

VAC

Valve Accessories & Controls



VAC V100 Series Positioners

Dependable Products • Reliable Service

durable

reliable

modular

modularity

The V100 positioner can be ordered as a base model pneumatic positioner, converted to standard NEMA 4X electropneumatic, EX model, or FF (fail freeze) model 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.

V100-FF



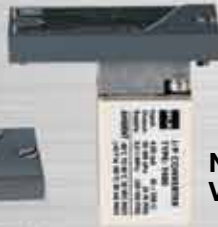
V100-EX



The V100E (0/10V)



Nema 4x I/P or V100-IS



Features



Flexibility

One housing for pneumatic or electropneumatic.

Standard F05 mounting with interchangeable spindle drives.

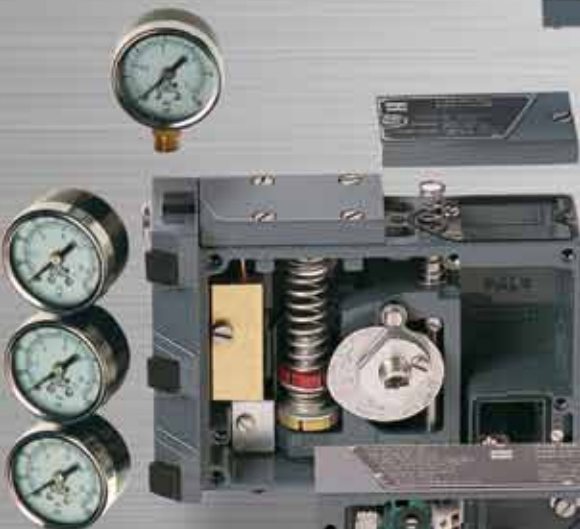
Multiple mounting capability

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



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

V100P



R100 Feedback Module



Standard cover with pointed indicator



add a raised indicator (yellow/black or red/green)



V100 Options



V100E



V100 EX



V100 TUF
Tuftram® Coated



V100 FF



V100 NIC Nickel Coated



V100E 0/10V Volt Unit



V100 with EX Third Party Mounting



V100E GA Gas Approved

Technical Specifications:

	Pneumatic V100P	Electropneumatic V100E & IS	EX ABB V100EX	Fairchild V100FF	Fairchild V100E-0/10V
Input Signal	3-15 PSI	4-20mA	4-20mA	4-20mA	0-10 VDC
Supply Pressure	145 PSI	145 PSI	145 PSI	100 PSI	120 PSI
Linearity error	<0.7%f.s.	<1.0%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.	<0.6%f.s.
Repeatability	<0.3%f.s.	<0.5%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)	-20° to 150°F (-30° to 65°C)	-40° to 160°F (-40° to 71°C)
Weight	3.5 lbs	3.8 lbs.	4.9 lbs	5.8 lbs	4.6 lbs

Above based on Standard Gain pilot

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

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

Ratings for hazardous locations:

V100-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 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:

Pneumatic V100 P	V100P
Electro-pneumatic V100 E	V100E
Explosion Proof V100 EX	V100EX
Intrinsically Safe V100 IS	V100IS
Fail Freeze V100 FF	V100FF

Spindle: D1 Namur (standard)

For additional spindle options, please contact VAC or visit our website at 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

Spool Valve Options:

Standard	SG	shipped as standard
Low Gain	LG	
High Gain	HG	

Feedback Options:

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

Options:

0/10 Volt I/P (V100E only)	0/10V
Gas Approved Positioner	GA
ATEX Approved Positioner	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)

R100	Mounts directly to positioner
R300	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

