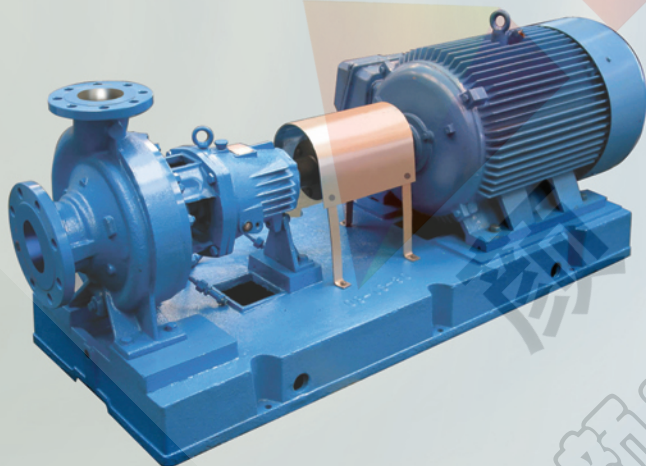




国内同行业首家通过 ISO9001 国际质量管理体系认证
国内同行业首家通过 ISO14001 环境管理体系认证
国内同行业首家潜水电泵通过欧洲 CE 认证

ZA 石油化工流程泵

ZA Petro Chemical Process Pump



YANSHAN

山东颜山泵业有限公司

Shandong yanshan pumps Co.,Ltd



公司概况

山东颜山泵业有限公司是一家集科研开发、设计咨询、生产、销售、服务于一体的研制生产各类水泵、罗茨鼓风机及相关成套设备的重点骨干企业，国家高新技术企业。

主导产品有井用潜水电泵、潜水渣浆泵、潜水排污泵、长轴深井泵、矿用隔爆潜水电泵、矿用耐磨多级离心泵、渣浆泵、锅炉给水泵、化工流程泵、消防泵、罗茨转子泵、单级双吸中开离心泵、自动变频供水设备、管道静音给水设备、清淤疏浚设备及罗茨鼓风机等 46 个系列 520 个品种 3300 多个规格型号。

公司率先在全国同行业中通过了国际质量管理体系认证、环境管理体系认证、测量管理体系认证、职业健康安全管理体系认证、标准化良好行为 3A 级认证和欧洲 CE 产品认证，建立有完善的质量保证体系，拥有国家 1 级精度的泵类产品检测检验中心，对产品实行严格的质量控制，确保产品的实物质量充分满足顾客需求。公司生产的“颜山”牌产品荣获山东名牌产品称号，“颜山”牌注册商标荣获山东省著名商标。

公司科研技术力量雄厚，拥有“山东省水力设备工程技术研究中心”和省级企业技术中心，具有自主研发各种水泵、潜水电机、罗茨鼓风机及成套给排水设备的能力，还可根据用户特殊要求，制作各种非标规格的潜水泵、离心泵、潜水电机和罗茨鼓风机等产品及相关成套设备。同时长期与中国科学院、中国农机院、中国煤炭科学研究院、江苏大学、山东大学、山东理工大学等科研院所合作，开发适应用户不同需求的高新技术产品。

“颜山”牌产品，素以工艺精湛、性能稳定可靠、质量优良享誉国内外市场，能够满足城市给排水、抗旱排涝、采暖制冷、消防供水、水利工程、石油化工、冶金矿山、核电火电、纺织印染、污水处理、景观喷泉、河道清淤等行业的取排水和送排风需要。产品畅销全国各地，同时还出口到美国、墨西哥、日本、澳大利亚、伊拉克、伊朗、孟加拉等几十个国家和地区。国内外许多大型企业和知名工程应用“颜山”牌产品，如大亚湾核电站、南水北调工程、黄河清淤工程、北京奥运会、温哥华冬奥会、云南抗旱工程、胜利油田、齐鲁石化、中国神华集团、河南神火集团、莱芜钢铁集团、济南钢铁集团、青岛五四广场百米喷泉、江西南昌红谷滩广场 148 米喷泉、淄博自来水公司污水处理工程等。

颜山泵业愿真诚与国内外新老用户精诚合作，共同发展！



以精湛的技术 优质的产品 竭诚为用户服务

颜山泵业



颜山泵业

YANSHAN

ZA石油化流程泵,是根据API610(第八版)和VDMA24297(轻/中型)规范设计的。

应用范围:

本泵适合输送清洁或含有颗粒的液体, 低温或高温的液体, 中性或有腐蚀性的液体。

主要用于:

■ 炼油厂、石油化学工业、煤加工工业、和低温工程。

■ 化学工业、造纸、纸浆业、制糖业和普通流程工业

- 供水厂、海水淡化厂
- 供暖和空气调节系统
- 发电厂、核电站
- 环境保护工程
- 船舶及海上工业等

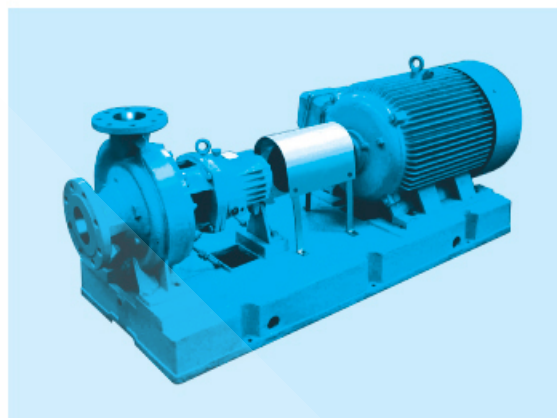
性能参数:

口径(PN) 25-400mm
流量(Q) 可达2600m³/h
扬程(H) 可达300m
工作压力(P) 可达2.5MPa
工作温度(T) -80℃~+300℃

结构特点:

该泵为单级、卧式径向剖分蜗壳泵,泵体为脚支撑。单吸径向叶轮。轴向吸入,径向排出。

根据使用条件,采用前、后口环及平衡孔进行水力平衡。填料箱体有冷却或加热管接头。



轴封采用填料密封,也可以采用单端面或双端面机械密封。配有冷却、冲洗或密封液系统。

标准管路按API规范设计。

吸入及排出管法兰的额定压力等级相同。

从电机端看,泵为顺时针转动。

输送介质

■ 各种温度和浓度的硫酸、硝酸、盐酸和磷酸等无机酸和有机酸。

■ 各种温度和浓度的氢氧化钠和碳酸钠等碱性溶液

■ 各种盐溶液。

■ 各种液态石油化工产品,有机化合物,以及其它有腐蚀性的原料和产品。

目前我公司的耐腐蚀材料,能满足上述各种介质的要求。订货时,请用户提供所要输送介质的详细情况。

Centrifugal pumps in process design, seriesZA, according to API610 (8th edition) and VDMA 24297 (light/medium duty)

Application ranges

For pumping clean or slightly polluted, cold or hot, chemically neutral or aggressive liquids.

- in refineries, petrochemical industry, coal processing and low temperature engineering.
- in chemical industry, fibre and general processing industries, particularly in paper and pulp industries, sugar industry.
- in water industry, particularly seawater desalination plants.
- in heating and air-conditioning.
- in fossil and nuclear power stations.
- in environmental protection engineering.
- in ship and offshore industries.

