North American 7337A/B/C-4 High Pressure Gas Regulators

7337A-4, 7337B-4 and 7337C-4 Regulators reduce high gas supply pressures to practical use levels. Since capacities will vary with the pressure drop across the regulator, due care must be exercised in properly sizing both the regulator and downstream piping.

These regulators are pilot operated. Therefore they are an excellent choice when the application requires precise pressure control.

SPECIFICATIONS

Body Sizes and End Connections: 2" NPT

Maximum Operating Inlet Pressure: See Table B

Capacities: See Table C

Maximum Emergency Inlet Pressure: See Table B

Maximum Outlet (Casing) Pressure: 35 psig (2.4 bar)

Maximum Operating Outlet Pressure to Avoid Internal Parts Damage - The Outlet Pressure Rating:
5 psig (0.34 bar) above outlet pressure setting

Temperature Capabilities: -20º to 150ºF (-29º to 66ºC)

Pressure Registration: An external, downstream control line is required

SELECTION

When selecting a regulator, specify its complete designation including pipe size code and spring designation or outlet pressure range.

Example: Select a regulator for 15,000 scfh of 0.6 specific gravity natural gas from 20 psig supply pressure to 10 psig outlet pressure.

Solution: Go to Table C. It is determined that a ¾" orifice will pass up to 16,000 scfh of flow. Then go to Table B and select a regulator with a ¾" orifice and the appropriate spring range, which leads to a selection of the 7337B-4-L3.

Table A. Specific Gravity Correction

Sp Gr	Factor
0.4	1.22
0.6	1.00
1.0	0.774
1.5	0.632
2.0	0.547

If the specific gravity of the gas is other than 0.6, divide desired flow by gravity factor to get equivalent flow of natural gas; then select regulator from Table C.

Multiply a given size regulator's natural gas capacity by gravity factor to get regulator capacity with different gas.

INSTALLATION

The North American 7337A/B/C-4 Regulator may be installed in any orientation as long as flow through it matches the direction arrow cast on the body. Preferred installation is with the spring case vertical above the body.

OVERPRESSURE PROTECTION

Like most pressure-reducing regulators, the 7337A/B/C-4 Regulators have outlet pressure ratings that are lower than the inlet pressure ratings. Therefore, a pressure relieving or pressure limiting device is needed if the inlet pressure can exceed the outlet pressure rating, see "Specifications". This regulator dœs not have an internal relief feature.

CAPACITY INFORMATION

Table C provides the natural gas regulating capacities of the 7337A/B/C-4 regulators at specific inlet pressures and outlet pressure settings. Flows are in SCFH (60°F and 14.7 psia) of 0.6 specific gravity gas. For specific gravity conversion factors to other gases, refer to the "Selection" section.

To determine the wide-open flow capacity of a regulator for relief sizing, use the following formulas.

If $\left(\frac{P_1}{P_0} \leq 1.894\right)$:

$$Q = K\sqrt{P_0 (P_1 - P_0)}$$

If $\left(\frac{P_1}{P_0} > 1.894\right)$:

$$Q = \frac{K P_1}{2}$$

P_0 = outlet pressure, psia
P_1 = inlet pressure, psia
Q = flow rate, SCFH
K = regulator constant (see below)