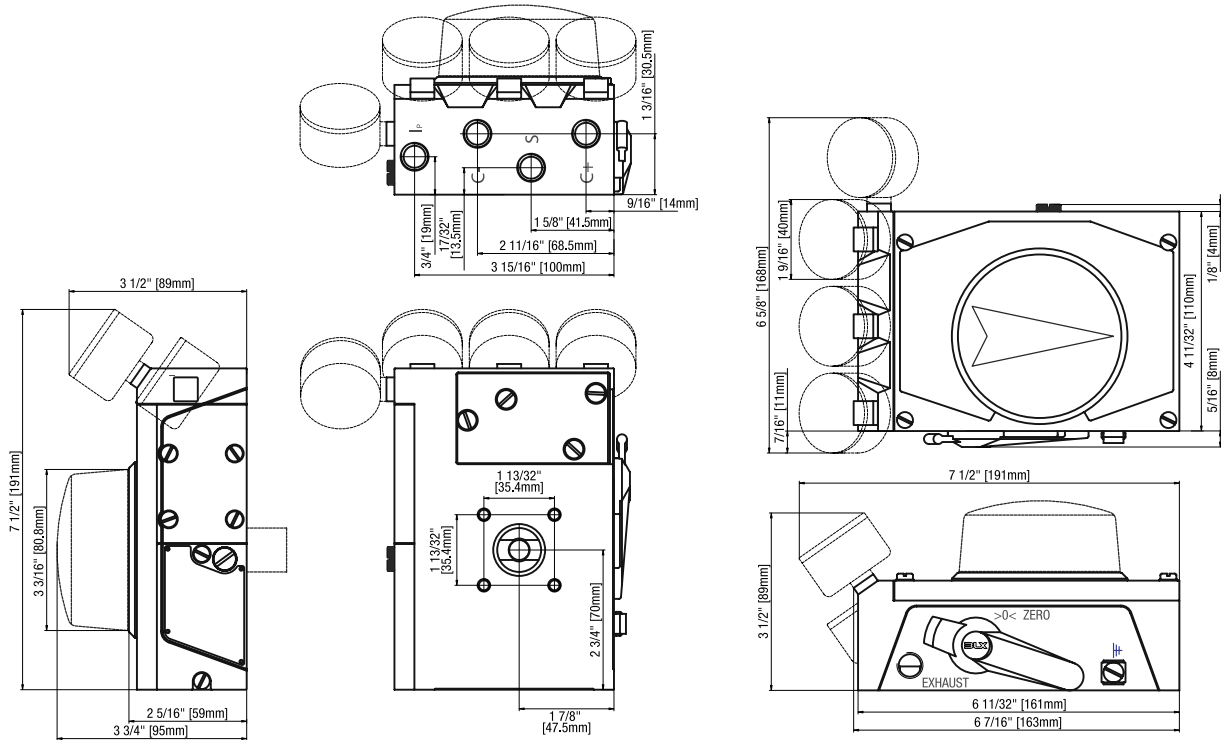
Special cams, range springs, various NEMA ratings, and feedback capability are components of the V100 positioner package.



