

目 录

CONTENTS

产品概述 Outline of the product	1
产品用途 Purposes	1
性能范围 Performance range	2
型号说明 Model meaning	2
结构特点 Features of structure	2
XBD-DL型泵结构图 XBD-DL type pump structure drawing	3
XBD-DL型泵型谱图 XBD-DL Type pump atlas of style	5
XBD-DL型泵性能曲线图 XBD-DL Type pump performance curve drawing	6
XBD-DL型泵性能参数及外形安装尺寸图表 XBD-DL Type pump performance and external installation drawing table	8
泵的几种安装方法 Several ways of installation	23
泵附件图及其尺寸表 Fittings drawing and dimension table	24
泵基础图及其联接尺寸 Basic drawing and link dimension	24
安装说明 Notes for installation	25
起动与停车 Start and stop	26
泵的维护与保养 Maintenance	27
故障原因及排除方法 Failures causes and troubleshooting	28

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

产品概述 Outline of the product

XBD-DL系列消防泵是本公司根据国内市场对消防用泵的需求及其特殊的使用要求,自行开发研制的新型产品。经严格测试证明,该系列产品完全满足了现行的消防规范和国家标准所规定的消防给水工况范围要求。该消防泵系列填补了国内此类产品的空白,其综合性能达到了国际同类产品九十年代先进水平。

XBD-DL系列消防泵采用先进技术进行设计,选用优质材质进行制造,具有可靠性高(不会发生较长时间停用后启动咬死的情况)、效率高、噪音低、振动小、运转寿命长、安装形式灵活和检修方便等特点。该系列消防泵工况范围广,流量-扬程曲线平坦,其关死点扬程与设计点扬程之比小于1.12,使压力分档密集,有利于选泵和节约能源。该系列产品经国家消防装备质量监督检测中心检测,产品性能全部符合GB6245-2006《消防泵》国家标准的要求,并达到国内同类产品先进水平。

XBD-DL series fire-fighting pump is a new product self developed by this Co. according to the demand on the domestic market to the fire-fighting pump and its special requirements of use and, under a strict test, it has been proved that the series product fully meets with the current fire-fighting standards and the fire-fighting water supply working condition range demand provided in the national standards it fills up the domestic gap of this category and its complex performance gets to the advanced level of 90s of the same ones in the world.

The series pump is designed with advanced know-how and made of quality materials and features high reliability (no joining-up world occur at starting after a long time of unuse), high efficiency, low noise, small vibration, long duration of running, flexible ways of installation and convenient overhaul. It has a wide range of working conditions and a flat flow-head curve and its ratio between the heads at both shut off and design points is less than 1.12 to have the pressures garded to be crowded together, benefit to pump selection and energy saving. Tested by National Fire-fighting Equipment Quality Supervising and Testing Center, all performances of the product conform the requirements of GB6245-2006《Fire-fighting pumps》and get to the advanced level of the same ones in the country.

产品用途 Purposes

XBD-DL系列泵可供输送80℃以下不含固体颗粒的清水或物理化学性类似于水的液体,以及轻腐蚀液体之用。

该系列泵主要用于工业及民用建筑固定消防系统(消火栓灭火系统、自动喷水灭火系统和水喷雾灭火系统等)的给水。

XBD-DL系列泵性能参数在满足消防工况前提下,兼顾生活(生产)给水的工况要求,该产品既可用于独立消防给水系统,又可用于消防、生活(生产)共用给水系统,还可用于建筑、市政、工矿给水以及锅炉给水等场合。

XBD-DL series pump can be used to transport the pure water below 80℃ and containing no solid grains or the liquids with similar physical and chemical natures as those of pure water as well as the liquids lightly corrosive.

It is mainly used for the water supply for the fixed fire-fighting system of both industrial and civil buildings (fire hydrant fire-extinguishing system, automatic spraying fire-extinguishing system and fog-spraying fire-extinguishing system etc.)

The performance parameters of the pump can also meet with the working condition requirements for living(production) water supply under the prerequisite to meet with the working conditions of fire-fighting, that is it can be used in an individual fire-fighting, water supply system and also in the mutual water supply system of both fire-fighting and living(production), as well as in the water system of buildings, municipal works, industry and mines and boilers.

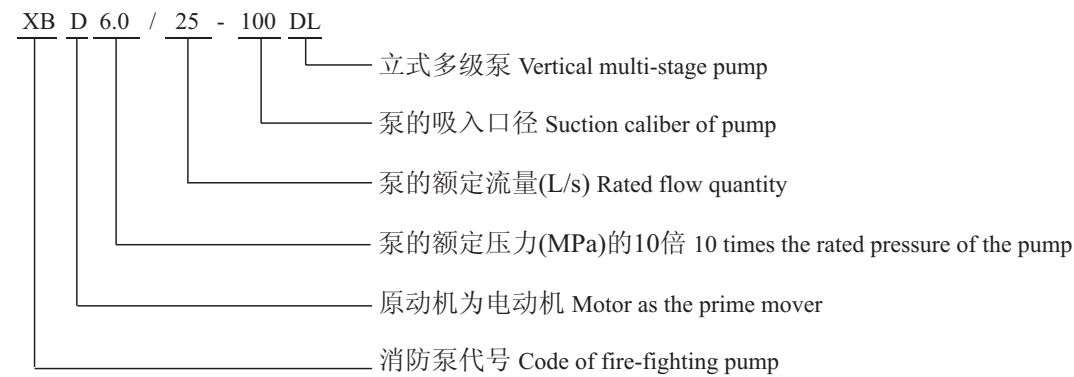
XBD-DL系列立式多级固定式消防泵

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

性能范围 Performance range

额定流量	Qn=5L/s ~ 100L/s (18m ³ /h ~ 360m ³ /h)	Rated flow quantity	Qn=5L/s ~ 100L/s (18m ³ /h ~ 360m ³ /h)
额定压力	Pn=0.30MPa ~ 2.88MPa	Rated pressure	Pn=0.30MPa ~ 2.88MPa
转速	n=1480r/min	Rotating speed	n=1480r/min
泵进口压力	Po √/0.2MPa	Pressure at pump inlet	Po √/0.2MPa
泵最大工作压力	Po √/2.96MPa	Max.pump working pressure	Po √/2.96MPa
泵进口口径	50 ~ 200mm	Aperture at pump inlet	50 ~ 200mm
泵出口口径	40 ~ 200mm	Aperture at pump outlet	40 ~ 200mm

型号说明 Model meaning



结构特点 Features of structure

泵为单吸多级分段式离心泵，安装形式为立式(见下图)。

泵为径向吸入，径向排出，进出口相对位置，方向可调。

泵通过增、减级数，产生不同出口压力。

泵可设计成多出口，客户在定货时可以单独提出。

多出口泵的电机按最高级数配套。

The pump is a single-suction multi-stage sectional centrifugal pump with a vertical mounting form(see the figures below).

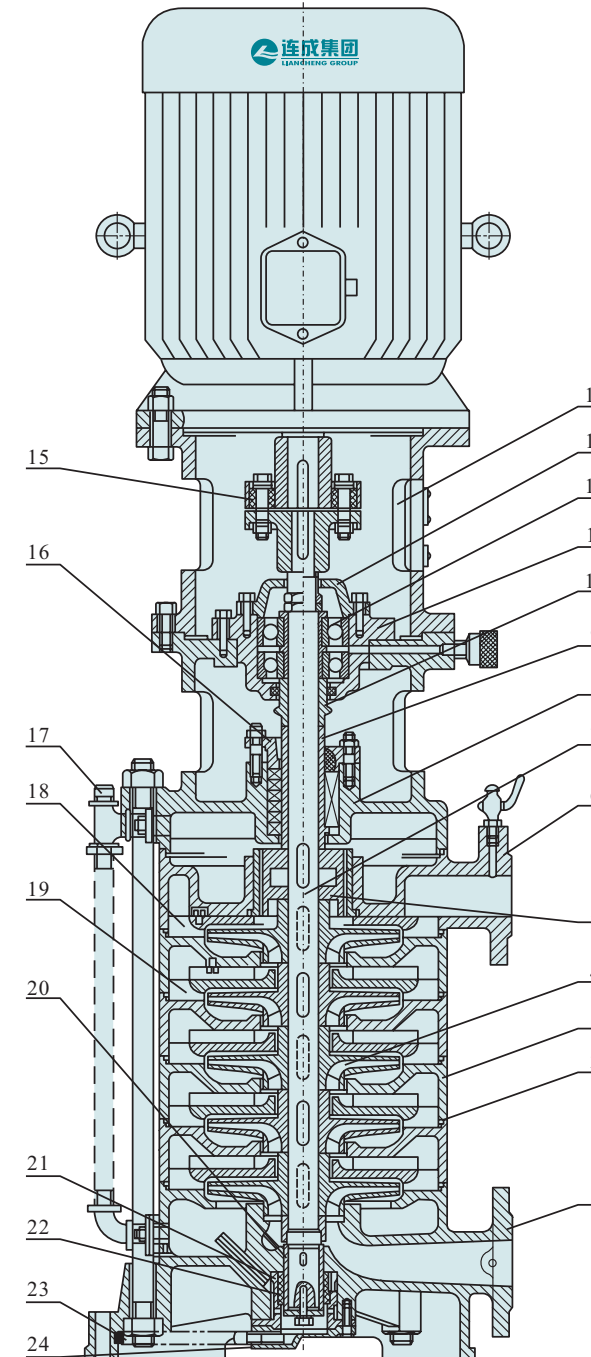
The pump is radial suction-in and radial drain-out and the relative positions and directions of both inlet and outlet can be mutually changed.

The pump can produce different outlet pressures by means of number increasing or decreasing.

The pump can be designed with many outlets, for which the client can separately put forward at order.

The motor used for the multi-outlet pump should be fitted with the maximum stages.

XBD-DL型泵结构图 XBD-DL type pump structure drawing



1	进水段 section casing
2	密封垫 seal pad
3	中段 stage casing
4	叶轮 impeller
5	平衡鼓 balancing sleeve
6	出水段 discharge casing
7	轴 shaft
8	机械密封/填料函体 mechanical seal/filling body
9	轴套 shaft sleeve
10	挡水套 water retaining sleeve
11	轴承体 bearing support
12	轴承 bearing
13	轴承盖 bearing cover
14	连接架 linkage stand
15	联轴器部件 coupling
16	机械密封/填料压盖 mechanical seal/gland cover
17	回水管部件 balancing pipe part
18	末级导叶 last-stage guide vanes
19	导叶 guide vane
20	水润滑轴承套 water lubricated bearing sleeve
21	水润滑轴承体 water lubricated bearing body
22	水润滑轴承 submerged bearing
23	放水丝堵 drainage wire-jam
24	水润滑轴承盖 water lubricated bearing cover

XBD-DL系列立式多级固定式消防泵

泵的材料

- a. 泵轴—不锈钢
- b. 叶轮—铸铜
- c. 承压零件—铸铁HT250或QT400-18

泵转动时，可能产生磨擦时零件均采用耐磨，耐腐蚀及高抗咬合的材料组合以确保运行可靠。降低噪音，同时避免产生锈水，堵塞喷淋等消防器件，大大延长了使用寿命和停机后生锈咬死现象。

轴承、轴封、平衡

泵轴承一端由滚动轴承支承；另一端由滑动轴承支承，用输送介 润滑。

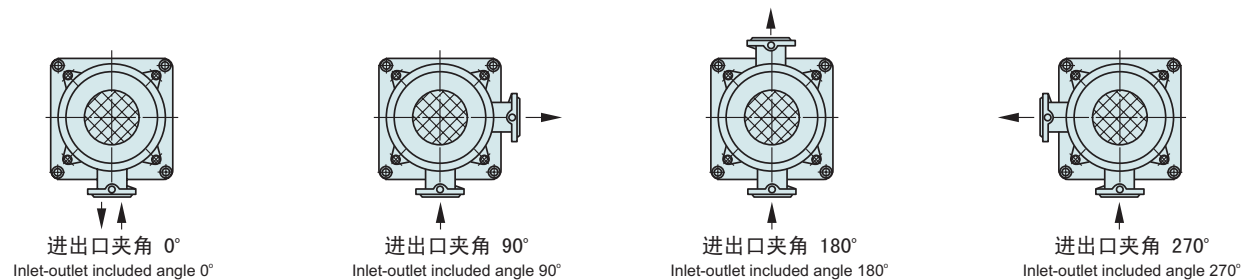
泵轴封为机械密封，安全、无泄漏。(用户特殊要求可提供填料密封)

泵采用平衡鼓平衡轴向力，使滚动轴承轴向负荷显著减小，确保了泵的低噪音和高寿命。

传动

泵通过弹性联轴器与电机直联传动。从电机端看泵为逆时针旋转。

下图为安装形式，进水口在下，出口在上。
The figures below are the forms of installation, the inlet is lower and the outlet is upper.



Materials of pump

- a. Pump shaft-stainless steel
- b. Impeller-cast copper
- c. Pressure bearing part-cast iron HT250 or QT400-18

All the parts possible to produce friction during pump's running are made of wearable, anti-corrosive and highly anti-joining-up material combination so as to make sure of a reliable running, lower noise, prevent rust water from being formed to block up the shower etc, fire-fighting equipments, greatly extending the duration and removing the joining-up due to rusting after stop.

Bearing、shaft seal、balance

One end of the pump bearing is supported by the rolling bearing; the other end by the sliding bearing and lubricated with the transported medium.

