IMI STI

Positioners

Engineering
GREATSolutions

PT

IMI Critical Engineering

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DT DigitalTrak

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CRP-3/M

IMI STI's model CRP-3/M is an analog positioner available in pneumatic and electro-pneumatic versions. The positioner has a heavy duty design making it suitable for use in very harsh conditions. It is used as the control part of the pneumatic valve set in oil and gas, refining, chemical, power, metal production and other fields with automated systems. The pneumatic versions accepts a 3-15 psi (0.2-1 bar) signal and the electro-pneumatic version a 4-20 mA signal. The positioner is based on the balanced-forces principle with air distribution to the actuator chambers carried out by an internal spool.

This positioner is designed for use on linear (minimum stroke 8mm) or rotary actuators using different feedback systems (e.g. lever or motion converter). The CRP-3/M is a double acting positioner but it can be used as single acting.

The positioner is equipped with a different linear CAM (angle up to 270°) for use on actuators with different stroke lengths.

The CAM operating angles and range adjustments are printed on the positioner. Special CAM profiles are available on request.

Compact design

Key features and benefits

- > Compact design
- > Metallic case
- > Heavy duty design
- > High reliability
- > Available with lever or with bare shaft, standard or Namur
- > Split range signal
- > Special characterisation/range
- > Available with a full stainless steel spool valve
- > Suitable for:
  - Standard, offshore, sandstorm, copper free ambient condition
  - Single and double acting actuators
  - Low and high ambient temperature

CRP-3/M pneumatic version

Accessories

- > Intrinsically safe electro-pneumatic version available for ATEX execution
- > Customised cam
- > Pressure gauges
- > VDI/VDE 3845 EN 15714-3 connections (NAMUR)

Technical specifications

Housing materials
Rynite
Cover polycarbonate

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

Static air consumption
0.4 Nm ³/h (0.25 SCFM) at 400kPa (60 psi)

Static air consumption (I/P converter)
+0.09 Nm ³/h (0.06 SCFM)

Feeding connection
ND 1/4"

Output connection
ND 1/4"

Pilot signal connection
1/4" NPTF

Electrical connection for I/P version
ND 1/2" NPTF

Enclosure degree of protection
IP65

CV max low flow
ND 1/4" Inlet = 0.12
ND 1/4" Outlet = 0.12

Operating temperature
-20°C / +70°C
-40°C / +85°C available on request

Signal
3-15 psi
4-20 mA

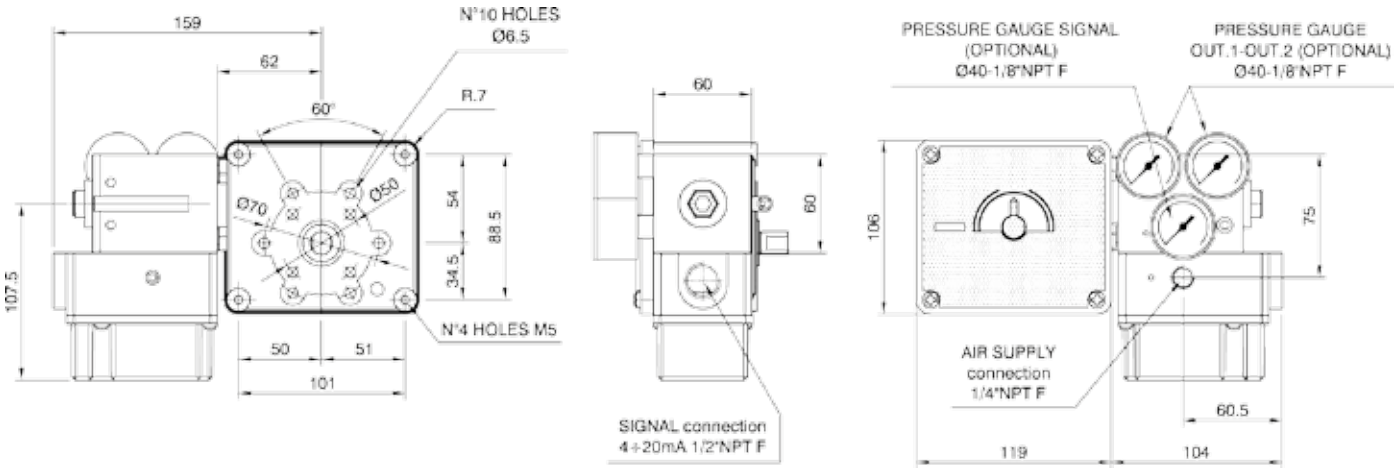
Sensitivity
0.15% of signal range

Linearity
1% of the stroke with linear cam

Hysteresis
0.5% of full stroke

Weights
CRP-3/M ND 1/4" = 1.4 kg
CRP-3/M-EP ND 1/4" = 1.9 kg

Dimensional drawing



DE/3M-3

The DE/3M-3 is an analog positioner available in a pneumatic and electro-pneumatic version. The positioner has a heavy duty design making it suitable for use in very harsh conditions. It is used as the control part of the pneumatic valve set in oil and gas, refining, chemical, power, metal production and other fields with automated systems. The pneumatic version accepts a 3-15 psi (0.2-1 bar) signal and the electro-pneumatic version a 4-20 mA signal.

