



**EMERGENCY FUEL SHUT OFF
ENGINEERING GUIDE**



W&O SUPPLY EMERGENCY FUEL SHUT OFF SYSTEM

W&O Supply offers a complete emergency fuel shut off valve system from Meson Valves. Systems are Class Society Approved for emergency fuel shut off.

The System consists of:

1. Flanged globe style, spring loaded fuel shut off valves made of ductile iron with stainless steel trim. 150# ANSI or DIN raised face flanged. *(JIS available upon request)*
2. Hydraulic actuation cylinder with hand lever operator for remote actuation of valves *(each handle can actuate up to 6 valves depending on location of station and valves).*
3. Totally enclosed system; no outside source of hydraulic fluid needed. Hydraulic fluid in the actuation handle reservoir holds all of the required fluid.
4. Stainless steel or steel cabinet with breakable glass to house hydraulic actuation cylinder in remote location typically up on deck outside the engine room.
5. Valves available with manual actuation by pull cable.
6. Valves are also available pneumatically actuated with complete control station and air tank. These are sized depending on quantity of valves and piping runs.
7. Angle style globe valves are available.



Hydraulic Operation

The hydraulic actuation system is the most common style used and is stocked by W&O.

The hydraulic actuation lever is mounted in the control cabinet or an accessible location outside of the engine room. It is sometimes on deck or in a passage way outside the fire doors to the engine room. The levers can also be located in the wheelhouse.

The hydraulic actuation lever has a hydraulic fluid reservoir that supplies the fluid to actuate the valves. Ss tubing is connected to the actuation handle. Tubing is typically 6mm x 1mm wall. The connection at the tank is female 1/8" bspp threads and requires a male 1/8" bspp x 6mm compression fitting. The tubing is run from the control station to the area of the 6 valves to be actuated by that line. There is an option to tee off this line to get to each valve or use a multi-port connection block. Connection to the release mechanism is via 1/8" male bspp x 6mm compression.



Valves are straight or angle globe style valves that are spring loaded. When the actuation lever is pulled, a surge of hydraulic fluid releases the spring and snaps the valve shut.

Please note: These valves are installed opposite of standard globe valves. The fluid direction comes in over the disc and seat allowing the tank head pressure to assist in sealing the valve. Standard globe style is from under the seat and disc. There is a flow direction arrow on the body of the valve. All valves come with an actuation mechanism attached which can be operated hydraulically, pneumatically or manually.

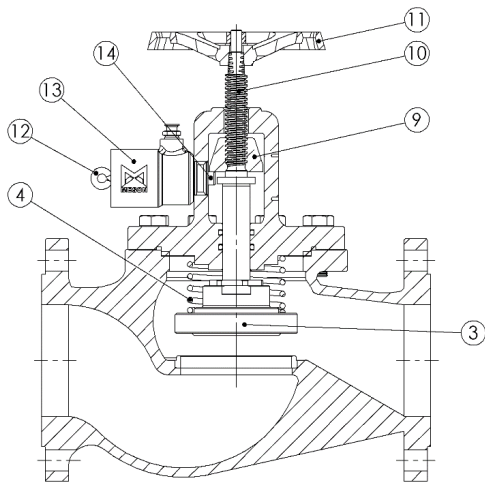
W&O Supply, Inc.

2677 Port Industrial Drive • Jacksonville, FL • 32226 • 904.354.3800 • www.wosupply.com

Pipe • Valves • Fittings • Metals • Engineered Products • Automation



Operating Principles



The valve is a stop valve with a remote quick closing function, but can also serve as a conventional stop valve by using the hand wheel (11).

- ❑ The quick closing action is instantly carried out by a spring (4), pre-compressed by turning the hand wheel.
- ❑ The stem (10) and attached disc (3) is hooked up by means of the setting nut (9).
- ❑ When the setting nut is released from loaded position - the valve will close.

Release from loaded position is done by the release mechanism, see following description of release alternatives. Retracting the piston rod (14) extension in the release cylinder (13) by hand will also close the valve.

Note: Bonnet turned 90° from factory.

The valve can be opened and closed manually by operating the hand wheel in the clockwise and counter clockwise direction. After the valve has been tripped the hand wheel should be turned clockwise to the closed position then operated counter clockwise to the open position until the piston rod (14) pops back under the setting nut (9). The valve is now reset to the quick closing mode.

W&O Supply, Inc.

2677 Port Industrial Drive • Jacksonville, FL • 32226 • 904.354.3800 • www.wosupply.com

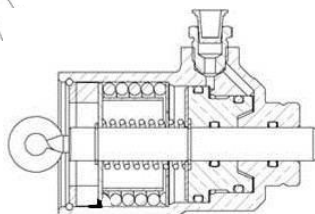
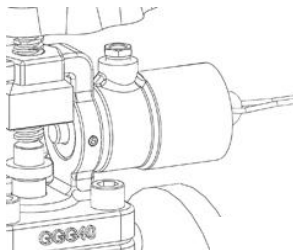
Pipe • Valves • Fittings • Metals • Engineered Products • Automation



The following are the part numbers for all components required for a complete emergency fuel shut off system.

