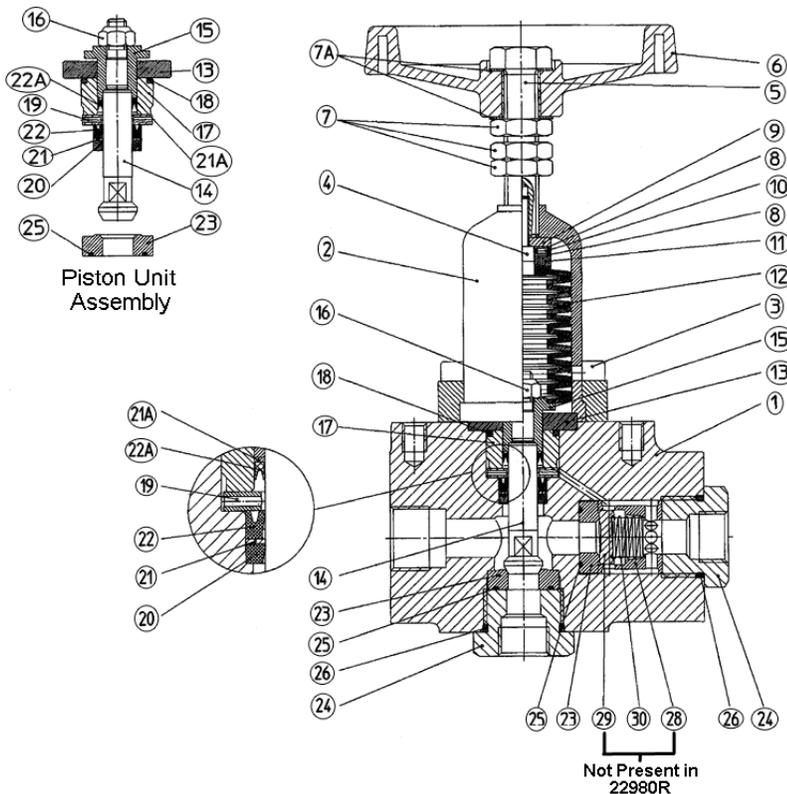


# Models Industrial Unloader/Regulator (High Pressure)

## 22980 Unloader 22980R Regulator

Item	Part#	Description	Quantity
1	08500	Casing	1
2	06880	Spring Guide	1
3	07381	Inner Hexagon Screw	4
4	08503	Inner Hexagon Screw	1
5	08504	Stud Bolt	1
6	08505	Hand Wheel	1
7	08506	Hexagon Nut	3
7A	08882	Washer	2
8	08507	Disc	2
9	08508	Bearing Part I	1
10	12323	Axial Bearing	1
11	08510	Bearing Part II	1
12	12218	Spring Plate	18
13	06714	Centering Disc	1
14	06687	Piston	1
15	06715	Seal Support	1
16	06713	Hexagon Nut	1

Item	Part#	Description	Quantity
17	06716	Cylinder	1
18	12004	O-Ring	1
19	08519	Spacer Ring	1
20	08520	Guide Ring	1
21	07392	Support Ring	1
21A	06718	Support Ring	1
22	07391	Seal Pack	1
22A	06717	Seal Ring	1
23	08523	Valve Seat	2
24	08524	Valve Plug	2
25	07489	O-Ring	2
26	12057	O-Ring	2
28	08530	Spacer Pipe (22980)	1
29	08531	Valve Plate (22980)	1
30	12216	Valve Spring (22980)	1
30	07423-0100	Plug, 22980R (not shown)	4
32	06934	Seal, 22980R (not shown)	4



### Operating Specifications

	U.S.	Metric
Max. Pressure:	7250 PSI	(500 bar)
Maximum Flow:	26.4 GPM	(100 l/min.)
Minimum:	2.1 GPM	(8.0 l/min.)
Maximum Temperature:	160° F	70° C
Inlet Port:	3/4" BSP	
Outlet Port:	1/2" BSP	
Bypass:	1/2" BSP	
Weight:	15.4 lbs.	

### Repair Kits

#### Unloader Repair Kit - p/n 09543

**Parts Included:** 14, 15, 16, 18, 21, 21A, 22, 22A, 23, 25, 26, 29, 30

#### Regulator Repair Kit - p/n 09547

**Parts Included:** 14, 15, 16, 18, 21, 21A, 22, 22A, 23(1), 25(1), 26(1)

## SERVICE AND ADJUSTMENT

Servicing and adjusting work is only to be carried out by qualified personnel.

**IMPORTANT** Observe the direction of the flow. The by-pass must **NEVER** be closed or fitted with a shut-off device.

## OPERATION

The whole discharge must be guided through the valve. Should the actual operating pressure exceed the adjusted operating pressure, the valve then acts as a pressure regulator. The valve switches to pressure free bypass operation when the spray gun shuts off and the spray pressure between gun and valve remains idle.