When using the electro-pneumatic version an I/P converter is installed on the pneumatic positioner which allows an electric signal to pilot the positioner. It is based on the balanced-forces principle; air distribution to the actuator chambers is executed by an internal spool.

The DE/3M-3 is designed to be used for applications on linear actuators with a stroke length of up to 300mm. This positioner is double acting but can also be used as single acting if required.

Heavy duty design

Key features and benefits

> Heavy duty design
> High reliability
> Split range signal
> Feedback system lever/arm free
> Suitable for:
  - Standard, offshore, sandstorm, copper free ambient condition
  - Single and double acting actuators
  - Low and high ambient temperature

Accessories

> Intrinsically safe electro-pneumatic version available for ATEX execution
> Pressure gauges

DE-3M-3 Pneumatic version

Technical specifications

Housing materials
Anodized Aluminum

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

Static air consumption
0.4 Nm ³/h (0.25 SCFM) at 400kPa (60 psi)

Static air consumption (I/P converter)
+0.09 Nm ³/h (0.06 SCFM)

Feeding connection
ND 1/4"

Output connection
ND 1/4"

Pilot signal connection
1/8" NPTF

Electrical connection for I/P version
ND 1/2" NPTF

Enclosure degree of protection
IP65

CV max low flow
ND 1/4" Inlet = 0.12
ND 1/4" Outlet = 0.12

Operating temperature
-20°C / +70°C
-40°C / +85°C available on request

Signal
3-15 psi
4-20 mA

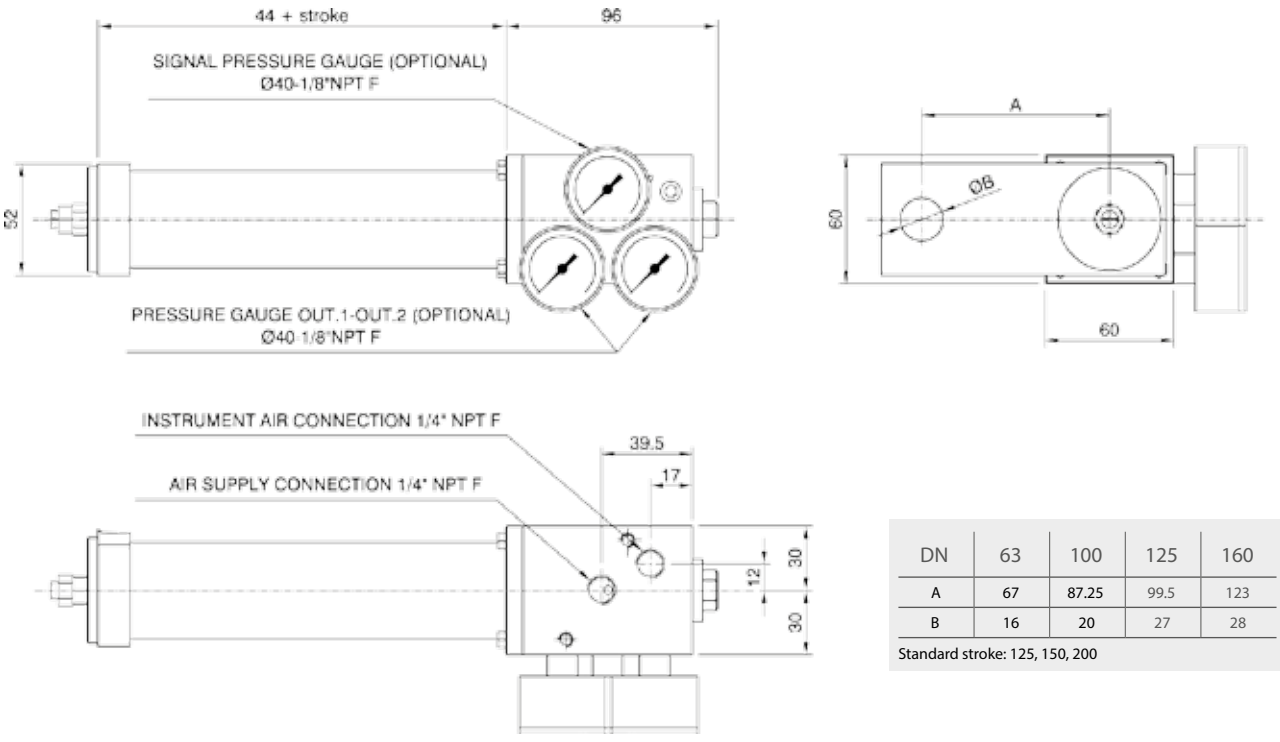
Sensitivity
0.2% of signal range

Linearity
1% of the full stroke

Hysteresis
0.5% of full stroke

Weights
DE/3M = 1.8 kg
DE/3M-EP = 2.3 kg

Dimensional drawing



DN	63	100	125	160
A	67	87.25	99.5	123
B	16	20	27	28

Standard stroke: 125, 150, 200

DT DigitalTrak

The DigitalTrack positioner is a loop powered instrument.

