

中国·山东  
SHANDONG·CHINA

德州利安 L&A 石油机械



德州利安石油机械有限公司  
DEZHOU L&A PETROLEUM MACHINERY CO., LTD

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# 公司简介

## Brief Introduction



德州利安石油机械有限公司(下设德州利美石油机械制造有限公司)创建于2005年,员工100多人,是从事钻井、采油等石油机械制造的现代化企业。公司位于中国山东省德州市,占地55亩,建筑面积20000多平方米,固定资产3千万元。

Dezhou L&A Petroleum Machinery Co., Ltd(Subsidiary Dezhou L&M Petroleum Machinery Manufacture Co., Ltd) founded in the year of 2005,

specialized in manufacturing the products in drilling and oil extraction. It is located in Dezhou city, Shandong province and owned 55 acres. Construction area over 20,000 square meters. Capital asserts more than 30,000,000RMB(about USD5,000,000) with more than 100 workers and staffs.

公司拥有完整的ERP管理系统和先进的CAD、CAE等计算机辅助设计软件,拥有各类冷、热加工生产设备100多套,各类数控设备50余台,先进的数控车、铣、钻、镗等精细加工设备、一流的数控热处理系统为产品制造质量提供了可靠的保障。公司技术实例雄厚,检测手段完善,有着一套严格的管理制度、严密的控制手段和完善的质量体系保证。

Company has advanced ERP managing system, advanced CAD and CAE computer subsidiary design software. All types of cool and hot machining equipment more than one hundred sets. Over 50sets CNC machine including Lathe, Mill, Drill and Borer Machine for precise machining. The top-ranking CNC heat treating systems assured the products with high quality. Our company has powerful technic and perfect testing measure with severe managing, controlling and completely quality assurance systems.



主要产品有：全系列各类美国及中国产泥浆和柱塞泵配件（包括EMSCO、NATIONAL、OILWELL、IDECO、GARDNER DENVER），LW446泥浆泵、离心泵、剪切泵、闸阀、蝶阀及井口工具、钻杆接头、扶正器等石油机械产品。

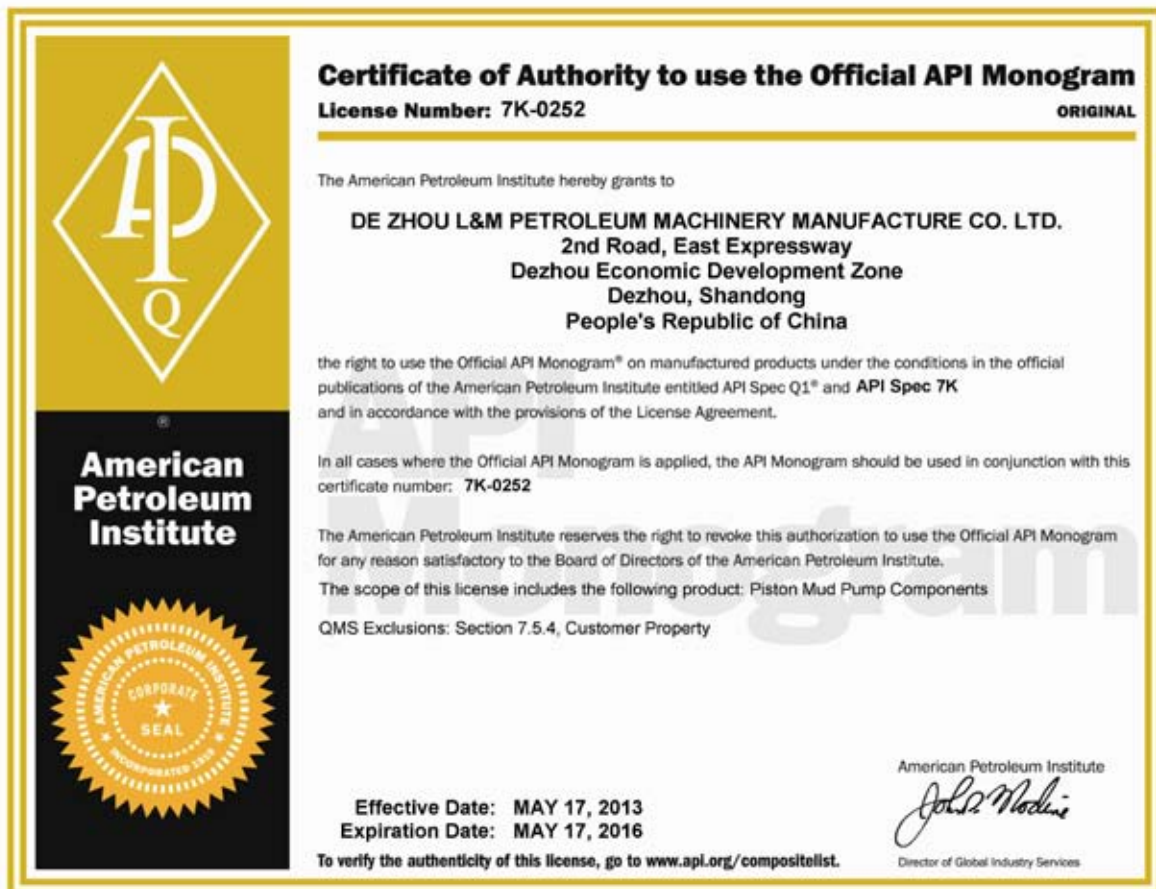
Main petroleum machinery products: All kinds of American and Chinese Mud Pumps, Plunger Pumps (including EMSCO, NATIONAL, OILWELL, IDECO, GARDNER DENVER), LW446 Mud Pump, Centrifugal Pump, Shear Pump and all kinds of Pump Parts. Gate Valve, Butterfly Valve, Down Hole Tools, Tool Joint and Stabilizers etc.

公司自成立以来，产品遍及世界各地及全国各大油田，90%以上的主导产品已远销美洲、欧洲、亚洲的近20个国家和地区，年出口收入1亿余元，并以价格合理、服务及时和质量可靠在国内外市场上广受赞誉。

Our products covered all national oil fields and over 90% of our products exported to America, Europe and Asia more than 20 countries and areas with the annual exporting amount 100,000,000RMB(ABOUT USD15,000,000). We take a high reputation at home and abroad for reasonable price, prompt and thoughtful service and reliable quality.

德州利安石油机械有限公司热诚希望与国内外各地朋友精诚合作、增进友谊、携手共进。

We sincerely hope to be your best partner to extend the national and international market.



# 【 F 系列泥浆泵 】

## (一) F系列泥浆泵特点:

1. 冲程较长, 可保持在较低的冲数下使用, 以延长液力端易损件的使用寿命;
2. 强制润滑和飞溅润滑相结合的润滑方式, 保证更有效的润滑;
3. 结构先进, 耐用, 提高了泵的平稳运转, 在中深钻井作业时能满足用户的特殊要求;
4. 体积小, 使用可靠, 吸入阀和排出阀可以互换, 每台泵的三个液缸和液力端的主要零部件均可互换;
5. 液力端极大地提高了三缸泥浆泵的性能, 此外, 其独立的设计便于快速检查, 方便维修。



### Features of series F mud pump:

1. Having long stroke, being able to operate under low stroke to lengthen the use of expendable parts at the fluid end;
2. Forced lubrication combined with splash lubrication to make lubrication effect;
3. Advanced structure, durable, can ensure itself to operate smoothly, and meet the special requirements of customers to drill medium deep wells;
4. Compact, safe, suction valve and discharge valve are interchangeable, main components of hydraulic cylinder and fluid end on each pump are interchangeable;
5. Durable fluid end greatly improves the performance of triplex mud pump; furthermore, its independent structure makes examination and maintenance convenient.

