

Legacy

UNIVERSAL UNLOADER UU1 VALVE

9.175-018.0



Patent pending

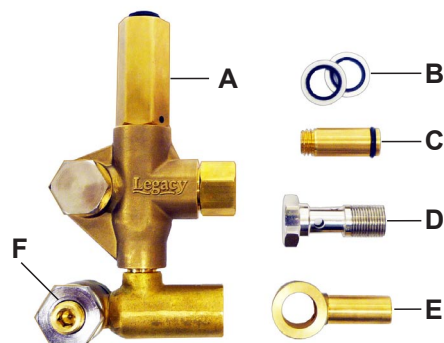
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8.780-010.0

COMPONENTS IDENTIFICATION

- A. UU1 3500PSI Unloader.
- B. 3/8" and 1/2" seal washers included.
- C. Long vertical sliding connector (40mm) included to fit a wide variety and size of pumps.
- D. 3/8" and 1/2" inlet banjo bolts included for mounting to pumps with 3/8" and 1/2" inlet ports.
- E. 3/8" and 1/2" horizontal sliding connectors included.
- F. 1/4" port for mounting thermal pump protection.



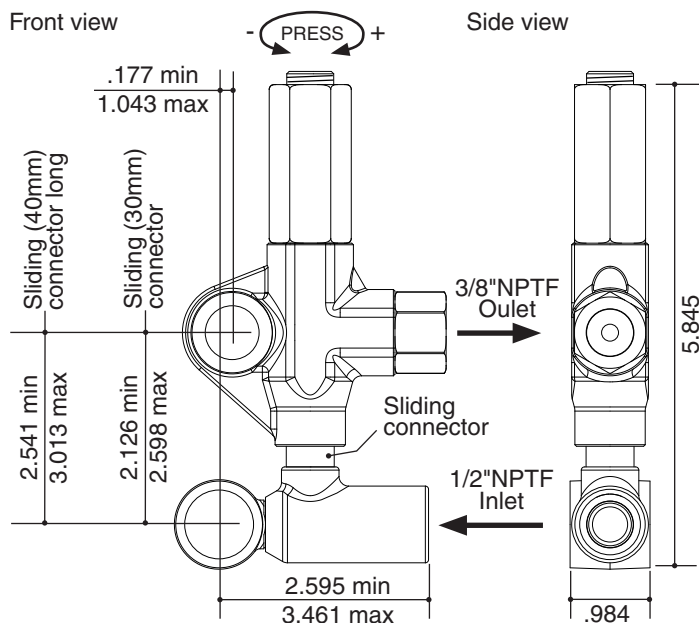
SPECIFICATION & DIMENSIONAL DRAWINGS

Direct mount pressure regulating unloader valve.

Unique design allows adjustment in both vertical and horizontal position to fit a variety of pump inlet and outlet configurations.

Part Number	9.175-018.0
Maximum Volume	6 GPM
Maximum Discharge Pressure	3500PSI
Maximum Temperature	195 °F
Port size:	inlet: 1/2" NPT-F outlet: 3/8" NPT-F
Dimensions	6.00" x 3.00" x 1.75"
Weight	1.6 lbs
Material	Brass, Stainless steel, Buna-N

PATENT PENDING



INSTRUCTIONS

Conditions

The unloader is to be used with clean fresh water and mild detergents. For applications using corrosive liquids please contact our Technical department. Appropriate filtration should be installed upstream from the pump and unloader to prevent contamination. Pressure of the pump should not exceed the rated pressure of the unloader valve. **For a correct operation, follow the directions described in this manual and re-print them on the Operation Manual of the Machine.**

Installation

The unloader valve when used with a hot water pressure washer should be placed up stream from the heating source. A safety relief valve is recommended in conjunction with the unloader valve to prevent over pressurization of the system. Choose a correct nozzle size, which allows for a 5% continual bypass of the unloader to avoid high pressure spikes during shut off gun closure.

