F - Ø 12
- **900414** 1/2" F - Ø 14
- **900415** 1/2" F - Ø 15
- **900416** 1/2" F - Ø 16
- **900418** 1/2" F - Ø 18
- **900516** 3/4" F - Ø 16
- **900518** 3/4" F - Ø 18
- **900522** 3/4" F - Ø 22
- **900622** 1" F - Ø 22
- **900628** 1" F - Ø 28

*To be used only with water and non-dangerous glycol solutions*
MECHANICAL FITTINGS WITH O-RING SEAL

9057
Male elbow fitting. For annealed copper, hard copper, brass, mild steel and stainless steel pipes. According to EN 1254-4 standard. For gas and fluid hydrocarbons: yellow O-Ring according to EN 549 standard. Temperature range: -20–100 °C. For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

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<td>905742</td>
<td>1/2” M - Ø 12</td>
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<td>905744</td>
<td>1/2” M - Ø 14</td>
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<td>1/2” M - Ø 15</td>
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<td>905752</td>
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9058
Female elbow fitting. For annealed copper, hard copper, brass, mild steel and stainless steel pipes. According to EN 1254-4 standard. For gas and fluid hydrocarbons: yellow O-Ring according to EN 549 standard. Temperature range: -20–100 °C. For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

<table>
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9060
Tee fitting. For annealed copper, hard copper, brass, mild steel and stainless steel pipes. According to EN 1254-2 standard. For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

<table>
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<th>Temperature</th>
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<td>906012</td>
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<tr>
<td>906022</td>
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9067
Male tee fitting. For annealed copper, hard copper, brass, mild steel and stainless steel pipes. According to EN 1254-4 standard. For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard. Max. working pressure: 16 bar. Temperature range: -25–120 °C.

<table>
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<th>Temperature</th>
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<tbody>
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<td>906742</td>
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<td>906744</td>
<td>1/2” M - Ø 14</td>
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<td>3/4” M - Ø 18</td>
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</tr>
<tr>
<td>906752</td>
<td>3/4” M - Ø 22</td>
<td>20</td>
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</table>
**9068**
Female tee fitting. For annealed copper, hard copper, brass, mild steel and stainless steel pipes.
According to EN 1254-4 standard.
For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard.
Max. working pressure: 16 bar.
Temperature range: -25–120 °C.

**910**
Female fitting. Chrome plated.
For annealed copper, hard copper, brass, mild steel and stainless steel pipes.
According to EN 1254-4 standard.
For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard.
Max. working pressure: 16 bar.
Temperature range: -25–120 °C.

**914**
Male fitting. Chrome plated.
For annealed copper, hard copper, brass, mild steel and stainless steel pipes.
According to EN 1254-4 standard.
For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard.
Max. working pressure: 16 bar.
Temperature range: -25–120 °C.

**930**
Elbow fitting with wall connection.
For annealed copper, hard copper, brass, mild steel and stainless steel pipes.
According to EN 1254-4 standard.
With double O-Ring.
For gas and fluid hydrocarbons: yellow O-Ring according to EN 549 standard.
Temperature range: -20–100 °C.
For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard.
Max. working pressure: 16 bar.
Temperature range: -25–120 °C.

**913**
Coupling sleeve. Chrome plated.
For annealed copper, hard copper, brass, mild steel and stainless steel pipes.
According to EN 1254-2 standard.
For hydraulic and domestic water systems: black O-Ring according to EN 681.1 standard.
Max. working pressure: 16 bar.
Temperature range: -25–120 °C.

---

Mechanical fittings with O-Ring seal are not suitable for use with fuel added with RME (Rape Methyl Ester).
### DECA-FITTINGS FOR POLYETHYLENE PIPES

**860**
Female fitting.  
In brass.  
For polyethylene pipes.  
Max. working pressure: 16 bar.  
Max. working temperature: 40 °C.

**Code** | **Description** | **Quantity**  
---|---|---  
860420 | Ø 20 x 1/2” F | 12  
860421 | Ø 21 x 1/2” F | 12  
860525 | Ø 25 x 3/4” F | 10  
860527 | Ø 27 x 3/4” F | 10  
860625 | Ø 25 x 1” F | 10  
860632 | Ø 32 x 1” F | 10  
860634 | Ø 34 x 1” F | 10  
860740 | Ø 40 x 1 1/4” F | 10  
860850 | Ø 50 x 1 1/2” F | 5  
860963 | Ø 63 x 2” F | 8  

*Without DVGW and SVGW certifications*

**861**
Male fitting.  
In brass.  
For polyethylene pipes.  
Max. working pressure: 16 bar.  
Max. working temperature: 40 °C.

**Code** | **Description** | **Quantity**  
---|---|---  
861420 | Ø 20 x 1/2” M | 12  
861421 | Ø 21 x 1/2” M | 12  
861525 | Ø 25 x 3/4” M | 10  
861527 | Ø 27 x 3/4” M | 10  
861625 | Ø 25 x 1” M | 10  
861632 | Ø 32 x 1” M | 10  
861634 | Ø 34 x 1” M | 10  
861740 | Ø 40 x 1 1/4” M | 10  
861850 | Ø 50 x 1 1/2” M | 5  
861963 | Ø 63 x 2” M | 8  

*Without DVGW and SVGW certifications*

**860**  
Code | **Description** | **Quantity**  
---|---|---  
860075 | Ø 75 x 2 1/2” F | 1  
860090 | Ø 90 x 3” F | 1  
860110 | Ø 110 x 4” F | 1  

**875**
Reduced female fitting.  
In brass.  
For polyethylene pipes.  
Max. working pressure: 16 bar.  
Max. working temperature: 40 °C.

**Code** | **Description** | **Quantity**  
---|---|---  
875425 | Ø 25 x 1/2” F | 10  
875532 | Ø 32 x 3/4” F | 10  
875640 | Ø 40 x 1” F | 10  

**876**
Female fitting with union.  
In brass.  
For polyethylene pipes.  
Max. working pressure: 16 bar.  
Max. working temperature: 40 °C.

**Code** | **Description** | **Quantity**  
---|---|---  
876520 | Ø 20 x 3/4” | 15  
876525 | Ø 25 x 3/4” | 12  
876625 | Ø 25 x 1” | 12  
876632 | Ø 32 x 1” | 10  

232
DECA-FITTINGS FOR POLYETHYLENE PIPES

**862** tech. broch. 01037
Reduced male fitting.
In brass.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

<table>
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<tr>
<td>862863</td>
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<td>–</td>
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</table>

**863** tech. broch. 01037
Sleeve fitting.
In cast iron.
Stainless steel rods.
For polyethylene pipes.
Max. working pressure: 10 bar.
Max. working temperature: 40 °C.

<table>
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<td>863125</td>
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</table>

**888** tech. broch. 01037
Flanged fitting, PN 10 UNI 2277 series.
In cast iron.
Stainless steel rods.
For polyethylene pipes.
Max. working pressure: 10 bar.
Max. working temperature: 40 °C.

<table>
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</table>

**864** tech. broch. 01037
Tee fitting.
In brass.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

<table>
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* Without DVGW and SVGW certifications

**865** tech. broch. 01037
Reduced male-female tee fitting.
In brass.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

<table>
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</tr>
</tbody>
</table>

* Without DVGW and SVGW certifications
866 tech. broch. 01037
Elbow fitting.
In brass.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

869 tech. broch. 01037
Female elbow fitting
with wall connections.
In brass.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

867 tech. broch. 01037
Male elbow fitting.
In brass.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

868 tech. broch. 01037
Female elbow fitting.
In brass.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

870 tech. broch. 01037
Long sleeve fitting.
Can be used for pipe repairs.
In brass.
For polyethylene pipes.
Allows pipe repairs with a maximum distance of 50 mm between pipe ends.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.
### DEZINCIFICATION RESISTANT ALLOY FITTINGS FOR POLYETHYLENE PIPES

#### 960
- **Female fitting.**
- In GR dezincification resistant alloy.
- For polyethylene pipes.
- Max. working pressure: 16 bar.
- Max. working temperature: 40 °C.

<table>
<thead>
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<th>Size</th>
<th>Stock</th>
<th>Unit</th>
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<tr>
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<td>10</td>
<td>50</td>
</tr>
<tr>
<td>960625</td>
<td>Ø 25 x 1&quot; F</td>
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</tr>
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<td>960632</td>
<td>Ø 32 x 1&quot; F</td>
<td>10</td>
<td>50</td>
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<tr>
<td>960740</td>
<td>Ø 40 x 1 1/4&quot; F</td>
<td>6</td>
<td>30</td>
</tr>
<tr>
<td>960850</td>
<td>Ø 50 x 1 1/2&quot; F</td>
<td>5</td>
<td>20</td>
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<tr>
<td>960963</td>
<td>Ø 63 x 2&quot; F</td>
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</table>

#### 962
- **Reduced male fitting.**
- In GR dezincification resistant alloy.
- For polyethylene pipes.
- Max. working pressure: 16 bar.
- Max. working temperature: 40 °C.

<table>
<thead>
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<th>Stock</th>
<th>Unit</th>
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</thead>
<tbody>
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<td>962640</td>
<td>Ø 40 x 1&quot; M</td>
<td>6</td>
<td>30</td>
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</table>

#### 963
- **Sleeve fitting.**
- In GR dezincification resistant alloy.
- For polyethylene pipes.
- Max. working pressure: 16 bar.
- Max. working temperature: 40 °C.

<table>
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<th>Stock</th>
<th>Unit</th>
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<td>50</td>
</tr>
<tr>
<td>963040</td>
<td>Ø 40</td>
<td>5</td>
<td>20</td>
</tr>
<tr>
<td>963050</td>
<td>Ø 50</td>
<td>6</td>
<td>–</td>
</tr>
<tr>
<td>963063</td>
<td>Ø 63</td>
<td>5</td>
<td>–</td>
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</table>

#### 964
- **Tee fitting.**
- In GR dezincification resistant alloy.
- For polyethylene pipes.
- Max. working pressure: 16 bar.
- Max. working temperature: 40 °C.

<table>
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<th>Unit</th>
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<td>50</td>
</tr>
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<td>964032</td>
<td>Ø 32</td>
<td>5</td>
<td>25</td>
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<tr>
<td>964040</td>
<td>Ø 40</td>
<td>5</td>
<td>–</td>
</tr>
<tr>
<td>964050</td>
<td>Ø 50</td>
<td>5</td>
<td>–</td>
</tr>
</tbody>
</table>
DEZINCIFICATION RESISTANT ALLOY FITTINGS FOR POLYETHYLENE PIPES

966
Elbow fitting.
In dezincification resistant alloy.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

Code
966025 Ø 25 10 50
966032 Ø 32 5 25
966040 Ø 40 3 15

967
Male elbow fitting.
In dezincification resistant alloy.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

Code
967632 Ø 32 x 1" M 10 50

968
Female elbow fitting.
In dezincification resistant alloy.
For polyethylene pipes.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

Code
968632 Ø 32 x 1" F 10 50
968740 Ø 40 x 1 1/4" F 4 20

970
Long sleeve fitting.
In dezincification resistant alloy.
For polyethylene pipes.
Allows pipe repairs with a maximum distance of 50 mm between pipe ends.
Max. working pressure: 16 bar.
Max. working temperature: 40 °C.

Code
970032 Ø 32 5 25
970040 Ø 40 5 –
970050 Ø 50 4 –

986
Reduction kit.

Code
986032 from Ø 32 to Ø 25 12 60
986043 from Ø 40 to Ø 32 10 50
986053 from Ø 50 to Ø 32 6 30
986054 from Ø 50 to Ø 40 6 30

980
Kit.

Code
980025 Ø 25 100 –
980032 Ø 32 100 –
980040 Ø 40 50 –
980050 Ø 50 50 –
980063 Ø 63 50 –
**Steel series**

For steel pipes with nominal outer diameters for gas threading. Stainless steel pipe clenching ring.

### Example of use on steel pipes

<table>
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<th>Code</th>
<th>Diameter</th>
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<tbody>
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<tr>
<td>89027</td>
<td>Ø 27 x 3/4&quot; F</td>
<td>891</td>
<td>Ø 27 x 3/4&quot; M</td>
</tr>
<tr>
<td>89034</td>
<td>Ø 34 x 1&quot; F</td>
<td>891</td>
<td>Ø 34 x 1&quot; M</td>
</tr>
</tbody>
</table>

### Example of repair with the insertion of a supplementary sleeve.

In order to avoid corrosion, which is typical when traditional threaded sleeves are used (see diagram in grey colour), the application of the Steel series fittings (see diagram in yellow colour) allows piping to keep the complete galvanisation. The traditional sleeve in fact does not cover the entire threaded part which is therefore subjected to high corrosion since it features no galvanisation and is weakened on the diameter.
## ACCESSORIES AND SPARE PARTS FOR DECA-FITTINGS

### 886 Reduction kit.

<table>
<thead>
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<th>Description</th>
<th>Code Range</th>
<th>Quantity</th>
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</thead>
<tbody>
<tr>
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<td>1 -</td>
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</tr>
<tr>
<td>886032</td>
<td>from Ø 32 to Ø 25</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>886043</td>
<td>from Ø 40 to Ø 32</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>886054</td>
<td>from Ø 50 to Ø 40</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>886065</td>
<td>from Ø 63 to Ø 50</td>
<td>1 -</td>
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</table>

### 877 Pipe clenching ring.

<table>
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<th>Quantity</th>
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<tr>
<td>877021</td>
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<td>1 -</td>
<td></td>
</tr>
<tr>
<td>877121</td>
<td>Ø 21 stainless steel</td>
<td>1 -</td>
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</tr>
<tr>
<td>877025</td>
<td>Ø 25 brass</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>877027</td>
<td>Ø 27 brass</td>
<td>1 -</td>
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</tr>
<tr>
<td>877127</td>
<td>Ø 27 stainless steel</td>
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<td>Ø 32 brass</td>
<td>1 -</td>
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<tr>
<td>877034</td>
<td>Ø 34 brass</td>
<td>1 -</td>
<td></td>
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<tr>
<td>877134</td>
<td>Ø 34 stainless steel</td>
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</tr>
<tr>
<td>877040</td>
<td>Ø 40 brass</td>
<td>1 -</td>
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<tr>
<td>877050</td>
<td>Ø 50 brass</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>877063</td>
<td>Ø 63 brass</td>
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</table>

### 887 Pipe stiffener.

#### PN 10 series

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<td>887330</td>
<td>32 x 3</td>
<td>10 -</td>
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<td>887437</td>
<td>40 x 3,7</td>
<td>5 -</td>
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<tr>
<td>887546</td>
<td>50 x 4,6</td>
<td>5 -</td>
<td></td>
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<tr>
<td>887658</td>
<td>63 x 5,8</td>
<td>5 -</td>
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#### For REHAU pipes

<table>
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### 878 Brass washer.

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<th>Quantity</th>
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</tr>
<tr>
<td>878021</td>
<td>Ø 21</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>878025</td>
<td>Ø 25</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>878027</td>
<td>Ø 27</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>878032</td>
<td>Ø 32</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>878034</td>
<td>Ø 34</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>878040</td>
<td>Ø 40</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>878050</td>
<td>Ø 50</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>878063</td>
<td>Ø 63</td>
<td>1 -</td>
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### 879 O-Ring.

<table>
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<tbody>
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<tr>
<td>879021</td>
<td>Ø 21</td>
<td>1 -</td>
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<tr>
<td>879025</td>
<td>Ø 25</td>
<td>1 -</td>
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<tr>
<td>879027</td>
<td>Ø 27</td>
<td>1 -</td>
<td></td>
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<tr>
<td>879032</td>
<td>Ø 32</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>879034</td>
<td>Ø 34</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>879040</td>
<td>Ø 40</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>879050</td>
<td>Ø 50</td>
<td>1 -</td>
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<tr>
<td>879063</td>
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For REHAU pipes

<table>
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<td>887330</td>
<td>32 x 3</td>
<td>10 -</td>
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<td>887437</td>
<td>40 x 3,7</td>
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### 886022 Reduction kit.

<table>
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<tbody>
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</tr>
<tr>
<td>886032</td>
<td>from Ø 32 to Ø 25</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>886043</td>
<td>from Ø 40 to Ø 32</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>886054</td>
<td>from Ø 50 to Ø 40</td>
<td>1 -</td>
<td></td>
</tr>
<tr>
<td>886065</td>
<td>from Ø 63 to Ø 50</td>
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</tbody>
</table>
GAS SAFETY

This diagram is just an indication

--- COMMANDS

--- --- BUS LINE

- MASTER (Gas) code 856300/2
- SLAVE (Gas) code 856310/2

Gas filters
Gas pressure filter regulators
Gas pressure regulators
Antivibration extendible joints for gas systems
Pressure gauge for gas
Solenoid valves for gas
Gas detectors
847 Compact gas filter.
Max. pressure: 2 bar.
Filtration: Ø ≥ 50 µm.
Filtration class: G 2 (to EN 779).

<table>
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</tr>
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<td>847005</td>
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<td>1 –</td>
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</table>

848 Gas filter.
Max. pressure: 2 bar.
Filtration: Ø ≥ 50 µm.
Filtration class: G 2 (to EN 779).

<table>
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<tr>
<th>Code</th>
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</tr>
<tr>
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<td>1 –</td>
</tr>
<tr>
<td>848007</td>
<td>1 1/4&quot;</td>
<td>1 –</td>
</tr>
<tr>
<td>848008</td>
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<td>1 –</td>
</tr>
<tr>
<td>848009</td>
<td>2&quot;</td>
<td>1 –</td>
</tr>
</tbody>
</table>

850 Gas pressure closing filter regulator, double diaphragm.
Threaded connections.
Max. inlet pressure: 500 mbar.
Temperature range: -15–60 °C.
Regulation and closing at null flow according to UNI EN 88.
Filtration: Ø ≥ 50 µm.
Filtration class: G 2 (to EN 779).
Conformity to Directive ATEX (II 2G - II 2D).

<table>
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<td>18–40</td>
</tr>
<tr>
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<td>1 1/4&quot;</td>
<td>13–23</td>
</tr>
<tr>
<td>850008</td>
<td>1 1/2&quot;</td>
<td>13–23</td>
</tr>
<tr>
<td>850009</td>
<td>2&quot;</td>
<td>13–23</td>
</tr>
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</table>

850 Gas pressure closing filter regulator, double diaphragm.
Body PN 16.
Flanged connection. To be coupled with flat counterflanges EN 1092-1.
Max. inlet pressure: 500 mbar.
Temperature range: -15–60 °C.
Regulation and closing at null flow according to UNI EN 88.
Filtration: Ø ≥ 50 µm.
Filtration class: G 2 (to EN 779).
Conformity to Directive ATEX (II 2G - II 2D).

