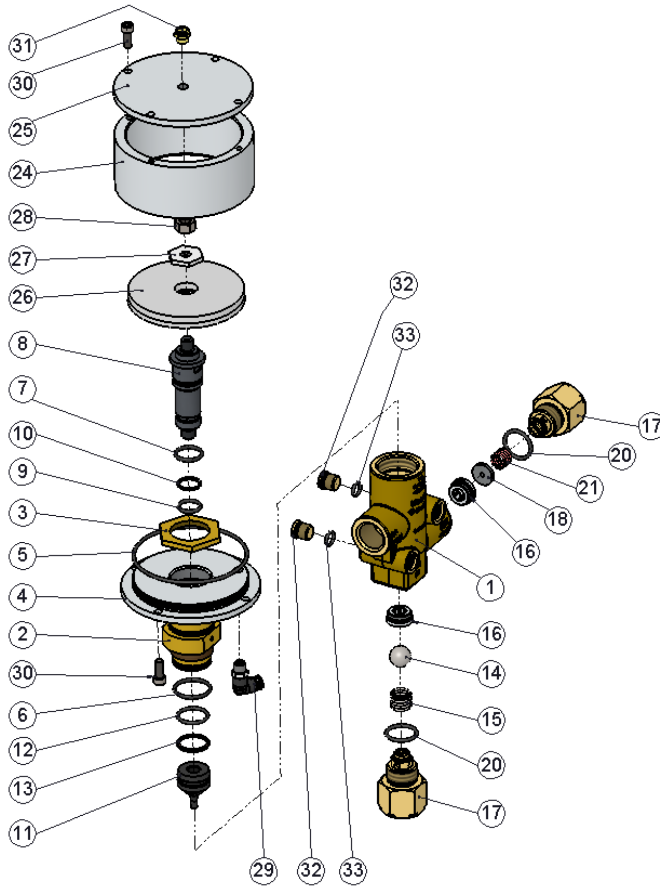


# Model 22973CP

# Pneumatically-Actuated Unloader

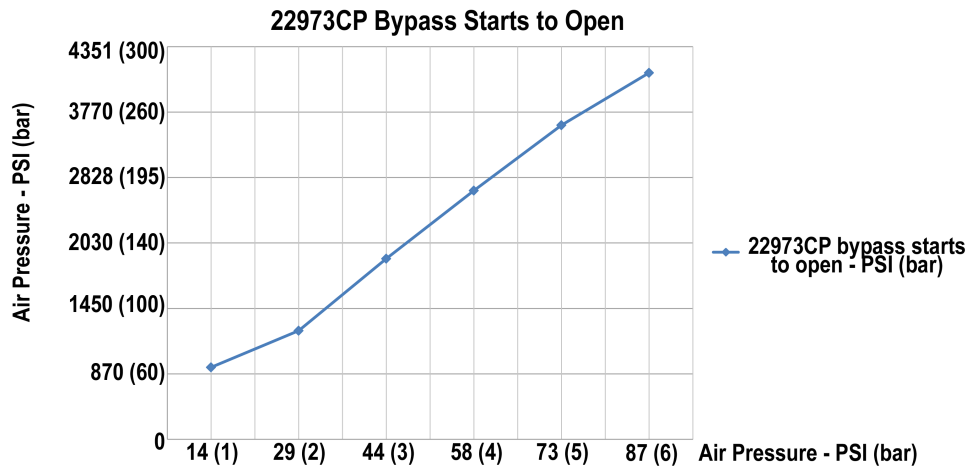
## Operating Specifications

	U.S.....	Metric
Minimum Flow: .....	2.1 GPM.....	8 L/min
Maximum Flow:.....	35.7 GPM.....	135 L/min
Pressure Range:.....	580-4000 PSI.....	40-280 Bar
Air Pressure Range:.....	14.5-87 PSI.....	1-6 Bar
Max. Temperature:.....	160 °F .....	70 °C
Inlet/Outlet Port: .....		3/4" FNPT
Bypass:.....		3/4" BSP



