

# OLEC Centrifugal Pump

## Summary

This series of pumps are designed for pumping drilling fluid or industrial suspension (slag slurry) by using the technology and manufacturing process of Mission of the United States. They can pumping abrasion, viscosity and corrosion liquids etc. The pump performance is matched by exceptional performance, high volume, high temperature capabilities, long service life, ease to maintenance, overall economy and greater savings. LCSS centrifugal pumps are currently in operation on land-based and offshore drilling rigs around the world. We will offer the best choice for the intended application, taking into consideration fluid conditions.

## Applications

Drilling applications:

Mud mixing and shearing operations, desanding and deisling, degassing, supercharging, centrifugal feed, mud cooling towers, wash down.

Others

Chemical, refinery, industrial, construction and agricultural applications.

## Working conditions

Outlet: DN=2" ~8"

Flow: Q=20~580m<sup>3</sup>/h

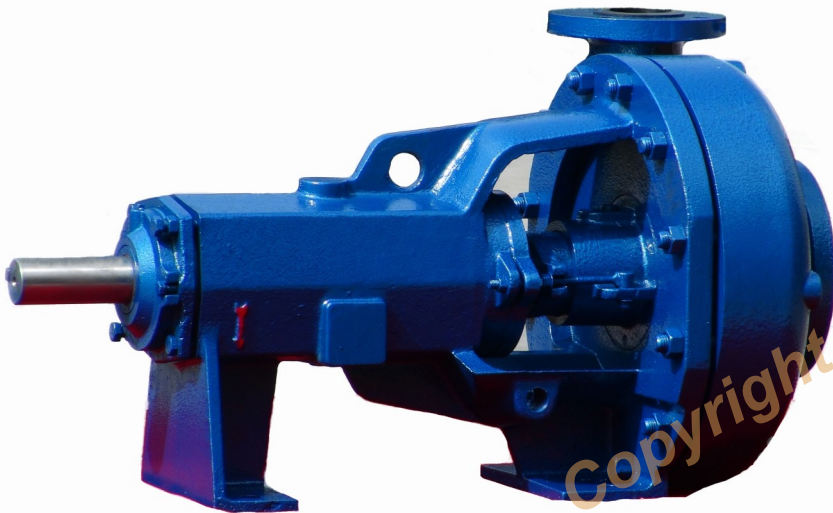
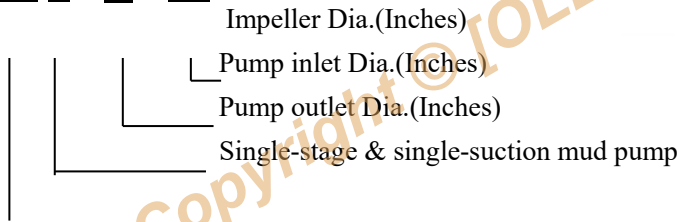
Head: H=12~50m

Working temperature: T=-40°C~60°C

Please contact with us to meet you various demands.

## Explanation of model

**LCSS 5 × 6 - 11**



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## LCSS Performance

Model	Capacity (m <sup>3</sup> /h)	Head (m)	Speed (r/min)	Efficiency (%)	[NPSH] <sub>r</sub> (m)	Power	
						Shaft (KW)	Motor(KW)
LCSS6×8-14	256	43	1450	64	4.0	46.8	75
	320	40		65		53.63	
	416	35		64		61.9	
LCSS6×8-13	232	35	1450	60	4.5	36.8	55
	290	33		64		40.7	
	377	28		65		44.2	
LCSS6×8-12	216	30	1450	61	4.5	28.9	45
	270	28		64		32	
	351	26		67		37.1	
LCSS5×6-14	160	43	1450	61	3.2	30.7	55
	200	40		62		35.1	
	260	33		51		38.3	
LCSS5×6-13	144	37	1450	57	3.0	25.4	45
	180	34		60		27.8	
	234	29		55		33.6	
LCSS5×6-12	128	32	1450	57	3.0	19.6	30
	160	30		60		22	
	208	25		57		24.8	
LCSS5×6-11	160	23	1450	59	2.5	17	30
	200	21		62		18.5	
	260	20		62		22.8	
LCSS5×6-10	144	21	1450	55	3.0	14.9	22
	180	18.5		57		15.9	
	234	18		59		19.4	
LCSS5×6-9	128	13	1450	55	3.0	8.2	15
	160	12		58		9.02	
	208	10		59		9.6	
LCSS4×5-14	96	43	1450	51	4.6	22	37
	120	40		56		23.3	
	156	34		57		25.3	
LCSS4×5-13	72	42	1450	53	4.5	15.5	30
	90	40		56		17.5	
	117	37		60		19.6	
LCSS4×5-12	72	32	1450	56	4.5	11.2	22
	90	30		56		13.1	
	117	27		55		15.6	



