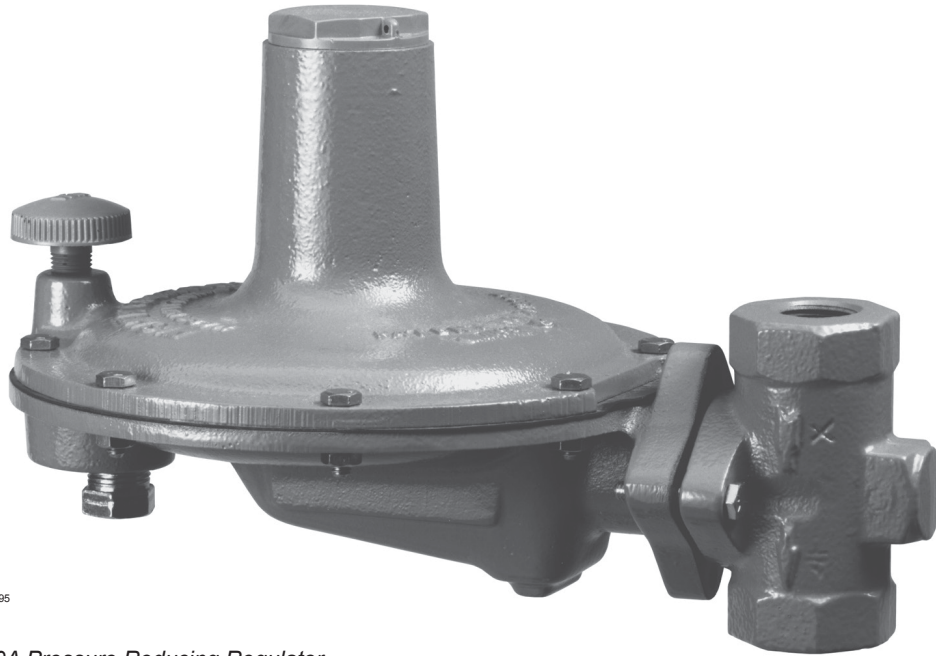


# Y600A Series Pressure Reducing Regulators



W7095

*Figure 1. Type Y600A Pressure Reducing Regulator*

## Introduction

Y600A Series direct-operated, spring-loaded regulators provide economical pressure-reducing control for a variety of residential, commercial, and industrial applications.

The large diaphragm area provides more accurate control at low-pressure settings, and the pitot tube of the Type Y600A or Y600AR regulator also creates a dynamic boost that helps provide greater capacity.

The Type Y600A features internal registration. The Type Y600AR has internal registration and relief. The Type Y600AM uses external registration with a 1/2 NPT downstream control line connection and an O-ring stem seal.

## Features

- **Precision Control at Low-Pressure Settings—** The large diaphragm area provides more accurate control at low-pressure settings. The pitot tube of Types Y600A and Y600AR (Figure 2) regulators also creates a dynamic boost that helps provide greater capacity.
- **Easy Conversion Between Types Y600A and Y600AM—** The throat seal can be modified to either version. A new lower casing is not needed.
- **Tamper-Resistant Adjustment—** The closing cap and spring case (Figure 2) allow the installation of sealing wire to discourage or detect unauthorized adjustment of the pressure setting.
- **Easy to Maintain—** Trim parts can be replaced without removing the regulator body from the pipeline. A two-bolt connection between the body and diaphragm casing simplifies disassembly for maintenance.



# Bulletin 71.1:Y600A

## Specifications

<p><b>Available Configurations</b> See Table 1</p> <p><b>Body Sizes and End Connection Style</b> 3/4 or 1 NPT</p> <p><b>Maximum Inlet Pressure (Body Rating)<sup>(1)</sup></b> 150 psig (10,3 bar)</p> <p><b>Outlet Pressure Ranges<sup>(1)</sup></b> See Table 2</p> <p><b>Maximum Outlet (Casing) Pressure<sup>(1)</sup></b> 20 psig (1,4 bar)</p> <p><b>Maximum Operating Outlet Pressure to Avoid Internal Parts Damage<sup>(1)</sup></b> 2 psig (0,14 bar) above outlet pressure setting</p> <p><b>Flow and Sizing Coefficients</b> See Table 4</p>	<p><b>Pressure Registration</b> See Table 1</p> <p><b>Temperature Capabilities<sup>(1)</sup></b> -20° to 180°F (-29° to 82°C)</p> <p><b>Spring Case Vent Connection</b> 1/4 NPT</p> <p><b>Diaphragm Case (Control Line) Connection</b> 1/2 NPT</p> <p><b>Construction Materials</b> See Table 5</p> <p><b>Pressure Setting Adjustment</b> Adjusting screw</p> <p><b>Approximate Weight</b> 13 pounds (6 kg)</p>
--	---

1. The pressure/temperature limits in this Bulletin and any applicable standard or code limitation should not be exceeded.

**Table 1. Available Configurations**

CONSTRUCTION FEATURE	TYPE NUMBER		
	Y600A	Y600AR	Y600AM
Internal pressure registration with pitot tube	X	X	----
External pressure registration with 1/2 NPT downstream control line connection and O-ring stem seal	----	----	X
Internal relief	----	X	----

## Construction Features

- Internal Relief**—The Type Y600AR regulator (Figure 2) has limited capacity internal relief across the diaphragm to help minimize overpressure that could occur due to seat leakage. Any outlet pressure above the start-to-discharge point of the non-adjustable relief valve spring moves the diaphragm off the relief valve seat, allowing excess pressure to bleed out through the spring case vent.
- Downstream Control Line Connection**—The Type Y600AM regulator (Figure 2) has a blocked throat and a 1/2 NPT control line tapping in the diaphragm casing. A regulator with a downstream control line is used for monitoring installations or other applications where there is other equipment installed between the regulator and the pressure control point.

