

### FEATURES

- Sturdy brass and steel construction
- Multiple connections for easy installation
- Powerful spring action provides reliable pressure adjustment
- Hexagonal shaped check valve avoids jamming
- Mechanical control of the switch for simple and reliable function

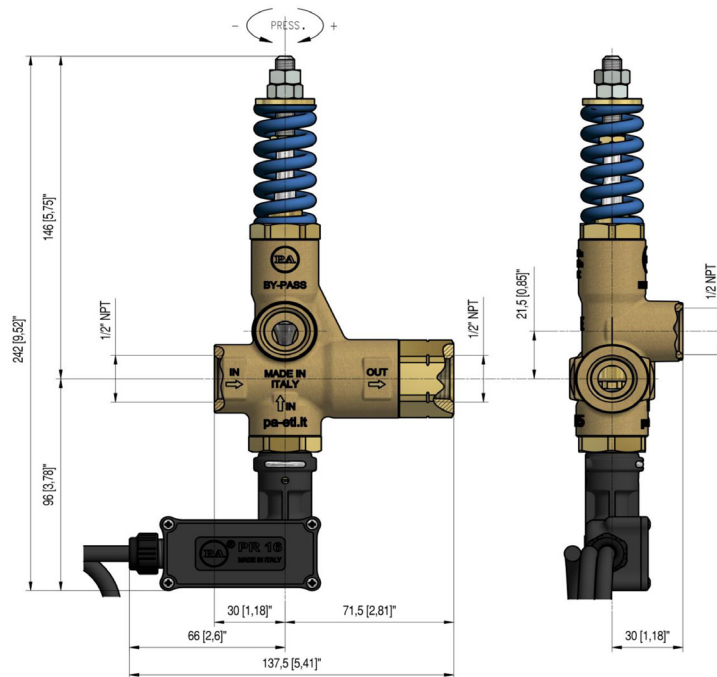


### SPECIFICATIONS

PART NUMBER		YU21405MS
Maximum Volume		21 GPM
Rated Pressure		4,050 PSI
Maximum Pressure		4,500 PSI
Maximum Temperature		195° F
Port Sizes	Inlet	1/2" NPT-F
	Outlet	1/2" NPT-F
	Bypass	1/2" NPT-F
Overall Dimension		9.52" x 5.41" x 1.77"
Weight		2.55 Lbs.

*General Pump recommends using a pressure 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.*

