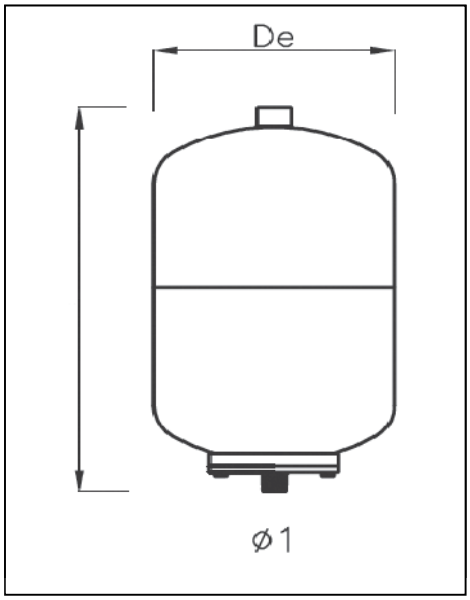
WATER HAMMER ARRESTOR
SANY SERIES - X25

ELBI's new slim type tanks serves the purpose of shock absorber and anti-water hammer on building water supply system.
The SANY series product line has been developed by ELBI to respond to contractors and installers demand for plumbing cushions that can be fitted in small and narrow spaces. The product design and appliance-finish render these vessels suitable for use in open/visible spaces of the house as well.



PRODUCT SPECIFICATIONS:

- **Sturdy construction in prime quality long life steel**
- **Non-toxic replaceable bladder suitable for potable water**
- **Long lasting epoxy paint treatment for protection against atmospheric corrosion**
- **Complete seperation between air and water**
- **Working temperature: -10°C to +99°C**
- **Manufactured in compliance to the essential safety regulation of European directive 97/23/CE**
- **CE marking**
- **Option: Outlet in Stainless steel 316 suitable for sea water application**

Model	Capacity (Litres)	Maximum Working Pressure (bar)	De (mm)	H (mm)	Ø1
SANY X25-PN16	25	16	270	470	1"
SANY X25-PN25	25	25	270	485	1"

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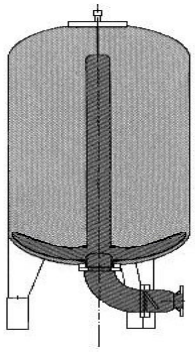
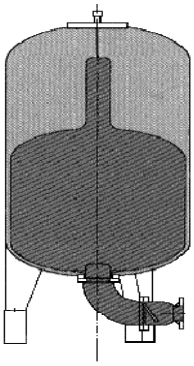
OPERATION of a bladder-type surge vessel

The following illustrate the operation of pressure movement and the ability to the surge tank to absorb hydraulic pressure transient in a water pipeline system.

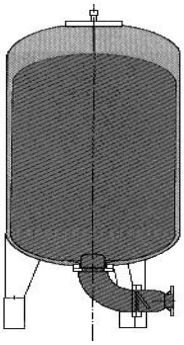


Initially a pre-charge pressure must be adjusted to the value according to the system pressure of the installation (pre-charge can be either compressed air or nitrogen).

At this stage the bladder contains no water volume at all.



When the gate valve is opened the water will enter the vessel under static conditions, and begin to compress the gas (static pressure is always higher than pre-charge pressure)



During pump start-up, the water entering the vessel will further compress the pre-charged gas until a balance between the liquid and the compressed gas is reached.

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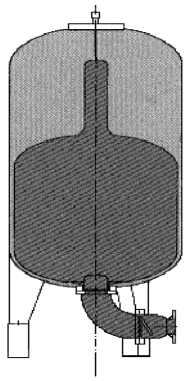
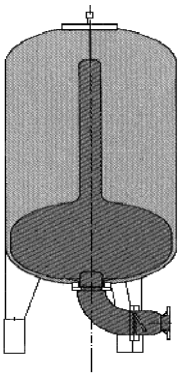
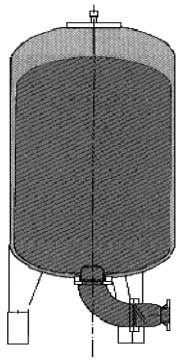


Immediately after a pump stop, the pressure in the line will start to decrease due to the forward water flow of kinetic energy movement. The elastic stored energy in the vessel will discharge the water from the vessel into the pipeline.
This prevents dangerous low pressure along the pipe work.



As the pressure reduces, the flow will reverse, this will then enter into the vessel via a reduced diameter (drilled non return valve or bypass) if hydraulically required. Several oscillations may occur before static state pressure is reached.



When the pumping station re-start, the vessel will continue to fill until dynamic steady state is reached and it is then once again prepared for the next pump stop operation.

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