Type 6500/6600

Large Flow Capacity Volume Booster
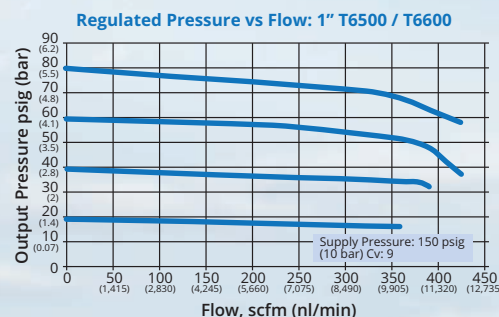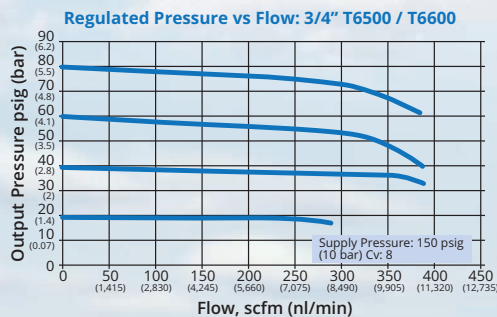Rapid Stroke Capability in a Rugged Aluminum
or Stainless Steel Casing

SIL3 ✓

The ControlAir Type-6500 aluminum and Type-6600 stainless steel volume boosters are 1:1 signal to output relays that are utilized in applications that require high flow capacity. 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.
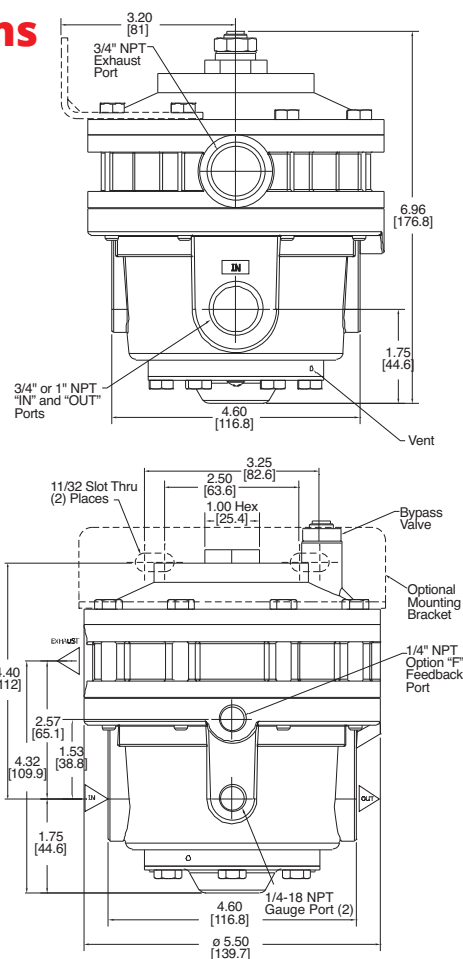
Features

- **316 Stainless Steel Construction**
- **3/4" or 1" NPT Porting**
- **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)
- **Tapped High Output Exhaust Port**
  3/4" NPT exhaust port relieves 100 scfm (2,830 NL/min)
- **2 Gauge Ports** Optional Output Feedback Port
- **IEC 61508 SIL 3 Compliant**
- **Low Temperature Option** Silicone elastomers allow use to -62˚F (-52˚C)

Regulated Pressure vs Flow: 3/4" T6500 / T6600

Output Pressure psig (bar) vs Flow, scfm (nl/min)

Supply Pressure: 150 psig (10 bar) Cv: 8

Regulated Pressure vs Flow: 1" T6500 / T6600

Output Pressure psig (bar) vs Flow, scfm (nl/min)

Supply Pressure: 150 psig (10 bar) Cv: 9

Type 6500/6600 Large Flow Capacity Volume Booster

Dimensions

3.20 [81]
3/4" NPT Exhaust Port
6.96 [176.8]
IN
1.75 [44.6]
3/4" or 1" NPT "IN" and "OUT" Ports
4.60 [116.8]
Vent

