PBL® Split Flow Dart System

The DSI PBL® Split Flow Dart System was developed for use with PBL® Multiple Activation Bypass System in order 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 to facilitate efficient hole cleaning. By splitting the flow, the operator will have more control over available hydraulics and hole cleaning parameters, especially while drilling.

The Split Flow Dart System for the PBL® Tool will greatly enhance hole cleaning ability while not pumping excessive fluid through the MWD/LWD, rotary steerable system, drilling motor or drill bit causing possible washouts and difficulty steering. This simple and reliable system will reduce NPT hence saving rig time and money.

FEATURES AND BENEFITS

- The Split Flow Dart incorporates an interchangeable jet nozzle installed in a conical dart system

- The ports of the PBL® are also equipped with interchangeable jet nozzles

- The flow will be divided between the BHA and the ports to the annulus at a pre-determined split

- The ability to pump above MWD/LWD or Drilling Motor limits to continuously clean hole while drilling.

- The ability to operate MWD/LWD, RSS or Motor in a more optimal flow range.
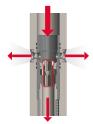
- The ability to position PBL® in casing above liner top for better hole cleaning including while performing milling or decommissioning operations.

- Control bit flow rate for more stable hole conditions for improved directional control with RSS or motor.

- "Turn Off" Under Reamer while back reaming / circulating while still allowing controlled flow to bit.

- Allow a limited amount of fluid thru to the BHA to cool components while circulating. (USFD System)

DRILLING MODE
100% Flow to BHA/Bit

DROP DART
& pump down
Dart on Seat

SPLIT FLOW
Continue pumping

PUMPS OFF
Ports Closed
(safety feature)

DROP 3 DEACT BALLS
& Pressure Up to
Deactivate

**DART SHEARED
THRU SEAT**
Dart & Balls in Catcher Cage

**DRILLING MODE 100%
FLOW TO BIT**
Ready for next activation

ISO 9001
ISO 14001
ISO 45001
ISO 22301

NS-1 LEVEL 2 DESIGN

PBL