BETTER OIL TOOLS

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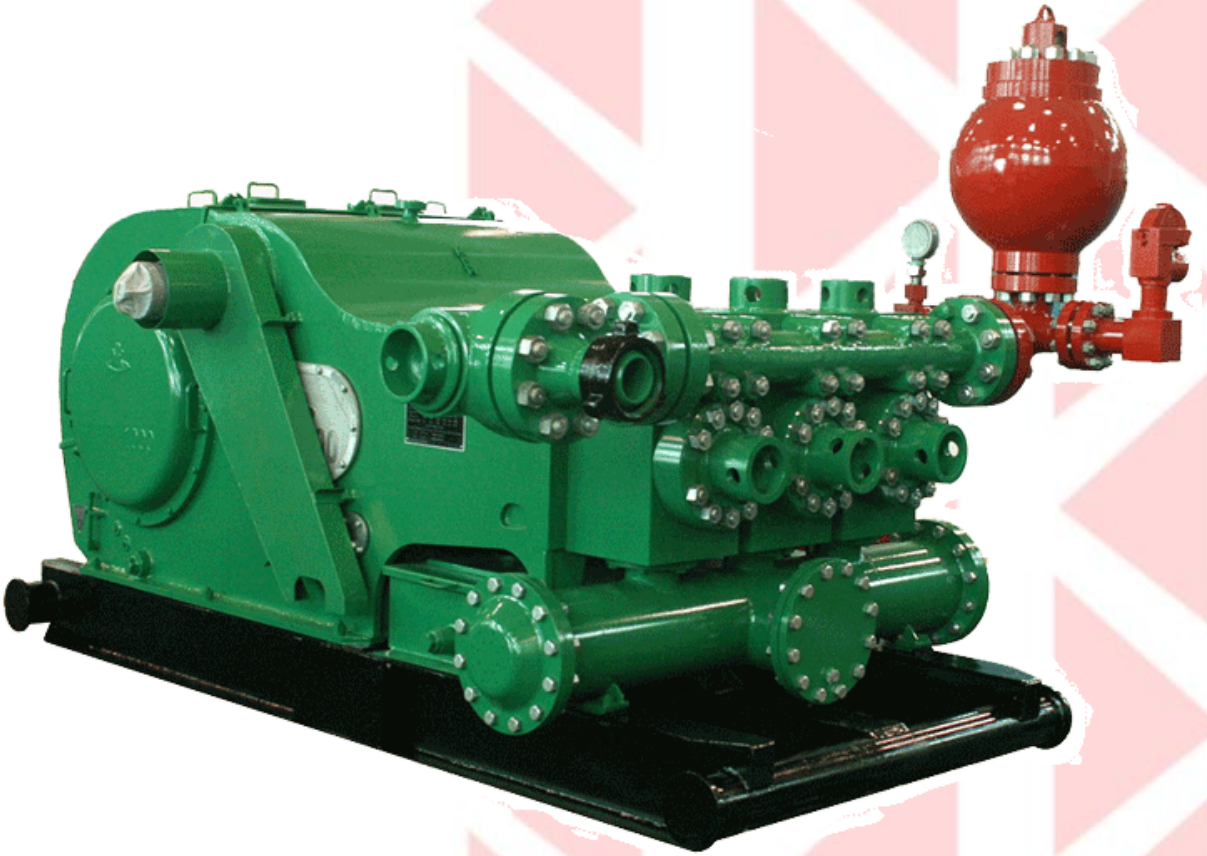
BETTER OIL TOOLS
Mud Pump F Series



BETTER OIL TOOLS Product and Services

Today Better Oil tools operates on a global basis focusing on the provision of specialist services and manufacture of proprietary products for oil and gas producers and drilling contractors.

Better Oil Tools are specialist to the oil and gas industry which we provided a best quality spares parts and equipment to ensure complete client satisfaction.
Better Oil Tools Ltd, is a distributor for Oilfield equipment and parts a specially in China rig equipments, we have a sourcing team in place which handles the orders from the beginning of manufacturing to the inland freight and international freight.

Our success will always be based on continuous improvement of services, products and people in a healthy, safe and environmentally sound manner.

