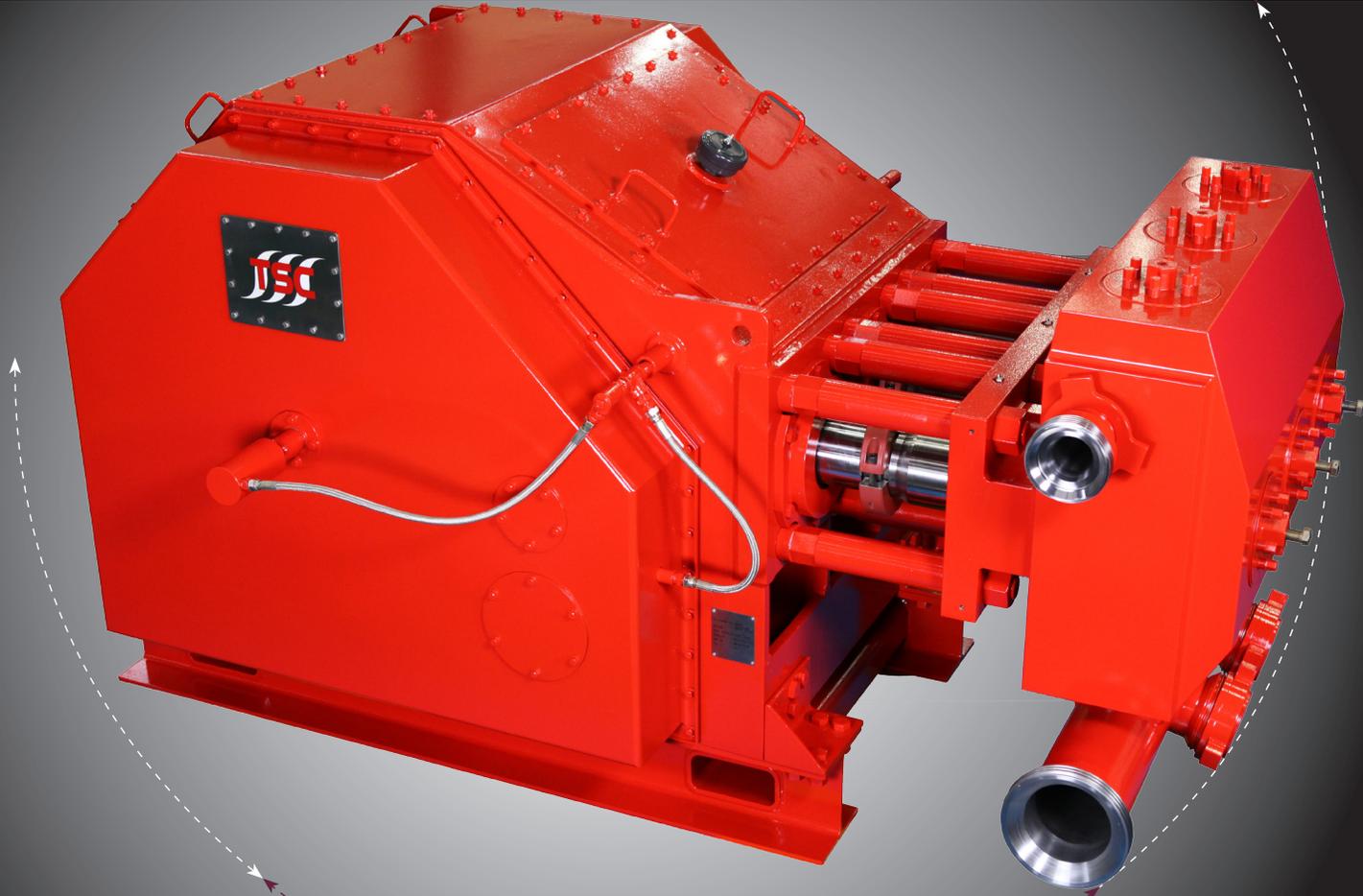




MEGAFORCE MF2250HP Triplex Frac Pump
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GLOBAL SOLUTIONS

DESIGNING, MANUFACTURING AND PACKAGING FOR THE OIL & GAS INDUSTRY

Beyond Integration
Seamless Solutions™

MEGAFORCE MF2250HP

Gear Set Assembly and Cranking designs are machined from a one piece forged, high strength alloy steel and heat treated for maximum service life.



