

# Type 800

## Subminiature Precision Air Regulator

*Precise air pressure regulation for applications where space is limited*

The Type 800 is a compact air regulator that supplies precise air pressure control for applications where space is limited. This high quality unit, available in five pressure ranges up to 100 psig (700kPa), offers the same dependable performance as ControlAir's larger precision air pressure regulators. An oversized supply valve provides the Type 800 with significantly higher flow capacities than competitive units of similar size. The Type 800 is also available with a variety of convenient port sizes and mounting options. Corrosion resistant materials, lightweight construction and low cost, combine to make the Type 800 ideal for any application where space is at a premium.

### Features

- **Precision Control**  
Provides highly accurate air pressure regulation in a small package
- **High Flow Capacity**  
Flows up to 5 SCFM
- **Stable Output**  
Vibration damping mechanism keeps regulator stable under changing operating conditions
- **Repeatable**  
Returns to set point when supply pressure is turned off and on
- **10-32, M5 and 1/16" NPT Porting**
- **Self Relieving**



**ControlAir Inc.**

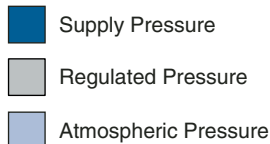
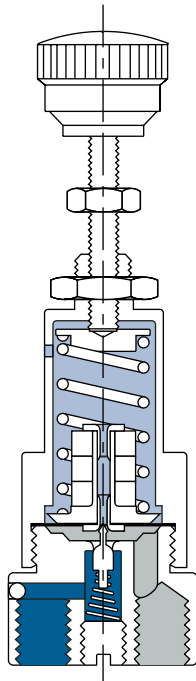
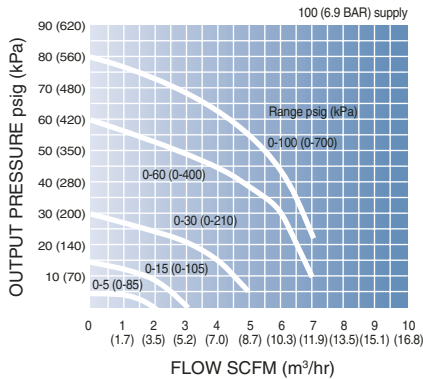
# Type 800

# Highly accurate air pressure regulation in a small package

## A P P L I C A T I O N S

The Type 800 is recommended for applications such as ink pressure control systems, control panels, hand held calibration and analyzing equipment as well as the operation of air cylinders and pneumatic logic systems.

## Flow Characteristics



## S P E C I F I C A T I O N S

<b>Sensitivity:</b>	1/2" (12.7 mm) water
<b>Flow Capacity:</b>	5 SCFM (8 m3/hr) at 100 psig (700 kPa) supply and 30 psig (200kPa) set point
<b>Maximum Supply Pressure:</b>	250 psig (1750 kPa)
<b>Exhaust Capacity:</b>	0.4 SCFM (0.68 m3/hr) at a downstream pressure of 10 psig (75 kPa) above the set point
<b>Operating Temperatures:</b>	-40° F to +160° F (-40° C to +71° C)
<b>Air Consumption:</b>	3.0 SCFH maximum at 100 psig supply, 30 psig (210 kPa) set point
<b>Materials:</b>	Anodized aluminum, brass, stainless steel, viton
<b>Output Pressure Ranges:</b>	psig: 0-5, 0-15, 0-30, 0-60, 0-100 kPa: 0-35, 0-105, 0-210, 0-420, 0-700
<b>Porting:</b>	1/16" NPT or 10-32 supply and output, #10-32 UNF - gauge, M5 - supply, output and gauge
<b>Mounting:</b>	pipe or panel
<b>Weight:</b>	1.8 oz.

## P R I N C I P L E S O F O P E R A T I O N

Turning the knob changes the force exerted by the range spring on the diaphragm assembly. In equilibrium of set pressure, the force exerted by the range spring is balanced by the force from the output pressure acting underneath the diaphragm assembly.

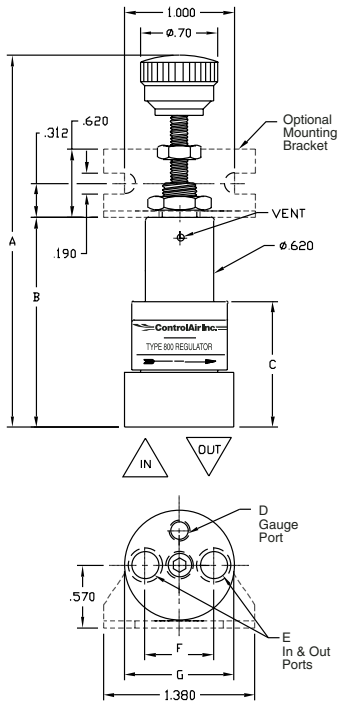
An unbalanced state between the output pressure and the set pressure causes a corresponding reaction in the diaphragm and supply valve assemblies. If the output pressure rises above the set pressure, an upward force is exerted on the diaphragm assembly causing the relief seat to lift and open. Excess pressure is vented to atmosphere until equilibrium is reached. If the output pressure drops below the set pressure, the unbalanced force of the range spring causes a downward force on the diaphragm assembly. The supply valve then opens until the pressure builds up once more to the equilibrium condition.

