

**SUZHOU
ZHONGYICHUANG
TECHNOLOGY**
苏州中忆创



FY型立式液下泵

FY series corrosive vertical submerged pump

· 安装使用说明书 ·



精密铸就品质 科技改变未来

PRECISION HIGH SPEED STABILITY

苏州中忆创科技有限公司
Suzhou Zhongyichuang Technology Co., Ltd.

一、概述

FY型耐腐蚀泵立式液下泵是一种单级单吸长轴式液下离心泵，其标记、额定性能点和法兰连接尺寸等效采用ISO2858国际标准、技术条件采用ISO 5199标准。与原FY型耐腐蚀液下泵相比，具有体积小、效率高、节能效果好，运行可靠等优点。适用于输送不含固体颗粒、磨料的腐蚀性介质。

泵的输送温度一般为0~105℃。温度在-20~0℃、105~180℃时可采用保温夹套及冷却夹套，采用低温或高温耐磨轴承，此类情况用户应说明。

如输送介质有少量固体颗粒，滑动轴承应采用外润滑方式（外接压力大于0.2MPa的清水和其它允许的介质），此类情况用户应说明。

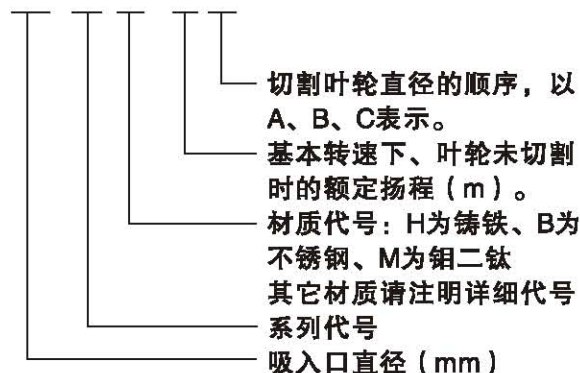
泵的工作压力按1.6MPa设计。

泵的性能范围：流量为1.6~2600m³/h、扬程为5~132m。

根据所输送介质的不同，FY型立式液下泵接触液体部分的材质可选用铸铁（用符号H表示）、铸钢、1Cr18Ni9Ti（用符号B表示）、1Cr18Ni12Mo2Ti（用符号M表示）、304、304L、316、316L、904、Lewmet合金、20号合金等材料制造。

泵型号意义说明举例：

100 FY M - 50 B



二、工作性能表及型谱

- 1、工作性能见表一。
- 2、型谱见图一。

General

FY series corrosive vertical submerged pump is one of single-stage single-suction long-shaft submerged centrifugal pumps. Its marks, performance points and dimension of flange are designed according to International Standard of ISO 2858. Its technical conditions are designed according to ISO 5199. It has little volume, high efficiency, power saving, operating liability compared with former FY series corrosive vertical submerged pump. It can not pump corrosive medium which has solid particles and wearable materials.

The medium temperature varies from 0℃ to 105℃. Heat preservation closed cover and low-temperature wearable guide bearing are used when the temperature of medium is from -20℃ to 0℃, cooling closed cover and high-temperature wearable guide bearing are used when the temperature of medium is from 105℃ to 180℃. This condition must be stated when ordering.

If medium has little solid particle, sliding bearing should be outer-lubricated bearing, which shall be stated clearly when ordering. (water and other allowed medium whose outer pressure is over 0.2 MPa.)

Operating pressure is designed at 1.6MPa.

Performance range: Capacity: 1.6~2600m³/h, head: 5~132m.

The materials contacting with liquid can be selected as cast iron(H), cast steel, 1Cr18Ni9Ti(B), 1Cr18Ni12Mo2Ti(M), 304, 304L, 306, 306L, 904, Lewmet Alloy, 20# Alloy according to different medium.

Meaning of type of pump

100----suction diameter of pump(mm)

FY----serial code

M----code of material, cast iron(H), stainless steel(B), please state specific code of other material