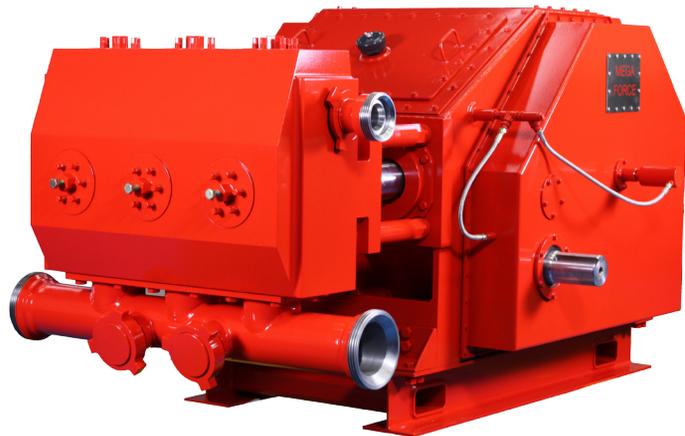
Our Bull Gears & Pinion Gears are machined to AGMA Quality 10 specifications from forged, high strength alloy steel and are heat treated for "Duralast" service life. These gears, featuring a helical gear profile, are mounted securely to the crankshaft with high strength bolts.

Equipped with premium SKF or equivalent anti-friction roller **bearings**, a minimum L10 service life of 30,000 hours at a rated load can be expected. Included in this specification are the cylindrical roller bearings on the crankshaft and double-row spherical roller bearings on the pinion. The end result is the capacity for durability, lower NVH and high efficiency with the ability to support extremely high load carrying capacity.

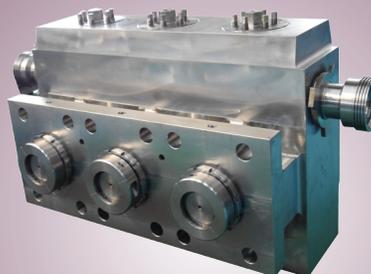
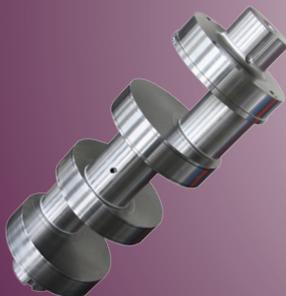


MEGAFORCE FRAC PUMP – BUILT STRONG FOR LONGER LIFE

Designed and built on robust engineering innovations, TSC's power end frame design delivers a pump featuring high strength light weight, alloy steel construction. Full penetration welds, free of porosity, slugs and other defects throughout the frame, complete the package.



Crankshaft - Featuring forged and heat treated steel construction, this robust crankshaft will reduce crosshead friction to the guides, lower piston NVH and reduced vertical load on the bearings for longer service life.

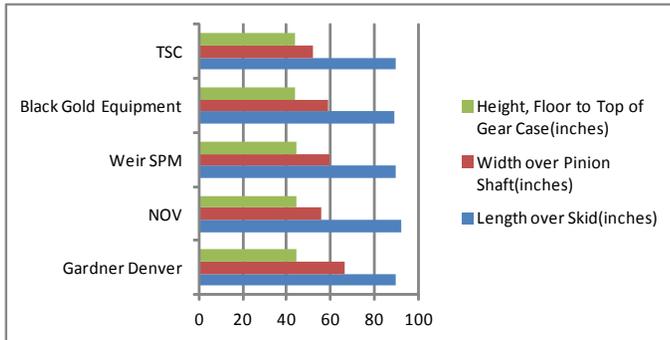


Crosshead assembly - Our crosshead assemblies are designed and manufactured with high quality parts to enhance superior performance. Constructed of forged and heat treated, low alloy steel combined in a no weld package, our assemblies deliver robust durability under continuous load and adverse operating conditions.

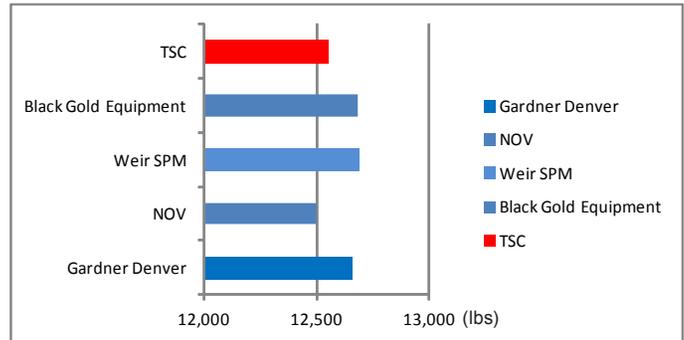
Fluid End Module - Innovative, autofrettaged, and interchangeable with multiple OEMs' fluid end modules and expendables.



Why Choose **MEGAFORCE**?



