

# VAC

VALVE ACCESSORIES & CONTROLS



**V200**  
POSITIONER

A POSITIONER THAT OFFERS IT ALL  
IN ONE COMPACT, SIMPLE, HOUSING

# The V200 Positioner



Internal 4/20 mA  
Feedback  
available as an option

Internal I/p with simple  
loop test points.

Dome Indicator -  
Black/Yellow, Red/Green  
available as an option

Flexible mounting  
for rotary or linear  
applications

External zero and span adjustment-  
without removing the positioner cover

## ALL IN A SINGLE COMPACT AND RUGGED HOUSING

The V200 incorporates the flexibility of converting from a pneumatic unit to several versions of an electropneumatic unit, and the ability to add position feedback, in a matter of minutes, all in one compact and rugged housing. Maximum flexibility and versatility.

With a rugged Nema 4X, IP 66 die cast aluminum housing, versatile polyester coating, optional Tuftram® or Nickel

coatings, low -58F or high +325F temp options, and standard features like external zero and span adjustment, this unit expands the VAC offering to cover this "all in one" market for positioners. Add to this the excellent performance yet simple design, and the combination equals a real value.

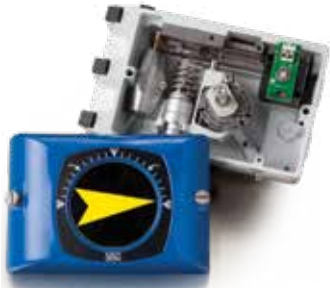
## V200 OPTIONS



Internal switches-  
Mechanical or Reed  
general purpose only



V200E-0/10 Volt Unit



V200E-Standard  
Nema 4X Unit or  
IS Unit



Extra High Temp  
(EHT) +325° F  
only available in  
pneumatic



V200-EX Explosion  
Proof Unit



V200E-GA Gas  
Approved Unit



V200 Nickel Coated



V200 Tuftram® Coated

## V200 BENEFITS

- Compact Design
- Quality components = rugged and accurate performance
- External zero and span (complete calibration) adjustment without removing cover
- Easily maintain all key components
- Clear, visible indicator with arrow indicator standard-beacon optional
- Field changeable to any I/p option



V200-EX with Third Party EX Switch

## Technical Specifications:

| Positioners:          | Pneumatic                      | Electropneumatic              |                               |                                 |
|-----------------------|--------------------------------|-------------------------------|-------------------------------|---------------------------------|
|                       | V200P                          | V200E & -IS                   | V200-EX                       | V200E 0-10                      |
| Input Signal          | 3-15 PSI                       | 4-20mA                        | 4-20 mA                       | 0-10 VDC                        |
| Supply Pressure       | 20-145 PSI                     | 20-145 PSI                    | 20-145 PSI                    | 20-120 PSI                      |
| Linearity error       | <0.7% f.s.                     | <1.0% f.s.                    | <0.8% f.s.                    | <1% f.s.                        |
| Hysteresis            | <0.4% f.s.                     | <0.6% f.s.                    | <0.5% f.s.                    | <0.5% f.s.                      |
| Repeatability         | <0.3% f.s.                     | <0.5% f.s.                    | <0.4% f.s.                    | <0.5% f.s.                      |
| Weight                | 3.2 lbs                        | 3.8 lbs.                      | 5.4 lbs.                      | 3.8 lbs.                        |
| Temperature range     | -40 to 185 °F<br>-40 to 85 °C  | -40 to 185 °F<br>-40 to 85 °C | -40 to 185 °F<br>-40 to 85 °C | -40 to 160 °F<br>(-40 to 71 °C) |
| Low Temp              | -58 to 185 °F<br>-50 to 85 °C  |                               |                               |                                 |
| Extra High Temp (EHT) | -40 to 325 °F<br>-40 to 162 °C |                               |                               |                                 |

| Spool/Pilot Valves                       | Standard /Low Bleed | High Gain | Super High Gain/High Flow |
|--|---------------------|-----------|---------------------------|
| <b>Air Delivery</b><br>@87 PSI (600 kPa) | 28.3 scfm           | 31.5 scfm | 50 scfm                   |
| <b>Bleed Rate</b><br>@87 PSI (600 kPa)   | <.2 scfm            | .83 scfm  | 1.3 scfm                  |
| <b>Pressure Gain</b>                     | 240:1               | 1100:1    | 1100:1                    |

|                                |                  |
|--------------------------------|------------------|
| Air connections                | 1/4" NPT         |
| Gauges                         | 1/8" NPT         |
| Cable Entry                    | 1/2" NPT         |
| Ingress & corrosion protection | NEMA 4X and IP66 |
| Standard coating               | Polyester        |

**Feedback (not rated for EX or IS)** Enclosure Nema 4X/IP 66

### General Purpose:

Plug-in components directly into V200 series positioner housing

Can combine switches and 4/20 feedback

Conduit connections 1/2" NPT

Operating temp -40 to +185 °F (-40 to +85 °C)

