

TECHNICAL DATA SHEET

DRILLING TYPE UNDERREAMER

TECHNICAL SUMMARY

The HOC Drilling Type Underreamer (DTU) was created for Borehole Enlargement in a variety of applications and continuously being updated to adapt to the drilling environment. Once the underreamer has passed through the restrictions and reached the desired depth, the rotary and pumps are engaged allowing the arms to open.

PROVEN APPLICATIONS

- Pre-existing pilot holes
- Vertical and Horizontal
- Oil and Gas, Abandonment, and Geothermal
- Fault Zones and Swelling formations
- Improving cement jobs
- Removing bridges and key seats
- Underreaming while drilling in certain applications

FEATURES

- Machined from heat-treated steel bar giving it exceptional strength
- Expansion ratios 70% and larger than body OD
- Hydraulically expandable with pump pressure
- Large piston area for increased hydraulic power
- Cutter arms move upward and out in the body simultaneously
- Roller cone cutters are Sealed Bearing and are specifically designed for the HOC DTU with pressure compensator and consistent with down hole diameters
- Fail safe cutter arm retraction
- Unrestricted flow through ID
- Reverse actuating mechanism maintains that the tool is open while drill string weight prohibits tool closure
- Jet nozzles near the cutters allow for cutter washing and cooling



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TECHNICAL SPECIFICATIONS AND OPERATING PARAMETERS

Tool Series	DTU 575	DTU 725	DTU 800	DTU 950	DTU 1175	DTU 1450	DTU 1600	DTU 2200
Body OD (in)	5.75	7.25	8.00	9.50	11.75	14.50	16.00	22.00
Retracted OD (in)	5.75	7.25 8.375	8.125	9.50	11.75	14.50 17.25	17.25 22.00	22.00 34.00
Opening Size Range (in)	7-1/2 - 9	8-3/4 - 9-7/8 9-1/4 - 13-1/2	9-1/4 - 13-1/2 14-3/4 - 17-1/2	12-1/4 - 14-1/2	14-3/4 - 22	17-1/2 - 24 24 - 28	22 - 30 30 - 40	30 - 40 40 - 50
Minimum Pilot Hole (in)	6.00	7.625 8.50	8.50	10.00	12.25	14.75 17.50	17.50	23.00 36.00
Top Connection (Pin)+	3-1/2" Reg	4-1/2" Reg	4-1/2" Reg	6-5/8" Reg	6-5/8" Reg 7-5/8" Reg	7-5/8" Reg	7-5/8" Reg	7-5/8" Reg
Bottom Connection (Box)+	3-1/2" Reg	4-1/2" Reg	4-1/2" Reg	6-5/8" Reg	6-5/8" Reg 7-5/8" Reg	7-5/8" Reg	7-5/8" Reg	7-5/8" Reg
Smallest ID (in)	.75	1.00	1.00	1.50	1.50	2.25	2.25	2.25
Max Flow (GPM)*	350	600	600	1,000	1,000	1,400	1,400	1,400
Max Temperature (F)**	250	250	250	250	250	250	250	250
Max Drilling Weight (lbs)	5,500	7,000	8,000	12,000	15,000	20,000	25,000	25,000
Recommended Rotary Speed (RPM)	70-100	70-100	70-100	70-100	70-100	60-90	50-100	40-100

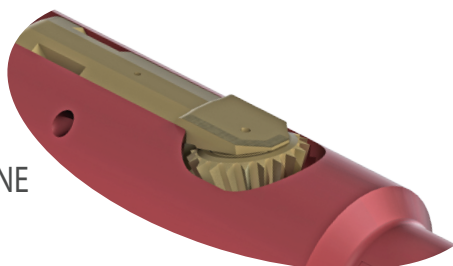
+ Connections listed are standard but may be customized.

* Flow rates may be increased for hole cleaning and stability by utilizing a jetted top sub or a jet sub above the tool.

** High temperature seals are available upon request.

BODY POCKET CONFIGURATIONS

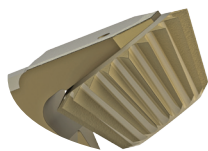
ROLLER CONE
CUTTER



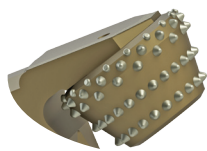
DRAG TYPE
CUTTER



CUTTING STRUCTURE OPTIONS

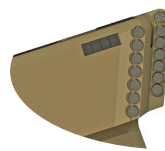


MILL TOOTH

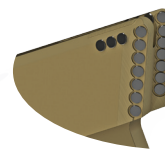


TUNGSTEN CARBIDE INSERT (TCI)

ROLLER CONE



ADD CUTTER



PDC CUTTER

DRAG TYPE