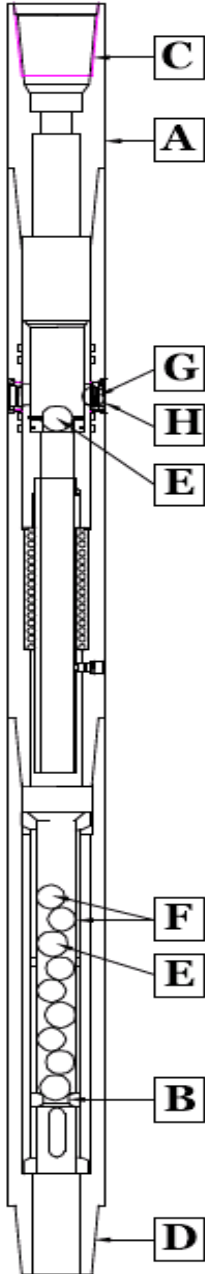




4 3/4" O.D.

**4 3/4" PBL 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  
 H - SHEARING PRESSURE  
 F - DEACTIVATION BALL/# TO DEACT.  
 DIAMETER / MATERIAL  
 G - LOCKING BALL/# TO LOCK OPEN  
 DIAMETER / MATERIAL  
 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

SERIAL #	
A - TOOL O.D.	4.75"
B - TOOL I.D.	1.27"
FLOW AREA THROUGH TOOL (E)	1.67 SQ.IN.
C - BOX CONNECTION	3 1/2 IF
D - PIN CONNECTION	3 1/2 IF
E - ACTIVATION BALL/# TO ACTIVATE	1
DIAMETER / MATERIAL	1 1/2" / Torlon
H - SHEARING PRESSURE	
F - DEACTIVATION BALL/# TO DEACT.	2
DIAMETER / MATERIAL	1 3/8" / Steel
G - LOCKING BALL/# TO LOCK OPEN	1
DIAMETER / MATERIAL	1 1/8" / Torlon
H - SIZE OF PORT	1.1"
NUMBER OF PORTS	2
TFA WHEN TOOL IS OPEN	1.901 SQ.IN
MAX. FLOW CLOSED	600 GPM
MAX. / MIN. FLOW OPEN (ACTIVATED)	1000 GPM / 50 GPM
NUMBER OF CYCLES	4
OVERALL LENGTH	7 - 9 FT
WEIGHT	350 LBS
TENSILE STRENGTH MAIN BODY	1,000,000 LBS
TENSILE STRENGTH CONNECTION	725,000 LBS
TORSIONAL STRENGTH MAIN BODY	49,500 FT/LBS
TORSIONAL STRENGTH CONNECTION	19,200 FT/LBS
MAKE UP TORQUE	11,500 FT/LBS

NOTES  
 \* **NO THRU DRIFT WHEN BALLS ARE IN TOOL**  
 \* Tool is rated to operate in temp up to 420 degrees F  
 Optional 1.80" No-Go Available



COMPLETED BY \_\_\_\_\_ DATE \_\_\_\_\_