

FMPRV41

Forbes Marshall Pilot Operated Pressure Reducing Valve

Description

The Forbes Marshall Pilot Operated Pressure Reducing Valve, FMPRV41 is a SG iron pressure reducing valve (pilot operated) suitable for steam or compressed air.

Sizes and End Connections

DN 15, 20, 25, 40 and 50

Screwed: BSPT / NPT / BSP for DN 15, 20, 25, 40 and 50

Flanged: BS 10 table "F/H", PN10, PN 16, Class 150, Class 125 for DN 40 and 50

DN15 FMPRV41 LC (low capacity) versions available

Limiting Conditions

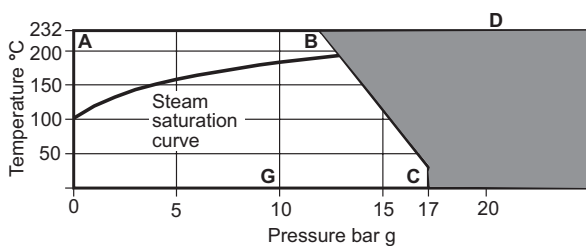
| | |
|-----------------------------------|-----------------|
| PMO-Maximum operating pressure | 17 bar g |
| TMO-Maximum operating temperature | 232°C |
| Cold hydraulic test pressure | 34 bar g |
| Spring range | 0.3 to 17 bar g |

Pressure Sensing Pipe

The FMPRV41 controls the pressure by sensing the downstream pressure through a pressure sending pipe taken to the union (item L) or through the internal sensing pipe (item M). Fitting of the external pressure sensing pipe is described in the user manual supplied with the valve.

Note: Capacity is reduced and there is a possibility of hunting if an external pressure sensing pipe is not fitted.

Operating Range:

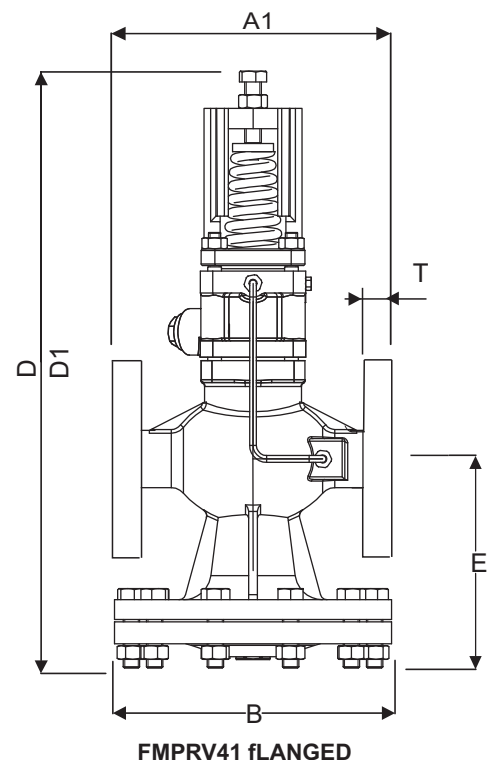
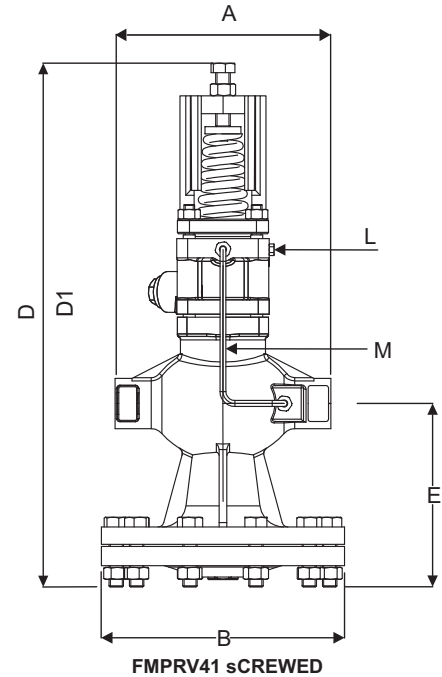


 The product **must not** be used in this region.

