

MECHANICAL BOW SPRING CENTRALIZER

The Mechanical Bow Spring Centralizer (Figure 1) is designed to centralize a bottomhole assembly inside large tubing or casing while going through a restriction. The centralizer's springs are designed to be at constant maximum expansion, then collapse when going through a restriction.

SPECIFICATIONS

OD IN (MM)	ID IN (MM)	TOOL LENGTH IN (MM)	CONNECTIONS BOX & PIN
1.70 (44.5)	0.56 (14.2)	10 (254)	1" AMMT
2.125 (54.0)	0.56 (14.2)	10 (254)	1 1/2" AMMT
3.125 (79.4)	1.00 (25.4)	10 (254)	2 3/8" REG



VENTURI JET BASKET

The Venturi Jet Basket retrieves gun debris, metal and any other loose obstructions that are not millable. Fluid pumped down the work string is diverted through a jet nozzle in the upper section, creating a vacuum-like effect in the lower chamber. This effect sucks in debris and traps it above the cages in the lower sub. Fluid is then filtered through the strainer and returned to the annulus. Extensions are available to increase the amount of debris retrieved. Milling shoes are available that enable the tool to be run in conjunction with a motor.

SPECIFICATIONS

TOOL OD (IN)	LENGTH (FT)	TENSILE (LBS)	TORQUE (FT-LBS)	DEBRIS CHAMBERS ID (IN)	FINGER CAGE ID (IN)	FLUTTER CAGE ID (IN)
1.69	3.21	38K	350	1.063	N/A	1.03
1.81	3.58	38K	350	1.25	N/A	1.21
2.06	3.17	86K	1067	1.5	1.28	1.53
2.25	4.00	86K	1067	1.688	1.28	1.53
2.63	3.22	116K	1788	2	1.53	1.94
3.13	3.50	141K	4825	2.5	2.03	2.44

* Length includes Cage Head - excludes extensions.
**When additional debris chambers used add length as used.

