Measure Monitor Control

Water Hammer Arrester - I Style

Benefits & Features

- Installation in any position
- Suitable for water, air, special model for acid/alkaline or light oils
- Rechargeable air chamber for long life operation (compressed air)
- Body materials: Bronze (½”-4” screwed, 3”-12” flanged)
- Body materials: Ductile Iron (3”-12” flanged)
- Body materials: 304 Stainless Steel (½”-4” screwed, 3”-12” flanged)
- Body materials: 316 Stainless Steel (3”-12” flanged)

Specification

Configuration	Diaphragm absorbs media energy
Port Sizes	1/2” to 12”, see table below
Orifice	see table below
Media	Air, gases, liquids etc. Subject to material compatibility
Pressure ranges	See individual data tables below
Seals	NBR (-5 to +80°C), VITON (-5 to +100°C), EPDM WRAS (-10°C to + 100°C). Special order

Technical Data

Model with Screwed Port Connection	A		B	C		Test Pressure Bar*/**	Max. Applied Pressure Bar */**/***	Air Chamber (cm³)
P14		15	F		1/2”	21/21	10/12	17
P14		20	H		3/4”	21/21	10/12	30
P14		25	L		1”	21/21	10/12	63
P14		40	O		1 1/2”	21/21	10/12	205
P14		50	P		2”	21/21	10/12	650
P14		65	Q		2 1/2”	21/21	10/12	1125
P14		80	R		3”	21/21	10/12	2000
P14		100	S		4”	21/21	10/12	4400
Model with Flanged Connection						* Bronze ** Stainless Steel *** Ductile Iron		
P14		80	FL		3”	21/42/21	12/20/12	2465
P14		100	FL		4”	21/42/21	12/20/12	5535
P14		125	FL		5”	21/42/21	12/20/12	5535
P14		150	FL		6”	21/42/21	12/20/12	15325
P14		200	FL		8”	21/42/21	12/20/12	27230
P14		250	FL		10”	21/42/21	12/20/12	27230
P14		300	FL		12”	21/42/21	12/20/12	67860

Order Codes

A	Body	B	Port					C	Seals (fluid temp. min / max)
D	Ductile Iron	F	½” BSP	H	¾” BSP	S	4” BSP	0	NBR (-10°C to + 70°C)
H	304 Stainless Steel	L	1” BSP	N	1 ¼” BSP			1	VITON (-10°C to + 100°C)*
I	316 Stainless Steel	O	1 ½” BSP	P	2” BSP			6	EPDM-WRAS (-10°C to + 85°C)**
T	Bronze	Q	2 ½” BSP	R	3” BSP				*/** Special order

