



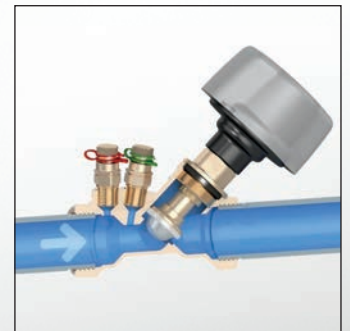
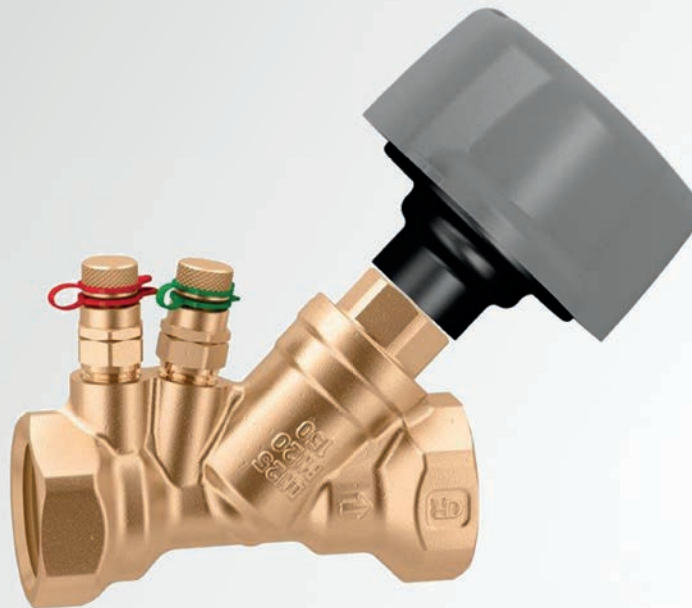
BALANCING VALVE FIXED ORIFICE

CALEFFI
Hydronic Solutions



Heating & Cooling

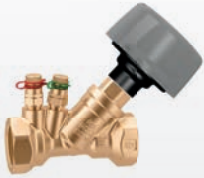
Components for today's modern hydronic systems



FUNCTIONS AND FEATURES

- Precise valve adjustment with 6 full turns and 10 decimal graduations allow for accurate flow setting.
- Double o-rings allow the control stem threads to remain dry at all times so are not prone to seizing from scale after long in-operation periods.
- Suitable for hydronic and plumbing applications, constructed of DZR low-lead brass (Certified low lead).
- PTFE stem guide bearing prevents noise and vibration, particularly in severe operating conditions.
- Stainless steel plug is highly resistant to corrosion and erosion due to continual fluid flow or fluid impurities for long operating life.
- Memory stop allows valve to be closed, and later reopened to the original set position.

130 SERIES



Caleffi 130 series low lead, manual balancing valves are used to measure and adjust the fluid flow rate in hydronic or plumbing circuits. The flow rate is directly determined from the pressure differential (from Venturi effect) measured across the two pressure test ports. The valve design is "fixed orifice" with both pressure ports located upstream of adjustment plug and away from any pressure variations from turbulence as flow passes the adjustment plug – this feature makes pressure measurements and thus flow determination simpler and more accurate compared to "variable orifice" type balancing valves. Flow rate is calculated by simple formula or by easy reference to a flow characteristic graph.

The 130 series balancing valve can be supplied with optional insulation shells, purchased separately, to minimize heat loss or eliminate condensation in chilled water applications.

TECHNICAL SPECIFICATIONS

CODE	CONNECTIONS	MAX. VALVE C_v
130400A	½" NPT	3.7
130500A	¾" NPT	5.1
130600A	1" NPT	8.8
130700A	1¼" NPT	14.0
130800A	1½" NPT	19.7
130900A	2" NPT	30.5

NPT female threaded connections.

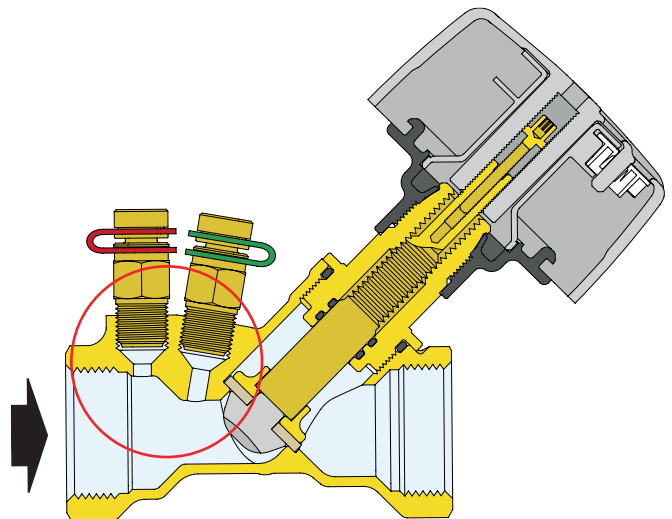
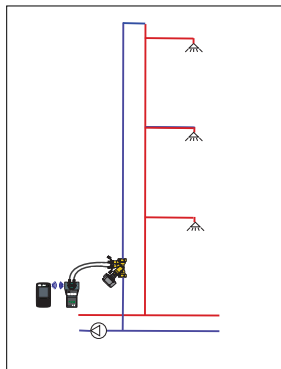
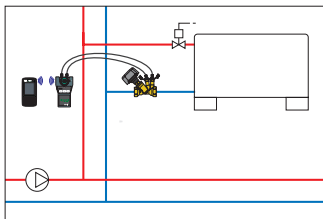
PERFORMANCE

MAX. WORKING PRESSURE	232 psi (16 bar)
WORKING TEMPERATURE RANGE	-4 – 250°F (-20 – 121°C)
NUMBER OF ADJUSTMENT TURNS	6

Advantages of balanced circuits

Balanced circuits have the following principal benefits:

1. In hydronic applications, the system emitters operate properly saving energy and providing greater comfort.
2. In plumbing applications such as hot water recirculation, water is not wasted when there is a call for hot water from a fixture.
3. Circuit pumps operate at maximum efficiency, reducing the risk of overheating and excessive wear.
4. High fluid velocities which can result in noise, erosion and abrasion are avoided.
5. The differential pressures acting on the circuit control valves are reduced preventing faulty operation.



Venturi flow rate measurement device

The Caleffi 130 series balancing valve contains two closely spaced pressure test ports, circled in above diagram, located upstream of the valve plug and at different cross sectional areas. As fluid flows through the valve, the velocity at the port closest to the plug is greater than the velocity at the port furthest. The result, referred to as the Venturi effect, is an induced pressure differential across the ports. System balancing is more precise and quicker compared to variable orifice balancing valves and with both ports upstream of the plug and away from turbulence effects, there is better pressure signal stability and thus less chance for pressure measurement error. There is also less sensitivity in the presence of fluid impurities.

REFERENCE DOCUMENTATION: TECHNICAL BROCHURE 1251



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