Operating data

Sizes DN 25 — 400 mm

Capacities	Q	up to 2600m ³ /h
Heads	H	up to 300m
Operating pressures	P	up to 2.5MPa
Operating temperatures	t	-80°C up to +300°C

Design

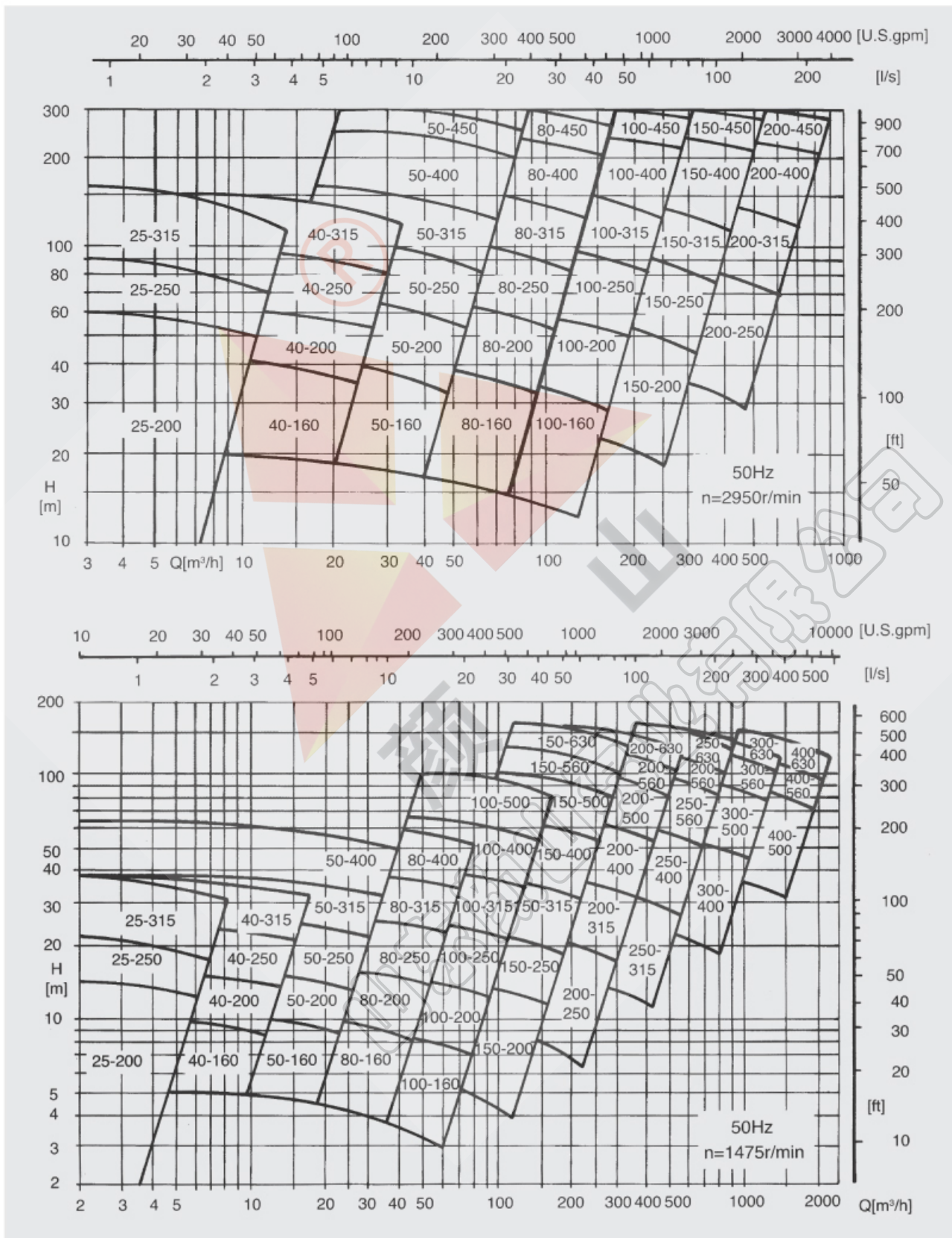
Single stage, horizontal, radially split volute casing pumps with feet below and single entry radial impeller, end suction radially upwards discharge branch. Depending on operating conditions hydraulic balance provided by front or rear wear rings and balance holes. Casing cover with cooling or heating connections, shaft sealing by packings or mechanical seals of any design (single or double working), connections for cooling, flushing or sealing liquid. Standardized pipework according to API plans. Flanges possible according to GB, DIN or ANSI. Same nominal pressure for suction

and discharge flanges. Direction of rotation clockwise seen from driven end.

Pumping medium

- Sulphuric acid, nitric, hydrochloric acid, phosphoric acid for organic acid and inorganic acid which at various temperature and concentration.
- Sodium hydroxide, sodium carbonate and alkaline liquid at various temperature and concentration.
- All kinds of salt solution.
- Various liquid petrochemical products, organic compound as well as raw materials with corrosion behaviors and the products.
- At present, anti-corrosive materials, for pumps provided by our company can meet all the requirements of the medium mentioned above.
- Please provide the detail service conditions, for the pump to us, when you order.

型谱图 Performance Range



设计特点

设计特点	优 点	经济效益
按API610(第八版)标准设计采用组件装配, 联轴器带有加长段	保证执行流程工业的结构和维修标准 拆装泵时无须拆下管道和电机, 易于拆装, 便于维修	可靠性高 互换性好 停工时间短 维修费用低
不同规格泵的基本部件可以互换	53种规格泵只需8种规格的轴承部件, 对于重工位的ZE、ZF、ZU型泵有具有相同水力部件(叶轮)和轴承部件	备件少 易保管 费用低
双蜗壳泵体(口径80mm以上) 管径大, 腐蚀余量大	径向力小, 轴挠度小。轴承处挠度小于0.05mm。 管内流速小, 振动小, 噪音低。 泵体带有自动排气装置。管道结构简单, 承载力好。泵体无须支架, 不会断裂, 寿命长。	轴套和耐磨轴承作用寿命长 维修方便、费用低 效率高、能耗小、管道支撑和早噪音防护费用低, 备件少, 稳定性高
叶轮结构 闭式叶轮(标准件) 开式叶轮(ZAO)型 叶轮用钢丝螺套自锁	闭式叶轮, 对工况适应性强, 效率高, 汽蚀值低 开式叶轮, 适于输送汽液两相流和含固体颗粒浓度大(达10%)的液体 汽蚀值极低, 要求装置汽蚀余量小 轴不与输送的介质接触	本系列泵, 结构合理, 便于维修, 能耗低。稳定可靠, 价格便宜
磨损件可以更换 叶轮和泵体口环(角结构也可), 轴封处轴套, 泵体磨损环可以冲洗	当泵体、叶轮上的口环和轴套磨损后, 更换之, 泵体、叶轮和轴仍可以继续使用。	节省维修和备件费用 维修简便迅速
整体重型轴承支架 油润滑球轴承, 自动润滑而且自动控制油位 当温度 $T \leq 250^{\circ}\text{C}$ 时, 无须冷却 当温度 $T > 250^{\circ}\text{C}$ 时, 用风冷却或水冷却 迷宫环密封(标准件), 也可以用径向密封环	轴承支架同轴度好, 稳定性高, 刚性好, 挠度小。 $n_k > n$, 零件少 轴承拆检次数少 不增加轴承温度	填料密封或机械密封寿命长 易于维修, 停工时间短 运行费用低, 不需对冷却系统投资
密封箱尺寸适宜	可采用填料密封和各种结构的机械密封, 并可互换	互换性好, 改型时填料箱不必另行加工

