

## Models 4700P/4700E & 4800P/4800E

### Corrosion-resistant Positioners

**Masoneilan™** models 4700E/4800E (electropneumatic) and 4700P/4800P (pneumatic) are field-proven positioners from Baker Hughes that use a precision feedback cam to provide accurate positioning, fast response, and customized control characteristics for control valves. These positioners can be used with either rotary or reciprocating actuators. On rotary actuators, the cam is mounted directly on the shaft. When mounted on reciprocating actuators, a simple, rugged turnbuckle and lever assembly couples stem motion to the cam.

Main features include:

#### One Multi-lobe Cam

The cam provides field-changeable linear, split-range linear and equal percentage control characteristics. Custom characteristics are available on special order.

#### Zero Adjustment

Adjustment of the positioner zero can easily be accomplished by means of the adjustable spring button. Further zeroing can be performed through the turnbuckle assembly on linear motion actuators.

#### Corrosion-resistant Materials

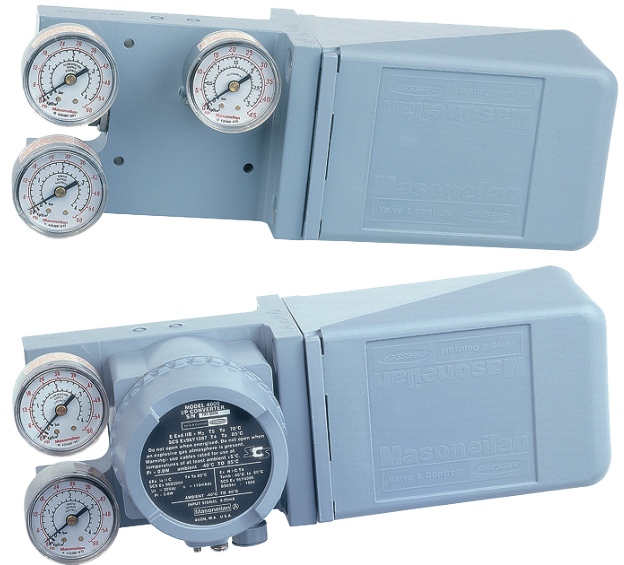
Premium performance is the standard on all models. Internal components are manufactured of corrosion-resistant materials for protection against the harshest environments.

#### Fully Enclosed

All adjustments are fully enclosed for protection from the environment.

#### Simplicity

Positioner action can be reversed without additional parts (4700P/4800P only). The same mounting orientation is used for both direct and reverse actions.



#### Easy to Maintain

The pilot valve is the only moving part in the pilot housing. It is easily removed without disassembling any other part of the positioner. An optional bypass valve module is available for use on the model 4700P pneumatic direct acting positioner. Where operating parameters allow, it permits the positioner to be isolated for maintenance while operating the valve directly with the instrument signal. The bypass module is mounted on the back of the positioner to discourage tampering.

