

1-1/2" 11:12 Lobe 6.2 Stage Metal to metal power section



Metal Rotor

Metal Stator

- No rubber, no reline
- Life expectancy between 500-1000 hours
- High corrosion resistance for compatibility with oil-based muds, acids, nitrogen, solvents and high chloride fluids
- Power section surface hardened for increased longevity
- In-house engineering, production, quality- and performance control

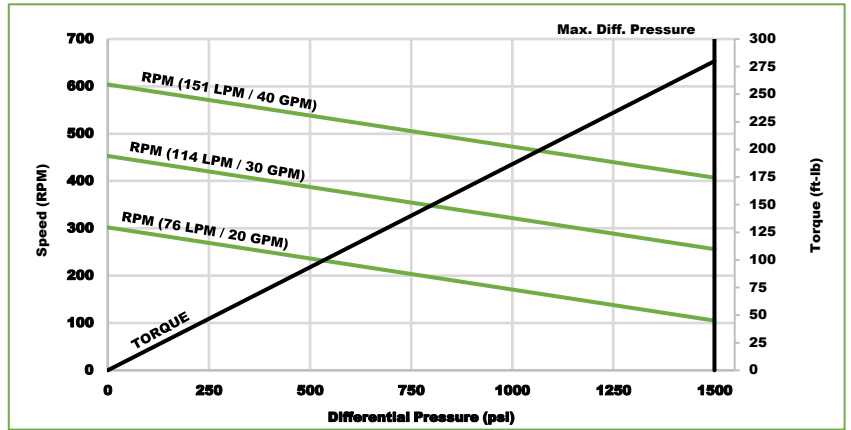


Full-Metal-Power
— POWER SECTIONS, PUMPS AND AGITATORS —

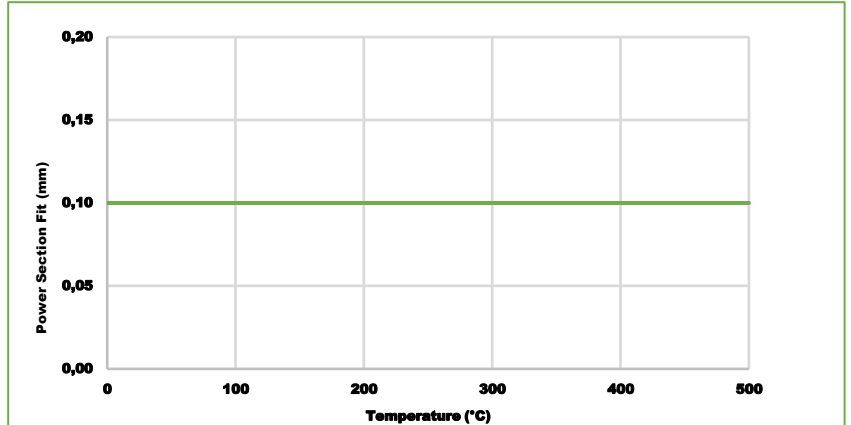
**Proprietary technology
for maximum performance**

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Performance Curve*



Power Section Fit Change



Performance Specifications*

	Metric	Imperial
Flow range	76-151 LPM	20-40 GPM
Max. operating temperature	500°C	932°F
Revolutions per unit volume	3,99 RPL	15,1 RPG
No load speed	302-604 RPM	
Maximum differential pressure	103 Bar	1500 PSI
Maximum torque	380 Nm	280 ft-lb
Motor power	16 Kw	22 HP

* Performance data is for reference only and is subject to change.

