

DL-CM 系列船用磁力联轴器多级立式离心泵产品手册
Product Brochure for DL-CM Series Magnetic Drive
Multistage Vertical Centrifugal Pumps in ships



张家港市太平洋泵业制造有限公司

Zhangjiagang PacificPump Manufacturing Co., Ltd .

V2.0

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一、公司简介

张家港市太平洋泵业制造有限公司成立于 2006 年，从事船用和化工细分领域离心泵系列产品的研发、设计和生产。

2014 年获得国家标准化管理委员会颁发采用国际标产品标志 I 类 II 类证书；凭借扎实的技术和质量，DL 系列产品于 2020 年 7 月、2023 年 11 月，分别为海装 1 号、3 号大船提供产品和服务。2020 年 3 月，公司根据市场需求立项开发 DL-CM 船用磁力驱动多级立式离心泵，历经 4 年研发，解决了“零泄漏”等关键核心技术，24 年 9 月取得中国船级社型式认证。同时我公司起草编制的“船用磁力驱动多级立式离心泵技术要求”的团体标准，24 年 12 月通过中国船舶工业行业协会组织的专家立项评审。填补了国内船用磁力驱动多级立式离心泵行业团体标准空白。24 年 11 月该产品获得中国机械工业联合会“第三届全国机械工业产品质量创新大赛优秀奖”。公司自成立以来，在产品研发上持续投入，2022 年入选江苏省创新型中小企业库，2023 年入选江苏省科技型中小企业库。累计取得发明、实用新型和著作知识产权总计 36 项，使主导产品竞争力不断增强，在行业细分领域市场处于前五地位。

公司产品资质：中国国家标准化管理委员会“采用国际标准产品标志证书”；中国船级社“质量管理体系认证证书”；中国船级社“产品型式认可证书”；法国船级社“工厂型式认可证书”；俄罗斯船级社“产品型式认可证书”；美国船级社“产品检验证书”；英国船级社“产品检验证书”；德国船级社“产品检验证书”；日本船级社“产品检验证书”；韩国船级社“产品检验证书”和意大利船级社“产品检验证书”。

公司占地面积约 6000 平方米，年生产船用和化工泵产能 10000 台。主要生产设备有 B 系列、M 系列、S 系列三条生产线；2 条一级精度泵计算机调试生产线；二条双电子差压流量调试生产系统；二条宽频率、宽电压变频调试系统；一条 NPSH 试验系统；拥有模拟介质温度、PH 值、盐度、冷却/加热调节的整套装置；满足流量 $1\text{m}^3/\text{h}$ - $2000\text{m}^3/\text{h}$ ，压力 0.06-12Mpa，电压 0-500V，频率 45-60Hz 的船用泵进行在线生产测试。为企业的后续研发奠定了坚实的基础。

“洁冠”DL 系列船用中压船用泵经过十九年的发展，已完成近百种规格产品的型式认可。迄今为止已为国内外超过万艘海轮提供了产品和服务。每年都获得苏州、张家港市人民政府颁发的“重合同、守信用”企业称号。

Company Profile:

Zhangjiagang Pacific Pump Manufacturing Co., Ltd. was established in 2006. Always research and development, production of "JieGuan" marine and magnetic driven pump.

The company has the qualification of Marine pump products: Standardization Administration of China "Mark Certificate of Adopt International Standard Products"; The "Quality Management System Certification Certificate" of China Classification Society; CCS of "Product Type approval Certificate"; "Factory Type Accreditation Certificate" issued by French Classification Society; "Product Type approval Certificate" issued by Russian Classification Society; The "Product Inspection Certificate" issued by the American Classification Society; A "Product Inspection Certificate" issued by the Lloyd's Register of Shipping; The "Product Inspection Certificate" issued by the Germany Classification Society; "Product Inspection Certificate" issued by Japan Classification Society; The "Product Inspection Certificate" issued by Korea Classification Society and Product Inspection Certificate issued by Italian Classification Society.

The company covers an area of about 6,000 square meters, with an annual production capacity of 10,000 Marine and magnetic driven pump.

The main production equipment includes three production lines: B series, M series and S series; two computer debugging production lines for first-level precision pump; two double electronic differential pressure flow debugging production system; two wide frequency and wide voltage frequency conversion debugging system; one NPSH test system; a complete device with analog medium temperature, PH value, salinity, cooling / heating adjustment; 1m³ / h-2000 m³ / h, pressure 0.06-12 MPA, voltage 0-500V, frequency of 45-60Hz for on-line production testing.

After 19 years of development, "JieGuan" DL series has completed nearly 100 specifications of type recognition, which has laid a solid foundation for the development of the enterprise. So far, it has provided products and services for more than ten thousand sea vessels . Every year, it is awarded the title of "honoring contract, keeping faith" by Suzhou and Zhangjiagang Municipal people's Government.

