

Manifolds for domestic water systems



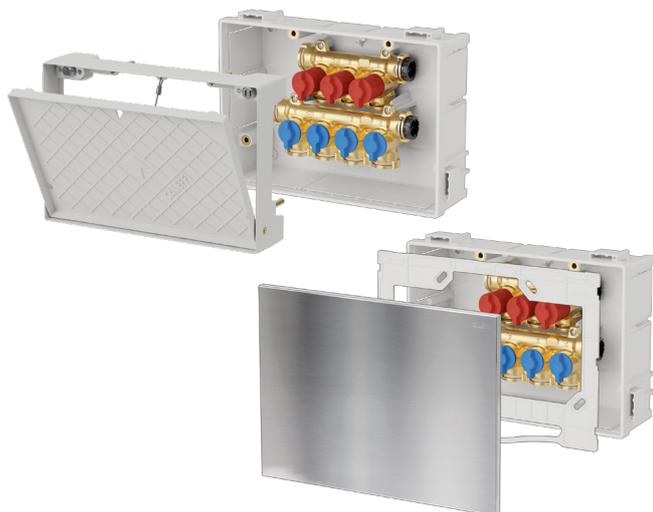
359 series



01371/22 EN

replaces 01371/21 EN

DISTRIBUTION MANIFOLDS WITH INDIVIDUAL SHUT-OFF VALVES



Function

The distribution manifolds with individual shut-off valves 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. They are equipped with shut-off valves with a handwheel for each individual circuit and an identification number for the user served.

Box installation can be completed using push-to-open inspection ports or aesthetic cover plates, which are available in different finishes.

Product range

- Code **359410** Distribution manifolds with individual shut-off valves (4+3)
- Code **359510** Distribution manifolds with individual shut-off valves (5+4)
- Code **359700** Recessed inspection port with push-to-open frame
- Code **359801** Plastic aesthetic cover plate (white)
- Code **359802** Stainless steel aesthetic cover plate (shiny finish)
- Code **359803** Stainless steel aesthetic cover plate (brushed finish)

DISTRIBUTION MANIFOLDS WITH MAIN SHUT-OFF VALVES



Function

The distribution manifolds with main shut-off valves are equipped with shut-off valves on the hot and cold inlets. They are also equipped with an outlet upstream of the shut-off valve which can be used for connection of the recirculation circuit.

The box installation is completed with a finishing plate with concealed knobs or, for inspectable versions, with aesthetic cover plates.

Product range

- Code **359420** Distribution manifolds with main shut-off valves (4+3)
- Code **359490** Inspectable distribution manifolds with main shut-off valves (4+3)
- Code **359902** Plate with concealed knobs (high chrome finish)
- Code **359801** Plastic aesthetic cover plate (white)
- Code **359802** Stainless steel aesthetic cover plate (shiny finish)
- Code **359803** Stainless steel aesthetic cover plate (brushed finish)

UNIT WITH MAIN SHUT-OFF VALVES



Function

The unit with main shut-off valves is only equipped with inlet valves. It allows maximum installation flexibility, as it is designed for connection of recirculation circuits and for the creation of various types of domestic water distribution.

The box installation is completed with a finishing plate with concealed knobs or, for inspectable versions, with aesthetic cover plates.

Product range

- Code **359100** Unit with main shut-off valves
- Code **359190** Inspectable unit with main shut-off valves
- Code **359902** Plate with concealed knobs (high chrome finish)
- Code **359892** Stainless steel aesthetic cover plate (shiny finish)
- Code **359893** Stainless steel aesthetic cover plate (brushed finish)

Technical specifications

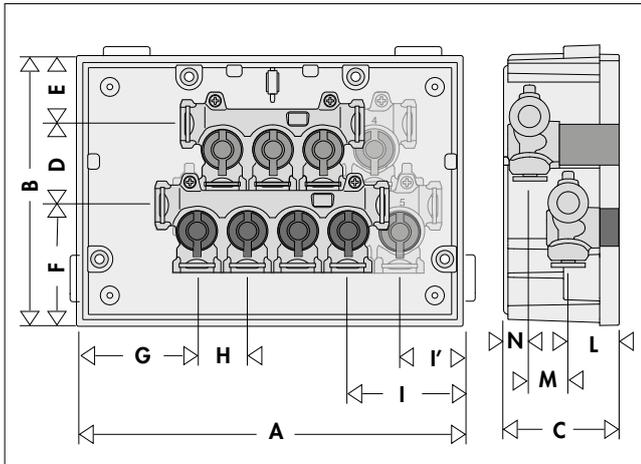
Materials

Manifold:
 - Body: brass EN 12165 CW617N
 - 359..0: "LOW LEAD" dezincification resistant alloy **CR**
 - 359..0 001: EN 12165 CW724R
 - Shut-off cartridge: PPSU
 - Seals: EPDM
 - Knobs for individual or main shut-off valve (inspectable): PA6G30
 - Brackets: PP
 Box: ABS

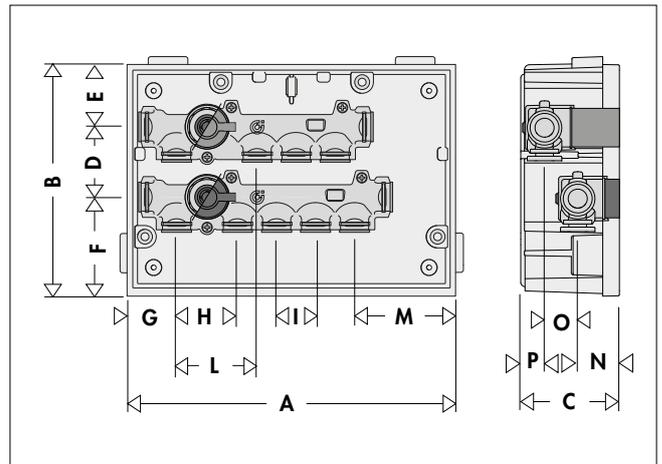
Performance

Medium: potable water
 Maximum working pressure: 10 bar
 Working temperature range: 5–90 °C
 Main connections: adapter + fixing clip
 Outlet connections: adapter + fixing clip
 Outlet centre distance of individual shut-off valves: 35 mm
 Outlet centre distance of main shut-off valves: 32 mm
 Average internal diameter of the manifold: 15 mm
 Individual shut-off valve Kv: 3,2 m³/h
 Main shut-off valve Kv: 7,0 m³/h
 Coefficient of localized loss ξ through the outlet: 3
 (versions with main shut-off valves)

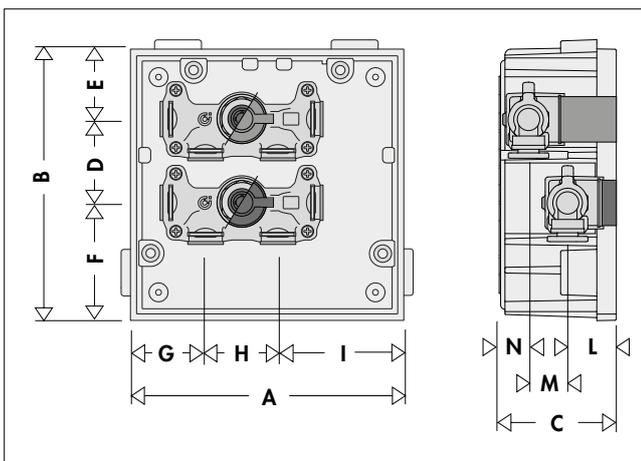
Dimensions



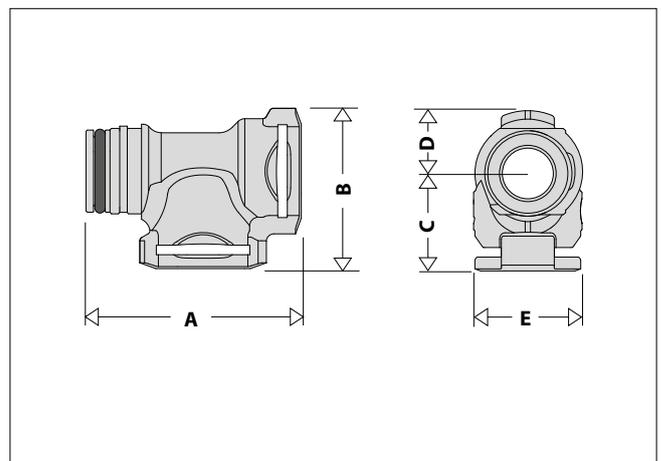
Code	A	B	C	D	E	F	G	H
359410*	270	190	80	57	47	86	82	35
359510*	I	I'	L	M	N	Mass (kg)		
	82	47	35	27	18	2,5 / 2,8		



Code	A	B	C	D	E	F	G	H
359420*	270	190	80	58	52	80	41	50
359490*	I	L	M	N	O	P	Mass (kg)	
	32	66	83	34	27	19	2,3	



Code	A	B	C	D	E	F	G
359100*	190	190	80	58	49	82	52
359190*	H	I	L	M	N	Mass (kg)	
	50	87	34	27	19	1,7	



Code	A	B	C	D	E	Mass (kg)
359001*	57	43	26	17	29	0,12

* versions made of "LOW LEAD" dezincification resistant alloy with code extension: 001 

Italy normative references

UNI EN 806-3:2008: "Specifications for installations inside buildings conveying water for human consumption.
Part 3: Pipe sizing - Simplified method"
UNI 9182:2014: "Hot and cold water supply and distribution installations - Design, installation and testing"

Nominal sizing parameters

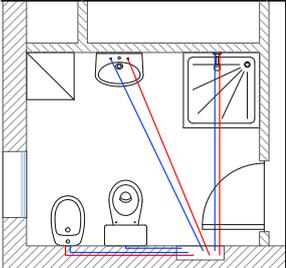
Appliance	Flow rate (l/s)	Maximum recommended velocities (m/s)	Pressure conditions (bar)
Washbasin	0.1	Primary distribution, risers, floor distribution pipes	Static pressure at the drawing point
Bidet	0.1		max. 5
WC	0.1		Dynamic pressure at the drawing point
Bathtub	0.4	Supply line to individual user	min. 1
Shower	0.2		
Kitchen sink	0.2		
Washing machine / domestic dishwasher	0.2	Recirculation system	0.5-1

Sizing example

When the flow rates of the appliances are known, the pipe diameters can be sized. We suggest using multi-layer pipes. The length of pipes inside the room is used to calculate the volume of hot water contained within the pipes. If the water contained is greater than 3 l, a recirculation circuit must be provided. To guarantee the minimum pressure of 1 bar for the most disadvantaged appliance, the manifold/unit inlet pressure must be determined. It is therefore necessary to calculate the overall pressure drop. In the case in question, the most disadvantaged appliance is the shower.