**Table 2. Outlet Pressure Ranges**

TYPES	CONTROL SPRING COLOR	CONTROL SPRING PART NUMBER	SPRING WIRE DIAMETER, INCHES (mm)	SPRING FREE LENGTH, INCHES (mm)	OUTLET PRESSURE RANGE WITH SPRING CASE ABOVE DIAPHRAGM <sup>(1)</sup>	APPROXIMATE POINT ABOVE PRESSURE SETTING AT WHICH TYPE Y600AR INTERNAL RELIEF START-TO-DISCHARGE
Y600A, Y600AM, Y600AR	Red	1B653827052	0.085 (2,16)	3.625 (92,1)	4 to 8-inches w.c. (10 to 20 mbar)	10 to 24-inches w.c. (25 to 60 mbar)
	Unpainted	1B653927022	0.105 (2,67)	3.750 (95,2)	7 to 16-inches w.c. (17 to 40 mbar)	10 to 26-inches w.c. (25 to 65 mbar)
	Yellow	1B537027052	0.114 (2,90)	4.312 (110)	15-inches w.c. to 1.2 psig (37 to 83 mbar)	
	Green	1B537127022	0.156 (3,96)	4.060 (103)	1.2 to 2.5 psig (0,08 to 0,17 bar)	0.5 to 2 psig (0,03 to 0,14 bar)
	Light blue	1B537227022	0.187 (4,75)	3.938 (100)	2.5 to 4.5 psig (0,17 to 0,31 bar)	0.5 to 3 psig (0,03 to 0,21 bar)
	Black	1B537327052	0.218 (5,54)	3.980 (101)	4.5 to 7 psig (0,31 to 0,48 bar)	1 to 4 psig (0,07 to 0,28 bar)

1. Minimum outlet pressure setting may be approximately 1-inch w.c. (2 mbar) lower if spring case is below diaphragm.

**Table 3. Maximum Operating Inlet Pressures**

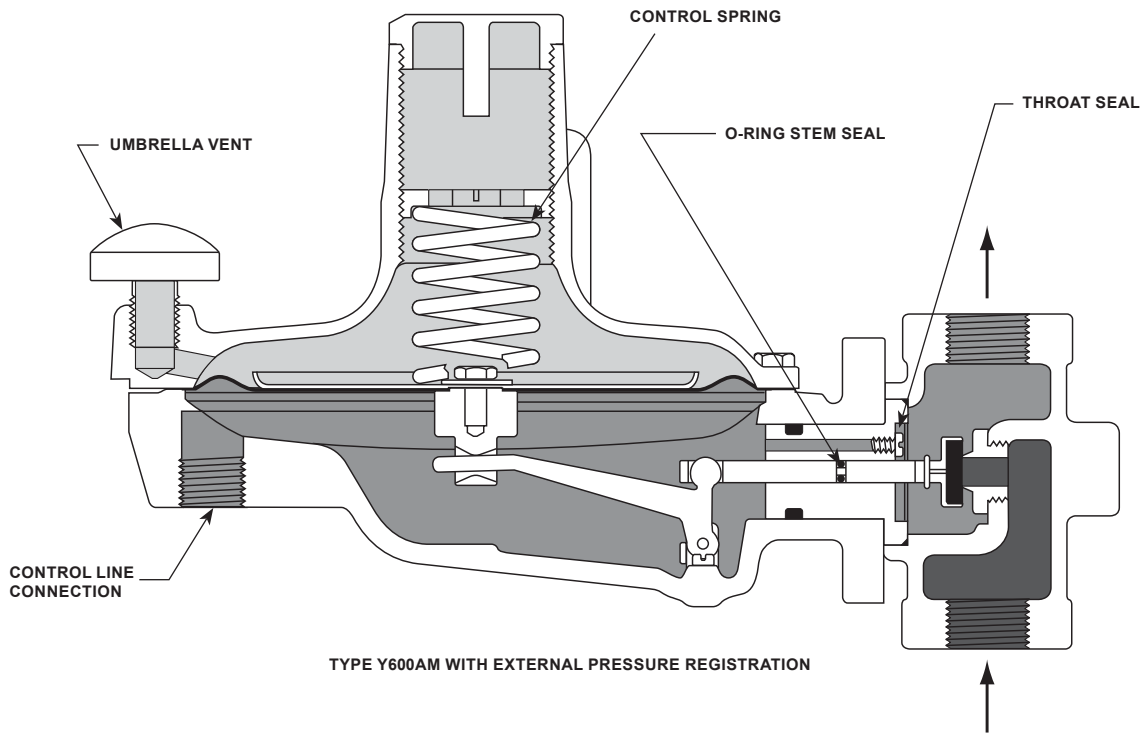
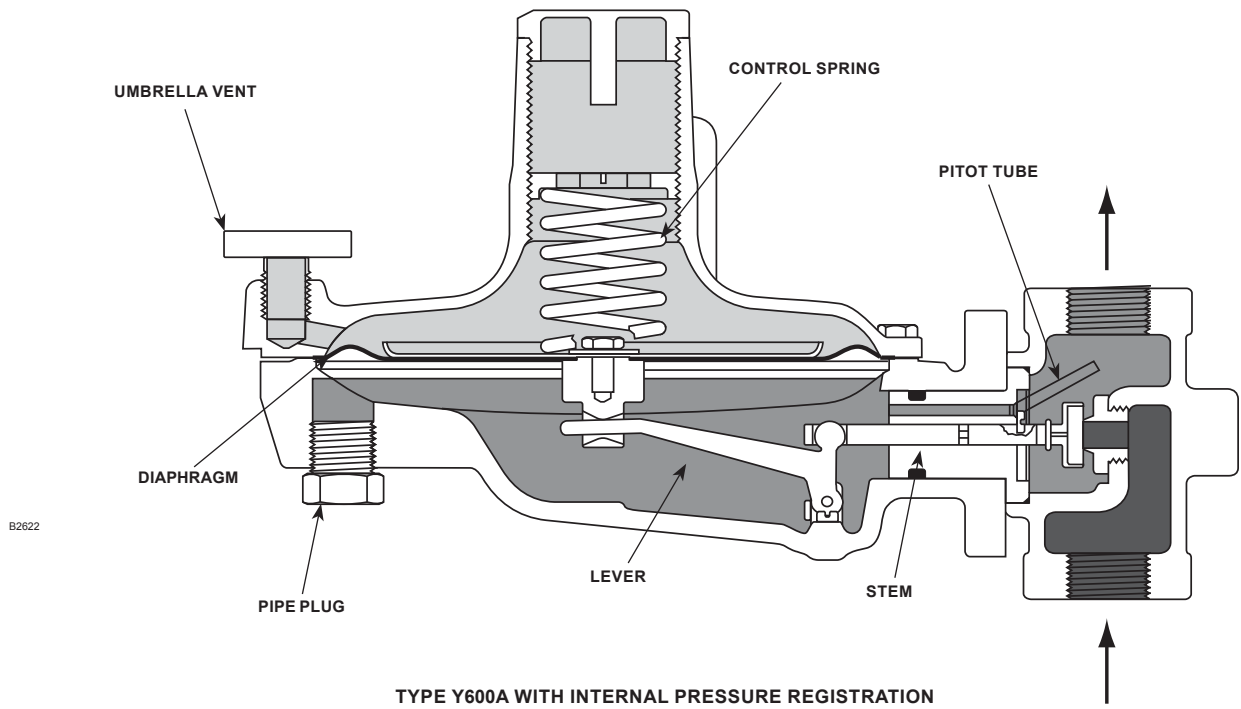
ORIFICE SIZE, INCHES (mm)	MAXIMUM OPERATING INLET PRESSURE, PSIG (bar)			
	With 1.2 Psig (0,08 bar) or Less Outlet Pressure Setting	With 1.2 to 2.5 Psig (0,08 to 0,17 bar) Outlet Pressure Setting	With 2.5 to 4.5 Psig (0,17 to 0,31 bar) Outlet Pressure Setting	With 4.5 to 7 Psig (0,31 to 0,48 bar) Outlet Pressure Setting
1/8 (3,2)	150 (10,3)	150 (10,3)	150 (10,3)	150 (10,3)
3/16 (4,8)				
1/4 (6,3)	75 (5,2)	60 (4,1)	60 (4,1)	60 (4,1)
3/8 (9,5)	35 (2,4)			
1/2 (13)	8 (0,55)	10 (0,69)	12 (0,83)	12 (0,83)
9/16 (14)	5 (0,34)	6 (0,41)	8 (0,55)	8 (0,55)

