

WATER HAMMER ARRESTOR



Description

Water hammer happens in closed pipes when a fast closure (or opening) of a tap or a motorized valve occurs, or a pump suddenly stops. The phenomenon consists of an overpressure (or underpressure) due to the fast stop (or acceleration) of the fluid. This pressure variation starts at the closing (or opening) device and propagates upstream. This pressure variation can lead to noise (similar to a hammer hitting the pipe) up to breakage of the devices installed in the system. Water hammer arrestors, installed as close as possible to the closing (or opening) device, dampen the pressure, keeping it at low levels, avoiding problems to the whole system. Typical points of installation are: under sinks, close to washing machines, after the pressure reducing valves. The use of water hammer arrestors is suggested by the UNI 9182 regulation "Cold and hot water supply and distribution systems. Design, testing and management criteria".

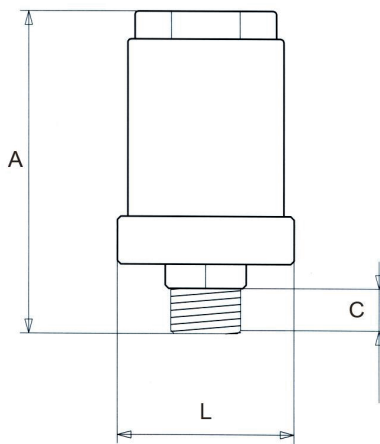
Range of articles

Series 54D Water hammer arrestor

Features

Max working temperature: **90 °C**
 Max working pressure: **PN 10**
 Max water hammer peak: **50 bar**
 Number of devices controlled by one water hammer arrestor (PDI calculation according to WH201): **up to 60 fixture unit weight**
 PDI class (according to WH201): **C**
 Max pipe length for single water hammer arrestor: **10 m**
 Suitable fluid: **domestic water**
 Threaded connections: **ISO 228-1**

Dimensions



Code	Connection	A [mm]	L [mm]	C [mm]	Weight [kg]	N. P/B	N. P/C
54D M15 000	G 1/2 M	92	52	11	0,49	1	-

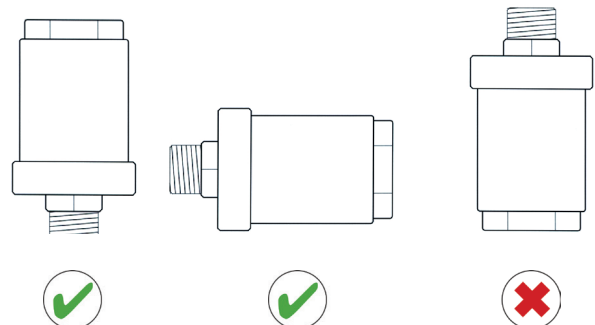
N. P/B: number of pieces in box - N. P/C: number of pieces in carton

Materials

Body: **brass EN 12165 CW617N**
 Diaphragm: **acetal resin**
 Spring: **stainless steel AISI 303**
 Gasket: **non asbestos fiber**

Installation

Water hammer arrestors can be installed in one of the following positions. To avoid encrustations on the diaphragm, it is not allowed to install the valve in upside down position. To avoid Legionella risk, never install water hammer arrestors at the top of risers or in such a way the fluid is stagnant.

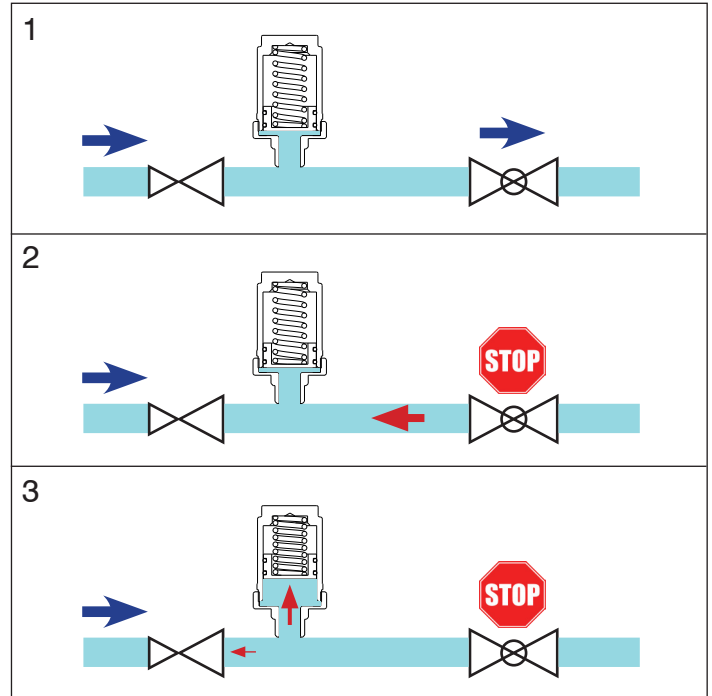


Working way

1) Normal functioning. The water flows through the pipe. The diaphragm of the valve is in its lowest position.