Case A

Distribution manifolds with individual and main shut-off valves



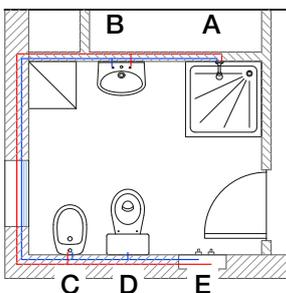
Washbasin Ø 16x2
Bidet Ø 16x2
WC Ø 16x2
Shower Ø 16x2

Calculation of the hot water volume:

Internal Ø	12 mm
Total L	10 m
Volume	1,15 l (< 3 l)

Case B

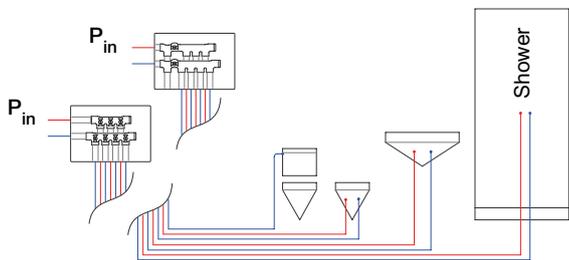
Unit with main shut-off valves



AB Ø 16x2
BC Ø 16x2
CD Ø 16x2
DE Ø 16x2

Calculation of the hot water volume:

Connection	T	loop
Internal Ø	12 mm	12 mm
Total L	8 m	16 m
Volume	0,9 l (< 3 l)	1,8 l (< 3 l)



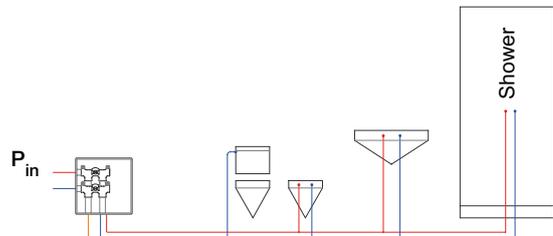
Manifold with individual shut-off valves

$$P_{in} = P_{app\ sf} + \Delta P_d + \Delta P_c + \Delta P_{vis}$$

Manifold with main shut-off valves

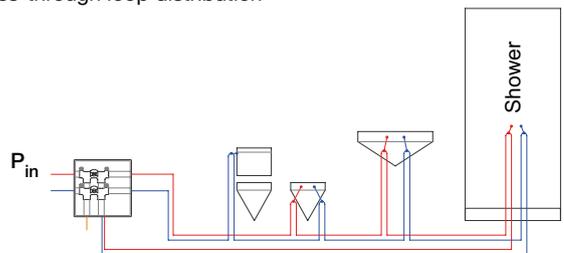
$$P_{in} = P_{app\ sf} + \Delta P_d + \Delta P_c + \Delta P_{vig} + \Delta P_{der}$$

In-line distribution with T connection



$$P_{in} = P_{app\ sf} + \Delta P_d + \Delta P_c + \Delta P_{vig} + \Delta P_{c,T} + \Delta P_{der}$$

Pass-through loop distribution



For a detailed calculation of the pressure drops within the loop circuit, please refer to the H. Cross method. This method applies to mesh systems; the iterative calculation leads to lower actual pressure drops (approx. 50 %) in relation to the simplified method.

P_{in} = pressure at inlet
 $P_{app\ sf}$ = disadvantaged appliance minimum pressure
 ΔP_d = distributed pressure drop
 ΔP_c = elbow local pressure drop
 ΔP_{vis} = individual shut-off valve local pressure drop
 ΔP_{vig} = main shut-off valve local pressure drop
 ΔP_{der} = outlet local pressure drop
 $\Delta P_{c,T}$ = T connection local pressure drop

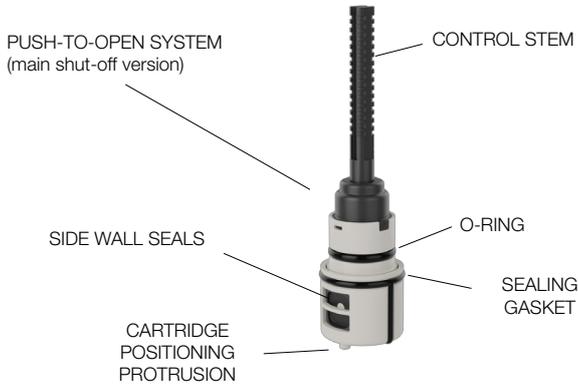
$\Delta P_{c/der/c,T} = \xi \cdot \rho \cdot v^2 / 2 / 10^5$ (bar) $\Delta P_d = r \cdot L / 10^5$ (bar)
 ξ = local pressure drop coeff. r = pressure drop per unit of length (Pa/m)
 ρ = density (kg/m³) L = length of pipe (m)
 v = velocity (m/s)

$\Delta P_{vis/vig} = G^2 / Kv^2$ (bar)
 G = flow rate (m³/h)
 Kv = flow rate (m³/h) @ ΔP (1 bar)

Construction details

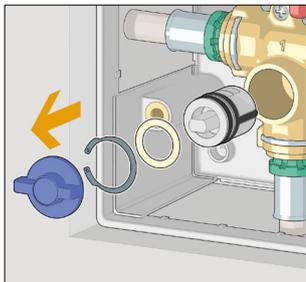
Patented anti-block cartridge

The special patented cartridge designed for use in 359 series manifolds makes it possible to achieve a high level of operating reliability over time, thanks to the dual sealing gasket system. The materials used to make it offer a low operating torque during opening/closing procedures, and to minimise the blockage problems linked to the limescale typically present when ball valves are used. If necessary, the cartridge can be replaced simply by removing it from the front of the manifold and inserting the new one.

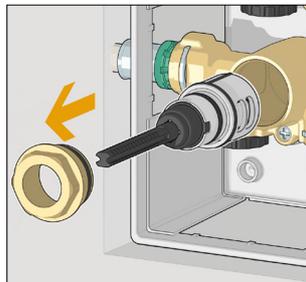


There are cartridges of two types and sizes, one used in manifolds with individual shut-off valves and one designed for versions with main shut-off valves. The version used for in-wall main shut-off valves features a stem with a push-to-open system. It helps to achieve the concealed effect for the knobs used to move the cartridge.

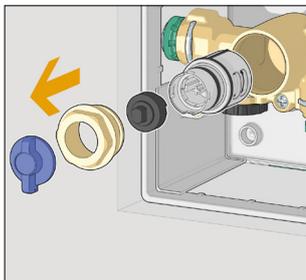
Cartridge for individual shut-off valves



Cartridge for main shut-off valves



Cartridge for inspectable main shut-off valves



The versions with inspectable main shut-off valves do not have the push-to-open system, and the same knob used for the individual shut-off valves takes its place.

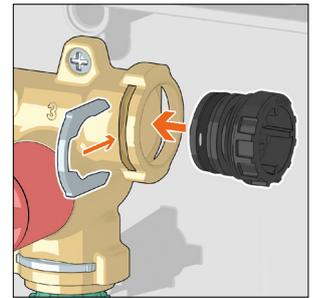
Dezincification resistant material with very low lead content (Low Lead)



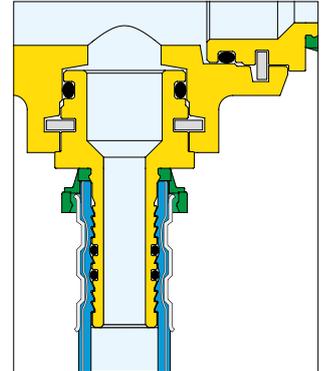
359 series manifolds are also available in a version made using material with a very low lead content. This material is perfectly in line with the new regulatory provisions concerning contact with potable water. This is an innovative alloy with a very low lead content (< 0,1 %) and dezincification resistant properties.

Fixing clip couplings

All connections to the manifold are performed by means of a fixing clip system. This offers optimal installation speed and impeccable seal reliability.



The special connection system does not allow installation errors. The fixing clip only fits into the corresponding groove if the element to be connected is in the correct position.

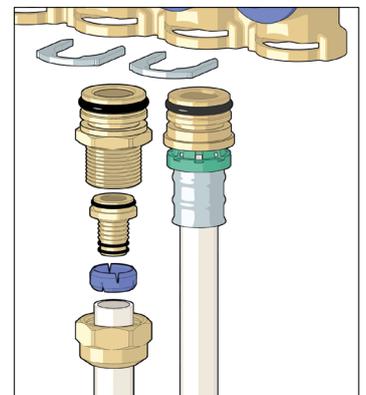


Types of fitting for pipe connection

Pipe connection is extremely easy and takes place by means of a fixing clip system.

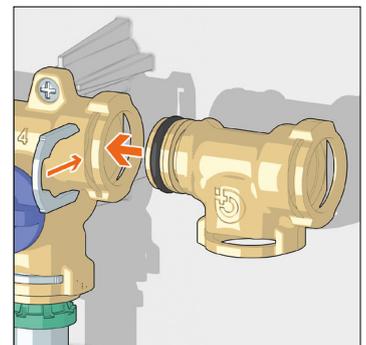
Two types of fitting are available: compression or press type.

Compression fittings can only be used in inspectable boxes, while press fittings - given their securing method - can also be used in wall installations.



Tee with fixing clip

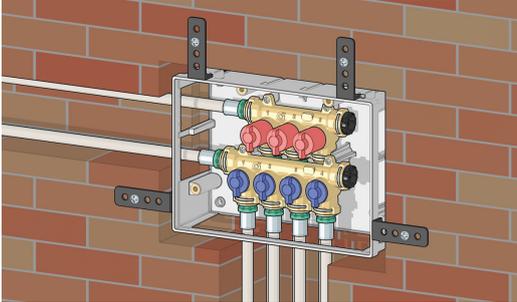
The tee is an optional accessory capable of assuming different functions depending on the type of manifold/unit to which it is applied. In versions with individual shut-off valves, it can be used as an outlet for connection of the recirculation circuit, while in versions with main shut-off valves it allows an outlet to be added.



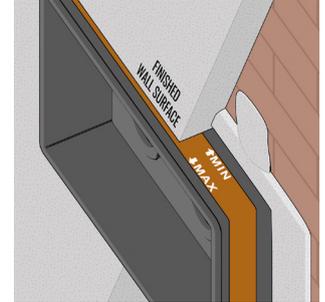
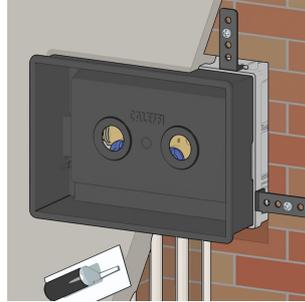
DISTRIBUTION MANIFOLDS WITH INDIVIDUAL SHUT-OFF VALVES

Box installation procedure

The box can be installed on any type of wall (masonry, plasterboard, wood) using the relevant brackets provided. Once the box has been fitted on the wall, connect the pipes to the manifold using the special fixing clip couplings.



The protection cover protects the inner parts of the box during installation procedures. It also provides a reference for the area to which the superficial finish of the wall needs to be applied in order to achieve perfect alignment of the inspection port or cover plate.

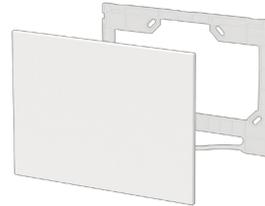


Recessed inspection port with push-to-open frame



359700
Recessed inspection port with push-to-open frame
Material: ABS

Aesthetic cover plate

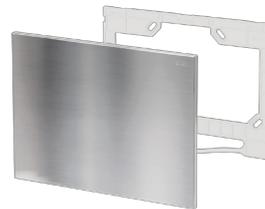


Paintable plastic aesthetic cover plate.
Complete with support plate.

359801 white RAL 9010 finish

Function

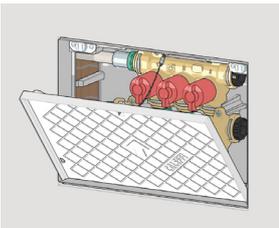
The push-to-open inspection port offers easy inspection of the manifold with individual shut-off valves. When recessed into the wall, it blends perfectly with the wall in which it is installed.



Aesthetic cover plate in stainless steel.
Complete with support plate.