50----head(m) under basic speed when the impeller is not cut

B----order of cut impeller diameter, state A,B,C

Operating performance table and type chart

1. Operating performance prefer to table 1.

2. Type chart prefer to drawing 1.



工作性能表：Operating performance table

型 号 model	叶轮 Impeller type	泵额定转速 n=2900r/min speed								泵额定转速 n=1450r/min speed							
		流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86		流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86	
				功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model			功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model
25FY-20		3.2	20	1.1	Y802-2	1.5	Y90S-2	2.2	Y90L-2	1.6	5	0.75	Y802-4	0.75	Y802-4	1.1	Y90S-4
	A	2.8	16							1.4	4						
25FY-32		2.8	32	3	Y100L-2	3	Y100L-2	4	Y112M-2	1.6	8	1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4
	A	2.8	26							1.4	6.5						
25FY-50		3.2	50	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	1.6	12.5	1.1	Y90S-4	1.5	Y90L-4	2.2	Y100L1-4 Y90S-4
	A	2.8	41							1.4	10						
25FY-80		3.2	80	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	1.6	20	1.1	Y90S-4	1.5	Y90L-4	2.2	Y100L1-4 Y90S-4
	A	3	70	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	1.5	17						
	B	2.8	62	4		5.5		11		1.4	15						
40FY-20		6.3	20	1.5	Y90S-2	2.2	Y90L-2	3	Y100L-2	3.2	5	0.75	Y802-4	0.75	Y802-4	1.1	
	A	5.5	16							2.8	4						
40FY-32		6.3	32	3	Y100L-2	3	Y100L-2	4	Y112M-2	3.2	8	1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4
	A	5.5	26							2.8	6.5						
40FY-50		6.3	50	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	3.2	12.5	1.1	Y90S-4	1.5	Y90L-4	2.2	Y100L1-4
	A	5.5	41							2.8	10						
40FY-80		6.3	80	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	3.2	20	1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4
	A	5.9	70	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	2.9	17						
	B	5.6	62							2.8	15						
50FY-20		12.5	20	1.5	Y90S-2	2.2	Y90L-2	3	Y100L-2	6.3	5	0.75	Y802-4	0.75	Y802-4	1.1	Y90S-4
	A	11.3	16.4							5.7	4.1						
50FY-32		12.5	32	3	Y100L-2	4	Y112M-2	5.5	Y132S1-2	6.3	8	1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4
	A	11.3	26.4	2.2	Y90L-2	3	Y100L-2	4	Y112M-2	5.7	6.6						
50FY-50		12.5	50	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	6.3	12.5	1.1	Y90S-4	0.75	Y802-4	1.1	Y90S-4
	A	11.3	41	4	Y112M-2	5.5	Y132S1-2	7.5	Y12S2-2	5.7	10.3						
50FY-80		12.5	80	11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	6.3	20	1.5	Y90L-4	2.2	Y80L-4	3	Y100L2-4
	A	11.7	70							5.7	17.5					2.2	Y100L1-4
	B	11	62	7.5	Y132S2-2												
65FY-20		25	20	3	Y100L-2	4	Y112M-2	5.5	Y132S1-2	12.5	5	0.75	Y802-4	0.75	Y801-4	1.1	Y90S-4
	A	22.7	16.5	2.2	Y90L-2	3	Y100L-2	4	Y112M-2	11.3	4.1	0.75				0.75	Y802-4
65FY-32		25	32	5.5	Y132S1-2	5.5	Y132S1-2	7.5	Y132S2-2	12.5	8	0.75				1.1	Y90S-4
	A	22.7	26.5	4	Y122M-2	4	Y112M-2	5.5	Y132S1-2	11.3	6.6	0.75					
65FY-50		25	50	11	Y160M1-2	11	Y160M1-2	15	Y160M2-2	12.5	12.5	1.1	Y90S-4	1.5	Y90L-4	2.2	Y100L1-4
	A	22.7	41	7.5	Y132S2-2	7.5	Y132S2-2	11	Y160M1-2	11.3	10.3	1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4
65FY-80		25	80	15	Y160M2-2	18.5	Y160L-2	22	Y180M-2	12.5	20	2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4
	A	23.4	74.8											2.2	Y100L1-4	3	Y100L2-4
	B	22	61.8	11	Y160M1-2			18.5	Y160L-2	11.7	17.5						



工作性能表：Operating performance table

型 号 model	叶轮副长 Impeller type	泵额定转速 n=2900r/min speed								泵额定转速 n=1450r/min speed							
		流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86		流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86	
				功率 power	电机型号 motor model	功率 power	电机型号 motor model	功率 power	电机型号 motor model			功率 power	电机型号 motor model	功率 power	电机型号 motor model	功率 power	电机型号 motor model
80FY-20		50	20	5.5	Y132S1-2	5.5	Y132S1-2	7.5	Y132S2-2	25	5	0.75	Y802-4	0.75	Y802-4	1.1	Y90S-4
	A	45.3	16.5							22.6	4.1					0.75	Y802-4
80FY-32		50	32	7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	25	8	1.5	Y90L-4	1.5	Y90L-4	2.2	Y100L1-4
	A	45.4	26.4			7.5	Y132S1-2	11	Y160M1-2	22.7	6.6	1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4
80FY-50		50	50	15	Y160M2-2	15	Y160M2-2	22	Y180M-2	25	12.5	2.2	Y100L1-4	2.2	Y100L1-4	3	Y100L2-4
	A	45.3	41	11	Y160M1-2			18.5	Y160L-2	22.7	10.3	1.5	Y90L-4			2.2	Y100L1-4
80FY-80		50	80	22	Y180M-2	30	Y200L1-2	45	Y225M-2	25	20	3		4		5.5	
	A	46.8	70.5	18.5	Y160L-2	22	Y180M-2	30	Y200L1-2	23.4	17.6	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4
	B	44	62.2	15	Y160M2-2												
100FY-20		100	20	11	Y160M1-2	11	Y160M1-2	15	Y160M2-2			2.2	Y100L1-4	2.2	Y100L1-4	3	Y100L2-4
	A	91.8	16.8	7.5	Y132S2-2			11	Y160M1-2								
100FY-32		100	32	15	Y160M2-2	18.5	Y160L-2	22	Y180M-2	50	8	1.5	Y90L-4				
	A	91	26.5	11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	45.5	6.6						
100FY-50		100	50	22	Y180M2-2	30	Y200L1-2	37	Y200L2-2	50	12.5	4	Y112M-4	4	Y112M-4	5.5	Y132S-4
	A	91	41.5	18.5	Y160L-2	22	Y180M-2	30	Y200L1-2	45.5	10.3	3	Y100L2-4	3	Y100L2-4	4	Y112M-4
100FY-80		100	80	45	Y225L2-2	45	Y225M-2	75	Y280S-2	50	20	5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4
	A	93.5	70	37	Y200L2-2			55	Y250M-2	45.5	17.4	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4
	B	87.8	61.7	30	Y200L2-2	37	Y200L-2	45	Y225M-2	43	15						
型 号 model	叶轮副长 Impeller type	泵额定转速 n=2900r/min speed								泵额定转速 n=1450r/min speed							
		流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86		流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86	
				功率 power	电机型号 motor model	功率 power	电机型号 motor model	功率 power	电机型号 motor model			功率 power	电机型号 motor model	功率 power	电机型号 motor model	功率 power	电机型号 motor model
125FY-12.5		100	12.5	5.5	Y132S-2	7.5	Y132M-4	11	Y160M-4								
	A	91	10.3			5.5	Y132S-4	7.5	Y132M-4								
125FY-20		100	20	11	Y160M-4	11	Y160M-4	15	Y160L-4								
	A	91	16.5	7.5	Y132M-4												
125FY-32		100	32	18.5	Y180M-4	22	Y180L-4	30	Y200L-4								
	A	91	25.5	15	Y160L-4	18.5	Y180M-4	30	Y200L-4								
125FY-50		100	50	30	Y200L-4	37	Y225S-4	55	Y250M-4								
	A	91	41			30	Y200L-4	45	Y225M-4								
150FY-20		200	20	18.5	Y180M-4	22	Y180L-4	30	Y200L-4	132	13	5.5	Y130M2-6	7.5	Y160M-6	11	Y160L-6
	A	182	16.5	15	Y160L-4	18.5	Y180M-4	30	Y200L-4	122	11						



