

Operating Instructions

Model 7750E-075

Motorized Valve Liquid End

1.0 DESCRIPTION

Model 7750E-075 is a stainless steel motorized two-position, six-port sample injector. Figure 1 shows the flow diagram of the valve. The small circles represent the ports in the stator and stator face assembly. The dark grooves are the connecting passages in the rotor seal. The valve rotates 60° between each of the two positions.

2.0 SPECIFICATIONS

- Maximum Operating Pressure: 34 MPa (345 bar, 5000 psi)
- Maximum Operating Temperature: 50°C
- Flow Passage Diameters: 0.4 mm (0.015") and 0.5 mm (0.018")
- Wetted Surfaces: stainless steel, PEEK, ceramic, and an inert polymer
- Five of the six ports accept 10-32 male threaded fittings. The vertical port is a flat bottom port and requires a special 10-32 fitting.
- Motor: spark-free size 17 stepper motor
- Power Requirements: rated at 4 volts, 1.2 amps
- Position Sensor: mechanical position sensing microswitches

3.0 IMPORTANT USE AND SAFETY NOTICES

3.1 Caution: Rinse the valve after using buffer solutions to prevent the formation of crystals that scratch the sealing surfaces.

3.2 Caution: Do not overtighten fittings in the stator ports.

4.0 OPERATION

The six-port valve switches between two positions, LOAD and INJECT. Figure 1 shows the flow diagram of the valve in both positions. Connect the sample loop between Ports 2 and 5, the column to Port 3, the pump to Port 4, the needle port to Port 1, and the waste line to Port 6. Leave the column disconnected from the valve during initial flushing.

5.0 MAINTENANCE

The only parts that may need eventual replacement are the rotor seal and stator face assembly. The main cause of early failure, seen as a leak, is abrasive particles in the sample and/or mobile phase or crystallization of buffer solutions. Either can scratch the sealing surfaces.

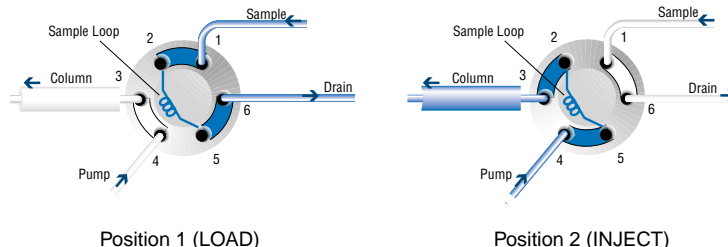


Fig. 1. Flow diagram of 7750E-075. Numbered circles represent valve ports. The grooves represent internal connecting passages.

5.1 DISASSEMBLY

To disassemble the valve, refer to Figure 2 and proceed as follows:

- Remove the stator screws located in the stator.
- Remove the stator, stator face assembly, and stator ring from the body. The stator face assembly usually remains on the stator.
- Remove the rotor seal off the pins.
- Remove the isolation seal.

5.2 REASSEMBLY

To reassemble the valve, refer to Figure 2 and proceed as follows:

- Slip on the new isolation seal with the open end facing the body.
- Mount the new rotor seal onto the pins with the grooves facing the stator. The three pins on the shaft assembly fit into the mating holes in the rotor seal only one way.
- Replace the stator ring so that the two short pins on the ring enter the mating holes in the body.
- Put the stator face assembly on the stator. The three pins on the assembly fit into the mating holes in the stator only one way.
- Replace the stator and stator face assembly on the valve so that the pin in the stator ring enters the mating hole in the stator.
- Replace the stator screws. Tighten each screw a 1/2 turn past fingertight.

6.0 OPERATING SUGGESTIONS AND TROUBLESHOOTING

6.1 LEAKAGE

If you see liquid between the stator and stator ring, replace the rotor seal and stator face assembly as described in Section 5.0. Before replacing parts, confirm that the valve's maximum pressure has not been exceeded.

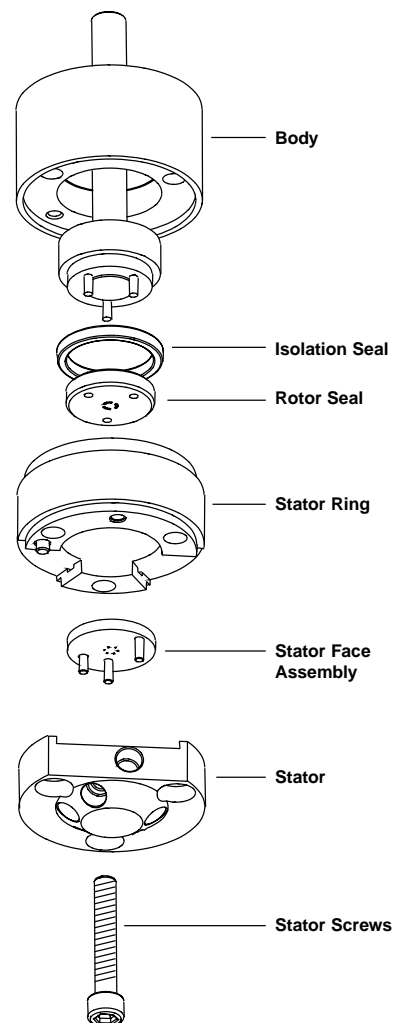


Fig. 2. Exploded view of Model 7750E-075.

6.2 USE OF AQUEOUS BUFFERS OR SALT SOLUTIONS.

To prevent the formation of salt crystals in the valve that can scratch the rotor seal, flush out the flow passages with water after using salt solutions.

7.0 RECOMMENDED SPARE PARTS

Rheodyne offers a RheBuild™ Kit for Model 7750E-075. The kit includes all the necessary parts, tools, and instructions to maintain the quality performance of your valve.

7750-999 RheBuild Kit for 7750E-075

8.0 WARRANTY

All Rheodyne products are warranted against defects in materials and workmanship for a period of one year following the date of shipment by Rheodyne. Rheodyne will repair or replace any Rheodyne product that fails during the warranty period due to a defect in materials or workmanship at no charge to the customer. The product must be returned to Rheodyne's factory in original packaging or equivalent, transportation prepaid. Damage occurring in transit is not covered by the warranty. This limited warranty is Rheodyne's sole warranty of its products, and all other warranties of merchantability or fitness for any particular purpose are hereby disclaimed. Under no circumstances will Rheodyne be liable for any consequential or incidental damages attributable to a claimed failure of a Rheodyne product, even if Rheodyne has been placed on notice of possibility of such damages.

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