

GENERAL PUMP *A member of the Interpump Group*

YVB4021SS

Pressure Trapping Unloader



General Pump recommends using a safety relief device in conjunction with this unloader valve when installed on a positive displacement pump. General Pump is not liable and assumes no responsibility when used in a customer's high pressure system.

SPECIFICATIONS

- Part Number YVB4021SS
- Maximum Temperature194^o F¹
- Max. Volume21.0 GPM
- Rated Pressure4000 PSI
- Minimum Adjustable Pressure.....406 PSI
- Maximum Discharge Pressure.....4500 PSI
- Trapped Pressure at Circuit Closure.....8%²
- Pressure Drop to Reset Bypass.....37%³
- Port Sizes: Inlet.....G 1/2"
- Outlet.....G 1/2"
- Bypass.....G 1/2"
- Overall Dimensions6.41" x 4.09" x 1.77"
- Weight1.9 lbs.

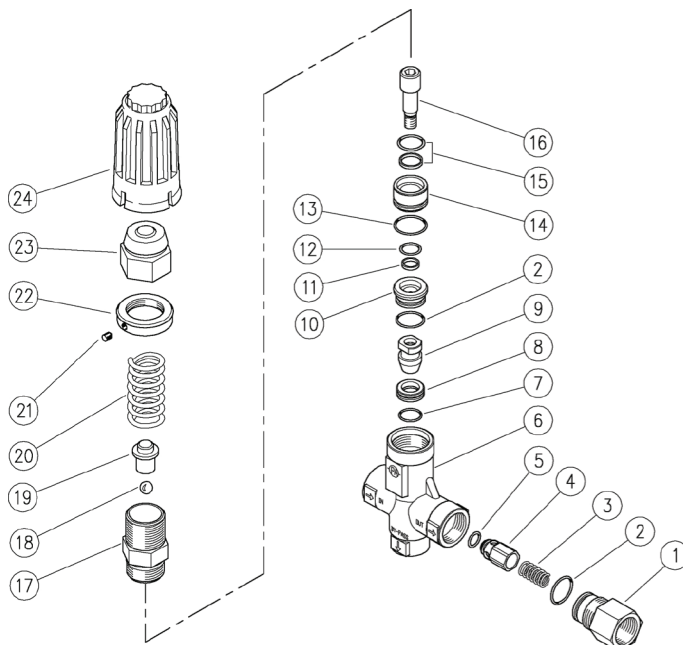
Materials316 Stainless Steel, Buna-N

1 This unloader has been designed to operate at a continuous water temperature of 140°F. It can be operated for short periods at a maximum temperature of 194°F.

2 This is the max. pressure increase implemented in the circuit for the intervention of the valve and to bring fluid in bypass (% figures of the pressure set up).

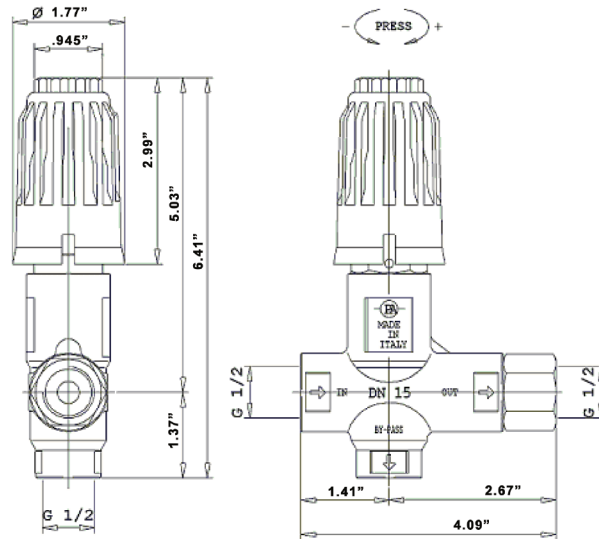
3 This is the pressure reduction necessary in comparison to the set up, in order that the valve brings back pressure in the circuit (% figures of the pressure set up).