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## LCSS Performance

Model	Capacity (m³/h)	Head (m)	Speed (r/min)	Efficiency (%)	[NPSH] <sub>r</sub> (m)	Power	
						Shaft (KW)	Motor(KW)
LCSS4×5-11	72	26	1450	55	4.5	9.3	18.5
	90	24		56		10.5	
	117	21		53		12.6	
LCSS4×5-10	68	24	1450	56	4.2	7.9	15
	85	20		56		8.4	
	110.5	15		40		11.2	
LCSS4×5-9	64	23	1450	56	4.5	7.2	15
	80	19.5		54		7.9	
	104	16		47		9.6	
LCSS3×4-13	40	42	1450	46	4.5	9.9	18.5
	50	40		48		11.3	
	65	36		53		12.0	
LCSS3×4-12	36	32	1450	46	4	6.8	15
	45	30		47		7.8	
	58.5	27		51		8.4	
LCSS3×4-11	40	26	1450	46	4	6.1	11
	45	24		46		6.4	
	57	21		49		6.7	
LCSS2×3-13	20	37	1450	39	3	5.2	11
	25	35		40		5.9	
	32.5	31		39		7.0	
LCSS2×3-12	18.4	34	1450	39	3	4.4	7.5
	23	29		39		5.1	
	30	23		42		5.6	
LCSS2×3-11	16	25	1450	38	3	2.9	5.5
	20	23		39		3.2	
	26	20		38		3.7	
LCSS-8×10-14	580	30	1450	60		82	110
LCSS-8×10-13	525	21	1450	60		59	90
LCSS-8×10-12	470	16	1450	53		39	55



OLEC ETS

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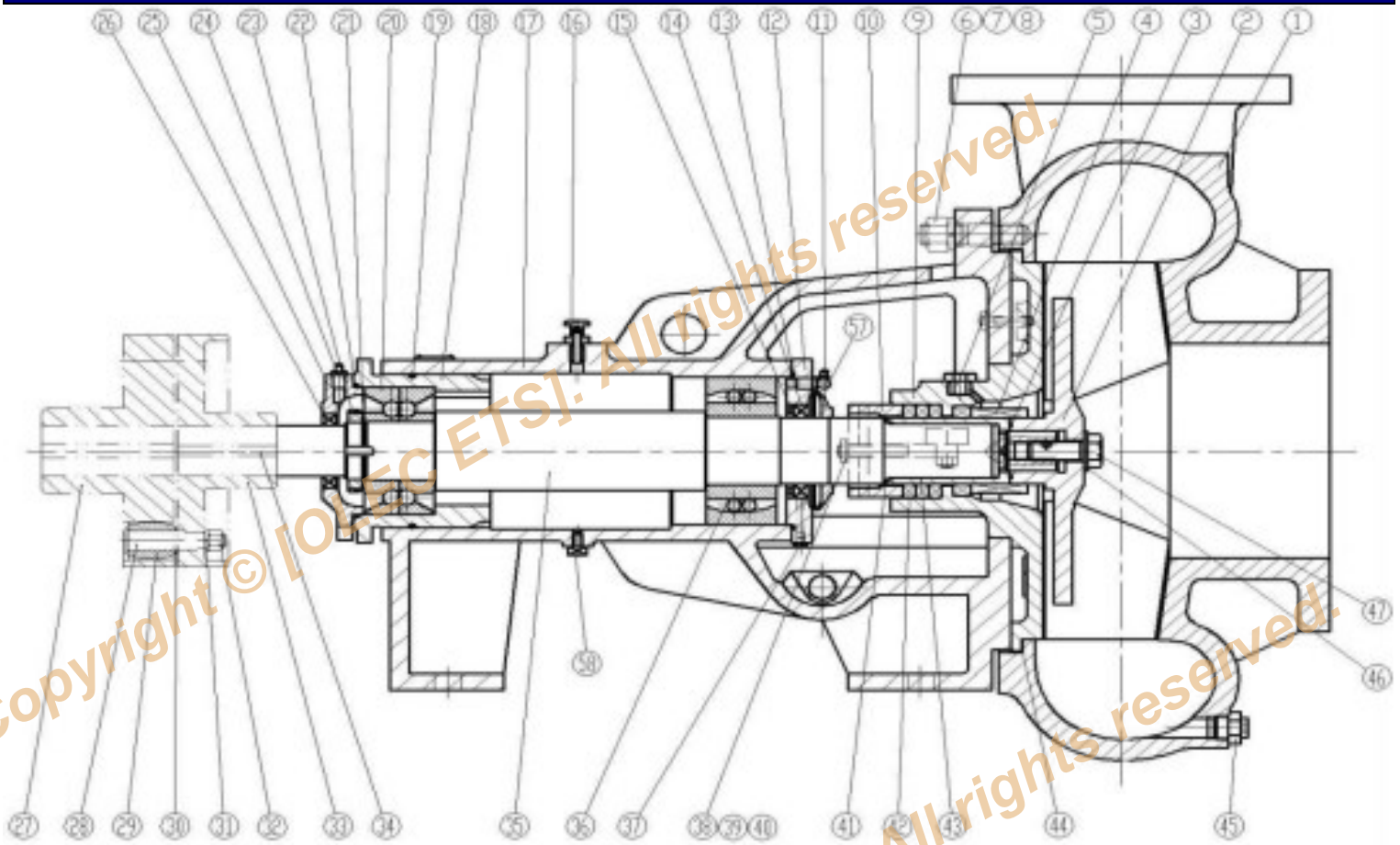
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## LCSS Exploded view



