



POSITIONERS

Technical Brochure

Series PNY - PET - PES



PNY01



DESCRIPTION

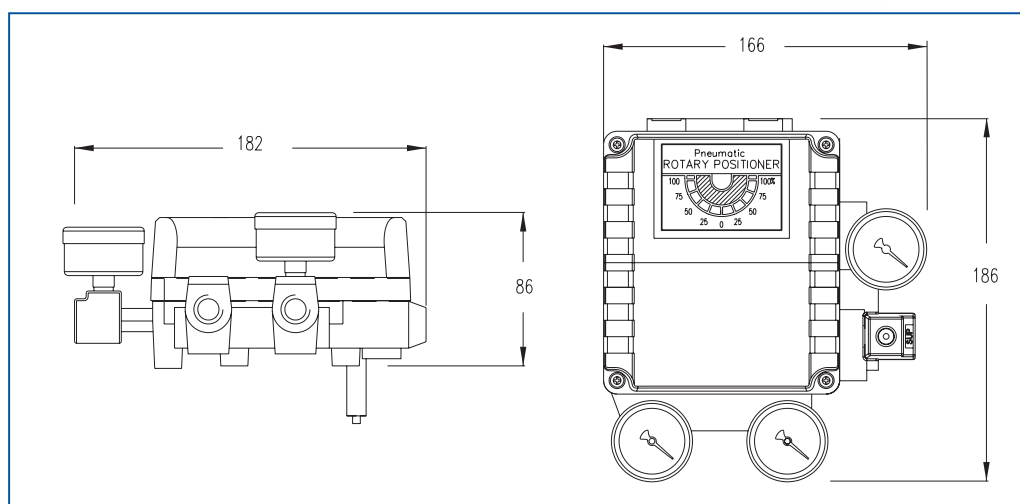
The pneumatic positioner PNY01 is a double acting & spring return unit with 3-15 PSI input signal for proportional control of rotary actuators. The positioner operates on the force-balance principle by comparing standard pneumatic signal control with the angular rotation of the stem.

PNY01 FEATURES

- Same unit for double acting and spring return actuators
- Easy conversion from between Fail Open & Fail Closed
- Easy and precise calibration w/ SPAN & ZERO adjustments
- Possibility to prevent hunting w/ orifice to the small size actuators
- 1/2 split range control with simple operation and without replacement of parts
- Vibration resistant design
- Material: aluminium die casting
- Universal NAMUR VDI/VDE3845 Mounting Bracket Included (30x80mm, 20/30/50mm Height)

PNY01 - TECHNICAL DATA

Item	Single Double
Input Signal	0,2-1 Kgf/cm ² (3-15 PSI)
Supply Pressure	1,4 - 7 Kgf/cm ² (20-100 PSI)
Stroke	0-90°
Air Connection	NPT 1/4"
Gauge Connection	NPT 1/8"
Protection	IP66
Ambient Temp	-4°F +158°F (-20°C +70°C) Operating Temp
Linearity	± 1.5% F.S.
Hysteresis	± 1.5% F.S.
Sensivity	± 0,4% F.S.
Repeatability	± 0,5% F.S.
Air Consumption	< 0.1 CFM / 3 LPM(Sup= 20 PSI)
Flow Capacity	>2.8 CFM / 80 LPM(Sup= 20 PSI)
Weight	3.75 lbs



DESCRIPTION

PET series positioners are double acting & spring return units with 4-20 mA input signal for proportional control of rotary and linear actuators.

The positioner operates on the force-balance principle by comparing standard control signal transmitted with the angular rotation of the stem.

