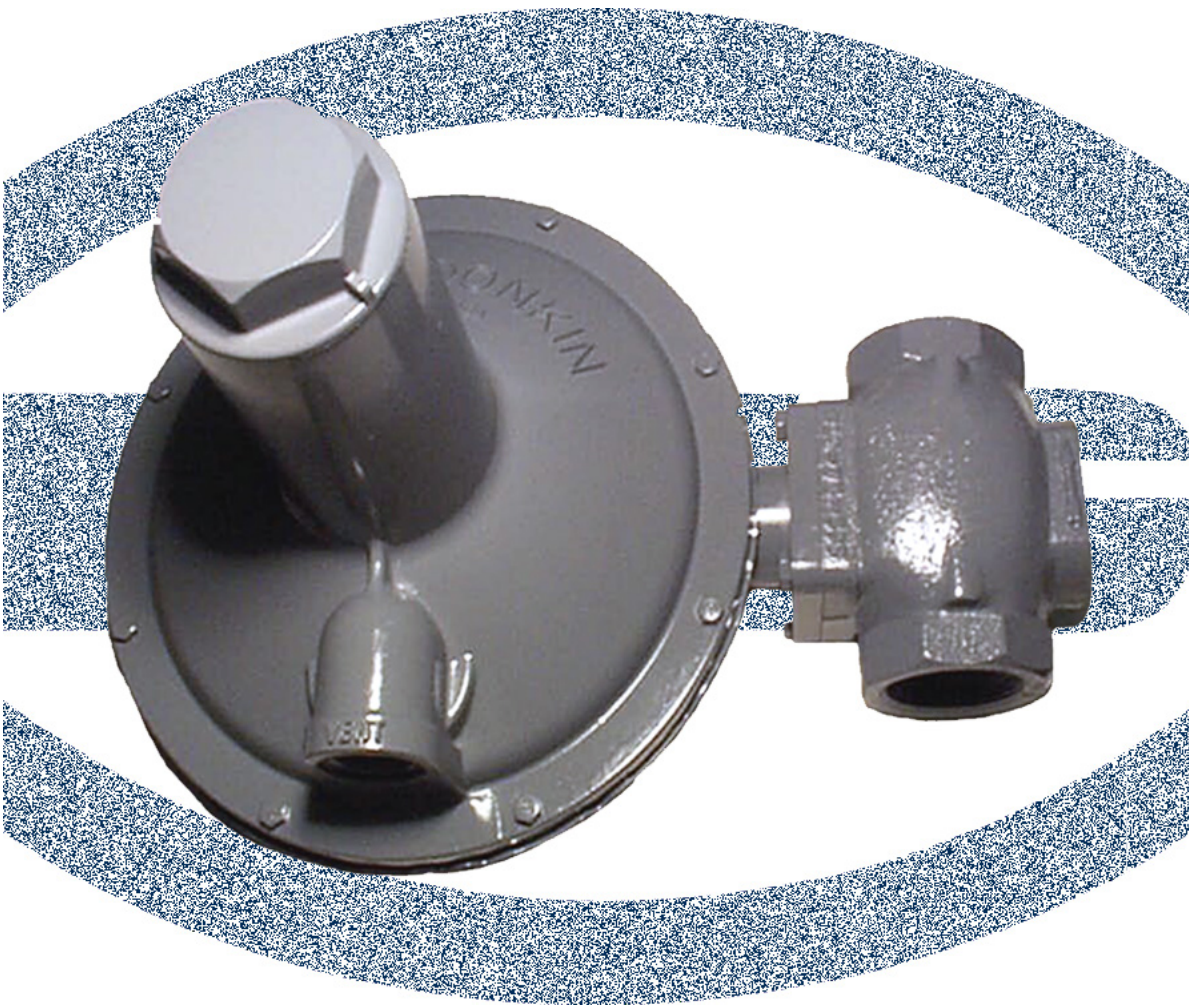


MODEL 274 GAS PRESSURE REGULATOR

General Description



Edition
GD274.06.USA



BRYAN DONKIN RMG USA
Serving the Gas Industry—WORLDWIDE

MODEL 274 GAS PRESSURE REGULATOR



General Description

Applications

- Primarily utilized for commercial and industrial applications
- For natural gas and all non-corrosive gaseous media
- Various options for specialty applications
- Fixed Factor Billing model available for PFM applications, that ensure outlet pressure accuracy to +/- 1% absolute pressure

Characteristics

- Specifically designed for safe, accurate, pressure reduction of gaseous media
- Wide inlet pressure range 1–125 psig (0.07-8.5 bar) depending on orifice diameter
- Maximum inlet pressure 150 psig (10 bar)
- Maximum operating pressure 125 psig (8.5 bar)
- Spring-loaded, lever-operated to accommodate changes in inlet pressure
- Various interchangeable orifices for ease of maintenance and increased turndown ratio to accommodate a wide range of flows and pressure conditions (inlet & outlet pressures)
- Outlet pressure settings from 6" w.c. to 6 psig (15-420 mbar) over 5 spring ranges
- Balanced valve version available for increased accuracy and control
- 3 different inlet/outlet thread diameters (National or British Pipe Standards – NPT, BSPT, BSPP)
- 2" flanged version available in ANSI150 or PN16 with flat or raised face profiles
- Flanged body available in cast iron, ductile iron or cast steel
- Various relief valve assemblies available (full, limited and zero capacity relief discharge)
- 1" threaded vent connection
- Available with Internal Impulse or Control Line (I.C.L.) or External Impulse or Control Line Connections (E.C.L.)
- Ease of maintenance due to interchangeable diaphragm casing cartridge
- Various safety slam-shut valve (SSV) models available for pressure/flow cut-off protection
- Custom designed and pre-fabricated regulator assemblies available

MODEL 274 GAS PRESSURE REGULATOR



General Description

◇ Fixed Factor Billing for PFM applications—to maintain outlet pressure accuracy for applications that require downstream pressure to be held within +/- 1% absolute pressure

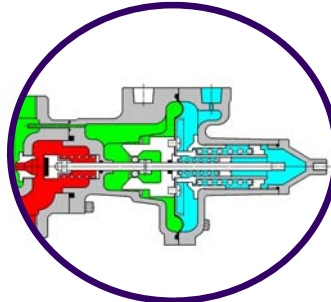
◇ Outlet pressures from 6" w.c. to 6 psig over 5 spring ranges. Set point can be adjusted easily with standard socket. Regulator top cap has the capability of including the provision for a wire seal.

