AC Series: Accessories

Engineering GREAT Solutions
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AL: Air-lock 101 Device
BV: Big Volume Booster
CS: Quick Exhaust
SAR: Snap Acting Relay
UD: Derivative Unit

AV: Volume Booster
BW: Ultra High Capacity Booster
CF: Fast Commutator

BD: Derivative Booster
CO: 3-Way Pneumatic Operating Valve
GR: Manual Override

MC: Motion Converter
SL: Exhaust Protection System

TP: Pneumatic Pressure Switch
UD: Derivative Unit
2030: Electronic Position Transmitter
AL: Air-lock 101 Device

The Air-Lock pressure static device is composed of a TP Pneumatic pressure switch combined with 2 x 3 way valves ND 1/4” in a single body. The Air-Lock pressure static device is mounted on pneumatic actuators when they need to be isolated from control devices (for example: positioners or electro-pneumatic distributors) in the event air pressure falls below the pre-determined operating safety point. The Air-Lock device consists mainly of a pneumatic pressure switch with an adjustable set point. This device synchronously drives the 2 x 3 way valves. The switching device operates immediately, even in the case of a gradual air-pressure decrease to the set value. The device will automatically reset after a failure when the line pressure is 1 bar greater than set pressure, to avoid instability around the device set point.

Key features

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

> Exclusive STI design for double 3 way valve in one body, to reduce assembly time, space and cost

Benefits

> Accurate pressure setting
> Set screw lockable with nut
> Insensitive to vibrations
> Reset hysteresis with established safety

> Synchronous drive for set pressure group + 2 x 3 way valve in one body
> Small dimension and light weight
Technical specifications

Materials
- Anodized aluminium
- Stainless steel 316

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

Feeding connections
- 1/4” NPT

Pilot signal connection
- 1/8” NPT

CV max
- Inlet = 1
- Outlet = 1

Operating pressure
- Design = 10 bar
- Operating = 7 bar
- Minimum operating = 2 bar

Output connections
- 1/4” NPT

Weight
- Aluminium = 1kg
- Stainless steel 316 = 2.5kg

* Lower or higher temperature available on request

Dimensional drawing
AV: Volume Booster

The Volume Booster (model AV), available sizes 1/4” and 3/4”, is designed to meet high speed control valve applications. It produces a high volume boosting action and contains an integral stabilizing by-pass valve controlled by a screwdriver adjustment in the body. By opening this valve it is possible to improve the stability of the pneumatic circuit made up of a positioner, volume booster(s) and actuator.

**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.

**Benefits**

> **Safety**
> The regulation screw cannot be ejected by the internal air pressure. The regulation screw is accurate and lockable

> **Increased environment protection**
> The exhaust is protected by double differentiated mesh

> **Cost saving**
> Suitable for one air connection to feed both volume boosters on a double acting actuator

> **Design advantages**
> Less leakage, more repeatability. Using a conical plug seat with controlled deformation for elastomeric air-tight

**Technical specifications for AV 1/4”**

| Housing materials | Painted RAL 7001 aluminium  
| 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)  
| Diaphragm material | Elastomeric reinforced fabric  
| Pilot signal connection | 1/4” NPT  
| CV max | Inlet = 1  
| Outlet = 1  
| Operating pressure | P min = 3 bar  
| P max = 7 bar  
| Design pressure = 10 bar  
| Output connections | Manifold mounting  
| 1/4” NPT  
| Feeding connections | 1/4” NPT  
| Options | Collected exhaust  
| Silencer  
| Weight | Aluminium = 1.2kg  
| Stainless steel 316 = 3.3kg  

* Lower or higher temperature available on request
Technical specifications for AV 3/4"

**Housing materials**
- Painted RAL 7001 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)

**Diaphragm material**
- Elastomeric reinforced fabric

**Pilot signal connection**
- 1/4" NPT

**CV max**
- Inlet = 4.5
- Outlet = 3

**Operating pressure**
- P min = 3 bar
- P max = 7 bar
- Design pressure = 10 bar

**Output connections**
- Manifold mounting
  - 3/4" NPT

**Feeding connections**
- 3/4" NPT

**Options**
- Collected exhaust
- Silencer

**Weight**
- Aluminium = 4kg
- Stainless steel 316 = 10.3kg

* Lower or higher temperature available on request

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Dimensional drawing for AV 3/4"

[Diagram of AV 3/4" aluminium]

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Dimensional drawing for AV 1/4"

[Diagram of AV 1/4" stainless steel 316 manifold mounting]
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.

