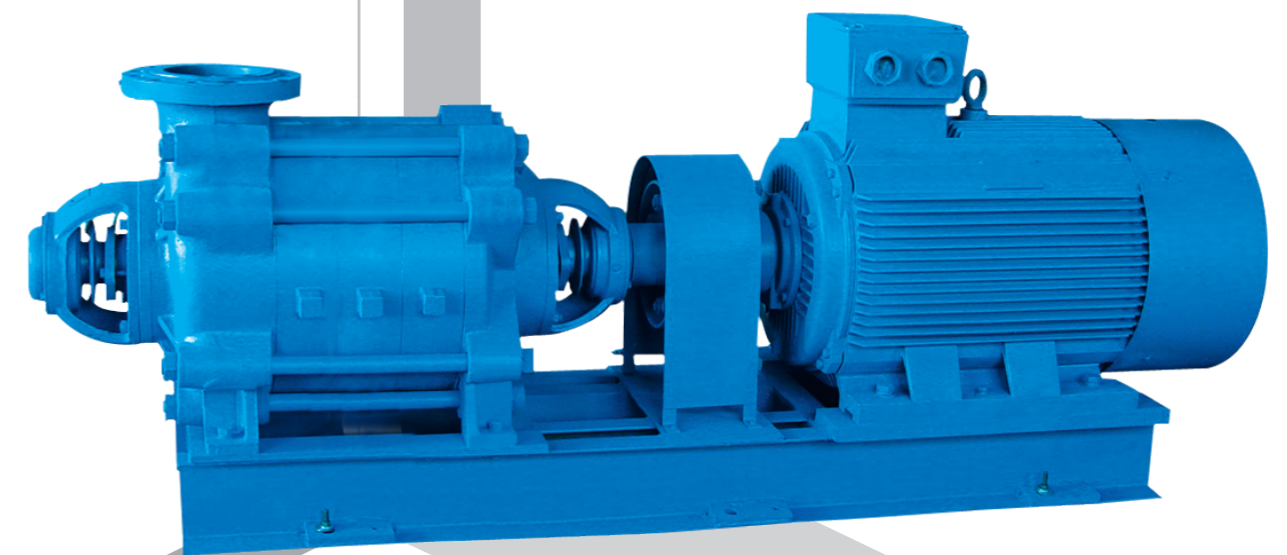




MD型煤矿用耐磨离心水泵

MD TYPE WEARABLE CENTRIFUGAL MINE WATER PUMP



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集团介绍

上海连成(集团)有限公司，是一家国内著名的研究制造泵、阀和流体输送系统、电气控制系统和环保设备的多元化经营的大型集团企业。

经过二十多年的发展，现已拥有五大工业园区，分布于上海、江苏、大连和浙江等经济发达地区，总占地面积达55万平方米，总部设在上海封浜工业园区。旗下拥有上海连成泵业制造有限公司、上海连成电机有限公司、上海连成阀门有限公司、上海连成集团物流有限公司、上海连成集团通用设备安装工程、上海阿美泰克工业设备有限公司、上海连成环境工程设备有限公司、上海连成集团苏州股份有限公司、上海连成（集团）大连化工泵制造有限公司等多家全资子公司及控股公司，注册资金达6.5亿元以上，总资产达数十亿元。产品品种现已达五千多种，涵盖水泵、电机、电气柜、阀门、成套设备、环保设备、换热器、机械配件等系列，其产品性价比合理，质量可靠，广泛应用于市政、水利、建筑、消防、电力、环保、石油、化工、矿业、医药等领域。集团销售业绩每年均为行业前茅。

强大的制造实力

集团公司目前拥有国家“1级”水泵测试中心、三坐标测量仪、动静平衡测量仪、便携式光谱仪、激光快速成型仪、多功能抛丸机、自动氩弧焊机、10米大型立车、大型磨床、数控机床集群等各种国内外先进的生产检测设备2000台套以上。现有员工3000余人，大中专生占72.6%，其中中级职

Group Introduction

Shanghai Liancheng (Group) Co., Ltd. is a well-known large-scale group enterprise that dedicates to diversified operations of researching and manufacturing pumps, valves and fluid delivery systems, electrical control systems and environmental protection equipment.

After more than 20 years of development, the Group now has five industrial parks, which are located in economically developed areas such as Shanghai, Jiangsu, Dalian and Zhejiang, with a total area of 550,000 square meters. The headquarters is located in Shanghai Fengbang Industrial Park. The Group owns a number of wholly-owned subsidiaries and holding companies such as Shanghai Liancheng Pump Manufacturing Co., Ltd., Shanghai Liancheng Motor Co., Ltd., Shanghai Liancheng Valve Co., Ltd., Shanghai Liancheng Group Logistics Co., Ltd., Shanghai Liancheng Group General Equipment Installation Engineering, Shanghai Amtech Industrial Equipment Co., Ltd., Shanghai Liancheng Environmental Engineering Equipment Co., Ltd., Shanghai Liancheng Group Suzhou Co., Ltd., Shanghai Liancheng (Group) Dalian Chemical Pump Manufacturing Co., Ltd., with a registered capital of more than 650 million yuan and total assets of 2 billion yuan. The Group's product variety has now reached more than 5,000, covering pumps, motors, electrical cabinets, valves, complete sets of equipment, environmental protection equipment, heat exchangers, mechanical parts and other series. Moreover, these products are reasonable in price and reliable in quality, and are widely used in municipal, water conservancy, construction, fire protection, electric power, environmental protection, petroleum, chemical, mining, pharmaceutical and other fields. The Group's sales performance is among the best in the industry every year.

Strong Manufacturing Strength

The Group Company currently has more than 2,000 sets of advanced domestic and overseas production and testing equipment, such as the national "Grade 1" pump test center, trilinear coordinates measuring instrument, dynamic and static balance measuring instrument, portable spectrometer, laser rapid prototyping instrument, multi-

企业简介 CORPORATION OUTLINE

称者475人、高级职称者78人、国家级专家19人、教授6人。每年都投入大量资金用于技术研发和创新，并通过SOLIDWORKS软件，对产品进行CFD分析和强度计算。公司持有国家专利技术近达600余项，每年均参与大量的国家及行业标准起草及编写工作，涉及水利、化工、消防、城市供水等各领域产品及技术标准累计达数十项。集团建有完善的销售服务网络，设有30余家分公司及200多个分支机构，拥有一支1800多人的专业销售服务队伍，为广大客户提供专业的技术支持与优良的营销服务。

荣誉加身，成就更好连成

集团通过了ISO9001、ISO14001、OHSAS18001等国际管理体系认证，全面推行ERP、CRM信息化管理平台；先后获得国家和行业颁发的工业、消防、煤矿、石油化工等重要领域的工业产品生产许可证、“安全生产许可证”、CCC中国国家强制性产品认证、CQC产品认证、CE认证、卫生许可批件、MA煤安认证、节能认证、节水认证、测量管理体系认证、采用国际标准认证、进出口企业资格等生产经营资质；并获得了“国家科学技术进步二等奖”、“大禹水利科学技术一等奖”、“国家级创新型企业”、“高新技术企业”、“中国驰名商标”、“国家标准起草单位”、“国家首批水泵节能认证通过企业”、“全国商品售后服务认证（五星级）”、“上海市级企业技术中心”、“上海市知识产权示范企业”、“上海市名牌产品”、“上海市民营制造业百强”、“中国水工业十大民族品牌”、“全国实施用户满意产品”等众多的社会荣誉。

连成产品得到国内外的用户认可

随着连成集团的永续经营，连成产品得到了用户广泛认可，目前拥有：国家体育场“鸟巢”、国家大剧院、上海世博工程、首都机场、广州白云机场、青岛国际机场、上海地铁、西安地铁、沈阳地铁、首钢京唐、首钢滦南马城矿业、霍州煤电、葫芦岛铝业、广州自来水厂、禹门口水利、松江区二次供水改造、香港供水工程深圳沙湾泵站、澳门供水工程珠海平岗泵站、黄河灌溉山西夹马口泵站、山西省西苑泵站、广东云安六都泵站、长垣县浦西区雨水泵站、渭南东雷二期抽黄灌区泵站改造、黄河小浪底水利工程、宁夏扬黄灌溉工程、鄂尔多斯城市饮用水工程、秦山核电、岭澳核电、国电集团、大唐电厂、华能电厂、宝钢、首钢、唐钢、太钢、鞍钢、新疆八一钢铁、大庆油田、胜利油田、中石油、中石化、中海油、青海盐湖钾盐项目、山西焦化、潞安矿业、陕西咸阳化工、中海油惠州炼油项目、清华大学、海尔集团和安哥拉农业排灌工程、缅甸国家农业灌溉项目，以及核电、火电、水电、钢铁、油田、焦化、矿业、化工、炼油等一大批国内、外样板工程。在通用、拜耳、西门子、大众、可口可乐等国际知名企业在中国的工程均采用了连成集团的产品。

百年连成、我们在行动

连成集团矢志于打造世界级流体处理工业企业，秉承永远珍惜人与自然和谐关系、为提高人类生活质量不懈努力的宗旨，为实现“百年连成”远大目标，一直致力于环保型、节能型产品的研发与制造，为民族企业的振兴与发展不懈努力！

水，因连成至高致远……！



中国驰名商标



上海市著名商标



国家级创新型企

shot blasting machine, automatic argon arc welding machine, 10 m large vertical car, large grinding machine, and CNC machine tool cluster. The Group has more than 3,000 employees, of which 72.6% are graduates of technical secondary school and junior college, and there are 475 middle-level titles, 78 senior titles, 19 national experts, and 6 professors. Every year, the Company invests a large amount of money in technology research and development and innovation, and carries out CFD analysis and intensity calculation of products through SOLIDWORKS software. The Company holds nearly 600 national patent technologies, and participates in the drafting and preparation of a large number of national and industry standards every year, involving over 20 products and technical standards in various fields such as water conservancy, chemical industry, fire protection and urban water supply. The Group has established a comprehensive sales service network, with more than 30 branch companies and over 200 affiliated agencies, and has a professional sales service team surpassing 1,800 people, providing professional technical support and excellent marketing services for customers.

Honored to Achieve Better Liancheng

The Group has passed ISO9001, ISO14001, OHSAS18001 and other international management system certifications, and fully implemented ERP and CRM information management platform. The Group has obtained national and industrial production licenses for industrial products in important fields such as industry, fire protection, coal mining and petrochemical industry, "Safe Production License", CCC China National Compulsory Product Certification, CQC Product Certification, CE Certification, Health Permit Approval, MA Coal Safety Certification, Energy Conservation Certification, Water Saving Certification, Measurement Management System Certification, International Standard Certification, Qualification of Import and Export Enterprise, and other production and operation qualifications. The Group has also been entitled with multiple social honors such as "National Science and Technology Progress Second Prize", "Dayu Water Conservancy Science and Technology First Prize", "National Innovation Enterprise", "High-tech Enterprise", "China Well-known Trademark", "National Standards Drafting Unit", "National First Batch of Enterprises Qualified for Water Pump Energy-Saving Certifications", "National Commodity After-sales Service Certification (Five-star)", "Shanghai Municipal Level Enterprise Technology Center", "Shanghai Intellectual Property Demonstration Enterprise", "Shanghai Famous Brand Products", "Top 100 Private Manufacturing Industries in Shanghai", "Top Ten National Brands of China Water Industry", "National Implementation of Customer Satisfaction Products".

Liancheng products are recognized by users at home and abroad

With the continuous operation of Liancheng Group, Liancheng products have been widely recognized by users and its projects range is as follows: National Stadium "Bird's Nest", National Grand Theatre, Shanghai World Expo Project, Capital Airport, Guangzhou Baiyun Airport, Qingdao International Airport, Shanghai Subway, Xi'an Subway, Shenyang Subway, Shougang Jingtang, Shougang Luannan Macheng Mining, Huozhou Coal and Electricity, Huludao Aluminum, Guangzhou Waterworks, Yumenkou Water Conservancy, Songjiang District Secondary Water Supply Reform, Hong Kong Water Supply Project Shenzhen Shawan Pumping Station, Macao Water Supply Project Zhuhai Pinggang Pumping Station, Yellow River Irrigation Shanxi Jiamakou Pumping Station, Shanxi Xifan Pumping Station, Guangdong Yun'an Liudu Pumping Station, Changyuan County Puxi District Rainwater Pumping Station, reconstruction of pumping station in the second phase of the Yellow River irrigation area in Weinan Donglei, Yellow River Xiaolangdi Water Conservancy Project, Ningxia Yellow River Irrigation Project, Ordos City Drinking Water Project, Qinshan Nuclear Power, Ling'ao Nuclear Power, Guodian Group, Datang Power Plant, Huaneng Power Plant, Baosteel, Shougang, Tangsteel, Taiyuan steel, Ansteel, Xinjiang Bayi Steel, Daqing Oilfield, Shengli Oilfield, PetroChina, Sinopec, CNOOC, Qinghai Salt Lake Sylvite Project, Shanxi Coking, Lu'an Mining, Shaanxi Xianyang Chemical, CNOOC Huizhou Refining Project, Tsinghua University, Haier Group and Angola Agricultural Drainage Project, Myanmar National Agricultural Irrigation Project, and a large number of domestic and foreign model projects such as nuclear power, thermal power, hydropower, steel, oil fields, coking, mining, chemical, and oil refining. Liancheng Group's products are used in projects in China by GM, Bayer, Siemens, Volkswagen, Coca-Cola and other internationally renowned companies.

Centurial Liancheng in Action

In order to build the world's top fluid processing industrial enterprise, adhere to cherishing the harmonious relationship between man and nature forever, improve the quality of human life, and achieve the goal of "Centurial Liancheng", Liancheng has been committed to the development and manufacture of environmentally friendly and energy-saving products, and has been making unremitting efforts for the revitalization and development of national enterprises!

Water reveals its holiness through Liancheng's endeavor...!

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概述 Outline

MD型矿用耐磨离心水泵，主要用于煤矿输送清水及固体颗粒含量不大于1.5%的中性矿井水，粒度<0.5毫米，液体的温度不超过80°C，适合于矿山、工厂及城市给排水用。

注：在煤矿井下使用时，须用隔爆型电机！

MD type wearable centrifugal mine waterpump is used to transport the clear water and the neutral liquid of pit water with solid grain ≤ 1.5%. Granularity < 0.5mm. The temperature of the liquid is not over 80°C. The pumps are suitable for water supply and drainage in mines, factories and cities.

Note: When the situation is in the coal mine, explosion proof type motor shall be used.

执行标准 Adopted standard

MT/T114-2005 矿用多级离心泵

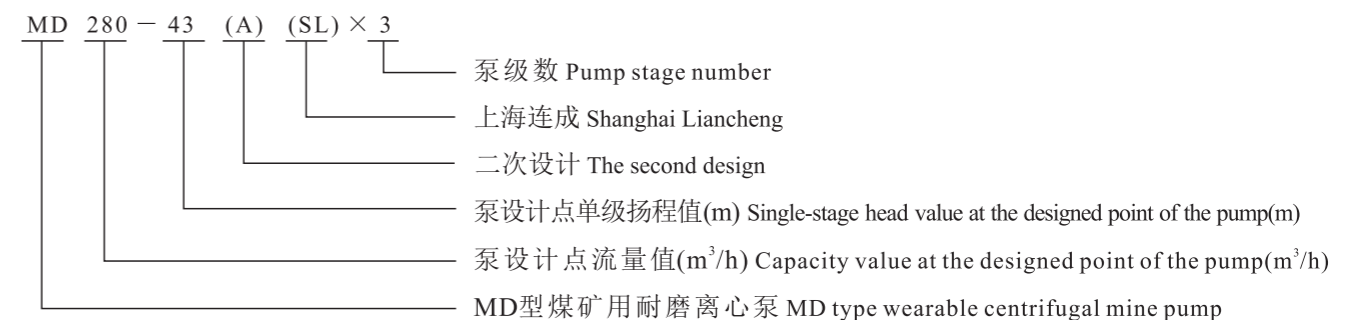
MT/T114-2005 Wearable mine multi-stage centrifugal pump

性能范围 Range of performance

流量(Q) 25-500 m³/h
扬程(H) 60-1798 m

Capacity(Q) 25-500m³/h
Head(H) 60-1798 m

型号意义 Model meaning



安装高度的计算 Calculation of the erection height

用户在选用水泵时，应考虑泵的安装高度，即被吸液面至水泵轴的垂直距离要小于水泵规定的安装高度，水泵规定的安装高度按下式计算：

$$Hsz \leq Ha - Hv - \Delta Hs - (NPSH)r$$

式中：Hsz--水泵规定的安装高度(m)

Ha--使用现场条件下的大气压力水头(m)

Hv--抽送液体温度下的汽化压力水头(m)

ΔHs --吸入管路损失水头(m)

(NPSH)r--性能参数表上给定的必需汽蚀余量值(m)

The erection height of the pump, that is the vertical distance from the sucked liquid surface to the pump shaft should be less than it which should be taken into consideration for users to select the pump, is calculated per the following formula:

$$Hsz \leq Ha - Hv - \Delta Hs - (NPSH)r$$

Of which:

Hsz-- the erection height set with the pump(m)

Ha--- the head of the atmospheric pressure under the conditions on the spot of use(m)

Hv--- the head of the vapourized pressure under the temperature of the liquid being pumped(m)

ΔHs -- the lost head of the suck-in pipeline(m)

(NPSH)r-- the necessary value of NPSH given in the table of performance parameters(m)

结构说明 Description of structure

MD型泵主要由定子、转子、轴承和轴封四大部分组成：

- 1.定子部分 主要由吸入段、中段、吐出段、导叶等组成，用拉紧螺栓将各段夹紧，构成工作室。MD型泵入口为水平方向，出口垂直向上。
- 2.转子部分 主要由轴、叶轮、平衡盘和轴套等组成。轴将动力传递给叶轮使其工作；平衡盘用来平衡轴向力；轴的两端装有可更换的轴套用来保护轴。
- 3.轴承部分有滚动轴承和滑动轴承两种：

滚动轴承主要由轴承体、轴承和轴承压盖等组成，采用油脂润滑。

滑动轴承主要由轴承体、轴承盖、轴瓦、防尘盘、油位计、甩油环等组成，采用稀油润滑。

- 4.轴封采用填料密封，主要由进水段和尾盖上的密封函体、填料、挡水圈组成。密封工作室内的液体，起水封、水冷和水润滑作用。水封水来源于泵内压力水。

另外，泵通过弹性柱销联轴器由原动机直接驱动。从原动机端看泵，泵为顺时针方向旋转。

Model MD pump consists of four parts, stator, rotor, bearing and shaft seal:

- 1.Stator consists of inlet, middle and outlet sections and the guide vane etc., with the take-up bolt tightly clamping all sections to form a working room. The inlet of it stands horizontally while the outlet vertically upward.
- 2.Rotor consists of the shaft, impeller, balancing disk and muff etc., the shaft passes the power to the impeller to have it work; the balancing disk balances the axial force; and replaceable muff is mounted on both sides of the shaft to protect it.
3. There are rolling and sliding bearings:

The rolling bearing consists of bearing body, bearing and bearing gland and uses grease for lubrication.

