

Elster Jeavons J48

Industrial / Commercial Gas pressure regulator
for inlet pressures up to 350mbar

Brief information

Operation: The J48 is a highly versatile proven range of Industrial Low Pressure Regulators, suitable for a wide range of pressure reduction applications. The latest version of the regulator includes a new quick release spring adjustment mechanism unit. This enhancement provides easy access for spring adjustment and routine maintenance. The J48 is available in sizes from 3/4" to 6", the larger sized units from 2 1/2" being described in a separate leaflet.

Application: The J48 is a service and appliance regulator suitable for a wide range of domestic, commercial and industrial applications. All units are designed for natural, liquefied petroleum and manufactured gases. The J48 meets the essential requirements of the European Gas Appliance Regulation (EU) 2016/426(GAR).

The J48 can be installed in both horizontal and vertical pipelines, with certain sizes available with angled connections for meter services applications. The J48 has positive lock up, and has been designed for high efficiency and sensitivity with maximum flow and minimum pressure loss.

Control: A comprehensive range of springs is available, as described overleaf. The outlet pressure can be easily and accurately adjusted by turning the spring adjustment unit located under the top cap. The design of this mechanism provides virtually frictionless adjustment and eliminates "spring wind up". The complete spring adjustment mechanism can be removed easily for maintenance and spring changes. If required the units can be supplied factory set with a security seal at extra cost.

Approvals: The J48 range is approved to EN88-1 Class A2. They are also AGA / CGA approved to the following specifications:

ANSI Z21.18-2007 (R2017) · CSA 6.3-2007 (R2016)

ANSI Z21.18a-2010 (R2017) · CSA 6.3a-2010 (R2016)

ANSI Z21.18b-2012 (R2017) · CSA 6.3b-2012 (R2016)

Technical Data: Maximum inlet pressure: 350mbar (5 psig)
Maximum outlet Pressure: 160mbar (64"wg)

Servicing: The J48 has been designed for ease of access, inspection and servicing of all internal components. A standard soft spares kit is available for all sizes.

3/4" - 1"	reference number SK4806-01
1 1/4" - 1 1/2"	reference number SK4808-01
2"	reference number SK4809-01.



FEATURES & BENEFITS

Main Features

- Sizes 3/4", 1", 1 1/4", 1 1/2" & 2" (for 2 1/2" – 6" see separate leaflet)
- Temperature range -20°C to +70°C
- Threaded connections to BS EN 10226 (ISO 7) or NPT (other threads may be available upon request)
- Fully inlet pressure balanced.
- Full lock-up capability.
- Internal impulse.
- Spring loaded.
- Quick release spring adjustment
- Excellent outlet pressure control.



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J48: Low Pressure Regulator

Regulating Capacities

All capacities in SCM_H 0.64 s.g.

REGULATOR SIZE: ¾" OUTLET PRESSURE SETTING (mbar) / DROOP (%)

Setting Flow Rate: 2.8 SCM_H
Lock-up: SG30

	10		20		30		40		55		70		90		130		
	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	
Pin mbar																	
15	9.0	16.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	10.3	17.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	11.6	21.1	14.9	27.8	-	-	-	-	-	-	-	-	-	-	-	-	-
50	16.2	29.1	19.6	34.8	26.5	41.2	25.0	34.8	-	-	-	-	-	-	-	-	-
100	24.7	31.2	25.5	46.9	36.6	60.5	41.7	62.3	44.3	59.5	48.9	56.7	33.2	-	-	-	-
150	29.6	35.3	26.3	43.8	46.9	63.4	45.6	78.6	46.9	78.3	63.9	80.4	53.1	69.5	-	-	-
200	35.0	40.4	29.4	50.5	45.1	65.7	48.7	89.4	51.0	95.6	77.8	100.4	61.3	95.3	51.0	82.9	-
250	38.6	45.8	29.9	50.7	45.1	72.1	52.8	100.4	54.9	106.1	81.1	110.7	65.7	109.5	60.5	101.7	-
300	41.2	46.4	30.4	51.0	45.8	79.8	54.1	109.5	57.9	112.0	83.2	126.2	66.4	121.1	66.7	117.4	-
350	46.4	50.0	30.9	52.5	46.9	83.4	54.3	115.9	62.6	121.1	83.2	133.9	65.9	138.8	68.3	132.6	-

REGULATOR SIZE: 1" OUTLET PRESSURE SETTING (mbar) / DROOP (%)