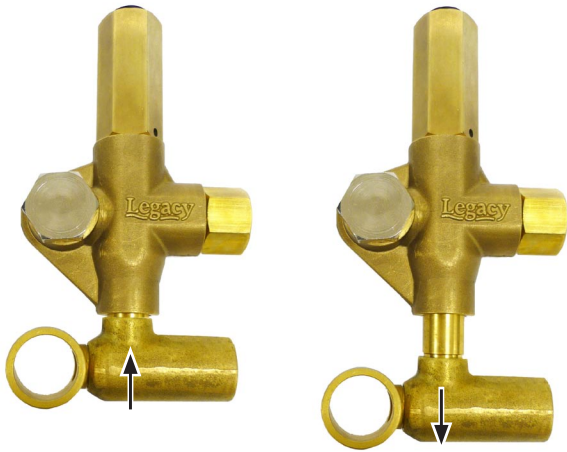
Operating

The unloader valve regulates the pressure of the system through a piston that acts on a cone correctly positioned which closes the bypass opening. When the cone closes the bypass opening a check valve closes the discharge line which in turn reduces the load on the engine/motor.

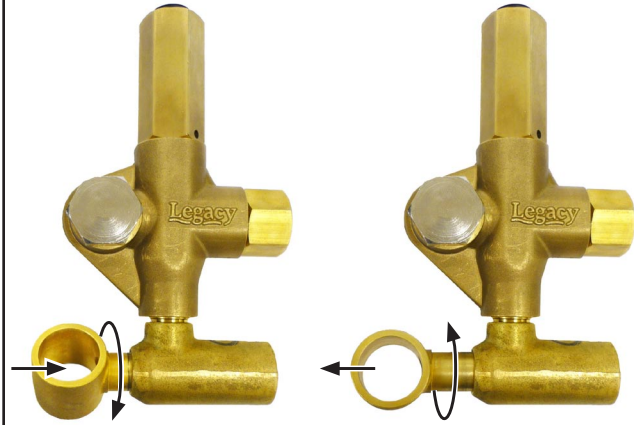
Adjustment of the unloader valve system pressure should be done while the pump is in operation and the shut off gun is open. Avoid high pressure spikes during shut off gun closure. Normal pressure spikes should not exceed 400 psi above operating pressure.

It is recommended that a thermal pump protector, 8.712-544.0, be installed in the inlet banjo bolt to protect from excessive temperature built up that can occur during bypass.