The sliding bearing consists of bearing body and cover, liner, dust-proof disk, oil leveller, oil throwing ring etc., and uses thinned oil for lubrication.

4. The shaft is sealed with stuffing and the shaft seal consists of the sealing contents, stuffing, baffle. The liquid in the sealing work-room functions water-sealing, water-cooling and water lubricating and the water for water-sealing comes from the pressure water inside of the pump.

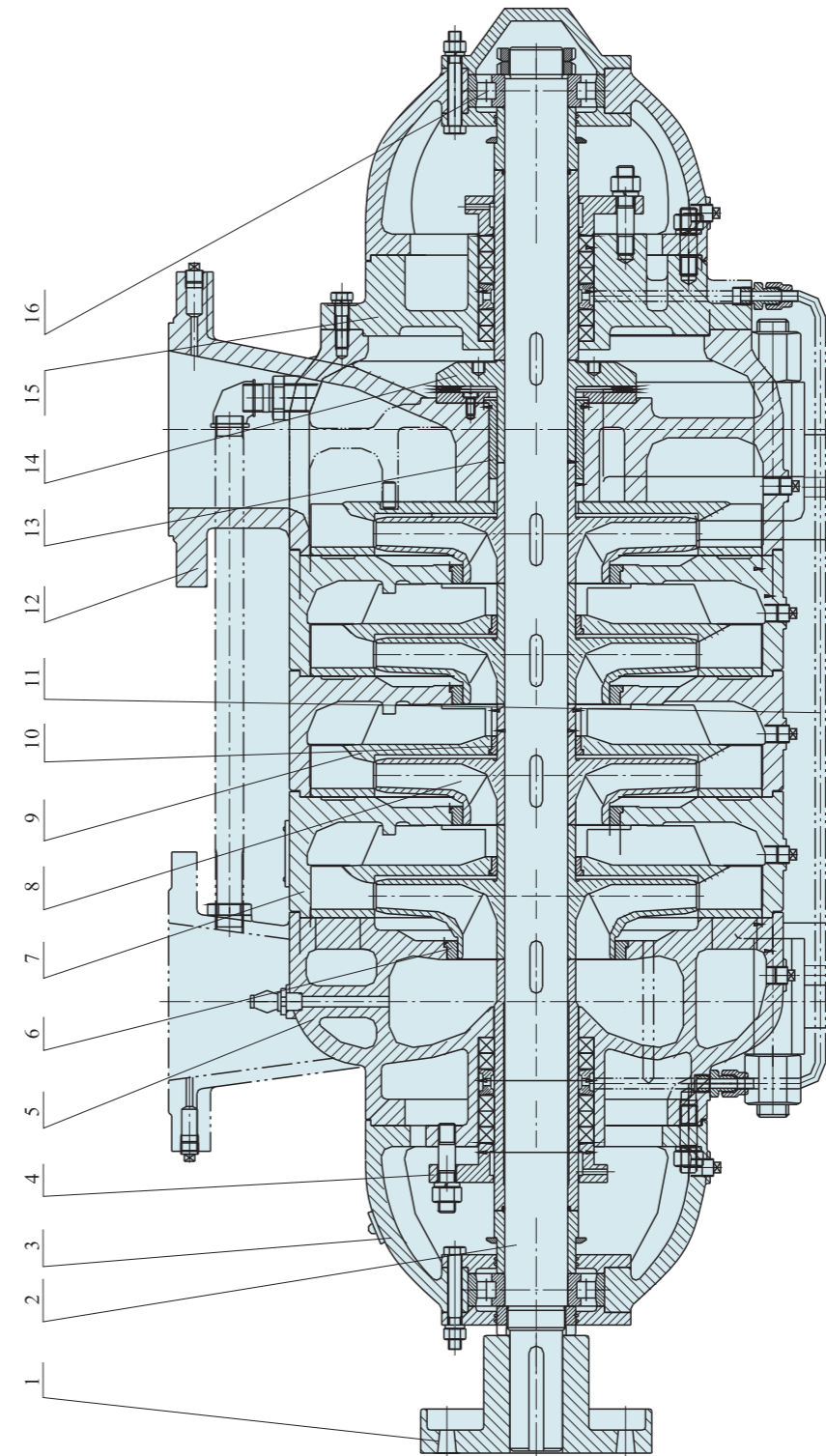
In addition, the pump is directly actuated by the prime mover through the elastic clutch and, viewing from the prime mover, moves CW.

MD型泵所用材质一览表 Table for md pump material

吸入段 Inlet suction	ZG230-450, QT500-7	密封环 Seal-ring	QT500-7 2Cr13
吐出段 Outlet suction	QT500-7	导叶衬套 Guide vane sleeve	
中段 Middle suction	QT500-7	叶轮挡套 Impeller sleeve	2Cr13, 45
导叶 Guide vane	QT500-7	平衡套 Balancing sleeve	QT500-7 3Cr13、45
叶轮 Impeller	ZG230-450, QT500-7	平衡环 Balancing ring	35 (堆焊钴基合金)
轴 Shaft	40Cr, 45, 35CrMo	平衡盘 Balancing disk	35 (堆焊钴基合金)

以上为泵部件材质基本配置情况，并可根据用户要求进行其它合理配置，以满足用户的特殊要求。
To satisfy requirements for customers. The proper requirements of materials above for pump part can be used according to contracts.

MD型泵结构图 Structural drawing of model MD pump

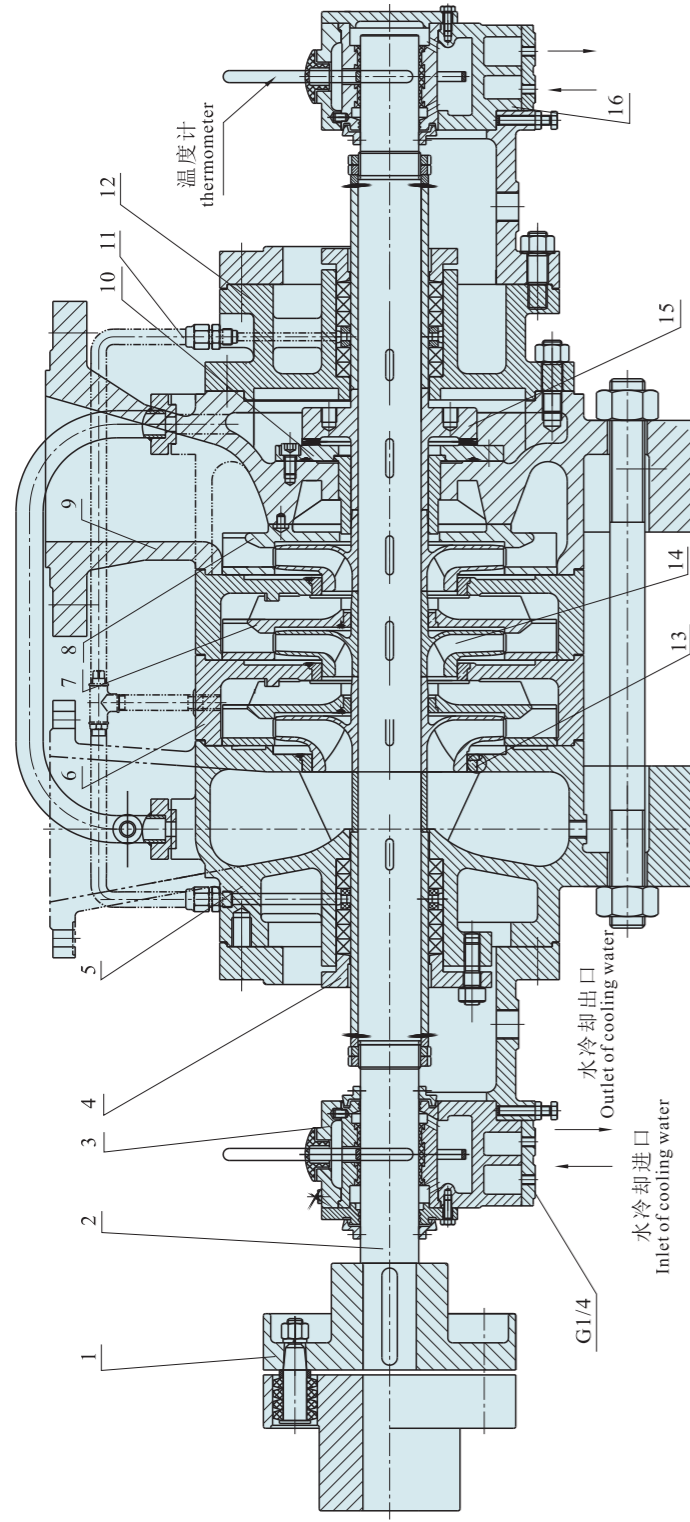


MD25-30(SL)、MD25-50(SL)、MD46-30(SL)、MD46-50(SL)、MD45-60(SL)、MD45-50(SL)、MD500-57(SL)、MD500-60(SL)、MD600-60(SL)、MD720-60(SL)、MD85-45(SL)、MD155-30(SL)、MD280-43(SL)、MD280-60(SL)

图一 用滚动轴承支承 Fig.1 Supported with the rolling bearing

1	联轴器部件 Clutch part	轴 Shaft	2
3	轴承体部件 Bearing body	填料压盖 Stuffing gland	4
5	吸入段 Inlet section	密封环 Seal-ring	6
7	中段 Middle-section	叶轮 Impeller	10
9	导叶 Guide vane	导叶套 Guide vane sleeve	12
11	水封管部件 Water-sealing pipe part	吐出段 Outlet section	14
13	平衡套 Balancing sleeve	平衡盘 Balancing disk	16
15	填料函体 Stuffing content	轴承 Bearing	16

MD型泵结构图 Structural drawing of model MD pump



MD85-67(SL)、MD 85-80(SL)、MD150-100(SL)、MD155-67(SL)、MD280-100(SL)

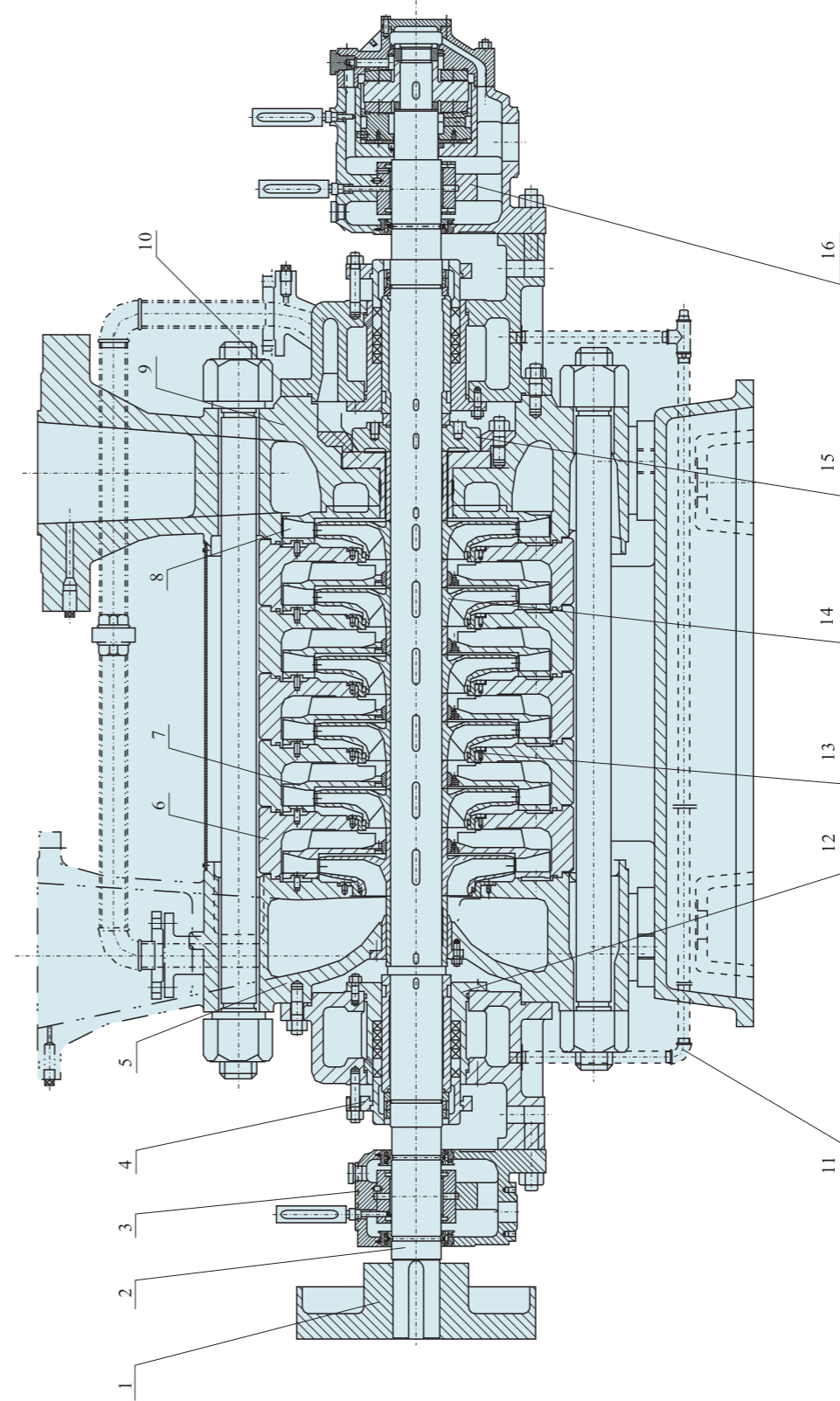
图二 用滑动轴承支承 Fig.2 Supported with the sliding bearing

注：MD85-67(SL)、MD155-67(SL)大于等于7级时为滑动轴承，小于等于6级时用滚动轴承。

Note: the MD85-67 (SL), MD155-67 (SL) is greater than or equal to 7 for sliding bearing, less than or equal to 6 with rolling bearing.