◇ 1" threaded vent connection protected by screen that is easily removed to attach vent extender or vent-line.

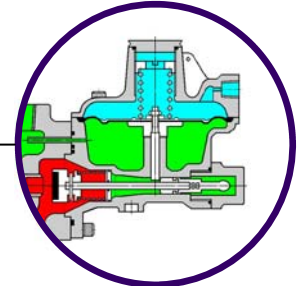
◇ Reinforced diaphragm for increased speed of response and durability.

◇ Available with full capacity, limited capacity, no capacity internal relief valve designs to manage the capability of the regulator to discharge over pressure gas. Safety diaphragms also available.

◇ Cartridge style regulator diaphragm casing design so retrofitting new regulator casings is very easy without removing regulator body from the pipe-work.



◇ Under & Over Pressure Safety Slam-Shut Valve (UPCO/OPCO) options available



◇ Over Pressure Safety Slam-Shut Valve (OPCO) options available

◇ Integral slam-shut valves available to protect against under (UPCO) and over pressure (OPCO) conditions in the downstream pipe-work. Slam-shut valves also available with low differential pressure cut-off and thermal trip (T-type) protection feature to shut gas off if regulator is engulfed in a fire.

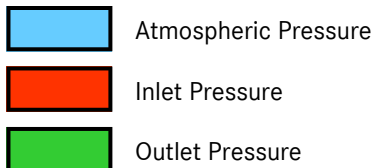
◇ Pressure test points available at inlet & outlet chambers of the body, as an option.

◇ Several available orifice diameters to accommodate a wide range of pressure conditions and flow require-

◇ 3 different pipe thread diameters available on an inline (180°) body designs. 1/4", 1/2" or 2" or 1" NPT, BSPT or BSPP

◇ 2" flanged connections available in AN-SI150 or PN16 with flat

◇ Available with Internal Impulse or Control Line (I.C.L.) or External Impulse or Control Line Connections (E.C.L.)



◇ Available with integrated union fitting with o-ring seal for 100% bubble-tight seal on both inlet or outlet body connections to ease and reduce installation labor. Union available in standard or insulated versions.

MODEL 274 GAS PRESSURE REGULATOR



General Description

Available Constructions

274 R: full internal relief capacity

274 P: no internal relief capacity

274LR-290 OPCO: limited internal relief capacity with integral Over Pressure Cut-Off safety slam-shut valve

274P-290 OPCO: no internal relief capacity with integral Over Pressure Cut-Off safety slam-shut valve

274SD-290 OPCO SD: no internal relief capacity with safety diaphragms and Over Pressure Cut-Off safety slam-shut valve

274LR-309 UPCO/OPCO: limited internal relief capacity with integral Under and Over Pressure Cut-Off safety slam-shut valve

274P-309 UPCO/OPCO: no internal relief capacity with integral Under and Over Pressure Cut-Off safety slam-shut valve

274SD-309 UPCO/OPCO: no internal relief capacity with safety diaphragms and Under and Over Pressure Cut-Off safety slam-shut valve.

PFM version: fixed factor billing or pressure factor metering version for outlet pressure accuracy within $\pm 1\%$ absolute pressure. Outlet pressure range from 2 to 5.5 psig (140 to 385 mbar)

Thermal Protection (T-Type): no internal relief capacity with safety diaphragms and integral safety slam-shut valve (OPCO or UPCO/OPCO) that has shut-off protection if assembly is engulfed in a fire. Assembly has many steel component parts.

I.C.L. Type: Internally sensing or internal control line to measure outlet pressure

E.C.L. Type: Externally sensing or external control line required to measure outlet pressure in downstream pipe-work. Diaphragm casings drilled and tapped $\frac{1}{2}$ " NPT or BSPT to connect downstream sensing line.

F version: complete with inlet mess filter

Body Sizes and Connection Types

Screwed Type Body

- 1 $\frac{1}{4}$ ", 1 $\frac{1}{2}$ " & 2" screwed
- NPT, BSPT or BSPP threaded types
- U-type: with modified inlet union fitting on either inlet and/or outlet connections

Flanged Type Body

- 2" flanged inlet/outlet

MODEL 274 GAS PRESSURE REGULATOR



General Description

Pressure Ratings

Maximum Recommended Inlet Pressure

- 150 psig (10 bar)

Maximum Recommended Operating Pressure

- 125 psig (8.6 bar) with 5.0, 7.5mm & 10.0mm orifices
- 75 psig (5 bar) with 15.0mm orifice
- 60 psig (4 bar) with 20.0mm orifice
- 15 psig (1 bar) with 25.0mm & 30.0mm orifices
- 125 psig (8.6 bar) with 30.0mm orifice and balanced valve

Materials of Construction

Screwed Body	Cast Iron
Flanged Body	Cast Iron, Ductile Iron, Cast Steel
Diaphragm Casings	Die Cast Aluminum
Diaphragm	Molded Nitrile Rubber with Nylon Reinforcing
Valve Head (Seat)	Buna-N Rubber & Polyurethane
Diaphragm Plates	Steel
Orifice	Brass or Stainless Steel (T-type)
Vent Screen	Stainless Steel
Fasteners	Steel
Top Cap (standard)	Aluminum