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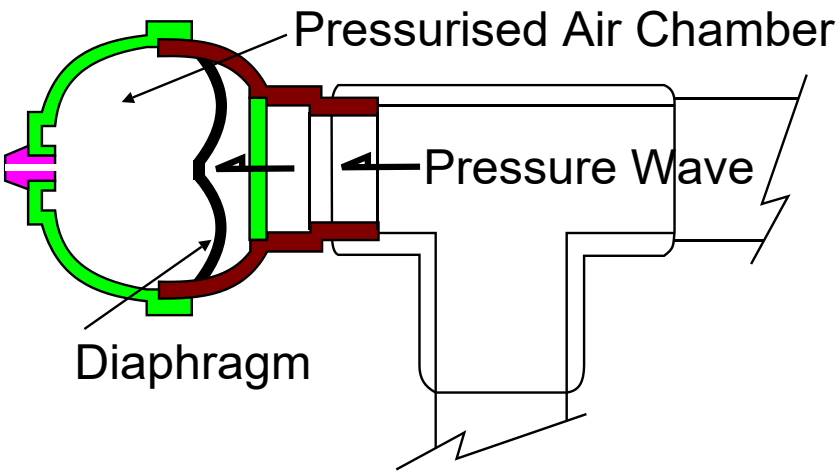
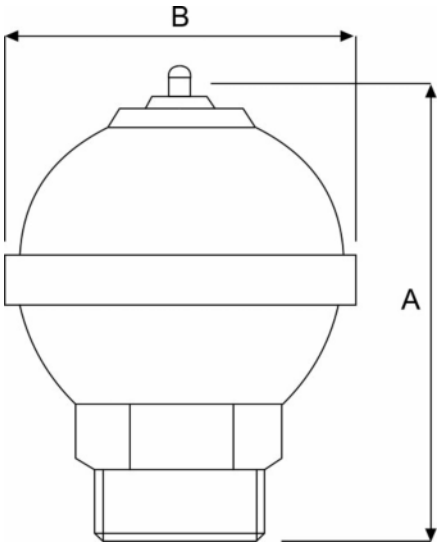
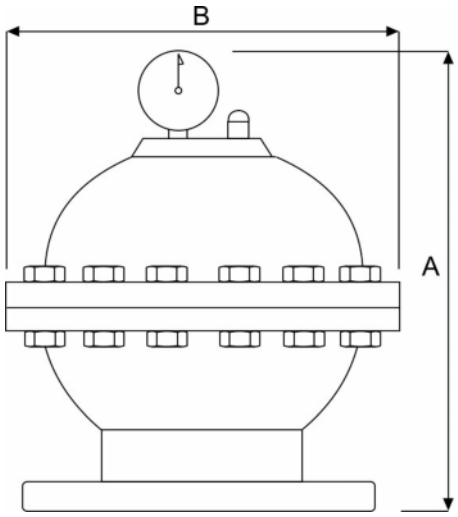
Weights & Dimensions