1	联轴器部件 Clutch part	3	前轴承部件 Bearing part	5	吸入段 Inlet section	7	导叶 Guide vane	9	吐出口 Outlet section	11	水封管部件 Water-sealing pipe part	13	密封环 Seal-ring	15	平衡盘 Balancing disk
2	轴 Shaft	4	填料压盖 Stuffing gland	6	中段 Middle-section	8	末级导叶 Final-stage guide vane	10	平衡环 Balancing ring	12	填料函体 Stuffing content	14	叶轮 Impeller	16	后轴承部件 Bearing part

MD型泵结构图 Structural drawing of model MD pump

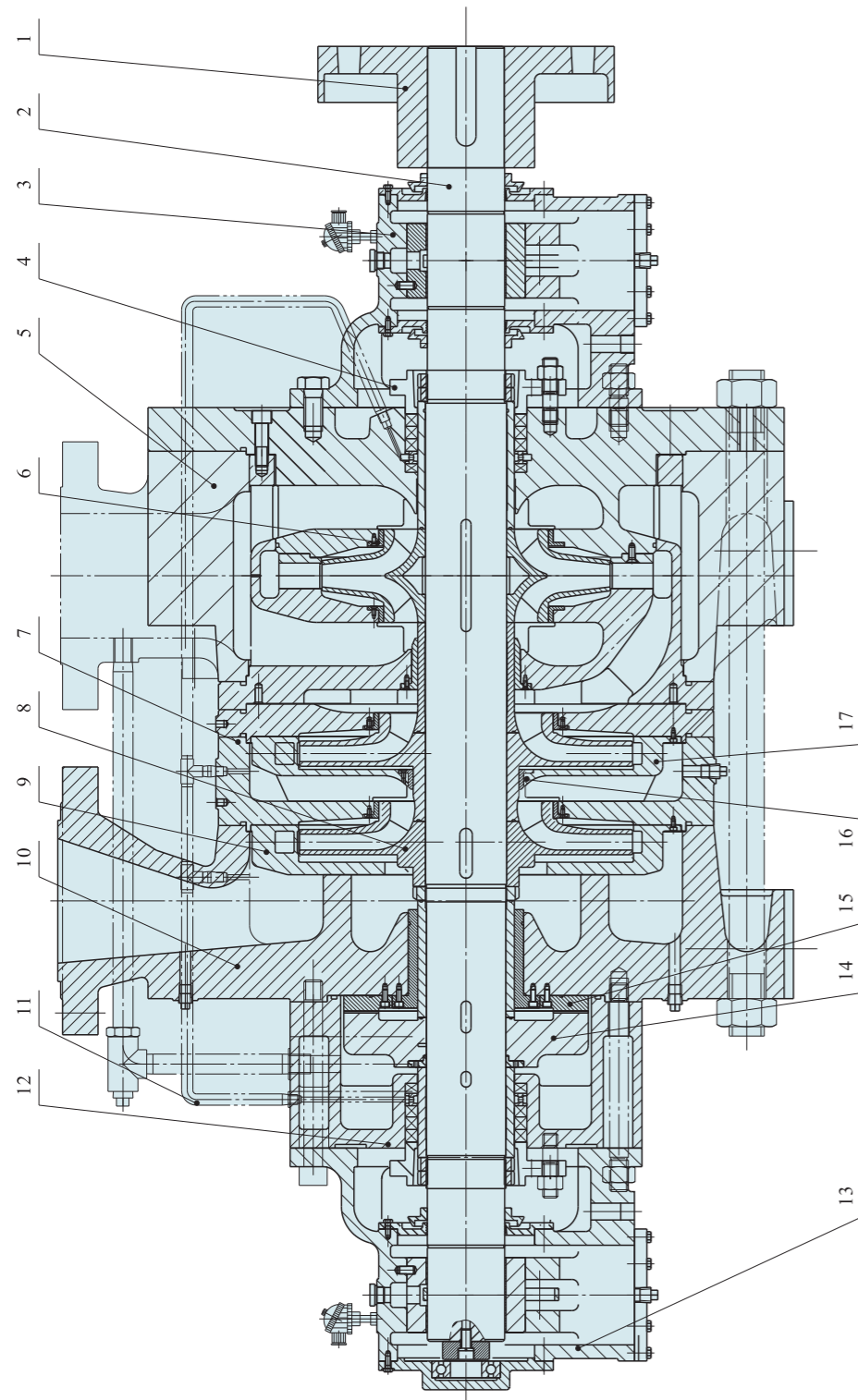


MD250-150(SL)、MD250-150(A)(SL)、MD300-150(SL)、MD300-150(A)(SL)

图三 用滑动轴承支承(强制润滑) Fig.3 Supported with the sliding bearing

1	联轴器部件 Clutch part	3	前轴承部件 Bearing part	5	吸入段 Inlet section	7	导叶 Guide vane	9	吐出口 Outlet section	11	水封管部件 Water-sealing pipe part	13	密封环 Seal-ring	15	平衡盘 Balancing disk
2	轴 Shaft	4	填料压盖部件 Stuffing gland part	6	中段 Middle-section	8	末级导叶 Final-stage guide vane	10	平衡环 Balancing ring	12	填料函体 Stuffing content	14	叶轮 Impeller	16	后轴承部件 Bearing part

MD型泵结构图 Structural drawing of model MD pump



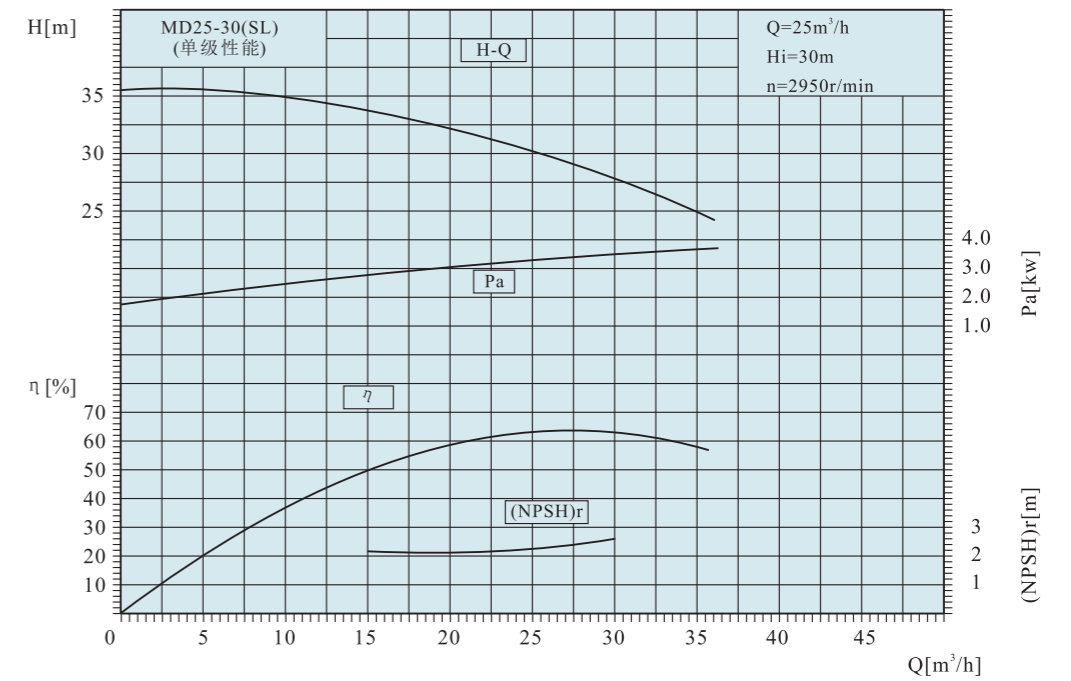
MD420-93(SL)、MDS820-100(SL)、MDS1100-86(SL)

图4 首级叶轮采用双吸叶轮，用滑动轴承支承
Fig.4 Impeller with double suction impeller, supported with the sliding bearing

1	联轴器部件 Clutch part	2	轴 Shaft
3	前轴承部件 Bearing part	4	填料压盖部件 Stuffing gland part
5	吸入段 Inlet section	6	密封环 Seal-ring
7	中段 Middle-section	8	导叶 Guide vane
9	中段 Middle-section	10	导叶 Guide vane
11	末级导叶 Final-stage guide vane	12	吐出段 Outlet section
13	水管部件 Water-sealing pipe part	14	填料函体 Stuffing content
15	后轴承部件 Bearing part	16	平衡盘 Balancing disk
17	平衡环 Balancing ring	17	导叶套 Guide vane set
			导叶 Guide vane

MD型泵主要技术规范 Main technical regime of model MD pump

MD25-30(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD25-30(SL) pump

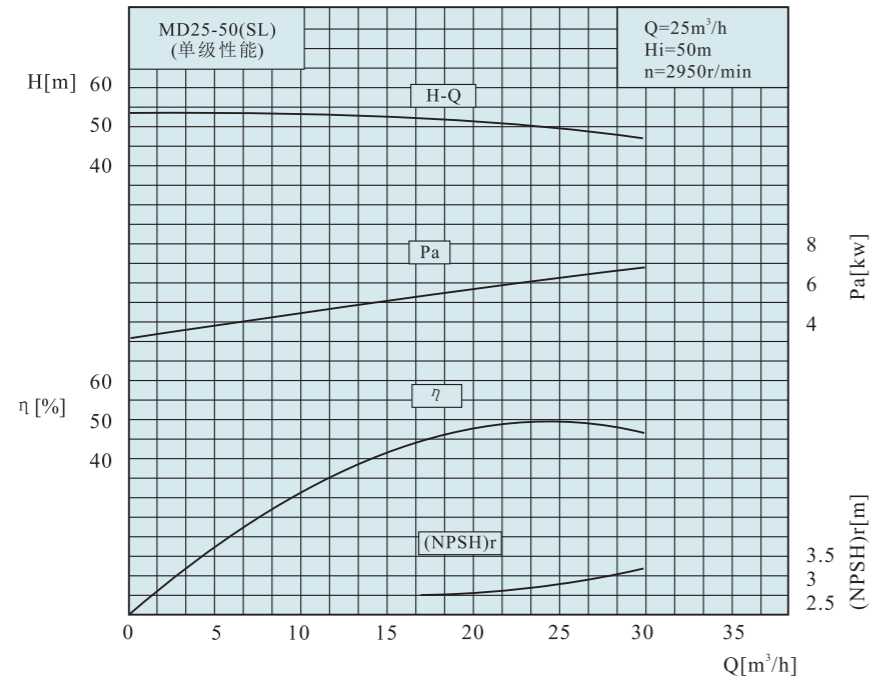


MD25-30(SL)型多级水泵性能表 Performance table of model MD25-30(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
3	15	4.17	102	2950	8.33	15.0	50	2.2	175
	25	6.94	90		9.88		62		
	30	8.33	83		10.70		63		
4	15	4.17	136	2950	11.11	18.5	50	2.2	192
	25	6.94	120		13.10		62		
	30	8.33	110		14.26		63		
5	15	4.17	170	2950	13.89	22.0	50	2.2	209
	25	6.94	150		16.47		62		
	30	8.33	138		17.83		63		
6	15	4.17	204	2950	16.67	30.0	50	2.2	226
	25	6.94	180		19.77		62		
	30	8.33	165		21.40		63		
7	15	4.17	238	2950	19.44	30.0	50	2.2	243
	25	6.94	210		23.10		62		
	30	8.33	193		24.96		63		
8	15	4.17	272	2950	22.22	37.0	50	2.2	260
	25	6.94	240		26.40		62		
	30	8.33	220		28.53		63		
9	15	4.17	306	2950	25.00	37.0	50	2.2	277
	25	6.94	270		29.65		62		
	30	8.33	248		32.10		63		
10	15	4.17	340	2950	27.80	45.0	50	2.2	294
	25	6.94	300		32.90		62		
	30	8.33	275		35.70		63		

MD型泵主要技术规范 Main technical regime of model MD pump

MD25-50(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD25-50(SL) pump

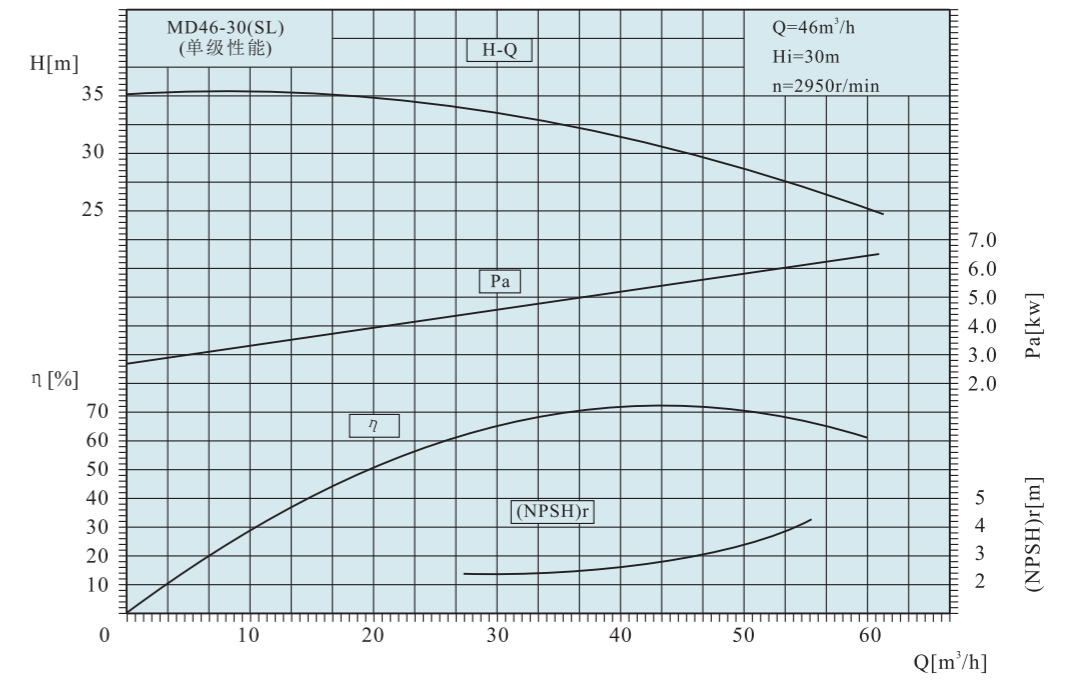


MD25-50(SL)型多级水泵性能表 Performance table of model MD25-50(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
3	15	4.17	154.5	2950	15.78	22	42	2.5	290
	25	6.94	150		18.91		48		
	30	8.33	144		20.64		46		
4	15	4.17	206	2950	21.04	30	42	2.5	310
	25	6.94	200		25.22		48		
	30	8.33	192		27.5		46		
5	15	4.17	257.5	2950	26.2	37	42	2.5	330
	25	6.94	250		31.52		48		
	30	8.33	240		34.40		46		
6	15	4.17	309	2950	31.56	45	42	2.5	355
	25	6.94	300		37.82		48		
	30	8.33	288		41.28		46		
7	15	4.17	380.5	2950	38.86	55	42	2.5	372
	25	6.94	350		44.1		48		
	30	8.33	336		48.16		46		
8	15	4.17	412	2950	42	75	42	2.5	390
	25	6.94	400		50.45		48		
	30	8.33	384		55.04		46		
9	15	4.17	463.5	2950	47.33	75	42	2.5	415
	25	6.94	450		56.74		48		
	30	8.33	432		61.92		46		
10	15	4.17	515	2950	52.59	75	42	2.5	433
	25	6.94	500		63.04		48		
	30	8.33	480		68.8		46		
11	15	4.17	566	2950	57.8	90	42	2.5	450
	25	6.94	550		69.3		48		
	30	8.33	528		75.68		46		
12	15	4.17	618	2950	63.11	110	42	2.5	468
	25	6.94	600		75.65		48		
	30	8.33	576		82.56		46		

MD型泵主要技术规范 Main technical regime of model MD pump

MD46-30(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD46-30(SL) pump

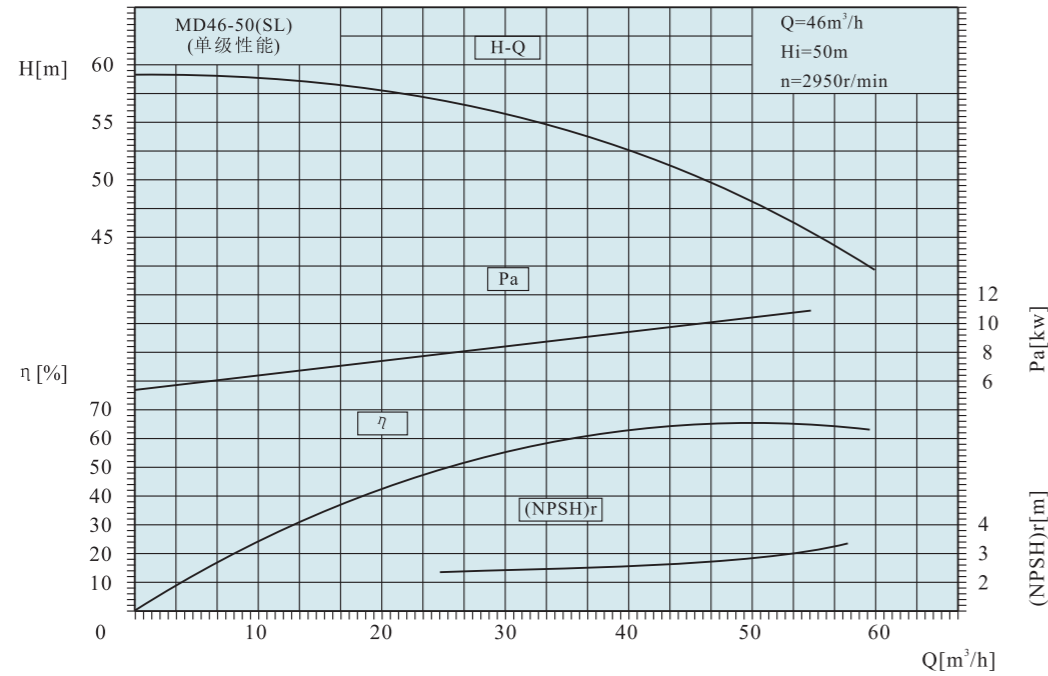


MD46-30(SL)型多级水泵性能表 Performance table of model MD46-30(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
3	30	8.33	102	2950	13.02	22	64	2.4	180
	46	12.8	90		16.11		70		
	55	15.3	81		17.84		68		
4	30	8.33	136	2950	17.36	30	64	2.4	197
	46	12.8	120		21.48		70		
	55	15.3	108		23.79		68		
5	30	8.33	170	2950	21.7	37	64	2.4	214
	46	12.8	150		26.85		70		
	55	15.3	135		29.74		68		
6	30	8.33	204	2950	26.04	37	64	2.4	231
	46	12.8	180		32.21		70		
	55	15.3	162		35.68		68		
7	30	8.33	238	2950	30.38	45	64	2.4	248
	46	12.8	210		37.58		70		
	55	15.3	189		41.63		68		
8	30	8.33	274	2950	34.72	55	64	2.4	265
	46	12.8	240		42.95		70		
	55	15.3	216		47.58		68		
9	30	8.33	306	2950	39.06	55	64	2.4	282
	46	12.8	270		48.32		70		
	55	15.3	243		53.53		68		
10	30	8.33	340	2950	43.4	75	64	2.4	299
	46	12.8	300		53.69		70		
	55	15.3	270		59.47		68		

