



GEORDI STAINLESS PRESSURE RELIEF VALVE INFO

Additional Pressure Relief Valve Information

All Geordi Pressure Relief Valves (PRVs) come with the option of being set or not set to crack/relieve at a nominated pressure. All prices quoted in the price list are valid for PRVs utilizing a standard spring. Standard springs and pressure ranges include:

- Light spring, which will work effectively from a range of 25-50Psi / 172-345Kpa / 1.7 – 3.4Bar.
- Medium spring, which will work effectively from a range of 50-100Psi / 345-690Kpa / 3.4 – 6.9Bar.
- Heavy spring, which will work effectively from a range of 100-150Psi / 690-1035Kpa / 6.9-10.3Bar.

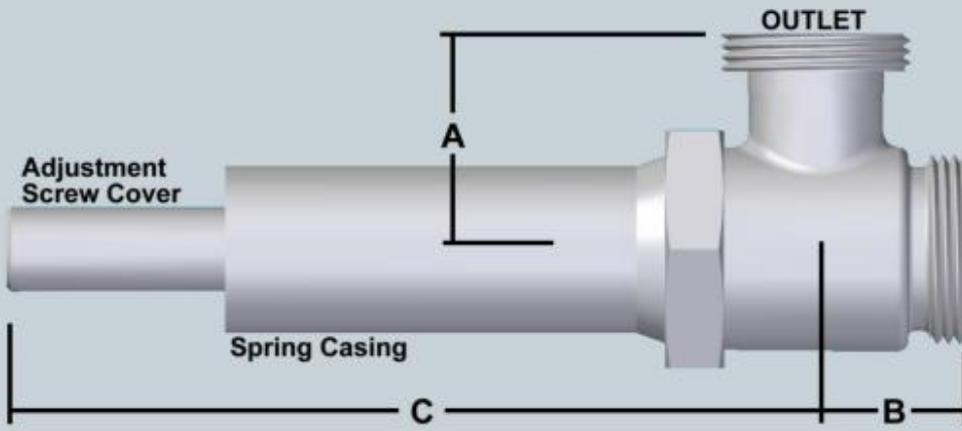
Geordi also has the capability to adapt our range of pressure relief valves to relieve at pressures outside the standard ranges listed above including the capability to relieve a nominated flow rate at a given pressure ie. Very positive relief or small “cracking -> full opening” pressure differential.

Note: all pressure relief valves required to operate outside the standard ranges and conditions may incur an additional cost and delivery time due to the requirement of specialized parts.

[Contact us](#) to receive an obligation free quotation for specialized PRV requirements.

Seat Materials: The standard seating materials vary for each type of Pressure Relief Valve. Different seating materials are available eg. Teflon, Viton, EPDM, Nitrile, Silicone etc but may require some additional cost to the standard configuration.

Geordi Standard Pressure Relief Valve



Size	A	B	C
25mm	63	38	232
38mm	75	42	340
50mm	92	52	316
63mm	95	54	318
76mm	105	65	385
101mm		78	398

Geordi Standard Pressure Relief Valve for 25mm to 100mm line sizes. Ends are standard Flat Faced male/male or Butt Weld. Other ends available on request with a possible small price increase and delivery time extension.