<table>
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<td>DN 80</td>
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852

<table>
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<td>18–40</td>
</tr>
<tr>
<td>852006</td>
<td>1”</td>
<td>18–40</td>
</tr>
<tr>
<td>852007</td>
<td>1 1/4”</td>
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</tr>
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<td>852008</td>
<td>1 1/2”</td>
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841

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<td>1”</td>
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<td>841440</td>
<td>1/2”</td>
</tr>
<tr>
<td>841540</td>
<td>3/4”</td>
</tr>
<tr>
<td>841640</td>
<td>1”</td>
</tr>
</tbody>
</table>

842

<table>
<thead>
<tr>
<th>Code</th>
<th>L (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>842004</td>
<td>1/2”</td>
</tr>
<tr>
<td>842005</td>
<td>3/4”</td>
</tr>
<tr>
<td>842006</td>
<td>1”</td>
</tr>
<tr>
<td>842007</td>
<td>1 1/4”</td>
</tr>
<tr>
<td>842008</td>
<td>1 1/2”</td>
</tr>
<tr>
<td>842009</td>
<td>2”</td>
</tr>
<tr>
<td>842060</td>
<td>DN 65</td>
</tr>
<tr>
<td>842080</td>
<td>DN 80</td>
</tr>
<tr>
<td>842100</td>
<td>DN 100</td>
</tr>
</tbody>
</table>

8460
Tap for gas pressure gauge, with opening button. Female connections.

| Code  | |
|-------||
| 846002 | 1/4” |
| 846003 | 3/8” |

8461

<table>
<thead>
<tr>
<th>Code</th>
<th>mbar</th>
<th>Ø</th>
</tr>
</thead>
<tbody>
<tr>
<td>846101</td>
<td>1/4”</td>
<td>0–60</td>
</tr>
<tr>
<td>846102</td>
<td>1/4”</td>
<td>0–100</td>
</tr>
<tr>
<td>846103</td>
<td>3/8”</td>
<td>0–60</td>
</tr>
<tr>
<td>846104</td>
<td>3/8”</td>
<td>0–100</td>
</tr>
</tbody>
</table>
SOLENOID VALVES FOR GAS - NORMALLY OPEN - MANUAL RESET

**8540**
Solenoid valve for gas, normally open, with manual reset.
Max. pressure: 500 mbar.
Protection class: IP 65.

![Solenoid valve 8540](image)

<table>
<thead>
<tr>
<th>Code</th>
<th>Electric supply</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>854024</td>
<td>1/2&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>854025</td>
<td>3/4&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>854044</td>
<td>1/2&quot; 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>854045</td>
<td>3/4&quot; 24 V (AC)</td>
<td>1</td>
</tr>
</tbody>
</table>

Spare coil, complete with connector.

<table>
<thead>
<tr>
<th>Code</th>
<th>Electric supply</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>854012</td>
<td>230 V (AC) 1/2&quot;-3/4&quot;</td>
<td>1</td>
</tr>
<tr>
<td>854014</td>
<td>24 V (AC) 1/2&quot;-3/4&quot;</td>
<td>1</td>
</tr>
</tbody>
</table>

**839**
Solenoid valve for gas, normally open, with manual reset.
Max. pressure: 500 mbar.
Protection class: IP 65.

![Solenoid valve 839](image)

<table>
<thead>
<tr>
<th>Code</th>
<th>Electric supply</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>839005</td>
<td>3/4&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839006</td>
<td>1&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839007</td>
<td>1 1/4&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839008</td>
<td>1 1/2&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839009</td>
<td>2&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839105</td>
<td>3/4&quot; 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839106</td>
<td>1&quot; 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839107</td>
<td>1 1/4&quot; 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839108</td>
<td>1 1/2&quot; 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839109</td>
<td>2&quot; 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839205</td>
<td>3/4&quot; 12 V (DC)</td>
<td>1</td>
</tr>
<tr>
<td>839206</td>
<td>1&quot; 12 V (DC)</td>
<td>1</td>
</tr>
<tr>
<td>839207</td>
<td>1 1/4&quot; 12 V (DC)</td>
<td>1</td>
</tr>
<tr>
<td>839208</td>
<td>1 1/2&quot; 12 V (DC)</td>
<td>1</td>
</tr>
<tr>
<td>839209</td>
<td>2&quot; 12 V (DC)</td>
<td>1</td>
</tr>
</tbody>
</table>

**8540**
Solenoid valve for gas, normally open, with manual reset.
Max. pressure: 500 mbar.
Protection class: IP 65.

![Solenoid valve 8540](image)

<table>
<thead>
<tr>
<th>Code</th>
<th>Electric supply</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>854026</td>
<td>1&quot; 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>854046</td>
<td>1&quot; 24 V (AC)</td>
<td>1</td>
</tr>
</tbody>
</table>

Spare coil, complete with connector.

<table>
<thead>
<tr>
<th>Code</th>
<th>Electric supply</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>854002</td>
<td>230 V (AC) 1&quot;</td>
<td>1</td>
</tr>
<tr>
<td>854004</td>
<td>24 V (AC) 1&quot;</td>
<td>1</td>
</tr>
</tbody>
</table>

**839**
Solenoid valve for gas, normally open, with manual reset.
Body PN 16.
Max. pressure: 500 mbar.
Protection class: IP 65.
Flanged connections PN 16.
To be coupled with flat counterflanges EN 1092-1.

![Solenoid valve 839](image)

<table>
<thead>
<tr>
<th>Code</th>
<th>Electric supply</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>839060</td>
<td>DN 65 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839080</td>
<td>DN 80 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839100</td>
<td>DN 100 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839120</td>
<td>DN 125 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839150</td>
<td>DN 150 230 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839160</td>
<td>DN 65 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839180</td>
<td>DN 80 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839190</td>
<td>DN 100 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839220</td>
<td>DN 125 24 V (AC)</td>
<td>1</td>
</tr>
<tr>
<td>839250</td>
<td>DN 150 24 V (AC)</td>
<td>1</td>
</tr>
</tbody>
</table>

Spare coil, complete with connector.

<table>
<thead>
<tr>
<th>Code</th>
<th>Electric supply</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>839A05</td>
<td>230 V (AC) 3/4&quot;-DN 150</td>
<td>1</td>
</tr>
<tr>
<td>839B05</td>
<td>24 V (AC) 3/4&quot;-DN 150</td>
<td>1</td>
</tr>
<tr>
<td>839C05</td>
<td>12 V (DC) 3/4&quot;-DN 150</td>
<td>1</td>
</tr>
</tbody>
</table>
SOLENOID VALVES FOR GAS - NORMALLY CLOSED - MANUAL RESET

8541
Solenoid valve for gas, normally closed, with manual reset.
Max. pressure: 500 mbar.
Class A - Group 2.
Protection class: IP 65.

Code | Electric supply | Use
--- | --- | ---
854124 | 1/2” 230 V (AC) | 1 –
854125 | 3/4” 230 V (AC) | 1 –
854126 | 1” 230 V (AC) | 1 –
854144 | 1/2” 24 V (AC) | 1 –
854145 | 3/4” 24 V (AC) | 1 –
854146 | 1” 24 V (AC) | 1 –

Spare coil, complete with connector.

837
Solenoid valve for gas, normally closed, with manual reset.
Max. pressure: 500 mbar.
Class A - Group 2.
Protection class: IP 65.

Code | Electric supply | Use
--- | --- | ---
837060 | DN 65 230 V (AC) | 1 –
837080 | DN 80 230 V (AC) | 1 –
837100 | DN 100 230 V (AC) | 1 –
837120 | DN 125 230 V (AC) | 1 –
837150 | DN 150 230 V (AC) | 1 –
837160 | DN 65 24 V (AC) | 1 –
837180 | DN 80 24 V (AC) | 1 –
837190 | DN 100 24 V (AC) | 1 –
837220 | DN 125 24 V (AC) | 1 –
837250 | DN 150 24 V (AC) | 1 –

Spare coil, complete with connector.

**Code** | **Electric supply** | **Use** | **Code** | **Electric supply** | **Use**
---|---|---|---|---|---
838004 | 230 V (AC) | 1/2” - 3/4” (round version) | 838060 | DN 65 | 230 V (AC) 1 –
838005 | 230 V (AC) | 1 “ (round version) | 838080 | DN 80 | 230 V (AC) 1 –
838006 | 230 V (AC) | 1 1/2” (round version) | 838100 | DN 100 | 230 V (AC) 1 –
838007* | 230 V (AC) | 1 1/4”–2” (round version)* | 838120 | DN 125 | 230 V (AC) 1 –
838008* | 230 V (AC) | 1 1/4”–2” (round version)* | 838150 | DN 150 | 230 V (AC) 1 –
838009* | 230 V (AC) | 1 1/2” (round version) | 838160 | DN 65 | 24 V (AC) 1 –
838104 | 24 V (AC) | 1/2” (round version) | 838180 | DN 80 | 24 V (AC) 1 –
838105 | 24 V (AC) | 3/4” (round version) | 838190 | DN 100 | 24 V (AC) 1 –
838106 | 24 V (AC) | 1” (round version) | 838220 | DN 125 | 24 V (AC) 1 –
838107* | 24 V (AC) | 1 1/4”–2” (round version)* | 838250 | DN 150 | 24 V (AC) 1 –
838108* | 24 V (AC) | 1 1/4”–2” (round version)* | 838200 | 24 V (AC) | DN 65 – DN 80 1 –
838109* | 24 V (AC) | 1 1/2” (round version) | 838220 | 24 V (AC) | DN 125 – DN 150 1 –

* With upper hexagonal fixing nut

Spare coil, complete with connector.

**Code** | **Electric supply** | **Use** | **Code** | **Electric supply** | **Use**
---|---|---|---|---|---
838A04 | 230 V (AC) | 1/2” - 3/4” (round version) | 838A60 | 230 V (AC) | DN 65 – DN 80 1 –
838A06 | 230 V (AC) | 1” (round version) | 838A00 | 230 V (AC) | DN 100 1 –
838A07 | 230 V (AC) | 1 1/4”–2” (round version)* | 838A20 | 230 V (AC) | DN 125 – DN 150 1 –
838A17 | 230 V (AC) | 1 1/4”–2” (round version)* | 838B60 | 24 V (AC) | DN 65 – DN 80 1 –
838B04 | 24 V (AC) | 1/2” - 3/4” (round version) | 838B00 | 24 V (AC) | DN 100 1 –
838B06 | 24 V (AC) | 1” (round version) | 838B20 | 24 V (AC) | DN 125 – DN 150 1 –
838B07 | 24 V (AC) | 1 1/4”–2” (round version) | 838B20 | 24 V (AC) | DN 125 – DN 150 1 –
838B17 | 24 V (AC) | 1 1/4”–2” (round version)* |

* With upper hexagonal fixing nut

**ROTATING SIREN - BLINKER**

8561
Rotating siren.
230 V (AC) - 112 dB/1 m.

**Code** | **Use**
---|---
856102 | 1 –

8562
Electronic intermittence blinker.
230 V (AC) - Lamp power: 40 W.

**Code** | **Use**
---|---
856202 | 1 –
GAS DETECTORS

8563
Gas detector, with built-in sensor and relay outlet.
With BUS connection.
For solenoid valves 8540, 8541, 837, 838 and 839 series.
Supply: 230 V (AC).
Outlet contact: 8 (2) A.
Protection class: IP 42.
Domestic use.

Code
856300 for methane gas 1 –
856302 for LPG 1 –

8563
Auxiliary remote sensor for gas detector 8563 series.
Supply: 230 V (AC).
Protection class: IP 42.
Domestic use.

Code
856310 for methane gas 1 –
856312 for LPG 1 –

8565
Gas detector, with built-in sensor and relay outlet.
Without BUS connection.
With solenoid valve.
Normally open.
Supply: 230 V (AC).
Protection class: IP 42.

Code
855400 1/2” for methane gas 1 –
855500 3/4” for methane gas 1 –
855410 1/2” for LPG 1 –
855510 3/4” for LPG 1 –
Expansion vessels
Shut-off cocks for expansion vessels
Pressure switch and float switch
Pickling gel and deoxidising powder for welding
Counterflanges
Temperature regulators
Chrono-thermostats
Thermostats - Hour meter - Timer
Radio wave temperature control systems

Domestic Water Sizer
DOMESTIC WATER SYSTEM SIZER ALSO FOR SMARTPHONE
Download the version for your iOS and Android® mobile phone.
EXPANSION VESSELS FOR HEATING SYSTEMS

**556**

Welded expansion vessel,
for heating systems, EC certification.

- Diaphragm membrane.
- Max. working pressure: 6 bar.
- System working temperature range: -10–120 °C.
- Membrane working temperature range: -10–70 °C.
- Max. percentage of glycol: 50 %.
- Conformity to EN 13831 standard.

<table>
<thead>
<tr>
<th>Code</th>
<th>Litres</th>
<th>Conn.</th>
<th>Precharge (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>556008</td>
<td>8</td>
<td>3/4&quot;</td>
<td>1.5</td>
</tr>
<tr>
<td>556012</td>
<td>12</td>
<td>3/4&quot;</td>
<td>1.5</td>
</tr>
<tr>
<td>556018</td>
<td>18</td>
<td>3/4&quot;</td>
<td>1.5</td>
</tr>
<tr>
<td>556025</td>
<td>25</td>
<td>3/4&quot;</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**557**

Welded expansion vessel,
for heating systems, EC certification.

- Bladder membrane.
- Max. working pressure: 10 bar.
- System working temperature range: -10–100 °C.
- Membrane working temperature range: -10–100 °C.
- Conformity to EN 13831 standard.

<table>
<thead>
<tr>
<th>Code</th>
<th>Litres</th>
<th>Conn.</th>
<th>Precharge (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>557002</td>
<td>2</td>
<td>1/2&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>557005</td>
<td>5</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>557008</td>
<td>8</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
</tbody>
</table>

EXPANSION VESSELS FOR HOT WATER SYSTEMS

**557**

Welded expansion vessel,
for hot water systems, EC certification.

- Bladder membrane.
- Max. working pressure: 10 bar.
- System working temperature range: -10–70 °C.
- Membrane working temperature range: -10–70 °C.
- Conformity to EN 13831 standard.

<table>
<thead>
<tr>
<th>Code</th>
<th>Litres</th>
<th>Conn.</th>
<th>Precharge (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>557008</td>
<td>8</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>557012</td>
<td>12</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>557018</td>
<td>18</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>557025</td>
<td>25</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>557033</td>
<td>33</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
</tbody>
</table>

**568**

Welded expansion vessel,
for hot water systems, EC certification.

- Bladder membrane.
- Max. working pressure: 10 bar.
- System working temperature range: -10–70 °C.
- Membrane working temperature range: -10–70 °C.
- Conformity to EN 13831 standard.

<table>
<thead>
<tr>
<th>Code</th>
<th>Litres</th>
<th>Conn.</th>
<th>Precharge (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>568008</td>
<td>8</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568012</td>
<td>12</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568018</td>
<td>18</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568025</td>
<td>25</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568033</td>
<td>33</td>
<td>3/4&quot;</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Complete with brackets for wall mounting*

**568**

Welded expansion vessel,
for hot water systems, EC certification.

- Bladder membrane.
- Max. working pressure: 10 bar.
- System working temperature range: -10–70 °C.
- Membrane working temperature range: -10–70 °C.
- Conformity to EN 13831 standard.

<table>
<thead>
<tr>
<th>Code</th>
<th>Litres</th>
<th>Conn.</th>
<th>Precharge (bar)</th>
</tr>
</thead>
<tbody>
<tr>
<td>568050</td>
<td>50</td>
<td>1&quot;</td>
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</tr>
<tr>
<td>568060</td>
<td>60</td>
<td>1&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568080</td>
<td>80</td>
<td>1&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568100</td>
<td>100</td>
<td>1&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568200</td>
<td>200</td>
<td>1 1/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568300</td>
<td>300</td>
<td>1 1/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568400</td>
<td>400</td>
<td>1 1/4&quot;</td>
<td>2.5</td>
</tr>
<tr>
<td>568500</td>
<td>500</td>
<td>1 1/4&quot;</td>
<td>2.5</td>
</tr>
</tbody>
</table>

*Can be replaced for volumes from 60 to 500 litres.*
### SHUT-OFF COCKS FOR EXPANSION VESSELS

**558**

Automatic shut-off cock, for expansion vessels.

For domestic water circuit.  
Max. working pressure: 10 bar.  
Max. working temperature: 110 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>55800</td>
<td>3/4&quot;</td>
<td>1</td>
<td>50</td>
</tr>
</tbody>
</table>

**558**

Automatic shut-off cock, for expansion vessel, with drain cock.

For domestic water circuit.  
Max. working pressure: 6 bar.  
Max. working temperature: 85 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>55810</td>
<td>3/4&quot;</td>
<td>1</td>
<td>50</td>
</tr>
</tbody>
</table>

**5580**

Ball shut-off valve, for expansion vessels, with drain cock.

For domestic water circuit.  
Max. working pressure: 6 bar.  
Max. working temperature: 85 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>558050</td>
<td>3/4&quot;</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>558060</td>
<td>1&quot;</td>
<td>1</td>
<td>20</td>
</tr>
<tr>
<td>558070</td>
<td>1 1/4&quot;</td>
<td>1</td>
<td>20</td>
</tr>
</tbody>
</table>

Application diagram of shut-off valve 5580 series

### PRESSURE SWITCH AND FLOAT SWITCH

**625**

Pressure switch for boosting sets and domestic water applications.

Up to 500 V three-pole - 16 (10) A.  
Ambient temperature range: 0–55 °C.  
Medium temperature range: 0–55 °C.  
1/4" female connection.  
Protection class: IP 44.

<table>
<thead>
<tr>
<th>Code</th>
<th>Setting range</th>
<th>Max. pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>625005</td>
<td>1–5 bar</td>
<td>5 bar</td>
</tr>
<tr>
<td>625010</td>
<td>3–12 bar</td>
<td>12 bar</td>
</tr>
</tbody>
</table>

**613**

Float switch, 250 V - 10 A.

Heavy duty approved.

<table>
<thead>
<tr>
<th>Code</th>
<th>Cable length</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>613030</td>
<td>3 m</td>
<td>1</td>
<td>5</td>
</tr>
<tr>
<td>613050</td>
<td>5 m</td>
<td>1</td>
<td>5</td>
</tr>
</tbody>
</table>
COUNTERFLANGES

616
Flat counterflange slip-on, for welding EN 1092-1, PN 6. Complete with bolts and gaskets.

Code | DN | Quantity
--- | --- | ---
616030 | 32 (1 1/4") | 1 –
616040 | 40 (1 1/2") | 1 –
616050 | 50 (2") | 1 –
616060 | 65 (2 1/2") | 1 –
616080 | 80 (3") | 1 –
616100 | 100 (4") | 1 –
616120 | 125 (5") | 1 –

617
Flat counterflange slip-on, for welding EN 1092-1, PN 16. Complete with bolts and gaskets.

Code | DN | Quantity
--- | --- | ---
617030 | 32 (1 1/4") | 1 –
617040 | 40 (1 1/2") | 1 –
617050 | 50 (2") | 1 –
617060 | 65 (2 1/2") 4 holes | 1 –
617080 | 80 (3") | 1 –
617100 | 100 (4") | 1 –
617120 | 125 (5") | 1 –
617150 | 150 (6") | 1 –
617200 | 200 | 1 –

PICKLING GEL AND DEOXIDISING POWDER FOR WELDING

6150
ECOGEL. Non-irritating pickling GEL to weld copper with tin. With brush.

<table>
<thead>
<tr>
<th>Code</th>
<th>Quantity</th>
<th>Unit</th>
</tr>
</thead>
<tbody>
<tr>
<td>615000</td>
<td>110 g</td>
<td>60</td>
</tr>
<tr>
<td>615010</td>
<td>1 kg</td>
<td>1</td>
</tr>
</tbody>
</table>

6151
Pickling GEL to weld copper with tin. With brush. Quantity of GEL 100 g.

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>615100</td>
</tr>
</tbody>
</table>

6152
Deoxidising powder for heavy welding of copper, bronze, brass, iron and steel. Quantity of POWDER 100 g.

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>615200</td>
</tr>
</tbody>
</table>
TEMPERATURE REGULATOR

**161**
Digital regulator with synoptic diagram for heating and cooling complete with immersion flow probe with pocket and Pt1000 Ø 6 mm return probe (pocket to be chosen according to the pipe; see accessories). Optional outside compensated probe. Temperature adjustment range: 5–95 °C. Supply: 230 V - 50/60 Hz. Protection class: IP 20 / EN 60529. Probe cable length: 1,5 m.