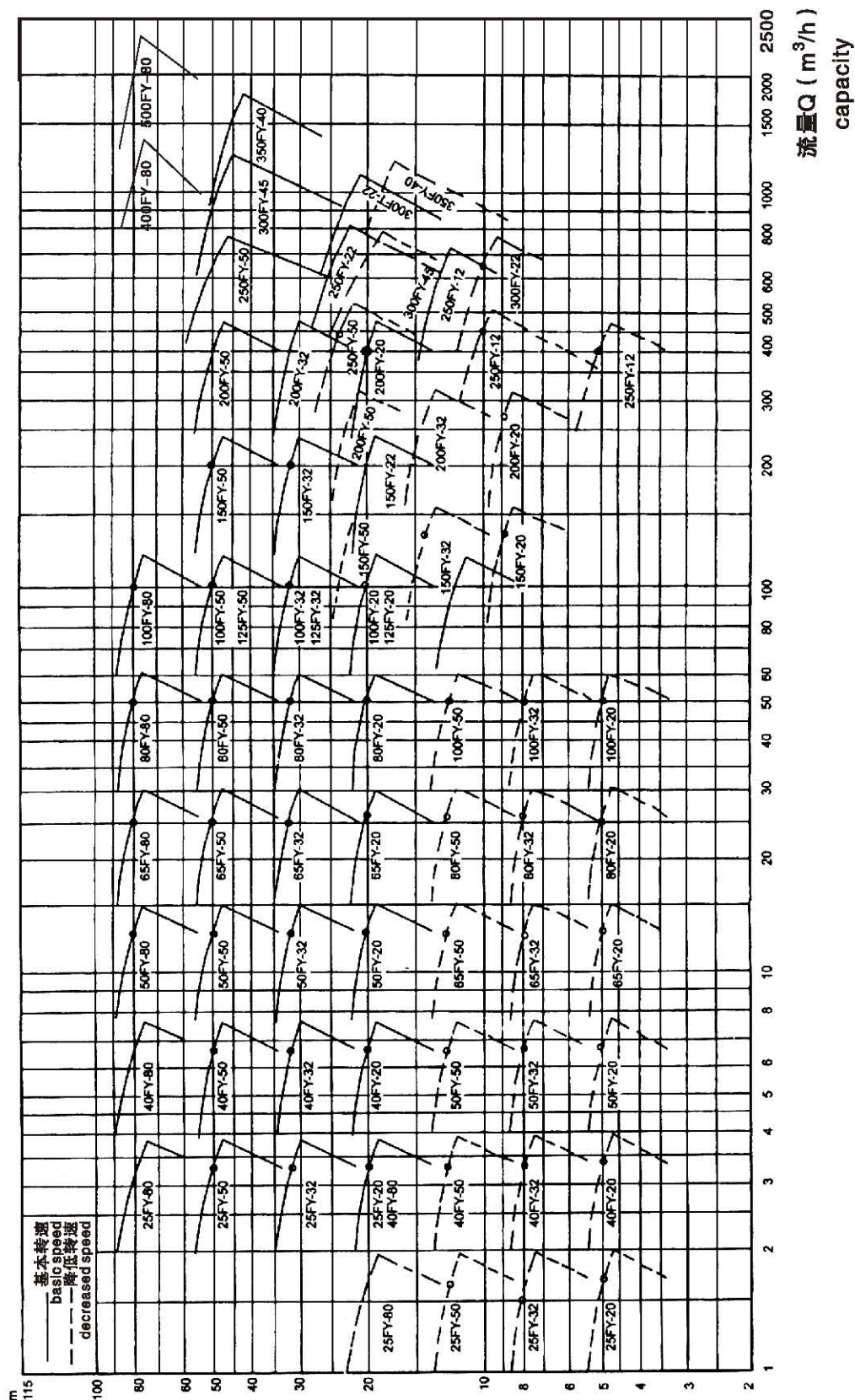
工作性能表：Operating performance table

型 号 model	叶轮型式 Impeller type	泵额定转速 n=1450r/min speed								型 号 model	叶轮型式 Impeller type	泵额定转速 n=1450r/min speed							
		流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86				流量 Q m³/h capacity	扬程 H m head	相对密度<1.0 relative density<1.0		相对密度<1.35 relative density<1.35		相对密度<1.86 relative density<1.86	
				功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model					功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model	功率 power KW	电机型号 motor model
150FY-32		200	32	30	Y200L-4	37	Y225S-4	45	Y225M-4	300FY-45		1000	44	160	Y315M	220		315	
	A	182	25.5	22	Y180L-4	30	Y200L-4	37	Y225S-4		A	900	38	132	Y315M1	200	Y315L-4	250	
150FY-50		200	50	55	Y250M-4	75	Y280S-4	75	Y280S-4	350FY-40		850	30	110	Y315S-4	132	Y315M1	200	Y315L
	A	182	41	37	Y225S-4	45	Y225M-4	75	Y280S-4			1500	40	200	Y315L-4	280		355	
200FY-20		400	20	37	Y225S-4	45	Y225M-4	75	Y280S-4	400FY-80	A	1400	30	160	Y315M2	220		315	
	A	360	16.2	30	Y200L-4	30	Y200L-4	45	Y225M-4		B	1300	25	132	Y315M1	200		250	
200FY-32		400	32	55	Y250M-4	75	Y280S-4	90	Y280M-4	400FY-100	C	1300	20	110	Y315S-4	160		220	
	A	363	25.5	45	Y225M-4	55	Y250M-4	75	Y280S-4			1240	78	355		450			
200FY-50		400	50	90	Y280M-4	110	Y315S-4	132	Y315M-4	400FY-125	A	1170	75	315		400			
	A	363	41	75	Y280S-4	90	Y280M-4	110	Y315S-4		B	1015	57	250		280			
