

FLUSH VALVES

PRESSURE REDUCING VALVES ENSURE DOWNSTREAM PRESSURE



DESCRIPTION

Netafim Flush Valves for Mining is an electric on-off valve, operated by a latching solenoid. This solenoid is activated by an electric pulse generated by a battery-operated controller, opening and closing the main valve. The standard valve is supplied in the "normally closed" position, and includes a latching solenoid and a battery operated single valve controller.

FEATURES & BENEFITS

- Low power electric activation (battery operated, latching solenoid).
- High resistance to corrosive water and other acid media (including 3-way solenoid).
- Simple to install - manufactured with threaded or socket (slip) connections.
- Simple and reliable design - diaphragm is the only moving component. Shaft, seals or bearings are not located within the water's passage way.

PURCHASE SPECIFICATIONS

- Hydraulic valve with direct sealing flexible diaphragm.
- Inline maintenance.
- Stem, shaft or guide bearing are not located within the water passage.
- Activated by the line pressure or by an external hydraulic or pneumatic pressure.
- Operated by a latching solenoid valve and a battery operated single valve controller.
- Valve and the controls are Netafim Series 61MELXPLS (X is used to signify size of valve - 3", 4", 6", etc.).

QUICK SIZING

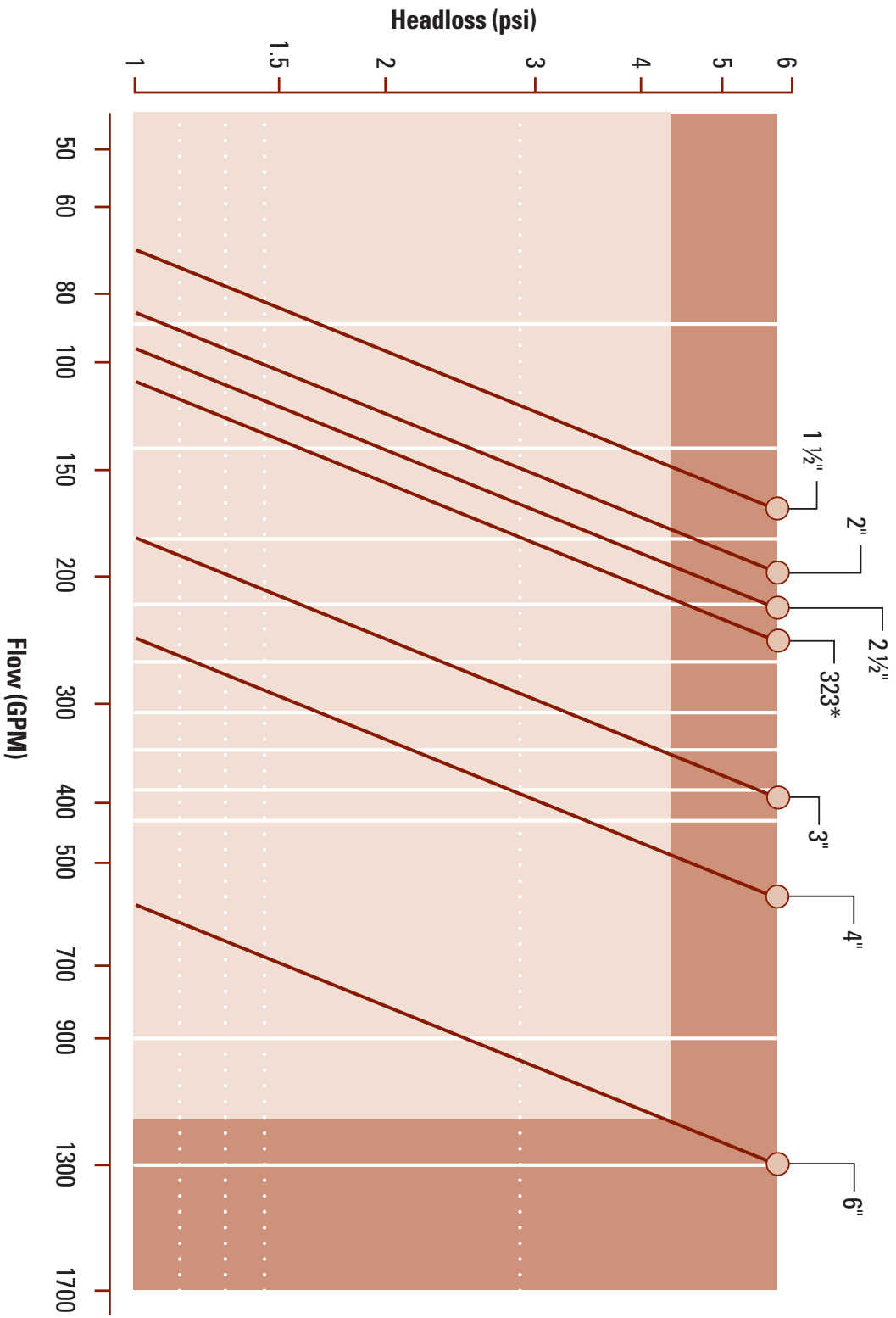
- Valve size same as line size or one size smaller.
- Maximum flow speed for continuous operation of 18 ft/sec.