二、产品简介

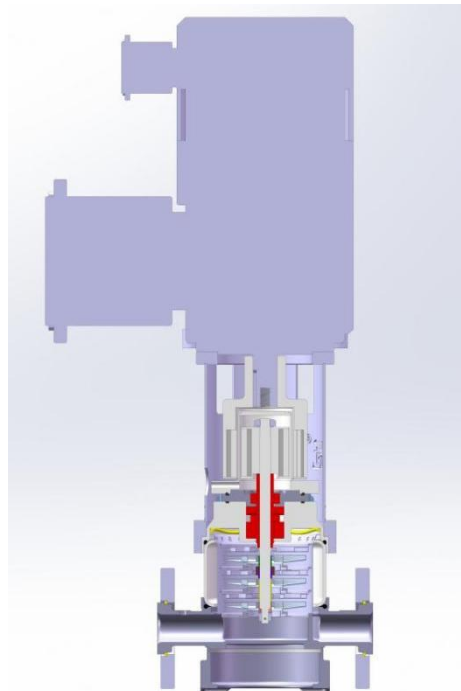
2.1 工作原理:

洁冠 DL-CM 船用磁力联轴器多级立式离心泵由泵端、磁性联轴器和船用电机三部分组成，通过磁性联轴器驱动，配置船用立式三相交流防爆电机。泵端按模块化设计，没用任何轴封装置，具有完全无泄漏的特点。安装维护方便，所有易损件都可以现场维修、更换。

Products Brief Introduction:

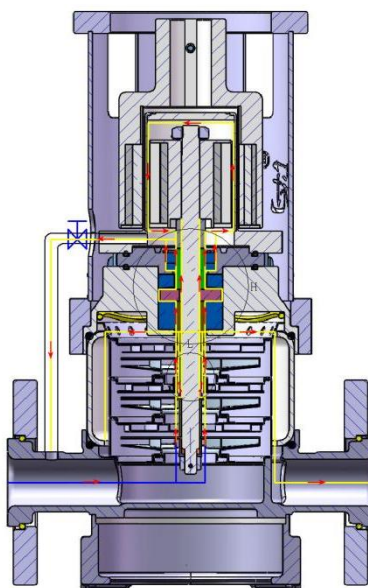
Working principle:

The DL-CM Magnetic Drive Multistage Vertical Centrifugal Pumps in ships of Jieguan is composed such three parts of pump, magnetic coupling and explosion-proof motor,, and driven by the magnetic coupling. The vertical motor equipped is the marine three phase AC motor. The entirety of the pump is designed following the building block principle, free from any shaft sealing device, and totally sealless. It' s easy to install and repair, and all wearing parts can be repaired and replaced on site.



DL-CM 船用磁力联轴器多级立式离心泵基本结构图

DL-CM Basic structure diagram of Magnetic Drive Multistage Vertical Centrifugal Pumps in ships



DL-CM 船用磁力联轴器多级立式离心泵分区自循环冷却示意图

DL-CM Schematic Diagram of Zoned Self-Circulation Cooling for Magnetic
Drive Multistage Vertical Centrifugal Pumps in ships

2.2 产品特点

Product Characteristics

压力壳

Pressure casing:



隔离套
Isolating shell:



- 高效的水力模型。
- 不锈钢 316L、哈氏合金隔离套，采用车削特殊工艺压制成型，精度高，导磁率高，抗腐蚀性强，充分保证了船用磁力泵可靠稳定的运转。
- 滑动轴承采用钨钴合金 YG8-14.5，强度高，耐磨性好，抗腐蚀性强。
- 磁性材料选用钐钴和钕铁硼，最高不可逆退磁温度可达 450 度。
- 在达到额定转速后，轴向力通过液压均衡方式自动平衡。
- 结构简单紧凑，采用积木原理，安装维修方便。
- 运行成本低，维护、维修方便。
- Efficient with an excellent hydraulic model
- The Isolating shell by stainless steel 316L、Hastelloy made, that is formed by lathing in a special process to have a high precision, a high magnetic permeability and a strong resistance to corrosion. All these are a sufficient guarantee for the marine magnetic pump to operate reliably and stably.
- The slide bearing is in WC-Co (Tungsten cobalt alloy) YG8-14.5 to have a high strength, a good resistance to wearing and corrosion.

- The magnetic material is Sm-Co and NdFeB(Neodymium magnet) to have a good performance,with the highest non-reversible demagnetization temperature 450°C.
- The axial force is balanced automatically in a hydraulic way at reaching the rated rotation speed.
- In a simple and compact modular structure,it is easy for installation and maintenance.
- Low operation cost,maintenance and service cost.

2.3 产品选用简表

Product Simplified diagram

2.3.1、DL-CM2.4/4 船用磁力联轴器多级立式离心泵主要技术参数：

DL-CM2.4/4 Main technical parameters of Magnetic Drive Multistage Vertical Centrifugal Pumps in ships