As a control part of the pneumatic valve set, this positioner is widely used in petroleum, chemical, electric generation, metal production, light industry and other fields of automation systems.

The DT intelligent electro-pneumatic valve positioner accepts 4-20 mA valve setting signal from the control system; at the same time, it receives the actual valve signal through the local sensors; the two signals are compared by control software in order to control the feeding and exhaust of the air to the actuator, driving the valve to reach the set point.

The DigitalTrack positioner is based on microprocessor technology. It can overcome friction and the imbalance power on the control valve well, and improve the response speed of the control valve. This sets the position rapidly and accurately.

High reliability

Key features and benefits

- > Compact design
- > Metallic case
- > Heavy duty design
- > High reliability
- > Integrated fail in place on loss of signal device
- > Integrated position transmitter
- > Display for calibration
- > Autotuning system for calibration
- > Auto-diagnosis system
- > Suitable for:
  - Standard, offshore, sandstorm, copper free ambient conditions
  - Single and double acting actuators
  - Low and high ambient temperature

Accessories

- > Remote mounting equipment

DT electro-pneumatic version

Technical specifications

Housing material
Aluminum

Operating pressure
P min = 1.4 bar
P max = 7 bar
Design pressure = 10 bar

Static air consumption
0.036 Nm ^{3}/h (0.02 SCFM) at 400kPa
(60 psi)

Feeding connection
ND 1/4"

Output connection
ND 1/4"