200FY-80		420	80	132	Y315M1-4	160	Y315M2-4	220	Y355M-4	500FY-80	C	870	42	160		220		315	
	A	400	70	110	Y315S-4	160		200	Y315L-4			1340	104	500					
	B	360	65		132	Y315M1-4					A	1250	97	450					
	C	340	50	75	Y280S-4	110	Y315S-4	132	Y315M-4		B	1140	77	355					
250FY-12		600	12	30	Y200L-4	37	Y225S-4	55	Y250M-4	400FY-125	C	950	56	230					
	A	540	11	22	Y180L-4	30	Y280L-4	45	Y225M-4			1450	132	710					
	B	500	10			37	Y225S-4				A	1375	125	630					
250FY-22		650	24	55	Y250M-4	75	Y280S-4	110	Y315S-4	500FY-125	B	1170	100	500					
	A	600	22			90	Y280M-4				C	950	75	315					
	B	550	16	37	Y225S-4	45	Y225M-4	75	Y280S-4			1070	74	560					
		650	52	132	Y315M-4	160	Y315M2-4	220	Y355M-4		A	1800	70	500					
250FY-50	A	550	45	90	Y280M-4	132	Y315M-4	160	Y315M2-4	500FY-80	B	1520	52	315					
	B	500	40	75	Y280S-4	110	Y315S-4	160			C	1300	38	220					
	C	450	30	55	Y250M-4	75	Y280S-4	110			Y315S-4		2040	98	800				
250FY-80		800	32	250				450		500FY-100	A	1950	91	630					
	A	770	76			355			B		1760	74	500						
	B	700	58	160	Y315M2-4	220		315			C	1500	54	315					
	C	630	42	110	Y315S-4	160	Y315M2-4	200	Y315L-4			2390	125	1250					
300FY-22		950	22	75	Y280S-4	110	Y315S-4	160	Y315M2-4	500FY-125	A	2280	117	1000					
	A	900	20			90	Y280M-4	132	Y315M1-4		B	1900	95	710					
	B	800	16	53	Y250M-4	75	Y280S-4	110	Y315S-4		C	1610	70	450					

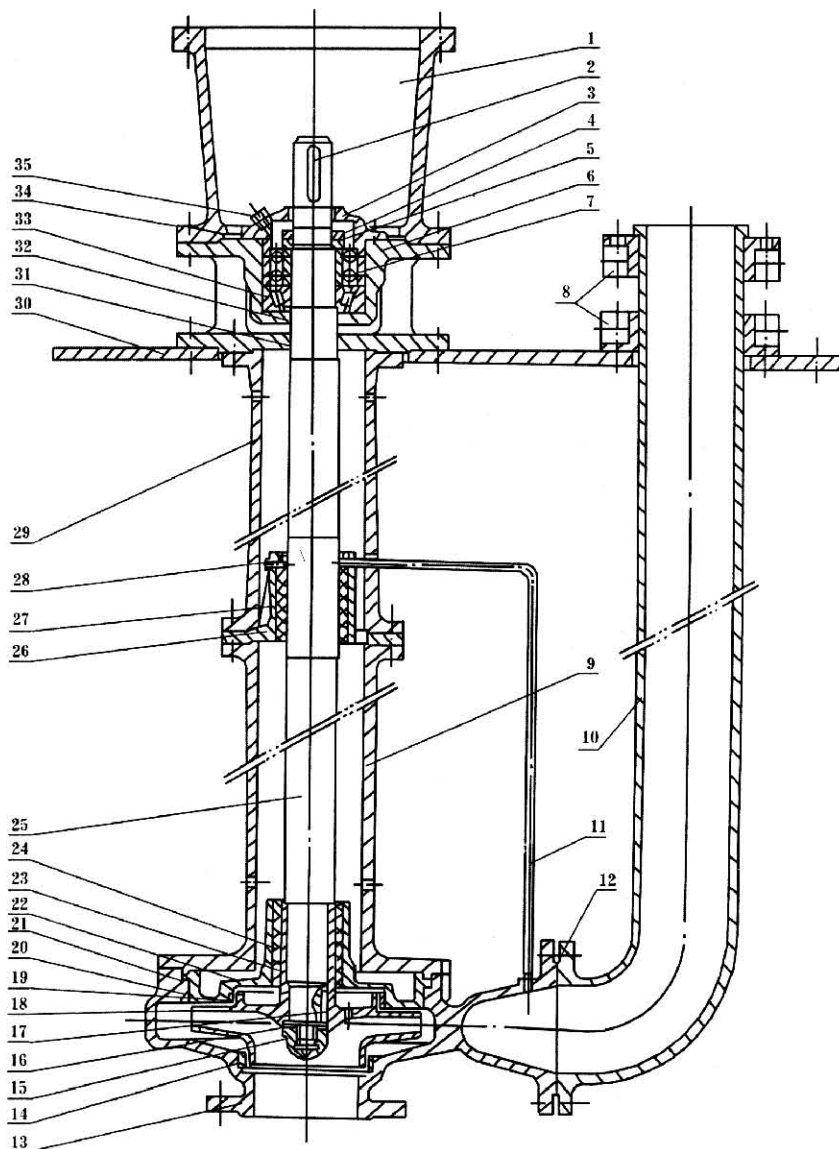
说明：1、大于等于200kw电机根据用户要求可以选择380V、6000V电机，具体型号根据用户要求选择。