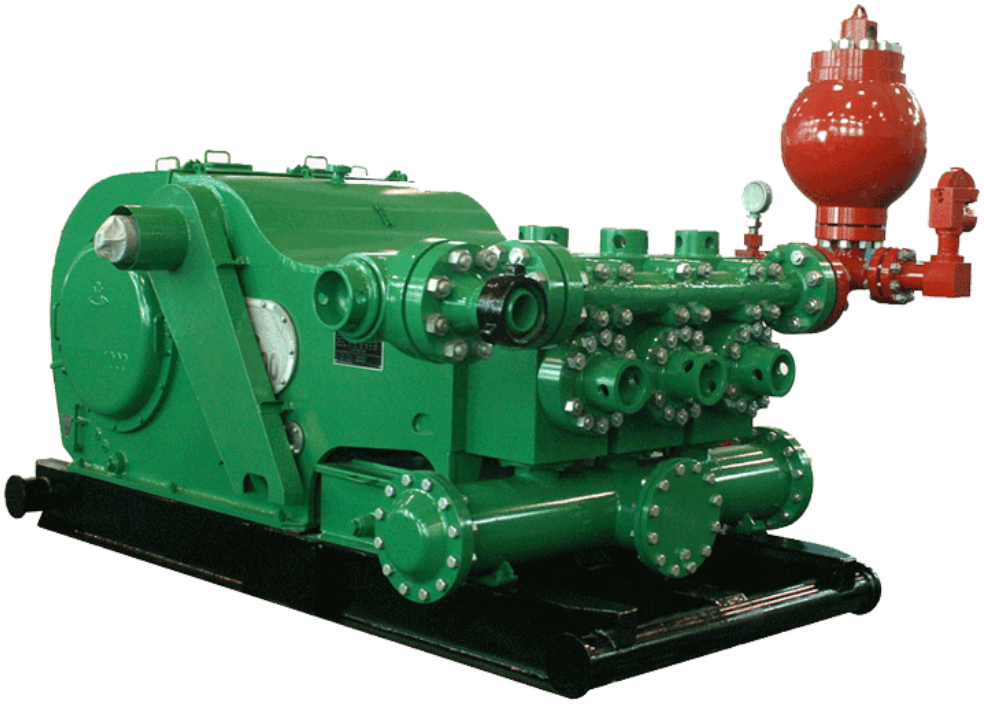
Our aim will always be to distinguish ourselves through quality and strive to be the first choice of our customers. With this in mind all our Handling tools are manufactured in accordance to API specifications 7K, 8A and 8C. As an example of our dedication to Quality within China we have English speaking engineers who work closely with our key sub vendors / factories.
Additionally our QA/QC engineers check all quality requirements prior to any shipment.

At present Better Oil tools Products and Services group are responsible but are not limited to the supply of the following:

- Rig Parts & Accessories
- Mud Pumps
- Fluid End Pump Parts
- Fishing Tools
- Flow Control Equipment
- Handling Tools
- BOP & Accessories
- Solid Control Equipment
- Drilling Tubular
- DNV 2.7 Shipping Tanks/Container/Baskets

Should you need more details on above items, please contact your nearest Better Oil tools Offices. Contacts are mentioned on the last page in this catalogue.

Triplex Single Acting Mud pump



F-500, F-800 and F-1000 Mud Pumps

- **Power End** (frame, pinion shaft, crankshaft, crosshead and extension rod)
- Continuous tooth herringbone gear.
- One-piece alloy steel crank.
- Renewable crosshead guide.
- The frame is made of welded steel plate to provide high strength, good rigidity and light weight.
- The extension rod packing is a duplex seal structure.
- The power end uses a combined lubricating system of forced lubrication and splash lubrication.
- **The** crankshaft bearing location is strengthened by using ribbed plates. The frame is furnished with the necessary oil basin and oil way system for cooling and lubricating purposes.
- **Crankshaft** is made of alloy steel and furnished with herringbone gear, connecting rod and bearing. The gear bore and the crankshaft surface are interference fitted and are fastened with bolts and lock nuts. Double row radial spherical roller bearings are mounted at both ends of the crankshaft.