The pump shaft seal is a mechanical seal, safe and without leakage. (The filling seal can be provided for the users with the special requirement)

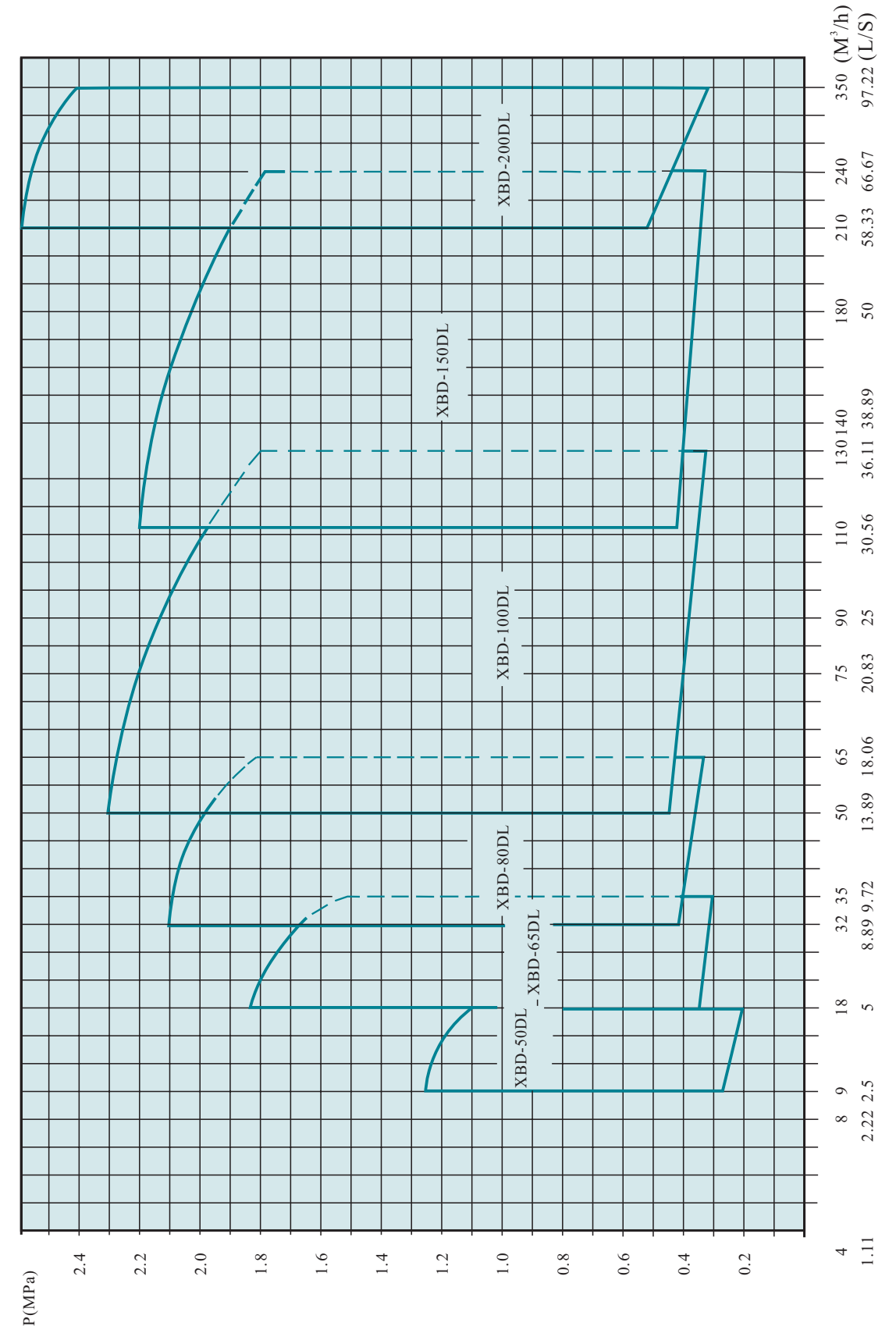
The pump uses a balance drum to balance the axial force to have the axial load of the rolling bearing notably reduced, making sure of low noise and long duration of the pump.

Driving

The pump is directly connected with the motor through an elastic clutch and rotates CCW viewing from the motor.

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵型谱图 XBD-DL type pump atlas of style

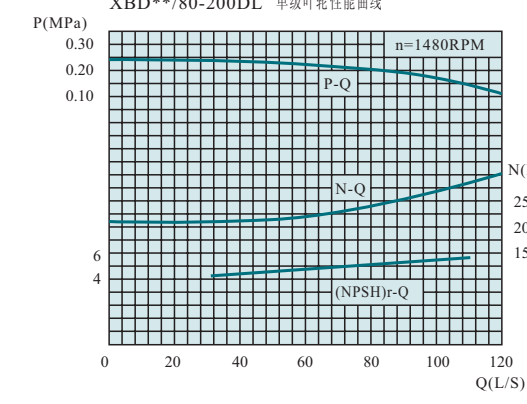
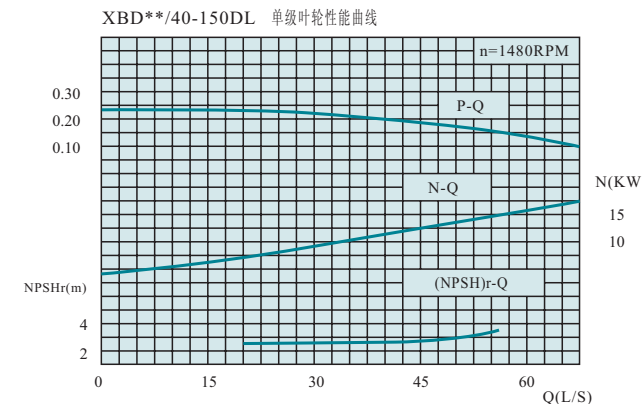
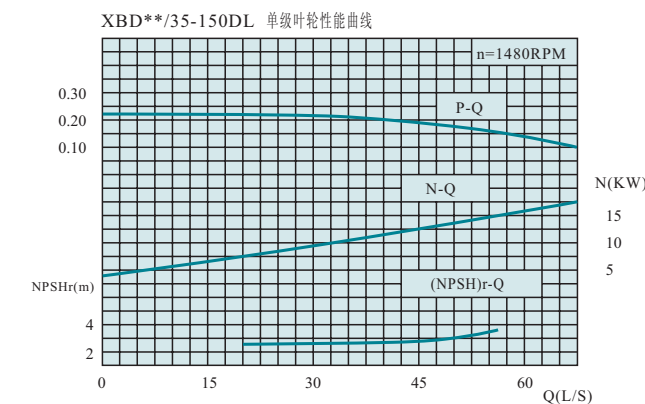
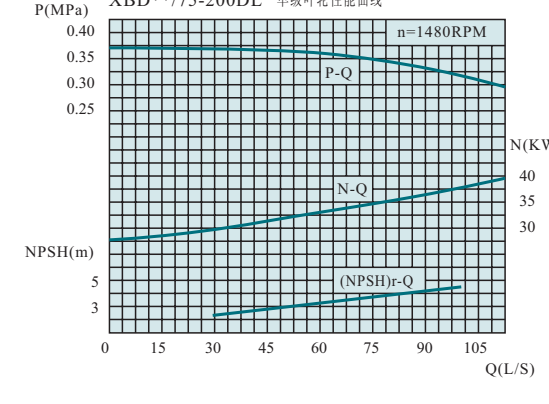
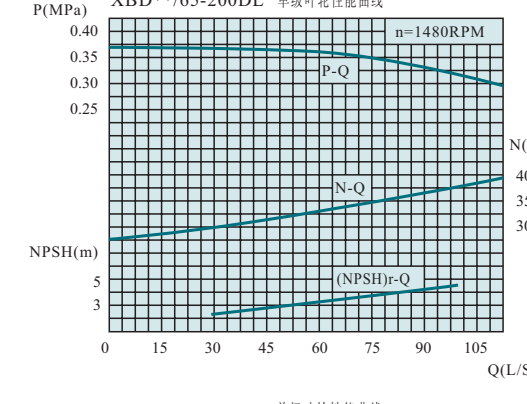
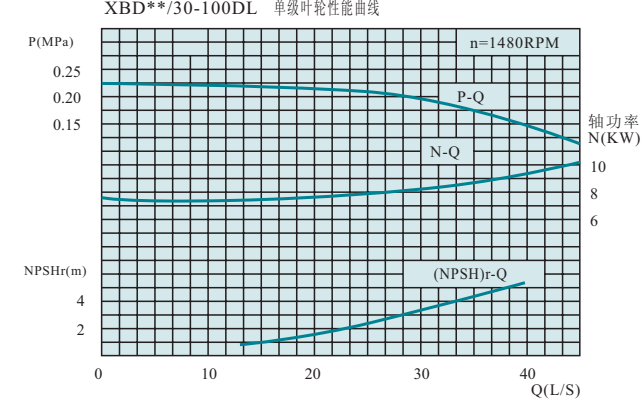
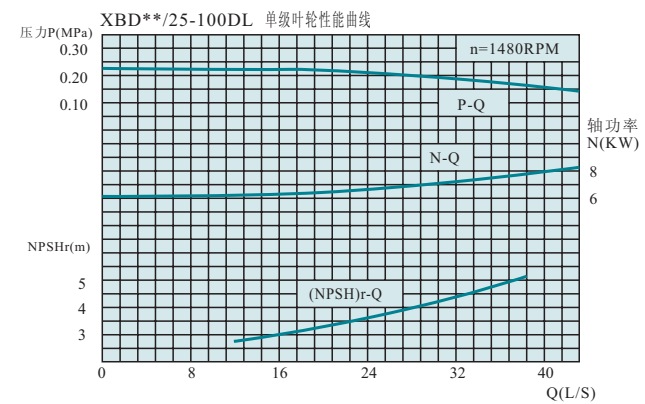
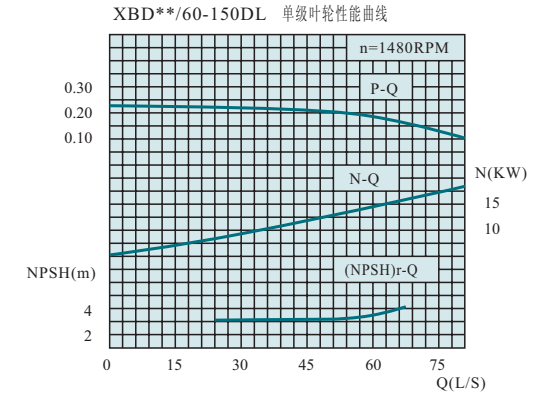
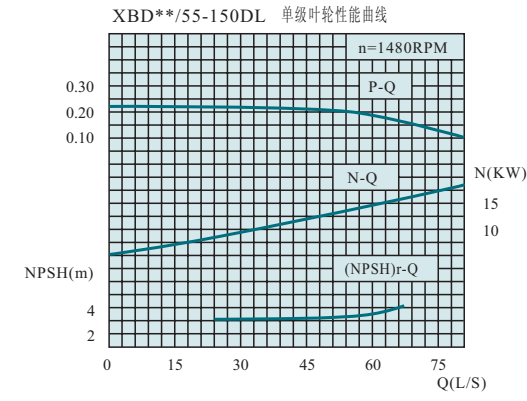
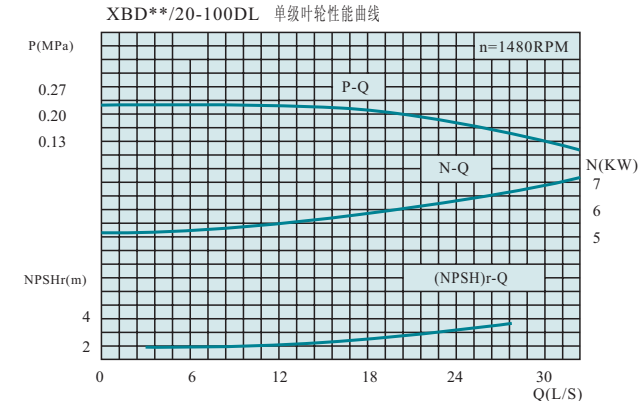
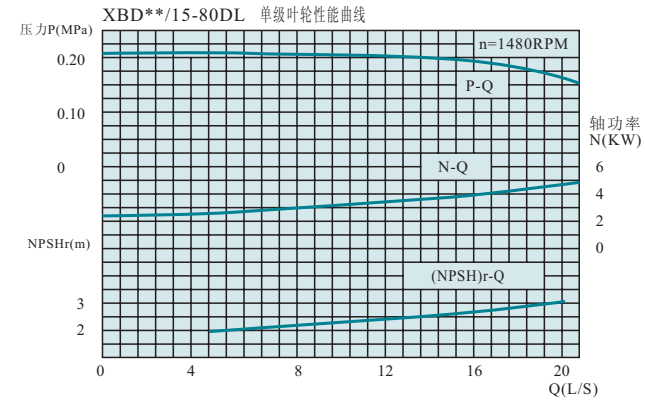
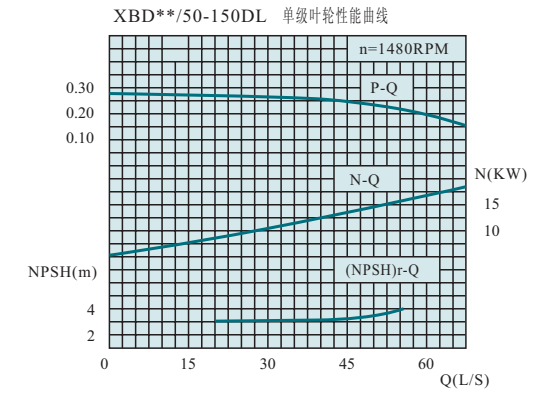
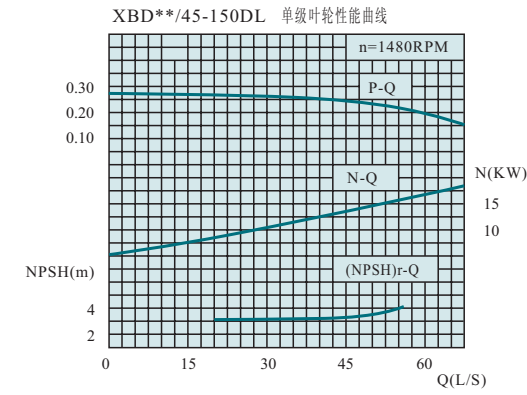
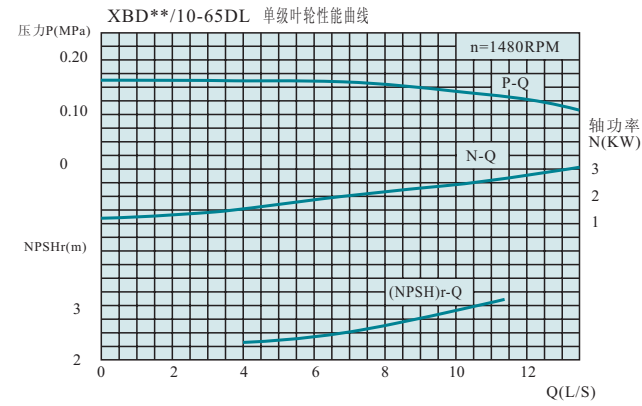
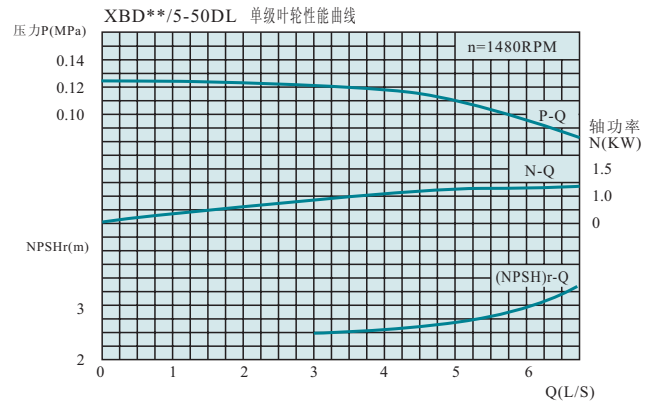


