



# Diamond Series 3 Actuated Pressure Relief Valve

## INSTALLATION & OPERATING INSTRUCTIONS

IMPORTANT INFORMATION - PLEASE READ CAREFULLY BEFORE INSTALLING YOUR VALVE

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With regard specifically to the Pressure Equipment Directive 2014/68/EU and The UK Pressure Equipment (Safety) Regulations 2016 SI 1105, Sound Engineering Practise (SEP) applies to this product for non-group 1 use and at pressures not exceeding 10 bar. DPL valves fall within the category of Sound Engineering Practice (Not to be CE marked) for hygienic use at pressures not exceeding 10 bar and non-group 1 use. This is in-line with the pressure/size constraints in the directive / regulations for valves as per the British Valve and Actuator Manufactures Associations (Trade Association) guidelines. Our Test Certificate will be issued with each valve order stating that the valve is within the PED / equivalent UK regulations requirements and giving the relevant group and category under Sound Engineering Practice.

A process system can generally be associated with many varying conditions such as water hammer, pressure shock, vibration and thermal expansion due to temperature change. Stress and strain within the pipeline will result, and unless such conditions are allowed for at the system design and installation stages, the valve and pipe assembly may be damaged. When installing the valve into a pipe assembly system, careful consideration must be made to ensure adequate support by means of framework and pipe clip fasteners, for both the valve and the surrounding pipe assembly.

**IMPORTANT SAFETY NOTE:** An 80 PSI (5.5 bar) air supply is required to actuate the valve open and closed. Fingers must be kept clear of moving parts to avoid entrapment. The seat (items 5&6 as shown on page 2) will move when air pressure is applied to the actuator. Keep fingers away from this area of the valve when the valve is operated.

The relief pressure for the valve will have been set at the DPL factory. This can be altered by following the procedure described on the separate Maintenance Instructions for this valve, available on request from DPL. Under no circumstances should this valve be dismantled without following the appropriate procedure provided by DPL. Should the user wish to fully dismantle the valve, the correct procedure is also given within the separate Maintenance Instructions document.

If welding the valve body directly into the pipeline, the valve should be partly disassembled and all seal components removed from the valve body. See "Dismantling Procedure for Welding in Place" on page 2 of this document. This will prevent heat damage to the valve seals and other internal components. Gas backed TIG welding is recommended, a minimum weld bead should be produced to reduce the risk of heat distortion within the valve body.

To allow for proper drainage this type of valve should be mounted vertically. If in use and the valve is operated infrequently, the valve should be actuated open and closed, under safe working conditions, periodically to avoid the seat seal sticking to the valve seat.

### VALVE SPARES KITS

The user should establish a maintenance programme for valves depending upon the type of product and frequency of use. Spares kits and maintenance instructions are available from DPL sales.

Valve Size	Spares Kit Part No.	Seal Material Suffix
1.0" Valve	KP3R10 *	* Denotes the seal material suffix: E - EPDM V - Viton N - Nitrile S - Silicone P - PTFE
1.5" Valve	KP3R15 *	
2.0" Valve	KP3R20 *	
2.5" Valve	KP3R25 *	
3.0" Valve	KP3R30 *	
4.0" Valve	KP3R40 *	

**Please Note:** To aid in the identification of your valve, the Spares Kit Part Number is marked on the valve body together with the date of supply.



