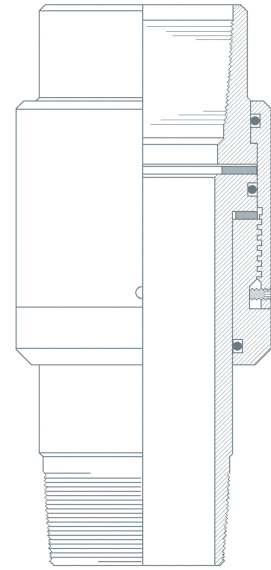


DOWNHOLE SWIVEL JOINT

The Downhole Swivel Joint allows rotation of the tubing string even when the section below is stuck. Thrust bearings are incorporated in the joint to reduce friction when the tubing is in tension or compression during rotation.

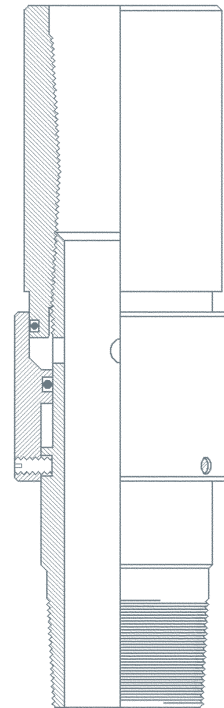
This swivel joint is often used below a Kline tubing anchor/catcher when the tailpipe will be in mud to facilitate rotation required to set the anchor. It is available for 1.900", 2-3/8" and 2-7/8" tubing.



HYDRAULIC TUBING DRAIN

Kline's Hydraulic Tubing Drain is designed to provide a means of equalizing pressures between the tubing and annulus by simply over-pressuring the tubing string to a pre-set point. When the pre-set point is reached, a set of shear pins will break and the external sleeve will move down, uncovering ports in the inside nipple.

The pressure differential that causes the shear pins to break is adjustable by adding or subtracting shear screws from the sleeve. The drain is available in most common tubing sizes, as shown below. Opening pressure is generally adjustable between 1500 and 3500 PSI.



SIZE	DRAIN OD	DRAIN ID
1.660	2.25	1.38
1.900 - 2 1/16	2.50	1.61
2 3/8	3.12	2.00
2 7/8	3.75	2.50
3 1/2	4.50	3.00

All dimensions listed in inches.