ZK9
Flow-Sensitive Unloader Valve

SPECIFICATIONS

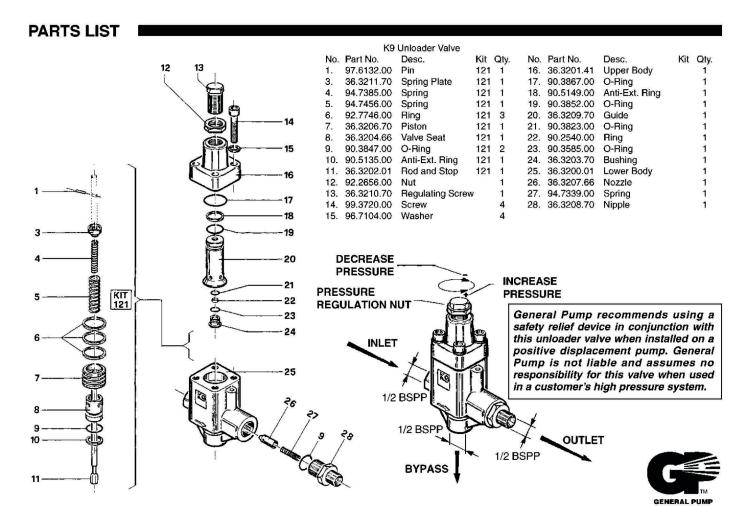|	
Part Number:	ZK9
Maximum Volume	13.2 GPM
Minimum Volume	2.6 GPM
Maximum Discharge Pressure	5800 PSI
Maximum Temperature	165°F
Port Size: Inlet	1/2"-14 BSPP-F
Outlet	1/2"-14 BSPP-M
Bypass	1/2"-14 BSPP-F
Dimensions	7.7" x 5.3" 2.5"
Weight	10 lbs.
Materials	Brass, Stainless Steel, Buna-N

FEATURES

• Unique, flow-balanced piston permits precise pressure adjustments, while safely eliminating discharge line pressure when in bypass.

• Features all stainless or brass internal parts with no external moving parts or springs.

• Provides safe unloading and smooth, soft starts for a variety of high-pressure spraying applications.

PARTS LIST

K9 Unloader Valve

No.	Part No.	Desc.	Kit	Qty.	No.	Part No.	Desc.	Kit	Qty.
1.	97.6132.00	Pin	121	1	16.	36.3201.41	Upper Body		1
3.	36.3211.70	Spring Plate	121	1	17.	90.3867.00	O-Ring		1
4.	94.7385.00	Spring	121	1	18.	90.5149.00	Anti-Ext. Ring		1
5.	94.7456.00	Spring	121	1	19.	90.3852.00	O-Ring		1
6.	92.7746.00	Ring	121	3	20.	36.3209.70	Guide		1
7.	36.3206.70	Piston	121	1	21.	90.3823.00	O-Ring		1
8.	36.3204.66	Valve Seat	121	1	22.	90.2540.00	Ring		1
9.	90.3847.00	O-Ring	121	2	23.	90.3585.00	O-Ring		1
10.	90.5135.00	Anti-Ext. Ring	121	1	24.	36.3203.70	Bushing		1
11.	36.3202.01	Rod and Stop	121	1	25.	36.3200.01	Lower Body		1
12.	92.2656.00	Nut		1	26.	36.3207.66	Nozzle		1
13.	36.3210.70	Regulating Screw		1	27.	94.7339.00	Spring		1
14.	99.3720.00	Screw		4	28.	36.3208.70	Nipple		1
15.	96.7104.00	Washer		4					

DECREASE PRESSURE

INCREASE PRESSURE

PRESSURE REGULATION NUT

KIT 121

INLET

1/2 BSPP

1/2 BSPP

1/2 BSPP

OUTLET

BYPASS

General Pump recommends using a safety relief device in conjunction with this unloader valve when installed on a positive displacement pump. General Pump is not liable and assumes no responsibility for this valve when used in a customer's high pressure system.

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ZK9 Unloader Installation

1. Install the unloader as close to the discharge side of the pump as possible.

2. All fittings and hoses must be rated for the pressure rating of the unloader and be at least the same size as the ports (restrictions will impair the performance and will result in premature wear).

3. A 5% minimum by-pass must be maintained for the unloader to function properly.

4. Use shut off guns only — NO WEEP GUNS.

5. The unloader may be mounted in any position.

6. Pressure adjustment: after the unloader is installed and before the system is started, loosen the lock nut and turn the adjusting nut clockwise so the system is started at the lowest pressure setting possible (Note: the K9 unloader adjusts in reverse to most unloaders: to decrease the pressure turn the adjusting nut clockwise, and to increase pressure turn the adjusting nut counter-clockwise). The pressure must be set with the nozzle(s) in the open position. Remember that this unloader is designed to by-pass 5% at all times. To check the by-pass, disconnect the by-pass hose and measure the flow that is being by-passed. Adjust the discharge nozzle to achieve the desired pressure while maintaining the required 5% flow in by-pass. After the system pressure has been set, tighten the adjusting bolt lock nut.

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