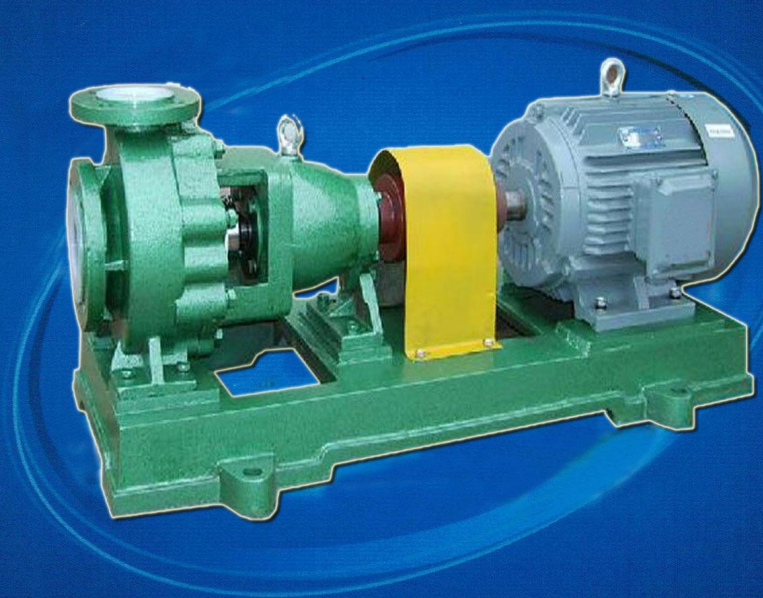


IHF系列

氟塑料化工离心泵

Use Specification | 使用说明书



**上海新光明泵业制造有限公司**

(原上海光明水泵厂)

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## 概述 OUTLINE

IHF型泵为单级单吸式氟塑料合金化工离心泵，是按国标设计并结合非金属泵的加工工艺设计生产的。该泵具有耐腐、耐磨、耐高温、不老化、机械强度高、无毒素分解、使用温度宽、输送介质温度为-85~200C等优点。该泵广泛适用于化工、制药、石油、冶金、电力、电镀、酸洗、农药、造纸等行业中液体输送、废水处理和加酸等工艺流程。本泵可输送任何浓度的硫酸、盐酸、硝酸、醋酸、氢氟酸、王水、强氧化、强腐蚀性介质的使用，是目前最先进的耐腐蚀装备之一。

Model IHF pump is a single-stage single-suction fluorine plastic alloy chemical centrifugal pump, designed per the national standard and designed and made per the processing workmanship for the non-metal pump. This pump features anti-corrosion, wearability, high temperature resistance, non-aging, high mechanical strength, non-toxin decomposition and wide temperature range of use, with the medium temperature to be transported at -85~ 200°C, and is applicable for the liquid transportation, waste water treatment and souring etc. technological flows in chemical industry, pharmacy, petroleum, metallurgy, electric power, electric-plating, acid cleaning, farm chemicals, paper-making etc. This pump can be used to transport sulfuric acid, hydrochloric acid, nitric acid, acetic acid, hydrofluoric acid, nitro-hydrochloric acid, strong oxidative and strong corrosive media and is one of the most advanced corrosion-proof equipments at present.

## 泵的结构与特征 CONSTRUCTION AND FEATURE OF PUMP

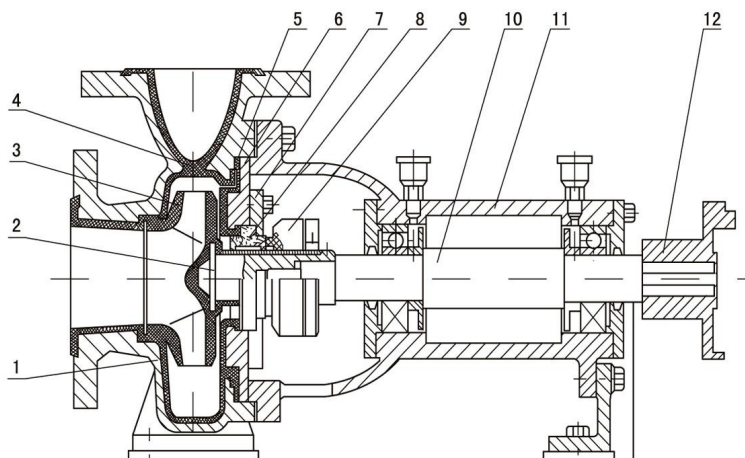
IHF型氟塑料离心泵的泵体采用金属外壳内衬聚全氟乙丙烯(F46)、叶轮和泵盖均采用金属嵌件外包氟塑料整体烧结压制成型，轴封采用外装式波纹管机械密封，静环选用99.9%氧化铝陶瓷或碳化硅，动环采用四氟填充材料或碳化硅。其特点是该泵结构先进合理、耐腐蚀强、密封性能严密可靠、工作稳定、噪声低、使用寿命长。

For model IHF fluorine plastic centrifugal pump, the casing is a metal crust interlined with poly-perfluoroethylene-propylene (F46), both impeller and pump cover are formed with a metal insert wrapped with fluorine plastic outside and then integrally sintered and pressed, the shaft seal is an externally mountable syphon bellows mechanical seal, the static ring is made of 99.9% alumina ceramic or silicon carbide and the dynamic ring is made of tetrafluoro filling material or silicon carbide and its features come at an advanced and reasonable structure, strong corrosion resistance, strict and reliable sealing, stable work, low noise and a long duration.

