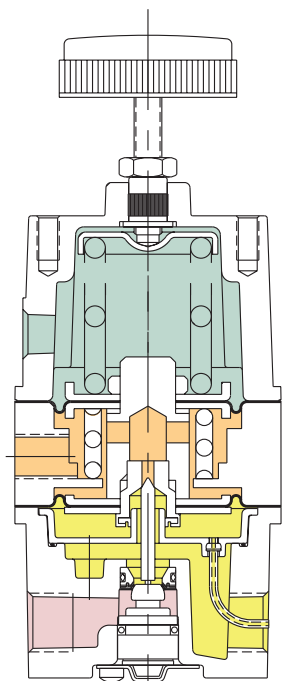


Type 77

Vacuum Regulator Series

Features

- Single-unit control of pressures from 29" Hg vacuum to 150 PSI
- Flow capacity up to 40 SCFM
- Dampening action of aspirator tube maintains stable output pressure
- Output virtually unaffected by changes in supply pressure
- Can be disassembled and serviced without removing from line



■ Vacuum Input
 ■ Atmosphere
 ■ Supply Pressure
 ■ Regulated Pressure

Description

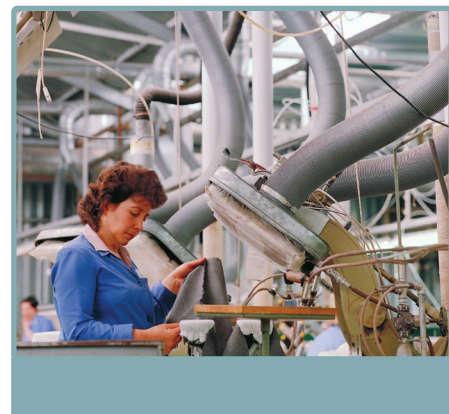
Bellofram's Type 77 Vacuum Regulator incorporates a fixed negative 15 PSIG bias spring to maintain vacuum outputs up to 29" Hg. An adjustable opposing range spring increases controlled pressure outputs up to 150 PSIG.

Output pressure droop under varying downstream flow conditions is minimized by use of an aspirator tube which adjusts the air supply valve opening in accordance with flow velocity. A balanced supply valve, utilizing a reinforced rolling diaphragm, keeps regulator output virtually immune to changes in supply pressure. Stack-up construction makes the Type 77 easily serviceable, without removing it from the air line.

Applications

The Type 77 provides precise control in subatmospheric pressure applications. Specific uses include sample collecting systems, air quality monitoring, parts coating operations, and other industrial functions requiring controlled system pressure from 29" Hg vacuum to 150 PSIG.

The regulator may be installed either upstream or downstream from the vacuum pump. Upstream installation (Figure 1) is preferred when rapid evacuation of a vessel or system is required, because the exhaust capacity of the pump is normally



Flow Capacity

Effect of Supply Pressure variation (25 psig/1.7 BAR) on Outlet Pressure

Exhaust Capacity @ 5 psig (0.34 BAR) above setpoint

Maximum Supply Pressure

Ambient Temperature Limits

Output Pressure Ranges

Total Air Consumption @ Maximum Output

Port Size

Materials of Construction

Mounting Options

| TYPE 77 | |
|---------|---|
| | 1/2" (1.3 cm) Water Column |
| | 2.5 SCFM (71 L/M) @ 29" Hg (740 mm Hg) Vacuum |
| | 40 SCFM (1130 L/M) @ 100 PSIG (6.9 BAR) supply, 20 PSIG (1.4 BAR) output |
| | Less than 0.1 PSIG (0.01 BAR) |
| | 4 SCFM (113 LPM) |
| | 250 PSIG (17.2 BAR) |
| | -40 to 200°F (-40 to 93°C) |
| | Vacuum to 2 PSIG (0.1 BAR) Vacuum to 10 PSIG (0.7 BAR) Vacuum to 30 PSIG (2.1 BAR) Vacuum to 100 PSIG (6.9 BAR) Vacuum to 150 PSIG (10.3 BAR) |
| | 6 SCFH (2.8 LPM) |
| | 1/4 NPT, 3/8 NPT, 1/4 BSPT, 3/8 BSPT |
| | Body: Diecast Aluminum with Vinyl Paint Trim: Stainless steel, Brass, Plated steel, Acetal and Buna-N Diaphragm: Buna-N with Polyester Fabric Knob: Phenolic Plastic Spring: Music wire |
| | Pipe, Panel or Bracket |

Type 77 Ordering Information

| T70 | Range | | Part Number | |
|---------|-------|------|--------------|--------------|
| | BAR | PSIG | 1/4 NPT Port | 3/8 NPT Port |
| Vac. to | 0.1 | 2 | 960-500-000 | 960-505-000 |
| Vac. to | 0.7 | 10 | 960-501-000 | 960-506-000 |
| Vac. to | 2.1 | 30 | 960-502-000 | 960-507-000 |
| Vac. to | 6.9 | 100 | 960-503-000 | 960-508-000 |
| Vac. to | 10.3 | 150 | 960-504-000 | 960-509-000 |

Type 77 Option Ordering Matrix

Replace last three digits of part number with digits from table below.

| Option | | 5 | 7 | 8 |
|--------|------------------|-----|-----|-----|
| 5 | Epoxy Finish | 005 | 075 | 085 |
| 7 | Mounting Bracket | | 007 | 087 |
| 8 | Pressure Gauge | | | 008 |

To order BSPT threads (including the gauge port) add "BSPT" to end of part number.

Regulator Options and Accessories

Corrosive Resistant Epoxy Finish

An epoxy paint applied to the body and bonnet of the regulator exterior surfaces to provide increased corrosion resistance.

Mounting Bracket

Steel (dichromate finish) bracket for side mounting.

Pressure Gauge

Dual scale 2.5 in. (63 mm) gauges. Ranges include 30" Hg – 15 PSIG (-100 to 100 kPa), 30" Hg – 60 PSIG (-100 to 400 kPa), and 30" Hg – 150 PSIG (-100 to 1100 kPa). When specified with regulator, the correct range will be supplied. For NPT versions only.

Figure 1

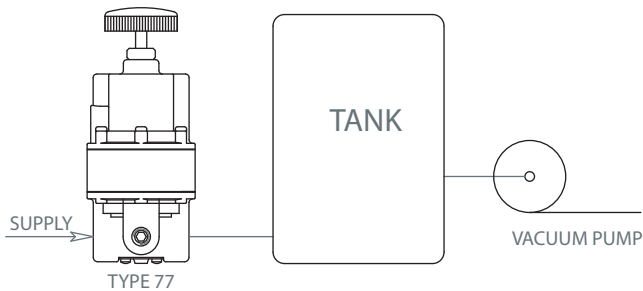
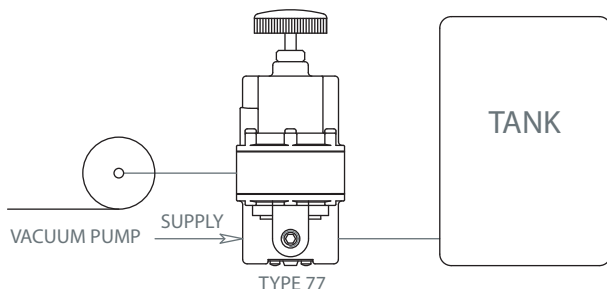


Figure 2



Type 77 Dimensional Drawing