XBD-DL系列立式多级固定式消防泵

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能曲线图 XBD-DL type pump performance curve drawing

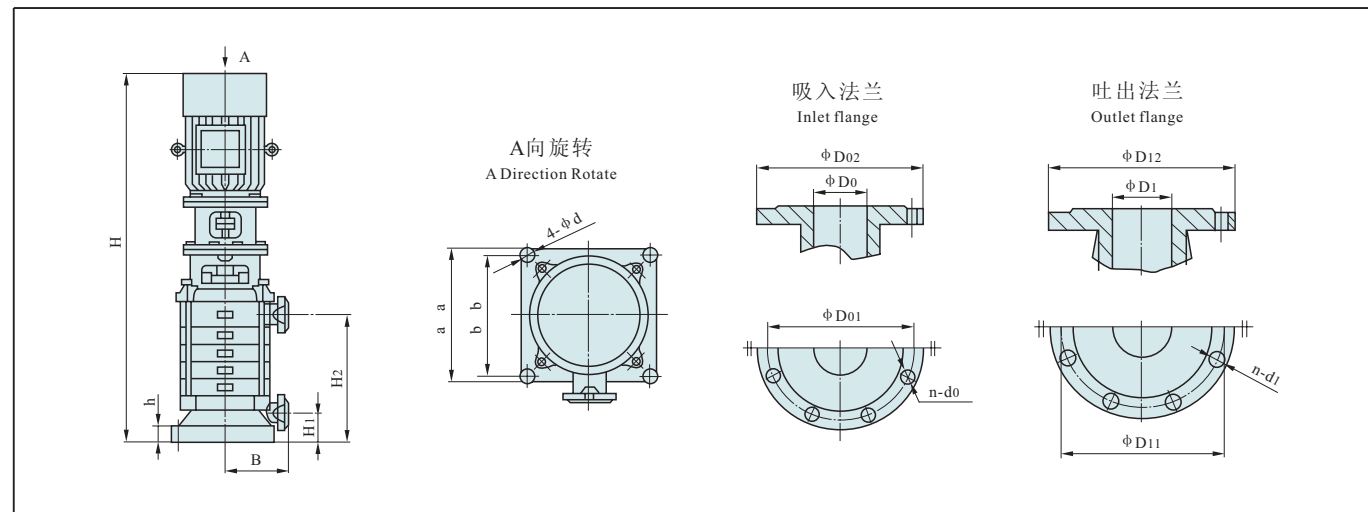
XBD-DL型泵性能曲线图 XBD-DL type pump performance curve drawing



XBD-DL系列立式多级固定式消防泵

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)	泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)								(m³/h)	(L/s)					
XBD3.3/5-50DL	3	12.6	3.5	0.366	3	1480	2.6	255	XBD7.7/5-50DL	7	12.6	3.5	0.854	7.5	1480	2.6	380
		18.0	5.0	0.33							18.0	5.0	0.77				
		22.5	6.25	0.27							22.5	6.25	0.63				
XBD4.4/5-50DL	4	12.6	3.5	0.488	5.5	1480	2.6	285	XBD8.8/5-50DL	8	12.6	3.5	0.976	7.5	1480	2.6	405
		18.0	5.0	0.44							18.0	5.0	0.88				
		22.5	6.25	0.36							22.5	6.25	0.72				
XBD5.5/5-50DL	5	12.6	3.5	0.61	7.5	1480	2.6	330	XBD9.9/5-50DL	9	12.6	3.5	1.10	11	1480	2.6	470
		18.0	5.0	0.55							18.0	5.0	0.99				
		22.5	6.25	0.45							22.5	6.25	0.81				
XBD6.6/5-50DL	6	12.6	3.5	0.732	7.5	1480	2.6	350	XBD11.0/5-50DL	10	12.6	3.5	1.22	11	1480	2.6	490
		18.0	5.0	0.66							18.0	5.0	1.10				
		22.5	6.25	0.54							22.5	6.25	0.90				

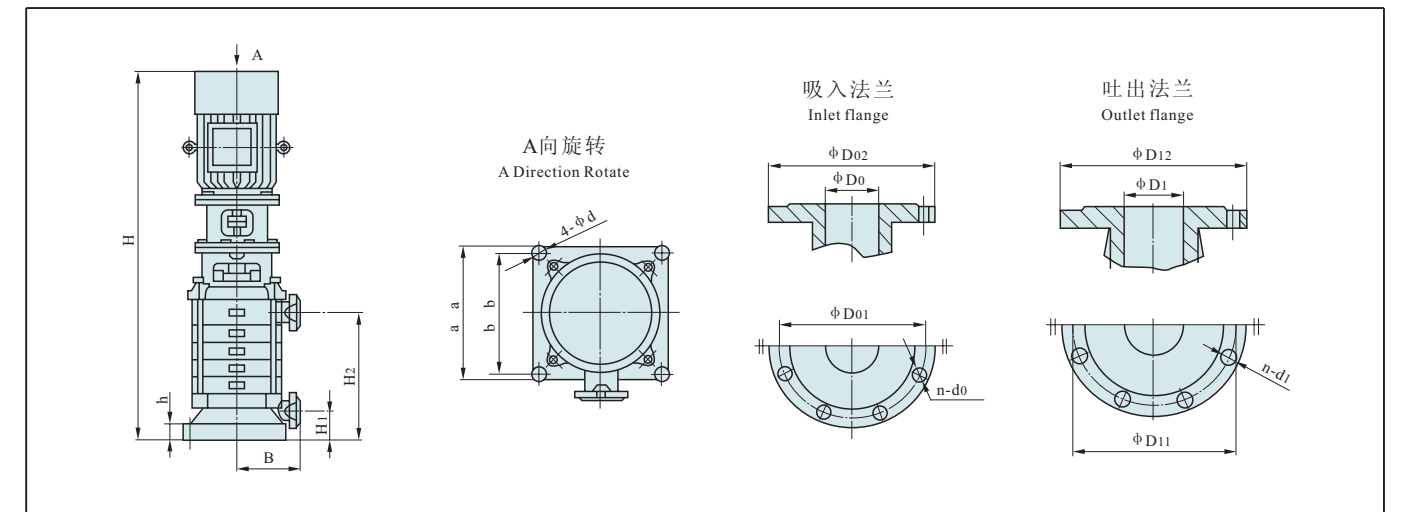


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange						
		H	a a	H ₁	H ₂	h	B	b b	4-φd	D ₀	D ₀₁	D ₀₂	n-d ₀	D ₁	D ₁₁	D ₁₂	n-d ₁	
XBD3.3/5-50DL	3	1092	345 345	105	361	58	220	305	305	φ18	50	125	165	4-φ17.5	40	110	150	4-φ17.5
XBD4.4/5-50DL	4	1180			429													
XBD5.5/5-50DL	5	1323			497													
XBD6.6/5-50DL	6	1431			565													
XBD7.7/5-50DL	7	1499			633													
XBD8.8/5-50DL	8	1567			701													
XBD9.9/5-50DL	9	1725			769													
XBD11.0/5-50DL	10	1793			837													

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)	泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)								(m³/h)	(L/s)					
XBD2.8/10-65DL	2	25.2	7.0	0.34	5.5	1480	2.41	380	XBD8.4/10-65DL	6	25.2	7.0	1.02	15	1480	2.41	645
		36	10	0.30							36	10	0.90				
		41.4	11.5	0.26							41.4	11.5	0.78				
XBD4.2/10-65DL	3	25.2	7.0	0.51	7.5	1480	2.41	450	XBD9.8/10-65DL	7	25.2	7.0	1.19	18.5	1480	2.41	730
		36	10	0.45							36	10	1.05				
		41.4	11.5	0.39							41.4	11.5	0.91				
XBD5.6/10-65DL	4	25.2	7.0	0.68	11	1480	2.41	540	XBD11.2/10-65DL	8	25.2	7.0	1.36	22	1480	2.41	795
		36	10	0.60							36	10	1.20				
		41.4	11.5	0.52							41.4	11.5	1.04				
XBD7.0/10-65DL	5	25.2	7.0	0.85	15	1480	2.41	600	XBD12.6/10-65DL	9	25.2	7.0	1.53	22	1480	2.41	840
		36	10	0.75							36	10	1.35				
		41.4	11.5	0.65							41.4	11.5	1.17				
XBD14.0/10-65DL	10	25.2	7.0	1.70	30	1480	2.41	965	XBD14.0/10-65DL	10	25.2	7.0	1.70	30	1480	2.41	965
		36	10	1.50							36	10	1.50				
		41.4	11.5	1.30							41.4	11.5	1.30				

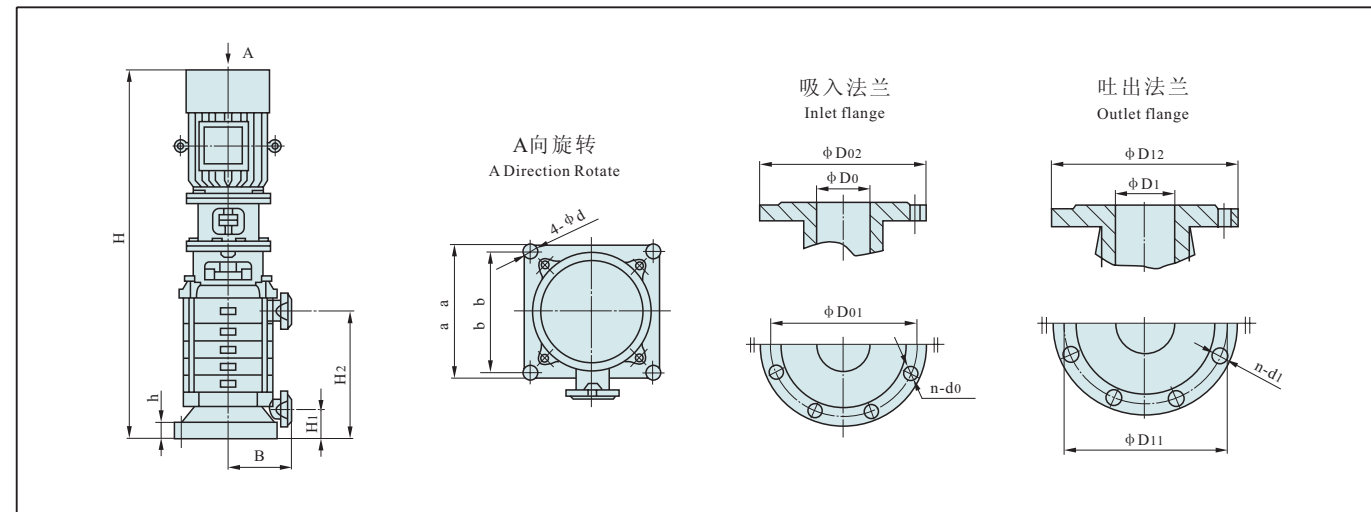


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange						
		H	a a	H ₁	H ₂	h	B	b b	4-φd	D ₀	D ₀₁	D ₀₂	n-d ₀	D ₁	D ₁₁	D ₁₂	n-d ₁	
XBD2.8/10-65DL	2	1217	430 430	167	364	45	260	370	370	φ26	65	145	185	4-φ17.5	50	125	165	4-φ17.5
XBD4.2/10-65DL	3	1337			444													
XBD5.6/10-65DL	4	1522			524													
XBD7.0/10-65DL	5	1647			604													
XBD8.4/10-65DL	6	1727			684													
XBD9.8/10-65DL	7	1832			764													
XBD11.2/10-65DL	8	1952			844													
XBD12.6/10-65DL	9	2032			924													
XBD14.0/10-65DL	10	2177			1004													