## 型号意义 MODEL MEANING

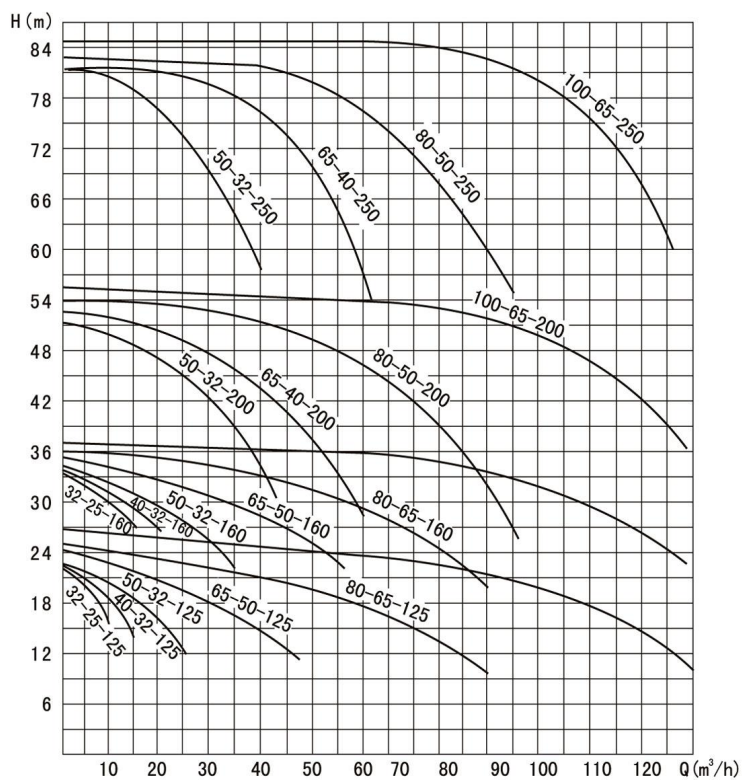


## 结构简图 CONSTRUCTION DRAWING



序号 No	名称 Name	材料 Material	序号 No	名称 Name	材料 Material	序号 No	名称 Name	材料 Material
1	泵体 Pump casing	HT200	5	泵盖衬里 Pump cover interlining	聚全氟乙烯 F46	9	动环 Dynamic ring	填充四氟乙烯 Silicon nitride
2	叶轮骨架 Impeller frame	45#钢 Steel	6	泵盖 Pump cover	HT200	10	泵轴 Pump shaft	3Cr13
3	叶轮 Impeller	聚全氟乙烯 F46	7	机封压盖 Gland of mechanical seal	1Cr18Ni9Ti	11	轴承体 Bearing body	HT200
4	泵体衬里 Pump casing interlining	聚全氟乙烯 F46	8	静环 Static ring	氧化铝陶瓷 Aluminum oxide ceramic	12	联轴器 Clutch	HT200

## 性能曲线图 PERFORMANCE CURVE DRAWING







性能参数表 PERFORMANCE TABLE

型号 Model	转速 Speed (r/min)	流量 Capacity		扬程 Head (m)	效率 Eff. (%)	功率 Power		必需汽 蚀余量 NPSH(r) (m)	叶轮直径 Impeller diameter (mm)	重量 Weight (kg)
		(m <sup>3</sup> /h)	(L/s)			轴功率 Shaft	电机功率 Motor power			
IHF32-25-125	2900	3.5 5 6.5	0.97 1.39 1.80	21 20 18	40 44 42	0.50 0.62 0.76	1.5	2.3	128	80
	1450	1.75 2.5 3.25	0.49 0.69 0.90	5.25 5 4.5	37 40 38	0.068 0.085 0.105	0.75	2.3	128	75
IHF32-25-125A	2900	3.1 4.5 5.8	0.06 1.25 1.61	17.6 16 14.4	38 41 40	0.70 0.48 0.57	1.1	2.3	115	75
IHF32-25-160	2900	3.5 5 6.5	0.97 1.39 1.80	33 32 30	34 40 42	0.93 1.10 1.26	2.2	2.3	162	90
	1450	1.75 2.5 3.25	0.49 0.69 0.90	8.25 8 7.5	30 38 40	0.131 0.143 0.166	0.75	2.3	162	75
IHF32-25-160A	2900	3.1 4.5 5.8	0.86 1.25 1.61	29 28 26	30 35 36	0.81 0.97 1.14	1.5	2.3	152	80
IHF40-32-125	2900	4.4 6.5 8.3	1.22 1.80 2.31	21 20 18	40 45 43	0.63 0.79 0.95	2.2	2.5	128	90
	1450	2.2 3.25 4.15	0.60 0.90 1.15	5.25 5 4.5	37 41 40	0.085 0.108 0.127	0.75	2.5	128	75
IHF40-32-125A	2900	3.9 5.6 7.4	1.08 1.56 2.06	17.6 16 14.4	38 42 40	0.49 0.58 0.72	1.5	2.5	115	80
IHF40-32-160	2900	4.4 6.5 8.3	1.22 1.80 2.31	33 32 30	34 40 39	1.16 1.42 1.71	2.2	2.5	162	90
	1450	2.2 2.5 3.25	0.60 0.90 1.15	8.25 8 7.5	33 36 37	0.14 0.15 0.18	0.75	2.5	162	75
IHF40-32-160A	2900	3.9 5.6 7.4	1.08 1.56 2.06	29 28 26	32 38 37	0.96 1.23 1.41	1.5	2.5	152	80
IHF50-32-125	2900	8.8 12.5 16.3	1.08 1.56 2.06	21.5 20 17.5	45 54 53	1.15 1.26 1.47	2.2	3.0	128	90
	1450	4.4 6.25 8.15	1.2 1.74 2.26	5.37 5 4.37	37 46 45	0.17 0.18 0.22	0.75	3.0	128	75
IHF50-32-125A	2900	8 11 14.5	2.22 3.05 4.03	17 16 14	42 52 51	0.88 0.92 1.08	1.5	3.0	115	80
IHF50-32-160	2900	8.8 12.5 16.3	2.44 3.47 4.53	33 32 30	41 48 47	1.93 2.27 2.84	4	3.0	160	120
	1450	4.4 6.25 8.15	1.2 1.74 2.26	8.25 8 7.5	31 41 42	0.31 0.33 0.39	0.75	3.0	160	90
IHF50-32-160A	2900	8.2 11.7 15.2	2.28 3.25 4.22	29 28 26	39 47 46	1.16 1.88 2.34	3	3.0	150	100
IHF50-32-200	2900	8.8 12.5 16.3	2.44 3.47 4.53	52 50 48	34 42 41	3.70 4.10 5.20	7.5	3.0	190	150
	1450	4.4 6.25 8.15	1.2 1.74 2.26	13 12.5 12	25 33 36	0.62 0.65 0.74	1.5	3.0	190	100



