

# BALANCING VALVES

D921/D921.PF/D923/D923.PF - D931/D931.PF/D933/D933.PF/D934/D934.PF  
- DPF931/DPF933/DPF934

- These are Y-pattern globe valves having characterised throttling disk tending towards equal percentage performance.
- The double regulating feature allows valve opening to be set with a 3mm Allen key.
- Operation of the valve is by means of the hand wheel with position indicator or with recordable set position
- The D921/D923 DRV and D931/D933/D934 FODRV are WRAS approved
- The DPF931/DPF933/DPF934 FODRV are designed as 'companion valves' for the differential pressure control valve.

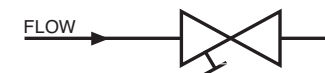


**D931 FODRV**

## INSTALLATION

### D921/D923

The valve should be installed in a run of pipe of the same nominal size, and where possible with flow in the preferred direction.



### D931/D933/D934

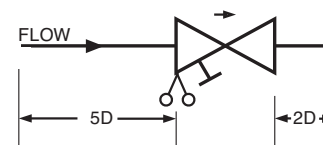
The valve must be installed in a run of pipe of the same nominal size. D931/D933/D934 must be fitted as shown.



The minimum requirements of the 'Installation Layout' must also be observed.

### Installation layout (D931/D933/D934 only)

Note: To ensure flow measurement accuracy it is essential that the piping on the inlet and outlet sides is straight and has a minimum length equivalent to 5 diameters at inlet and 2 diameters at outlet as shown:-



If the D931, D933 or D934 is located on the outlet from a pump then it is essential that the straight pipe length between pump outlet and valve inlet is a minimum of 10 diameters.



FM311 ISO 9001

- Designed and manufactured under quality management systems in accordance with BS EN ISO 9001-2008

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## Pressure temperature rating

TEMPERATURE °C	-10 to 100	110	120
PRESSURE (BAR)	25	23.4	21.8

TEMPERATURE °C	-10 to 100
PRESSURE (BAR)	16

### Threaded

Intermediate pressure ratings shall be determined by interpolation.

TEMPERATURE °C	-10 to 100	120
PRESSURE (BAR)	16	13.5

### Compression

### Press-Fit

#### End connections

BS 21 (ISO 7) parallel

Suitable for connection to threaded steel pipe, or copper tube conforming to BS EN 1057 (half hard).

Note: In line with BS EN 1254/2 the maximum pressure must not exceed 16 Bar when using compression adaptors.

Compression joints must be tightened hand tight and then further tightened as per the following recommendation:

15mm	22mm	28mm	35mm	42mm	54mm
1 turn	1 turn	1 turn	¾ turn	¾ turn	¾ turn

### Pressure test valves

#### (D931/D931.PF/D933/D933.PF/D934/D934.PF)

Crane P84 insertion test points.

### Flow direction

An arrow is cast on the side of the valve body to indicate direction of flow.

## JOINTING

No thread jointing materials must be allowed to protrude inside the bore. For compression connections to copper tube the tightening torque on the compression nut should not be so great as to cause crushing of the tube wall.

For Press-Fit, please refer to the Geberit website ([www.geberit.co.uk](http://www.geberit.co.uk)) where installation instructions for Press-Fit can be found.

## TUBE CUTTING

On steel tube after cutting and threading, the end must be deburred or reamed before fitting to the flow measurement device.

On copper tube, especially when cutting is carried out by roller cutters, the end must be deburred and reamed to tube bore dimension before fitting to the flow measurement device.

Failure to carry out this procedure may lead to errors in flow measurement.

## VALVE SETTING INDICATOR

D921/D921.PF/D923/D923.PF and D931/D931.PF/D933/D933.PF/D934/D934.PF valves operate from closed to fully open with 4 complete turns of the handwheel.

The 'Microset' handwheel indicates the valve setting by means of digits appearing in outer (black) and inner (red) windows. The digit in the outer window indicates tenths of a turn. The example shows a valve setting of 3.15 turns.



## REGULATION (D921/D921.PF/D923/D923.PF)

Flow regulation is achieved by adjusting the valve setting until the required flowrate is obtained. The 'Microset' handwheel will indicate the final valve setting.

## REGULATION & FLOW MEASUREMENT (D931/D931.PF/D933/D933.PF/D934/D934.PF)

Flow regulation is achieved by adjusting the valve setting until the required flowrate, as derived from the 'signal' measured across the pressure test valves, is obtained. The 'Microset' handwheel will indicate the final valve setting. (Flow charts are available on request for all valve sizes.)

## SETTING FACILITY

The valve setting at which the required flowrate is achieved may be retained as follows:

1. Remove cap in centre of handwheel.
2. Using Allen key provided tighten the centre screw until it stops. Do not over-wrench.
3. Replace centre cap in handwheel.

The valve is now set and may be closed and re-opened to the set point.

## SERVICE APPLICATIONS

For use on non hazardous liquids only - Group 2 - as defined by the Pressure Equipment Directive 97/23/EC