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NVICKS® 威克斯液压
VICKS HYDRAULIC

产品目录·伺服配套方案 Servo Matching Solutions

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关于我们

宁波威克斯液压有限公司是上市公司鲍斯股份（股票代码：300441）控股子公司，创始于2007年，是一家拥有多项发明专利的国家高新技术企业，现有8条世界领先的液压泵生产检测流水线。年产液压泵10万多台，节能伺服系统1万多套。

公司是叶片泵行业标准修订主持单位。荣获中国液气密行业技术进步奖、区长质量奖和国家创新基金项目支持。

公司拥有VG0、VG1、VG2高压内啮合齿轮泵，ABT系列伺服叶片泵，T6、T7、V、VQ、V10、V20、SQP、PV2R叶片泵，M3B、M4C、M4D、M4E、25M、35M、45M、50M叶片马达的核心技术。产品通过中国CCS、挪威DNV、美国ABS、法国BV、英国LR等世界五大权威船级社认证，广泛应用在注塑橡塑、压铸、工程、船舶、农机、油压、打包、港口等机械行业。

公司是台湾台达、奥地利KEBA、菲仕电机、厦门钨业、住友泵的战略合作伙伴。

公司坚持引进、创新、超越的发展之路和优质、高效、低耗、安全的经营理念，致力于打造世界著名的液压泵制造商及伺服节能成套解决方案专家，为装备升级造“中国心脏”。

公司以学习、和谐、坚持、专业为企业文化的核心思想，倡导至真、至善、至美的价值观和开明开拓、和谐和乐的精神。



办公区/Office



科研中心/Scientific Research Centre

ABOUT US

Ningbo Vicks Hydraulic Co., Ltd. is a holding subsidiary of Listed Company Baosi Stock (stock code: 300441), founded in 2007, is a national high-tech enterprise with a number of invention patents, with 8 world-leading hydraulic pump production and testing line now. Annual output of hydraulic pump is more than 100,000pcs, energy-saving servo system is more than 10,000sets.

Our company is the Vane Pump Industry Standard Revision Presiding Unit. It has won the Technical Progress Award of China Hydraulics Pneumatics & Seals Association, Ningbo Fenghua District Chief Quality Award and the project support of National Innovation Fund.

Our company has core technology of VG0, VG1, VG2 high pressure internal gear pump, ABT series servo vane pump, T6, T7, V, VQ, V10, V20, SQP, PV2R vane pump and M3B, M4C, M4D, M4E, 25M, 35M, 45M, 50M vane motor. The products have been certified by five authoritative classification societies in the world, such as CCS in China, DNV in Norway, ABS in USA, BV in France, LR in UK. And the products are widely used in injection molding, rubber plastic, die casting, engineering, shipping, agricultural machinery, oil pressure, packaging, port and other machinery industries.

Our company is the strategic cooperation partner with Taiwan DELTA, Austria KEBA, Phase Motor, Xiamen Tungsten and Sumitomo Pump.

Our company adheres to the development path of introduction, innovation and transcendence, and the business philosophy of high quality, high efficiency, low consumption and safety. And it is committed to build the world-renowned hydraulic pump manufacturer and servo energy-saving complete set solution expert, and building the "Chinese Heart" for equipment upgrading. Our company takes learning, harmony, persistence and professionalism as the core ideas of corporate culture, and advocates the values of truth, goodness and beauty as well as the spirit of open exploration, harmony and joy.