### DIMENSIONS

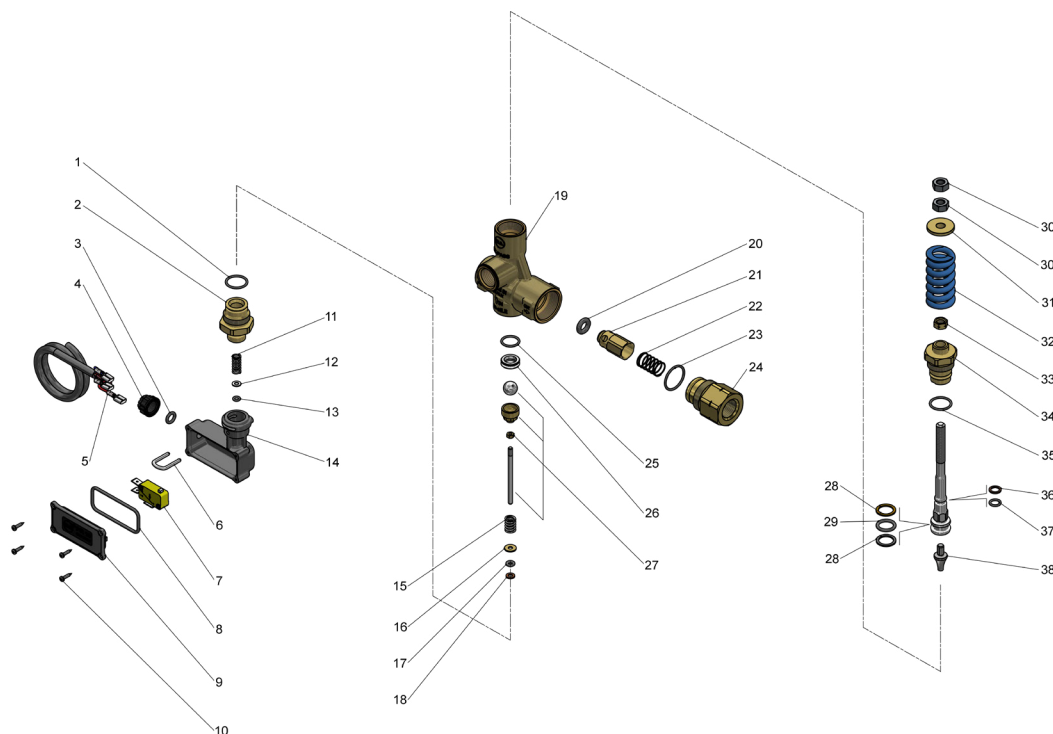


General Pump  
is a member of  
The Interpump Group



## Trapped Pressure Unloader Valve w/ Microswitch

### PARTS LIST

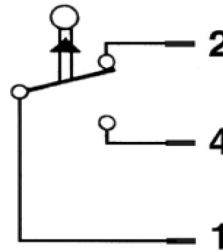


No.	Part No.	Description	Qty.
1	Y10306800	O-ring	1
2	Y60029431	Microswitch Coupler	1
3	Y10310992	O-ring	1
4	Y29008284	Lock Nut	1
5	Y12500000	Electrical Cable	1
6	Y29008751	U-clip	1
7	Y12500100	Microswitch	1
8	Y10321042	O-ring	1
9	Y29004284	Housing Cover	1
10	Y16302000	Screw	4
11	Y60230351	Spring	1
12	Y14351953	Washer	1
13	Y10303800	O-ring	1
14	Y29004184	Microswitch Housing	1
15	Y60001551	Spring	1
16	Y60016433	Washer	1
17	Y10310990	O-ring	1
18	Y10400400	Back-up Ring	1
19	Y60049735	Housing	1
20	Y10329200	O-ring	1

No.	Part No.	Description	Qty.
21	Y60048831	Shutter Pin	1
22	Y60048951	Spring	1
23	Y10307260	O-ring	1
24	Y60185231	Coupler	1
25	Y10306401	O-ring	1
26	Y60280351	Seat	1
27	Y60029521	Piston Assembly	1
28	Y10401400	Back-up Ring	2
29	Y10317800	O-ring	1
30	Y11457400	Nut	2
31	Y60001131	Washer	1
32	Y60003361	Spring	1
33	Y11457631	Nut	1
34	Y60095131	Piston Holder	1
35	Y10306800	O-ring	1
36	Y10400800	Back-up Ring	1
37	Y10305500	O-ring	1
38	Y60041621	Piston Valve	1

**Trapped Pressure Unloader Valve w/ Microswitch****MICROSWITCH SPECIFICATIONS**

Max rated voltage: 250 V  
Breaking Switch: 16 A-resistive load,  
6 A-inductive load  
Cable length: 1200mm  
Max cable amps: 10A

**WIRING DIAGRAM****WIRING DIAGRAM**

- 1) Red wire
- 2) Blue wire
- 3) Brown Wire

**SELECTION AND OPERATION****SELECTION**

This product is intended to be incorporated on a finished machine. This product is to be used with clean fresh water, for use involving different or corrosive liquids, contact the GP Customer Service Department. Appropriate filtration should be installed when using impure liquids. Choose the valve appropriate to the working data of the pump (permissible pressure, flow and rated temperature of the system). The pressure of the pump must not exceed the maximum pressure of the valve.

**OPERATION**

The valve regulates the maximum pressure of the system by varying the flow discharged by the bypass. The adjustment is made by altering, by means of a piston, the position of a sphere which partially closes the bypass opening. The valve is sensitive to water flow. At gun opening, the water flows through the valve which maintains the system in pressure until the gun closes, the interruption of the flow provokes the complete aperture of the bypass which allows to discharge the flow at low pressure. At gun closure, the special mechanism of zero setting, which does not include a check valve, keeps in connection the delivery line and the bypass line, in that way permitting to lower the pressure all around the system and not only in the source line of the valve.