Setting Flow Rate: 2.8 SCM_H
Lock-up: SG30

	10		20		30		40		55		70		90		130		
	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	
Pin mbar																	
15	11.6	23.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	11.1	27.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	13.1	36.1	20.6	30.9	-	-	-	-	-	-	-	-	-	-	-	-	-
50	18.3	37.9	34.8	51.5	37.6	48.9	32.5	41.2	-	-	-	-	-	-	-	-	-
100	20.9	39.7	52.5	85.0	51.5	77.3	46.4	77.3	64.4	70.8	54.1	70.8	42.5	-	-	-	-
150	20.9	41.7	68.3	109.5	63.4	105.6	55.4	108.2	77.5	101.5	86.5	96.6	77.3	87.6	-	-	-
200	23.7	43.8	83.4	133.9	69.5	126.2	62.8	136.5	82.4	126.2	112.0	123.6	103.0	114.6	69.0	101.7	-
250	26.3	45.1	88.6	136.5	73.7	139.1	70.8	154.5	90.1	154.5	137.8	152.0	122.3	139.1	91.2	127.5	-
300	22.4	46.9	46.4	61.8	83.2	160.1	75.2	162.7	97.9	166.5	159.7	160.1	130.1	148.5	103.0	135.6	-
350	20.6	47.1	47.4	59.2	87.6	166.5	82.4	166.5	108.2	174.3	167.8	167.8	152.0	162.7	117.4	158.8	-

REGULATOR SIZE: 1¼" OUTLET PRESSURE SETTING (mbar) / DROOP (%)

Setting Flow Rate: 4.2 SCM_H
Lock-up: SG30

	10		20		30		40		55		70		90		130		
	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20%	
Pin mbar																	
15	22.	41.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	33.	54.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	39.	67.0	47.4	78.3	-	-	-	-	-	-	-	-	-	-	-	-	-
50	51.	93.5	71.9	109.7	76.0	98.4	-	-	-	-	-	-	-	-	-	-	-
100	56.	100.4	120.0	145.9	120.5	164.0	121.1	165.2	135.0	148.5	108.4	144.6	-	-	-	-	-
150	68.	145.3	145.8	167.8	160.5	194.9	154.9	210.4	151.0	201.4	143.3	180.7	142.0	170.4	-	-	-
200	72.	146.0	157.5	187.2	166.5	215.6	173.0	229.8	178.2	245.3	180.7	237.5	171.7	225.9	149.8	195.6	-
250	90.1	154.9	171.7	197.5	175.6	232.4	192.4	244.0	191.1	271.1	196.2	287.9	196.2	267.2	184.5	237.5	-
300	110.7	161.4	176.9	219.5	183.3	251.7	216.9	268.5	200.1	289.2	216.9	308.5	227.2	304.7	205.3	286.6	-
350	119.8	167.8	179.4	224.6	187.2	264.7	237.5	290.5	215.6	308.5	232.4	312.4	247.9	316.3	225.9	316.3	-

J48: Low Pressure Regulator

Regulating Capacities

All capacities in SCMh 0.64 s.g.

REGULATOR SIZE: 1½”

OUTLET PRESSURE SETTING (mbar) / DROOP (%)

Setting Flow Rate: 4.2 SCMh
Lock-up: SG30

	10		20		30		40		55		70		90		130	
	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%
Pin mbar																
15	26.0	48.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
20	38.6	54.1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
30	46.4	67.0	61.8	72.1	-	-	-	-	-	-	-	-	-	-	-	-
50	62.8	104.3	97.9	123.6	90.1	117.2	-	-	-	-	-	-	-	-	-	-
100	92.7	124.9	142.0	161.4	141.7	193.6	167.8	192.4	154.5	170.4	144.2	171.7	-	-	-	-
150	113.3	144.2	154.9	184.6	167.8	225.9	185.9	231.1	180.7	213.0	160.1	214.3	153.6	194.9	-	-
200	157.5	154.9	183.3	238.8	187.2	244.0	218.2	276.3	206.6	271.1	194.9	263.4	194.9	254.3	-	-
250	173.0	166.5	206.6	258.2	213.0	265.9	249.2	321.5	220.8	311.1	215.6	308.5	222.1	300.8	170.4	219.5
300	178.2	179.4	215.6	264.7	227.2	278.9	267.2	348.6	236.3	349.9	224.6	348.6	238.8	336.9	207.9	271.1
350	187.2	196.2	222.1	276.3	241.4	290.5	284.0	374.4	244.0	374.4	237.5	375.7	255.6	375.7	247.9	330.5

REGULATOR SIZE: 2”

OUTLET PRESSURE SETTING (mbar) / DROOP (%)