359802 shiny finish
359803 brushed finish

Installation procedure for recessed inspection port with push-to-open frame



Secure the inspection port frame to the box, adjusting its depth with the special adjustment screws until it is flush with the wall.

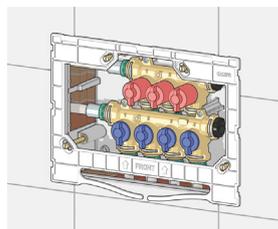
Function

The aesthetic cover plate is used to complete box installation, guaranteeing easy access for any necessary maintenance operations.

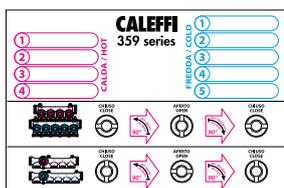
Aesthetic cover plate installation procedure



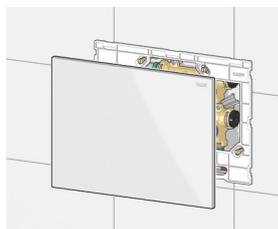
Plaster or tile the inspection port to achieve the same effect as used on the wall.



To install the cover plate, the support plate should be fixed to the box.



The label on the back of the ports and plates serves to identify the utilities served.

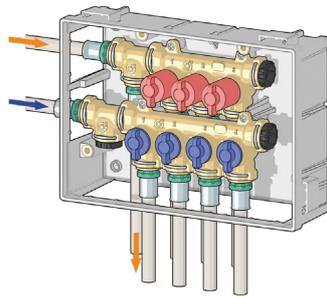


Fix the cover plate to the support plate.

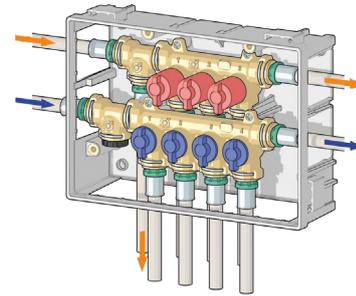
Possible manifold configurations

The tee allows the addition of a recirculation circuit connection and, if necessary, an outlet (not interceptable) in the 4 + 3 version.

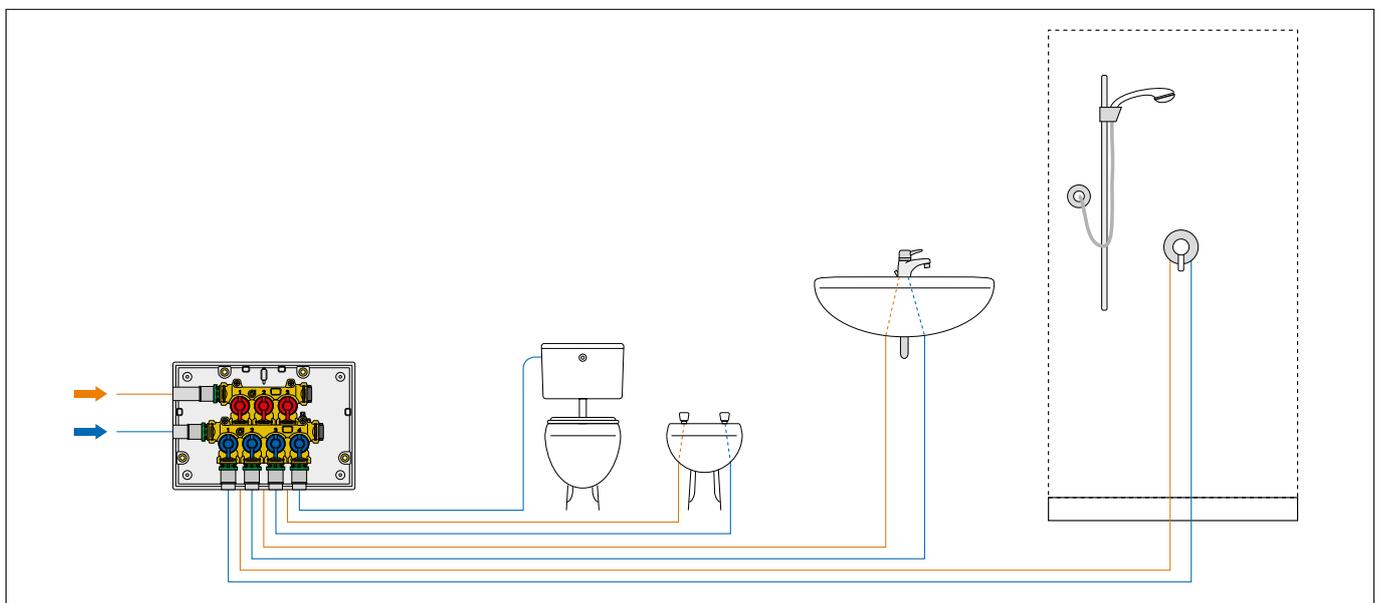
Installation with tee for recirculation circuit.



Installation with tee for recirculation circuit and with passing through outlet.



Application indications



Typical applications

Residential (apartment, detached house)

The manifold system remains well balanced even in the event of simultaneous drawing requests from different users.

If necessary, for example in the event of maintenance operations, individual users can be cut off.

Connections inside the wall are not required as they only take place on the manifold and the individual users.

Every user is served by a dedicated length of pipe. The total length of the pipes used is greater, but hot water is supplied to the user extremely quickly.

You must be aware of potential interference between the various pipes, also those used in other systems (for example in the case of radiant panels).

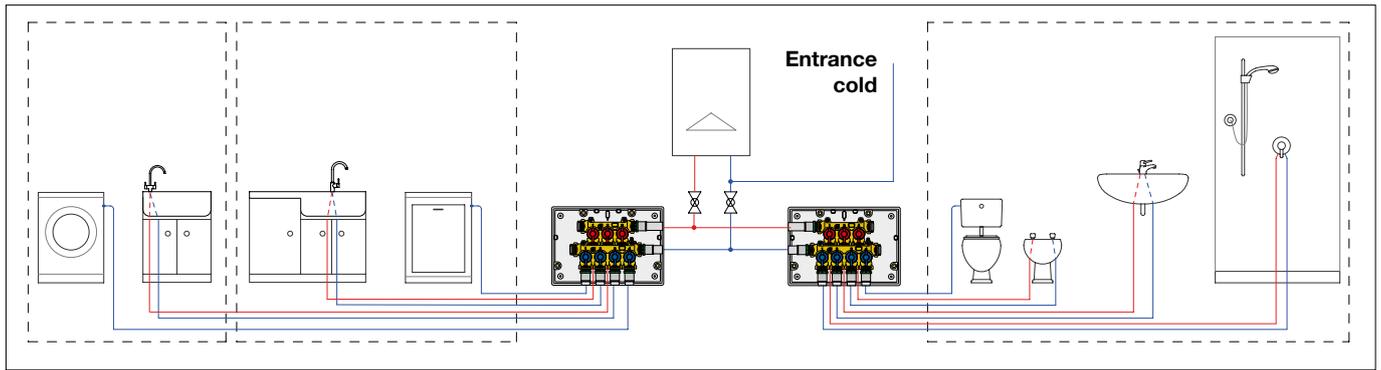
The manifold solution presents stagnation risks in the lengths of pipe that are not used; for this reason it lends itself well to installations in which all users are used continuously; this ensures that the stagnation risk due to a lack of drawing requests is minimised.

System functional features

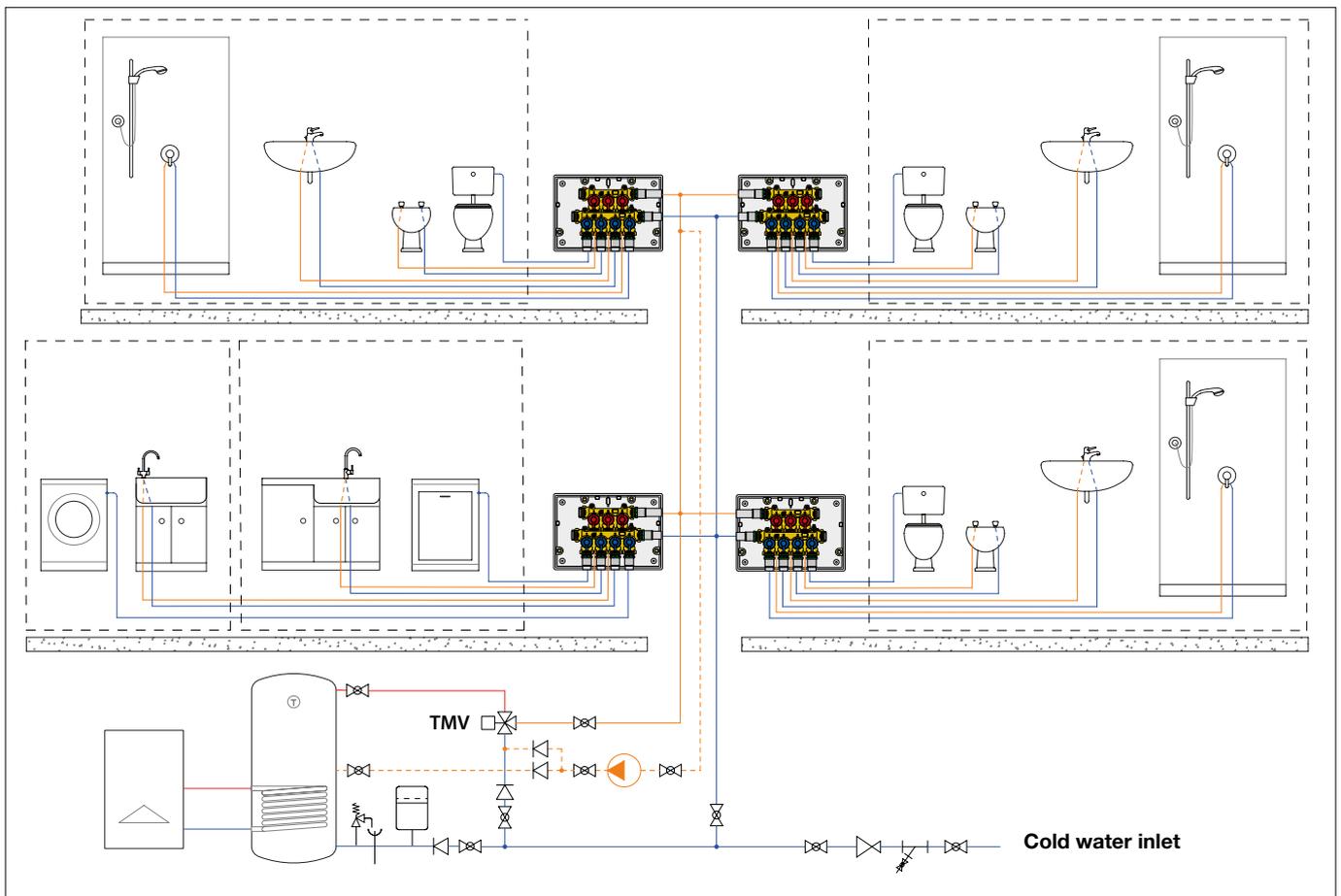
Balanced distribution	✓
Individual user shut-off	✓
In-wall connections	AVOIDABLE
Length of pipes used	HIGH
DHW availability time	FAST
Stagnation risk	MEDIUM-HIGH

Application diagrams

Independent system: apartment (boiler with instantaneous production and no recirculation)



Independent system: multi-floor home (boiler with storage and recirculation)



SPECIFICATION SUMMARY

Code 359410 / 359510 / 359410 001 / 359510 001

Domestic water distribution manifold, pre-assembled in a box with individual shut-off valves. Outlets 4 + 3 (or 5 + 4). Brass (or dezincification resistant alloy) body. PPSU shut-off cartridge. EPDM seals. PA6G30 knobs. PP brackets. ABS box. Medium potable water. Maximum working pressure 10 bar. Working temperature range 5-90 °C. Main connections and outlet connections adapter + fixing clip. Outlet centre distance 35 mm. Size 270 x 190 x 80 mm. Consists of: hot water manifold with shut-off valves, cold water manifold with shut-off valves, box for manifolds with supports for manifolds and mounting brackets, two end fitting caps with fixing clips, protection cover for installation.

