



- **VSR BLASTER[®]** air injector
for pneumatic cleaning of vessels,
funnels, pipes and processing plants
... and for many other purposes

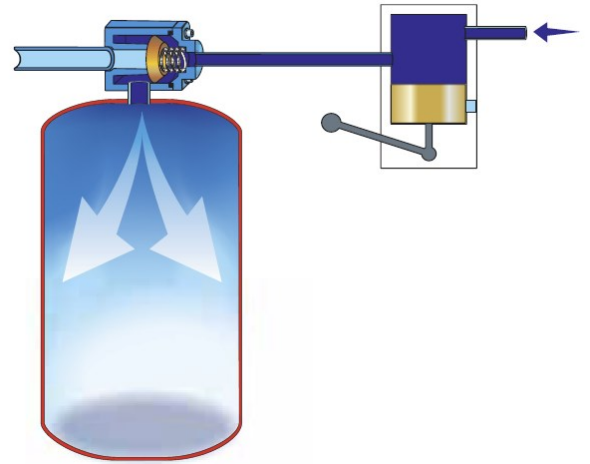
VSR BLASTER[®] air injectors

Filling

Compressed air is supplied to the quick exhaust valve through a small diaphragm filling and control piping via a 3/2 way hand-valve or solenoid valve.

The diaphragm in the quick exhaust valve closes the 18 mm outlet. The compressed air flows along the diaphragm into the piston chamber. The outlet pipe is closed by a piston, which is pre-tensioned by a spring.

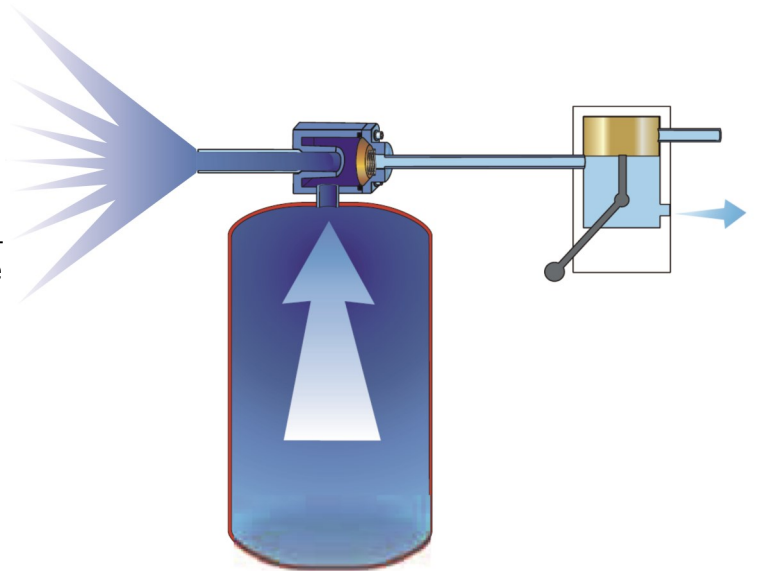
The compressed air flows through the piston orifice into the vessel which is then filled. When the operating pressure is reached the vessel is ready for use as required.



Release

By reversing the 3/2-way valve, the air supply is interrupted and the control line is vented. The diaphragm in the quick exhaust valve moves back and vents the piston chamber. The piston having twice the cross section area of the blow pipe, reacts abruptly. When it has travelled only a quarter of the blow pipe diameter the entire cross section is opened.