XBD-DL系列立式多级固定式消防泵

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	泵型号 Pump model	级数 Series	流量Capacity		额定压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
		(m³/h)	(L/s)								(m³/h)	(L/s)						
XBD3.8/15-80DL	2	32.4 54 64.8	9 15 18.0	0.42 0.38 0.36	11	1480	2.2 2.5 2.8	570	XBD11.4/15-80DL	6	32.4 54 64.8	9 15 18.0	1.26 1.14 1.08	30	1480	2.2 2.5 2.8	945	
XBD5.7/15-80DL	3	32.4 54 64.8	9 15 18.0	0.63 0.57 0.54	15		2.2 2.5 2.8	640	XBD13.3/15-80DL	7	32.4 54 64.8	9 15 18.0	1.47 1.33 1.26	37		2.2 2.5 2.8	1040	
XBD7.6/15-80DL	4	32.4 54 64.8	9 15 18.0	0.84 0.76 0.72	22		2.2 2.5 2.8	760	XBD15.2/15-80DL	8	32.4 54 64.8	9 15 18.0	1.68 1.52 1.44	45		2.2 2.5 2.8	1120	
XBD9.5/15-80DL	5	32.4 54 64.8	9 15 18.0	1.05 0.95 0.90	30		2.2 2.5 2.8	900	XBD17.1/15-80DL	9	32.4 54 64.8	9 15 18.0	1.89 1.71 1.62	45		2.2 2.5 2.8	1175	
										XBD19.0/15-80DL	10	32.4 54 64.8	9 15 18.0	2.10 1.90 1.80		55	2.2 2.5 2.8	1335

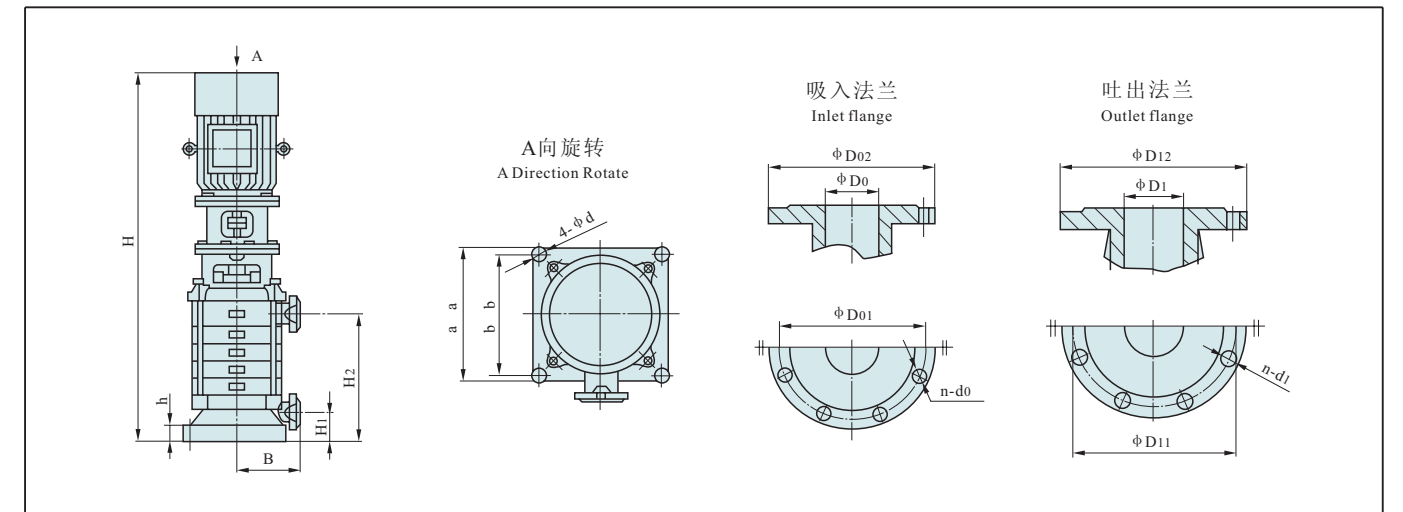


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange					
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1
XBD3.8/15-80DL	2	1396			427												
XBD5.7/15-80DL	3	1530			516												
XBD7.6/15-80DL	4	1684			605												
XBD9.5/15-80DL	5	1838			694												
XBD11.4/15-80DL	6	1927	470 470	150	783	55	280	410 410	φ26	80	160	200	8-φ17.5	65	145	185	4-φ17.5
XBD13.3/15-80DL	7	2061			872												
XBD15.2/15-80DL	8	2175			961												
XBD17.1/15-80DL	9	2264			1050												
XBD19.0/15-80DL	10	2543			1139												

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	泵型号 Pump model	级数 Series	流量Capacity		额定压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)	
		(m³/h)	(L/s)								(m³/h)	(L/s)						
XBD4.0/20-100DL	2	50.4 72 82.8	14 20 23	0.46 0.40 0.36	15	1480	2.2 2.8 3.1	755	XBD12.0/20-100DL	6	50.4 72 82.8	14 20 23	1.38 1.20 1.08	37	1480	2.2 2.8 3.1	1235	
XBD6.0/20-100DL	3	50.4 72 82.8	14 20 23	0.69 0.60 0.54	22		2.2 2.8 3.1	890	XBD14.0/20-100DL	7	50.4 72 82.8	14 20 23	1.57 1.40 1.26	45		2.2 2.8 3.1	1435	
XBD8.0/20-100DL	4	50.4 72 82.8	14 20 23	0.92 0.80 0.72	30		2.2 2.8 3.1	985	XBD16.0/20-100DL	8	50.4 72 82.8	14 20 23	1.84 1.60 1.44	55		2.2 2.8 3.1	1490	
XBD10.0/20-100DL	5	50.4 72 82.8	14 20 23	1.15 1.00 0.90	37		2.2 2.8 3.1	1070	XBD18.0/20-100DL	9	50.4 72 82.8	14 20 23	2.07 1.80 1.62	55		2.2 2.8 3.1	1590	
										XBD20.0/20-100DL	10	50.4 72 82.8	14 20 23	2.30 2.00 1.80		75	2.2 2.8 3.1	1650



泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange					
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1
XBD4.0/20-100DL	2	1460			467												
XBD6.0/20-100DL	3	1628			570												
XBD8.0/20-100DL	4	1796			673												
XBD10.0/20-100DL	5	1944			776												
XBD12.0/20-100DL	6	2072	465 465	172	879	50	280	410 410	φ24	100	180	220	8-φ17.5	80	160	200	8-φ17.5
XBD14.0/20-100DL	7	2365			982												
XBD16.0/20-100DL	8	2468			1085												
XBD18.0/20-100DL	9	2656			1188												
XBD20.0/20-100DL	10	2759			1291												

XBD-DL系列立式多级固定式消防泵

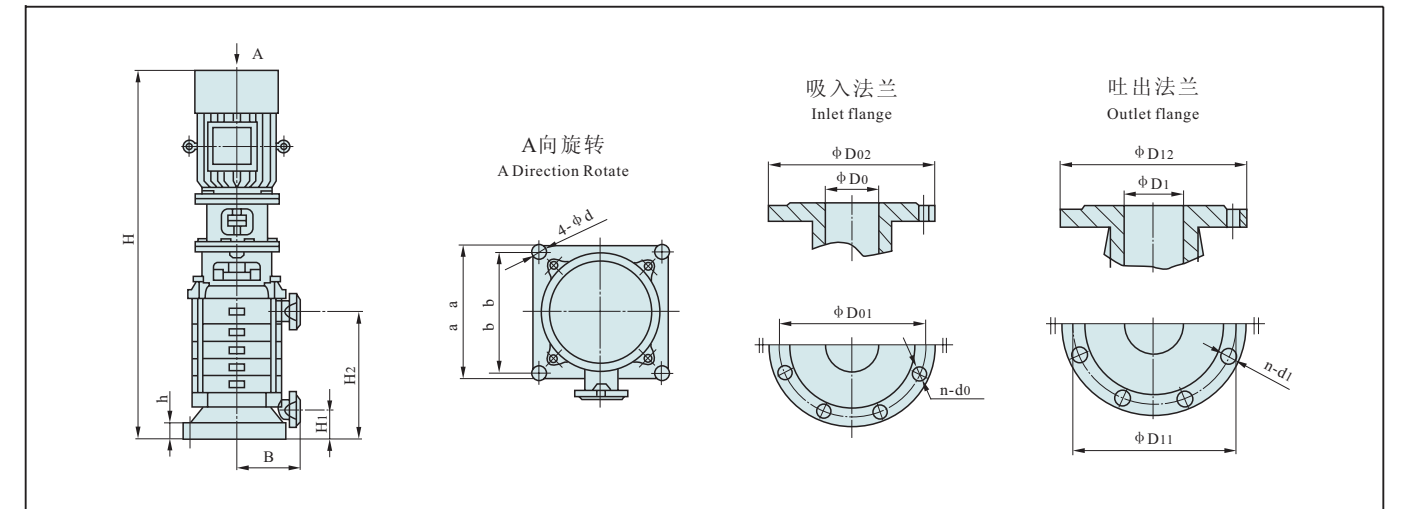
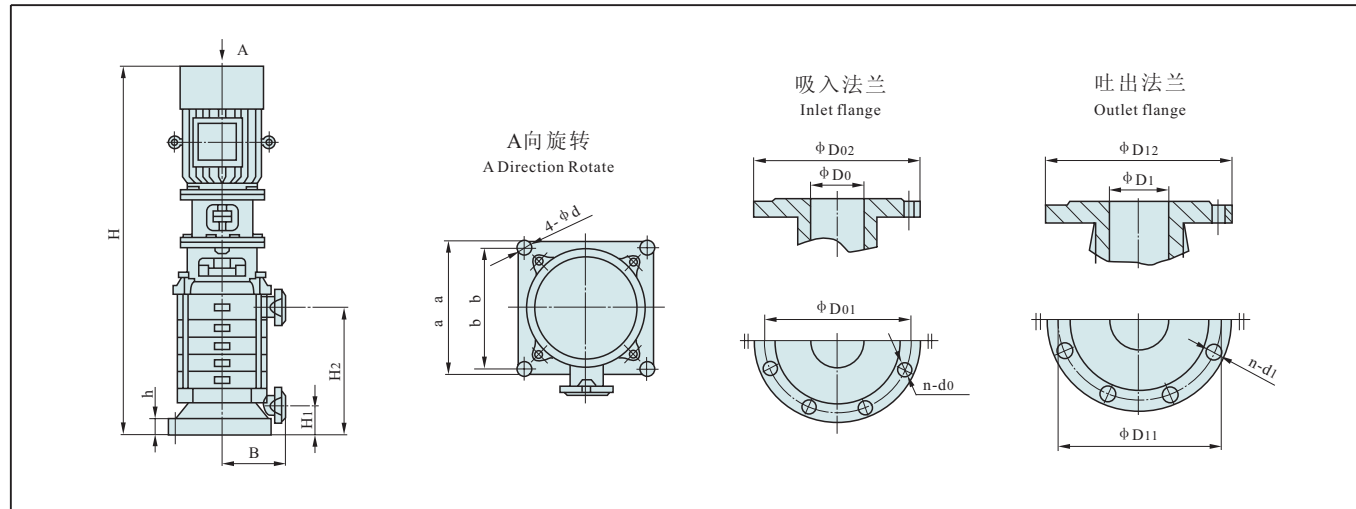
XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
		(m³/h)	(L/s)					
XBD4.2/25-100DL	2	72 90 126	20 25 35	0.46 0.42 0.36	18.5	1480	2.8 3.4 4.4	765
XBD6.3/25-100DL	3	72 90 126	20 25 35	0.69 0.63 0.54	30		2.8 3.4 4.4	900
XBD8.4/25-100DL	4	70 90 126	20 25 35	0.92 0.84 0.72	37		2.8 3.4 4.4	995
XBD10.5/25-100DL	5	70 90 126	20 25 35	1.15 1.05 0.90	45		2.8 3.4 4.4	1080
XBD12.6/25-100DL	6	72 90 126	20 25 35	1.38 1.26 1.08	55		2.8 3.4 4.4	1245
XBD14.7/25-100DL	7	72 90 126	20 25 35	1.57 1.47 1.26	75		2.8 3.4 4.4	1445
XBD16.8/25-100DL	8	72 90 126	20 25 35	1.84 1.68 1.44	75		2.8 3.4 4.4	1500
XBD18.9/25-100DL	9	72 90 126	20 25 35	2.07 1.89 1.62	90		2.8 3.4 4.4	1600
XBD21.0/25-100DL	10	72 90 126	20 25 35	2.30 2.10 1.80	90		2.8 3.4 4.4	1660