Code 359700

Recessed inspection port with push-to-open frame. ABS material. Useful size 255 x 175 x 62 mm.

Code 359801

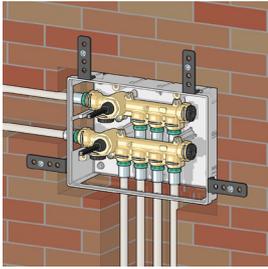
Aesthetic cover plate in paintable plastic with a RAL 9010 white finish. Complete with support plate. ABS material. Useful size 294 x 214 x 8 mm.

Code 359802 / 359803

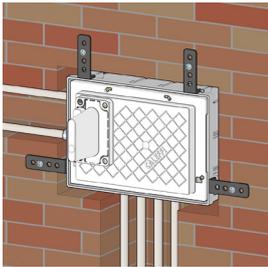
Stainless steel aesthetic cover plate (shiny or brushed finish). Complete with support plate. Useful size 294 x 214 x 8 mm.

DISTRIBUTION MANIFOLDS WITH MAIN SHUT-OFF VALVES

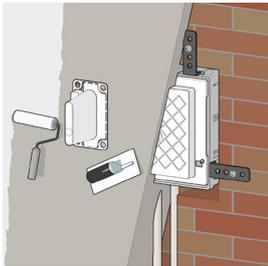
Box installation procedure



The box can be installed on any type of wall (masonry, plasterboard, wood) using the relevant brackets provided. Once the box has been fitted on the wall, connect the pipes to the manifold using the special fixing clip couplings.



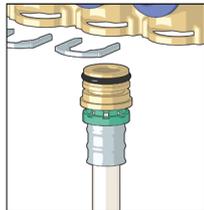
Replace the protection cover before plastering the wall. Use the adjustment screws to make sure the protective mask is flush with the finished wall.



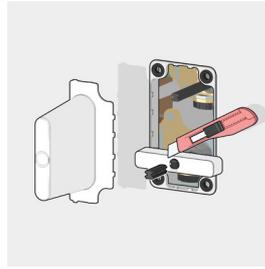
Plaster the wall or lay the tiles right up to the edges of the protective mask.

Types of usable fittings

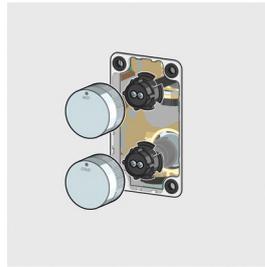
Press fittings must be used since it is an in-wall installation



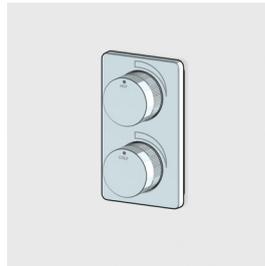
Finishing plate installation procedure



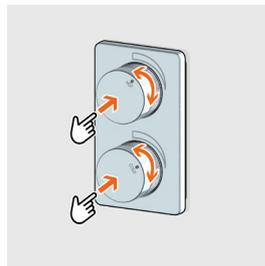
Remove the mask protecting the shut-off valves and use the built-in template to cut the stems, in order to achieve correct alignment of the knobs.



Secure the knobs using the relevant fixing screws and push on the chrome plated covers until they click into place.



Fit the finishing plate.



Press the knob to make it pop out and turn it to perform open/close procedures.



359902
Plate with hidden knobs.
Shiny chrome finish.

Materials

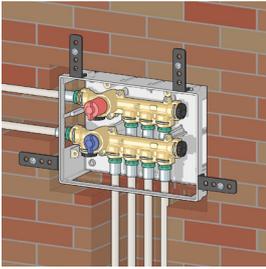
Finishing plate: ABS
Knobs: brass
EN 12164 CW617N

The special design allows installation in bathrooms, with an emphasis on design and functions.

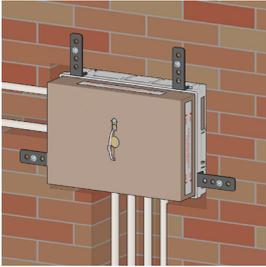


INSPECTABLE DISTRIBUTION MANIFOLDS WITH MAIN SHUT-OFF VALVES

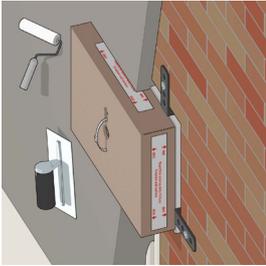
Box installation procedure



The wall-mounting box is installed in the same way as for the in-wall version.



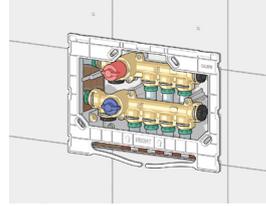
The protection cover protects the inner parts of the box during installation procedures.



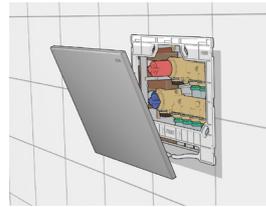
The cover provides a reference for the area to which the surface finish of the wall needs to be applied in order to achieve perfect alignment of the cover plate.

Aesthetic cover plate installation procedure

The aesthetic cover plate is used to complete box installation, guaranteeing easy access for any necessary maintenance operations.



To install the cover plate, the support plate should be fixed to the box.



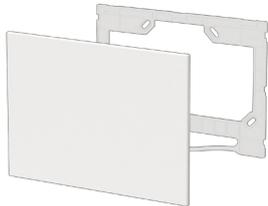
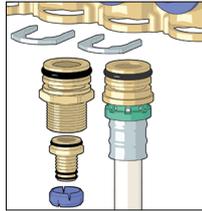
Fix the cover plate to the support plate.

Inspection capacity

The inspectable box allows full access to the distribution manifold. When the cover plate is removed, it is possible to adjust the main shut-off knobs or to carry out any maintenance operations required.

Types of usable fittings

Because it is inspectable, compression fittings can be used as well as press fittings.



Paintable plastic aesthetic cover plate.
Complete with support plate.

359801 white RAL 9010 finish



Aesthetic cover plate in stainless steel.
Complete with support plate.

359802 shiny finish
359803 brushed finish

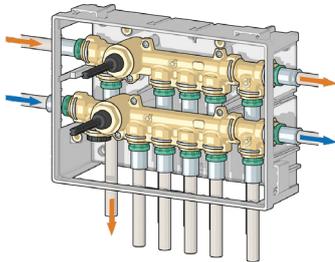


Possible manifold configurations

The tee can be installed at the base of the manifold in the version with main shut-off valves, so that an additional outlet can be provided. The connection for the recirculation circuit is already built into the factory configuration.

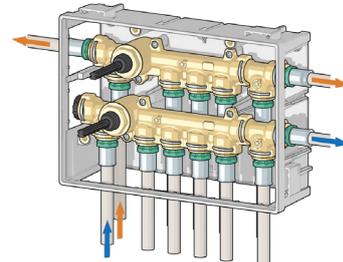
Installation with side inlet and recirculation circuit towards the bottom.

Tee for additional outlet and passing through outlet.

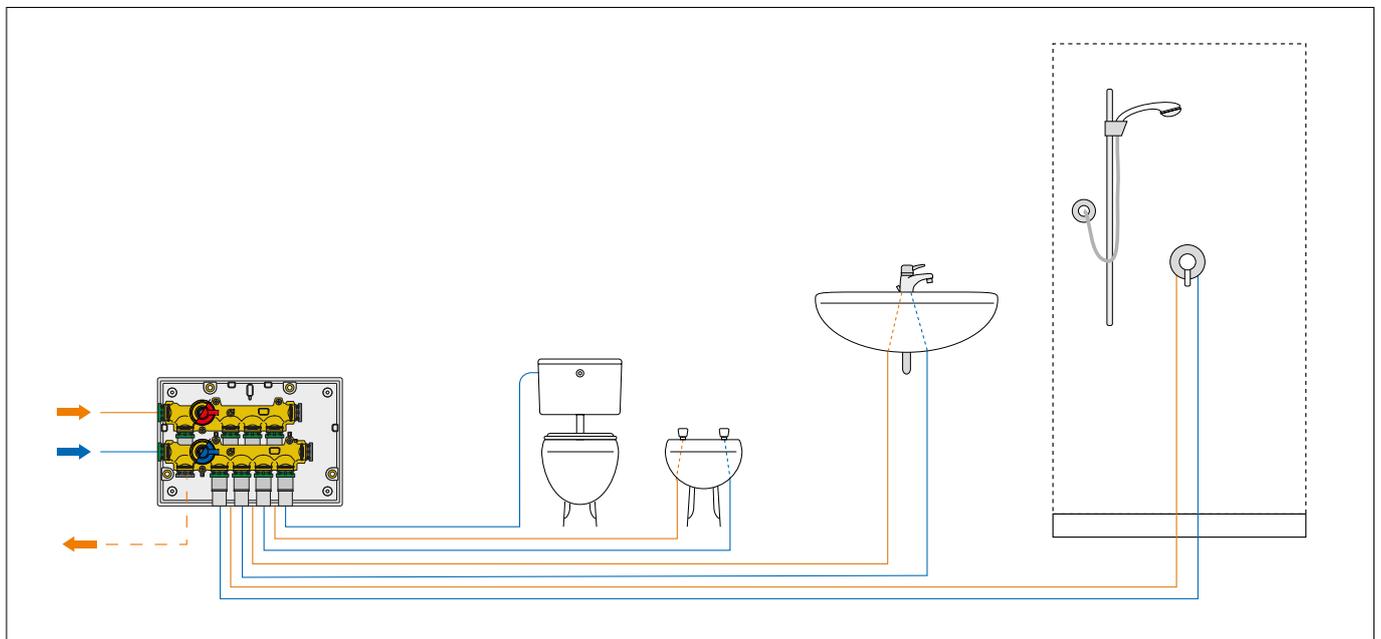


Installation with inlet at the bottom and side recirculation.

Tee for additional outlet and passing through outlet.



Application indications



Typical applications

Residential (apartment, detached house)

The manifold system remains well balanced even in the event of simultaneous drawing requests from different users.

If necessary, for example in the event of maintenance operations, the inlet at the bathroom can be cut off.

Take care when making the connections to the in-wall version of the manifold.

Every user is served by a dedicated length of pipe. The total length of the pipes used is long, but hot water is supplied to the user extremely quickly.

You must be aware of potential interference between the various pipes, also those used in other systems (for example in the case of radiant panels).