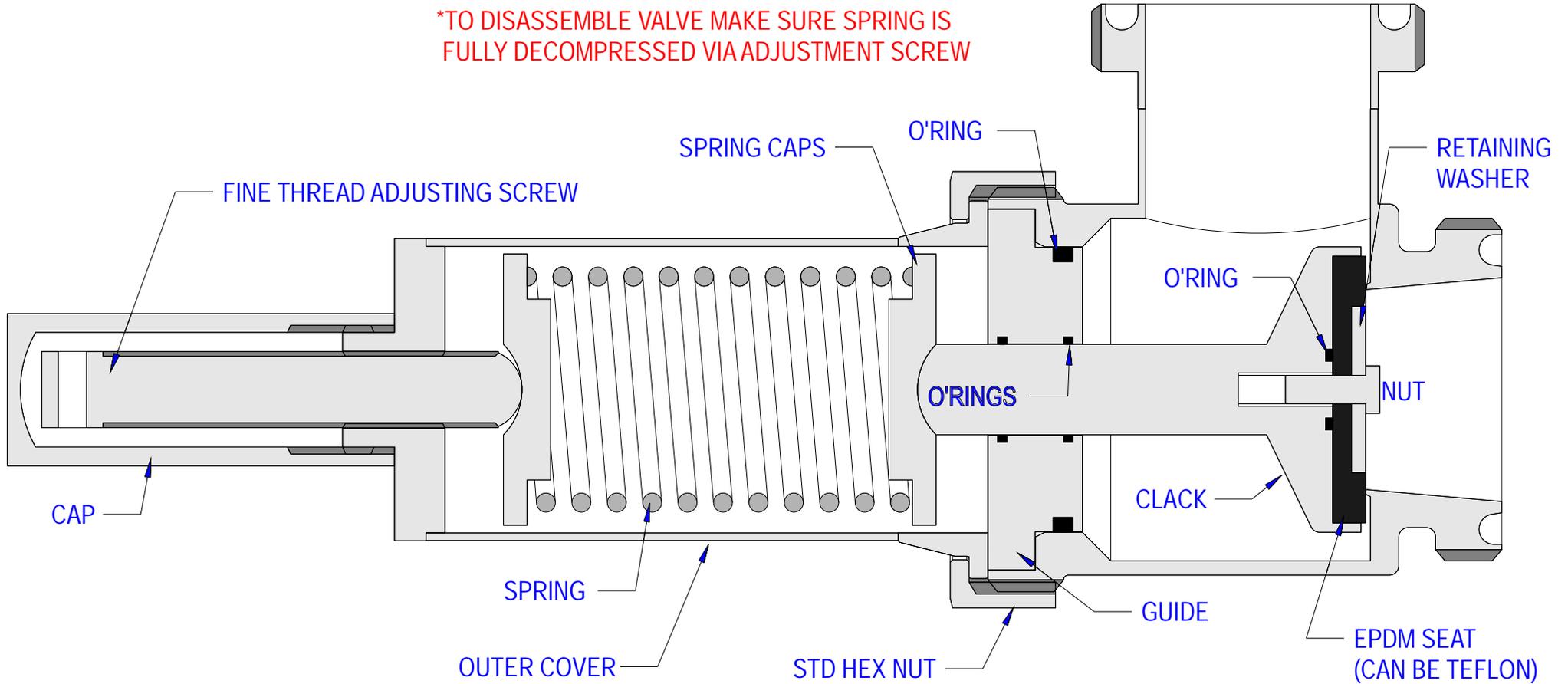
Standard 100mm body comes with B/W ends as standard.

Standard Seat: EPDM

IMPORTANT NOTES

*TO ADJUST SETTING REMOVE CAP
AND ROTATE ADJUSTMENT SCREW

*TO DISASSEMBLE VALVE MAKE SURE SPRING IS
FULLY DECOMPRESSED VIA ADJUSTMENT SCREW



GEORDI

DWG No. PRV1

ITEM: GEORDI PRV

PART: COMPLETE

UNITS: mm

DRAWN: TP

REV

DESCRIPTION

CHECKED:

NAME

DATE

DATE: 13-1-02

SHEET: 1

PRV Material List		
Wetted	Body	316 SS
Wetted	Plunger (Clack)	316 SS
Wetted	Clack washer	316 SS
Wetted	Clack Seat	EPDM (as standard)
Non Wetted	Clack O-Ring	Nitrile (as standard)
Wetted	Clack Screw	304 or 316 SS
Wetted	Guide	316 SS
Wetted	Guide O-Rings	Nitrile (as standard)
Non Wetted	Spring Caps	316 SS
Non Wetted	Spring	304 SS
Non Wetted	Spring Casing	316 SS
Non Wetted	Ajustment Screw	303 SS
Non Wetted	Top Cap	316 SS
Non Wetted	Casing Nut	304 SS (as standard)

Notes: Alternative O-Ring and seating materials an option if available (Nitrile/EPDM/Viton/PTFE)