2、表中电机型号仅供参考，用户可以根据要求选择同等功率的电机，电机可以是防爆或不防爆的。

Type chart



图一、FY耐腐蚀立式液下泵
FY series corrosive vertical submerged pump



图二、FY耐腐蚀立式液下泵结构图

FY series corrosive vertical submerged pump structure

1-电机座	2、17-键	3-轴承端盖	4-圆螺母	5、16-止退垫圈	6-轴承架
7-双列向心球面轴承	8-分半法兰	9-下支管	10-排出管	11-润滑管	
12、21、22-密封垫片	13-泵体	14-泵体密封环	15-叶轮螺母	18-叶轮	
19-泵盖密封环	20-泵盖	23-下护轴套	24-轴封	25-泵轴	
26-导轴承体	27-导轴承	28-定位螺钉	29-上支管	30-支承板	
31、32-骨架油封	33-单列圆锥滚子轴承	34-垫圈	35-油杯		

1-motor base 2,17-key 3-bearing end cover 4-round screw nut 5,16-anti-back gasket
 6,shaft support 7-trouble line axial globe bearing 8-half-separated flange 9-down branch
 pipe 10-discharge pipe 11-lubricating pipe 12,22-seal gasket 13-pump casing 14-pump
 casing seal ring 15-impeller nut 18-impeller 19-seal ring of pump cover 20-pump cover
 23-down retaining shaft 24-shaft seal 25-pump shaft 26-guide bearing body 27-guide
 bearing 28-position screw pin 29-upper branch pipe 30-supporting board
 31,32-reinforced oil seal 33-single line taper roller bearing 34-gasket 35-oil cup

三、结构说明

FY型主要由泵体、泵盖、叶轮、轴弹性轴器、管法兰、导轴承、中间接管、上下出液管、轴承架、底板等零件组成，见图二。

泵的吸入口顺着轴线方向，出口与轴线平行。

泵的转向自电机端看去，为顺时针方向旋转。

FY型泵的立式电动机用双头螺栓固紧与电机座上，并通过弹性联轴器与泵直接，泵体、中间接管、轴承架、出液管、管法兰，以螺栓连接构成一体，固定在底板上，泵的整体通过底板安装在容器上，FY型泵除去接触液体部分零部件外其它主动性零件，如电机座、轴承架、底板等均用铸铁制造。

泵的轴向力与径向力，(包括泵盖中所产生的水压力，叶轮及转子重量等)，均由轴承盒内所装单列推力滚子轴承，双列向心球轴承，以及滑动导轴承承受。为安全正常运转，两个滚动轴承以润滑脂润滑，导轴承体输送的液体润滑，介质中含正常少量颗粒时，导轴承应采用外接清洁液体润滑。

FY型泵采用J型骨架油封密封板与轴间隙处，防止腐蚀性气体外泄。

根据输送介质粘度需要，叶轮分为闭式、半开式通常使用闭式叶轮。

此外FY型耐腐蚀液下离心泵系列，因伸入容器长度L的长短不同，则又分为有中间导轴承之结构和无导轴承的结构。

四、装卸、安装、起动和运转

1、泵的拆卸顺序：

(1)、关闭压出管路中的阀门，卸掉出液口管处部分法兰联接螺栓。拆掉一段管路，其长度不妨碍泵的起吊为准。

(2)、松开电机架和轴承架的联接螺栓，吊去电动机。

(3)、松开底板和容器连接螺栓，连同底板把泵从容器中吊出。并以清水冲洗干净，为防止空气氧化锈蚀，应立即拆卸。

(4)、拆下泵体，松开止动垫片，旋出叶轮螺母、(右旋螺母)取下叶轮。

(5)、拆下泵盖、取下护轴轮及平键。

(6)、拆下联接于底板的出口管分半法兰。

(7)、拆下中间接管。(如有中间导轴承，则一并拆下)。

(8)、拆下底板，取下泵联轴器、键，拆开轴承压盖把转子取出。

(9)、松开止退垫圈，旋下圆螺母，将轴承出，取下滚珠轴承。

Structure

FY series pump is made up of pump casing, pump cover, impeller, elasticity coupling, pipe flange, guide bearing, intermediate jointing pipe, up and down liquid outer pipe, bearing bracket, base plate, please refer to drawing 2.

Pump suction is guided by shaft route, and outlet is level with shaft route.

The pump revolves at clockwise when viewed from the end of motor.