**161010**
1 channel

**Pressure switch with preconnected pin.**
Working range: 0,5–10 bar. Max. working temperature: 100 °C. Cable length: 1 m.

**161002**
1/2”

**161**
Outside temperature probe.

**161003**
1/2”

**161**
Digital temperature regulator.

**152001**
1 channel

**1520**
Digital temperature regulator for heating and cooling.

**152021**
1 channel
CHRONO-THERMOSTATS

618
Digital room chrono-thermostat.
with battery supply.
Daily or weekly programmable clock.
2 temperature levels + anti-freeze.
Fitted for phone programmer.
30-minute minimum programme.
Output contact: 8 (2) A.
Protection class: IP 30.
Class: I-IV [Ecodesign Directive].

738
Digital room chrono-thermostat.
4 operating programmes with ON/OFF spark advance.
Weekly programmable clock.
3 temperature levels + anti-freeze.
30-minute minimum programme.
ON/OFF function with adjustable differential from 0.2 to 2 °C or proportional.
SUMMER - WINTER changeover.
Adjustable temperature with 0.1 °C steps.
1 changeover output contact: 8 (2) A.
Protection class: IP 30.
Class: I-IV [Ecodesign Directive].

739
Digital room chrono-thermostat.
with battery supply.
Weekly programmable clock.
Quick programming.
SUMMER - WINTER changeover.
Output contact: 5 (2) A.
Protection class: IP 30.
Class: I-IV [Ecodesign Directive].

738
Digital room chrono-thermostat.
with battery electric supply.
Backlit display and navigation via menu.
Weekly programmable clock.
Fitted for phone programmer.
3 temperature levels + anti-freeze.
30-minute minimum programme.
ON/OFF function with adjustable differential from 0.2 to 2 °C or proportional.
SUMMER - WINTER changeover.
Adjustable temperature with 0.1 °C steps.
Relais output with changeover switch contact: 5 (3) A / 250 V.
Protection class: IP 30.
Class: I-IV [Ecodesign Directive].

738
Touch screen digital chrono-thermostat
with battery electric supply.
Weekly programmable clock.
Fitted for phone programmer.
2 temperature levels + anti-freeze.
30-minute minimum programme.
ON/OFF function with adjustable differential from 0.2 to 2 °C or proportional.
SUMMER - WINTER changeover.
Adjustable temperature with 0.1 °C steps.
1 changeover switch output contact: 8 (2) A.
Protection class: IP 30.
Class: I-IV [Ecodesign Directive].
**THERMOSTATS - HOUR METER - TIMER**

**620**  
Room thermostat with changeover switch  
10 (2,5) A - 230 V - 50 Hz.  
620000: without warning lamp.  
620100: with warning lamp.  
620110: with warning lamp ON/OFF switch.  
620120: with warning lamp and SUMMER - WINTER switch.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**6205**  
Control bar.  
Supply: 230 V - 50/60 Hz.  
Power consumption: max. 5,5 VA (8 outputs).  
Changeover contacts: 10 A.  
Protection class: IP 30 (with rubber cable clamps).  
Output command for pump.  
Input for SUMMER - WINTER.  
Input for timer.

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
Daily programmable clock.  
With warning lamp and SUMMER - WINTER switch.  
Supply: 230 V (AC).  
Output contact: 8 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
With changeover contact 5 (3) A.  
ON/OFF function with adjustable differential from 0,2 to 2 °C or proportional.  
2 temperature levels + anti-freeze.  
SUMMER - WINTER switch.  
Adjustable temperature with 0,1 °C steps.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**620**  
Digital room thermostat with display.  
With changeover contact 5 (3) A.  
ON/OFF function with adjustable differential from 0,2 to 2 °C or proportional.  
2 temperature levels + anti-freeze.  
SUMMER - WINTER switch.  
Adjustable temperature with 0,1 °C steps.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

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Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

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Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

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Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

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Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

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Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
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Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

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Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
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Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

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Electronic room thermostat.  
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Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
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Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].

**619**  
Electronic room thermostat.  
For fan-coil.  
Supply: 230 V (AC).  
Output contact: 5 (2) A.  
Protection class: IP 30.  
Class: I [Ecodesign Directive].
RADIO WAVE TEMPERATURE CONTROL SYSTEMS

740 tech. broch. 01118
Digital chrono-thermostat with radio transmitter - 868 MHz. Weekly programmable clock. Fitted for phone programmer. Supply: 2 x 1,5 V alkaline penlight. ON/OFF function with adjustable differential from 0,2 to 2 °C or proportional. Max. range 120 m in free air. 2 temperature levels + anti-freeze. Adjustable temperature with 0,1 °C steps. Class: 1-IV [Ecodesign Directive].

Code
740000
1 –

740 tech. broch. 01118

Code
740202
1 –

740 tech. broch. 01118

Code
740204 4 channels
1 –
740208 8 channels
1 –

740 tech. broch. 01118
Electronic room thermostat with radio transmitter - 868 MHz. Supply: 2 x 1,5 V alkaline penlight. ON/OFF function with adjustable differential from 0,2 to 2 °C or proportional. Max. range 120 m in free air. SUMMER - WINTER control. Adjustable temperature with 0,1 °C steps. Protection class: IP 30. Class: I [Ecodesign Directive].

Code
740201
1 –

740 tech. broch. 01118
Electronic actuator with radio receiver - 868 MHz. For convertible radiator or thermostatic valves. It can be combined with systems 740 series. Supply: 2 x 1,5 V alkaline penlight. Protection class: IP 30.

Code
741000
1 –

741 tech. broch. 01118
Tamper-proof protection kit for actuator 741 series.

Code
741019
1 10

741 tech. broch. 01118
12 seal tamper-proof label set for actuator 741 series.

Code
741008
1 –
User modules
Wall mounted HIU - Instantaneous DHW production
Recess mounted HIU - Instantaneous DHW production
PLURIMOD EASY UNIVERSAL USER MODULE
CENTRALISED DOMESTIC WATER

**700205**
tech. broch. 01303
Recessed box with galvanised backplate and RAL 9010 painted door for interior use; finishing frame with adjustable depth from 130 to 160 mm.

Complete with:
- 2 pairs of 3/4” M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- PPE full insulation.
Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700205</td>
<td>3/4”</td>
<td>480 x 480</td>
</tr>
</tbody>
</table>

**700025**
tech. broch. 01113
DUPLEX
Recessed box for double PLURIMOD EASY user. Galvanised backplate and RAL 9010 painted door for interior use; finishing frame with adjustable depth from 140 to 180 mm. Equipped with guides for positioning the brackets code 700205 002.
Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700025</td>
<td>550 x 1175</td>
</tr>
</tbody>
</table>

**700205 003**
tech. broch. 01303
Steel plate for fastening vertically to a wall or for inserting in a services duct.
Complete with:
- 2 pairs of 3/4” M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- PPE full insulation.
Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700205 003</td>
<td>3/4”</td>
<td>480 x 610</td>
</tr>
</tbody>
</table>

**700255 ...**
tech. broch. 01303
Hydraulic module fitted for heat metering.
Complete with:
- 1 zone valve unit with flow pocket with strainer mesh
- 1 template for flow meter. Tmax. 55 °C
- 1 pressure independent control valve.
Fitted for thermo-electric actuators 6565 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Flow rate range (l/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700255 H20</td>
<td>20–200</td>
</tr>
<tr>
<td>700255 H40</td>
<td>80–400</td>
</tr>
<tr>
<td>700255 1H2</td>
<td>120–1200</td>
</tr>
</tbody>
</table>

**7002**
tech. broch. 01303
Hydraulic module PLURIMOD EASY fitted for heat metering.
Complete with:
- 2-way zone valve with ON/OFF control by means of thermo-electric actuator 6562 series
- differential valve with user side control with fixed ΔP
- 2 pockets for temperature probe (flow pocket with stainless steel strainer cartridge)
- 1 copper template for flow meter.

<table>
<thead>
<tr>
<th>Code</th>
<th>module with 230 V (AC) actuator - ΔP 20 kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>700217 001</td>
<td></td>
</tr>
<tr>
<td>700218 001</td>
<td>module with 24 V (AC) actuator - ΔP 20 kPa</td>
</tr>
<tr>
<td>700219 001</td>
<td>module with 230 V (AC) actuator - ΔP 30 kPa</td>
</tr>
<tr>
<td>700220 001</td>
<td>module with 24 V (AC) actuator - ΔP 30 kPa</td>
</tr>
</tbody>
</table>

**700205 002**
tech. broch. 01303
Module bracket for PLURIMOD EASY complete with:
- 2 pairs of 3/4” M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- PPE full insulation.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700205 002</td>
<td>3/4”</td>
</tr>
</tbody>
</table>

R79112
Copper template for flow meter to replace the plastic template.
**7003**

Recessed box with galvanised backplate and RAL 9010 painted door for interior use; finishing frame with adjustable depth from 130 to 160 mm. For both vertical and horizontal installation, inlet possible on both left and right side of the box.

Complete with:
- 2 pairs of 1” M ball valves
- PPE full insulation, black, density 50 g/l
- technopolymer mounting bracket with thermal break
- PICV DN 25, max. flow rate: 1.8 m³/h
- technopolymer template for system flushing
- inspectable strainer with probe connection.

Fitted for positioning of domestic water functions codes 70005. (see page 273).

---

**7003**

PLURIMOD EASY ULTRA 1” hydraulic module complete with:
- 2 pairs of 1” M ball valves
- PICV DN 25, max. flow rate: 1.8 m³/h
- wall anchors and mounting screws
- PPE full insulation.

Fitted for thermo-electric actuators 6565 series.

---

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700306</td>
<td>1”</td>
<td>480 x 480</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700306 002</td>
<td>1”</td>
<td></td>
</tr>
</tbody>
</table>

---

**7003**

Steel plate for fastening vertically to a wall or for inserting in a services duct. Complete with PPE full insulation and hydraulic module.

Fitted for positioning of domestic water functions codes 70005. (see page 273).

---

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700306 003</td>
<td>1”</td>
<td>480 x 610</td>
</tr>
</tbody>
</table>

---

**RS-485**

7002

...
PLURIMOD EASY UNIVERSAL USER MODULE
CENTRALISED DOMESTIC WATER - WITH DISTRIBUTION MANIFOLD

70028
Recessed box for PLURIMOD EASY with distribution manifold for fan-coil systems.
Galvanised backplate and RAL 9010 painted door for interior use.
The box is supplied with:
- 2 pairs of 3/4” M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- 2 x 1” distribution manifolds 662 series (max 8 connections).
Fitted for positioning of domestic water functions codes 70005. (see page 273).

70029
Recessed box for PLURIMOD EASY with distribution manifold.
Galvanised backplate and RAL 9010 painted door for interior use.
The box is supplied with:
- 2 pairs of 3/4” M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- 2 single 3/4” distribution manifolds 350 series (max 8 connections).
Fitted for positioning of domestic water functions codes 70005. (see page 273).

70028
<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Outlets</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70028C</td>
<td>2</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70028D</td>
<td>3</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70028E</td>
<td>4</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70028F</td>
<td>5</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70028G</td>
<td>6</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70028H</td>
<td>7</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70028I</td>
<td>8</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
</tbody>
</table>

70029
<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Outlets</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70029B</td>
<td>2</td>
<td>3,1,5</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70029C</td>
<td>3</td>
<td>3,1,5</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70029D</td>
<td>4</td>
<td>3,1,5</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70029E</td>
<td>5</td>
<td>3,1,5</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70029F</td>
<td>6</td>
<td>3,1,5</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70029G</td>
<td>7</td>
<td>3,1,5</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70029H</td>
<td>8</td>
<td>3,1,5</td>
<td>866 x 600 x 140–180</td>
</tr>
</tbody>
</table>

70028
Recessed box for PLURIMOD EASY with distribution manifold for radiant panel systems.
Galvanised backplate and RAL 9010 painted door for interior use.
The box is supplied with:
- 2 pairs of 3/4” M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- 2 x 1” distribution manifolds 664 series, flow manifold complete with flow meters and flow rate regulating valve (max 8 connections).
Fitted for positioning of domestic water functions codes 70005. (see page 273).

70029
<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Outlets</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70026B</td>
<td>2</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70026C</td>
<td>3</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70026D</td>
<td>4</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70026E</td>
<td>5</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70026F</td>
<td>6</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70026G</td>
<td>7</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70026H</td>
<td>8</td>
<td>3/4”</td>
<td>866 x 600 x 140–180</td>
</tr>
</tbody>
</table>

7002
Hydraulic module PLURIMOD EASY fitted for heat metering.
Complete with:
- 2-way zone valve with ON/OFF control by means of thermo-electric actuator 6562 series
- differential valve with user side control with fixed Δp
- 2 pockets for temperature probe (flow pocket with stainless steel strainer cartridge)
- 1 copper template for flow meter.

7002
<table>
<thead>
<tr>
<th>Code</th>
<th>module with 230 V (AC) actuator</th>
<th>Δp 20 kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>700217</td>
<td>001</td>
<td></td>
</tr>
<tr>
<td>700218</td>
<td>001</td>
<td></td>
</tr>
<tr>
<td>700219</td>
<td>001</td>
<td></td>
</tr>
<tr>
<td>700220</td>
<td>001</td>
<td></td>
</tr>
</tbody>
</table>

For HEAT METER - HYDRAULIC OPTIONS - see pages 272-273
**PLURIMOD UNIVERSAL USER MODULE**

**700005**
**Recessed box with galvanised backplate and RAL 9010 painted door for interior use; finishing frame with adjustable depth from 120 to 150 mm.**
Complete with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C.
Fitted for positioning of domestic water functions codes 700005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Can.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700005</td>
<td>3/4&quot;</td>
<td>550 x 550</td>
</tr>
</tbody>
</table>

**700025**
**DUPLEX**
**Recessed box for double PLURIMOD user.**
Galvanised backplate and RAL 9010 painted door for interior use; finishing frame with adjustable depth from 140 to 180 mm. Equipped with guides for positioning the brackets code 700005 002.
Fitted for positioning of domestic water functions codes 700005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700025</td>
<td>550 x 1175</td>
</tr>
</tbody>
</table>

**700005 003**
**Steel plate for fastening vertically to a wall or for inserting in a services duct.**
Complete with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C.
Fitted for positioning of domestic water functions codes 700005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Can.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700005 003</td>
<td>3/4&quot;</td>
<td>480 x 610</td>
</tr>
</tbody>
</table>

**700005 002**
**Galvanized sheet metal mounting bracket for PLURIMOD plumbing module.**
Complete with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700005 002</td>
<td></td>
</tr>
</tbody>
</table>

**7000**
**Hydraulic module PLURIMOD**
Fitted for heat metering.
Complete with:
- 1 motorised zone valve
- 2 pockets for temperature probe
- 1 copper template for AUTOFLOW®
- 1 copper template for flow meter
- insulation.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate (l/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700015 001</td>
<td>module with 230 V (AC) actuator</td>
</tr>
<tr>
<td>700016 001</td>
<td>module with 24 V (AC) actuator</td>
</tr>
</tbody>
</table>
70008 tech. broch. 01203
Recessed box for PLURIMOD with distribution manifold for fan-coil heating systems.
Galvanised backplate and RAL 9010 painted door for interior use.
The box is supplied with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- 2 x 1" distribution manifolds 662 series (max 8 connections).
Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Outlets</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70008B</td>
<td>2</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70008C</td>
<td>3</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70008D</td>
<td>4</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70008E</td>
<td>5</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70008F</td>
<td>6</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70008G</td>
<td>7</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70008H</td>
<td>8</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
</tbody>
</table>

70009 tech. broch. 01203
Recessed box for PLURIMOD with distribution manifold for radiator heating systems.
Galvanised backplate and RAL 9010 painted door for interior use.
The box is supplied with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- 2 single 3/4" distribution manifolds 350 series (max 8 connections).
Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Outlets</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70009B</td>
<td>2</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70009C</td>
<td>3</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70009D</td>
<td>4</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70009E</td>
<td>5</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70009F</td>
<td>6</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70009G</td>
<td>7</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70009H</td>
<td>8</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
</tbody>
</table>

70006 tech. broch. 01203
Recessed box for PLURIMOD with distribution manifold for radiant panel systems.
Galvanised backplate and RAL 9010 painted door for interior use.
The box is supplied with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- 2 x 1" distribution manifolds 664 series. flow manifold complete with flow meters and flow rate regulating valve (max 8 connections).
Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlets No.</th>
<th>Outlets</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>70006B</td>
<td>2</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70006C</td>
<td>3</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70006D</td>
<td>4</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70006E</td>
<td>5</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70006F</td>
<td>6</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70006G</td>
<td>7</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
<tr>
<td>70006H</td>
<td>8</td>
<td>3/4&quot;</td>
<td>866 x 600 x 140–180</td>
</tr>
</tbody>
</table>

7000 tech. broch. 01203
Hydraulic module PLURIMOD fitted for heat metering. Complete with:
- 1 motorised zone valve
- 2 pockets for temperature probe
- 1 copper template for AUTOFLOW®
- 1 copper template for flow meter
- insulation.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate l/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>700015 001</td>
<td>module with 230 V (AC) actuator</td>
</tr>
<tr>
<td>700016 001</td>
<td>module with 24 V (AC) actuator</td>
</tr>
</tbody>
</table>

For HEAT METER - HYDRAULIC OPTIONS - see pages 272 - 273
PLURIMOD CLIMA UNIVERSAL USER MODULE - CENTRALISED DOMESTIC WATER

**700105**
Recessed box with galvanised backplate and RAL 9010 painted door for interior use; finishing frame with adjustable depth from 120 to 150 mm.
Complete with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax 55 °C
- full insulation.
Fitted for positioning of domestic water functions codes 70005. (see page 273).

**700025**
DUPLEX
Recessed box for double PLURIMOD CLIMA user. Galvanized backplate and RAL 9010 painted door for interior use; finishing frame with adjustable depth from 140 to 180 mm. Equipped with guides for positioning the brackets code 700105 002. Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700105</td>
<td>3/4&quot;</td>
<td>550 x 550</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700025</td>
<td>550 x 1175</td>
</tr>
</tbody>
</table>

**700105 003**
Steel plate for fastening vertically to a wall or for inserting in a services duct. Complete with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax. 55 °C
- full insulation.
Fitted for positioning of domestic water functions codes 70005. (see page 273).

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Dimension (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>700105 003</td>
<td>3/4&quot;</td>
<td>480 x 610</td>
</tr>
</tbody>
</table>

**700105 002**
Galvanized sheet metal mounting bracket for PLURIMOD CLIMA plumbing module. Complete with:
- 2 pairs of 3/4" M ball valves
- 2 flushing pipes for initial washing of the system. Tmax. 55 °C
- full insulation.

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>700105 002</td>
</tr>
</tbody>
</table>

**7001**
Hydraulic module PLURIMOD CLIMA fitted for heat metering. Complete with:
- 1 zone valve unit with probe pocket
- 1 servomotor 6450 series, IP 65
- 1 copper template for AUTOFLOW®
- 1 copper template for flow meter
- by-pass adjustment knob.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. recommended flow rate l/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>700115 001</td>
<td>with actuator 230 V (AC)</td>
</tr>
<tr>
<td>700116 001</td>
<td>with actuator 24 V (AC)</td>
</tr>
</tbody>
</table>

*For HEAT METER - HYDRAULIC OPTIONS - see pages 272 - 273*
PRE-ASSEMBLED UNITS FOR PLURIMOD VAN - CENTRALISED DOMESTIC WATER

### 7000
Pre-assembled unit for positioning in the services duct. It can accommodate 3 complete user systems.

Unit with 3 outlets for heating and cooling circuits.
Complete with:
- 1 dual 1 1/4'' distribution manifold - 3 x 3/4'' connections
- telescopic shut-off valves
- flushing pipes, Tmax. 55 °C
- end plugs
- manifolds insulation (700036)
- full insulation (700136)

Dimension (l x h x d): 840 x 650 x 160 mm.

