

J50 Spring loaded regulator

- Port size:
3/8" ISO G/NPT
- High pressure regulator with a wide range of delivery pressure
- Differential set-up available for tracking applications (Non-Relieving type only)
- Balanced 1/4" valve provides stable delivery pressure with varying inlet pressure
- Outlet pressure ranges of 20 barg 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 barg (7977 psig)
Stainless steel body:
750 barg (10878 psig)

Outlet pressure range:

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

Differential set-up:

Available with outlet pressure ranges W, Y, Z, 4 and 8. Maximum tracking signal pressure (spring housing pressure) 100 barg.

Leakage:

Bubble tight (standard, typically 10-6 atm.cm³/sec-1)
Helium leak tested to 10-8 atm.cm³/sec-1 (on request)
For –50°C Nitrile (special grade) option the leakage rate is:
BS ISO 5208-2015 Rate A-A & EN 12266 Rate B.


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-relieving 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 barg or aluminium up to 550 barg
Elastomers: NBR, FPM, EPDM

Technical data

Symbol	Port size	Valve seat size		Seat flow area		Port flow area		Flow coefficient		Model
		(mm)	(inch)	(mm ²)	(inch ²)	(mm ²)	(inch ²)	(Kv)	(Cv)	
	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

Valve seat size	Substitute
1/4"	C
1/16" (unbalanced for gases – inc. filter)	Y
Material	Substitute
Aluminium	T0
Stainless steel	B9
Port size	Substitute
G3/8	E2
3/8 NPT	A2
Outlet Pressure	Substitute
0,1 ... 5 barg (1,4 ... 73 psig)	M
0,1 ...10 barg (1,4 ... 145 psig)	P
2 ... 20 barg (29 ... 290 psig)	R
5,2 ... 52 barg (75 ... 754 psig)	W
10,3 ... 103 barg (149 ... 1494 psig)	Y
15 ... 150 barg (218 ... 2176 psig)	Z
25 ... 275 barg (363 ... 3989 psig)	4
55 ... 550 barg (798 ... 7977 psig)	8

J50★★★★★★★★★★

2nd options	Substitute
Not required	None
Locking version	005
Travel Stop	006
NACE	015
Option	Substitute
Not required	None
Filter (25 µm) – gases only	F
Panel mount	P
Filter & panel mount	FP
Elastomer	Substitute
NBR	N
FPM	V
EPDM	E
Nitrile (special grade)	Q
Relieving	Substitute
With	R
Without	N

Option selector spare kits

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

J50SPS★★★★

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)	1/4" Valve *1)	1/4" Valve *2)	1/4" Valve *2)	1/16" Valve *1)	1/16" Valve *1)	1/16" Valve *2)	1/16" Valve *2)
			Non-relieving	Relieving	Non-relieving	Relieving	Non-relieving	Relieving	Non-relieving	Relieving
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

Dimensions in mm
Projection/first angle

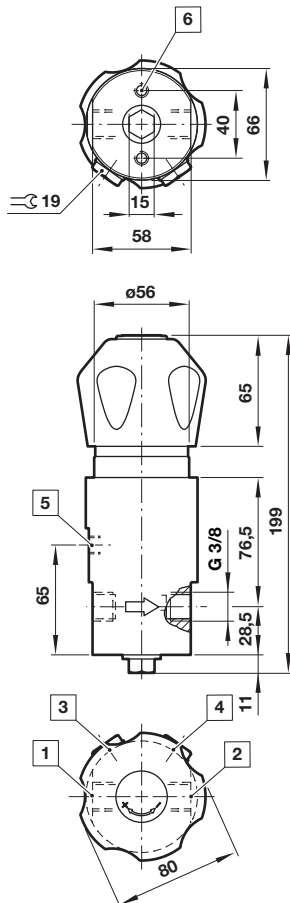


Regulator

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 Ø 66 mm is required.

NOTE:

Differential feature only available on non-relieving regulators on outlet ranges W, Y, Z, 4 and 8 by connecting to port 5.

Max spring housing pressure = 100 barg or 1450 psig.

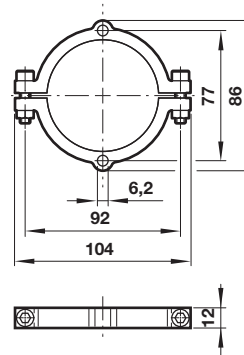
Warning

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, Thompson Valves Ltd.

Through misuse, age, or malfunction, components used in fluid power systems can fail in various modes.

Panel mounting kit



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.