

DVC6200 or DVC2000 Digital Valve Controller on 657 and 667, Size 80 Actuators (up to 2 inch travel)

Mounting Instructions

D103445X012
May 2010

Use these instructions to mount a Fisher® FIELDVUE™ DVC6200 or DVC2000 digital valve controller on Fisher 657 and 667, Size 80 actuators with up to 2 inch travel.

WARNING

Avoid personal injury or property damage from sudden release of process pressure or bursting of parts. Before performing any maintenance operations:

- **Always wear protective clothing, gloves, and eyewear.**
- **Do not remove the actuator from the valve while the valve is still pressurized.**
- **Disconnect any operating lines providing air pressure, electric power, or a control signal to the actuator. Be sure the actuator cannot suddenly open or close the control valve.**
- **Use bypass valves or completely shut off the process to isolate the control valve from process pressure. Relieve process pressure from both sides of the control valve.**
- **Vent the pneumatic actuator loading pressure and relieve any actuator spring precompression.**
- **Use lock-out procedures to be sure that the above measures stay in effect while you work on the equipment.**
- **Check with your process or safety engineer for any additional measures that must be taken to protect against process media.**

Refer to figure 2 for mounting parts identification. Refer to the DVC6200 or the DVC2000 digital valve controller instruction manual for digital controller parts identification. Refer to the appropriate actuator instruction manual for actuator installation, operation, maintenance, and parts identification.

1. Isolate the control valve from the process line pressure and release pressure from both sides of the valve body. Shut off all pressure lines to the actuator, releasing all pressure from the actuator. Use lock-out procedures to be sure that the above measures stay in effect while you work on the equipment.

WARNING

To avoid personal injury due to the sudden, uncontrolled movement of parts, do not loosen the stem connector cap screws when the stem connector has spring force applied to it.

2. During the attachment of the connector arm (key 6) to the valve stem connector it will be necessary to loosen the stem connector cap screws. Consult the appropriate actuator instruction manual for proper actuator disassembly and reassembly. Install the connector arm (key 6) when reassembling the valve stem actuator.
3. Attach the mounting bracket assembly (key 1) to the yoke using the two socket head screws (key 2) and tighten.
4. Push the cap screws and the O-ring in mounting bracket groove and then attach the black plastic alignment template to the mounting bracket by inserting the two protruding posts into the mounting holes in the bracket
5. Attach the extension arm (key 4) to the connector arm using two pan head machine screws (key 5) but do not tighten. Extension arm orientation and slot selection depend on actuator size and must be determined by the user based on position of the alignment template.
6. Attach the magnet assembly (key 3) to the extension arm (the magnet assembly can be inverted 180° without effect) with two pan head machine screws (key 5) and simultaneously position the magnet assembly so that it can slide into the channel in the alignment template. The magnet assembly should be fully in the alignment template channel so that the extension arm is contacting the back of the alignment template but not bending it. Tighten pan head machine screws (key 5) attaching the extension arm to the connector arm but do not yet tighten the pan head machine screws attaching the magnet assembly.
7. For an air-to-extend actuator, slide the magnet assembly (key 3) so that the bottom marking on the array aligns with the sensor index mark on the alignment template (see figure 1). The magnet assembly's top marking is used for air-to-retract. The extension arm may require vertical repositioning to get the magnet array in the correct location. When the magnet assembly is properly positioned, remove the alignment template and tighten the two pan head machine screws (key 5).



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8. Attach the digital valve controller to the mounting bracket and tighten the three hex head cap screws (key 1b).

9. Check the position of the magnet assembly (key 3) in the channel of the digital valve controller housing and ensure that it is visually centered between the channel walls and has adequate clearance with the backside of the channel (approximately 3 mm).

10. Calibrate the digital valve controller as described in the instruction manual or quick start guide.

For additional information concerning the mounting, setup, calibration and maintenance of the DVC6200 or DVC2000 digital valve controller, refer to the appropriate instruction manual.

Note

Neither Emerson, Emerson Process Management, nor any of their affiliated entities assumes responsibility for the selection, use or maintenance of any product. Responsibility for the selection, use and maintenance of any product remains with the purchaser and end user.