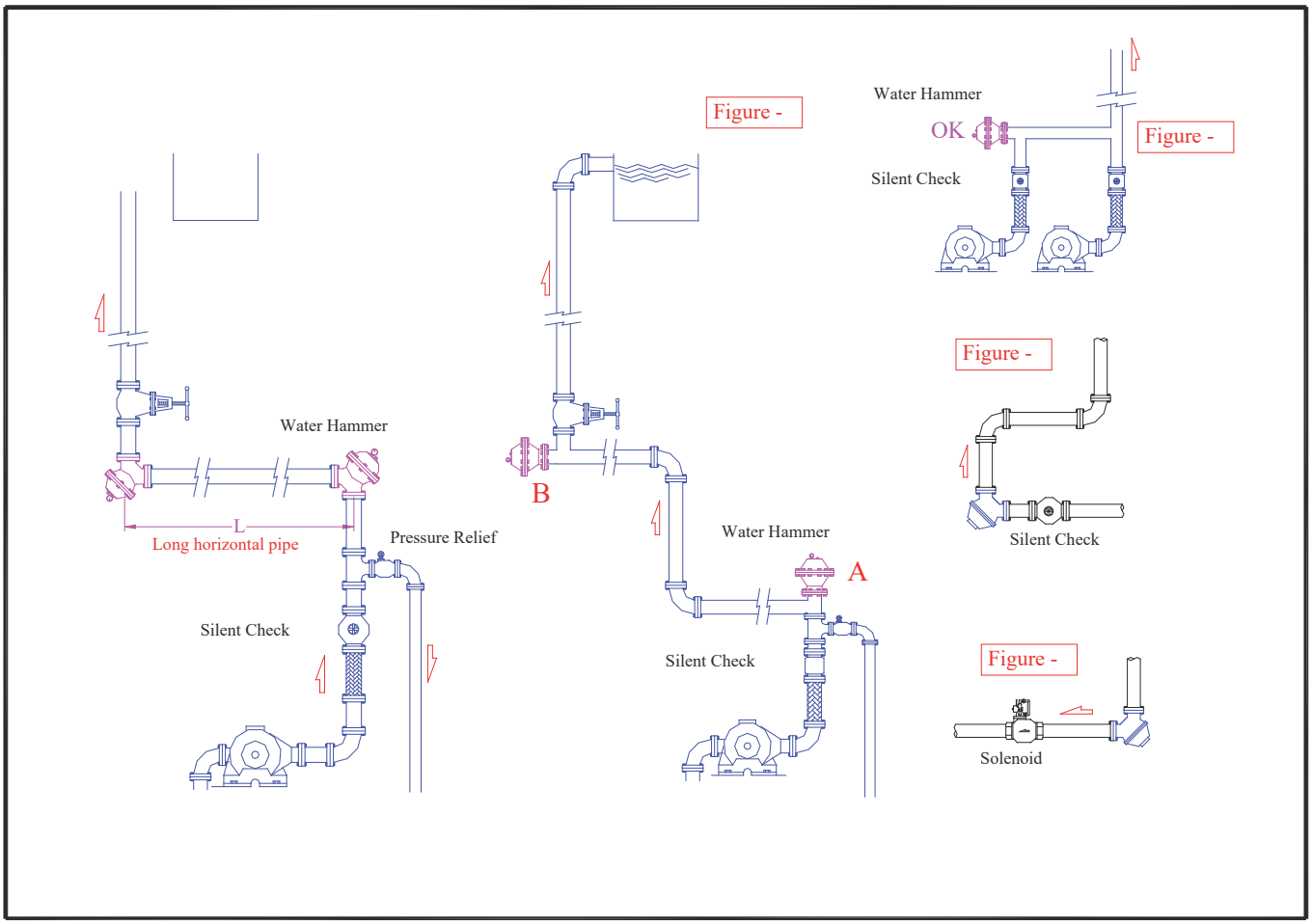




Screwed Port	Weight Kg	Air Chamber (cm³)	Dimensions mm	
			A	B
1/2"	0.3	17	74	46
3/4"	0.4	30	82	52
1"	0.5	65	95	62
1 1/2"	1.4	250	120	110
2"	3.2	650	162	135
2 1/2"	3.9	1125	180	155
3"	6.5	2000	218	188
4"	18	4400	260	235

Flanged	Air Chamber (cm³)	Weight Kg	Dimensions mm	
			A	B
3"	2465	23	240	155
4"	5535	34	330	330
5"	5535	34	330	330
6"	15325	59	420	400
8"	27230	90	510	460
10"	27230	115	510	460
12"	67860	175	620	625

Installation of Water Hammer Arresters



- Figure 1. This illustrates, the water hammer effect taking place above a check valve so installing a water hammer arrester can prevent the water hammer effect. If the length of horizontal pipe is longer than 50 meter in the figure 1, installing a water hammer arrester at the corner between the horizontal pipe and vertical pipe can avoid the water hammer effect.
- Figure 2. If the distance between A and B is longer than 50 meter, installing a water hammer arrester at B can reduce the water hammer effect.
- Figure 3. Two pumps are used alternately, installing a water hammer arrester at horizontal pipe can avoid water hammer effect.
- Figure 4. Here is a pipe line with a serious water hammer effect, due to the many bends. Installing a check valve at the lowest point and installing a water hammer arrester above check valve can reduce the noise and vibration made by the water hammer effect.

- Notes If there are gate valves like solenoid valves or air operated valves which close very fast and produce the water hammer effect, installing a water hammer arrester at the inlet of the valve can reduce the noise and vibration made by the water hammer effect.

Air Chamber

- The air chamber is pressurised by means of a Schrader Type Valve
- Standard pressure is around 2.5 - 3 bar (36-44 psi), or 30-40% of working pressure
- A standard bicycle or car pump, for small arresters, preferably with a gauge fitted ,can be used to top up the pressure. For larger models, use a compressor
- The pressure should be checked every 6 months, or as defined by a maintenance schedule, or the duty of the plant