生活区/Staff Living Area



活动中心/Activity Center

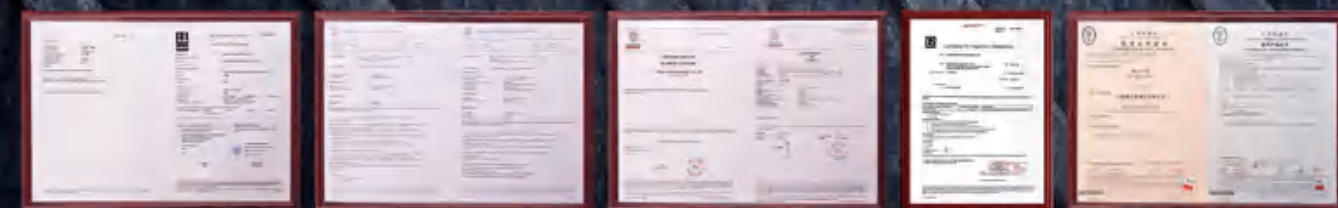
Certification/ Honorary Certificate

认证/荣誉证书

科研合作高校/Cooperation of colleges



船级社认证 / Classification society certification



挪威 / Norwegian DNV

美国 / American ABS

法国 / French BV

英国 / British LR

中国 / China CCS

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VG 系列齿轮泵 Series Gear Pump



主要特点/Main Features

1. 采用轴向和径向压力补偿设计，容积效率高。
 2. 超低的噪音，采用高强度铸铁和独特的消音设计。
 3. 极低的流量和压力脉动，在低速工况下仍保持稳定的流量和压力输出。
 4. 高压设计，最高使用压力可达35Mpa。
 5. 转速范围广，最高转速可达3000rpm。
 6. 可进行组合形成双联泵。
 7. 广泛适用于液压机械，如注塑机、压铸机、油压机等伺服液压系统。
1. Adopting axial and radial pressure compensation design, high volume efficiency.
 2. Ultra-low noise, using high-strength cast iron and unique noise-absorbing design.
 3. Very low flow and pressure pulsation, maintaining stable flow and pressure output under low-speed working conditions.
 4. High pressure design, the highest working pressure can reach 35Mpa.
 5. Wide speed range, the highest speed can reach 3000rpm.
 6. It can be combined to form a double pump.
 7. It is widely used in hydraulic machinery, such as injection molding machine, die-casting machine, hydraulic press and other servo hydraulic systems.

型号说明/Model Designation

VG1	-63	R	E	W	-A1
系列号 Series	排量 ml/r Displacement	旋转方向 Rotation	轴伸形式 Shaft type	密封材料 Sealing material	设计号 Design number
VG0	8, 10, 13, 16, 20, 25	从泵轴端看 Views from shaft end of pump R=顺时针旋转 Right hand for clockwise L=逆时针旋转 Left hand for counter-clockwise	E=平键轴 Straight key shaft	W=丁腈橡胶 NBR	A1
VG1	25, 32, 40, 50, 63 50H, 63H		R=SAE 花键轴 Spline shaft	V=氟橡胶 FKM	
VG2	80, 100, 125, 145, 160				

以上表格排量可组合成双联泵系列为：VG10, VG11, VG21, VG22, 详细参数请参阅齿轮泵专用样册。
The displacement in the above table can be combined into a series of double pumps: VG10, VG11, VG21, VG22.
For detailed parameters, please refer to the gear pump catalogue.

技术参数/Technical Data

系列号 Series	排量 ml/r Displacement	理论排量 ml/r Theory Displacement	额定压力 Mpa Rated Pressure	最高压力 Mpa Max.pressure	最高转速 r/min Max.speed	重量 kg Weight	
VG0	8	8.2	31.5	35	3000	4.6	
	10	10.2				4.8	
	13	13.3				4.9	
	16	16.0				5.2	
	20	20.0	25	30		5.6	
	25	24.0				6.0	
VG1	25	25.3	31.5	35		14.5	
	32	32.7				15	
	40	40.1				16	
	50	50.7				17	
	63	63.7				25	30
VG2	80	81.4	31.5	35		43.5	
	100	100.2			45.5		
	125	125.3			48		
	145	145.2			25	28	50
	160	162.8			21	26	52

ABT 系列伺服叶片泵 Series Servo Vane Pump

ABT系列伺服泵是我公司与美国艾伯特流体动力有限公司、浙江大学机电控制工程研究所三方合作共同研发的高性能伺服液压系统专用油泵。其核心部件从国外进口。

本产品我公司拥有自主知识产权并获得国家创新基金支持，广泛应用于橡塑、压铸、鞋革、锻压、挤压、折弯、剪板机械等伺服液压系统中。

ABT Series Servo Pump is high performance servo hydraulic system special oil pump. It is researched and developed together by three party-Ningbo Vicks Hydraulic Co., Ltd. American Albert Hydraulic Co., LTD. Zhejiang University Mechanical Control Engineering Research Institute. The core components are imported from abroad. We have the proprietary intellectual property rights for this product and we have got the state innovation fund support, the pump have been widely used in servo hydraulic systems of rubber and plastic machines, shoes machines, forging and press machines, bending machines and shearing machines.