#### Code
- 700036 heating circuit template unit x PLURIMOD 7000 series
- 700136 heating and cooling circuits template unit x PLURIMOD CLIMA 7001 series

### 7000
Hydraulic module PLURIMOD fitted for heat metering.
Complete with:
- 1 motorised zone valve
- 2 pockets for temperature probe
- 1 copper template for AUTOFLOW®
- 1 copper template for flow meter
- insulation.

#### Code
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. recommended flow rate l/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>700015 001</td>
<td>module with 230 V (AC) actuator</td>
<td>1400</td>
</tr>
<tr>
<td>700016 001</td>
<td>module with 24 V (AC) actuator</td>
<td>1400</td>
</tr>
</tbody>
</table>

### 7001
Hydraulic module PLURIMOD CLIMA fitted for heat metering.
Complete with:
- 1 zone valve unit with probe pocket
- 1 servomotor 6450 series, IP 65
- 1 copper template for AUTOFLOW®
- 1 copper template for flow meter
- by-pass adjustment knob.

#### Code
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
<th>Max. recommended flow rate l/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>700115 001</td>
<td>with 230 V (AC) actuator</td>
<td>1400</td>
</tr>
<tr>
<td>700116 001</td>
<td>with 24 V (AC) actuator</td>
<td>1400</td>
</tr>
</tbody>
</table>

For HEAT METER - HYDRAULIC OPTIONS - see pages 272 - 273
**DIRECT SUPPLY UNITS**

**765**

Direct supply unit for heating systems.

With pre-formed insulation.

Template for flow meter.

Connections for direct immersion probes.

Max. working pressure: 10 bar.

Max. working temperature: 100 °C.

Electric supply: 230 V - 50 Hz.

System side connection: 1/2" F.

Boiler side connection: 1 1/2" M.

Centre distance: 125 mm.

With UPM3 Auto L 25-70 pump.

**MOTORISED REGULATING UNITS**

**767**

Motorised regulating unit for heating systems.

With pre-formed insulation.

Template for flow meter.

Connections for direct immersion probes.

Regulation with sector three-way valve and 3-point actuator.

With auxiliary microswitch.

Can be connected to digital regulators code 161010.

Max. working pressure: 10 bar.

Max. working temperature: 100 °C.

Electric supply: 230 V - 50 Hz.

System side connection: 1" F.

Boiler side connection: 1 1/2" M.

Centre distance: 125 mm.

With UPM3 Auto L 25-70 pump.

**THERMOSTATIC REGULATING UNITS**

**766**

Thermostatic regulating unit for heating systems.

With pre-formed insulation.

Template for flow meter.

Connections for direct immersion probes.

Max. working pressure: 10 bar.

Temperature adjustment range: 25–50 °C.

Primary inlet temperature: 100 °C.

Electric supply: 230 V - 50 Hz.

System side connection: 1" F.

Boiler side connection: 1 1/2" M.

Centre distance: 125 mm.

With UPM3 Auto L 25-70 pump.

**REGULATOR**

**161**

Digital regulator with synoptic diagram for heating and cooling complete with immersion flow probe with pocket and Pt1000 Ø 6 mm return probe (pocket to be chosen according to the pipe; see accessories).

Optional outside compensated probe.

Temperature adjustment range: 5–95 °C.

Supply: 230 V - 50/60 Hz.

Protection class: IP 20 / EN 60529.

Probe cable length: 1.5 m.
799 series

Zone outlet module complete with:
- Recessed box with galvanised backplate and RAL 9010 painted door for interior use, h = 650 mm, depth = 110 (140) mm
- pair of ball shut-off
- two-way ball zone valve 6470 series and servomotor 6460 series
- air vent 5021 series
- AUTOFLOW®
- 3/4” and 1” simple manifold 350 series, 1 1/4” manifold 650 series
- template for heat meter
- connections for domestic water function 794. series.

AUTOFLOW® flow rate table

<table>
<thead>
<tr>
<th>7995 series</th>
<th>with Δp range 15–200 kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>m/h 0.30</td>
<td>M30</td>
</tr>
<tr>
<td>m/h 0.40</td>
<td>M40</td>
</tr>
<tr>
<td>m/h 0.50</td>
<td>M50</td>
</tr>
<tr>
<td>m/h 0.60</td>
<td>M60</td>
</tr>
<tr>
<td>m/h 0.70</td>
<td>M70</td>
</tr>
<tr>
<td>m/h 0.80</td>
<td>M80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7996 series</th>
<th>with Δp range 15–200 kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>m/h 0.60</td>
<td>M60</td>
</tr>
<tr>
<td>m/h 0.70</td>
<td>M70</td>
</tr>
<tr>
<td>m/h 0.80</td>
<td>M80</td>
</tr>
<tr>
<td>m/h 0.90</td>
<td>M90</td>
</tr>
<tr>
<td>m/h 1.00</td>
<td>M10</td>
</tr>
<tr>
<td>m/h 1.20</td>
<td>M12</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>7997 series</th>
<th>with Δp range 15–200 kPa</th>
</tr>
</thead>
<tbody>
<tr>
<td>m/h 1.00</td>
<td>M10</td>
</tr>
<tr>
<td>m/h 1.20</td>
<td>M12</td>
</tr>
<tr>
<td>m/h 1.40</td>
<td>M14</td>
</tr>
<tr>
<td>m/h 1.60</td>
<td>M16</td>
</tr>
<tr>
<td>m/h 1.80</td>
<td>M18</td>
</tr>
<tr>
<td>m/h 2.00</td>
<td>M20</td>
</tr>
</tbody>
</table>

The colours that identify the connection diameter are a guide to help find the corresponding heat meter, see page 272.

For HEAT METER - HYDRAULIC OPTIONS - INSULATION see pages 272 - 273 - 274

The technical brochure 01103
Zone outlet module complete with:
- Recessed box with galvanised backplate and RAL 9010 painted door for interior use, h = 650 mm, depth = 110 (140) mm
- pair of ball shut-off
- three-way ball zone valve 6480 series with by-pass tee 6490 series and servomotor 6460 series
- air vent 5021 series
- 3/4” and 1” simple manifold 350 series, 1 1/4” manifold 650 series
- template for heat meter
- probe holder pocket (flow pocket with strainer mesh)
- connections for domestic water function 794 series.

For HEAT METER - HYDRAULIC OPTIONS - INSULATION see pages 272 - 273 - 274
The colours that identify the connection diameter are a guide to help find the corresponding heat meter, see page 272
COMPACT WALL MOUNTED DIRECT HEAT INTERFACE UNIT
INSTANTANEOUS DHW PRODUCTION - SATK20 - SATK22 SERIES

SATK20
LOW temperature HIU.
Heating temperature range: 25–45°C.
Max. 18 l/min DHW.
Max. operating pressure: 10 bar.
Max. primary Δp: 0.9 bar.

SATK20

SATK20

SATK201 tech. broch. 01209

SATK202 tech. broch. 01209
MEDIUM temperature HIU.
Heating temperature range: 45–75°C.
Max. 18 l/min DHW.
Max. operating pressure: 10 bar.
Max. primary Δp: 0.9 bar.

SATK201

SATK202

Code Dimensions (w x h x d)
SATK20103HE heat exchanger 40 kW 450 x 550 x 265 mm

SATK22
LOW temperature HIU.
Heating temperature range: 25–45°C.
Max. 24 l/min DHW.
Max. operating pressure: 10 bar.
Max. primary Δp: 6 bar.

SATK22

SATK221 tech. broch. 01309

SATK222 tech. broch. 01309
MEDIUM temperature HIU.
Heating temperature range: 45–75°C.
Max. 24 l/min DHW.
Max. operating pressure: 10 bar.
Max. primary Δp: 6 bar.

SATK221

SATK222

Code Dimensions (w x h x d)
SATK22103 heat exchanger 50 kW 490 x 500 x 245 mm
SATK22105 heat exchanger 60 kW 490 x 500 x 245 mm

SATK222

SATK222

Code Dimensions (w x h x d)
SATK22203 heat exchanger 50 kW 490 x 500 x 245 mm
SATK22205 heat exchanger 60 kW 490 x 500 x 245 mm

Hydraulic digram SATK201/SATK221

Hydraulic digram SATK202/SATK222
COMPACT WALL MOUNTED DIRECT HEAT INTERFACE UNIT
INSTANTANEOUS DHW PRODUCTION - SATK20 - SATK22 SERIES

SATK203 tech. broch. 01209
HIGH temperature HIU.
Max. heating temperature: 85°C.
Max. 18 l/min DHW (SATK20303).
Max. 27 l/min DHW (SATK20305).
Max. operating pressure: 10 bar.
Max. primary Δp: 0.9 bar.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK20303</td>
<td>heat exchanger 40 kW</td>
</tr>
<tr>
<td>SATK20305</td>
<td>heat exchanger 65 kW</td>
</tr>
</tbody>
</table>

SATK204 tech. broch. 01209
HIGH temperature HIU.
Max. heating temperature: 85°C.
Max. 18 l/min DHW.
Max. operating pressure: 10 bar.
Max. primary Δp: 0.9 bar.
With primary pump.

SATK223 tech. broch. 01309
HIGH temperature HIU.
Max. heating temperature: 85°C.
Max. 24 l/min DHW.
Max. operating pressure: 10 bar.
Max. primary Δp: 6 bar.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK22303</td>
<td>heat exchanger 50 kW</td>
</tr>
<tr>
<td>SATK22305</td>
<td>heat exchanger 60 kW</td>
</tr>
</tbody>
</table>

SATK224 tech. broch. 01309
HIGH temperature HIU.
Max. heating temperature: 85°C.
Max. 24 l/min DHW.
Max. operating pressure: 10 bar.
Max. primary Δp: 6 bar.
With primary pump.

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK22403</td>
<td>heat exchanger 50 kW</td>
</tr>
<tr>
<td>SATK22405</td>
<td>heat exchanger 60 kW</td>
</tr>
</tbody>
</table>

Hydraulic diagram SATK203/SATK223

Hydraulic diagram SATK204/SATK224
COMPACT WALL MOUNTED INDIRECT HEAT INTERFACE UNIT
SATK30 - SATK32 - SATK40 SERIES

SATK30 tech. broch. 01209
LOW temperature range: 25–45°C.
Medium/high temperature range: 45–75°C.
Max. 18 l/min DHW (SATK30103HE).
Max. 27 l/min DHW (SATK30105HE).
Max. opening pressure: 16 bar.
Max. primary Δp: 1.65 bar.

SATK40 tech. broch. 01216
LOW temperature range: 25–45°C.
Medium/high temperature range: 45–75°C.
Max. opening pressure: 16 bar.
Max. primary Δp: 1.2 bar.
DHW production in storage cylinder (not supplied).

SATK30

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK30103HE</td>
<td>heat exchanger 40 kW</td>
</tr>
<tr>
<td></td>
<td>550 x 630 x 265 mm</td>
</tr>
<tr>
<td>SATK30105HE</td>
<td>heat exchanger 65 kW</td>
</tr>
<tr>
<td></td>
<td>550 x 630 x 265 mm</td>
</tr>
</tbody>
</table>

SATK40

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK40103HE</td>
<td></td>
</tr>
<tr>
<td></td>
<td>550 x 630 x 265 mm</td>
</tr>
</tbody>
</table>

SATK32 tech. broch. 01301
LOW temperature range: 25–45°C.
Medium/high temperature range: 45–75°C.
Max. 24 l/min DHW.
Max. opening pressure: 16 bar.
Max. primary Δp: 6 bar.

SATK32

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK32103</td>
<td>heat exchanger 50 kW</td>
</tr>
<tr>
<td></td>
<td>490 x 630 x 245 mm</td>
</tr>
<tr>
<td>SATK32105</td>
<td>heat exchanger 60 kW</td>
</tr>
<tr>
<td></td>
<td>490 x 630 x 245 mm</td>
</tr>
</tbody>
</table>

SATK40

Hydraulic digram SATK30/SATK32

Hydraulic digram SATK40
COMPLETION CODES FOR SATK SERIES

789100

789110

572120
Filling loop with CB type backflow preventer for SATK32.

789

789023
Mounting template with shut-off valve for SATK32.

DHW ONLY HEAT INTERFACE UNIT - SATK10 SERIES

SATK102 tech. broch. 01308
Domestic hot water production only. Max. 27 l/min DHW. Max. opening pressure: 10 bar. Max. primary Δp: 0,9 bar.

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. flow rate</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK10203HE</td>
<td>heat exchanger 40 kW</td>
<td>18 (l/min)</td>
</tr>
<tr>
<td>SATK10204HE</td>
<td>heat exchanger 65 kW</td>
<td>25 (l/min)</td>
</tr>
<tr>
<td>SATK10205HE</td>
<td>heat exchanger 75 kW</td>
<td>27 (l/min)</td>
</tr>
</tbody>
</table>

Without primary pump

<table>
<thead>
<tr>
<th>Code</th>
<th>Max. flow rate</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>SATK10253</td>
<td>heat exchanger 40 kW</td>
<td>18 (l/min)</td>
</tr>
<tr>
<td>SATK10254</td>
<td>heat exchanger 65 kW</td>
<td>25 (l/min)</td>
</tr>
<tr>
<td>SATK10255</td>
<td>heat exchanger 75 kW</td>
<td>27 (l/min)</td>
</tr>
</tbody>
</table>
COMPACT WALL MOUNTED INDIRECT HEAT INTERFACE UNIT - MECHANICAL VERSIONS
INSTANTANEOUS DHW PRODUCTION - SATK15 - SATK16 SERIES

SATK15303 DPCV
Heating and DHW production. Modulating primary control.
With DPCV on the primary side, fixed setting 30 kPa.
Max. opening pressure: 10 bar.
Max. primary Δp: 2 bar.
Connections: 3/4” M.

SATK16
Heating and DHW production. Modulating primary control.
With DPCV on the primary side, fixed setting 30 kPa.
With heating zone valve and thermostatic mixing valve on DHW outlet.
Max. opening pressure: 10 bar.
Max. primary Δp: 2 bar.
Connections: 3/4” M.

SATK15313 ABC
Heating and DHW production. Modulating primary control.
With DPCV on the primary side, fixed setting 30 kPa.
Max. primary Δp: 2 bar.
Connections: 3/4” M.

SATK16315
420 x 450 x 200 mm

COOLING INTERFACE UNIT

NEW

797
Cooling interface unit.
Max. primary circuit pressure: 16 bar.
Primary circuit nominal flow rate:
450 l/h (797601)
1150 l/h (797603)
2200 l/h (797605)
Max. primary Δp: 4 bar.
Connections: 1”.

Code Nominal power Dimensions (w x h x d)
797601 3 kW* 480 x 800 x 220 mm
797603 8 kW* 480 x 800 x 220 mm
797605 15 kW* 480 x 800 x 220 mm

(*) primary 6–12 °C, secondary 14–8 °C
**COMPACT RECESS MOUNTED DIRECT HEAT INTERFACE UNIT
INSTANTANEOUS DHW PRODUCTION - SATK50 SERIES**

**SATK50**

- **LOW temperature HIU.**
- Heating temperature range: 25–45 °C.
- Max. 18 l/min DHW.
- Max. operating pressure: 10 bar.
- Max. primary Δp: 0,9 bar.

**SATK502**

- **MEDIUM temperature HIU.**
- Heating temperature range: 45–75 °C.
- Max. 18 l/min DHW.
- Max. operating pressure: 10 bar.
- Max. primary Δp: 0,9 bar.

**SATK503**

- **HIGH temperature HIU.**
- Max. heating temperature: 85 °C.
- Max. 18 l/min DHW.
- Max. operating pressure: 10 bar.
- Max. primary Δp: 0,9 bar.

**COMPACT RECESS INDIRECT HEAT INTERFACE UNIT
INSTANTANEOUS DHW PRODUCTION - SATK60 SERIES**

**SATK60**

- **LOW heating temperature range: 25–45 °C.**
- MEDIUM/HIGH heating temperature range: 45–75 °C.
- Max. 18 l/min DHW.
- Max. operating pressure: 10 bar.
- Max. primary Δp: 0,9 bar.

**SATK602**

- **LOW heating temperature range: 25–45 °C.**
- MEDIUM/HIGH heating temperature range: 45–75 °C.
- Max. 18 l/min DHW.
- Max. operating pressure: 10 bar.
- Max. primary Δp: 0,9 bar.

**7949**

- Recessed mounting box for SATK60, complete with shut-off valves for preliminary connections to the system.

**Dimensions (w x h x d)**

<table>
<thead>
<tr>
<th>Code</th>
<th>Dimensions (w x h x d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>794950</td>
<td>600 x 700 x 120 mm</td>
</tr>
<tr>
<td>794950 004</td>
<td>600 x 700 mm backplate with valves</td>
</tr>
</tbody>
</table>
CONTECA EASY 7504 series  
Direct heat metering with local reading by means of LCD or centralised reading by means of Bus transmission. 
The heat meter is supplied with: 
- Pair of immersion temperature probe (L= 1,9 m). 
- Turbine flow meter with pulse output (Tmax 90 °C). 
- Electronic integrator with LCD. 
- Accuracy class: 3. 
- Electric supply 24 V (AC) 50 Hz - 1 W. 
Fitted for Bus RS-485 transmission in M-Bus protocol. 
Optional MODBUS-RTU.

7504  
Direct heat meter for user modules 796, 799, 7900 series. 
Flow meter with union connections. 
Pair of Y-pockets (with strainer on the flow one) included.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Meas. type</th>
<th>Qp m³/h</th>
<th>Qi l/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>750405</td>
<td>3/4&quot;</td>
<td>single jet</td>
<td>2,5</td>
<td>50</td>
</tr>
<tr>
<td>750406</td>
<td>1&quot;</td>
<td>multi jet</td>
<td>3,5</td>
<td>70</td>
</tr>
<tr>
<td>750407</td>
<td>1 1/4&quot;</td>
<td>multi jet</td>
<td>6</td>
<td>120</td>
</tr>
</tbody>
</table>

Qp = permanent flow rate  
Qi = minimum flow rate

CONTECA EASY ULTRA 7507 series  
Direct heat metering with local reading by means of LCD or centralised reading by means of Bus transmission. 
The heat meter is supplied with: 
- Pair of immersion temperature probe (L= 1,9 m). 
- Ultrasonic heat meter (Tmax 90 °C). 
- Electronic integrator with LCD. 
- Accuracy class: 2. 
- Electric supply 24 V (AC) 50 Hz - 1 W. 
Fitted for Bus RS-485 transmission in M-Bus protocol. 
Optional MODBUS-RTU.

7507  
Ultrasonic direct heat meter for user modules 796, 799, 7900 series. 
Flow meter with union connections. 
Pair of Y-pockets (with strainer on the flow one) included.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Meas. type</th>
<th>Qp m³/h</th>
<th>Qi l/h</th>
</tr>
</thead>
<tbody>
<tr>
<td>750705</td>
<td>3/4&quot;</td>
<td>single jet</td>
<td>2,5</td>
<td>10</td>
</tr>
<tr>
<td>750706</td>
<td>1&quot;</td>
<td>single jet</td>
<td>3,5</td>
<td>35</td>
</tr>
<tr>
<td>750707</td>
<td>1 1/4&quot;</td>
<td>multi jet</td>
<td>6</td>
<td>24</td>
</tr>
</tbody>
</table>

Qp = permanent flow rate  
Qi = minimum flow rate

Download the full technical brochure (PDF) here: [Tech Brochure]
HYDRAULIC OPTIONS

70005
Domestic water meter kit.
For user module 7000, 7001, 7002
(except codes 700036 and 700136).
Consisting of:
- ball shut-off valve with built-in
  check valve BALLSTOP
- flow meter (MI001)
- shut-off ball valve with male
terminal
- flushing pipe
- mounting bracket.