Pilot signal connection
1/2" NPTF

CV max
ND 1/4" Inlet = 0.12
ND 1/4" Outlet = 0.12

Operating temperature
-20°C / +70°C

Signal
4-20 mA

Sensitivity
0.1% of signal range

Repeatability
0.2% of the full stroke

Accuracy
0.5% of the full stroke

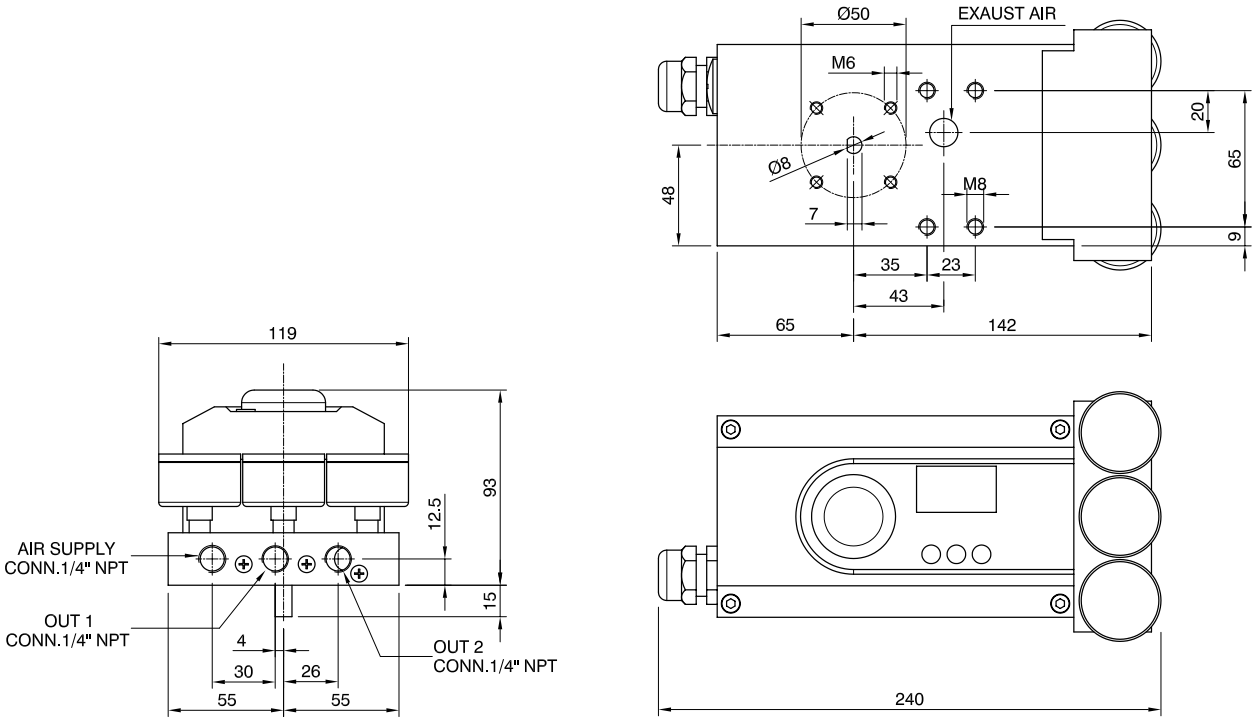
Hysteresis
0.2% of full stroke

Environmental humidity
5% - 95%RH

Input independence
375 Ω/20 mA

Weight
ND 1/4" = 2kg

Dimensional drawing



SA/CL

The SA/CL is an analog positioner available in a pneumatic and electro-pneumatic version. The positioner has a heavy duty design making it suitable for use in very harsh conditions. It is used as the control part of the pneumatic valve set in oil and gas, refining, chemical, power, metal production and other fields with automated systems. The UP-2 pneumatic version accepts a 3-15 psi (0.2-1 bar) signal and the electro-pneumatic version a 4-20 mA signal.

When using the electro-pneumatic version an I/P converter is installed on the pneumatic positioner which allows an electric signal to pilot the positioner. It is based on the balanced-forces principle; air distribution to actuator chambers is executed by an internal spool.

The SA/CL is designed to be used for applications on linear actuators with a stroke length of up to 70mm. This positioner is double acting but can also be used as single acting if required.

High reliability

Key features and benefits

- Metallic case
- Heavy duty design
- High reliability
- Integrated bypass only for ND 1/4" version
- Action inversion without tubing inversion only for ND 1/4" version
- Air purge version
- Sandstorm execution
- Split range signal
- Special characterisation/range
- Suitable for big size/fast stroking actuator
- Available full stainless steel spool valve for ND 1/4"
- Full stainless steel spool valve for ND 1/2"
- Suitable for:
  - Standard, offshore, sandstorm, copper free ambient condition
  - Single and double acting actuators
  - Low and high ambient temperature

DT electro-pneumatic version

Accessories

- Air-Lock ND 1/4" integrated
- Electro-pneumatic version available - intrinsically safe and explosion-proof for ATEX execution
- Change-over plate with by-pass valve
- Special construction for corrosive environment
- Customised cam
- Pressure gauges

Technical specifications

Housing materials
Aluminum

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

Static air consumption
ND 1/4" 1.02 Nm ³/h (0.6 SCFM) at 400 kPa (60 psi)
ND 1/2" 1.04 Nm ³/h (0.8 SCFM) at 400 kPa (60 psi)

Static air consumption (I/P converter)
+0.09 Nm ³/h (0.06 SCFM)

Feeding connection
ND 1/4" Model SA/CL-2
ND 1/2" Model SA/CL-1

Output connection
ND 1/4" Model SA/CL-2
ND 1/2" Model SA/CL-1

Pilot signal connection
1/4" NPTF

Electrical connection (I/P converter)
ND 1/2" NPTF

Exclosure degree of protection
IP65

CV max
ND 1/4" Inlet = 0.34
ND 1/4" Outlet = 0.34
ND 1/2" Inlet = 0.637
ND 1/2" Outlet = 0.79