Dimensions (approx.) in mm

FMPRV41 (Steam)

| Size (DN) | A | A1 | B | D | D1(Air) | E | T | Wt. |
|-----------|-----|------|-----|-----|---------|-----|------|------|
| 15 | 160 | | 180 | 409 | 358 | 129 | | 13kg |
| 15 LC | 160 | | 180 | 409 | 358 | 129 | | 13kg |
| 20 | 160 | | 180 | 409 | 358 | 129 | | 13kg |
| 25 | 180 | | 203 | 432 | 381 | 178 | | 14kg |
| 40 | 212 | 212 | 251 | 450 | 414 | 149 | 22 | 30kg |
| 50NB | 232 | 232 | 251 | 480 | 414 | 173 | 25 | 32kg |

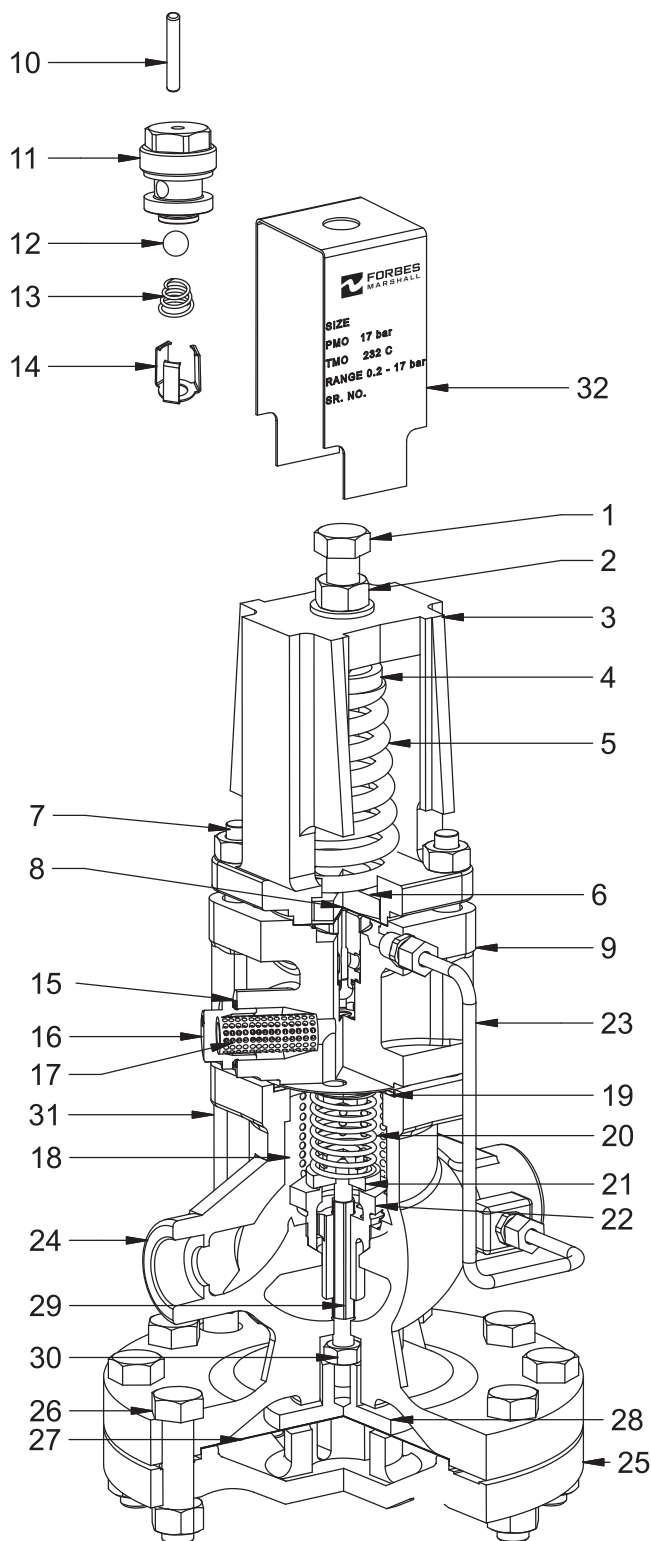


Materials

| No | Part | Material | Standard |
|----|-------------------------------------|-------------------------------|-----------------------|
| 1 | Adjustments screw | Carbon Steel | IS1367 Gr14 |
| 2 | Adjustment lock nut | SS Type 304 | |
| 3 | Spring housing | SG iron | EN-JS1025 DIN EN 1563 |
| 4 | Top spring pad | C-20 | IS2062 |
| 5 | Pressure adjustment Spring | SS Type 302 | IS4454 Part IV Gr.1 |
| 6 | Bottom spring pad | SS Type 304 | ASTMA276 |
| 7 | Spring housing | Carbon Steel | ASTM A 194 Gr. 2H |
| | Securing nut | Carbon Steel | BS970 EN9 |
| | Securing studs | DN 15-32 DN 40, 50 | M10x95mm M12x95mm |
| 8 | Pilot diaphragms | SS Type 304 | ASTM A240 |
| 9 | Pilot valve chamber | SG iron | EN-JS1025 DIN En1563 |
| 10 | Pilot valve plunger | SS Type 304 | |
| 11 | Pilot valve seat with integral seal | Stainless Steel +PTFE | BS 970 431 S29 |
| 12 | Pilot valve ball | Stainless Steel | AISI 420 |
| 13 | Pilot valve Spring | Stainless Steel | BS 2057 302 S26 |
| 14 | Pilot Valve clip | Stainless Steel | ASTM A240 Type 301 |
| 15 | Pilot filter cap gasket | Stainless Steel | BS 1449-304-S16 |
| 16 | Pilot filter cap | Stainless Steel | ASTM A743Gr. CA 40 |
| 17 | Pilot filter element | Bronze | |