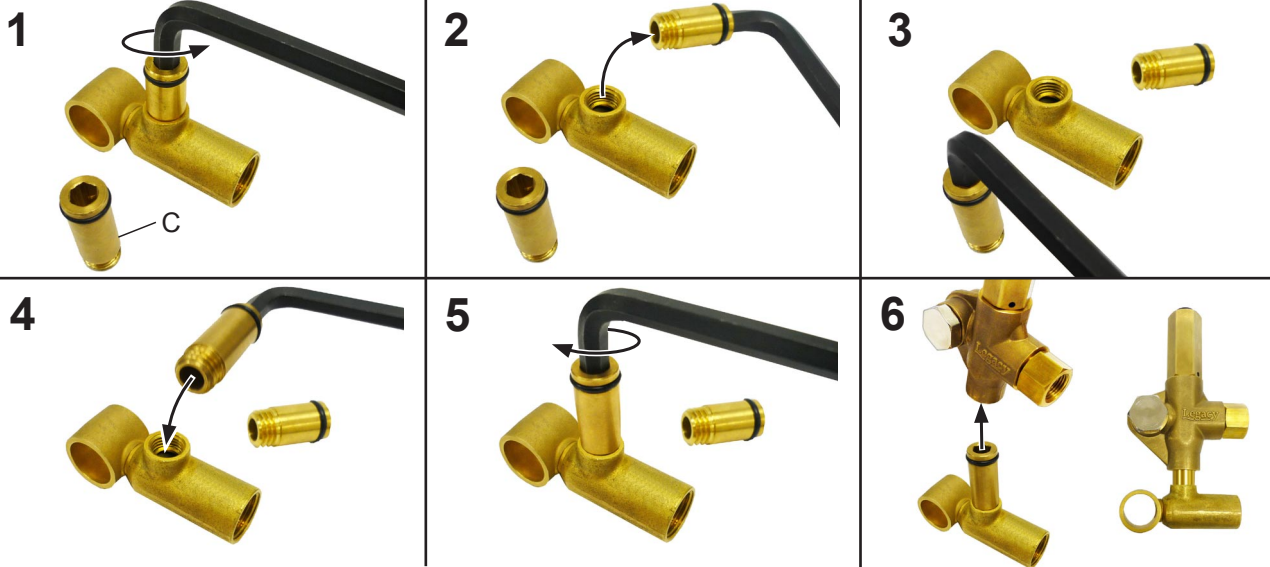
VERTICAL ADJUSTMENT



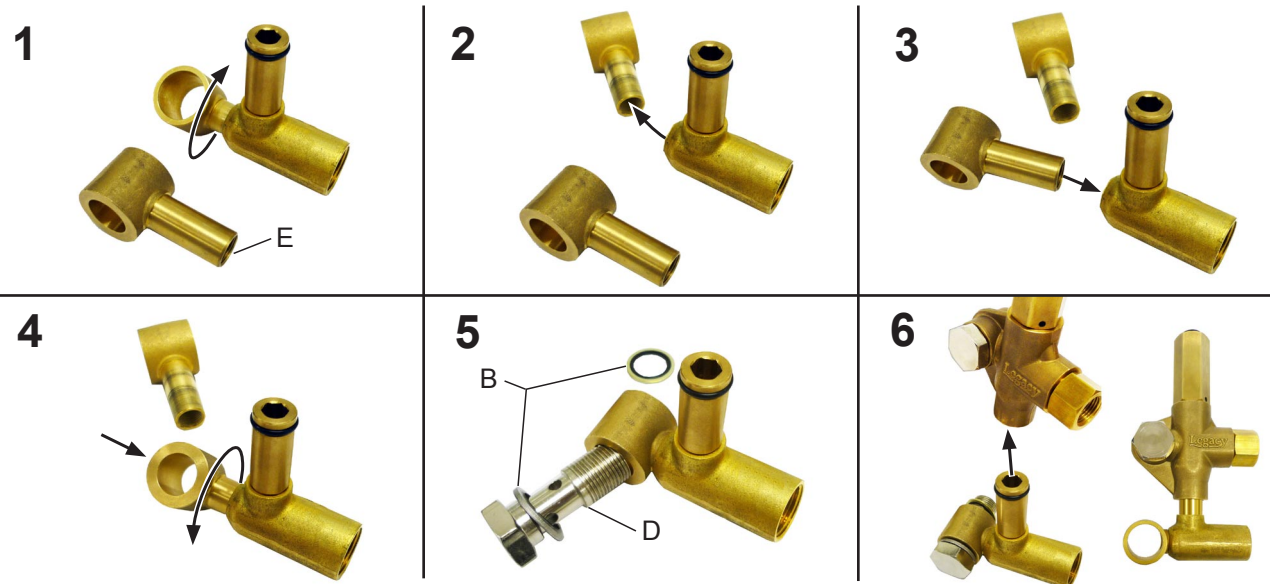
HORIZONTAL ADJUSTMENT



REPLACING VERTICAL SLIDING CONNECTOR

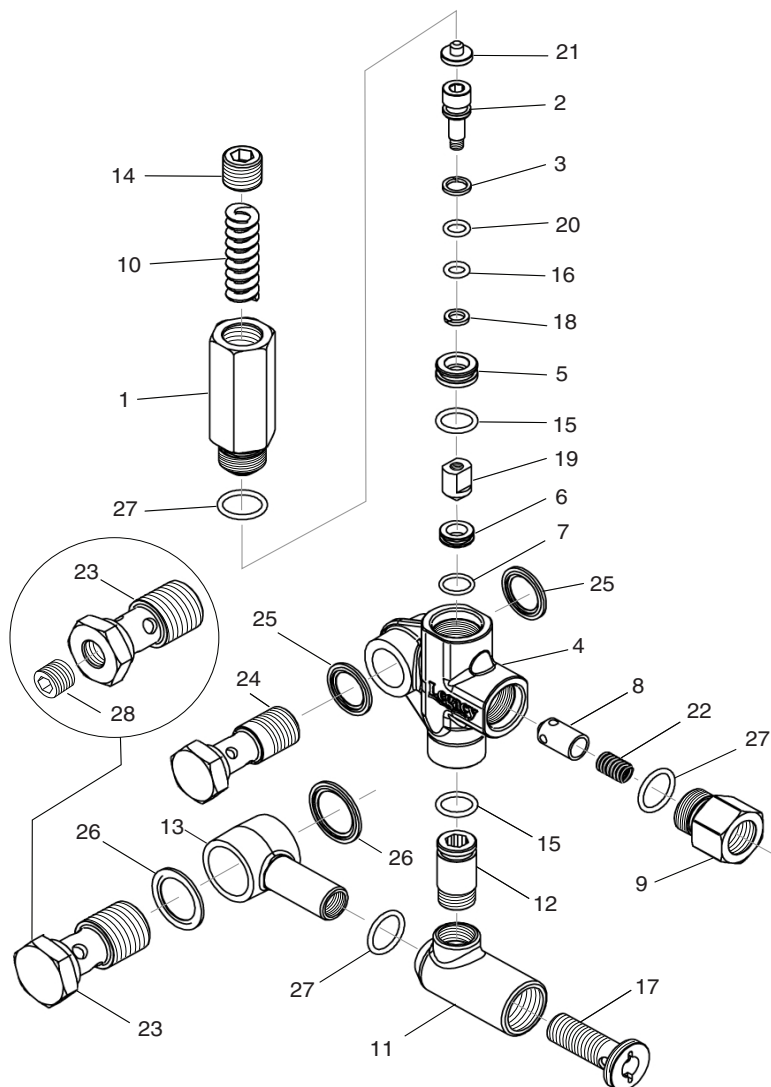


REPLACING HORIZONTAL SLIDING CONNECTOR



UU1 UNLOADER EXPLODED VIEW & PARTS LIST

9.175-018.0 UU1 3500PSI, UNIVERSAL UNLOADER



ITEM	PART #	DESCRIPTION	KIT	QTY
1	8.749-792.0	Piston housing		1
2		Piston	C	1
3		Piston O-ring back up	A	1
4	8.749-796.0	Main block		1
5	9.152-372.0	Piston ring		1
6		Ball seat	C	1
7		O-ring 10.5 ID X 1.5 CS	A,C	1
8		Plunger	B	1
9	9.152-016.0	Plunger housing		1
10		Bypass spring	C	1
11	9.149-001.0	Low pressure port		1
12	9.152-017.0	Sliding connector, 30mm		1
	8.762-005.0	Sliding connector, 40mm, long		1
13	9.149-002.0	Sliding connector H 1/2"		1
	9.149-005.0	Sliding connector H 3/8"		1
14	9.196-011.0	Plug 5/8 -18 UNF		1
15		O-ring 12 ID x 2 CS	A	2
16		O-ring 6 ID X 2 CS	A	1
17	9.149-006.0	Sliding connector guide		1
18		O-ring backup 6X 1.45X 1.68	A	1
19		Conical seal	C	1
20		O-ring 6.75 X 1.78 BN80	A	1
21		Spring seat	C	1
22		Plunger spring	B	1
23	8.917-699.0	Banjo bolt 1/2" short		1
	8.917-700.0	Banjo bolt 1/2"-1/4"NPT short		1
	8.917-698.0	Banjo bolt 3/8" short		1
24	8.917-698.0	Banjo bolt 3/8" short		1
25	9.802-893.0	Seal washer 3/8"		2
26	9.803-921.0	Seal washer 1/2"		2
	9.802-893.0	Seal washer 3/8"		2
27		O-ring 15 ID x 2CS	A,B	3
28	8.706-865.0	Plug, 1/4" countersunk		1
