

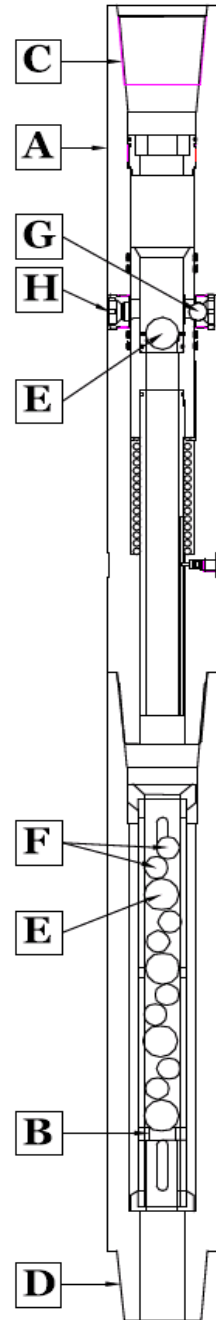


9 1/2" O.D.
(2.75" Act Ball)

**9 1/2" PBL HF BALL LOCK BYPASS SYSTEM
TECHNICAL SHEET**

SERIAL #
 A - TOOL O.D.
 B - TOOL I.D.
 FLOW AREA THROUGH TOOL (E)
 C - BOX CONNECTION
 D - PIN CONNECTION
 E - ACTIVATION BALL/# TO ACTIVATE
 DIAMETER / MATERIAL
 SHEARING PRESSURE
 F - DEACTIVATION BALL/# TO DEACT.
 DIAMETER / MATERIAL
 G - LOCKING BALL/# TO LOCK OPEN
 DIAMETER / MATERIAL
 SHEARING PRESSURE
 H - SIZE OF PORT
 NUMBER OF PORTS
 TFA WHEN TOOL IS OPEN
 MAX. FLOW CLOSED
 MAX. / MIN. FLOW OPEN (ACTIVATED)
 NUMBER OF CYCLES
 OVERALL LENGTH
 WEIGHT
 TENSILE STRENGTH MAIN BODY
 TENSILE STRENGTH CONNECTION
 TORSIONAL STRENGTH MAIN BODY
 TORSIONAL STRENGTH CONNECTION
 MAKE UP TORQUE

| |
|--------------------|
| |
| 9.50" |
| 2.65" |
| 5.8 SQ.IN. |
| 7 5/8 REG |
| 7 5/8 REG |
| 1 |
| 2 3/4" / Ertalyte |
| |
| 2 |
| 1 3/4" / Steel |
| 1 |
| 1 3/8" / Ertalyte |
| |
| 1.35" |
| 2 |
| 2.863 SQ.IN |
| 2000 GPM |
| 2000 GPM / 200 GPM |
| 5 |
| 8 - 10 FT |
| 1,800 LBS |
| 6,000,000 LBS |
| 1,718,834 LBS |
| 565,000 FT/LBS |
| 155,759 FT/LBS |
| 81,290 FT/LBS |



NOTES
 * **NO THRU DRIFT WHEN BALLS ARE IN TOOL**
 * Tool is rated to operate in temp up to 420 degrees F
 * 2.65" ID to allow 2 5/8" Reamer Ball to pass through before activation
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