**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.

**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

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

> **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

![Dimensional drawing image]
BV: Big Volume Booster

The Big Volume Booster (model BV) is designed to meet high speed control applications. It produces a high volume boosting action and contains an integral stabilizing by-pass valve, adjusted by a screwdriver turning the adjustment screw in the body. By opening this valve it is possible to improve the stability of the positioner – volume booster – actuator circuit. BV was specifically designed to be piloted by a high CV positioner (such as our FT Positioner).

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.
- Single and double acting actuators.
- Low and high ambient temperature.

Benefits

> Safety
  Regulation screw is not ejectable by internal air pressure. Regulation screw is accurate and lockable

> Big CV
  Unique high value of CV in one device

> Unique metal piston design
  Without deformable diaphragm

> Collectable exhaust
  Collectable exhaust (For silencer/protection/check valve)

> Compact design
  Compact dimensions compared with other high CV options available
Technical specification

Housing materials
Painted RAL 7001 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 = 8
Outlet = 8

Output connections
Manifold mounting

Feeding connections
Manifold mounting

Weight
Aluminium = 5kg
Stainless steel 316 = 12.5kg

* Lower or higher temperature available on request

Dimensional drawing

The best levels of performance are achieved when the booster is piloted by our FT Smart Positioner
The Ultra High Capacity Booster (model BW) is designed to meet high volume boosting requirements. The volume booster contains two activation regulators, one for supply amplification adjustment and the other for exhaust amplification adjustment.

**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.

**Benefits**

- **Safety**
  Regulation screw is not ejectable by internal air pressure. Regulation screw is accurate and lockable
- **Independent calibration for charge and exhaust**
  Separate and independent amplification setting for supply and exhaust, making tuning easier to perform
- **Suitable for:**
  - Standard, offshore, sandstorm and copper-free ambient conditions.
  - Single and double acting actuators.
  - Low and high ambient temperature.
- **Big CV**
  Unique high value of CV in one device
- **Unique metal piston design**
  Without deformable diaphragm
- **Collectable exhaust**
  Collectable exhaust (For silencer/protection/check valve)
- **Compact design**
  Compact dimensions compared with other high CV options available

**Compact design**
**Technical specification**

**Housing materials**
- Painted RAL 7001 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

**Exhaust port**
- Manifold exhaust interface
- STI dedicated exhaust protection system model SL

**Operating pressure**
- P min = 2.5 bar
- P max = 7 bar
- Design pressure = 10 bar

**CV max**
- Inlet = 16
- Outlet = 20

**Output connections**
- Manifold mounting

**Feeding connections**
- 2 connections (1” NPT + 3/4” NPT)
- Manifold mounting and 1”NPT

**Weight**
- Aluminium = 5kg
- Stainless steel 316 = 12.5kg

* Lower or higher temperature available on request

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**Dimensional drawing**

[Dimensions and drawings of the product]
CF: Fast Commutator

The Fast Commutator (CF) is designed to be combined with two 3-way valves providing a shared pilot conduit. This accessory is designed to operate with a pilot pressure greater than 2 bar while still maintaining a perfect seal on the seats of up to 8 bar. As the pilot fluid goes to work on moving a single membrane, switching speed is maximised.