Vertical motor of FY series pump is tightly fixed on motor plate by stud bolt, and is directly jointed to pump with elasticity coupling. Pump casing, intermediate jointing pipe, bearing bracket, liquid outlet pipe, pipe flange are made into one body with bolts, and is fixed on base plate. The whole pump is installed on container through base plate. Main parts except which is contacted with liquid, such as motor base, bearing bracket, base plate are made of cast iron.

Pump axial pressure and radial pressure (include water pressure which rises from pump cover, impeller and rotor weight) are born by single line thrust roller bearing, trouble line axial globe bearing and sliding guide bearing. In order to operate safely, two roller bearings are lubricated with grease lubricant. Guide bearing should be lubricated by outer clean liquid when there is normal little particles in liquid lubricant which is transferred by guide bearing. J type reinforced oil seal is used between seal base and shaft to prevent corrosive gas discharging.

Impeller is divided into closed impeller, half open impeller according to viscosity of medium. Closed impeller is usually used.

FY series corrosive submerged centrifugal pump is also divided into intermediate guide bearing structure and non guide bearing structure according to different length extended in container.

Assembly and disassembly, install, start and operate

1. The order of pump disassembly

(1) Close the valve in outlet pipeline. Disassemble flange bolt on liquid outlet pipe. Disassemble a piece of pipeline, which does not interrupt pump lifting.

(2) Loose bolt which connects motor bracket with bearing bracket. And then lift motor to other place.

(3) Loose bolt which connects base plate with container. Lift pump and base plate from container, wash pump with water, and disassemble pump from base plate to not being crust.

(4) Disassemble pump casing, loose stopping gasket, loose (to right direction) impeller nut and take out impeller.

(5) Disassemble pump cover, take out shaft protective wheel and level key.

(6) Disassemble half-separated flange in outlet pipe which is connected with base plate.

(7) Disassemble intermediate jointing pipe. (If there is intermediate guide bearing, disassemble together)

(8) Disassemble base plate, take out coupling, key, disassemble bearing cover and take out rotor.

(9) Loose stopping gasket and round screw nut, take out shaft and then spot contact bearing.



2、泵的装配顺序与拆卸顺序相反。在组装转子部件时，应检查密封环，轴套外径径向跳动，不得超过表列数值。

名义直径(mm) Nominal diameter	≤50	>50-180	>120-260	>260
允差极限(mm) Allowable margin	0.08	0.09	0.11	0.11

3、安装

(1)、泵组装好后，用手盘动联轴器，看转动是否灵活，检查有无金属摩擦准备工具和起重机械。

(2)、检查泵轴和电机轴上的同心度，两联轴器外圆上的径向偏差不得超过0.3毫米。

(3)、导轴承要能浸在液体中，否则应自出口管路中引出适量液体，润滑轴承，防止干磨损坏。

(4)、当化工流程系统中，可能有杂物落入容器时，为防止杂物损坏泵零部件，可在吸入管下，装以所需形成的栏污网。

(5)、泵的吸入口到容器底板之距离为吸入口径的1-1.5倍，四周距离不应小于2.5倍，小口径取大值，大口径取小值。

(6)、泵之出液管路，应另设支架支撑，其重量不允许加在泵本体上。

(7)、安装完毕后，还需检查各部件螺帽是否旋紧，并应盘动联轴器，看是否转动灵活后方可将泵连同电机组装在容器上，装好后再检查一次。

4、起动与停车：

(1)、检查轴承腔，使之保持有定量的润滑脂。通常以充满油的1/2~2/3为宜，避免运转时，轴承升温过高。

(2)、盘动联轴器，检查有否轻重不匀。否则，须找出原因，等消除后再运转。为防止干摩擦造成泵损坏，启动前应确认叶轮浸没在液体内部。

(3)、检查电动机的转向、使之与泵的规定旋转方向相同。

(4)、关闭出口管路上的阀门及压力表。

(5)、起动电动机，开压力表，慢慢开启出管路阀门到需要位置，投入正常运转。

(6)、正常停车，应先慢慢关闭出口阀门

(7)、长期停车或长期不用，应将泵从容器中取出，清洗后重装，加油保管。

5、运转：

(1)、轴承温度不得高于75度，轴承盒内应有适量的润滑脂。

(2)、随时注意食品店润滑脂的纯洁。

(3)、泵在运转过程中，发生故障时应立即停车，并进行检修。

2.The order of assembly is diverse to disassembly. When you assemble rotor parts, please inspect sealing ring. The difference between outside diameter and nominal diameter of shaft does not exceed the value of following table.

3.Install

(1)After pump has been assembled, twist coupling by hands, inspect whether it rotate flexible and there is metal friction. Prepare tools and lifter.

(2)Inspect the concentricity of the pump shaft and motor shaft. And the out-of-squareness of circumcircle of coupling should not exceed 0.3mm.

(3)Guide bearing should be submerged in liquid. If not, let out suitable liquid from out-let pipeline to lubricate bearing, which can avoid bearing being damaged because of wearing dry.

(4)There maybe foreign materials falling in container during chemical process system. Install pollution protecting net required under inlet pipe in order to avoid foreign materials damaging spare parts.

(5)The distance between pump suction and container base is 1~1.5 times of suction diameter. The distance between pump suction and container circumcircle is no less than suction diameter. Use larger value when it is small diameter, and use smaller value when it is large diameter.

(6)Liquid outlet pipe is supported by another foot, which is not allowed to place on pump casing.

(7)After assembly, inspect whether every part screw nut is tighten. Twist the coupling and see whether it rotate flexible and then put it on container together with motor. Inspect all parts again when all is installed.