This allows the stored air to flow within milliseconds, explosively through the blow pipe into the silo. Finally the piston is repositioned by the pre-tensioning spring which prevents any ingress of material into the air cannon units depressurized state



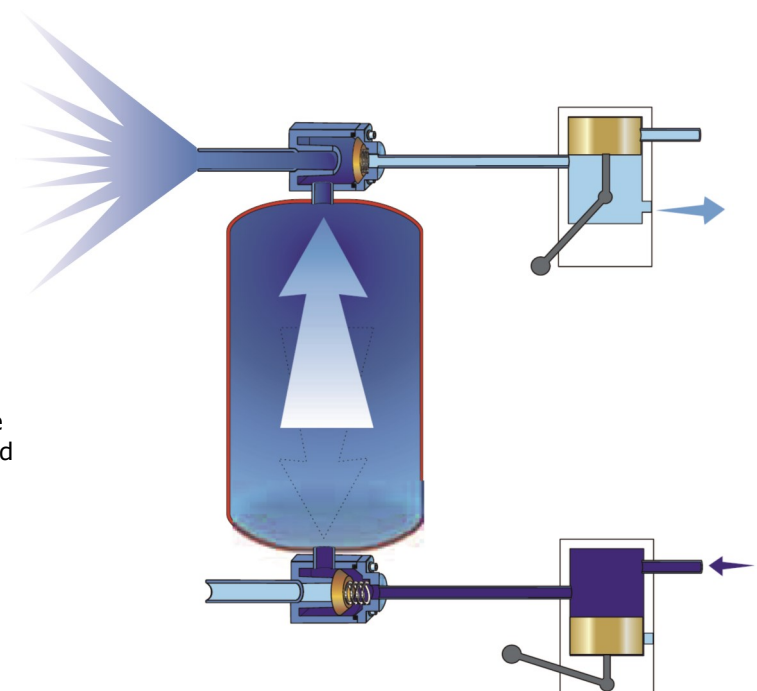
Variations:

An additional quick exhaust valve can be mounted to each VSR BLASTER air injector. For this variation of actuation, a separate 3/2 way valve has to be provide for each quick exhaust valve.

After having fired off to one side, the vessel has to be filled again before it can be fired off to the other side.

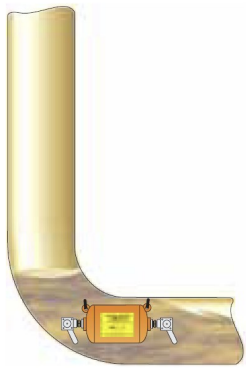
In order to enlarge the volume, it is possible to combine different vessel sizes with each other by being connected at the vessel ends.

(i.e. 2+2 litres= 4 litres).

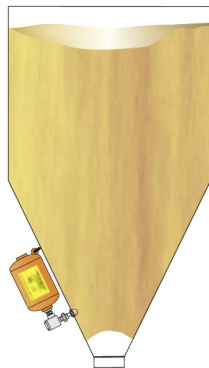


.... suitable for silo sizes of up to 2m³

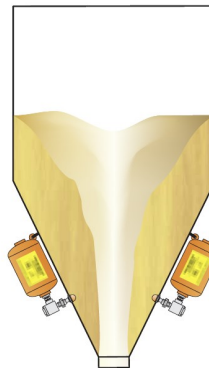
Known problems and solutions



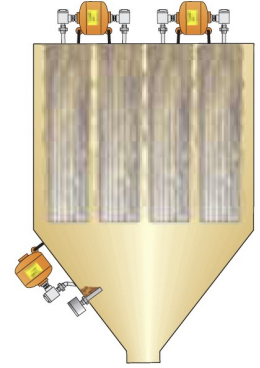
Channel



Rathole



Bridging



Arching

Effect

Through a $\frac{3}{4}$ " pipe cross section, the VSR BLASTER[®] air injector instantaneously expels an explosion charge of compressed air directly into the critical material and activates this area. The explosive blast of energy destroys the material adhesion and static friction. Thanks to the air blast and the fluidization the stored material flows out of the silo in a free flow under normal gravity.

