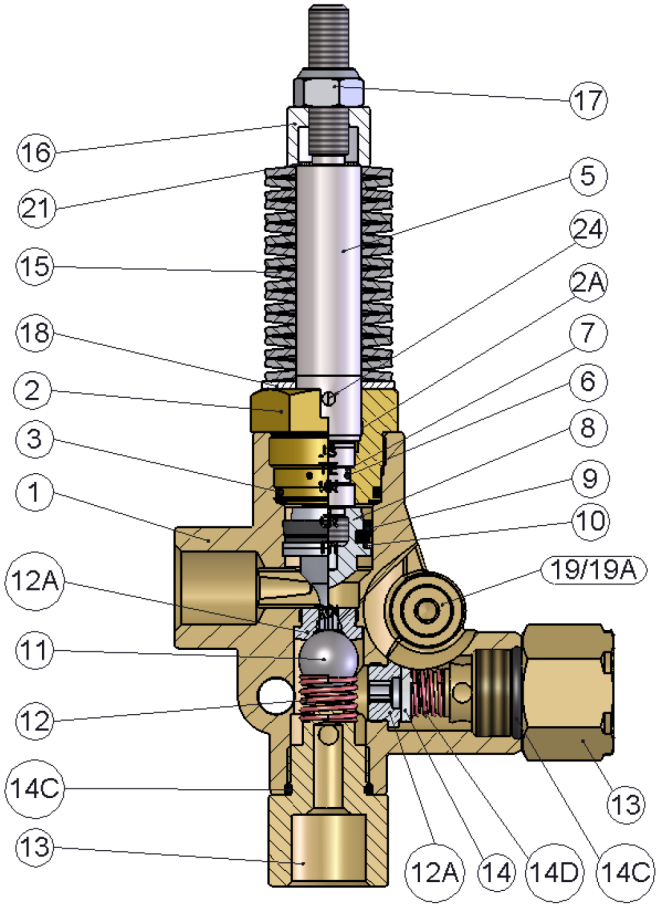
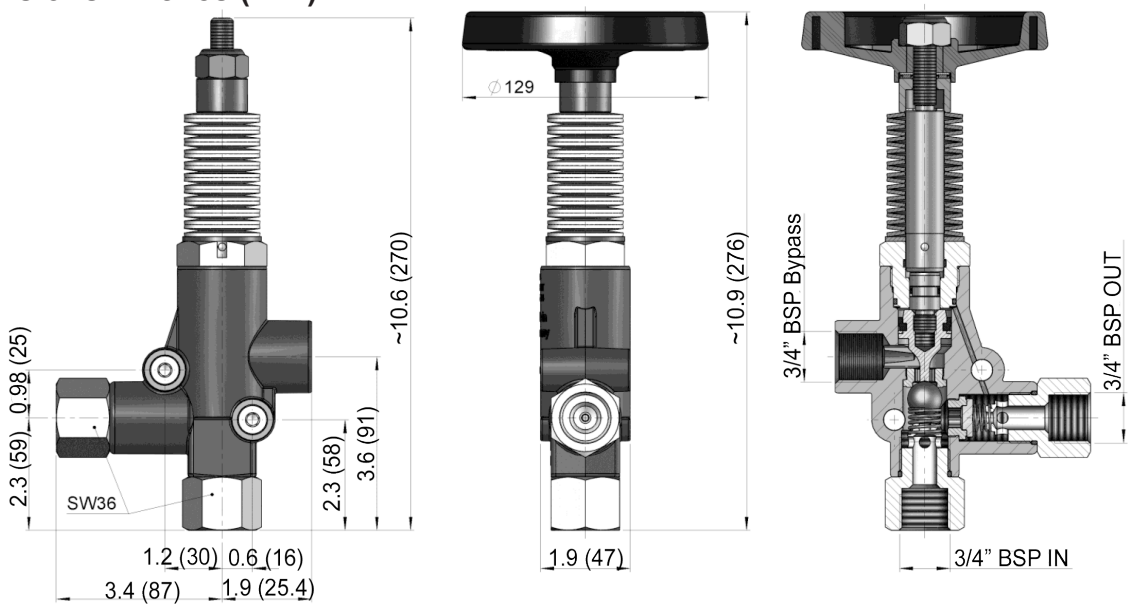
# Model 22973C-BSP

# Unloader




| Item | Part # | Description | Qty. |
|---|---|---|---|
| 1 | 12232 | Valve Body | 1 |
| 2 | 12240 | Guide Plug | 1 |
| 2A+ | 12241 | Guide Ring | 1 |
| 3+ | 12057 | O-Ring | 1 |
| 5 | 12242 | Piston Rod | 1 |
| 6+ | 12204 | O-Ring, Valve Stem | 1 |
| 7+ | 12205 | Support Ring, Valve Stem | 1 |
| 8 | 12206 | Piston Body | 1 |
| 9+ | 05005 | Cup, 28mm | 1 |
| 10+ | 05015 | Support Ring, 28mm | 1 |
| 11+ | 12207 | Ball | 1 |
| 12+ | 12216 | Valve Spring | 1 |
| 12A+ | 03402 | Seat | 2 |
| 13 | 12243-BSP | Fitting | 2 |
| 14+ | 12244 | Valve Plate | 1 |
| 14C+ | 07035 | O-Ring | 2 |
| 14D+ | 06017-0100 | Spring, Outlet Valve | 1 |
| 15 | 12220 | Spring, Orange | 19 |
| 16 | 12245 | Spacer Sleeve | 1 |
| 17 | 12246 | Self-Locking Hexagon Nut | 1 |
| 18 | 12223 | Washer, Spring | 1 |
| 19 | 06685 | Plug | 4 |
| 19A+ | 12017 | O-Ring, Plug | 4 |
| 21B | 06822 | Spacer Disc, 1.0 mm | 3 |
| 24 | 12247 | Serrated Pin | 1 |
| | +09461 | Repair Kit | |

