

# VAC



Valve Accessories & Controls

## V200 Series Positioners

### 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 Tufram 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.

A product that offers it "all" and in **one compact, simple, housing!!**



# The V200 Positioner

## 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



Dome Indicator -  
Black/Yellow, Red/Green



Internal 4/20 mA  
Feedback



Internal switches-  
Mechanical or Reed.

## V200 E (electropneumatic) Options



V200E-Standard  
Nema 4X Unit or  
IS Unit



V200-EX Explosion  
Proof Unit



Extra High Temp  
(EHT) +325° F



V200-FF Fail  
Freeze Unit



V200 Nickel Coated



V200E-0/10 Volt Unit



V200 Tufam Coated



V200-EX with Third Party  
EX Switch



V200E-GA Gas Approved Unit

## Technical Specifications:

Positioners:	Pneumatic V200P	Electropneumatic V200E & -IS	V200-EX	V200-FF*
Input Signal	3-15 PSI	4-20mA	4-20 mA	4-20 mA
Supply Pressure	20-145 PSI	20-145 PSI	20-145 PSI	20-100 PSI
Linearity error	<0.7% f.s.	<1.0% f.s.	<0.8% f.s.	<1.2% f.s.
Hysteresis	<0.4% f.s.	<0.6% f.s.	<0.5% f.s.	<0.9% f.s.
Repeatability	<0.3% f.s.	<0.5% f.s.	<0.4% f.s.	<0.8% f.s.
Weight	3.2 lbs	3.8 lbs.	5.3 lbs.	5.4 lbs.
Temperature range	-40 to 185 °F -40 to 85 °C	-40 to 185 °F -40 to 85 °C	-40 to 185 °F -40 to 85 °C	-20 to 158 °F -20 to 70 °C
Low Temp	-58 to 185 °F -50 to 85 °C			
Extra High Temp (EHT)	-40 to 325 °F -40 to 162 °C			

**\* Important Note:** Due to the orientation sensitivity of the Fairchild 6100 FF I/p, a zero calibration on the I/p (not positioner) will need to be performed if the positioner orientation changes.

Spool/Pilot Valves	Standard /Low Bleed	High Gain	Super High Gain/High Flow
<b>Air Delivery</b> @87 PSI (600 kPa)	28.3 scfm	31.5 scfm	50 scfm
<b>Bleed Rate</b> @87 PSI (600 kPa)	<.2 scfm	.83 scfm	1.3 scfm
Pressure Gain	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—Positioners only

Ratings for hazardous locations:

### V200-EX

#### ATEX-explosion protection

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

E121X, flameproof EEx d IIC T4/T5/T6

#### FM and CSA

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

#### Intrinsically Safe

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

CSA CL II Div 1&2 Grp E-G

CL III

#### Non Incendive

FM CL 1 Div2 Grp A-C

#### Temperature Class

	Short circuit Current-max	Ambient Temp 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)

#### ATEX

EEx ia IIC T4/T6

#### 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° **C1** (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>

### 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>

### Options

Extra High Temp (Pneumatic only) (-40 to 325 F)	<b>EHT</b>
Low Temp (Pneumatic only) (-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>
24 Psi Spring	<b>24SPG</b>

### Example:

**V200E-D1-90-B-C1-FB-MmA**

Electropneumatic with namur spindle, 90 degree cover, raised indicator, 90 degree cam, feedback with mechanical switches and 4/20 mA transmitter.