Structural materials and components customisable upon request

Standard Seal Kit Includes:
x1 Clack EPDM seat x1 Clack Nitrile O-Ring x1 Guide Nitrile Outer O-Ring x2 Guide Nitrile Inner O-Rings



Geordi PRV Disassembly & Reassembly Procedure:

Disassembly:

- (1) **Completely relieve spring compression before loosening spring casing nut.** This is achieved by removing (unscrewing) the top cover and unscrewing the jacking/adjustment screw on the top of the spring casing until all the spring compression is relieved.
- (2) Unscrew the main spring casing/valve body coupling nut (large milk nut) to open the valve.
- (3) If replacing seals: remove the internal seating components from the valve body by pulling on the plunger shaft until the plunger and accompanying guide is removed.
- (4) Replace the various seals that require replacement (there's 2 o-rings on the internal cylinder of the Guide), there's 1 external o-ring on the guide and the main seat of the plunger (flat disc). There's also an additional o-ring underneath this seat for valve sizes 38mm & larger.

For CIP Option Valves:

- (5) 1" Size: Unscrew the M6 fastener holding the plunger to the actuating piston – will likely be loctited in place, so might require 70-80 deg heating of part or extra force to loosen.
>1" Sizes: Unscrew the piston from the plunger - will likely be loctited in place, so might require 70-80 deg heating of part or extra force to loosen.
- (6) Once the plunger and piston have been separated, the internal o'rings in the guide can be removed and replaced.

Assembly:

- (1) Install all 3 to 6 (depending on valve size & type) o-rings into guide and plunger (for sizes 38mm & up) and install main plunger seat ensuring seat is installed very flat and even with the base of the plunger (this is important).
- (2) *For CIP option only: Install plunger into guide **then** attach & fasten pneumatic piston with M6 fastener.*
- (3) Mildly grease plunger shaft with silicone grease. - don't over grease shaft; and install plunger in to guide, then install guide into valve body recess ensuring it's seated properly.
- (4) Add spring to spring casing ensuring each end of spring has an accompanying spring cap – smaller diameter of spring caps loosely locates into spring ID.
- (5) Join the spring casing and valve body together ensuring the spring and caps don't fall out of the casing during assembly and fasten up the main spring casing nut.
- (6) Install jacking/adjustment screw into the top of spring casing ensuring the locking nut is 1st attached to the jacking screw thread.
- (7) Screw down jacking adjustment screw to appropriate relieving pressure and fasten locking nut once set.
- (8) Fasten top cover of valve – covering jacking screw.