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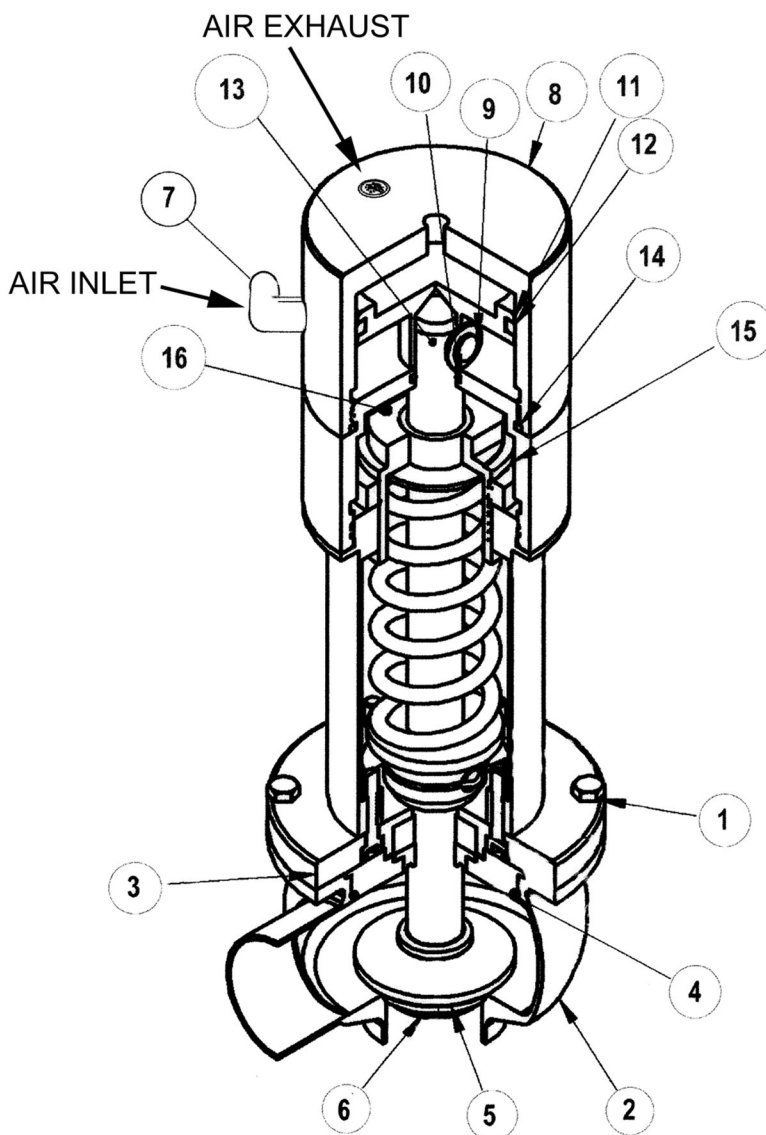
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### DISMANTLING PROCEDURE FOR WELDING IN PLACE

The valve does not need to be fully dismantled and the pressure setting should not need re-setting when following the procedure below. When pneumatically operating this valve open and closed fingers must be kept clear of moving parts to avoid injury / entrapment. It is not necessary to pneumatically open and close this valve in order to follow this procedure. The air supply should therefore be safely removed from the valve if connected, prior to commencing work.



1. Place the valve in a soft jaw vice in an up-right position as depicted, holding on body item 2. Use only sufficient pressure to hold the valve in place as excessive force from the vice may cause damage.

2. Gradually unscrew the four hex head bolts item 1 from flange item 3, unscrew each bolt one turn at a time so that they are unscrewed evenly. remove the bolts when done.

3. The top half of the valve assembly (the bonnet assembly) can now be lifted away from body item 2. Make sure that the body O ring item 4 is also removed from the body.

4. Prepare the valve body item 2 for welding as per your welding procedure. Ensure that the ends to be welded are thoroughly clean. Do not use excessive heat when welding as this will distort the valve body. Use a minimum weld bead only. Allow welds to cool.

5. When re-assembling the bonnet assembly into the valve body item 2, ensure that the body O ring item 4 is correctly located.

6. Replace the four bolts item 1, gradually tightening each bolt one turn at a time before moving on to the next. This is to ensure level seating between the flange item 3 and body item 2. Make sure there are no gaps between the flange item 3 and body flange item 2 as this could indicate incorrect assembly or that the body O ring has become trapped. Make sure the four body bolts item 1 are all fully tightened. This procedure is now complete.

Valves that exhibit problems such as damage or assembly irregularities should not be used. Contact DPL for further assistance if required.

#### NOTE:

If adjustment of the relief pressure is required, a calibrated test rig / hand pump should be used. Please follow the Pressure Setting Adjustment Procedure which can be found in the separate Maintenance Instructions for this valve.



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