PRESS RELEASE – JANUARY, 2021

DSI PBL® Burst Disc Bypass Tool

DSI launches PBL® Bypass Tool with Burst Disc Feature

PBL® Burst Disc Bypass Tool is another one of DSI's offerings to the upstream Energy Sector.

Building on its reputation of being the best known, most reliable, widest application circulation tool on the market, the PBL Multiple Activation Bypass Tool now gives operators even more flexibility. With the incorporation of a high pressure/ high temperature Burst Disc into the lower section of the PBL tool, BHA and bit pack-off issues can be easily remediated by allowing an alternate flow path to re-establish circulation and regain well control through activation of the PBL tool.

DSI PBL® Bypass Tool with Burst Disc incorporated into Bottom Sub of tool (patent pending) is developed to allow Operators to maintain all the advantages of the PBL Multiple Activation Circulating Tool in the BHA while also being able to reestablish circulation if the BHA/Bit becomes plugged and pumping down an activation ball/dart not be possible.

This innovative, new development provides an option that was not previously available. This system eliminates the need for the addition of another sub in the BHA in order to maintain the ability to utilize the PBL Tool for LCM delivery or hole cleaning.

Features and Benefits:

- Has all features and benefits of standard DSI PBL Tool. Hence, no effect on normal PBL tool operation,
  - ✓ Burst disc is an additional option to the existing PBL Bypass System which will not interrupt the normal operation of the PBL Sub.
- No additional sub length,
  - ✓ Since the Burst Disc is incorporated into the existing ball catcher Sub , BHA length will not be affected.
- High back pressure (negative differential pressure) capability of 5000 PSI,
  - ✓ The Disc also have ability to withstand 5000 PSI back pressure so not to rupture from annulus side when TIH without filling pipe to allow running tools in hole without filling pipe if needed.
- Numerous application-specific pressures and temperatures available
  - ✓ The Burst Disc installed in the PBL® Bypass Tool will have a rating for operations based upon circulating pressures and bottom hole temperatures. Initial options will be 6500 PSI burst pressure at 250F and 7500 PSI burst pressure at 350F. Higher burst pressure rating can also be provided if required.
- Large flow diameter,
  - ✓ Once ruptured, the flow diameter of the disc is 1" (0.785 sq.in TFA) to accommodate high flow rates if required.
- Simple replacement,
  - ✓ Once utilized Burst disc can be easily replaced after every use. A blank plug will be available to replace burst disc if option not required,
- Available in tool sizes 4.75" and larger.

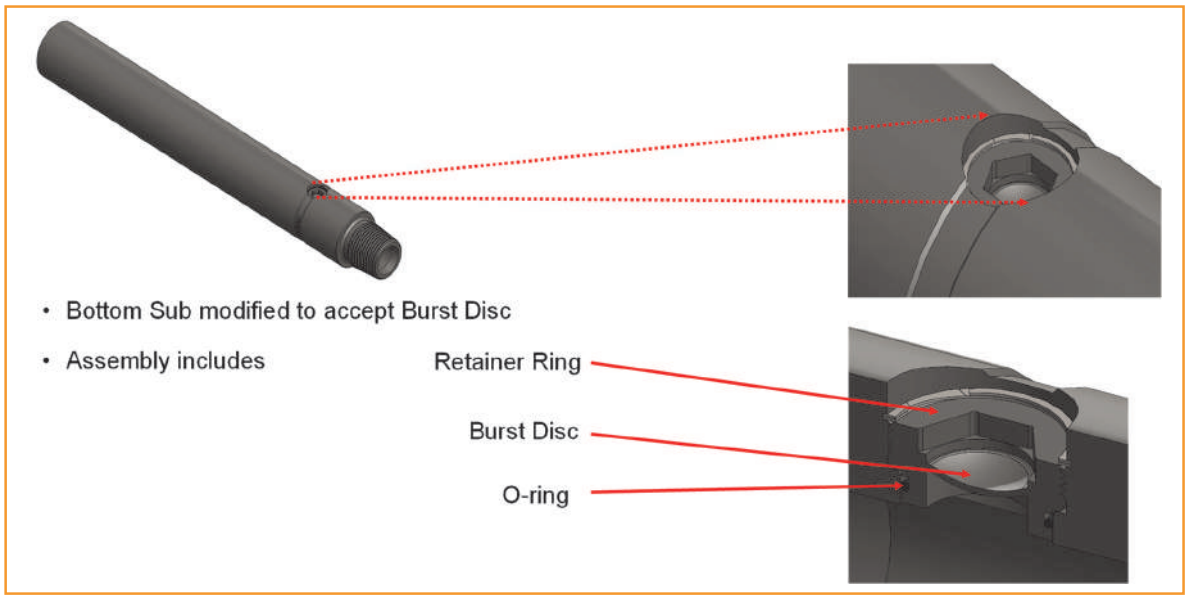
Typical Operating Procedure for PBL Burst Disc Bypass Tool:

- When BHA becomes plugged and circulation is not available, reset pump pop off to greater than rating of installed burst disc,
- Pressure up until burst disc ruptures,
- Reestablish circulation. Activate PBL Tool by pumping down PBL activation ball if additional circulating TFA is required,
- Once conditions allow, POOH draining through ruptured burst disc or locked open PBL Tool,
- Replace PBL with Burst Disc installed in next BHA.