Design Features—Advantages—Economic Considerations

Design features	Advantages	Economic considerations
Process design API160 (8th edition) Assembly unit coupling with spacer	Design and maintenance standard complying with process industry is ensured Rapid disassembly or assembly Disassembly without removal of pipework and driver	High reliability and interchangeability Short shut-downs Low maintenance costs
Interchangeable modular elements for various sizes	Only 8 bearing frames for 53 sizes. Same hydraulics (impellers) and bearing frames as for heavy duty series ZE, ZF and ZU.	Few components, economic spare part stockkeeping, low stockkeeping costs
Double volute casing (above 80mm branch size) Large suction and discharge branches increased corrosion allowance Enclosed casing gasket and metallic seat	Small radial thrust, small shaft deflection ($<0.05\text{mm}$) in the area of the shaft seal Low branch velocity, low noise level due to additional primary measures at impeller, casing with automatic vent, simple pipework design, better absorption of force, long rated life of casings, casing joint cannot break and casing parts cannot brace	Long rated life of antifriction bearings, long rated life of shaft seals, short shut-downs, low maintenance costs, higher efficiency, low operating costs, low costs for pipework support and sound protection, low spare part and repair costs, high reliability
Impeller Closed impeller (standard) Open impeller depending on sizes (ZA0) Impeller fastening with automatically controlled threaded insert	Optimum compliance with various operating conditions, closed impeller with high efficiencies, low NPSHreq values Open impeller for very gaseous liquids, high solids concentrations (up to 10% at 100%) Extremely low NPSHreq values Small suction heads required Shaft completely protected from liquid pumped (dry shaft)	High reliability of pumps, low maintenance periods, low energy costs due to careful pump selection Small investment costs for plants Corrosion and wear protection Easy assembly/disassembly
Interchangeable wear parts Impeller and casing wear rings (angular design possible) Shaft sleeve in the area of the shaft seal	When casing and impeller wear rings and shaft seal are subject to wear, casing, impeller and shaft can be reused	Considerable saving of repair and spare part stockkeeping costs, short repair periods
One-piece heavy duty bearing bracket Oil lubricated antifriction bearings, with automatic lubrication and oil level control $t \leq 250^\circ\text{C}$, no cooling $t > 250^\circ\text{C}$, air cooling (fan) (water cooling possible) with labyrinth sealing (standard) (radial sealing ring possible)	Stable, aligning shaft position, robust shaft with small shaft deflection, no operation, few components few bearing checks required. no cooling water pipework no cooling water consumption no increased bearing heating, wear-resistant bearing sealing	Long rated life of packings or mechanical seals short shut-downs Easy maintenance, low operating costs No investment costs for cooling system
Well dimensioned stuffing box housing	Possibility of replacing packings or mechanical seals of any design	High interchangeability, low modification costs (no machining of stuffing box housing)

性能表 Performance Chart

型号 Size	叶 轮 型 式	泵额定转速n=2950r/min										泵额定转速n=1475r/min										
		流 量 Q m³/h	扬 程 H m	轴 承 架 LK	比重r=1.00						比重r=1.35						比重r=1.84					
					电机功率及型号						流 量 Q m³/h	扬 程 H m	轴 承 架 LK	电机功率及型号								
					kW				kW							kW				kW		
ZA25-200	A	11.5	49	0	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	5.8	12	0	1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4			
	B	10.5	42		4	Y112M-2	5.5	Y132S1-2	7.5	Y132S2-2	5.4	11		1.1	Y90S-4	1.1	Y90S-4					
	C	9	36		3	Y100L-2	4	Y112M-2	5.5	Y132S1-2	4.6	8.5										
	D	7.5	28		2.2	Y90L-2	3	Y100L-2	4	Y112M-2	4	6.5										
	E	5.5	16		1.5	Y90S-2	1.5	Y90S-2	2.2	Y90L-2	3	4										
ZA25-250	A	16	70	2	11	Y160M1-2	15	Y160M2-2	22	Y180M-2	8.1	17.7	1	1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4			
	B	14.5	62		11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	7.7	15.6		2.2	Y100L1-4							
	C	13.6	42		7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	7.2	10.9										
	D	11.3	24		5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	6	6.2				1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4	
ZA25-315	A	20	128	2	30	Y200L1-2	37	Y200L2-2	55	Y250M-2	10	32.3	2	5.5	Y132S-4	7.5	Y132M-4	7.5	Y132M-4			
	B	18.6	116		30	Y200L1-2	37	Y200L2-2	45	Y225M-2	9.2	29		4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4			
	C	17	99		22	Y180M-2	30	Y200L1-2	37	Y200L2-2	8.3	24.3		3	Y100L2-4	5.5	Y132S-4	5.5	Y132S-4			
	D	15.7	87		18.5	Y160L-2	30	Y200L1-2	37	Y200L2-2	7.6	22		3	Y100L2-4	4	Y112M-4	5.5	Y132S-4			
	E	14.5	76		15	Y160M2-2	22	Y180M-2	30	Y200L1-2	7.1	19.5		2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4			
	F	13	64		11	Y160M1-2	15	Y160M2-2	22	Y180M-2	6.4	16		2.2	Y100L1-4	2.2	Y100L1-4	3	Y100L2-4			
ZA40-160	A	28	33	1	5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	14	8	1	1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4			
	B	25.6	29		4	Y112M-2	5.5	Y132S1-2	5.5	Y132S1-2	11	5.5		1.1	Y90S-4	1.1	Y90S-4					
	C	22	22		2.2	Y90L-2	3	Y100L-2	4	Y112M-2	9.5	4.5										
	D	20	16		2.2	Y90L-2	3	Y100L-2	4	Y112M-2	9.5	4.5										
ZA40-200	A	29	53	1	11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	14.5	13	1	1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4			
	B	26	47		7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	13	11.5		1.1	Y90S-4	1.1	Y90S-4					
	C	22	39		5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	11.5	9										
	D	18	20		4	Y112M-2	5.5	Y132S1-2	7.5	Y132S2-2	9.5	7										
ZA40-250	A	32	78	2	18.5	Y160L-2	22	Y180M-2	30	Y200L1-2	16	19.5	1	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4			
	B	30	72		15	Y160M2-2	18.5	Y160L-2	15	Y160M2-2	15	18		2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4			
	C	24	60		11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	12.5	14		1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4			
	D	21	47		7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	10.5	11		1.1	Y90S-4	1.5	Y90L-4	2.2	Y100L1-4			
ZA40-315	A	42	115	2	37	Y200L2-2	45	Y225M-2	75	Y280S-2	21	29	2	5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4			
	B	40	107		30	Y200L1-2			55	Y250M-2	20	26.5		4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4			
	C	34	81		22	Y180M-2	30	Y200L1-2	45	Y225M-2	17.5	20										
	D	29	61		15	Y160M2-2	22	Y180M-2	30	Y200L1-2	15	15		3	Y100L2-4	3	Y100L2-4	5.5	Y132S-4			