PARTS LIST



ITEM	PART #	DESCRIPTION	QTY
1	Y60140460	Shutter Coupling, 1/2F BSP	1
2	Y10306810	O-ring, 1.78x17.7 mm	2
3	Y60140360	Spring, 0.8 x 10.7 x 23 mm	1
4	Y60140260	Shutter Pin	1
5	Y10323010	O-ring, 3.53 x 7.52 mm	1
6	Y60140160	Housing	1
7	Y10306610	O-ring, 7.78 x 15.6 mm	1
8	Y60180960	Seat, 11.6 x 19 x 6 mm	1
9	Y60180860	Shutter pin, M8	1
10	Y60141060	Spacer Ring, 10 x 23.4 x 10.5 mm	1
11	Y10402200	Back-up Ring, 10 x 12 x 2 mm	1
12	Y10305910	O-ring, 1.78 x 11.11 mm	1

ITEM	PART #	DESCRIPTION	QTY
13	Y10307210	O-ring, 1.78 x 20.35 mm	1
14	Y60140960	Spacer Ring, 10.3 x 23.5 x 17.5 mm	1
15	Y10202900	Stem Seal, 14 x 19 x 2.2 mm	1
16	Y60141160	Piston, M8	1
17	Y60140651	Piston Holder	1
18	Y14744310	Ball, 11/32"	1
19	Y60140531	Spring Rest Pin	1
20	Y60097561	Spring, 4.2 x 19.7 x 42 mm	1
21	Y16210000	Set Screw	1
22	Y60172831	Ring Nut, M27	1
23	Y60172731	Valve Regulating Insert	1
24	Y60172684	Valve regulating Knob	1

DIMENSIONS**INSTRUCTIONS****SELECTION**

This product is to be used with clean water which can contain the addition of normal detergents. For use involving different or corrosive liquids, contact the General Pump Customer Service Department. Appropriate filtration should be installed when using water that may contain any sort of debris. Choose the valve appropriate for the system rated pressure, maximum flow rate and maximum temperature. In any case, the pressure of the machine should not exceed the permissible pressure rate imprinted on the valve.

INSTALLATION

This unloader, on a system that produces hot water must be fitted in **front of the heat generator**. This unloader is meant to be incorporated on a finished machine. On a system that generates hot water, anticipate the fitting of accessories that limit the accidental increase of fluid temperature.

Choose a correct nozzle size that is able to discharge regularly, on bypass, at least 5% of the total flow of the system, in order to achieve a constant pressure, and avoid troublesome pressure spikes.

When the nozzle wears, the pressure drops. After installing a new nozzle, re-adjust the system to the original pressure setting.

OPERATIONS

The valve regulates the maximum pressure of the system through a piston, which acts on a ball correctly positioned, that closes the bypass opening. A check valve cuts out the delivery section, the pressure of which controls the drive of the piston. Each setting operation should be made when the system is operational and the nozzle open.

ATTENTION: The nut (item 22) must never be removed. Removal will compromise a mechanical safety feature that limits the maximum pressure, thus could result in serious damage to people and equipment.

When the system is opened and closed frequently, it is recommended to install a PTP (pump thermal protector) in order to eliminate excessive temperature build-up.

TROUBLESHOOTING

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Frequent Unloader Cycles	Damaged check valve o-ring Leaking connections Restricted bypass	Replace Check and renew Clean or adapt
Unloader does not come up to pressure	Unloader not properly sized Piston O-rings worn out Debris between seat and shutter Worn nozzle	Change spring or type of valve Replace Clean the seat Replace
Excessive pressure spikes	There is not a minimum of 5% flow in bypass Excessive flow in bypass Spring totally compressed	Reset Change type of valve or adjust passages Loosen knob and change nozzle
Unloader does not bypass at low pressure	Jammed check valve Check valve O-ring worn Debris in check valve	Clean or replace Replace Clean

MAINTENANCE

Maintenance must be carried out by Qualified Technicians.

STANDARD: Every 400 working hours (10,000 cycles), check and lubricate the seals with water resistant grease.

SPECIAL: Every 800 working hours (20,000 cycles), check the wear of the seals and internal parts and, if necessary, replace with original General Pump parts taking care during installation and to lubricate with water resistant grease.

Attention: reassemble the valve in the correct manner paying special attention to the Nut (item 22 on parts drawing) which must always be in place.

The manufacturer is not responsible for damage as a result of incorrect fitting and maintenance.