

GENERAL DESCRIPTION

The VA-1600 Series actuators are linear, bi-directional actuators, designed to meet the exacting requirements for closed-loop modulating positioning control. They can be applied to a variety of sliding stem valves to provide remote valve positioning for control of gases, steam or other liquids in various process control applications.

All VA-1600 Series actuators are also available with an internal amplifier (AC voltage only). These amplifiers are all full-featured ac switching devices designed to work seamlessly with the actuator for closed loop control.

FEATURES

- Permanently lubricated for any position mounting
- A wide variety of speed/thrust combinations
- AC or DC input power versions
- Wide ambient temperature range
- Cushioned valve seating
- Full one year warranty

AMPLIFIER FEATURES

- Isolated, two-wire, 4-20mA feedback
- Customer-adjustable deadband
- Customer-adjustable zero and span
- Accepts either voltage or current command inputs
- Selectable options for Loss-of-Signal action:
 - Lock in place
 - Run to preset
- Field selectable dynamic brake
- AC triac switching of motor for increased life

BASE MODEL INCLUDES:

- Motor
- End of travel switches, not for customer use
- Aluminum NEMA 4 (IP65), explosion proof enclosure
- Internal spur gear train
- 4-20 mA transmitter for customer use (amplifier models only)



POPULAR OPTIONS (See Pages 197-206)

- Potentiometer or 4-20 mA position feedback
- Custom mounting and interface hardware
- Local Auto/Manual toggle switches (Close-coupled, NEMA 4)
- Anti-condensation heater and thermostat
- Manual handwheel

SPECIFICATIONS

Thrust: Up to 6,000 lbf. (26,688 N)

Speed: See selection chart on next page.

Linear Travel: 0.25 inch (6 mm) to 2.0 inches (51 mm), adjustable.

Temperature Limits: -40°F to 150°F (-40°C to 65°C)
For greater temperature ranges, consult factory.

Environmental Ratings: Explosion-proof for Class I, Division 1, Groups C and D; dust-ignition-proof for Class II, Division 1, Groups E, F, G. Also rated NEMA 4 (IP65) indoor/outdoor.

Feedback: 4-20 mA, customer supplied (loop power)

Field Wiring: To barrier terminal blocks

Positioning Accuracy: 1.5% for full range

Loss of Signal: Lock-in-place or drive to preset signal position.

Loss of Power: Lock-in-place at last position.

Modulation Rate: Modulating duty

Backdrive: Self-locking up to thrust rating

Approximate Weight: 72 lbs. (33 kg), *without valve & mounting hardware*

VA-1600 SERIES SELECTION CHART

Selection

1	Basic Model	VA-1630-N	1 phase, 120 Vac, 50/60 Hz, without built-in amplifier	
		VA-1630-D	1 phase, 120 Vac, 50/60 Hz, with built-in digital amplifier	
		VA-1650-N	1 phase, 240 Vac, 50/60 Hz, without built-in amplifier	
		VA-1650-D	1 phase, 240 Vac, 50/60 Hz, with built-in digital amplifier	
		VA-1680-N	24 Vdc, modulating duty, without built-in amplifier	
2	Input Voltage	1: 120 Vac, 1 Phase, 50/60 Hz (VA-1630-N, VA-1630-D)		
		2: 240 Vac, 1 Phase, 50/60 Hz (VA-1650-N, VA-1650-D)		
		6: 24 Vdc (VA-1680-N)		
3	Speed sec./in.	VA-1630 VA-1650	VA-1680	
		32/3000 (13344)	32/3000 (13344)	
4	Thrust lbf. (N)	32/4000 (17792)	32/4000 (17792)	
		64/5000 (22240)	32/5000 (22240)	
		64/6000 (26688)	32/6000 (26688)	
5	Linear Travel	Specify Travel - 0.25 inch (6.35 mm) to 2.0 inches (51 mm) stroke available.		

*See valve mounting options L001 through L003

VA-1600 STANDARD OPTIONS

Code	Description	Selection
Toggles, Lights		
A008	Local Auto/Manual INC/OFF/DEC (Close Coupled Enclosure)	
A015	ON/OFF Toggle Power Switch (Close Coupled Enclosure)	
Feedback		
F001	Potentiometer, 1000 ohms	
F002	Tandem Potentiometer, 1000 ohms each (not available for units with internal amp)	
F003	Potentiometer, 5000 ohms (not available for units with internal amplifiers)	
F004	Potentiometer, 10,000 ohms (not available for units with internal amplifiers)	
F005	Transmitter, 4-20 mA output	
F006	One Potentiometer, 1000 ohms plus 4-20 mA Transmitter (not available for units with internal amplifiers)	
F010	Anti Backlash Feedback Gearing	
F999	Special Potentiometer (consult factory)	
Heater		
H001	Anti-Condensation Heater (24 VDC)	
H002	Anti-Condensation Heater (120 VAC)	
H003	Anti-Condensation Heater (240 VAC)	
Identification/Certifications		
J001	CE Marking, AC input only (only for units with amplifiers)	
J002	Stainless Steel Tags	
J004	One year extended warranty	
J005	Two year extended warranty	
Handcrank		
K002	Manual Handcrank	

