

# VAC

VALVE ACCESSORIES & CONTROLS



**V100**  
POSITIONER

VAC V100 SERIES POSITIONER  
SIMPLE • DURABLE • RELIABLE

WWW.VACACCESSORIES.COM  
205-678-0507

# The V100 Positioner



## FLEXIBILITY

One housing for pneumatic or electropneumatic.

Standard F05 mounting with interchangeable spindle drives.

Multiple mounting capability

Standard indicator allows for air to open or air to close operation—raised indicator available

## THE MODULARITY OF THE V100 POSITIONER

The V100 incorporates the flexibility of converting from a pneumatic unit to several versions of an electropneumatic unit in a matter of minutes, without removing the unit from the mounted valve package. You can add gauges, a feedback module, or a raised indicator, at any time....in just a matter of minutes. Of course, you can also order them configured in any of these models and then change or remove components in the field as needed. Maximum modularity equals maximum flexibility. And with a simple design and quality components, the performance is maximum as well.



Unique electrical compartment, fitted with an o-ring, is pressure sealed by the cover

## V100 OPTIONS



V100E



V100E-0/10 Volt Unit



V100-EX Explosion Proof Unit



V200E-GA Gas Approved Unit



V100 Nickel Coated



V200 Tuftram® Coated

## V100 BENEFITS

- Compact Design
- Quality components = rugged and accurate performance
- Screw driver slots in the span and zero ferrules, along with external zero adjustment, helps make calibrating the positioner simple
- Easily maintain all key components
- Clear, visible indicator with arrow indicator standard-beacon optional
- Field changeable to any I/p option



V100-EX with Third Party EX Switch

## Technical Specifications:

	<b>Pneumatic V100P</b>	<b>Electropneumatic V100E &amp; IS</b>	<b>EX ABB V100EX</b>	<b>Fairchild V100E-0/10V</b>
Input Signal	3-15 PSI	4-20mA	4-20mA	0-10 VDC
Supply Pressure	145 PSI	145 PSI	145 PSI	120 PSI
Linearity error	<0.7%f.s.	<1.0%f.s.	<1.0%f.s.	<1.0%f.s.
Hysteresis	<0.4%f.s.	<0.6%f.s.	<0.6%f.s.	<0.6%f.s.
Repeatability	<0.3%f.s.	<0.5%f.s.	<0.5%f.s.	<0.5%f.s.
Temperature range	-40° to 185°F (-40° to 85°C)	-40° to 185°F (-40° to 85°C)	-40° to 180°F (-40 to 82°C)	-40° to 160°F (-40° to 71°C)
Weight	3.5 lbs	3.8 lbs.	4.9 lbs	4.6 lbs

Above based on Standard Gain pilot

<b>Spool/Pilot Valves</b>	<b>Low Bleed/Low Gain</b>	<b>Standard</b>	<b>High Gain</b>
<b>Air Delivery @87 (600kPa)</b>	25.5 scfm	28.3 scfm	28.3 scfm
<b>Bleed Rate @87PSI (600kPa)</b>	.4 scfm	.53 scfm	.70 scfm
<b>Pressure Gain</b>	300:1	750:1	1000:1

Air connections	¼" NPT	¼" NPT	¼" NPT	¼" NPT
Gauges	1/8" NPT	1/8" NPT	1/8" NPT	1/8" NPT
Cable Entry	½" NPT	½" NPT	½" NPT	½" NPT
Ingress & corrosion protection	NEMA 4X / IP66	NEMA 4X / IP66	NEMA 4X / IP65	NEMA 4X / IP65
Standard coating	Polyester (Standard)			
Optional coating	Tufram	Nickel		

### Feedback (not rated for EX or IS)

General Purpose

#### Mechanical Switches:

Type:	SPDT-Co Form C, (V3)
Load:	Resistive (Inductive)
	max 10 A (3) 125/250 VAC
	max 0.25 A (0.04) 230 VDC
	max 0.5A (0.1) 115 VDC
	max 6 A (4) 30 VDC
	max 8.5 A(5) 14 VDC
	max 11 A (6) 8 VDC

#### Reed Switches:

Type:	SPDT-CO Form C, Form C
Contact rating:	max 5W or 5VA @ 30 VDC/VAC 0.16 A
Voltage:	Switching max 175 VDC
	Breakdown min 200 VDC
	Current Switching max 0.25 A
	Carry max 1.5 A
Contact resistance:	0.2 Ohms
Contact capacitance:	0.3 pF
Mechanical and electrical life:	over 100 million operations

#### 4/20 mA Position Feedback:

Voltage supply:	10-30 VDC
Output	4-20 mA, 2 wire
Loop Impedance:	max 700W @ 24 VDC
Max linearity error:	<1.5%
Hysteresis	<0.3%
Temp. sensitivity	< 0.1%/10°F (5.5°C)

## Approvals—I/p Only

Ratings for hazardous locations:

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

#### Non Incendive

**FM** CL 1 Div2 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

Current-max max Ambient Temp

T6 50 mA ) 140 °F (60 °C

T5 60 mA 158 °F (70 °C)

T4 60 mA 185 °F (85 °C)

#### V100-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

## Positioner Ordering Codes

Pneumatic	V100P
Electropneumatic	V100E
Explosion Proof	V100EX
Intrinsically Safe	V100IS
Fail Freeze	V100FF

**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	90
60 degree rotation	60
45 degree rotation	45
30 degree rotation	30
Blank scale	00
90 ° Reverse Cover	90R

### Indicator Arrow:

Standard Beacon/Raised (Black/Yellow)	A
Optional Beacon/Raised (Red/Green)	BRG

**Cam:** C1 90° standard

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

### Spool Valve Options:

Standard	SG	shipped as standard
Low Gain	LG	
High Gain	HG	

### Options:

0/10 Volt I/P (V100E only)	0/10V
Gas Approved Positioner	GA
ATEX Approved Positiner	ATEX
Tufram® Coating (V100 P and E only)	TUF
Nickel Coating (V100 P and E only)	NIC
24 PSI Spring	6-30

### Example:

V100E-D1-90-B-C1

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

## Feedback Products Ordering Codes

### R100 Series (Not Rated for EX or IS)

<b>R100</b>	Mounts directly to positioner
<b>R300</b>	Mounts directly to actuator; called "Stand alone"

### Switches

2 SPDT mechanical	M
2 SPDT reed/proximity	R

### Feedback transmitters

4/20 mA	mA
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### Front Cover (R300 only)

90 degree rotation	90
60 degree rotation	60
45 degree rotation	45
30 degree rotation	30
Blank scale	00

### Indicator (R300 only)

Arrow	A
Standard Beacon/Raised (Black & Yellow)	B
Optional Beacon/Raised (Red & Green)	BRG

### Spindle (R300 only)

See spindle section/dimensional drawing	DX
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**Examples:** R100-M-mA Feedback with mechanical switches and 4-20mA transmitter  
 R300-mA-90-B-D1 Stand alone feedback with 4-20 transmitter, raised indicator and namur spindle.

## V100 Options/Features



### Options

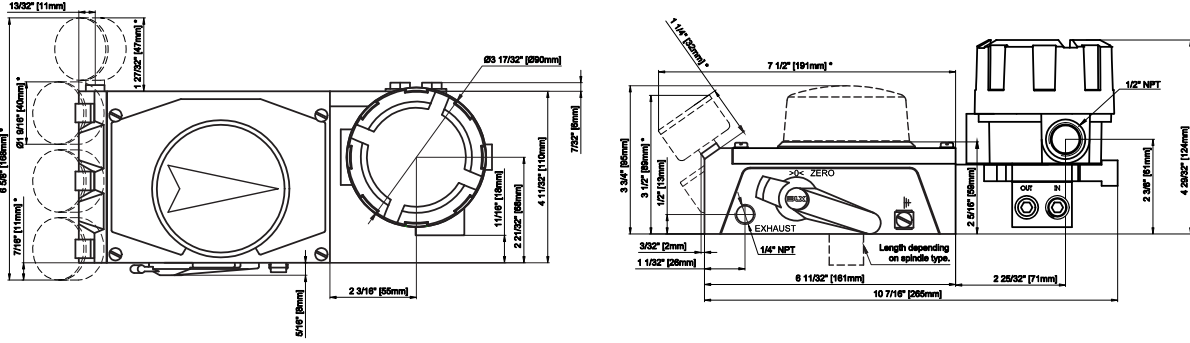
Special cams, range springs, various NEMA ratings, and feedback capability are components of the V100 positioner package.

### Simple Calibration

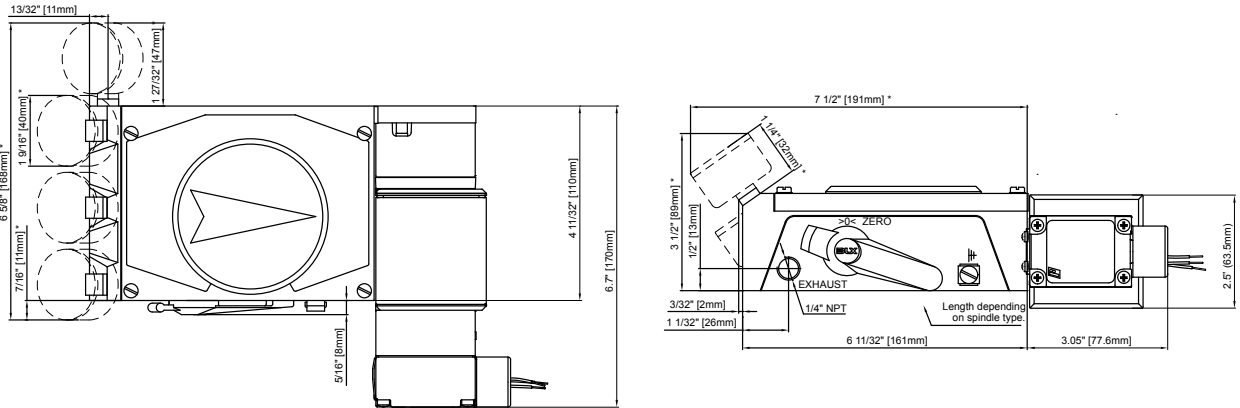
With the less interactive span and zero adjustment, and the external zero adjustment, calibration is simple and time saving.



