DUAL CIRCULATING SUB

TOOL APPLICATIONS

The Dual Circulating Subs are designed to prevent washing over on Bottom Hole Assembly (BHA) components and to provide an increased flow rate through tools after activation.

A ball-drop Circulating Sub is typically used on drilling or milling BHAs.

At the required depth a drop-ball is launched into the Coiled Tubing and pumped down to the Circulating Sub.

When the ball seats and pressure is increased, a piston within the tool is shifted, allowing flow to be directed to the annulus. This isolates further flow through the motor and allows the flow rate to be increased significantly.

The resulting higher annular flow assists in cleaning debris from the wellbore.

FEATURES AND BENEFITS

- Simple to assemble and operate
- Circulation is regained when the screws have sheared giving surface indication of successful activation
- Interchangeable Piston Insert allows different size Drop Balls to be used
- Shear pressure variable by the number of screws used
- Easily field redressable.

SPECIFICATIONS

Technical Variable		Units	Size				
			1 11/16"	2 1/8"	2 7/8"	3 1/8"	4 3/4"
Max OD		in	1.690	2.125	2.875	3.125	4.875
Min ID		in	0.437	0.562	0.563	0.563	
Connection	Top	Box	1" AMMT	1 ½" AMMT	2 3/8" PAC DSI		3 ½" IF
	Bottom	Pin	1" AMMT	1 ½" AMMT	2 3/8" PAC DSI		3 ½" IF
Make Up Length		in	8	8.13	16.6	18	
Circulating Sub	Ball Size	in	0.500	0.625	0.625	0.625	1.625
	# Pins	ea	4	4	4	4	
	psi/ screw	psi	639	817	715	715	
Working Pressure		psi	10,000	10,000	10,000	10,000	10,000
Maximum Flow Area		in²	0.150	0.248	0.248	0.248	
Strength	Yield	lbs	105,840	181,860	104,000	116,000	570,000
	Torsional	ft.lbs	-	-	4,110	5,670	18,000
Make Up Torque		ft.lbs	-	-	1,020	1,410	9,100

Note: Burst Discs are available in 1,000psi increment from 0psi (blank) to 10,000psi