



INSTALLATION & SERVICE INSTRUCTION MANUAL
W.A. KATES FLOW CONTROLLERS
MINI-FLO MODELS 25FB, 25FH, 25FS & 25FZ

IMPORTANT

1. W. A. Kates flow rate controllers are designed to accurately regulate flows and are precision built with exacting tolerances and finishes. To insure satisfactory performance, the regulated fluid must be clean and free of dirt and/or solids. The installation of a filter is recommended, just upstream of the controller.

MODEL	STRAINER	FILTER
25FB, 25FH, 25FS, 25FZ	1600 Mesh	14 Micron

2. Equally important: When disassembling, servicing, or cleaning the controller, the internal parts must be handled with care to prevent damaging the surface finish in any way.
3. Operation of W. A. Kates flow rate controller supplied by a positive displacement pump will be satisfactory only if a pressure-relieving valve is connected between the pump and the controller to bypass excess fluid back to the fluid source, or to the intake of the pump.

INSTALLATION

1. W. A. Kates flow rate controllers are shipped fully assembled, ready for operation, with all parts in place. It is completely self-contained, requires no outside source of power, no straight piping runs, and is as simple to install as an ordinary ball valve.
2. Upstream and downstream shutoff valves and a bypass valve should be installed so that the controller may be opened for inspection and cleaning without requiring complete system shutdown.(See figure 1)
3. Before installing the controller, be sure to flush out the piping system to remove any foreign material such as dirt, scale, chips, etc.
4. The controller should be installed at a point in the pipe where it will be completely filled with fluid under all conditions of operation. On threaded connections, apply pipe thread compound sparingly to male threads only, so that surplus will not get inside the controller and cause “sticking” or prevent operation

START UP PROCEDURE

1. Place the controller “on stream” by opening upstream and downstream shutoff valves and slowly closing the bypass valve around the controller. The controller will now regulate the flow rate at the set value.
2. When normal fluid temperature is above room temperature, especially with viscous fluid, there may be a “warming up” period until the controller reaches the same temperature as the fluid. During this warming up period, the controller may be somewhat sluggish in action. If desired, this warming up period may be eliminated by the use of a heating coil or jacket.

SERVICE INSTRUCTIONS

W. A. Kates flow rate controllers have only one moving element, and are designed so that there are no complex linkages, delicate bearings, or any failure-prone components. Therefore, occasional cleaning may be the only servicing the controller will require.

CAUTION: Make sure that the controller is relieved of pressure before attempting to service or clean.

TO CLEAN CONTROLLER:

1. It is necessary to remove the controller from the line to clean. If installation includes proper shutoff and bypass valves, operate these and take the controller off stream or control. (See figure 1)
2. Arrange a clean area where internal trim parts can be placed and kept free of lint or grit.
3. Do not remove the adjuster from the body. If the adjuster is moved rotationally, then the flow rate will be altered from the factory set point.
4. Remove bonnet bolts (or knurled nut), lift bonnet straight up, and place in the clean area.
5. Carefully tip body upside down so that the piston and spring slide out, and place both in the clean area.
6. Remove the Quad-ring and inspect for damage. Replace if necessary and place in the clean area.
7. Remove the cylinder and place in the clean area.
8. Thoroughly clean all the parts which have been removed from the controller by immersing them in a suitable solvent. Thoroughly clean and flush inside of the controller body with solvent and drain. Because of the closely fitted parts, it is very important that all parts and surfaces, including valve ports, be completely clean. Any dirt, sediment coating, or gummy residue must be completely removed. Wipe all parts and surfaces dry with a clean, lint-free cloth. *CAUTION:* In all cleaning operations, be very careful not to scratch, nick, or mark any surfaces or edges.
9. Insert the cylinder, spring and piston.

10. Push the piston down inside the cylinder to check if the parts move freely. If the parts do not move freely, repeat the cleaning then continue. If the parts for not move freely after several cleanings, a replacement controller may be required.
11. Replace the Quad-ring, bonnet, and bonnet bolts (or knurled nut) and retighten (for the 25FB and 25FS, tighten bolts to 5 in-lbs). Reinstall controller in system and place in service by following steps the "Start Up Procedure".