### 主要技术参数

#### Performance parameter table

型号 Model	F-1600	F-1300	F-1000	F-800	F-500
型式 Type	卧式三缸单作用活塞泵 Triplex Single Acting Piston Pump				
额定输入功率 千瓦/马力 House Power Rating KW/HP	1176/1600	956/1300	735/1000	590/800	370/ 500HP
额定冲数 (次/分) Stroke Per Minute	120		140	150	165
冲程长度 (毫米/英寸) Size ,Maximum Bore × Stroke	180 × 305MM (7" × 12" )		170 × 254MM (6-3/4" × 10" )	170 × 229MM (6-3/4" × 9" )	170 × 191MM (6-3/4" × 7.5" )
齿轮传动比 Gear Rating	4.23:1		4.207:1	4.185:1	4.286:1
吸入口联接尺寸In Suction Inlet	12			10	8
排出口联接尺寸In Discharge Outlet	5				4
小齿轮轴直径 (毫米/英寸) Pinion Shaft Size	215.9(8- 1/2" )		196.9(7-3/4" )	177.8(7" )	139.7(5-1/2" )
阀腔尺寸 Valve Pots	API-7#		API-6#	API-6#	API-5#
主机重量 (千克) Weights Kg	24143	23924	18790	13000	9770

× 5 ×



# 【 F MUD PUMP 】

## (一) F-1600钻井泵性能参数 Performance Data F-1600 Pump

缸套内孔直径 (Mm) Liner Size (Mm)		180	170	160	150	140	
额定压力 Mpa (Kgf/Cm2) Pressure Rating		22.76 (232)	25.51 (260)	28.84 (294)	32.77 (334)	34.34 (350)	
冲次 (次/分) Stroke Per Minute	功率 Horsepower Rating Mpa		排量, 升/秒 Volume-Liters Per Second				
	KW	HP					
130	1273	1732	50.42	44.97	39.83	35.01	30.50
120	1176	1600	46.53	41.51	36.77	32.31	28.15
110	1078	1466	42.66	38.05	33.71	29.62	25.81
100	979	1332	38.78	34.59	30.64	26.93	23.46
90	881	1199	34.90	31.13	27.58	24.24	21.11
80	784	1066	31.02	27.67	24.51	21.54	18.77
1			0.3878	0.3459	0.3064	0.2693	0.2346

## (二) F-1000钻井泵性能参数 Performance Data F-1000 Pump

缸套内孔直径 (Mm) Liner Size (Mm)		170	160	150	140	130	
额定压力 Mpa (Kgf/Cm2) Pressure Rating		16.46 (168)	18.59 (190)	21.18 (216)	24.27 (247)	28.19 (287)	
冲次 (次/分) Stroke Per Minute	功率 Horsepower Rating Mpa		排量, 升/秒 Volume-Liters Per Second				
	KW	HP					
150	791	1070	43.26	38.30	33.62	29.33	25.25
140	738	1000	40.39	35.76	31.39	27.39	23.58
130	686	929	37.52	33.22	29.16	25.45	21.91
120	646	875	35.34	31.29	27.47	23.97	20.63
110	580	786	31.75	28.11	24.67	21.53	18.53
100	527	714	28.84	25.53	22.41	19.56	16.84
1			0.2884	0.2553	0.2241	0.1956	0.1684

## (三) F-800钻井泵性能参数 Performance Data F-800 Pump

缸套内孔直径 (Mm) Liner Size (Mm)		170	160	150	140	130	
额定压力 Mpa (Kgf/Cm2) Pressure Rating		16.46 (168)	18.59 (190)	21.18 (216)	24.27 (247)	28.19 (287)	
冲次 (次/分) Stroke Per Minute	功率 Horsepower Rating Mpa		排量, 升/秒 Volume-Liters Per Second				
	KW	HP					
160	629	853	41.51	36.78	32.32	28.16	24.28
150	590	800	38.92	34.48	30.30	26.40	22.76
140	551	747	36.33	32.18	28.28	24.64	21.24
130	511	693	33.73	29.88	26.26	22.88	19.73
120	472	640	31.14	27.58	24.24	21.12	18.21
110	433	587	28.54	25.28	22.22	19.36	16.69
1			0.259	0.230	0.202	0.176	0.152

# 【 PZ系列泥浆泵 】

德州利安石油机械有限公司生产的PZ系列钻井泥浆泵外形美观、设计先进、结构合理、效率高。动力端小齿轮轴、大齿圈采用硬面齿，耐磨损，齿面系磨削成形，传动平稳。该泵动力端的主要部件及液压端的所有部件可与美国同类泵的零部件互换。



The optimized pump by DEZHOU L&A PETROLEUM MACHINERY CO.,LTD features pleasing shape, advanced design, reasonable structure, and high efficiency. At power end, pinion shaft and bull gear are both of hard teeth, wear-resistant and transmission stable. Main parts at power end and all parts of fluid end are exchangeable with similar pumps from the United States.

主要技术参数  
Performance parameter table

	PAH	PZ7	PZ8	PZ9	PZ11
额定输入功率 ( KW ) Input power rating	205 (275HP)	410 (550HP)	559 (750HP)	746 (1000HP)	1193 (1600HP)
额定冲次 ( 冲 / 分 ) Rated pump speed ( SPM)	175	145	145	130	115
冲程 ( mm ) Stroke Length	203.2(8 " )	178 (7 " )	203(8 " )	228.6(9 " )	279(11 " )
齿轮传动比 Gear ratio	4.7:1	4.625:1	4.5:1	4.483:1	4.38:1
传动轴额定转速 ( 转 / 分 ) Rated speed of transmission shaft (RPM)	823	670	652	582	504
最大工作压力 (Kg/sq.cm) Max. working pressure	219 (3118PSI)	352 (5000PSI)	352 (5000PSI)	352 (5000PSI)	352 (5000PSI)
阀尺寸 ( API ) Valve size	4#	7#	7#	7#	7#
最大缸套直径 ( mm ) Max. liner diameter	Φ 127 (5 " )	Φ 7 " )	Φ 7 " )	Φ 7 " )	Φ 7 " )
最大缸套排量 ( 加仑 / 分 ) Max. displacement (GPM)	357	507	580	585	632
最大缸套时泵压 (Kg/sq.cm) Max. liner pressure	79(1122PSI)	118 (1673PSI)	140 (1996PSI)	186 (2639PSI)	275 (3905PSI)
吸入管直径 ( mm ) Diameter of suction	158 (61/4 " )	203 (8 " )	254 (10 " )	254 (10 " )	254 (10 " )
排出管直径 ( mm ) Diameter of discharge pipe	58 (2 9/32 " )	100 (4 " )	100 (4 " )	100 (4 " )	100 (4 " )
外形尺寸 ( L×W×H ) Overall dimensions ( with steel skid,L×W×H )	2900×1700×2000 mm	3205×2250×2480 mm	3650×2460×2520 mm	4320×2500×2600 mm	4380×2700×2700 mm
重量 ( 吨 ) (含排出空气包、排出五通) Weight ( ton ) ( include five way joint and pulsation dampener )	5.6T	10.8T	12.2T	15.5T	21T
重量 ( 吨 ) (不含排出空气包、排出五通) Weight ( ton ) ( exclude five way joint and pulsation dampener )		8.3T	10T	12.48T	17.6T