Setting Flow Rate: 4.2 SCMh
Lock-up: SG30

	10		20		30		40		55		70		90	
	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%	10%	20%
Pin mbar														
15	42.0	119.8	-	-	-	-	-	-	-	-	-	-	-	-
20	59.2	109.7	-	-	-	-	-	-	-	-	-	-	-	-
30	82.4	133.6	87.6	149.8	-	-	-	-	-	-	-	-	-	-
50	107.1	187.6	158.3	210.9	144.6	182.0	-	-	-	-	-	-	-	-
100	120.1	240.6	228.0	308.9	232.4	326.6	208.1	296.9	222.8	258.8	272.6	259.6	-	-
150	147.7	253.3	275.0	389.9	278.9	379.6	290.9	369.2	257.2	339.4	307.4	306.6	233.2	391.1
200	157.1	262.5	301.3	424.1	307.3	431.2	327.9	417.0	311.8	396.7	370.8	390.5	345.2	381.9
250	165.9	262.1	316.2	455.7	330.5	475.1	363.3	471.2	365.5	450.3	416.7	432.7	412.3	425.5
300	167.2	262.1	324.2	393.5	371.8	451.8	381.2	485.4	377.2	471.2	457.9	469.4	372.7	453.7
350	182.4	263.4	314.9	392.2	413.1	454.4	401.4	500.9	401.1	501.6	475.0	495.6	382.9	491.0

The above tests are performed with the regulator set at a constant inlet pressure, a predetermined flow rate and the required outlet pressure. The flow rate is then increased whilst keeping the inlet pressure constant. The capacities are recorded when the outlet pressure has fallen by 10% and 20% from the set point.

The capacities on the previous pages are given in SCMh of natural gas (0.64 SG).

For other gases multiply the capacity by:

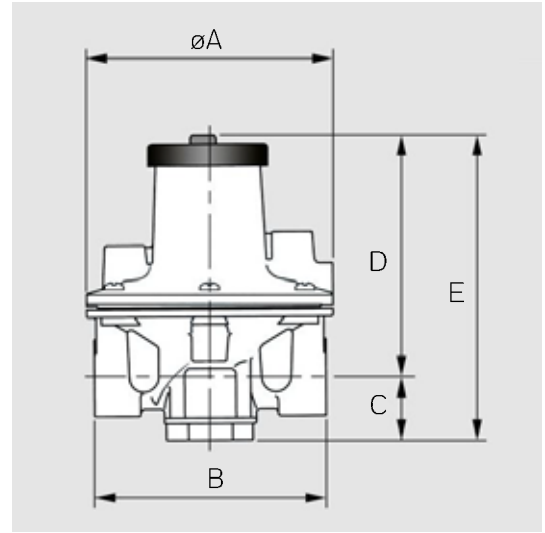
$$\sqrt{\frac{0.64}{\text{gas sg}}}$$

GAS	SG
Air	1.00
Towns Gas	0.50
Propane	1.53
Propane / Air	1.20

J48: Low Pressure Regulator

Dimensions and Weights

SIZE	A	B	C	D	E	Weight (Kg)
3/4" & 1"	134	125	34	132	166	1.0
1 1/4" & 1 1/2"	185	155	45	149	194	1.9
2"	234	200	52	167	219	3.1



Material Specifications

A summary of the material specification for the J48 is given for reference. All material has been selected to provide maximum durability and reliability in service.

Components	Specification
Body, cover, spring adjusting bush, spring adjusting screw and bottom plug.	Aluminium Alloy
Top cap, locking lever, spring holder, diaphragm spacer, valve spacer, valve disc holder and impulse tube.	Acetal Resin (Top cap and locking lever UV stabilised)
Diaphragm plate.	Mild steel
Main diaphragm, secondary diaphragm, valve disc & "O" rings.	Nitrile (Buna)
Springs	Carbon Steel

Loading Springs

All springs are colour coded for ease of identification.

Spring Range mbar	3/4" & 1"	1 1/4" & 1 1/2"	2"
5 - 15	J4806-146 Dark Green / Light Blue	J4808-102 Black / Light Blue	J4809-081 White / Brown
12.5 - 25	J4806-004 Black	J4808-103 Black / Light Green	J4809-082 White / Dark Blue
22.5 - 35	J4806-147 Dark Green / Brown	J4808-104 Silver / Orange	J4809-083 White / Dark Green
30 - 50	J4806-148 Dark Green / Orange	J4808-105 Black / Brown	J4809-084 White / Red
45 - 65	J4808-103 Black / Light Green	J4808-031 Red / Gold	J4809-085 White / Orange
60 - 80	J4808-008 Red / Orange	J4808-106 Black / Orange	J4809-025 Dark Blue / Grey
75 - 100	J4806-079 Pink / Gold	J4808-075 Pink / Silver	J4809-065 Grey / Gold
100 - 160	J4808-077 Yellow / Orange	J4809-065 Grey / Gold	-