DESIGN CONSIDERATIONS

- The valve should be suited for the maximal flow and allowed headloss.
- Large pressure differentials may cause cavitation damage. Consult with Netafim if such conditions are expected.

FLUSH VALVES SPECIFICATIONS

3-WAY CONTROL MODEL HEADLOSS



Light brown area indicates recommended operating range.
 *Refers to a 2" Valve with a 3" Inlet/outlet.

FLUSH VALVE SPECIFICATIONS

NYLON & PVC VALVE DIMENSIONS AND WEIGHTS

Connection	NYLON			PVC			
	Threaded			Threaded	Slip		
Size	1 1/2"	2"	323*	3"	3"	4"	6"
Length	7 3/8"	7 3/8"	9 1/4"	10 1/8"	10 1/8"	11"	14"
Height	4 3/4"	4 3/8"	4 3/4"	7 5/8"	7 5/8"	8"	15"
Weight (lbs)	2	2.2	3.1	9.3	9.3	9.5	20

*Refers to a 2" valve with 3" inlet and outlet

MAXIMUM RECOMMENDED FLOW RATES (GPM)

90	175	225	395	600	1,300
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*Refers to a 2" valve with 3" inlet and outlet

PVC MODELS

3"	3	3
4"	-	3
6"	-	3

SPECIFICATIONS*

Nylon Valve Operating Pressure:

- Maximum pressure: 145 psi (10 bar)
- Minimum pressure: 8 psi (0.6 bar)

3" and 4" PVC Valve Operating Pressure:

- Maximum pressure: 115 psi (8 bar)
- Minimum pressure: 8 psi (0.6 bar)

6" PVC Valve Operating Pressure:

- Maximum pressure: 145 psi (10 bar)
- Minimum pressure: 8 psi (0.6 bar)

Maximum water temperature:

- 100°F at maximum pressure

*Pressure refers to upstream pressure

AVAILABLE SIZES: 1.5" - 6"

FUNCTION

The Flush Valve for Mining shall be an ON-OFF electric valve, which is operated by a latching solenoid valve. The solenoid is activated by a battery operated controller. Valve should be able to operate properly at pH=1.

MAIN VALVE

The valve shall be hydraulically operated, diaphragm actuated, direct flexible diaphragm sealing, weir type. The valve shall consist of three major components: the body, with no seats installed; the cover, with no bearings installed; and the diaphragm assembly (diaphragm, spring and spring seat). The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure. There shall be no pistons operating the main valve, no shafts, or discs as the sealing mechanism of the main valve.

MAIN VALVE BODY

No separate chambers shall be allowed between the main valve cover and body. Valve body and cover shall be of Glass Reinforced Polyamide (GRP or "Nylon") or PVC. V-type or U-type slotted type disc guides shall be used. The following are not permitted as the seating surface: discs, O-ring type discs (circular, square, or quad type) disc guides or disc retainers.

FLUSH VALVE SPECIFICATIONS

The diaphragm assembly should contain no stems or bearings in the valve cover and/or the valve seat. No center guides shall be permitted. The sealing mechanism should not be guided in anyway.

The flexible diaphragm shall consist of nylon fabric bonded with synthetic rubber compatible with the operating fluid and resistant to pH =1 for the length of the warranty terms.

All necessary repairs and/or modifications other than replacement of the main valve body shall be possible without removing the valve from the pipeline. The valve manufacturer shall warrant the valve body to be free of defects in material and workmanship for a period of five years from date of shipment, provided the valve is installed and used in accordance with all applicable instructions.