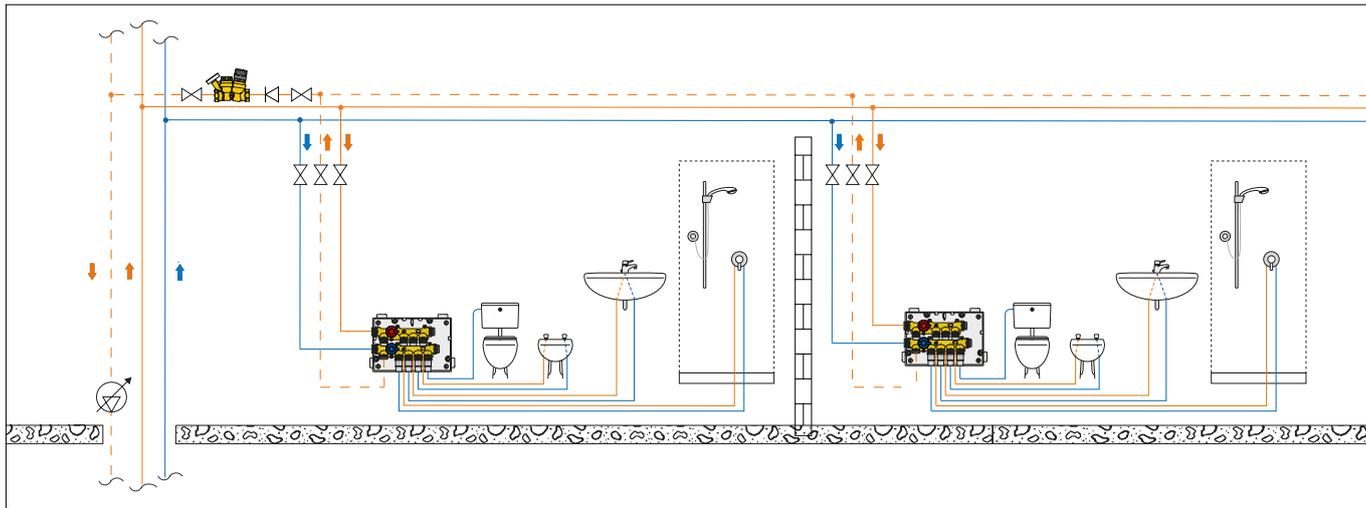
The manifold solution presents stagnation risks in the lengths of pipe that are not used; for this reason it lends itself well to installations in which all users are used continuously; this ensures that the stagnation risk due to a lack of drawing requests from one of the users is minimised.

System functional features

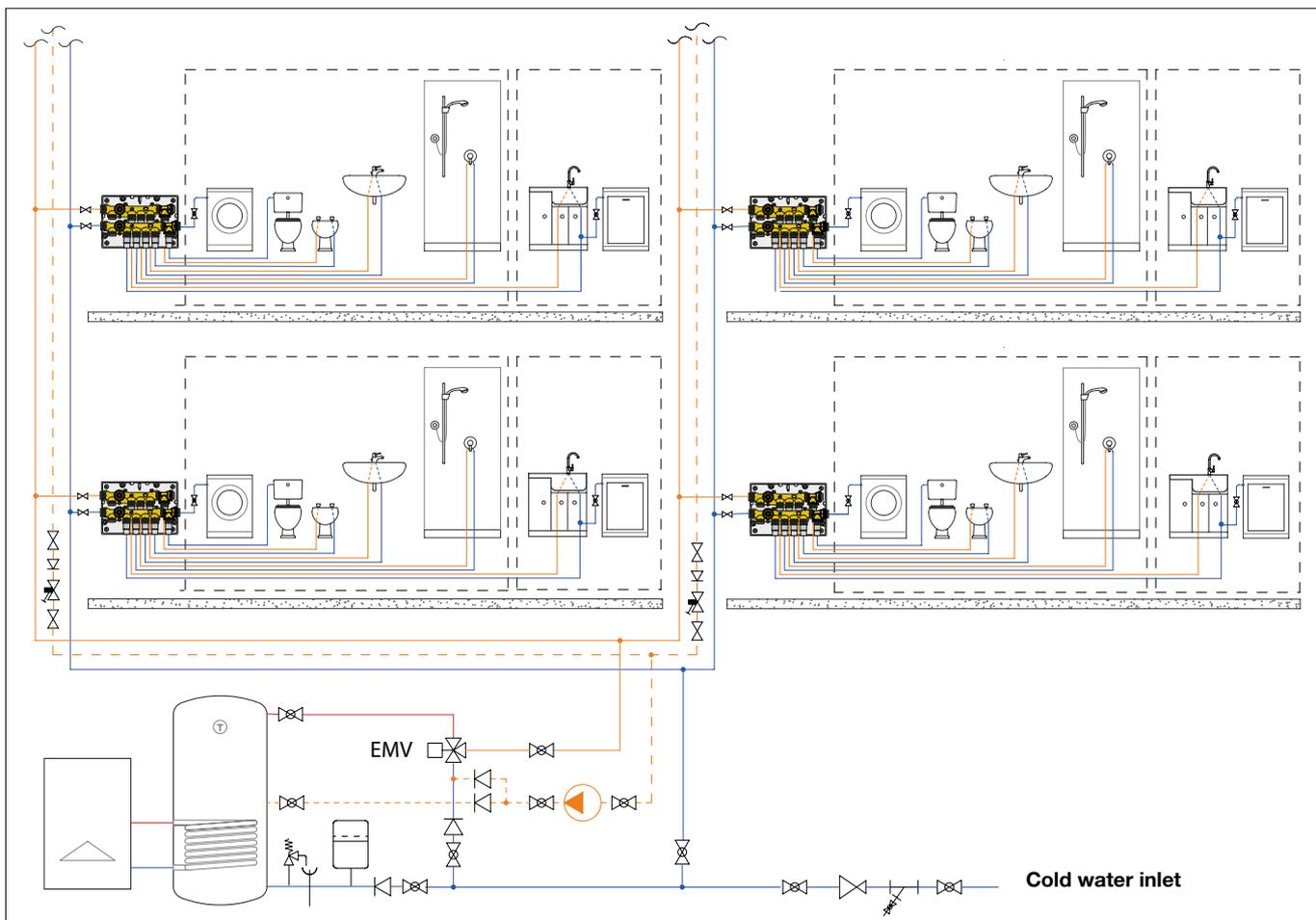
Balanced distribution	✓
Individual user shut-off	✗
In-wall connections	YES
	NO (inspectable version)
Length of pipes used	HIGH
DHW availability time	FAST
Stagnation risk	MEDIUM-HIGH

Application diagrams

Floor distribution with recirculation at the manifold



Centralized system: residential apartment block (production with storage and recirculation circuit on the riser)



SPECIFICATION SUMMARY

Code 359420 / 359490 / 359420 001 / 359490 001

Domestic water distribution manifold, pre-assembled in a box with main shut-off valves. Outlets 4 + 3. Brass (or dezincification resistant alloy) body. PPSU shut-off cartridge. PA6G30 knob (inspectable versions).

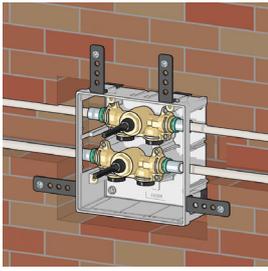
EPDM seals. PP brackets. ABS box. Medium potable water. Maximum working pressure 10 bar. Working temperature range 5-90 °C. Main connections and outlet connections adapter + fixing clip. Outlet centre distance 32 mm. Size 270 x 190 x 80 mm. Consists of: hot water manifold with main shut-off valve, cold water manifold with main shut-off valve, box for manifolds with supports for manifolds and mounting brackets, blank end fitting caps with fixing clips, closing cover.

Code 359902

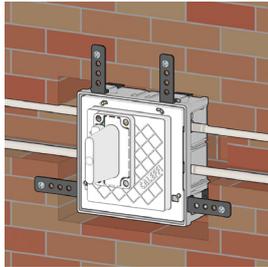
Plate with hidden knobs. Shiny chrome finish. Knob material chrome plated brass, finishing plate chrome plated ABS. Size 70 x 120 x 7 mm.

UNIT WITH MAIN SHUT-OFF VALVES

Box installation procedure



The box can be installed on any type of wall (masonry, plasterboard, wood) using the relevant brackets provided. Once the box has been fitted on the wall, connect the pipes to the manifold using the special fixing clip couplings.



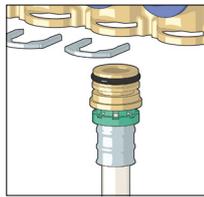
Replace the protection cover before plastering the wall. Use the adjustment screws to make sure the protective mask is flush with the finished wall.



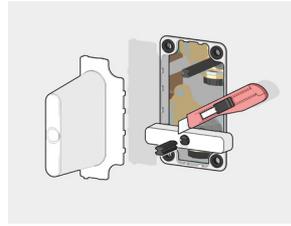
Plaster the wall or lay the tiles right up to the edges of the protective mask.

Types of usable fittings

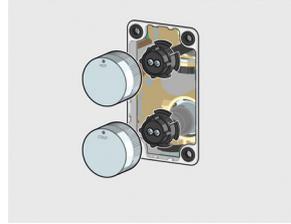
Press fittings must be used since it is an in-wall installation.



Finishing plate installation procedure



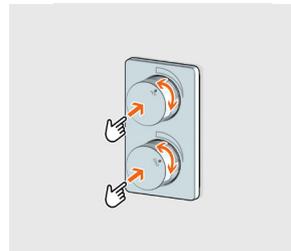
Remove the mask protecting the shut-off valves and use the built-in template to cut the stems, in order to achieve correct alignment of the knobs.



Secure the knobs using the relevant fixing screws and push on the chrome plated covers until they click into place.



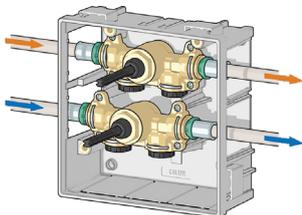
Fit the finishing plate.



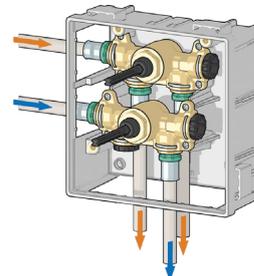
Press the knob to make it pop out and turn it to perform open/close procedures.

Possible unit configurations

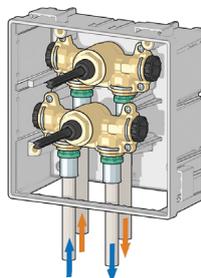
Installation with horizontal pipes.



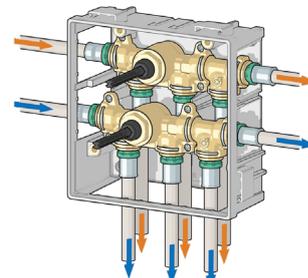
L-shaped installation for recirculation circuit.



Installation with pipes from below.

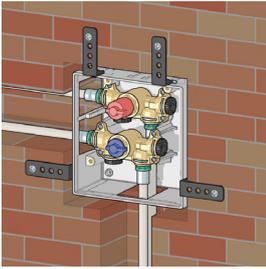


L-shaped installation with tee and through joint for hot and cold water recirculation circuit extension.

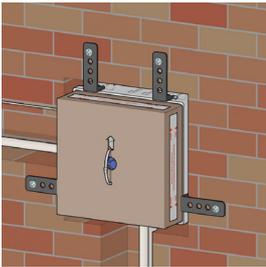


INSPECTABLE UNIT WITH MAIN SHUT-OFF VALVES

Box installation procedure



The wall-mounting box is installed in the same way as for the in-wall version.



