

Valvcon™ V-series auxiliary feedback potentiometer kit part number VC0992

Installation, maintenance and
operating instructions

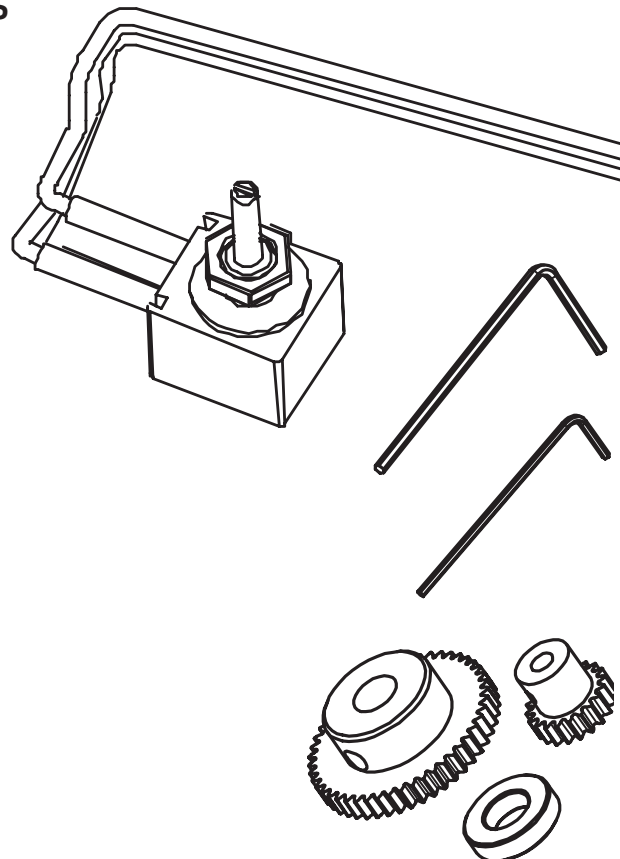


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READ THESE INSTRUCTIONS FIRST!

These instructions provide information about safe handling and operation of the valve.

If you require additional assistance, please contact the manufacturer or manufacturer's representative.

SAVE THESE INSTRUCTIONS!

Addresses and phone numbers are printed on the back cover.

1. GENERAL

This instruction manual contains important information regarding the installation, operation, and troubleshooting of the Valvcon™ V-Series Option “P” Auxiliary Feedback Potentiometer Kit. Please read these instructions carefully and save them for future reference.

1.1 DESCRIPTION

The Auxiliary Feedback Potentiometer Kit, P/N VC099200 provides an external tracking signal that is variable and proportional to the output position of actuator. Designed for 90-degree rotation, the kit consists of a 0 to 1000 OHM potentiometer and all necessary mounting hardware.

For 180-degree rotation select P/N VC099180 Gear Kit in addition to the Auxiliary Feedback Potentiometer Kit. For 270-degree rotation select P/N VC099270 Gear Kit. For details on Gear Kits, see IMO-I9900.

For termination inside the actuator enclosure, a 12-position terminal block is included with the kit.

1.2 SAFETY PRECAUTIONS

WARNING:

DO NOT EXCEED THE ACTUATOR PERFORMANCE LIMITATIONS! EXCEEDING THE TORQUE LIMITATIONS MARKED ON THE ACTUATOR IDENTIFICATION NAMEPLATE LABEL MAY CAUSE DAMAGE TO THE ACTUATOR AND/OR FINAL DRIVE ELEMENT.

WARNING:

DO NOT EXCEED THE ACTUATOR ELECTRICAL LIMITATIONS! EXCEEDING THE ELECTRICAL LIMITATIONS MARKED ON THE ACTUATOR IDENTIFICATION NAMEPLATE LABEL MAY CAUSE DAMAGE TO THE ACTUATOR AND/OR PERSONAL INJURY.

WARNING:

BEWARE OF MOVEMENT OF THE FINAL DRIVE ELEMENT AND ANY LINKAGE BETWEEN IT AND THE ACTUATOR!

KEEP HANDS, OTHER PARTS OF THE BODY, TOOLS AND OTHER OBJECTS OUT OF THE WAY OF MOVING PARTS. FAILURE TO DO THIS MAY RESULT IN DAMAGE OR PERSONAL INJURY!

WARNING:

ACTUATORS SHOULD BE PROPERLY GROUNDED AND WIRED IN ACCORDANCE WITH LOCAL ELECTRICAL CODE; SEE IDENTIFICATION NAMEPLATE LABEL FOR MAXIMUM CURRENT DRAW.

This option will fit V-Series actuators with the letter “N” preceding the voltage designator in the part number on the product nameplate.

2. INSTALLATION

2.1 TOOLS REQUIRED

- Hex Wrench – 5mm (Small Enclosure)
- Hex Wrench – 6mm (Large Enclosure)
- Philips Screw Driver #1
- Small flat blade screwdriver
- 1/2-inch wrench, or nut driver

2.2 PARTS VERIFICATION

Verify that the kit contains all parts listed in Table 1 below:

Table 1	
Parts List for P/N VC099200	
Part Description	Qty
Wrench 1/16"	1
Cable tie	4
Gear, Pot, 20 tooth, (90 degree rotation)	1
Gear, Camshaft, 60 tooth, (90 degree rotation)	1
Spacer, Cam Shaft Gear	2
Nylon Washer, Cam Shaft Gear	1
Feedback Pot, Sub-Assembly	1
Terminal Block 12 Position	1
Screw, #8-32 x 1/2", Philips	1
Instruction Manual	1

WARNING:

WHENEVER WORKING INSIDE THE ACTUATOR BE SURE TO FOLLOW ALL GUIDELINES, AND HEED ALL WARNINGS IN THIS OPTION KIT INSTALLATION MANUAL. BE SURE TO READ AND FOLLOW THE INSTRUCTIONS SUPPLIED WITH THE ACTUATOR CAREFULLY, AND HEED ANY ADDITIONAL WARNINGS

WARNING:

DANGEROUS VOLTAGES ARE PRESENT INSIDE THE ACTUATOR COVER UNLESS THE POWER SUPPLY TO THE ACTUATOR HAS BEEN SHUT OFF OR DISCONNECTED. USE EXTREME CAUTION WHENEVER WORKING ON THE ACTUATOR WITH THE COVER REMOVED.