Pump Dimensions



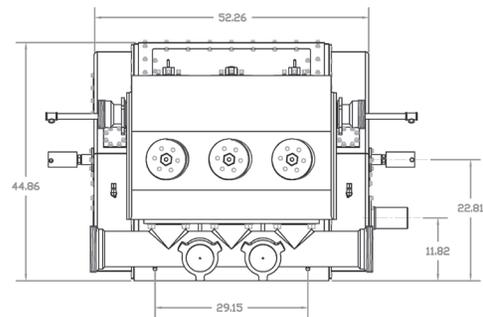
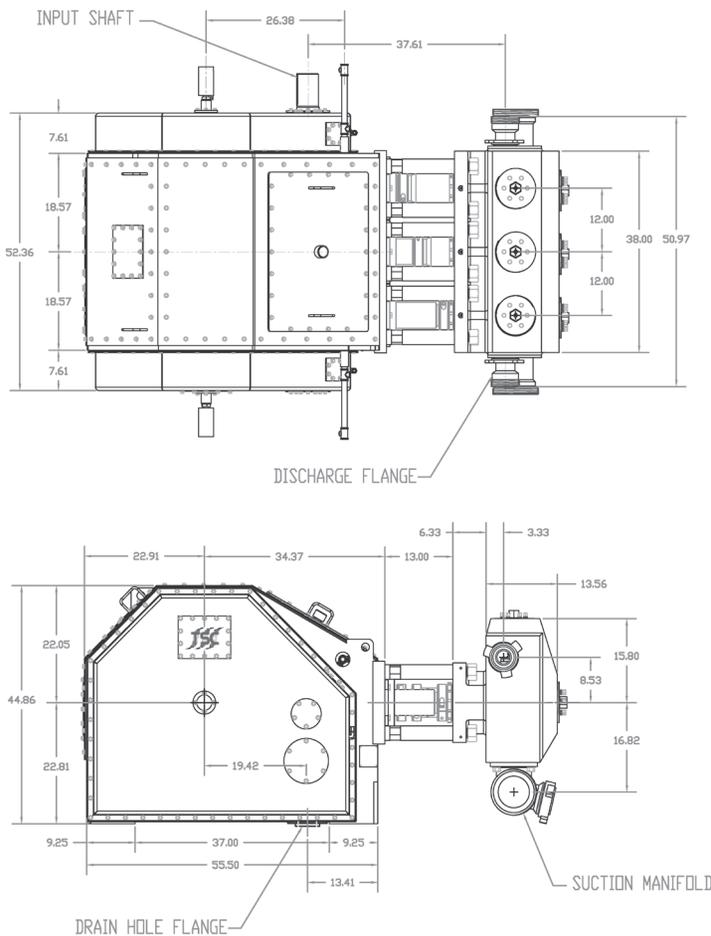
Lighter Weight

Counterweight

The counterweights mounted on the crankshaft subassembly, through bull gears, reduce the overall pump vibration and crankshaft stress levels. This results in overall reliability and durability of the pump.



Dimensions



MEGAFORCE MF2250HP

Specifications

Max Brake Horsepower:	2,250 HP
Max. Rod Load:	225,000 lbf
Mechanical Efficiency:	90%
No. of Plunger:	3
Max. Speed:	2,100 RPM
Gear Ratio:	6.353:1
Stroke Length:	8"
Approx. Length:	90"
Approx. Width:	52"
Approx. Height:	44"
Approx. Weights (Dry, not include skid):	12,550 lbs

Performance Characteristics

MEGAFORCE MF2250HP can handle the following plunger size range, pressure and output flow rate capabilities.