Weights

- w/ screwed body – 18 lb. (8.2 kg)
- w/ cast iron flanged body - 28 lb. (12.75 kg)
- w/ ductile iron flanged body – 30 lb. (13.6 kg)
- w/ cast steel flanged body – 36 lb. (16.4 kg)
- w/ 290 OPCO - add 1.1 lb. (0.5 kg)
- w/ 309 UPCO/OPCO – 2.2 lb. (1.0 kg)
- w/ 309 T-Type UPCO/OPCO – 4.75 lb. (2.2 kg)

Temperature Rating

- -40° to 60° Celsius
- -40° to 140° Fahrenheit



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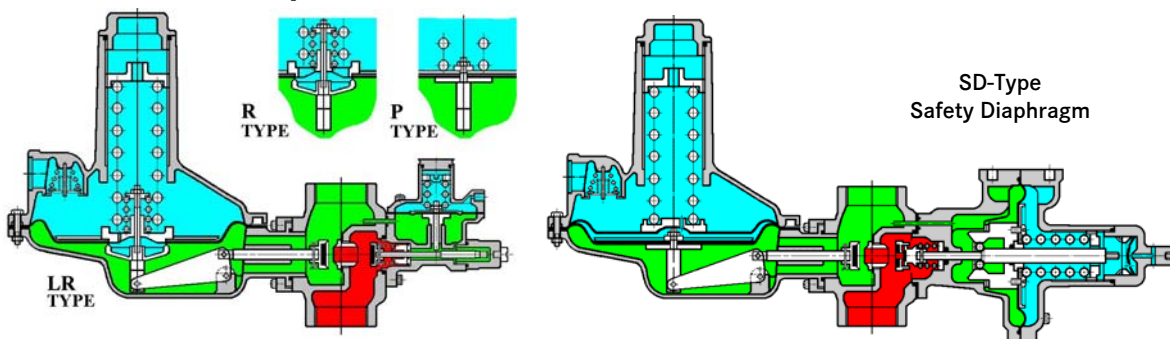
Outlet Pressure Range

Range (imperial)	Range (metric)	Spring Number/Colour
6" – 14" w.c.	15 – 35 mbar	960 (grey)
12" - 22" w.c.	30 – 56 mbar	961 (yellow)
20" - 40" w.c.	50 – 100 mbar	962 (brown)
1 – 3 psig	70 – 210 mbar	963 (orange)
2 – 6 psig	140 – 420 mbar	964 (blue)

Relief Pressure Range

Outlet Pressure Spring	Relief Range (imperial)	Relief Range (metric)
960	12" - 34" w.c.	30 – 85 mbar
961	22" - 50" w.c.	55 – 125 mbar
962	34" - 68" w.c.	85 – 170 mbar
963	2 - 5 psig	140 – 350 mbar
964	3 - 9 psig	210 - 630 mbar

Relief Valve Options



Pilot-Operated Version for Higher Outlet Pressures and Flow Capacity, see Model 273PL and 270/3PL Regulator Technical Bulletins.

MODEL 274 GAS PRESSURE REGULATOR



General Description

	Outlet Pressure	Inlet Pressure		Orifice Size (millimeters/inches)													
		psig	bar	5.0mm		7.5mm		10.0mm		15.0mm		20.0mm		30.0mm		30.0mm BALANCED VALVE	
Spring 960 (range 6" - 14" w.c.) (range 15 - 35 mbar)	SET POINT 7" w.c. (18 mbar)	1	(0.070)	400	(11.3)	800	(22.7)	1000	(28.3)	1500	(42.5)	1750	(49.6)	1700	(48.2)	1700	(48.2)
		2	(0.140)	550	(15.6)	1100	(31.2)	1450	(41.1)	2200	(62.3)	2500	(70.8)	3300	(93.5)	2000	(56.7)
		5	(0.350)	900	(24.5)	1750	(49.6)	2500	(70.8)	3500	(99.2)	4200	(119.0)	5500	(155.8)	4000	(113.3)
	DROOP/ BOOST 1" w.c. 2.5 mbar	10	(0.700)	1200	(34.0)	2300	(65.2)	4000	(113.3)	5500	(155.8)	14000	(396.6)	13000	(368.3)	12000	(340.0)
		15	(1)	1600	(45.3)	3000	(85.0)	5000	(141.6)	12000	(340.0)	16000	(453.3)	16000	(453.3)	14000	(396.6)
		30	(2)	2200	(62.3)	4700	(133.1)	10000	(283.3)	16000	(453.3)	16000	(453.3)			14000	(396.6)
	Accuracy Class 20%	45	(3)	2700	(76.5)	7200	(204.0)	16000	(453.3)	16000	(453.3)	16000	(453.3)			14000	(396.6)
		60	(4)	3400	(96.3)	10000	(283.3)	16000	(453.3)	16000	(453.3)	16000	(453.3)			14000	(396.6)
		75	(5)	4200	(119.0)	11000	(311.6)	16000	(453.3)	16000	(453.3)					14000	(396.6)