Kit A 9.104-038.0 O-ring Repair Kit				
Kit B 9.104-039.0 Outlet Kit				
Kit C 9.104-040.0 Stem Repair Kit				

PROBLEMS AND SOLUTIONS

PROBLEMS	PROBABLE CAUSES	SOLUTIONS
Frequent cycling of unloader	Damaged check valve O ring Leaking connection or shut off gun Restricted bypass	Replace Repair leak Clean
Unloader does not reach pressure	Unloader not properly sized Piston O rings worn out Obstruction between seat and piston Worn out spray nozzle	Change spring or type of valve Replace Clean the seat Replace
High pressure spikes	There is not a min of 5% of total flow in bypass Spring totally compressed	Reduce spring pressure Reduce spring pressure and nozzle size
Unloader does not by pass at low pressure	Jammed check valve Check valve O ring worn out Obstruction on check valve	Clean or replace Replace Clean

MAINTENANCE

- Maintenance to be performed by Trained Technician.
- Every 400 working hours (10,000 cycles), check and lubricate the seals with water resistente grease.
- Every 800 working hours (20,000 cycles), inspect seals, o' rings, and internal parts for wear, replace if necessary.
- Replace with original parts taking care during installation to lubricate with water resistant grease.
- The manufacturer is not responsible for damage as a result of improper installation or maintenance.
- Technical data, descriptions, and illustrations are subject to change without notification.