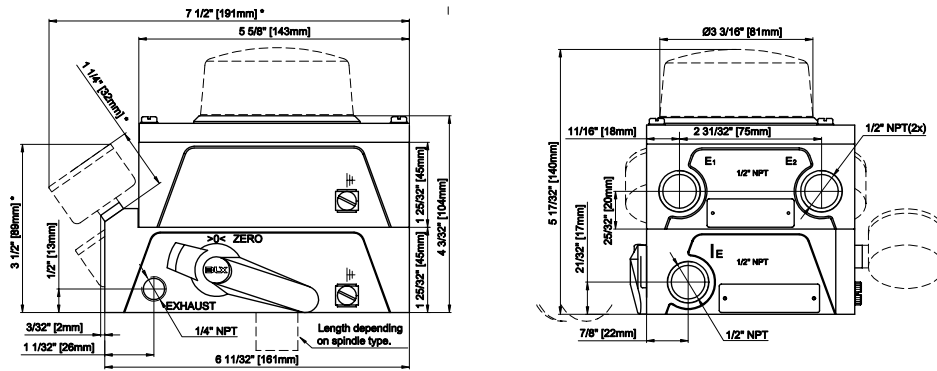
Simple Calibration

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

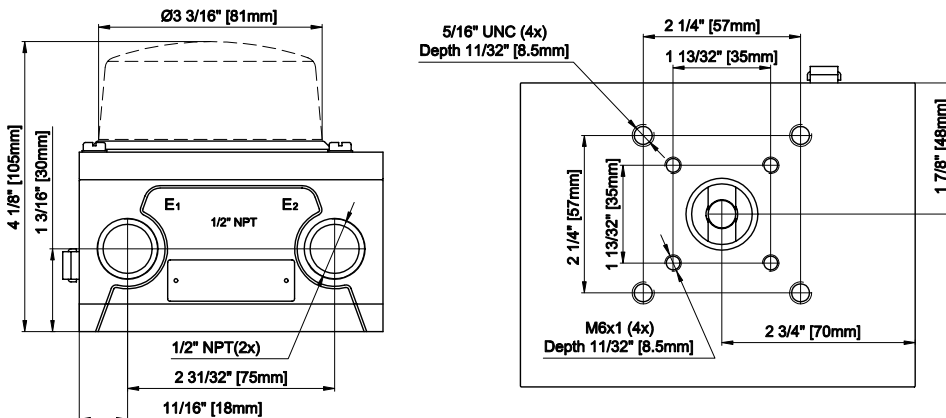
Dimensional Drawings V100P and E, R100 and R300



V100 P, E, IS, NIC, and TUF

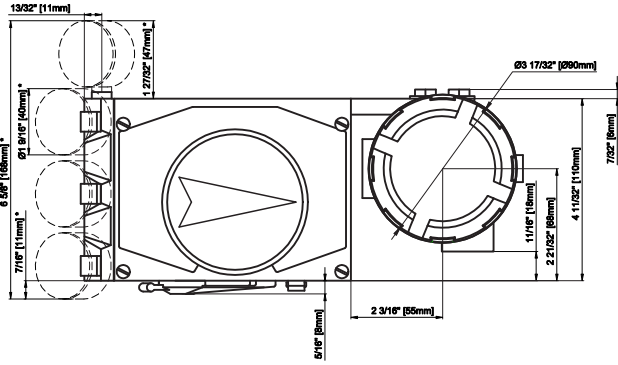


R100

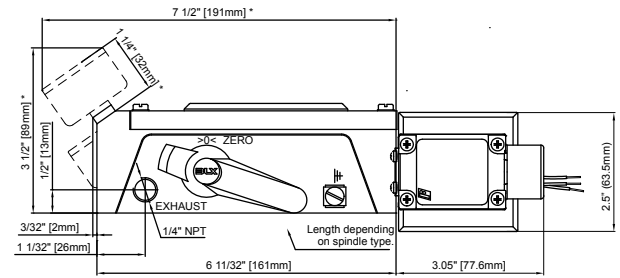
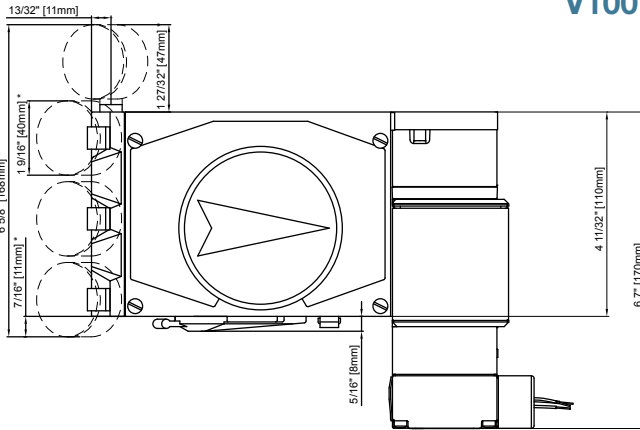
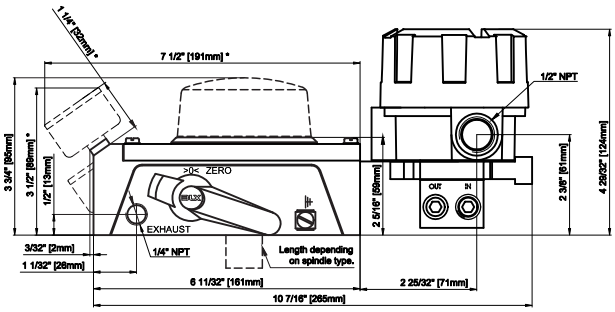


