



FLOAT VALVE OVERVIEW

Valve Body

Keystone cages are manufactured for today's increasingly harsh drilling environment. All cages are cast out of alloy steel and are heat treated to a hardness equal to or less than 22 Rockwell C (≤ 22 Rockwell C 2 HR) to address the corrosive effects of hydrogen-sulfide gas (H₂S). Keystone's integral cages are manufactured from one-piece casting and are not welded together the way some other competitors produce their cages. This means that you receive a superior and more reliable cage.

*Stainless steel cages are available upon request.

Integral Plunger Valves

All of Keystone's plunger valves are machined from one solid piece of material to produce a more reliable float valve and reduce the risk of down hole valve failure. Other leading manufacturers use two separate pieces of material to construct their plungers, which are invariably either shrunk fit, screwed, or welded together.

Flapper Valves

All Keystone standard-service flapper valves are made of low-alloy steel and then case hardened for wear resistance, thus giving a longer operating life.

Elastomers

Available elastomers are nitrile butadiene (NBR, Buna-N) and Viton® (fluoroelastomer, FKM)(H₂S Applications),Aflas for steam applications.

Application	Material	Temperature
Standard	Nitrile(Buna)	212 Deg F
Hi-Temp	Viton	450 Deg F
H ₂ S	Viton	450 Deg F
Steam	Aflas	475 Deg F

Springs

Model G and F utilize high alloy springs as follows; Elgiloy, Inconel® or stainless steel springs come standard on all our valves. These high alloy springs are good for sour gas (H₂S) applications and are significantly more resistant to corrosion when compared with the standard-service springs provided by most other manufacturers.

Interchangeability

All Keystone drill-pipe float valves and replacement parts are manufactured to standard industry dimensions and are interchangeable with other major manufacturers' parts.

Sour-Gas (H₂S) Service

Available in both F and G models.

Rated Operating Pressure

Standard valves - 7,500 PSI working pressure

High pressure valves - 10,000 PSI working pressure

- **10K Model F Valves**

- Stainless Steel cage and parts

- **10K Model G Valves**

- Cast alloy steel with stainless steel flapper and seal retainer.

Pressure-Tested With Test Charts

Keystone is the first drill pipe float valve manufacturer to offer a certified, pressure- tested float valve. Since 2017 we have offered and sold pressure tested [float valves](#) with high-and-low pressure test charts to our customers, upon request.

Note: If multiple Model G or Model F float valves are to be run in a string, it is **not** recommended that they be stacked. They should be separated to prevent the top valve from crushing. Coil tubing