1. Housing
2. Impeller
3. Seal,impeller
4. Mechanical seal arrangement
5. Pipe plug,stuffing box
6. Stud,housing
7. Nut,housing
8. Washer
9. Stuffing BoX-mechanical seal
10. Packing gland
11. Fender
12. Cover,inboard bearing
13. Seal,inboard bearing cover
14. Seal,inboard bearing cover
15. Exclusion seal,Inbd.brg.cover
16. Breather
17. Frame
18. Housing,outboard bearing
19. Seal,outboard bearing housing
20. Bearing,outboard
21. Lock washer,bearing nut
22. Seal,outboard bearing cover
23. Locknut,bearing
24. Oil filler,outboard bearing
25. Cover,outboard bearing
26. Seal shaft,outboard bearing cover
27. Motor coupling set
28. Pin,couplings
29. Elastomer,couplings
30. Washer
31. Washer
32. Nuts
33. Pump coupling set
34. Key, shaft
35. Shaft
36. Bearing,inboard
37. Bolt
38. Clip,gland bolt
39. Washer
40. Nuts,gland bolt
41. Shaft Sieves
42. Packing
43. Shaft sleeve
44. Gasket,housing
45. Pipe plug,housing
46. Washer
47. Jam bolts
48. Bolt
49. Nuts,inboard bearing cover
50. Washer,inboard bearing cover
51. Stud,inboard bearing cover
52. Bolt,attachment,outboard brng.HSG
53. Bolts,outboard bearing housing
54. Nuts,outboard bearing housing
55. Dormant bolt,housing
56. Oil qauqe,frame
57. Oil filler,outboard bearing
58. Plug



## LCSS Explanation of sectional

The LCSS series concentric pump housings are heavier and stronger to outlast conventional pumps. The housings are thicker for extra strength and extended service life. The concentric design allows the distance between the impeller and the housing to be the same at all points. The concentric housing eliminates turbulence and cavitation within the pump. It also reduces the radial load on the bearings. The full pipe diameter of the pump entrance. The housing gasket is recessed to protect it from fluid leaving the impeller.

The LCSS series open-vane impeller eliminates recirculation that occurs in closed impellers. The impeller is designed to reduce turbulence, lower radial and thrust loads, and provides a smooth flow of fluid through the pump. Housing wear is reduced by eliminating the high scrubbing action that occurs on conventional pumps. The LCSS series impeller is designed to allow fluid leaving the impeller to blend with recirculating fluid to reduce abrasive wear of the casing. The open-vane impeller has no exposed impeller nuts or shaft threads. The impeller is screwed on and the threads are protected by an o-ring. The LCSS series pump and impeller are designed to increase service life many times over that of conventional pumps.

The LCSS series shaft has a greater diameter to provide heavy-duty performance with minimal shaft deflection. The replaceable shaft sleeve allows the wear from the packing to be renewed without replacing the entire shaft. The shaft sleeve and mechanical seal can be replaced without removing the shaft from the pump.

The LCSS series bearings are designed for easy maintenance. The outboard bearing assembly is comprised of two angular contact bearings with high thrust load ratings and zero end play. The inboard bearing is a heavy-duty, double row ball bearing with high radial load capacity to compensate for the larger impeller sizes and heavy-duty applications. The LCSS series only uses the best bearings available.

The LCSS series stuffing box cover combine the functions of wear plate and stuffing box into a one-piece replacement unit. One bolt holds the slip fitted stuffing box in place. The LCSS series stuffing box is available for packing or mechanical seal operation. The slip fit design allows easy access to the shaft sleeve.

The LCSS mechanical seal this top quality seal is manufactured from the finest materials available today. This seal delivers superior performance due to superior design. Our seal distributes drive torque over 10 drive tabs, which are 25-50% thicker than others on the market, therefore reducing stress on the outer retainer. All metal parts are manufactured or 316 stainless steel. Eastover's are manufactured from viton. Both rotating and stationary seal faces are tungsten carbide.

The life LCSS fluid end is now offering "LC" extended life fluid ends that include the stuffing box, impeller, and housing assembly. These parts are poured from the highest grade of ductile iron, then finished to exacting specifications. After machining and inspection, these parts are processed through a quench and temper heat treating process to fully harden the parts throughout. During this process the parts are hardened to 40-44 ROCKWELL-C scale, this gives the "LC" parts the hardness to withstand the harshest pumping conditions. Look to the pumps for extended pump life.