Code
- 700050 domestic hot water 3/4” with local reading
- 700051 domestic hot water 3/4” with pulse output
- 700052 domestic cold water 3/4” with local reading
- 700053 domestic cold water 3/4” with pulse output

700009
Template with 3/4” valves for
domestic water meter.
For user module 7000, 7001, 7002
(except codes 700036 and 700136).
Tmax. 55 °C.

Code
- 700009

7941
Domestic water meter kit.
For user module 796, 799, 7900 series.
Consisting of:
- ball shut-off valve with built-in
  check valve BALLSTOP
- flow meter (MI001), with pulse output
- shut-off ball valve with male terminal.

Code
- 794140 domestic cold water 1/2”
- 794141 domestic hot water 1/2”
- 794150 domestic cold water 3/4”
- 794151 domestic hot water 3/4”

7940
Domestic water meter kit.
For user module 796, 799, 7900 series.
Consisting of:
- ball shut-off valve with built-in
  check valve BALLSTOP
- flow meter (MI001), with local reading
- shut-off ball valve with male terminal.

Code
- 794040 domestic cold water 1/2”
- 794041 domestic hot water 1/2”
- 794050 domestic cold water 3/4”
- 794051 domestic hot water 3/4”

7942
Water meter
for domestic hot / cold water (MI001).
With pulse output.
1/2”: for template code 794540,
3/4”: for unit codes 700036 and 700136.

Code
- 794201 1/2” - domestic cold water (Tmax. 30 °C) - L= 110 mm
- 794205 3/4” - domestic cold water (Tmax. 30 °C) - L= 130 mm
- 794205/C 3/4” - domestic hot water (30–90 °C) - L= 130 mm

Conforms to directive 2014/32/UE (MI001)
**PRE-FORMED INSULATION**

**798**
Pre-formed insulation for user module 799, 7900 series without distribution.

<table>
<thead>
<tr>
<th>Code</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>798205</td>
<td>3/4&quot; - 2-way module</td>
</tr>
<tr>
<td>798206</td>
<td>1&quot; - 2-way module</td>
</tr>
<tr>
<td>798207</td>
<td>1 1/4&quot; - 2-way module</td>
</tr>
</tbody>
</table>

**789**

<table>
<thead>
<tr>
<th>Code</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>789303</td>
<td>SATK15303 DPCV</td>
</tr>
<tr>
<td>789313</td>
<td>SATK15313 ABC</td>
</tr>
<tr>
<td>789312</td>
<td>SATK12313</td>
</tr>
</tbody>
</table>

N.B.: Carry out the order for the insulation together with the module. It is not possible to apply it later.
COMPONENTS FOR RENEWABLE ENERGY SYSTEMS

This diagram is just an indication.
The CALEFFI BIOMASS® product series has been created specifically to be used in circuits of systems with wood solid fuel generators, operating at high temperature with water or glycol solutions as thermal medium. The materials and performance of the components must necessarily take into account these particular operating conditions.

COMPONENTS FOR BIOMASS SYSTEMS

- Components for closed systems

- Components for opened systems

COMPONENTS FOR SOLAR THERMAL SYSTEMS

The CALEFFI SOLAR product range has been specifically developed for use in solar thermal systems, where high temperatures can normally be reached and where, depending on the kind of system, there can be glycol. Materials and performance of the components must necessarily take into account these particular operating conditions.

- Components for closed systems

- Components for opened systems

COMPONENTS FOR HEAT PUMP SYSTEMS

The products in the CALEFFI GEO series have been specifically designed for use in heat pump systems. In ground source heat pumps a mixture of water and anti-freeze fluid is generally used to protect against freezing temperatures. The components are made with high-performance materials for this type of applications.

- Components for air-water heat pumps

- Components for water-water heat pumps

COMPONENTS FOR BIOMASS SYSTEMS

The CALEFFI BIOMASS® product series has been created specifically to be used in circuits of systems with wood solid fuel generators, operating at high temperature with water or glycol solutions as thermal medium. The materials of the components and their performance take account of the specific system needs in terms of efficiency and safety of the generators and systems.

- Safety and protection components

- Control units
COMPONENTS FOR SOLAR THERMAL SYSTEMS

Safety relief valve - Automatic air vents
Deaerators, DISCAL® - Manual air separator
Pump stations
Ball valve
Mechanical fittings with O-Ring seal
Three piece union fitting
Heat meter CONTECA EASY SOLAR
Balancing valve with flow meter
Motorised ball diverter valve
Thermostatic diverter valve
Thermostatic mixing valves
Solar storage-to-boiler connection kit
Temperature and pressure relief valve
Anti-freeze safety device

Domestic Water Sizer
DOMESTIC WATER SYSTEM SIZER ALSO FOR SMARTPHONE
Download the version for your iOS and Android® mobile phone.
SAFETY RELIEF VALVE - AUTOMATIC AIR VENTS

253  tech. broch. 01089
Safety relief valve for solar thermal systems.
Brass body. Chrome plated.
Female connections. PN 10.
Temperature range: -30–160 °C.
Max. percentage of glycol: 50 %.
Oversized discharge outlet.
Discharge rating:
- 1/2" - 50 kW;
- 3/4" - 100 kW.
TÜV certified to TRD 721 - SV 100 § 7.7.
Settings: 2,5 - 3 - 4 - 6 - 8 - 10 bar.

250  tech. broch. 01133
Consisting of:
- Automatic air vent for solar thermal systems.
Brass body. Chrome plated.
Max. working pressure: 10 bar.
Max. discharge pressure: 2,5 bar.
Temperature range: -30–180 °C.
Max. percentage of glycol: 50 %.
- Shut-off cock complete with seal.
Brass body. Chrome plated.
Max. working pressure: 10 bar.
Temperature range: -30–200 °C.
Max. percentage of glycol: 50 %.

251  tech. broch. 01135
Discal Air®
High-performance automatic air vent for solar thermal systems.
Brass body. Chrome plated.
Female connections.
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range: -30–160 °C.
Max. percentage of glycol: 50 %.

The automatic air vent must be shut off after the system has been filled.
DEAERATORS - MANUAL AIR SEPARATOR

**251 DISCAL®**
Deaerator for solar thermal systems.
Brass body. Chrome plated.
Female connections.
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range: -30–160 °C.
Max. percentage of glycol: 50 %.

- **Code 251003**: 3/4” F
- **Code 251005**: 3/4” F
- **Code 251006**: 1” F
- **Code 251007**: 1 1/4” F

**251 DISCAL®**
Deaerator for vertical pipes, for solar thermal systems.
Brass body. Chrome plated.
Female connections.
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range: -30–160 °C.
Max. percentage of glycol: 50 %.

- **Code 251093**: 3/4” F

**251 DISCAL®**
Deaerator for solar thermal systems.
Brass body. Chrome plated.
Female connections.
Max. working pressure: 10 bar.
Max. discharge pressure: 10 bar.
Temperature range: -30–160 °C.
Max. percentage of glycol: 50 %.

**251 Manual air separator**
for solar thermal systems.
Brass body.
Female connections.
Max. working pressure: 10 bar.
Temperature range: -30–200 °C.
Max. percentage of glycol: 50 %.
278

Pump station for solar thermal systems, return connection.
Electric supply: 230 V (AC).
Max. working pressure: 10 bar.
Safety relief valve temperature range: -30–160 °C.
Safety relief valve setting: 6 bar (for other setting, see 253 series using the adapter code F21224).
Flow meter temperature range: -10–110 °C.
Max. percentage of glycol: 50 %.

Consisting of:
- Solar circulation pump;
- safety relief valve for solar thermal systems 253 series;
- fill/drain cock;
- instrument holder fitting with pressure gauge;
- flow meter;
- return temperature gauge;
- shut-off valve with check valve;
- 2 hose connections;
- pre-formed shell insulation.

278

Pump station for solar thermal systems, return connection.
Electric supply: 230 V (AC).
Max. working pressure: 10 bar.
Safety relief valve temperature range: -30–160 °C.
Safety relief valve setting: 6 bar (for other setting, see 253 series using the adapter code F21224).
Flow meter temperature range: -10–110 °C.
Max. percentage of glycol: 50 %.

Consisting of:
- Solar circulation pump;
- safety relief valve for solar thermal systems 253 series;
- fill/drain cock;
- instrument holder fitting with pressure gauge;
- flow meter;
- return temperature gauge;
- shut-off valve with check valve;
- 2 hose connections;
- pre-formed shell insulation.

Fitted for coupling with digital regulator DeltaSol® SLL.

<table>
<thead>
<tr>
<th>Code</th>
<th>Flow meter scale (l/min)</th>
<th>Pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>278050HE</td>
<td>3/4” F</td>
<td>UPM3 15-75*</td>
</tr>
<tr>
<td>278052HE</td>
<td>3/4” F</td>
<td>UPM3 15-75*</td>
</tr>
</tbody>
</table>

* With PWM control
279
Pump station for solar thermal systems, flow and return connection.
Electric supply: 230 V (AC).
Max. working pressure: 10 bar.
Safety relief valve temperature range: -30–160 °C.
Safety relief valve setting: 6 bar (for other setting, see 253 series using the adapter code F21224).
Flow meter temperature range: -10–110 °C.
Max. percentage of glycol: 50 %.
Consisting of:
- Solar circulation pump;
- safety relief valve for solar thermal systems 253 series;
- instrument holder fitting with pressure gauge;
- flow meter;
- deaerator device;
- flow temperature gauge;
- return temperature gauge;
- 2 shut-off valves with check valves;
- 2 hose connections;
- pre-formed shell insulation.
Fitted for coupling with digital regulator DeltaSol® SLL.

278
Digital regulator DeltaSol® SLL with PWM control.
Electric supply: 230 V (AC).
Complete with pre-forme shell insulation for coupling with pump stations 278...HE, 279...HE and 255...HE series.
Complete with 3 Pt1000 probes, with fourth probe as optional.
Functions: differential temperature regulator
with supplementary and optional functions.
Inputs for 4 Pt1000 probes.
Outputs: 3 semiconductor relays 2 PWM.
**PUMP STATIONS**

**255**

Pump station for solar thermal systems, flow and return connection.

- Electric supply: 230 V (AC).
- Max. working pressure: 10 bar.
- Safety relief valve temperature range: -30–160 °C.
- Safety relief valve setting: 6 bar (for other setting see 253 series).
- Max. flow meter temperature: 120 °C.
- Max. percentage of glycol: 50 %.

Consisting of:
- Solar circulation pump;
- safety relief valve for solar thermal systems 253 series;
- 2 fill/drain cocks with hose connections;
- - instrument holder fitting with pressure gauge;
- - flow regulator with flow meter;
- - deaerator device;
- - flow temperature gauge;
- - return temperature gauge;
- - 2 shut-off valves with check valves;
- - pre-formed shell insulation.

**ACCESSORIES FOR PUMP STATIONS**

**259**

Welded expansion vessel only for primary circuit of solar thermal systems, EC certification. Bladder membrane.

- Max. working pressure: 10 bar.
- System working temperature range: -10–120 °C.
- Max. percentage of glycol: 50 %.

Consisting of:
- stainless steel flexible hose (L=610 mm);
- automatic shut-off cock;
- wall mounting bracket (for vessels up to 24 litres).

Max. working pressure: 10 bar.

Shut-off cock max. working temperature: 110 °C.

Max. percentage of glycol: 50 %.

Conformity to EN 13831 standard.

**255**

Expansion vessel connection kit.

Consisting of:
- stainless steel flexible hose (L=610 mm);
- automatic shut-off cock;
- wall mounting bracket (for vessels up to 24 litres).

Max. working pressure: 10 bar.

Shut-off cock max. working temperature: 110 °C.

Max. percentage of glycol: 50 %.

Conformity to EN 13831 standard.

**BALL VALVE**

**240**


<table>
<thead>
<tr>
<th>Code</th>
<th>Flow meter scale (l/min)</th>
<th>Pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>25266HE</td>
<td>1&quot; F</td>
<td>5-40</td>
</tr>
</tbody>
</table>

* With PWM control
MECHANICAL FITTINGS WITH O-RING SEAL

**2540**

**2543**

**2544**

**2545**

**2546**

**2547**

**2548**

**2540**
Plug for Ø 22 copper pipe.

**588**
HEAT METER
CONTECA EASY SOLAR

75025 CONTECA EASY SOLAR  tech. broch. 01311

Direct heat metering with local reading via LCD display/centralised reading via BUS transmission.

Max. working pressure: 10 bar.
Temperature range: 5–120 °C.
Max. percentage of glycol: 50 %.

The CONTECA EASY SOLAR heat meter is supplied complete with:
- a pair of temperature probes,
- a pair of Y pockets for immersion probes,
- flow meter with pulse output (Tmax 120 °C),
- electronic calculator with LCD display.

Electric supply 24 V (AC) (+10 % -5 %) / 50/60 Hz - 1 W.
Fitted for transmission on Bus RS-485.

258
BALANCING VALVE WITH FLOW METER

258 tech. broch. 01148

Balancing valve with flow meter, for solar thermal systems.
Direct reading of flow rate.
Brass valve body and flow meter.
Chrome plated.
Ball valve for flow rate adjustment.
Graduated scale flow meter with magnetic movement flow rate indicator.

With insulation.
Max. working pressure: 10 bar.
Temperature range: -30–130 °C.
Max. percentage of glycol: 50 %.

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Max. type</th>
<th>Qmax l/min</th>
<th>Flow rate range (l/min)</th>
</tr>
</thead>
<tbody>
<tr>
<td>258503</td>
<td>3/4&quot;</td>
<td>single jet</td>
<td>1.5</td>
<td>1 5</td>
</tr>
<tr>
<td>258533</td>
<td>3/4&quot;</td>
<td>single jet</td>
<td>2.5</td>
<td>1 5</td>
</tr>
<tr>
<td>258523</td>
<td>3/4&quot;</td>
<td>multi jet</td>
<td>3.5</td>
<td>1 5</td>
</tr>
<tr>
<td>258503</td>
<td>1 1/4&quot;</td>
<td>multi jet</td>
<td>6</td>
<td>1 5</td>
</tr>
<tr>
<td>258503</td>
<td>1 1/2&quot;</td>
<td>multi jet</td>
<td>10</td>
<td>1 5</td>
</tr>
<tr>
<td>258503</td>
<td>2&quot;</td>
<td>multi jet</td>
<td>15</td>
<td>1 5</td>
</tr>
</tbody>
</table>

Application diagram of heat meter 75025 series and balancing valve 258 series.
**MOTORISED BALL DIVERTER VALVE**

**6443 tech. broch. 01132**

Motorised three-way ball diverter valve.
Max. working pressure: 10 bar.
Max. Δp: 10 bar.
Temperature range: -5–110 °C.
Complete with actuator with 3-contact control.
With auxiliary microswitch.
Supply: 230 V (AC) or 24 V (AC).
Power consumption: 8 VA.
Auxiliary microswitch contact rating: 0.8 A (230 V).
Ambient temperature range: 0–55 °C.
Protection class: IP 44 (vertical stem).
IP 40 (horizontal stem).
Operating time: 10 s (90° rotation).
Cable length: 100 cm.

**THERMOSTATIC DIVERTER VALVES**

**2620 tech. broch. 01335**

Thermostatic diverter valve for solar thermal systems.
 dezincification resistant alloy body.
Chrome plated.
Max. working pressure: 10 bar.
Factory setting: 45 °C.
Max. inlet temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Ku (m³/h)</th>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Ku (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>262040</td>
<td>1/2”</td>
<td>35–55 °C</td>
<td>1,5</td>
<td>262050</td>
<td>3/4”</td>
</tr>
<tr>
<td>262060</td>
<td>1”</td>
<td>38–52 °C</td>
<td>2,6</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Application diagram of thermostatic diverter valve 2620 series

**2620 tech. broch. 01335**

Thermostatic diverter valve for solar thermal systems.
 dezincification resistant alloy body.
Chrome plated.
Max. working pressure: 10 bar.
Factory setting: 45 °C.
Max. inlet temperature: 100 °C.

T> Tset  
T< Tset

From Solar / Heat pump

USER
2521 Adjustable thermostatic mixing valve for solar thermal systems. dezincification resistant alloy body “LOW LEAD”. Chrome plated. Male union connections. Max. working pressure: 14 bar. Max. inlet temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>$K_v$ (m$^3$/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252140</td>
<td>1/2&quot; 30–65 °C</td>
<td>2,6</td>
</tr>
<tr>
<td>252150</td>
<td>3/4&quot; 30–65 °C</td>
<td>2,6</td>
</tr>
</tbody>
</table>

2521 Thermostatic mixing valve for centralised solar thermal systems. dezincification resistant alloy body. Male union connections. Antiscale inner regulator in technopolymer. Max. working pressure: 14 bar. Max. inlet temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>$K_v$ (m$^3$/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252151</td>
<td>3/4&quot; 35–65 °C</td>
<td>4,5</td>
</tr>
<tr>
<td>252160</td>
<td>1&quot; 35–65 °C</td>
<td>5,5</td>
</tr>
<tr>
<td>252170</td>
<td>1 1/4&quot; 35–65 °C</td>
<td>7,6</td>
</tr>
<tr>
<td>252180</td>
<td>1 1/2&quot; 35–65 °C</td>
<td>11,0</td>
</tr>
<tr>
<td>252190</td>
<td>2&quot; 35–65 °C</td>
<td>13,3</td>
</tr>
</tbody>
</table>

2521 Adjustable thermostatic mixing valve, with check valves, for solar thermal systems. dezincification resistant alloy body “LOW LEAD”. Chrome plated. Male union connections. Max. working pressure: 14 bar. Max. inlet temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>$K_v$ (m$^3$/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252153</td>
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<td>2,6</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>$K_v$ (m$^3$/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252340</td>
<td>1/2&quot; 30–65 °C</td>
<td>4,0</td>
</tr>
<tr>
<td>252350</td>
<td>3/4&quot; 30–65 °C</td>
<td>4,5</td>
</tr>
<tr>
<td>252360</td>
<td>1&quot; 30–65 °C</td>
<td>6,9</td>
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<tr>
<td>252370</td>
<td>1 1/4&quot; 30–65 °C</td>
<td>9,1</td>
</tr>
<tr>
<td>252380</td>
<td>1 1/2&quot; 35–65 °C</td>
<td>14,5</td>
</tr>
<tr>
<td>252390</td>
<td>2&quot; 35–65 °C</td>
<td>19,0</td>
</tr>
</tbody>
</table>

Application diagram of thermostatic mixing valve 2521 series
**ANTI-SCALD THERMOSTATIC AND TEMPERING MIXING VALVES**

**2527**
Adjustable anti-scald thermostatic mixing valve, with check valves and strainers, for solar thermal systems.
High thermal performance device with anti-scald safety function.
 dezincification resistant alloy body.
 Chrome plated.
 Male union connections.
 Performance to standards NF 079 doc. 8, EN 15092, EN 1111, EN 1287.
 Max. working pressure: 10 bar.
 Max. inlet temperature: 100 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252714</td>
<td>1/2” 35–55 °C</td>
<td>1,5</td>
</tr>
<tr>
<td>252713</td>
<td>3/4” 35–55 °C</td>
<td>1,7</td>
</tr>
</tbody>
</table>

**2522**
Adjustable thermostatic mixing valve with check valves and strainers, for solar thermal systems.
Enhanced thermal performance device with anti-scald safety function.
 With override function for thermal disinfection.
 dezincification resistant alloy body.
 Chrome plated.
 Male union connections.
 Max. working pressure: 1400 kPa.
 Max. inlet temperature: 100 °C.
Certified to AS 4032.2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252212TMF AUS*</td>
<td>DN 15 30–50 °C</td>
<td>1,5</td>
</tr>
<tr>
<td>252219TMF AUS</td>
<td>DN 20 30–50 °C</td>
<td>1,7</td>
</tr>
</tbody>
</table>

* Without union

**2522**
High performance adjustable anti-scald tempering valve with check valves and strainers at the inlets.
Suitable for solar and instantaneous hot water systems.
 dezincification resistant alloy body.
 Chrome plated.
 Male union connections.
 Max. working pressure: 1400 kPa.
 Max. inlet temperature: 100 °C.
Certified to AS 4032.2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252212HP AUS</td>
<td>DN 15 35–55 °C</td>
<td>1,5</td>
</tr>
<tr>
<td>252219HP AUS</td>
<td>DN 20 35–55 °C</td>
<td>1,7</td>
</tr>
</tbody>
</table>

**2522**
Adjustable thermostatic mixing valve with check valves and strainers, for solar thermal systems.
Enhanced thermal performance device with anti-scald safety function.
 dezincification resistant alloy body.
 Chrome plated.
 Male union connections.
 Max. working pressure: 1400 kPa.
 Max. inlet temperature: 100 °C.
Certified to AS 4032.2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Temperature adjustment</th>
<th>Kv (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>252212TM AUS</td>
<td>DN 15 30–50 °C</td>
<td>1,5</td>
</tr>
<tr>
<td>252219TM AUS</td>
<td>DN 20 30–50 °C</td>
<td>1,7</td>
</tr>
<tr>
<td>252225TM AUS</td>
<td>DN 25 30–50 °C</td>
<td>3,0</td>
</tr>
</tbody>
</table>
264
SOLARNOCAL

**Function**

A thermostatic anti-scald mixing valve, at the kit inlet, controls the temperature of the water coming from the solar hot water storage. The thermostat, by means of the probe positioned on the hot water flow from the solar hot water storage, controls the diverter valve at the kit outlet. Depending on the temperature setting, the valve diverts the water towards the user circuit or activates the boiler circuit, without thermal integration.