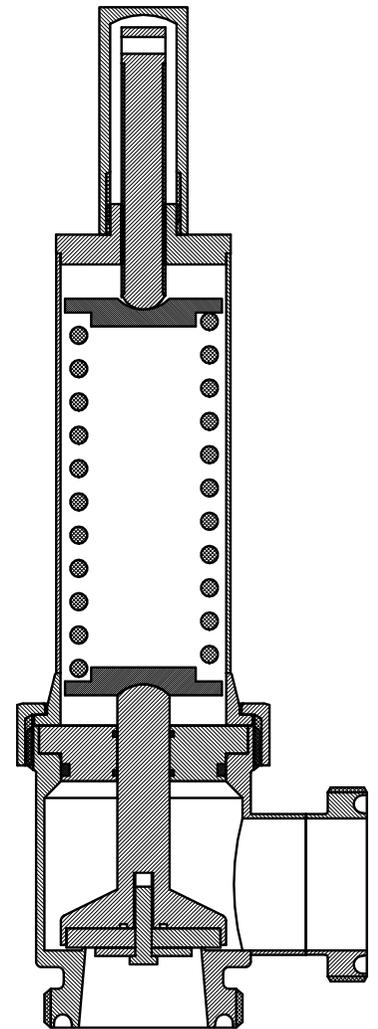
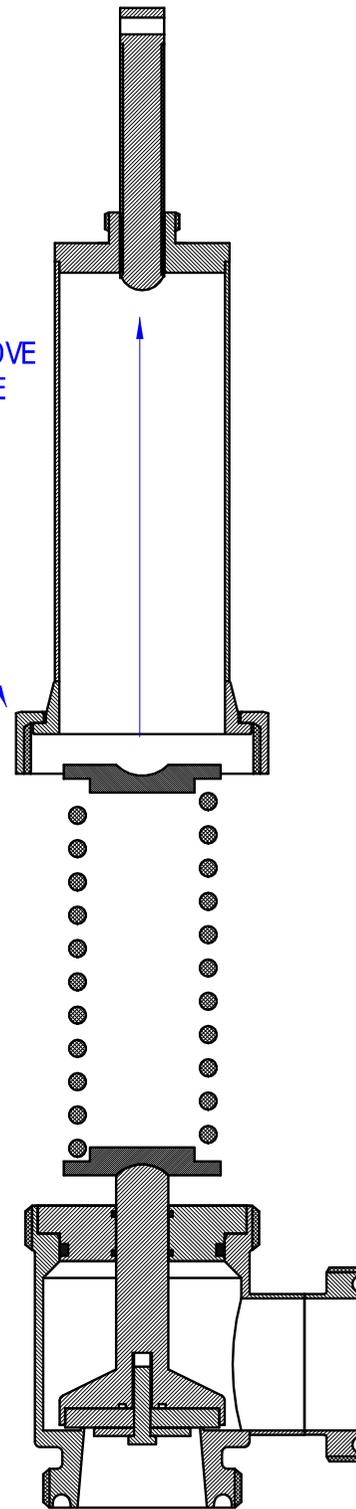
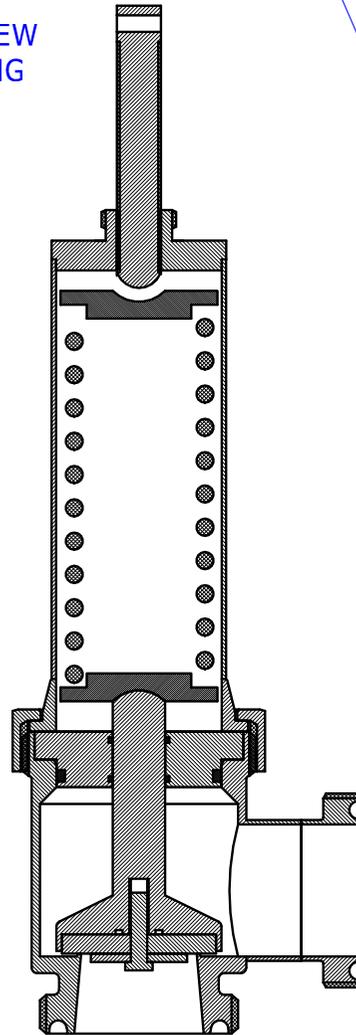
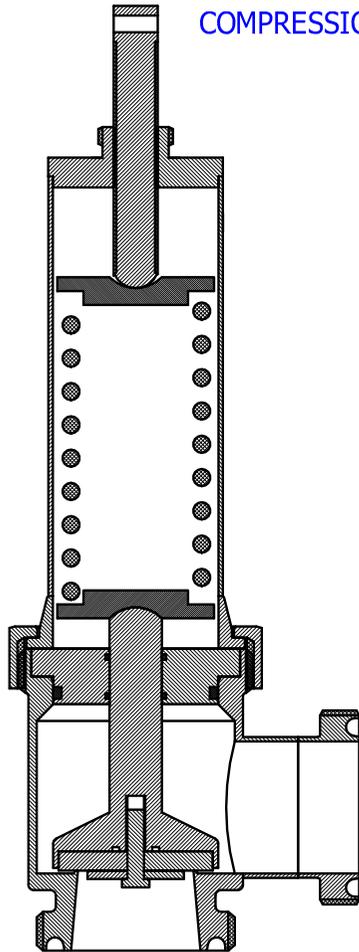
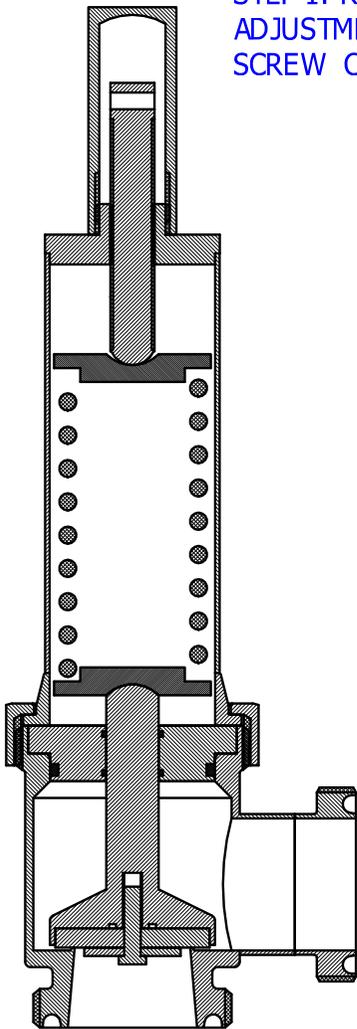
GEORDI PRV SPRING REMOVAL / REPLACEMENT INSTRUCTION