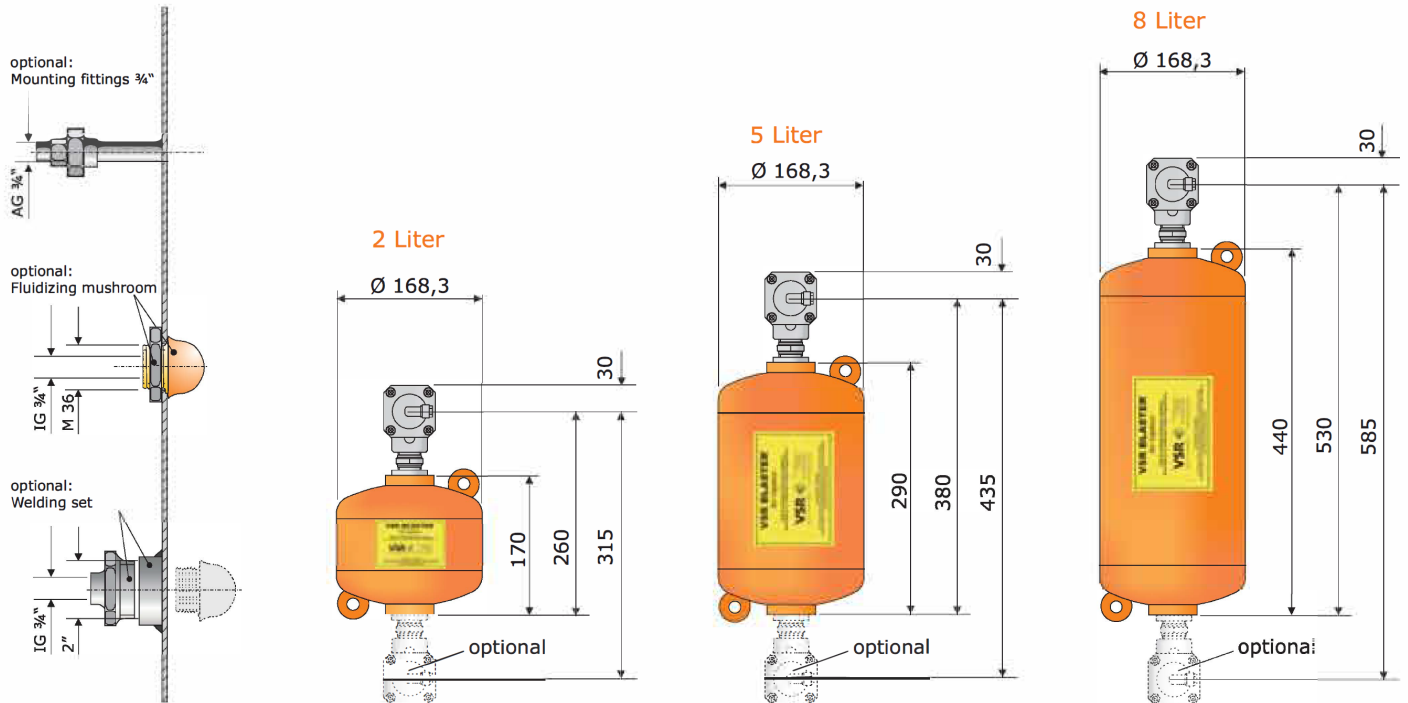


Design advantages

- The superior effect of the VSR BLASTER air injector is achieved by a large $\frac{3}{4}$ " quick exhaust valve with a Viton diaphragm that is specially developed and directly positioned at the vessel.
- A spring pushes the diaphragm immediately back after blowing off and prevents material and dust from penetrating the vessel.
- Maintenance works at the valve can be done without demounting the vessel, only by removing 4 hexagon socket screws.
- Filling and control are carried out through a small DN 6 piping which is easily to be installed. Several control valves can be housed in protective control boxes in easily accessible places. No electric cables have to be connected to the air cannons.

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Dimensions & Options



Operating pressure max. 10 bar. Temperature TS min. -10°C up to TS max. $+120^{\circ}\text{C}$. Manufactured according to AD 2000 / DGRL 97/23/EG /TUV CERT./ EG character: CE 0044. All dimensions in mm, technical modifications reserved. Please contact us for detailed information.



Danish Distributer



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