泵型号 Pump model	级数 Series	流量Capacity		额定压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽蚀余量 (NPSH)r (m)	重量 Weight (kg)
		(m³/h)	(L/s)					
XBD4.0/30-100DL	2	72 108 126	20 30 35	0.46 0.40 0.36	18.5	1480	2.8 3.6 4.4	765
XBD6.0/30-100DL	3	72 108 126	20 30 35	0.69 0.60 0.54	30		2.8 3.6 4.4	900
XBD8.0/30-100DL	4	72 108 126	20 30 35	0.92 0.80 0.72	37		2.8 3.6 4.4	995
XBD10.0/30-100DL	5	72 108 126	20 30 35	1.15 1.00 0.90	45		2.8 3.6 4.4	1080
XBD12.0/30-100DL	6	72 108 126	20 30 35	1.38 1.20 1.08	55		2.8 3.6 4.4	1245
XBD14.0/30-100DL	7	70 108 126	20 30 35	1.57 1.40 1.26	75		2.8 3.6 4.4	1445
XBD16.0/30-100DL	8	70 108 126	20 30 35	1.84 1.60 1.44	75		2.8 3.6 4.4	1500
XBD18.0/30-100DL	9	70 108 126	20 30 35	2.07 1.80 1.62	90		2.8 3.6 4.4	1600
XBD20.0/30-100DL	10	70 108 126	20 30 35	2.30 2.00 1.80	90		2.8 3.6 4.4	1660



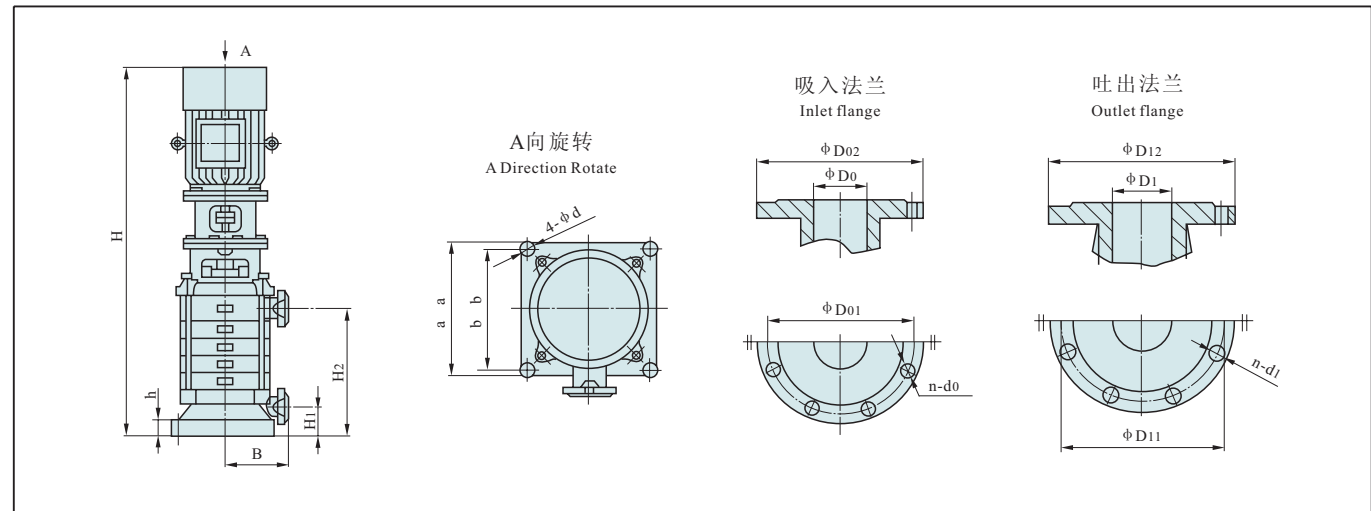
泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange						
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1	
XBD4.2/25-100DL	2	1485			467													
XBD6.3/25-100DL	3	1693			570													
XBD8.4/25-100DL	4	1841			673													
XBD10.5/25-100DL	5	1969			776													
XBD12.6/25-100DL	6	2262	465 465	172	879	50	280	410 410	φ24	100	180	220	8-φ17.5	80	160	200	8-φ17.5	
XBD14.7/25-100DL	7	2450			982													
XBD16.8/25-100DL	8	2553			1085													
XBD18.9/25-100DL	9	2706			1188													
XBD21.0/25-100DL	10	2809			1291													

泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange						
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1	
XBD4.0/30-100DL	2	1485			467													
XBD6.0/30-100DL	3	1693			570													
XBD8.0/30-100DL	4	1841			673													
XBD10.0/30-100DL	5	1969			776													
XBD12.0/30-100DL	6	2262	465 465	172	879	50	280	410 410	φ24	100	180	220	8-φ17.5	80	160	200	8-φ17.5	
XBD14.0/30-100DL	7	2450			982													
XBD16.0/30-100DL	8	2553			1085													
XBD18.0/30-100DL	9	2706			1188													
XBD20.0/30-100DL	10	2809			1291													

XBD-DL系列立式多级固定式消防泵

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)	泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)								(m³/h)	(L/s)					
XBD5.0/45-150DL	2	120	33.3	0.53	37	1480	3.1	825	XBD15.0/45-150DL	6	120	33.3	1.59	110	1480	3.1	1410
		162	45								162	45					
		200	55.6								200	55.6					
XBD7.5/45-150DL	3	120	33.3	0.795	55	1480	3.1	970	XBD17.5/45-150DL	7	120	33.3	1.86	132	1480	3.1	1570
		162	45								162	45					
		200	55.6								200	55.6					
XBD10.0/45-150DL	4	120	33.3	1.06	75	1480	3.1	1110	XBD20.0/45-150DL	8	120	33.3	2.12	132	1480	3.1	1720
		162	45								162	45					
		200	55.6								200	55.6					
XBD12.5/45-150DL	5	120	33.3	1.33	90	1480	3.1	1255	XBD22.5/45-150DL	9	120	33.3	2.39	160	1480	3.1	1880
		162	45								162	45					
		200	55.6								200	55.6					

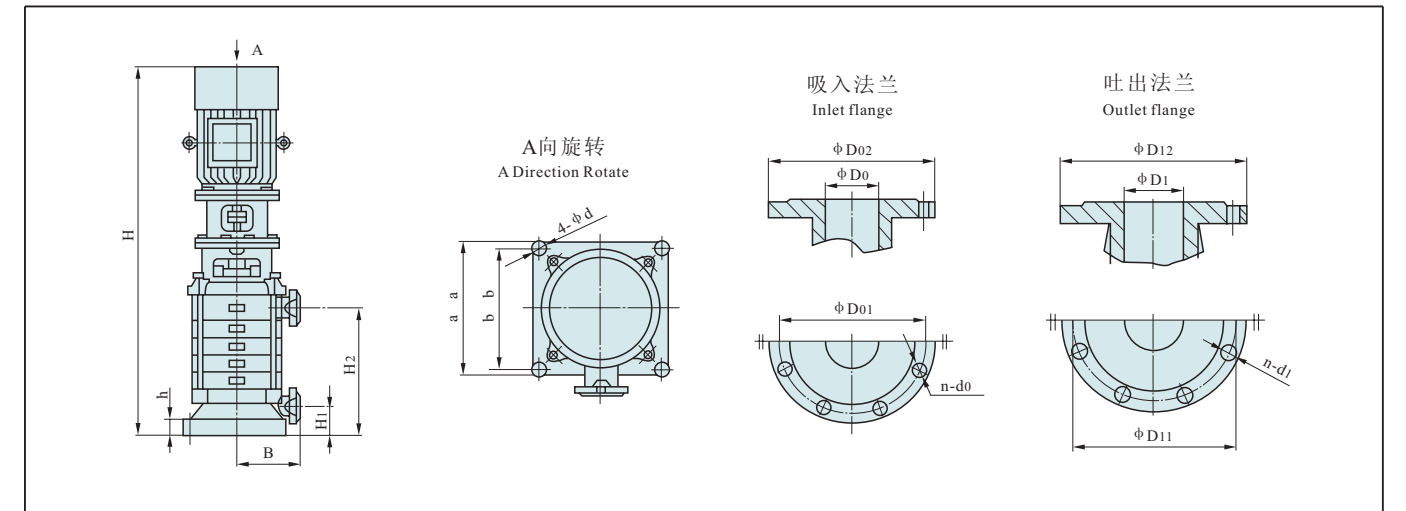


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange						
		H	a a'	H1	H2	h	B	b b'	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1	
XBD5.0/45-150DL	2	2080	600 600	213	564	73	380	550	550	φ 24	150	240	285	8-φ 22	125	220	270	8-φ 26
XBD7.5/45-150DL	3	2335			694													
XBD10.0/45-150DL	4	2550			824													
XBD12.5/45-150DL	5	2730			954													
XBD15.0/45-150DL	6	3080			1084													
XBD17.5/45-150DL	7	3310			1214													
XBD20.0/45-150DL	8	3440			1344													
XBD22.5/45-150DL	9	3570			1474													

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)	泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)								(m³/h)	(L/s)					
XBD4.8/50-150DL	2	120	33.3	0.53	37	1480	3.1	825	XBD14.4/50-150DL	6	120	33.3	1.59	110	1480	3.1	1410
		180	50								180	50					
		200	55.6								200	55.6					
XBD7.2/50-150DL	3	120	33.3	0.795	55	1480	3.1	970	XBD16.8/50-150DL	7	120	33.3	1.86	132	1480	3.1	1570
		180	50								180	50					
		200	55.6								200	55.6					
XBD9.6/50-150DL	4	120	33.3	1.06	75	1480	3.1	1110	XBD19.2/50-150DL	8	120	33.3	2.12	132	1480	3.1	1720
		180	50								180	50					
		200	55.6								200	55.6					
XBD12.0/50-150DL	5	120	33.3	1.33	90	1480	3.1	1255	XBD21.6/50-150DL	9	120	33.3	2.39	160	1480	3.1	1880
		180	50								180	50					
		200	55.6								200	55.6					

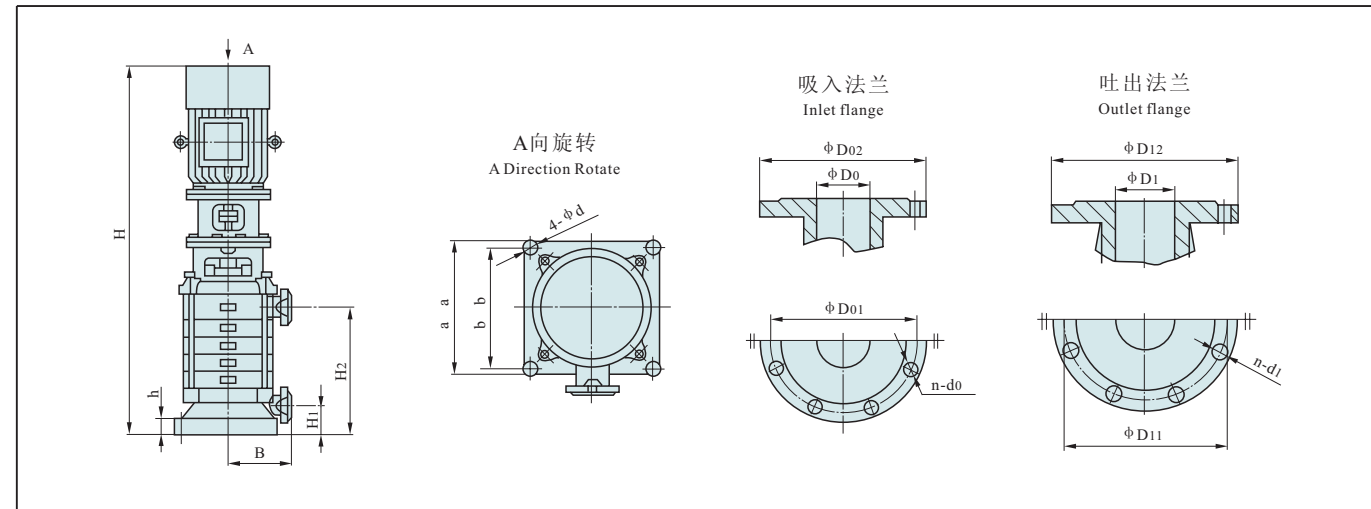


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange						
		H	a a'	H1	H2	h	B	b b'	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1	
XBD4.8/50-150DL	2	2080	600 600	213	564	73	380	550	550	φ 24	150	240	285	8-φ 22	125	220	270	8-φ 26
XBD7.2/50-150DL	3	2335			694													
XBD9.6/50-150DL	4	2550			824													
XBD12.0/50-150DL	5	2730			954													
XBD14.4/50-150DL	6	3080			1084													
XBD16.8/50-150DL	7	3310			1214													
XBD19.2/50-150DL	8	3440			1344													
XBD21.6/50-150DL	9	3570			1474													