**Table 4. Flow and Sizing Coefficients**

ORIFICE SIZE, INCHES (mm)	WIDE-OPEN FLOW COEFFICIENTS FOR EXTERNAL RELIEF SIZING		C <sub>1</sub>	IEC SIZING COEFFICIENTS		
	C <sub>g</sub>	C <sub>v</sub>		X <sub>T</sub>	F <sub>D</sub>	F <sub>L</sub>
1/8 (3,2)	12.3	0.35	35	0.78	0.50	0.89
3/16 (4,8)	27.6	0.79				
1/4 (6,3)	50	1.43				
3/8 (9,5)	110	3.14				
1/2 (13)	200	5.71				
9/16 (14)	250	7.14				

**Table 5. Construction Materials**

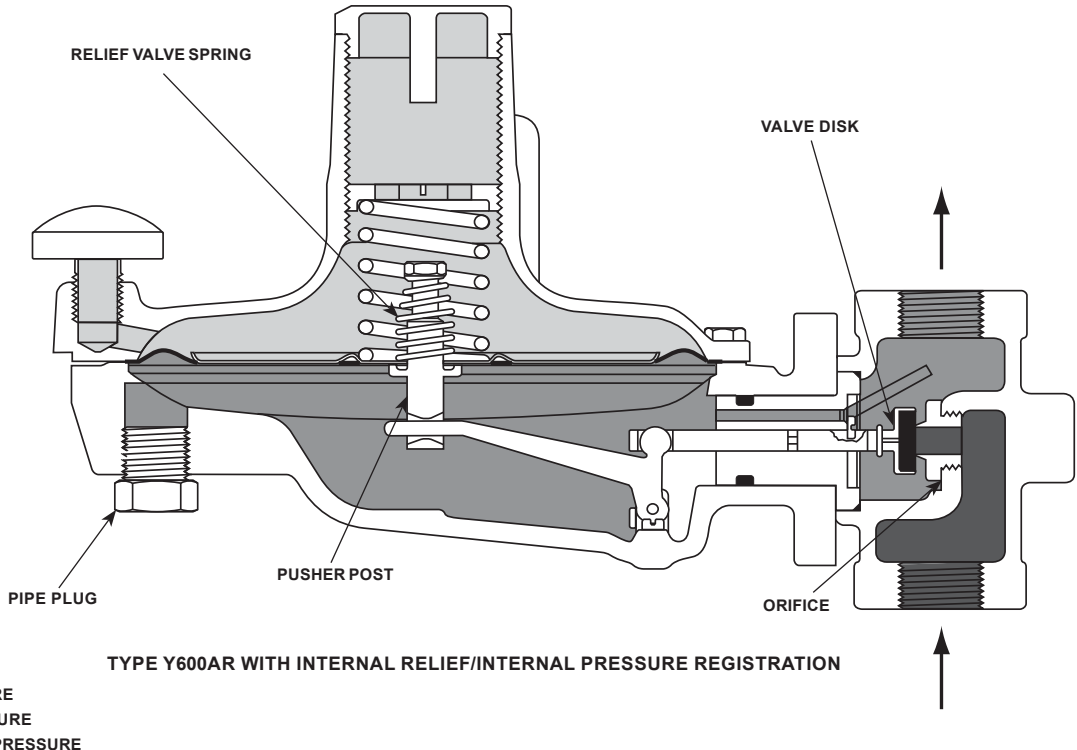
BODY, DIAPHRAGM CASING, AND SPRING CASE	ORIFICE	SPRING AND LEVER	DIAPHRAGM AND DISK	PUSHER POST	ADJUSTING SCREW AND DISK HOLDER	CLOSING CAP	STEM	PITOT TUBE (FOR TYPES Y600A AND Y600AR ONLY) AND RELIEF VALVE SPRING
Cast iron	Aluminum	Zinc-plated steel	Nitrile (NBR)	Types Y600A and Y600AM: Aluminum Type Y600AR: Zinc	Aluminum	Thermoplastic	Stainless steel	Stainless steel



W7325

- INLET PRESSURE
- OUTLET PRESSURE
- ATMOSPHERIC PRESSURE

**Figure 2. Y600A Series Operational Schematic**



B2623  
 ■ INLET PRESSURE  
 ■ OUTLET PRESSURE  
 ■ ATMOSPHERIC PRESSURE

Figure 2. Y600A Series Operational Schematic (continued)

**Principle of Operations**

Refer to Figure 2. When downstream demand decreases, the pressure under the diaphragm increases. This pressure overcomes the regulator setting (which is set by a spring). Through the action of the pusher post assembly, the valve disk moves closer to the orifice and reduces gas flow. If demand downstream increases, pressure under the diaphragm decreases. Spring force pushes the pusher post assembly downward and the valve disk moves away from the orifice.