		100	(7)	7000	(198.3)	12500	(354.1)	16000	(453.3)				ft ² /hr			14000	(396.6)
		125	(8.6)	9500	(269.1)	16000	(453.3)	16000	(453.3)				m ² /hr			14000	(396.6)
	Spring 960 (range 6" - 14" w.c.) (range 15 - 35 mbar)	SET POINT 10" w.c. (25mbar)	1	(0.070)	350	(9.9)	600	(17.0)	800	(22.7)	1100	(31.2)	1600	(45.3)	1650	(46.7)	1550
2			(0.140)	500	(14.2)	1000	(28.3)	1350	(38.2)	2000	(56.7)	2300	(65.2)	3000	(85.0)	1900	(53.8)
5			(0.350)	800	(22.7)	1600	(45.3)	2300	(65.2)	3200	(90.7)	4000	(113.3)	5400	(153.0)	3800	(107.6)
DROOP/ BOOST 2" w.c. 5.0 mbar		10	(0.700)	1100	(31.2)	2150	(60.9)	3700	(104.8)	5200	(147.3)	14000	(396.6)	12000	(339.9)	11000	(311.6)
		15	(1)	1400	(39.7)	2700	(76.5)	4700	(133.1)	12000	(339.9)	16000	(453.3)	16000	(453.3)	14000	(396.6)
		30	(2)	2100	(59.5)	4400	(124.6)	10000	(283.3)	16000	(453.3)	16000	(453.3)			14000	(396.6)
Accuracy Class 20%		45	(3)	2500	(70.8)	6900	(195.5)	16000	(453.3)	16000	(453.3)	16000	(453.3)			14000	(396.6)
		60	(4)	3150	(89.2)	9000	(255.0)	16000	(453.3)	16000	(453.3)	16000	(453.3)			14000	(396.6)
		75	(5)	3800	(107.6)	10000	(283.3)	16000	(453.3)	16000	(453.3)					14000	(396.6)
		100	(7)	6000	(170.0)	11000	(311.6)	16000	(453.3)				ft ² /hr			14000	(396.6)
		125	(8.6)	8000	(226.6)	15000	(424.9)	16000	(453.3)				m ² /hr			14000	(396.6)
Spring 961 (range 12" - 22" w.c.) (range 30 - 56 mbar)		SET POINT 14" w.c. (35 mbar)	1	(0.070)	350	(9.9)	550	(15.6)	700	(19.8)	1000	(28.3)	1450	(41.1)	1600	(45.3)	1400
	2		(0.140)	450	(12.7)	900	(25.5)	1100	(31.2)	1750	(49.6)	2200	(62.3)	2800	(79.3)	1700	(48.2)
	5		(0.350)	850	(24.1)	1500	(42.5)	1850	(52.4)	2650	(75.1)	3200	(90.7)	5200	(147.3)	3500	(99.2)
	DROOP/ BOOST 3" w.c. 7.5 mbar	10	(0.700)	1150	(32.6)	2000	(56.7)	3000	(85.0)	4400	(124.6)	12500	(354.1)	12500	(354.1)	11000	(311.6)
		15	(1)	1400	(39.7)	3100	(87.8)	3900	(110.5)	5500	(155.8)	15000	(424.9)	16000	(453.3)	14000	(396.6)
		30	(2)	2000	(56.7)	4100	(116.1)	9000	(255.0)	17000	(481.6)	23000	(651.6)			14000	(396.6)
	Accuracy Class 20%	45	(3)	2600	(73.7)	5500	(155.8)	12000	(339.9)	21500	(609.1)	24000	(679.9)			14000	(396.6)
		60	(4)	3300	(93.5)	8800	(249.3)	14500	(410.8)	21500	(609.1)	24500	(694.1)			14000	(396.6)
		75	(5)	3700	(104.8)	10500	(297.5)	17500	(495.8)	21500	(609.1)					14000	(396.6)
		100	(7)	4200	(119.0)	12000	(339.9)	17500	(495.8)				ft ² /hr			14000	(396.6)
		125	(8.6)	5500	(155.8)	15000	(424.9)	17500	(495.8)				m ² /hr			14000	(396.6)