# 【 PZ MUD PUMP 】

## (一) PZ7 泥浆泵排量和压力关系 Pump Performance Data

缸套直径 Dia. of Liner	英寸 IN	7 "	6-1/2 "	6 "	5-1/2 "	5 "	4-1/2 "	4 "
排量 Displacement	加仑/分钟 Gallon/Minute	507	437	373	313	259	210	166
	升/分钟 Liter/Minute	1919	1654	1412	1185	980	795	628
排出压力 Discharge Pressure	磅/平方英寸 PSI	1673	1940	2277	2710	3279	4048	5000
	(千克/平方厘米) Kg/sq.cm)	118	136	160	191	231	285	352

## (二) PZ8 泥浆泵排量和压力关系 Pump Performance Data

缸套直径 Dia. of Liner	英寸 IN	7 "	6-1/2 "	6 "	5-1/2 "	5 "	4-1/2 "	4 "
排量 Displacement	加仑/分钟 Gallon/Minute	580	500	426	358	296	240	189
	升/分钟 Liter/Minute	2196	1893	1613	1355	1120	908	715
排出压力 Discharge Pressure	磅/平方英寸 PSI	1996	2315	2717	3233	3912	4830	5000
	(千克/平方厘米) Kg/sq.cm)	140	163	191	227	285	340	352

## (三) PZ9 泥浆泵排量和压力关系 Pump Performance Data

缸套直径 Dia. of Liner	英寸 IN	7 "	6-1/2 "	6 "	5-1/2 "	5 "	4-1/2 "
排量 Displacement	加仑/分钟 Gallon/Minute	585	504	430	361	298	212
	升/分钟 Liter/Minute	2214	1908	1628	1367	1128	916
排出压力 Discharge Pressure	磅/平方英寸 PSI	2639	3060	3592	4274	5000	5000
	(千克/平方厘米) Kg/sq.cm)	186	215	253	301	352	352





# 【 LW440/LW446 泥浆泵 】

## 一、单作用三缸泵技术规范

额定输入功率：328KW(440HP)

最高冲次：320冲/分(320SPM)

冲程：152.4mm(6")

齿轮传动比：4.578 : 1

最高工作压力：28Mpa (LW440) | 35Mpa (LW446)

最大缸套直径：4-1/2" (LW440) | 6" (LW446)

最大缸套泵压：( 220冲/分 ) 16.9Mpa

阀腔：Valve-Over API 4#

吸入管口：6" (150#)法兰

排出管口：3" (900#)法兰

小齿轮轴直径：95.25 mm(3.75")

小齿轮轴键：22.174 × 15.9mm

泵外形尺寸：( 不包括底座 ) 2479 × 1219 × 1103 mm

重量：4463 kg



## 二、结构特点

整机结构设计紧凑、体积小、重量轻，齿轮副为整体人字齿轮传动，传动扭矩大、工作平稳。

LW-446 单作用三缸泵可广泛用于油田的各种作业，缸套规格3 1/2"---6"，宜采用活塞结构，适宜修井作业以及浅井钻井等，缸套规格2"---3 1/4"适宜采用柱塞，可适用于高压作业。

LW440 主要技术参数  
Performance parameter table

LW-440 泵参数 LW-440Parameter			冲次/分 (Stroke/Min.)		320		270		220		170		120		70	
			额定输入 ( 马力 ) Rated Input (HP)		440		380		320		260		200		200	
缸径 Liner Dia. ( in )	压力 Pressure		加仑/转 Gallon/ Turn	升/转 Liter/Turn	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min
	PSI	Mpa														
4-1/2"	1710	11.793	1.239	4.690	397	1503	335	1268	273	1033	211	799	149	564	87	329
4"	2169	14.959	0.979	3.706	313	1185	264	999	215	814	167	633	118	447	69	261
3-1/2"	2816	19.421	0.750	2.839	240	908	202	764	165	625	127	481	90	341	52	197

# 【 LW440/LW446 PUMP 】

## 1. Specification

Rated input power: 328KW(440HP)  
 Max. stroke per minute: 320 stroke/minute(320SPM)  
 Stroke: 152.4mm(6")  
 Gear Ratio: 4.578:1  
 Max. operation pressure: 28Mpa (LW440) | 35Mpa (LW446)  
 Max. liner dia.: 4-1/2" (LW440) | 6" (LW446)  
 Max. liner mud pressure: 220 stroke/minute 16.9Mpa  
 Valve chamber :Valve-Over API 4#  
 Dia. of suction manifold: 6"(150#) Flange  
 Dia. of discharge manifold: 3"(900#) Flange  
 Dia. pinion shaft:95.25 mm(3.75")  
 Key:22.174 × 15.9mm  
 Dimension: No included base 2479 × 1219 × 1103 mm  
 Weight:4463 kg



## 2. Structure character

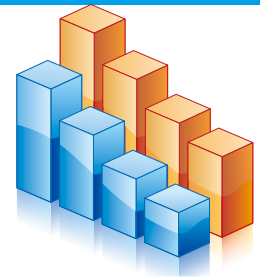
The pump is compact structure, small volume, lightweight, integrated herringbone gear pair, large transmit torque and smooth run.

LW-446 Single-acting Triplex Pump can be used widely in oilfield operation. Liner size from 3 1/2"---6" is better-adopted piston structure for work over operation and low well drilling operation while plunger structure for liner size from 2"---3 1/4" for high-pressure operation.

LW446 主要技术参数  
Performance parameter table

LW-446 泵参数 LW-446Parameter			冲次/分 (Stroke/Min.)		320		270		220		170		120		70	
			额定输入 ( 马力 ) Rated Input ( HP)		440		380		320		260		200		200	
缸径 Liner Dia. ( in )	压力 Pressure		加仑/转 Gallon/ Turn	升/转 Liter/Turn	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min	加仑/分 Gallon/ min	升/分 Liter/ min
	PSI	Mpa														
6"	1027	7.083	2.203	8.338	661	2502	551	2086	441	1669	330	1249	220	833	110	416
5-1/2"	1222	8.428	1.851	7.006	555	2101	463	1752	370	1400	278	1052	185	700	93	352
5"	1479	10.200	1.53	5.791	459	1737	382	1446	306	1158	229	867	153	579	76	288
4-1/2"	1826	12.593	1.239	4.690	372	1408	310	1173	248	939	186	704	124	469	62	235

# 【 LEED-165 PUMP 】



## 一、技术规范 Specification



最大输入功率: 165HP  
 Max. Input Power  
 最大冲次: 300冲/分 (s/min.)  
 Max Stroke number  
 冲程stroke: 5" (127mm)  
 最大柱塞直径: 4" (101.6mm)  
 Max Plunger Dia.  
 最大泵压: 70MPa  
 Max Pump Pressure  
 吸入口管口: 标配: 6" 坡口焊接/法兰焊接  
 Suction Thread standard configuration:  
 (6" Slop weld/ Flange weld)  
 排出口管口: 2-9/16" 10000PSI  
 Discharge Thread 法兰 Flange  
 泵外形尺寸(含底座): 1815\*1200\*955mm  
 Outside Dimension (skid included)  
 重量: 1451KG  
 Weight

LEED-165 柱塞泵排量与压力关系表  
 LEED-165 Plunger Pump Displacement and Pressure Relational Table