Key features

This exclusive manifold mounting system is a specially designed STI application for connecting our accessories. Fittings or nipples are not necessary as the connection is achieved using machined connection faces with a sealing ‘o’ ring. This system saves assembly time, reduces cost on other items such as fittings, inventory and the reduced dimensions save space.

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

> Designed to work with FT positioner only or in conjunction with BV/BW boosters (see dedicated brochures)

> Optional integrated Piezo solenoid valve for fail freeze function

> SIL certified

> Constituted by two 3-way valves having the pilot conduit in common

> Up to 3 units can be mounted on the same positioner to achieve multiple functions:
  - Quick open
  - Quick close
  - Lock in place

Optional Piezo solenoid valve for optional fail freeze function

Aluminium manifold mounting with Piezo valve

Stainless steel 316 manifold mounting with Piezo valve
Benefits

> Compact dimensions
> Without deformable diaphragm
> Can save cost over some bigger 3-way valves even if SIL rating required
> Switching will be very fast even if piloted by low CV solenoid valve

Technical specifications

Materials
Anodized aluminum
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)
-25°C to +60°C with Piezo valve

CV max
Inlet = 3
Outlet = 3

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

Port size
Pilot signal = 1/2" NPT
Other = 3/4" NPT or manifold mounting

Weight
Aluminium = 3 kg
Aluminium with Piezo = 3.5 kg
Stainless steel 316 = 8 kg
Stainless steel 316 with Piezo = 8.5 kg
* Lower or higher temperatures available on request

Dimensional drawing
The 3-Way Pneumatic Operating Valve (model CO) is pilot operated, and designed for high flow applications. The 3-way valve is available in sizes ¼", ½", 1", 1 ½" and 2". The valve can be used in one or more synchronous units piloted by a pneumatic pressure switch or solenoid valve (or both) in order to achieve safety, trip or shut down function.

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.

Benefits

> **Size 1/4”**
  2x3 way valves in one body, reduced dimensions

> **Sizes 1 1/2” - 2”**
  Pilot quick exhaust valve included

> **Sizes 1 1/2” - 2”**
  Large size 3 way valve with a special device to switch quickly when in the de-energized position, even when controlled by a low CV pilot

> **Sizes 1/2” - 1” - 1 1/2” - 2”**
  Perfect tight shut off regardless of the flow direction up to 7 bar with pilot pressure over 2 bar when energized

> **Sizes 1/2” - 1” - 1 1/2” - 2”**
  SIL 3 certified

> Suitable for:
  - Standard, offshore, sandstorm and copper-free ambient conditions.
  - Single and double acting actuators.
  - Low and high ambient temperature.
### Technical specifications

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<th>1/2&quot;</th>
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* Lower or higher temperatures available on request

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**Dimensional Drawing for 1/4"**

![Dimensional Drawing for 1/4"

CO 1/4" aluminium

CO 1/4" stainless steel 316
**CO: 3-Way Pneumatic Operating Valve**

### Dimensional Drawing for 1/2"

- CO 1/2" stainless steel 316 manifold mounting
- CO 1/2” aluminium manifold mounting

### Dimensional Drawing for 1"

- CO 1" aluminium manifold mounting
- CO 1" stainless steel manifold mounting
Dimensional Drawing for 1\(\frac{1}{2}\)"

- CO 1\(\frac{1}{2}\)" aluminium manifold mounting
- CO 1\(\frac{1}{2}\)" stainless steel 316 manifold mounting

Dimensional Drawing for 2"

- CO 2" aluminium manifold mounting
CS: Quick Exhaust

The Quick Exhaust (model CS) is a two-way valve used for on/off movement (trip or fail) to fully exhaust the connected chamber of the actuator. When this device is pilot operated and mounted on a modulating actuator it allows quick exhausting of the connected chamber, even when piloted by a small CV device.

**Key features**

- Suitable for:
  - Standard, offshore, sandstorm or copper-free ambient conditions.
  - Single and double acting actuators.
  - Low and high ambient temperature.