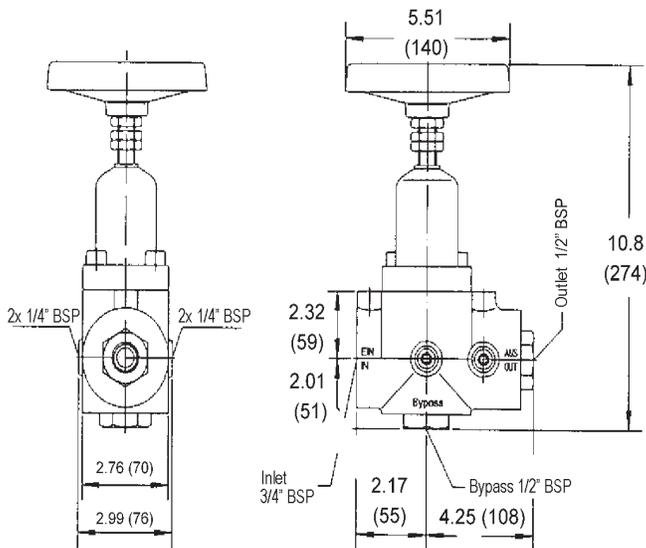
The valve can be operated with several spray guns. It is also possible to connect several pumps to one (1) common discharge line.

Valves are pre-adjusted to the desired operating pressure; therefore, the actual operating pressure must be indicated when ordering.

### TO RENEW THE PISTON ROD SEALS AND SLEEVES

Relieve the spring pack by means of the hand wheel (6). Screw out the four inner hexagon screws (3). Remove the spring guide (2) along with the spring plates (12) and hand wheel. **CAUTION: The hexagon nuts (7) are not to be shifted from the set position. These are the locking nuts which ensure that the maximum adjusted pressure cannot be exceeded.** Note the sequence of the plate springs (12) for reassembling.

## 22980 & 22980R DIMENSIONS (INCHES)



**WARNING:** This product might contain a chemical 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)

**Giant Industries, Inc.**  
 900 N. Westwood Ave.  
 Toledo, Ohio 43607  
 419-531-4600  
 419-531-6836 Fax  
[www.giantpumps.com](http://www.giantpumps.com)

Push out complete piston assembly (#13-22A) upwards. Hold piston (14) with size 12 wrench and remove hexagon nut (16). Remove cylinder (17), seal support (15), centering disc (13), spacer ring (19) and guide ring (20) together with seals from the piston (14). Take note of the sequence for reassembling.

Check inner cylinder surface (17) and piston surface (14). Check seals and replace as necessary. Dirt or damage will cause seals to wear out quickly. Grease all parts lightly with silicone before reinstalling. Tighten hexagon nut (16) to 33 ft.-lbs. (45NM)

Center bypass valve seat (23) within casing and tighten to 110 ft.-lbs. (150 NM) with valve plug (24). Next insert complete piston unit from the top. Fit spring guide (2) along with spring plates (12), tighten inner hexagon screws (3) to 36 ft.-lbs. (49 NM).

### TO CHECK AND REPLACE VALVES

Screw out plugs (24x2), pull out spacer pipe (28) underneath plug (24). Check whether the valve plate (29) underneath or the piston (14) is worn out. Remove the valve seats (23) and check the surfaces and O-rings for wear and/or damage. Replace as necessary.

### TO ADJUST PRESSURE

The pressure is to be adjusted by means of the hand wheel (6) while the pump is running and the gun is open (in the case of multiple guns, all guns must be open) until required operating (or the maximum permitted) pressure is reached. If adjustment of the selected nozzle sizes is correct, no water will flow through the bypass. The hexagon nut (7) is then to be locked to the spring guide (2).

**NOTE** If the nozzle orifice is too small, under no circumstance is the valve to be adjusted to an operating pressure higher than that of the maximum operating pressure of the pump. In this case, properly sized nozzles should be selected.

DEFECT	CAUSE	REMEDY
Valve switches on & off repeatedly when gun is closed	Gun Leaking	Repair/Replace Gun
	Leak in Discharge Line	Identify & Fix Leak
	Seal Ring (22) leaks Kick-Back valve is defective	Replace Seal Ring. Check valve seat (23), valve plate (29), spring (30) & o-ring (25).
Leakage at spring guide	Piston Seal (22A) Leaking	Replace Seal Ring (22A)
	Cylinder o-ring (18) leaks	Replace o-ring (18)
Switches to Bypass while gun is open	Nozzle too small/Too much water	Install larger nozzle
	Bypass valve worn	Replace piston (14), bypass valve seat (23) & o-ring (25)
Pressure gauge reading jumps when spray gun is shut off	Valve activation pressure is set higher than operating pressure	Turn hand wheel to operating pressure level and secure with locknut (7)
	Dirt in valve	Clean valve of any deposits. Grease parts before reassembly