MD型泵主要技术规范 Main technical regime of model MD pump

MD46-50(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD46-50(SL) pump

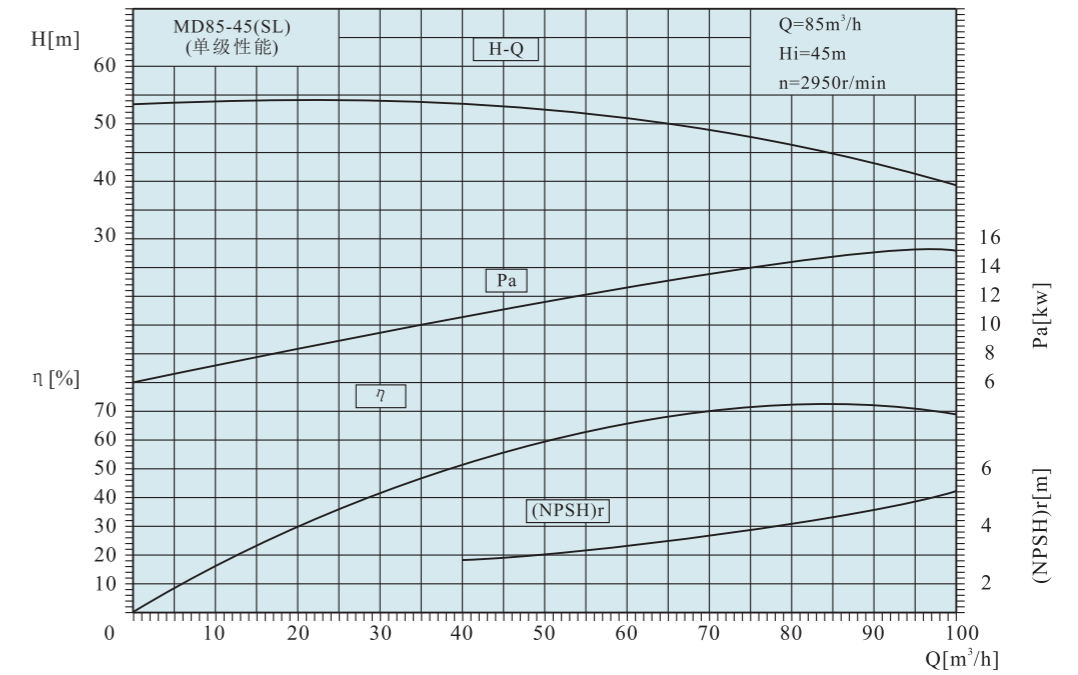


MD46-50(SL)型多级水泵性能表 Performance table of model MD46-50(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
3	30	8.33	166.5	2950	25.19	37	54	2.5	264
	46	12.8	150		63				
	55	15.3	138		64				
4	30	8.33	222	2950	33.59	45	54	2.5	285
	46	12.8	200		63				
	55	15.3	184		64				
5	30	8.33	277.5	2950	41.98	55	54	2.5	307
	46	12.8	250		63				
	55	15.3	230		64				
6	30	8.33	330	2950	50.38	75	54	2.5	327
	46	12.8	300		63				
	55	15.3	276		64				
7	30	8.33	388.5	2950	58.78	90	54	2.5	348
	46	12.8	350		63				
	55	15.3	322		64				
8	30	8.33	440	2950	67.18	90	54	2.5	373
	46	12.8	400		63				
	55	15.3	368		64				
9	30	8.33	499.5	2950	75.57	110	54	2.5	390
	46	12.8	450		63				
	55	15.3	414		64				
10	30	8.33	555	2950	83.97	110	54	2.5	411
	46	12.8	500		63				
	55	15.3	460		64				
11	30	8.33	610.5	2950	92.37	132	54	2.5	432
	46	12.8	550		63				
	55	15.3	506		64				
12	30	8.33	666	2950	100.8	132	54	2.5	452
	46	12.8	600		63				
	55	15.3	552		64				

MD型泵主要技术规范 Main technical regime of model MD pump

MD85-45(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD85-45(SL) pump

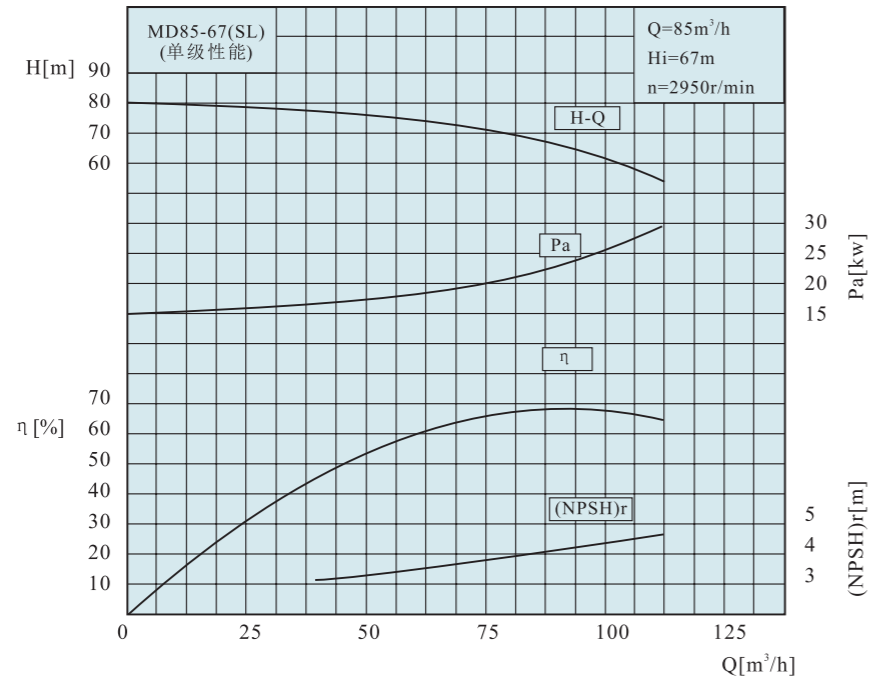


MD85-45(SL)型多级水泵性能表 Performance table of model MD85-45(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
2	55	15.3	102	2950	24.25	37	63	3.2	199
	85	23.6	90		72				
	100	27.8	78		70				
3	55	15.3	153	2950	36.38	55	63	3.2	224
	85	23.6	135		72				
	100	27.8	117		70				
4	55	15.3	204	2950	48.5	75	63	3.2	250
	85	23.6	180		72				
	100	27.8	156		70				
5	55	15.3	255	2950	60.63	90	63	3.2	275
	85	23.6	225		72				
	100	27.8	195		70				
6	55	15.3	306	2950	72.75	110	63	3.2	300
	85	23.6	270		72				
	100	27.8	234		70				
7	55	15.3	357	2950	84.88	132	63	3.2	326
	85	23.6	315		72				
	100	27.8	273		70				
8	55	15.3	408	2950	97.0	132	63	3.2	351
	85	23.6	360		72				
	100	27.8	312		70				
9	55	15.3	459	2950	109.1	160	63	3.2	376
	85	23.6	405		72				
	100	27.8	351		70				

MD型泵主要技术规范 Main technical regime of model MD pump

MD85-67(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD85-67(SL) pump

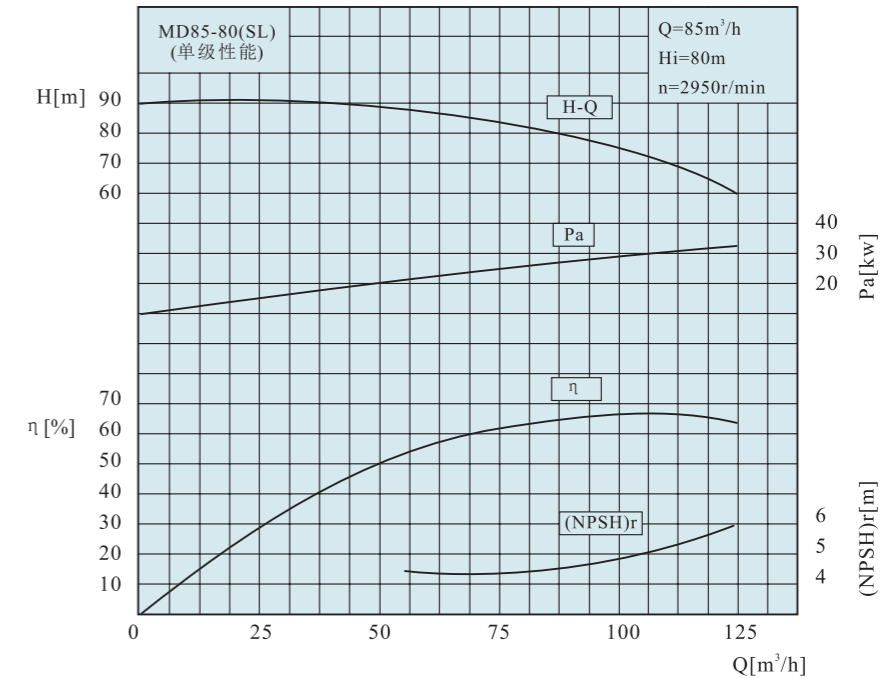


MD85-67(SL)型多级水泵性能表 Performance table of model MD85-67(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
3	55	15.3	222	2950	58.3	90	57	3.3	952
	85	23.6	201		68.4		68		
	100	27.8	183		73.3		68		
4	55	15.3	296	2950	77.8	110	57	3.3	1024
	85	23.6	268		91.2		68		
	100	27.8	244		97.8		68		
5	55	15.3	370	2950	97.3	132	57	3.3	1145
	85	23.6	335		114		68		
	100	27.8	305		122.2		68		
6	55	15.3	444	2950	116.7	160	57	3.3	1435
	85	23.6	402		136.9		68		
	100	27.8	366		146.7		68		
7	55	15.3	518	2950	136.2	200	57	3.3	1558
	85	23.6	469		159.6		68		
	100	27.8	427		171.1		68		
8	55	15.3	592	2950	155.6	220	57	3.3	1700
	85	23.6	536		182.4		68		
	100	27.8	488		195.5		68		
9	55	15.3	666	2950	175.1	250	57	3.3	1860
	85	23.6	603		205.2		68		
	100	27.8	549		220.0		68		

MD型泵主要技术规范 Main technical regime of model MD pump

MD85-80(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD85-80(SL) pump

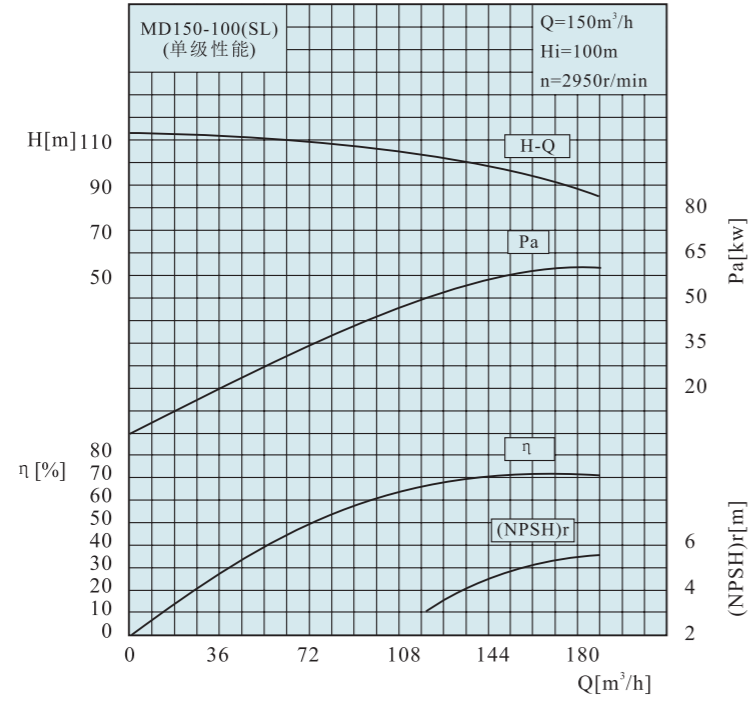


MD85-80(SL)型多级水泵性能表 Performance table of model MD85-80(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
3	54	15.0	264	2950	73.2	110	53	4.5	900
	85	23.6	240		85.4		65		
	108	30.0	210		93.5		66		
4	54	15.0	352	2950	97.6	132	53	4.5	1060
	85	23.6	320		113.9		65		
	108	30.0	280		124.7		66		
5	54	15.0	440	2950	122.0	160	53	4.5	1220
	85	23.6	400		142.3		65		
	108	30.0	350		160.0		66		
6	54	15.0	528	2950	146.4	200	53	4.5	1380
	85	23.6	480		170.8		65		
	108	30.0	420		187.1		66		
7	54	15.0	616	2950	170.9	250	53	4.5	1540
	85	23.6	560		199.3		65		
	108	30.0	490		218.4		66		
8	54	15.0	704	2950	195.3	280	53	4.5	1700
	85	23.6	640		227.8		65		
	108	30.0	560		249.6		66		
9	54	15.0	792	2950	219.8	315	53	4.5	1860
	85	23.6	720		256.3		65		
	108	30.0	630		280.7		66		
10	54	15.0	880	2950	244.2	355	53	4.5	2020
	85	23.6	800		284.8		65		
	108	30.0	700		311.9		66		
11	54	15.0	968	2950	268.6	400	53	4.5	2180
	85	23.6	880		313.2		65		
	108	30.0	770		343		66		
12	54	15.0	1056	2950	292.8	400	53	4.5	2340
	85	23.6	960		341.7		65		
	108	30.0	840		374.3		66		

MD型泵主要技术规范 Main technical regime of model MD pump

MD150-100(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD150-100(SL) pump

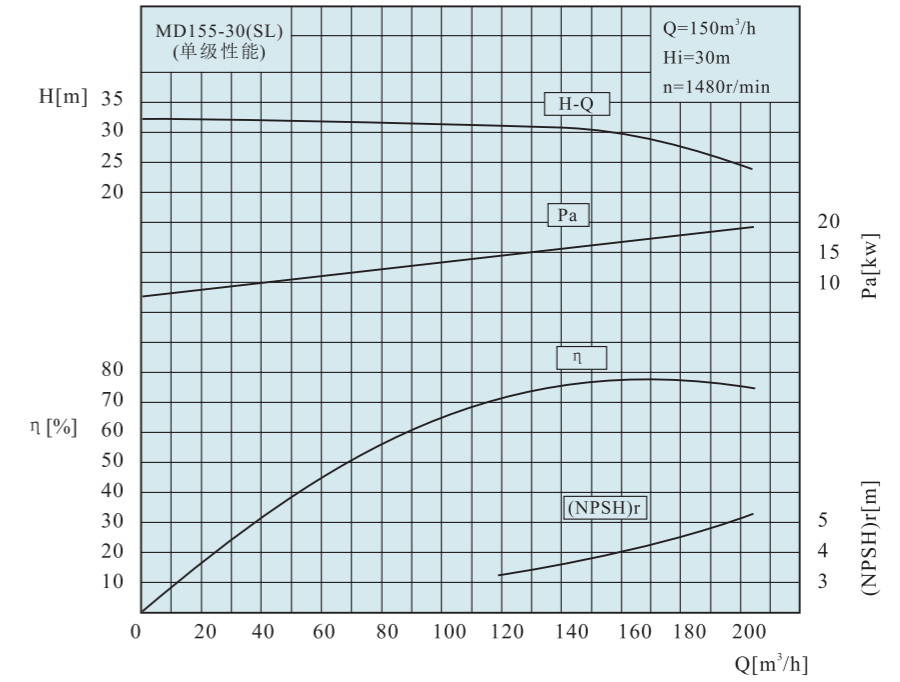


MD150-100(SL)型多级水泵性能表 Performance table of model MD150-100(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
3	120	33.3	315	2950	153	220	67	3.4	880	
	150	41.7	300		175		70			4.8
	180	50.0	270		184		72			5.5
4	120	33.3	420	2950	205	280	67	3.4	1050	
	150	41.7	400		234		70			4.8
	180	50.0	360		245		72			5.5
5	120	33.3	525	2950	256	355	67	3.4	1220	
	150	41.7	500		292		70			4.8
	180	50.0	450		306		72			5.5
6	120	33.3	630	2950	307	450	67	3.4	1390	
	150	41.7	600		353		70			4.8
	180	50.0	540		368		72			5.5
7	120	33.3	735	2950	358	500	67	3.4	1560	
	150	41.7	700		412		70			4.8
	180	50.0	630		429		72			5.5
8	120	33.3	840	2950	409	560	67	3.4	1730	
	150	41.7	800		470		70			4.8
	180	50.0	720		491		72			5.5
9	120	33.3	945	2950	460	630	67	3.4	1900	
	150	41.7	900		530		70			4.8
	180	50.0	810		552		72			5.5
10	120	33.3	1050	2950	511	710	67	3.4	2070	
	150	41.7	1000		588		70			4.8
	180	50.0	900		613		72			5.5

