

BD: Derivative Booster

The Derivative Booster (model BD) is used in conjunction with a positioner on a control valve to increase stroking speed on pneumatic double acting actuators. It has been designed to exhaust one actuator chamber and pressurize the other at the same time. In this way, a short stroking time in one direction can be achieved using just one device. This item is activated by the exhaust flow of the positioner.

Small and lightweight



Aluminium manifold mounting

Key features

Exclusive manifold mounting system. It is a special STI application to connect our accessories. Fittings or nipples are not necessary as the connection is achieved using machined connection faces with sealing 'o' ring. This system saves time for assembly, reduces cost on items such as fittings, reducing inventory and the shortened dimensions save space.

- > Suitable for:
 - Standard, offshore, sandstorm and copper-free ambient conditions.
 - Double acting actuators.
 - Low and high ambient temperature.



Stainless steel 316 manifold mounting

Benefits

- > **Unique simultaneous chamber charge and exhaust**
The design exhausts one chamber and simultaneously charges the other one. The number of accessories can be reduced because the standard device works only on one chamber. The derivative booster works on both at the same time
- > **Safety - more sensitivity - more accuracy**
The regulation screw cannot be ejected by internal air pressure. Regulation screw accurate and lockable. Two adjusting screws: one to adjust the activation (Switch ON positioner flow level) and the other one to adjust the deactivation (Switch OFF positioner flow level)
- > **Unique metal piston design**
With high-integrity diaphragm
- > **Collectable exhaust**
(Silencer/protection/check valve). Suitable for SL exhaust protection system
- > **Compact design**
Compact dimensions compared with other high CV options available
- > **CV limiter device**
Available as an option
- > **Charge/exhaust ratio**
The optimal selected CV ratio between exhaust and charge is 2. This ratio optimizes the increase in speed without compromising modulating stability
- > **Pilot CV**
The derivative booster can be piloted by positioner with CV between 0.3 to 1. For ON/OFF execution, the derivative booster can be piloted with a minimum CV 0.3

Technical specification

Housing materials

Anodised aluminium
Stainless steel 316

Operating temperature*

-20°C to 70°C (-4°F to 158°F)
-40°C to 70°C (-40°F to 158°F)
-20°C to 85°C (-4°F to 185°F)

Pilot signal connection

1/2" NPT

Operating pressure

P min = 2.5 bar
P max = 7 bar
Design pressure = 10 bar

CV max

Inlet = 4.5
Outlet = 9

Output connections

Manifold mounting

Feeding connections

Manifold mounting

Weight

Aluminium = 4kg
Stainless steel 316 = 11kg

* Lower or higher temperature available on request

Dimensional drawing