性能参数表 PERFORMANCE TABLE

型号 Model	转速 Speed (r/min)	流量 Capacity		扬程 Head (m)	效率 Eff. (%)	功率 Power		必需汽 蚀余量 NPSH(r) (m)	叶轮直径 Impeller diameter (mm)	重量 Weight (kg)
		(m <sup>3</sup> /h)	(L/s)			轴功率 Shaft	电机功率 Motor power			
IHF50-32-200A	2900	8.2 11.7 15.2	2.28 3.25 4.22	45 44 42	31 40 39	3.24 3.50 4.45	5.5	3.0	178	130
IHF50-32-250	2900	8.8 12.5 16.3	2.44 3.47 4.53	82 80 76	27 35 34	7.30 7.80 10	11	3.0	250	220
	1450	4.4 6.25 8.15	1.2 1.74 2.26	20.5 20 19	20 27 30	1.22 1.26 1.40	2.2	3.0	250	100
IHF50-32-250A	2900	8.2 11.7 15.2	2.28 3.25 4.22	71 70 68	25 34 33	4.53 6.56 8.52	7.5	3.0	235	170
IHF65-50-125	2900	17.5 25 32	4.86 6.94 9.0	21.5 20 17.5	56 64 63	1.83 2.13 2.42	3	3.5	128	100
	1450	8.75 12.5 16	2.43 3.47 4.44	5.37 5 4.37	45 57 58	0.28 0.30 0.33	0.75	3.5	128	80
IHF65-50-1125A	2900	15.6 22.3 29	4.33 6.19 8.1	17 16 14	53 62 61	1.36 1.57 1.79	2.2	3.5	115	90
IHF65-50-160	2900	17.5 25 32	4.86 6.94 9.0	33 32 27.5	50 59 57	3.15 3.69 4.20	5.5	3.5	160	145
	1450	8.75 12.5 16	2.43 3.47 4.44	8.25 8 6.87	40 53 51	0.49 0.51 0.59	1.1	3.5	160	90
IHF65-50-160A	2900	16.4 23.3 30.4	4.56 6.5 8.44	29 28 24	48 58 56	2.70 3.10 3.54	4	3.5	150	130
IHF65-40-200	2900	17.5 25 32	4.86 6.94 9.0	52 50 45.5	45 54 54	5.50 6.30 7.35	11	3.5	195	225
	1450	8.75 12.5 16	2.43 3.47 4.44	13 12.5 11.4	36 46 47	0.86 0.93 1.05	1.5	3.5	195	100
IHF65-40-200A	2900	16.4 23.3 30.4	4.56 6.5 8.44	46 44 40	43 53 52	4.30 5.00 5.20	7.5	3.5	183	170
IHF65-40-250	2900	17.5 25 32	4.86 6.94 9.0	82 80 76	39 50 52	10.10 10.90 12.74	18.5	3.5	250	240
	1450	8.75 12.5 16	2.43 3.47 4.44	20.5 20 19	32 42 44	1.52 1.62 1.88	3	3.5	250	130
IHF65-40-250A	2900	16.4 23.3 30.4	4.56 6.5 8.44	71 70 68	36 48 50	8.80 9.30 11.25	15	3.5	235	230
IHF80-65-125	2900	35 50 65	9.72 13.9 18.1	21.5 20 17	64 69 67	3.20 3.95 4.50	5.5	4.0	134	150
	1450	17.5 25 32.5	4.86 6.9 9.0	5.37 5 4.25	54 64 62	0.47 0.53 0.61	1.1	4.0	134	90
IHF80-65-125A	2900	31 45 58	8.6 12.5 16.1	17 16 14	62 68 67	2.30 2.88 3.30	4	4.0	120	130
IHF80-65-160	2900	35 50 65	9.72 13.9 18.1	33 32 27.5	60 68 67	5.24 6.41 7.27	11	4.0	165	220

