



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.
- Compared to pneumatic arresters, water hammer arresters, since mechanical, are maintenance free.



PRODUCT RANGE



CODE	CONN.	BODY
525040*	1/2"	chrome plated
525041	1/2"	yellow brass

* Certified WRAS only



CODE	CONN.	BODY
525130*	3/8" F nut x 3/8" M	chrome plated
525131	3/8" F nut x 3/8" M	yellow brass
525150*	3/4" F nut x 3/4" M	chrome plated
525151	3/4" F nut x 3/4" M	yellow brass

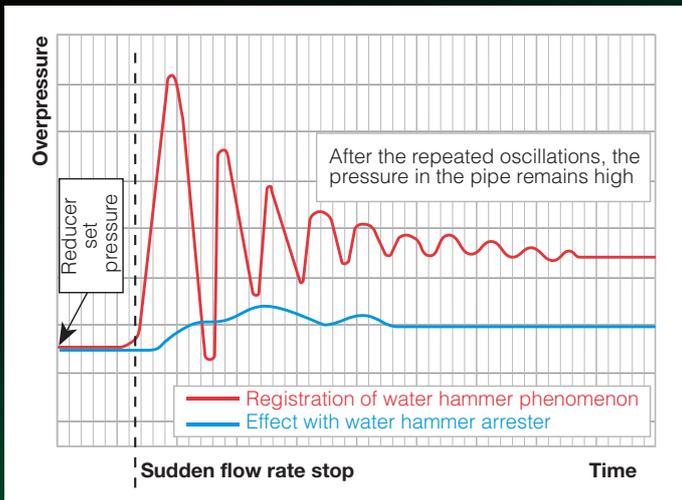
* Certified WRAS only



TECHNICAL SPECIFICATIONS

Body material	brass EN 12165 CW617N
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

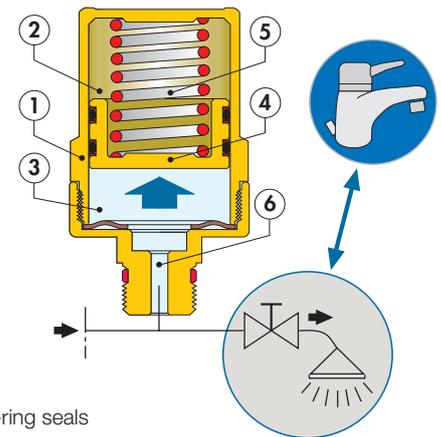


OPERATING PRINCIPLE

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.

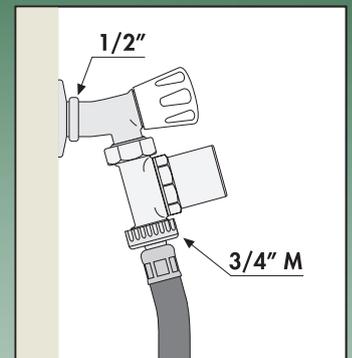
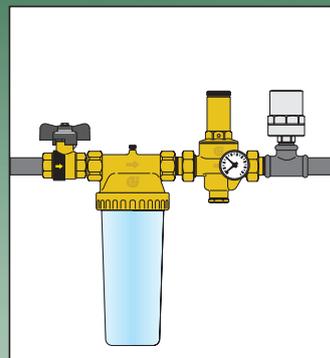
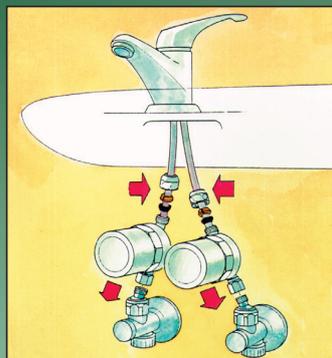
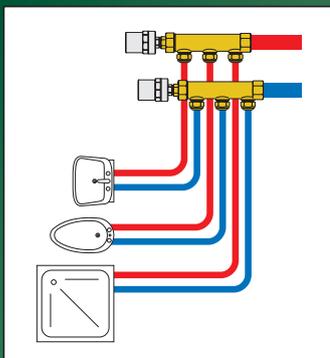
The oscilloscope graph reveals the following:

- 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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Hydronic Solutions

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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.

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