Orifice size	½"	¾"	1"
K	520	1100	1800

Table B. 7337A/B/C-4 Regulator Springs and Maximum Inlet Pressures

Regulator Designation	Outlet Pressure Range	Compression Spring Color	Compression Spring Number	Orifice Size, inches	Max. Operating Inlet Pressure, psig	Max. Emergency Inlet Pressure, psig
7337A-4-G4	3.5-6.5"wc (8.7-16 mbar)	Red	R690-5600	½	150	175
7337A-4-G8	6-14"wc (15-35 mbar)	Green	R690-5608	½	150	175
7337A-4-HG16	12-28"wc (30-70 mbar)	Orange	R690-5603	½	150	175
7337A-4-HG80	1-5 psig (0.07-0.34 bar)	White	R690-5604	½	150	175
7337A-4-L3	3-15 psig (.21-1.0 bar)	Gray	R690-5605	½	150	175
7337A-4-L4	10-35 psig (0.68-2.4 bar)	Brown	R690-5606	½	150	175
7337B-4-G4	3.5-6.5"wc (8.7-16 mbar)	Red	R690-5600	¾	125	175
7337B-4-G8	6-14"wc (15-35 mbar)	Green	R690-5608	¾	125	175
7337B-4-HG16	12-28"wc (30-70 mbar)	Orange	R690-5603	¾	125	175
7337B-4-HG80	1-5 psig (0.07-0.34 bar)	White	R690-5604	¾	125	175
7337B-4-L3	3-15 psig (.21-1.0 bar)	Gray	R690-5605	¾	125	175
7337B-4-L4	10-35 psig (0.68-2.4 bar)	Brown	R690-5606	¾	125	175
7337C-4-G4	3.5-6.5"wc (8.7-16 mbar)	Red	R690-5600	1	60	110
7337C-4-HG16	12-28"wc (30-70 mbar)	Orange	R690-5603	1	60	110
7337C-4-HG80	1-5 psig (0.07-0.34 bar)	White	R690-5604	1	60	110
7337C-4-L3	3-15 psig (.21-1.0 bar)	Gray	R690-5605	1	60	110
7337C-4-L4	10-35 psig (0.68-2.4 bar)	Brown	R690-5606	1	60	110

Table C. 7337A/B/C-4 Capacities

Inlet Pressure psig	Outlet Pressure psig unless otherwise noted	Capacities in scfh		
		1/2" orifice	3/4" orifice	1" orifice
2	3.5" wc	2340	4950	8100
	7" wc	2250	4800	7800
	14"wc	2000	4450	7300
3	3.5" wc	2950	6250	10200
	7" wc	2900	6150	10000
	14"wc	2750	5900	9800
	1	2450	5250	8600
5	3.5" wc	3950	8450	13800
	7" wc	3900	8350	13700
	14"wc	3850	8200	13500
	1	3750	7850	12900
	2	3200	6750	11000
	3	2600	5550	9100
7	3.5" wc	4900	10300	17000
	7" wc	4850	10300	16800
	14"wc	4750	10100	16500
	1	4650	9850	16200
	2	4300	9100	14800
	3	3800	8050	13200
	5	2750	5900	9800
10	3.5" wc	6000	12800	21000
	7" wc	6000	12800	21000
	14"wc	5900	12500	20400
	1	5800	12350	20200
	2	5600	11850	19700
	3	5350	11350	18500
	5	4650	9850	16200
	7	3550	7550	12400
15	1 and less	7700	16300	26700
	2	7500	15950	26000
	3	7300	15500	25400
	5	6800	14500	23600
	7	6300	13400	22000
	10	5000	10700	17500
20	3 and less	9000	19000	31200
	5	8800	18700	30500
	7	8300	17500	28600
	10	7600	16000	26200
	15	5500	11700	19100
25	5 and less	10300	21800	35700
	7	10000	21400	35000
	10	9450	20000	32700
	15	8200	17200	28200
	20	5900	12400	20200

(continued on next page)

Table C. 7337A/B/C-4 Capacities (continued)