## V200 Options/Features:



Flexible mounting for rotary or linear applications



Various Spool Valve Options

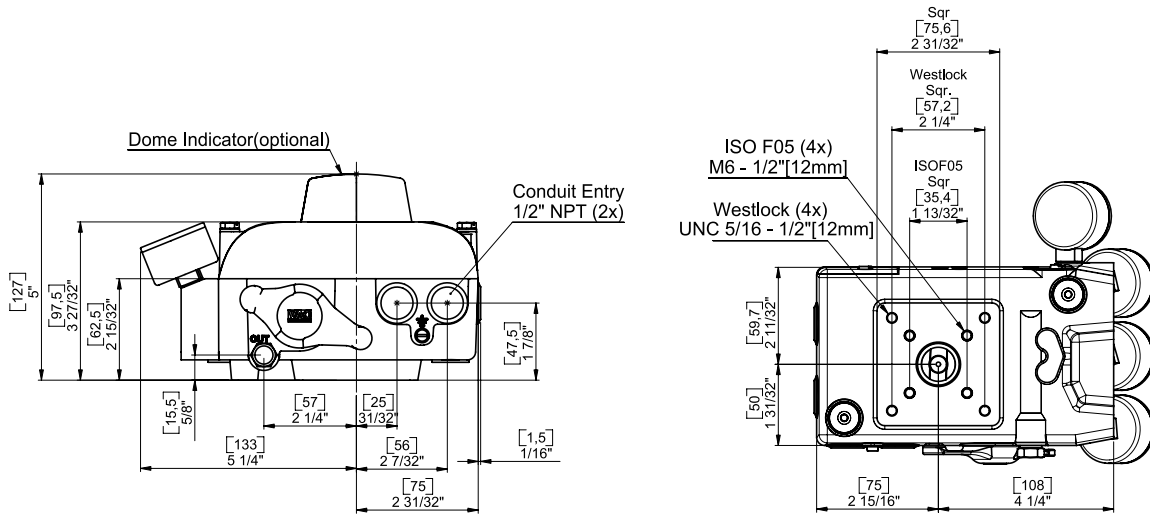
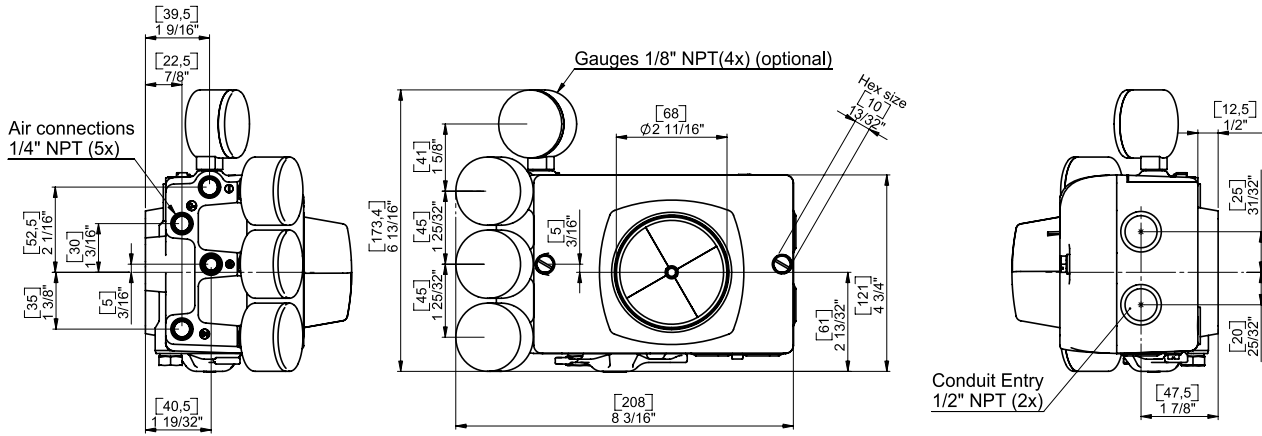


Internal I/p with simple loop test points.

