The K20 is a next generation electro-pneumatic positioner that delivers improved levels of reliability and modulating position control via simple auto calibration.

**GENERAL APPLICATION**

The K20 represents the next phase in Westlock’s mission to present a more effective and economical electro-pneumatic positioner solution. Designed to complete calibration in just minutes and independently adjust the positioner, the K20 performs position measuring by an off-set, Hall Effect Sensor.

**TECHNICAL SPECIFICATION**

- **Input current**: 4 – 20mA (analogue)
- **Voltage drop**: 9 volts
- **Supply pressure**: 15 to 45 psi (low), 40 to 120 psi (high)
- **Resolution**: 0.5% of span
- **Hysteresis**: 0.4% of span
- **Repeatability**: 0.4% of span
- **Thermal Coefficient**: 3% / 100 °C
- **Output flow rates**: 16.2 scfm (standard) & 40 scfm (high) @ 90 psig supply
- **Air consumption**: 0.08 scfm @ 90 psi (high) 0.03 scfm @ 20 psi (low)
- **Gain**: Adjustable
- **Air connection ports**: ¼” BSP / NPT

**FEATURES**

- Simple auto calibration is completed in minutes and results are displayed on LCD display, facilitating setup and commissioning.
- Limit switch options allow for more flexibility in applications.
- Includes as standard a 4 – 20mA feedback position transmitter for verification that the valve package is tracking correctly.
- Non-contact Hall Effect sensor eliminates geared mechanical potentiometer for extended product life, reduced maintenance and improved performance under vibration.
- Every unit suitable for single acting and double acting.
- Globally certified
WESTLOCK K20 ELECTRO-PNEUMATIC POSITIONERS
CERTIFIED TO NEC, CEC, ATEX, IECEx STANDARDS TO MEET INTRINSICALLY SAFE AND NON-INCENDIVE OPTIONS

TECHNICAL DATA

Agency approvals
Intrinsically Safe

ATEX and IECEx
(Engineered Resin or Stainless Steel enclosure)
II 1G
Ex ia IIC T4 Ga
Ta = -40°C to +85°C Ta = -40°C to +85°C
(Aluminum enclosure)
II 1G
II 2D
Ex ia IIC T4 Ga
Ex tb IIC T87 Db
Ta = -40°C to +85°C Ta = -40°C to +85°C

North America
(Stainless Steel or Resin)
Class I, Div. 1, Groups A, B, C & D, T4;
Class I, Zone 0, AEx/Ex ia IIC T4 Ga;
Type 4X, IP 65
Class I, Div. 2, Groups A, B, C & D; T4;
Type 4X, IP 65
(Aluminum Only)
Class I, Div. 1, Groups A, B, C & D, T4;
Class II, Div. 1, Groups E, F & G;
Class III;
Class I, Zone 0, AEx/Ex ia IIC T4 Ga;
Class II, Zone 21, AEx/Ex tb IIC T87 Db;
Type 4X, IP 65

Non-Incendive
Class I, Div. 2, Groups A, B, C & D, T4;
Class II, Div. 2, Groups F & G;
Class III;
Type 4X, IP 65

Note: The switch options are approved for hazardous locations. (Mech. Switch option not for use in Division 2 North America).

MATERIAL OF CONSTRUCTION

Housing / Cover
Engineered resin, aluminum & CF8M (316) stainless steel

Manifold
Anodized aluminum or stainless steel

Conduit
M20 / M25 / 3/4” NPT

Shaft
Stainless steel

Hardware
Stainless steel

SWITCH OPTIONS

Magnum XT-90 hermetically sealed proximity switch
Hermetically-sealed proximity switches with either pure tungsten or rhodium contacts for use with low power I/O’s to provide longer contact life.

SPDT mechanical switch V3
A V3 [single pole double throw] mechanical switch (Form C).