The valve manufacturer shall be able to supply a complete line of equipment from 1.5" through 6" sizes and a complete selection of complementary equipment. The valve manufacturer shall also provide a computerized cavitation chart with flow rate, differential pressure, Cv factor, system velocity, and possibility of cavitation damage.

SINGLE VALVE CONTROLLER

SPECIFICATIONS

- Waterproof: NEMA 4X/IP67
- 9 Volt battery and DC latching solenoid included
- Operating Temperature: 32°-122° F
- Storage Temperature: 14°-140° F

PRODUCT FEATURES

- Easy to use, battery operated single valve controller
- Manual ON-OFF capability
- Three different programs available:
 - Once daily at the same time
 - Once daily at selected days
 - Three cycles per day (of the same length)
- Easy access with four button programming and large LCD display
- Minimum running time of 1 minute, maximum running time of 11 hours and 59 minutes

FLUSH VALVE MATERIAL SPECIFICATION

61B*XPLS	Valve Basic *X PVC Slip Connection	PVC
APCONTROLLER	Single Valve Controller	Plastic
61SF25P	In-line Filter Plastic 1/4" x 2 3/8"	Plastic
S402/AQUATIVE	Latching Solenoid	Plastic
NA**	Male 90° Elbow 1/4" x 8MM	Plastic
NA**	Manual Selector	Plastic

*X indicates size of valve.

**For more information call Netafim Customer Service at 888-638-2346.



Single Zone
Valve Controller

OPERATING INSTRUCTIONS

The Netafim Flush Valve for Mining Series 61MELXPLS (when x represents the size of the valve - 1.5", 2", 2.5", 3", 4", 6") is an automatic control valve designed to open or close when it receives an electrical signal from the battery operated controller. The valve is a hydraulically operated, solenoid controlled, diaphragm type weir valve. The battery operated is programmed ahead of time to send a signal to the solenoid in pre-set periods of time, opening the valve.

INSTALLATION

1. Allow sufficient room around the valve assembly for adjustments and servicing.
2. Before the valve is installed, pipe lines should be flushed of all chips, scale and debris.
3. Place the valve assembly in the line of flow through the valve in the direction indicated by the flow arrow. Check that all fittings and hardware are in proper condition and that no apparent damage is evident. Be sure main valve cover nuts/bolts are tight. Pressure in some applications can be very high, thoroughly check and inspect for proper installation and makeup.
4. Valve's bonnet should be installed in top (vertical) position, except for 6" valves bonnet should be installed in side (horizontal) position (see drawings below). This makes periodic inspection of internal parts easily accessible.

START-UP AND OPERATION

1. The common port of the solenoid base is connected to the control chamber of the valve, allowing fluid to enter the control chamber to close the valve or to exit the control chamber to open the valve. The top port is the pressure port from where fluid flows to the control chamber through the common port. The port at the base is the vent port from where fluid flows out of the control chamber through the common port.

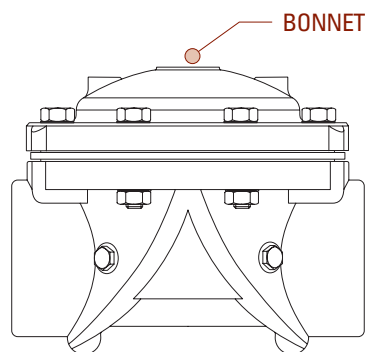
2. The latching solenoids supplied with the Flush Valve for Mining are Normally Open, resulting in having the main valve in a Normally Closed state.

When the solenoid is energized, the fluid in the control chamber will vent through the solenoid and open the valve.

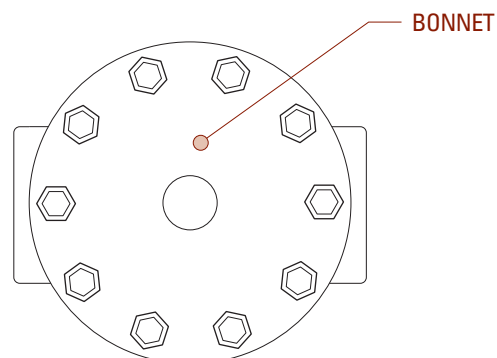
3. The manual override of the solenoid should be in the off position.