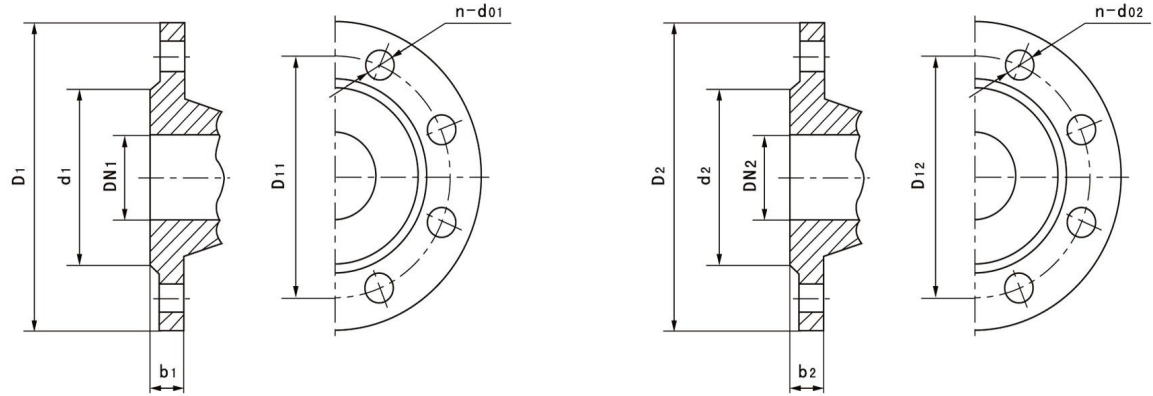




性能参数表 PERFORMANCE TABLE

型号 Model	转速 Speed (r/min)	流量 Capacity		扬程 Head (m)	效率 Eff. (%)	功率 Power		必需汽 蚀余量 NPSH(r) (m)	叶轮直径 Impeller diameter (mm)	重量 Weight (kg)
		(m <sup>3</sup> /h)	(L/s)			轴功率 Shaft	电机功率 Motor power			
IHF80-65-160	1450	17.5 25 32.5	4.86 6.9 9.0	8.25 8 6.88	50 62 61	0.78 0.88 1.00	1.5	4.0	165	100
IHF80-65-160A	2900	31 45 58	8.6 12.5 16.1	29 28 24	58 67 66	4.10 5.12 5.34	7.5	4.0	165	190
IHF80-50-200	2900	35 50 65	9.72 13.9 18.1	52 50 45.5	52 64 65	9.53 10.64 12.39	15	4.0	197	230
	1450	17.5 25 32.5	4.86 6.9 9.0	13 12.5 11.38	51 59 58	1.21 1.44 1.74	3	4.0	197	130
IHF80-50-200A	2900	31 45 58	8.6 12.5 16.1	46 44 40	50 63 62	7.35 8.56 10	11	4.0	185	220
IHF80-50-250	2900	35 50 65	9.72 13.9 18.1	82 80 72	40 50 51	19.40 21.80 25	30	4.0	248	400
	1450	17.5 25 32.5	4.86 6.9 9.0	20.5 20 18	40 50 51	2.40 2.70 3.12	4	4.0	248	145
IHF80-50-250A	2900	31 45 58	8.6 12.5 16.1	71.5 70 63	39 50 51	15.40 17.60 19.90	22	4.0	232	310
IHF100-80-125	2900	70 100 130	19.4 27.8 36.1	23 20 14	70 75 65	6.26 7.26 7.63	11	5.0	136	220
	1450	35 50 65	9.7 13.9 18.0	5.75 5 3.5	65 70 64	0.85 0.97 0.98	1.5	4.5	136	100
IHF100-80-125A	2900	62.6 89 116	17.4 24.7 32.2	18 16 11	68 73 65	4.50 5.30 5.74	7.5	5.0	122	200
IHF100-80-160	2900	70 100 130	19.4 27.8 36.1	34 32 24	68 74 65	9.53 11.78 13.03	15	5.0	170	230
	1450	35 50 65	9.7 13.9 18.0	8.5 8 6.5	60 68 67	1.35 1.60 1.69	2.2	4.5	170	110
IHF100-80-160A	2900	65.4 93.5 121	18.2 26 33.6	32 28 21	66 73 65	8.60 9.30 10.6	11	5.0	159	220
IHF100-65-200	2900	70 100 130	19.4 27.8 36.1	52 50 42	64 72 71	15.50 18.91 20.94	30	5.0	210	400
	1450	35 50 65	9.7 13.9 18.0	13 12.5 10.5	60 68 63	2.06 2.50 2.95	4	4.5	210	140
IHF100-65-200A	2900	65.4 93.5 121	18.2 26 33.6	46 44 37	63 71 70	13 15.02 17.40	22	5.0	197	310
IHF100-65-250	2900	70 100 130	19.4 27.8 36.1	87 80 68	62 69 68	26.60 31.60 35	45	4.0	255	450
	1450	30 50 60	8.33 13.9 16.7	21.2 20 18.5	58 63 62	3.00 4.30 4.72	5.5	4.5	255	170
IHF100-65-250A	2900	65.4 93.5 121	16.2 26 33.6	76.5 70 59	60 68 67	20.25 26.2 28	37	4.5	238	410