**Benefits**

- Compact design
- Big exhaust CV (up to 60)
- Metal piston operated (diaphragm free)
- Flange mounted on actuator cap

**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**
  - 1/4” NPT

- **Actuator connections**
  - Dedicated flange

- **Operating pressure**
  - P min = 2.5 bar
  - P max = 7 bar
  - Design pressure = 10 bar

- **CV max**
  - Inlet = 60
  - Outlet = 20

- **Exhaust connections**
  - Dedicated to SL

- **Weight**
  - Aluminium = 5kg
  - Stainless steel 316 = 12.5kg

* Lower or higher temperature available on request
The Manual Override (model GR) is designed to manually move the actuator stem using a handwheel. The internal gear is mounted on ball bearings for high efficiency and for long operating life. All STI actuators may be equipped with a manual override to allow operation of the control element when instrument air is not available and the actuator has to be operated manually. Several sizes are available according to the actuator required. For STI actuators series SCV the gear box is mounted between the actuator and the yoke, for the SC series it is mounted on the actuator stem cap side. The manual override can be used as an adjustable retraction stroke limiter. A specific version can be direct mounted to operate a valve where no actuator is installed.

**Key features**

> Suitable for standard, offshore, sandstorm and copper-free ambient conditions
> Single and double acting actuators
> Low and high ambient temperature

**Benefits**

> Internal gear mounted on ball bearings to minimize operator effort and long operation life
> Available with sandstorm design with stem and main screw bellows
> Available to lock movement in any position to keep valve in any required position
> Available with adjustable thrust limiter
> Available with mechanical chain transmission of the manual override for remote operator access

**Technical specifications**

**Housing materials**
- GR 1 = Painted aluminium
- GR 2 = Painted aluminium
- GR 2.5 = Painted cast iron
- GR 3 = Painted carbon steel

**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)

* Lower or higher temperature available on request
### Dimensional drawing

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<td>85</td>
<td>447</td>
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<td>GR_355</td>
<td>355</td>
<td>88</td>
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<td>-</td>
</tr>
<tr>
<td>GR_455</td>
<td>455</td>
<td>94</td>
<td>597</td>
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</tr>
<tr>
<td>GR_505</td>
<td>505</td>
<td>97</td>
<td>647</td>
<td>-</td>
</tr>
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<td>GR_555</td>
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<td>697</td>
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</tr>
<tr>
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<td>103</td>
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</tr>
<tr>
<td>GR_655</td>
<td>655</td>
<td>106</td>
<td>797</td>
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<th>GR 3</th>
<th>Stroke</th>
<th>Weight (kg)</th>
<th>H (mm)</th>
<th>X (mm)</th>
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<tbody>
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<td>GR_505</td>
<td>505</td>
<td>240</td>
<td>667</td>
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</tr>
<tr>
<td>GR_455</td>
<td>455</td>
<td>226</td>
<td>617</td>
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<tr>
<td>GR_405</td>
<td>405</td>
<td>230</td>
<td>567</td>
<td>-</td>
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<td>GR_153</td>
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<td>GR_103</td>
<td>103</td>
<td>199</td>
<td>265</td>
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</table>
MC: Motion Converter

The Motion Converter (model MC) is suitable for the easy installation of rotary positioners on linear actuators. The device is available with an adjustable and changeable coupling kit to connect with different positioners or accessories. The coupling kit is designed to avoid radial forces on the mounted accessories (such as positioners, position transmitters or limit switches mounted into a box). The conversion from linear actuator and valve stem movement to rotary movement is made with a lever mechanism designed to minimize the linearity error in a simple, robust construction in a small box. The motion converter removes the imprecise effect of a traditional system lever/pin arrangement. In a traditional feedback arrangement on valves with small stroke lengths, performance is lost due to the short linear stroke of the actuator/valve stem. This problem is removed when the MC device is used.