- **The Pinion shaft** is made of forged alloy steel on which a herringbone gear with a medium-hard tooth surface is machined. For easy maintenance, a single row radial long cylindrical roller bearing with an inner ring is used. Both ends of the pinion shaft extend so that a sheave or sprocket can be mounted on either end.
- **The Crosshead and Extension Rod** are made of ASTM A48-83 steel offering good abrasion resistance and long service life. Upper and lower guides are used for F-800 and F-1000 mud pumps. F-500 mud pump is of cylindrical structure. The crosshead and the extension rod are joined by a bolted flange. The rigid connection ensures the concentricity of the crosshead and the extension rod. A light weight coupling is used to connect the extension rod to the piston rod.

- **Fluid End (cylinders, valve assembly, liners and pistons)**
- Cylinders are made of forged alloy steel; three cylinders of each pump are interchangeable. Valve-over-valve design reduces the cylinder volume and promotes volumetric efficiency. A discharge pulsation dampener, shear relief valve and discharge strainer are fitted at the outlet. F-500 pump suction inlet is fitted with 8"flange, F-500 pump suction inlet with 10"flange and F-1000 pump suction inlet with 12"flange.
- The suction and discharge valves for above three mud pumps are interchangeable. F-500 mud pump uses API#5 valve pot, F-800 and F-1000 mud pumps use API#6 valve pots.
- Pistons and Piston Rods are slide fitted, sealed with rubber seal ring and finally fastened with lock nuts to prevent the piston from looseness and to play a role in sealing.
  Notes: Cylinders, liners, pistons, valves, valve seats, valve springs, seal rings, valve covers and cylinder covers at the fluid end of F-800 and F-1000 mud pumps are all interchangeable.

- **Spraying System**
  The spraying system consist of a spray pump a cooling water box, and spray pipe, to cool and rinse liners and pistons and promote long service life.
  The spray pipe is mounted on the coupling between the extension rod and the piston rod and can reciprocate with the piston. Nozzles are near the piston end so that the lubricating-cooling fluid can rinse the contact surface between the piston and liner continuously. A durable fixed spray pipe may be used, too.

- **Lubricating System**
  The power end uses a combined lubricating system with forced and splash lubrication. The oil is conveyed through lubricating pipeline to the crosshead, extension rod, crosshead guide and all bearings by a gear oil pump. The working condition of the gear oil pump may monitored from the pressure gauge behind the frame.

- **Charging System**
  To prevent air locks occurring every mud pump is furnished with a complete charging system. This consists of a charging pump, a pump base, butterfly valves and a corresponding manifold. Mounted on the suction manifold of the mud pump, the charging pump is driven by a special purpose motor on the input shaft of the mud pump through V-belts to reduce the power consumption.

F-1300 and F-1600 Mud Pumps

Suction inlets on the F-1300 and F-1600 mud pumps are fitted with 12"flanges, F-1300 and F-1600 mud pumps are fitted with API#7 valve pots. The suction valves and the discharge valves are interchangeable. Cylinders are made of forged alloy steel and nickel plated to improve their corrosion resistance. Three cylinders of each pump are interchangeable. Valve-over-valve design reduces the cylinder volume and promotes the volumetric efficiency.

Notes: **Cylinders, liners, pistons, valve and seats, valve springs, seal rings, valve covers and cylinder covers at the fluid end of F-1300 and F-1600 mud pumps are all interchangeable.**

F Series Triplex Single Acting Pump Specifications

Model	**F-500**	**F-800**	**F-1000**	**F-1300**	**F-1600**
Bore * Stroke (in)	6 3/4 x 7 1/2	6 3/4 x 9.0	6 3/4 x 10	7 x 12	7 x 12
Speed Rated (SPM)	165	150	140	120	120
Horse Power rated (HP)	500	800	1000	1300	1600
Gear Type	**Herringbone**				
Gear Ratio	4.286:1	4.185:1	4.207:1	4.206:1	4.206:1
Lubricating	**Pressure & splash**				
Suction Inlet	8" Flange	10" Flange	12" Flange	12" Flange	12" Flange
Discharge outlet	**4" Flange x 5M**	**5" Flange x 5000 PSI API**			
Pinion Shaft (in)	5 1/2	7	7 3/4	8 1/2	8 1/2
Keys (in)	1 1/4 x 1 1/4	1 3/4 x 1 3/4	2 x 2	2 x 2	2 x 2
Valve pots	API 5#	API 6#	API 6#	API 7#	API 7#
Valve Cover	Screw type				
Cylinder Head	Screw Type				
Liner Lock	Screw type, metal-metal				
Weight (kg)	9,770	14,500	18,790	24,572	24,791