XBD-DL系列立式多级固定式消防泵

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)					
XBD4.0/55-150DL	2	140	38.9	0.45	37	1480	3.0	825
		198	55	0.40				
		240	66.7	0.34				
XBD6.0/55-150DL	3	140	38.9	0.675	55	1480	3.0	970
		198	55	0.60				
		240	66.7	0.51				
XBD8.0/55-150DL	4	140	38.9	0.90	75	1480	3.0	1110
		198	55	0.80				
		240	66.7	0.68				
XBD10.0/55-150DL	5	140	38.9	1.125	90	1480	3.0	1255
		198	55	1.00				
		240	66.7	0.85				
XBD12.0/55-150DL	6	140	38.9	1.35	110	1480	3.0	1410
		198	55	1.20				
		240	66.7	1.02				
XBD14.0/55-150DL	7	140	38.9	1.575	110	1480	3.0	1570
		198	55	1.40				
		240	66.7	1.19				
XBD16.0/55-150DL	8	140	38.9	1.80	132	1480	3.0	1720
		198	55	1.60				
		240	66.7	1.36				
XBD18.0/55-150DL	9	140	38.9	2.00	160	1480	3.0	1880
		198	55	1.80				
		240	66.7	1.56				
XBD20.0/55-150DL	10	140	38.9	2.20	160	1480	3.0	2050
		198	55	2.00				
		240	66.7	1.76				

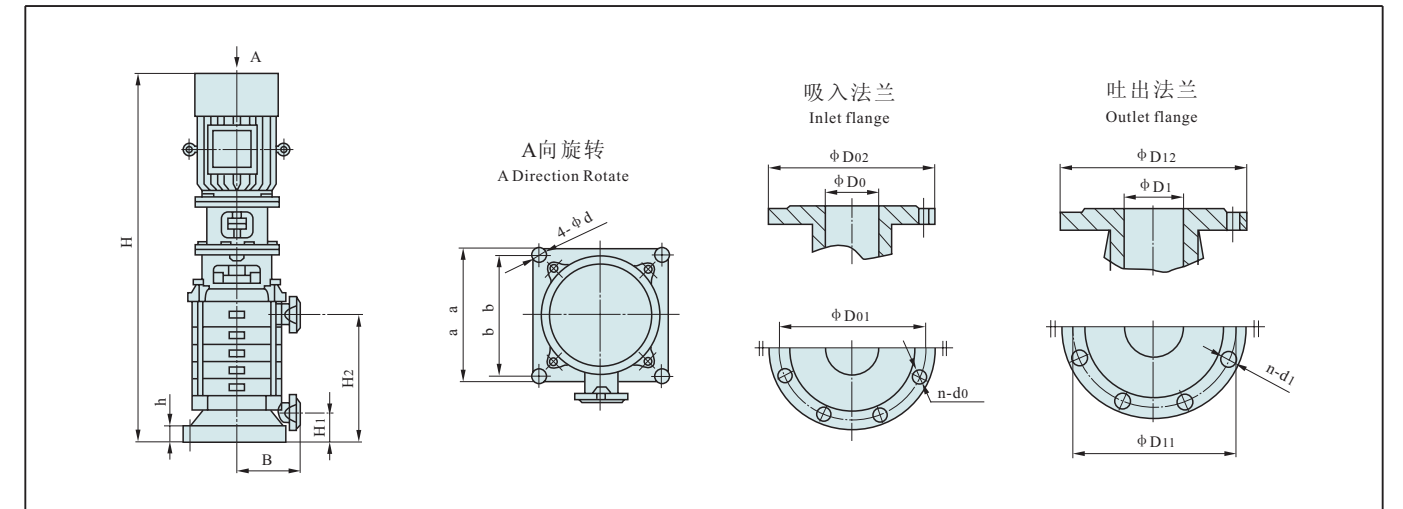


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange					
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1
XBD4.0/55-150DL	2	2080			564												
XBD6.0/55-150DL	3	2335			694												
XBD8.0/55-150DL	4	2550			824												
XBD10.0/55-150DL	5	2730			954												
XBD12.0/55-150DL	6	3080	600 600	213	1084	73	380	550 550	φ24	150	240	285	8-φ22	125	220	270	8-φ26
XBD14.0/55-150DL	7	3310			1214												
XBD16.0/55-150DL	8	3440			1344												
XBD18.0/55-150DL	9	3570			1474												
XBD20.0/55-150DL	10	3700			1604												

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)					
XBD3.8/60-150DL	2	140	38.9	0.45	37	1480	3.0	825
		216	60	0.38				
		240	66.7	0.34				
XBD5.7/60-150DL	3	140	38.9	0.675	55	1480	3.0	970
		216	60	0.57				
		240	66.7	0.51				
XBD7.6/60-150DL	4	140	38.9	0.90	75	1480	3.0	1110
		216	60	0.76				
		240	66.7	0.68				
XBD9.5/60-150DL	5	140	38.9	1.125	90	1480	3.0	1255
		216	60	0.95				
		240	66.7	0.85				
XBD11.4/60-150DL	6	140	38.9	1.35	110	1480	3.0	1410
		216	60	1.14				
		240	66.7	1.02				
XBD13.3/60-150DL	7	140	38.9	1.575	132	1480	3.0	1570
		216	60	1.33				
		240	66.7	1.19				
XBD15.2/60-150DL	8	140	38.9	1.80	132	1480	3.0	1720
		216	60	1.52				
		240	66.7	1.36				
XBD17.1/60-150DL	9	140	38.9	2.00	160	1480	3.0	1880
		216	60	1.71				
		240	66.7	1.56				
XBD19.0/60-150DL	10	140	38.9	2.20	160	1480	3.0	2050
		216	60	1.90				
		240	66.7	1.76				

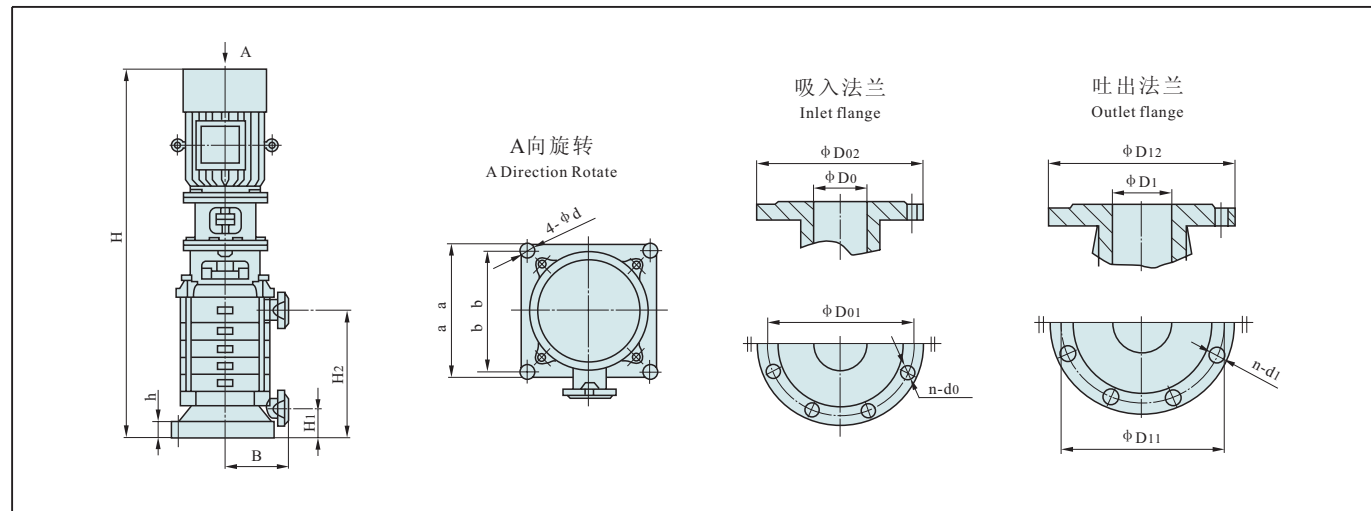


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange					
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1
XBD3.8/60-150DL	2	2080			564												
XBD5.7/60-150DL	3	2335			694												
XBD7.6/60-150DL	4	2550			824												
XBD9.5/60-150DL	5	2730			954												
XBD11.4/60-150DL	6	3080	600 600	213	1084	73	380	550 550	φ24	150	240	285	8-φ22	125	220	270	8-φ26
XBD13.3/60-150DL	7	3310			1214												
XBD15.2/60-150DL	8	3440			1344												
XBD17.1/60-150DL	9	3570			1474												
XBD19.0/60-150DL	10	3700			1604												

XBD-DL系列立式多级固定式消防泵

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)					
XBD7.2/65-200DL	2	200	55.6	0.74	90	1480	3.3	1900
		234	65.0	0.72				
		324	90	0.62				
XBD10.8/65-200DL	3	200	55.6	1.11	132	1480	3.3	2530
		234	65.0	1.08				
		324	90	0.93				
XBD14.4/65-200DL	4	200	55.6	1.48	160	1480	3.3	2850
		234	65.0	1.44				
		324	90	1.24				
XBD18.0/65-200DL	5	200	55.6	1.85	200	1480	3.3	3170
		234	65.0	1.80				
		324	90	1.55				
XBD21.6/65-200DL	6	200	55.6	2.22	250	1480	3.3	3850
		234	65.0	2.16				
		324	90	1.86				
XBD25.2/65-200DL	7	200	55.6	2.59	280	1480	3.3	4150
		234	65.0	2.52				
		324	90	2.17				
XBD28.8/65-200DL	8	200	55.6	2.96	315	1480	3.3	4470
		234	65.0	2.88				
		324	90	2.48				

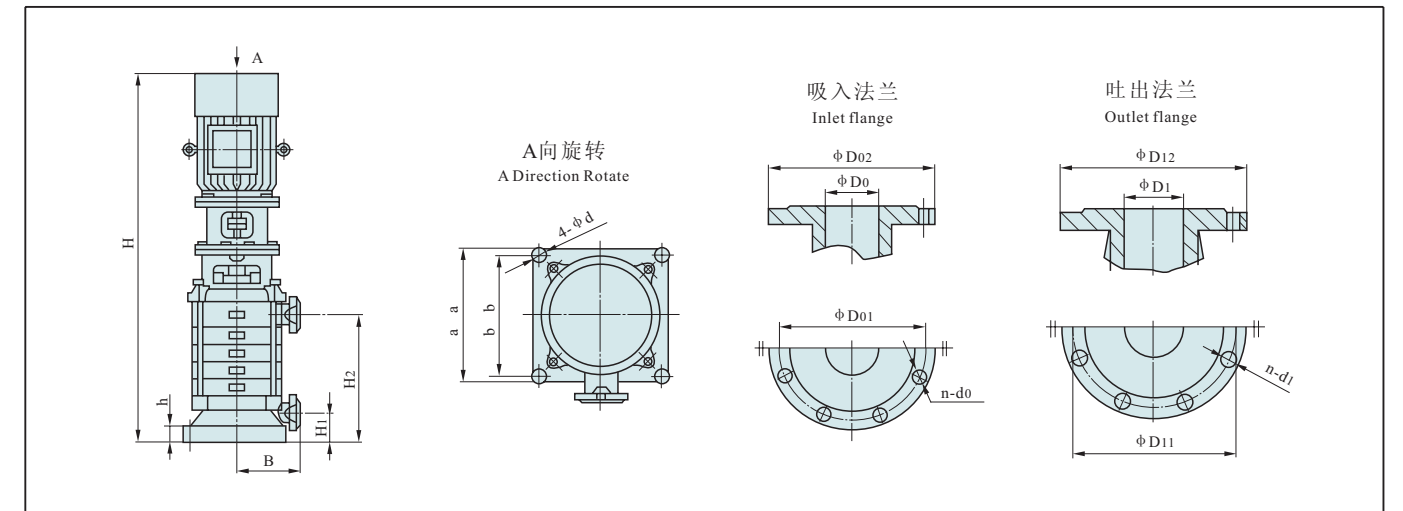


泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange					
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1
XBD7.2/65-200DL	2	2200			624												
XBD10.8/65-200DL	3	2660			808												
XBD14.4/65-200DL	4	2950			992												
XBD18.0/65-200DL	5	3130	550 550	182	1176	55	350	480 480	φ 23	200	295	340	12-φ 23	150	240	285	8-φ 23
XBD21.6/65-200DL	6	3310			1330												
XBD25.2/65-200DL	7	3720			1544												
XBD28.8/65-200DL	8	3950			1728												

XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m³/h)	(L/s)					
XBD7.0/75-200DL	2	200	55	0.74	90	1480	3.3	1900
		270	75	0.70				
		324	90	0.62				
XBD10.5/75-200DL	3	200	55	1.11	132	1480	3.3	2530
		270	75	1.05				
		324	90	0.93				
XBD14.0/75-200DL	4	200	55	1.48	160	1480	3.3	2850
		270	75	1.40				
		324	90	1.24				
XBD17.5/75-200DL	5	200	55	1.85	200	1480	3.3	3170
		270	75	1.75				
		324	90	1.55				
XBD21.0/75-200DL	6	200	55	2.22	250	1480	3.3	3850
		270	75	2.10				
		324	90	1.86				
XBD24.5/75-200DL	7	200	55	2.59	280	1480	3.3	4150
		270	75	2.45				
		324	90	2.17				
XBD28.0/75-200DL	8	200	55	2.96	315	1480	3.3	4470
		270	75	2.80				
		324	90	2.48				



泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange					
		H	a a	H1	H2	h	B	b b	4-φd	D0	D01	D02	n-d0	D1	D11	D12	n-d1
XBD7.0/75-200DL	2	2200			624												
XBD10.5/75-200DL	3	2660			808												
XBD14.0/75-200DL	4	2950			992												
XBD17.5/75-200DL	5	3130	550 550	182	1176	55	350	480 480	φ 23	200	295	340	12-φ 23	150	240	285	8-φ 23
XBD21.0/75-200DL	6	3310			1330												
XBD24.5/75-200DL	7	3720			1544												
XBD28.0/75-200DL	8	3950			1728												

XBD-DL系列立式多级固定式消防泵

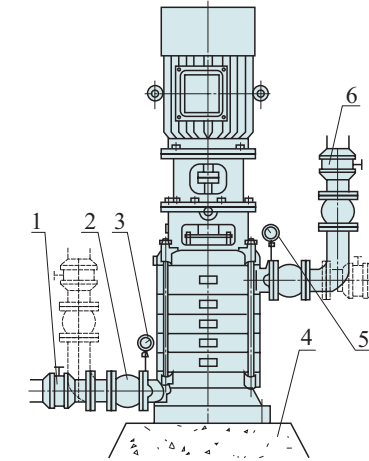
XBD-DL SERIES VERTICAL MULTI-STAGE FIXED-TYPE FIRE-FIGHTING PUMP

XBD-DL型泵性能参数及外形安装尺寸图表 Performance data and installation

泵的几种安装方法 Several ways of installation

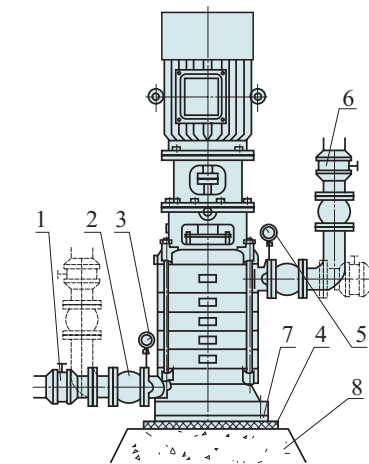
泵型号 Pump model	级数 Series	流量Capacity		额定 压力 Rated (MPa)	功率 Power (kW)	转速 Speed (r/min)	必需汽 蚀余量 (NPSH) _r (m)	重量 Weight (kg)
		(m ³ /h)	(L/s)					
XBD4.0/80-200DL	2	210	58.3	0.45	55	1480	4.2	1900
		288	80	0.40				
		342	95	0.36				
XBD6.0/80-200DL	3	210	58.3	0.66	75	1480	4.2	2530
		288	80	0.60				
		342	95	0.55				
XBD8.0/80-200DL	4	210	58.3	0.86	110	1480	4.2	2850
		288	80	0.80				
		342	95	0.74				
XBD10.0/80-200DL	5	210	58.3	1.06	132	1480	4.2	3170
		288	80	1.00				
		342	95	0.95				
XBD12.0/80-200DL	6	210	55	1.27	160	1480	4.2	3850
		288	75	1.20				
		342	90	1.14				
XBD14.0/80-200DL	7	210	58.3	1.46	200	1480	4.2	4150
		288	80	1.40				
		342	95	1.34				
XBD16.0/80-200DL	8	210	58.3	1.67	200	1480	4.2	4470
		288	80	1.60				
		342	95	1.50				

硬性联接(直接安装) Hard Link(Directly Mounted)



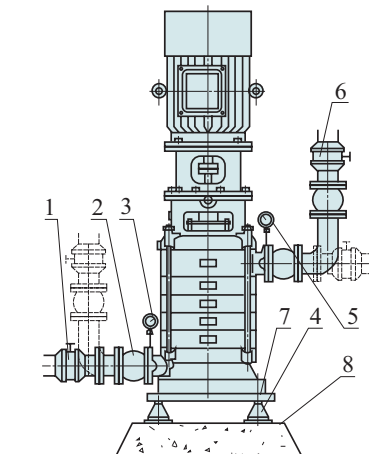
1	进口阀门 inlet valve
2	挠性接头 flexible union
3	进口压力表 inlet manometer
4	基础 basis
5	出口压力表 outlet manometer
6	出口阀门 outlet valve

柔性联接(联接板+隔振垫) Soft Link(Link Plate+Vibration Isolation Pad)

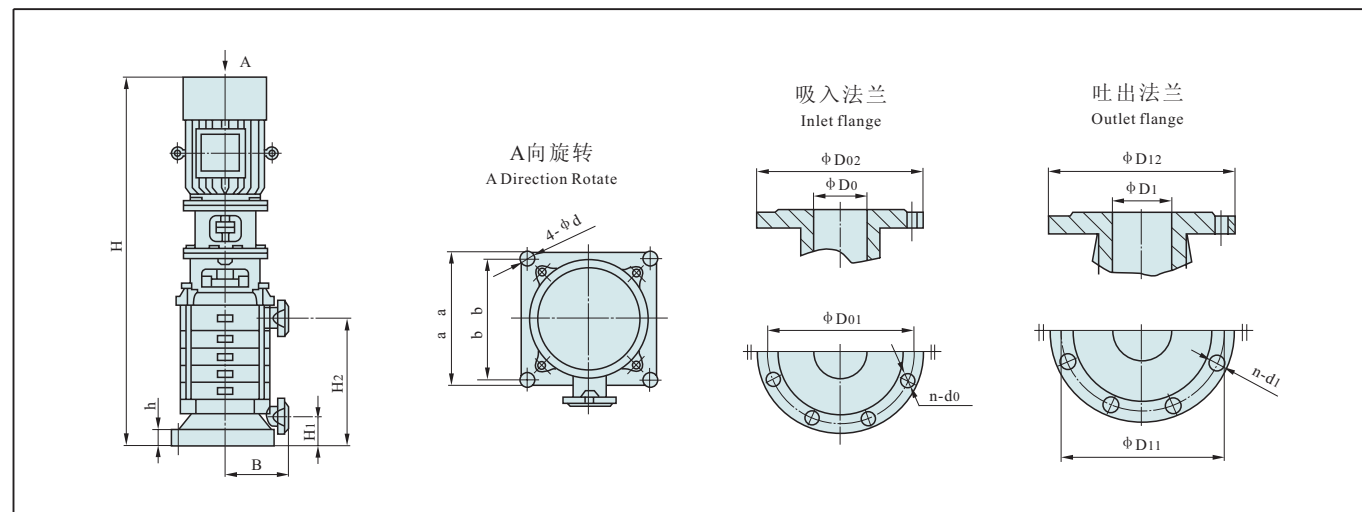


1	进口阀门 inlet valve
2	挠性接头 flexible union
3	进口压力表 inlet manometer
4	隔振垫 vibration isolation pad
5	出口压力表 outlet manometer
6	出口阀门 outlet valve
7	联接板 link plate
8	基础 basis

柔性联接(联接板+隔振器) Soft Link(Link Plate+Vibration Isolator)

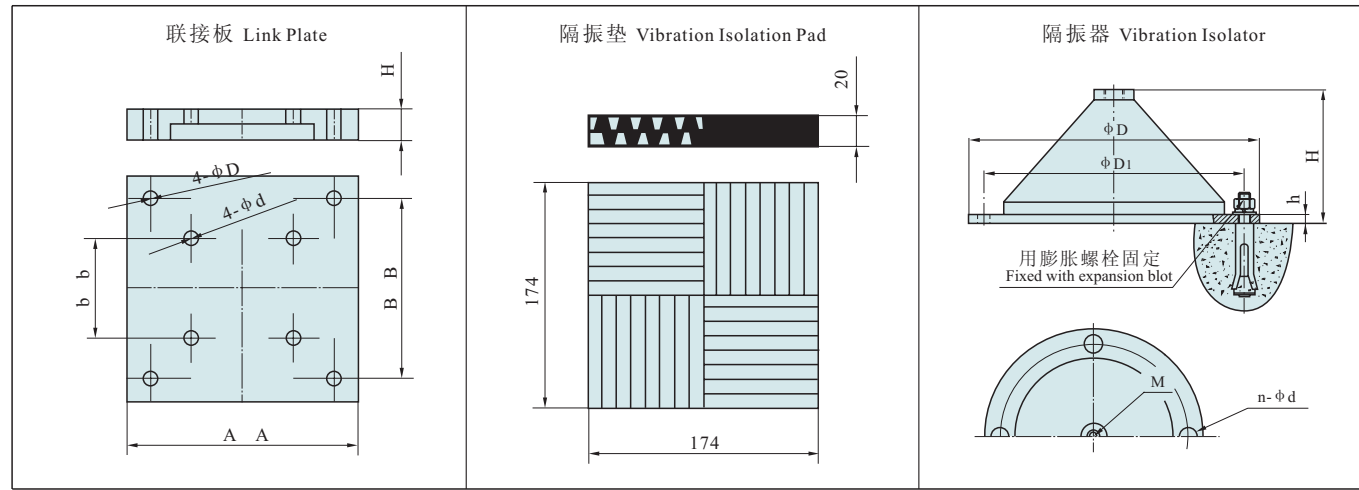


1	进口阀门 inlet valve
2	挠性接头 flexible union
3	进口压力表 inlet manometer
4	隔振器 vibration isolator
5	出口压力表 outlet manometer
6	出口阀门 outlet valve
7	联接板 link plate
8	基础 basis



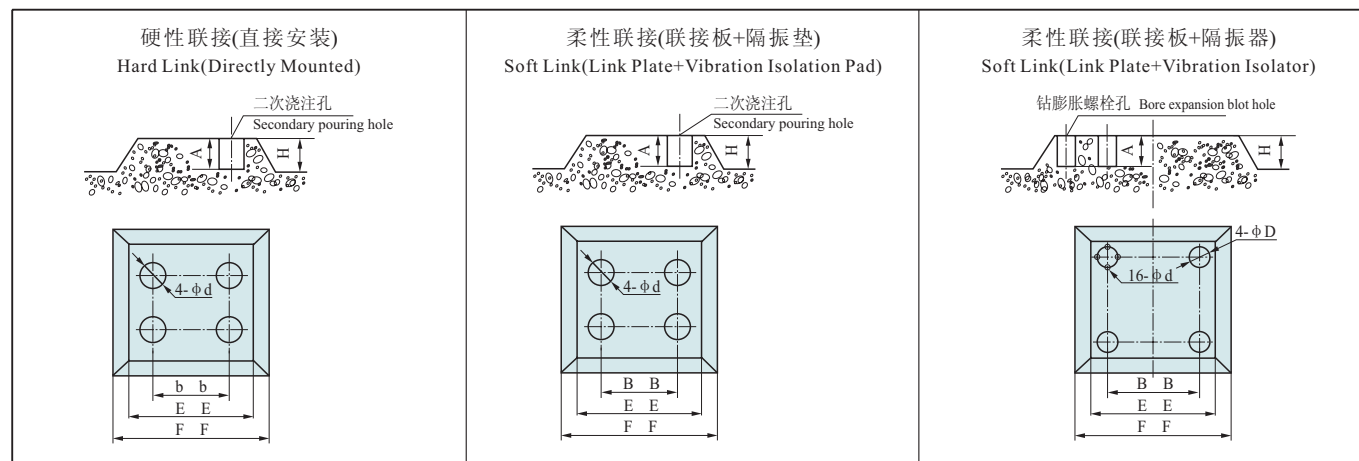
泵型号 Pump model	级数 Series	外形尺寸 Figure dimension		安装尺寸 Installation dimension				吸入法兰 Inlet flange				吐出法兰 Outlet flange					
		H	a a	H ₁	H ₂	h	B	b b	4-φd	D ₀	D ₀₁	D ₀₂	n-d ₀	D ₁	D ₁₁	D ₁₂	n-d ₁
XBD4.0/80-200DL	2	2115	550 550	182	624	50	350	480 480	φ23	200	295	340	12-φ23	150	240	285	8-φ23
XBD6.0/80-200DL	3	2385			808												
XBD8.0/80-200DL	4	2480			992												
XBD10.0/80-200DL	5	3125			1176												
XBD12.0/80-200DL	6	3305			1360												
XBD14.0/80-200DL	7	3490			1544												
XBD16.0/80-200DL	8	3675			1728												

泵附件图及其尺寸表 Fittings drawing and dimension table



泵型号 Pump Model	联接板尺寸 Link plate dimension							隔振器尺寸 Vibration isolator dimension							
	型号 Model	A	B	b	d	D	H	型号 Model	M	D	D ₁	H	h	n-φd	配膨胀螺栓规格 Expansion bolt specs
50DL	2#	650	600	305	18	14	140	JG2-2	M12	150	130	65	9	4-φ8.5	M8 80
65DL	3#	700	650	370	26	17.5	140	JG3-2	M16	200	170	87	9	4-φ12.5	M12 110
80DL	4#	700	650	410	26	17.5	140	JG3-2	M16	200	170	87	9	4-φ12.5	M12 110
100DL	5#	700	650	410	24	22	140	JG4-2	M20	290	260	133	9	4-φ12.5	M12 110
150DL	6#	850	800	430/550	24/26	22	140	JG4-2	M20	290	260	133	9	4-φ12.5	M12 110
200DL	7#	800	740	480	27	23	55	JG4-1	M20	290	260	133	9	4-φ12.5	M12 110