**Hydraulic diagrams**

![Hydraulic diagrams](image)

- **T_{SOLAR} > 45°C**
- **T_{SOLAR} < 45°C**

**Solar storage-to-boiler connection kit, without thermal integration.**

Consisting of:
- thermostatic anti-scald mixing valve, adjustable with knob, for solar thermal systems. Complete with strainers and check valves at the inlets;
- diverter valve with three-contact actuator, with auxiliary microswitch;
- thermostat with probe for solar thermal system, for operating diverter valve. Display showing temperature.
- pre-formed shell protective cover.

**Diverter-to-mixing valve coupling with adjustable position** of the inlet and outlet connections.

**Mixing valve**

CR dezincification resistant alloy body.

- Max. working pressure: 10 bar.
- Adjustment temperature range: 35–55 °C.
- Max. inlet temperature: 100°C.

**Diverter valve**

Brass body.

- Max. working pressure: 10 bar.
- Temperature range: 5–110 °C.

**Actuator**

Three-contact type.

- Supply: 230 V (AC).
- Power consumption: 8 VA.
- Auxiliary microswitch contact rating: 0.8 A (230 V).
- Ambient temperature range: 0–55 °C.
- Protection class: IP 44 (vertical stem).
- IP 40 (horizontal stem).
- Operating time: 10 s.
- Cable length: 1 m.

**Thermostat with probe**

Supply: 230 V (AC).

- Adjustable temperature range: 25–50 °C.
- Factory setting: 45 °C.
- Box protection class: IP 54.

**Code**

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F29399</td>
<td>actuator</td>
</tr>
<tr>
<td>F29488</td>
<td>Ø 6 mm probe</td>
</tr>
<tr>
<td>T61014</td>
<td>stainless steel pocket for Pt1000 probe</td>
</tr>
</tbody>
</table>

Spare parts for connection kit 264 and 265 series.

**Application diagram of SOLARNOCAL kit 264 series**

![Application diagram](image)
Solar storage-to-boiler connection kit, with thermal integration.

Function

The thermostat, by means of the probe positioned on the hot water flow from the solar hot water storage, controls the diverter valve at the kit inlet. Depending on the temperature setting, the valve diverts the water towards the user circuit or the boiler circuit, with thermal integration. A thermostatic anti-scald mixing valve, at the kit outlet, constantly controls the temperature of the water sent to the user.

Hydraulic diagrams

| T_SOLAR > 45 °C | T_SOLAR < 45 °C |

Solar storage-to-boiler connection kit, with thermal integration. Consisting of:
- thermostatic anti-scald mixing valve, adjustable with knob, for solar thermal systems. Complete with strainers and check valves at the inlets;
- diverter valve with three-contact actuator, with auxiliary microswitch;
- thermostat with probe for solar thermal system, for operating diverter valve. Display showing temperature.
- pre-formed shell protective cover.

Diverter-to-mixing valve coupling with adjustable position of the inlet and outlet connections.

Mixing valve
For technical details see 264 series.

Diverter valve
For technical details see 264 series.

Actuator
For technical details see 264 series.

Thermostat with probe
For technical details see 264 series.

Code

<table>
<thead>
<tr>
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<tbody>
<tr>
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</tr>
<tr>
<td>F29384</td>
<td>mixing valve spare for 262 and 265 series</td>
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</table>

265


Code

<table>
<thead>
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</thead>
<tbody>
<tr>
<td>265001</td>
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</tbody>
</table>

Accessories for connection kit 264 and 265 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>264 series without thermostat and probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>264359</td>
<td></td>
</tr>
<tr>
<td>265359</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>box with switching 3 contact relay</th>
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</thead>
<tbody>
<tr>
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</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>Ø 15 mm contact probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>F29466</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Code</th>
<th>pocket for Ø 15 mm probe</th>
</tr>
</thead>
<tbody>
<tr>
<td>F29467</td>
<td></td>
</tr>
</tbody>
</table>
## SOLAR STORAGE-TO-BOILER THERMOSTATIC CONNECTION KIT

### 262 SOLARINCAL-T

**Function**

A thermostatic diverter valve, at the kit inlet, receives hot water coming from the solar water storage. Depending on the temperature setting, the valve diverts the water automatically and in a proportional manner towards the user circuit or the boiler with storage circuit, with thermal integration. The valve modulates the flow rates to optimise the energy contained in the solar storage and reduces boiler operation times to a minimum.

A thermostatic anti-scald mixing valve, at the kit outlet, constantly controls and limits the temperature of the water sent to the user.

### Hydraulic diagrams

- **T\text{\textsubscript{SOLAR}} > 45 \degree\text{C}**
- **T\text{\textsubscript{SOLAR}} < 45 \degree\text{C}**

### Application diagram of SOLARINCAL-T kit 262 series

---

**Solar storage-to-boiler connection kit, with thermal integration.**

*Consisting of:*
- thermostatic anti-scald mixing valve, adjustable with knob, for solar thermal systems. Complete with strainers and check valves at the inlets.
- thermostatic diverter valve;
- pre-formed shell protective cover.

**Diverter-to-mixing valve coupling with adjustable position** of the inlet and outlet connections.

**Mixing valve**

- dezincification resistant alloy body.
- Max. working pressure: 10 bar.
- Adjustment temperature range: 35–55 °C.
- **Max. inlet temperature:** 100 °C.

**Diverter valve**

- Brass body.
- Max. working pressure: 10 bar.
- Factory setting: 45 °C.
- **Max. inlet temperature:** 100 °C.

**Adjustment temperature range:** 35–55 °C.

Performance to standards NF 079 doc. 8, EN 15092, EN 1111, EN 1287.

**Code**

- **262350 3/4\text{"}**
- **F29384** mixing valve spare for 262 and 265 series

---

**Solar storage-to-boiler connection kit.**

*Consisting of:*
- thermostatic anti-scald mixing valve, adjustable with knob, for solar thermal systems. Complete with strainers and check valves at the inlets.
- thermostatic diverter valve;
- pre-formed shell protective cover.

**Diverter-to-mixing valve coupling with adjustable position** of the inlet and outlet connections.

**Mixing valve**

- dezincification resistant alloy body.
- Max. working pressure: 10 bar.
- Adjustment temperature range: 35–55 °C.
- **Max. inlet temperature:** 100 °C.

**Diverter valve**

- Brass body.
- Max. working pressure: 10 bar.
- Factory setting: 45 °C.
- **Max. inlet temperature:** 100 °C.

**Adjustment temperature range:** 35–55 °C.

Performance to standards NF 079 doc. 8, EN 15092, EN 1111, EN 1287.

**Code**

- **262342 1/2\text{"}**

---

**Solar storage-to-boiler connection kit, with thermal integration.**

*Consisting of:*
- thermostatic anti-scald mixing valve, adjustable with knob, for solar thermal systems. Complete with strainers and check valves at the inlets.
- thermostatic diverter valve;
- pre-formed shell protective cover.

**Diverter-to-mixing valve coupling with adjustable position** of the inlet and outlet connections.

**Mixing valve**

- dezincification resistant alloy body.
- Max. working pressure: 10 bar.
- Adjustment temperature range: 35–55 °C.
- **Max. inlet temperature:** 100 °C.

**Diverter valve**

- Brass body.
- Max. working pressure: 10 bar.
- Factory setting: 45 °C.
- **Max. inlet temperature:** 100 °C.

**Adjustment temperature range:** 35–55 °C.

Performance to standards NF 079 doc. 8, EN 15092, EN 1111, EN 1287.

**Code**

- **262350 3/4\text{"}**
- **F29384** mixing valve spare for 262 and 265 series

---

**Solar storage-to-boiler connection kit.**

*Consisting of:*
- thermostatic anti-scald mixing valve, adjustable with knob, for solar thermal systems. Complete with strainers and check valves at the inlets.
- thermostatic diverter valve;
- pre-formed shell protective cover.

**Diverter-to-mixing valve coupling with adjustable position** of the inlet and outlet connections.

**Mixing valve**

- dezincification resistant alloy body.
- Max. working pressure: 10 bar.
- Adjustment temperature range: 35–55 °C.
- **Max. inlet temperature:** 100 °C.

**Diverter valve**

- Brass body.
- Max. working pressure: 10 bar.
- Factory setting: 45 °C.
- **Max. inlet temperature:** 100 °C.

**Adjustment temperature range:** 35–55 °C.

Performance to standards NF 079 doc. 8, EN 15092, EN 1111, EN 1287.
Solar storage-to-boiler connection kit, with thermal integration. Consisting of:
- thermostatic anti-scald mixing valve, adjustable with knob, for solar thermal systems. Complete with strainers and check valves at the inlets;
- thermostatic diverter valve;
- thermostatic control device;
- pre-formed shell protective cover.

**Mixing valve**
CR dezincification resistant alloy body.
Max. working pressure: 10 bar.
Adjustment temperature range: 35–55 °C.
Max. inlet temperature: 100 °C.
Performance to standards NF 079 doc. 8, EN 15092, EN 1111, EN 1287.

**Diverter valve**
CR dezincification resistant alloy body.
Max. working pressure: 10 bar.
Factory setting: 45 °C.
Max. inlet temperature: 100 °C.

**Control device**
CR dezincification resistant alloy body.
Factory setting: 30 °C.
Max. inlet temperature: 85 °C.

**Function**
A thermostatic diverter valve, at the kit inlet, receives hot water coming from the solar water storage. Depending on the temperature setting, the valve diverts the water automatically and proportionally towards the user circuit or the instantaneous boiler circuit, with thermal integration. The valve modulates the flow rates to optimise the energy contained in the solar storage and reduces boiler operation times to a minimum.

A specific thermostatic control device limits the boiler inlet temperature to prevent it being switched on and off too often, which leads to hunting and irregular operation.

A thermostatic anti-scald mixing valve, at the kit outlet, constantly controls the temperature of the water sent to the user.

**Hydraulic diagrams**

- **BOILER**
  - Cold
  - Solar
  - Mixed

- **T_{\text{SOLAR}} > 45 \, ^{\circ}\text{C}**
- **T_{\text{SOLAR}} < 45 \, ^{\circ}\text{C}**

**Application diagram of SOLARINCAL-T Plus kit 263 series**

<table>
<thead>
<tr>
<th>Code</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>263350</td>
<td>3/4&quot;</td>
</tr>
</tbody>
</table>
ANTI-FREEZE SAFETY DEVICE

603
ICEGAL®
Anti-freeze safety device.
For solar thermal systems,
to protect the hot water storage.
 dezincification resistant alloy body.
Max. working pressure: 10 bar.
Ambient temperature range: -30–90 °C.
Opening temperature: 3 °C.
Closing temperature: 4 °C.

Function
The anti-freeze safety device prevents ice build-up in domestic water circuits, thereby avoiding potential damage to storage tanks and pipes.
When the minimum ambient intervention temperature is reached, it automatically opens a minimum passage of water toward the drain, enabling a small continuous flow of water at the inlet; this prevents any risk of freezing.
When the ambient temperature increases or in the event of contact with warmer water, the opposite action occurs, causing the device to shut off and circuit normal operating conditions to be restored.

Application diagram of device 603 series on a domestic water circuit

TEMPERATURE AND PRESSURE RELIEF VALVE

309
Temperature and pressure relief valve.
For solar thermal systems, to protect the hot water storage.
 dezincification resistant alloy body.
Chrome plated.
Setting temperature: 90 °C.
Discharge rating: 1/2” x Ø 15: 10 kW.
3/4” x Ø 22: 25 kW.
Settings: 6 - 7 - 10 bar.
Settings certified to EN 1490: 7 - 10 bar.

Function
The temperature and pressure relief valve controls and limits the temperature and pressure of the hot water contained in a solar domestic water storage heater and prevents it to reach temperatures over 100°C, with the formation of steam.
On reaching the settings, the valve discharges a sufficient amount of water into the atmosphere so that the temperature and pressure return within the system’s operating limits.
As the temperature and pressure decrease, the opposite action occurs with the valve subsequently reclosing within the set tolerances.

Product certification in accordance with European Standard EN 1490
European Standard EN 1490: 2000, entitled “Building valves - Combined temperature and pressure relief valves – Tests and requirements”, describes the constructional and performance specifications that TP relief valves must have.
Caleffi 309 series TP relief valves for solar systems are certified by Buildcert (UK) to comply with the requirements of the European Standard EN 1490.

Application diagram of valve 309 series on a solar hot water storage

Code

<table>
<thead>
<tr>
<th>Code</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>309461</td>
<td>1/2” M x Ø 15 6 bar</td>
</tr>
<tr>
<td>309471</td>
<td>1/2” M x Ø 15 7 bar</td>
</tr>
<tr>
<td>309401</td>
<td>1/2” M x Ø 15 10 bar</td>
</tr>
<tr>
<td>309561</td>
<td>3/4” M x Ø 22 6 bar</td>
</tr>
<tr>
<td>309571</td>
<td>3/4” M x Ø 22 7 bar</td>
</tr>
<tr>
<td>309501</td>
<td>3/4” M x Ø 22 10 bar</td>
</tr>
</tbody>
</table>

Code

<table>
<thead>
<tr>
<th>Code</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>603040</td>
<td>1/2” F with nut</td>
</tr>
</tbody>
</table>

Function
The temperature and pressure relief valve prevents ice build-up in domestic water circuits, thereby avoiding potential damage to storage tanks and pipes.
When the minimum ambient intervention temperature is reached, it automatically opens a minimum passage of water toward the drain, enabling a small continuous flow of water at the inlet; this prevents any risk of freezing.
When the ambient temperature increases or in the event of contact with warmer water, the opposite action occurs, causing the device to shut off and circuit normal operating conditions to be restored.
Instrument holder in composit material
Multifunction device in composite with dirt separator and strainer
Anti-freeze protection
Differenzial by-pass valve
Integration unit HYBRICAL®
Preassembled geothermal manifold
Modular geothermal manifold
Shut-off and balancing devices
Problems caused by impurities in hydraulic circuits

The components of a heating and air conditioning system are exposed to degradation caused by the impurities contained in the system’s circuit. If the impurities in the thermal medium are not removed, they can impair operation of the units or components, such as boilers or heat exchangers, especially in the commissioning stage, already from the initial passage. This latter problem must not be underestimated because boiler manufacturers will frequently reject warranty claims if their product is not adequately protected by a strainer from the time of commissioning onwards.

Application diagrams of multifunction device 5453 series
**ANTI-FREEZE PROTECTION**

**108**
Anti-freeze valve. Brass body. 
Max. working pressure: 10 bar. 
Temperature range: 0–65 °C. 
Ambient temperature range: -30–60 °C. 
Opening temperature: 3 °C. 
Closing temperature: 4 °C.

- Code: 108601, Conn: 1”
- Code: 108701, Conn: 1 1/4”
- Code: 108801, Conn: 1 1/2”

**APPLICATION DIAGRAMS**

1. **Normal operation**
2. **Heat pump shutdown or anti-freeze cycle**

**DIFFERENTIAL BY-PASS VALVE**

**519**
Differential by-pass valve, adjustable with graduated scale. 
Max. working pressure: 10 bar. 
Temperature range: 0–110 °C. 
Max. percentage of glycol: 30 %.

- Code: 519500, Setting range: 3/4”, m.w.g.
- Code: 519504, Setting range: 3/4”, m.w.g.
- Code: 519700, Setting range: 1 1/4”, m.w.g.

**APPLICATION DIAGRAMS**

1. **Normal operation**
2. **Heat pump shutdown or anti-freeze cycle**
INTEGRATION UNIT

106 **HYBRICAL®**
Heat pump-boiler integration unit.
With insulation.
Consisting of:
- diverter valve,
- connection kit,
- electronic regulator,
- outside probe.
Supply: 230 V (AC).
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Medium: water, glycol solutions.
Max. percentage of glycol: 50 %.

Operating principle
The integration unit is composed of a diverter valve and manifold kit combined to a digital regulator equipped with outside probe. The regulator receives the temperature signal from the outside probe and, when the minimum pre-set temperature value is reached, activates the diverter valve towards the boiler circuit. When the outside air temperature rises above the pre-set temperature value, the valve is diverted again towards the heat pump system.

DIVERTER KIT

106 **HYBRICAL®**
Diverter kit for heat pump.
With insulation.
Consisting of:
- diverter valve,
- connection kit.
Supply: 230 V (AC).
Max. working pressure: 10 bar.
Temperature range: -10–110 °C.
Medium: water, glycol solutions.
Max. percentage of glycol: 50 %.

Operating principle
The diverter kit allows to easily connect the 3 circuits together (2 inlets and 1 outlet) without having to overcome pipes. The diverter valve has very low head losses, in relation to the rated flow rates normally used, and features short operating times: it allows therefore a fast system commissioning and prevents any water-hammer. The valve is coupled to an actuator fitted with microswitches that can be used to activate and deactivate devices according to the working position of the valve.
**PREASSEMBLED GEOTHERMAL MANIFOLD**

**110**
Preassembled geothermal manifold. Complete with:
- automatic air vents;
- temperature gauges Ø 80 mm;
- fill/drain cocks;
- flow and return manifolds in polymer;
- blind end plugs with insulation;
- stainless steel wall brackets;
- set of labels for direction of flow and circuit identification;
- wall fixing anchors.