Rotor Specifications**

	Metric	Imperial
Total length	1504mm	59,2in
Profile length	1354mm	53,3in
Head length	150mm	5,9in
Rotor eccentricity	1,2mm	0,05in
Major diameter	28,6mm	1,13in
Minor diameter	23,8mm	0,94in
Head diameter	32,0mm	1,26in
Material	34CrAlNi7-10 (1.8550)	
Weight	6,4 kg	14,2 lbs

Stator Specifications**

	Metric	Imperial
Total length	1750mm	68,9in
Profile length	1344mm	52,9in
Stator outer diameter	38,1mm	1,50in
Major diameter	31,0mm	1,22in
Minor diameter	26,2mm	1,03in
Material	34CrAlNi7-10 (1.8550)	
Weight	6,5 kg	14,4 lbs

** Custom lengths and materials are available upon request.

Full-Metal-Power sections - operational guidelines

Configuration (lobes/stages)	Motor OD (mm/in)	Power section no load displacement (RPL/RPG)	Material type	Common pumped fluids	Nitrogen	Suspended solids compatibility**	BHT temperature range (°C/°F)
11:12 - 6.2 Stage	38mm (1.50in)	3,99 RPL (15.10 RPG)	34CrAlNi7-10 (1.8550)	Water, brine, diesel, solvents, HCL (5-15%)*	Maximum 75% of total volume	Maximum 1%	500°C (932°F)
9:10 - 5.3 Stage	43mm (1.69in)	2,07 RPL (7.84 RPG)	34CrAlNi7-10 (1.8550)	Water, brine, diesel, solvents, HCL (5-15%)*	Maximum 75% of total volume	Maximum 1%	500°C (932°F)
7:8 - 5.3 Stage	54mm (2.13in)	1,60 RPL (6.04 RPG)	34CrAlNi7-10 (1.8550)	Water, brine, diesel, solvents, HCL (5-15%)*	Maximum 75% of total volume	Maximum 1%	500°C (932°F)
9:10 - 4.0 Stage	73mm (2.88in)	0,58 RPL (2.20 RPG)	34CrAlNi7-10 (1.8550)	Water, brine, diesel, solvents, HCL (5-15%)*	Maximum 75% of total volume	Maximum 1%	500°C (932°F)
9:10 5.2 Stage	79mm (3.13in)	0,58 RPL (2.20 RPG)	34CrAlNi7-10 (1.8550)	Water, brine, diesel, solvents, HCL (5-15%)*	Maximum 75% of total volume	Maximum 1%	500°C (932°F)
9:10 4.9 Stage	127mm (5.00in)	0,14 RPL (0.53 RPG)	34CrAlNi7-10 (1.8550)	Water, brine, diesel, solvents, HCL (5-15%)*	Maximum 75% of total volume	Maximum 1%	500°C (932°F)
9:10 4.5 Stage	175mm (6.89in)	0,08 RPL (0.29 RPG)	34CrAlNi7-10 (1.8550)	Water, brine, diesel, solvents, HCL (5-15%)*	Maximum 75% of total volume	Maximum 1%	500°C (932°F)

* Acid will cause damage to rotor and stator reducing overall longevity and performance.

** Full-Metal-Power sections are susceptible to damage due to abrasives in the drilling medium. Longevity and performance may be affected.

Nitrogen

Although the power sections are capable of running 100% nitrogen or gaseous medium, it is recommended to only run 75% of total volume to lubricate the entire motor assembly.

Motor life

Motor life is affected by Abrasives such as sand content. For best motor performance and life, we recommend the motor be serviced after each use. Stator reuse should be determined by a bore scope examination, measurement, Dyno and the drilling conditions the power section has been exposed to.

Hydrogen Sulfide (H2S)

The materials used to manufacture the Full-Metal-Power sections are typically acceptable in a H2S environment for the exposure times seen by a thru tubing motor.

It is always best to use proper practices when running a motor in a well containing H2S. These may include but not be limited to keeping pH between 7.4 and 8.0, minimizing exposure of tools to H2S environments below 175°F (80°C) and running an oxygen scavenger/corrosion inhibitor as a component of the mud system. We also recommend a complete motor disassembly after each exposure to an H2S environment. This disassembly should include thread inspection and inspection for cracks.