W&O stocks straight style globe valves; angle valves available upon request.

W&O Part #	Description
973357.015.ANSI	1/2" 150# flanged straight globe
973357.020.ANSI	3/4" 150# flanged straight globe
973357.025.ANSI	1" 150# flanged straight globe
973357.032.ANSI	1 1/4" 150# flanged straight globe
973357.040.ANSI	1 1/2" 150# flanged straight globe
973357.050.ANSI	2" 150# flanged straight globe
973357.065.ANSI	2 1/2" 150# flanged straight globe
973357.080.ANSI	3" 150# flanged straight globe
973357.100.ANSI	4" 150# flanged straight globe
973307QC	1 lever hydraulic actuation handle
973307QC.2	2 lever hydraulic actuation handle
973307QC.3	3 lever hydraulic actuation handle
973307QC.4	4 lever hydraulic actuation handle
973307QC.5	5 lever hydraulic actuation handle
973307QC.6	6 lever hydraulic actuation handle
973307.CAB.1-4	Steel cabinet for 1-4 levers with breakable glass
973307.CAB.5-6	Steel cabinet for 5-6 levers with breakable glass
973307.CAB.SS.1-4	Stainless steel cabinet 1-4 levers with breakable glass
973307.CAB.SS.5-6	Stainless steel cabinet 5-6 levers with breakable glass
973307DIS.BLOCK	Steel Distribution Block 1/8" BSP; 1-Inlet/6-Outlet
879000.006 x 1.0	6mm X 1mm SS tubing in 6m(20') lengths
847121.006	6mm SS compression Tee's
847150.006	6mm SS compression couplings
847160.006X1/8	1/8" male BSPP x 6mm SS compression
973307RELEASE	Replacement release cylinder



Valve size	Spare Release Cylinder article number
1/2" - 10"	M76103

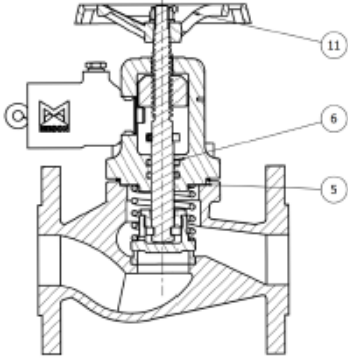
W&O Supply, Inc.

2677 Port Industrial Drive • Jacksonville, FL • 32226 • 904.354.3800 • www.wosupply.com



Quick Closing Valve Repair Kit

The repair and service kit contains o-rings (pos. 6) and gasket (pos. 5).



SIZE	Repair kit: art. no. contains two pcs o-rings (6) & one gasket (5)	Hand wheel (10) art. no.
1/2"	75643	80487
3/4"	75643	80487
1"	75644	80487
1 1/4"	75644	80487
1 1/2"	75645	80488
2"	75646	80488
2 1/2"	75647	80488
3"	75648	80489
4"	75649	80489
5"	75650	81033
6"	75651	81033
8"	75652	82082
10"	75653	82082

Note: Bonnet turned 90° from factory.

Note: Installers should use common shipyard installation procedures when adding hydraulic fluid to the system. Tubing must be properly bled of air and the quick closing function tested several times prior to sign off of the system. Please see installation instructions.

It is in the responsibility of the installer to ensure that the work is carried out in a satisfactory manner, approved materials are used and that the installation meets applicable rules and regulations. Regional safety requirements must be applied and observed both at installation and maintenance as well as in repair work.

W&O Supply, Inc.

2677 Port Industrial Drive • Jacksonville, FL • 32226 • 904.354.3800 • www.wosupply.com

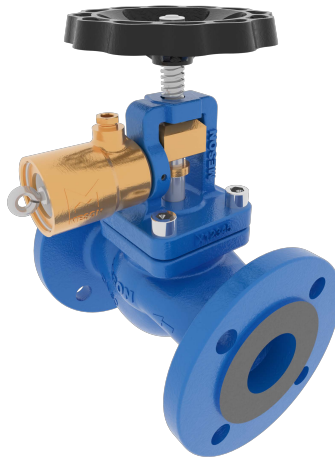
Pipe • Valves • Fittings • Metals • Engineered Products • Automation



Flow Factors

Cv = US Gallon Water Per Minute At Pressure Drop
1lb/square inch
Factors Listed Are Straight Globe Configuration

Valve Size	Cv
1/2" (15mm)	4.9
3/4" (20mm)	8.6
1" (25mm)	14
1-1/4" (32mm)	22
1-1/2" (40mm)	36
2" (50mm)	54
2-1/2" (65mm)	89
3" (80mm)	139
4" (100mm)	218
5" (125mm)	334
6" (150mm)	475
8" (200mm)	841
10" (250mm)	1328



W&O Supply, Inc.

2677 Port Industrial Drive • Jacksonville, FL • 32226 • 904.354.3800 • www.wosupply.com