泵基础图及其联接尺寸 Basic drawing and link dimension



泵型号 Model	直接安装基础尺寸 Basic dimension for direct mounting						配联接板基础尺寸 Basic dimension with link plate						配联接板、隔振器基础尺寸 Basic dimension with link plate and vibration isolator						
	H	A	b	E	F	d	H	A	B	E	F	d	H	A	B	E	F	D	d
50DL	250	250	305	600	650	80	250	250	600	950	1050	80	250	60	600	950	1050	130	12.5
65DL	250	400	370	650	700	80	250	300	650	1000	1100	80	250	75	650	1000	1100	170	19
80DL	250	400	410	700	750	100	250	400	650	1000	1100	100	250	75	650	1000	1100	170	19
100DL	250	400	410	700	750	100	250	400	650	1000	1100	100	250	75	650	1000	1100	260	19
150DL	250	400/500	430/550	750	800	100	250	400	800	1000	1100	100	250	75	800	1100	1200	260	19
200DL	500	500	480	750	800	100	500	500	740	1000	1100	100	350	80	740	1000	1100	260	19

安装说明 Notes for installation

- 1、安装时管路重量不应承受在泵上，否则易损坏水泵；
- 2、泵与电机是整体结构，出厂时已由厂家校正，所以安装时无需调整，因此安装时十分方便；
- 3、安装时必须拧紧地脚螺栓，且每间隔一定时段应对泵进行检查防止其松动，以免水泵启动时发生剧烈振动而影响泵的性能；
- 4、安装水泵前应仔细检查泵流道内有无影响水泵运行的硬物(如石块、铁砂等)以免水泵运行时损坏过流部件；
- 5、为了维护方便和使用安全，在泵的进出口管道上安装一只调节阀及在泵进出口附近安装一只压力表，对于高扬程泵，为防止水锤，还应在出口闸阀前安装一只止回阀以应付突然断电等失去动力事故，从而确保水泵在最佳工况下运行，增长水泵的使用寿命；
- 6、泵用于有吸程场合，应装有底阀，并且进口管路不应有过多弯道，同时不得有漏水、漏气现象，以免影响水泵的吸入性能；
- 7、为不使杂质进入泵内而堵塞流道影响性能，应在泵进口前面安装过滤器；
- 8、安装管路前转动水泵的转子部件，应无磨擦声或卡死现象，否则应将泵拆开检查原因。

1. The pipeline weight should not be supported by the pump in installation, otherwise it may be easily damaged;
2. Both pump and motor are integrally structured and have been calibrated by the manufacturer before ex-works, so it is not needed to do any adjustment in installation, making a very convenient installation;
3. Tighten the foot-bolts in installation and check them to prevent being loose at regular intervals so as to avoid severe vibration when the pump is started, which may affect the performance of it;
4. Before installation, carefully check if inside of the pump flow-path there is any hard matters (such as stones, iron-sand etc.) which may affect its running so as to prevent the flow-through parts from being damaged when the pump is running;
5. For the sake of convenient maintenance and safe use, mount one regulation valve on both inlet and outlet pipelines and one piezometer near the inlet and outlet of the pump and, for the pump of a high head, mount a check valve before the outlet gate valve so as to prevent water hammer and meet such powerloss accidents as abrupt cut-off etc., thus making sure of the pump to run under the best working conditions and enlarging its durability;
6. In case of being used in the occasion with a suction stroke, the pump should be equipped with a foot valve and there should not be too bend-paths on the inlet pipeline and any water or air leakage so as to avoid affecting its suction-in performance;
7. In order not to let the flow path blocked up and affect the performance of the pump caused by the foreign matters going into it, a filter has to be mounted before the inlet of it;
8. There should be no frictional sound or jamming when to rotate the rotor part of the pump before mounting the pipeline, otherwise the pump has to be removed to check the causes.

启动与停车 Start and stop

启动前准备

- 1、用手拨转电机,叶轮应无卡磨现象,转动灵活;
- 2、打开进口阀门,打开排气阀使液体充满整个泵腔,然后关闭排气阀;
- 3、如输送热液体时,启动前应预热,升温度为50°C/h,泵的预热是用所输送液体不断循环来达到,以使各部位受热均匀;
- 4、应先用手盘动泵以使润滑水进入机械密封端面;
- 5、点动电机,确定转向是否正确。

启动与运行

- 1、全开进口阀门,关闭吐出管路阀门;
- 2、接通电源当泵达到正常转速后,再逐渐打开吐出路上的阀门,并调节到所需工况;
- 3、注意观察仪表读数,检查轴封泄漏情况,正常时机械密封泄漏为3滴/分,检查电机、轴承处温升 $\leq 70^{\circ}\text{C}$,如果发现异常情况,应及时处理。

停车

- 1、逐渐关闭吐出管路阀门,切断电源;
- 2、关闭进口阀门;
- 3、如环境温度低于 0°C ,应将泵内液体放尽,以免冻裂;
- 4、如长 停用,应将泵拆 清洗,包装保管。

Preparations before starting

1. Turning the motor with hand, the impeller should be no jamming or friction and rotate flexibly;
2. Open the inlet valve and open the exhaust valve to have liquid full of the pump cavity, then close the exhaust valve;
3. In case of transporting hot liquid, make a preheating before starting with a temperature rise speed $50^{\circ}\text{C}/\text{h}$, which is made through a constant circulation of the liquid being transported so as to get every part of the pump evenly heated;
4. First move the pump with hand to let the lubricating water into the terminal face of the mechanical seal;
5. Make a spot-moving on the motor to see if it rotates in a correct direction;

Start and run

1. Fully open the inlet valve and close the valve on the outlet pipeline;
2. Turn on the power and, when the pump gets to the normal rotating speed, gradually open the valve on the outlet pipeline and adjust it to the required working conditions;
3. Pay attention to viewing the readout on the meter and check the leakage on the shaft seal, which, as a mechanical seal, is 3 drops/min under a normal condition, and the temperature rise on the motor and bearing, which should be $\leq 70^{\circ}\text{C}$. Treat it on time if any abnormality is found.

Stop

1. Gradually close the valve on the outlet pipeline and our off the power;
2. Close the inlet valve;
3. Drain the liquid inside of the pump completely to avoid being frozen and split in case of the ambient temperature below 0°C ;
4. Disassemble and clean the pump, then pack and store it in case of stopping use of it for a long time.

泵的维护与保养 Maintenance

运行中的维护与保养

- 1、进水管路必须高度密封,不能漏水、漏气;
- 2、禁止泵在汽蚀状态下长 运行;
- 3、禁止泵在大流量工况时,电机超电流长 运行;
- 4、定时检查泵运行中的电机电流值,尽量使泵在设计工况范围内运行;
- 5、泵在运行中应有专人看管,以免发生意外;
- 6、泵每运行500小时就对轴承进行加油;
- 7、泵进行长 运行后,由于机械磨损,使机组噪声及振动增大时,应停机检查,必要时可更换易损零件及轴承,机组大检修一般为一年。

机械密封维护与保养

- 1、机械密封润滑液应清洁无固体颗粒;
- 2、严禁机械密封在干磨情况下工作;
- 3、启动前应盘动泵(电机)几圈,以免突然启动造成机械密封断裂损坏。

Maintenance during running

1. The water-in pipeline must be highly sealed without water or air leak;
2. It is prohibited for the pump to run for a long time under the status of vapour corrosion;
3. It is prohibited for the motor to run for a long time when the pump is in the working condition of a heavy flow quantity;
4. The pump has to be cared by a special person during its running so as to avoid any accidents;
5. Periodically check the current value of the motor when the pump is running and have the pump run within the designed range of working conditions as can as possible;
6. Lubricate the bearing every 500 hours for the pump to run;
7. Stop and check the pump when both noise and vibration of it become greater due to the mechanical wornout after a long time running and ,if necessary, replace the parts easily worn out bearing. One year is the period for overhauling the unit generally.

Maintenance of the mechanical seal

1. The lubricating liquid for the mechanical seal should be clean and without any solid grains;
2. Prohibited for the mechanical seal to work under the drygrinding status;
3. Move the pump(motor)several turns with hand before starting to avoid breakdown or damage of the mechanical seal due to an abrupt starting.

故障原因及排除方法 Failures causes and troubleshooting

故障现象 Failure	可能产生的原因 Possible causes	排除方法 Troubleshooting
1、水泵不出水 No water from the pump	<p>a.进出口阀门未打开，进出管道阻塞，叶轮流道阻塞</p> <p>b.电机运行方向不对，电机缺相转速很慢</p> <p>c.吸入管漏气</p> <p>d.泵没灌满液体，泵腔内有空气</p> <p>e.进口供水不足，吸程过高，底阀漏水</p> <p>f.管路阻力过大，泵选型不当</p> <p>a.Both inlet and outlet valves not opened, both inlet and outlet pipelines blocked, impeller's flow-path blocked</p> <p>b.Uncorrect direction of motor's running, motor lack of phase and rotating speed very slow</p> <p>c.Air leaks from the suction pipe</p> <p>d.Pump not full of liquid, air exists inside of its cavity</p> <p>e. Water supply at inlet not enough, too high suction stroke, water leaks out of foot valve</p> <p>f. Too big resistance on pipeline, uncorrect selection of pump model</p>	<p>a.检查、去除阻塞物</p> <p>b.调整电机转向，紧固电机接线</p> <p>c.拧紧各密封面，排除空气</p> <p>d.打开泵上盖或打开排气阀，排尽空气</p> <p>e.停机检查、调整(并网自来水管和带吸程使用易出现此现象)</p> <p>f.减少管路弯道，重新选泵</p> <p>a.Check and get rid of the blocking matters</p> <p>b.Adjust the direction, tighten motor's wirings</p> <p>c.Screw down each seal-face, exhaust air</p> <p>d.Open pump cover or exhaust valve to let air out completely</p> <p>e.Stop and check, adjust(this situation is easy to occur for the water pipes in parallel network and use with suction stroke)</p> <p>f.Reduce bend-paths on pipeline, reselect pump</p>
2、水泵流量不足 Insufficient flow quantity of pump	<p>a.先按1.原因检查</p> <p>b.管道、泵流道或叶轮部分阻塞，水垢沉积，阀门开度不足</p> <p>c.电压偏低</p> <p>d.叶轮磨损</p> <p>a.Check per the causes in No.1 first</p> <p>b.Pipeline, pump flow-path or impeller partially blocked, water-dirt deposited, valve not enough opened</p> <p>c.Voltage too low</p> <p>d.Impeller worn out</p>	<p>a.先按1.排除</p> <p>b.去除阻塞物，重新调整阀门开度</p> <p>c.稳压</p> <p>d.更换叶轮</p> <p>a.Troubleshoot per No.1 first</p> <p>b.Get rid of blocking matters,adjust the opening of valve</p> <p>c.Stabilize it</p> <p>d.Replace it</p>
3、功率过大 Power too heavy	<p>a.超过额定流量使用</p> <p>b.吸程过高</p> <p>c.泵轴承磨损</p> <p>a.Used with rated flow quantity surpassed</p> <p>b. Too high suction stroke</p> <p>c.Pump bearing worn out</p>	<p>a.调节流量，关小出口阀门</p> <p>b.降低</p> <p>c.更换轴承</p> <p>a.Adjust flow quantity,close outlet valve a bit</p> <p>b.Lower it</p> <p>c.Replace it</p>

故障原因及排除方法 Failures causes and troubleshooting

故障现象 Failure	可能产生的原因 Possible causes	排除方法 Troubleshooting
4、杂音振动 Noise vibration	<p>a.管路支撑不稳</p> <p>b.液体混有气体</p> <p>c.产生汽蚀</p> <p>d.轴承损坏</p> <p>e.电机超载运行</p> <p>a.Pipeline unstably supported</p> <p>b.Liquid mixed with air</p> <p>c.Vapour corrosion produced</p> <p>d.Bearing worn out</p> <p>e.Motor overloaded running</p>	<p>a.稳固管路</p> <p>b.提高吸入压力，排气</p> <p>c.降低真空表</p> <p>d.更换轴承</p> <p>e.调整按5.</p> <p>a.Make it stable</p> <p>b.Raise suction pressure ,exhaust</p> <p>c.Lower the vacuum</p> <p>d.Replace it</p> <p>e.Adjust per No.5</p>
5、电机发热 Motor heated	<p>a.流量过大、超载运行</p> <p>b.局部摩擦</p> <p>c.电机轴承损坏</p> <p>d.电压不足</p> <p>a.Too heavy flow quantity,overloaded running</p> <p>b.Partial friction</p> <p>c.Motor's bearing damaged</p> <p>d.Voltage not enough</p>	<p>a.关小出口阀门</p> <p>b.检查排除</p> <p>c.更换轴承</p> <p>d.稳压</p> <p>a.Close outlet valve a bit</p> <p>b.Check and get rid of it</p> <p>c.Replace it</p> <p>d.Stabilize it</p>
6、水泵漏水 Water drops from the pump	<p>a.机械密封磨损</p> <p>b.泵体有砂孔或破裂</p> <p>c.密封面不平整</p> <p>d.安装螺栓松懈</p> <p>a.Mechanical seal worn out</p> <p>b.Sand-hole or breakdown with pump casing</p> <p>c.Seal-face not flat</p> <p>d.Mounting bolt loose</p>	<p>a.更换</p> <p>b.焊补或更换</p> <p>c.修整</p> <p>d.紧固</p> <p>a.Replace it</p> <p>b.Weld it or replace</p> <p>c.Flatten it</p> <p>d.Tighten it</p>