Plunger/ Piston* Diameter 柱塞直径		Displacement Per Revolution 流量		50RPM 公升/分				100RPM 公升/分				200RPM 公升/分				250RPM 公升/分				300RPM 公升/分			
(in.)	(mm.)	Gal/ Rev	Liter/ Rev.	LPM	GPM	PSI	Kg/ sq.cm	LPM	GPM	PSI	Kg/ sq.cm	LPM	GPM	PSI	Kg/ sq cm	LPM	GPM	PSI	Kg/ sq.cm	LPM	GPM	PSI	Kg/ sq.cm
4.00	102	0.817	3.091	155	41	3500	246	309	82	2950	206	618	163	1475	104	773	204	1175	83	927	245	975	69
3.50	89	0.623	2.359	118	31	4600	321	236	62	3800	268	472	125	1925	135	590	156	1550	108	708	187	1300	90
3.00	76	0.460	1.741	87	23	6200	438	174	46	5250	368	348	92	2625	184	435	115	2100	147	522	138	1750	123
2.75	70	0.387	1.463	73	19	7400	521	146	39	6150	433	293	77	3125	220	366	97	2500	176	439	116	2075	146
2.50	63	0.319	1.206	60	16	9000	630	121	32	7550	532	241	64	3775	265	302	80	3025	212	362	96	2525	177
2.25	57	0.258	0.977	49	13	10000	703	98	26	9300	655	195	52	4650	328	244	65	3725	262	293	77	3100	218
2.00	51	0.204	0.722	39	10	10000	703	77	20	10000	703	154	41	5900	414	193	51	4725	332	232	61	3925	276
1.75	44	0.156	0.591	30	8	10000	719	59	16	10000	703	118	31	7700	542	148	39	6175	433	177	47	5125	360

# 【 LEEF-165 PUMP 】



## 一、技术规范 Specification



最大输入功率:	165HP
Max. Input Power	
最大冲次:	300冲/分 (s/min.)
Max Stroke number	
冲程stroke:	5" (127mm)
最大柱塞直径:	3" (76.2mm)
Max Plunger Dia.	
最大泵压:	70MPa
Max Pump Pressure	
吸入管口:	标配: 4" - 6" 坡口焊接
Suction Thread	standard configuration: (4" - 6" Slop weld)
排出管口:	NPT 2" 丝扣连接
Discharge Thread	Thread Connection
泵外形尺寸(含底座):	1765*1200*955mm
Outside Dimension (skid included)	
重量:	1360KG
Weight	

### LEEF-165 柱塞泵排量与压力关系表

### LEEF-165 Plunger Pump Displacement and Pressure Relational Table

Plunger/ Piston* Diameter 柱塞直径		Displacement Per Revolution 流量		50RPM 公升/分				100RPM 公升/分				200RPM 公升/分				250RPM 公升/分				300RPM 公升/分			
(in.)	(mm.)	Gal/ Rev	Liter/ Rev.	LPM	GPM	PSI	Kg/ sq.cm	LPM	GPM	PSI	Kg/ sq.cm	LPM	GPM	PSI	Kg/ sq.cm	LPM	GPM	PSI	Kg/ sq.cm	LPM	GPM	PSI	Kg/ sq.cm
3.00	76	0.460	1.741	87	23	6200	438	174	46	5250	368	348	92	2625	184	435	115	2100	147	522	138	1750	123
2.75	70	0.387	1.463	73	19	7400	521	146	39	6150	433	293	77	3125	220	366	97	2500	176	439	116	2075	146
2.50	63	0.319	1.206	60	16	9000	630	121	32	7550	532	241	64	3775	265	302	80	3025	212	362	96	2525	177
2.25	57	0.258	0.977	49	13	10000	703	98	26	9300	655	195	52	4650	328	244	65	3725	262	293	77	3100	218
2.00	51	0.204	0.722	39	10	10000	703	77	20	10000	703	154	41	5900	414	193	51	4725	332	232	61	3925	276
1.75	44	0.156	0.591	30	8	10000	719	59	16	10000	703	118	31	7700	542	148	39	6175	433	177	47	5125	360



# 【 LHE-215 PUMP 】



■ 规范

最大功率: 215BHP(160KW)

最大转速: 300RPM

柱塞数量: 3

冲程: 5 inch ( 127MM )

柱塞负载: 37000磅 ( 16965KG )

排出静压试验: 3600PSI(1633KG/CM<sup>2</sup>)

油容量: 12加仑 ( 45升 )

泵重量: 3990磅 ( 1810KG )

SPECIFICATIONS:

Maximum BHP: 215 (160 kw)

Maximum RPM: 300

No. of Plungers: 3

Stroke Length: 5 inch (127 mm)

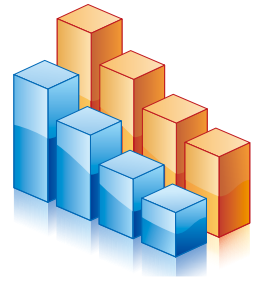
Plunger Load: 37,000 lbs. (16,965 kg)

Discharge Hydrostatic Test Pressure 3,600 psi (1,633 kg/cm<sup>2</sup>)

Oil Capacity: 12 gal. (45 liters)

Pump Weight: 3,990 lbs. (1,810 kg)

Piston/Liner Size 活塞/缸套尺寸		Displacement Per Revolution 流量		Displacement At Pump Rpm 流量											
				50				100				150			
IN.	MM	GPR	LPR	GPM	LPM	PSI	KG/CM <sup>2</sup>	GPM	LPM	PSI	KG/CM <sup>2</sup>	GPM	LPM	PSI	KG/CM <sup>2</sup>
5 Cast Fluid End															
4	102	0.816	3.089	41	154	2944	206	82	309	2944	206	122	463	2718	191
4.5	114	1.032	3.907	52	195	2326	163	103	391	2326	163	155	588	2100	148
5	127	1.274	4.824	64	241	1884	132	127	482	1884	132	191	724	1700	120
5.5	140	1.542	5.837	77	292	1557	109	154	584	1557	109	231	876	1435	100
Input Power: 输入功率		BHP		79				156				215			
		KW		59				116				160			
Piston/Liner Size 活塞/缸套尺寸		Displacement Per Revolution 流量		Displacement At Pump Rpm 流量											
				200				250				300			
IN.	MM	GPR	LPR	GPM	LPM	PSI	KG/CM <sup>2</sup>	GPM	LPM	PSI	KG/CM <sup>2</sup>	GPM	LPM	PSI	KG/CM <sup>2</sup>
5 Cast Fluid End															
4	102	0.816	3.089	163	618	2034	143	204	772	1625	114	245	927	1354	95
4.5	114	1.032	3.907	206	781	1600	112	258	977	1280	90	310	1173	1070	75
5	127	1.274	4.824	255	965	1300	91	319	1206	1040	73	383	1448	870	61
5.5	140	1.542	5.837	308	1167	1076	76	386	1460	860	60	462	1752	720	51
Input Power: 输入功率		BHP		215				215				215			
		KW		160				160				160			



# 【LG-3 PUMP】



## 一、结构特点Construction features:

1. 实心连杆Solid connecting rod
2. 偏心结构Eccentric construction
3. 飞溅润滑Splash lubrication
4. 可正反转Reversible shaft
5. 任意一边吸入和排出Suction and discharge either side
6. 铜铝液力端/合金钢液力端Aluminum bronze fluid end /Alloy steel fluid end

输入功率58HP  
冲程 3"  
重量551KG

58 Horsepower Input  
Stroke-3"  
Weight 551KG

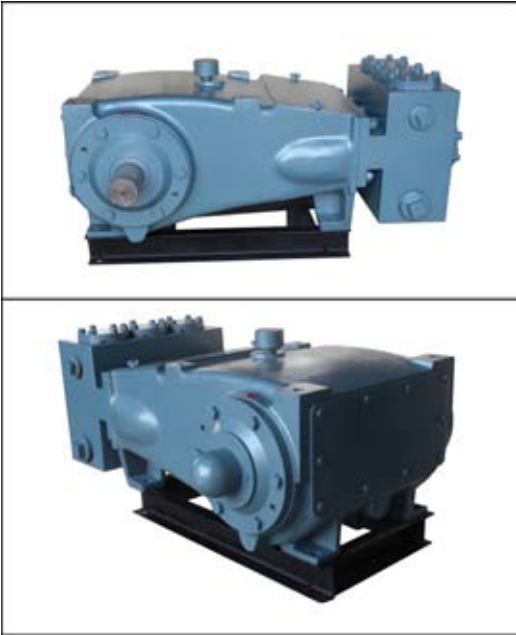
### LG-3 井口服务规范 LG-3 specification for well servicing