Key features

- Suitable for standard, offshore, sandstorm and copper free ambient conditions
- Single and double acting actuators
- Low and high ambient temperature
- Suitable for linear actuators
- No exposed long/arm/lever moving during actuator stroke
- Small dimensions are not affected by the length of the actuator stroke.
- Significant reduction in linearity error when compared with the best ever/arm/pin system (50% less than the next best system available in the market)
- Robust construction not affected by dust, ice, temperature and other contaminants
- Self cleaning system
- No noise during operation
- Maintenance free
- Adaptable at every stroke in the field
- 90° exit angle
- Backlash recovery system

Benefits

Stainless steel 316 manifold mounting

Aluminium manifold mounting
### Technical specifications

**Housing materials**
- Anodised aluminium
- Stainless steel 316

**Operating temperature***
-40°C to 120°C (-40°F to 248°F)

**Minimum stroke cam std**
>70mm

**Pilot signal connection**
1/4" NPT

**Output angle**
90°

**Linearity error**
1.1% for stroke up to 90 -> 400

**Weight**
- Aluminium = 1.2kg
- Stainless steel 316 = 2.7kg

* Lower or higher temperature available on request

### Dimensional drawing

![Dimensional drawing image]

- 85
- 120
- 115
- 6.5
- N4 HOLES
- 85
- 132
- 131
- 5.6
- 9.5
- CAM
- -0.005
- g10 -0.063
SAR: Snap Acting Relay

The Snap Acting Relay (model SAR) is a narrow-band pneumatic controller with an adjustable setpoint. Pressure in the input chamber opposes the load on the adjusting spring. Whenever this input pressure exceeds the spring setting, the input signal seat will be closed and the open supply seat will allow full supply pressure to pass directly to the output. Conversely, whenever the input pressure is below the spring setting, the supply seat will be closed and the signal seat will be open. The output, in this case, will be equal to the signal. Generally used for the input signal of pneumatic controlled positioners.

**Key features**
- Suitable for standard, offshore, sandstorm and copper-free ambient conditions
- Single and double acting actuators
- Low and high ambient temperatures

**Benefits**
- Compact design
- Lockable adjusting screw
- Adjusting screw safety design
- Precise switching pressure and low hysteresis

**Technical specifications**

<table>
<thead>
<tr>
<th>Housing materials</th>
<th>Anodised aluminium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating temperature</td>
<td>-20°C to 70°C (-4°F to 158°F)</td>
</tr>
<tr>
<td>Feeding connections</td>
<td>1/4&quot; NPT</td>
</tr>
<tr>
<td>Pilot signal connection</td>
<td>1/8&quot; NPT</td>
</tr>
<tr>
<td>Operating pressure</td>
<td>P min = 1.4 bar</td>
</tr>
<tr>
<td></td>
<td>P max = 2.5 bar</td>
</tr>
<tr>
<td></td>
<td>Design pressure = 10 bar</td>
</tr>
<tr>
<td>Output connections</td>
<td>1/4&quot; NPT</td>
</tr>
<tr>
<td>Weight</td>
<td>4 kg</td>
</tr>
</tbody>
</table>
SL: Exhaust Protection System

The Exhaust Protection System (model SL) has excellent exhaust and silencing characteristics with minimal resistance to air flow. In addition, it has an integral check valve that enables the maximum IP protection. This product is made with special polymeric material which is compliant with ATEX directives for use in an explosive atmosphere. The exhaust protection system is designed to incorporate a very low back-pressure, ensuring a very high exhaust flow.