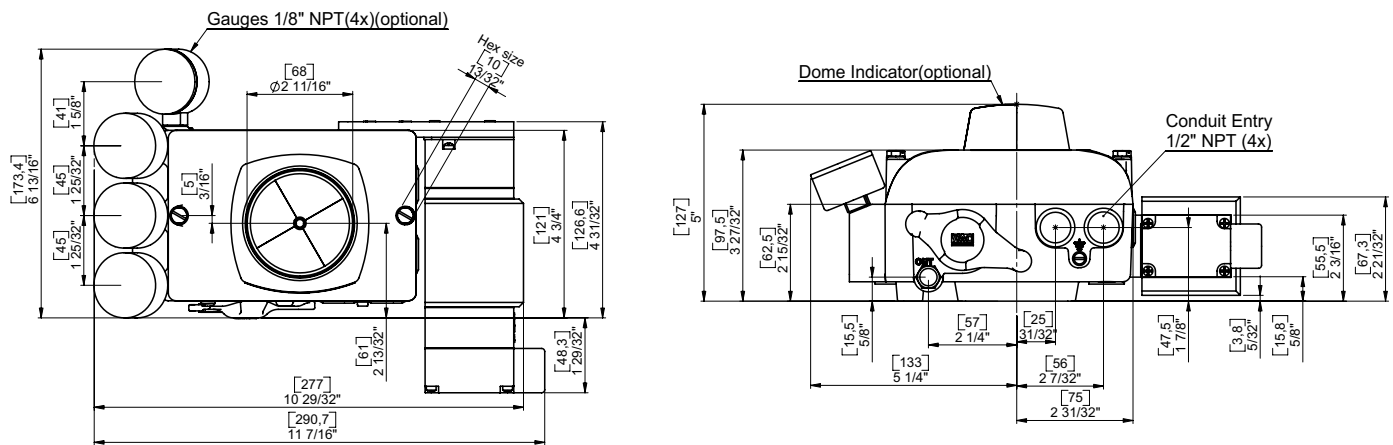


External zero and span adjustment-without removing the positioner cover

# V200 Dimensional Drawings

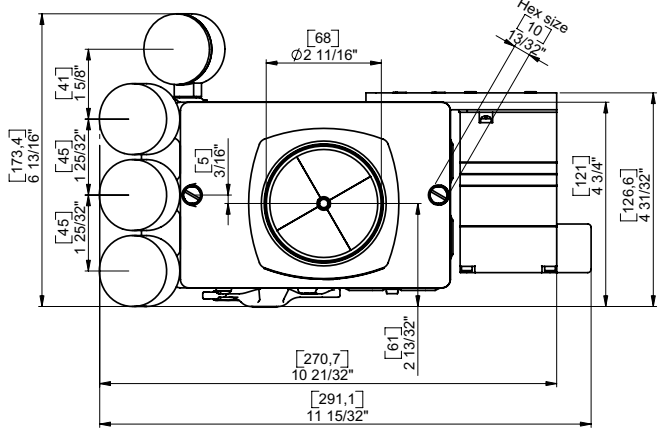


V200P, E, -IS, TUF, NIC, EHT, LT

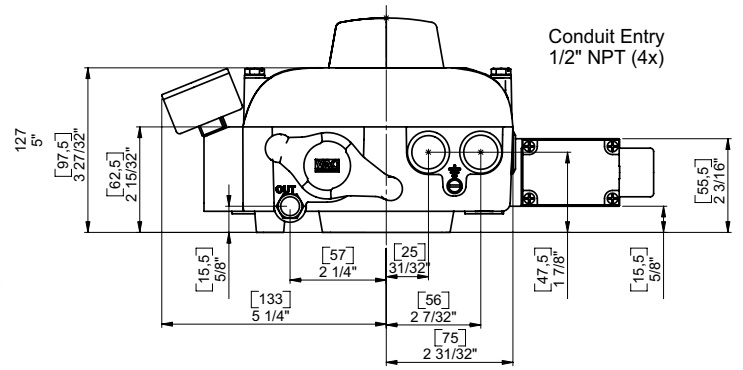


V200-FF

Gauges 1/8" NPT(4x)(optional)



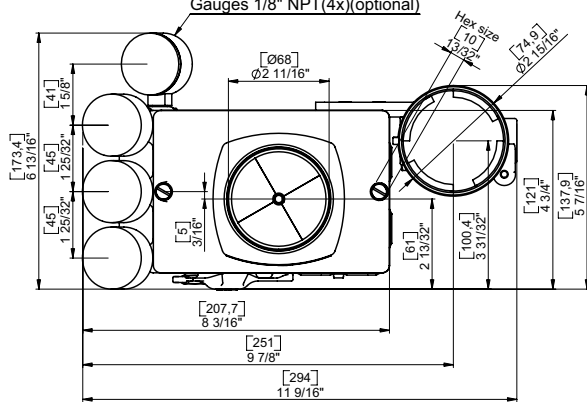
Dome Indicator(optional)