**INSTALLATION**

This valve, on a system that produces hot water, must be fitted upstream from the source of heat. On a system that generates hot water, it is advisable to use accessories that limit the accidental increase of fluid temperature. **Always install a safety valve.** We recommend the use of a nozzle with flow rate which allows a regular discharge from the valve bypass of at least 5% of the flow supplied by the pump. In order to achieve a constant pressure and easy adjustment. If the nozzle wears out, the pressure decreases. To reset pressure back to working level, it is necessary to replace the worn nozzle. When a new nozzle is fitted, resetting of the system to its original working pressure is required.

**DISCHARGE SYSTEM AND WATER ADDUCTION**

The bypass discharge can be sent back to the pump intake or returned into a tank; in such cases it is advisable that the tank be fitted with baffles to reduce eventual turbulence and air bubbles which could be harmful to the pump.

**PRESSURE ADJUSTMENT/CALIBRATION**

The desired working pressure must be adjusted with the system running and the gun opened. Adjust the pressure by screwing or unscrewing the adjustment knob. The operation is easier if the correct nozzle has been chosen (see above). When screwing the adjustment knob a consequent pressure increase must be matched. If, before reaching the desired pressure, there is no pressure increase, DO NOT FORCE. Rather, check the correct ratio of nozzle/flow rate - pressure and, if necessary, replace with a smaller size nozzle.

**ATTENTION: the nut in position 39 is a mechanical security device that limit the maximum pressure; they must absolutely NOT be removed.**

## Trapped Pressure Unloader Valve w/ Microswitch

### MAINTENANCE

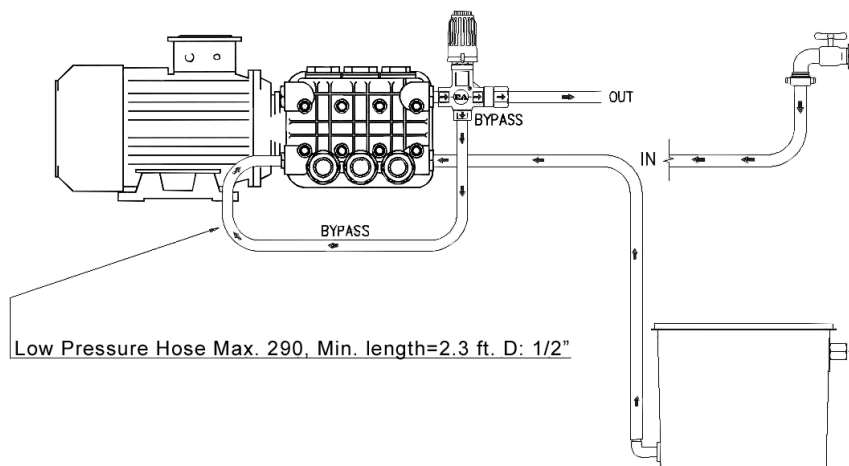
**STANDARD:** every 400 working hours, check and lubricate the seals with water resistant grease.

**SPECIAL:** every 800 working hours, check the wear of the seals and internal parts and, if necessary, replace with original GP parts taking care, during installation, to lubricate with water resistant grease.

**The manufacturer is not to be considered responsible for damage as a result from incorrect fitting and maintenance.**

### TROUBLESHOOTING

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Frequent valve recycles	Damaged check valve O-ring Leaking connections Restricted bypass or too small diameter of the bypass hose	Replace Check or renew Clean or adapt passage diameter
Valve does not reach pressure	Piston O-rings worn out Debris between seat and shutter Seat worn out Nozzle worn out Incorrect choice of nozzle	Replace Clean the seat Replace Replace Fit with smaller nozzle
High pressure peaks at gun closure	There is not a minimum of 5% of total flow discharged in bypass Excessive flow in bypass Adjustment with spring totally compressed	Reset Correctly  Change type of valve or adjust passages Loosen adjustment screw and eventually fit with smaller nozzle
Valve does not discharge at low pressure at gun closure	Jammed check valve Debris on check valve	Clean or replace Clean
Imperfect electrical signal	Loose wires Short control pin	Reconnect Adjust nut and ball holder



**WARNING:** High Pressure Systems require a primary pressure regulating device (i.e. regulator, unloader) and a secondary pressure relief device (i.e. pop-off valve, relief valve). Failure to install such relief devices properly could result in personal injury or damage to pump or property. GP does not assume any liability or responsibility for the operation of the user's high pressure system.



WARNING: This product can expose you to chemicals including lead, which is known to the state of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)