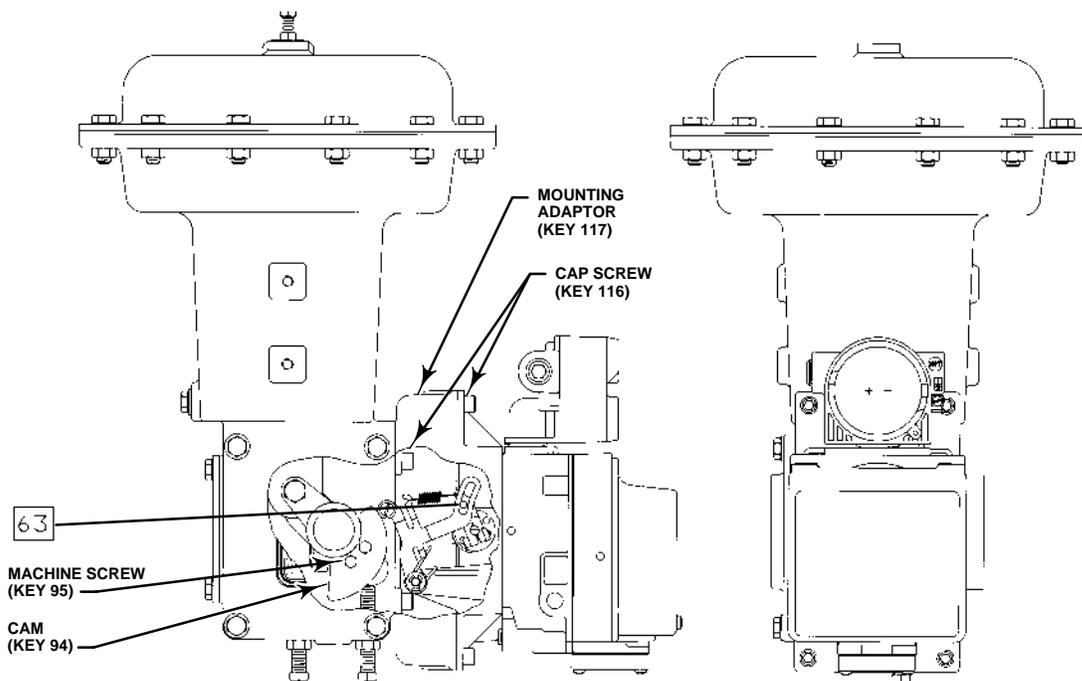


Mounting Type DVC5020 or DVC6020 Digital Valve Controllers on Fisher Type 1051 and 1052

Installation Instructions

November 2004



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Figure 1. Type DVC5020 or DVC6020 Digital Valve Controller Mounted on Type 1052 Size 33 Actuator

Use these instructions to mount a FIELDVUE® Type DVC5020 or DVC6020 digital valve controller on Fisher Type 1051 and 1052 actuators.

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 and eyewear.
- 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 valve.

- Use bypass valves or completely shut off the process to isolate the valve from process pressure. Relieve process pressure from both sides of the valve. Drain the process media from both sides of the 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 safety measures that must be taken to protect against process media.



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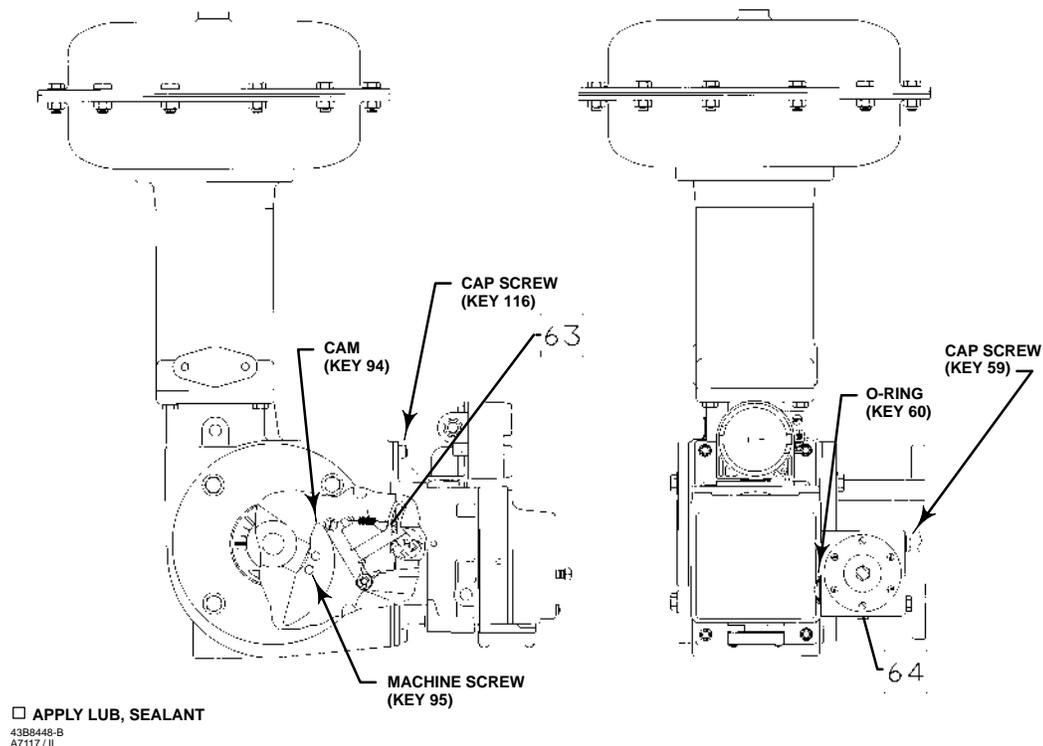