Code	Description	Selection
Valve Mounting		
L001	Mounting of actuator to valve by customer. Compatible hardware supplied by Jordan Controls per customer specifications. Complete, certified valve drawings showing topworks detail must be submitted with order.	
L002	Valve provided by customer for mounting and set-up with actuator by Jordan Controls.	
L003	Valve provided by Jordan Controls, mounted and set-up with actuator per customer specifications.	
Auxiliary Switches		
S005	Aluminum Cam	
S006	Aluminum Feedback Frame	
S008	Two nonadjustable end of travel position switches, SPST, 10 Amp, 120/240 Vac	
S009	Two Adjustable Position Switches, SPDT, 10 Amp, 120/240 Vac	
S010	Two Adjustable Position Switches, DPDT, 10 Amp, 120/240 Vac	
S013	Two nonadjustable end of travel position switches, SPDT, 10 Amp, 120/240 Vac	
Painting/Coating		
W001	JCI Standard Polyurethane Blue	
W002	Two Part Epoxy	
W003	Food Grade Epoxy	
W004	Baked On Epoxy	
W005	Teflon	

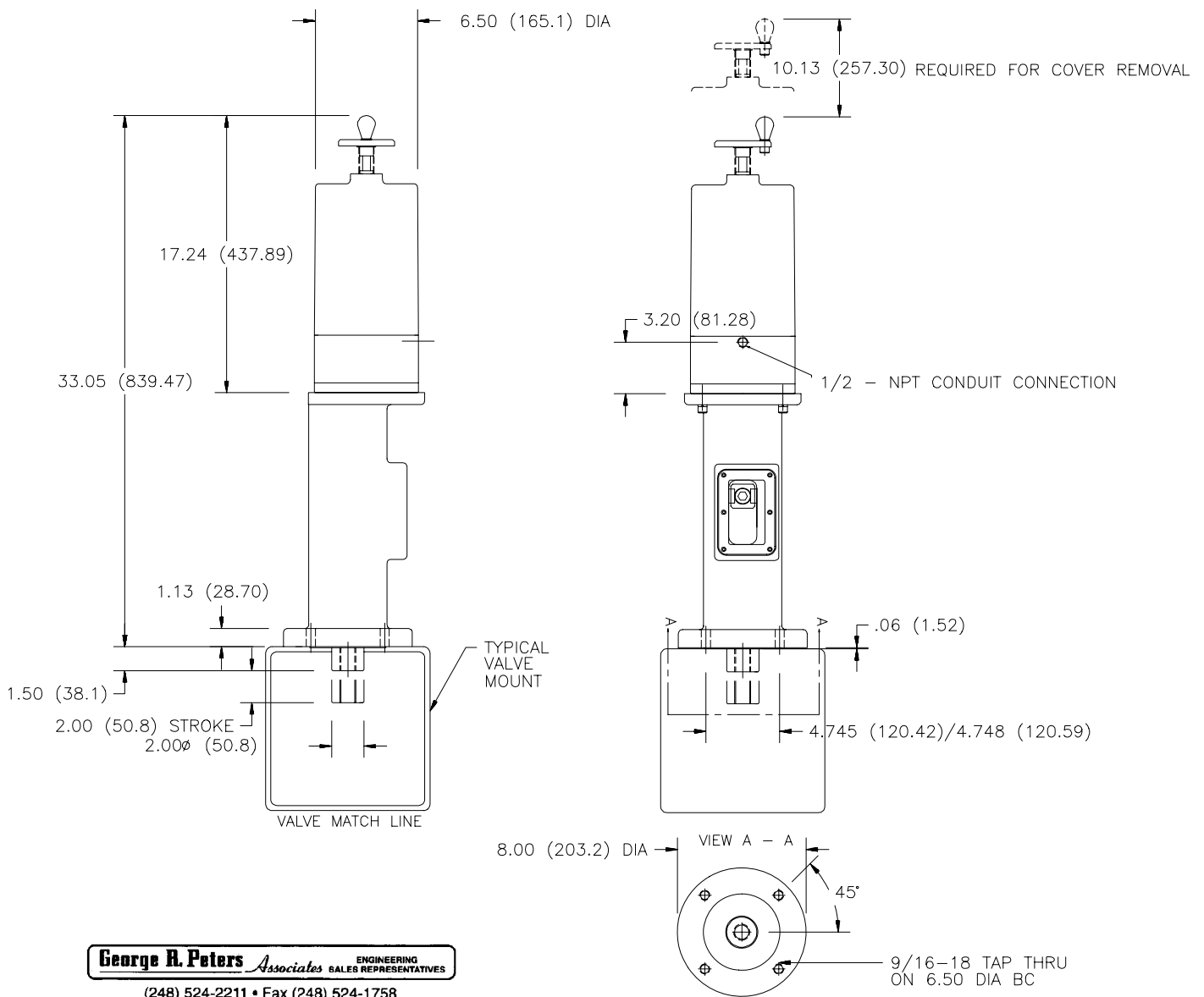
For a full description of options, go to the Complete Listing of Options starting on page 197.

REMOTE AMPLIFIER CHART

Actuator	Remote Mounted Amplifier	Catalog Page
VA-1630-N	AD-8240	173
VA-1650-N	AD-8240	173
VA-1680-N	AD-7540	170

VA-1600 MAJOR DIMENSIONS

INCHES
(MILLIMETERS)



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These dimensions are subject to change without notice and should not be used for preparation of drawings or fabrication of installation mounting. For current installation manuals and other product information, see www.jordancontrols.com.