FEATURES

- Same unit for double acting & spring return actuators
- Easy conversion from Fail Open & Fail Closed
- Easy & precise calibration w/ SPAN & ZERO adjustments
- Fast response time & excellent stability
- Vibration resistance design
- By-pass valve (A/M switch) installed
- Material: aluminium die casting
- Split Range Available
- Universal NAMUR VDI/VDE3845 Mounting Bracket Included (30x80mm, 20/30/50mm Height)



AVAILABLE OPTIONS:

Ex ia & Ex db mb
on selected models



PET - TECHNICAL DATA

Item	Single	Double
Input Signal	4-20mA DC	
Impedance	250 ± 15 Ohm	
Supply pressure	20-100 psi	
Stroke	Rotary 0-90°	
Air connection	NPT 1/4"	
Gauge connection	NPT 1/8"	
Conduit	NPT 1/2" (M20x1.5 available)	
Ingress Protection Level	IP66 (EN60529)	
Ambient temperature	-4°F +158°F (-20°C +70°C) Operating Temp	
Low temperature	-40°F +158°F (-40°C +70°C) Operating Temp	
High temperature	-4°F +248°F (-20°C +120°C) Operating Temp	
Linearity	± 1% F.S.	±2% F.S.
Hysteresis	± 1% F.S.	
Sensitivity	± 0,2% F.S.	±0,5% F.S.
Repeatability	±0,5% F.S.	
Air consumption	< .09 CFM - (Sup. = 20 PSI)	
Flow capacity	> 3.1 CFM - (Sup. = 20 PSI)	
Weight	6.2 lbs	

POSITION TRANSMITTER

Input type	2 Wires
Input signal	4-20mA
Output signal	4-20mA
Load resistance	600 Ohm (Max)
Noise range	50 mVp.p
Linearity	± 2.0% F.S.
Hysteresis	± 1.0% F.S.
Sensitivity	± 0.5% F.S.
Supply voltage	10-30 VDC

MECHANICAL SWITCHES (only available for rotary type)

Switch Type	SPDT
Input signal	125 VAC, 3A 30VDC, 2A

AVAILABLE OPTIONS:

- Internal Mechanical switches (not for linear type)
- Internal Position transmitter
- High and Low temp
- Universal NAMUR VDI/VDE3845 Mounting Bracket Included (30x80mm, 20/30/50mm Height)

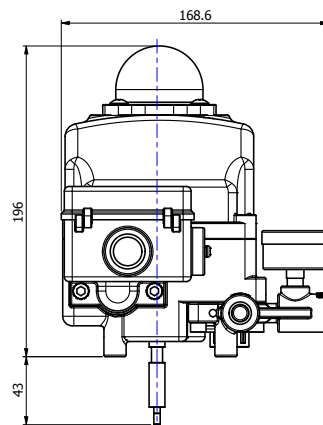
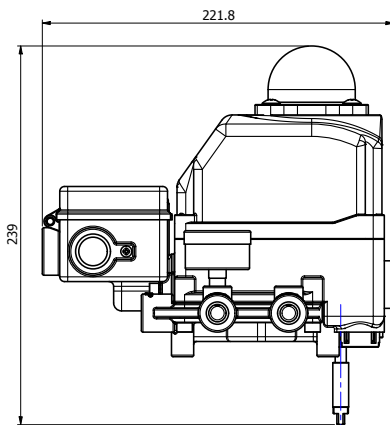
AREA CLASSIFICATION RATINGS:

Type	Certificate	Protection Rating
PET	Weatherproof	Non-hazardous locations
Call	ATEX, IECEx	II 2G Ex db mb IIB/IIC T6/T5 Gb II 2G Ex ia IIC T5/T6 Gb

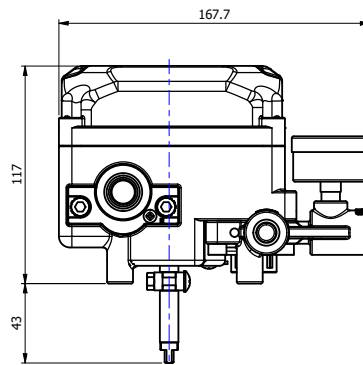
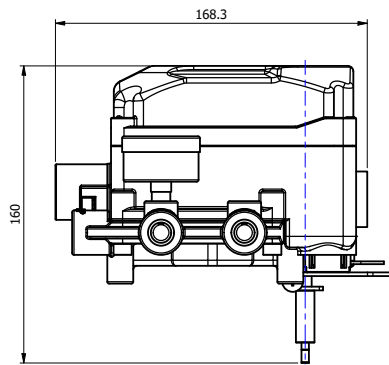
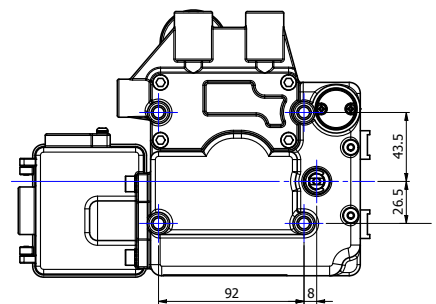