Figure 2. Type DVC5020 or DVC6020 Digital Valve Controller with Integrally Mounted Filter Regulator Mounted on Type 1051 Size 40 Actuator

Unless otherwise noted, refer to figure 1 or 2 for key number locations.

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

Note

Go to step 12 if the actuator already has the cam (key 94) installed.

2. Mark the positions of the travel indicator and actuator cover. Then, remove the actuator travel indicator machine screws, travel indicator, and actuator cover cap screws.
3. Remove the cover plate from the actuator housing.

Note

For information on the various actuator mounting styles and positions, see figure 3. Also refer to the appropriate actuator instruction manual.

4. See figure 3. For actuator mounting styles A and D, proceed to the note before step 8. For actuator mounting styles B and C, continue with step 5.
5. Disconnect the actuator turnbuckle from the lever arm.

Note

Do not change the position of the rod end bearing on the end of the turnbuckle.

6. Loosen the lever clamping bolt in the lever.
7. Mark the lever/valve shaft orientation, and remove the lever.

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MOUNTING	ACTION ⁽¹⁾	VALVE SERIES OR DESIGN				VALVE SERIES OR DESIGN		
		BALL/PLUG ROTATION TO CLOSE	V250	V150, V200 & V300	CV500 V500	DISK/BALL ROTATION TO CLOSE	V250	8510B, 8532, 8560 & 9500
Right-Hand	PDTC	CCW	A	A	A	CW	NA	B
	PDTO	CCW	B	B	B	CW	NA	A
Left-Hand	PDTC	CCW	NA	D	D	CW	C	C
	PDTO	CCW	NA	C	C	CW	D	D
Left-Hand (Optional) ⁽²⁾	PDTC	CW	NA	C	NA	NA	NA	NA
	PDTO	CW	NA	D	NA	NA	NA	NA

1. PDTC—Push-down-to-close, and PDTO—Push-down-to-open.
2. A left hand ball will be required for the 3- through 12-inch Series B and the 14- to 20-inch, with or without attenuator.