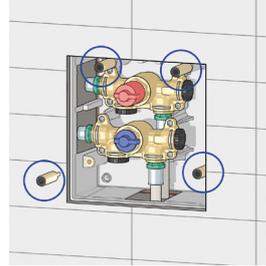
The protection cover protects the inner parts of the box during installation procedures.



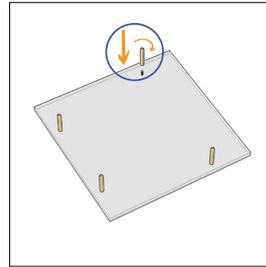
The cover provides a reference for the area to which the surface finish of the wall needs to be applied in order to achieve perfect alignment of the cover plate.

Finishing plate installation procedure

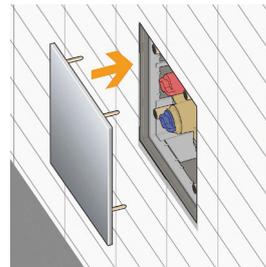
The aesthetic cover plate is used to complete box installation, guaranteeing easy access for any necessary maintenance operations.



Manually screw the cylindrical guides into the holes in the box.



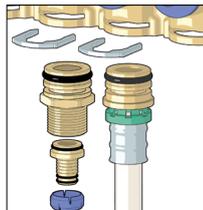
Screw the pins to the rear of the plate.



Fasten the aesthetic cover plate to the cylindrical guides.

Types of usable fittings

Because it is inspectable, compression fittings can be used as well as press fittings.



Inspection capacity

The inspectable box allows full access to the unit. When the cover plate is removed, it is possible to adjust the main shut-off knobs or to carry out any maintenance operations required.



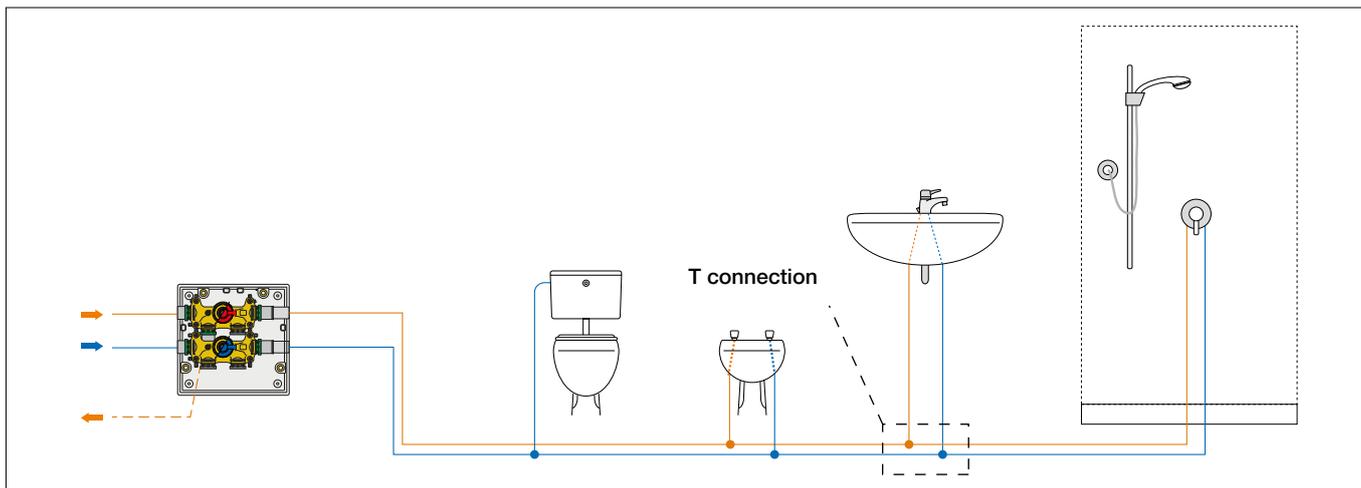
359

Aesthetic cover plate in stainless steel. Complete with cylindrical guides and pins for fixing.

359892 shiny finish
359893 brushed finish



Distribution with outlets in T configuration



Typical applications

Residential (apartment, detached house) or comparable commercial applications

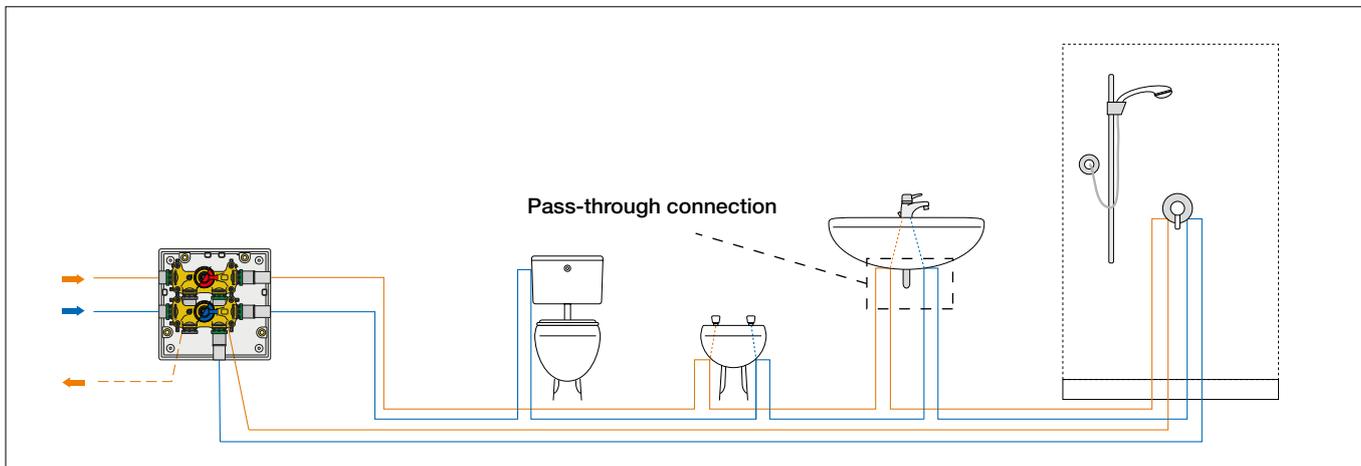
In distribution with outlets in T configuration, system balancing and the option of cutting off individual users is compromised, in order to achieve the most economical and straightforward installation. It is therefore necessary to take extra care if in-wall connections are present.

Given the use of a shared pipe, the overall length of piping used is limited, while ensuring users are supplied with hot water quickly. The stagnation risk is only present in pipes running from the T to the user served, nevertheless the solution is suggested if there are users requesting hot water continuously that do not, therefore, create stagnation risks.

System functional features

Balanced distribution	X
Individual user shut-off	X
In-wall connections	YES
Length of pipes used	LIMITED
DHW availability time	FAST
Stagnation risk	MEDIUM

Pass-through loop distribution



Typical applications

Hotel or hospital, large systems with at-risk users.

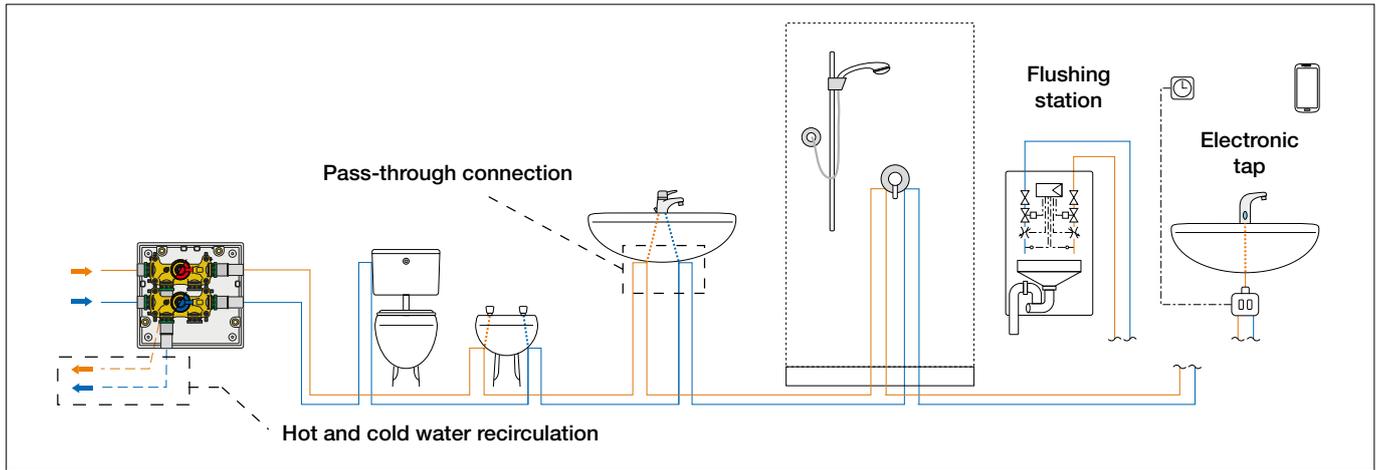
The solution with pass-through loop maintains a well-balanced distribution as the water can reach individual users from two directions: from the pass-through line serving all users in series and from the loop closing off the circuit at the bottom. A dedicated pipe should actually be provided to close off the loop from the last user.

The loop makes it possible to serve all users quickly and, especially, causes the water to move throughout the whole circuit every time water is drawn. This reduces the risk of stagnation caused by non-continuous drawing; a typical use would be in hotel or hospital complexes.

System functional features

Balanced distribution	✓
Individual user shut-off	X
In-wall connections	YES
Length of pipes used	HIGH
DHW availability time	FAST
Stagnation risk	LOW

Pass-through distribution with flushing point



Typical applications

Hotel or hospital with high level of automation, large systems with at-risk users.

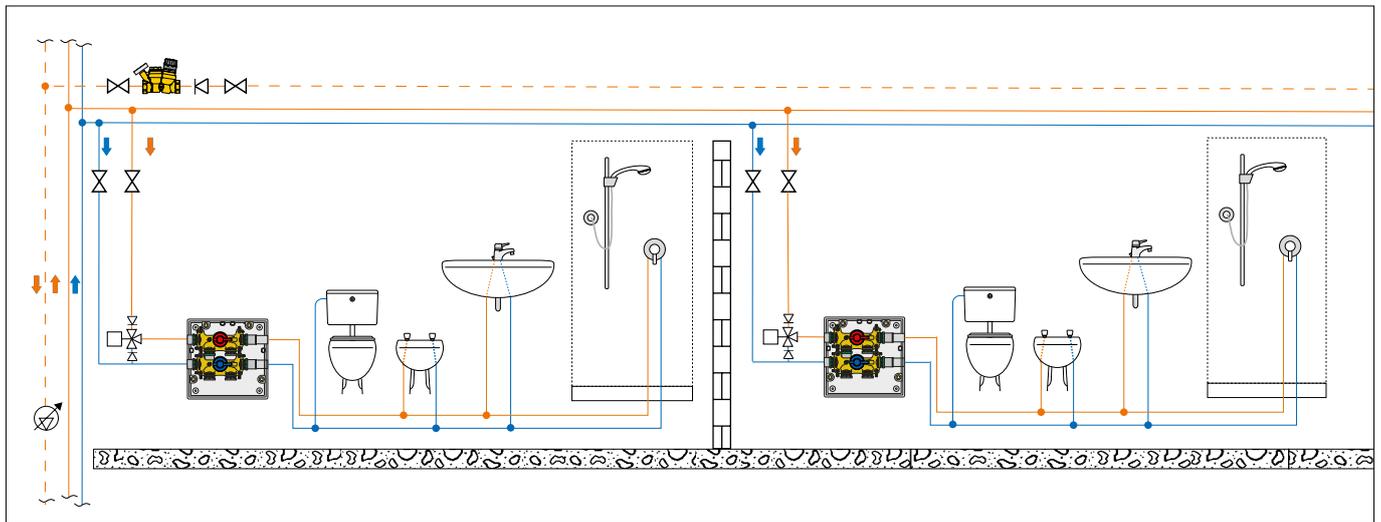
This solution lends itself to use in structures with users that may be used non-continuously or where there may be long periods of disuse caused by unoccupied rooms. The flushing station (or electronic tap) generates controlled flows to ensure that hot and/or cold water is supplied at scheduled intervals or every time the passage of water is not detected for a specific amount of time. The cold water recirculation circuit is designed to keep the water temperature constant.