Plunger Diameter IN	Output per Rev. GAL/REV	SAMPLE DATA SHOWS DISPLACEMENT AT PUMP STROKES PER MINUTE/PINION RPM									
		65/413		118/750		213/1353		301/1912		329/2090	
		GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI	GPM	PSI
3 1/2	1.000	65	23,386	118	20,372	213	16,302	301	11,536	329	10,554
3 3/4	1.148	75	20,372	135	20,372	244	14,200	345	10,049	378	9,194
4	1.306	85	17,905	154	17,905	278	12,481	393	8,832	430	8,080
4 1/2	1.652	107	14,147	195	14,147	352	9,861	497	6,978	544	6,384
5	2.040	133	11,459	241	11,459	435	7,988	614	5,652	671	5,171
5 1/2	2.468	160	9,470	291	9,470	526	6,601	743	4,671	812	4,274
5 3/4	2.698	175	8,665	318	8,665	575	6,040	812	4,274	888	3,910
6	2.938	191	7,958	347	7,958	626	5,547	884	3,925	966	3,591
6 1/2	3.448	224	6,781	407	6,781	734	4,726	1,038	3,345	1,134	3,060
6 3/4	3.718	242	6,288	439	6,288	792	4,383	1,119	3,101	1,223	2,838
7	3.998	260	5,846	472	5,846	852	4,075	1,204	2,884	1,315	2,638
7 1/2	4.590	298	5,093	542	5,093	978	2,550	1,382	2,512	1,510	2,298
MM	LITER/REV	LPM	MPA	LPM	MPA	LPM	MPA	LPM	MPA	LPM	MPA
88 8/9	3.8	246	161	446	161	806	112	1,139	80	1,245	73
95 1/4	4.3	282	140	513	140	925	98	1,307	69	1,429	63
101 3/5	4.9	321	123	583	123	1,053	86	1,488	61	1,626	56
114 2/7	6.3	407	98	738	98	1,332	68	1,883	48	2,058	44
127	7.7	502	79	911	79	1,645	55	2,324	39	2,541	36
139 2/3	9.3	607	65	1,103	65	1,990	46	2,813	32	3,074	29
146	10.2	664	60	1,205	60	2,175	42	3,074	29	3,360	27
152 2/5	11.1	723	55	1,312	55	2,369	38	3,347	27	3,658	25
165	13.1	848	47	1,540	47	2,780	33	3,928	23	4,294	21
171 4/9	14.1	915	43	1,661	43	2,998	30	4,236	21	4,630	20
177 4/5	15.1	984	40	1,786	40	3,224	28	4,556	20	4,980	18
190 1/2	17.4	1,129	35	2,050	35	3,701	24	5,230	17	5,716	16

Optional Equipment

- Lubrication System (Pump Lube Kit)
- Discharge Pressure Gauge
- Pressure Relief Valve
- Pulsation Dampener
- Heat Exchanger
- Oil Cooler System
- Use of Relief Return Line - Hose or Pipe - Dia. 3.00 ID



MEGAFORCE MAKE THE DIFFERENCE

TSC

- ✓ **Innovative Design** - Engineered for a compact light weight and harmonically balanced and aligned equipment.
- ✓ **Frame** - A durable and robust design reinforced with high strength, stress-relief heat treated, low alloy steel. Capable of high discharge pressure outputs of up to 24,000 psi.
- ✓ **Crankshaft** - A high quality durable and forged design of heat treated alloy steel. Our crankshafts are carefully balanced and mounted to the power frame with four cylindrical roller bearings.
- ✓ **Connecting Rod** - Constructed from forged, heat treated, low alloy steel. Designed and manufactured with high quality parts combined with a no weld package, our connecting rods deliver robust durability under continuous load and adverse operating conditions.
- ✓ **Bull Gear** - Made of forged, heat treated, alloy steel with helical gears accurately machined to AGMA Quality 10 specifications.
- ✓ **Pinion Shaft** - Made of forged, heat treated, alloy steel with helical gears accurately machined to AGMA Quality 10 specifications. Additionally, the gear teeth are surfaced hardened to BHN 360.
- ✓ **Bearing** - Premium SKF, or equivalent bearings, typically with the minimum L10 life of 30,000 hours at rated load.
- ✓ **Crosshead** - A robust, ductile, cast iron design with optimized lubrication and interchangeable guides to help reduce friction.
- ✓ **Lube System** - Electric lube system standard.
- ✓ **Fluid End Modules** - Autofrettaged and interchangeable with multiple OEM fluid end modules & components.

COMPETITION

- **Design** - Generally characterized as unbalanced, heavy and large, comparatively insufficient power to weight ratio.
- **Frame** - Requires more welded areas. Capable of handling a discharge pressure of 15,000 PSI.
- **Crankshaft** - Cast alloy steel single or multi-piece core with welded components.
- **Connecting Rod** - Generally made from 3-piece, welded casting.
- **Bull Gear** - Gear from ANSI 4140 steel, forced machined to AGMA Quality 8 specifications.
- **Pinion Shaft** - Forged pinion shaft, gear machined AGMA Quality 8, teeth surface hardened to BHN 320 - 350.
- **Bearing** - L10 life of 15, 000 hours or less under rated load.
- **Crosshead** - Slides are not interchangeable.
- **Lube system** - Not offered as standard.
- **Fluid End Modules** - Interchangeable only with single OEM counterpart.



MEGAFORCE Triplex Frac Pump

- Localized Service through a Global Network
- Maintenance / Repair Service
- Internal Repair / Replacement Service
- 24x7x365 Technical Support



- API SPEC Q1 ISO 9001: 2008
ISO / TS 29001
- World Class R&D Team
- Fully Stocked Local Inventories
- Global Quality System

- Worldwide Immediate Parts Support
- Global Supply Network
- Rental Services