Max. working pressure: 6 bar.
Max. hydraulic test pressure: 10 bar.
Temperature range: -10–60 °C.
Ambient temperature range: 20–60 °C.
Medium: water, glycol solutions, saline solutions.
Max. percentage of glycol: 50 %.
Manifold DN 50.
Outlet flow rate: 7 m³/h.
Outlet centre distance: 100 mm.
Outlet connections with mechanical seal for shut-off valves 111 series, balancing valves 112 series and flow meters 113 series.

**MODULAR GEOTHERMAL MANIFOLD**

**110**
Modular manifold single module in polymer.
Max. working pressure: 6 bar.
Max. hydraulic test pressure: 10 bar.
Working temperature range: -10–60 °C.
Ambient temperature range: 20–60 °C.
Medium: water, glycol solutions, saline solutions.
Max. percentage of glycol: 50 %.
Manifold DN 50.
Outlet connection: 42 p.2,5 TR.
Outlet connections with mechanical seal for shut-off valves 111 series, balancing valves 112 series and flow meters 113 series.

**110**
Stainless steel tie-rods for assembling modular manifolds. M8 threaded stainless steel bar.

**110**
Assembly kit for modular manifolds. Complete with:
- brass end fitting with automatic air vent, fill/drain cock;
- brass blind end plug;
- pre-formed shell insulation;
- screws and bolts for tie-rods and brackets;
- set of labels for direction of flow and circuit identification;
- temperature gauge with pocket (-30–50 °C);
- No. 2 seal gaskets.

Max. working pressure: 6 bar.
System test max. pressure: 10 bar.
Temperature range: -10–60 °C.
Medium: water, glycol solutions, saline solutions.
Max. percentage of glycol: 50 %.
Connections: 1 1/4” F.

**110**
Pair of stainless steel brackets to secure modular manifolds. Rapid wall coupling system. System for rapidly coupling the manifold on the brackets. With screws and plugs.

<table>
<thead>
<tr>
<th>Code</th>
<th>Outlet connection</th>
</tr>
</thead>
<tbody>
<tr>
<td>1107BS</td>
<td>2 circuits 1 1/4” 42 p.2,5 TR</td>
</tr>
<tr>
<td>1107CS</td>
<td>3 circuits 1 1/4” 42 p.2,5 TR</td>
</tr>
<tr>
<td>1107DS</td>
<td>4 circuits 1 1/4” 42 p.2,5 TR</td>
</tr>
<tr>
<td>1107ES</td>
<td>5 circuits 1 1/4” 42 p.2,5 TR</td>
</tr>
<tr>
<td>1107FS</td>
<td>6 circuits 1 1/4” 42 p.2,5 TR</td>
</tr>
<tr>
<td>1107GS</td>
<td>7 circuits 1 1/4” 42 p.2,5 TR</td>
</tr>
<tr>
<td>1107HS</td>
<td>8 circuits 1 1/4” 42 p.2,5 TR</td>
</tr>
</tbody>
</table>
SHUT-OFF AND BALANCING DEVICES FOR GEOTHERMAL MANIFOLD 110 SERIES


<table>
<thead>
<tr>
<th>Code</th>
<th>Scale (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>112621</td>
<td>0,3–1,2</td>
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<tr>
<td>112631</td>
<td>0,3–1,2</td>
</tr>
<tr>
<td>112641</td>
<td>0,3–1,2</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Code</th>
<th>Scale (m³/h)</th>
</tr>
</thead>
<tbody>
<tr>
<td>113621</td>
<td>0,3–1,2</td>
</tr>
<tr>
<td>113631</td>
<td>0,3–1,2</td>
</tr>
</tbody>
</table>

**112** Insulation for balancing valves. Material: closed cell expanded PE-X. Thickness: 10 mm. Thermal conductivity (DIN 52612): at 0 °C: 0,038 W/(m·K); at 40 °C: 0,045 W/(m·K). Coefficient of resistance to water vapour (DIN 52615): > 1.300. Working temperature range: 0–100 °C. Reaction to fire (DIN 4102): class B2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1122001</td>
<td>Ø 25 - Ø 32</td>
</tr>
<tr>
<td>1122003</td>
<td>Ø 40</td>
</tr>
</tbody>
</table>

**113** Insulation for float meter. Material: closed cell expanded PE-X. Thickness: 10 mm. Thermal conductivity (DIN 52612): at 0 °C: 0,038 W/(m·K); at 40 °C: 0,045 W/(m·K). Coefficient of resistance to water vapour (DIN 52615): > 1.300. Working temperature range: 0–100 °C. Reaction to fire (DIN 4102): class B2.

<table>
<thead>
<tr>
<th>Code</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>1133001</td>
<td>Ø 25 - Ø 32</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Code</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>871025</td>
<td>Ø 25</td>
</tr>
<tr>
<td>871032</td>
<td>Ø 32</td>
</tr>
<tr>
<td>871040</td>
<td>Ø 40</td>
</tr>
</tbody>
</table>

**110** Union with gasket. Max. working pressure: 16 bar. Max. working temperature: 40 °C.

<table>
<thead>
<tr>
<th>Code</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>110050</td>
<td>Ø 3/4</td>
</tr>
<tr>
<td>110060</td>
<td>Ø 1</td>
</tr>
</tbody>
</table>

The use of a flow meter greatly simplifies the process of system balancing, since the flow rate can be measured and controlled at any time and there is no need for differential pressure gauges or reference charts.
Safety devices
Anti-condensation valve
Anti-condensation recirculation and distribution unit
Anti-condensation circulation unit
Connection and energy management unit (heating version)
Connection and energy management unit (heating and domestic hot water with storage version)
Connection and energy management unit (heating and instantaneous hot water version)
Digital regulator for systems with solid fuel generator
SAFETY DEVICES

542
Temperature relief valve, with fail-safe action. Manual reset for burner switch off or alarm activation. Working pressure: 0.3 bar ≤ P ≤ 10 bar. Temperature range: 5–100 °C. Settings temperature: 98 °C, 99 °C. Certified and calibrated to INAIL. Discharge rating: 1 1/2” x 1 1/4” - 136 kW. 1 1/2” x 1 1/2” - 419 kW.

INAIL - Ex ISPESL reference standards
According to the provisions of Collection R Ed. 2009, concerning “central heating systems using hot water with temperatures no greater than 110 °C and a maximum nominal heat output greater than 35 kW”, the use of the temperature relief valve is contemplated in the following cases:

Open vessel systems
- Systems with generators stoked with non-pulverized solid fuel, in place of the consumption water heater or emergency exchanger (chap. R.3.C., point 2.1, letter i2).

Closed vessel systems
- Thermal systems with generators stoked with non-pulverized solid fuels up to a nominal heat output of 100 kW with partial cut-off in place of the residual power dissipation device (chap. R.3.C., point 3.2).

Function
The temperature relief valve discharges the system water on reaching the setting temperature. Equipped with positive action. It can be used with non-pulverized solid fuel generators with open or closed vessel in accordance with current regulations.

INAIL - Ex ISPESL standards, Collection R - ed. 2009, chapter R.3.C., point 2.1, letter i2; point 3.1, letter i; point 3.3. The valve complies with EN 14597, it can be combined with solid fuel generators with a heat output of less than 100 kW, used according to the system provisions of the standards EN 12828, UNI 10412-2 and EN 303-5.

543

Function
The temperature safety relief valve limits the water temperature in solid fuel generators equipped with a built-in storage or emergency exchanger (for immediate cooling). On reaching the setting temperature, the valve opens the flow of mains water through the emergency exchanger or built-in storage unit, so as to draw off the excess heat and thereby lower the temperature of the system water contained in the boiler jacket.

Reference standards
Its use is contemplated in the INAIL - Ex ISPESL standards, Collection R - ed. 2009, chapter R.3.C., point 2.1, letter i2; point 3.1, letter i; point 3.3. The valve complies with EN 14597, it can be combined with solid fuel generators with a heat output of less than 100 kW, used according to the system provisions of the standards EN 12828, UNI 10412-2 and EN 303-5.

Technical specifications
542
- 1 1/2” M x 1 1/4” F
- 1 1/2” M x 1 1/2” F
- 98 °C
- 99 °C

543
- 3/4” F
- 3/4” F
- 98 °C
- yellow brass body
SAFETY DEVICES

544

**Function**
The draught regulating valve, installed on the generator with the thermostatic element immersed in the medium, automatically adjusts the flow rate of the combustent air to provide a more regular and complete combustion.

**Reference standards**
Used when there is no emergency exchanger and for heat outputs < 35 kW (Italy).

**Technical specifications**
- Temperature relief valve, with positive action with automatic filling.
- Max working pressure: 6 bar.
- Max. working temperature: 110 °C.
- Temperature range: 5–110 °C.
- Ambient temperature range: 1–50 °C.
- Setting temperature: 100 °C (0/-5 °C).
- Discharge flow rate with Δp of 1 bar and T=110 °C: 1600 l/h.
- Capillary length: 1300 mm.

**Code** | **Setting**
--- | ---
544400 | 1/2" 100 °C 1 10

544

**Function**
On reaching the setting temperature, the temperature relief valve discharges the water of the system with a solid fuel generator. The device integrates in a single group a temperature relief valve and a filling valve. The discharge of water enables limiting the system water temperature, while the filling inlet enables the replacement of the discharged flow rate.

**Reference standards**
Used when there is no emergency exchanger and for heat outputs < 35 kW (Italy).

**Technical specifications**
- Temperature relief valve with automatic filling for solid fuel generators, with knob for manual discharge.
- Max. working pressure: 6 bar.
- Max. working temperature: 120 °C.
- Setting temperature: 100 °C (0/-5 °C).
- Discharge flow rate with Δp of 1 bar and T=110 °C: 1800 l/h.

**Code** | **Setting**
--- | ---
544501 | 3/4" 100 °C 1 –

529

**Function**
The draught regulating valve, installed on the generator with the thermostatic element immersed in the medium, automatically adjusts the flow rate of the combustent air to provide a more regular and complete combustion.

**Technical specifications**
- Draught regulating valve.
- Male threaded connection.
- Adjustment temperature range: 30–90 °C.
- Certified to EN 14597.

**Code** | **Pocket length (mm)**
--- | ---
529050 | 3/4" M ISO 7/1 58 1 10
529150 | 3/4" M ISO 7/1 58 1 10
529151 | 3/4" M ISO 7/1 78 1 10
ANTI-CONDENSATION VALVE

280 Anti-condensation valve with thermostatic control of the return temperature to solid fuel generators.

Function

The anti-condensation valve, used in heating systems with a solid fuel generator, automatically regulates at the set value the temperature of the water returning to the generator.

Condensation produces tarry deposits that, accumulating on the metal surfaces of the flue gas-system water exchanger, cause corrosion, reduce the thermal efficiency of the flue gas-system water exchanger and are a source of danger for the flue gas chimney as they are flammable.

The anti-condensation valve gives the generator a longer life and ensures greater efficiency.

Valve selection

The valve selection should be made according to the Kv value (corresponding to a specific DN body size) and not only according to the threaded connections. Given the system flow rate, the corresponding head losses on the valve should be calculated by using the Kv value. The sum of the head losses on the valve and the head losses of the rest of the system should be compatible with the available head of the generator pump.

Code completion

Setting | 45 °C | 55 °C | 60 °C | 70 °C
--- | --- | --- | --- | ---
• | 4 | 5 | 6 | 7

Spare thermostats for anti-condensation valve.

Thermostat replacement to modify setting

The adjustment sensor can easily be removed for maintenance or to change the set, with no need to remove the valve body from the piping.

Installation

The valve can be fitted on both sides of the generator in any position, vertical or horizontal.

Installation in mixing mode (anti-condensation)

The setting accuracy: ± 2 °C.

Connection

By-pass complete closing temperature:

\[ T_{mix} = T_{set} + 10 \degree C = T_r. \]
**ANTI-CONDENSATION RECIRCULATION AND DISTRIBUTION UNIT**

**281**

Anti-condensation recirculation and distribution unit, with thermostatic control of the return temperature to solid fuel generators. Brass body.

**With insulation.**

Female union connections.

Medium: water, glycol solutions.

Max. percentage of glycol: 50 %.

Temperature range: 5–100 °C.

Max. working pressure: 10 bar.

Max. recommended flow rate: 2 m³/h.

Temperature gauge scale: 0–120 °C.

**Anti-condensation valve**

Temperature range: 5–100 °C.

Settings: 45 °C, 55 °C, 60 °C, 70 °C.

Setting accuracy: ± 2 °C.

By-pass complete closing temperature: \( T_{\text{mix}} = T_{\text{set}} + 10 ^\circ \text{C} = T_r \).

**Pump**

High-efficiency pump: WILO PARA M5/7.

---

**Characteristics components**

1) Anti-condensation thermostatic device
2) High-efficiency pump
3) Natural circulation clapet valve
4) Union with built-in ball valve
5) Temperature gauge housing
6) Insulation

**Construction details**

**Single casting and reversibility**

The compact brass single casting, that houses the pump and functional components, enables immediate installation of the device, either on the right or left of the solid fuel generator, respecting the flow directions as shown. The temperature gauges can be extracted from the housings and re-inserted in the same position on the back side of the unit.

**Anti-condensation valve**

This device incorporates a thermostatic sensor to control the temperature of the water returning to the solid fuel generator so as to prevent condensation. The sensor has been specifically realised to be removed from the valve body for maintenance or replacement if necessary.

**Natural circulation clapet valve**

The function of this clapet device is to ensure natural circulation of the medium in the event of pump stop due to an electric supply failure. When the pump is active, the thrust of medium keeps the valve closed, forcing the water to flow through the anti-condensation thermostatic valve. If the event of pump stop, when the water within the generator is at high temperature, a natural circulation of the water begins, by-passing the anti-condensation valve, thus preventing the temperature in the generator from reaching dangerous high levels. The unit is provided with natural circulation valve locked. To activate its function, remove the locking screw.

**Dirt separator**

In order to carry out continuous dirt separation in the system it is available the 5462 series DIRTICAL\® dirt separator as accessory.

---

**Unit sizing**

The unit should be selected according to the head available at the unit connections, depending on the DN, and not only according to the threaded connections. Given the system head losses, the available head of the unit pump should be evaluated.

---

**Code completion**

<table>
<thead>
<tr>
<th>Setting</th>
<th>45 °C</th>
<th>55 °C</th>
<th>60 °C</th>
<th>70 °C</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
</tr>
</tbody>
</table>
ANTI-CONDENSATION CIRCULATION UNIT

282

Circulation unit with anti-condensation valve, with thermostatic control of the return temperature to solid fuel generators. With insulation.

System circuit connections: 1" F with union.
Generator circuit connections: 1" F.
Medium: water, glycol solutions.
Max. percentage of glycol: 50%.
Temperature range: 5–100 °C.
Max. working pressure: 10 bar.
Temperature gauge scale: 0–120 °C.

Anti-condensation valve
Temperature range: 5–100 °C.
Setting temperature: 45 °C, 55 °C, 60 °C, 70 °C.
Setting accuracy: ±2 °C.
By-pass complete closing temperature: $T_{mix} = T_{set} + 10 °C = T_r$.

Pump

Function

The anti-condensation circulation unit performs the function of connecting the solid fuel generator to the distribution manifold, controlling the return temperature to the generator, to avoid condensation by means of the built-in thermostatic device. The unit also enables connecting the generator to the inertial storage or directly to the user system.

Characteristics components

1) Anti-condensation valve
2) High-efficiency pump
3) Shut-off valves
4) Check valve
5) Flow temperature gauge
6) Return temperature gauge
7) Insulation

Unit sizing

The unit should be selected according to the head available at the unit connections, depending on the DN, and not only according to the threaded connections. Given the system head losses, the available head of the unit pump should be evaluated.
Application diagram

SOLID FUEL GENERATOR

High Efficiency

code 28261.A2L
code 28263.A2L
code 28265.UPM
code 28267.UPM

Serie 167

230 V

±10%

6 VA

Amb. temp. range -10÷55°C

Opening/closing time 50 s

90° rotation

IP 65

Cod. 167012

AUTO

MAN

Open

Open

B

B

A

A

13 C
**2850**

**Connection and energy management compact unit**

*Female threaded connections.*

- **Primary side connections:** 1” F.
- **Secondary side system connections:** 1” F.
- **Secondary side boiler connections:** 3/4” F.

*Medium: water, glycol solutions.*

- **Max. percentage of glycol:** 30 %.
- **Temperature range:** 5–100 °C.
- **Max. working pressure:** 10 bar.

*Anti-condensation set temperature (Tset):* 55 °C.

**Regulator**

Supply: 230 V - 50/60 Hz.

**Pumps**

- **Primary circuit:** high-efficiency WILO PARA MS/7.
- **Secondary circuit:** high-efficiency variable speed pump WILO PARA 15/7.

**Function**

Main functional features:

- Connection of new solid fuel generators (both boilers and residential devices, with maximum heat output of 35 kW, both with open or closed vessel);
- Automatic operation management between the solid fuel generator and boiler;
- Built-in anti-condensation system (optional) for solid fuel generator;
- Compact unit with reduced overall dimensions, with easy hydraulic connection.

**Characteristic components**

1) Single casting unit with WILO PARA MS/7 pump, complete with anti-condensation valve (optional), primary side
2) WILO PARA 15/7 pump, secondary side (system)
3) Brazed plate heat exchanger
4) Digital regulator
5) Shut-off valve
6) Wall mounting template (h x w): 334 x 684 mm.
7) Check valve
8) Manual air vent
9) Temperature gauge

**Code**

<table>
<thead>
<tr>
<th>Code</th>
<th>Conn.</th>
<th>Primary circulation pump</th>
</tr>
</thead>
<tbody>
<tr>
<td>285060HE2</td>
<td>1” PARA MS/7</td>
<td>without anti-condensation valve 1 –</td>
</tr>
<tr>
<td>285065HE2</td>
<td>1” PARA MS/7</td>
<td>1 –</td>
</tr>
</tbody>
</table>

**2850**

Painted steel cover RAL 9010.

**285000**

Spare regulator for 2850 series, complete with probe.

Supply: 230 V - 50/60 Hz.

**285020**

AM1 alarm module.

Bus connection.

Optical visualisation of alarm and releais control.

Relais max. contact rating: 30 V.

**For spare thermostats see page 302**
Connection and energy management compact unit with expansion vessel and safety relief valve.

Primary side connections: 1” M.
Secondary side system connections: 1” F.
Medium: water, glycol solutions.
Max. percentage of glycol: 30%.
Temperature range: 5–100 °C.
Max. working pressure: 10 bar.
Safety relief valve setting: 3 bar.
Anti-condensation set temperature (Tset): 55 °C.
Setting accuracy: ± 2 °C.
By-pass complete closing temperature: Tmix = Tset + 10 °C = Tr.

Pump: high-efficiency UPM3 Auto L 25-70.
Expansion vessel: Precharge 1.5 bar, Volume 8 litres.
Max. working pressure: 3 bar.
To be used in systems with water volume ≤ 100 litres.

**Characteristic components**

1) Multifunction isolating valve
2) Earth (electrical wiring)
3) Check valve with low pressure loss
4) Thermostatic anti-condensation valve
5) Safety valve, 3 bar
6) Expansion vessel, 8 litres
7) Pump
8) Pressure gauge 0-6 bar

**Application diagram**

For applications with total power < 35 kW
CONNECTION AND ENERGY MANAGEMENT UNIT
(heating version)

2851

Connection and energy management unit, heating version.
Male threaded connections.
Medium: water, glycol solutions.
Max. percentage of glycol: 30 %.
Temperature range: 5-100 °C.
Max. working pressure: 10 bar.
Max. heat exchanger net output: 35 kW.
Max. recommended primary circuit flow rate: 1.5 m³/h.
Max. recommended secondary circuit flow rate (system): 1.5 m³/h.
Anti-condensation set temperature (optional): 45 °C, 55 °C, 60 °C, 70 °C.
Setting accuracy: ± 2 °C.
By-pass complete closing temperature: Tmix = Tset+10 °C = Tr.

