



Part of the high performance  
nDURANCE® drilling motor series

## POWER AND PERFORMANCE THROUGH EVEN-WALL INNOVATION

The CLAW, Cathedral's high performance drilling motor series, features industry-leading power section technology combined with an nDURANCE bottom end. The CLAW delivers increased torque, proven reliability and outstanding drilling performance in today's challenging drilling environments.

The CLAW delivers 50-90% more power than conventional motors. The CLAW's proprietary design accommodates higher flow rates compared to conventional motors. This enables drillers to deliver enhanced rates of penetration (ROP) while maintaining superior hole cleaning.

The nDURANCE shorter bit to bend (B2B) design yields higher build rates and allows for rotation of motor through higher doglegs, enabling one-run verticals, curves, and laterals. With shorter B2B, sideload and stick-slip (when rotating) is significantly reduced along with trip time and bit runs on monobore well applications.

Cathedral continues to expand the CLAW family of power sections -- adding to our original 5" and 7" offerings to meet the evolving needs of deeper, longer wells.

## BENEFITS

- **Higher durability:** Driveline components constructed from ultra high strength materials with yield strengths over 200 ksi.
- **Increased horsepower and torque:** Proprietary bearing section with large diameter mandrel design overcomes conventional tool diameter restrictions to handle higher flow rates resulting in greater ROP.
- **Greater reliability and fewer trips:** Low friction angular bearings provide axial and radial support.
- **Greater WOB capacity:** Unique dual acting multi-stack split race bearing design provides high weight-on-bit (WOB) capacity.
- **Enhanced bit life:** Consistent torque at high loads reduces bit chatter and extends polycrystalline diamond compact (PDC) cutter life as bit speeds are more constant under high loads.

## APPLICATIONS

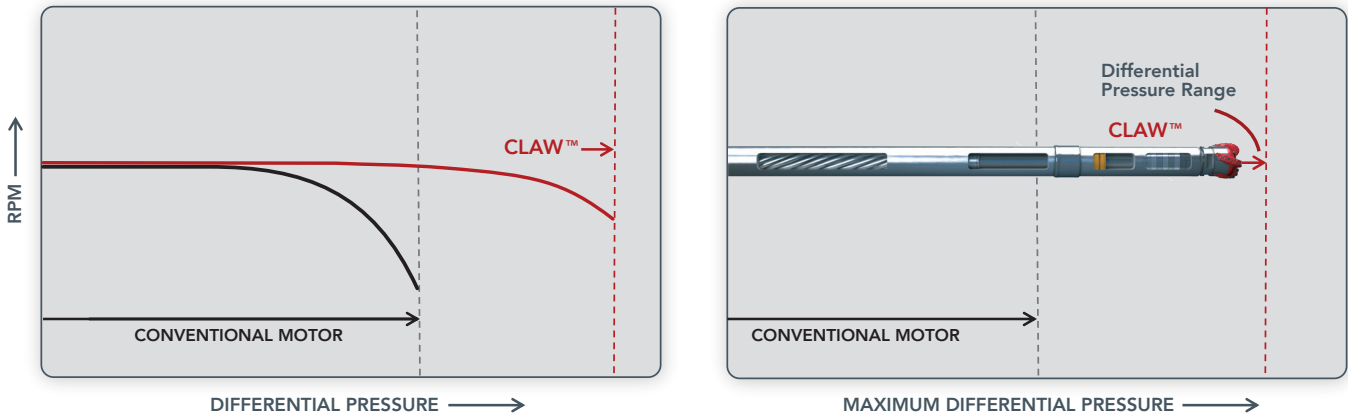
- Formations with poor build tendencies
- Hard, aggressive, and unconsolidated formations
- Monobore wells
- Programs trying to leverage higher rig pump rates

Our nomenclature is CLAW ### (AA) where ### reflects the power section speed ratio in revolutions per gallon of drilling fluid, and AA is an abbreviation of the primary feature of the motor.

Our current CLAW motor lineup includes the following specific motors:

- FEATURES:**
- ✓ Even Wall
  - ✓ High Analine / Low Aromatic
  - ✓ Extra Flow
  - ✓ High Speed
  - ✓ Extra Torque

THE CLAW **MAINTAINS RPM** UNDER HIGHER LOADS **DELIVERING MORE TORQUE, HORSEPOWER AND ROP**



	Speed Ratio		Torque Slope		Max. Differential		Max. Torque		Min. Flow		Max. Flow	
	Rev/Gal	Rev/L	ft.lbs/psi	NM/kPa	psi	kPa	ft.lb	Nm	GPM	m3/min	GPM	m3/min
5" CLAW 640 (EW)	.64	.169	4.77	.938	1830	12617	8729	11835	200	.8	325	1.2
5" CLAW 720 (HALO)	.72	.19	3.99	.785	1586	10935	6328	8580	100	.4	300	1.1
5.625" CLAW 650 (XF)	.65	.172	3.86	.759	2240	15444	8646	11722	150	.6	400	1.5
7" CLAW 350 (EW)	.35	.092	8.89	1.748	1560	10756	13868	18802	300	1.1	650	2.5
7" CLAW 400 (HS)	.4	.106	5.78	1.136	2030	13996	11729	15902	300	1.1	700	2.6
7.25" CLAW 250 (XT)	.25	.066	9.9	1.947	1960	13514	19404	26308	325	1.2	725	2.7