Performance Data Sheet F-500 pump (6 3/4 x 7 1/2)

SPM	HP	**Liner size (in) & working Pressure (psi)**							
		6 3/4	6 1/2	6	5 1/2	5 1/8	4 3/4	4 3/8	4
		1329	1500	1700	1957	2272	2657	3172	3829
		FLOW RATE (GPM)							
170	515	484.73	429.47	377.37	328.83	283.45	241.51	202.99	167.78
165*	500	470.49	416.80	366.29	319.07	275.14	234.39	196.93	162.76
150	454	427.75	378.95	333.05	290.05	250.08	213.15	179.12	147.99
140	424	399.26	353.62	310.76	270.79	233.46	198.91	167.12	138.10
130	394	370.77	328.43	288.60	251.40	216.84	184.66	155.25	128.34
120	363	342.15	303.11	266.44	232.14	200.09	170.55	143.24	118.45
110	333	313.66	277.91	244.28	212.75	184.26	156.30	131.37	108.55
1		2.85	2.53	2.22	1.93	1.67	1.42	1.19	0.99

Notes

1) Based on 100% volumetric efficiency and 90% mechanical efficiency.
2) * Recommended speed and input horsepower for continuous services.

Performance Data Sheet F-800 Pump (6 3/4 x 9)

SPM	HP	Liner size (in) & working Pressure (psi)							
		6 3/4	6 1/2	6	5 1/2	5 1/8	4 3/4	4 3/8	4
		1943	2200	2500	2872	3329	3900	4643	4900
		FLOW RATE (GPM)							
160	853	547.52	485.00	426.30	371.30	320.12	272.77	229.24	189.41
150*	800	513.55	454.66	399.66	300.20	300.20	255.75	214.87	177.67
140	747	479.06	424.32	373.01	280.16	280.16	238.74	200.62	165.80
130	693	444.90	394.12	346.37	260.11	260.11	221.72	186.24	153.93
120	640	410.60	363.78	319.73	240.19	240.19	204.58	171.87	142.06
110	587	376.44	333.44	293.08	220.14	220.14	187.56	157.62	130.19
1		3.42	3.03	2.66	2.32	2.00	1.71	1.43	1.18

Notes

1) Based on 100% volumetric efficiency and 90% mechanical efficiency.
2) * Recommended speed and input horsepower for continuous services.

Performance Data Sheet F-1000 Pump (6 3/4 x 10)

SPM	HP	Liner size (in) & working Pressure (psi)						
		6 3/4	6 1/2	6	5 1/2	5 1/8	4 3/4	4 3/8
		2343	2643	3014	3457	4000	4700	4900
		FLOW RATE (GPM)						
150	1072	570.34	505.18	443.98	386.86	333.58	284.24	238.74
140*	1000	532.35	471.54	414.43	361.01	311.28	265.25	222.91
130	929	494.23	437.91	384.88	335.29	288.99	246.26	206.95
120	857	456.24	404.14	355.21	309.44	266.83	227.40	190.99
110	786	418.25	370.51	325.66	283.72	244.54	208.40	175.16
100	714	380.27	336.74	295.98	257.86	222.38	189.41	159.20
1		3.80	3.37	2.96	2.58	2.22	1.89	1.59

Notes

1) Based on 100% volumetric efficiency and 90% mechanical efficiency.
2) * Recommended speed and input horsepower for continuous services.

Performance Data Sheet F-1300 (7 X 12)

SPM	HP	Liner size (in) & working Pressure (psi)					
		7	6 3/4	6 1/2	6	5 1/2	5 1/8
		2643	2957	3343	3800	4357	4900
		FLOW RATE (GPM)					
130	1408	665.04	240.19	525.36	461.78	402.30	346.90
120*	1300	613.86	2.67	485.00	426.30	371.30	320.12
110	1192	562.69	501.88	444.63	390.69	340.43	293.48
100	1083	511.51	456.24	404.14	355.21	309.44	266.83
90	975	460.33	410.60	363.78	319.73	278.44	240.19
1		5.12	4.56	4.04	3.55	3.09	2.67

Notes

1) Based on 100% volumetric efficiency and 90% mechanical efficiency.
2) * Recommended speed and input horsepower for continuous services.