Operating temperature
-20°C / +70°C
-40°C / +85°C available on request

Signal
3-15 psi
4-20 mA

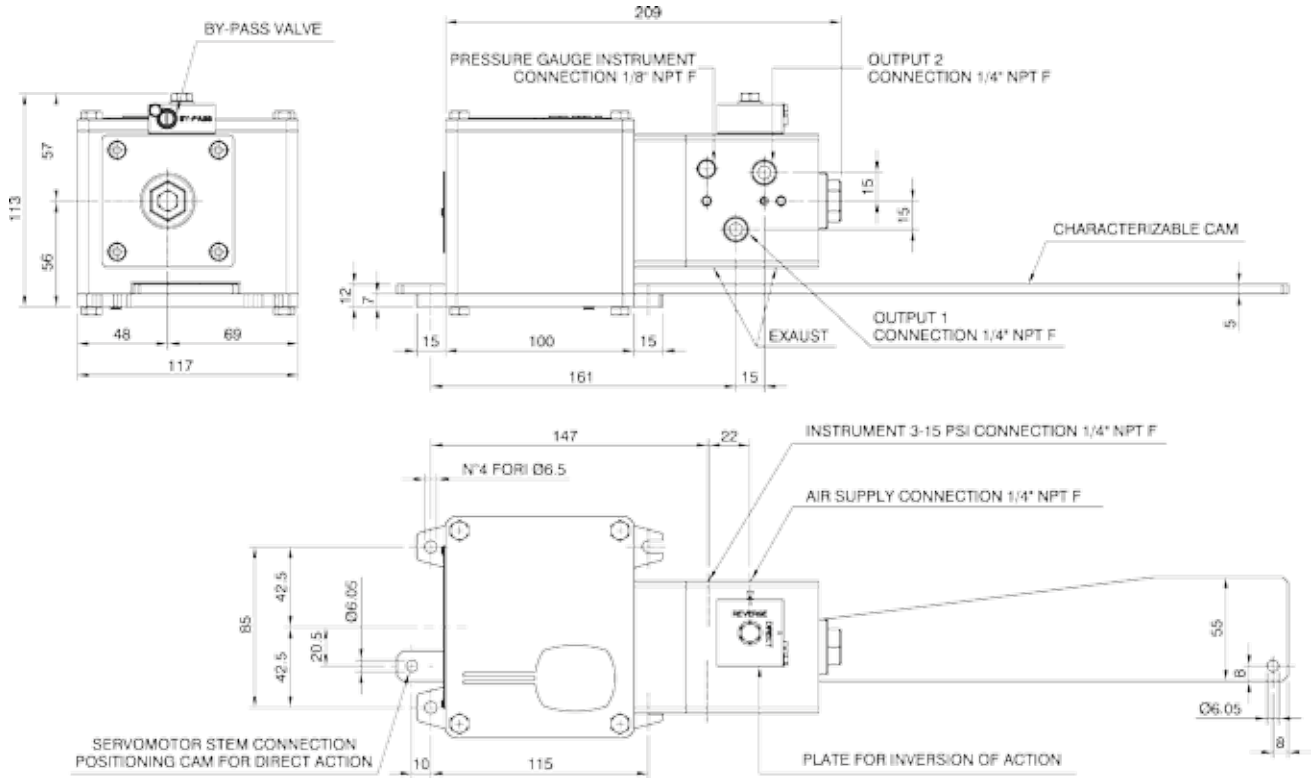
Sensitivity
0.2% of signal range

Linearity
1% of the full stroke

Hysteresis
0.5% of the full stroke

Weight
SA/CL-2 ND 1/4" = 2.3 kg
SA/CL-1 ND 1/2" = 3 kg
SA/CL-2-EP ND 1/4" = 2.8 kg
SA/CL-1-EP ND 1/2" = 3.5 kg

Dimensional drawing



SA-1

The SA-1 is an analogue positioner available in a pneumatic and electro-pneumatic version. The positioner has a heavy duty design making it suitable for use in very harsh conditions. It is used as the control part of the pneumatic valve set in oil and gas, refining, chemical, power, metal production and other fields with automated systems. The pneumatic version accepts a 3-15 psi (0.2-1 bar) signal and the electro-pneumatic version a 4-20 mA signal.

When using the electro-pneumatic version an I/P converter is installed on the pneumatic positioner which allows an electric signal to pilot the positioner. It is based on the balanced-forces principle; air distribution to actuator chambers is done by a spool.

It can be fitted on single or double acting actuators and the operational stroke is between 3-100mm for reverse action with the spring extended.

The standard operational stroke length is 2-65mm for both direct and reverse action with a compressed cylinder spring with a maximum diameter of 200mm. The positioner works on a force balance type operating principle with linear characteristics. The feed-back element consists of a spring with a linear characteristic, actuated by the piston movement: no external elements for movement intake are required. The SA-1 positioner is very compact and can be fully installed on the servo-control system (It is especially suited for pump use).

This positioner is a double acting positioner but it can be used as a single acting one.

High reliability

SA-1 pneumatic version

Key features and benefits

- Compact design
- Metallic case
- Heavy duty design
- High reliability
- Intuitive mechanical and pneumatic construction
- Split range signal
- Special characterisation/range
- Available as full stainless steel spool valve
- No external feedback system
- Suitable for:
  - Standard, offshore, sandstorm, copper free ambient conditions
  - Single and double acting actuators
  - Low and high ambient temperature

Accessories

- Electro-pneumatic version available - intrinsically safe and explosion proof for ATEX execution
- Pressure gauges

Technical specifications

Housing materials
Aluminum

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

Static air consumption
1.02 Nm ³/h (0.6 SCFM) at 400 kPa (60 psi)

Feeding connection
ND 1/4”

Output connection
ND 1/4”

