

8-in. Ultra XL/VS-HP

Equipped with high performance elastomer

Tool Specifications

Length	34.8 ft	10.65 m
Weight range	4,080–4,480 lb	1,850–2,030 kg
Bit size range	9 ⁷ / ₈ in. – 12 ¹ / ₄ in.	
Top connection (optional)	6 ⁵ / ₈ -in. API Reg. box (6 ⁵ / ₈ -in. H90)	
Bit connection (optional)	6 ⁵ / ₈ -in. API Reg. box	
Max. slick OD at wear pad (for double pin AKO)	8.5 in.	216.5 mm
Max. slick OD at wear ring (for half-shell AKO)	8.7 in.	220.5 mm
Deflection angle range of AKO	0° – 2.5°	

Power Section

Lobe configuration	7/8	
Flow rate	395–900 gpm	1,500–3,400 lpm
Speed	37–85 rpm	
Speed to flow ratio	0.09 rev/gal	0.024 rev/l
Rotor nozzle	Yes	
Max. flow with nozzle	990 gpm	3,750 lpm
No load pressure drop	305 psi	21 bar

Temperature

with standard or high performance elastomer	265°F	130°C
with high temperature elastomer	320°F	160°C

Performance Data

Standard or high temperature elastomer

Operational limits

Differential pressure	435 psi	30 bar
Torque	8,400 ft-lb	11,000 Nm
Power output	135 hp	100 kW

Maximum operational

Differential pressure	695 psi	48 bar
Torque	13,000 ft-lb	18,000 Nm

High performance elastomer

Operational limits

Differential pressure	655 psi	45 bar
Torque	12,500 ft-lb	17,000 Nm
Power output	200 hp	150 kW

Maximum operational

Differential pressure	870 psi	60 bar
Torque	16,500 ft-lb	22,500 Nm



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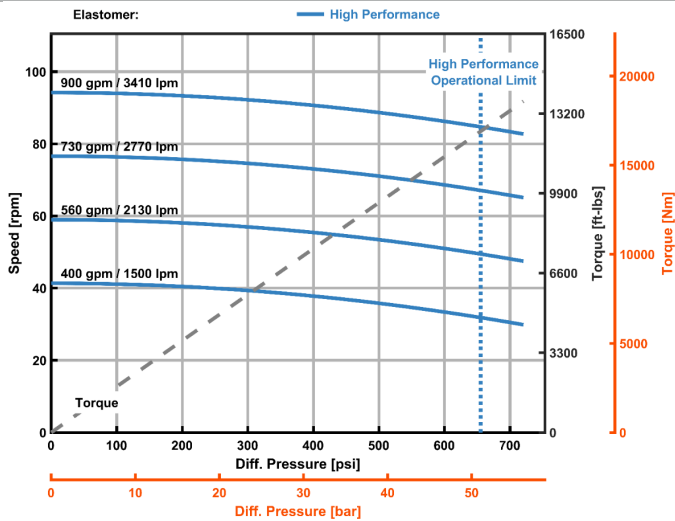
Bearing Section Operating Specifications and Limits

Ball Bearings

WOB and backreaming weight*	67.5 klb	300 kN
Re-run overpull and set-down weight*	135 klb	600 kN
Ultimate overpull to failure*	1,150 klb	5,200 kN

* While motor is not operating

Performance Charts



* Motor Performance specifications and related charts are derived from dynamometer testing performed with water at 68°F (20°C) as the working fluid. Motor power sections were assembled for maximum performance and longevity in the testing environment on surface and are presented for comparative analysis and operational calculations. Motor performance specifications subject to change without notice. Actual downhole operational performance may vary due to temperature, fluid type and rotor/stator fit adjustments. If the motors, that have been assembled to compensate for downhole temperature effects, are surface tested, they may show reduced performance on surface and at low temperatures.

Build Up Rate Chart

Hole Size		Slick			Partial			Full		
		AKO	BUR	RPM	AKO	BUR	RPM	AKO	BUR	RPM
9 5/8 in.	A1	0.4	0.5	128	0.25	1.5	137	0.25	0.7	134
	A2	1.6	7.2	60	1.7	8.1	60	1.4	5.7	60
	A3	1.8	8.3	30	1.8	8.6	30			
	A4	2.1	10.0	0	2.1	10.0	0			
10 3/4 in.	A1	0.6	0.4	122	0.3	1.8	134	0.3	0.9	135
	A2	1.9	7.6	60	1.7	7.9	60	1.8	7.4	60
	A3	2.1	8.7	30						
	A4	2.5	10.8	0	2.5	11.3	0	1.9	7.8	134
12 1/4 in.	A1	N/A			0.25	2.4	137	0.3	0.9	134
	A2				1.7	9.0	60	1.7	6.9	60
	A3				1.9	9.9	30	2	8.2	30
	A4				2.5	12.6	0	2.5	10.4	0

A1: Minimum building AKO setting
A2: Recommended maximum rotatable AKO setting
A3: Absolute maximum rotatable AKO setting
A4: Absolute maximum oriented setting

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