

- > **Port size: 3/8" ISO G/NPT**
- > **High pressure regulator with a wide range of delivery pressure**
- > **Differential set-up available for tracking applications above 20 bar (Non-Relieving type only)**
- > **Balanced 1/4" valve provides stable delivery pressure with varying inlet pressure**
- > **Outlet pressure ranges of 20 bar and below are diaphragm sensed for increased sensitivity and pressure control**
- > **Temperature rating down to -50°C**



Technical features

J50 is a balanced valve, piston or diaphragm sensed spring-loaded pressure regulator used for quick control of outlet pressure. Heavy duty construction, accurate and reliable, ideal for high and low pressure applications. Wide range of possible applications. Additional features can provide a variety of possible solutions.

Applications:

- Saturation dive systems
- Hydraulic actuator control
- Off shore/aggressive environments
- Compressors
- Gas distribution/mixing
- Pressure test rigs
- Piloting for Dome loaded regulators
- Fire control systems

Medium:

Liquid and gases

Maximum inlet pressure:

Aluminium body: 550 bar (7977 psi)
Stainless steel body: 750 bar (10878 psi)

Outlet pressure range:

Aluminium body: 275 bar (3989 psi)
Stainless steel body: 550 bar (7977 psi)
Recommended maximum service pressure below -30°C is 400bar (5802psi) in/out.

Differential version:

Maximum spring housing pressure 100 bar

Leakage:

Bubble tight (standard, typically 10⁻⁶ atm.cm³/sec⁻¹)
Helium leak tested to 10⁻⁸ atm.cm³/sec⁻¹ (on request)

Ambient/Media temperature:

NBR: -10 ... +100°C (+14 ... 212°F)
FPM: -20 ... +150°C (-4 ... 302°F)
EPDM: -30 ... +115°C (-22 ... 239°F)
Nitrile (special grade): -50 ... +90°C (-58 ... 194°F)*1)
Aluminium: -50 ... +150°C (-58 ... 302°F)
Stainless Steel: -50 ... +150°C (-58 ... 302°F)
*1) Non release version only

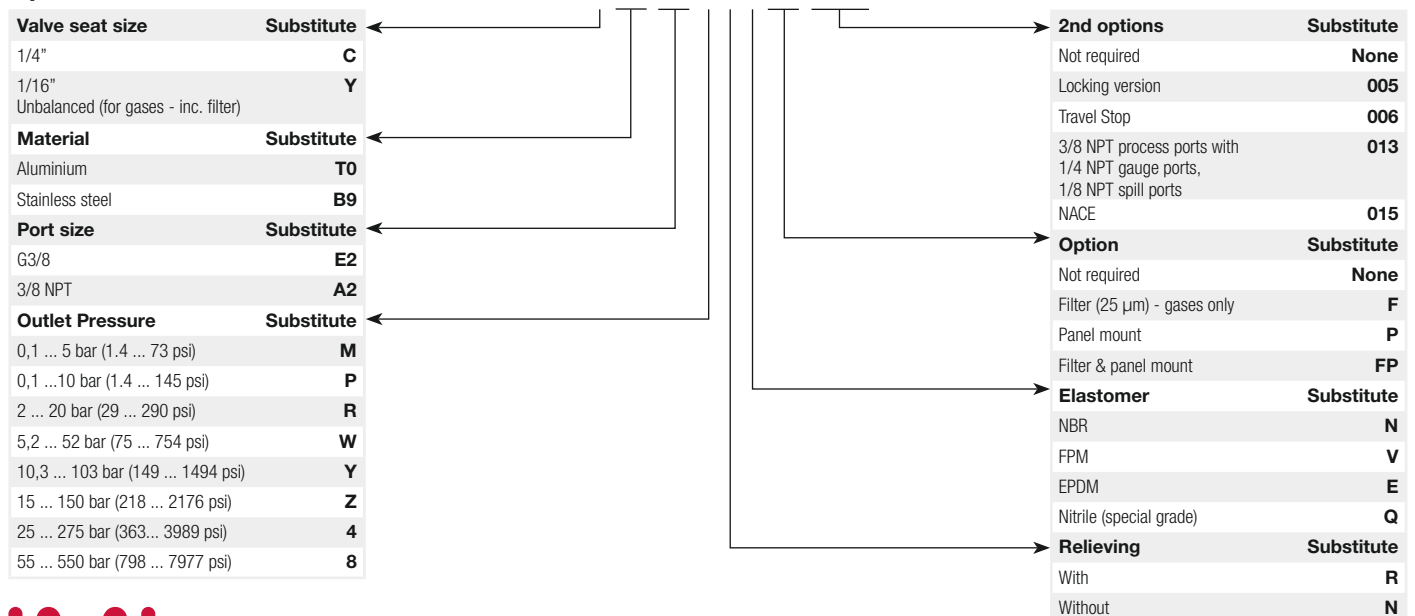
Materials:

Body: aluminium L168 T6511, stainless steel BS EN 10272 1.4401
Spring housing: stainless steel BS EN 10088 1.4401
Seat: stainless steel BS EN 10088 1.4401
Trim: PCTFE
Handwheel: plastic up to 150 bar or aluminium up to 550 bar
Elastomers: NBR, FPM, EPDM

