



Water hammer arrester

525 series

www.caleffi.com



- Water hammer phenomenon occurs in closed pipes when the fluid is accelerated or decelerated very quickly, due to the rapid closure of valves or taps or as a consequence of a circulation pump stopping.
- The water hammer arrester, when installed close to single-lever mixing taps, solenoid valves, ball valves, etc., prevents such negative effects.
- The effect consists in the propagation of over- and underpressures along the pipes, which may result in noise and damage to the whole system.
- Water hammer arresters are easy to install in the system, preferably in the vicinity of the shut-off devices which originate the overpressure to damp.
- Max. water hammer pressure 50 bar. Operating start pressure 3 bar.
- Compared to pneumatic arresters, water hammer arresters, since mechanical, are maintenance free.



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Hydronic Solutions

PRODUCT RANGE



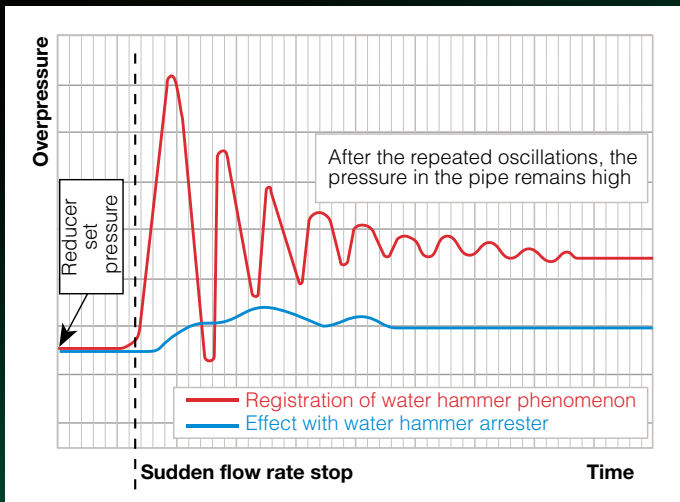
CODE	CONN.
525040	1/2"
525130	3/8"
525150	3/4"



TECHNICAL SPECIFICATIONS

Body material	brass EN 12165 CW617N, chrome plated
Medium	water
Max. working pressure	10 bar
Max. medium temperature	90 °C
Max. water hammer pressure	50 bar
Operating start pressure	3 bar

WATER HAMMER ARRESTER - EFFECTIVENESS

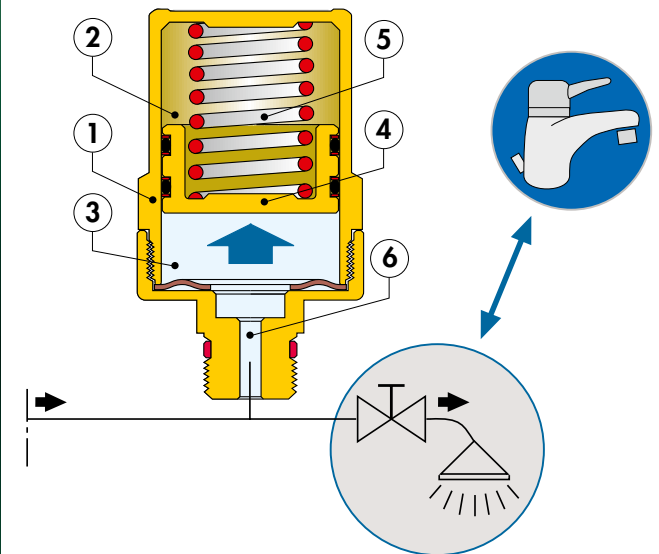


OPERATING PRINCIPLE

The Caleffi 525 series water hammer arrester is composed of a cylinder (1) divided into two chambers (2) and (3) by a piston with two o-ring seals (4). The closed chamber (2) contains air and acts as a damper due to the compressibility of the air. The open chamber (3) is connected directly to the pipe and fills with the system water. The water thrust on the piston is counteracted both by the air pressure variation in the chamber (2) and by the contrast spring (5) housed behind the piston in the air chamber.

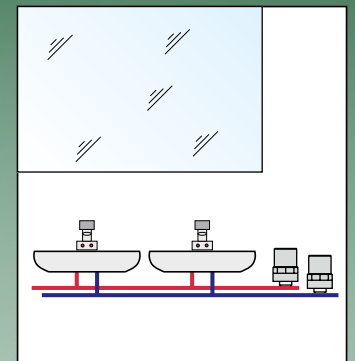
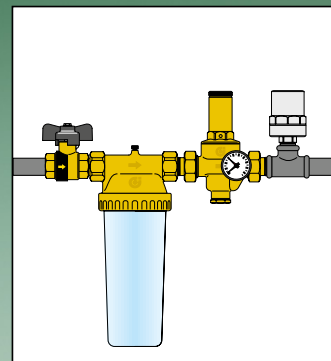
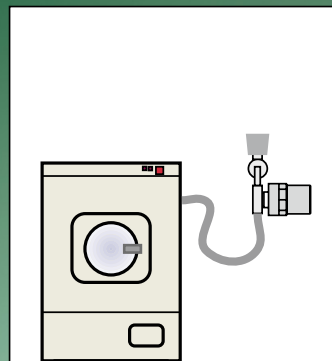
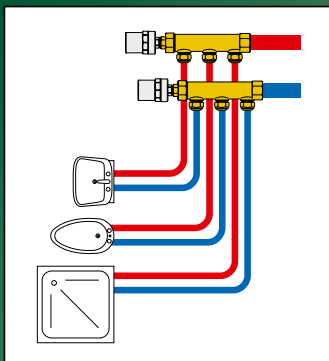
The oscilloscope graph reveals the following:

- speed of the pressure increase
- oscillatory character of the phenomenon
- continuance of high pressure in the pipe even after the water hammer
- effectiveness of the water hammer arrester.



1. Cylinder
2. Closed chamber
3. Open chamber
4. Piston with two o-ring seals
5. Contrast spring

APPLICATION DIAGRAM



REFERENCE DOCUMENTATION

525 series

- Technical brochure 01020

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