

Instructions

Valve Replacement & Rebuild

Replacing Valves

Always replace valves in a clean area to prevent dust and dirt from entering the pump.

Removal of Existing Valves

The valves are the two hexagon-shaped components on the liquid end assembly (see Figure 1). Inlet valves can be distinguished from outlet valves by the groove on the hexagonal part of the valve. To prevent the internal components of the valve from falling out upon removal keep the pump in its normal position when removing the inlet valve and turn the pump upside down when removing the outlet valve (CAUTION: where appropriate, be sure to plug the oil hole on the top of motor gearbox before turning the pump upside down). Remove the valves with a 1/2" wrench, turning in a counter-clockwise direction. After removal, be careful to keep the valve oriented so the translucent washers face upwards. If you wish to rebuild the valve, you may purchase valve rebuild kits.

Installation Of New Valves

1. Inlet valves can be distinguished from outlet valves by the groove on the hexagonal part of the valve.
2. Unscrew the shipping nut and remove the metal shipping washer, as these are not used for installation of the valves.
3. Insert the new valve into the liquid end assembly and tighten by hand until just finger-tight. Then use a 1/2" wrench and tighten 1/4 turn more. You should tighten valves to the point at which no further leakage occurs, or not more than 4.5 ft./lbs.

OVER TIGHTENING THE VALVES CAN CAUSE THE SAPPHIRE SEATS TO CRACK.

STABILIZE THE VALVE WITH A 1/2" WRENCH WHEN ATTACHING YOUR FITTINGS TO PREVENT FURTHER VALVE TIGHTENING. DO NOT TIGHTEN FITTINGS TO BEYOND 40 IN/LBS., OR THE POINT WHERE NO FURTHER LEAKAGE OCCURS.

Replacing Valves

1. Remove the valve from the cylinder (see detailed instructions).
2. Insert the smaller dowel pin provided (1-1/4" long by 1/8" diameter) into the hexagonal end of the valve and press out the internal components of the valve assembly using a steady pressure (you will need a 1/16" dowel pin when disassembling 1373 and 1374 valves). Do not hammer parts through with the dowel pin or hammer on the dowel pin. Do not allow the valve parts to fall out of the valve onto a hard surface.

3. Reassemble the valve by placing the valve insert in the valve housing using the larger (3/16") dowel pin provided (1373 and 1374 valves use a total of 3 washers, one is installed before installing the valve insert). Make sure the valve insert is oriented correctly (see Figure 1). Press a Kel-F® seal into place. Assemble a ruby ball and sapphire seat, with the shiny side of the sapphire seat facing the ruby ball. Place a ball guide over the assembly (alternately, the ruby ball can be placed carefully - do not drop - in the ball guide with a pair of tweezers and the sapphire seat placed on top). After the ruby ball, sapphire seat and ball guide are assembled, slide the ball guide assembly into the valve housing. On both valves, make sure the ball guide assembly is oriented in the correct direction (see Figure 1). Install another Kel-F® seal, followed by another ruby ball, sapphire seat, and ball guide assembly. Press the final Kel-F® seal into place. This washer should extend approximately 0.020 - 0.030" from the valve housing.

4. Re-install the rebuilt valve into the cylinder (see detailed instructions).

Rebuild Kit
 1184 Valve Rebuild Kit.

Registered Trademarks: Kel-F, 3M; Swagelok, The Crawford Fitting Co.

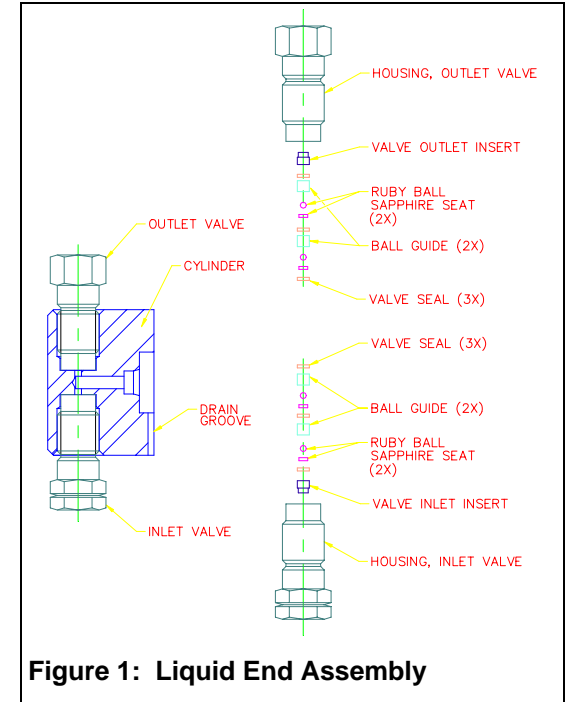


Figure 1: Liquid End Assembly

Valve cartridges are now available; please contact Eldex.

If there is anything we can do to help you with these instructions, or, if you have comments or suggestions, please contact us at:

(800) 969-3533.