## Dimensions - Inches (mm)



## SPECIFICATIONS:

| | U.S. | Metric |
|---|---|---|
| Pressure Range: | 580-4060 PSI | 40-280 Bar |
| Nominal Pressure | 5220 PSI | 360 Bar |
| Maximum Flow: | 26.4 GPM | (99 LPM) |
| **Minimum Flow:** | 2.1 GPM | (8 LPM) |
| **Maximum Temp.:** | 160 °F | (70 °C) |
| **Inlet Port:** | | 3/4" FBSP |
| **Outlet Port:** | | 3/4" FBSP |
| **Bypass:** | | 3/4" BSP |

The bypass line must be laid in a flow-favorable way. The cross section of the bypass line must at least correspond to the outlet cross-section of the valve.

| Outlet (BSP+NPT) | 1/4 | 1/2 | 3/4 | 1 |
|---|---|---|---|---|
| Min. ø (mm) | 8 | 8 | 15 | 17 |

| Defect | Cause | Remedy |
|---|---|---|
| Valve switches repeatedly when gun is closed | Leaky Gun | Renew gun |
| | Leaky pressure pipe | Seal pressure pipe |
| | Leaky sleeve | Renew sleeve |
| | Worn out kick-back valve body (12A) or valve plate (14) | Renew kick-back valve body or plate. Examine valve seat. |
| Leaky piston rod | Defective o-ring / support ring | Renew piston rod seals and examine surfaces in guide plug. |
| Leaky bypass at nominal pressure | Nozzle too small, too much water | Install larger nozzle |
| | Worn out bypass valve | Examine ball (11) and bypass valve body (12A) and renew as necesarry |
| Manometer shows high pressure peaks when shutting off gun | Valve set too high above operating pressure | Turn back hexagon nut (17) or handwheel (22). |
| | Dirty Valve | Clean valve (lime deposits etc.). Grease parts before reinstalling |

**Safety Instructions**

IMPORTANT! Observe direction of flow. The bypass must under no circumstances be closed or fitting with any shut-off device.

IMPORTANT! Continuous bypass operation without releasing the water can cause the liquid to heat up which in turn could damage the unit and endanger persons.

Possible preventive measures:

1. Limit the bypass duration -maximum temperature 160 °F (60 °C); the duration is to be calculated by the operator and in conjunction with the operating conditions.
2. Use fittings (e.g. thermal relief valve on water inlet) to avoid heat increase.

**Adjusting Pressure**

1. Valve should be tension-free, i.e. loosen nut (17) so that the piston rod can be moved manually.
2. Spring set is to be tensioned by the nut (17) while pump is running with open gun (in case of more guns, all have to be open) until required operating pressure is reached and no more water runs out on bypass side.

If the nozzle holes is suited to the exact flow rate and pump pressure, water should not run via the bypass when required operating pressure is reached. If the nozzle hole is too small to allow all the fluid to run through the hole after the required operating pressure has been reached, on no account is the valve to be adjusted higher than the maximum operating pressure of the pump. In this case, the bypass is to be left partially open. It is therefore advisable to have suitable nozzles installed. The spacer discs (21A, 21B) which are under the spacer sleeve (16) are there to keep the adjusted pressure within limits. These discs are not to be removed.

**⚠ Service and Adjustment**

Reserving and adjusting work is only to be carried out by skilled tradesmen.

**Renewal of Piston Seals**

Remove guide plug (2) out of vlave body and piston body (8). Remove guide plug from the piston rod (5).
Cut out worn seals. Carefully slide o-ring (6) and support ring (7) onto piston rod. Note order of installation.
Clip sleeve support ring (10) and cup (9) onto piston body. Check valve body surfaces and guide plugs (dirt or damage wears out seals quickly). Fasten piston body onto piston rod with Loctite 270. Grease all parts lightly with Silicone before reinstalling.

**To Check Valves**

Kick-Black Valve: Remove plug (13) on the outlet side and check whether valve plate (14) and valve seat (12A) are worn out. Check o-ring (14C) for damage.
Inlet Valve: Remove plug (13) on the inlet side; check ball (11) and seat (12A) for damage. Valve seats can be screwed out with an inside allen head wrench.
IMPORTANT! If the seat (12A) is worn, the ball (11) must be carefully impressed against the sealing edges of the seat. Glue in new valve seats with Loctite 270. Allow to dry for 60 minutes before putting into operation.

GIANT
Performance Under Pressure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⚠ **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

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