型号 Type	级数 Series	流量 Capacity (m³/h)	扬程 Head(m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N. m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM2.4/4	6	2.4/3	48/67	2830/3470	0.75/1.30	3.71/6.05	2	304/ 316L/ 2205/ 2507/ 904L
	7	2.4/3	56/78	2830/3470	0.87/1.52	5.06/6.05	2	
	8	2.4/3	64/89	2840/3470	1.00/1.73	5.04/6.05	2	
	9	2.4/3	72/100	2840/3490	1.11/1.95	5.04/8.21	2	
	10	2.4/3	80/112	2840/3490	1.24/2.18	5.04/8.21	2	
	11	2.4/3	88/123	2870/3490	1.36/2.39	7.32/8.21	2	
	12	2.4/3	96/134	2870/3500	1.49/2.61	7.32/10.91	2	
	13	2.4/3	104/145	2870/3500	1.61/2.82	7.32/10.91	2	
	14	2.4/3	112/156	2890/3500	1.73/3.04	9.91/10.91	2	
	15	2.4/3	120/168	2890/3500	1.86/3.27	9.91/10.91	2	
	16	2.4/3	128/179	2890/3520	1.98/3.48	9.91/14.92	2	
	17	2.4/3	136/190	2890/3520	2.10/3.70	9.91/14.92	2	
	18	2.4/3	144/200	2890/3520	2.23/3.89	9.91/14.92	2	
	19	2.4/3	152/212	2890/3520	2.35/4.13	9.91/14.92	2	
	20	2.4/3	160/224	2900/3520	2.48/4.36	13.17/14.92	2	
DL-CM2.4/4	21	2.4/3	168/235	2900/3520	2.60/4.57	13.17/14.92	2	
	22	2.4/3	176/246	2900/3520	2.72/4.79	13.17/14.92	2	
	6	3/4	51/71	2845/3470	0.89/1.65	5.04/6.05	2	
	7	3/4	60/83	2845/3490	1.04/1.92	5.04/8.21	2	
	8	3/4	68/95	2845/3490	1.19/2.20	5.04/8.21	2	
	9	3/4	77/107	2845/3500	1.33/2.48	7.38/10.91	2	
	10	3/4	85/119	2845/3500	1.48/2.76	7.38/10.91	2	
	11	3/4	94/130	2845/3500	1.63/3.01	7.38/10.91	2	
	12	3/4	102/142	2860/3500	1.78/3.29	10.02/10.91	2	
	13	3/4	110/154	2860/3520	1.93/3.57	10.02/14.92	2	
	14	3/4	119/166	2860/3520	2.08/3.85	10.02/14.92	2	
	15	3/4	127/177	2860/3520	2.23/4.10	10.02/14.92	2	
	16	3/4	136/190	2860/3520	2.37/4.40	10.02/14.92	2	
	17	3/4	144/201	2870/3520	2.52/4.66	13.31/14.92	2	
	18	3/4	153/214	2870/3520	2.67/4.96	13.31/20.35	2	
	19	3/4	161/225	2870/3520	2.82/5.22	13.31/20.35	2	
	20	3/4	170/238	2870/3520	2.97/5.52	13.31/20.35	2	
	21	3/4	178/249	2870/3520	3.12/5.77	13.31/20.35	2	
	22	3/4	187/261	2870/3520	3.27/6.05	13.31/20.35	2	

型号 Type	级数 Series	流量 Capacity (m ³ /h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N. m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM2. 4/4	6	4/5	48/67	2845/3470	1.11/1.94	5.04/8.21	2	304/ 316L/ 2205/ 2507/ 904L
	7	4/5	56/78	2845/3470	1.29/2.26	7.38/8.21	2	
	8	4/5	64/89	2845/3470	1.48/2.58	7.38/10.91	2	
	9	4/5	72/100	2845/3470	1.67/2.90	7.38/10.91	2	
	10	4/5	80/112	2860/3470	1.85/3.25	10.02/10.91	2	
	11	4/5	88/123	2860/3470	2.04/3.57	10.02/14.92	2	
	12	4/5	96/134	2860/3500	2.22/3.88	10.02/14.92	2	
	13	4/5	104/145	2860/3500	2.41/4.20	13.31/14.92	2	
	14	4/5	112/156	2890/3520	2.59/4.52	13.31/14.92	2	
	15	4/5	120/168	2890/3520	2.78/4.87	13.31/14.92	2	
	16	4/5	128/179	2890/3520	2.97/5.19	13.31/20.35	2	
	17	4/5	136/190	2900/3520	3.15/5.51	13.31/20.35	2	
	18	4/5	144/201	2900/3520	3.34/5.83	18.11/20.35	2	
	19	4/5	152/212	2900/3520	3.52/6.15	18.11/20.35	2	
	20	4/5	160/224	2900/3520	3.71/6.49	18.11/20.35	2	
	21	4/5	168/235	2900/3520	3.89/6.81	18.11/20.35	2	
	22	4/5	176/246	2900/3540	4.08/7.13	18.11/29.68	2	
DL-CM2. 4/4	6	5/6	45/63	2830/3470	1.34/2.19	7.38/8.21	2	
	7	5/6	52/72	2830/3470	1.56/2.50	7.38/10.91	2	
	8	5/6	60/84	2840/3470	1.78/2.92	10.02/10.91	2	
	9	5/6	68/94	2840/3470	2.00/3.27	10.02/10.91	2	
	10	5/6	75/105	2840/3470	2.22/3.65	10/02/14.92	2	
	11	5/6	83/115	2840/3470	2.45/4.00	13.31/14.92	2	
	12	5/6	90/126	2870/3500	2.67/4.38	13.31/14.92	2	
	13	5/6	97/135	2870/3500	2.89/4.70	13.31/14.92	2	
	14	5/6	105/147	2890/3520	3.11/5.11	13.31/20.35	2	
	15	5/6	112/156	2890/3520	3.34/5.43	18.11/20.35	2	
	16	5/6	120/168	2890/3520	3.56/5.84	18.11/20.35	2	
	17	5/6	127/177	2900/3520	3.78/6.16	18.11/20.35	2	
	18	5/6	135/189	2900/3520	4.01/6.57	18.11/20.35	2	
	19	5/6	142/198	2900/3520	4.23/6.89	18.11/20.35	2	
	20	5/6	150/210	2900/3520	4.45/7.30	18.11/29.68	2	
	21	5/6	157/219	2900/3520	4.67/7.61	18.11/29.68	2	
	22	5/6	165/231	2900/3540	4.90/8.03	24.57/29.68	2	