Key features

- Suitable for standard, offshore, sandstorm and copper-free ambient conditions
- Single and double acting actuators
- Low and high ambient temperatures
- High exhaust flow
- Silencer (3 elements)
- Silencer (5 elements)
- Can be installed in any orientation
- Made of stainless steel and plastic material suitable for use in hazardous areas (To ATEX standard)

Benefits

- High exhaust flow
- The dissipation of exhaust flow energy is through a cage labyrinth system. This is self cleaning and therefore minimises clogging
- Includes an integral check valve that maintains a very low back-pressure to permit quick opening. This allows high dynamic movement and the check valve will close immediately the when the exhaust flow stops
- Where the SL system is installed the internal check valve also protects devices from dust or other materials when there is no exhaust flow
- The special design of the labyrinth allows installation in any orientation, minimizing the ingress or storage of water into the SL system
- Suitable for standard, offshore, sandstorm and copper-free ambient conditions
- Single and double acting actuators
- Low and high ambient temperatures
- High exhaust flow
- Silencer (3 elements)
- Silencer (5 elements)
- Can be installed in any orientation
- Made of stainless steel and plastic material suitable for use in hazardous areas (To ATEX standard)
Technical specifications

Housing materials
Stainless steel 316 + Antistatic polymeric

Operating temperature
-40ºC to 85ºC (-4ºF to 185ºF)

Connections
Flange mounted

CV max
3 elements = CV 40
5 elements = CV 50

Design pressure
10 bar

IP protection
IP 65

Weight
3 elements = 0.8 kg
5 elements = 1.2 kg

Dimensional drawing
TP: Pneumatic Pressure Switch

The Pneumatic Pressure Switch (model TP) device has been designed to drive lock-up devices to the safety shut down position in the event supply air pressure falls below the operating safety value. The switching value is easily adjustable and the device allows maintainers to set the switching pressure required to activate the switch in the safety/shut down function. The switching device operates immediately, even in the case of a gradual air-pressure decrease to the set value. The device will automatically reset after a failure, when the line pressure is 1 bar greater than set pressure to avoid instability around the device set point.

Key features

> Standard, offshore, sandstorm and copper-free ambient condition
> Single and double acting actuators
> Low and high ambient temperature

Benefits

> Accurate pressure setting
> Set screw lockable with nut
> Insensitive to vibrations
> Small dimensions and light weight allows mounting on lock-up 3 way valve
> Reset hysteresis with established safety

Technical specifications

<table>
<thead>
<tr>
<th>Housing materials</th>
<th>Anodized aluminium</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Stainless steel 316</td>
</tr>
<tr>
<td>Operating temperature*</td>
<td>-20°C / +70°C</td>
</tr>
<tr>
<td></td>
<td>-40°C / +70°C available on request</td>
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<tr>
<td></td>
<td>-20°C / +85°C available on request</td>
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<tr>
<td>Pilot signal connection</td>
<td>1/8” NPT</td>
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<tr>
<td>Operating pressure</td>
<td>P min = 2 bar</td>
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<td></td>
<td>P max = 7 bar</td>
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<td></td>
<td>Design pressure = 10 bar</td>
</tr>
<tr>
<td>Output connections</td>
<td>Fig 1: 1/8” NPT</td>
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<tr>
<td></td>
<td>Fig 2: 1/8” NPT, 1/4” NPT</td>
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<tr>
<td>Weight</td>
<td>Aluminum = 0.4 kg</td>
</tr>
<tr>
<td></td>
<td>Stainless steel 316 = 0.8 kg</td>
</tr>
<tr>
<td>* Lower or higher temperature available on request</td>
<td></td>
</tr>
</tbody>
</table>

Aluminium with square plate

Stainless Steel 316 with threaded connection
UD: Derivative Unit

The Derivative Unit (model UD) is a specific device to amplify the exhaust. The regulating system is specifically designed for modulation and allows an accurate calibration (tuning) to maximize speed without compromising the stability of the actuator. Designed to be used with precision and easy tuning in control systems (amplification of exhaust positioner flow) and also for on/off systems.

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.