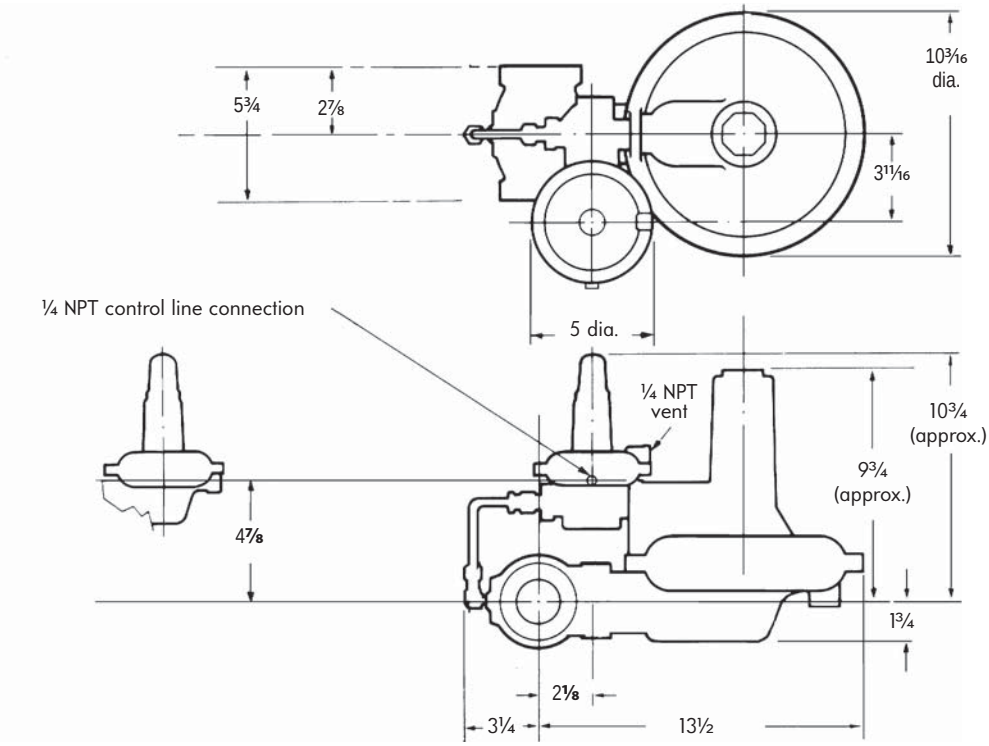
Inlet Pressure psig	Outlet Pressure psig unless otherwise noted	Capacities in scfh		
		1/2" orifice	3/4" orifice	1" orifice
30	7 and less	11600	24500	40200
	10	11300	24000	39400
	15	10000	21700	35500
	20	8750	18500	30400
	25	6300	13200	21600
40	10 and less	14200	30000	49200
	15	14000	29500	48500
	20	12800	27200	44500
	25	11700	24500	40500
	30	9800	20400	33400
	35	7000	14800	24300
50	15 and less	16800	35500	58200
	20	16500	35000	57400
	25	15400	32500	53200
	30	14500	30500	50000
	35	13000	27100	44600
60	20 and less	19400	41000	67200
	25	19000	40500	66000
	30	18500	39000	63500
	35	17000	36400	59500
80	35 and less	24600	52000	——
100	35 and less	29800	62500	——
125	35 and less	36300	76500	——
150	35 and less	41000	——	——

Table D. Materials of Construction

Body	Diaphragm Casing, and Spring Case	Orifice	Diaphragm Plate	Diaphragms	Stem
Cast Iron	Aluminum	Brass	Plated Steel	Buna-A with Nylon Fabric Insert	Brass

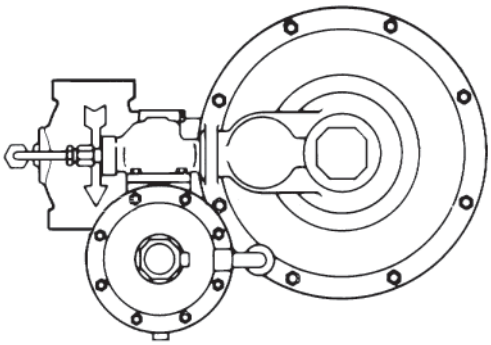
DIMENSIONS inches

7337A/B/C-4 Regulator

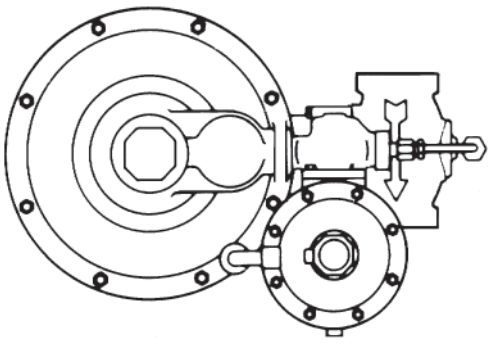


MOUNTING POSITIONS

Position No. 1



Position No. 2



Note: If not specified, position No. 1 will be furnished.

DIMENSIONS SHOWN ARE SUBJECT TO CHANGE. PLEASE OBTAIN CERTIFIED PRINTS FROM FIVES NORTH AMERICAN COMBUSTION, INC. IF SPACE LIMITATIONS OR OTHER CONSIDERATIONS MAKE EXACT DIMENSION(S) CRITICAL.

WARNING: Situations dangerous to personnel and property may exist with the operation and maintenance of any combustion equipment. The presence of fuels, oxidants, hot and cold combustion products, hot surfaces, electrical power in control and ignition circuits, etc., are inherent with any combustion application. Parts of this product may exceed 160F in operation and present a contact hazard. Fives North American Combustion, Inc. urges compliance with National Safety Standards and Insurance Underwriters' recommendations, and care in operation.

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