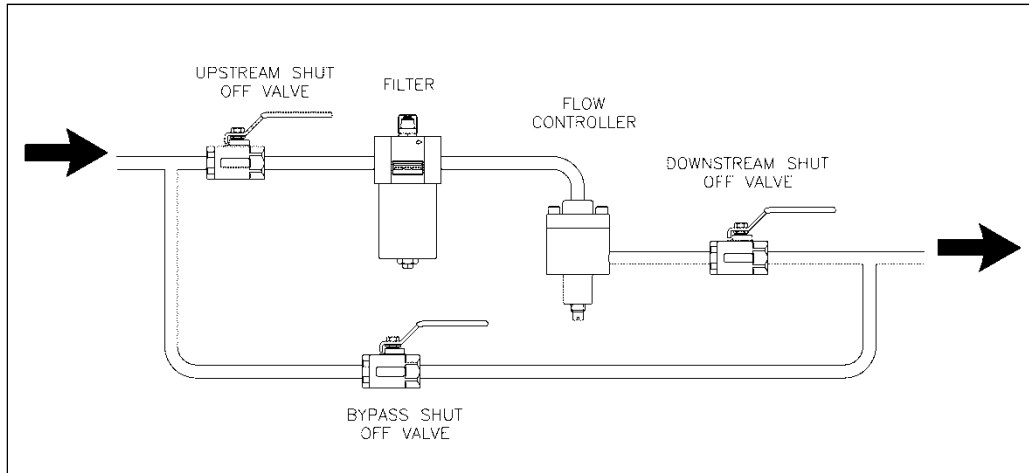


Figure 1

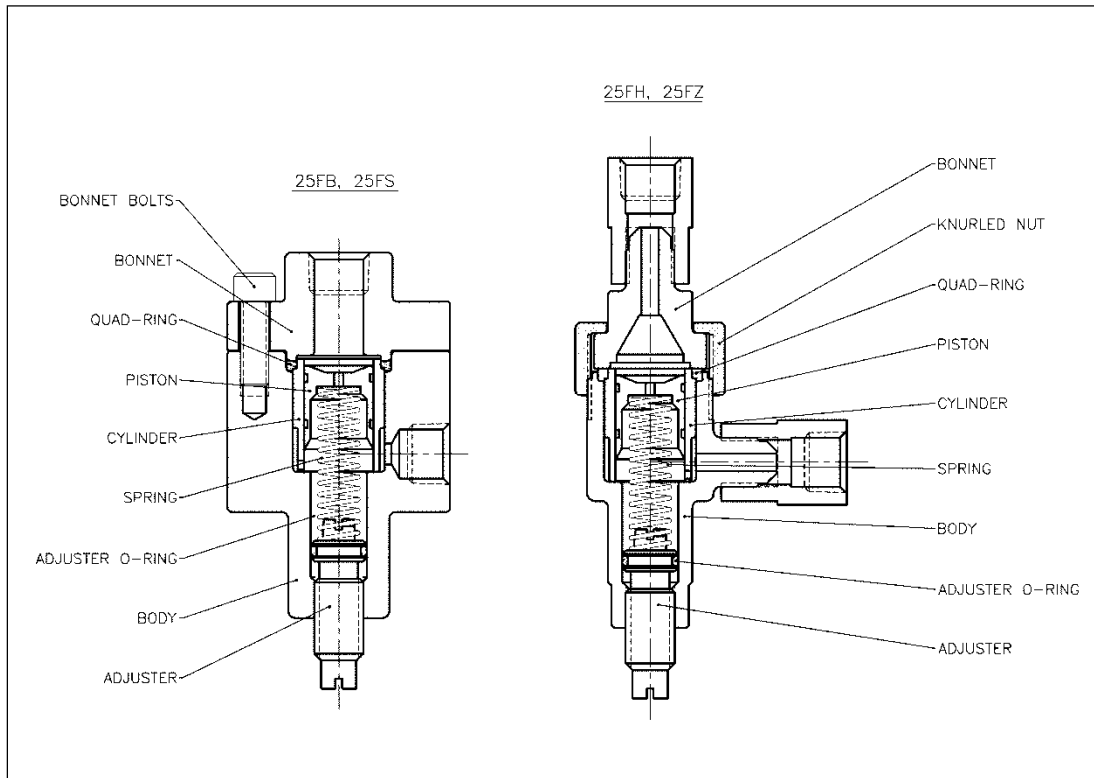


Figure 2

LIMITED PRODUCT WARRANTY

Custom Valve Concepts guarantees every product manufactured to be inspected and free from defects in workmanship or material when shipped from its factory. No warranty of corrosion resistance of any parts or assembly is expressed or implied.

This guarantee is valid for one year from the date of shipment from its plant. Within that time, Custom Valve Concepts will replace free of charge any product returned with shipping charges prepaid, found to have been defective at the time of shipment.

This warranty does not apply to; a) damage resulting from misuse or improper handling; or b) damage resulting from continued use after defect is apparent; or c) any other damage, loss or liability; or d) any product that has been changed or modified or altered in any way after it leaves the factory; or e) damage resulting from inadequate filtration or particle contamination; or f) damage resulting from corrosion due to improperly specified materials (i.e.; corrosion resistance).

The liability of Custom Valve Concepts shall be limited to the replacement, F.O.B. our factory, of any product found to have been defective at the time of shipment with duplicate or similar product of equal performance rating, but such liability shall in no event exceed the contract price for said product.



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