The Type Y600AR regulator includes an internal relief valve for over pressure protection. If the downstream pressure exceeds the regulator setting by 10-inches w.c. to 4 psig (25 mbar to 0,28 bar) (depending on the main spring used), the relief valve opens and excess gas is vented through the stabilizer vent in the upper spring case.

**Installation**

A Y600A Series regulator may be installed in any orientation as long as flow through it matches the direction of the arrow cast on the body. Normal installation is with the spring case vertical above or below the diaphragm case. External dimensions and connections are shown in Figure 3.

Fisher® provides an instruction manual with every regulator shipped. Refer to this for complete installation, operation and maintenance instructions. Included is a complete listing of individual parts and recommended spare parts.

**Overpressure Protection**

Like most pressure-reducing regulators, Y600A Series regulators have outlet pressure ratings that are lower than their inlet pressure ratings. A pressure relieving or pressure limiting device is needed if the inlet pressure can exceed the outlet pressure rating. A Type Y600AR regulator—because of its internal relief—does provide limited downstream overpressure protection, but this internal relief should not be considered complete protection against overpressure. Overpressuring any portion of a regulator or associated equipment may cause personal injury, leakage, or property damage due to bursting of pressure-containing parts or explosion of accumulated gas. Regulator operation within ratings does not prevent the possibility of damage from external sources or from debris in the pipeline. Refer to the Capacity Information section and the relief sizing coefficients in Table 4 to determine the required relief valve capacity.

# Bulletin 71.1:Y600A

## Capacity Information

Tables 6 and 7 give the natural gas regulating capacities of Y600A Series regulators at selected inlet pressures and outlet pressure settings. Flows are in SCFH (60°F and 14.7 psia) of 0.6 specific gravity gas. To determine equivalent capacities for air, propane, butane, or nitrogen, multiply the Table 6 or 7 capacity by the following appropriate conversion factor: 0.775 for air, 0.628 for propane, 0.548 for butane, or 0.789 for nitrogen. For gases of other specific gravities, multiply the given capacity by 0.775, and divide by the square root of the appropriate specific gravity. Then, if capacity is desired in normal cubic meters per hour at 0°C and 1,01325 bar, multiply SCFH by 0.0168. To determine wide-open flow capacities for relief sizing, use the following formula:

where,

$$Q = \sqrt{\frac{520}{GT}} C_g P_1 \text{SIN} \left( \frac{3417}{C_1} \sqrt{\frac{\Delta P}{P_1}} \right) \text{deg}$$

- $C_g$  = gas sizing coefficient from Table 4
- $C_1$  =  $C_g / C_v$ , or 35 from Table 4
- $G$  = gas specific gravity (air = 1.0)
- $P_{1\text{abs}}$  = inlet pressure, psia (add 14.7 psi to gauge inlet pressure to obtain absolute inlet pressure)
- $Q$  = flow rate, SCFH
- $T$  = absolute temperature of gas at inlet in °Rankine
- $\Delta P$  = differential pressure, psid

**Table 6. Y600A Series Capacities for 3/4 NPT Body Size**

OUTLET PRESSURE RANGE, CONTROL SPRING PART NUMBER, AND COLOR	OFFSET FROM SETPOINT	OUTLET PRESSURE SETTING	INLET PRESSURE, PSIG (bar)	3/4 NPT BODY SIZE					
				Capacities in SCFH (Nm³/h) of 0.6 Specific Gravity Natural Gas					
				Orifice Size, Inches (mm)					
				1/8 (3,2)	3/16 (4,8)	1/4 (6,3)	3/8 (9,5)	1/2 (13)	9/16 (14)
4 to 8-inches w.c. (10 to 20 mbar) 1B653827052 Red	1-inch w.c. (2 mbar)	7-inches w.c. (17 mbar)	1 (0,07)	90 (2,4)	170 (4,6)	230 (6,2)	250 (6,7)	410 (11,0)	440 (11,8)
			5 (0,34)	220 (5,9)	280 (7,5)	450 (12,1)	490 (13,1)	520 (13,9)	970 (25,9)
			8 (0,55)	230 (6,2)	480 (12,9)	530 (14,2)	540 (14,5)	590 (15,8)	
			20 (1,4)	520 (13,9)	600 (16,1)	620 (16,6)	650 (17,4)		
			35 (2,4)	660 (17,7)	670 (18,0)	840 (22,5)	900 (24,1)		
			75 (5,2)	770 (20,6)	840 (22,5)	960 (25,7)			
			150 (10,3)	1680 (45,0)	2310 (61,9)				
7 to 16-inches w.c. (17 to 40 mbar) 1B653927022 Unpainted	1-inch w.c. (2 mbar)	11-inches w.c. (27 mbar)	1 (0,07)	90 (2,4)	130 (3,5)	160 (4,3)	190 (5,1)	230 (6,2)	250 (6,7)
			5 (0,34)	160 (4,3)	250 (6,7)	280 (7,5)	350 (9,4)	530 (14,2)	750 (20,1)
			8 (0,55)	170 (4,6)	350 (9,4)	430 (11,5)	450 (12,1)	540 (14,5)	
			20 (1,4)	350 (9,4)	490 (13,1)	590 (15,8)	610 (16,3)		
			35 (2,4)	520 (13,9)	530 (14,2)	620 (16,6)	650 (17,4)		
			75 (5,2)	650 (17,4)	660 (17,7)	940 (25,2)			
			150 (10,3)	1680 (45,0)	2060 (55,2)				
15-inches w.c. to 1.2 psig (37 mbar to 83 mbar) 1B537027052 Yellow	5.5-inches w.c. (14 mbar)	15-inches w.c. (37 mbar)	2 (0,14)	90 (2,4)	340 (9,1)	500 (13,4)	900 (24,1)	1100 (29,5)	1150 (30,8)
			6 (0,41)	250 (6,7)	540 (14,5)	930 (24,9)	1640 (43,9)	2100 (56,3)	
			10 (0,69)	340 (9,1)	800 (21,4)	1380 (37,0)	1940 (51,9)		
			30 (2,1)	680 (18,2)	1450 (38,8)	2390 (64,0)	2450 (65,7)		
			60 (4,1)	1160 (31,1)	2460 (66,0)	3480 (93,3)			
			150 (10,3)	2570 (68,8)	2710 (72,6)				
			2 (0,14)	90 (2,4)	260 (7,0)	410 (11,0)	600 (16,1)	810 (21,7)	700 (18,7)
	6 (0,41)	250 (6,7)	460 (12,3)	700 (18,7)	1290 (34,6)	1420 (38,0)			
	10 (0,69)	310 (8,3)	660 (17,7)	1020 (27,3)	1420 (38,0)				
	30 (2,1)	670 (18,0)	1109 (29,7)	2060 (55,2)	2430 (65,1)				
	60 (4,1)	1140 (30,6)	2180 (58,4)	3350 (89,8)					
	150 (10,3)	2480 (66,5)	2650 (71,0)						