System functional features

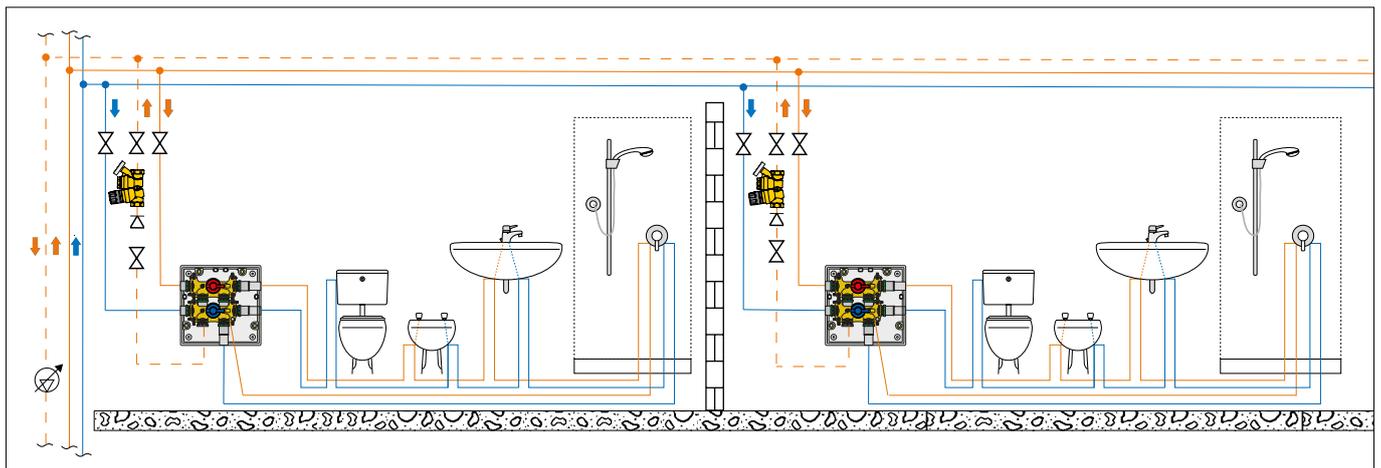
Balanced distribution	X
Individual user shut-off	X
In-wall connections	YES
Length of pipes used	MEDIA
DHW availability time	MEDIUM
Stagnation risk	ABSENT

Application diagrams

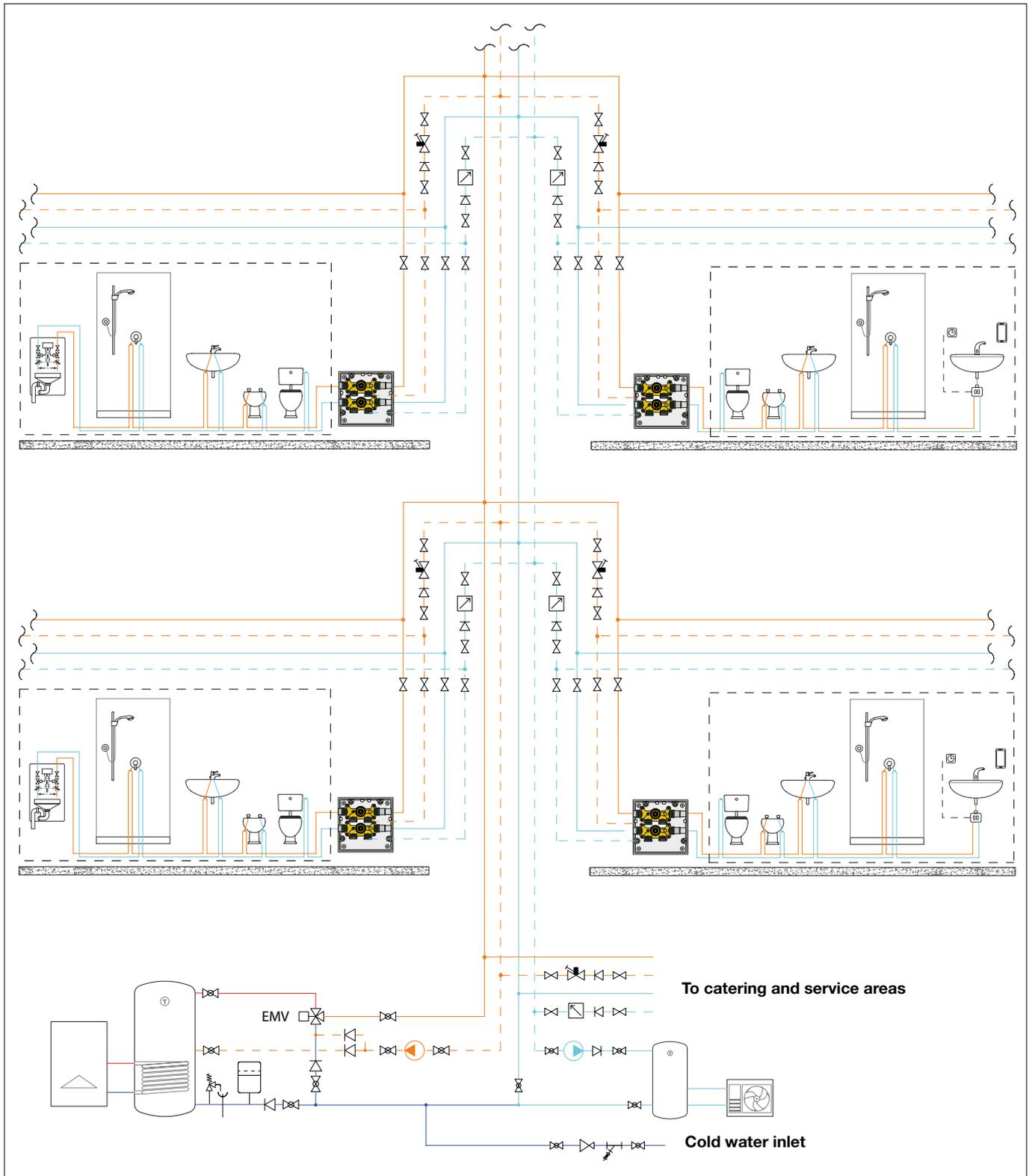
Distribution with outlets in T configuration and floor recirculation



Pass-through loop distribution and bathroom recirculation



Centralized system: hotel / hospital with a high level of automation (production with storage and peripheral hot/cold recirculation circuit)



SPECIFICATION SUMMARY

Code 359100 / 359190 / 359100 001 / 359190 001

Unit with main shut-off valves. Brass (or dezincification resistant alloy) body. PPSU shut-off cartridge. EPDM seals. PA6G30 knob (inspectable versions). PP brackets. ABS box. Medium potable water. Maximum working pressure 10 bar. Working temperature range 5-90 °C. Main connections and outlet connections adapter + fixing clip. Size 190 x 190 x 80 mm. Consists of: valve assembly, box for manifolds with supports for manifolds and fixing brackets, blank end fitting caps with fixing clips, closing cover.

Code 359892 / 359893

Stainless steel aesthetic cover plate (shiny or brushed finish). Complete with cylindrical guides for fixing. Useful size 214 x 214 x 8 mm.

PRESS FITTINGS FOR 359 SERIES MANIFOLDS



359

Multi-grip press fittings for multi-layer pipes with fixing clip.
Dezincification resistant "LOW LEAD" alloy body CR.

Max. working pressure: 10 bar.
 Working temperature range: 5–90 °C.

Can be used with clamps with profile H - TH - U.



Code

359024	Ø 16x2
359025	Ø 16x2,25
359064	Ø 20x2
359065	Ø 20x2,25
359066	Ø 20x2,5
359087	Ø 26x3*

* Can only be used with clamps with profile H - TH.



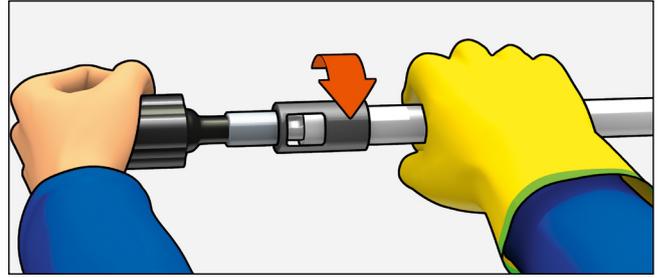
679

Calibrator and grip used when calibrating the multi-layer pipes before use in conjunction with 359 series fittings.

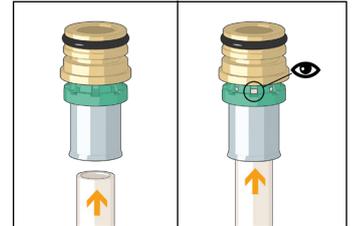
Code

679002	Calibrator Ø 16x2
679003	Calibrator Ø 16x2,25
679006	Calibrator Ø 20x2
679007	Calibrator Ø 20x2,25
679008	Calibrator Ø 20x2,5
679010	Calibrator Ø 26x3
679009	Grip for calibrator

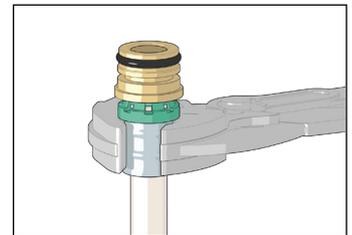
Calibration of the multi-layer pipe and assembly of the 359 series fitting



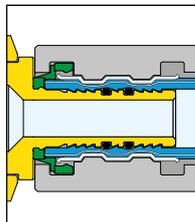
After calibrating the pipe using the relevant calibrator, push the pipe onto the fitting, making sure it reaches the end point. You should look through the windows to make sure the pipe is in the correct position.



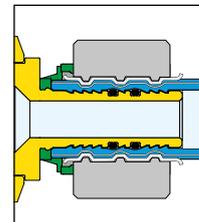
Clamp the pipe using the relevant clamp, until a click sounds automatically.