R300

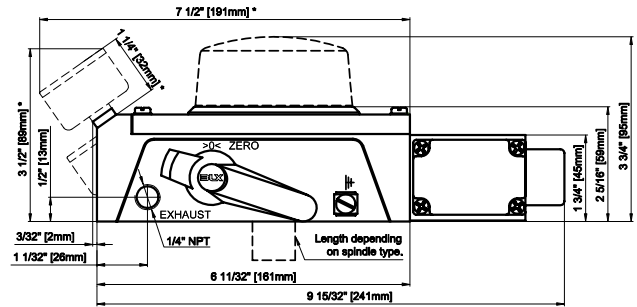
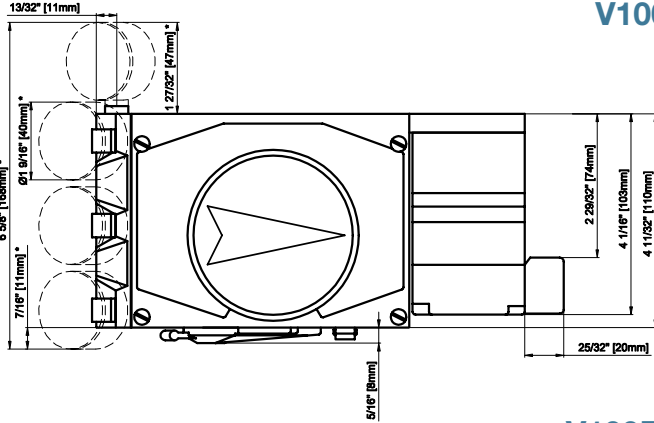
Dimensional Drawings V100 EX, V100 FF and Specials



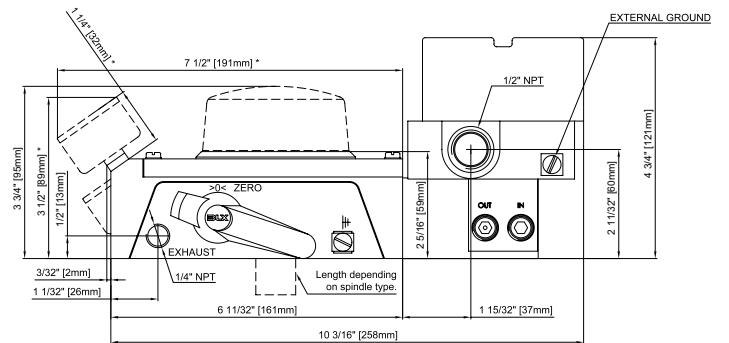
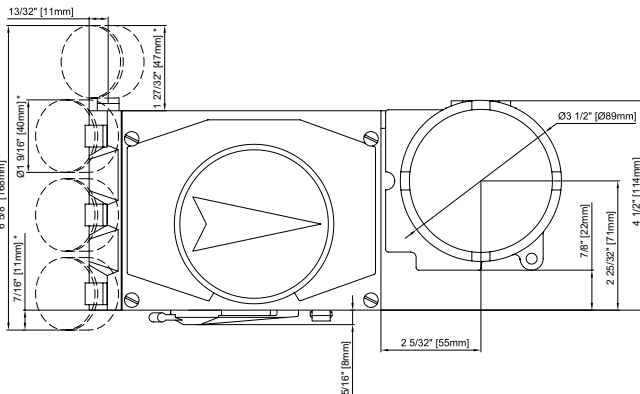
V100 EX



V100 FF



V100E 0-10V



V100E GA



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 Ip 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.



Beacons and Filter Regulators

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



Gauges

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

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.



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