4.Start and stop

(1)Inspect bearing cavity whether there is ration clean lubricant grease. The grease usually fills 1/2 to 2/3 of the bearing cavity to avoid the temperature of bearing increasing too high when bearing is rotating.

(2)Twist the coupling by hands, it should be felt light and the consequence is uniform. Or else, find reason. When the trouble is removed then operate the machine. Be sure the impeller submerged in liquid before operating to avoid pump being damaged because of dry rubbing.

(3)Inspect if the rotational direction of the motor conforms to the specified requirement.

(4)Close the valve on outlet pipeline and pressure watch.

(5)Start motor and pressure watch, slowly open the switch valve of outlet pipeline.

(6)Normally stop the machine. Slowly close the switch valve of outlet pipeline, stop the motor then the pressure watch.

(7)If the pump is stopped or not used for a long time, take pump out of container, clean it with water and assemble again, preserve pump with besmearing oil on it.

5.Operate

(1)The temperature of bearing is not higher than 75℃. There is feasible lubricant grease in bearing box.

(2)Notice of the purity of lubricant grease at any moment.

(3)While pump is operating and there is something wrong with it, stop and inspect it.

五、可能发生的故障及消除方法：

故 障	原 因	消 除 方 法
抽不出液体	1、电机转向不对 2、闭式叶轮流道、或吸入、压出管路淤塞 3、液体未浸没叶轮中心线	1、更改转向 2、消除淤塞部分 3、调正浸没高度
流量不足	1、叶轮腐蚀磨损严重 2、密封环磨损，腐蚀严重 3、开式叶轮与泵盖间隙过大 4、吸入口或压出口管路部分堵塞	1、更换叶轮 2、更换密封环 3、重新调整间隙 4、消除淤塞部分
扬程不足	1、输送的液体中含有气体 2、叶轮被严重腐蚀 3、开式叶轮与泵盖间隙过大	1、降低液体温度，排除气体 2、更换叶轮 3、重新调正间隙
功率过大电机发热	1、流量超过使用范围 2、介质比重过大 3、产生机械摩擦 4、导轴承干磨，或润滑液不够	1、按泵使用范围进行运转 2、更换较大功率电机 3、检查何处摩擦进行检修 4、将导轴承浸入液体中或增加润滑液
轴承发热	1、泵轴与电机轴不同心 2、轴承盒内缺润滑脂或润滑脂变质 3、轴承摆动过大	1、调整确保同心 2、加润滑脂或更换润滑脂 3、更换轴承
杂音或振动	1、泵轴或电机轴不同心 2、输送液体中含有气体 3、转子不平衡 4、导轴承与轴颈磨损过大 5、螺母有松动现象 6、流量扬程超过使用范围	1、调整确保同心 2、降低液体温度，排除气体 3、更换零件 4、更换导轴承，修复轴颈 5、拧紧各部位螺母 6、调整至规定范围，或重新选型

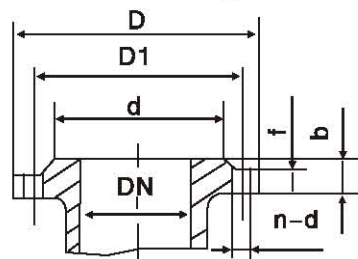
Possible trouble and removing methods

Possible trouble	reason	Removing methods
No water can be pumped	1. The rotational direction of the motor is wrong. 2. Flow tunnel of close impeller, suction or outlet pipeline is blocked. 3. The liquid does not submerge the middle of impeller.	1. Change rotational direction 2. Remove the block 3. Adjust the height of submerging
Capacity is insufficient.	1. Impeller is eroded or worn badly. 2. Seal ring is worn or eroded badly. 3. The clearance between open impeller and pump cover is too large. 4. Suction or outlet pipe is blocked.	1. Change impeller 2. Change seal ring 3. Adjust the clearance 4. Remove the block
Head is insufficient	1. There is gas in liquid. 2. Impeller eroded badly. 3. The clearance between open impeller and pump cover is too large.	1. Decrease liquid temperature, discharge gas. 2. Change impeller 3. Adjust the clearance.
Motor is heated because of consuming much power	1. Capacity exceeds application range. 2. Gravity of medium is too large. 3. Mechanic friction. 4. Guide bearing rubbed dry or lubricant grease is insufficient.	1. Operate according to pump application range. 2. Replace large power motor. 3. Inspect friction part and repair it. 4. Guide bearing submerged in liquid or add lubricant.
Bearing is heated	1. Pump shaft and motor shaft are not concentric. 2. Lack of lubricant grease in bearing box or lubricant grease deteriorate 3. Bearing swings large.	1. Adjust to concentric. 2. Add or change lubricant grease. 3. Change bearing.
Noise or vibration	1. Pump shaft and motor shaft are not concentric. 2. There is gas in liquid. 3. Rotor is not balance. 4. Guide bearing and shaft neck rubbed badly. 5. Screw nut looses. 6. Capacity and head exceed application range.	1. Adjust to concentric. 2. Decrease liquid temperature, discharge gas. 3. Change spare parts. 4. Change guide bearing, repair shaft neck. 5. Screw all nuts. 6. Adjust to application range or select another type.