2) Incoming water hammer. When suddenly a device quickly closes (for example a single-lever or a WC flushing tap), the fluid is stopped, thus creating an overpressure. This pressure variation propagates upstream of the closing device, reaching the water hammer arrestor.

3) Absorbing water hammer. The incoming pressure makes the diaphragm move upwards: this motion dampens the overpressure effect, thus reducing the pressure to lower and safer values for the devices installed in the system.



Sizing and maintenance

One single water hammer arrestor can be installed to protect pipes up to 1 1/4".

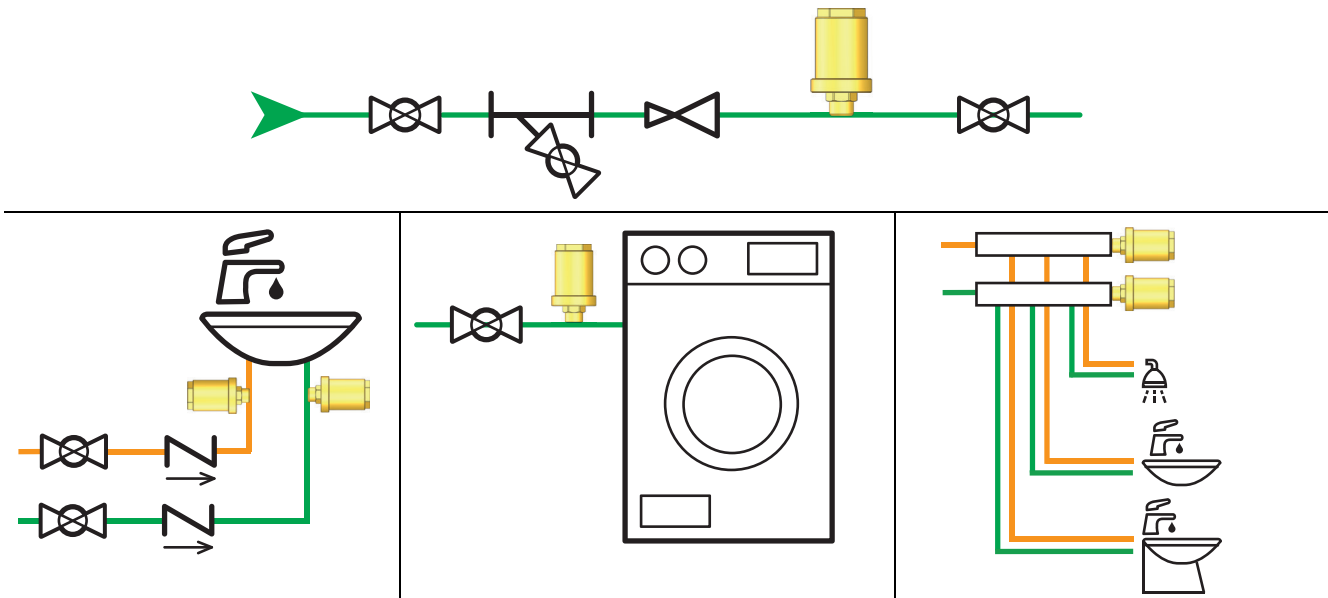
For 1 1/2" and 2" pipes, two water hammer arrestors should be installed.

For bigger pipe sizes or larger water hammers, specific solutions should be evaluated by the system designer.

Water hammer arrestors are maintenance free.

System diagrams

54D: at the inlet of the domestic water system/under sink/at the washing machine inlet/on the manifolds



Specifications

Water hammer arrestor. Threaded connections G 1/2 M. Brass body; stainless steel spring; acetal resin diaphragm; gasket in non asbestos fiber. Maximum working temperature 90 °C; PN 10; water hammer peak 50 bar. Suitable fluid domestic water.