MD型泵主要技术规范 Main technical regime of model MD pump

MD155-30(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD155-30(SL) pump

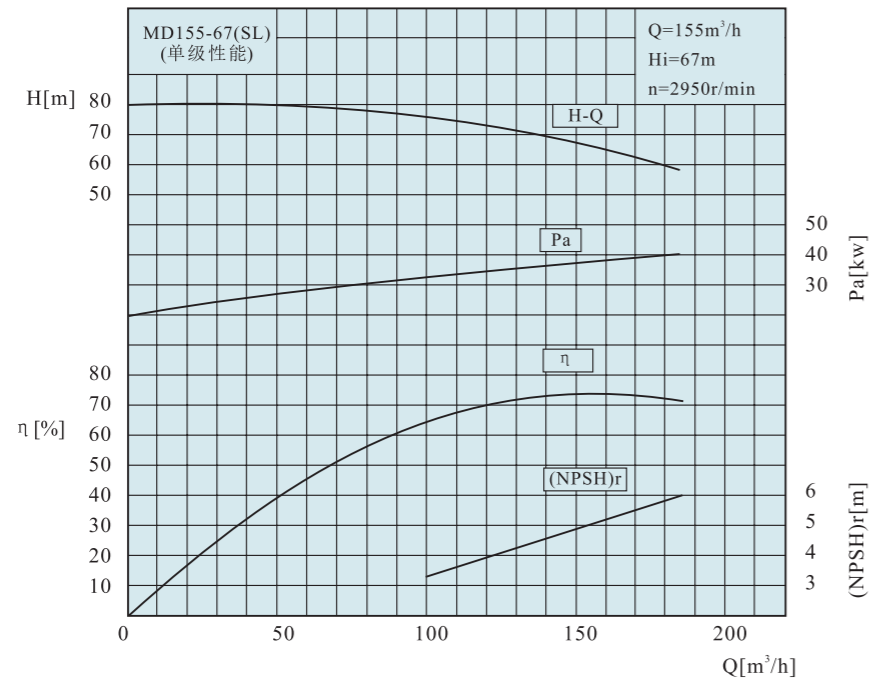


MD155-30(SL)型多级水泵性能表 Performance table of model MD155-30(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
2	119	33	64	1480	28.76	55	72.0	3.2	490	
	155	43	60		32.84		77.0			3.9
	190	53	54		36.68		76.5			4.8
3	119	33	96	1480	43.14	75	72.0	3.2	560	
	155	43	90		49.26		77.0			3.9
	190	53	81		55.02		76.5			4.8
4	119	33	128	1480	57.52	90	72.0	3.2	630	
	155	43	120		65.68		77.0			3.9
	190	53	108		73.36		76.5			4.8
5	119	33	160	1480	71.90	110	72.0	3.2	700	
	155	43	150		82.10		77.0			3.9
	190	53	135		91.70		76.5			4.8
6	119	33	192	1480	86.28	132	72.0	3.2	770	
	155	43	180		98.52		77.0			3.9
	190	53	162		110.04		76.5			4.8
7	119	33	224	1480	100.66	160	72.0	3.2	840	
	155	43	210		114.97		77.0			3.9
	190	53	189		128.38		76.5			4.8
8	119	33	256	1480	115.04	160	72.0	3.2	910	
	155	43	240		131.36		77.0			3.9
	190	53	216		146.72		76.5			4.8
9	119	33	288	1480	129.42	200	72.0	3.2	980	
	155	43	270		147.78		77.0			3.9
	190	53	243		165.06		76.5			4.8
10	119	33	320	1480	143.80	200	72.0	3.2	1050	
	155	43	300		164.20		77.0			3.9
	190	53	270		183.40		76.5			4.8

MD型泵主要技术规范 Main technical regime of model MD pump

MD155-67(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD155-67(SL) pump

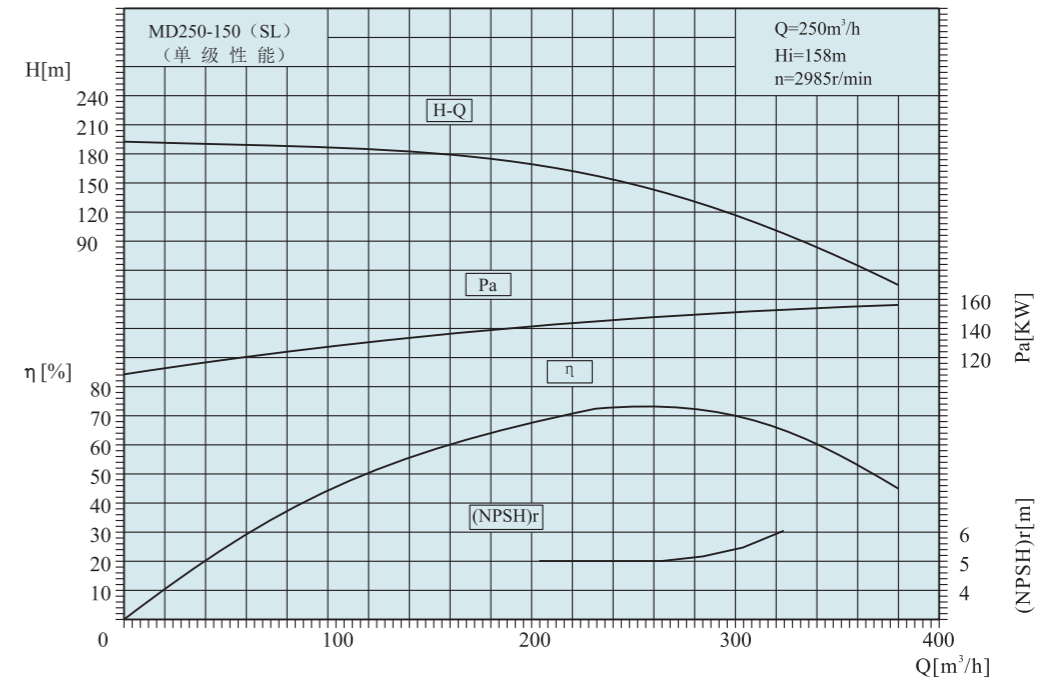


MD155-67(SL)型多级水泵性能表 Performance table of model MD155-67(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
3	100	27.8	228	2950	97.0	132	64	3.2	952	
	155	43	201		114.7		74			5.0
	185	51.4	177		123.9		72			6.6
4	100	27.8	304	2950	129.4	200	64	3.2	1024	
	155	43	268		152.9		74			5.0
	185	51.4	236		165.1		72			6.6
5	100	27.8	380	2950	161.7	220	64	3.2	1145	
	155	43	335		191.1		74			5.0
	185	51.4	295		206.4		72			6.6
6	100	27.8	456	2950	194	280	64	3.2	1435	
	155	43	402		229.3		74			5.0
	185	51.4	354		247.7		72			6.6
7	100	27.8	532	2950	226.4	355	64	3.2	1558	
	155	43	469		267.5		74			5.0
	185	51.4	413		289		72			6.6
8	100	27.8	608	2950	258.7	355	64	3.2	1700	
	155	43	536		305.7		74			5.0
	185	51.4	472		330.3		72			6.6
9	100	27.8	684	2950	291.1	450	64	3.2	1860	
	155	43	603		344		74			5.0
	185	51.4	531		371.6		72			6.6

MD型泵主要技术规范 Main technical regime of model MD pump

MD250-150(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD250-150(SL) pump



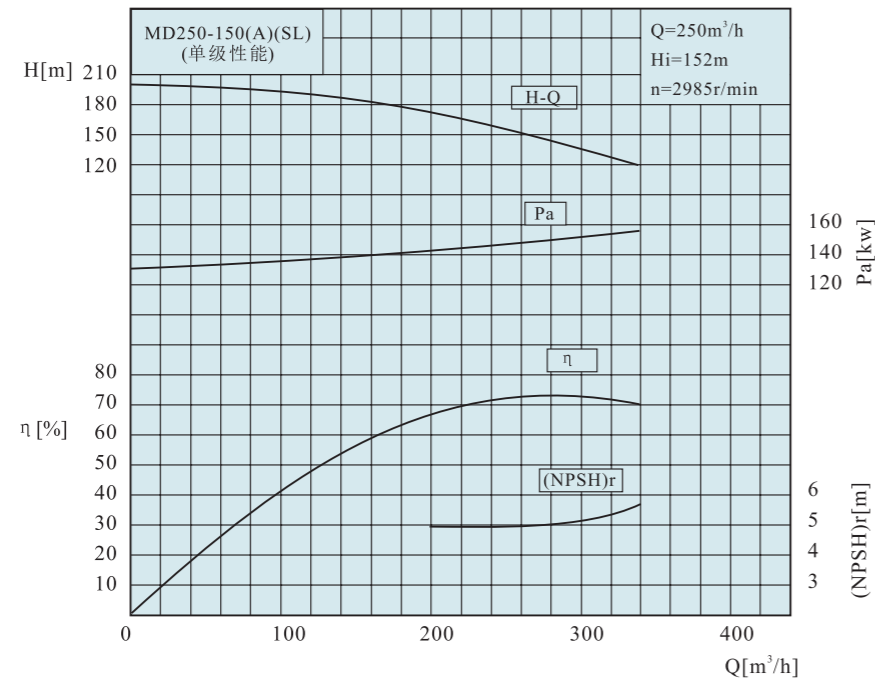
MD250-150(SL)型多级水泵性能表 Performance table of model MD250-150(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
5	234	65	813	2985	730	900	71	5	3000	
	250	69	790		742		72			5.0
	277	77	745		760		74			6.6
6	234	65	976	2985	876	1000	71	5	3300	
	250	69	949		891		72			5.0
	277	77	894		912		74			6.6
7	234	65	1138	2985	1021	1250	71	5	3600	
	250	69	1107		1040		72			5.0
	277	77	1043		1064		74			6.6
8	234	65	1301	2985	1168	1400	71	5	3900	
	250	69	1265		1188		72			5.0
	277	77	1192		1216		74			6.6
9	234	65	1464	2985	1314	1600	71	5	4200	
	250	69	1423		1337		72			5.0
	277	77	1341		1368		74			6.6
10	234	65	1627	2985	1460	1800	71	5	4500	
	250	69	1581		1485		72			5.0
	277	77	1490		1520		74			6.6
11	234	65	1790	2985	1606	2000	71	5	4800	
	250	69	1740		1634		72			5.0
	277	77	1640		1673		74			6.6

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MD型泵主要技术规范 Main technical regime of model MD pump

MD250-150(A)(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD250-150(A)(SL) pump



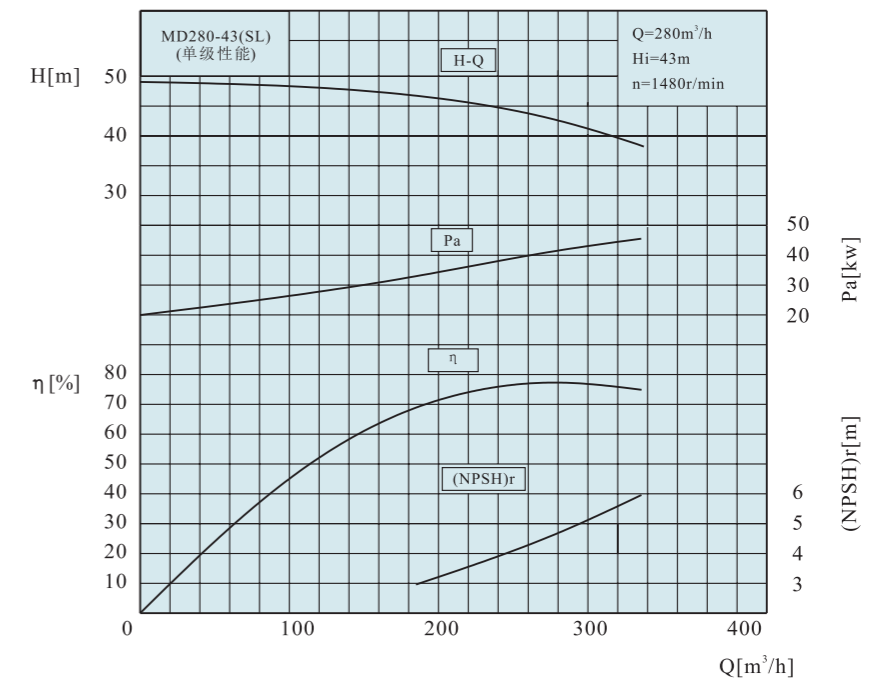
MD250-150(A)(SL)型多级水泵性能表 Performance table of model MD250-150(A)(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
5	234	65	800	2985	718	900	71	5	3000
	250	69	764		718		72		
	277	77	725		740		74		
6	234	65	960	2985	862	1000	71	5	3300
	250	69	917		861		72		
	277	77	870		888		74		
7	234	65	1120	2985	1005	1250	71	5	3600
	250	69	1070		1005		72		
	277	77	1015		1036		74		
8	234	65	1280	2985	1149	1400	71	5	3900
	250	69	1222		1149		72		
	277	77	1160		1184		74		
9	234	65	1440	2985	1292	1600	71	5	4200
	250	69	1375		1292		72		
	277	77	1305		1332		74		
10	234	65	1600	2985	1436	1800	71	5	4500
	250	69	1528		1445		72		
	277	77	1450		1480		74		
11	234	65	1760	2985	1580	2000	71	5	4800
	250	69	1681		1580		72		
	277	77	1595		1628		74		

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MD型泵主要技术规范 Main technical regime of model MD pump

MD280-43(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD280-43(SL) pump

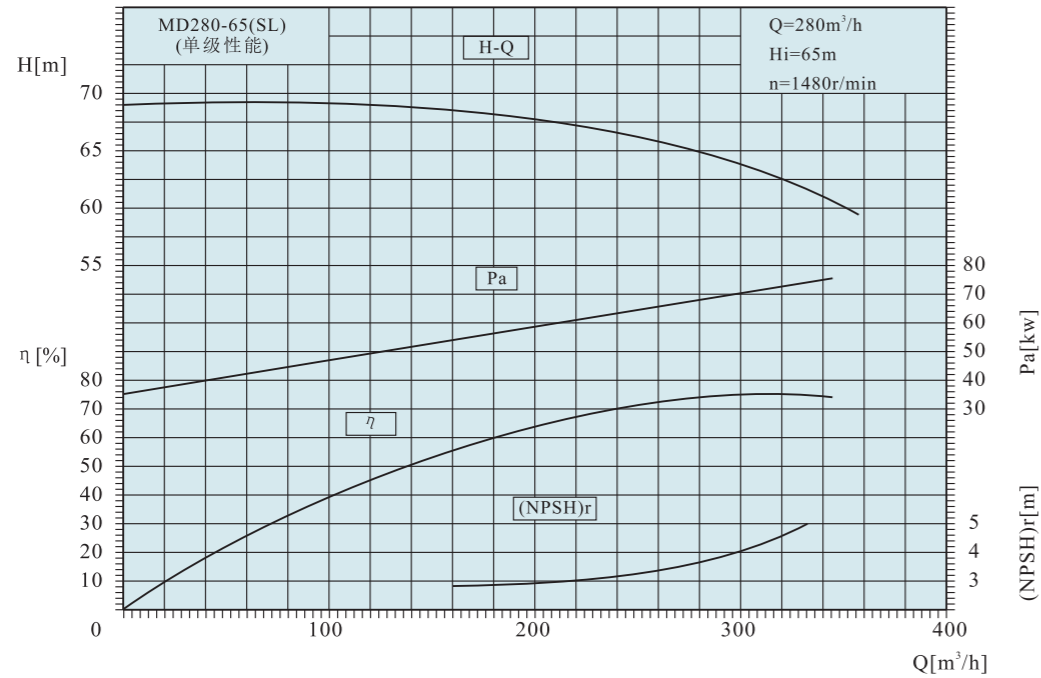


MD280-43(SL)型多级水泵性能表 Performance table of model MD280-43(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
2	185	51.4	94	1480	68.6	110	69	3.0	667
	280	77.8	86		85.2		77		
	335	93.1	76		92.4		75		
3	185	51.4	141	1480	103.0	160	69	3.0	787
	280	77.8	129		127.7		77		
	335	93.1	114		138.7		75		
4	185	51.4	188	1480	137.3	200	69	3.0	907
	280	77.8	172		170.3		77		
	335	93.1	152		184.9		75		
5	185	51.4	235	1480	171.6	250	69	3.0	1027
	280	77.8	215		212.9		77		
	335	93.1	190		231.1		75		
6	185	51.4	282	1480	205.9	315	69	3.0	1147
	280	77.8	258		255.5		77		
	335	93.1	228		277.3		75		
7	185	51.4	329	1480	240.2	355	69	3.0	1267
	280	77.8	301		298.1		77		
	335	93.1	266		323.6		75		
8	185	51.4	376	1480	274.5	400	69	3.0	1387
	280	77.8	344		340.7		77		
	335	93.1	304		369.8		75		
9	185	51.4	423	1480	308.9	450	69	3.0	1507
	280	77.8	387		383.2		77		
	335	93.1	342		416.0		75		