2.3.2、DL-CM6/12 船用磁力联轴器多级立式离心泵主要技术参数：

DL-CM6/12 Main technical parameters of Magnetic Drive Multistage Vertical Centrifugal Pumps in ships

型号 Type	级数 Series	流量 Capacity (m ³ /h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N.m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM6/12	2	6/7	18/26	2830/3470	0.59/0.99	3.69/4.13	2	304/ 316L/ 2205/ 2507/ 904L
	3	6/7	27/38	2830/3470	0.88/1.45	5.04/6.05	2	
	4	6/7	36/51	2840/3470	1.17/1.95	5.04/8.21	2	
	5	6/7	45/63	2840/3470	1.47/2.40	7.38/8.21	2	
	6	6/7	54/76	2840/3470	1.77/2.90	7.38/10.91	2	
	7	6/7	63/88	2840/3470	2.06/3.36	10.02/10.91	2	
	8	6/7	72/101	2870/3500	2.35/3.85	10.02/14.92	2	
	9	6/7	81/113	2870/3500	2.64/4.31	13.31/14.92	2	
	10	6/7	90/126	2890/3520	2.94/4.81	13.31/14.92	2	
	11	6/7	99/139	2890/3520	3.24/5.30	13.31/20.35	2	
	12	6/7	108/151	2890/3520	3.53/5.76	18.11/20.35	2	
	13	6/7	117/164	2900/3520	3.83/6.26	18.11/20.35	2	
	14	6/7	126/177	2900/3520	4.12/6.75	18.11/20.35	2	
	15	6/7	135/189	2900/3520	4.41/7.21	18.11/29.68	2	
	16	6/7	144/202	2900/3520	4.71/7.71	18.11/29.68	2	
	17	6/7	153/214	2900/3520	5.00/8.16	24.57/29.68	2	
	18	6/7	162/227	2900/3540	5.30/8.66	24.57/29.68	2	
	19	6/7	171/240	2900/3540	5.59/9.16	24.57/29.68	2	
	20	6/7	180/252	2900/3540	5.89/9.61	24.57/29.68	2	
	21	6/7	189/265	2900/3540	6.18/10.10	24.57/40.47	2	
	22	6/7	198/277	2900/3540	6.47/10.57	24.57/40.47	2	
DL-CM6/12	2	8/10	16/22	2830/3470	0.68/1.17	3.69/4.13	2	
	3	8/10	24/34	2830/3470	1.03/1.81	5.04/8.21	2	
	4	8/10	32/45	2840/3470	1.37/2.40	7.38/8.21	2	
	5	8/10	40/56	2840/3470	1.71/2.99	7.38/10.91	2	
	6	8/10	48/67	2840/3470	2.05/3.58	10.02/14.92	2	
	7	8/10	56/78	2840/3470	2.39/4.16	10.02/14.92	2	
	8	8/10	64/90	2870/3500	2.74/4.81	13.31/14.92	2	
	9	8/10	72/101	2870/3500	3.08/5.40	13.31/20.35	2	
	10	8/10	80/112	2890/3520	3.42/5.98	18.11/20.35	2	
	11	8/10	88/123	2890/3520	3.76/6.57	18.11/20.35	2	
	12	8/10	96/134	2890/3520	4.10/7.16	18.11/29.68	2	
	13	8/10	104/146	2900/3520	4.44/7.80	18.11/29.68	2	
	14	8/10	112/157	2900/3520	4.79/8.39	18.11/29.68	2	
	15	8/10	120/168	2900/3520	5.13/8.98	24.57/29.68	2	
	16	8/10	128/179	2900/3520	5.47/9.56	24.57/40.47	2	
	17	8/10	136/195	2900/3520	5.81/10.42	24.57/40.47	2	
	18	8/10	144/202	2900/3540	6.15/10.79	24.57/40.47	2	
	19	8/10	152/213	2900/3540	6.50/11.38	24.57/40.37	2	
	20	8/10	160/224	2900/3540	6.84/11.97	24.57/40.47	2	
	21	8/10	168/235	2900/3540	7.18/12.56	35.85/40.47	2	
	22	8/10	173/242	2900/3540	7.52/12.93	35.85/40.47	2	