其主要特点为/Main Features

1. 柱销式叶片结构设计，使油泵在启动时扭矩小，电流小，更节能。
 2. 采用外泄、泄油量可调控设计，明显降低油泵温升。根据液压元器件泄漏大小，可灵活调整外泄量，泵在低速高压工况下脉动小，制品精度高。
 3. 柱销底部通高压油和辅助弹性机构的合理配合，使油泵可以在低速下正常工作，能适应伺服液压系统快慢速、高低压、正反快速切换的工况。
 4. 双作用及正反旋转结构设计，使油泵工作更加平稳，伺服液压系统的响应速度更快。
 5. 高压、高速结构和双刃口叶片设计，转速范围广，抗污能力强，使用寿命长。
 6. 低噪声结构设计，排量范围广，可根据客户要求灵活定制不同排量。
 7. 采用插装式结构，维修时只需更换泵芯，维修更便捷、成本更低。
 8. 双泵油口采用一进两出设计，结构更加紧凑，安装空间小。
 9. 进油口有四种不同的相对方位，安装灵活。
1. Dowel pin type vane kits designation can make the pump with small resistance, low electronic, and with more energy saving.
 2. Use outside leakage and leakage volume control designation low the oil temperature obviously. Based on the hydraulic components leakage volume, can adjust the oil leakage smartly, the pump pressure pulse is small at high pressure and low speed, the injection finished products will be more higher accuracy.
 3. With the coordination of high pressure oil and vice spring structure, can make the pump run normally at low speed, can fit low and high speed shift, high and low pressure speed shift, right and left rotation shift etc working status of servo hydraulic system perfectly.
 4. Double action and right-left rotation structure designation make the pump work more steadily, servo hydraulic system response more quickly.
 5. High pressure, high speed structure and double cutting edges designation make the speed range more wide, and with more better pollution resistance, and more longer working life.
 6. Low noise structure designation and wide range of flow, can be customized according to different requirements.
 7. Use the cartridge kit installation structure, repairing only need change the cartridge kit, more convenient for repairing, and with more lower cost.
 8. Double pump use one inlet port and two outlet ports, the structure is more compact with small installation space.
 9. There are four directions each at inlet and outlet port, installation is more flexible.

ABT-T 系列型号说明/Model Designation

ABT2T	-80	-2	R	02	-C	1
系列号 Series	排量 ml/r Flow code	轴伸形式 Shaft type	旋转方向 Rotation	出油口位置 Outlet Positions	设计号 Design number	密封等级 Sealing Level
ABT1T	6, 10, 16, 20, 25, 32, 40, 50, 55, 64	-1 平键轴 -2 平键轴 Keyed shaft	(从泵的轴端看) (Viewed from shaft end of pump) R-顺时针旋转 Right hand for clockwise L-逆时针旋转 Left hand for counter-clockwise	(从泵的轴端看) (Viewed from shaft end of pump) 00-进油口对面 Opposite inlet port 01-进油口同侧 Inline with inlet 02-从进油口逆时针90° 90° CCW from inlet 03-从进油口顺时针90° 90° CW from inlet	C	1-S1, 丁腈橡胶 NBR
ABT2T	64, 80, 100, 110, 125, 140, 160	-2 平键轴 Keyed shaft				2-S2, 氢化丁腈 HNBR
ABT3	160, 180, 190, 200	-1 平键轴 Keyed shaft				

注：多种规格安装尺寸、双联泵及花键轴详见叶片泵综合样本

Note: Types of specifications installation size, double pump and splined key shaft details can be found in the vane pump catalogue.