MD型泵主要技术规范 Main technical regime of model MD pump

MD280-65(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD280-65(SL) pump

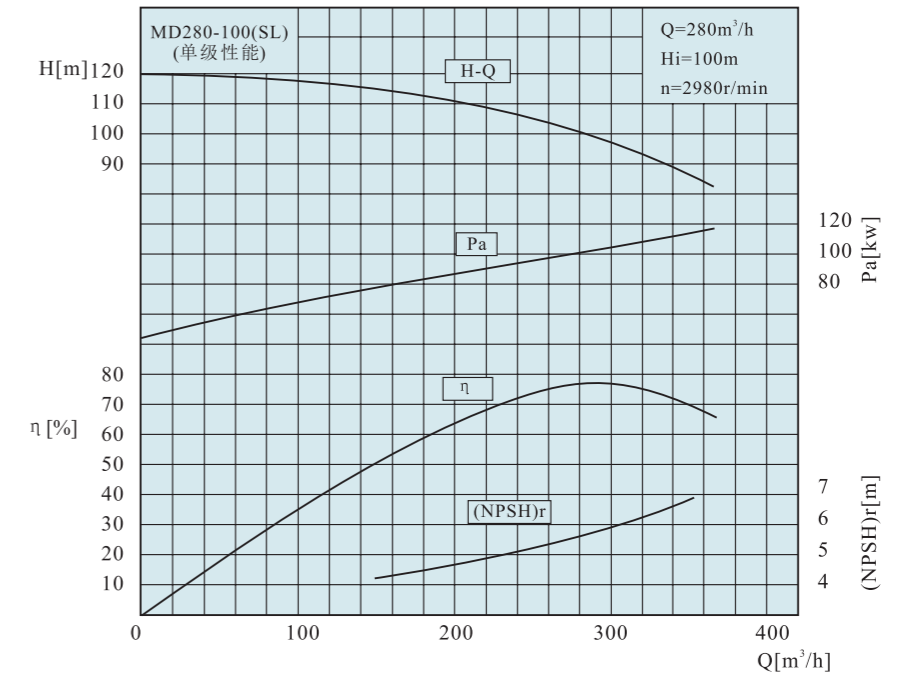


MD280-65(SL)型多级水泵性能表 Performance table of model MD280-65(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
6	185	51.4	408	1480	337.0	500	61	2.8	1552	
	280	77.8	390		407.4		73			3.7
	335	93.1	372		452.5		75			5.0
7	185	51.4	476	1480	393.1	560	61	2.8	1734	
	280	77.8	455		475.3		73			3.7
	335	93.1	434		528.0		75			5.0
8	185	51.4	544	1480	449.3	630	61	2.8	1916	
	280	77.8	520		543.2		73			3.7
	335	93.1	496		603.3		75			5.0
9	185	51.4	612	1480	505.5	800	61	2.8	2098	
	280	77.8	585		611.1		73			3.7
	335	93.1	558		678.8		75			5.0
10	185	51.4	680	1480	561.6	900	61	2.8	2280	
	280	77.8	650		679.0		73			3.7
	335	93.1	620		754.2		75			5.0

MD型泵主要技术规范 Main technical regime of model MD pump

MD280-100(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD280-100(SL) pump

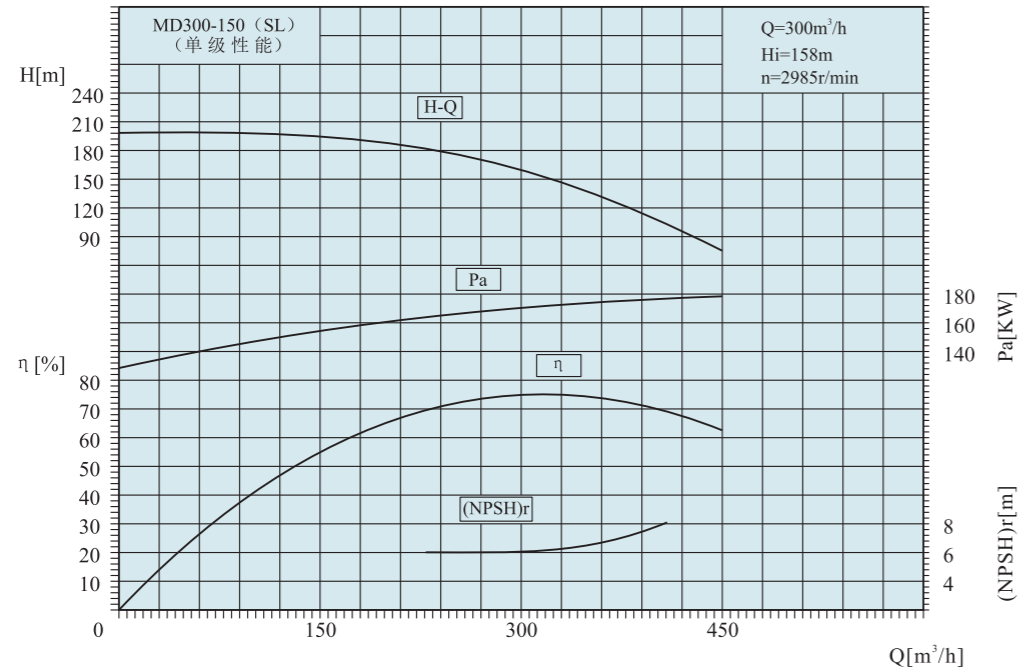


MD280-100(SL)型多级水泵性能表 Performance table of model MD280-100(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
2	250	69.4	210	2980	193.2	250	74	5.1	1338	
	280	77.8	200		198.0		77			5.6
	300	83.3	196		207.8		77			5.9
3	250	69.4	315	2980	289.6	400	74	5.1	1404	
	280	77.8	300		296.9		77			5.6
	300	83.3	294		311.8		77			5.9
4	250	69.4	420	2980	386.3	500	74	5.1	1470	
	280	77.8	400		396.3		77			5.6
	300	83.3	392		416.2		77			5.9
5	250	69.4	525	2980	483.3	630	74	5.1	1563	
	280	77.8	500		495.4		77			5.6
	300	83.3	490		520.3		77			5.9
6	250	69.4	630	2980	580.2	710	74	5.1	1656	
	280	77.8	600		594.5		77			5.6
	300	83.3	588		624.2		77			5.9
7	250	69.4	735	2980	676.6	900	74	5.1	1749	
	280	77.8	700		693.6		77			5.6
	300	83.3	686		728.3		77			5.9
8	250	69.4	840	2980	773.3	1000	74	5.1	1842	
	280	77.8	800		792.7		77			5.6
	300	83.3	784		832.3		77			5.9
9	250	69.4	945	2980	869.9	1120	74	5.1	1935	
	280	77.8	900		891.8		77			5.6
	300	83.3	882		936.3		77			5.9
10	250	69.4	1050	2980	966.6	1250	74	5.1	2028	
	280	77.8	1000		990.8		77			5.6
	300	83.3	980		1040.4		77			5.9

MD型泵主要技术规范 Main technical regime of model MD pump

MD300-150(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD300-150(SL) pump



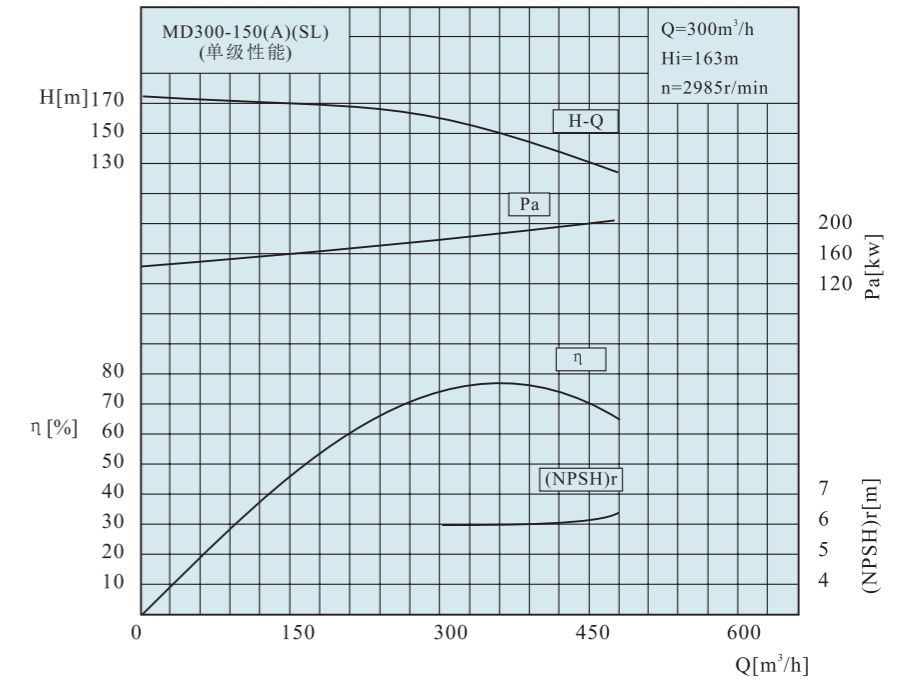
MD300-150(SL)型多级水泵性能表 Performance table of model MD300-150(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
5	270	75	800	2985	795	1120	74	6	3000
	300	83.5	790		843.7		76.5		
	360	100	745		936.4		78		
6	270	75	960	2985	954	1250	74	6	3300
	300	83.5	948		1012.4		76.5		
	360	100	894		1123.6		78		
7	270	75	1120	2985	1113	1400	74	6	3600
	300	83.5	1106		1181.2		76.5		
	360	100	1043		1311		78		
8	270	75	1280	2985	1272	1600	74	6	3900
	300	83.5	1264		1350		76.5		
	360	100	1192		1498.2		78		
9	270	75	1440	2985	1431	1800	74	6	4200
	300	83.5	1422		1518.6		76.5		
	360	100	1341		1685.5		78		
10	270	75	1600	2985	1590	2000	74	6	4500
	300	83.5	1580		1687.4		76.5		
	360	100	1490		1872.8		78		
11	270	75	1760	2985	1749	2240	74	6	4800
	300	83.5	1738		1856		76.5		
	360	100	1639		2060		78		

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MD型泵主要技术规范 Main technical regime of model MD pump

MD300-150(A)(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD300-150(A)(SL) pump



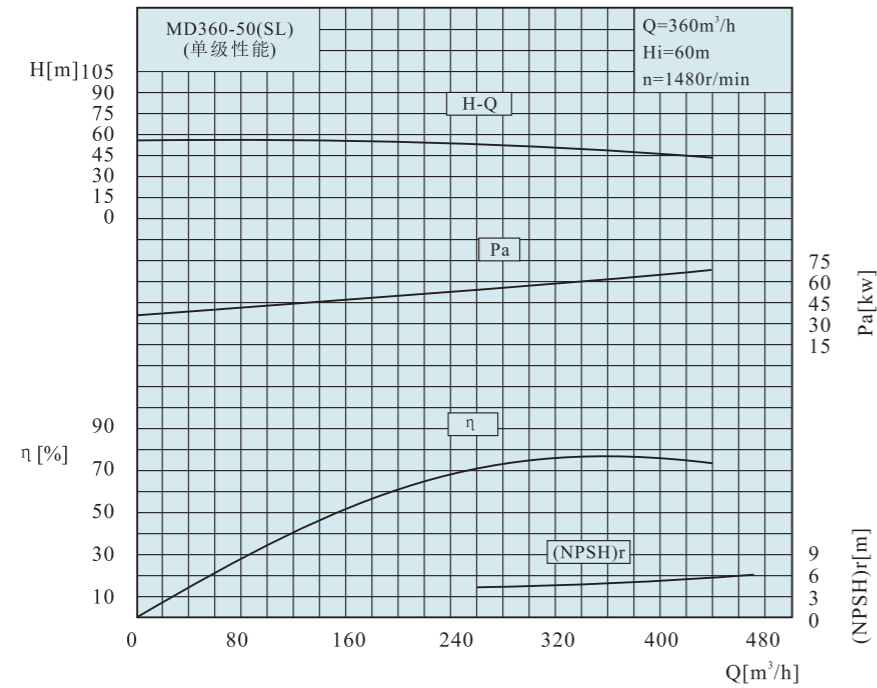
MD300-150(A)(SL)型多级水泵性能表 Performance table of model MD300-150(A)(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
5	270	75	824	2985	819	1120	74	6	3000
	300	83.5	813		868		76.5		
	360	100	750		943		78		
6	270	75	988	2985	983	1250	74	6	3300
	300	83.5	976		1042		76.5		
	360	100	900		1131		78		
7	270	75	1153	2985	1146	1400	74	6	3600
	300	83.5	1139		1216		76.5		
	360	100	1050		1320		78		
8	270	75	1318	2985	1310	1600	74	6	3900
	300	83.5	1302		1390		76.5		
	360	100	1200		1508		78		
9	270	75	1483	2985	1474	1800	74	6	4200
	300	83.5	1464		1564		76.5		
	360	100	1350		1697		78		
10	270	75	1648	2985	1637	2000	74	6	4500
	300	83.5	1627		1738		76.5		
	360	100	1500		1885		78		
11	270	75	1812	2985	1800	2240	74	6	4800
	300	83.5	1798		1911		76.5		
	360	100	1650		2073		78		

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MD型泵主要技术规范 Main technical regime of model MD pump

MD360-50(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD360-50(SL) pump

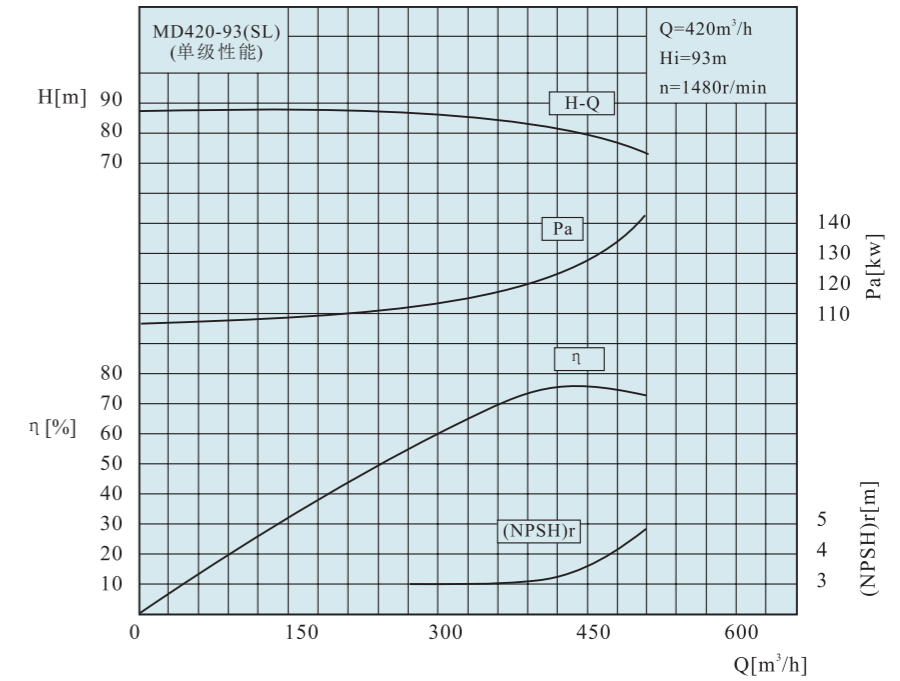


MD360-50(SL)型多级水泵性能表 Performance table of model MD360-50(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
2	300	83.3	106	1480	115.5	160	75	4.65	676
	360	100	100		78				
	440	122.2	92		75				
3	300	83.3	159	1480	173.3	250	75	4.65	807
	360	100	150		78				
	440	122.2	138		75				
4	300	83.3	212	1480	231	355	75	4.65	938
	360	100	200		78				
	440	122.2	184		75				
5	300	83.3	265	1480	288.8	400	75	4.65	1069
	360	100	250		78				
	440	122.2	230		75				
6	300	83.3	318	1480	346.6	500	75	4.65	1200
	360	100	300		78				
	440	122.2	276		75				
7	300	83.3	371	1480	404.3	630	75	4.65	1331
	360	100	350		78				
	440	122.2	322		75				
8	300	83.3	424	1480	462.2	710	75	4.65	1462
	360	100	400		78				
	440	122.2	368		75				
9	300	83.3	477	1480	520	800	75	4.65	1593
	360	100	450		78				
	440	122.2	414		75				
10	300	83.3	530	1480	577.7	800	75	4.65	1724
	360	100	500		78				
	440	122.2	460		75				
11	300	83.3	583	1480	635.4	900	75	4.65	1855
	360	100	550		78				
	440	122.2	506		75				
12	300	83.3	636	1480	693.2	1000	75	4.65	1986
	360	100	600		78				
	440	122.2	552		75				