- Shaded areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

- continued -

**Table 6. Y600A Series Capacities for 3/4 NPT Body Size (continued)**

OUTLET PRESSURE RANGE, CONTROL SPRING PART NUMBER, AND COLOR	OFFSET FROM SETPOINT	OUTLET PRESSURE SETTING	INLET PRESSURE, PSIG (bar)	3/4 NPT BODY SIZE					
				Capacities in SCFH (Nm <sup>3</sup> /h) of 0.6 Specific Gravity Natural Gas					
				Orifice Size, Inches (mm)					
				1/8 (3,2)	3/16 (4,8)	1/4 (6,3)	3/8 (9,5)	1/2 (13)	9/16 (14)
1.2 to 2.5 psig (83 to 172 mbar) 1B537127022 Green	0.2 psig (14 mbar)	1.2 psig (83 mbar)	2 (0,14)	120 (3,2)	170 (4,6)	220 (5,9)	350 (9,4)	490 (13,1)	520 (13,9)
			6 (0,41)	180 (4,8)	340 (9,1)	450 (12,1)	740 (19,8)	850 (22,8)	1070 (28,7)
			10 (0,69)	190 (5,1)	440 (11,8)	590 (15,8)	1010 (27,0)	1170 (31,3)	
			30 (2,1)	560 (15,0)	900 (24,1)	1550 (41,5)	1720 (46,1)		
			60 (4,1)	860 (23,1)	1110 (29,7)	2480 (66,5)	2340 (62,7)		
		150 (10,3)	1990 (53,3)	3480 (93,3)	3500 (93,8)				
		2.5 psig (172 mbar)	6 (0,41)	140 (3,8)	190 (5,1)	260 (7,0)	450 (12,1)	590 (15,8)	680 (18,2)
			10 (0,69)	170 (4,6)	340 (9,1)	490 (13,1)	570 (15,3)	860 (23,1)	
			30 (2,1)	430 (11,5)	660 (17,7)	980 (26,3)	1030 (27,6)		
			60 (4,1)	750 (20,1)	850 (22,8)	1940 (51,9)	2250 (60,3)		
150 (10,3)	1480 (39,7)		2320 (62,2)	3350 (89,8)					
2.5 to 4.5 psig (172 to 310 mbar) 1B537227022 Light blue	0.3 psig (21 mbar)	2.5 psig (172 mbar)	4 (0,28)	130 (3,5)	180 (4,8)	190 (5,1)	310 (8,3)	370 (9,9)	480 (12,9)
			8 (0,55)	140 (3,8)	280 (7,5)	360 (9,6)	520 (13,9)	710 (19,0)	800 (21,4)
			12 (0,82)	190 (5,1)	360 (9,6)	490 (13,1)	680 (18,2)	930 (24,9)	
			30 (2,1)	430 (11,5)	620 (16,6)	900 (24,1)	1110 (29,7)		
			60 (4,1)	660 (17,7)	1010 (27,0)	1730 (46,4)	1830 (49,0)		
		150 (10,3)	1570 (42,1)	2060 (55,2)	4620 (124)				
		4.5 psig (310 mbar)	8 (0,55)	120 (3,2)	190 (5,1)	250 (6,7)	400 (10,7)	520 (13,9)	540 (14,5)
			12 (0,82)	160 (4,3)	210 (5,6)	320 (8,6)	530 (14,2)	720 (19,3)	
			30 (2,1)	300 (8,0)	460 (12,3)	760 (20,4)	830 (22,2)		
			60 (4,1)	590 (15,8)	810 (21,7)	1230 (32,9)	1340 (36,0)		
150 (10,3)	1230 (32,9)		1640 (43,9)	3610 (96,8)					
4.5 to 7 psig (310 to 483 mbar) 1B537327052 Black	0.7 psig (48 mbar)	4.5 psig (310 mbar)	9 (0,62)	190 (5,1)	310 (8,3)	430 (11,5)	620 (16,6)	930 (24,9)	990 (26,5)
			12 (0,83)	210 (5,6)	400 (10,7)	560 (15,0)	810 (21,7)	1150 (30,8)	
			30 (2,1)	520 (13,9)	860 (23,1)	1100 (29,5)	1810 (48,5)		
			60 (4,1)	860 (23,1)	1520 (40,7)	2050 (55,0)	2710 (72,6)		
			150 (10,3)	1960 (52,5)	3480 (93,3)	5040 (135)			
		7 psig (483 mbar)	9 (0,62)	160 (4,3)	210 (5,6)	270 (7,2)	520 (13,9)	620 (16,6)	660 (17,7)
			12 (0,83)	190 (5,1)	310 (8,3)	370 (9,9)	650 (17,4)	860 (23,1)	
			30 (2,1)	370 (9,9)	700 (18,7)	900 (24,1)	1330 (35,6)		
			60 (4,1)	800 (21,4)	1290 (34,6)	1720 (46,1)	2450 (65,7)		
			150 (10,3)	1910 (51,2)	3350 (89,8)	4050 (109)			