转速 PUMP RPM	柱塞直径PLUNGER DIAMETER						宽度 Width	长度Length
	2-1/4"		2"		1-3/4"			
	GPM	PSI	GPM	PSI	GPM	PSI		
330	51	1650	40	2100	31	2720	26-1/4"	47"
300	46.5	1820	36.8	2300	28	3000		
275	42.5	1980	33.6	2500				
250	38.8	2180	30.6	2760				
225	34.8	2420	27.5	3050				
200	31	2720						
175	27.7	3050						



# 【 L59T 泵 】

## 一、规范: SPECIFICATION



泵尺寸 Pump Size:  
 最大柱塞尺寸 × 冲程, 3.00 × 3.500英寸 (76.2 × 88.9 mm)  
 Maximum Plunger Size × Stroke Length,  
 额定功率: 44 KW  
 Rated BHP at 420 RPM: 59HP  
 额定负载: 2159 kg (4760 pounds)  
 Rated plunger load:  
 最大排出压力 psi (kpa)  
 Maximum discharge pressure:  
 “L” model: 970(6686)  
 “M” model: 2295 (15825)  
 “MS” model: 4789 (33017)  
 “H” model: 10000 (68948)  
 容油量 Oil Capacity, gallons (L), 加仑 ( L )  
 Crankcase: 2.50 (9.46) 曲轴箱

### L-59T三缸柱塞泵 L-59T TRIPLEX PLUNGER PUMP

泵型 Pump model	法兰连接 Flange Connections	
	排出连接尺寸 Discharge Connection Sizes	吸入连接尺寸 Suction Connection Sizes
59T-3L	2 1/2(63.5)-8 NPT	4 (101.6)-8 NPT
59T-3M	2 (50.8)- 11 1/2 NPT	2 1/2 (63.5)-8 NPT
59T-3MS	2 (50.8)- 11 1/2 NPT	2 1/2 (63.5)-8 NPT
59T-3H	1 (25.4)- 11 1/2 NPT	1 1/2 (38.1)-11 1/2 NPT

# L59T PUMP

## L59T Performance Data INCH SIZE

PUMP	INCH SIZE					50 RPM		150 RPM		250 RPM		300 RPM		350 RPM		420 RPM	
	Plunger Dia. in.	Plunger Area. Sq.in.	BPD Per RPM	GPD Per RPM	Max. Press. PSI	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM	BPD	GPM
59T-3L (T365AL)	3.000	7.0686	11.0160	0.3213	673	551	16.1	1653	48.19	2754	80.32	3305	96.39	3856	112.5	4627	134.9
	2.875	6.4916	10.1171	0.2951	733	506	14.8	1518	44.26	2530	73.77	3036	88.52	3541	103.3	4250	123.9
	2.750	5.9396	9.2565	0.2700	801	463	13.50	1389	40.50	2315	67.50	2777	80.99	3240	94.49	3888	113.4
	2.625	5.4119	8.4341	0.2460	880	422	12.30	1266	36.90	2109	61.50	2531	73.80	2952	86.10	3543	103.3
59T-3M (T365AM)	2.500	4.9087	7.6500	0.2231	970	383	11.16	1148	33.47	1913	55.78	2295	66.94	2678	78.09	3213	93.71
	2.5000	4.9087	7.6500	0.2231	970	383	11.16	1148	33.47	1913	55.78	2295	66.94	2678	78.09	3213	93.71
	2.375	4.4301	6.9041	0.2014	1074	346	10.07	1036	30.21	1727	50.34	2072	60.41	2417	70.48	2900	84.58
	2.250	3.9761	6.1965	0.1807	1197	310	9.04	930	27.11	1550	45.18	1859	54.22	2169	63.26	2603	75.91
	2.125	3.5466	5.5271	0.1612	1342	277	8.06	830	24.18	1382	40.30	1659	48.36	1935	56.42	2322	67.71
	2.000	3.1416	4.8960	0.1428	1515	245	7.14	735	21.42	1224	35.70	1469	42.84	1714	49.98	2057	59.98
	1.875	2.7612	4.3031	0.1255	1724	216	6.28	646	18.83	1076	31.38	1291	37.65	1507	43.93	1808	52.71
	1.750	2.4053	3.7485	0.1093	1979	188	5.47	563	16.40	938	27.33	1125	32.80	1312	38.27	1575	45.92
59T-3MS (T365MS)	1.625	2.0739	3.2321	0.0943	2295	162	4.71	4885	14.14	809	23.57	970	28.28	1132	32.99	1358	39.59
	1.500	1.7671	2.7540	0.0803	2694	138	4.02	414	12.05	689	20.08	827	24.10	964	28.11	1157	33.74
	1.375	1.4849	2.3141	0.0675	3206	116	3.37	348	10.12	579	16.87	6954	20.25	810	23.62	972	28.35
59T-3H (T365H)	1.250	1.2272	1.9125	0.0558	3879	96	2.79	287	8.37	479	13.95	574	16.73	670	19.52	804	23.43
	1.125	0.9940	1.5491	0.0452	4789	78	2.26	233	6.78	388	11.30	465	13.55	543	15.81	651	18.98
	1.000	0.7854	1.2240	0.0357	6061	62	1.78	184	5.35	306	8.92	368	10.71	429	12.49	515	14.99
59T-3H (T365H)	0.875	0.6013	0.9371	0.0273	7961	47	1.37	141	4.10	235	6.83	282	8.20	328	9.57	394	11.48
	0.750	0.4418	0.6885	0.0201	10000	35	1.00	104	3.01	173	5.02	207	6.02	241	7.03	290	8.43
	horsepower required					7		21		35		42		49		59	