11/32 Slot Thru (2) Places
3.25 [82.6]
2.50 [63.6]
1.00 Hex [25.4]
Bypass Valve
Optional Mounting Bracket
1/4" NPT Option "F" Feedback Port
4.40 [112]
EXHAUST
2.57 [65.1]
1.53 [38.8]
4.32 [109.9]
1.75 [44.6]
IN
OUT
4.60 [116.8]
1/4-18 NPT Gauge Port (2)
ø 5.50 [139.7]

Principles of Operation

- ■ Supply Pressure
- □ Signal Pressure
- ▨ Atmospheric Pressure
- ▨ Output Pressure

Specifications

Signal/Output Ratio	1:1		
Supply Pressure	250 psig (17.0 BAR) Maximum		
Signal Pressure	150 psig (10.0 BAR) Maximum		
Temperature Limits Low temperature option	-40 to 200˚F (-40 to 93˚C) -62 to 194˚F (-52 to 90˚C)		
Maximum Flow Coefficients (Cv)		Forward	Exhaust
	¾"	8.0	8.0
	1"	9.0	8.0
Exhaust Capacity 5 psig (0.35 BAR) above setpoint	¾" 150 scfm (4,245 NL/min) 1" 150 scfm (4,245 NL/min)		
Output Accuracy	2.0% of span		
Deadband	Under 0.2 psig (.01 BAR)		
Suppy Pressure Effect	0.3 psig (0.02 BAR) for a 100 psig (7 BAR) change		
Signal Port	1/4" NPT		
Supply/Output Port	3/4" or 1" NPT		
Exhaust Port	3/4" NPT		
Gauge Port (2)	1/4" NPT		
Feedback Port (Option)	1/4" NPT		
Weight Type 6500 Aluminum Type 6600 Stainless Steel	6.5 lbs (2.95 kg) 15.0 lbs (6.80 kg)		

Materials

Materials	Type 6500	Type 6600
Housing	Aluminum	316 Stainless Steel
Bolting	Zinc Plated Steel	316 Stainless Steel
Other trim	Aluminum	316 Stainless Steel
Internal components	Aluminum	Stainless Steel
Elastomers Low Temperature Option:	Nitrile Silicone	Nitrile Silicone

Ordering

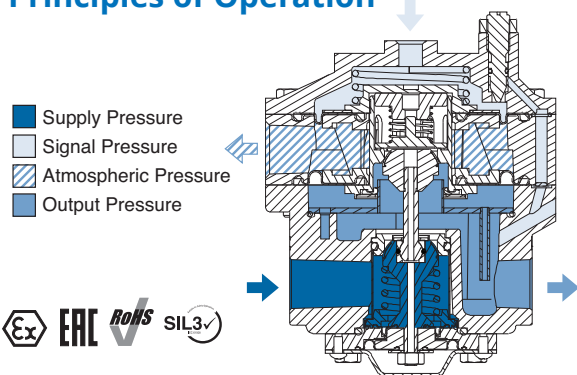| Part Number	Casting Material	Porting
6500-EA	Aluminum	¾" NPT
6500-FA	Aluminum	1" NPT
6600-ES	316 Stainless Steel	¾" NPT
6600-FS	316 Stainless Steel	1" NPT

Options Add proper letter at end of model number.

- **F** Feedback Port
- **L** Low Temperature Operation
- **R** EAC TR-CU
- **S** Stainless Steel Trim (Type-6500 only)
- **X** ATEX 2014/34/EU

Accessories

Mounting Bracket (zinc plated steel): P/N 449-542-040
Mounting Bracket (316 stainless steel): P/N 449-542-041
3/4" NPT Exhaust Screen/Muffler Fitting:
Plated Steel: P/N 445-761-006
316 Stainless Steel: P/N 445-761-007