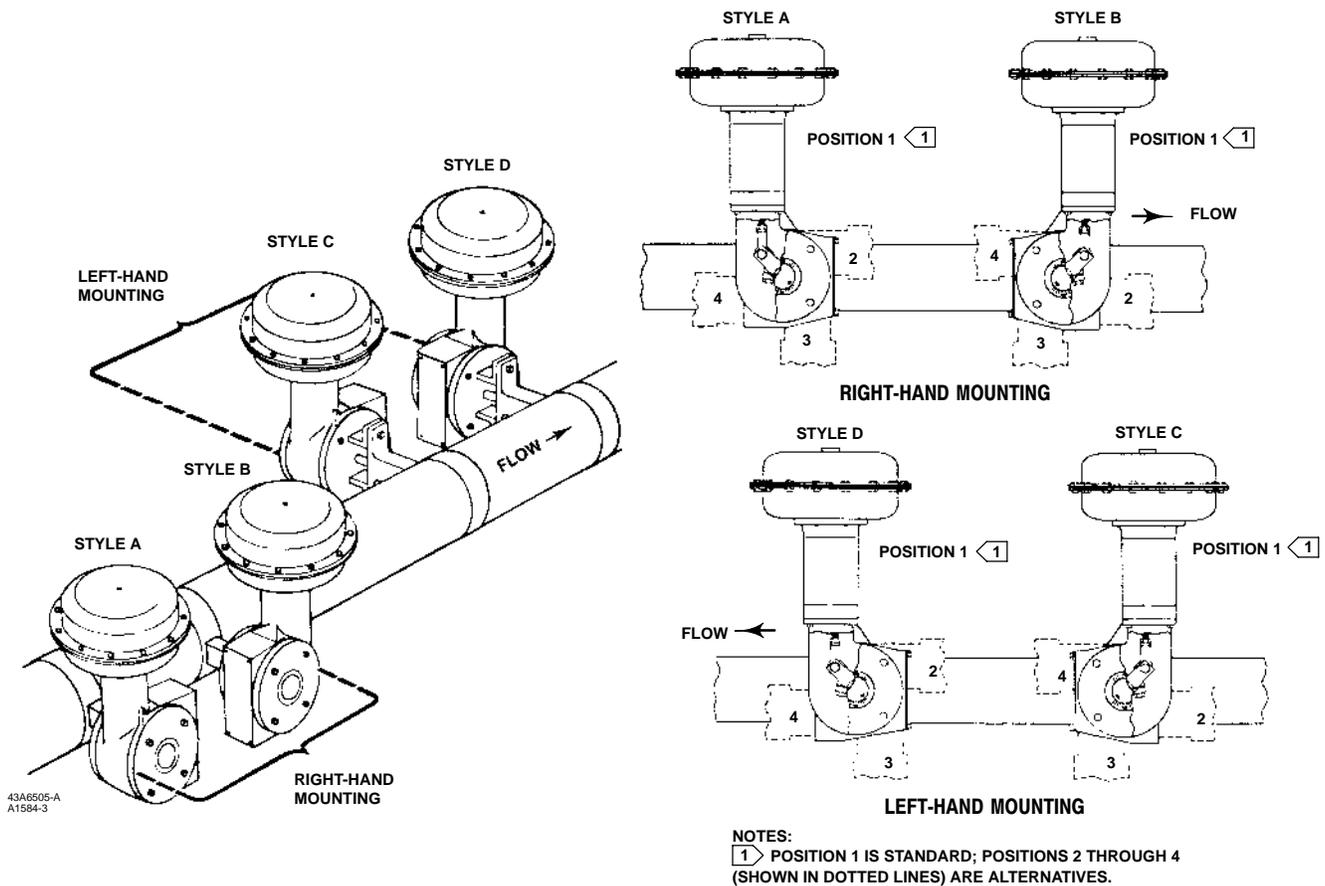


Figure 3. Mounting Styles and Positions for the Type 1051 and 1052 Actuator

Note

The cam has the letter D (direct acting) on one side and the letter R (reverse acting) on the other side. Always install the cam with the letter D on the same side as the cam mounting screw heads (key 95).

8. Install the cam (key 94) on the actuator lever with the cam mounting screws (key 95).
9. For actuator styles A and D, proceed to step 12. For actuator styles B and C, continue with step 10.
10. Slide the lever/cam assembly (cam side first) onto the valve shaft. Orient the lever with the shaft as noted in step 7, and tighten the lever clamping bolt.

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Note

Refer to the appropriate actuator instruction manual to determine the distance required between the housing face and the lever face and to determine the proper tightening torque for the lever clamping bolt.

11. Connect the turnbuckle and the lever arm.
12. **For Type 1051 size 33 and 1052 size 20 and 33 actuators**, attach an adaptor (key 117) to the actuator with four screws (key 116). Then attach the digital valve controller assembly to the adaptor. The roller on the digital valve controller feedback arm will contact the actuator cam as it is being attached. Install and tighten four screws (key 116).
- For other size 1051 and 1052 actuators**, attach the digital valve controller assembly to the front access opening of the actuator. The roller on the digital valve controller feedback arm will contact the actuator cam as it is being attached. Install and tighten four screws (key 116).
13. Replace the actuator cover and the travel indicator in the positions that were marked in step 2.

Note

Actuator cover alignment on the Type 1052 actuator can be aided by moving the actuator slightly away from its up travel stop using a regulated air source. If hole alignment cannot be obtained in this manner, temporarily loosen the cap screws that secure the housing to the mounting yoke, and shift the housing slightly.

CAUTION

To avoid parts damage, do not completely stroke the actuator while the cover is removed.

WARNING

To avoid personal injury from moving parts, keep fingers and tools clear while stroking the actuator with the cover removed.

For additional information concerning mounting, setup, calibration and maintenance, refer to the FIELDVUE DVC5000 Series Digital Valve Controllers Instruction Manual - Form 5335 for DVC5010 digital controllers, and the FIELDVUE DVC6000 Series Digital Valve Controllers Instruction Manual - Form 5647 for DVC6010 digital valve controllers.

Note

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