## L59T 技术参数 公制尺寸

PUMP	Metric SIZE					50 RPM		150 RPM		250 RPM		300 RPM		350 RPM		420 RPM	
	Plunger Dia. Mm	Plunger Area. cm <sup>2</sup>	M <sup>3</sup> /Hr Per RPM	L/SEC. Per RPM	Max. Press. KPA	M <sup>3</sup> /Hr	L/SEC.	M <sup>3</sup> /Hr	L/SEC.	M <sup>3</sup> /Hr	L/SEC.	M <sup>3</sup> /Hr	L/SEC.	M <sup>3</sup> /Hr	L/SEC.	M <sup>3</sup> /Hr	L/SEC.
59T-3L (T365AL)	76	45.604	0.0730	0.0203	4643	3.65	1.01	10.95	3.04	18.24	5.07	21.89	6.08	28.54	7.09	30.65	8.51
	73	41.883	0.0670	0.0186	5055	3.35	0.93	10.05	2.79	16.75	4.65	20.10	5.59	23.45	6.52	28.15	7.82
	70	38.320	0.0613	0.0170	5526	3.07	0.85	9.20	2.55	15.33	4.26	18.39	5.11	21.46	5.96	25.75	7.15
	67	34.915	0.0559	0.0155	6064	2.79	0.78	8.38	2.33	13.97	3.88	16.76	4.66	19.55	5.43	23.46	6.52
59T-3M (T365AM)	64	31.669	0.0507	0.0141	6686	2.53	0.70	7.60	2.11	12.67	3.52	15.20	4.22	17.74	4.93	21.28	5.91
	64	31.669															
	60	28.581	0.0457	0.0127	7408	2.29	0.64	6.86	1.91	11.43	3.18	12.72	3.81	16.01	4.45	19.21	5.34
	57	25.652	0.0410	0.0114	8254	2.05	0.57	6.16	1.71	10.26	2.85	12.31	3.42	14.37	3.99	17.24	4.79
	54	22.881	0.0366	0.0102	9254	1.83	0.51	5.49	1.53	9.15	2.54	10.98	3.05	12.81	3.56	15.38	4.27
	51	20.268	0.0324	0.0090	10447	1.62	0.45	4.86	1.35	8.11	2.25	9.73	2.70	11.35	3.15	13.62	3.78
	48	17.814	0.0285	0.0079	11886	1.43	0.40	4.28	1.19	7.13	1.98	8.55	2.38	9.98	2.77	11.97	3.33
	44	15.518	0.0248	0.0069	13645	1.24	0.34	3.72	1.03	6.21	1.72	7.45	2.07	8.69	2.41	10.43	2.90
59T-3MS (T365MS)	41	13.380	0.0214	0.0059	15825	1.07	0.30	3.21	0.89	5.35	1.49	6.42	1.78	7.49	2.08	8.99	2.50
	38	11.404	0.0182	0.0051	18572	0.91	0.25	2.74	0.76	4.56	1.27	5.47	1.52	6.38	1.77	7.66	2.13
	35	9.580	0.0153	0.0043	22102	0.77	0.21	2.30	0.64	3.83	1.06	4.60	1.28	5.36	1.49	6.44	1.79
59T-3H (T365H)	32	7.917	0.0127	0.0035	26744	0.63	0.18	1.90	0.53	3.17	0.88	3.80	1.06	4.43	1.23	5.32	1.48
	29	6.413	0.0103	0.0029	33017	0.51	0.14	1.54	0.43	2.57	0.71	3.08	0.86	3.59	1.00	4.31	1.20
	25	5.067	0.0081	0.0023	41787	0.41	0.11	1.22	0.34	2.03	0.56	2.43	0.68	2.84	0.79	3.41	0.95
59T-3H (T365H)	22	3.879	0.0062	0.0017	54579	0.31	0.09	0.93	0.26	1.55	0.43	1.86	0.52	2.17	0.60	2.61	0.72
	19	2.850	0.0046	0.0013	68948	0.23	0.06	0.68	0.19	1.14	0.32	1.37	0.38	1.60	0.44	1.92	0.53
Kilowatts required					5		16		26		31		37		44		

For operation below 50 RPM, an auxiliary lubrication system is required.

Volumetric Rate is based on 100% Volumetric Efficiency. Brake Horsepower/Kilowatts Required is based on 90% Mechanical Efficiency.

对于低于50RPM的，需要辅助的润滑系统；

测定体积比率按100%容积效率，制动马力/千瓦按90%的机械效率；



# 【离心泵 CENTRIFUGAL PUMP】

## 离心泵



### 一、工作条件 Working conditions

泵出口口径: DN=2" ~ 6"

Outlet: DN=2" ~ 6"

流量: Q=20 ~ 400m<sup>3</sup>/h

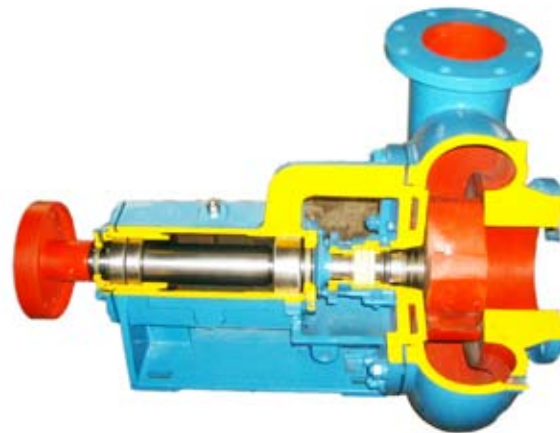
Flow: Q=20 ~ 400m<sup>3</sup>/h

扬程: H=12 ~ 62m

Head: H=12 ~ 62m

工作温度: T=-40℃ ~ 60℃

Working Temperature: T=-40℃ ~ 60℃



### 二、型号说明 Explanation of model

LA2500 - 6" × 5" - 11"

LA2500 单级单吸泥浆泵 Single-stage & single-suction centrifugal pump

6" 泵进口直径(英寸) 6" Pump inlet Dia.(Inches)

5" 泵出口直径(英寸) 5" Pump outlet Dia.(Inches)

11" 叶轮名义直径(英寸) 11" Impeller Dia.(Inches)

特殊要求请与公司联系。

Please contact with us to meet your various demands.



# 【 剪切泵 SHEAR PUMP 】

## 型号说明:

LAQB 6" × 5" - 10"

LAQB 涡轮剪切泵

6" 泵进口直径 (英寸)

5" 泵出口直径 (英寸)

10" 涡轮名义直径 (英寸)



## Explanation of Model :

LAQB 6" × 5" - 10"

LAQB Turbine Shear Pump

6" Pump Inlet Dia (Inches)

5" Pump Outlet Dia (Inches)

10" Turbine Nominal Dia (Inches)



## 主要技术参数

### Performance parameter table

型号 Model	流量 ( m <sup>3</sup> /h ) Capacity ( m <sup>3</sup> /h )	扬程(m) Head(m)	转速(r/min) Speed(r/min)	效率(%) Efficiency(%)	汽油余量(m) NPSH(m)	功率(KW) Power(KW)	
						轴功率 Shaft Power	配套功率 Motor Power
LAQB 6" × 5" - 10"	155	32	2280	28	3	46	55

# 【缸套 LINER】

专业生产各种类型的缸套，工艺先进、质量稳定可靠，符合API Spec 7k，能满足各类需求。

## 金属缸套



双金属缸套的生产严格控制尺寸在公差范围内，保证安装简易、内孔光洁度高、耐磨损、抗腐蚀、使用寿命长，适用于各种恶劣的工作环境。

## 陶瓷缸套

\* 适用于石油储层较深、地质结构恶劣的钻采环境以及海上石油、天然气开发。

\* 与双金属缸套相比提高5-10倍的使用寿命。使用寿命可达4000小时以上，最低使用寿命为2000小时以上。

\* 降低钻井工作的运输成本、维修成本、人工成本、储存成本。

\* 比氧化铝陶瓷缸套更具有韧性、寿命更长、更节约润滑用水、减少活塞磨损。



L&A specialized in various liners for a long time. Products adopt advanced process with steady reliable quality, conforming to API spec 7k.

Each liner is machined to close tolerances to assure ease of installation and long liner life with the inside diameter of these premium liners honed to a mirror-like finish for smooth even wear during the life of the liner. LA premium liners are made for superior performance under tough corrosive and abrasive conditions.

## Ceramic Liners

\* The ceramic liners can not only adapted to some tough environment such as deep oil reservoir, hard stratum and severe earthiness, but also can be used for offshore oil and natural gas exploitation as well.

