

The PBL® Ball-Drop Booster Bypass was developed to assist operators in achieving higher flow rates while drilling . By splitting the flow, the operator will achieve more effective continuous hole cleaning and well-bore management while maintaining allowable flow rates through todays sophisticated down-hole tools. This innovative, new tool uses the following features to make it unlike any other circulation tool on the market:

- Single ball activation/de-activation cycles using proven ball-drop technology enables the operator to precisely determine when the tool is closed / open
 - Standard interchangeable jetting nozzles are directed up-hole allowing for increased fluid velocity minimizing well-bore erosion and maximizing hole cleaning and motor performance
 - Fluted main body has wear reduction coating applied in exterior contact areas to allow for increased well bore interaction reducing vibration
 - Completely Mechanical; No electronics or hydraulics means operator ease-of-use and constant reliability
 - Integrated float minimizes tool length while maintaining well control
- A customized hydraulics program is utilized to size tool nozzles for optimal performance

TOOL SIZE (INCHES)	6.750
MAXIMUM O.D. (")	8.375
MINIMUM I.D. (")	1.800
STANDARD RIG ENDS (2)	NC 50
FISHING NECK O.D. (")	6.750
NO. OF STABILIZATION PADS	3
NUMBER OF NOZZLES	3
NOZZLE SIZE RANGE (")	7/32 - 16/32
ACTIVATION / DE-ACTIVATION BALL SIZE	2"
NUMBER OF CYCLES	10
FLOW AREA (IN ²) THROUGH TOOL	3.10
TFA THROUGH NOZZLES WHEN TOOL IS ACTIVATED (MIN / MAX IN ²)	.038 / .589
WEIGHT (LBS)	1198
SHOULDER TO SHOULDER LENGTH (")	150.0
MAKE-UP TORQUE (FT-LBS)	34,840