型号 Type	级数 Series	流量 Capacity (m ³ /h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N.m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM6/12	2	10/12	14/19	2830/3470	0.72/1.17	3.69/4.13	2.3	304/ 316L/ 2205/ 2507/ 904L
	3	10/12	20/29	2830/3470	1.03/1.79	5.04/8.21	2.3	
	4	10/12	27/38	2840/3470	1.39/2.34	7.38/8.21	2.3	
	5	10/12	34/48	2840/3470	1.75/2.96	7.38/10.91	2.3	
	6	10/12	41/57	2840/3470	2.11/3.52	10.02/14.92	2.3	
	7	10/12	48/67	2840/3470	2.47/4.13	10.02/14.92	2.3	
	8	10/12	54/76	2870/3500	2.78/4.69	13.31/14.92	2.3	
	9	10/12	61/86	2870/3500	3.14/5.31	13.31/20.35	2.3	
	10	10/12	68/95	2890/3520	3.50/5.86	18.11/20.35	2.3	
	11	10/12	75/104	2890/3520	3.86/6.42	18.11/20.35	2.3	
	12	10/12	82/114	2890/3520	4.22/7.03	18.11/29.68	2.3	
	13	10/12	88/124	2900/3520	4.52/7.65	18.11/29.68	2.3	
	14	10/12	95/133	2900/3520	4.88/8.21	18.11/29.68	2.3	
	15	10/12	102/143	2900/3520	5.24/8.82	24.57/29.68	2.3	
	16	10/12	109/153	2900/3520	5.60/9.44	24.57/29.68	2.3	
	17	10/12	115/161	2900/3540	5.91/9.93	24.57/40.47	2.3	
	18	10/12	122/171	2900/3540	6.27/10.55	24.57/40.47	2.3	
	19	10/12	129/181	2900/3540	6.63/11.17	24.57/40.47	2.3	
	20	10/12	136/190	2900/3540	6.99/11.72	35.85/40.47	2.3	
	21	10/12	143/200	2900/3540	7.35/12.34	35.85/40.47	2.3	
	22	10/12	150/210	2900/3540	7.71/12.96	35.85/40.47	2.3	
DL-CM6/12	2	12/14	36/50	2845/3520	2.18/3.53	10.02/14.92	2.3	
	3	12/14	54/76	2860/3520	3.26/5.37	13.31/20.35	2.3	
	4	12/14	72/101	2900/3540	4.36/7.13	18.11/29.68	2.3	
	5	12/14	90/126	2915/3540	5.45/8.90	24.57/29.68	2.3	
	6	12/14	108/151	2915/3540	6.54/10.67	24.57/40.47	2.3	
	7	12/14	126/176	2930/3540	7.63/12.43	35.85/40.47	2.3	
	8	12/14	144/202	2930/3550	8.72/14.27	35.85/49.77	2.3	
	9	12/14	162/227	2930/3550	9.81/16.04	35.85/49.77	2.3	
	10	12/14	180/252	2930/3560	10.90/17.80	48.89/59.02	2.3	
	11	12/14	198/277	2930/3560	11.99/19.57	48.89/59.02	2.3	
	12	12/14	216/303	2930/3550	13.08/21.40	48.89/80.48	2.3	
	13	12/14	234/328	2940/3560	14.17/23.17	62.1/80.48	2.3	
	14	12/14	252/353	2940/3560	15.26/24.94	62.1/80.48	2.3	

2.3.3、DL-CM12.5/18 船用磁力联轴器多级立式离心泵主要技术参数:

DL-CM12.5/18 Main technical parameters of Magnetic Drive Multistage Vertical Centrifugal Pumps in ships

型号 Type	级数 Series	流量 Capacity (m³/h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N.m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM12.5/18	2	12.5/15	32/45	2860/3500	2.02/3.41	10.02/10.91	2.5	
	3	12.5/15	48/67	2870/3520	3.03/5.07	13.31/20.35	2.5	
	4	12.5/15	64/90	2890/3520	4.04/6.81	18.11/20.35	2.5	
	5	12.5/15	80/112	2915/3540	5.05/8.48	24.57/29.68	2.5	
	6	12.5/15	96/134	2915/3540	6.06/10.14	24.57/40.47	2.5	
	7	12.5/15	112/157	2930/3540	7.06/11.88	35.85/40.47	2.5	
	8	12.5/15	128/180	2930/3540	8.07/13.62	35.85/49.77	2.5	
	9	12.5/15	144/202	2930/3540	9.08/15.29	35.85/49.77	2.5	
	10	12.5/15	160/224	2930/3560	10.09/16.95	48.89/59.02	2.5	
	11	12.5/15	176/246	2930/3560	11.10/18.62	48.89/59.02	2.5	
	12	12.5/15	192/269	2930/3560	12.11/20.36	48.89/59.02	2.5	
	13	12.5/15	208/291	2930/3560	13.12/22.03	48.89/80.48	2.5	
	14	12.5/15	224/314	2945/3560	14.13/23.77	62.1/80.48	2.5	
DL-CM12.5/18	2	16/19	27/38	2840/3490	2.14/3.57	10.02/14.92	2.5	304/ 316L/ 2205/ 2507/ 904L
	3	16/19	40/56	2870/3500	3.17/5.27	13.31/20.35	2.5	
	4	16/19	54/76	2890/3520	4.28/7.15	18.11/29.68	2.5	
	5	16/19	67/94	2900/3520	5.31/8.85	24.57/29.68	2.5	
	6	16/19	80/112	2900/3540	6.34/10.54	24.57/40.47	2.5	
	7	16/19	94/132	2900/3540	7.45/12.43	35.85/40.47	2.5	
	8	16/19	107/150	2930/3540	8.48/14.12	35.85/49.77	2.5	
	9	16/19	121/170	2930/3540	9.59/16.00	35.85/49.77	2.5	
	10	16/19	134/188	2930/3540	10.62/17.70	48.89/59.02	2.5	
	11	16/19	147/206	2930/3540	11.65/19.39	48.89/59.02	2.5	
	12	16/19	161/225	2930/3540	12.76/21.18	48.89/80.48	2.5	
	13	16/19	174/244	2930/3540	13.79/22.97	62.1/80.48	2.5	
	14	16/19	187/262	2930/3540	14.82/24.66	62.1/80.48	2.5	
DL-CM12.5/18	2	18/22	32/45	2870/3500	2.73/4.73	13.31/14.92	2.5	
	3	18/22	48/67	2890/3520	4.09/7.05	18.11/29.68	2.5	
	4	18/22	64/90	2900/3540	5.45/9.47	24.57/29.68	2.5	
	5	18/22	80/112	2900/3540	6.82/11.78	24.57/40.47	2.5	
	6	18/22	86/121	2930/3540	8.18/12.73	35.85/40.47	2.5	
	7	18/22	112/157	2930/3540	9.54/16.51	35.85/49.77	2.5	
	8	18/22	128/179	2930/3540	10.90/18.82	48.89/59.02	2.5	
	9	18/22	144/202	2930/3540	12.27/21.24	48.89/80.48	2.5	
	10	18/22	160/224	2930/3550	13.64/23.56	48.89/80.48	2.5	
	11	18/22	176/246	2930/3550	15.00/25.87	62.1/80.48	2.5	
	12	18/22	192/269	2930/3550	16.36/28.29	62.1/98.98	2.5	
	13	18/22	208/291	2940/3560	17.73/30.60	71.34/98.98	2.5	
	14	18/22	224/314	2940/3560	19.09/33.02	71.34/98.98	2.5	