Pilot signal connection
1/4” NPTF

Electrical connection (I/P converter)
ND 1/2” NPTF

Exclosure degree of protection
IP65

CV max
ND 1/4” Inlet = 0.34
ND 1/4” Outlet = 0.34

Operating temperature
-20°C / +70°C
-40°C / +85°C available on request

Signal
3-15 psi
4-20 mA

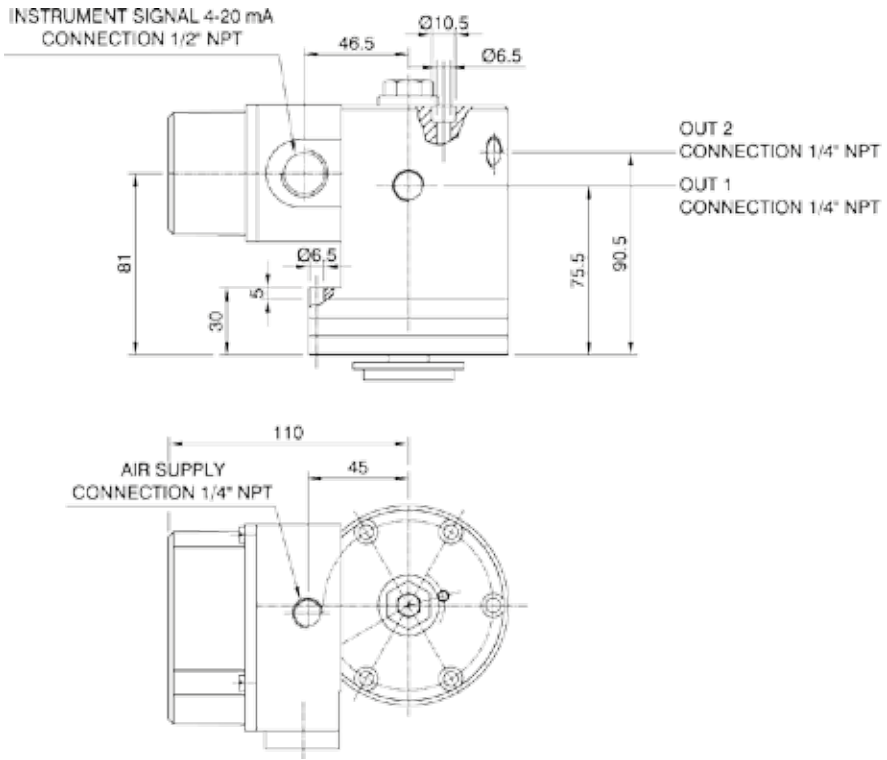
Sensitivity
0.2% of signal range

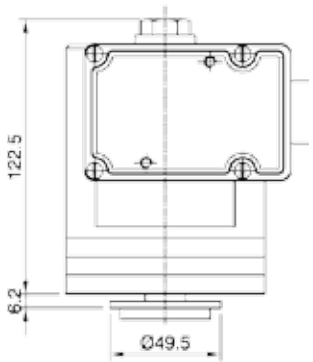
Linearity
1% of the stroke (direct action)

Hysteresis
0.5% of the full stroke

Weight
SA-1ND 1/4” = 1.9 kg
SA-1-EP ND 1/4” = 2.5 kg

Dimensional drawing





SR/CCK

The SR/CCK is specifically designed for the proportional quarter-turn operation for the actuation of butterfly, plug, ball valves, etc. It can be also used on linear actuators using a specific bracket. It is usually located in the control circuit between the air filter regulator and the actuator of the final control element. This positioner has a heavy duty design to make it suitable for use as part of the pneumatic valve set in the potentially harsh conditions found in petroleum, chemical, power, metal production and other hazardous fields.

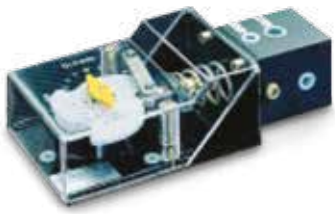
This is a double acting positioner which can also be used as single acting. The SR/CCK positioner is equipped with a different linear cam (angle up to 270°) to allow use on actuators with different strokes.

Cam operating angles and range adjustments are printed on the positioner. Special cam profiles are available on request. This positioner is based on the balanced-forces principle and air distribution to the actuator chamber is executed by a spool.

Heavy duty design

Key features and benefits

> Metallic case
> Heavy duty design
> High reliability
> Split range signal
> Special characterisation/range
> Available with full stainless steel spool valve
> Visual position indicator
> Suitable for:
- Standard, offshore, sandstorm, copper free ambient condition
- Single and double acting actuators
- Low and high ambient temperature



SR/CCK pneumatic version

Accessories

> Pressure gauges

Technical specifications

Housing materials
Aluminum painted Jet Black RAL 9005
Cover polycarbonate

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

Static air consumption
1.02 Nm ³/h (0.6 SCFM) at 400 kPa (60 psi)

Feeding connection
ND 1/4"

Output connection
ND 1/8"

