VALVE AUTOMATION
SINCE 1976

Foxboro
by Schneider Electric

SRP981 Pneumatic Positioner

The SRP981 Positioner is for operation of pneumatic valve actuators with pneumatic control signals. It is used to reduce the adverse effects of valve friction, for higher thrust and shorter positioning time.

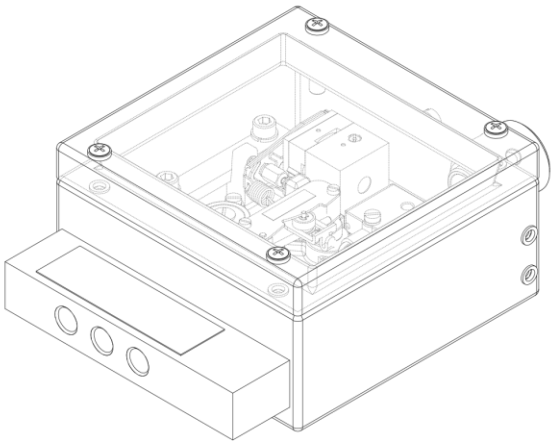
FEATURES

- Independent adjustment of stroke range and zero
- Adjustable amplification and damping
- Split range up to 4-fold possible
- Supply pressure up to 6 bar (90 psig)
- Low vibration effect in all directions
- Mounting according to IEC 534, part 6 (NAMUR)
- Rotation adapter for angles up to 120 °
- Ambient temperature –40 to 80 °C (–40 to 176 °F)
- Travel 8 to 100 mm (0.3 to 4 in)
- Angular range 30 ° to 120 °
- Modular system of additional equipment
  - Electrical limit switches
  - Electrical position transmitter
  - Booster
  - Connection manifold
- Protection class IP54 (IP 65 on request)
- Certificate No. 90/20226(E2) Lloyd's Register of Shipping for use on vessels
- Explosion protection
  - pneumatic basic device:
    ATEX II 2 G c IIC T6 constructive design
  - electrical additional built-in equipment:
    ATEX II 2 G Ex ib/ia IIB/IIC T4/T6
    CU TR explosion protection

SPECIAL VERSION OF SRP981

SRP981 in Stainless Steel housing

Casing . . . . . Stainless Steel 1.4404 / 316L, 1.25 mm thick
Ingress Protection . . . . . IP65; IP66 under working conditions (supplied by air supply)
Impact resistance . . . . . > 7 Joule acc. to EN 50014
Seals . . . . . VMQ (Silicone)



For dimensional drawings see page 13.

Version for mounting to linear actuators, single acting can be ordered under special version ECEP EP 0301, together with Mounting kit EBZG.

Other versions for double acting or mounting to rotary actuators on request.

TECHNICAL DATA

Input

Signal range . . . . . 0.2 to 1 bar (3 to 15 psig) or split range down to Δw 0.2 bar (3 psi)
Stroke range . . . . . 8 to 100 mm (0.3 to 4 in)
Angular range
linear . . . . . 30 ° to 120 °
equal percentage . . . . . 90 °; from 70 ° linear

Output

Output to actuator . . . . . 0 to 100 % supply air pressure

Supply

Supply air pressure . . . . . 1.4 to 6 bar (20 to 90 psig)
Air supply . . . . . according to ISO 8573-1
- Solid particle size and density . . . class 2
- Oil rate . . . . . class 3
- Pressure dew point 10 K under ambient temperature

For air supply, we recommend the FRS02 filter regulator.

Ambient conditions

Ambient temperature . . . . . –40 to 80 °C (–40 to 176 °F)
Relative humidity . . . . . up to 100 %
Operating conditions
as per IEC 654-1 . . . . . The device can be operated at a class D2 location
Transport and storage
Temperature . . . . . –50 to 80 °C (–58 to 176 °F)
Protection class . . . . . IP 54 (IP 65 on request

Response characteristic[1)]

Amplification . . . . . adjustable
Sensitivity . . . . . < 0.1 % F.S.
Non-linearity (terminal based adjustment) . . . . . < 1.0 % F.S.
Hysteresis . . . . . < 0.3 % F.S.
Supply air dependency. . . . . < 0.2 % / 0.1 bar (1.5 psi)
Temperature effect. . . . . < 0.3 % / 10 K

Air consumption

supply air pressure	air consumption
Single acting	
1.4 bar (20 psig)	200 l_n/h (7.1 scfh)
3.0 bar (45 psig)	400 l_n/h (12.4 scfh)
6.0 bar (90 psig)	600 l_n/h (21.2 scfh)
Double acting	
1.4 bar (20 psig)	350 l_n/h (10.6 scfh)
3.0 bar (45 psig)	550 l_n/h (17.7 scfh)
6.0 bar (90 psig)	750 l_n/h (33.5 scfh)

Air output

Load effect [2)] . . . . . –3 % for delivery flow 2 350 l_n/h (83 scfh)
+3 % for exhausted flow 1 900 l_n/h (67 scfh)

Capacity at max. deviation

Supply air Pressure bar (psig)	1.4 (20)	2 (30)	4 (60)	6 (90)
without booster ln/h (scfh)	2 700 (95)	3 500 (124)	5 500 (194)	7 500 (265)
with booster code VKXG -FN ,-GN ln/h (scfh)	18 000 (636)	24 000 (847)	40 000 (1 412)	55 000 (1 942)
with booster code VKXG -HN ln/h (scfh)	36 000 (1 271)	48 000 (1 695)	80 000 (2 825)	110 000 (3 884)

Data measured according to VDI/VDE 2177

Materials

Base plate . . . . . Aluminum (Alloy No. 230) finished with DD-varnish blue
Cover. . . . . impact resistant polyester blue
All moving parts of feedback system . . . . . 1.4305 / 1.4571
Mounting bracket 1.4301

Weight

Single acting
without gauges. . . . . approx. 0.7 kg (1.5 lbs)
with gauges . . . . . approx. 0.8 kg (1.8 lbs)
Double acting . . . . . approx. 0.9 kg (2.0 lbs)
Attachment kit
for diaphragm actuators . . . .approx. 0.3 kg (0.6 lbs)
for rotary actuators . . . . . .approx. 0.5 kg (1.1 lbs)

Connection

Pneumatic . . . . . Female threads G 1/8 acc. to ISO 228

Mounting

Type of mounting . . . . . for attaching to diaphragm actuators acc. IEC 534-6 (NAMUR
. . . . . for attaching to rotary actuators
Mounting orientation. . . . . any

Gauges

Indicating range
Input. . . . . 0 to 1.6 bar (0 to 23 psig)
Output . . . . . 0 to 10 bar (0 to 150 psig)
Error limit . . . . . class 1.6

ACCESSORIES

Connection Manifold With Gauges Code J, M

Indicating range . . . . . 0 to 10 bar (0 to 150 psig)
Error limit . . . . . class 1.6
Pneumatic connections . . . . Female threads Q 1/4-18 NPT acc. to DIN 45 141

Connection Manifold with Gauges Code K, L, N

Indicating range
Supply, output . . . . . 0 to 10 bar (0 to 150 psig)
Input. . . . . 0 to 1.6 bar (0 to 23 psig)
Error limit . . . . . class 1.6
Pneumatic connections . . . . Female threads Q 1/4-18 NPT acc. to DIN 45 141

1) Data based on following parameters:
stroke 30 mm (1.28 in), range spring FES 628/1, feedback lever effective length 117.5 mm (4.63 in), max. amplification,
supply air pressure 3 bar (45 psig)
2) Measured at air supply 1.4 bar (20 psig) and 50 % of signal range