型号 Type	级数 Series	流量 Capacity (m³/h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N.m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM12.5/18	2	24/29	26/36	2870/3500	2.98/4.99	13.31/20.35	2.8	304/ 316L/ 2205/ 2507/ 904L
	3	24/29	39/55	2890/3520	4.47/7.62	18.11/29.68	2.8	
	4	24/29	52/73	2900/3540	5.96/10.12	24.57/40.47	2.8	
	5	24/29	65/91	2900/3540	7.46/12.62	35.85/40.47	2.8	
	6	24/29	78/110	2930/3540	8.95/15.25	35.85/49.77	2.8	
	7	24/29	91/127	2930/3540	10.44/17.61	48.89/59.02	2.8	
	8	24/29	104/146	2930/3540	11.93/20.24	48.89/59.02	2.8	
	9	24/29	117/164	2930/3540	13.42/22.74	48.89/80.48	2.8	
	10	24/29	130/182	2930/3550	14.91/25.23	62.1/80.48	2.8	
	11	24/29	143/200	2930/3550	16.40/27.73	62.1/80.48	2.8	
	12	24/29	156/218	2930/3550	17.90/30.22	71.34/98.98	2.8	
	13	24/29	169/237	2940/3560	19.38/32.86	71.34/98.98	2.8	
	14	24/29	182/255	2940/3560	20.88/35.35	97.12/98.98	2.8	

2.3.4、DL-CM25/45 船用磁力联轴器多级立式离心泵主要技术参数：

DL-CM25/45 Main technical parameters of Magnetic Drive Multistage Vertical Centrifugal Pumps in ships

型号 Type	级数 Series	流量 Capacity (m³/h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N.m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM25/45	2	25/30	32/44	2870/3500	3.84/6.31	18.11/20.35	2.8	
	3	25/30	48/67	2900/3520	5.76/9.6	24.57/29.68	2.8	
	4	25/30	64/89	2900/3520	7.68/12.77	35.85/40.47	2.8	
	5	25/30	80/112	2930/3540	9.60/16.06	35.85/49.77	2.8	
	6	25/30	96/134	2930/3540	11.52/19.22	48.89/59.02	2.8	
	7	25/30	112/156	2930/3540	13.44/22.37	48.89/80.48	2.8	
	8	25/30	128/179	2930/3540	15.36/25.67	62.1/80.48	2.8	
	9	25/30	144/201	2930/3540	17.28/28.83	71.34/98.98	2.8	
	10	25/30	160/224	2940/3550	19.20/32.12	71.34/98.98	2.8	
	11	25	176	2940	21.12	97.12	2.8	
	12	25	192	2950	23.04	97.12	2.8	
	13	25	208	2950	24.96	97.12	2.8	
	14	25	224	2950	26.88	97.12	2.8	
DL-CM25/45	2	30/36	30/42	2870/3500	4.15/6.98	18.11/20.35	3.0	304/ 316L/ 2205/ 2507/ 904L
	3	30/36	45/63	2900/3520	6.23/10.47	24.57/40.47	3.0	
	4	30/36	60/84	2900/3520	8.31/13.97	35.85/40.97	3.0	
	5	30/36	75/105	2930/3540	10.39/17.46	48.89/59.02	3.0	
	6	30/36	90/126	2930/3540	12.47/20.95	48.89/80.48	3.0	
	7	30/36	105/147	2930/3540	14.55/24.44	62.1/80.48	3.0	
	8	30/36	120/168	2930/3540	16.63/27.93	62.1/80.48	3.0	
	9	30/36	135/189	2930/3540	18.70/31.42	71.34/98.98	3.0	
	10	30/36	150/210	2940/3550	20.78/34.91	97.12/98.98	3.0	
	11	30	165	2940	22.86	97.12	3.0	
	12	30	180	2950	24.94	97.12	3.0	
	13	30	195	2950	27.02	97.12	3.0	
	14	30	210	2950	29.10	119.58	3.0	
DL-CM25/45	2	36/43	26/36	2870/3500	4.25/7.03	18.11/29.68	3.0	
	3	36/43	39/54	2900/3520	6.38/10.54	24.57/40.47	3.0	
	4	36/43	52/72	2900/3520	8.50/14.06	35.85/49.77	3.0	
	5	36/43	65/91	2930/3540	10.63/17.77	48.89/59.02	3.0	
	6	36/43	78/109	2930/3540	12.75/21.28	48.89/80.48	3.0	
	7	36/43	91/127	2930/3540	14.88/24.80	62.1/80.48	3.0	
	8	36/43	104/145	2930/3540	17.00/28.31	62.1/98.98	3.0	
	9	36/43	117/163	2930/3540	19.12/31.83	71.34/98.98	3.0	
	10	36/43	130/182	2940/3550	21.25/35.54	97.12/120.04	3.0	
	11	36	143	2940	23.38	97.12	3.0	
	12	36	156	2950	25.50	97.12	3.0	
	13	36	169	2950	27.63	97.12	3.0	
	14	36	182	2950	29.75	119.58	3.0	

