ADSI
PBL BYPASS SYSTEMS

PBL

Universal Split Flow Dart System

The **Universal Split Flow Dart** was developed on the back of PBL's original **Split Flow Dart** that has been available to our clients for several years.

The **Split Flow Dart** was originally developed to allow a pre-calculated amount of drilling or completion fluid to pass through the **PBL Tool** and on to the BHA below, and the remaining fluid to be by-passed out of the **PBL Tool** ports. By splitting the flow, the operator was able to have more control over available hydraulics and hole cleaning parameters.

DSI FZE is delighted to offer the next generation of **Split Flow Dart** system by introducing the **Universal Split Flow Dart** System which would enable the Operators to drop the **Universal Split Flow Dart** and achieve all the benefits that the original **Split Flow Dart** System had provided, in addition with the ability to switch to 100% bypass rendering the same tool suitable for pumping aggressive LCM without the need to deactivate the tool, or having to trip out to change the tool.

TECHNICAL SPECIFICATIONS								
Tool Size (in)	9-1/2 & 8-1/4			6-3/4			4-3/4	
Total Flow (GPM)	1200 +	1200 +	< 1200	600 +	600 +	< 600	400 +	350 +
Port nozzles (in)	36/32	N/A	N/A	30/32	N/A	N/A	24/32	N/A
Port type	Reduced dia	Autolock	Autolock	Reduced dia	Autolock	Autolock	Reduced dia	Autolock
Port diameter (in)	1.12	1.35	1.35	0.93	1.1	1.1	0.75	1.1
TFA (in^2)	0.98	1.43	1.43	0.68	0.95	0.95	0.442	0.95
Total Port TFA (in^2)	1.96	2.863	2.863	1.36	1.901	1.901	0.884	1.901
Dart Nozzle (in)	32/32	32/32	24/32	24/32	24/32	16 /32	20/32	16/32
Dart TFA (in^2)	0.78	0.78	0.442	0.442	0.442	0.196	0.306	0.196
Total Tool TFA (in^2)	2.74	3.643	3.305	1.8	2.343	2.09	1.19	2.09
Bypass TFA %	71	78	87	75	81	91	74	91
Split % down (1)	15 - 20	12 - 14	10 - 12	16 - 23	15 - 16	8 - 10	18-24	3-5
Number of Cycles (Std. / Ext. cage) (2)	2 / 5			2 / 5			2 / 4	
Min. Flow rate to Activate (GPM)	500			400			250	
Max. Dart pump down rate (GPM)	300			250			200	

- All PBL systems can be activated by either standard ball or Split Flow Dart (SFD)

(1) BHA configuration and hole size will influence the % split (up to 5% variance) thus a basic Pre-Job evaluation of hydraulics could be performed to ensure the right tool setup.

(2) Recommended to use extended cages (10 ball cycle) for use with darts.

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