Benefits

- Standard, offshore, sandstorm, copper free ambient condition
- Single and double acting actuators
- Low and high ambient temperature
- High sensitivity
- The specific design allows for accurate regulation of activation on modulating systems
- Activation system available in 2 versions for pilot
- CV flow between 0.1 and 0.8 and for pilot CV flow between 0.8 and 2.5
- High exhaust CV
- Collectable exhaust ND 3/4” NPT
- Regulation system available to modulate exhaust CV between 0 and 3.8
- Adjustable every 90° actuator connection design
- Full tight zero leakage
- Regulation screw cannot be ejected by internal air pressure

Technical specifications

<table>
<thead>
<tr>
<th>Housing materials</th>
<th>Pilot signal connection</th>
<th>Actuator connections</th>
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<tbody>
<tr>
<td>Anodized aluminium</td>
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<td>Manifold mounting</td>
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<tr>
<td>Stainless steel 316</td>
<td>CV max</td>
<td>1/2” NPT</td>
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<tr>
<td></td>
<td>Exhaust = 3.8</td>
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</tr>
<tr>
<td>Operating temperature*</td>
<td>Operating pressure</td>
<td>Weight</td>
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<tr>
<td>-20°C to 70°C (-4°F to 158°F)</td>
<td>P min = 3 bar</td>
<td>Aluminium = 1kg</td>
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<tr>
<td>-40°C to 70°C (-40°F to 158°F)</td>
<td>P max = 7 bar</td>
<td>Stainless steel 316 = 2.7kg</td>
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<tr>
<td>-20°C to 85°C (-4°F to 185°F)</td>
<td>Design pressure = 10 bar</td>
<td></td>
</tr>
<tr>
<td>Exhaust connections</td>
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<td>* Lower or higher temperature available on request</td>
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<tr>
<td>3/4” NPT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Aluminium manifold mounting

Stainless steel 316 manifold mounting
Dimensional drawing

- **Positioner Side**: 8.5 holes, 12.5 x 15, 31.5 x 31.5, 79, Ø1/2 NPT

- **Actuator Side**: Ø1/2 NPT, 39.5 x 39.5, 20

- **Exhaust**: Ø34 NPT, 39.5 x 39.5
2030: Electronic Position Transmitter

The Electronic Position Transmitter (model 2030) is suitable for installation on quarter turn and linear actuators. It has been designed to meet various industrial application requirements, for example on-board pneumatic actuators. The enclosure has the capability to house a wide range of either mechanical or inductive limit switches (up to 4). A shaft with a manually-adjustable cam is used for accurate and easy setting of the limit switches which are pre-wired to a terminal strip.

**Key features**

> Suitable for standard, offshore, sandstorm, copper free ambient conditions
> Single and double acting actuators
> Low and high ambient temperatures
> Quarter turn and linear actuators
> Designed to be coupled with STI motion converter device

**Benefits**

> Contactless sensor
> Easily configurable for 30-90° angles
> Direct or reverse action
> Explosion proof version
> Position transmitter / Position transmitter + Limit switch version available
> Available with integrated limit switches

**Electrical certifications**

> Protection degree: IP66
> Hazardous area certification: ATEX EExd II 2 G EEx d IIC T6
> CE and EMC certifications
Technical specifications

Housing materials
Painted RAL 9005 aluminium
Stainless steel 316 (without limit switches)

Operating temperature
-40°C to 85°C (-4ºF to 185ºF)

Accuracy (*)
<0.5% (including linearity, repeatability and hysteresis)

Loop supply effect (*)
<0.2% on the full supply range

Temperature drift (*)
<0.3% every 10ºC

Response time
<0.2 seconds

Output
4-20 mA (passive loop)

Operating angle
30º - 90º

Action
Direct or reverse locally configurable by a simple switch

Temperature drift (*)
Assuming 90º angle

Supply range
12 to 32 Vdc, reverse polarity protected

Zero and span adjustment
Locally adjustable with screw driver

Weight
TR aluminium = 1.6 kg
TR + LS aluminium = 2.2 kg
TR stainless steel 316 = 5 kg