HIGHLIGHTED AREAS MUST BE SERVICED BY AN EXTERNAL CONTROL LINE (E.C.L.)

Scfh (ft²/hr) - natural gas, 0.6 sg
 Scmh (m²/hr) - natural gas, 0.6 sg

MODEL 274 GAS PRESSURE REGULATOR



General Description

	Outlet Pressure	Inlet Pressure		Orifice Size (millimeters/inches)													
		psig	bar	5.0mm		7.5mm		10.0mm		15.0mm		20.0mm		30.0mm		30.0mm BALANCED VALVE	
Spring 961 (range 12" - 22" w.c.) (range 35 - 56 mbar)	SET POINT 18" w.c. (46 mbar)	1	(0.070)	350	(9.9)	500	(14.2)	750	(21.2)	1000	(28.3)	1500	(42.5)	1600	(45.3)	1350	(38.2)
		2	(0.140)	450	(12.7)	850	(24.1)	1000	(28.3)	1700	(48.2)	2200	(62.3)	3000	(85.0)	1550	(43.9)
		5	(0.350)	850	(24.1)	1450	(41.1)	1800	(51.0)	2500	(70.8)	3000	(85.0)	5200	(147.3)	3300	(93.5)
	DROOP/ BOOST 4" w.c. 10 mbar	10	(0.700)	1150	(32.6)	2000	(56.7)	3000	(85.0)	4000	(113.3)	12500	(354.1)	13000	(368.3)	11000	(311.6)
		15	(1)	1400	(39.7)	3000	(85.0)	3600	(102.0)	5500	(155.8)	14500	(410.8)	16000	(453.3)	14000	(396.6)
		30	(2)	2000	(56.7)	4200	(119.0)	8500	(240.8)	17000	(481.6)	22000	(623.2)			14000	(396.6)
	Accuracy Class 20%	45	(3)	2550	(72.2)	5500	(155.8)	12000	(339.9)	21500	(609.1)	22500	(637.4)			14000	(396.6)
		60	(4)	3200	(90.7)	8500	(240.8)	14000	(396.6)	21500	(609.1)	22500	(637.4)			14000	(396.6)
		75	(5)	3600	(102.0)	10500	(297.5)	16500	(467.4)	21500	(609.1)					14000	(396.6)
		100	(7)	4000	(113.3)	12500	(354.1)	16500	(467.4)				ft ² /hr			14000	(396.6)
		125	(8.6)	5400	(153.0)	14500	(410.8)	16500	(467.4)				m ² /hr			14000	(396.6)
	Spring 962 (range 20" - 40" w.c.) (range 50 - 100 mbar)	SET POINT 28" w.c. (70mbar)	2	(0.140)	400	(11.3)	800	(22.7)	1000	(28.3)	1600	(45.3)	2200	(62.3)	2700	(76.5)	1600
5			(0.350)	700	(19.8)	1400	(39.7)	1750	(49.6)	2400	(68.0)	2900	(82.2)	5300	(150.1)	3400	(96.3)
10			(0.700)	1100	(31.2)	2000	(56.7)	2600	(73.6)	3600	(102.0)	4800	(136.0)	5500	(155.8)	3900	(110.5)
DROOP/ BOOST 6" w.c. 15.0 mbar		15	(1)	1400	(39.7)	2400	(68.0)	3300	(93.5)	4700	(133.1)	6000	(170.0)	16000	(453.3)	11000	(311.6)
		30	(2)	2200	(62.3)	3700	(104.8)	5500	(155.8)	15000	(424.9)	20000	(566.6)			14000	(396.6)
		45	(3)	2600	(73.7)	5400	(153.0)	11500	(325.8)	25000	(708.2)	24000	(679.9)			14000	(396.6)
Accuracy Class 20%		60	(4)	3300	(93.5)	9100	(257.8)	14500	(410.8)	26500	(750.7)	26500	(750.7)			14000	(396.6)
		75	(5)	4000	(113.3)	10500	(297.5)	18000	(509.9)	26500	(750.7)					14000	(396.6)
		100	(7)	5400	(153.0)	12500	(354.1)	20500	(580.7)				ft ² /hr			14000	(396.6)
		125	(8.6)	7000	(198.3)	15500	(439.1)	24000	(679.9)				m ² /hr			14000	(396.6)
Spring 963 (range 1 - 3 psig) (range 70 - 210 mbar)	SET POINT 2 psig (140 mbar)	5	(0.350)	600	(17.0)	1100	(31.2)	1450	(41.1)	2200	(62.3)	2600	(73.7)	3500	(99.1)	2200	(62.3)
		10	(0.700)	1050	(29.7)	1800	(51.0)	2000	(56.7)	2900	(82.2)	3000	(85.0)	4600	(130.1)	3800	(107.6)
		15	(1)	1300	(36.8)	2250	(63.7)	2550	(72.2)	4400	(124.6)	4750	(134.6)	13000	(368.3)	11000	(311.6)
	DROOP/ BOOST 11" w.c. 28 mbar	30	(2)	2000	(56.7)	3800	(107.6)	4200	(119.0)	9200	(260.6)	12500	(354.1)			14000	(396.6)
		45	(3)	2600	(73.7)	5000	(141.6)	5700	(161.5)	16000	(453.3)	22000	(623.2)			14000	(396.6)
		60	(4)	3250	(92.1)	5700	(161.5)	12500	(354.1)	22500	(637.4)	24000	(680.0)			14000	(396.6)
	Accuracy Class 20%	75	(5)	3800	(107.6)	10000	(283.3)	16000	(453.3)	22500	(637.4)					14000	(396.6)
		100	(7)	4200	(119.0)	12500	(354.1)	18500	(524.1)				ft ² /hr			14000	(396.6)
		125	(8.6)	5300	(150.1)	15000	(424.9)	21500	(609.1)				m ² /hr			14000	(396.6)

HIGHLIGHTED AREAS MUST BE SERVICED BY AN EXTERNAL CONTROL LINE (E.C.L.)

Scfh (ft²/hr) - natural gas, 0.6 sg
 Scmh (m²/hr) - natural gas, 0.6 sg

MODEL 274 GAS PRESSURE REGULATOR



General Description

	Outlet Pressure	Inlet Pressure		Orifice Size (millimeters/inches)													
		psig	bar	5.0mm		7.5mm		10.0mm		15.0mm		20.0mm		30.0mm		30.0mm BALANCED VALVE	
Spring 964 (range 140 – 420 mbar)	SET POINT 5 psig (350 mbar)	10	(0.700)	750	(21.2)	1550	(43.9)	1800	(51.0)	2400	(68.0)	3100	(87.8)	3600	(102.0)	2900	(82.2)
		15	(1)	1000	(28.3)	2150	(60.9)	2200	(62.3)	3000	(85.0)	3800	(107.6)	4800	(136.0)	3900	(110.5)
		30	(2)	2000	(56.7)	2900	(82.2)	3600	(102.0)	5000	(141.6)	8500	(240.8)	12500 ()		12000	(339.9)
	DROOP/ BOOST 1 psig 70 mbar	45	(3)	2500	(70.8)	4000	(113.3)	4800	(136.0)	8000	(226.6)	11500 (325.8)				14000	(396.6)
		60	(4)	3000	(85.0)	5000	(141.6)	6300	(178.5)	12000	(339.9)	16500 (467.4)				14000	(396.6)
	Accuracy Class 20%	75	(5)	3500	(99.2)	7300	(206.8)	8500	(240.8)	16500 (467.4)		21000 ()				14000	(396.6)
		100	(7)	4000	(113.3)	9000	(255.0)	11000	(311.6)			ft ² /hr				14000	(396.6)
		125	(8.6)	4500	(127.5)	12000	(339.9)	15500	(439.1)			(m ² /hr)				14000	(396.6)

Pressure Factor Metering (±1% Absolute Pressure) Measurement Canada Approval – AG-0539

	Outlet Pressure	Inlet Pressure		Orifice Size (millimeters/inches)			
		psig	bar	7.5mm		10.0mm	
Spring 963 (range 70 – 210 mbar)	SET POINT 2.0 psig (140 mbar)	10	(0.700)	385	(10.9)	195	(55.2)
		20	(1.4)	710	(20.1)	965	(27.3)
		30	(2)	1355	(38.4)	1225	(34.7)
	DROOP/ BOOST 0.16 psig 11 mbar	40	(2.7)	1805	(51.1)	2515	(71.2)
		50	(3.4)	2900	(82.2)	1740	(49.3)
	Accuracy Class ±1% ABS P.F.M.	60	(4.1)	3160	(89.5)	6065	(171.8)
		70	(4.8)	4835	(137.0)	6450	(182.7)
		80	(5.4)	6125	(173.5)	7355	(208.3)
		90	(6.1)	7870	(222.9)	8255	(233.9)