| 18 | Internal strainer | Stainless Steel | ASTM A240 Type 304 |
| 19 | Body gasket | SS forced exfoliated graphite | |
| 20 | Main valve return spring | Stainless Steel | BS 2056 302 S26 |
| 21 | Main valve | Stainless Steel | ASTM A276 Type 420 |
| 22 | Main valve seat | Stainless Steel | ASTM A276 Type 420 |
| 23 | Balance pipe assembly | Stainless Steel | ASTM A213 Type 304 |
| 24 | Main Valve body | SG iron | EN JS1025 DIN EN 1563 |
| 25 | Lower diaphragm chamber | SG iron | EN JS1025 DIN EN 163 |
| 26 | Lower diaphragm chamber | Carbon steel | ASTM A 194 Gr. 2H |
| | Securing nuts | Carbon steel | ASTM A 193 B7 |
| | Securing Bolts | DN 15 - 25 DN 40, 50 | M12x50mm M12x50mm |
| 27 | Main diaphragm pad | SS Type 304 | ASTM A240 |
| 28 | Lower diaphragm pad | SS Type 304 | ASTM A276 |
| 29 | Pushrod | SS Type 431 | |
| 30 | Lock nut | SS Type 316 | |
| 31 | Control pipe assembly | SS Type 304 | ASTM A213 |
| 32 | Name plate | Stainless Steel | |

Note : Item 10,11,12,13 and 14 are shown on the exploded view, as they are hidden by the pilot filter on the main illustration.

FMPRV41 sTEAM



How to Use the Chart

Capacities are given in cubic decimeters of free air per second (dm³/s). The use of the capacity chart can be best explained by an example.

Required, a valve to pass 100dm³/s of free air reducing from 12 bar g to 8 bar g.

Find the point at which the curved 12 bar g upstream pressure line crosses the horizontal 8 bar g downstream pressure line. A perpendicular dropped from this point shows that, a DN15 valve will pass approximately 120 dm³/s under these conditions and is the correct valve size to choose.

KV Values

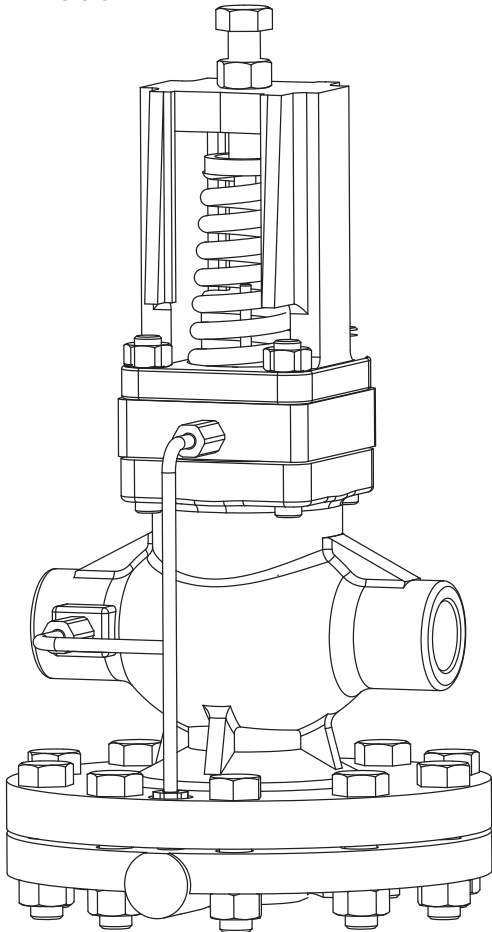
The Kv values are full capacities and should be used for safety valve sizing purpose only.