性能表 Performance Chart

型号	叶轮型式	泵额定转速n=2950r/min										泵额定转速n=1475r/min												
		流量 Q m³/h	扬程 H m	轴承架 LK	比重r=1.00						比重r=1.35						比重r=1.84							
					电机功率及型号						流量 Q m³/h	扬程 H m	轴承架 LK	电机功率及型号										
					kW				kW							kW				kW				
ZA50-160	A	50	34	2	11	Y160M1-2	15	Y160M2-2		15	Y160M2-2	25	8.4	1	1.5	Y90L-4	2.2	Y100L1-4	2.2	Y100L1-4	1.5	Y90L-4	1.5	Y90S-4
	B	45	29		7.5	Y132S2-2	11	Y160M1-2				22.5	7				1.5	Y90L-4						
	C	38	22		5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	19	5.5				1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4	1.1	Y90S-4	
	D	31	17		3	Y100L-2	4	Y112M-2	5.5	Y132S1-2	16.5	4												
ZA50-200	A	62	52	2	18.5	Y160L-2	22	Y180M-2	30	Y200L1-2	31	13	1	3	Y100L2-4		3	Y100L2-4	4	Y112M-4	2.2	Y100L1-4	2.2	Y100L1-4
	B	56	46		15	Y160M2-2	18.5	Y160L-2	22	Y180M-2	28.5	11.5				2.2	Y100L1-4							
	C	49	37		11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	25	9				1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4	1.5	Y90L-4	
	D	43	28		7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	22	7				1.1	Y90S-4	1.5	Y90L-4	2.2	Y100L1-4	1.1	Y90S-4	
ZA50-250	A	70	82	2					55	Y250M-2	35	20	2	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4	3	Y100L2-4	3	Y100L2-4	
	B	66	75		30	Y200L1-2	37	Y200L2-2		45	Y225M-2	33		18.5										
	C	60	60		22	Y180M-2	30	Y200L1-2	37	Y200L2-2	30	15				3	Y100L2-4	4	Y112M-4	5.5	Y132S-4	2.2	Y100L1-4	
	D	50	45		15	Y160M2-2	18.5	Y160L-2	22	Y180M-2	26	11				2.2	Y100L1-4	3	Y100L2-4	3	Y100L2-4	1.5	Y90L-4	
ZA50-315	A	87	115	3	55	Y250M-2	75	Y280S-2	110	Y315S-2	44	28	2	11	Y160M-4	11	Y160M-4	15	Y160L-4	7.5	Y132M-4	7.5	Y132M-4	
	B	80	100		45	Y225M-2			90	Y280M-2	40	24				7.5	Y132M-4							
	C	70	78		30	Y200L1-2	45	Y225M-2	55	Y250M-2	35	19				5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4	4	Y112M-4	
	D	57	57		22	Y180M	30	Y200L1-2	37	Y200L2-2	30	14				3	Y100L2-4	4	Y112M-4	5.5	Y132S-4	1.5	Y90L-4	
ZA50-400	A	82	194	3	110	Y315S-2	160	Y315L1-2			41	48	2	15	Y160L-4	22	Y180L-4	30	Y200L-4	7.5	Y132M-4	7.5	Y132M-4	
	B	78	175		90	Y280M-2	132	Y315M-2	160	Y315L1-2	39	43				11	Y160M-4	15	Y160L-4	18.5	Y180M-4	4	Y112M-4	
	C	70	140		75	Y280S-2	90	Y280M-2	132	Y315M1-2	35	34				7.5	Y132M-4	11	Y160M-4	15	Y160L-4	3	Y100L2-4	
	D	60	102		45	Y225M-2	75	Y280S-2	90	Y280M-2	30	25												
ZA50-450	A	93	248	4	132	Y315M-2							1											
	B	87	233		132	Y315M-2																		
	C	75	195		110	Y315S-2	132	Y315M-2																
	D	56	141		55	Y250M-2	75	Y280S-2	110	Y315S-2														
ZA80-160	A	94	94	2	15	Y160M2-2	18.5	Y160L-2	30	Y200L1-2	47	8	2	2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4	1.5	Y90L-4	1.5	Y90S-4	
	B	85	85		11	Y160M1-2	15	Y160M2-2	18.5	Y160L-2	42	7				1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4	1.1	Y90S-4	
	C	76	77				11	Y160M1-2	15	Y160M2-2	38	5.5												
	D	66	66		5.5	Y132S1-2	7.5	Y132S2-2	11	Y160M1-2	34	4				1.1	Y90S-4	1.1	Y90S-4	1.5	Y90L-4	1.1	Y90S-4	
ZA80-200	A	103	54	1	30	Y200L1-2	37	Y200L2-2			51	13.5	1	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4	3	Y100L2-4	3	Y100L2-4	
	B	95	48		22	Y180M-2	30	Y200L1-2	37	Y200L2-2	47	12				3	Y100L2-4	4	Y112M-4	5.5	Y132S-4	2.2	Y100L1-4	
	C	54	38		15	Y160M2-2	22	Y180M-2	30	Y200L1-2	41	9.5				2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4	1.5	Y90L-4	
	D	70	30		11	Y160M1-2	15	Y160M2-2	22	Y180M-2	36	7.5				1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4	1.1	Y90S-4	

性能表 Performance Chart

型号 Size	叶 轮 型 式	泵额定转速n=2950r/min										泵额定转速n=1475r/min											
		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84					
					电机功率及型号									电机功率及型号									
					kW		kW		kW					kW		kW		kW		kW			
ZA80-250	A	127	82	2	45	Y225M-2	75	Y280S-2	90	Y280M-2	64	20	2	7.5	Y132M-4	11	Y160M-4	15	Y160M-4				
	B	120	76				55	Y250M-2	75	Y280S-2	60	19				7.5	Y132M-4	11	Y160M-4				
	C	105	59				30	Y200L1-2	45	Y225M-2	55	Y250M-2				52	14.5	4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4
	D	87	45				22	Y180M-2	30	Y200L1-2	37	Y200L2-2				46	11	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4
ZA80-315	A	141	127	2	90	Y280M-2	160	Y315L1-2			70	33	2	15	Y160L-4	18.5	Y180M-4	22	Y180L-4				
	B	135	121		75	Y280S-2					66	30		11	Y160M-4	15	Y160L-4						
	C	115	97		55	Y250M-2			75	Y280S-2				56	24	11	Y160M-4			15	Y160L-4		
	D	90	74		37	Y200L2-2			45	Y225M-2	75	Y280S-2		45	18	5.5	Y132S-4			7.5	Y132M-4	11	Y160M-4
ZA80-400	A	171	187	3	160	Y315L1-2					85	46	2	22	Y180L-4	30	Y200L-4	45	Y225M-4				
	B	159	170								80	42		18.5	Y180M-4			37	Y225S-4				
	C	135	130				90	Y280M-2	132	Y315M-2				65	33			15	Y160L-4	18.5	Y180M-4	30	Y200L-4
	D	116	95				75	Y280S-2	90	Y280M-2	132	Y315M-2		53	25			11	Y160M-4	15	Y160L-4	18.5	Y180M-4
ZA80-450	A	206	238	4																			
	B	196	221																				
	C	175	185																				
	D	140	129		110	Y315S-2	132	Y315M-2															
ZA100-160	A	162	29	2	22	Y180M-2	30	Y200L1-2	37	Y200L2-2	81	7.2	2	3	Y100L2-4	4	Y112M-4	5.5	Y132S-4				
	B	150	24		15	Y160M2-2	22	Y180M-2	30	Y200L1-2	73	6		2.2	Y100L1-4	3	Y100L2-4	4	Y112M-4				
	C	130	17		11	Y160M1-2	15	Y160M1-2	18.5	Y160L-2	63	4.3		1.5	Y90L-4	2.2	Y100L1-4	3	Y100L2-4				
	D	110	12		7.5	Y132S2-2	11	Y160M1-2	15	Y160M2-2	55	3		1.1	Y90S-4	1.5	Y90L-4	2.2	Y100L1-4				
ZA100-200	A	193	50	2	45	Y225M-2	55	Y250M-2	75	Y280S-2	95	12.5	2	5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4				
	B	180	44		37	Y200L2-2	45	Y225M-2			90	10.5											
	C	155	35		30	Y200L1-2	37	Y200L2-2	45	Y225M-2	80	8.5		4	Y112M-4	5.5	Y132S-4	7.5	Y132M-4				
	D	135	26		18.5	Y160L-2	30	Y200L1-2	37	Y200L2-2	70	6		3	Y100L2-4	3	Y100L2-4	4	Y112M-4				