六、外形安装尺寸图及安装尺寸表 Outline and installing dimension

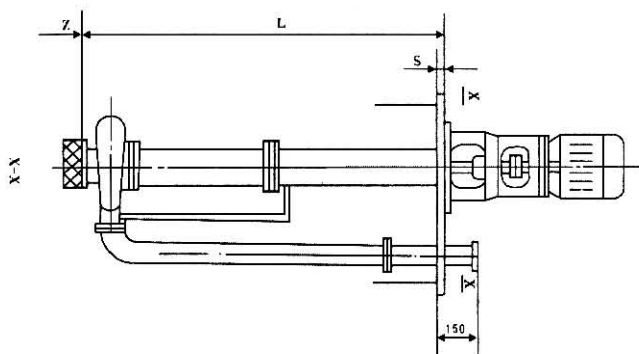
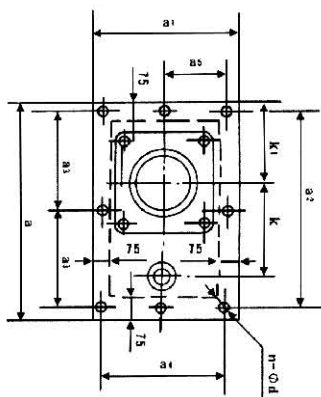
1、出口法兰尺寸

Dimension of outlet flange



型 号 model	DN	D	D1	d	b	f	n-d1	型 号 model	DN	D	D1	d	b	f	n-d1
25FY-20	20	105	75	50	23	8	4-Φ14	100FY-20	80	200	160	120	25	10	8-Φ18
25FY-32								100FY-32							
25FY-50								100FY-50							
25FY-80								100FY-80							
40FY-20	25	115	85	60	23	8	4-Φ14	125FY-12.5	100	220	180	140	27	12	8-Φ18
40FY-32								125FY-20							
40FY-50								125FY-32							
40FY-80								125FY-50							
50FY-20	32	140	100	75	25	10	4-Φ18	150FY-20	125	250	210	165	32	12	6-Φ18
50FY-32								150FY-32							
50FY-50								150FY-50							
50FY-80								200FY-20							
65FY-20	50	165	125	92	23	10	4-Φ18	200FY-32	150	285	240	205	32	12	8-Φ18
65FY-32								200FY-50							
65FY-50								250FY-12							
65FY-80								250FY-22							
80FY-20	65	185	145	110	25	10	4-Φ18	250FY-50	200	320	280	240	32	12	8-Φ18
80FY-32								300FY-22							
80FY-50								300FY-45							
80FY-80								350FY-40							
	50	165	125	92	23	10	4-Φ18	400FY-80	300	485	430	350	39	12	12-Φ26
								500FY-80							

七、外形图 Outline drawing





八、安装尺寸 Installing dimension

型 号 model	a	a1	a2	a3	a4	a5	k	k1	s	z	n-d	L
25FY-20	560	440	510	255	390		200	220	12	30	6-φ14	根据用户要求确定 Select according to customer's requirements
25FY-32	640	480	590	245	430	235	210	240	12	30		
25FY-50	660	520	610	305	470	265	230	250	12	30	8-φ14	
25FY-80	720	580	670	335	530		240	280	14	40		
40FY-20	560	440	510	255	390		200	220	12	30	6-φ14	
40FY-32	640	480	590	295	430	235	210	240	12	30		
40FY-50	660	520	610	305	470	265	230	250	12	30	8-φ14	
40FY-80	720	580	670	335	530		250	280	14	40		
50FY-20	580	440	530	265	390		200	240	14	40	6-φ14	
50FY-32	640	480	590	295	430	255	210	240	14	40		
50FY-50	680	560	630	315	510	265	280	250	14	40	8-φ14	
50FY-80	720	580	670	335	530		295	285	14	40		
65FY-20	580	440	530	265	390		210	240	14	40	6-φ14	
65FY-32	640	480	590	295	430	265	235	250	14	40		
65FY-50	720	580	670	335	530	265	235	250	14	40	8-φ14	
65FY-80	720	580	670	335	530	235	295	285	16	50		
80FY-20	700	520	650	325	470	235	260	250	16	50		
80FY-32	700	520	650	325	470	265	250	250	16	50		
80FY-50	750	580	700	350	530	265	270	250	16	50		
80FY-80	750	580	700	350	530	245	295	285	16	50		
100FY-20	720	540	670	335	490	245	300	250	16	50		
100FY-32	750	540	700	350	490	265	320	250	16	50		
100FY-50	780	580	730	365	530	285	325	250	16	50		
100FY-80	820	620	770	385	570	285	350	290	16	50		
125FY-12.5	920	620	870	435	570	285	420	290	16	65	8-φ18	
125FY-20	950	680	900	450	630	315	420	290	16	65		
125FY-32	1000	700	950	475	650	326	455	350	16	65		
125FY-50	1280	860	1230	615	810	405	535	410	20	95		
150FY-20	1100	750	1050	525	710	350	535	360	16	95		
150FY-32	1100	750	1050	525	710	350	535	360	16	95		
150FY-50	1280	860	1230	615	810	405	580	410	20	95		
200FY-20	1200	800	1150	575	750	375	565	350	20	95		
200FY-32	1200	800	1150	575	750	375	590	410	20	410		
200FY-50	1280	860	1230	615	810	405	640	410	20	95		
250FY-12	1200	860	1150	575	750	405	700	370	24	300	8-φ24	
250FY-22	1280	1000	1220	610	940	470	700	375	24	300		
250FY-50	1480	1000	1420	710	940	470	800	450	30	300		
300FY-22	1520	1080	1460	730	1020	510	810	480	30	300		
300FY-45	1600	1100	1540	770	1040	520	860	500	30	300		
350FY-40	1800	1200	1740	870	1140	570	950	550	40	350		
400FY-80	2500	1800	2440	1220	1740	870	1150	750	50	350	8-φ28	
500FY-80	3000	2200	2920	1490	2120	1060	1300	900	60	450	8-φ36	

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