Inlet Pressure Set Point—40 psig
ft²/hr
(m²/hr)

	Outlet Pressure	Inlet Pressure		Orifice Size (millimeters/inches)			
		psig	bar	7.5mm		10.0mm	
Spring 964 (range 140 – 420 mbar)	SET POINT 5.0 psig (350 mbar)	10	(0.700)	195	(55.2)	195	(55.2)
		20	(1.4)	320	(9.1)	255	(7.2)
		30	(2)	710	(20.1)	710	(20.1)
	DROOP/ BOOST 0.2 psig 14 mbar	40	(2.7)	710	(20.1)	775	(22.0)
		50	(3.4)	1095	(31.0)	1095	(31.0)
	Accuracy Class ±1% ABS P.F.M.	60	(4.1)	1290	(36.5)	1225	(34.7)
		70	(4.8)	1485	(42.1)	2645	(74.9)
		80	(5.4)	2000	(56.7)	3610	(102.3)
		90	(6.1)	2385	(67.6)	4320	(122.4)

Inlet Pressure Set Point—40 psig
ft²/hr
(m²/hr)

Scfh (ft²/hr) - natural gas, 0.6 sg
Scmh (m³/hr) - natural gas, 0.6 sg



MODEL 274 GAS PRESSURE REGULATOR

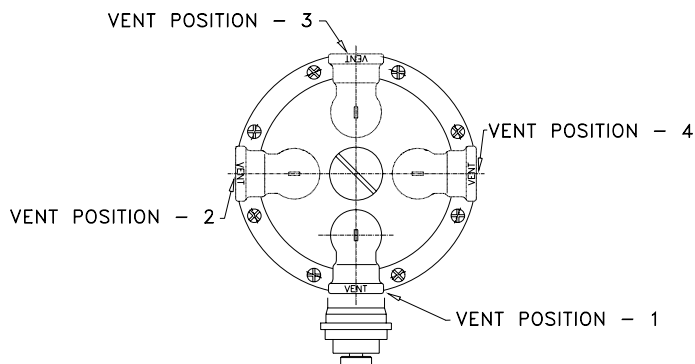
General Description

Capacity Calculation or Correction Factors for Other Gases

<u>Gas Type</u>	<u>Specific Gravity</u>	<u>Correction Factor (CF)</u>
Air	1.00	0.77
Butane	2.01	0.55
Carbon Dioxide (Dry)	1.52	0.63
Carbon Monoxide (Dry)	0.97	0.79
Natural Gas	0.60	1.00
Nitrogen	0.97	0.79
Propane	1.53	0.63
Propane-Air-Mix	1.20	0.71

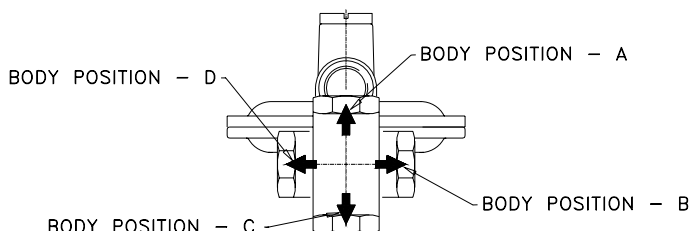
Vent and Body Orientations

Orientation – Body Position Letter followed by Vent Position Number



For Other Correction Factors

$$C_F = \sqrt{\frac{0.6}{\text{Sg of Gas}}}$$



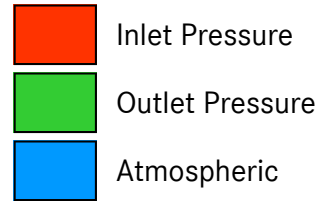
MATCH GAS FLOW INDICATING ARROW FOUND ON CASTING

MODEL 274 GAS PRESSURE REGULATOR

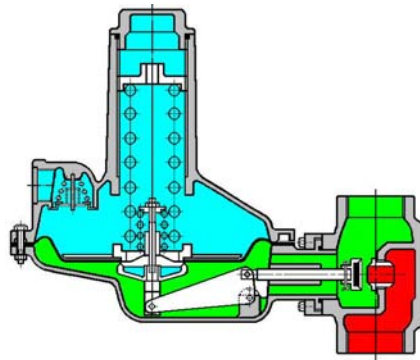
General Description



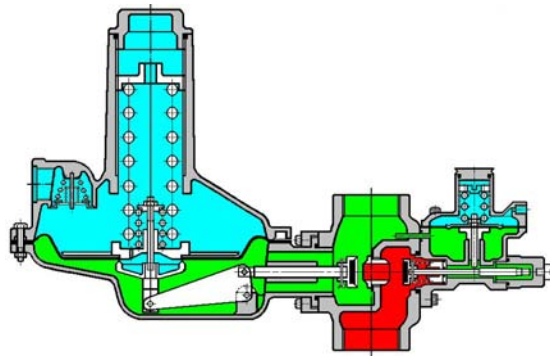
Sectional Diagrams



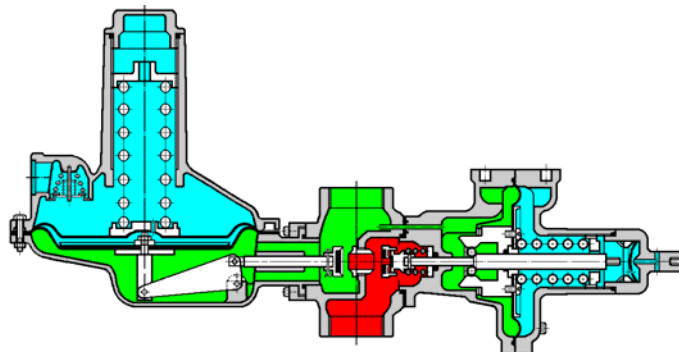
274 R (screwed body)