Performance Data Sheet F-1600 (7 X 12)

SPM	HP	Liner size (in) & working Pressure (psi)					
		7	6 3/4	6 1/2	6	5 1/2	5 1/8
		3243	3643	4114	4672	4900	4900
		FLOW RATE (GPM)					
130	1733	665.04	593.15	525.36	461.78	402.30	346.90
120*	1600	613.86	547.52	485.00	426.30	371.30	320.12
110	1467	562.69	501.88	444.63	390.69	340.43	293.48
100	1333	511.51	456.24	404.14	355.21	309.44	266.83
90	1200	460.33	410.60	363.78	319.73	278.44	240.19
1		5.12	4.56	4.04	3.55	3.09	2.67

Notes

1) Based on 100% volumetric efficiency and 90% mechanical efficiency.
2) * Recommended speed and input horsepower for continuous services.

Technical specification of F-2200HL drilling pump

Pattern	Horizontal triplex single-action plunger piston/ piston pump (In case of low pressure, liners piston can be installed)
Rated output power (kW)	1640
Rated stroke (r/min)	105
Length of stroke (mm)	356
Maximum liners (mm)	230
Gear pattern	Double helical tooth
Gear ratio	3.5122:1
Joint size of suction inlet (mm)	Flange 305
Joint size of discharge outlet (mm)	Flange 130 flange (70MPa)
Diameter of shaft pinion (mm)	254
Extension of shaft pinion (mm)	410
Key joint size (mm)	63.5X44.45
Valve pots size (mm)	API-$8^{\#L}$-type
Outer size (length × width × height) (mm)	5740×3021×3160
Width of the pedestal (mm)	2131
Weight of the unit (Kg)	43080

Performance Data of F-2200HL Mud Pump

Strokes per minute	Rated Power		Liner size(in) & Pressure Rating MPa(psi)										
			230	220	210	200	190	180	170	**160	**150	**140	**130
			19.0 (2760)	20.8 (3015)	22.8 (3310)	25.1 (3645)	27.9 (4040)	31.0 (4505)	34.8 (5050)	39.3 (5700)	44.7 (6485)	51.3 (7445)	52.0 (7500) (Max.)
	KW	HP	Displacement(L/S)										
*105	*1640	2200	77.65 (1231)	71.05 (1126)	64.73 (1026)	58.72 (931)	52.99 (840)	47.56 (754)	42.42 (672)	37.58 (596)	33.03 (524)	28.77 (456)	24.81 (393)
90	1406	1886	66.56 (1055)	60.9 (965)	55.49 (880)	50.33 (798)	45.42 (720)	40.77 (646)	36.36 (576)	32.21 (511)	28.31 (449)	24.66 (391)	21.26 (337)
80	1250	1676	59.16 (938)	54.13 (858)	49.32 (782)	44.74 (709)	40.37 (640)	36.24 (574)	32.32 (512)	28.63 (454)	25.16 (399)	21.92 (347)	18.90 (300)
70	1094	1467	51.76 (820)	47.36 (751)	43.16 (684)	39.14 (620)	35.33 (560)	31.71 (503)	28.28 (448)	25.05 (397)	22.02 (349)	19.18 (304)	16.54 (262)
60	937	1257	44.37 (703)	40.6 (644)	36.99 (586)	33.55 (532)	30.28 (480)	27.18 (431)	24.24 (384)	21.47 (340)	18.87 (299)	16.44 (261)	14.18 (225)
50	781	1048	36.97 (586)	33.83 (536)	30.83 (489)	27.96 (443)	25.23 (400)	22.65 (359)	20.20 (320)	17.89 (284)	15.73 (249)	13.70 (217)	11.81 (187)
1			0.7395 (11.72)	0.6766 (10.72)	0.6165 (9.772)	0.5592 (8.863)	0.5047 (8.000)	0.4530 (7.180)	0.4040 (6.404)	0.3579 (5.673)	0.3146 (4.986)	0.2740 (4.343)	0.2363 (3.745)

Note:

1. Based on 100% volumetric efficiency and 90% mechanical efficiency.
2. * Recommended strokes and input power of continuous service.
3. .** When the working pressure exceeds 34.5 Mpa, the plunger structure is used.

Contact Us

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