性能表 Performance Chart

型号 size	叶 轮 型 式	泵额定转速n=2950r/min										泵额定转速n=1475r/min									
		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84			
					电机功率及型号									电机功率及型号							
					kW		kW		kW					kW		kW		kW		kW	
ZA100-250	A	230	79	2	75	Y280S-2	90	Y280S-2			115	20	2	11	Y160M-4	15	Y160L-4	18.5	Y180M-4		
	B	218	73							110	18				11	Y160M-4	15	Y160L-4			
	C	190	58		45	Y225M-2	75	Y280S-2	90	Y280M-2	100	14		7.5	Y132M-4			11	Y160M-4		
	D	170	44		37	Y200L2-2	45	Y225M-2	75	Y280S-2	90	10		5.5	Y132S-4	7.5	Y132M-4	7.5	Y132M-4		
ZA100-315	A	250	126	3	132	Y315M-2					125	31	2	18.5	Y180M-4	30	Y200L-4	37	Y225S-4		
	B	240	120				160	Y315L1-2			119	29				22	Y180L-4	30	Y200L-4		
	C	203	97		90	Y280M-2	132	Y315M-2	160	Y315L1-2	104	24		15	Y160L-4	18.5	Y180M-4	22	Y180L-4		
	D	170	71		75	Y280S-2	75	Y280S-2	110	Y315S-2	86	17.5		11	Y160M-4	11	Y160M-4	15	Y160L-4		
ZA100-400	A	300	194	4							150	48	3	37	Y225S-4	45	Y225M-4	75	Y280S-4		
	B	290	180								145	44		30	Y200L-4			55	Y250M-4		
	C	260	145								130	36		22	Y180L-4	30	Y200L-4	45	Y225M-4		
	D	224	105		100	Y315S-2	160	Y315L1-2			115	26		15	Y160L-4	22	Y180L-4	30	Y200L-4		
ZA100-450	A	327	258	4																	
	B	307	241																		
	C	260	200																		
	D	200	145		160	Y315L1-2															
ZA100-500	A										180	75	3	75	Y280S-4	90	Y280M-4	110	Y315S-4		
	B										167	68		55	Y250M-4	75	Y280S-4				
	C										142	53		37	Y225S-4	55	Y250M-4	75	Y280S-4		
	D										120	42		30	Y200L-4	37	Y225S-4	55	Y250M-4		
ZA150-200	A	320	44	2	55	Y250M-2	75	Y280S-2			60	11	2	7.5	Y132M-4	11	Y160M-4	15	Y160L-4		
	B	300	39		45	Y225M-2			90	Y280M-2	152	9.5									
	C	265	30		37	Y200 2-2	45	Y225M-2	75	Y280S-2	140	7		5.5	Y132S-4	7.5	Y132M-4	11	Y160M-4		
	D	220	23		22	Y180M-2	30	Y200L1-2	45	Y225M-2	123	5		3	Y100L2-4	4	Y112M-4	5.5	Y132S-4		
ZA150-250	A	390	74	3	110	Y315S-2	160	Y315L1-2			195	18.5	2	15	Y160L-4	22	Y180L-4	30	Y200L-4		
	B	355	62		90	Y280M-2	110	Y315S-2	160	Y315L1-2	180	16				18.5	Y180M-4	22	Y180L-4		
	C	325	46		75	Y280S-2	90	Y280M-2	110	Y315S-2	160	11.5		11	Y160M-4	11	Y160M-4	15	Y160L-4		
	D																				
ZA150-315	A	442	125	3							220	32.5	3	30	Y200L-4	45	Y225M-4	55	Y250M-4		
	B	430	120								210	30				37	Y225S-4				
	C	372	94		160	Y315L1-2					180	24		22	Y180L-4	30	Y200L-4	37	Y225S-4		
	D	310	68		90	Y280M-2	132	Y315M-2	160	Y315L1-2	150	17		15	Y160L-4	18.5	Y180M-4	22	Y180L-4		

性能表 Performance Chart

型号 size	叶 轮 型 式	泵额定转速n=2950r/min										泵额定转速n=1475r/min											
		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84					
					电机功率及型号									电机功率及型号									
					kW		kW		kW					kW		kW		kW		kW		kW	
ZA150-400	A	520	205	4							260	51	3	55	Y250M-4	75	Y280S-4	110	Y315S-4				
	B	498	190									250		48					90	Y280M-4			
	C	453	151									225		38	37	Y225S-4	55	Y250M-4	75	Y280S-4			
	D	400	113									200		28	30	Y200L-4	37	Y225S-4	55	Y250M-4			
ZA150-450	A	546	260	5							546												
	B	520	246									520											
	C	452	208									452											
	D	347	142									347											
ZA150-500	A										300	77	3	110	Y315S-4	132	Y315M-4						
	B											283		72	90	Y280M-4	132	Y315M-4	160	Y315L1-4			
	C											233		59	75	Y280S-4	90	Y280M-4	110	Y315S-4			
	D											208		45	45	Y225M-4	75	Y280S-4	75	Y280S-4			
ZA150-560	A										335	104	4	160	Y315M2-4								
	B											315		97	132	Y315M1-4							
	C											260		80	90	Y280M-4	132	Y315M-4	160	Y315L1-4			
	D											212		60	75	Y280S-4	90	Y280M-4	110	Y315S-4			
ZA150-630	A										360	115	4										
	B											338		105.5									
	C											274		82	132	Y315M-4	160	Y315L1-4					
	D											220		60	75	Y280S-4	110	Y315S-4	160	Y315L1-4			
ZA200-250	A	610	72	3	160	Y315L1-2					305	17.5	3	22	Y180L-4	30	Y200L-4	45	Y225M-4				
	B	580	65		160	Y315L1-2						290		16	18.5	Y180M-4	30	Y200L-4	37	Y225S-4			
	C	520	47		110	Y315S-2	132	Y315M-2				260		12	15	Y160L-4	18.5	Y180M-4	30	Y200L-4			
	D	470	32		75	Y280S-2	90	Y280M-2	110	Y315S-2	240	8		11	Y160M-4	15	Y160L-4	15	Y160M-4				
ZA200-315	A	710	122	4							350	30	3	45	Y225M-4	55	Y250M-4	75	Y280S-4				
	B	680	114									340		29	37	Y225S-4	55	Y250M-4	75	Y280S-4			
	C	600	87									300		22	30	Y200L-4	37	Y225S-4	55	Y250M-4			
	D	480	65		132	Y315M-2						250		15	18.5	Y180M-4	22	Y180L-4	30	Y200L-4			

性能表 Performance Chart

型号 Size	叶轮 型式	泵额定转速n=2950r/min								泵额定转速n=1475r/min										
		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84		
					电机功率及型号									电机功率及型号						
					kW		kW		kW					kW		kW		kW		kW
ZA200-400	A	850	203	5							426	50	3	90	Y280M-4	110	Y315S-4	160	Y315L1-4	
	B	830	150									410		47	75	Y280S-4	110	Y315S-4	132	Y315M-4
	C	750	145									370		36.5	55	Y250M-4	75	Y280S-4	110	Y315S-4
	D	670	106									332		27	45	Y225M-4	55	Y250M-4	75	Y280S-4
ZA200-450	A	930	257	6							930									
	B	880	240									880								
	C	770	200									770								
	D	580	140									580								
ZA200-500	A										495	84	4							
	B											470		79	160	Y315L1-4				
	C											400		63	110	Y315S-4	160	Y315L1-4		
	D											330		48	75	Y280S-4	90	Y280M-4	132	Y315M-4
ZA200-560	A										540	105	5							
	B											510		98						
	C											440		81	160	Y315L1-4				
	D											350		62	110	Y315S-4	132	Y315M-4		
ZA200-630	A										580	132	5							
	B											550		125						
	C											468		100						
	D											372		75	132	Y315M-4				
ZA250-315	A										545	27	3	55	Y250M-4	75	Y280S-4	110	Y315S-4	
	B											528		25	55	Y250M-4	75	Y280S-4	90	Y280M-4
	C											480		19	37	Y225S-4	55	Y250M-4	75	Y280S-4
	D											434		13	30	Y200L-4	37	Y225S-4	45	Y225M-4
ZA250-400	A										660	49	4	132	Y315M-4	160	Y315L1-4			
	B											630		46	110	Y315S-4	160	Y315L1-4		
	C											565		36	75	Y280S-4	110	Y315S-4	160	Y315L1-4
	D											500		24	55	Y250M-4	75	Y280S-4	90	Y280M-4

性能表 Performance Chart

型号 size	叶轮 型式	泵额定转速n=2950r/min										泵额定转速n=1475r/min									
		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84		流量 Q m³/h	扬程 H m	轴 承 架 LK	比重r=1.00		比重r=1.35		比重r=1.84			
					电机功率及型号									电机功率及型号							
					kW		kW		kW					kW		kW		kW		kW	
ZA250-500	A									800	82	5									
	B									770	76										
	C									700	58		160	Y315L1-4							
	D									630	42		110	Y315S-4	160	Y315L1-4					
ZA250-560	A									860	106	5									
	B									830	98										
	C									760	78										
	D									665	57		160	Y315L1-4	160	Y315L1-4					
ZA250-630	A									855	128	6									
	B									816	119										
	C									720	96										
	D									625	71										
ZA300-400	A									1050	48	4									
	B									1010	45		160	Y315L1-4							
	C									900	34		132	Y315M-4	160	Y315L1-4					
	D									780	26		90	Y280M-4	132	Y315M-4	160	Y315L1-4			
ZA300-500	A									1240	78	5									
	B									1170	75										
	C									1015	57										
	D									870	42		160	Y315L1-4							
ZA300-560	A									1340	104	6									
	B									1280	97										
	C									1140	77										
	D									950	56										
ZA300-630	A									1450	132	6									
	B									1375	125										
	C									1170	100										
	D									950	75										
ZA400-500	A									1870	74	6									
	B									1800	70										
	C									1520	52										
	D									1300	38										
ZA400-560	A									2040	98	6									
	B									1950	91										
	C									1760	74										
	D									1500	54										
ZA400-630	A									2390	125	7									
	B									2280	117										
	C									1960	95										
	D									1610	70										

