

Mounting Instructions

D103457X012
May 2010

DVC6200 or DVC2000 Digital Valve Controller on a GX Control Valve and Actuator System

Use these instructions to mount a Fisher® FIELDVUE™ DVC6200 or DVC2000 digital valve controller on a Fisher GX control valve and actuator system.

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 when performing any maintenance procedures to avoid personal injury.**
- **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 and the parts list for mounting parts identification. Refer to the DVC6200 or the DVC2000 digital valve controller instruction manual for digital controller parts identification. Refer to GX Control Valve and Actuator System Instruction Manual (D103175X012) 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.
2. Identify the yoke side to mount the digital valve controller based on the actuator fail mode. Refer to the GX instruction manual. If the actuator is configured for Fail-Open (Air-to-Close) operation, a vent must be installed in the lower diaphragm casing's supply connection on the actuator yoke leg. If the actuator is configured for Fail-Closed (Air-to-Open) operation, a vent must be installed in the port on the upper diaphragm casing.
3. Ensure the actuator/valve stem connector mounting face is visually square with the actuator yoke legs. Attach the connector arm (key 7) to the stem connector using the two hex head cap screws (key 5) and plain washers (key 6) but do not tighten (see figure 2).
4. Attach the magnet assembly (key 2) to the connector arm with the two pan head machine screws (key 1) and tighten (the magnet assembly can be inverted 180° without effect).
5. Attach the black plastic alignment template (see figure 1) to the GX yoke by inserting the two protruding posts into the two threaded mounting holes in the yoke and simultaneously positioning 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 stainless steel connector arm is contacting the back of the alignment template but not bending it. When the magnet assembly is properly positioned, remove the alignment template and tighten the hex head cap screws at the stem connector.
6. Remove or install the appropriate plugs or O-rings for the digital valve controller based on the actuator fail mode.
7. Attach the GX label (key 3) to the digital valve controller cover as shown in figure 2.
8. Confirm that the insulating gasket and seal are pre-installed on the digital valve controller. Continue on with step 9 if mounting a DVC6200 and step 10 if mounting a DVC2000.
9. **If installing a DVC6200** refer to figure 3. Remove the vent from below the terminal box and continue with the steps listed below.



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a. Insert the two low-head hex socket bolts (key 8) in the two tapped holes in the right yoke leg, leaving approximately 12–15 mm of space between the screw head and yoke (4–6 threads of bolt). Refer to view 3.1 of figure 3.

b. Hold the instrument at a slight angle to the actuator with the right side mounting slots under the two pre-installed screws and rotate the instrument so that it is flush with the actuator yoke, see view 3.2 and 3.3 of figure 3. Install the third hex socket bolt (key 8) as shown in view 3.4 and tighten all three bolts equally using an appropriate Allen key.

c. Reinstall the vent below the terminal box as shown in view 3.4 of figure 3.

d. Attach the 67CFR regulator to the DVC6200. Continue on with step 11.

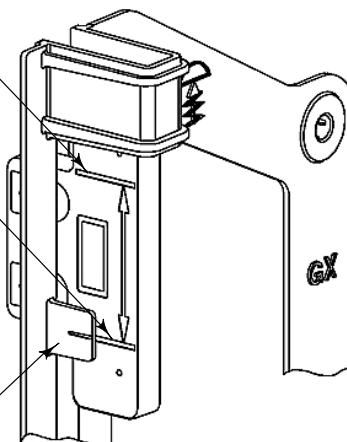
10. **If installing a DVC2000** remove the digital valve controller cover. Position the DVC2000 on the GX yoke and tighten the three captive hex socket bolts in the DVC2000. Continue on with step 11.

11. Check the position of the magnet assembly 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). Ensure the feedback arm is positioned so that the index mark on the pole pieces (back of positioner housing) is between the marks on the magnet assembly during the range of travel.

ALIGN WITH TOP SENSOR
INDEX MARK FOR AIR-TO-
RETRACT ACTUATOR

ASSEMBLY MARKING

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



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

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

For additional information concerning the mounting, setup, calibration and maintenance of the DVC6200 or the DVC2000 digital valve controller, refer to the appropriate instruction manual and the GX Control Valve and Actuator System Instruction Manual (D103175X012).