- Shaded areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

# Bulletin 71.1:Y600A

**Table 7. Y600A Series Capacities for 1 NPT Body Size**

OUTLET PRESSURE RANGE, CONTROL SPRING PART NUMBER, AND COLOR	OFFSET FROM SETPOINT	OUTLET PRESSURE SETTING	INLET PRESSURE, PSIG (bar)	1 NPT BODY SIZE					
				Capacities in SCFH (Nm <sup>3</sup> /h) of 0.6 Specific Gravity Natural Gas					
				Orifice Size, Inches (mm)					
				1/8 (3,2)	3/16 (4,8)	1/4 (6,3)	3/8 (9,5)	1/2 (13)	9/16 (14)
4 to 8-inches w.c. (10 to 20 mbar) 1B653827052 Red	1-inch w.c. (2 mbar)	7-inches w.c. (17 mbar)	1 (0,07)	90 (2,4)	220 (5,9)	250 (6,7)	300 (8,0)	410 (11,0)	530 (14,2)
			5 (0,34)	220 (5,9)	430 (11,5)	450 (12,1)	1140 (30,6)	1900 (50,9)	1920 (51,5)
			8 (0,55)	230 (6,2)	490 (13,1)	530 (14,2)	2140 (57,4)	2360 (63,3)	
			20 (1,4)	520 (13,9)	970 (25,9)	1810 (48,5)	1170 (31,4) <sup>(1)</sup>		
			35 (2,4)	710 (19,0)	1480 (39,7)	2300 (61,6) <sup>(1)</sup>	930 (24,9) <sup>(1)</sup>		
			75 (5,2)	1030 (27,6)	1100 (29,5) <sup>(1)</sup>	1390 (37,3) <sup>(1)</sup>			
			150 (10,3)	1680 (45,0) <sup>(1)</sup>	1160 (31,1) <sup>(1)</sup>				
7 to 16-inches w.c. (17 to 40 mbar) 1B653927022 Unpainted	1-inch w.c. (2 mbar)	11-inches w.c. (27 mbar)	1 (0,07)	90 (2,4)	160 (4,3)	170 (4,6)	210 (5,6)	230 (6,2)	250 (6,7)
			5 (0,34)	160 (4,3)	300 (8,0)	310 (8,3)	520 (13,9)	620 (16,6)	1160 (31,1)
			8 (0,55)	170 (4,6)	360 (9,6)	430 (11,5)	1160 (31,1)	1460 (39,1)	
			20 (1,4)	350 (9,4)	580 (15,5)	780 (20,9)	1630 (43,7)		
			35 (2,4)	560 (15,0)	1030 (27,6)	2840 (76,1)	1190 (31,8) <sup>(1)</sup>		
			75 (5,2)	1230 (32,9)	1290 (34,6)	1510 (40,5) <sup>(1)</sup>			
			150 (10,3)	1740 (46,6)	1240 (33,2) <sup>(1)</sup>				
15-inches w.c. to 1.2 psig (37 mbar to 83 mbar) 1B537027052 Yellow	5.5-inches w.c. (14 mbar)	15-inches w.c. (37 mbar)	2 (0,14)	90 (2,4)	460 (12,3)	500 (13,4)	1100 (29,5)	1160 (31,1)	1300 (34,8)
			6 (0,41)	250 (6,7)	750 (20,1)	930 (24,9)	2500 (67,0)	2800 (75,0)	
			10 (0,69)	340 (9,1)	920 (24,7)	1590 (42,6)	3250 (87,1)		
			30 (2,1)	680 (18,2)	1560 (41,8)	2830 (75,8)	5460 (146)		
			60 (4,1)	1160 (31,1)	2550 (68,3)	4620 (124)			
			150 (10,3)	2570 (68,9)	2770 (74,2)				
	1.2 psig (83 mbar)	1.2 psig (83 mbar)	2 (0,14)	90 (2,4)	400 (10,7)	460 (12,3)	820 (22,0)	840 (22,5)	900 (24,1)
			6 (0,41)	250 (6,7)	630 (16,9)	700 (18,7)	1550 (41,5)	1610 (43,1)	
			10 (0,69)	320 (8,6)	860 (23,1)	1020 (27,3)	2320 (62,2)		
			30 (2,1)	670 (18,0)	1540 (41,3)	2550 (68,3)	4390 (118)		
			60 (4,1)	1140 (30,6)	2550 (68,3)	4190 (112)			
			150 (10,3)	2570 (68,9)	3100 (83,1)				