WARNING:

WHENEVER WORKING INSIDE THE ACTUATOR, CARE MUST BE TAKEN TO AVOID DAMAGE TO THE MACHINED FLANGE SURFACES ON THE COVER AND BASE CASTINGS. FAILURE TO DO SO CAN VOID THE ACTUATOR'S ENVIRONMENTAL CERTIFICATION

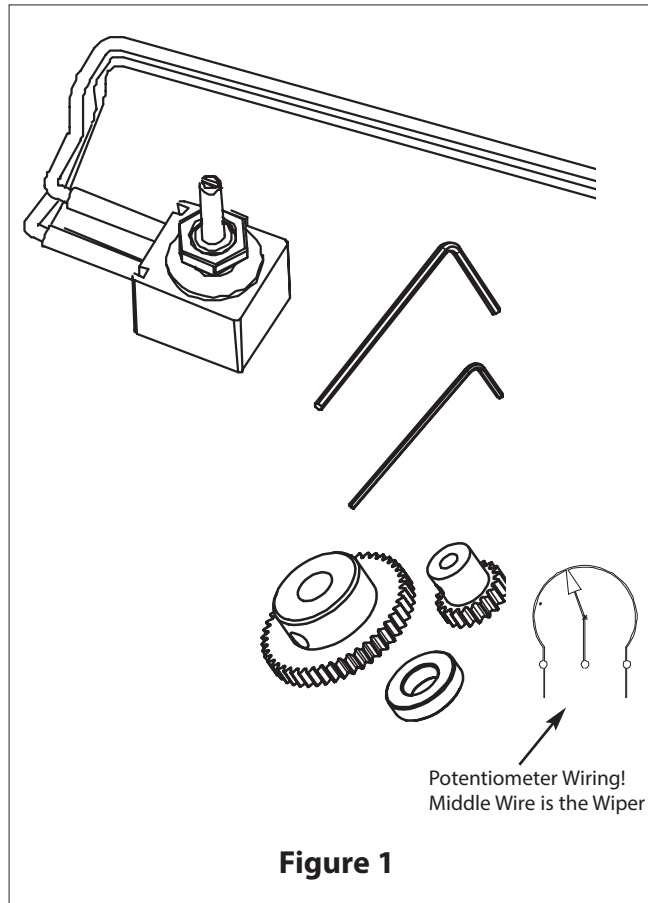
WARNING:

USE CARE WHENEVER WORKING WITH THE ACTUATOR COVER REMOVED, DAMAGE, SCRATCHES, OR DENTS ON THE MACHINED FLANGE SURFACES OF THE ENCLOSURE MAY VOID COMPLIANCE WITH NEMA, CSA, UL, AND/OR IEC SPECIFICATIONS.

2.3 INSTALLATION INSTRUCTIONS

1. Remove cover.
2. Remove 1/2" locking nut from potentiometer (Pot) shaft and insert Pot shaft up through either 3/8" hole in upper support bracket. Align locking tab and tighten the locking nut on pot shaft to secure the pot to the bracket.
3. Using spacers under the cam shaft gear to attain proper alignment, place small (20-tooth) gear on Pot shaft and tighten setscrew. Then place large (60-tooth) gear on cam shaft. Properly positioned, gears should mesh evenly. Cam shaft must extend 1/8" min. above gear in order to engage position indicator.
4. Connect an OHM meter to the potentiometer leads to synchronize desired potentiometer position to the desired actuator position. Tighten cam shaft gear set screw.
5. Shorten the potentiometer leads as desired, and wire to the 12-position terminal block per Table 2.

Table 2		
Recommended Connections for Optional Feedback Potentiometer		
Pot Lead	Color	Terminal
CCW	Red	7
Wiper	Black	8
CW	Green	9



2.4 PROPER ACTUATOR COVER REPLACEMENT

NOTE: For actuators including hazardous location certification. Prior to installing cover, inspect machined flange surfaces for any damage, scratches, or dents. Damage, scratches, or dents that will not fit completely in a circle having a diameter of 1/64" will void hazardous location certifications. If such imperfections are present the damaged enclosure parts(s) must be replaced. See product series IMO for captive cover screw specifications. Consult the factory for replacement parts.

1. Remove the override shaft from the actuator cover bushing; if the actuator is equipped with a handwheel, remove the handwheel before removing the top piece of the "two-piece" shaft from the cover bushing.
2. Install the override shaft on the square motor shaft; if the actuator is equipped with a handwheel, install the bottom piece of the "two-piece" shaft on the motor shaft and then install the top piece of the shaft onto the bottom piece of the shaft.
3. Align cover so that the override shaft will pass through the override bushing and carefully push it down so that the cover flange contacts the base flange.
4. Once the cover is properly seated, tighten the screws to secure the cover; a cross pattern is recommended for uniform distribution of load.
5. If the position indicator is not seated to the output/cam shaft, turn until it drops into place in order to ensure accurate visual position indication.

3. OPERATION

Geared directly to the actuator final output drive, the potentiometer resistance produces a change in an externally supplied voltage that is variable and proportional to the rotation of the output shaft of the actuator.

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