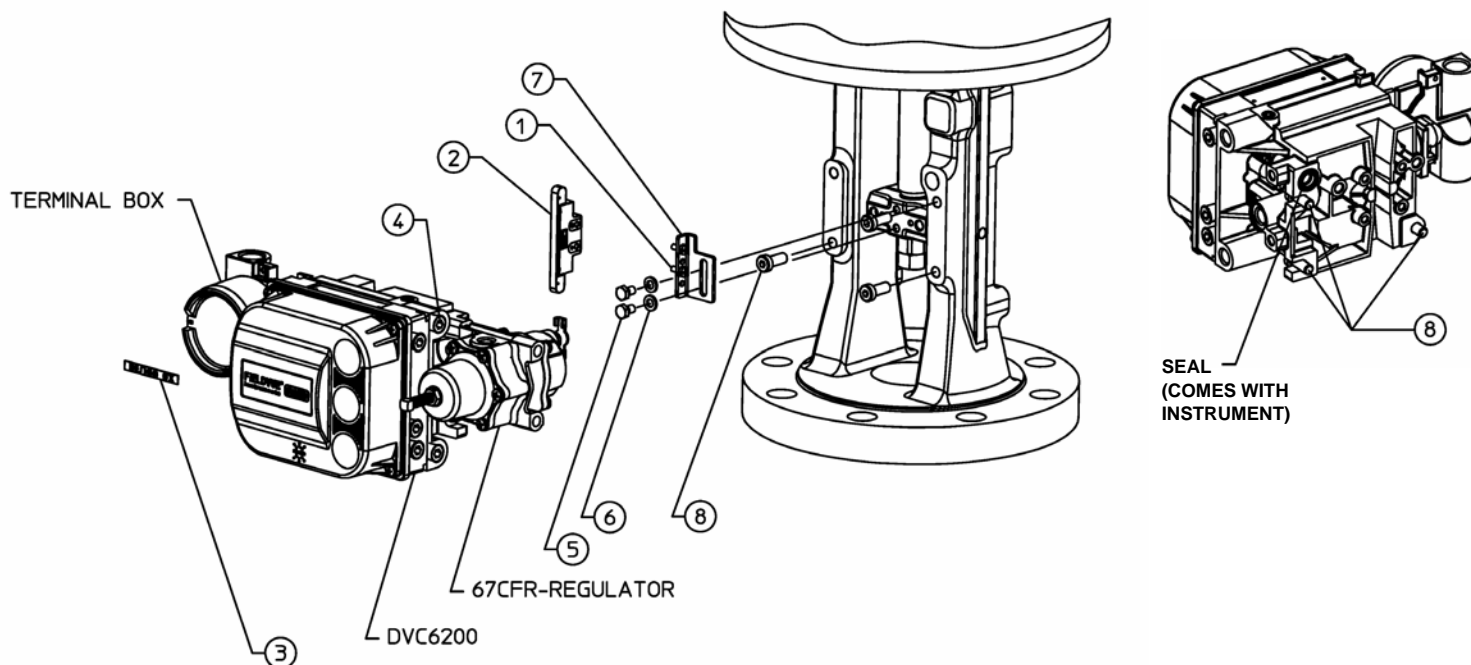
Note

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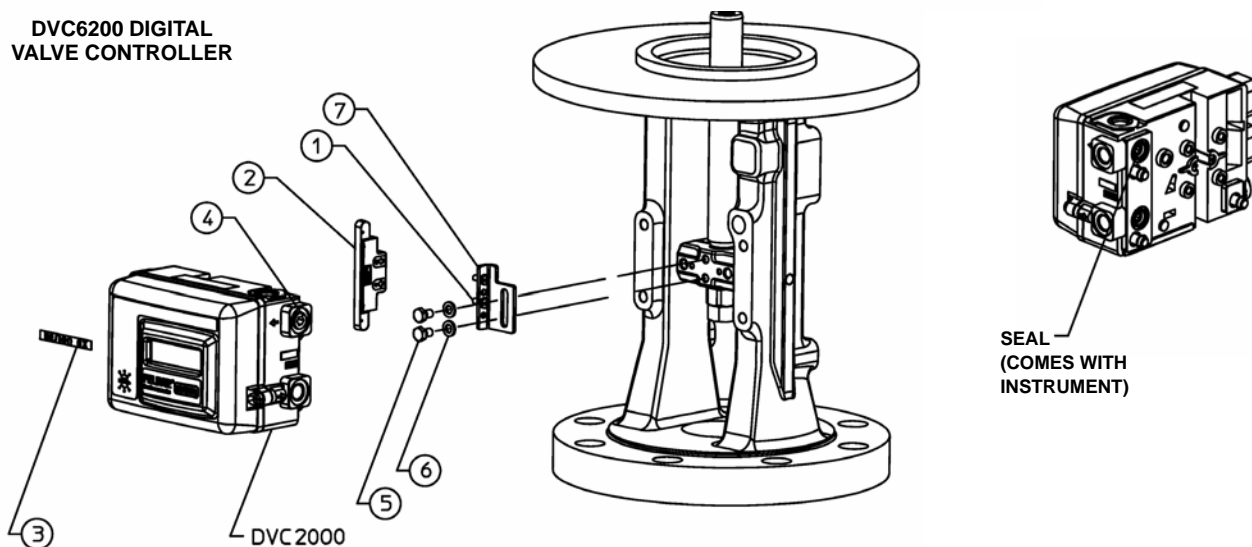
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DVC6200 DIGITAL VALVE CONTROLLER



