



DAV MX™ CircSub



The DAV MX™ CircSub is a class leading downhole circulation bypass tool, activated by unique smart darts, that delivers significantly improved performance across drilling, completions and P&A operations.

Simple to use, the multi-function, multi-cycle DAV MX™ circulating sub can be run across a wide range of applications including hole cleaning, displacements, LCM Spotting, BOP jetting and many others.

Its versatility and resilience plus the rapid smart dart activation, provides operators with fast circulating options in virtually any environment.

Operators have activated the tool at depths of more than 31,000 feet, heavy mud weights of 20 PPG, temperatures of almost 250°C and at 98° section inclinations.

BENEFITS

- Speed – Fast activation (darts travel up to 1,000 ft/min)
- Versatile – A range of Smart Darts provide users with split flow, full-bypass and well control options across more than 20 application types
- Reliable – Unlike conventional balls, DAV MX darts will not blow through on opening, therefore can be pumped at much higher speeds. With more than 2,500 runs, the DAV MX has a comprehensive track record. For enhanced contingency, the tool can be repaired downhole, a unique and rarely used feature
- Simple – The tool is extremely user-friendly requiring no service hand and no need for configuration prior to running
- Robust – Its innovative and simple design means its largely immune to variations in angle, temperature, differential pressure, mud type and mud weight

APPLICATIONS

- Loss curing
- Hole-cleaning
- Displacements
- LCM spotting
- BOP jetting
- Reverse circulating
- Self-filling
- Dry tripping
- Mechanical bypass
- Regaining circulation



SPECIFICATIONS

Tool Joint Specs												
Connection (Box-Pin)	NC38 (3 1/2" IF)			NC50 (4 1/2" IF)			6 5/8" REG			7 5/8" REG		
Make-Up Torque (kft-lbs)	13.2			34			57.2			95.2		
Body Specs												
Material	AISI 4145-H Modified – 120 ksi											
Max Diff. Pressure (psi) (in-out & out-in)	10,000											
Valve:	Dimensional & TFA Specs											
Length (ft)	7.6			7.6			7.6			7.6		
Weight (lbs)	370			740			985			1360		
Sub Max OD (in)	5"			7"			8.25"			9.38"		
Valve min. TFA (sq-in) (landing seat)	2.99			3.8			5.52			5.52		
Valve Pin ID (in)	2.19"			2.81"			2.81"			3"		
No of Ports	2			2,3,4			4,5			4,6		
Ports Diameter (in)	0.50"	0.75"	1.00"	0.50"	0.75"	1.00"	0.50"	0.75"	1.00"	0.50"	0.75"	1.00"
Ports TFA (sq-in) for 1 port	0.20	0.44	0.79	0.20	0.44	0.79	0.20	0.44	0.79	0.20	0.44	0.79
2 ports	0.39	0.88	1.57	0.39	0.88	1.57	N/A			N/A		
3 ports	N/A			0.59	1.32	2.36	N/A			N/A		
4 ports	N/A			0.79	1.77	3.14	0.79	1.77	3.14	0.79	1.77	3.14
5 ports	N/A			N/A			0.98	2.21	3.93	N/A		
6 ports	N/A			N/A			N/A			1.18	2.65	4.71
Catcher:												
Number of Cycles	4	5	4	5	4	5	4	5	4	5	4	5
for lengths (ft)	12.3	14	12.6	14	12.6	14	12.6	14	12.6	14	12.6	14
Weight (lbs)	580			1,050			1,735			1,834		
Sub Max OD (in)	5"			7"			8.25"			9.38"		
Sub ID (in) (catcher no-go)	1.9			2.15			2.65			2.65		
Drift Diameter (in)	1.89"			2.14"			2.64"			2.64"		
Catcher min. TFA (sq-in) (catcher pin)	3.77			6.2			6.2			7.07		
Inner Annulus TFA (sq-in)	4.83			9.35			12			17.3		
Catcher Pin ID (in)	2.19"			2.81"			2.81"			3"		
Smart Darts:												
Smart Dart OD (in)	2"			2.25"			2.7"			2.7"		
Recommended Drift for darts to pass (in)	2.063"			2.313"			2.750"			2.750"		
Other Info:												
Temp – Standard (°C/°F)	160/320			160/320			160/320			160/320		
Temp – High (°C/°F)	200/392			200/392			200/392			200/392		
Temp – Super High (°C/°F)	250/482			250/482			250/482			250/482		