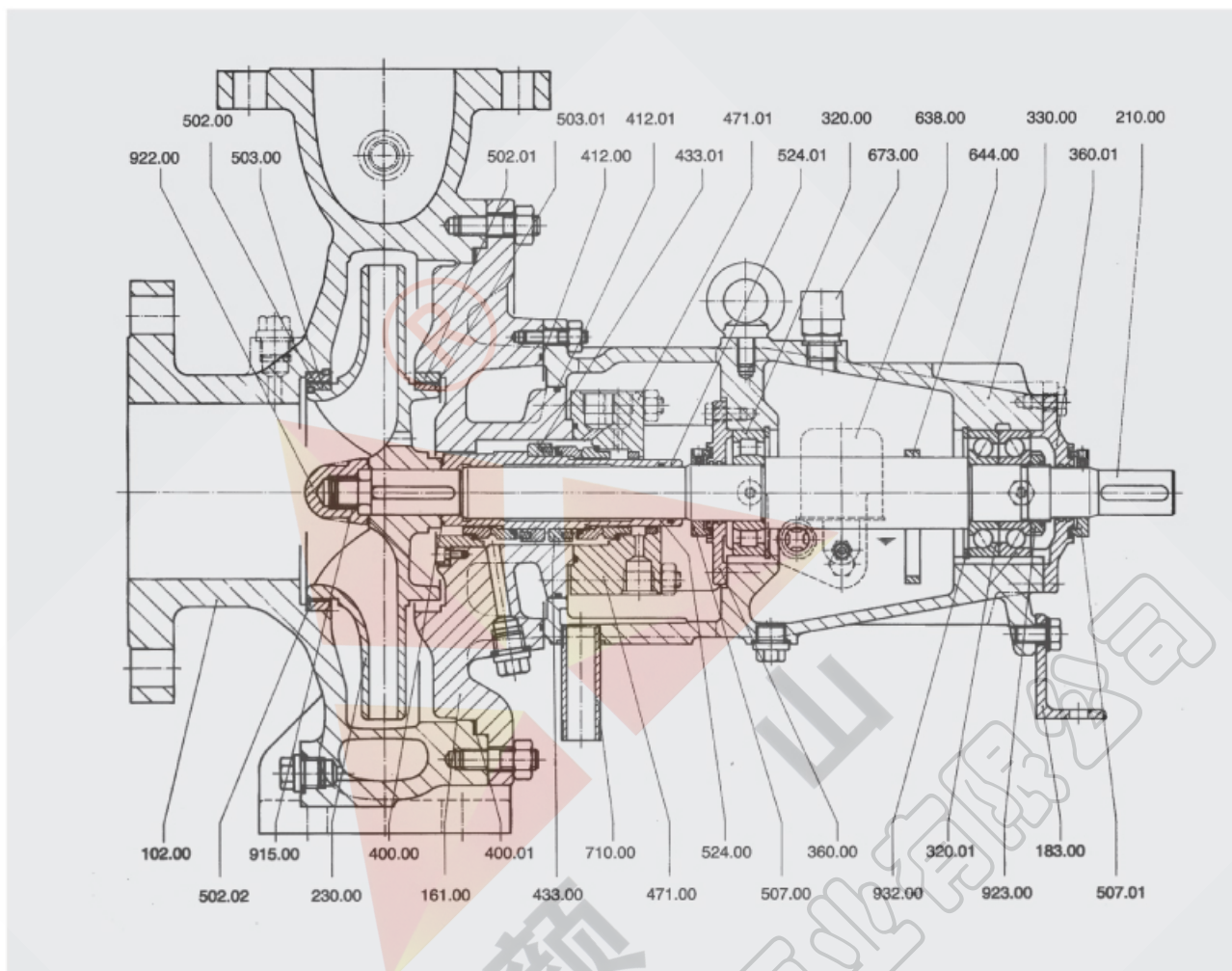
说明: * 订货合同在泵型号上还应注明叶轮型式及轴承支架号, 例如: 选ZA40-250, 叶轮型式为A, 1号轴承支架, 应写成ZA40-1250A

* 表中有流量、扬程值而无功率值的泵, 其功率超过160kW, 需订货时当面确定。

NOTE: * The type of impeller and No. of bearing bracket should be noted for the pump size in the ordering contract. etc, when ZA40-250 is selected, the impeller size should be A the bearing bracket should be No.1. it should be ZA 40-1 250A.

* If there is the value of flow and head but without the power value of pumps in the list. When their power values exceed 160kW. It should be made sure when ordering.