1. Indicates capacity limited due to boost.  
 - Shaded areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.

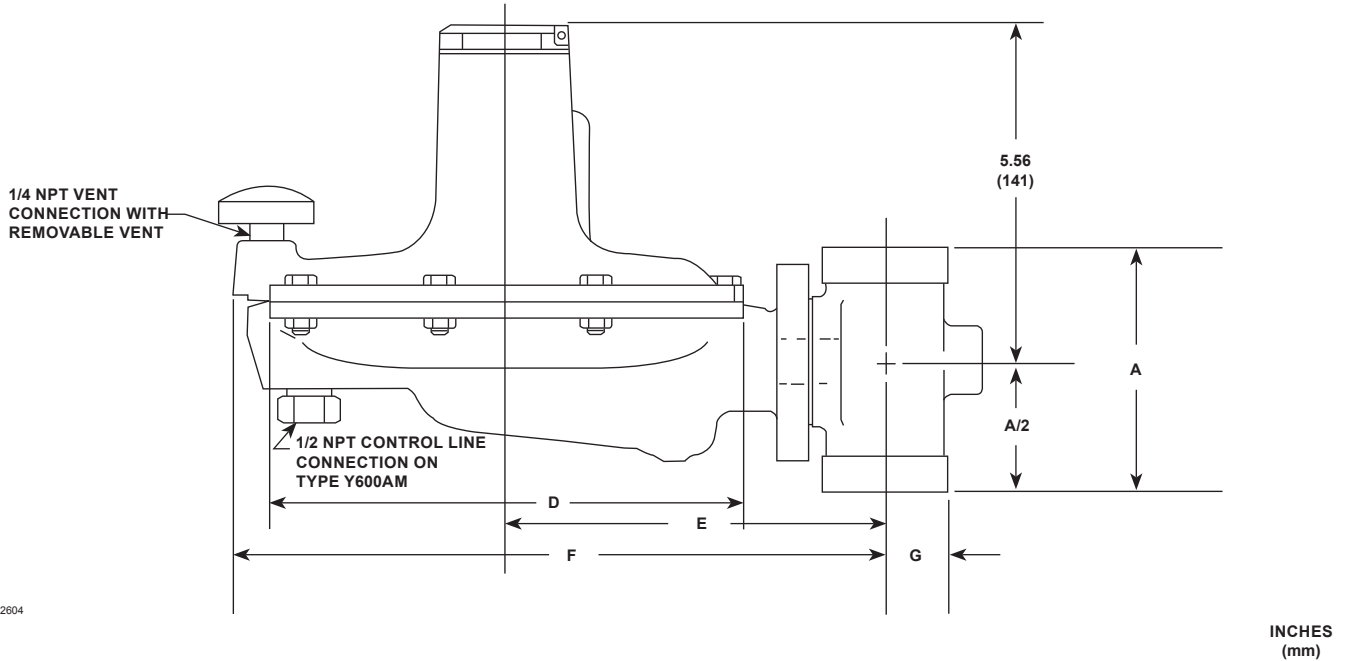
- continued -



**Table 7. Y600A Series Capacities for 1 NPT Body Size (continued)**

OUTLET PRESSURE RANGE, CONTROL SPRING PART NUMBER, AND COLOR	OFFSET FROM SETPOINT	OUTLET PRESSURE SETTING	INLET PRESSURE, PSIG (bar)	1 NPT BODY SIZE					
				Capacities in SCFH (Nm <sup>3</sup> /h) of 0.6 Specific Gravity Natural Gas					
				Orifice Size, Inches (mm)					
				1/8 (3,2)	3/16 (4,8)	1/4 (6,3)	3/8 (9,5)	1/2 (13)	9/16 (14)
1.2 to 2.5 psig (83 to 172 mbar) 1B537127022 Green	0.2 psig (14 mbar)	1.2 psig (83 mbar)	2 (0,14)	120 (3,2)	210 (5,6)	230 (6,2)	360 (9,6)	620 (16,6)	660 (17,7)
			6 (0,41)	180 (4,8)	340 (9,1)	450 (12,1)	750 (20,1)	880 (23,6)	1080 (29,0)
			10 (0,69)	190 (5,1)	560 (15,0)	650 (17,4)	1150 (30,8)	1750 (47,0)	
			30 (2,1)	630 (16,9)	1230 (32,9)	1600 (42,9)	1910 (51,2)		
			60 (4,1)	1010 (27,0)	2450 (65,7)	3600 (96,5)	2420 (64,9)		
	2.5 psig (172 mbar)	1.2 psig (83 mbar)	150 (10,3)	2440 (65,4)	3480 (93,3)	3870 (104)			
			6 (0,41)	140 (3,8)	260 (7,0)	270 (7,2)	500 (13,4)	670 (18,0)	680 (18,2)
			10 (0,69)	180 (4,8)	450 (12,1)	490 (13,1)	710 (19,0)	860 (23,1)	
			30 (2,1)	570 (15,3)	720 (19,3)	1030 (27,6)	1640 (43,9)		
			60 (4,1)	850 (22,8)	1830 (49,1)	2520 (67,5)	3130 (83,9)		
2.5 to 4.5 psig (172 to 310 mbar) 1B537227022 Light blue	0.3 psig (21 mbar)	2.5 psig (172 mbar)	4 (0,28)	140 (3,8)	180 (4,8)	190 (5,1)	410 (11,0)	430 (11,5)	480 (12,9)
			8 (0,55)	180 (4,8)	320 (8,6)	360 (9,6)	710 (19,0)	740 (19,8)	900 (24,1)
			12 (0,82)	190 (5,1)	400 (10,7)	490 (13,1)	930 (24,9)	960 (25,7)	
			30 (2,1)	430 (11,5)	620 (16,6)	900 (24,1)	1830 (49,0)		
			60 (4,1)	660 (17,7)	1610 (43,1)	1740 (46,6)	2970 (79,6)		
	4.5 psig (310 mbar)	2.5 psig (172 mbar)	150 (10,3)	2010 (53,9)	4090 (110)	6660 (178)			
			8 (0,55)	120 (3,2)	190 (5,1)	250 (6,7)	490 (13,1)	520 (13,9)	540 (14,5)
			12 (0,82)	160 (4,3)	210 (5,6)	320 (8,6)	610 (16,3)	850 (22,8)	
			30 (2,1)	390 (10,4)	520 (13,9)	760 (20,4)	1360 (36,4)		
			60 (4,1)	630 (16,9)	840 (22,5)	1230 (32,9)	2580 (69,1)		
4.5 to 7 psig (310 to 483 mbar) 1B537327052 Black	0.7 psig (48 mbar)	4.5 psig (310 mbar)	9 (0,62)	210 (5,6)	310 (8,3)	430 (11,5)	770 (20,6)	970 (25,9)	1050 (28,1)
			12 (0,83)	230 (6,2)	400 (10,7)	560 (15,0)	1010 (27,0)	1290 (34,6)	
			30 (2,1)	520 (13,9)	860 (23,1)	1100 (29,5)	2080 (55,7)		
			60 (4,1)	880 (23,6)	1520 (40,7)	2050 (55,0)	3650 (97,8)		
			150 (10,3)	2060 (55,2)	3510 (94,1)	6000 (161)			
	7 psig (483 mbar)	4.5 psig (310 mbar)	9 (0,62)	160 (4,3)	210 (5,6)	270 (7,2)	590 (15,8)	620 (16,6)	660 (17,7)
			12 (0,83)	210 (5,6)	310 (8,3)	370 (9,9)	770 (20,6)	890 (23,9)	
			30 (2,1)	370 (9,9)	700 (18,7)	900 (24,1)	1650 (44,2)		
			60 (4,1)	800 (21,4)	1290 (34,6)	1720 (46,1)	2760 (74,0)		
			150 (10,3)	2010 (53,9)	3390 (90,9)	4140 (111)			

Shaded areas indicate where maximum operating inlet pressure for a given orifice size is exceeded.