FIGURE SHOWS MAGNET ASSEMBLY MARKING ALIGNED WITH SENSOR INDEX MARK FOR AIR-TO-EXTEND

ASSEMBLY MARKING

NOTE:
DURING THE COMPLETE STROKE OF THE ACTUATOR, AT ANY PARTICULAR POSITION, THE DIGITAL VALVE CONTROLLER HALL SENSOR MUST REMAIN WITHIN THE MARKING SHOWN ON THE MAGNET ASSEMBLY

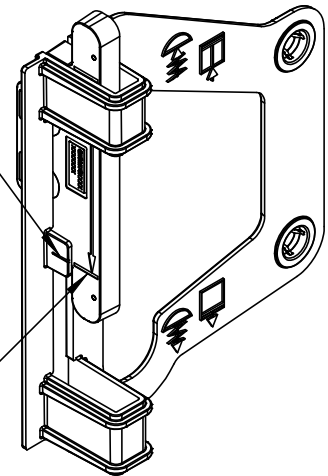
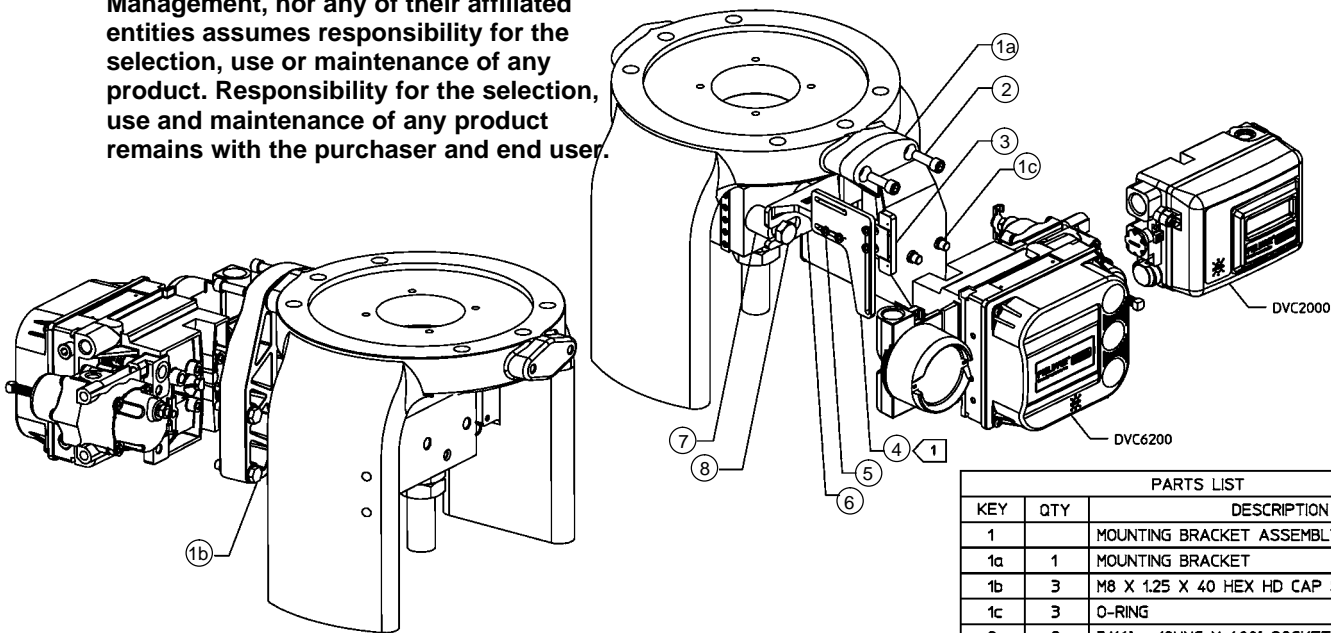


Figure 1. Alignment Template



1 USER TO SELECT ORIENTATION AND SLOT BASED ON ACTUATOR REQUIREMENT.

GG06217

Figure 2. Mounting Parts Identification; Up to 2 Inch Travel

PARTS LIST		
KEY	QTY	DESCRIPTION
1		MOUNTING BRACKET ASSEMBLY
1a	1	MOUNTING BRACKET
1b	3	M8 X 1.25 X 40 HEX HD CAP SCREW
1c	3	O-RING
2	2	5/16" - 18UNC X 1.00" SOCKET HD SCREWS
3	1	MAGNET ASSEMBLY
4	1	EXTENSION ARM
5	4	M4 X 0.7 X 10 PAN HD MACHINE SCREW
6	1	CONNECTOR ARM
7	2	SPACERS
8	2	1/2-13X3.5 HEX HD CAP SCREW
---	1	ALIGNMENT TEMPLATE

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