

NELES® POSITIONERS ELECTRO-PNEUMATIC SERIES NE700 PNEUMATIC SERIES NP700

Metso's Neles NE700 and NP700 are proportional positioners for control valves. The NP is a fully pneumatic unit while the NE is an electro-pneumatic unit that provides pneumatic output proportional to a standard milliamper DC input. Both units can be used with either cylinder or diaphragm type actuators for rotary or linear valves to provide excellent repeatability and accuracy in a wide range of throttling applications.

FEATURES

Excellent vibration resistance

Rugged construction, few parts, small moving mass, compact design and rigid mounting provide outstanding vibration resistance.

Field reversible

Positioner can be set for direct or reverse-acting modes by simply turning around the changeover piece and feedback cam without touching or changing tubings between actuator and positioner. Split-range and reverse actions are standard on the feedback cam.

Easy and fast to calibrate

Calibrations can be easily made with the positioner cover removed. You can fine-tune zero and range adjustments with minimal effect on set points.

Fast response times

Multiple pilot valve sizes are used to match positioner capacity compatibility with actuator stroke volume, minimizing response time.

Stable operation

Changes in supply pressure and valve load have minimal effect on positioner operation.

NE positioners

These electro-pneumatic positioners operate on a milliamper signal from a controller. They accurately position the control valve assembly in response to a change in input signal. The nominal input resistance is 190 ohms. The moving force coil assembly has low mass and is accurately balanced to assure proper function even in severely vibrating applications. The dynamic behaviour of the positioner can be changed by choosing different size pilot valves (see table in page 3) and adjusting the internal gain.

NP positioners

The NP positioner operates on a pneumatic signal. It responds to a change in pneumatic instrument signal and accurately re-positions the control valve assembly. The diaphragm piston and feedback spring are force balanced. The rugged beam and few parts provide excellent vibration resistance. The positioner capacity can be changed by choosing different size pilot valves (see table in page 3).

HOW TO ORDER NE700 POSITIONERS

1.	2.	3.	4.	5.		6.		□
NE	7	2	6	S	/	S1A	-	CE01

Example:

This is a single-acting electro-pneumatic positioner for a 4 - 20 mA input signal, with 6 mm pilot, pressure gauge kit and 1/2 NPT conduit entry with filter regulator.

1. sign	PRODUCT GROUP
NE	Electro-pneumatic positioner.

2. sign	SERIES CODE

3. sign	INPUT SIGNAL RANGE	
2	4-20 mA / 0-20 mA	
4. sign	PILOT VALVE	CONNECTIONS (S, C1, C2)
4	Ø 4 mm	1/4 NPT
6	Ø 6 mm	1/4 NPT
7	Ø 6 mm HC	3/8 NPT

5. sign	ACTION
-	Suitable for double and single action, without sign.
A	Single action, linear motion. Applicable ONLY to D/R series spring diaphragm linear actuators, max. stroke size 57 mm (2-1/4 in).

6. sign	OPTIONS
-	Standard, IP 54 enclosure. PG 11 conduit entry. S1 always to be defined. Temperature range -25 °C... +85 °C / -13 °F... +185 °F.
R	Water and dustproof enclosure. IP65 / NEMA 4 and 4X.
W	Better vibration resistance. Special flexure pivot and diamond coated pilot.
H	High temperature construction. Viton diaphragms and seals. Temperature range -10 °C... +120 °C / +14 °F... +248 °F. Not available with options A and accessory K.
S1	Positioner attachment face according to standard VDI/VDE 3845, equipped with an H-clip. When positioners are separate deliveries, VDI/VDE ear is supplied. Not applicable to globe valve actuators (5. sign A).
A	Pressure gauges, scale bar/psi/kPa, basic material brass, nickel plated, housing stainless steel, glycerine filled. 5. sign always to be defined. Temperature range -25 °C... +70 °C / -13 °F... +158 °F.
J30	Square shaft and special mounting kit. Available in US only.
Y	Special construction, to be specified.

- □	ACCESSORIES
K	Filter regulator for supply air. Pressure gauge, scale bar/psi/kPa, basic material brass, nickel plated, housing stainless steel, glycerine filled. Temperature range -40 °C... +82 °C / -40 °F... +180 °F. Filter size 5 µm. Not available with HC-pilot (4. sign 7). Will be specified in the option sticker. In connection with the Ø6 HC-pilot valve (4. sign 7) must be used large capacity filter regulator (not K) for actuator bigger than B1CU40 and B1JU 32. Installation with mounting bracket.
CE01	PG11 / 1/2 NPT conduit entry nipple. Will be specified in the option sticker.
CE02	PG11 / M20x1.5 conduit entry nipple. Will be specified in the option sticker.
CE03	PG11 / R1/2 (PF1/2) conduit entry nipple. Will be specified in the option sticker.

HOW TO ORDER NP700 POSITIONERS

1.	2.	3.	4.	5.		6.		□
NP	7	2	4	-	/	S1A	-	K

Example:

This is a double-acting pneumatic positioner for a 20 - 100 kPa / 3 - 15 psig input signal, with 4 mm pilot and optional exhaust adapter 3/4 NPT-thread with filter regulator.

1. sign	PRODUCT GROUP
NP	Pneumatic positioner.

2. sign	SERIES CODE

3. sign	INPUT SIGNAL RANGE	
0	4-20 mA, only with options B and B1 (6.sign).	
2	20-100 kPa / 0.2-1.0 bara / 3-15 psig	
4. sign	PILOT VALVE	CONNECTIONS (S, C1, C2)
3	Ø 4 mm LC	1/4 NPT
4	Ø 4 mm	1/4 NPT
6	Ø 6 mm	1/4 NPT
7	Ø 6 mm HC	3/8 NPT

5. sign	ACTION
-	Suitable for double and single action, without sign.
A	Single action, linear motion. Applicable ONLY to D/R series spring diaphragm linear actuators, max. stroke size 57 mm (2-1/4 in).

6. sign	OPTIONS
-	Standard, (IP 54 enclosure). 6. sign S1 always to be defined. Temperature range -40 °C... +90 °C / -40 °F... +194 °F.
B	Flameproof enclosure I/P-converter (IP65), ATEX EEx d IIC T6. Input signal range 4-20 mA. M20x1,5 conduit entry. 3. sign always 0. Temperature range -40 °C... +55 °C / -40 °F... +131 °F.
B1	Explosion proof enclosure I/P-converter (IP65), FM/CSA-approval. Class 1, Div. 1, Groups B, C, D. Input signal range 4-20 mA. 1/2 NPT conduit entry. 3. sign always 0. Temperature range -40 °C... +55 °C / -40 °F... +131 °F.
GN	For natural gas. Exhaust adapter, 3/4 NPT-thread. Not usable inside with options B and B1 !
R	Water and dustproof enclosure. IP65 / NEMA 4 and 4X. Not available with option GN.
H	High temperature construction. Viton diaphragm and seals. Not available with options B, B1, A, A1 and accessory K. Temperature range -10 °C... +120 °C / +14 °F... +248 °F.
S1	Positioner attachment face according to standard VDI/VDE 3845, equipped with an H-clip. When positioners are separate deliveries, VDI/VDE ear is supplied. Not applicable to globe valve actuators (5. sign A).
A	Pressure gauges, scale bar/psi/kPa, basic material brass, nickel plated, housing stainless steel, glycerine filled. 5. sign always to be defined. Temperature range -40 °C... +70 °C / -40 °F... +158 °F.
Y2	Brass bearing of small lever arm.
J30	Square shaft and special mounting kit. Available in US only.
Y	Special construction, to be specified.

- □	ACCESSORIES
K	Filter regulator for supply air. Pressure gauge, scale bar/psi/kPa, basic material brass, nickel plated, housing stainless steel, glycerine filled. Temperature range -40 °C... +82 °C / -40 °F... +180 °F. Filter size 5 µm. Not available with HC-pilot (4. sign 7). Will be specified in the option sticker. In connection with the Ø6 HC-pilot valve (4. sign 7) must be used large capacity filter regulator (not K) for actuator bigger than BC 40 and BJ 32. Installation with mounting bracket.
CE01	PG11 / 1/2 NPT conduit entry nipple. Will be specified in the option sticker.
CE02	PG11 / M20x1.5 conduit entry nipple. Will be specified in the option sticker.
CE03	PG11 / R1/2 (PF1/2) conduit entry nipple. Will be specified in the option sticker.