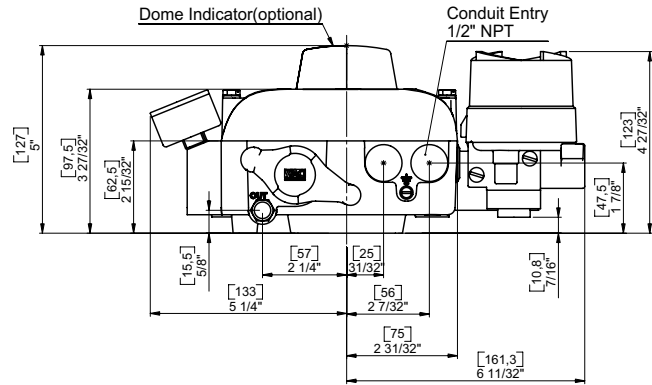
Conduit Entry  
1/2" NPT (4x)

### V200E 0-10V

Gauges 1/8" NPT(4x)(optional)



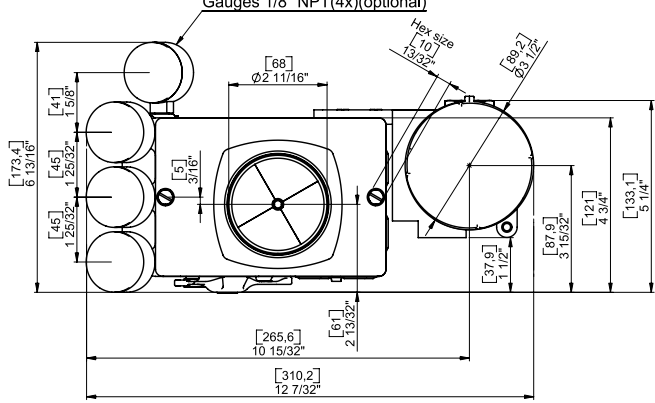
Dome Indicator(optional)



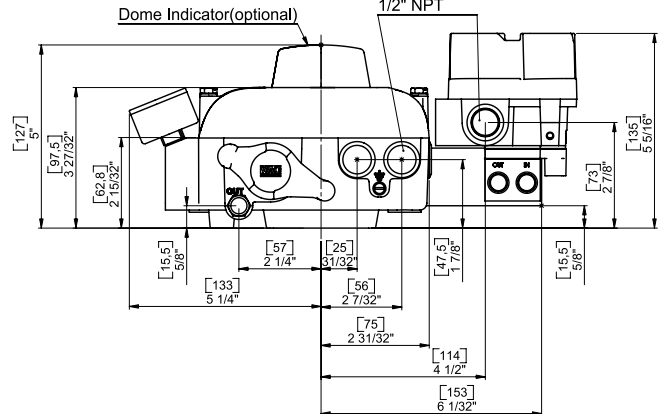
Conduit Entry  
1/2" NPT

### V200-EX

Gauges 1/8" NPT(4x)(optional)



Dome Indicator(optional)



Conduit Entry  
1/2" NPT

### V200E-GA

NOTE: mm appear in parentheses

## Retrofit your valve with a VAC Positioner—a “choice” of options!

Most industrial control valves are equipped with the valve manufacturer’s “standard” positioner when the valve is first delivered. As these companies move into new generation products, they often leave behind a whole marketplace of product needs that don’t “fit” the application needs. When these manufacturers’ standard positioners need replacing, what choices are you offered? High prices, poor delivery, or discontinued products leave users without many options.

VAC wants to put “choice” back in the hands of these users. From a very basic and simple, pneumatic unit to standard or EX electropneumatic, to a complete line of digital positioners, the choice of replacing the manufacturer’s “standard” positioner is back in your hands. VAC products offer the control accuracy you need, yet a simple rugged design (all metal housings) that is flexible and adaptable. The installed base of control valves is very important to users and to VAC.

We want to offer you either rotary or linear positioner products that “fit” the needs of the application and not limit your options. Retrofit with a VAC positioner, putting your positioner options back in your control.



## Our way of doing business is just as simple as our products.

A solid, simply designed positioner, with high quality construction is just the start of the Valve Accessories and Controls story. Because we are a privately held, customer driven company, we can meet your needs much quicker, with a lot more flexibility.

A quality company must be a lot more than a quality product. Responding promptly and honestly, showing genuine interest in what we do and what you do, staying focused on our strengths, and being different in a positive way are important.

Sounds simple—we plan to keep it that way!



### VALVE ACCESSORIES & CONTROLS

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