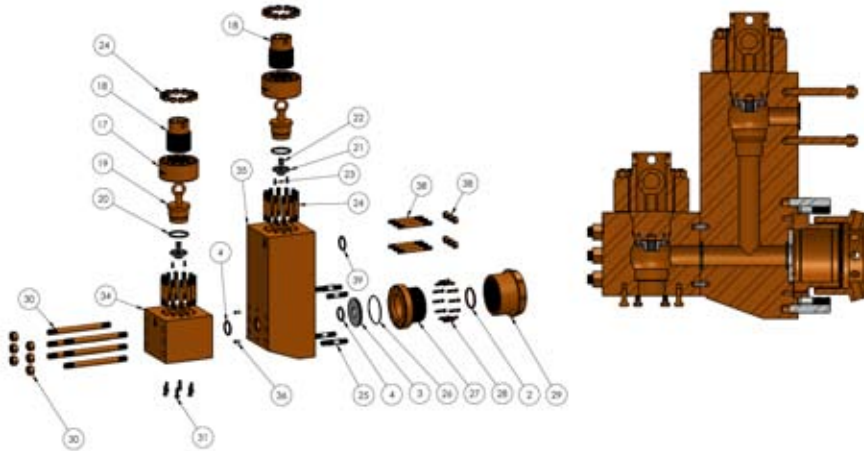
\* Compared with bi-metal liner, the service life of ceramic liner is 5-10 times higher. Its maximum and minimum service life can reach more than 4000 and 2000 hours respectively.

\* The cost of shipment, maintenance, labor and storage in the drilling works can be reduced.

\* Compared with the alumina liners, the Zirconia liners have better toughness properties and have longer service life. It can also reduce piston wear and water consumption for lubrication.

材料种类 Materials	组分 Composition ( wt% )	密度 Specific Density ( g/cm <sup>3</sup> )	硬度 Harden	弹性模量 Elasticity Modulus ( Gpa )	热胀系数 Thermal Expansion Coefficient ( 10 <sup>-6</sup> /k )	抗弯强度 Fracture Strength ( Mpa )	断裂韧性 Bending Toughness ( Mpa <sup>1/2</sup> )
钇稳定氧化锆 TZP	Y <sub>2</sub> O <sub>3</sub> +ZrO <sub>2</sub> ≥99.5%	6.0-6.05	89	200	9.6	1000-1200	12-14
微晶氧化铝 Y <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub> 75-99%	3.2-3.93	85-91	350-400		200-400	2.0-5
莫来石 Al <sub>2</sub> O <sub>3</sub>	Al <sub>2</sub> O <sub>3</sub> 68-72%	3.25	85-88	200		300-500	5-7
氧化锆增韧莫来石 ZTM	ZrO <sub>2</sub> 15-35%	3.3	83-88	200		450-700	6-8

# 【 阀箱 FLUID END MODULE 】



FLUID END TYPE液力端型号 L&A 7500 P.S.I.

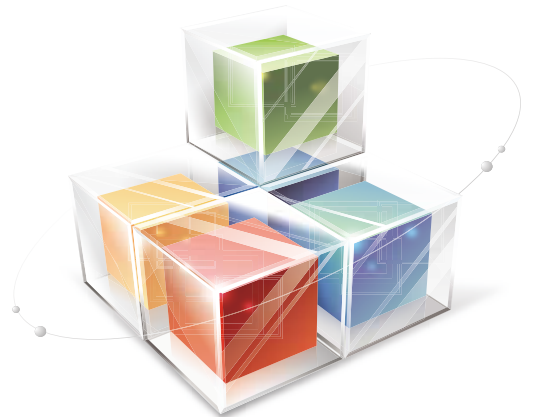
SIZE OF PUMP泵规格 7 1/2" × 12"

## 7500PSI 液力端总成图

### ASSEMBLY DRAWING FOR 7500 PSI FLUID END ASSEMBLY

阀箱采用优质的合金钢制造，为达到高耐用性采取热处理和内部硬化处理；加工过程经过严格的检查和严格的无损试验。阀箱设计符合压力为5000，7500和10000psi（磅）（351，527和703kg/cm<sup>2</sup>）的标准。

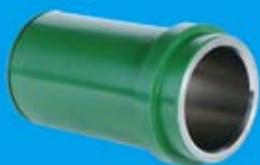
Heat-treated and internally hardened for high durability; adopted premium alloy steel materials to meet a wide range of applications; with designs available for pressure of 5000, 7500, and 10000 psi(351,527,and 703kg/cm<sup>2</sup>);



# 【 泥浆泵配件 】



单金属缸套  
Liner



双金属缸套  
Liner



陶瓷缸套  
Ceramic Liner



阀座  
Valve Seat



阀体  
Valve Body



AR阀  
AR Valve



介杆  
Extension Rod



活塞杆  
Piston Rod



缸盖堵头  
Cylinder Head Plug



空气包  
Pulsation Dampener

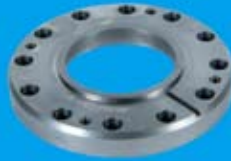


JWS165/340 阀箱  
Fluid End Module

# 【 MUD PUMP PARTS 】



卡箍  
Clamp



耐磨垫  
Emsco Wear Plate



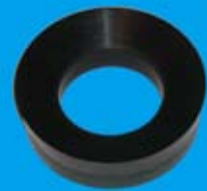
压筒  
Valve Cover



喷焊柱塞  
Colomony Plunger



陶瓷柱塞  
Ceramic Plunger



活塞胶皮  
Piston Rubber



十字头  
Crosshead



导板  
Guide



活塞总成  
Piston Assembly



阀箱  
Fluid End Module



连杆  
Connecting Rod

# 【 闸阀 Gate Valve 】

## 闸阀



### 一、产品规范

- 阀门设计用于耐腐蚀的酸性环境使用
- 所有的这种阀门都采用不锈钢阀杆
- 可用于API 6A PSL1,2,3规范级别
- 闸板的材料有碳钢镀镍，蒙乃尔铜-镍合金，铝铜合金及不锈钢
- 阀座外部为腈化橡胶和丁腈橡胶，内部为碳钢或不锈钢材料
- 产品出厂试压完全依据API 6A标准中的试压规范执行
- 阀门连接形式为法兰，由壬式，螺纹式或焊接式
- 阀门酸性环境中使用要符合NACE MR-01-75规范要求
- 在5000psi公称压力之内，可提供2", 3", 4", 5" x 4" and 6" x 4"规格的阀门

阀门及配件与原始的Demco DM 闸阀完全互换  
Interchangeable with Demco Model DM Gate Valve

### 一、SPECIFICATION

- Designed specifically for Abrasive and Erosive use
- All Valves Have Stainless Steel Stems
- API 6A PSL 1, 2 and 3 available
- Gates can be supplied in Nickel-Plated Carbon Steel, Monel, Aluminum Bronze or Stainless Steel
- Stainless or Carbon Steel Inserts with Nitrile or HNBR Elastomer
- Factory Pressure Tested in Accordance with API.6A
- Can be supplied with Flanged End Connections, Hammer Union Ends, Threaded Connections or Butt Weld Ends
- Sour Service Models to NACE MR-01-75
- Available with Pressure Ratings up to 5,000 psi in 2", 3", 4", 5" x 4" and 6" x 4" Valve Sizes



**【蝶阀 Butterfly Valve】**



**INTRODUCTION :**

Cast in both wafer and tapped-lug patterns in a wide variety of material choices, these kinds of butterfly valves feature a one-piece body for minimum weight and maximum strength. The unique stem whole design in the disc ensures a dry stem journal, and the hard-backed seat (2" – 36") allows ease of installation, reliable operation, and is field-replaceable without special tools. The butterfly valves are available in sizes 2" thru 48". Engineered for long-term, maintenance-free performance, the butterfly valves are commonly selected for a variety of applications spanning a wide range of industries.