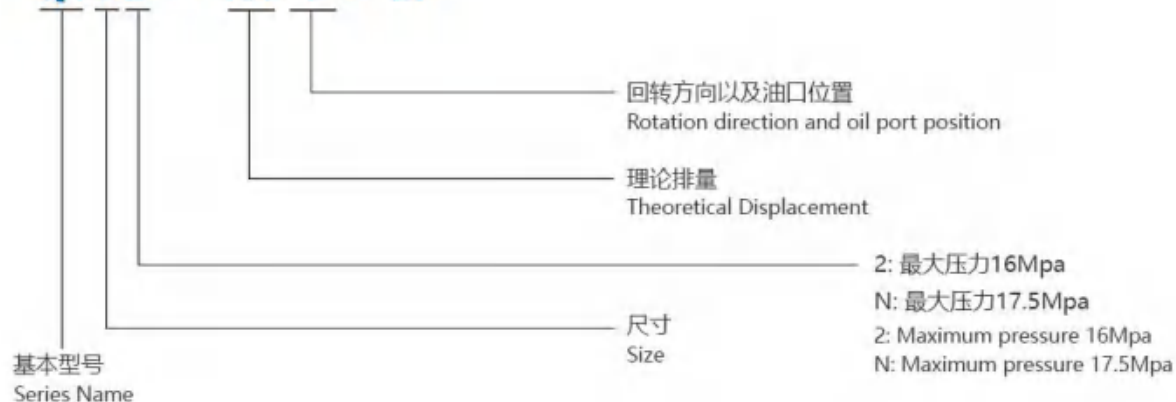
住友齿轮泵/Sumitomo Gear Pump



主要特点/Features

- 1. 超低音的设计:** 采用独特的直线共轭内啮合齿形, 避免了困油的影响, 极大降低了泵的噪音和压力脉动, 尤其当压力提高时, 噪音依然保持较低的水平。
 - 2. 优秀的耐久性能:** 采用特殊的材料和处理工艺, 从而使泵的使用寿命更长。
 - 3. 低脉动:** 脉动几乎没有, 适合精密的速度控制要求的系统。
- 1. Subwoofer design:** The unique linear conjugate internal meshing tooth profile avoids the influence of oil trapping and greatly reduces the noise and pressure pulsation of the pump. Especially when the pressure increases, the noise remains low.
 - 2. Excellent durability:** The use of special materials and processing technology, so that the life of the pump is longer to.
 - 3. Low pulsation:** almost no pulsation, suitable for systems that require precise speed control.

QT62 - 100 F - BP



进油口相对位置/Inlet and outlet oil port positions 转向/Rotation	右转 Right	左转 Left
同向进出 Same direction Inlet and outlet 进 Inlet 出 Outlet	无记号 N/M	L
反向进出 Reverse direction inlet and outlet 进 Inlet 出 Outlet	F	E

