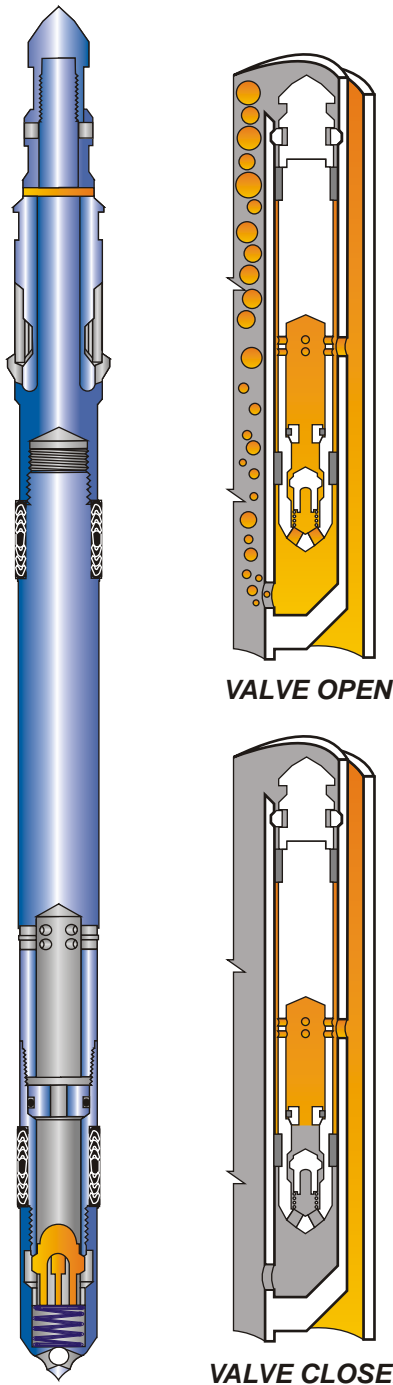


O SERIES ORIFICE VALVES



PARVEEN O Series valves are designed for circulating operations and provide means for communication between the tubing and the tubing/casing annulus.

BENEFITS OF DESIGN PRINCIPLE

- Cv values for each orifice size are determined with ISA procedures to provide accurate sizing for proper injection rates.
- Efficiency of back check valve provides large flow capacities. Positive sealing feature of back check valve provides protection from intrusion of production fluids into casing annulus.
- Various orifice materials (SS, monel, inconel, tungsten carbide) available to meet application requirements.

OPERATING PRINCIPLE

This valve series design utilizes an orifice (choke) as well as a back check valve for continuous flow operations. Injection fluid or gas enters through the entry ports and through an orifice. Injection pressure moves the back check valve off seat allowing gas or fluids to enter into the tubing. Reverse flow pushes the check valve on seat to prevent flow into the casing.

For injection of fluids or gas from the tubing to the tubing/casing annulus, the design can be modified by replacing the upper packing elements with a spacer. This allows the flow to enter from the top, passing through the valve via the back check and out the bottom of the valve and into the tubing/casing annulus. With this configuration, the valve is installed in a mandrel with a type S pocket which has no ports between the seal bore and vents to the casing/tubing annulus.

Orifice sizes available for this valve design range from 1/8 through 7/16 inch in the 1 inch. size and from 1/8 through 51/64 inch in the 1 1/2 inch size, thus making them suitable for a wide range of operating conditions.

ENGINEERING DATA FOR ORIFICE VALVES

Type	Assy. No.	Nominal OD (inch)	Packing OD (inch)		Port Size (inch)		Latch Or End Conn.	Running Tool Type	Pulling Tool Type	Mandrel Type
			Upper	Lower	Min.	Max.				
OM 14R	150-40	1	1-1/32	1-1/32	1/8	7/16	BK-2, M	MR	MP	TMP
OM 20R	150-27	1	1-1/32	1-1/32	1/8	7/16	BK-2, M	MR	MP	TMP
O20R	150-12	1-1/2	1-9/16	1-1/2	1/8	51/64	TG, RK, RM T-2	RTG, TER	PTG, TRP	TP
OSM-14R	150-05	1	1 - 1/32	1 - 1/32	1/8	7/16	BKP	MR	MP	TMP
OS 14R	150-08	1 - 1/2	1-9/16	1-1/2	1/8	51/64	TFA, PKP	RTG, TER	PTG, TRP	TP