| SIZE | DN 15LC | DN15 | DN20 | DN25 | DN40 | DN50 |
|------|---------|------|------|------|------|------|
| KV | 1 | 2.8 | 5.5 | 8.1 | 17 | 28 |

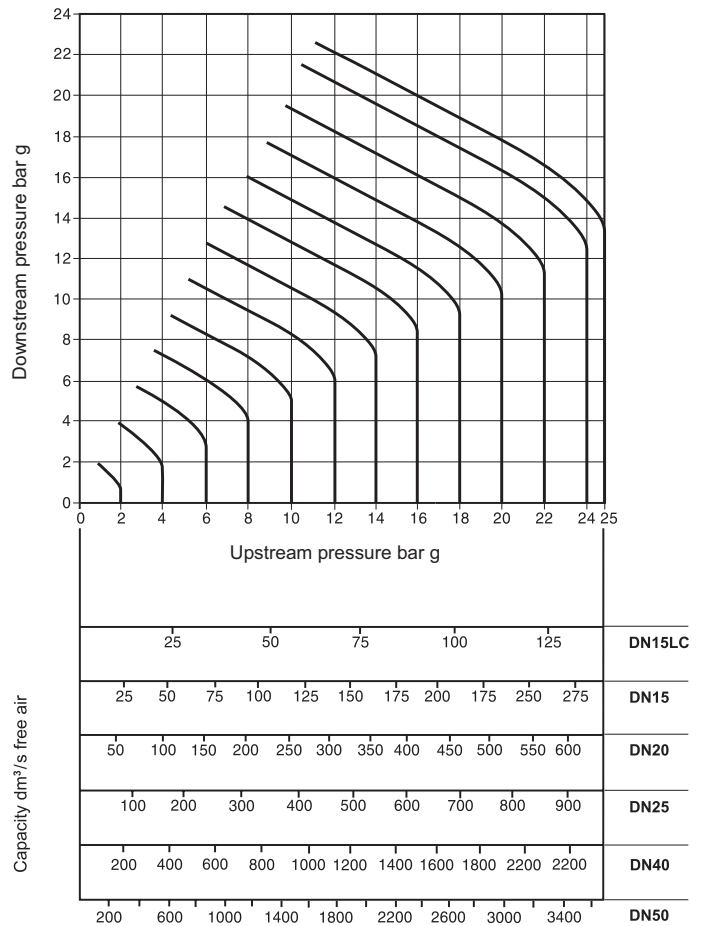
For conversion Cv (UK)=Kv x 0.963

Cv (US)=Kv x 1.156

FMPRV41 Air Version



Compressed Air Capacity Chart



How to Order

1 no. Forbes Marshall Pilot Operated Pressure Reducing Valve, DN 40 FMPRV41 having a 0.2-17 bar g spring and flanged BS10 table "F/H" connections.

Installation note

The pilot operated pressure reducing valve should be installed in a horizontal pipeline, protected by a strainer and a separator, with the direction of flow as indicated by the arrow on the valve body.

Safety Information, Installation and Maintenance

For full details see the user manual supplied with the product.

Spare Parts

For spares refer user manual.



Forbes Marshall
Krohne Marshall

Forbes Marshall Arca

Codel International

Forbes Solar

Forbes Vyncke

Forbes Marshall Steam Systems

Opp 106th Milestone
Bombay Poona Road
Kasarwadi, Pune - 411 034. INDIA
Tel : 91(0)20-27145595, 39858555
Fax : 91(0)20-27147413

Email : seg@forbesmarshall.com, ccmidc@forbesmarshall.com

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B-85, Phase II, Chakan Indl Area
Sawardari, Chakan, Tal. Khed
Dist. Pune - 410 501. INDIA
Tel : 91(0)2135-393400

A-34/35, MIDC H Block
Pimpri, Pune - 411 018. INDIA.
Tel : 91(0)20-27442020, 39851199
Fax : 91(0)20-27442040

CIN No.: U28996PN1985PTC037806
www.forbesmarshall.com