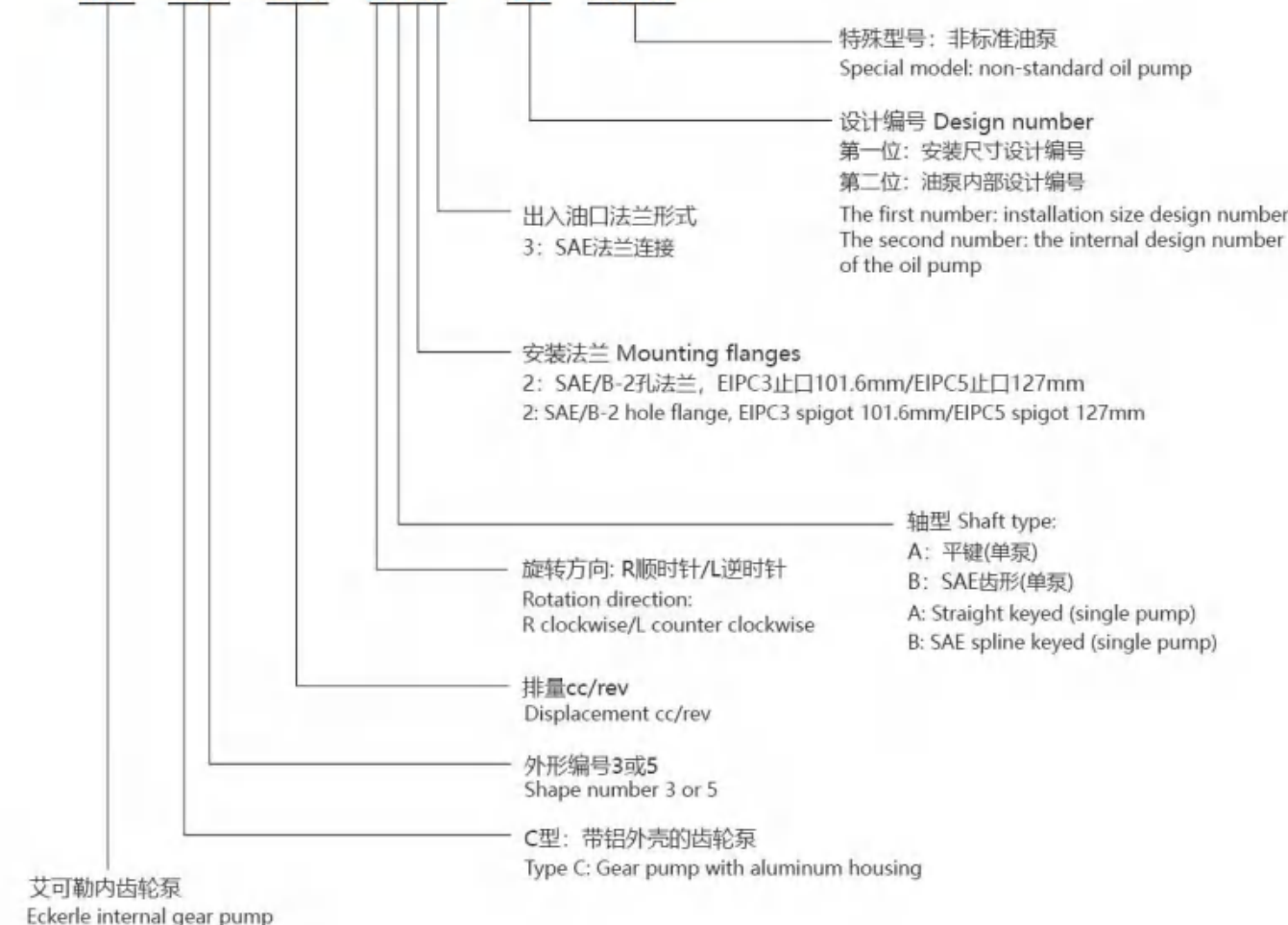
艾可勒齿轮泵/Eckerle Gear Pump



纯德国制造, 经过近半个多世纪的发展及不断完善, 具有高压、低噪音、低脉动、重量轻等优势, 被广泛应用于注塑机、压铸机、折弯机、油压机等全球液压机械中。

Made in Germany, after nearly half a century of development and continuous improvement, it has the advantages of high pressure, low noise, low pulsation, and light weight. It is widely used in injection molding machines, die casting machines, bending machines, hydraulic presses and other global hydraulic machinery.

EIP C3 - 032 RK23 - 1X SXXX



T6/T7、V/VQ、SQP 系列叶片泵 Series of vane pumps



T6, T7 系列柱销式叶片泵 Series pin type vane pumps

适用于塑胶机械、压铸机械、冶金机械、炼油机械、压力机械、工程机械及船舶机械等的高压高性能柱销式叶片泵。

High pressure and high performance dowel pin type vane pumps are widely used for plastic machinery, casting machinery, metallurgy machinery, pressing machinery, refining machinery, construction machinery, marine-Machinery.

主要特点为/Features:

- 1、采用柱销式叶片结构，其工作压力更高，噪声更低，寿命更长。
- 2、适应液压介质的粘度范围大，能在低温下启动和高温下运行。
- 3、采用双唇结构的叶片，抗污染能力强，转速范围宽。

1. With dowel pin vane structure, it can work in high pressure, low noise and long lifetime.
2. This vane pump can fit wide viscosity hydraulic medium, and be started at low temperature and work at high temperature.
3. As the vane pump adopts bilabial structure vane, it has high oil pollution resistance and wide speed scope.