Under forward flow conditions, the range spring force is balanced by the diaphragm pressure force, with the supply valve open just enough to maintain the required equilibrium pressure. As the demand for downstream flow varies, the Type 800 compensates by automatically repositioning the supply valve relative to the supply seat. The vibration damper stabilizes the diaphragm in high flow conditions.

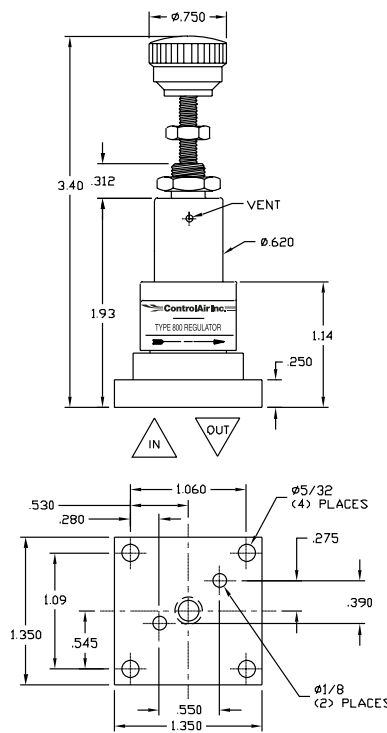
# Type 800 Dimensions

Dimension	1/16" NPT porting	M5 porting	10-32
A	3.40 (86.4)	3.30 (83.8)	3.30 (83.8)
B	1.93 (49.0)	1.83 (46.5)	1.83 (46.5)
C	1.14 (29.0)	1.04 (26.4)	1.04 (26.4)
D	#10-32 UNF-2B	M5	#10-32 UNF-2B
E	(2) 1/16-27	(2) M5	(2) #10-32 UNF-2B
F	0.625 (15.9)	0.560 (14.2)	0.560 (14.2)
G	1.00 (25.4)	0.88 (22.4)	0.88 (22.4)

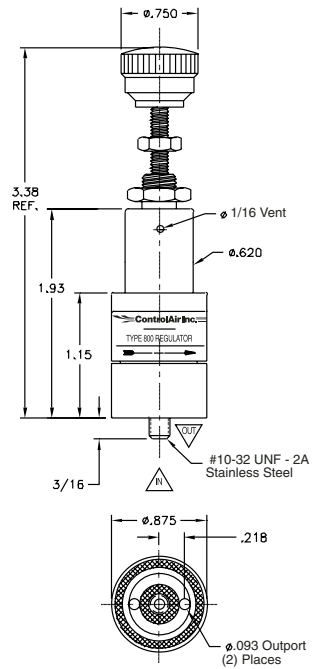
## Type 800 Standard



## Type 800 Manifold



## Type 800 Threaded Post



Drawing downloads available at [www.controlair.com](http://www.controlair.com)



Compact size

Competitively priced

10-32, M5 and 1/16" NPT porting



Optional manifold mounting



Self Relieving

Repeatable

Corrosion resistant materials

# Type 800 Ordering Information

## TYPE 800 STANDARD

Part Number	Port Size (NPT)	Output Range (psi) (kPa)	
800-AA	1/16"	0-5	0-35
800-AB	1/16"	0-15	0-105
800-AC	1/16"	0-30	0-210
800-AD	1/16"	0-60	0-420
800-AE	1/16"	0-100	0-700
800-BA	M5	0-5	0-35
800-BB	M5	0-15	0-105
800-BC	M5	0-30	0-210
800-BD	M5	0-60	0-420
800-BE	M5	0-100	0-700
800-CA	10-32	0-5	0-35
800-CB	10-32	0-15	0-105
800-CC	10-32	0-30	0-210
800-CD	10-32	0-60	0-420
800-CE	10-32	0-100	0-700

## TYPE 800 MANIFOLD

Part Number	Output Range (psi) (kPa)	
820-XA	0-5	0-35
820-XB	0-15	0-105
820-XC	0-30	0-210
820-XD	0-60	0-420
820-XE	0-100	0-700

## TYPE 800 THREADED POST

Part Number	Port Size (UNF)	Output Range (psi) (kPa)	
830-XA	10-32	0-5	0-35
830-XB	10-32	0-15	0-105
830-XC	10-32	0-30	0-210
830-XD	10-32	0-60	0-420
830-XE	10-32	0-100	0-700

### Options

Add proper letter at end of model number.

**N** - Nonrelieving - For constant flow or downstream pressure relief applications

### Accessories

Mounting Bracket - Zinc-plated steel for side mounting

P/N 445-707-043

Barbed Fittings - allows connection to 1/8" tubing

1/16" NPT P/N 445-748-094

10-32 Ports P/N 545-748-037

Each port requires separate fitting

### Warranty

ControlAir, Inc. products are warranted to be free from defects in materials and workmanship for a period of eighteen months from the date of sale, provided said products are used according to ControlAir, Inc. recommended usages. ControlAir, Inc.'s liability is limited to the repair, purchase price refund, or replacement in kind, at ControlAir, Inc.'s sole option, of any products proved defective. ControlAir, Inc. reserves the right to discontinue manufacture of any products or change products materials, designs or specifications without notice.



8 Columbia Drive / Amherst, NH 03031 USA

Website: [www.controlair.com](http://www.controlair.com)

Email: [sales@controlair.com](mailto:sales@controlair.com)

603-886-9400 FAX 603-889-1844