IMPORTANT SUGGESTION

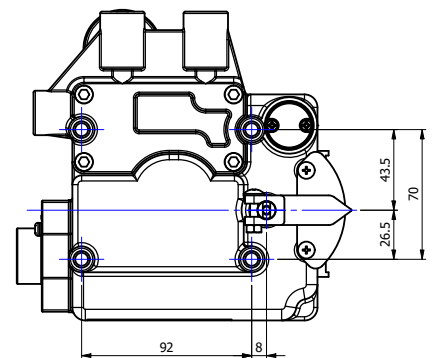
Use of filter regulator strongly recommended for long life performance!



PET02/PET04



PET01



* Note: Call for PET03 dimensions



DESCRIPTION

PES Series Smart Valve Positioner controls valve stroke accurately according to input signal of 4-20mA being input from controller. In addition, the integrated microprocessor performs various and powerful functions like Auto calibration, Alarm and Hart protocol.

PES features

- LCD attached outside the product allows to inspect the state of positioner in the field.
- Valve system can be stabilized by outputting analog feedback signal.
- Various valve characteristics such as linear, quick open, equal percentage are available
- Very simple auto calibration method
- PID parameters can be adjusted easily in the field only by button without communicator
- Tight Shut-Close and Shut-Open can be set
- Specific flow control is available with user setting (16 points)
- ZERO and SPAN can be set by Hand Calibration function
- Split range available
- Vibration resistant design which operates normally regardless of change of supply pressure
- Improvement of valve control speed by large flow pilot valve
- PST and Alarm function
- Linear and Rotary in one compact unit
- HART communication
- Remote type option is available
- Easy installation of option modules
- Built-in self-diagnostic function
- Modularization of the internal parts
- Material: aluminium die casting

AVAILABLE OPTIONS:

Ex ia & Ex db on selected models



PES80 -TECHNICAL DATA

ITEM	PES80 SMART
Input signal	4-20mA DC
Impedance	Max 500 Ohm/20mA DC
Supply pressure	20-100 psi
Stroke	0-90° mm
Air connection	NPT 1/4"
Gauge connection	NPT 1/8"
Conduit	NPT 1/2" (M20x1.5 available)
Ambient temperature	-22°F +185°F (-30°C +85°C)
	-40°F +140°F (-40°C +60°C) Explosion proof T5
	-40°F +104°F (-40°C +40°C) Explosion proof T6
Low temperature	-40°F +185°F (-40°C +85°C)
Linearity	± 0,5% F.S.
Hysteresis	± 0,5% F.S.
Sensivity	± 0,2% F.S.
Repeatability	± 0,3% F.S.
Air consumption	< 0.085 CFM - (Sup. = 1.4 Bar)
Required air quality	Class 3 (ISO8573-1)
Flow capacity	> 3.5 CFM - (Sup. = 1.4 Bar)
Weight	4.9 lbs

AREA CLASSIFICATION RATINGS:

Type	Certificate	Protection Rating
N	Weatherproof	Non-hazardous locations
A	ATEX, IECEx	II 2G Ex ia IIC T5/T6 Gb II 2D Ex ia IIIC T100°C/ T85°C Db IP6X

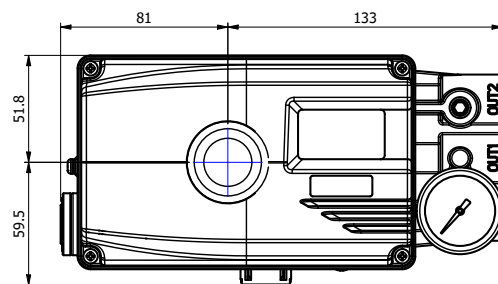
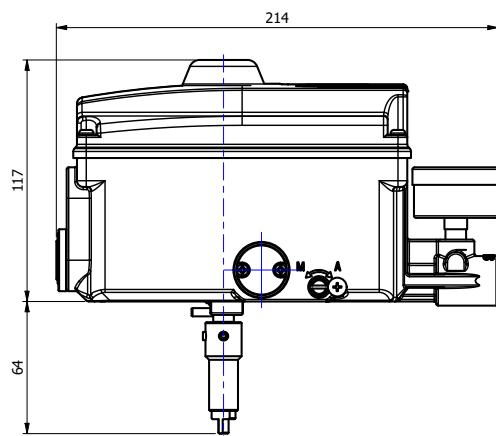
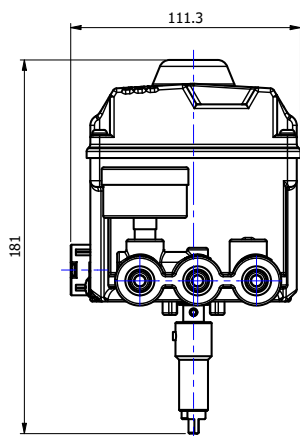
AVAILABLE OPTIONS:

- Internal Mechanical or Proximity switches
- Internal Position transmitter
- Low temp
- HART protocol
- PST function
- ATEX & IECEx Exia
- EAC & NEPSI



IMPORTANT SUGGESTION

Use of filter regulator strongly recommended for long life performance!



PES80

PES90 -TECHNICAL DATA

ITEM	PES90 Explosion Proof	
Input Signal	4-20mA DC	
Impedance	Max 500 Ohm/20mA DC	
Supply pressure	1,4 - 7 Kgf/cm2	
Stroke	10-150	0-90° mm
Air connection	NPT 1/4"	
Gauge connection	NPT 1/8"	
Conduit	NPT 1/2" (M20x1.5 available)	
Ambient temperature	-22°F +185°F (-30°C+85°C)	
	-40°F +176°F (-40°C +80°C) Explosion proof T5	
	-40°F +158°F (-40°C +70°C) Explosion proof T6	
Low temperature	-40°F +176°F (-40°C ++80°C)	
Linearity	± 0,5% F.S.	
Hysteresis	± 0,5% F.S.	
Sensivity	± 0,2% F.S.	
Repeatability	± 0,3% F.S.	
Air consumption	< 2.3 LPM - (Sup. = 1.4 Bar)	
Required air quality	Class 3 (ISO8573-1)	
Flow capacity	> 100 LPM - (Sup. = 1.4 Bar)	
Weight	7.7 lbs	
Protection degree	IP66 (EN60529)	

AREA CLASSIFICATION RATINGS:

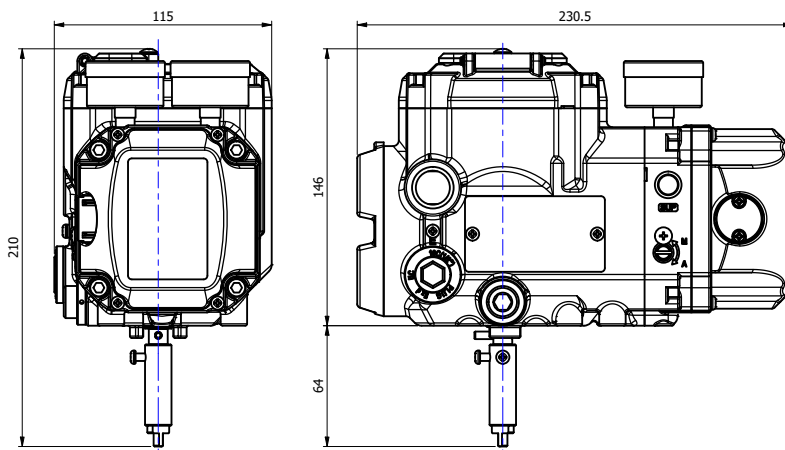
Type	Certificate	Protection Rating
C	ATEX, IECEx	II 2G Ex db IIC T5/T6 Gb II 2D Ex tb IIIC T100°C/ T85°C Db IP66

AVAILABLE OPTIONS:

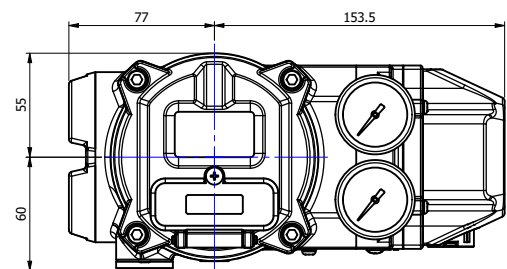
- Low temp
- HART protocol
- PST function
- ATEX & IECEx Ex db
- EAC & NEPSI

AREA CLASSIFICATION RATINGS:

- Zone1&2 Groups E, F, G
- Zone21 IIIC
- Ex db IIC T85°C/T100°C Gb
- Ex tb IIIC T85°C/T100°C Db



PES90



POSITIONER SERIES

PNY = Pneumatic, ordinary location, NAMUR Rotary Motion, For safe area/non-hazardous locations
Conduit Connections = 1/2"NPT Air = 1/4" NPT

PET = Electropneumatic, ordinary locations, NAMUR Rotary Motion, For safe area/non-hazardous locations
Conduit Connections = 1/2"NPT Air = 1/4" NPT

PET

01

LT

SPECIAL OPTIONS

FEEDBACK OPTIONS

- 01** = None
- 02** = 2 x Mech. Switches
- 03** = 4~20mA Position Transmitter
- 04** = 2 x Mech. Switches & 4~20mA Position Transmitter

TEMPERATURE

- (Blank)** = Standard -4°F to 158°F (-20°C to 70°C)
- HT** = High Temperature -4°F to 248°F (-20°C to 120°C) (PET Only)
- LT** = Low Temperature -40°F to 158°F (-40°C to 70°C) (PET Only)

Crossover Guide

OLD PART #	NEW PART #
PEY01	PET01
PEY02	PET02
PEY03	PET03
PEY04	PET04

POSITIONER SERIES

PES80 = Smart positioners

PES90 = Explosion proof smart positioners

PES80

R

S

4

N

S

0

0

MOTION TYPE

R = Rotary

PROTECTION TYPE

A = ATEX, IECEx - Intrinsically Safe (PES80 only)

S = CSA Non-Incendive (PES80 Only)

C = ATEX, IECEx - Explosion Proof (PES90 only)

CONDUIT & AIR CONNECTIONS

1 = Conduit = 1/2" GAS
Air = 1/4" NPT

2 = Conduit = 1/2" GAS
Air = 1/4" NPT

3 = Conduit = M20x1,5
Air = 1/4" NPT

4 = Conduit = 1/2" NPT
Air = 1/4" NPT

ACTUATOR MOUNTING

N = NAMUR

TEMPERATURE

S = Standard

PES80 -22°F to 185°F (-30°C to 85°C) | PES90 -22°F to 176°F (-30°C to 80°C)

L = Low Temperature

PES 80 -40°F to 185°F (-40°C to 85°C) | PES90 -40°F to 176°F (-40°C to 80°C)

SPECIAL OPTIONS

FEEDBACK OPTIONS

0 = None

1 = 4~20mA - Position transmitter

2 = HART

3 = HART with 4~20mA Position transmitter

LIMIT SWITCH TYPE (only available for PES80 Series)

0 = None

M = Mechanical type

P = Proximity type

D = With dome cover (Without Limit switch)