MD型泵主要技术规范 Main technical regime of model MD pump

MD420-93(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD420-93(SL) pump

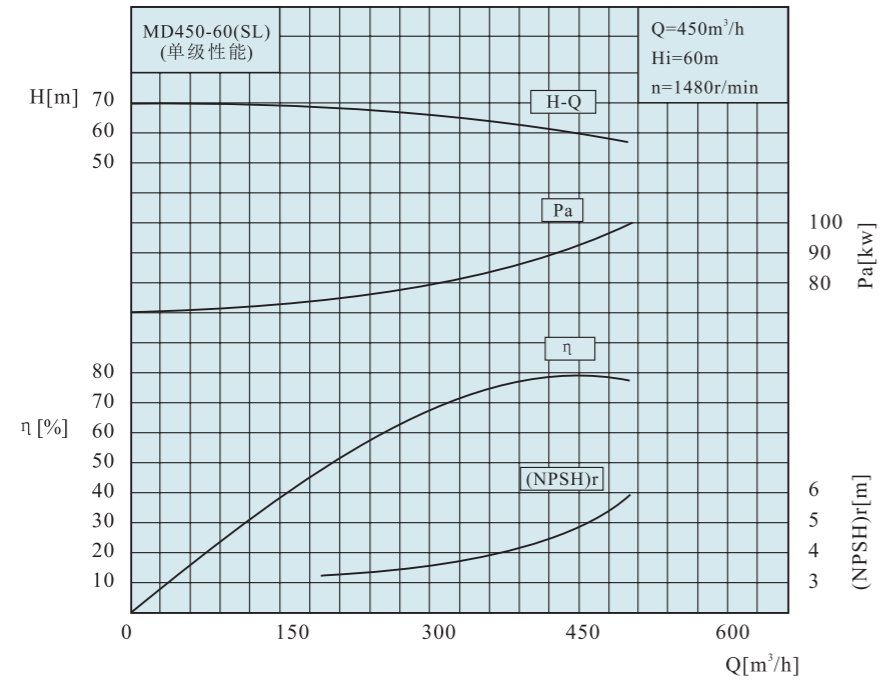


MD420-93(SL)型多级水泵性能表 Performance table of model MD420-93(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
2	360	100	168.3	1480	239	315	69	3.0	4000
	420	117	163.6		76				
	480	134	154.7		75				
3	360	100	267.3	1480	379.8	450	69	3.0	4400
	420	117	260.3		76				
	480	134	245.7		75				
4	360	100	366.3	1480	520.5	630	69	3.0	4800
	420	117	356.7		76				
	480	134	336.7		75				
5	360	100	465.3	1480	661.1	800	69	3.0	5200
	420	117	453.1		76				
	480	134	427.7		75				
6	360	100	564.3	1480	801.8	1000	69	3.0	5600
	420	117	549.5		76				
	480	134	518.7		75				
7	360	100	663.3	1480	942.5	1120	69	3.0	6100
	420	117	645.9		76				
	480	134	609.7		75				
8	360	100	762.3	1480	1083.1	1250	69	3.0	6500
	420	117	742.3		76				
	480	134	700.7		75				
9	360	100	861.3	1480	1223.8	1400	69	3.0	6900
	420	117	838.3		76				
	480	134	791.7		75				
10	360	100	960.3	1480	1036.5	1600	69	3.0	7300
	420	117	935.1		76				
	480	134	882.7		75				
11	360	100	1059.3	1480	1505.1	1800	69	3.0	7700
	420	117	1031.5		76				
	480	134	973.7		75				
12	360	100	1153.3	1480	1645.8	2000	69	3.0	8100
	420	117	1127.9		76				
	480	134	1064.7		75				

MD型泵主要技术规范 Main technical regime of model MD pump

MD450-60(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD450-60(SL) pump

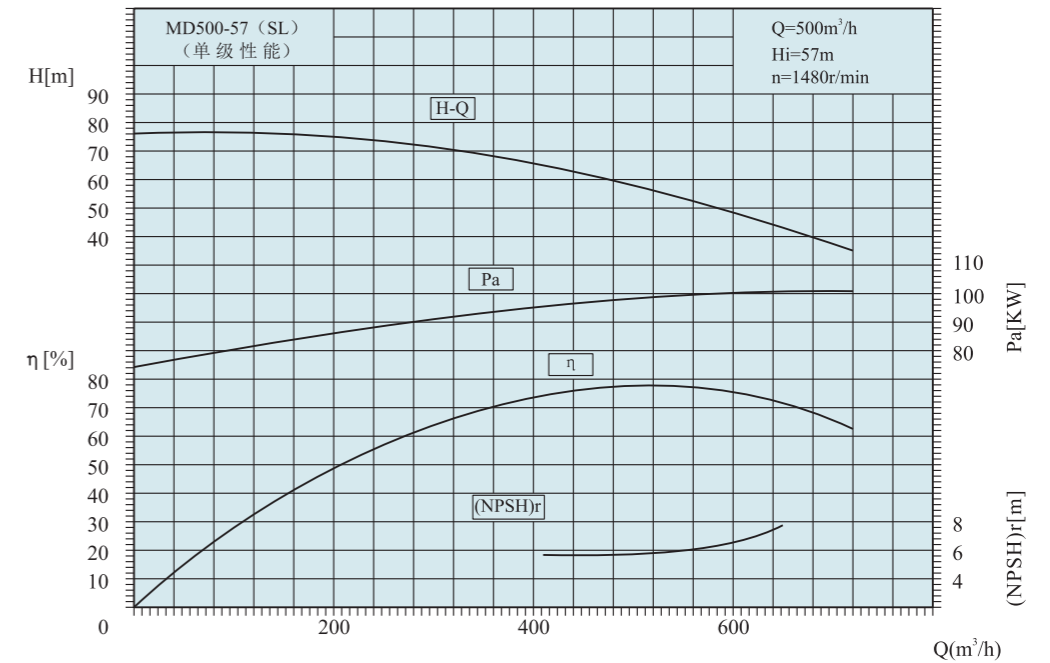


MD450-60(SL)型多级水泵性能表 Performance table of model MD450-60(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
2	335	93.1	130	1480	164.7	250	72	3.8	1500
	450	125	120		79				
	500	139	114		78				
3	335	93.1	195	1480	247.1	355	72	3.8	1750
	450	125	180		79				
	500	139	170		78				
4	335	93.1	260	1480	329.4	450	72	3.8	2000
	450	125	240		79				
	500	139	228		78				
5	335	93.1	325	1480	411.8	630	72	3.8	2250
	450	125	300		79				
	500	139	285		78				
6	335	93.1	390	1480	494.2	710	72	3.8	2500
	450	125	360		79				
	500	139	342		78				
7	335	93.1	455	1480	576.5	800	72	3.8	2750
	450	125	420		79				
	500	139	399		78				
8	335	93.1	520	1480	658.9	900	72	3.8	3000
	450	125	480		79				
	500	139	456		78				
9	335	93.1	585	1480	741.2	1000	72	3.8	3250
	450	125	540		79				
	500	139	513		78				
10	335	93.1	650	1480	823.6	1120	72	3.8	3500
	450	125	600		79				
	500	139	570		78				
11	335	93.1	715	1480	906.1	1250	72	3.8	3750
	450	125	660		79				
	500	139	627		78				

MD型泵主要技术规范 Main technical regime of model MD pump

MD500-57(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD500-57(SL) pump

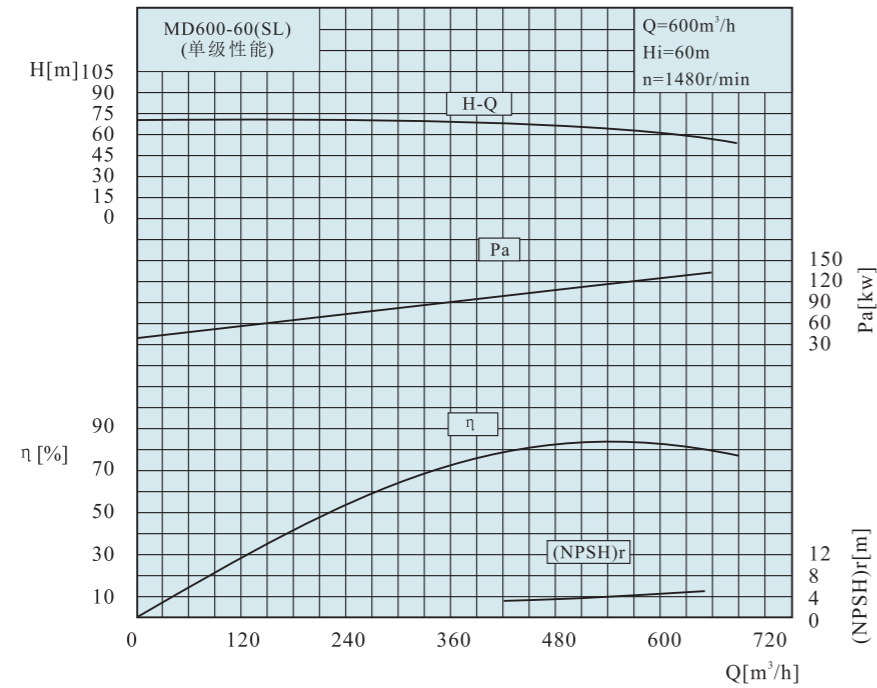


MD500-57(SL)型多级水泵性能表 Performance table of model MD500-57(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power			
2	425	118	124	1480	191.2	250	75	4.6	1700
	500	139	114		77				
	600	167	100		77				
3	425	118	186	1480	286.9	355	75	4.6	1950
	500	139	171		77				
	600	167	150		77				
4	425	118	248	1480	382.8	450	75	4.6	2300
	500	139	228		77				
	600	167	200		77				
5	425	118	310	1480	478.2	560	75	4.6	2600
	500	139	285		77				
	600	167	250		77				
6	425	118	372	1480	573.8	710	75	4.6	2900
	500	139	342		77				
	600	167	300		77				
7	425	118	434	1480	669.5	800	75	4.6	3200
	500	139	399		77				
	600	167	350		77				
8	425	118	496	1480	765.1	900	75	4.6	3500
	500	139	456		77				
	600	167	400		77				
9	425	118	558	1480	860.7	1000	75	4.6	4700
	500	139	513		77				
	600	167	450		77				
10	425	118	620	1480	956.4	1120	75	4.6	4100
	500	139	570		77				
	600	167	500		77				
11	425	118	682	1480	1051.5	1250	75	4.6	4400
	500	139	627		77				
	600	167	550		77				

MD型泵主要技术规范 Main technical regime of model MD pump

MD600-60(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD600-60(SL) pump

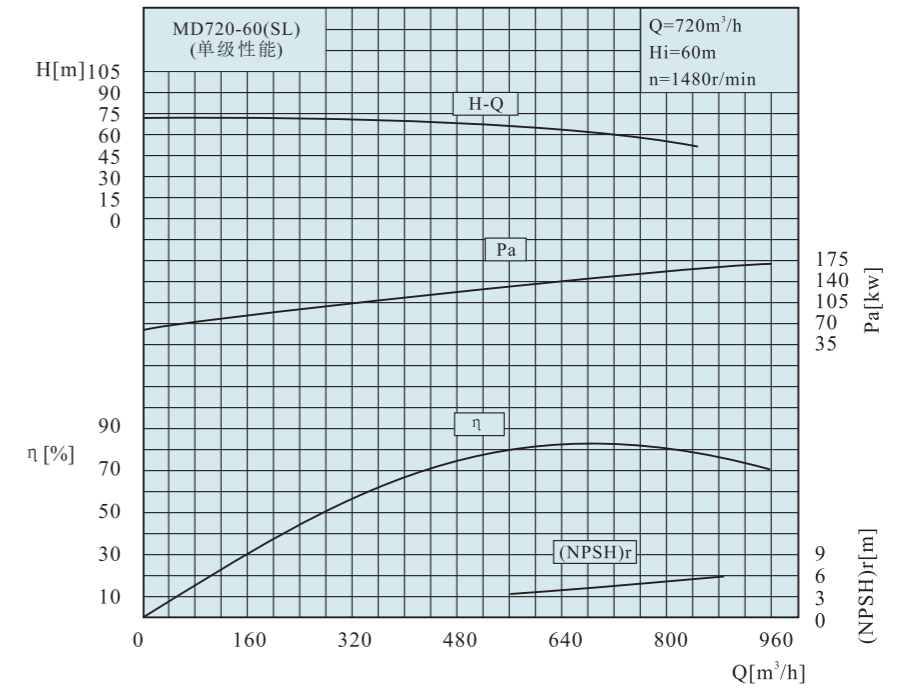


MD600-60(SL)型多级水泵性能表 Performance table of model MD600-60(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
2	450	125	130	1480	201.4	315	79	4.0	1750	
	600	166.6	120		238.8		82			4.8
	638	177.2	110		241.6		79			5.2
3	450	125	195	1480	321.6	450	79	4.0	1950	
	600	166.6	180		328.2		82			4.8
	638	177.2	165		362.4		79			5.2
4	450	125	260	1480	428.8	560	79	4.0	2260	
	600	166.6	240		477.6		82			4.8
	638	177.2	220		483.2		79			5.2
5	450	125	325	1480	536	710	79	4.0	2570	
	600	166.6	300		597		82			4.8
	638	177.2	275		604		79			5.2
6	450	125	390	1480	643.2	900	79	4.0	2880	
	600	166.6	360		716.4		82			4.8
	638	177.2	330		724.8		79			5.2
7	450	125	455	1480	750.4	1000	79	4.0	3190	
	600	166.6	420		835.8		82			4.8
	638	177.2	385		845.6		79			5.2
8	450	125	520	1480	857.6	1120	79	4.0	3500	
	600	166.6	480		955.2		82			4.8
	638	177.2	440		966.4		79			5.2
9	450	125	585	1480	964.8	1250	79	4.0	3810	
	600	166.6	540		1074.6		82			4.8
	638	177.2	495		1087.2		79			5.2
10	450	125	650	1480	1072	1400	79	4.0	4120	
	600	166.6	600		1194		82			4.8
	638	177.2	550		1208		79			5.2

MD型泵主要技术规范 Main technical regime of model MD pump

MD720-60(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MD720-60(SL) pump

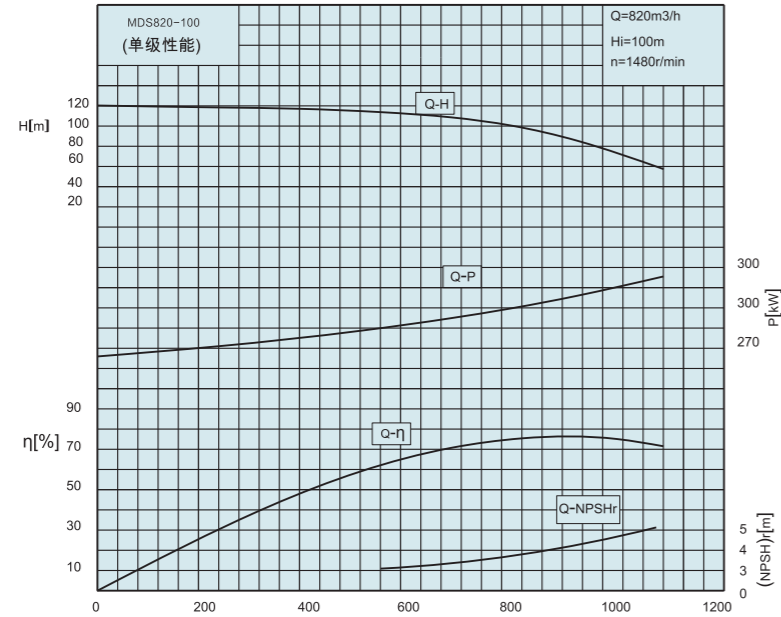


MD720-60(SL)型多级水泵性能表 Performance table of model MD720-60(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m³/h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
2	550	152.8	132	1480	260	355	76	3.5	1830	
	720	200	120		294		80			4.5
	850	236	108		318.4		78.5			5.5
3	550	152.8	198	1480	390	560	76	3.5	2040	
	720	200	180		441		80			4.5
	850	236	162		477.6		78.5			5.5
4	550	152.8	264	1480	520	710	76	3.5	2350	
	720	200	240		588		80			4.5
	850	236	216		636.8		78.5			5.5
5	550	152.8	330	1480	640	900	76	3.5	2650	
	720	200	300		735		80			4.5
	850	236	270		796		78.5			5.5
6	550	152.8	396	1480	780	1120	76	3.5	2960	
	720	200	360		882		80			4.5
	850	236	324		955.2		78.5			5.5
7	550	152.8	462	1480	910	1250	76	3.5	3280	
	720	200	420		1029		80			4.5
	850	236	378		1114.4		78.5			5.5
8	550	152.8	528	1480	1040	1400	76	3.5	3595	
	720	200	480		1176		80			4.5
	850	236	432		1273.6		78.5			5.5
9	550	152.8	594	1480	1170	1600	76	3.5	3900	
	720	200	540		1323		80			4.5
	850	236	486		1432.8		78.5			5.5

