

MANUALLY OPERATED ON/OFF VALVES INSTALLATION & OPERATION

Technical Note 609

DESCRIPTION

Valco high-pressure on/off valves feature quality engineering, precision machining, and extremely low internal volume (< 2 µl), making them the ideal choice in the most demanding liquid or supercritical fluid chromatography or extraction systems. When used in the prescribed manner, they offer years of trouble-free service.

The long lifetime is accomplished by minimizing wear materials in the flowpath; we start with naturally hard materials and then further harden them before incorporating them in the valve. (The materials listed in the last column of the table below are for the seal which isolates the valve flowpath from the standoff and actuator assembly.) The seat is machined out of the body material, then deburred with a special abrasive fluid. After that, a cold-forming process tempers the stainless steel seat to increase its hardness. The stainless steel needles undergo a special roller burnishing process to increase the hardness of the needle point, and cobalt alloy needles are polished to a finish of less than 2 µ-inch.

CONFIGURATIONS

Manual on/off valves come with 1/16" tubing connections and a choice of two temperature ranges. The following table delineates the options, and describes the various needle and sealing materials for each model.

PART NO.	CONNECTION	BORE (mm/in)	MAX TEMP (°C)	MAX PRESS (psi)	STAND-OFF (in)	NEEDLE MATERIAL	SEAL MATERIAL
SFVO	1/16"	0.50/0.020	100	10,000	1	Cobalt alloy	PAEK/TFE
SFVOL	1/16"	0.75/0.030	100	10,000	1	Cobalt alloy	PAEK/TFE
SFVOHT	1/16"	0.50/0.020	300	6,000	2	Cobalt alloy	Polyimide
SFVOLHT	1/16"	0.75/0.030	300	6,000	2	Cobalt alloy	Polyimide
SFVOHT4	1/16"	0.50/0.020	300	6,000	4	Cobalt alloy	Polyimide
SFVOLHT4	1/16"	0.75/0.030	300	6,000	4	Cobalt alloy	Polyimide

MOUNTING INSTRUCTIONS

There are two different mounting methods for the valve:

1. Use the two mounting holes in the valve body. Clearance is provided for #6 screws.
2. Order clamp ring CR4. Mount the clamp ring to the desired panel or bracket, then slide the valve hub into the clamp ring and tighten the clamp ring screw to secure the valve.

NOTE: High temperature versions can be mounted to a single valve heater block (product number HB or HBS) via the hub on the valve body.

OPERATION

Rotating the valve knob counterclockwise (CCW) opens the valve, while turning the valve knob clockwise (CW) closes the valve. Rotation from closed to the fully open position requires less than one full turn.

Valco on/off valves are not intended to meter or regulate flow, but rather to be opened and closed quickly and completely.

MAINTENANCE

These valves are precision engineered, aligned, and assembled to achieve the high degree of performance that they deliver. They are not designed to be altered or disassembled in any way by the user, and doing so **voids the warranty**.