### 法兰尺寸图 DIMENSION DRAWING OF FLANGE



吸入法兰  
Inlet flange

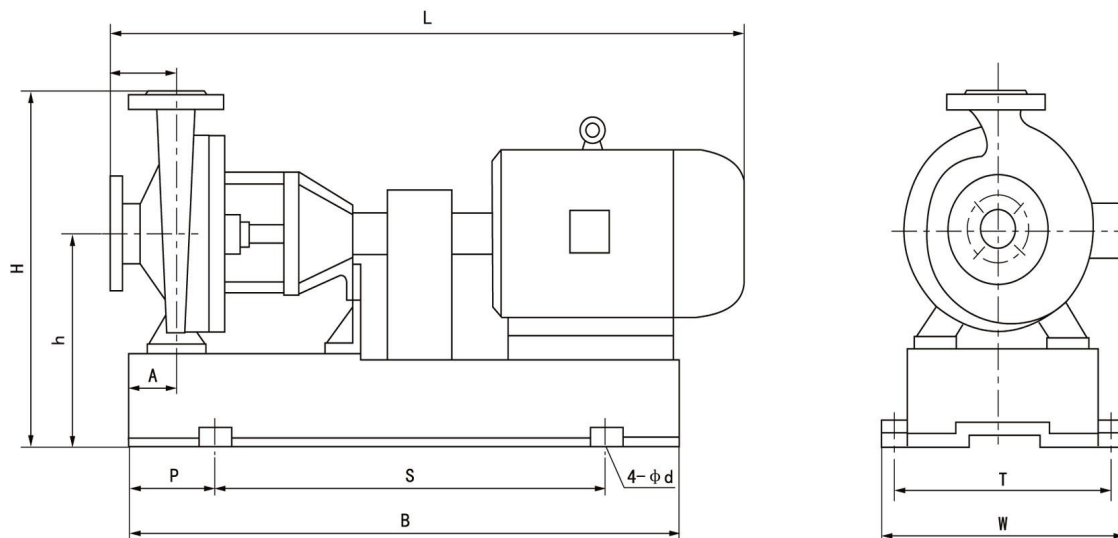
吐出法兰  
Outlet flange

### 法兰尺寸表 DIMENSION TABLE OF FLANGE

产品型号 Product type	吸入法兰 Inlet flange						吐出法兰 Outlet flange					
	DN <sub>1</sub>	d <sub>1</sub>	D <sub>11</sub>	D <sub>1</sub>	b <sub>1</sub>	n <sub>1</sub> -d <sub>01</sub>	DN <sub>2</sub>	d <sub>2</sub>	D <sub>12</sub>	D <sub>2</sub>	b <sub>2</sub>	n <sub>2</sub> -d <sub>02</sub>
IHF32-25-125	32	70	90	120	16	4-14	25	60	75	100	16	4-14
IHF32-25-160	32	70	90	120	16	4-14	25	60	75	100	16	4-14
IHF40-32-125	40	80	100	130	18	4-14	32	70	90	120	16	4-14
IHF40-32-160	40	80	100	130	18	4-14	32	70	90	120	16	4-14
IHF50-32-125	50	102	125	165	20	4-18	32	80	100	140	18	4-18
IHF50-32-160	50	102	125	165	20	4-18	32	80	100	140	18	4-18
IHF50-32-200	50	102	125	165	20	4-18	32	80	100	140	18	4-18
IHF50-32-250	50	102	125	165	20	4-18	32	80	100	140	18	4-18
IHF65-50-125	65	122	145	185	20	4-18	50	102	125	165	20	4-18
IHF65-50-160	65	122	145	185	20	4-18	50	102	125	165	20	4-18
IHF65-40-200	65	122	145	185	20	4-18	40	88	110	150	18	4-18
IHF65-40-250	65	122	145	185	20	4-18	40	88	110	150	18	4-18
IHF80-65-125	80	133	160	200	20	8-18	65	122	145	185	20	4-18
IHF80-65-160	80	133	160	200	20	8-18	65	122	145	185	20	4-18
IHF80-50-200	80	133	160	200	20	8-18	50	102	125	165	20	4-18
IHF80-50-250	80	133	160	200	20	8-18	50	102	125	165	20	4-18
IHF100-80-125	100	158	180	220	22	8-18	80	133	160	200	20	8-18
IHF100-80-160	100	158	180	220	22	8-18	80	133	160	200	20	8-18
IHF100-65-200	100	158	180	220	22	8-18	65	122	145	185	20	4-18
IHF100-65-250	100	158	180	220	22	8-18	65	122	145	185	20	4-18



外形安装尺寸图 OUT-FORM INSTALLATION DIMENSION DRAWING



外形及安装尺寸表 OUT-FORM AND INSTALLATION DIMENSION TABLE

产品型号 Product type	电机型号/功率 Motor type /power (kW)	L	B	S	P	A	W	T	H	h	f	4-φd
IHF32-25-125	Y802-4/0.75	780	720	470	120	70	320	270	350	220	80	4-19
	Y802-2/1.1	780	720	470	120	70	320	270	350	220	80	4-19
	Y90S-2/1.5	790	720	470	120	70	320	270	350	220	80	4-19
IHF32-25-160	Y802-4/0.75	780	730	470	100	70	320	270	350	230	80	4-19
	Y90S-2/1.5	790	740	530	100	70	350	300	370	230	80	4-19
	Y90L-2/2.2	810	740	530	100	70	350	300	370	230	80	4-19
IHF40-32-125	Y802-4/0.75	780	720	470	120	70	320	270	350	220	80	4-19
	Y90S-2/1.5	790	720	470	120	70	320	270	350	220	80	4-19
	Y90L-2/2.2	820	720	470	120	70	320	270	350	220	80	4-19
IHF40-32-160	Y802-4/0.75	780	740	530	100	70	350	300	360	230	80	4-19
	Y90S-2/1.5	800	740	530	100	70	350	300	360	230	80	4-19
	Y90L-2/2.2	810	740	530	100	70	350	300	360	230	80	4-19
IHF50-32-125	Y802-4/0.75	800	740	530	100	70	320	270	360	210	80	4-19
	Y90S-2/1.5	810	740	530	100	70	320	270	360	210	80	4-19
	Y90L-2/2.2	820	740	530	100	70	320	270	360	210	80	4-19
IHF50-32-160	Y802-4/0.75	820	800	560	130	70	350	300	370	210	80	4-19
	Y100L-2/3	900	800	560	120	70	350	300	380	220	80	4-19
	Y112M-2/4	920	800	560	120	70	350	300	380	220	80	4-19
IHF50-32-200	Y90L-4/1.5	850	800	560	130	70	350	300	410	230	80	4-19
	Y132S1-2/5.5	970	850	560	140	70	390	340	440	260	80	4-19
	Y132S2-2/7.5	980	850	560	140	70	390	340	440	260	80	4-19
IHF50-32-250	Y100L1-4/2.2	1030	920	560	200	80	450	400	520	290	100	4-24
	Y132S2-2/7.5	1180	1170	775	200	80	450	400	520	290	100	4-24
	Y160M1-2/11	1280	1170	775	200	80	450	400	520	290	100	4-24