Pilot signal connection
1/8" NPTF

CV max
ND 1/4" Inlet = 0.34
ND 1/4" Outlet = 0.34

Operating temperature
-20°C / +70°C

Signal
3-15 psi

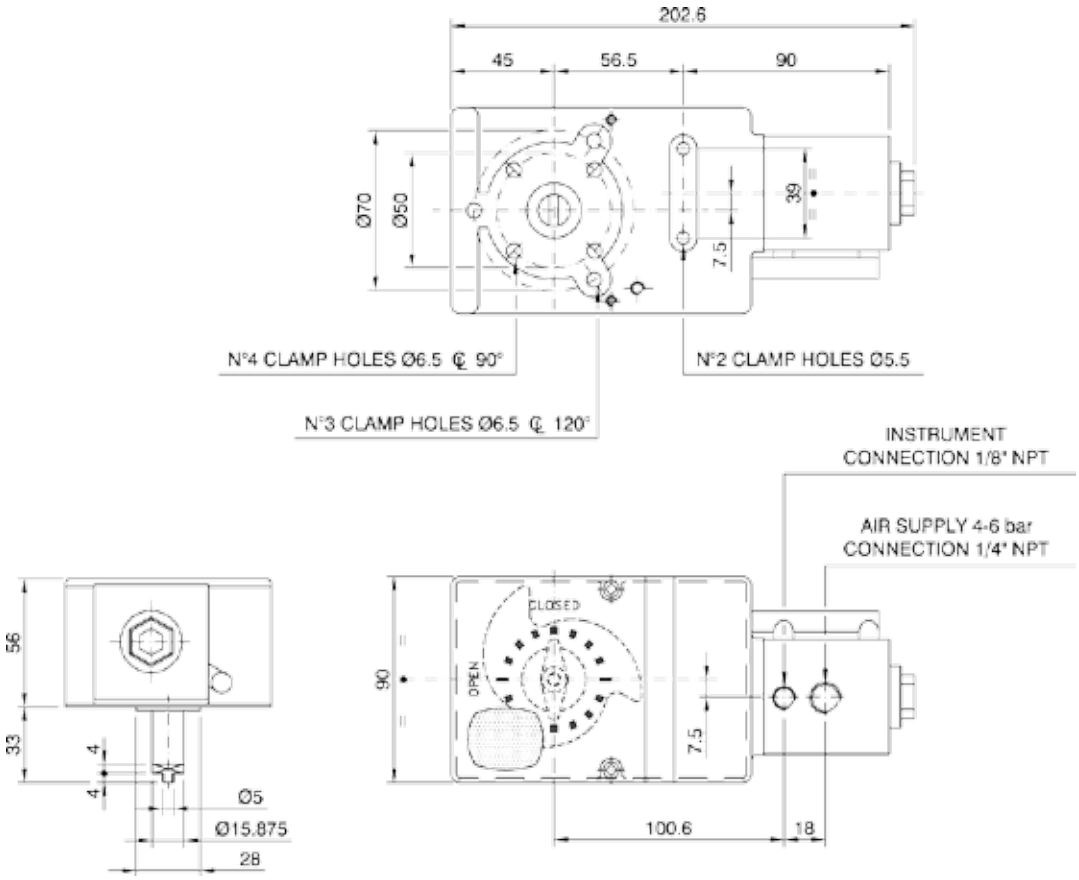
Sensitivity
0.25% of full range

Linearity
1% of the full range with linear cam

Hysteresis
0.5% of the full stroke

Weight
ND 1/4" = 0.9 kg

Dimensional drawing



UP-2

IMI STI's model UP-2 is an analog positioner available in pneumatic and electro-pneumatic versions. The positioner has a heavy duty design making it suitable for use in very harsh conditions. It is used as the control part of the pneumatic valve set in oil and gas, refining, chemical, power, metal production and other fields with automated systems. The UP-2 pneumatic version accepts a 3-15 psi (0.2-1 bar) signal and the electro-pneumatic version a 4-20 mA signal. The positioner is based on the balanced-forces principle with air distribution to the actuator chambers carried out by an internal spool.

UP-2 is designed to be used on linear actuators (with a minimum stroke of 8 mm) or on rotary actuators which use different feedback systems such as the lever or motion converter MC model.

The positioner is a double acting positioner but it can also be used as single acting. It is equipped with a different linear cam (angle up to 270°) to allow use on actuators with different strokes. The cam operating angles and range adjustments are printed on the positioner. Special cam profiles are available on request.

The UP-2 NC 1/4" is available with a bypass valve between the actuator chamber connections. This is built into the change-over system so the actuator action can be changed without having to rebuild the piping.

The positioner is available in different models: the UP2/L (for lever applications), the UP-2/R (for rotary applications). There are different sizes (ND 1/4" or ND 1/2") and the positioner can come with or without an integrated air-lock device (the AL model), with a lever or bare shaft, standard or Namur.