#### Optional Bypass

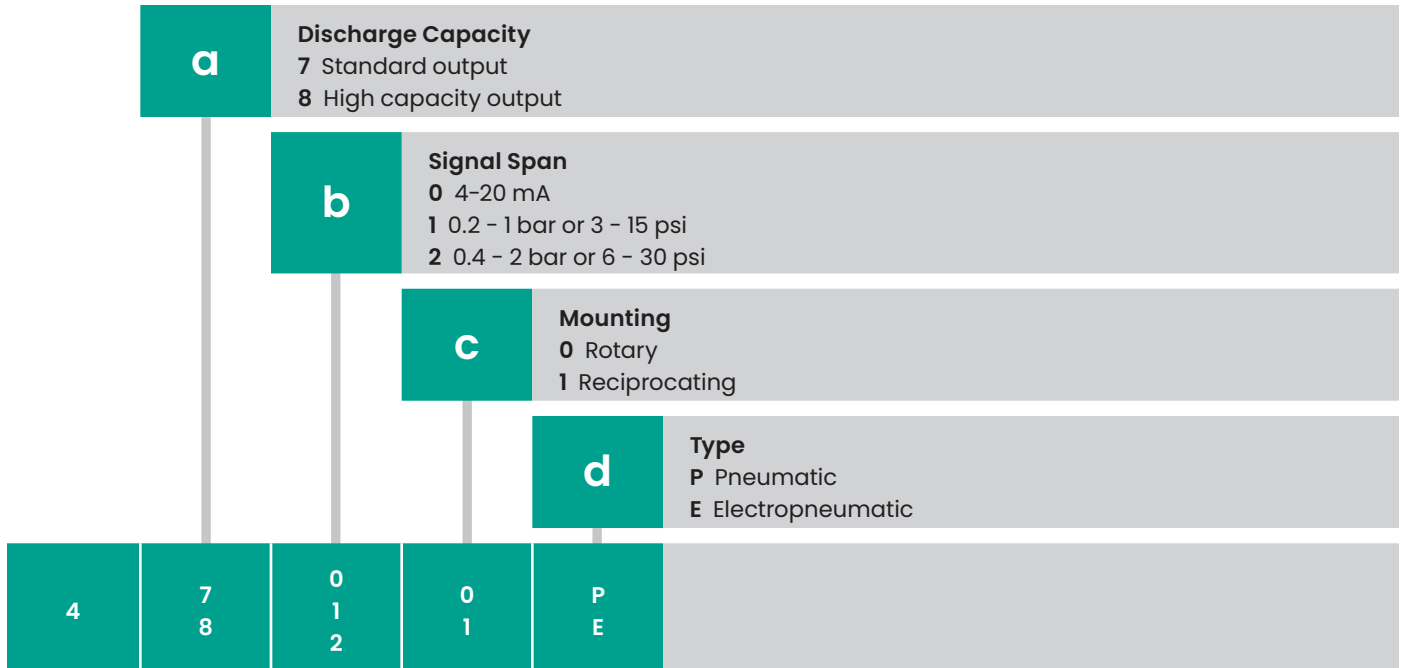
A molded nylon bypass valve with an O-ring seal permits continued automatic control during the cleaning of the pilot valve. The bypass valve is concealed in back of the unit to prevent tampering. The bypass is available only on the direct action 4700P pneumatic positioner.

#### Damping Adjustment

On model 4700, actuator travel speed can be adjusted as required for stable operation

# Numbering System

## Series Identification 4abcd



## Specifications

**Type:** Cam feedback, pneumatic, force balanced; electropneumatic positioner uses current to pneumatic converter to generate pneumatic operating signal.

**Action:** Direct: Increasing signal increases output  
Reverse: Increasing signal decreases output  
*Note: Reverse Action is available only on 4700P/4800P Pneumatic Positioner*

**Characteristics:** Linear  
Equal percentage  
Custom

### Maximum air consumption:

4700: 0.5 Nm<sup>3</sup>/h - 1.7 barg supply  
4800: 0.9 Nm<sup>3</sup>/h - 1.7 barg supply

### Output and exhaust capacity:

4700: 13.5 Nm<sup>3</sup>/h - 4.1 barg supply  
4800: 24 Nm<sup>3</sup>/h - 4.1 barg supply

### Temperature effects span error (typical):

Temp. Range	Error
-40°C to -20°C (-40°F to -4°F)	0.31 percent per °C
-20°C to +60°C (-4°F to +140°F)	0.06 percent per °C
+60°C to +85°C (+140°F to +185°F)	0.11 percent per °C

**Supply pressure influence:** Less than 0.37 percent stroke change per 100 mbar supply change.

**Maximum air supply rating:** Dictated by actuator, but never greater than 100 psig.

**Connections:** Pneumatic: 1/4" NPT (4700) or 3/8" NPT (4800)  
Electrical: 1/2" NPT or M20

**Weight:** 4700P - 1.6 kg (3.5 lbs)    4800P - 1.9 kg (4.2 lbs)  
4700E - 2.1 kg (4.7 lbs)    4800E - 2.4 kg (5.3 lbs)

Performance	4700P	4700E
Deadband	≤0.2 percent of span	≤0.5 percent of span
Hysteresis	≤0.2 percent of span	≤0.5 percent of span
Repeatability	within 0.2 percent of span	within 0.5 percent of span
Sensitivity	better than 0.2 percent of span	better than 0.3 percent of span
Conformity	±1 percent of span	±1 percent of span
Input resistance 4-20 mA signal	N/A	170 ohms nominal

**Baker Hughes** 