外形及安装尺寸表 OUT-FORM AND INSTALLATION DIMENSION TABLE

产品型号 Product type	电机型号/功率 Motor type /power (kW)	L	B	S	P	A	W	T	H	h	f	4-φd
IHF65-50-125	Y802-4/0.75	800	750	530	130	70	350	300	360	220	80	4-19
	Y90L-2/2.2	850	740	530	100	70	320	270	350	210	80	4-19
	Y100L-2/3	870	760	550	100	70	320	270	360	220	80	4-19
IHF65-50-160	Y90S-4/1.1	870	800	560	120	70	390	340	400	235	80	4-19
	Y112M-2/4	900	800	560	120	70	350	300	370	235	80	4-19
	Y132S <sub>1</sub> -2/5.5	960	840	600	120	70	390	340	400	235	80	4-19
IHF65-40-200	Y90L-4/1.5	990	880	560	140	70	390	340	380	260	100	4-19
	Y132S <sub>2</sub> -2/7.5	1120	850	560	140	70	390	340	380	260	100	4-19
	Y160M <sub>1</sub> -2/11	1140	980	660	150	70	450	400	440	260	100	4-19
IHF65-40-250	Y100L <sub>2</sub> -4/3	1030	920	560	200	80	450	400	520	290	100	4-19
	Y160M <sub>2</sub> -2/15	1180	1170	775	200	80	450	400	520	290	100	4-19
	Y160L-2/18.5	1330	1170	775	200	80	450	400	520	290	100	4-24
IHF80-65-125	Y90S-4/1.1	820	800	560	120	70	350	300	370	235	100	4-24
	Y112M-2/4	900	800	560	120	70	350	300	370	235	100	4-24
	Y132S <sub>1</sub> -2/5.5	980	840	600	120	70	390	340	400	235	100	4-24
IHF80-65-160	Y90L-4/1.5	840	800	560	130	70	390	340	380	260	100	4-24
	Y132S <sub>2</sub> -2/7.5	1040	850	560	140	70	390	340	440	260	100	4-24
	Y160M <sub>1</sub> -2/11	1140	980	660	160	70	460	400	440	260	100	4-24
IHF80-50-200	Y100L <sub>2</sub> -4/3	940	850	560	140	70	390	340	380	260	100	4-24
	Y160M <sub>1</sub> -2/11	1000	960	660	150	60	450	400	460	270	100	4-24
	Y160M <sub>2</sub> -2/15	1020	960	660	150	70	450	400	460	270	100	4-24
IHF80-50-250	Y112M-4/4	1050	920	560	200	80	450	400	510	285	100	4-24
	Y180M-2/22	1250	1050	750	150	80	480	430	510	285	100	4-24
	Y200L <sub>1</sub> -2/30	1320	1120	820	150	80	510	460	510	285	100	4-24
IHF100-80-125	Y90L-4/1.5	960	800	560	130	80	390	340	440	260	100	4-24
	Y132S <sub>2</sub> -2/7.5	1040	850	560	140	80	390	340	440	260	100	4-24
	Y160M <sub>1</sub> -2/11	1140	980	660	150	80	460	400	440	260	100	4-24
IHF100-80-160	Y100L <sub>1</sub> -4/2.2	940	850	560	140	80	390	340	460	260	100	4-24
	Y160M <sub>1</sub> -2/11	1140	980	660	150	80	450	400	460	260	100	4-24
	Y160M <sub>2</sub> -2/15	1140	980	660	150	80	450	400	460	260	100	4-24
IHF100-65-200	Y112M-4/4	1050	920	560	200	80	480	430	525	300	100	4-24
	Y180M-2/22	1250	1050	750	150	80	480	430	525	300	100	4-24
	Y200L <sub>1</sub> -2/30	1320	1120	820	150	80	510	460	525	300	100	4-24
IHF100-65-250	Y132S <sub>1</sub> -4/5.5	1140	950	560	160	80	480	430	550	300	100	4-24
	Y200L <sub>2</sub> -2/37	1380	1220	880	200	80	540	490	550	300	100	4-24
	Y225L-2/45	1780	1450	1280	200	80	610	550	550	300	100	4-24





## 安装与注意事项 PRECAUTIONS AT INSTALLATION

1. 泵的安装是否合理，对泵的正常运行与使用寿命有极其重要影响，故安装和校正必须仔细进行。

2. 对照安装尺寸预埋好底脚螺栓，做好混凝土基础工作。

3. 待基础水泥凝固后，将泵安装基础上，应用水平仪检查泵和电机轴的水平情况，如不水平，应用垫铁调整直至水平，调妥后拧紧底脚螺母。

4. 检查泵的转动部件是否有卡住擦碰现象，应严格检查泵轴与电机的同轴度，可用薄片调整使其同心，最后用于转动联轴器，转动轻松均匀无擦碰现象则为正常。

5. 泵吸入和吐出管路应有各自的支架，不允许管路的重量直接由泵来承受，以免把泵压坏。

6. 泵的安装位置高于液面(在泵的吸程允许范围内)时，应在吸入管路端部安装上底阀，并在排出管路上设置灌液螺孔或阀门，供泵起动前灌液之用；泵的安装位置低于液面时，应在吸入管路上安装控制阀门和过滤装置，以防止杂物吸入泵，过滤面积应大于管路面积的3-4倍。