STEP 1: REMOVE
ADJUSTMENT
SCREW CAP

STEP 2: UNSCREW
ADJUSTMENT SCREW
TO REMOVE SPRING
COMPRESSION

STEP 3: ONLY THEN
UNSCREW CASING
HEX NUT AND REMOVE
CASING TO REPLACE
SPRING

STEP 4: WITH NEW
SPRING INSTALLED
TIGHTEN UP HEX NUT
THEN SCREW DOWN
ADJUSTMENT SCREW
TO CORRECT SETTING
THEN TIGHTEN LOCKING
NUT AND REPLACE
COVER



Internal Procedure for Testing Geordi Pressure Relief Valves:

Before testing commences, the PRV should be fitted with the appropriate spring (if for new sale). The correct spring should be chosen that allows the PRV to relieve/crack at an adjustment that's as close as possible to the fully wound down setting (re: the adjustment / **jacking screw** on top of the valve's spring casing).

Once it's determined the appropriate spring has been selected, the valve is ready for testing and setting via compressed air (pneumatic) or Water Pump (hydraulic) means. The chosen testing method is generally determined from the required relief pressure setting of the PRV. Compressed air is generally the preferred method for pressures below the 7 BAR (700Kpa) operating pressure of our air compressor. PRVs requiring settings above this pressure will require hydraulic testing from the water pump.

Compressed Air testing method: Attach the suitable air fitting onto the inlet of the PRV and attached air hose to inlet fitting connection. Apply a trickle of air pressure (via the regulating valve) to the inlet of the PRV and adjust the PRV's **Jacking Screw** to ensure there's an initial relief at the setting required via the pressure gauges/sensors attached. The point at which the valve starts hissing is the relief (cracking) pressure. Completely relieve the inlet pressure and cycle again by gradually increasing the compressed air pressure to the inlet and listen for the hissing sound. This step is important because the cracking pressure of the valve maybe different (generally higher) from a fresh cycle than you'll get from adjusting the valve whilst pressurized. *Due to pressure drops over a length of small diameter hosing, it's preferable to locate pressure gauges/sensors as close to the valve inlet as possible for maximum accuracy.*

Water Pump testing method: Attach the suitable air fitting onto the inlet of the PRV and attached pump hose to inlet fitting connection. Purge line of pump by pumping handle with purge valve open. Once it's assumed that gas/air is no longer in the hose – close the purge valve and pump pressure to the inlet of the valve. Adjust the PRV's **Jacking Screw** to the point where the pressure stops rising during the pumping each stroke at the selected relieving pressure. **ENSURE THE RELEVANT VALVES ARE CLOSED TO ENSURE THE LOW PRESSURE GAUGES AREN'T EXCEEDED AND DAMAGED!!!**

Once it's determined the PRV has been adjusted to the correct setting, the **Locking Screw** on the **Jacking Screw** should be tightened hard against the casing shoulder and spring cap replaced.

Once completed and all parts together, the casing should be cleaned (degreased) in preparation for the setting sticker which must accompany each PRV dispatched listing the **Name** the person setting the Valve, the **Setting Pressure** and the **Date** the setting was conducted.