P+F NJ2-V3-N inductive proximity sensor
Intrinsically Safe
A solid state inductive proximity sensor which is available in NAMUR output. It is ideal for use in devices within potentially explosive atmospheres.
WESTLOCK K20 ELECTRO-PNEUMATIC POSITIONERS
CERTIFIED TO NEC, CEC, ATEX, IECEx STANDARDS TO MEET INTRINSICALLY SAFE AND NON-INCENDIVE OPTIONS

GA DRAWING

SIMPLE CALIBRATION

- Easy to use auto-calibration via button assumes Low is 4mA and High is 20mA
- Manual Low/High Calibration - with ‘value’ options for closed and open positions
- Full Manual Calibration accommodating:
  - Forward Gain/Reverse Gain
  - Drop Off
  - Zero Adjust
  - Span Adjust
  - Forward or Reverse Acting
  - Long Cal – For larger actuators to avoid timeout of calibration
  - Split Range Applications

MOUNTING OPTIONS

<table>
<thead>
<tr>
<th>CONDUIT ENTRY</th>
<th>OUTSIDE MOUNTING PATTERN</th>
<th>INSIDE MOUNTING PATTERN</th>
<th>HOUSING MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/4”-14 NPT</td>
<td>5/16”-18</td>
<td>N/A</td>
<td>Resin</td>
</tr>
<tr>
<td>3/4”-14 NPT</td>
<td>5/16”-18</td>
<td>M6 x 1</td>
<td>Metal</td>
</tr>
<tr>
<td>M25 x 1.5</td>
<td>M8 x 1.25</td>
<td>M6 x 1</td>
<td>All</td>
</tr>
<tr>
<td>M20 x 1.5</td>
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</tbody>
</table>
## K Series Positioner Base Model

**K20** Electro-Pneumatic Positioner (4-20 mA Input)

### Shaft Output
- **S**: Standard [Double-D with 1/4” Flats]
- **D**: Direct mount to Keystone 79U or MRP Actuators
- **N**: NAMUR

### Hazardous Area Certification
- **IS**: Intrinsically Safe and Non-Incendive

### Housing Material
- **E**: Engineered Resin Enclosure [Clear Cover w/ Visible LCD]
- **S**: Stainless steel CFRM (316) Enclosure
- **A**: Aluminum Enclosure

### Supply Pressure
- **H**: STD flow High Pressure (40 - 120 psi)
- **L**: STD flow Low Pressure (15 - 45 psi)
- **V**: High Flow (40 - 120 psi; for larger actuators)

### Manifold Material
- **0**: Anodized Aluminum
- **1**: Stainless Steel [required for SS enclosure]

### Conduit Entry*
- **B**: (1) M20 x 1.5 **
- **C**: (1) 3/4-14 NPT *** (Recommended with switch options)
- **D**: (1) M25 x 1.5 ** (Recommended with switch options)

### Limit Switch Options
- **0**: None
- **B**: 2 x SPDT Mechanical Switches with Gold Plated Contacts
- **I**: 2 x Inductive Sensors P&F Model NJ2-V3-N
- **T**: 2 x SPDT Magnum Proximity switches with Tungsten Contacts
- **R**: 2 x SPDT Magnum Proximity switches with Rhodium contacts

### Position Transmitter Output
- **B**: 4-20mA Transmitter

### Pneumatic Connections
- **N**: 1/4” NPT [3/8” NPT with high flow option]
- **B**: 1/4” BSP [3/8” BSP with high flow option]
- **F**: 1/4” NPT w/Aluminum Filter-Regulator Assembly [3/8” NPT with High Flow option]
- **S**: 1/4” NPT w/ Stainless Steel Filter-Regulator Assembly [3/8” NPT with High Flow option]

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**Magnum Proximity Switch Application Note:**

For **24 VDC service below 1 watt, R** (Rhodium Magnum switches) is recommended

For **24 VDC service below 1 watt, T** (Tungsten Magnum switches) is recommended

* Consult sales for multiple conduit offerings
** Mounting pattern (M8 x 1.25 outer pattern) (M6 x 1 inner pattern)
*** Mounting pattern (5/16-18 outer pattern) (M6 x 1 inner pattern - metal housings only)