PRESSURE RELIEF VALVE

INSTRUCTION MANUAL ON INSTALLATION OPERATION AND MAINTENANCE

DURGA VALVES PVT. LTD.

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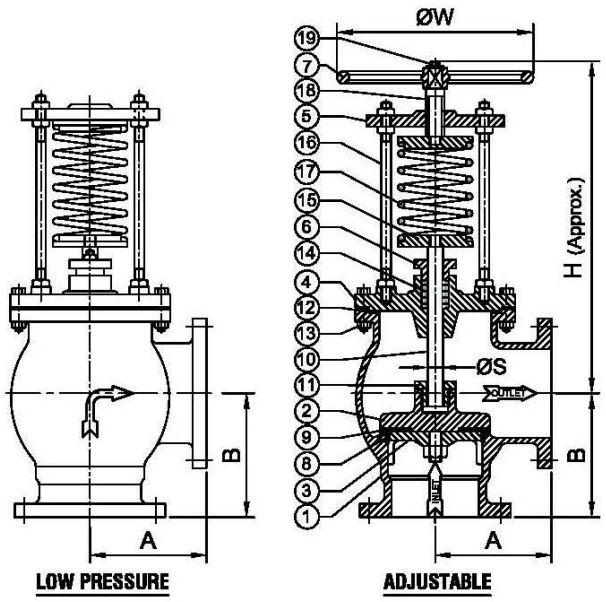
GENERAL -

The DVPL Spring-Loaded Pressure Relief Valves are designed to protect tanks from damage caused by overpressure conditions. This manual is a guidance for the maintenance and installation of DVPL Pressure Relief valves. Please read these instructions carefully. It is recommended that all DVPL instructions be read prior to any operation of this equipment. This Pressure relief valves is designed to protect equipment from overpressure. The valve should be handled with care. Pressure relief valves should be inspected regularly. A visual inspection is recommended at one month intervals while in service. Cycling the valve at least every ten months is considered to be good practice to verify operation. DVPL recommends that all valves be placed on a regular maintenance schedule every two to three year depending of fluid, temperature or set pressure. The Pressure relief valves are elements of precision; it must be to operate with extreme care. The valves are supplied set at the required pressure and sealed. DVPL accepts no responsibility for valves which have been reset by unauthorized persons. All warranties are void if the seal is broken. The noted manufacturer's standard lubricants should be used only if compatible with process fluid and application.



MATERIALS OF CONSTRUCTIONS		
SL. No.	DESCRIPTION	MATERIAL
1	BODY	C.I. / D.I. / C.S.
2	VALVE DISC	C.I. / D.I. / C.S.
3	VALVE DISC HOLDER	C.I. / D.I. / C.S.
4	COVER	C.I. / D.I. / C.S.
5	CROSS HEAD	C.I. / D.I. / C.S.
6	GLAND	C.I. / D.I. / C.S.
7	HAND WHEEL	C.I. / D.I. / C.S.
8	BODY SEAT	L.T.BRONZE
9	DISC SEAT	RUBBER / L.T.BRONZE
10	STEM	SS 410 / 304 / 316 / 431
11	DISC LOCK NUT	SS 410 / 304 / 316 / 431
12	GASKET	RUBBER
13	BOLTS & NUTS	CARBON STEEL
14	GLAND PACKING	JUTE & HEMP
15	SPRING HOLDER	MILD STEEL
16	PILLER STUDS & NUTS	CARBON STEEL
17	SPRING	SPRING STEEL
18	STAY ROD	CARBON STEEL
19	SET SCREW	CARBON STEEL

INSTALLATION -

Packing materials. All packing materials should be removed from the valve connections before to installation.

Set Pressure. Check that the set pressure on the approved documents as required.

Back pressure. Check the approved documents to determine if the valve was already set with a correction for backpressure. Verify the maximum value of back pressure and/or consult to DVPL.

Spindle vertical. Spring loaded pressure and pressure relief valves normally should be installed in the upright position with the spindle vertical. Where space or piping configuration preclude such an installation, the valve may be installed in other than the vertical position provided that:

a) The valve design in satisfactory for such position;
b) The media is such that material will not accumulate at the inlet of the valve;
c) Drainage of the discharge side of the valve body and discharge piping is adequate.

System cleansing. In the new installation are fully flushed and all debris removed before to installing the pressure relief valve since damages can be caused to valve seats resulting in subsequent leakage.

Discharge lines. Discharge lines from pressure relief valves shall be at least the same size as the valve outlet and as short and direct as possible. The valve body drains and vent holes must not be plugged. Never reduce the inlet or outlet pipe connections to the pressure relief valve. Adequately supported discharge piping relieves stress on the pressure relief valves.

ADJUSTMENT -

If the set pressure is changed more than 5% from the approved documents, the spring may also have to be changed. Consult to DVPL to repair kit.

MAINTENANCE -

Pressure relief valve maintenance should only be performed by trained and qualified personnel using proper test equipment. Repairs by unqualified personnel or use of improper test equipment may lead to poor valve performance.

These basic instructions apply to all DVPL valve series. They do not provide information specific to product lines. For more detailed maintenance instructions, please consult the appropriate manuals for the valve under consideration. As a general rule, these procedures apply to all pressure relief valves:

- Proper personal protective equipment should be used.
- Before repairing or servicing a valve, depressurize the system.
- For valves, that have been in service, material should be done prior to disassembly.
- External surfaces of the valve, including flange face surfaces and threaded connections, should be examined for any signs of damage or rough handling.
- Completely disassemble the valve and thoroughly clean all parts.
- Parts should be examined for signs of corrosion or excessive wear. Particular attention should be given to ensure all threads are clean and free of burrs.
- Examine the stem to ensure it is straight.
- Lap the nozzle seat and disc seating surfaces to a flat mirror finish.
- Reassemble valve making sure to lubricate all threaded and bearing surfaces.
- Standard repair procedure requires to be replaced with new parts.
- Valve should be calibrated to the set pressure indicated on the approved documents. When the set pressure is being changed maintenance personnel must confirm if the existing spring is acceptable or if a new spring is required.
- Testing must only be performed using the correct test fluids. Liquid service valves should be tested on water.

TROUBLESHOOTING -

SYMPTON	PROBLEM	SOLUTION
1. Rapid Erosion	a) Used as continuous bypass	a) Use only as an emergency pressure relief device
	b) Used beyond rated capacity	b) Install sufficient quantity of valves to meet capacity requirements
2. Shuddering (rapid opening and closing)	a) Damaged gate (or gate & nozzle)	a) Replace damaged parts
	b) Relief valve located too close to pump's discharge	b) Relocate Pressure Relief Valve. Refer to service literature for information on proper location.
3. Loss of pressure (Valve does not seal or loses fluid through discharge)	a) Valve not set properly	a) Set valve correctly
	b) Damaged gate & Nozzle	b) Replace damaged parts
	c) Damaged discharge nozzle or fixed nozzle seals	c) Replace seal
	d) Cover not installed properly	d) Fully install the cover
4. Valve leaks through weep hole or between valve body and cap	a) Damaged inner or outer or both seals	a) Replace damaged seals
5. Valve release higher or lower than intended relief pressure	a) Valve set incorrectly	a) Reset valve to desired pressure
	b) Disk springs not installed correctly	b) Reinstall disk spring pack. Reset valve

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