SQP 系列叶片泵 — 适合工业应用的更低噪音的母子叶片泵 Series vane pumps — lower noise vane pumps suitable for industrial applications

本系列是专为低噪音工况而开发的高压高性能母子叶片泵。适用于塑料机械、压铸机械、机床以及工程机械等要求噪音较低的液压系统中。

This series vane pumps are high pressure and high performance intra-vane pumps, which are specially developed for low noise working condition. They are widely applied in hydraulic system for machine-tools, presses, die casting machines, engineering plastic injection moulding and other machineries, which call for lower noise.

主要特点为/Features:

- 1、泵芯使用V系列母子叶片泵泵芯，完全互换，使用更灵活方便。
- 2、增加了脉动衰减结构的设计，极大降低了压力的脉动，使噪音更低，音质更流畅。
- 3、使用加厚的外壳设计，增加了泵的强度和抗振性，同时消音性能更优越。

1. Cartridge kits are entirely similar to those of Vickers stable V series pumps which can be interchanged with cartridge kits of SQP series.
2. New configuration design gets an excellent performance in restraining pulsing and noise.
3. Strengthened pump housing design offers a better anti-vibration ability, which effect the remarkable low noise.

V 系列叶片泵 Series vane pumps

适用于塑胶机械、鞋革机械、机床、压铸及冶金设备的高性能母子叶片泵。
High Performance Intravane Pumps for plastic injection machinery, Shoe machinery, Tool machinery, Die casting machinery and Metal lurge equipment.

主要特点为/Features:

- 1、采用母子叶片及施压平衡的结构，减少了叶片对定子的压力，其性能更稳定，寿命更长。
- 2、12叶片制减小了流量脉动的振幅，系统噪声特性低。
- 3、多排量、多轴伸及进出油口四种不同的相对位置，使用户使用更灵活。
- 4、泵芯的插装式结构，现场维修更方便。

1. Intravane pumps with hydraulic balancing structure provide more stable performance and longer life since less pressure from vane on stator.
2. Twelve vane system provide low amplitude flow pulsation resulting in low system noise characteristics.
3. Various displacement and shafts with 4 different outlet opposite position make operation more flexible.
4. The cartridge is independent of the drive shaft, allowing for easy servicing without remove the pump from its mounting.



VQ 系列叶片泵 Series vane pumps

适用于工程机械的高压高性能母子叶片泵。

The high-pressure and high-performance Intra-vane pumps for Mobile Equipment.

主要特点为/Features:

- 1、采用液压平衡的母子叶片结构及10叶片制的设计，压力更高，最高达到21MPa。
- 2、采用浮动侧板结构，可自动补偿端面间隙，使泵在高压下能保持高的容积效率。
- 3、侧板采用双金属材料，提高了抗咬合性能，使泵的使用寿命更长。

1. To adopt balanced hydraulic for the struction of Intra-vane and ten-Vane design, higher Pressure, top to 21 MPa.
2. To adopt floating structure for side plate, it will do a compensation for end-face clearance by automatic, so that even the pump under high pressure it can maintain a high volumetric efficiency.
3. The side plate is made of dual-metal material, it improved the seizure resistance, and so that the life of pump will be longer.



25M/26M/35M/45M/
50M系列Series



M3B/M4C/M4D/M4E
系列Series

叶片马达/Vane Motor

具体内容详见叶片泵和叶片马达综合样本

For details, please refer to the comprehensive catalogue of vane pump and vane motor