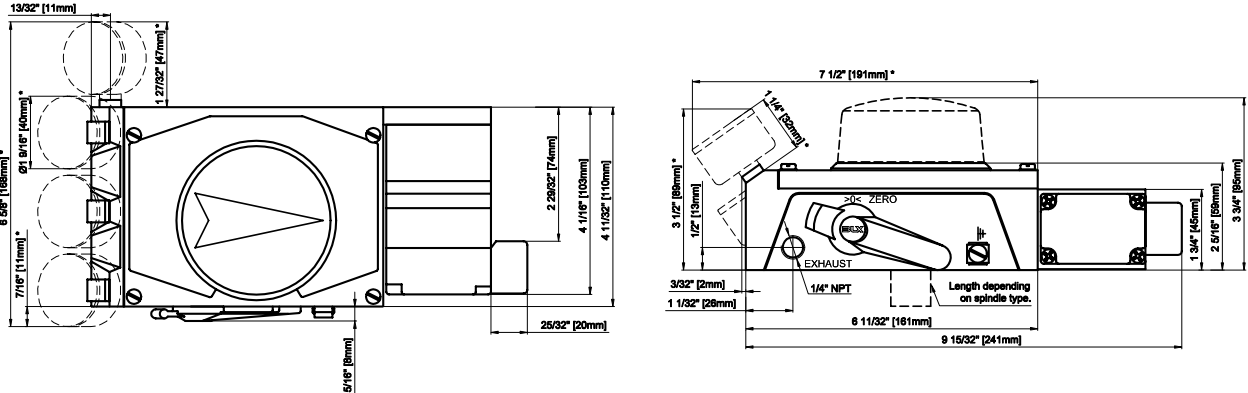
# V100-EX



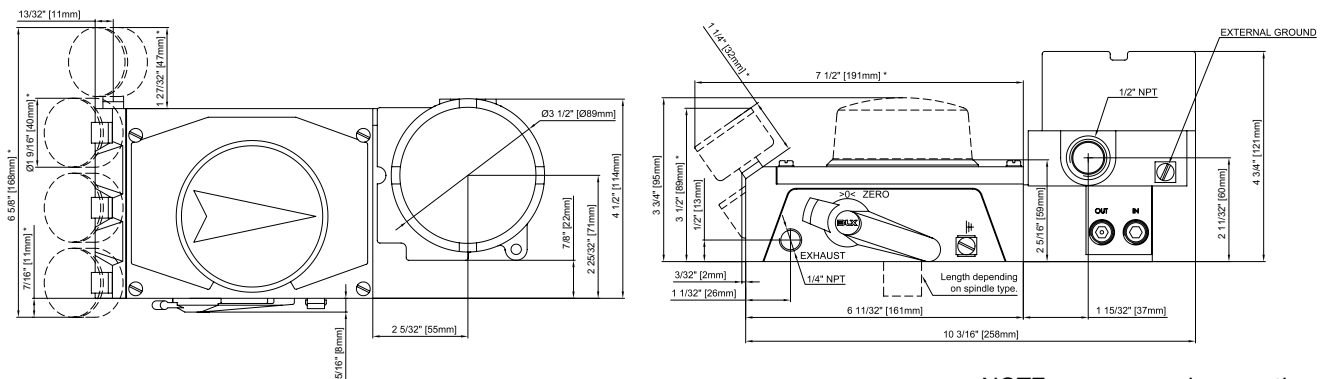
# V100 FF



# V100E 0-10V



# V100E GA



NOTE: mm appear in parentheses



Marketed by VAC (Valve Accessories & Controls), the V100 positioner line is supported by a knowledgeable and professional staff. Customer service is a key component to the VAC package. Local inventories and technical assistance are just a phone call away.

The V100 package of products is a complete line of pneumatic and electropneumatic positioners with a variety of I/P modules and coatings to meet a wide range of product applications. The stackable feedback module (R100) makes adding position feedback very simple. The die cast aluminum housing is rugged and the quality components make this product suitable for both accurate rotary control and linear applications



#### VAC Positioner Accessories

These and many other accessories are available from stock and help provide improved product performance and product visibility.



#### Mounting Kits

VAC offers mounting kits (from stock) for a variety of actuators, making standardization through retrofitting existing packages with the V100 positioner simple. If we don't have the kit in stock, we will make every effort to service the application with special mounting.



#### Gauges

VAC gauges (in stock) are frequently used to help calibrate, monitor, or troubleshoot a field performance issue.



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