型号 Type	级数 Series	流量 Capacity (m³/h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N.m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM25/45	2	42/50	32/44	2900/3520	6.12/9.9	24.57/29.68	3.0	304/ 316L/ 2205/ 2507/ 904L
	3	42/50	48/67	2930/3540	9.18/15.21	35.85/49.77	3.0	
	4	42/50	64/89	2930/3540	12.24/20.21	48.89/59.02	3.0	
	5	42/50	80/112	2930/3540	15.30/25.43	62.1/80.48	3.0	
	6	42/50	96/134	2930/3540	18.36/30.43	71.34/98.98	3.0	
	7	42/50	112/156	2940/3550	21.42/35.42	97.12/120.04	3.0	
	8	42/50	128/179	2950/3560	24.48/40.64	97.12/120.04	3.0	
	9	42/50	144/201	2950/3560	27.54/45.64	97.12/146.72	3.0	
	10	42/50	160/224	2950/3560	30.60/50.86	119.58/146.72	3.0	
	11	42	176	2950	33.66	119.58	3.0	
	12	42	192	2950	36.72	145.19	3.0	
DL-CM25/45	2	50/60	27/37	2900/3520	6.03/9.92	24.57/40.47	3.5	
	3	50/60	41/56	2930/3540	9.16/15.01	35.85/49.77	3.5	
	4	50/60	54/75	2930/3540	12.06/20.10	48.89/59.02	3.5	
	5	50/60	68/94	2930/3540	15.19/25.19	62.1/80.48	3.5	
	6	50/60	81/113	2930/3540	18.09/30.26	71.34/98.98	3.5	
	7	50/60	95/132	2940/3550	21.21/35.38	97.12/98.98	3.5	
	8	50/60	108/151	2950/3560	24.12/40.47	97.12/120.04	3.5	
	9	50/60	122/170	2950/3560	27.25/45.56	97.12/146.72	3.5	
	10	50/60	135/189	2950/3560	30.15/50.65	119.58/146.72	3.5	
	11	50	149	2950	33.28	119.58	3.5	
	12	50	162	2950	36.18	145.19	3.5	

2.3.5、DL-CM90/120 船用磁力联轴器多级立式离心泵主要技术参数：

DL-CM90/120 Main technical parameters of Magnetic Drive Multistage Vertical Centrifugal Pumps in ships

型号 Type	级数 Series	流量 Capacity (m³/h)	扬程 Head (m)	额定转速 Rated Rev (r/min)	轴功率 Shaft power (kW)	输出扭矩 Torque (N.m)	必需汽蚀余量 NPSHr (m)	泵体材质 Pump body material
DL-CM90/120	1	60/72	17/23	2870/3500	4.48/7.28	18.11/29.68	3.5	
	2	60/72	34/47	2930/3540	8.96/14.87	35.85/49.77	3.5	
	3	60/72	51/71	2930/3540	13.45/22.47	62.1/80.48	3.5	
	4	60/72	68/95	2930/3540	17.93/30.06	71.34/98.98	3.5	
	5	60/72	85/119	2950/3550	22.41/37.65	97.12/120.04	3.5	
	6	60/72	102/142	2950/3560	26.90/44.93	97.12/146.72	3.5	
	7	60/72	119/166	2950/3560	31.38/52.53	119.58/146.72	3.5	
	8	60/72	136/190	2950/3560	35.86/60.12	145.19/200.07	3.5	
	9	60/72	153/214	2950/3560	40.34/67.72	145.19/200.07	3.5	
	10	60	170	2970	44.83	177.45	3.5	
DL-CM90/120	1	72/86	14/19	2870/3500	4.36/7.07	18.11/29.68	4.0	304/ 316L/ 2205/ 2507/ 904L
	2	72/86	28/39	2930/3540	8.72/14.51	35.85/49.77	4.0	
	3	72/86	42/58	2930/3540	13.08/21.57	48.89/80.48	4.0	
	4	72/86	56/78	2930/3540	17.44/29.01	71.34/98.98	4.0	
	5	72/86	70/98	2950/3550	21.80/36.45	97.12/120.04	4.0	
	6	72/86	84/117	2950/3560	26.16/43.52	97.12/146.72	4.0	
	7	72/86	98/137	2950/3560	30.52/50.96	119.58/146.72	4.0	
	8	72/86	110/154	2950/3560	34.25/57.28	119.58/200.07	4.0	
	9	72/86	124/173	2950/3560	38.61/64.35	145.19/200.07	4.0	
	10	72	140	2970	43.60	177.45	4.0	
DL-CM90/120	1	90/108	23/32	2930/3540	8.68/14.49	35.85/49.77	4.5	
	2	90/108	45/63	2930/3540	16.98/28.52	62.1/98.98	4.5	
	3	90/108	68/95	2950/3560	25.65/43.01	97.12/146.72	4.5	
	4	90/108	90/126	2950/3560	33.96/57.04	119.58/200.07	4.5	
	5	90/108	113/158	2970/3570	42.63/71.53	145.19/200.07	4.5	
	6	90/108	135/189	2970/3570	50.93/85.57	177.45/240.08	4.5	
DL-CM90/120	1	108/130	19/26	2930/3540	8.60/14.16	35.85/49.77	5.5	
	2	108/130	37/52	2930/3540	16.75/28.34	62.1/98.98	5.0	
	3	108/130	56/78	2950/3560	25.35/42.50	97.12/120.04	5.0	
	4	108/130	74/103	2950/3560	33.50/56.13	119.58/200.07	5.0	
	5	108/130	93/129	2970/3570	42.10/70.30	145.19/200.07	5.0	
	6	108/130	111/155	2970/3570	50.25/84.47	177.45/240.08	5.0	
DL-CM90/120	1	120/144	14/20	2930/3540	6.94/11.89	35.85/40.47	6.0	
	2	120/144	28/39	2930/3550	13.87/23.18	48.89/80.48	6.0	
	3	120/144	42/59	2950/3560	20.80/35.08	71.34/98.98	6.0	
	4	120/144	56/78	2950/3580	27.74/46.37	97.12/146.72	6.0	
	5	120/144	70/98	2955/3580	34.68/58.26	119.58/200.07	6.0	
	6	120/144	84/117	2960/3580	41.62/69.56	145.19/200.07	6.0	