### Mechanical Switches:

2-Type: SPDT, V3

Max Load:

| Resistive | (Inductive) | Voltage     |
|-----------|-------------|-------------|
| 15 A      | (3) A       | 125/250 VAC |
| 0.25 A    | (0.1) A     | 220 VDC     |
| 0.5 A     | (0.2) A     | 110 VDC     |
| 8 A       | (7) A       | 24 VDC      |

### Reed Switches:

2-Type: SPDT-CO,

Contact rating: max 3W

Voltage: Switching max 100 VDC

Breakdown min 200 VDC

Current: Switching max 0.20 A

Carry max 1.3 A

Contact resistance: 0.2 ohms

Contact capacitance: 0.3 pF

### 4/20 mA Position Feedback:

Voltage supply: 7-30 VDC

Output: 4-20 mA , 2 wire

Loop Impedance: max 850 ohms @ 24 VDC

Linearity error: <1.2%

Hysteresis: <0.2%

Temp. Sensitivity: < 0.1%/10 °F (5.5 °C)

### Other Options:

Potentiometer-Namur Sensors - Third party stackable EX mounting kits

## Approvals—I/p only

### Available Approvals:

#### Ratings for Hazardous Locations

**Explosion Proof** CL I, II Div 1 Grp B-G

**Non Incendive** CL 1 Div 2 Grp A-C

#### Intrinsically Safe

FM CL I-II-III Div 1 Grp A-G

CSA CL II Div 1&2 Grp E-G  
CL III

#### ATEX-explosion protection

1487X, intrinsically safe EEx ia IIC T4/T5/T6

E121X, flameproof EEx d IIC T4/T5/T6

#### Temperature Class

|    | Short circuit<br>Current-max | Ambient Temp<br>max |
|----|------------------------------|---------------------|
| T6 | 50 mA                        | 140 °F (60 °C)      |
| T5 | 60 mA                        | 158 °F (70 °C)      |
| T4 | 60 mA                        | 185 °F (85 °C)      |

#### V200-IS (Intrinsically Safe)

FM CL1 Div1 Grp A B C D

CSA EX ia CL1 Grp A B C D  
EX ia CL 1 Div2 Grp A B C D



## Ordering Codes:

|                    |                |
|--------------------|----------------|
| Pneumatic          | V200 <b>P</b>  |
| Electropneumatic   | V200 <b>E</b>  |
| Explosion Proof    | V200 <b>EX</b> |
| Intrinsically Safe | V200 <b>IS</b> |
| Fail Freeze        | V200 <b>FF</b> |

### Spindle **D1 Namur** (standard)

For additional spindle options, please contact VAC or visit our website at [www.vacaccessories.com](http://www.vacaccessories.com)

### Front Cover

|                    |           |
|--------------------|-----------|
| 90 degree rotation | <b>90</b> |
| 60 degree rotation | <b>60</b> |
| 45 degree rotation | <b>45</b> |
| 30 degree rotation | <b>30</b> |
| Blank scale        | <b>00</b> |

### Indicator

|                                       |            |
|---------------------------------------|------------|
| Arrow                                 | <b>A</b>   |
| Standard Beacon/Raised (Black/Yellow) | <b>B</b>   |
| Optional Beacon/Raised (Red/Green)    | <b>BRG</b> |

### Cam

|                |                      |
|----------------|----------------------|
| (standard) 90° | <b>C1</b> (standard) |
|----------------|----------------------|

For additional cam options, please contact VAC or visit our website at [www.vacaccessories.com](http://www.vacaccessories.com)

### Spool Valve Options (shipped with standard spool)

|                      |                                  |
|----------------------|----------------------------------|
| Standard (Low Bleed) | <b>SG/LB—Shipped as Standard</b> |
| High Gain            | <b>HG</b>                        |
| Super High Gain/Flow | <b>SHGHF</b>                     |

### Options

|  |              |
|--|--------------|
| Extra High Temp (Pneumatic only)<br>(-40 to 325 F) | <b>EHT</b>   |
| Low Temp (Pneumatic only)<br>(-58 to 185 F)        | <b>LT</b>    |
| 0/10 Volt I/P (V200E only)                         | <b>0/10V</b> |
| Gas Approved                                       | <b>GA</b>    |
| ATEX   | <b>ATEX</b>  |
| Tufram® Coating (V200 P and E)                     | <b>TUF</b>   |
| Nickel Coating (V200 P and E)                      | <b>NIC</b>   |
| 6-30 Psi Spring                                    | <b>6-30</b>  |