274 – 290 OPCO



274 – 309 "T" OPCO

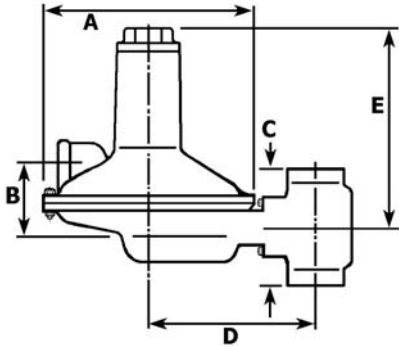


MODEL 274 GAS PRESSURE REGULATOR



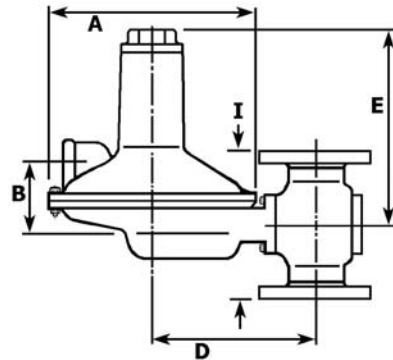
General Description

Dimensional Drawings



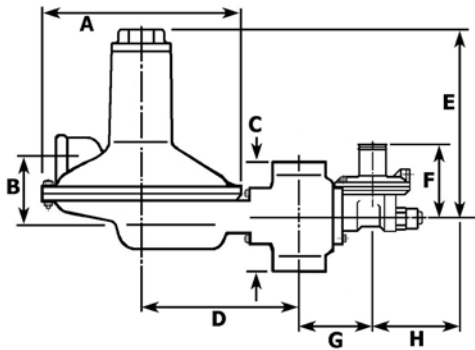
274 (screwed body)

Overall Length – 18"



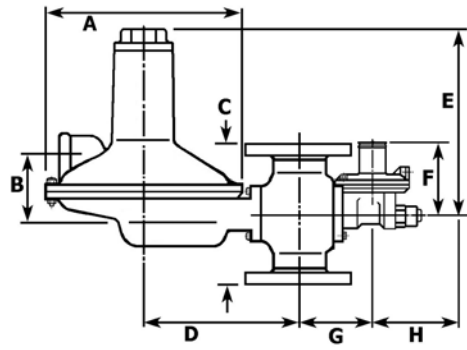
274 (flanged body)

Overall Length – 20"



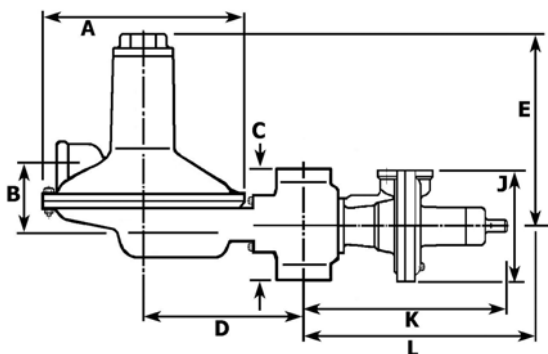
274-290 (screwed body)

Overall Length – 25"



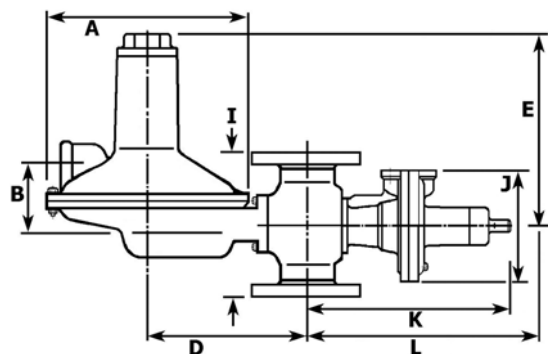
274-290 (flanged body)

Overall Length – 25"



274-309 (screwed body)

Overall Length – 27"



274-309 (flanged body)

Overall Length – 27"

A	B	C	D	E	F	G	H	I	J	K	L
11"	3½"	5¾"	8¼"	10"	3½"	4"	6½"	7½"	4¼"	8½"	12"

MODEL 274 GAS PRESSURE REGULATOR



General Description

External Control Line Versions (E.C.L.)

- Regulators with an external control line have the throat of the regulator blocked with a seal and the outlet pressure measuring chamber (lower diaphragm casing) drilled and tapped for an outlet pressure sensing line. It is recommended that the sensing point is a minimum of 5 times the outlet pipe diameter downstream of the regulator.
- Sensing outlet pressure via an external control line enables the regulator to respond more accurately to the downstream system.

