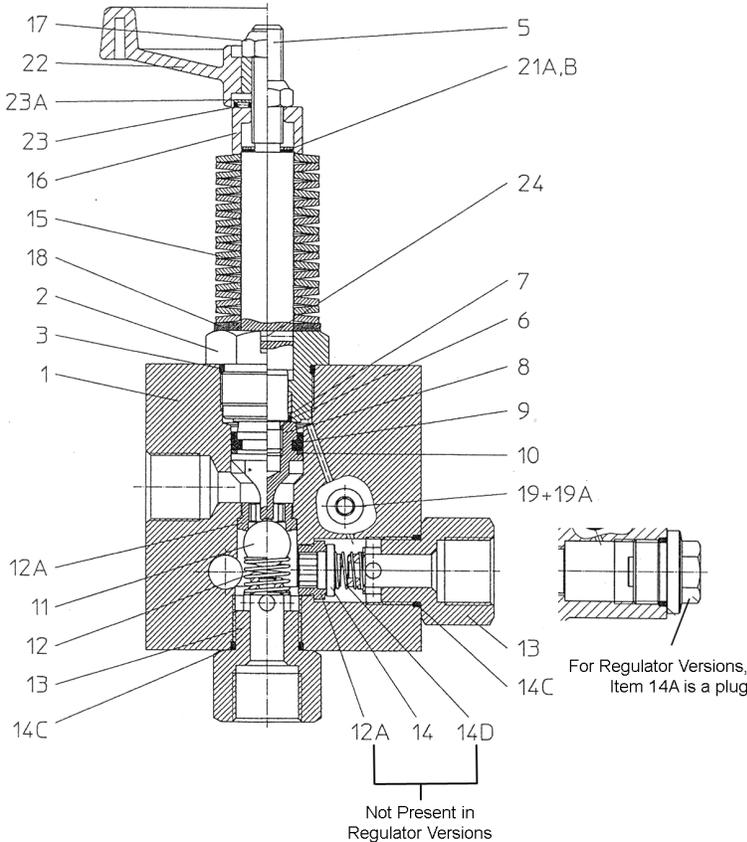


**Models**  
**22971C-50/22971CR-50**  
**22973C-50/22973CR-50**

**Unloader/Regulator,**  
**316 Stainless Steel**



**SPECIFICATIONS:**

**Maximum Pressure:**  
 1740 PSI (22971C-50/22971CR-50)  
 4060 PSI (22973C-50/22973CR-50)

**Maximum Flow:**  
 35.7 GPM (22971C-50/22971CR-50)  
 26.4 GPM (22973C-50/22973CR-50)

**Minimum Flow:** 2.1 GPM

**Maximum Temperature:** 160 °F

**Inlet Port:** 3/4" BSP

**Outlet Port:** 3/4" BSP

**Bypass:** 3/4" BSP

**22971C-50/22973C-50 = Unloader**  
**22971CR-50/22973CR-50 = Regulator**

*When ordering handwheel  
 versions add "H" to  
 model number*

Item	Part #	Description	Qty.	Item	Part #	Description	Qty.
1	12232-0100	Valve Body	1	14D	06017-0100	Spring, Outlet Valve (22971C-50/22973C-50)	1
2	06960	Guide Plug Assembly	1	15	12218	Spring, Yellow (22971C-50/22971CR-50)	21
3	07332	O-Ring	1	15	08512	Spring, Orange (22973C-50/22973CR-50)	19
5	12242-0400	Piston Rod	1	16	12245	Spacer Sleeve	1
6	07853	O-Ring	1	17	12246	Self-Locking Hexagon Nut	1
7	06961	Support Ring	1	18	12223	Washer, Spring	1
8	12206-0400	Piston	1	19	07423-0400	Plug	4
9	05005	Cup, 28mm	1	19A	07755-0100	Gasket, Steel	4
10	05015	Backup ring, 28mm	1	21A	06821	Spacer Disc, 0.5 mm	1
11	12207-0400	Ball	1	21B	06822	Spacer Disc, 1.0 mm	3
12	12216	Valve Spring	1	22	06774	Spoked Handwheel ("H" versions)	1
12A	12208-0100	Seat (22971C-50/22973C-50)	2	23	06775	Axial Needle Bearing ("H" versions)	1
12A	12208-0100	Seat (22971CR-50/22973CR-50)	1	23A	06776	Disc ("H" versions)	1
13	12243-0400	Fitting (22971C-50/22973C-50)	2	24	12247	Serrated Pin	1
13	12243-0400	Fitting (22971CR-50/22973CR-50)	1				
14	12244-0400	Valve Plate (22971C-50/22973C-50)	1				
14A	13150-0100	Plug (22971CR-50/22973CR-50)	1				
14C	07035	O-Ring	2				

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**Repair Kit - # 09461-40**

**Parts Included:** 3, 6, 7, 9, 10, 11, 12, 12A, 14, 14C, and 14D

**Repair Kit - # 09461R-40**

**Parts Included:** 3, 6, 7, 9, 10, 11, 12, 12A, and 14C

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## INSTALLATION OF 22971C-50(R) AND 22973C-50(R) UNLOADERS/REGULATORS

- 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.

- 7) Select the proper spring assembly for your unloader. All spring ratings are based on the maximum operating pressure of the unloaders.

Yellow Springs: 22971C-50/22971CR-50

Orange Springs 22973C-50/22973CR-50

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

- 8) Always adjust the unloader springs to the system pressure with the system open. 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.

- 9) 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.



**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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**Giant Industries, Inc.**  
900 N. Westwood Ave.  
P.O. Box 3187  
Toledo, Ohio 43607  
(419) 531-4600  
FAX (419) 531-6836  
[www.giantpumps.com](http://www.giantpumps.com)

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