DVC2000 DIGITAL VALVE CONTROLLER

PARTS LISTS		
KEY	QTY	DESCRIPTION
1	2	M4X0.7X10 PAN HEAD MACHINE SCREW
2	1	MAGNET ASSEMBLY
3	1	GX LABEL
4	1	PLUG PIPE HEX SOCKET
5	2	M6X1X10 HEX HEAD CAP SCREW
6	2	M6 PLAIN WASHER
7	1	CONNECTOR ARM
8	3	M8X1.25X20 HEX SOCKET CAP SCREW-LOW HEAD
-	1	ALIGNMENT TEMPLATE

NOTE : DVC2000 HAS CAPTIVE MOUNTING BOLTS.

GG03859

Figure 2. Mounting Parts Identification—FIELDVUE DVC6200 or DVC2000 Installed on GX Actuator

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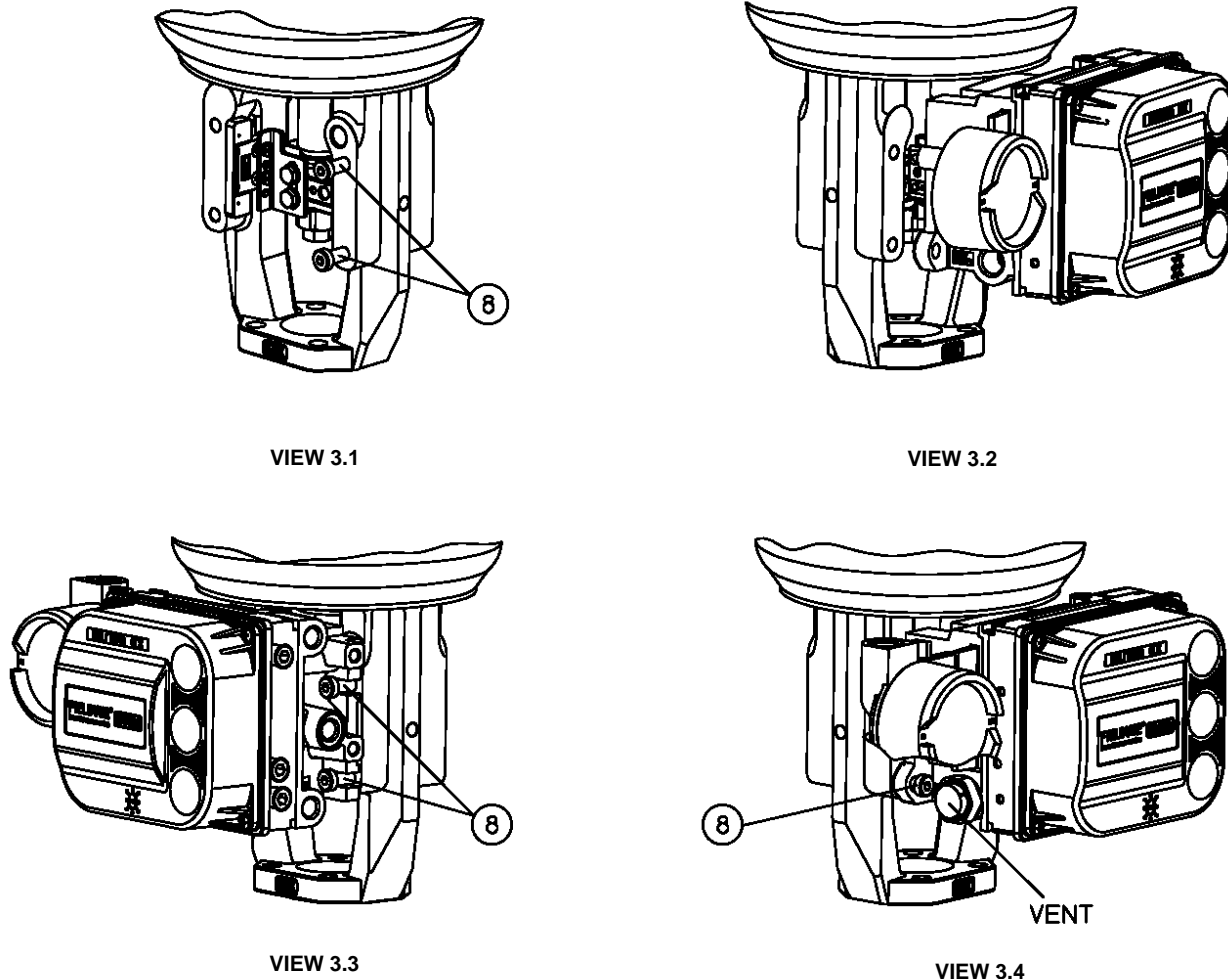


Figure 3. Installation Procedure for FIELDVUE DVC6200 on GX Actuator

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