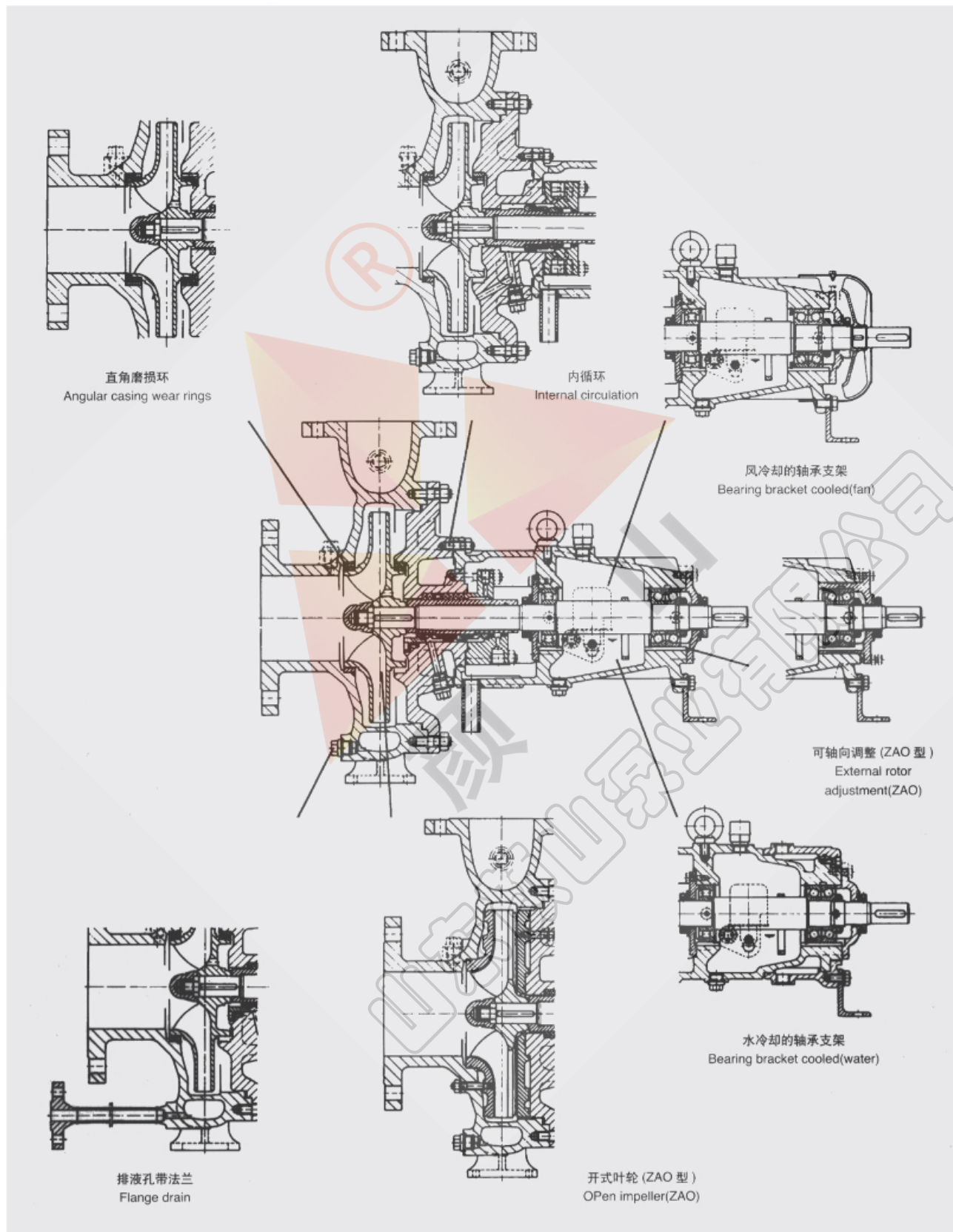
剖面图 Sectional Drawing



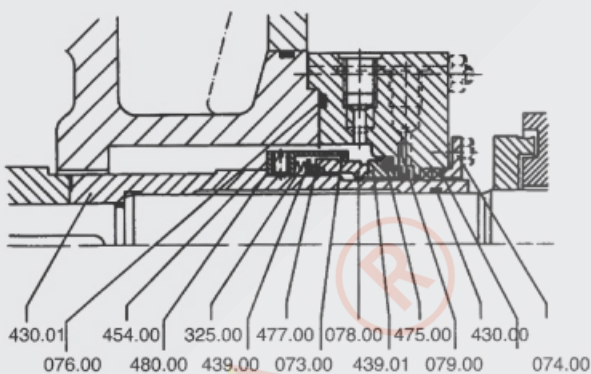
102.00 泵体	Volute casing	412.00 O形圈	O-ring	507.01 防尘盘	Deflector
161.00 泵盖	Casing cover	412.01 O形圈	O-ring	524.00 轴套	Shaft sleeve
183.00 支脚	Supporting foot	433.00 机械密封	Mechanical seal	524.01 轴套	Shaft sleeve
210.00 轴	Shaft	433.01 机械密封	Mechanical seal	638.00 恒位油杯	Constant-level-oiler
* 230.00 叶轮	Impeller	471.00 密封压盖	Sealing cover	644.00 甩油环	Lubricating ring
320.00 耐磨轴承	Antifriction bearing	471.01 密封压盖	Sealing cover	673.00 油分离器	Vent filter
320.01 耐磨轴承	Antifriction bearing	* 502.00 泵体口环	Casing wear ring	710.00 排液管	Pipe
330.00 轴承支架	Bearing bracket	* 502.01 泵体口环	Casing wear ring	915.00 钢丝螺套	Threaded insert
360.00 轴承压盖	Bearing cover	* 502.02 泵体口环	Casing wear ring	* 922.00 叶轮螺母	Impeller nut
360.01 轴承压盖	Bearing cover	* 503.00 叶轮口环	impeller wear ring	923.00 轴承螺母	Bearing nut
* 400.00 平垫片	Flat gasket	* 503.01 叶轮口环	impeller wear ring	932.00 卡环	Circlip
400.01 平垫片	Flat gasket	507.00 防尘盘	Deflector		

带 * 的零件为易损件 * Being Spare parts

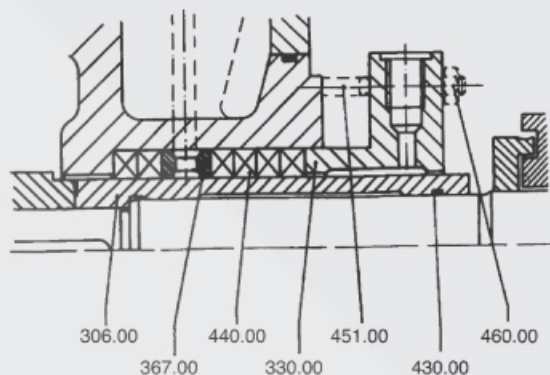
各种设计结构 Various technical designs



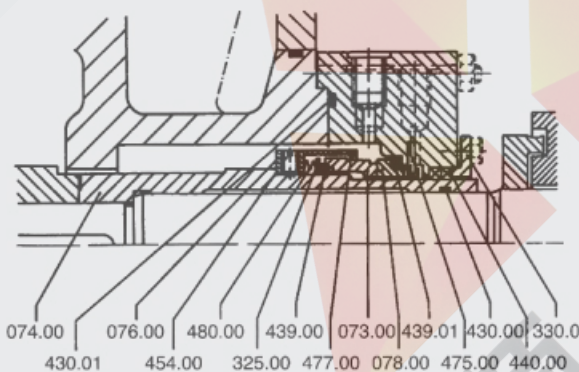
ZE系列泵剖面图 Sectional Drawing Type ZE



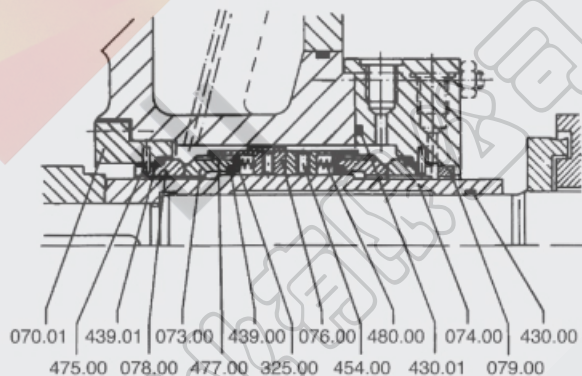
单端面平衡型机械密封
Single mechanical seal, balanced



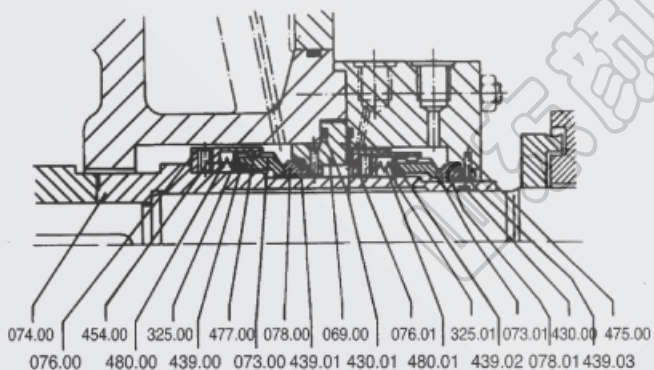
带冷却压盖和水封环的填料密封
Packed stuffing box with lantern ring and gland cooling



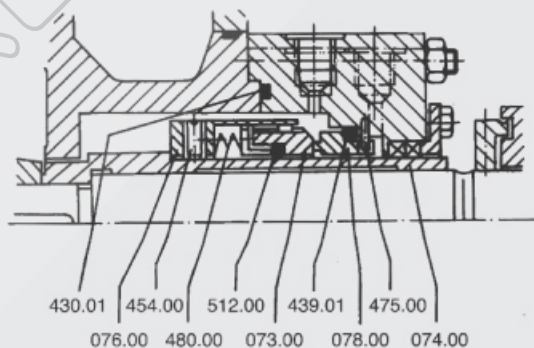
带辅助填料密封的单端面平衡型机械密封
Single mechanical seal, balanced, with auxiliary stuffing box



带加压系统的双端面平衡型机械密封
Double mechanical seal, balanced, with pressurized system



串联式机械密封
Tandem mechanical seal



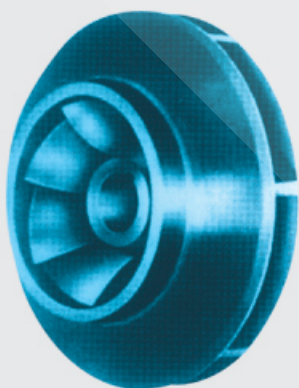
单端面非平衡型机械密封 (特殊设计)
Single mechanical seal unbalanced (Special design)