Dimensional drawing

<table>
<thead>
<tr>
<th>POSITION TRANSMITTER</th>
<th>POSITION TRANSMITTER</th>
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<tbody>
<tr>
<td>ONLY 2030 SERIES</td>
<td>AND/OR LIMIT SWITCHES 2030</td>
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<tr>
<td>STD SHAFT</td>
<td>STD SHAFT</td>
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<td>VDK/VE 3845 EXECUTION</td>
<td>VDK/VE 3945 EXECUTION</td>
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<tr>
<td>A 99</td>
<td>A 99</td>
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<tr>
<td>B 125.4</td>
<td>B 131</td>
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<tr>
<td>150</td>
<td>176.4</td>
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<tr>
<td>150</td>
<td>182</td>
</tr>
</tbody>
</table>

* : M20x1.5 execution is also available

Position transmitter without limit switches (stainless steel 316)
2130: Limit Switch

The Limit Switch (model 2130) is suitable for installation on rotary motion. It has been designed to meet various industrial application requirements, for example on board pneumatic actuators. The enclosure has the capability to house a wide range of either mechanical or inductive limit switches. A shaft with manually-adjustable cam is used for accurate and easy setting of the limit switches, which are prewired to a terminal strip.

**Key features**

- Suitable for standard, offshore, sandstorm, copper free ambient conditions
- Single and double acting actuators
- Up to 4 limit switches
- Mechanical or Inductive limit switch
- Gold plated limit switch option available
- Low and high ambient temperatures
- Easy adjustable independent cam for switch position adjustment
- Easy access, robust terminal board suitable for 2.5mm² wires

**Benefits**

- Protection degree: IP66
- Hazardous area certification: ATEX EExd II
- CE and EMC certifications

**Electrical certifications**

- Position transmitter with limit switches (aluminium)
- Position transmitter without limit switches (aluminium or stainless steel 316) also available
Technical specifications

Housing materials
Painted RAL 9005 aluminium

Operating temperature
-40ºC to 85ºC (-4ºF to 185ºF)

Weight
2.2 kg

Dimensional drawing

<table>
<thead>
<tr>
<th>POSITION TRANSMITTER AND/OR LIMIT SWITCHES</th>
<th>2030 or 2130 SERIES</th>
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<tr>
<td>SHAFT</td>
<td>VDI/VE 3845 EXECUTION</td>
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<td>A</td>
<td>176.4</td>
</tr>
<tr>
<td>182</td>
<td></td>
</tr>
</tbody>
</table>

*: M20x1.5 execution is also available
Linear actuators

Our pneumatic valve piston actuators (SC/V) drive control valves for the most demanding applications in Power and Oil & Gas. Thanks to the patented design of the piston, SC/V actuators give smooth and precise valve operation without any maintenance for the whole operating life. Our pneumatic damper actuators (SC) are purposely designed and manufactured for the operation of flow control devices such as dampers, louvres, butterfly and ball valves. Thanks to their design, they are the ideal application in power plants, refineries, pipe steel works and on board vessels.

Quarter-turn actuators

Our RT Series offers a complete range of pneumatic and hydraulic quarter-turn actuators (RTC & RTQ) to withstand the most hostile environmental conditions. They are suitable for all on-shore and off-shore applications, covering the general on-off valve and modulating control valve duties. The RT Series is designed to provide maximum reliability and flexibility for valves in all pressure classes.

Control drive actuators

This pneumatic actuator system (CML & CMV) is composed of an actuator and a manual override integrated into a steel housing which works also as a carrying structure.

This rugged construction guarantees continuous operation in harsh environments, such as power stations, steel industries, petrochemical plants and deserts.

Positioners

We offer a wide range of positioners: pneumatic or electro-pneumatic, smart (very high flow rate) or “traditional type”.

Aftermarket services

Fast delivery: 24 hours spare parts shipment service
Field Service on site: for spare parts installation and upgrade
Maintenance Service on site: for regular maintenance of our actuator and accessories
Remote customer care: telephone assistance during start-up, commissioning or normal operation
Spare parts service: to guarantee original spare parts interchangeable with existing one
Training on site: for better calibration and knowledge of our system
Upgrade service: to identify the best new solution available for your system