



# Type 6100/6200

## High Flow Capacity Volume Booster

Rapid stroke capability in rugged aluminum or 316 stainless steel construction

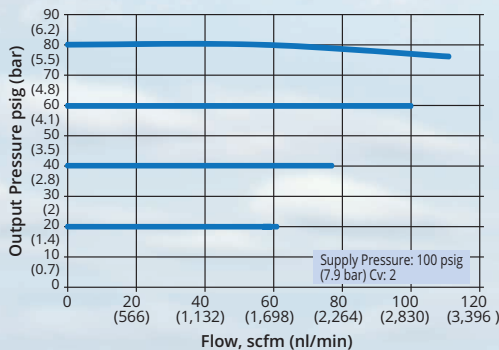
The ControlAir Type 6100/6200 volume booster is a 1:1 signal to output relay that is utilized in applications that require high forward flow and exhaust capacities. The Type 6100 is constructed of aluminum and the Type 6200 is constructed of 316 stainless steel. Typically they are used to increase throttling speed of large volume valve actuators. They are suitable for either diaphragm or piston actuators. A fixed deadband and adjustable bypass valve combine to allow small incremental downstream adjustment without opening the main booster valve. The bypass valve is used to adjust dynamic response to provide stable operation over a wide range of actuator sizes.



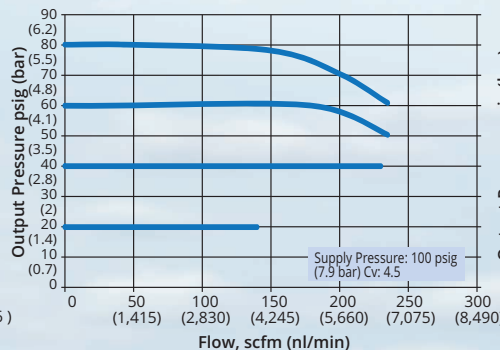
### Features

- **1/4", 1/2" or 3/4" NPT Porting**
- **Aluminum or 316 Stainless Steel Construction**
- **Integral Adjustable Bypass Valve**  
Allows small incremental signal changes without opening the primary valve
- **High Flow Capacity**  
For rapid actuator stroking
- **Soft Valve Seat Design** Provides tight shutoff and eliminates leakage in steady state operation
- **High Temperature Operation**  
Up to 200°F (93°C)
- **High Output Exhaust Vents**  
(2) 1/4" NPT tapped exhaust (Type 6100 option)  
1/2" NPT tapped exhaust (Type 6200 standard)
- **2 1/4" NPT Gauge Ports**
- **Balanced Supply Valve**  
Minimizes the effect of supply pressure variation
- **Optional Negative Bias**  
4 psi (0.3 bar) negative bias of signal pressure to 'zero' I/P's

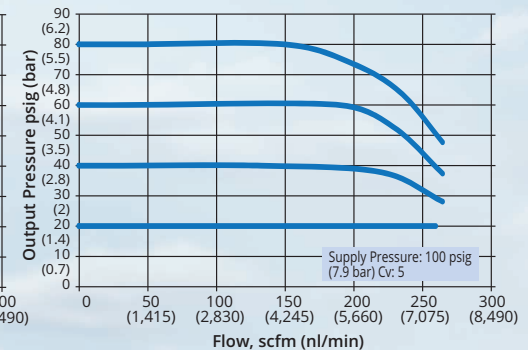
Regulated Pressure vs Flow: 1/4" Type 6100/6200



Regulated Pressure vs Flow: 1/2" Type 6100/6200

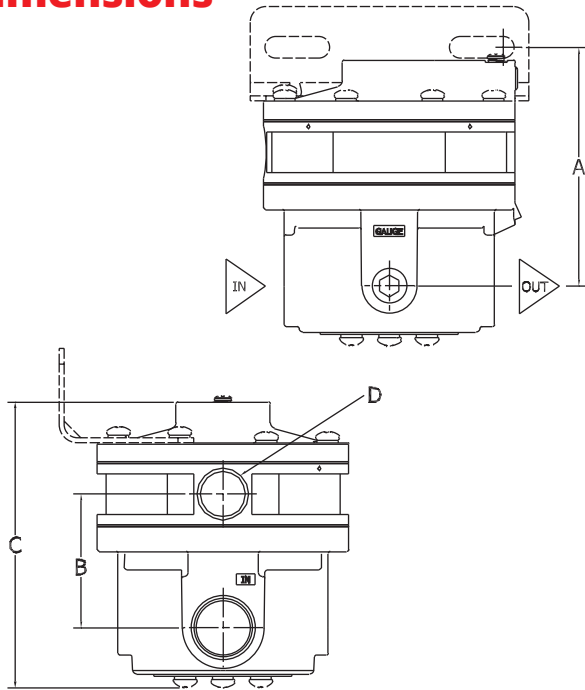


Regulated Pressure vs Flow: 3/4" Type 6100/6200



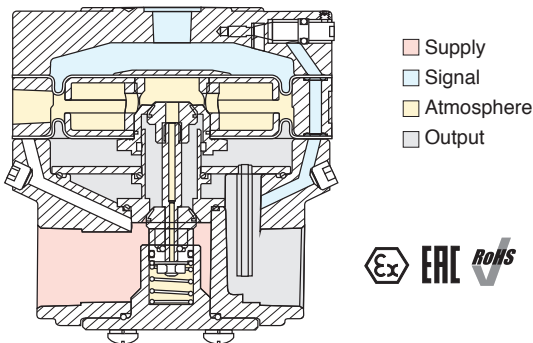
# Type 6100/6200 High Flow Capacity Volume Booster