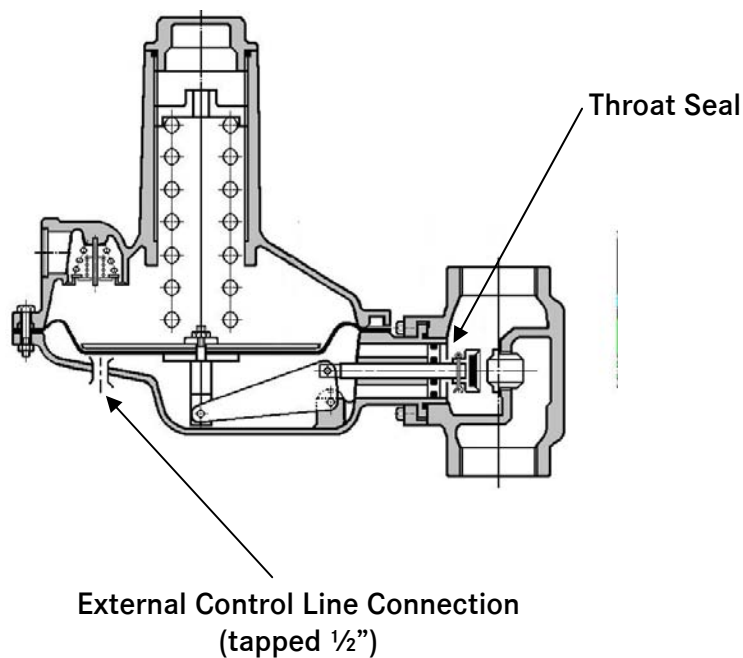
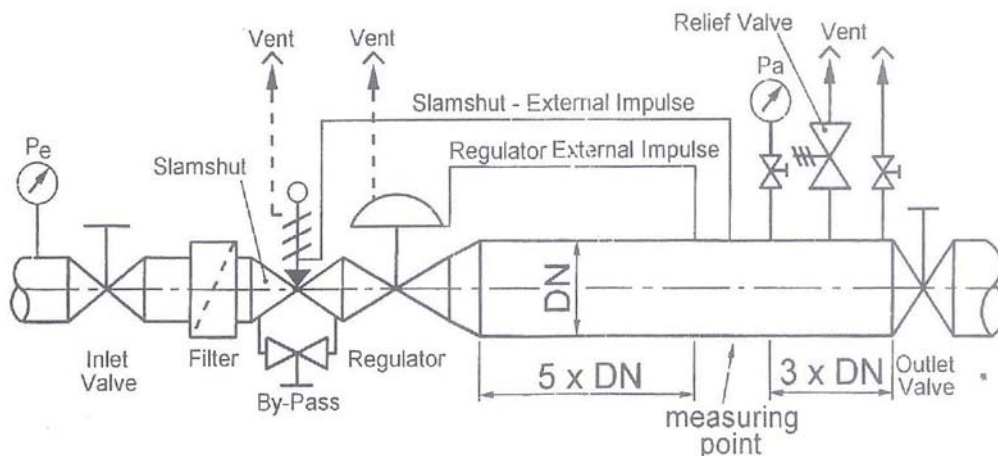


Diagram of Regulator Station and Recommended Location of External Control Line (E.C.L.) Connections



MODEL 274 GAS PRESSURE REGULATOR



General Description

Internal Relief Valve and Safety Slam Shut Valve Options

Regulators for Reduced Clearances or Venting Limitations

- Please contact one of our representatives for more detailed information

Regulators for Indoor Installations without Requirement for Vent-Line

- Please contact one of our representatives for more detailed information

Internal Safety Relief Valve (SRV) Description

- The SRV is designed to monitor the pressure in the outlet chamber or downstream of the regulator and to relieve by either venting gas leakages or full flow capacity (depending on the device design) into the atmosphere in the event of an over-pressure condition.
- If the pressure in the measuring chamber exceeds the force of the set point spring of the relief valve, the diaphragm rises and opens the relief valve. The gas then flows from the outlet pressure line to atmosphere or another desired location.
- The relief gas pressure and flow is discharged until the pressure is returned to the predetermined safe level.
- The safety relief pressure of the internal relief valve occurs slightly above the set pressure of the main spring or outlet pressure

Safety Slam Shut Valve (SSV) Description

- The SSV is designed to monitor the outlet pressure and to interrupt the gas flow, if preset limits are exceeded.
- This preset pressure is adjustable in the field.
- If the measured pressure reaches the set point of the SSV, a release mechanism is triggered and the SSV closes the valve on the inlet pressure side of the regulator. This closing function completely blocks the forward movement of gas past the SSV.
- Safety slam shut valves are available in over pressure cut off (OPCO) protection or under and over pressure cut off (UPCO/OPCO) protection.
- After the SSV is tripped, the condition that triggered the closing of the valve must be addressed and then the SSV can be manually reset.
- Thermal trip protection is also available as an option to shut the gas flow off, if the safety slam shut valve is exposed to high temperatures or engulfed in a fire (T-Type).
- Please contact one of our representatives for the technical brochure on all of our safety slam shut valves.

MODEL 274 GAS PRESSURE REGULATOR



General Description

Commissioning and Installation Instructions

Please contact one of our representatives for the installation and commissioning instructions. Additionally, the commissioning and installation instructions are found in each box that the equipment is shipped in and can be downloaded from the website.

Ordering Information

1. Inlet pressure (minimum and maximum)
2. Outlet pressure requirement
3. Flow requirement (minimum and maximum)
4. Type of gas
5. Temperature
6. Pipe connections (inlet and outlet)
7. Internal or external impulse (sensing)
8. Safety options or requirements (SRV and/or SSV)
9. Vent and body orientation
10. Other critical information (system design or description)

Product Portfolio

- Pressure regulators for every application from domestic, commercial, industrial to transmission line, city gate stations and other gas utility applications.
- Safety relief valves
- Safety slam shut valves
- Metering equipment (rotary displacement, turbine, vortex shedding, ultrasonic)
- Volume correctors (temperature and pressure)
- Filters
- Underground pressure regulator and metering modules
- Ball valves
- Station design and assembly (prefabricated stations, skid-mounted assemblies, small regulator/meter-set assemblies)
- Flame arrestors
- Data logging and software
- Check and non-return valves
- Training and after-sales service

MODEL 274 GAS PRESSURE REGULATOR



General Description

Contact Information



Bryan Donkin RMG Canada Limited
50 Clarke Street South, Woodstock, Ontario, Canada N4S 7Y5
Phone: +1-519-539-8531
Fax: +1-519-537-3339
Email: neil@bdrmgcanada.com
Website: www.bdrmgcanada.com



RMG Regel + Messtechnik GmbH
Osterholzstrasse 45, D-34 123, Kassel, Germany
Phone: +49-561-5007-0
Fax: +49-561-5007-107
Website: www.rmg.de



Bryan Donkin RMG Gas Controls Limited
Enterprise Drive, Holmewood, Chesterfield S42 5UZ England
Phone: +44-1246-501501
Fax: +44-1246-501-500
Website: www.bdrmg.co.uk



Bryan Donkin RMG USA
1246 Highland Avenue, Cheshire, Connecticut, U.S.A. 06410
Phone: +1-866-469-7347 or 1-866-4MY-REGS
Fax: +1-203-272-9860
Website: www.bryandonkinusa.com

Distributor Information