Technical data

Symbol	Port size	Valve seat size (mm)	Valve seat size (inch)	Seat flow area (mm ²)	Seat flow area (inch ²)	Port flow area (mm ²)	Port flow area (inch ²)	Flow coefficient (Kv)	Flow coefficient (Cv)	Model
	3/8"	6,35	0.250	24	0.037	49	0.076	0,720	0.84	J50
	3/8"	1,60	0.062	0,9	0.014	49	0.076	0,025	0.03	J50

Option selector



Option selector spare kits

J50SPS*****

Valve seat size	Substitute
1/4"	C
1/16" (unbalanced for gases inc. filter)	Y
Outlet Pressure	Substitute
0,1 ... 5 bar (1.4 ... 73 psi)	M
0,1 ... 10 bar (1.4 ... 145 psi)	P
2 ... 20 bar (29 ... 290 psi)	R
5,2 ... 52 bar (75 ... 754 psi)	W
10,3 ... 103 bar (149 ... 1494 psi)	Y
15 ... 150 bar (218 ... 2176 psi)	Z
25 ... 275 bar (363... 3989 psi)	4
55 ... 550 bar (798 ... 7977 psi)	8

Filter	Substitute
25 µm - gases only	F
Elastomer	Substitute
NBR	N
FPM	V
EPDM	E
Nitrile (special grade)	Q
Relieving	Substitute
With	R
Without	N

Spares BOM

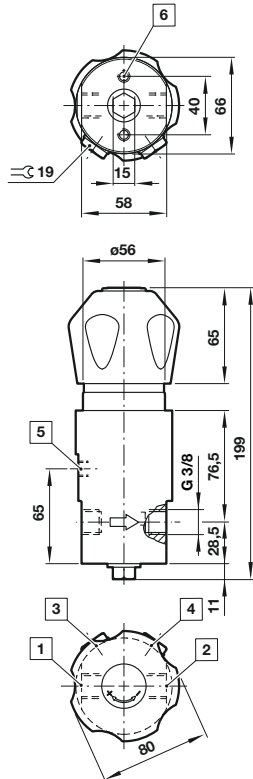
Description	Material	QTY	1/4" Valve	1/4" Valve	1/4" Valve	1/4" Valve	1/16" Valve	1/16" Valve	1/16" Valve	1/16" Valve
			*1) No release	*1) Release	*2) No release	*2) Release	*1) No release	*1) Release	*2) No release	*2) Release
Bearing washer	Steel	2	X	X	X	X	X	X	X	X
Needle roller bearing	Steel	1	X	X	X	X	X	X	X	X
Seat	BS EN 10088 1.4401	1	X	X	X	X	—	—	—	—
Valve assy	Various	1	X	X	X	X	—	—	—	—
Valve seat	PCTFE	1	—	X	—	X	—	X	—	X
'O'-Ring	Rubber	2	X	X	X	X	X	X	X	X
'O'-Ring	Rubber	1	X	X	X	X	X	X	X	X
'O'-Ring	Rubber	1	X	X	X	X	X	X	X	X
'O'-Ring	Rubber	1	X	X	X	X	—	—	—	—
'O'-Ring	Rubber	1	X	X	—	—	X	X	—	—
'O'-Ring	Rubber	1	X	X	—	—	X	X	—	X
'O'-Ring	Rubber	1	—	X	—	X	—	X	—	—
'O'-Ring	Rubber	1	X	X	—	—	X	X	—	—
Standard diaphragm	Rubber	1	—	—	X	X	—	—	X	X
Valve assy	Various	1	—	—	—	—	X	X	X	X

*1) Piston variant

*2) Diaphragm variant

Dimensions
Regulator

Weight:
 2,2 kg (Aluminium)
 3,6 kg (Stainless steel)



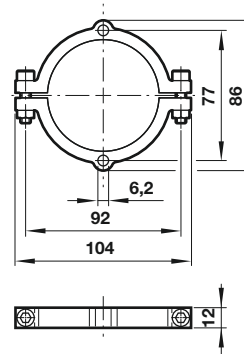
- 1** Inlet port
 - 2** Outlet port
 - 3** Optional gauge port G1/4 (inlet pressure) or 1/4" NPT with option '013'
 - 4** Optional gauge port G1/4 (outlet pressure) or 1/4" NPT with option '013'
 - 5** Spill port G1/8 or sensing port for differential feature or 1/8" NPT with option '013'
 - 6** Mounting threads M6 x 12 deep
- For panel mounting, a circular cut out of dimension \varnothing 66 mm is required.

NOTE:

Differential feature only available on non-relieving regulators on outlet ranges above 20 bar by connecting to port 5.
 Max spring housing pressure = 100 bar or 1450 psi.

Panel mounting kit

Dimensions in mm
 Projection/First angle


Warning

Do not use these products where pressures and temperatures can exceed those listed under »**Technical features/data**«. Before using these products with fluids other than those specified, for non-industrial applications, life-support systems or other applications not within published specifications, consult IMI Precision Engineering, Thompson Valves Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes. The system designer is warned to consider the failure modes of all component parts used in fluid power systems and to provide adequate safeguards to prevent personal injury or damage to equipment in the event of such failure. System designers must provide a warning to end users in the system instructional manual if protection against a failure mode cannot be adequately provided. System designers and end users are cautioned to review specific warnings found in instruction sheets packed and shipped with these products.