## Dimensions



|      | A           | B           | C            | D                           |
|------|-------------|-------------|--------------|-----------------------------|
| 6100 | 3.56 [90.5] | 2.01 [51.1] | 4.23 [107.3] | ø7/16 (1/4" "E" OPTION (2)) |
| 6200 | 3.79 [96.3] | 2.13 [54.1] | 4.54 [115.4] | 1/2-14 NPT (1)              |

## Principles of Operation



**Warranty** ControlAir LLC 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 LLC recommended usages. ControlAir LLC's liability is limited to the repair, purchase price refund, or replacement in kind, at ControlAir LLC's sole option, of any products proved defective. ControlAir LLC reserves the right to discontinue manufacture of any products or change products materials, designs or specifications without notice. Note: ControlAir does not assume responsibility for the selection, use, or maintenance of any product. Responsibility for the proper selection, use, and maintenance of any ControlAir product remains solely with the purchaser and end user. Drawing downloads available at [www.controlair.com](http://www.controlair.com)

## Specifications

|                                       |  |                        |                     |                     |
|---------------------------------------|--|------------------------|---------------------|---------------------|
| <b>Signal/Output Ratio</b>            | 1:1  |                        |                     |                     |
| <b>Supply Pressure</b>                | 250 psig (17.0 bar) Maximum                                  |                        |                     |                     |
| <b>Signal Pressure</b>                | 150 psig (10.0 bar) Maximum                                  |                        |                     |                     |
| <b>Temperature Limits</b>             | -40 to 200 °F (-40 to 93 °C)                                 |                        |                     |                     |
| Low Temperature Option                | -62 to 194 °F (-52 to 90 °C)                                 |                        |                     |                     |
| <b>Maximum Flow Coefficients (Cv)</b> | <b>Port</b>  | <b>Forward</b>         | <b>6100 Exhaust</b> | <b>6200 Exhaust</b> |
|                                       | 3/4"   | 5.0                    | 3.5                 | 4.0                 |
|                                       | 1/2"   | 4.5                    | 3.5                 | 4.0                 |
|                                       | 1/4"   | 2.0                    | 2.5                 | 3.0                 |
| <b>Exhaust Capacity</b>               | 3/4"   | 80 scfm (2,264 NL/min) |                     |                     |
| 5 psig (0.35 bar) above               | 1/2"   | 75 scfm (2,123 NL/min) |                     |                     |
| 20 psig (1.38 bar) setpoint           | 1/4"   | 35 scfm (991 NL/min)   |                     |                     |
| <b>Output Accuracy</b>                | 1.0% of 100 psi output span                                  |                        |                     |                     |
| <b>Sensitivity</b>                    | 1" H <sub>2</sub> O (2.54 cm)                                |                        |                     |                     |
| <b>Deadband</b>                       | Under 0.2 psig (.01 bar)                                     |                        |                     |                     |
| <b>Supply Pressure Effect</b>         | 0.1 psig (.007 bar) for a 25 psig (1.7 bar) change           |                        |                     |                     |
| <b>Signal Port</b>                    | 1/4" NPT   |                        |                     |                     |
| <b>Supply/Output Port</b>             | 1/4", 1/2", or 3/4" NPT                                      |                        |                     |                     |
| <b>Exhaust Port</b>                   | Type 6100: ø7/16" or 1/4" NPT option<br>Type 6200: 1/2" NPT  |                        |                     |                     |
| <b>Gauge Port (2)</b>                 | 1/4" NPT   |                        |                     |                     |
| <b>Weight</b>                         | Type 6100: 2.5 lbs (1.13 kg)<br>Type 6200: 5.7 lbs (2.60 kg) |                        |                     |                     |

## Materials

|                            | Type 6100         | Type 6200           |
|----------------------------|-------------------|---------------------|
| <b>Housing</b>             | Aluminum          | 316 Stainless Steel |
| <b>Bolting</b>             | Zinc Plated Steel | Stainless Steel     |
| <b>Other trim</b>          | Aluminum          | Stainless Steel     |
| <b>Internal components</b> | Aluminum          | Stainless Steel     |
| <b>Elastomers</b>          | Nitrile           | Nitrile             |
| Low Temperature Option     | Silicone          | Silicone            |

## Ordering

| Part Number | Housing Material    | Porting  |
|-------------|---------------------|----------|
| 6100-BA     | Aluminum            | 1/4" NPT |
| 6100-DA     | Aluminum            | 1/2" NPT |
| 6100-EA     | Aluminum            | 3/4" NPT |
| 6200-BS     | 316 Stainless Steel | 1/4" NPT |
| 6200-DS     | 316 Stainless Steel | 1/2" NPT |
| 6200-ES     | 316 Stainless Steel | 3/4" NPT |

**Options** Add proper letter at end of model number.

**E** (2) 1/4" NPT Tapped Exhaust Vents (Type 6100 only)

**L** Low Temperature: -62 to 194 °F (-52 to 90 °C)

**R** EAC TR-CU

**S** Stainless Steel Trim (Type 6100 only)

**X** ATEX 2014/34/EU

**Z** Negative Bias -4 +/-1 psi bias

### Accessories

**Mounting Bracket (zinc plated steel):** P/N 449-542-045

**Mounting Bracket (stainless steel):** P/N 449-542-050

**Exhaust Screen/Muffler Fitting:**

Type 6100 - 1/4" NPT Plated Steel: P/N 445-761-008 ("E" option only)

Type 6200 - 1/2" NPT Stainless Steel: P/N 445-761-102



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