B2604

BODY SIZE	DIMENSION, INCHES (mm)					APPROXIMATE SHIPPING WEIGHT, POUNDS (kg)
	A	D (Diameter)	E	F	G	
3/4 and 1	4 (102)	8.38 (213)	6.25 (159)	10.69 (272)	1.00 (25)	13 (6)

Figure 3. Dimensions

## Ordering Information

When ordering, specify:

### Application

1. Type of regulator
2. Body, spring case, diaphragm case, and trim materials
3. Control spring range in psig (bar)

## Construction

Refer to the Specifications section on page 2 and to each referenced table. Specify the desired selection whenever there is a choice to be made. Always be sure to specify the regulator type number.

**Ordering Guide**

**Type (Select One)**

- Y600A (internal pressure registration)\*\*\*
- Y600AM (external pressure registration)\*\*
- Y600AR (internal relief/internal pressure registration)\*\*

**Body Size (Select One)**

- 3/4 NPT\*\*\*
- 1 NPT\*\*\*

**Orifice Size (Select One)**

- 1/8-inch (3,2 mm)\*\*\*
- 3/16-inch (4,8 mm)\*\*\*
- 1/4-inch (6,4 mm)\*\*\*
- 3/8-inch (9,5 mm)\*\*\*
- 1/2-inch (13 mm)\*\*\*
- 9/16-inch (14 mm)\*\*\*

**Outlet Pressure Ranges (Select One)**

- 4 to 8-inches w.c. (10 to 20 mbar), Red\*\*\*
- 7 to 16-inches w.c. (17 to 40 mbar), Unpainted\*\*\*
- 15-inches w.c. to 1.2 psig (37 to 83 mbar), Yellow\*\*\*
- 1.2 to 2.5 psig (0,08 to 0,17 bar), Green\*\*\*
- 2.5 to 4.5 psig (0,17 to 0,31 bar), Light Blue\*\*\*
- 4.5 to 7 psig (0,31 to 0,48 bar), Black\*\*\*

Regulators Quick Order Guide	
***	Standard - Readily Available for Shipment
**	Non-Standard - Allow Additional Time for Shipment
*	Special Order, Constructed from Non-Stocked Parts. Consult your local Sales Office for Availability.
Availability of the product being ordered is determined by the component with the longest shipping time for the requested construction.	

**Specification Worksheet**

**Application:**  
 Specific Use \_\_\_\_\_  
 Line Size \_\_\_\_\_  
 Gas Type and Specific Gravity \_\_\_\_\_  
 Gas Temperature \_\_\_\_\_  
 Does the Application Require Overpressure Protection?  
 Yes  No If yes, which is preferred:  
 Relief Valve  Monitor Regulator  Shutoff Device  
 Is overpressure protection equipment selection assistance desired? \_\_\_\_\_

**Pressure:**  
 Maximum Inlet Pressure ( $P_{1max}$ ) \_\_\_\_\_  
 Minimum Inlet Pressure ( $P_{1min}$ ) \_\_\_\_\_  
 Downstream Pressure Setting(s) ( $P_2$ ) \_\_\_\_\_  
 Maximum Flow ( $Q_{max}$ ) \_\_\_\_\_

**Performance Required:**  
 Accuracy Requirements? \_\_\_\_\_  
 Need for Extremely Fast Response? \_\_\_\_\_

**Other Requirements:** \_\_\_\_\_

## Industrial Regulators

### Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters  
McKinney, Texas 75069-1872 USA  
Tel: 1-800-558-5853  
Outside U.S. 1-972-548-3574

Asia-Pacific  
Shanghai, China 201206  
Tel: +86 21 2892 9000

Europe  
Bologna, Italy 40013  
Tel: +39 051 4190611

Middle East and Africa  
Dubai, United Arab Emirates  
Tel: +971 4811 8100

## Natural Gas Technologies

### Emerson Process Management Regulator Technologies, Inc.

USA - Headquarters  
McKinney, Texas 75069-1872 USA  
Tel: 1-800-558-5853  
Outside U.S. 1-972-548-3574

Asia-Pacific  
Singapore, Singapore 128461  
Tel: +65 6777 8211

Europe  
Bologna, Italy 40013  
Tel: +39 051 4190611  
Gallardon, France 28320  
Tel: +33 (0)2 37 33 47 00

## TESCOM

### Emerson Process Management Tescom Corporation

USA - Headquarters  
Elk River, Minnesota 55330-2445 USA  
Tel: 1-763-241-3238

Europe  
Selmsdorf, Germany 23923  
Tel: +49 (0) 38823 31 0

For further information visit [www.fisherregulators.com](http://www.fisherregulators.com)

The Emerson logo is a trademark and service mark of Emerson Electric Co. All other marks are the property of their prospective owners. Fisher is a mark owned by Fisher Controls, Inc., a business of Emerson Process Management.

*The contents of this publication are presented for informational purposes only, and while every effort has been made to ensure their accuracy, they are not to be construed as warranties or guarantees, express or implied, regarding the products or services described herein or their use or applicability. We reserve the right to modify or improve the designs or specifications of such products at any time without notice.*

Emerson Process Management does not assume responsibility for the selection, use or maintenance of any product. Responsibility for proper selection, use and maintenance of any Emerson Process Management product remains solely with the purchaser.