Regulator
Supply: 230 V - 50/60 Hz.

Pumps
High-efficiency pump: WILO PARA 25/7, WILO PARA 15/7.

Diverter valve with spring return
Max. working pressure: 10 bar.
Δp max.: 1 bar.

Diverter valve actuator with spring return
Synchronous motor.
 Normally closed.
Supply: 230 V - 50/60 Hz.
Opening time: 70–75 s.
Closing time: 5–7 s.

Characteristic components
1) WILO PARA 25/7 pump on primary side for solid fuel generator
2) WILO PARA 15/7 pump on secondary side (system)
3) Brazed plate heat exchanger
4) Anti-condensation valve (optional)
5) Three-way diverter valve with spring return
6) Dirt separator
7) Digital regulator
8) Shut-off ball valves
9) Box for wall-mounting
   (h x w x d): 790 x 650 x 160 mm.

A) Code 285150WYP without anti-condensation valve

For spare thermostats see page 302
CONNECTION AND ENERGY MANAGEMENT UNIT
(heating and domestic hot water with storage version)

2853
Connection and energy management unit, heating and domestic hot water with storage version. Male threaded connections.
Medium: water, glycol solutions.
Max. percentage of glycol: 30 %.
Temperature range: 5–100 °C.
Max. working pressure: 10 bar.
Max. heat exchanger net output: 35 kW.
Max. recommended primary circuit flow rate: 1,5 m³/h.
Max. recommended secondary circuit flow rate (system): 1,5 m³/h.
Anti-condensation set temperature (optional): 45 °C, 55 °C, 60 °C, 70 °C.
Setting accuracy: ± 2 °C.
By-pass complete closing temperature: \( T_{\text{mix}} = T_{\text{set}} + 10 \ °C = T_r \).

Regulator
Supply: 230 V - 50/60 Hz.

Pumps
High-efficiency pump: WILO PARA 25/7, WILO PARA 15/7.

Diverter valves with spring return
Max. working pressure: 10 bar.
\( \Delta p \text{ max.}: 1 \) bar.

Diverter valve actuator with spring return
Synchronous motor.
Normally closed.
Supply: 230 V - 50/60 Hz.
Opening time: 70–75 s.
Closing time: 5–7 s.

Characteristic components
1) WILO PARA 25/7 pump on primary side for solid fuel generator
2) WILO PARA 15/7 pump on secondary side (system)
3) Brazed plate heat exchanger
4) Anti-condensation valve (optional)
5) Three-way diverter valve with spring return
6) Dirt separator
7) Digital regulator
8) Shut-off ball valves
9) Box for wall-mounting
   \( (h \times w \times d): 790 \times 810 \times 160 \) mm.
10) Three-way diverter valve with spring return for priority on domestic water with storage

A) Code 285350WYP without anti-condensation valve

Main functional features:
- connection of new solid fuel generators (both boilers and residential devices, with maximum heat output of 35 kW, both with open or closed vessel) with other closed vessel generators;
- possibility of not adding the power outputs of the two generators as described in INAIL (Italy);
- automatic system management with a specific digital regulator for heating circuits, domestic water storage and simple solar thermal system;
- built-in anti-condensation system (optional) for solid fuel generator;
- easy access to components for maintenance;
- practical installation thanks to the arrangement in a box.

For spare thermostats see page 302
**Optimiser Function**

Main functional features:
- connection of new solid fuel generators (both boilers and residential devices, with maximum heat output of 35 kW, both with open or closed vessel) with other closed vessel generators;
- possibility of not adding the power outputs of the two generators as described in INAIL (Italy);
- automatic system management with a specific digital regulator for heating circuits, instantaneous production of domestic hot water and simple solar thermal system;
- built-in anti-condensation system (optional) for solid fuel generator;
- easy access to components for maintenance;
- practical installation thanks to the arrangement in a box.

**Characteristic components**

1) WILO PARA 25/7 pump on primary side for solid fuel generator
2) WILO PARA 15/7 pump on secondary side (system)
3) Brazed plate heat exchanger for heating
4) Anti-condensation valve (optional)
5) Three-way diverter valve with spring return
6) Dirt separator
7) Digital regulator
8) Shut-off ball valves
9) Box for wall-mounting (h x w x d): 895 x 890 x 160 mm.
10) Three-way three point diverter ball valve for DHW priority
11) Brazed plate heat exchanger for DHW
12) Flow switch
A) Code 285550WYP without anti-condensation valve

**Regulator**

Supply: 230 V - 50/60 Hz.

**Pumps**

High-efficiency pump: WILO PARA 25/7, WILO PARA 15/7.

**Flow switch**

Contacts normally open (NO).

Contacts close with increasing flow at: 156 l/h.

Contacts open with decreasing flow at: 108 l/h.

**Diverter valve with spring return**

Max. working pressure: 10 bar.

ΔP max.: 1 bar.

**Diverter valve actuator with spring return**

Synchronous motor.

Normally closed.

Supply: 230 V - 50/60 Hz.

Opening time: 70–75 s.

Closing time: 5–7 s.

**Diverter ball valve for DHW priority**

Max. working pressure: 10 bar.

ΔP max.: 10 bar.

**Diverter ball valve actuator for DHW priority**

Synchronous motor

Supply: 230 V (± 10 %) - 50/60 Hz.

Operating time (angle of rotation 90°): 10 s.

**Code completion**

For spare thermostats see page 302

<table>
<thead>
<tr>
<th>Code</th>
<th>3/4” M without anti-condensation valve</th>
<th>3/4” M with anti-condensation valve</th>
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<tr>
<td>285550WYP</td>
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<tbody>
<tr>
<td>285550WYP</td>
<td>1 –</td>
<td>1 –</td>
</tr>
</tbody>
</table>

**Setting**

45 °C | 55 °C | 60 °C | 70 °C

**Setting accuracy**: ± 2 °C.
DIGITAL REGULATOR FOR SYSTEMS WITH SOLID FUEL GENERATOR

1522
Digital regulator for systems with solid fuel generator.
Supply: 230 V (AC); ± 10 %, 50/60 Hz.
Protection class: II.
Protection class: IP 40.
Complete with three probes.
Optional probes to choose according to the type of system.

Function
The digital regulator makes it possible to combine a solid fuel generator with another type of generator already present in the heating system. The digital regulator automatically manages the two generators, receiving the signal from the probes and activating the pumps, the motorized diverter valves in the system, according to the heating circuit needs.

Depending on the type and quantity of installed probes, the regulator supports the following system solutions:
- heating;
- production of domestic hot water by means of storage or instantaneous with plate heat exchanger;
- management of inertial water storage in parallel on the heating circuit or alternatively management of an independent solar system and direct inertial water storage.

The regulator has different programs which can be customized by user to several system situations.

Description of controls
1. Functional status indicator LED.
2. Mini DIN connector on front of panel for PC connection.
3. Display: menu display.
4. Select knob: selection of menu, functions and parameter editing.
5. Function keys.

Program diagrams
The regulator allows the management of a thermal system complete with solid fuel generator, a boiler and an inertial water storage in parallel.

The phases of storage loading and unloading are automatically controlled, according to the system needs, with the consequent activation or deactivation of the boiler and the solid fuel generator.

Depending on the system type, different programs are available to design various functional configurations, both for the heating and the domestic hot water production.
SOLID FUEL GENERATOR-TO-GAS BOILER CONNECTION KIT

Application diagram of kit SOLARINCAL 265 series with solid fuel generator

Application diagram of kit SOLARINCAL-T 262 series with solid fuel generator

Application diagram of kit SOLARINCAL-T PLUS 263 series with solid fuel generator
This diagram is just an indication

SPARE PARTS
For spare parts, please contact the appropriate department
### 23 p.1,5 pipes connection

#### 6790 DAR CAL
Fitting for multilayer plastic pipe with continuous high temperature use.

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
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</thead>
<tbody>
<tr>
<td>679014</td>
<td>23 p.1.5 - Ø 14x2</td>
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<tr>
<td>679024</td>
<td>23 p.1.5 - Ø 16x2</td>
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<tr>
<td>679025</td>
<td>23 p.1.5 - Ø 16x2,25</td>
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<td>679044</td>
<td>23 p.1.5 - Ø 18x2</td>
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<tr>
<td>679064*</td>
<td>23 p.1.5 - Ø 20x2</td>
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<td>679065*</td>
<td>23 p.1.5 - Ø 20x2,25</td>
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<tr>
<td>679067*</td>
<td>23 p.1.5 - Ø 20x2,9 (REHAU pipe)</td>
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</tr>
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* With metal ring

#### 6810 DAR CAL
Self-adjustable diameter fitting for single and multilayer plastic pipes.

<table>
<thead>
<tr>
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<tbody>
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<td>681002</td>
<td>23 p.1.5 - 9 – 9,5</td>
<td>14–16</td>
</tr>
<tr>
<td>681001</td>
<td>23 p.1.5 - 9,5–10</td>
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<td>23 p.1.5 - 9,5–10</td>
<td>14–16</td>
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<td>681015</td>
<td>23 p.1.5 - 10,5–11</td>
<td>14–16</td>
</tr>
<tr>
<td>681017</td>
<td>23 p.1.5 - 10,5–11</td>
<td>16–18</td>
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<tr>
<td>681024</td>
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<td>14–16</td>
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<tr>
<td>681026</td>
<td>23 p.1.5 - 11,5–12</td>
<td>16–18</td>
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<tr>
<td>681044</td>
<td>23 p.1.5 - 13,5–14</td>
<td>16–18</td>
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#### 6810 DAR CAL
Self-adjustable diameter fitting for single and multilayer plastic pipes. High chrome finish.

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<tbody>
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<tr>
<td>681124</td>
<td>23 p.1.5 - 11,5–12</td>
<td>14–16</td>
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#### 4370
Compression fitting for annealed copper, hard copper, brass, mild and stainless steel. With O-Ring seal.

<table>
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<tr>
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</thead>
<tbody>
<tr>
<td>437010</td>
<td>23 p.1.5 - Ø 10</td>
<td></td>
</tr>
<tr>
<td>437012</td>
<td>23 p.1.5 - Ø 12</td>
<td></td>
</tr>
<tr>
<td>437014</td>
<td>23 p.1.5 - Ø 14</td>
<td></td>
</tr>
<tr>
<td>437015</td>
<td>23 p.1.5 - Ø 15</td>
<td></td>
</tr>
<tr>
<td>437016</td>
<td>23 p.1.5 - Ø 16</td>
<td></td>
</tr>
</tbody>
</table>

#### 4371
Compression fitting for annealed copper, hard copper, brass, mild and stainless steel. With O-Ring seal. High chrome finish.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>437112</td>
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<td>437114</td>
<td>23 p.1.5 - Ø 14</td>
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<tr>
<td>437115</td>
<td>23 p.1.5 - Ø 15</td>
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<tr>
<td>437116</td>
<td>23 p.1.5 - Ø 16</td>
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#### 4380
Compression fitting for copper pipes. With PTFE seal.

<table>
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<tr>
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<tbody>
<tr>
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<td>23 p.1.5 - Ø 10</td>
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</tr>
<tr>
<td>438012</td>
<td>23 p.1.5 - Ø 12</td>
<td></td>
</tr>
<tr>
<td>438014</td>
<td>23 p.1.5 - Ø 14</td>
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<tr>
<td>438015</td>
<td>23 p.1.5 - Ø 15</td>
<td></td>
</tr>
<tr>
<td>438016</td>
<td>23 p.1.5 - Ø 16</td>
<td></td>
</tr>
<tr>
<td>438018</td>
<td>23 p.1.5 - Ø 18 with metal olive</td>
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</tr>
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#### 4390
Fitting for copper pipe, with gasket. Chrome plated. Do not use with valves 232 series.

<table>
<thead>
<tr>
<th>Code</th>
<th>Øinside</th>
<th>Øoutside</th>
</tr>
</thead>
<tbody>
<tr>
<td>439010</td>
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</tr>
<tr>
<td>439012</td>
<td>23 p.1.5 - Ø 12</td>
<td></td>
</tr>
<tr>
<td>439014</td>
<td>23 p.1.5 - Ø 14</td>
<td></td>
</tr>
<tr>
<td>439016</td>
<td>23 p.1.5 - Ø 16</td>
<td></td>
</tr>
</tbody>
</table>

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### 23 p.1,5 M - Ø 18

#### Series: 338
- 339
- 425
- 426
- 447
- 222
- 223
- 227

#### Series: 4001
- 4003
- 4004
- 4005

#### Series: 456
- 455
- 4501
- 348
- 452
- 328

#### Series: 340
- 341
- 342
- 343

#### Series: 382

---

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series.

High chrome finish.

Pre-assembled compression fitting, for annealed copper, hard copper, brass, mild and stainless steel. With O-Ring seal.

Do not use with valves 232 series.
### 3/4” pipes connection

**6792 DAR**
Fitting for multilayer plastic pipe with continuous high temperature use.

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series.

<table>
<thead>
<tr>
<th>Code</th>
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</thead>
<tbody>
<tr>
<td>679264</td>
<td>3/4&quot; - Ø 20x2</td>
</tr>
<tr>
<td>679265</td>
<td>3/4&quot; - Ø 20x2,25</td>
</tr>
<tr>
<td>679266</td>
<td>3/4&quot; - Ø 20x2,5</td>
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</table>

**4375**
Compression fitting, for copper pipes. With O-Ring seal.

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>437510</td>
<td>3/4&quot; - Ø 10</td>
</tr>
<tr>
<td>437512</td>
<td>3/4&quot; - Ø 12</td>
</tr>
<tr>
<td>437514</td>
<td>3/4&quot; - Ø 14</td>
</tr>
<tr>
<td>437515</td>
<td>3/4&quot; - Ø 15</td>
</tr>
<tr>
<td>437516</td>
<td>3/4&quot; - Ø 16</td>
</tr>
<tr>
<td>437518</td>
<td>3/4&quot; - Ø 18</td>
</tr>
</tbody>
</table>

**6815 DAR**
Self-adjustable diameter fitting for single and multilayer plastic pipes.

<table>
<thead>
<tr>
<th>Code</th>
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<tbody>
<tr>
<td>681502</td>
<td>3/4&quot; - 7,5 – 8 - 12-14</td>
</tr>
<tr>
<td>681503</td>
<td>3/4&quot; - 9 – 9,5 - 14-16</td>
</tr>
<tr>
<td>681504</td>
<td>3/4&quot; - 9,5 – 10 - 14-16</td>
</tr>
<tr>
<td>681505</td>
<td>3/4&quot; - 10,5–11 - 14-16</td>
</tr>
<tr>
<td>681517</td>
<td>3/4&quot; - 10,5–11-16-18</td>
</tr>
<tr>
<td>681518</td>
<td>3/4&quot; - 11,5–12 - 14-16</td>
</tr>
<tr>
<td>681519</td>
<td>3/4&quot; - 11,5–12-16-18</td>
</tr>
<tr>
<td>681520</td>
<td>3/4&quot; - 12,5–13 - 16-18</td>
</tr>
<tr>
<td>681521</td>
<td>3/4&quot; - 12,5–13-18-20</td>
</tr>
<tr>
<td>681522</td>
<td>3/4&quot; - 13,5–14 - 18-20</td>
</tr>
<tr>
<td>681523</td>
<td>3/4&quot; - 14,5–15 - 18-20</td>
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<td>681524</td>
<td>3/4&quot; - 15 –15,5 - 18-20</td>
</tr>
<tr>
<td>681525</td>
<td>3/4&quot; - 15,5–16 - 18-20</td>
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</tbody>
</table>

**4385**
Compression fitting, for copper pipes. With PTFE seal.

<table>
<thead>
<tr>
<th>Code</th>
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<tr>
<td>438512</td>
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<tr>
<td>438514</td>
<td>3/4&quot; - Ø 14</td>
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<tr>
<td>438515</td>
<td>3/4&quot; - Ø 15</td>
</tr>
<tr>
<td>438516</td>
<td>3/4&quot; - Ø 16</td>
</tr>
<tr>
<td>438518</td>
<td>3/4&quot; - Ø 18</td>
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</table>

### 3/4” M - Ø 18

**Series:**
3010
3011
3012
3013
3014
3015

**Codes:**
338452
339452
340452
342452
343452

---

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series.

---

**CHROME PLATED BRASS FITTINGS**
**BRASS FITTINGS**

### 1/2” pipes connection

**5914**
Fitting for plastic pipes.

**58124**
Nut and olive or single groove seal in PTFE, for copper pipes.

<table>
<thead>
<tr>
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<tbody>
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<td>591402</td>
<td>10</td>
<td>12</td>
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<td>591403</td>
<td>10</td>
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<td>16</td>
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<tr>
<td>591433</td>
<td>12</td>
<td>13</td>
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</table>

### 23 p.1,5 pipes connection

**6791 DAR CAL**
Fitting for multilayer plastic pipes with continuous high temperature use.

**4640**
Pre-assembled compression fitting, for annealed copper, hard copper, brass, mild and stainless steel pipes. With O-Ring seal.

**6800 DAR CAL**
Self-adjustable diameter fitting for single and multilayer plastic pipes.

**3470**
Compression fitting, for annealed copper, hard copper, brass, mild and stainless steel pipes. With O-Ring seal.

<table>
<thead>
<tr>
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<tbody>
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<td>679124</td>
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<td>679125</td>
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<td>679149</td>
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<tr>
<td>347016</td>
<td>16</td>
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</tr>
</tbody>
</table>

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series.

### 1/2” M - Ø 16

**Series:** 349

**Series:** 592

**Series:** 598

### 23 p.1,5 M - Ø 18

**Series:** 350

**Series:** 351

**Series:** 349

**Series:** 356

**Series:** 357

**Series:** 385

**Series:** 161

**Series:** 354

**Series:** 933

**Series:** 940

**Series:** 941

**Series:** 942

**Series:** 943

**Series:** 944

**Series:** 945

**Series:** 946

**Series:** 947

**Series:** 948
**3/4" pipes connection**

**6795 DAR**

Fitting for multilayer plastic pipes with continuous high temperature use.

For a correct use, adjust the multilayer pipe diameter before installation using the Caleffi calibrator 679 series.

**6805 DAR**

Self-adjustable diameter fitting for single and multilayer plastic pipes.

**6802 DAR**

Compression ends fitting for multilayer pipes with fitting M-F.

**3/4" M - Ø 18**

**5915**

Fitting for plastic pipes.

**58125**

Nut and olive or single groove seal in PTFE, for copper pipes.

**3475**

Compression fitting, for annealed copper, hard copper, brass, mild and stainless steel pipes. With O-Ring seal.

**3475...S1**

Compression fitting for annealed copper, hard copper, brass, mild and stainless steel pipes. With O-Ring seal. Specific to be used with manifolds 668...S1 series.

**1" pipes connection**

**6806 DAR**

Self-adjustable diameter fitting for single and multilayer plastic pipes.

**1" M - Ø 25**

**Series:** 941

**Series:** 942

*Do not use with copper pipe fittings 347 and 5812 series*
The products in this catalogue have been designed, manufactured and factored by Caleffi in accordance with the requirements of EN ISO 9001 standard. Factored products, listed by series in the index, are clearly identified by the "green dot ●".

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice.