



**Weyn-Lauwers** N.V.

Industriepark-Noord 12  
B - 9100 SINT-NIKLAAS

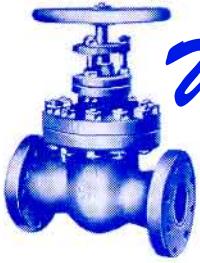
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# ELECTRO-PNEUMATIC POSITIONER PET60



## ELECTRO-PNEUMATIC POSITIONER PET60

| Model  |                          | PET60 L   |           | PET60 R   |           |
|--|--------------------------|---|-----------|-----------|-----------|
|  |                          | Single  | Double    | Single    | Double    |
| Input signal                                 |                          | 4 ~ 20mA DC   |           |           |           |
| Impedance                                    |                          | 250 ±15Ω  |           |           |           |
| Supply pressure                              |                          | 0.14 ~ 0.7MPa   |           |           |           |
| Stroke                                       |                          | 10 ~ 150mm  |           | 0 ~ 90°   |           |
| Air connection                               |                          | PT(NPT) ¼"  |           |           |           |
| Gauge connection                             |                          | PT(NPT) 1/8"  |           |           |           |
| Conduit                                      |                          | G(PF) ½" or NPT ½"  |           |           |           |
| Explosion proof type<br>(ATEX+IECEx version) |                          | Ex db mb IIB/IIC T5/T6 Gb<br>Ex ia IIC T5/T6 Gb<br>Ex tb IIIC T85°C/T100 °C Db      |           |           |           |
| Degree of protection                         |                          | IP66  |           |           |           |
| Ambient<br>Temp.                             | Operating Temp.          | -20°C ~ 70°C (Standard),<br>-40°C ~ 70°C (Low Temp.),<br>-20°C ~ 120°C (High Temp.) |           |           |           |
|  | Explosion proof<br>Temp. | -40°C ~ 60°C (T5/T100°C) / -40°C ~ 40°C (T6/T85°C)                                  |           |           |           |
| Linearity                                    |                          | ±1.0% F.S   | ±2.0% F.S | ±1.0% F.S | ±2.0% F.S |
| Sensitivity                                  |                          | ±0.2% F.S   | ±0.5% F.S | ±0.2% F.S | ±0.5% F.S |
| Hysteresis                                   |                          | ±1.0% F.S   |           |           |           |
| Repeatability                                |                          | ±0.5% F.S   |           |           |           |
| Air consumption                              |                          | Below 2.5LPM (Sup= 0.14MPa)   |           |           |           |
| Flow capacity                                |                          | Over 80LPM (Sup= 0.14MPa)   |           |           |           |
| Material                                     |                          | Aluminum die casting  |           |           |           |
| Weight                                       |                          | 2.8kg   |           |           |           |



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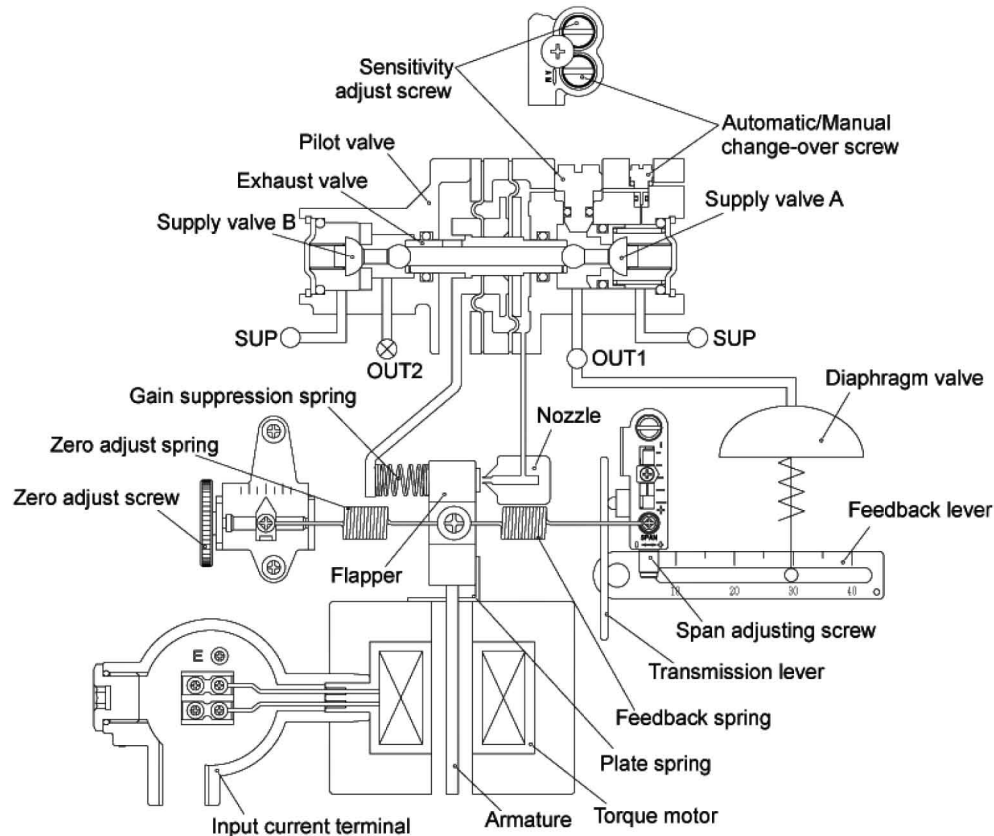
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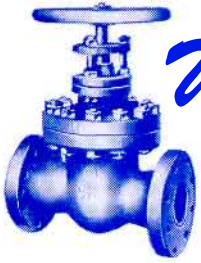
The below diagram and explanation is an example based on PET60L linear type and a diaphragm valve with RA (Reverse Action) type.

PET60R rotary type works the same way, except for a different design of feedback structure.



Positioner and valve constitute a closed-circuit through Feedback lever.

When an input current (4-20mA) is given, the Armature receives a CCW rotating torque according to the strength of the magnetic field generated by the motor and the Flapper moves to left together with the center of the Plate Spring. When the space between the Flapper and the Nozzle opens, the Nozzle back pressure decreases. As a result, the Exhaust valve of Pilot valve moves to the right. At the same time, Supply valve A of OUT1 moves to the right and opens the Supply valve. Air supply through OUT1 increases air pressure of diaphragm valve which moves downward. The movement of diaphragm acts on the the Feedback spring through Feedback lever and close the loop with the Flapper. The diaphragm valve reaches the desired position by means of the balance between the above spring torque and the magnetic field strength generated by the input current. Gain suppression spring is used to immediately feedback the movement of the Pilot Valve to the Flapper and it increases the loop stability.

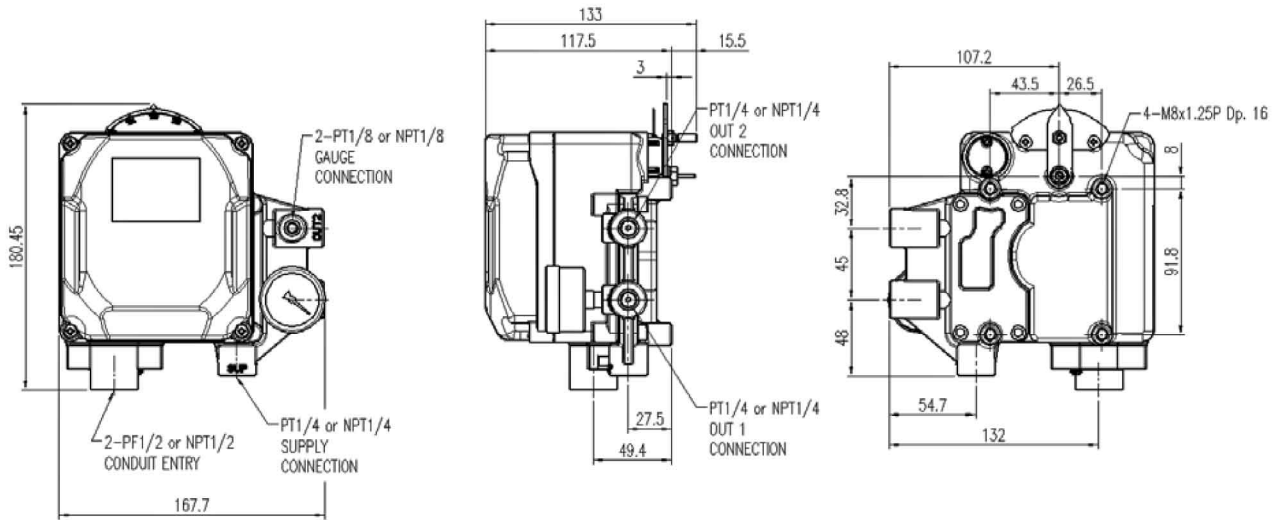


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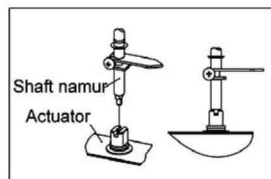
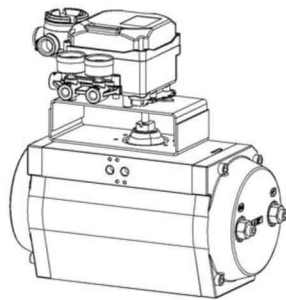
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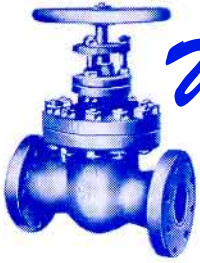


PET60 R... Non Explosion Type

## NAMUR Type

Insert positioner feedback shaft and actuator spindle groove and tighten bracket.





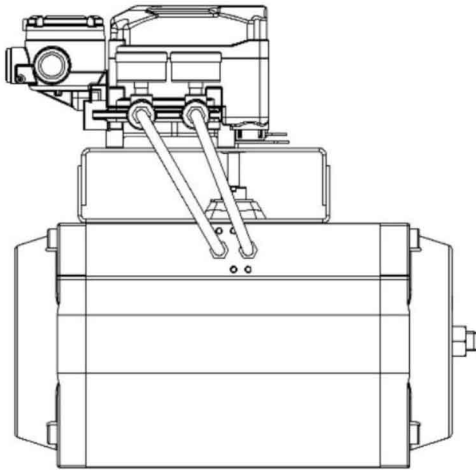
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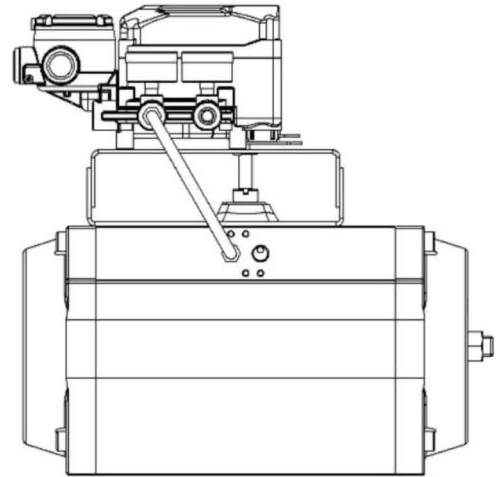
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# ELECTRO-PNEUMATIC POSITIONER PET60

## PET60R Air connections



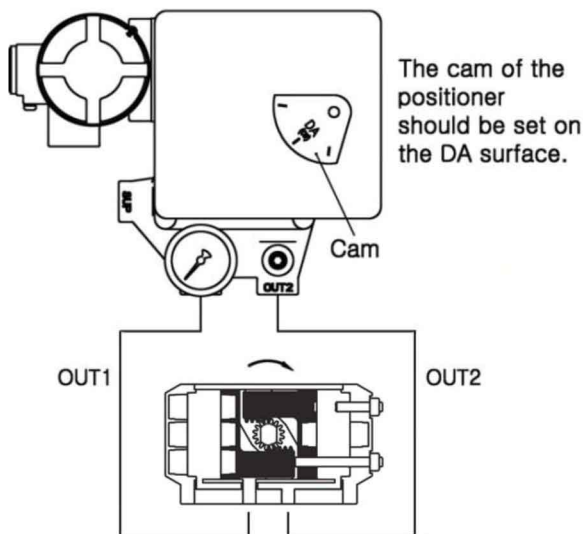
< PRT60R Double Acting >



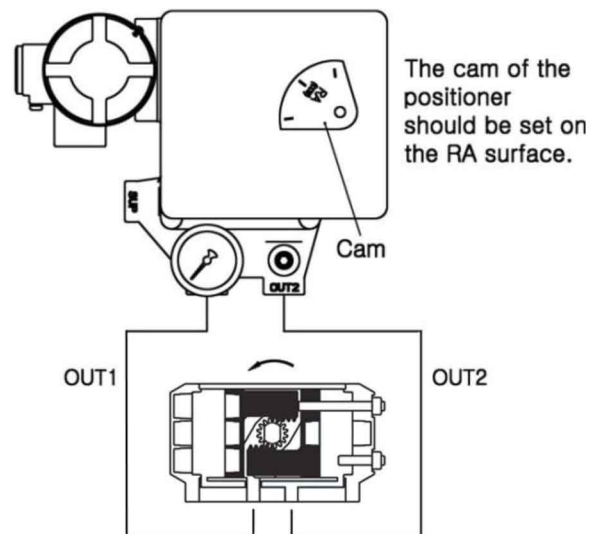
< PET60R Single Acting (Spring Return) >

## PET60R RA/DA action setting

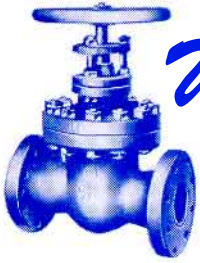
If rotation is CCW, RA side of the cam must be visible. If rotation is CW, user must rotate upside down the cam to let the DA side of the cam being visible. Check with below diagrams. The product is set to RA at factory.



< DA (Direct Action) Type >



< RA (Reverse Action) Type >



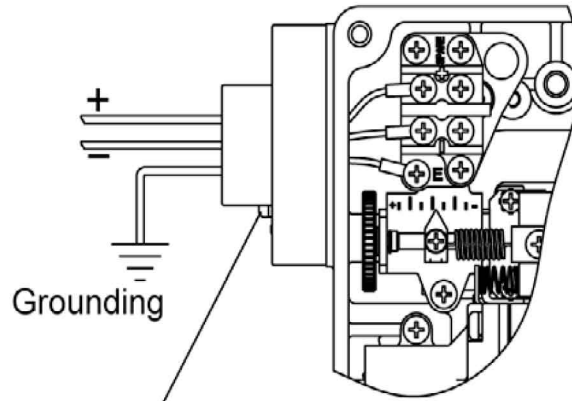
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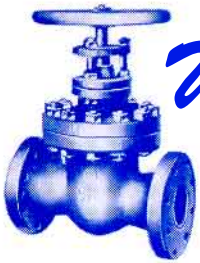
### Non-explosion proof type



External Grounding Terminal  
(M4x0.7 Round head screw)

< Non-Explosion proof type Terminal box >

1. Open the terminal box cover by loosening the fixing bolt on the box cover.
2. Connect external + to internal + and external – to internal –.
3. Connect Ground Cable.
4. Close the terminal box cover and tighten the fixing bolts completely.



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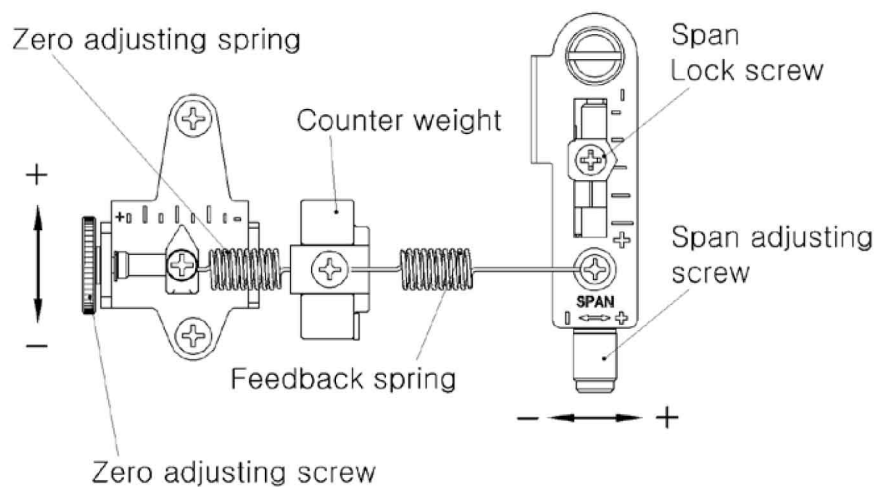
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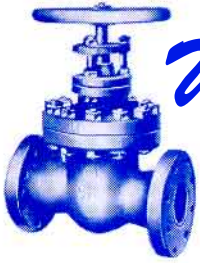
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## Zero and Span Adjustment

1. Before setting Zero and Span, check that 0% and 100% points of the valve and actuator stroke are correctly set according to user needs. Check and regulate adjustments and/or mechanical stops before starting operation.
2. Set the input current to 4mA and turn the zero adjusting screw by hand to set it to the actuator starting 0% point.
3. Then, set the input current to 20mA DC and check the actuator stroke. At this point, depending on whether the span is too large or too small loosen the lock screw and then adjust the span as shown in the illustration; set it to the actuator 100% end point.
4. Put again the input current to 0% and verify again the zero point adjustment as done in step 1, because Span and Zero point adjustments interfere in each other.
5. Repeat the above operations until the desired stroke of the actuator is met against the input current.



< Span and Zero structure >



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POSITIONER  
PET60**

PET  
60 - R N 4 5 S 0 0 00

**ACTING TYPE**

- R Rotary
- L Linear

**EXPLOSION TYPE**

- N Non explosion
- E Exia IIC T5/T6 Gb, Exdb mb IIB/IIC T5/T6 Gb

**CONNECTION**

- 1 Conduit = ½" G – Air = ¼" PT
- 2 Conduit = ½" G – Air = ¼" NPT
- 3 Conduit = M20x1.5 – Air = ¼" NPT
- 4 Conduit = ½" NPT – Air = ¼" NPT

**LEVER TYPE**

- |        |   |                          |
|--------|---|--------------------------|
| LINEAR | 1 | 10~40 mm                 |
|        | 2 | 40~70 mm                 |
|        | 3 | 70~100 mm                |
|        | 4 | 100~150 mm               |
| ROT    | A | M6x34L (Fork lever Type) |
|        | N | NAMUR Type               |

**AMBIENT TEMPERATURE**

- S Standard (-20°C / +70°C)
- H High (-20°C / +120°C) (\*)
- L Low (-40°C / +70°C)

**COMMUNICATION**

- |     |   |                                      |
|-----|---|--------------------------------------|
|     | 0 | None                                 |
| LIN | R | 1 Position Transmitter 4-20mA (*)    |
|     | B | Position Transmitter 4-20mA (RA) (*) |
|     | C | Position Transmitter 4-20mA (DA) (*) |

**LIMIT SWITCHES**

- |   |   |                             |
|---|---|-----------------------------|
|   | 0 | None                        |
| R | M | Internal Limit Switches (*) |

**CERTIFICATIONS**

- 00 CE only
- 01 ATEX + IECEx

(\*) Only available for Non-explosion proof type.

R or ROT = Rotary type; LIN = Linear type