Metallic case

Key features and benefits

- > Metallic case
- > Heavy duty design
- > High reliability
- > Integrated bypass only for ND 1/4" version
- > Action inversion without tubing inversion only for ND 1/4" version
- > Split range signal
- > Special characterisation/range
- > Suitable for large size/fast stroking actuator
- > Available with a full stainless steel spool valve for ND 1/4"
- > Full stainless steel spool valve for ND 1/2"
- > Visual position indicator
- > Suitable for:
  - Standard, offshore, sandstorm, copper free ambient conditions
  - Single and double acting actuators
  - Low and high ambient temperature

UP-2/R pneumatic version

Accessories

- Air-lock ND 1/4″ or ND 1/2″ integrated
- Electro-pneumatic version available - intrinsically safe and explosion proof for ATEX execution
- Change-over system with by-pass valve only for ND 1/4″ size pneumatic
- 1/2″ NPTF connections for quick operating times of large actuators pressure gauges
- VDI/VDE 3845 EN 15714-3 connections (NAMUR)

Technical specifications

Housing materials
Aluminum painted Jet Black RAL 9005
Cover polycarbonate

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

Static air consumption
ND 1/4″ 1.02 Nm ³/h (0.6 SCFM) at 400 kPa (60 psi)
ND 1/2″ 1.04 Nm ³/h (0.8 SCFM) at 400 kPa (60 psi)

Static air consumption (I/P converter)
+0.09 Nm ³/h (0.06 SCFM)

Feeding connection
ND 1/4″
ND 1/2″

Output connection
ND 1/4″
ND 1/2″

Pilot signal connection
1/8″ NPTF

Electrical connection (I/P converter)
ND 1/2″ NPTF

Enclosure degree of protection
IP65

CV max
ND 1/4″ Inlet = 0.34
ND 1/4″ Outlet = 0.34
ND 1/2″ Inlet = 0.637
ND 1/2″ Outlet = 0.79

Operating temperature
-20°C / +70°C
-40°C / +85°C available on request

Signal
3-15 psi
4-20 mA

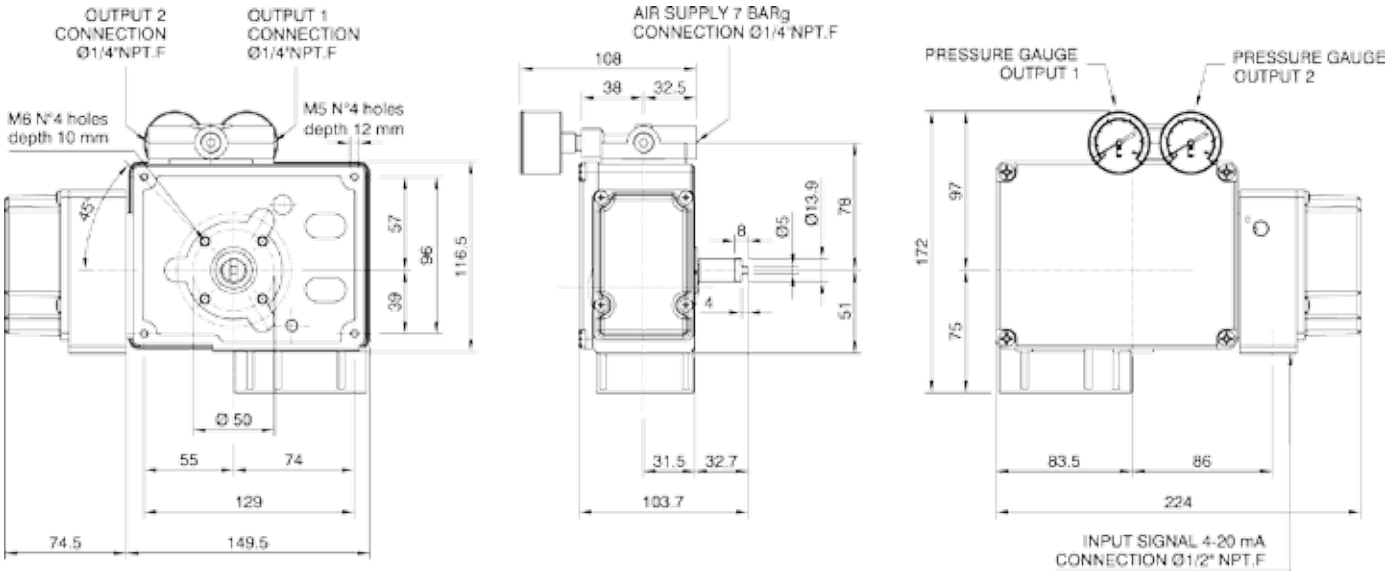
Sensitivity
0.15% of full range

Linearity
1% of the full range with linear cam

Hysteresis
0.5% of the full stroke

Weight
UP-2 ND 1/4″ = 3.9 kg
UP-2 ND 1/2″ = 4 kg
UP-2-EP ND 1/4″ = 4.4 kg
UP-2-EP ND 1/2″ = 4.5 kg

Dimensional drawing



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