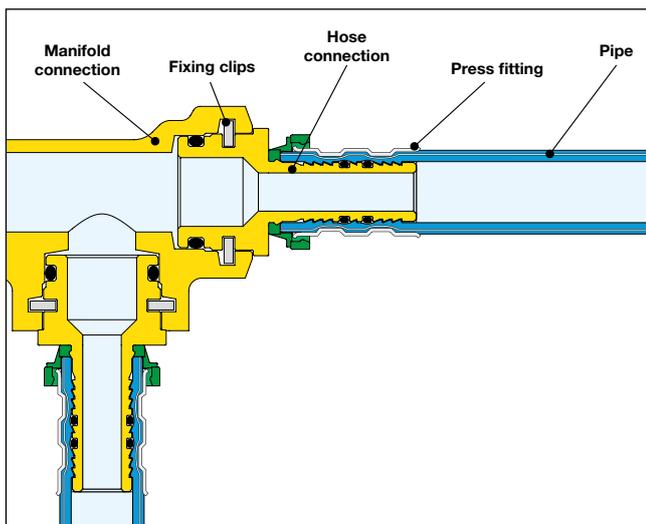
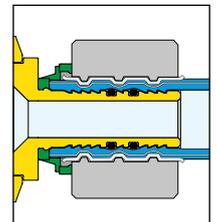
TH-profile clamp



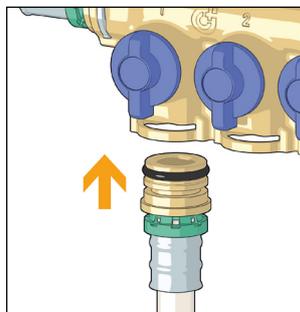
U-profile clamp



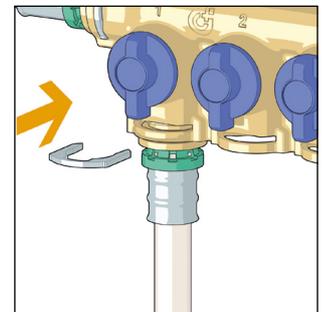
H-profile clamp



Insert the pipe, including the fitting, into the slot on the manifold.



Secure it with the dedicated fixing clip.

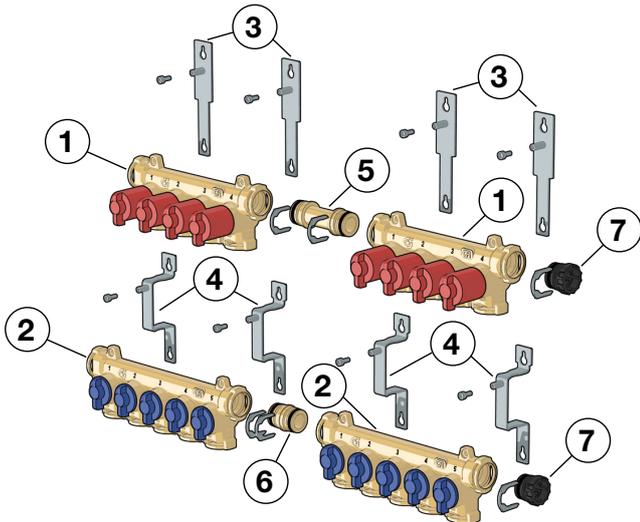


SPECIFICATION SUMMARY

Code 359024 / 359025 / 359064 / 359065 / 359066 / 359087

Multi-grip press fittings for multi-layer pipes with fixing clip. Size Ø 16x2 (Ø 16x2,25 / Ø 20x2 / Ø 20x2,25 / Ø 20x2,5 / Ø 26x3). Dezincification resistant alloy body. Maximum working pressure 10 bar. Working temperature range 5–90 °C. Can be used with clamps with profile H - TH - U.

MODULAR MANIFOLDS



Functions

The hot and cold water manifolds can be assembled using adapters and pairs of brackets. The various components offer very flexible composition as they are compatible with applications with side or central (balanced) inlets, or with just DHW or DCW manifolds.

1. Hot water manifold with shut-off valves.
2. Cold water manifold with shut-off valves.
3. Pair of brackets and fixing screws for hot water manifold.
4. Pair of brackets and fixing screws for cold water manifold.
5. Long adapter with fixing clip.
6. Short adapter with fixing clip.
7. Blank cap with fixing clip.

Accessories for manifold composition



Manifold with individual shut-off valves (red knobs).
Brass body.
Can also be used as a spare part.

Code	no. of outlets
359330*	3
359340*	4



Manifold with individual shut-off valves (blue knobs).
Brass body.
Can also be used as a spare part.

Code	no. of outlets
359240*	4
359250*	5



Pair of brackets and fixing screws for hot water manifold.
Stainless steel body.

Code
359015



Pair of brackets and fixing screws for cold water manifold.
Stainless steel body.

Code
359016



Long adapter with fixing clip.
Brass body.
Maximum working pressure: 10 bar
Working temperature range: 5–90 °C

Code
359017*



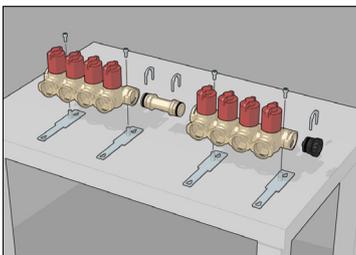
Short adapter with fixing clip.
Brass body.
Maximum working pressure: 10 bar
Working temperature range: 5–90 °C

Code
359018*

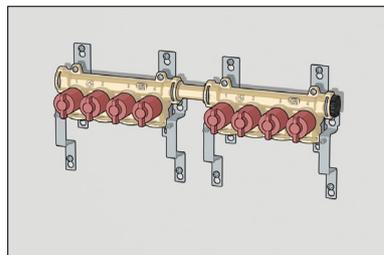
* versions made of "LOW LEAD" dezincification resistant alloy **CR** with code extension: 001



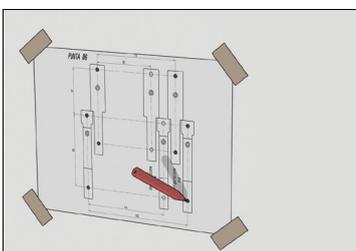
Modular manifold installation procedure



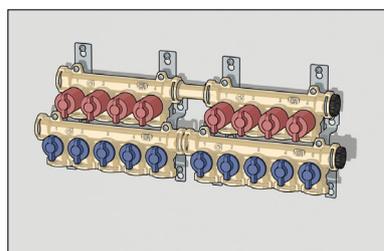
Assemble the upper manifold in the desired configuration.



Fit the upper manifold and position the brackets for the lower manifold.



Make the reference marks using the special template and drill the wall.

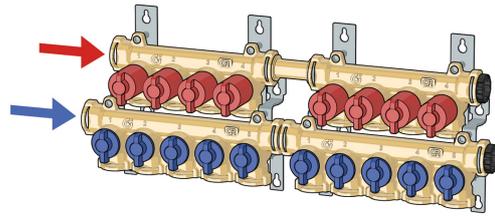


Fit the lower manifold on the wall.

Possible configurations

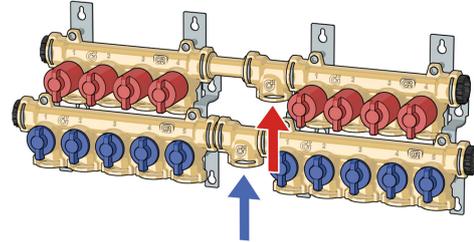
10 + 8 manifolds with side inlet

The central adapters ensure correct pipe alignment. Brackets of various lengths allow the DHW pipes to pass with minimal footprint between manifolds.



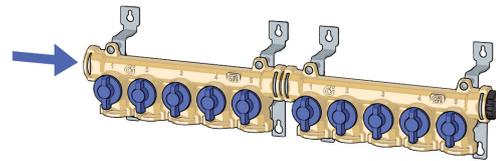
10 + 8 manifolds with central inlet

When installed in the central position together with the adapters, the T fitting ensures that the hot and cold water distribution is more balanced. This installation also ensures correct pipe alignment.



Individual DHW or DCW manifolds

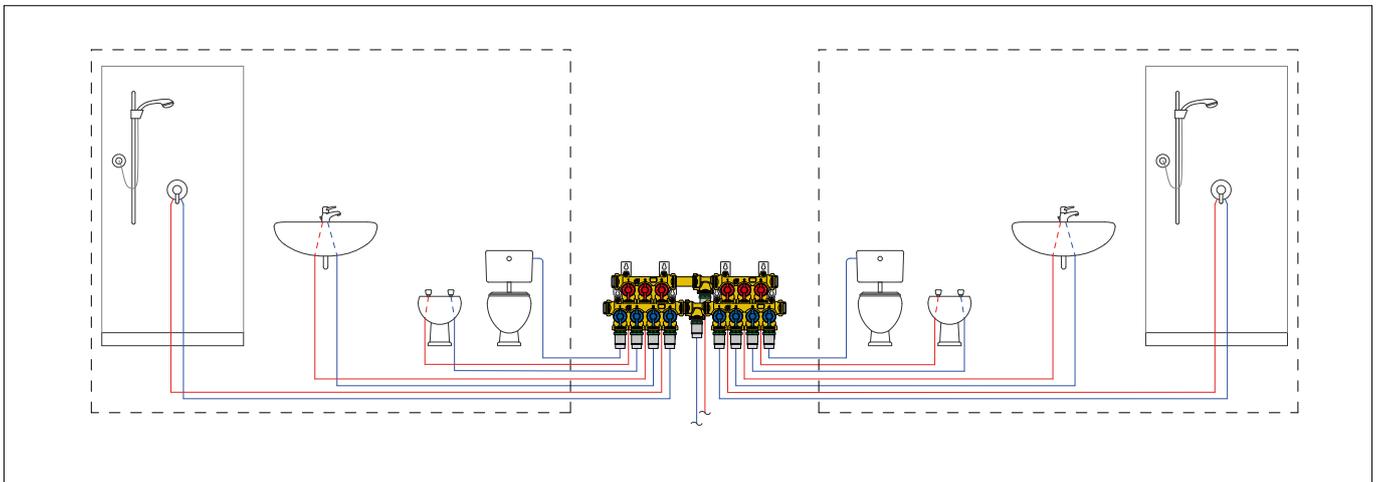
The central adapter allow several individual manifolds to be connected, even when the hot/cold pair is not required.



NOTE: when dimensioning, carefully consider the simultaneity to assess the flow rate needed.

Application diagrams

Distribution with 8 + 6 manifolds



SPECIFICATION SUMMARY

Code 359015/016

Pair of stainless steel brackets and fixing screws for cold/hot water manifold.

Code 359017/018

Long/short adapter with fixing clip. Brass body.

Code 359330 / 359330 001 / 359340 / 359340 001 / 359240 / 359240 001 / 359250 / 359250 001

Distribution manifold with individual shut-off valves. Outlets 3 (4 or 5). Brass (or dezincification resistant alloy) body. PPSU shut-off cartridge. EPDM seals. PA6G30 knobs. Medium potable water. Maximum working pressure 10 bar. Working temperature range 5–90 °C. Main outlet connection adapter + fixing clip. Outlet centre distance 35 mm.

ACCESSORIES FOR 359 SERIES MANIFOLDS



359

Tee with fixing clip.
Brass body.
Max. working pressure: 10 bar.
Working temperature range: 5–90 °C.

Code

359001*



359

Blank cap with fixing clip.
Composite body.

Code

359002

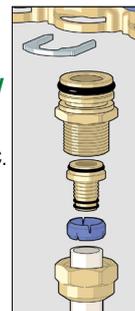


* **“LOW LEAD”** dezincification resistant alloy body available on request **CR** with code extension 001.



359

Adapter with fixing clip.
Dezincification resistant “LOW LEAD” alloy body CR.
Max. working pressure: 10 bar.
Working temperature range: 5–90 °C.



Code

359003 23 p.1,5

359004 1/2" flat seat Ø 13

359005 3/4" flat seat Ø 18

359006 3/4" Euroconus Ø 18

We reserve the right to make changes and improvements to our products and the related technical data in this publication, at any time and without prior notice. The website www.caleffi.com always has the most up-to-date version of the document, which should be used for technical verifications.