Notes:

- Recommended Burst pressure utilized should be greater than operational pump pop off pressures to avoid unintentional disc rupture during drilling operations.
- Temperature will affect burst pressure ratings. Estimated +50F will have a -125 PSI pressure decrease (Please refer to the Burst Pressure vs. Temperature Chart)

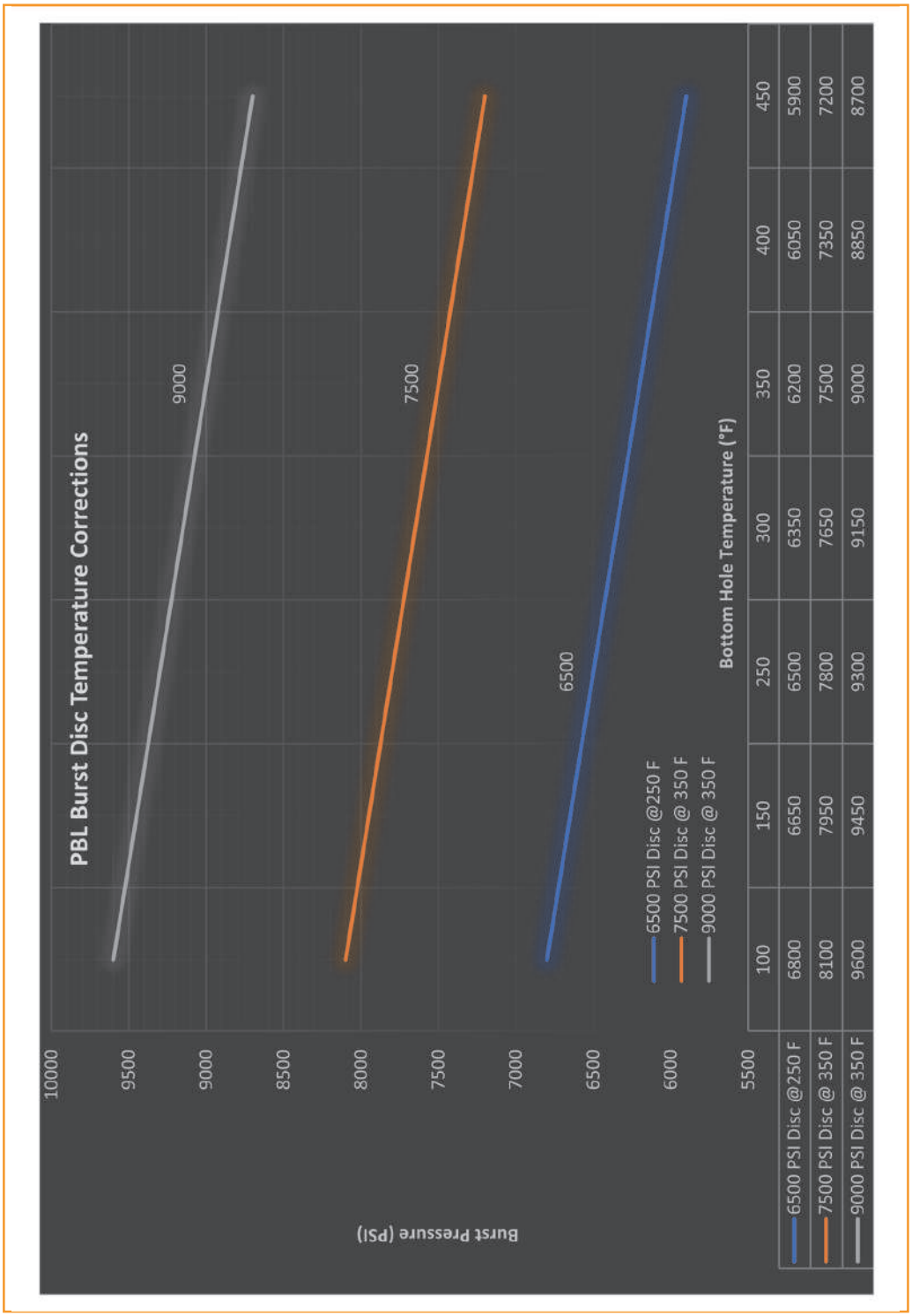
Typical configuration of Burst Disc feature on Catcher Sub of PBL Tool:



Technical Specifications:

Tool Size Inches	>4.75
Number of discs	1
Number of bust cycles	1
Burst disc diameter (")	1.0
Burst disc flow area (in^2)	0.785
Pressure rating	as desired
Temperature rating	as desired

BYPASS SYSTEMS
BY DSI



Contact Us:

For further details, please feel free to contact us on

enquiries@dsi-pbl.com or **technical.support@dsi-pbl.com**

BYPASS SYSTEMS
BY DSI