V200E-GA Gas  
Approved Unit



V200E-0/10 Volt Unit



V200-EX Explosion  
Proof Unit



V200E-Standard  
Nema 4X Unit or  
IS Unit

### Feedback Options

|                             |            |
|-----------------------------|------------|
| 2 SPDT Mechanical Switches  | <b>FB</b>  |
| 2 SPDT Reed Switches        | <b>M</b>   |
| 4-20 mA Transmitter         | <b>R</b>   |
| Mech Switches w/transmitter | <b>mA</b>  |
| Reed Switches w/transmitter | <b>MmA</b> |
| 1 K potentiometer           | <b>RmA</b> |
| 10 K potentiometer          | <b>1K</b>  |
|                             | <b>10K</b> |

### Example:

#### V200E-D1-90-B-C1

Electropneumatic with namur spindle,  
90 degree cover, raised indicator,  
90 degree cam

### Example:

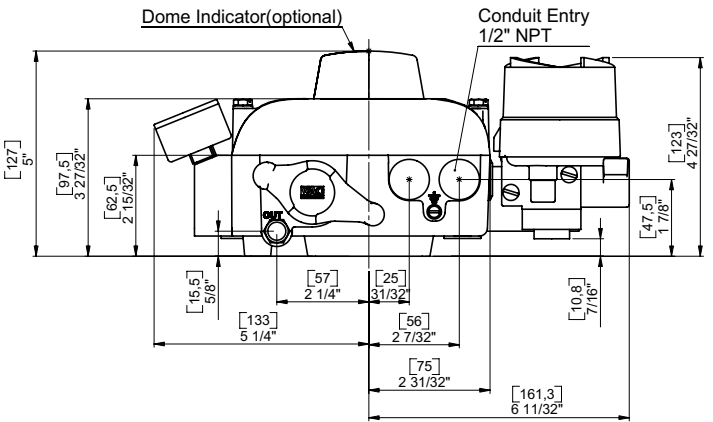
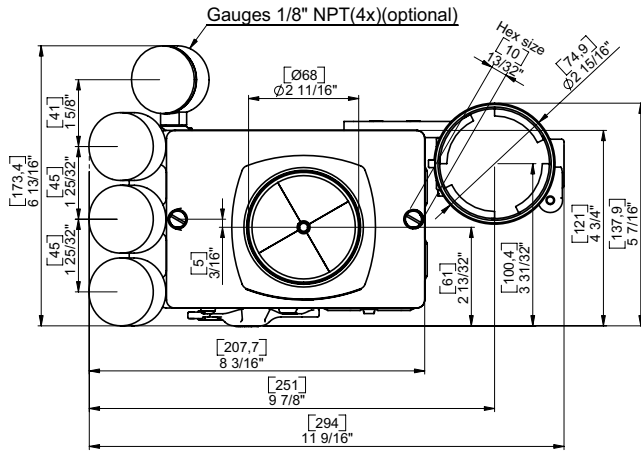
#### FB-MmA

Mechanical switches with  
4/20 mA transmitter

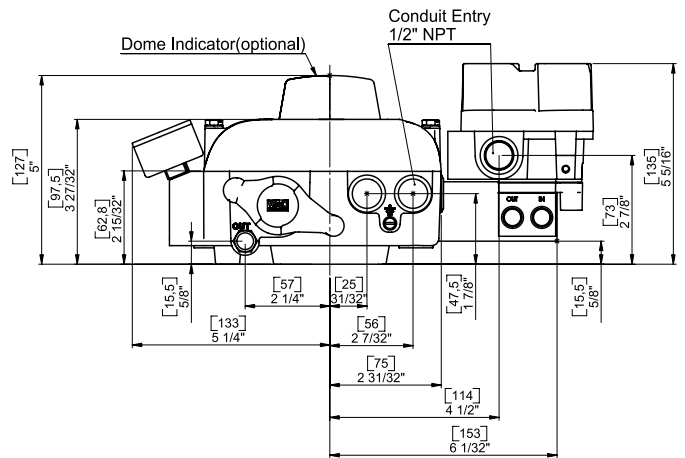
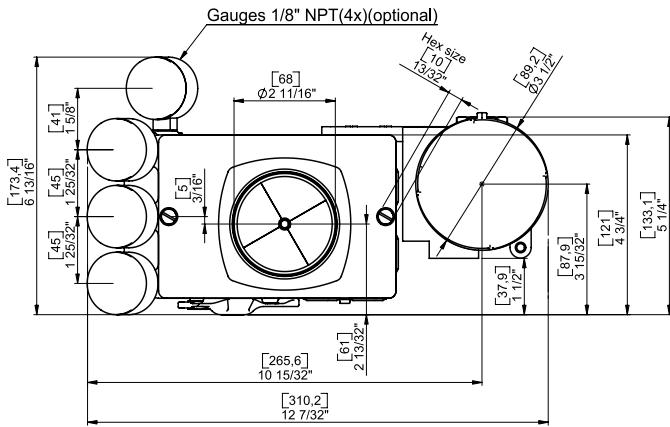
Internal switches-  
Mechanical or Reed  
with 4/20 mA transmitter



# V200-EX



# V200E-GA



NOTE: mm appear in parentheses