**SCOPE**

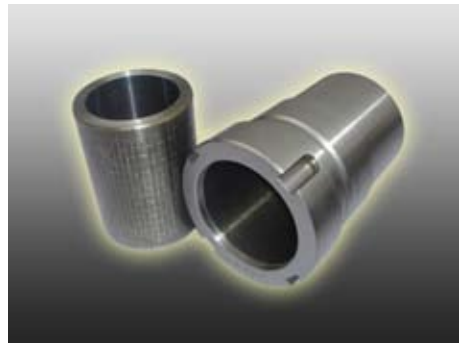
× Di f n jdbrrboe!qf usodi f n jdbrrh	× Bhsjdvrvsf
× Pjrtboe!hbt !esjnh!boe!qpevdjpo!	× Gpelboe!cf wf sbhf !
× Dpprjoh!px f st !  WBD*!	× X bú sbøe!x bt uf lx bú st
× Qpx f s	× Njojoh!boe!n bú sjbrh!
× Esz!cvrthi boerjoh!	× Nbsjof !boe!hpwf son f ou



## 【 TC 轴承 】 Tungsten Carbide Bearing

镶嵌了硬质合金的径向轴承采用了国际先进技术，具有高强度、长寿命的特点。径向轴承的内外表面规则排列的硬质合金块与特种成分的焊料、硬质合金填加物，通过专门烧结处理，使其与基础件融为一体。该径向摩擦副具有耐腐蚀、抗冲击、承受负荷大、寿命长的突出特点，其外观质量与技术指标超过了国外同类产品。

The TC bearing inserted Tungsten Carbide adopts the advance technology of the world with the high strength and long life features. The TC bearing surface with the TC material, special solder and welded to a whole body with the basis part through sinter treatment, makes the TC Bearing with the high strength, long life, anti-wear, anti-impact and high load.



## 【 PDC 轴承 】 PDC Bearing



## 【圆锥滚子轴承】 Tapered Roller Bearing

圆锥滚子轴承主要承受以径向为主的径、轴向联合载荷。轴承承载能力取决于外圈的滚道角度，角度越大承载能力越大。该类轴承属分离型轴承，根据轴承中滚动体的列数分为单列、双列和四列圆锥滚子轴承。单列圆锥滚子轴承游隙需用户在安装时调整；双列和四列圆锥滚子轴承游隙已在产品出厂时依据用户要求给定，不须用户调整。

Tapered roller bearings mainly burden the joint load from radial and shaft side. The greater angle has the greater carrying capacity. It belongs to separated bearing. It has single row, double row and four-row tapered roller bearings according to the roller numbers. The bear travel space of single row must be adjusted when using, no need to adjust the double row and four-row, because it has been adjusted at plant.



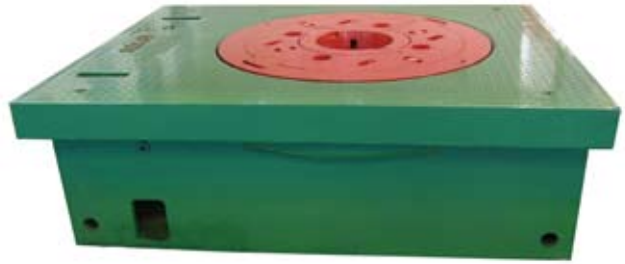
## 【球轴承】 Ball Bearing



## 【 转盘 】 Rotary Table

### 转盘设计特点:

- \* 大、小齿轮均为合金钢材料制成。
- \* 整体主补芯为铸钢件。
- \* 销传动型式可放入API标准方钻杆或六方钻杆的滚子补心，长、短卡瓦均可使用。
- \* 转盘润滑充分、密封可靠。
- \* 转盘符合API Spec 7K规范，允许使用API会标。



### Rotary Tables Design Features:

- The pinion and gear are made of alloy steel.
- The master bushing is made form a steel casting.
- Pin transmission type is suitable for API standard square Kelly or hexagonal Kelly roller bushing.
- Effective lubrication and reliable seals are provided by design.
- The rotary tables conform to API specification 7K and the API monogram can be used.

## 【 游车大钩 】 Hook Block

### 游车大钩设计特点:

主要用于油田钻修井时起吊管柱用，具有安全可靠、整体强度高、刚度好等优点.可与钻井机、修井机、通井机等设备配套使用。

### Hook Block Design Features:

It is used mainly for hoisting the pipe-column when drilling and repairing the oil well, and has advantages such as safety and reliability, high integer intensity, and good rigidity etc. It can be used in complete set with shaft drill jumbos, work over rigs, pumping units etc.





# 【水龙头盘根总成】

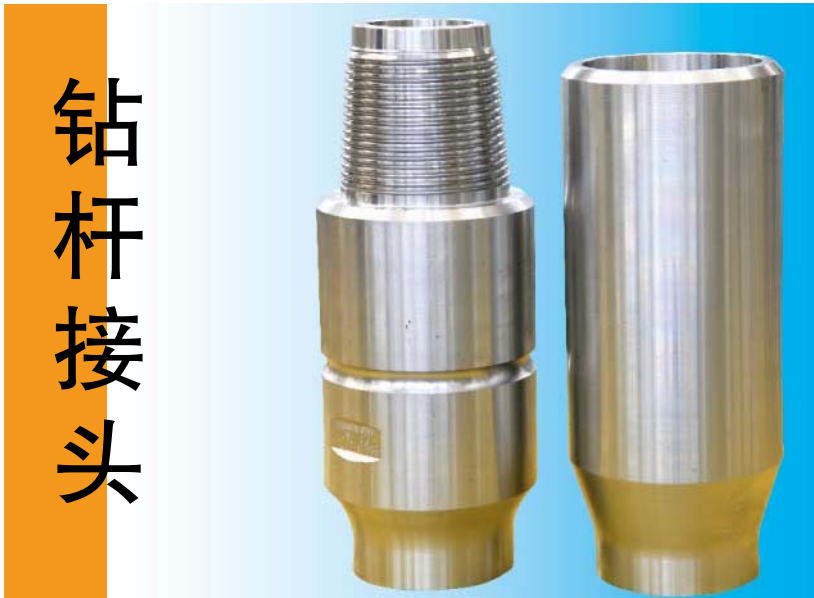
## SWIVEL PARTS PACKING ASSEMBLY



SW150	SW200	SW250/500
IDECO TL120	IDECO TL200	IDECO TL300/400/500
NATIONAL P200/650	NATIONAL N24/35	NATIONAL N47/1324
EMSCO LB200/300	EMSCO LB400/650	
OILWELL PC100/150	OILWELL PC225/650	VARCO TDS 11
TESCO 200T/250T	GARDNER DENVER SW400/550	CANRIG 1250AC



# 【 钻杆接头 】 Tool Joints



\* 可按用户要求，生产各种类型钻杆接头。各项力学性能均完全超过API标准要求。

The mechanics indexes of our Tool Joints can not only meet but also exceed all the requests of API standards.



德州利安石油机械有限公司

DEZHOU L&A PETROLEUM MACHINERY CO., LTD.

德州利美石油机械制造有限公司

DEZHOU L&M PETROLEUM MACHINERY MANUFACTURE CO., LTD.

地址：中国山东省德州经济开发区高速东二路

ADD:2nd Road,East Expressway,Dezhou Economic

Development Zone,Shandong,China

电话：86-534-2279896/2279881 传真：86-534-2279887

TEL: 86-534-2279896/2279881 FAX: 86-534-2279887

E-mail: dzla@laproducts.com.cn dzlt@laproducts.com.cn

网址 ( web ) : <http://www.laproducts.cn>

<http://www.laproducts.com.cn>