MD型泵主要技术规范 Main technical regime of model MD pump

MDS820-100 型泵多级性能曲线图 Multi-level-stage performance curve diagram of model MDS820-100 pump

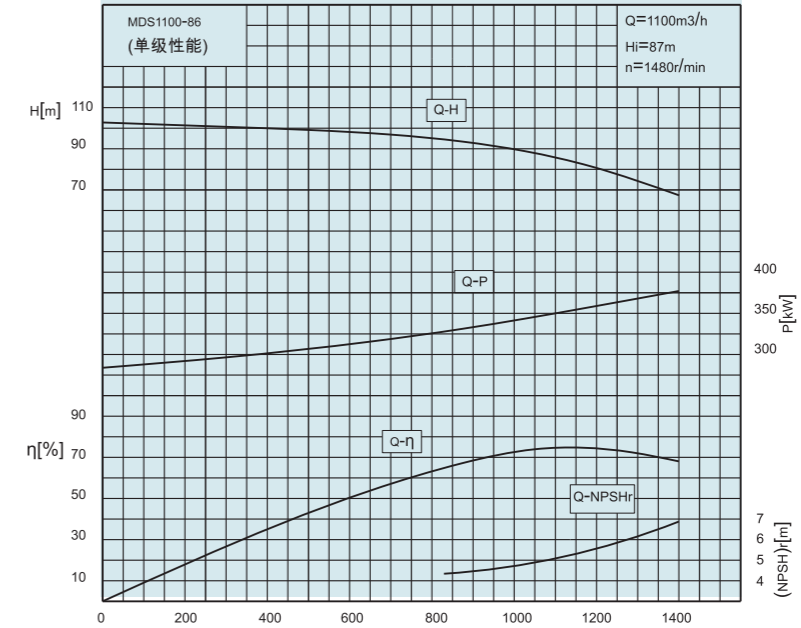


MDS820-100型多级水泵性能表 Performance table of model MDS820-100 multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m ³ /h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
3	650	180.6	300	1480	717.3	1000	74	3.4	6205	
	820	227.8	290		863.1		75			3.7
	940	261.1	264		888.9		76			4.2
4	650	180.6	400	1480	956.5	1250	74	3.4	6720	
	820	227.8	390		1160.8		75			3.7
	940	261.1	364		1225.6		76			4.2
5	650	180.6	500	1480	1195.6	1600	74	3.4	7235	
	820	227.8	490		1458.4		75			3.7
	940	261.1	455		1532.0		76			4.2
6	650	180.6	600	1480	1434.7	1800	74	3.4	7750	
	820	227.8	590		1756.0		75			3.7
	940	261.1	534		1798.0		76			4.2
7	650	180.6	700	1480	1673.8	2240	74	3.4	8265	
	820	227.8	690		2053.6		75			3.7
	940	261.1	637		2144.8		76			4.2
8	650	180.6	800	1480	1912.9	2500	74	3.4	8780	
	820	227.8	790		2351.3		75			3.7
	940	261.1	729		2454.5		76			4.2
9	650	180.6	900	1480	2152.0	2800	74	3.4	9295	
	820	227.8	890		2648.9		75			3.7
	940	261.1	819		2757.5		76			4.2

MD型泵主要技术规范 Main technical regime of model MD pump

MDS1100-86(SL)型泵单级性能曲线图 Single-stage performance curve diagram of model MDS1100-86(SL) pump



MDS1100-86(SL)型多级水泵性能表 Performance table of model MDS1100-86(SL) multi-stage water pump

级数 No of stage	流量 Capacity		扬程 Head (m)	转速 Speed (r/min)	功率 Power (kW)		效率 Efficiency (%)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
	(m ³ /h)	(L/s)			轴功率 shaft power	电机功率 Motor power				
2	880	244.4	174	1480	563.3	710	74	4.4	5690	
	1100	305.6	160		638.8		75			5.1
	1265	351.4	148		688.7		74			6.3
3	880	244.4	270	1480	874.1	1120	74	4.4	6205	
	1100	305.6	247		986.2		75			5.1
	1265	351.4	231		1075.0		74			6.3
4	880	244.4	360	1480	1165.4	1600	74	4.4	6720	
	1100	305.6	334		1333.5		75			5.1
	1265	351.4	308		1433.3		74			6.3
5	880	244.4	450	1480	1456.8	1800	74	4.4	7235	
	1100	305.6	421		1680.9		75			5.1
	1265	351.4	385		1791.6		74			6.3
6	880	244.4	540	1480	1748.1	2240	74	4.4	7750	
	1100	305.6	508		2028.2		75			5.1
	1265	351.4	481		2238.3		74			6.3
7	880	244.4	630	1480	2039.5	2500	74	4.4	8265	
	1100	305.6	595		2375.6		75			5.1
	1265	351.4	537		2498.9		74			6.3
8	880	244.4	720	1480	2330.8	2800	74	4.4	8780	
	1100	305.6	682		2722.9		75			5.1
	1265	351.4	601		2796.8		74			6.3

表2 MD型泵的外形及安装尺寸(泵和电机同底座 见图4) Table2 Series pump figure and dimension table (pump and motor together bed see figure 4)

泵型号 Pump type	尺寸 Dimensions mm	L	L1	L2	L3	L4	L5	B1	B2	B3	B4	B5	H	H1	H2	H3	D1	D2	D3	D4	D5	D6	D7	D8	D9	n孔-φd	m孔-φd1	nz孔-φdz	配套电机 Ligand motor		
																													型号 type	功率 Power (kW)	
MD 46-50 (SL)	3	1717	245	800	-	167.5	1330	300	310	590	530	530	400	650	635	50	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	4-φ24	Y200L2-2	37	
	4	1817	305	925	-	152.5	1415	300	345	614	550	500	420	670	725	50	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	4-φ24	Y225M-2	45	
	5	1992	365	1020	-	182.5	1571	300	385	670	600	500	420	670	745	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	4-φ24	Y250M-2	55	
	6	2122	425	1130	565	162.5	1758	300	410	720	650	500	420	670	780	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	6-φ24	Y280M-2	75	
	7	2232	485	1130	565	222.5	1758	300	410	720	650	500	420	670	780	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	6-φ24	Y280M-2	90	
	8	2292	545	1180	590	232.5	1869	300	410	720	650	500	420	670	780	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	6-φ24	Y280M-2	90	
	9	2577	605	1330	665	187.5	2046	300	576	820	750	500	515	760	960	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	6-φ24	Y315S-2	110	
	10	2637	665	1330	665	247.5	2046	300	576	820	750	500	515	760	960	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	6-φ24	Y315S-2	110	
	11	2762	725	1480	740	197.5	2222	300	576	820	750	500	515	760	960	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	6-φ24	Y315M-2	132	
	12	2822	785	1480	740	257.5	2222	300	576	820	750	500	515	760	960	60	φ80	φ124	φ150	φ190	φ80	φ120	φ133	φ170	φ215	4-φ19	8-φ22	6-φ24	Y315M-2	132	
	MD 85-45 (SL)	2	1603	203	850	-	104	1263	250	315	580	520	520	325	575	600	40	φ100	φ148	φ170	φ210	φ100	φ149	φ158	φ190	φ235	4-φ17.5	8-φ22	4-φ24	Y200L2-2	37
		3	1842	277	1040	-	130	1468	250	385	675	615	520	365	615	690	40	φ100	φ148	φ170	φ210	φ100	φ149	φ158	φ190	φ235	4-φ17.5	8-φ22	4-φ24	Y250M-2	55
4		1986	351	1060	530	172	1615	250	410	730	670	520	395	645	755	40	φ100	φ148	φ170	φ210	φ100	φ149	φ158	φ190	φ235	4-φ17.5	8-φ22	6-φ24	Y280S-2	75	
5		2110	425	1120	560	202	1740	250	410	730	670	520	395	645	755	40	φ100	φ148	φ170	φ210	φ100	φ149	φ158	φ190	φ235	4-φ17.5	8-φ22	6-φ24	Y280M-2	90	
MD 155-30 (SL)	2	2042	310	1060	530	67.5	1550	350	385	650	580	580	430	775.5	755	50	φ150	φ211	φ240	φ285	φ150	φ203	φ211	φ250	φ300	8-φ22	8-φ26	6-φ30	Y250M-4	55	
	3	2227	425	1260	630	104.5	1895	350	410	710	640	580	430	775.5	790	50	φ150	φ211	φ240	φ285	φ150	φ203	φ211	φ250	φ300	8-φ22	8-φ26	6-φ30	Y280S-4	75	
	4	2392	540	1260	630	162	1895	350	410	710	640	580	430	775.5	790	50	φ150	φ211	φ240	φ285	φ150	φ203	φ211	φ250	φ300	8-φ22	8-φ26	6-φ30	Y280M-4	90	

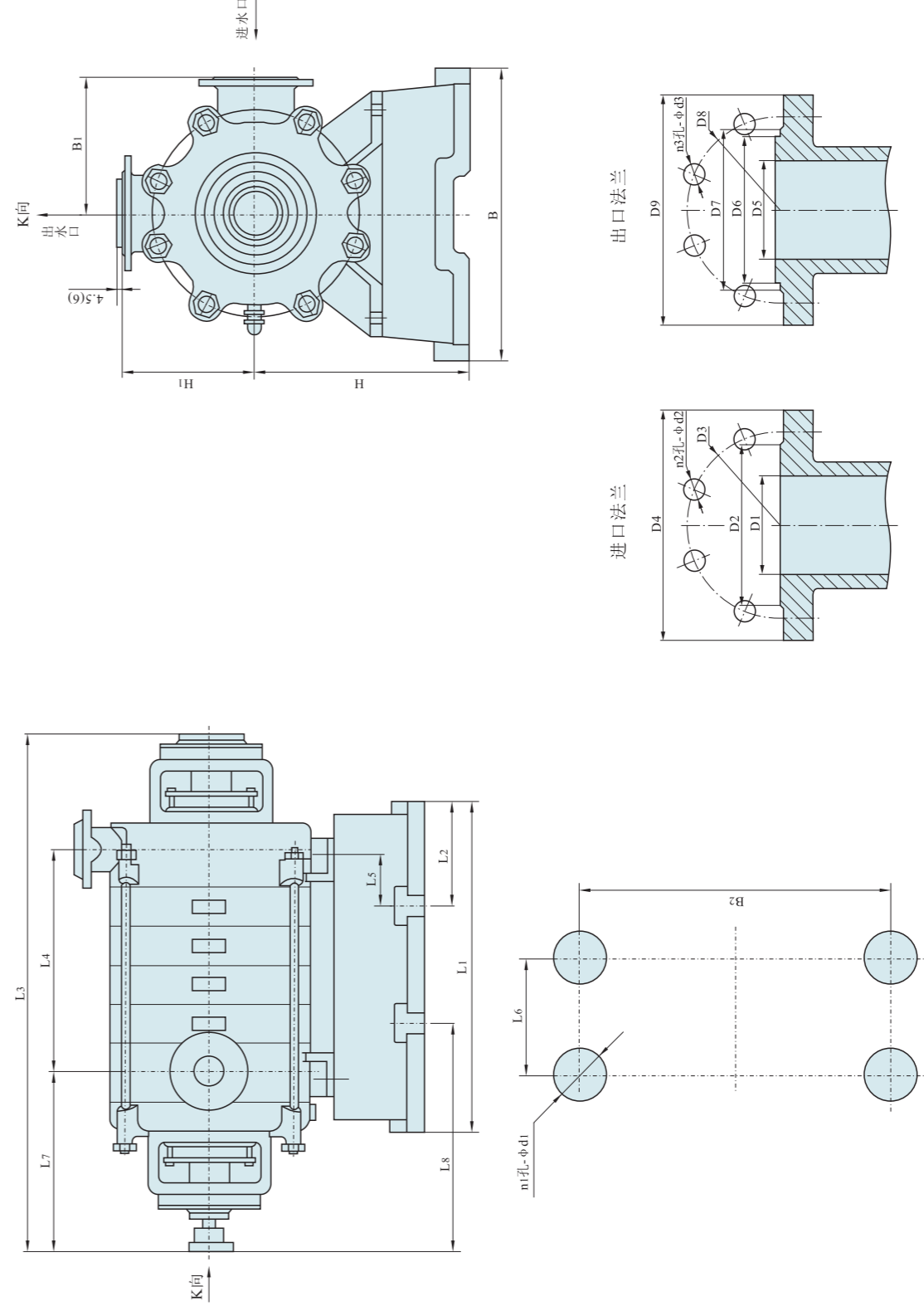


图5 MD85-45(SL)、MD85-67(SL)、MD 85-80、MD150-100、MD155-30(SL)、MD155-67(SL)、MD280-43(SL)、MD280-65(SL)、MD280-100(SL)、MD360-50(SL)、MD420-93(SL)、MD450-60(SL)、MD500-57(SL)、MD600-60(SL)、MD720-60(SL)、MDS820-100(SL)、MDS1100-86(SL)型泵的外形及安装尺寸图 Fig.5 Figure and dimension figure for series pump

注：括号内数字为MD250-150、MD300-150(A)、MD300-150、MD300-150(A)相应尺寸数值。
Note: the numerals in the bracket are the values of the dimensions corresponded to MD250-150, MD300-150, MD300-150(A), MD300-150(A).

管路损耗参考表 Reference table for pipeline loss

管径 Pipe diameter (mm)	流 量 Capacity (L/s)																								
	1	2	4	6	8	10	15	20	25	30	40	50	60	70	80	90	100	110	120	130	140	160	180	200	
25	32.7	13.0																							
38	3.5	1.4	55																						
50	0.8	3.1	1.3	29																					
65		1.6	3.2	7.1	13	20																			
75		0.4	0.8	3.3	5.9	9.6	21.6																		
100			0.23	0.8	1.3	2.1	6.8	8.6	13	19.4															
125				0.23	0.4	0.63	1.3	2.7	4.1	5.9	10.7														
150					0.16	0.26	0.58	1.1	1.6	2.3	4.2	6.4	9.4												
175						0.11	0.27	0.5	0.74	1.05	1.9	2.9	4.3	5.8	7.7	9.6									
200							0.13	0.26	0.37	0.53	0.93	1.5	2.1	2.9	3.7	4.7	6.1	7.2	8.5						
250								0.07	0.12	0.18	0.30	0.48	0.68	0.93	1.2	1.5	1.9	2.3	2.8	3.3	3.7	4.9	5.2		
300										0.07	0.12	0.19	0.27	0.37	0.49	0.61	0.76	0.9	1.1	1.3	1.5	2.0	2.4	3.0	

直管摩擦损失筒表(供估计用)100m直管损失米数以新铸铁管为标准,旧管加倍。
Brief table for the frictional loss of a straight pipe(for evaluation), the lost meters of a 100m straight pipe takes the newly cast iron pipe as the standard and multiple for the old one.

The length of a straight pipe converted into from both valve and elbow(each)

种类 Variety	折合直管直径倍数 Convert into the times of the diameter of a straight pipe	备注 Remark
标准弯管 Standard elbow	12	未畅开加倍 Multiple in case of unopen
全开闸阀 Fully opened gate valve	25	
逆止阀 Back valve	100	
底阀 Foot valve	100	部分堵塞加倍 Partial block-up multiplied

注: 例如100mm直管, 底阀折合100倍直径等于100×100=10000mm=10m直径长度, 假定流量为8L/s查上表, 直管每100m损失1.3m, 则10m损失0.13m, 即一个100mm底阀, 流量为8L/s时, 则损失扬程0.13m。

Note: For instance, a 100mm diameter pipe, the foot valve has a 100×100=10000mm=10m diameter when which is converted into 100 times that of the pipe's diameter. Suppose the flow is 8L/s, looked into the above table, the loss of the straight pipe is 1.3m each 100m, then the one for 100mm is 0.13m, that is, for a 100mm foot valve with a flow 8L/s, its head low is 0.13m.

Limit of the maximum flow for a pipe with a certain diameter

管径直径 Pipeline diameter (mm)	最大流量 Maximum flow (L/s)	最大流速 Maximum flow rate (m/s)	管径直径 Pipeline diameter (mm)	最大流量 Maximum flow (L/s)	最大流速 Maximum flow rate (m/s)
25	1	2.04	125	30.0	2.44
38	2.5	1.69	150	43.0	2.45
50	4.17	2.12	175	60.0	2.49
65	6.67	2.01	200	83.3	2.69
75	10.0	2.26	250	133.0	2.72
100	18.4	2.33	300	192.0	2.71

注: 超过此限使管路损失显著增加。
Note: The pipeline loss would be made greatly increased once the limit is over.