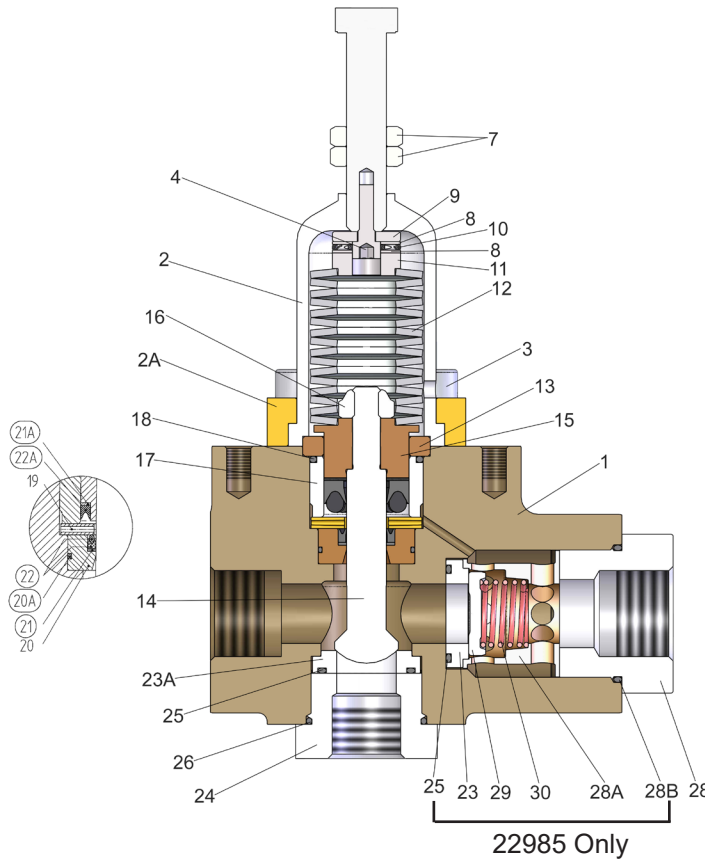


# Models 22985 22985R

# Industrial Unloader/ Regulator



**22985 = Unloader**  
**22985R = Regulator**

### Operating Specifications

Maximum Pressure:	3000 PSI (200 bar)
Minimum Pressure:	580 PSI (40 bar)
Maximum Flow:	52.8 GPM (200 L/min)
Minimum Flow:	2.1 GPM (8 L/min)
Maximum Temperature:	160 °F (70 °C)
Inlet Port:	1" FBSP
Outlet Port:	1" FBSP
Bypass:	3/4" FBSP
Weight:	15.4 lbs. (7 kg)

### Repair Kits:

#### Unloader Repair Kit Parts Included:

09811	14, 15, 16, 18, 20A, 21, 21A, 22, 22A, 23, 25, 26, 28B, 29, 30
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#### Regulator Repair Kit Parts Included:

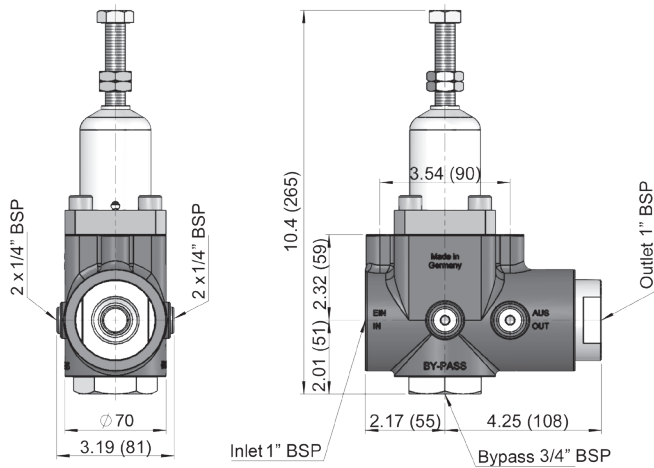
09811R	14, 15, 16, 18, 20A, 21, 21A, 22, 22A, 25, 26, 28B
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Item	Part#	Description	Qty	Item	Part#	Description	Qty
1	13245	Casing	1	20	13251	Seal Adapter	1
2	04843*	Spring Guide	1	20A	07281	O-Ring	1
2A	04844*	Flange for Spring Guide	1	21	07840	Support Ring	1
3	07381	Inner Hexagon Screw	4	21A	07904	Support Ring	1
4	08503	Inner Hexagon Screw	1	22	13254	Seal Pack	1
5	08504	Stud Bolt	1	22A	08087	Grooved Seal Ring	1
7	08506**	Hexagon Nut	2	23	13256	Valve Seat, 22985 Only	1
8	08507	Disc	2	23A	05706	Bypass Valve seat	1
9	08508	Bearing Part 1	1	24	13257	Bypass Valve Plug	1
10	12323	Axial Bearing	1	25	12057	O-Ring, 22985 Only	2
11	08510	Bearing Part 2	1	25	12057	O-Ring, 22985R Only	1
12	08512	Spring Plate	16	26	12055	O-Ring	1
13	05703	Centering Disc	1	28	13258	Kick-Back Valve Plug	1
14	13247	Piston	1	28A	13259	Spacer Pipe, 22985 Only	1
15	05704	Seal Support	1	28B	07653	O-Ring	1
16	04036	Hexagon Nut	1	29	13260	Valve Plate, 22985 Only	1
17	05705	Cylinder	1	30	07750	Valve Spring, 22985 Only	1
18	13012	O-Ring	1	31	07423-0100	Stop Plug (not shown)	4
19	13250	Spacer Ring	1	32	06934	Copper Washer (not shown)	4

\* Also sold as an assembly - p/n 06880

\*\* If handwheel is removed, only two of the hexagon nuts are needed.

## 22985/22985R DIMENSIONS - INCHES (mm)



### SERVICE AND ADJUSTMENT

Servicing and adjusting work is only to be carried out by a skilled tradesman.

#### 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 to retain the maximum adjusting pressure.** Note the sequence of the spring plates (12) for reassembling. Push out complete piston assembly (13-22A) over the bypass. Hold piston (14) with size 10 spanner and screw off hexagon nut (16). Take seals and cylinder along with the seal supports off the piston, taking note of the sequence for reassembling.

Check inner cylinder surface and piston surface. 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 36 ft.-lbs.

Center bypass valve seat within casing and tighten to 184 ft.-lbs. with valve plug (24).



**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**  
Performance Under Pressure

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#### TO CHECK AND REPLACE VALVES

Screw out plugs (24 & 28) and check whether the ball (29) underneath or the piston (14) is worn out. Remove the valve seats (23 and 23A) and check the surfaces for damage. Replace as necessary.

#### TO ADJUST PRESSURE

The spring packing is pre-tensioned by means of the hand wheel (6) while the pump is running and the gun is open (in the case of more than one gun, all guns have to be open) until required operating pressure is reached. This must allow for a residue of at least 0.13 GPM to flow over the bypass. The spring packing is never to be tensioned high enough to completely seal up the bypass. The hexagon nut (7) is then to be locked to the spring guide (2).

If the nozzle hole is too small, on no account is the valve to be adjusted to an operating pressure higher than that of the pump. It is advisable in this case to install nozzles more suitable for this purpose.

### OPERATION

The whole discharge must be guided through the valve. Should the actual operating 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 a number of spray guns ; furthermore, more than one pump can be connected to the pressure pipe.

Valves are pre-adjusted to the desired operating pressure; therefore, the actual operating pressure has always to be stated when ordering.

Defect	Cause	Remedy
Valve switches repeatedly when gun is closed	Leaky gun	Repair gun
	Leaky pressure pipe	Seal pressure pipe
	Leaky seal pack (22)	Renew seal pack
	Worn out valve plate (29)	Check and replace as valve plate (23), and seat (23).
	Leaky O-Ring (18).	Renew O-Ring (18).
Pressure gauge shows high-pressure above operating (6). peaks when shutting off gun.	Valve set too high pressure.	Turn back hand wheel
	Dirty valve.	Clean valve (removing deposits etc.). Grease parts before reinstalling.