MAINTENANCE

1. Netafim Valves and Controls require no lubrication or packing and a minimum of maintenance. However, a regular inspection schedule should be established, at a minimum of once per year.
2. When ordering parts always refer to the model number and item number on the valve nameplate.
3. To prevent sticking, periodically open and close the valve manually.
4. Verify the upstream pressure periodically with a quality filled gauge and shradar valve adapter.



VERTICAL TOP POSITION



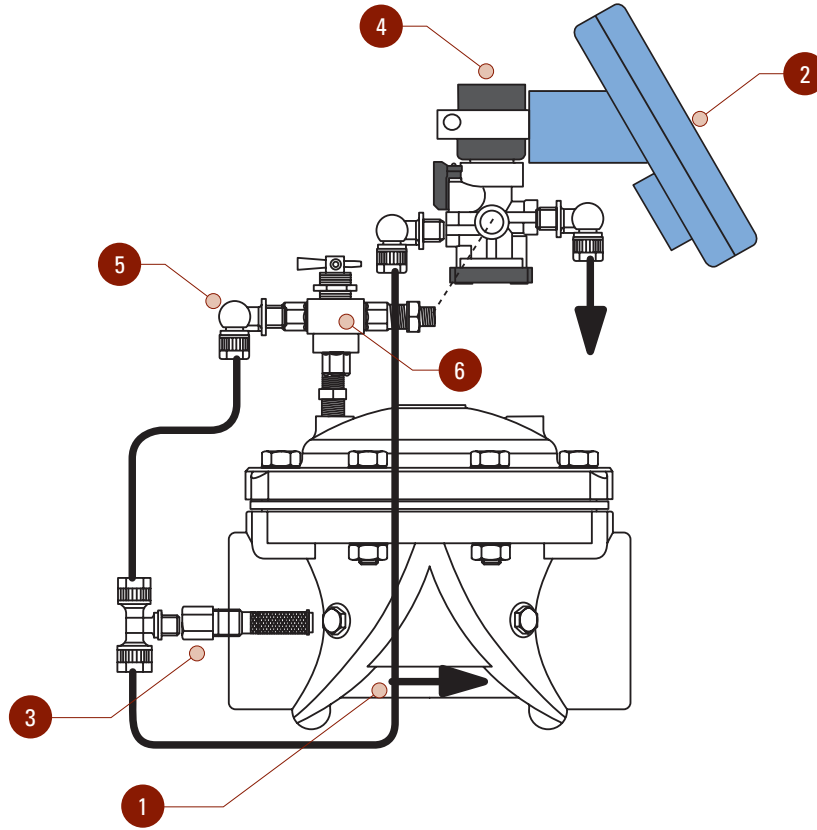
HORIZONTAL SIDE POSITION

TROUBLESHOOTING

PROBLEM	CAUSE	REMEDY
Main valve fails to open.	Insufficient pressure at valve inlet.	Check inlet pressure, increase as needed.
	Damaged spring.	Disassemble and replace.
	Solenoid - incorrect voltage.	Correct voltage, correct wiring size if necessary. Replace solenoid if necessary. Repair wires if damaged.
	Solenoid - faulty coil.	Change coil if voltage is OK, but no "click" is heard when activating solenoid.
	Manual Selector is clogged.	Dismantle and clean. Replace if necessary.
	Manual Selector is closed.	Open manually.
Main valve fails to close.	Punctured diaphragm.	Replace diaphragm. Refer to I.D. number.
	Foreign substance on sealing seat.	Dismantle, clean and reassemble.
	Clogged solenoid.	Clean solenoid.
	Incorrect position of manual override.	Change position so slot will be horizontal and/or arrow pointing down.
	Finger filter is clogged.	Clean or replace.

VALVE DESCRIPTION

FLUSH VALVE, PVC FOR MINING, PART NUMBER 61MELCXPLS-M



NO.	QTY.	MODEL	DESCRIPTION
1	1	61B*XPLS	Valve Basic *X PVC Slip Connection
2	1	APCONTROLLER	Single Valve Controller
3	1	61SF25P	In-line Filter Plastic 1/4" x 2 3/8"
4	1	S402/AQUATIVE	Latching Solenoid
5	1	NA**	Male 90° Elbow 1/4" x 8MM
6	1	NA**	Manual Selector

*X indicates size of valve.

**For more information call Netafim Customer Service at 888-638-2346.



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