7. 扬程高的泵在出口流量控制阀门的外端管路上还应安装逆止阀，以防止突然停机时的水锤破坏。

8. 必须保证泵的安装高度符合泵的汽蚀余量，并考虑管路损失及介质温度。

9. 泵用于有吸程场合，进水管端应装有底阀，并且进出口管路不应有过多弯道，同时不得有漏水、漏气现象存在。

1. It acts an important influence on the normal work of the pump whether the pump is reasonably mounted, so both installation and correction must be carefully carried out.

2. Preset the foot bolts and make the concrete basis according to the installation dimensions.

3. When the basis cement gets solid, mount the pump onto it and level both pump and motor with a leveler and, if unlevelled, use sizing blocks to regulate and then tighten the bolts.

4. Check if the moving parts on the pump are jammed and collided and check the concentricity between the shafts of both pump and motor, which can be made correctly by means of adjusting with a sheet, and finally check the moving clutch, which shall be lightly movable without collision.

5. Set both suck-in and vomiting pipes with a stand separately and do not let the pump directly bearing the weight of the pipelines to prevent it from damage.

6. When the pump is mounted over the liquid level (within the permitted suction stroke range), mount a foot valve on the end of the suck-in pipeline and set a liquid-pouring screwed hole or a valve on the vomiting one for the purpose of pouring liquid into the pump before start; when the pump is mounted below the level, mount a control valve and a filter on the suck-in pipeline to prevent impurities from being sucked into the pump, with the filtering area bigger than the area of the pipeline by 3-4 times.

7. For the pump of a high head, a check valve shall also be mounted on the pipeline at the outside end of the exit flow control valve so as to prevent the water hammer destruction at an abrupt stop.

8. The installation height of the pump shall conform the net positive suction head of it and both pipeline loss and medium temperature need to be considered.

9. When the pump is used with a suction stroke, mount a foot valve at the end of the incoming water pipe, do not leave too many curved conduits with both inlet and outlet pipelines and make sure of non-water, non-air leaks.



10 在进口管路上最好装有过滤网，以防杂质进入叶轮内部。滤网的有效面积应是进水管面积的3-4倍，以保证液体的自由畅通。

11 为了维护和使用方便安全，在泵组的进、出口管路上各安装一只调节阀及泵出口附近安装一只压力表，以保证泵在额定范围内运行，确保泵的正常工作和使用寿命。

12 进口如需扩径连接，请选用偏心异径管道接头。

10. It will be better for a filtering screen to be set on the inlet pipeline so as to prevent impurities from getting into the impeller and the effective area of the screen shall be 3-4 times that of the incoming water pipe so as to ensure the liquid to go through smoothly

11. For the sake of safety and convenient use and care, mount a regulating valve on both inlet and outlet pipelines of the pump unit and a pressure gauge near the pump exit so as to make it sure for the pump to work within the rated range and ensure normal work and duration of it.

12. When the inlet needs to be expanded for connection, use an eccentric reduced pipeline joint.

## 水泵起动、运转和停车 PUMP START, RUNNING AND STOP

### 一、起动

1、泵用于有吸程场合，即进口为负压时，应先向管路中进行灌水或有真空泵引水，使水充满整个泵和进口管路，注意进口管路必须密封，不得有漏气现象存在。

2、关闭出品管上的闸阀及压力计旋塞，以减小起动电流。

3、用手转动转子几圈，使轴承润滑并检查泵内叶轮和密封环运转有无碰擦，如转不动，不应起动，直到找出故障原因为止。

4、试起动，电机转向应和泵上的箭头指向一致，打开压力计旋塞。

5、当转子达到正常运转后，压力计显示出压力时，逐渐打开出口闸阀，调节至所需工况。

### 二、运转

1、泵在运转时，必须注意观察仪表读数，尽量使泵在铭牌规定的流量扬程附近工作，严防大流量运行。

2、定时检查电机电流值不应超过额定电流。

### 一. Start

1. When the pump is used with a suction stroke, that is the inlet comes as a negative pressure, first pour water into the pipeline or lead water in with a vacuum pump to have both pump and inlet pipeline full of water. The inlet pipeline must be sealed without air leak.

2. Close the gate valve and the cork on the pressure gauge on the outlet pipeline to reduce the starting current.

3. Turn the rotor several turns to have the bearing lubricated, check if both impeller and seal ring are collided with each other when moving and, if unmovable, do not start the pump till finding out the cause.

4. Carry out a trial start, the motor shall be moving in the direction identical to that the arrow on the pump indicates. Open the cork on the pressure gauge.

5. When the rotor gets to the normal run and the pressure gauge shows a pressure, gradually open the exit valve and adjust it to the desired working condition.

### 二. Run

1. When the pump is at running, check the readouts on the meters and have the pump work with both flow and head set on the name plate as can as possible, without working with a big flow.