Item	Part #	Description	Qty.
1	12232	Valve Body	1
2	04625	Guide Plug	1
3	04626	Hexagon Nut	1
4	04627	Cylinder Cover	1
5	08005	O-Ring	1
6	12057	O-Ring	1
7	10011	O-Ring	1
8	04628	Piston Rod	1
9	04629	O-Ring	1
10	04630	Support Ring for 9	1
11	04631	Piston Body	1
12	04011	O-Ring	1
13	04639	Support Ring	1
14	12207	Ball	1
15	04632	Valve Spring	1
16	12208	Valve Seat	2
17	12243	Fitting, 3/4" NPT	2
18	12244	Valve Plate	1
20	07035	O-Ring	2
21	06017-0100	Spring, kickback valve	1
24	04633	Cylinder	1
25	04634	Cylinder Cover	1
26	04635	Sleeve	1
27	04636	Hexagon Nut	1
28	08040	Hexagon Nut	1
29	04637	90° Elbow, Air Plug	1
30	08503	Cylinder Screw	8
31	04638	Silencer	1
32	06685	Plug	4
33	12017	O-Ring for 32	4
	09461P	Repair Kit (Items 5-7, 9, 10, 12-16, 18, 20, 21, 26, 33)	

Air Pressure - PSI (bar)	Bypass Starts to Open - PSI (bar)	Bypass Fully Open - PSI (bar)
14 (1)	798 (55)	870 (60)
29 (2)	1204 (83)	1450 (100)
44 (3)	2001 (138)	2030 (140)
58 (4)	2755 (190)	2828 (195)
73 (5)	3480 (240)	3770 (260)
87 (6)	4061 (280)	4351 (300)



## INSTALLATION OF 22973CP UNLOADER

- 1) The unloader is to be positioned on the discharge side of the pumping unit.
- 2) The bottom port (inlet) receives the pump discharge.
- 3) The side port (outlet) is the pressure outlet. Make sure all side ports are tightened securely.
- 4) The backside port (bypass) redirects the pumped media when the pressure outlet is closed.
- 5) The proper sized bypass line can be directed to a holding tank, to atmosphere, or back to the pump inlet.

**NOTE:** Bypass lines returning to the pump inlet should be equipped with a thermal relief valve to prevent excessive heat buildup in the bypass line that can damage the pumping system during periods of prolonged bypass.

- 6) If a pulsation dampener (accumulator) is used in your pumping system, the pulsation dampener (accumulator) must be positioned on the downstream side of the unloader. **REMEMBER:** IMPROPER PLACEMENT OF THE PULSATION DAMPENER (ACCUMULATOR) CAN AFFECT THE UNLOAD CAPACITY OF THE UNLOADER AND CAN LEAD TO SEVERE SYSTEM DAMAGE AND POSSIBLE BODILY INJURY.

**CAUTION:** A properly sized pressure gauge must be used when attempting to adjust the unloader to its pressure setting. Position the gauge between the pump and the unloader.

**NOTE:** Cracking pressures at which the unloader is activated can rise 300-400 PSI over the rated operating pressures depending on your system.

- 7) Always adjust the unloader via air pressure to the system pressure with the system open (see chart above). Before adjusting, be sure that the spray nozzle orifice is properly sized for the volume and pressure you desire and then fine tune the unloader.

**CAUTION:** NEVER USE THE UNLOADER TO COMPENSATE FOR A WORN NOZZLE AS YOU RISK BOTTOMING-OUT THE UNLOADER, WHICH CAN CAUSE THE UNLOADER TO MALFUNCTION AND LEAD TO SEVERE SYSTEM DAMAGE AND POSSIBLE BODILY INJURY.

- 8) Giant Industries, Inc. strongly recommends the use of a pop-off valve positioned downstream of the unloader as a safety backup in case of unloader malfunction.

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