轴承支架号 Bearing bracket size	机械密封型式 Mechanical seal size			
	单端面平衡型密封 Single balanced	单端面波纹管密封 Single bellows	双端面密封 Double	串联式密封 Tandem
LK0	H74N/28-E ₁ -5Z	MFLWT80/28-E ₁ -5Z	H74N-DF/28-E ₁ -5Z	H74N/28-FTA2
LK1	H74N/33-E ₁ -5Z	MFLWT80/33-E ₁ -5Z	H74N-DF/33-E ₁ -5Z	H74N/33-FTA2
LK2	H74N/43-E ₁ -5Z	MFLWT80/43-E ₁ -5Z	H74N-DF/43-E ₁ -5Z	H74N/43-FTA2
LK3	H74N/53-E ₁ -5Z	MFLWT80/53-E ₁ -5Z	H74N-DF/53-E ₁ -5Z	H74N/53-FTA2
LK4	H74N/65-E ₁ -5Z	MFLWT80/65-E ₁ -5Z	H74N-DF/65-E ₁ -5Z	H74N/65-FTA2
LK5	H74N/75-E ₁ -5Z	MFLWT80/75-E ₁ -5Z	H74N-DF/75-E ₁ -5Z	H74N/75-FTA2
LK6	H74N/95-E ₁ -5Z	MFLWT80/95-E ₁ -5Z	H74N-DF/95-E ₁ -5Z	H74N/95-FTA2
LK7	无	无	无	无

轴封零件单 Shaftseals part list

069.00	静环圈	Stat.seal ring pick-up	306.00	轴套	Shaft sleeve	439.03	O形环	Sealing ring
070.01	静环座	Cover	325.00	挡圈	Disc	440.00	填料	Packing ring
073.00	动环	Rot.seal ring	325.01	挡圈	Disc	451.00	双头螺栓	Stud bolt
073.01	动环	Rot.seal ring	330.00	填料压盖	Stuffing box gland	454.00	定位螺钉	Setscrew
074.00	轴套	Shaft sleeve	367.00	水封环	Lantern ring	460.00	螺母	Nut
076.00	弹簧座	Sleeve mech.ceal	430.00	O型圈	O-ring	475.00	销钉	Pin
076.01	弹簧座	Sleeve mech.ceal	430.01	O型圈	O-ring	477.00	销钉	Pin
078.00	静环	Stat.seal ring	439.00	密封垫	Sealing ring	480.00	弹簧	Spring
078.01	静环	Stat.seal ring	439.01	密封垫	Sealing ring	480.01	弹簧	Spring
079.00	节流衬套	Throttling bush	439.02	密封垫	Sealing ring	521.00	推环	Shap ring

叶轮 Impellers



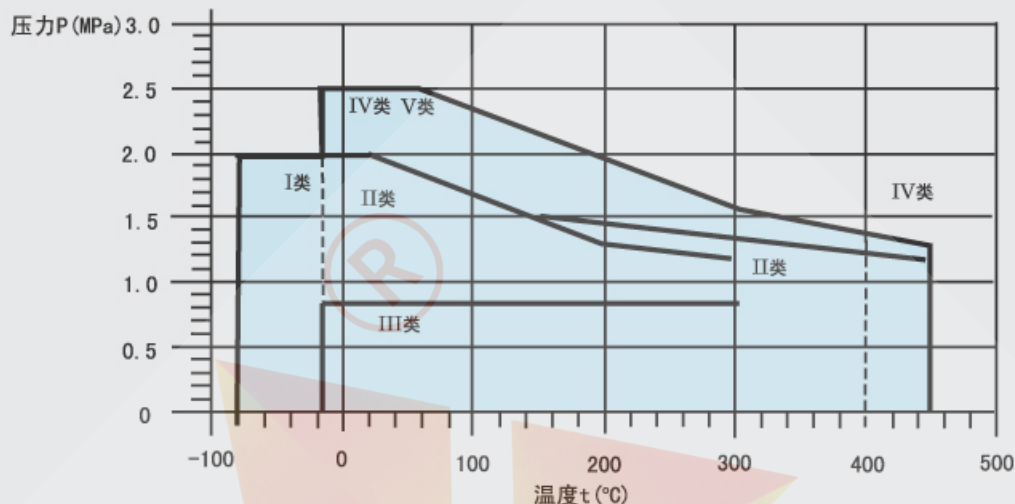
闭式叶轮 Closed impeller



开式叶轮 Open impeller

压力-温度图表 Pressure-Temperature-Diagram

最大容许工作压力 Max permissible operating pressure



类 型	材 料 Materials
I	1. 4312 (B), 1. 4308 (304), 1. 4446 (304L)
II	1. 4410 (M), 1. 4408 (316), 1. 6902 (316L), 2. 4879 (804) 1. 4500 (904), 1. 4536 (904L), 鈦及鈦合金
III	E, HT200
IV	ZG25
V	ZG1Cr13

最大容许试验压力 (20°C)

Max permissible test pressure (20°C)

材 料 Materials		泵 体 Casing MPa	法 兰 Flanges					
泵 体 Casing	泵体螺栓 Casing screws		GB	DIN			ANSI	
			PN25	PN10	PN16	PN25	Class 125	Class 150
I II	1Cr18Ni9	3.0	2555-81	-	2543	2544	-	B16.5
III	2Cr13	1.2		2532	2533	2534	B16.1	-
IV		3.75		-	2543	2544	-	B16.5
V		3.75		-	2543	2544	-	B16.5

各种系列泵的标准部件的互换

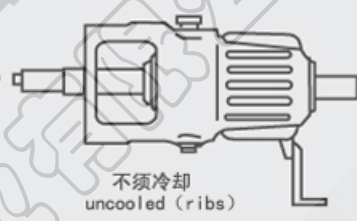
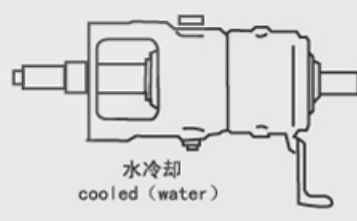
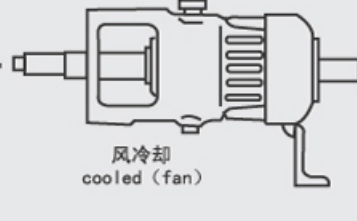
Interchangeable Modular Elements for Various Sizes

API610单级流程泵（轻、中和重型）由四个系列组成，系列按压力等级划分。有标准水力部件和轴承支架（动力端）

The new single-stage API610 process pump programme (light, medium or heavy duty) consists of 4 series divided into pressure ranges having standardized hydraulics and bearing bracket design (power end).

因此，该泵保证在最经济的情况下，满足市场的需要。备件少，泵使用范围广，适应性强。有 4 个系列；每个系列有 40-50 种规格，以使用 9 个重型整体轴承支架。叶轮通用，各种规格的轴、轴套、轴承和机械密封也相同。

The programme therefore ensures that market requirements are met in the best economical way, i.e. and rapid adaptation to alternative operating conditions. For 4 series with 40 to 50 sizes in each economic spare stock keeping the same impeller is used and or 9 one-piece heavy duty bearing brackets are required. Shaft, shaft sleeve, mechanical seal and bearings are therefore identical for a variety of sizes.

四个系列的 压力范围	不同压力下的 泵体结构	四个系列泵的叶轮通用， 开式叶轮适用于 ZA/ZE系列	不同压力下的 泵盖结构	九种轴承支架的选择，取决 于工作环境是否要冷却
4 series, divided into pressure ranges	Casing according to design pressure used	Standardized hydraulics for all 4 series, open impeller design for series ZA/ZE	Casing cover according to design pressure used	9 bearing brackets, depending on application conditions cooled or uncooled. Cooling achieved by fan as standard though water-cooled design possible
ZA可达2.5MPa 有53个规格  up to 2.5MPa 53 sizes		开式  open 闭式  closed		 不须冷却 uncooled (rib)  水冷却 cooled (water)  风冷却 cooled (fan)
ZE可达5.0MPa 有53个规格  up to 5.0MPa 53 sizes				
ZF可达7.5MPa 有40个规格  up to 7.5MPa 40 sizes				
ZU可达13.5MPa 有40个规格  up to 13.5MPa 40 sizes	