注：输出扭矩计算公式 $T = P \times 9550 / n$

式中：P—功率，单位 KW；n—电机的额定转速，单位 r/min；T—转矩（扭矩），单位 N.m。

Note: The output torque calculation formula is $T = P \times 9550 / n$

In the formula: P – power, unit KW; n – Rated speed of the motor, unit: r/min; T – Torque (torque), unit: N.m.

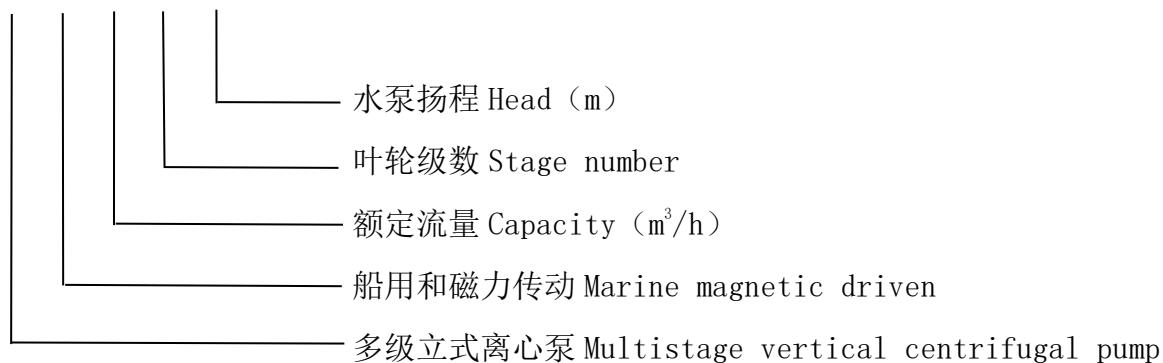
2.4 型号及定义

Type and Example

DL-CM 系列船用磁力联轴器多级立式离心泵的型号表示方法如下：

DL-CM example for designation of Magnetic Drive Multistage Vertical Centrifugal Pumps in ships:

DL-CM □-□/□



结构特点：

- 采用多级，电机直联式，可节省成本和空间。
- 无需安装滚动轴承、联轴器，无需做同心校正。
- 完全无泄漏。
- 分区自循环冷却方式：从叶轮出口分流一部分高压介质，进入隔离套、滑动轴承和止推轴承单元，对其进行冷却和润滑，然后通过排出口进入末级叶轮入口处。这种内循环方式适于输送各种液体介质，包括易汽化介质。

Structural characteristics:

- A pump with multistage, of a type in direct connection with the motor to save cost and space.
- No installation of rolling bearing, coupling and alignment for concentricity is necessary.
- No leaking.

- Zoned Self-circulating Cooling Method: part of high pressure medium diverted from the impeller outlet comes into cools and lubricates the Shell、Sliding bearing and Thrust bearing unit. Then it flows through the outlet hole to the inlet of the impeller in the end stage. This internal circulation mode is suitable for delivery of various fluid media including those boiling.

2.5 轴向力平衡:

轴向平衡装置的工作原理是基于消除叶轮前后盖板因不对称的分布产生的压力差, 流体沿轴向进入叶轮, 经旋转后流出, 动量变化产生的反作用力和转子重量会叠加重力产生的轴向力。

Axial thrust balancing:

The working principle of the axial balancing device is based on eliminating the pressure difference caused by the asymmetric distribution of the front and rear cover plates of the impeller. The fluid enters the impeller along the axial direction, flows out after rotation, and the reaction force generated by momentum changes and the axial force generated by gravity will be added to the rotor weight.

三、订货须知

订货时应指明流量、扬程、介质名称、温度、密度、粘度、饱和蒸汽压、比热、泵入口压力、泵出口压力、最小倒灌高度、颗粒及杂质等参数，以便我们为您正确选型。

Order information:

When ordering, please indicate such parameters as capacity, head, liquid, temperature, density, viscosity, vapor pressure, specific heat, pressure in suction and discharge, suction head and minimum flow backward, particles and impurities, etc., for us to select the right type for you.



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