2. Check the current value of the motor at a regular time interval and it shall not be over the rated one.





3. 泵的轴承温度不得高于 75℃，并不得超过外界温度 35℃。

4. 泵在开始运转时应放松填料压盖，当膨胀石墨或填料完全膨胀后再调整到合适的程度。

5. 易损件磨损过大应及时更换。

6. 发现异常现象，立即停机检查原因。

### 三、停车

1. 关闭出水管路上的闸阀，关闭真空表旋塞。

2. 停止电机，然后关闭压力计旋塞。

3. 如有冬季寒冷季节，应将泵内液体放尽，以免冻裂。

4. 长期停止使用，应将泵拆卸，清洗上油，妥善保管。

3. The bearing temperature shall not be over 75℃ and over the outside one by 35℃.

4. Loosen the packing gland when the pump starts running and then set it properly when the expanding graphite or packing gets expanded completely

5. Replace the easily wearable parts on time when they are worn out excessively

6. In case of an abnormality, stop the pump and check the cause.

### 三. Stop

1. Close the gate valve on the outgoing water pipeline and put on the cork on the vacuum meter

2. Stop the motor and then close the cork on the pressure gauge.

3. In winter or a cold season, drain out the liquid inside of the pump to prevent it from frozen crack.

4. In case of a long time stop, disassemble the pump, clean and lubricate it and then keep it properly

## 泵的维修与保养 REPAIR AND MAINTENANCE OF PUMP

1. 定期检查泵和电机，更换易损零件。

2. 经常注意对轴承箱加注优质钙基润滑脂，以保证轴承良好的润滑状态。

3. 长期停机不使用时，除将泵内腐蚀性液体放尽外，更应注意各部件及泵内流道的清洗干净，并切断电源。

4. 泵严密空载运转。

5. 介质中如含有固体颗粒时，应在泵入口处须加过滤器。

1. Check both pump and motor and replace the easily wearable parts periodically

2. Often lubricate the bearing box with quality calcium based lubricating grease to have it in a good lubricated status.

3. In case of a long time stop, in addition to getting the corrosive liquid inside of the pump drained out completely much attention shall be paid to the cleaning of the parts and the runner therein and cut-off of the power.

4. Never have the pump idly running.

5. Set a filter at the entrance of the pump if there are solid grains in the medium.





## 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、水泵不吸水，压力表及真空表的指针剧烈跳动 The pump does not suck water while the pointers of both pressure gauge and vacuum meter jump severely.	a、灌注引水不够 Insufficient poured water b、管路与仪表联接外漏气 Air leaks from the connection between the pipeline and the meter c、吸程过高 Too high suction stroke	a、检查底阀是否漏水，再灌足引水 Check if water leaks from the foot valve, then pour water sufficiently b、拧紧漏气处 Tighten the air-leak point c、降低吸水高度 Lower it
2、水泵不吸水，真空表指示高度真空 The pump does not suck water while a high vacuum is shown on the vacuum meter.	a、底阀没有打开或已堵塞 The foot valve is not opened or already blocked b、吸水管路阻力太大 Too heavy resistance to the suction pipeline c、过滤器堵塞 The filter is blocked	a、检查底阀 Check the foot valve b、更换吸水管 Replace it c、清理过滤器 Clear it up
3、压力表有压力，但仍不出水 No water is out, though there is a pressure shown on the pressure gauge.	a、出水管阻力太大 Too heavy resistance to the outgoing water pipe b、旋转方向不对 Wrong moving direction c、出口阀门未开 The valve on the outlet pipes not opened d、叶轮堵塞 The impeller is blocked	a、检查或缩短水管 Check or make the pipe shorter b、检查电机，两相互调 Check the motor, change two phases c、打开出口阀 Open the outlet valve d、清除叶轮内的污物 Clear up the filth therein
4、达不到设计流量 Unable to get the designed flow	a、有空气吸入 Air has been sucked in b、由于水位降低，淹没深度不够 Insufficient submerged depth, because the level becomes reduced c、叶轮内有异物堵塞 Inside of the impeller is blocked by foreign matters d、转子部分严重磨损 The rotor is partially worn out severely	a、检查漏气部位并排除 Check the air-leak point and repair it b、延长吸水管，加深淹没深度 Extend the suction pipe to make it deeper c、拆卸并清除异物 Disassemble the impeller and clear up the foreign matters d、更换密封环 Replace the seal ring
5、泵消耗功率过大 Excessively consumed power by the pump.	a、填料压得过紧，并发热 The packing is pressed too tightly and gets heated b、流量过大 Excessive flow c、回转子与壳体有碰撞 Collision happens between the rotary body and the crust d、泵轴承磨损 The pump bearing is worn out e、泵轴弯曲 The pump shaft gets bent	a、适当放松 Loosen it properly b、并小闸阀开度 Make the opening of the gate valve a little bit smaller c、修整 Do adjustment d、更换轴承 Replace it e、更换或校正 Replace or make it straight
6、泵振动过大 Excessively severe vibration with the pump.	a、叶轮局部有堵塞 The impeller is blocked partially b、叶轮破损 The impeller gets damaged c、流量过大 Excessive flow d、泵轴与电动机不同心 The pump shaft is eccentric to the motor shaft e、轴承破损 The bearing gets damaged f、混入空气，发生汽蚀 Air is mixed in, cavitation erosion happens	a、拆卸清除异物 Disassemble the impeller and clear up the foreign matters b、更换 Replace it c、稍开出口阀 Make the opening of the outlet valve a little bit bigger d、定点找正 Correct it e、更换 Replace it f、改变吸入位，改善吸水管 Change the suck-in position, improve the suction pipe



## 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	14	55				15	20																	
50	0.8	3.1	13	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.

### 阀及弯管折合直管长度 (每个)

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
全开闸阀 Fully opened gate valve	12	未畅开加倍 Multiple in case of unopen
标准弯管 Standard elbow	25	
截止阀 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, 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.

### 一定管路直径之最大流量限制

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.