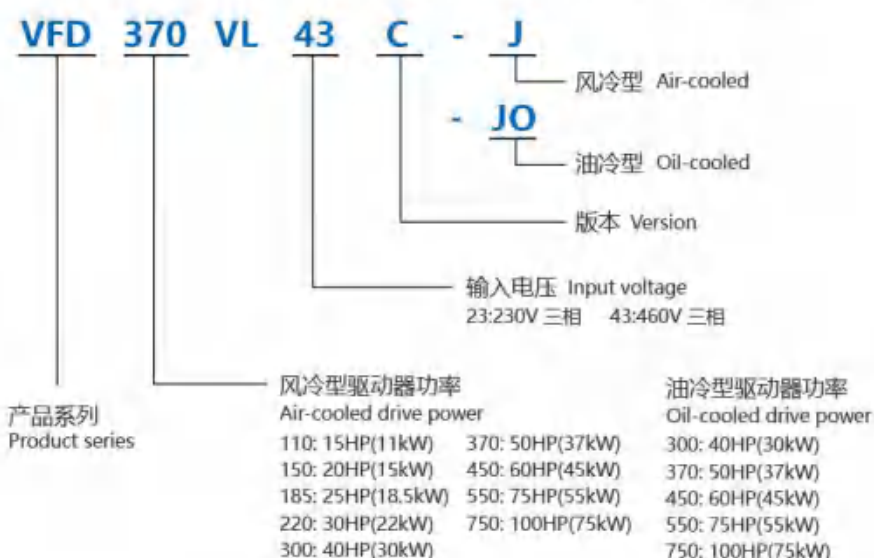
伺服驱动/Servo Drive

台达伺服驱动/DELTA Servo Drive



VFD-VJ系列是台达致力于橡塑行业应用多年的油电伺服驱动器，具有2.2倍优异的过载性能、深度弱磁控制、电机启动速度快、输出一致性好、多重保护等特色，支持SPM和IPM电机算法，提供风冷和液冷两种机型，适用于各种工作环境。

The VFD-VJ series is a diesel-electric servo driver that Delta has devoted to the rubber and plastic industry for many years. It has 2.2 times the excellent overload performance, deep field weakening control, fast motor starting speed, good output consistency, multiple protections and other features. It supports SPM And IPM motor algorithm, provide air-cooled and liquid-cooled models, suitable for various working environments.



ABT伺服驱动/Servo Drive



ABT系列伺服驱动是我司与美国艾伯特流体动力有限公司合作共同研发的高性能伺服液压专用驱动，专为油泵控制设计，精确速度控制，实现最大程度节能。

The ABT series servo drive is a high-performance servo-hydraulic special drive jointly developed by our company and the United States Albert Fluid Power Co., Ltd., designed for oil pump control, precise speed control, and maximum energy saving.



菲仕伺服电机/PHASE Servo Motor

表贴系列伺服电机参数表/SPM series surface mount servo motor parameters table

电机型号 Motor Model	额定转速 Rated speed	额定扭矩 Rated torque	额定功率 Rated Power	额定电流 Rated Current	电压等级 Rated Voltage	峰值扭矩 Peak Torque	扭矩常数 Torque constant	转动惯量 Inertia with brake Opeion	额定频率 Rated Frequency
单位 Unit	rpm	Nm	kW	A	V	Nm	Nm/A	Kg*cm ²	Hz
U1004F15.3	1500	38	6.0	11.6	380	105	3.32	50	100
U1004F17.3	1700	38.9	7	15.2	380	105	2.81	50	113
U1004F20.3	2000	42	8.8	18.8	380	105	2.37	50	133
U1005F15.3	1500	55	8.6	16.6	380	157	3.31	70	100
U1005F17.3	1700	57	10	20.4	380	157	2.81	70	113
U1005F20.3	2000	58	12	24.3	380	157	2.6	70	133
U1007F15.3	1500	74	11.6	23.9	380	210	3.37	90	100
U1007F17.3	1700	80	14	28.2	380	210	2.85	90	113
U1007F20.3	2000	87	18.2	36.7	380	210	2.53	90	133
U1008F15.3	1500	103	16.4	33.2	380	260	3.38	110	100
U1008F17.3	1700	96.2	17.6	35.1	380	260	2.98	110	113
U1008F20.3	2000	95.6	20.4	40.1	380	260	2.58	110	133
U1010F15.3	1500	128	22	41	380	310	3.3	130	100
U1010F18.3	1800	122	23	44	380	310	2.87	130	113
U1010F20.3	2000	135	28.3	60.5	380	310	2.37	130	133
U1013F15.3	1500	186	29	61	380	410	3.26	170	100
U1013F17.3	1700	164.2	28.7	55.39	380	410	3.19	170	113
U1013F20.3	2000	175	36.7	73.7	380	410	2.53	170	133
U1315F15.3	1500	195.6	30.5	71.5	380	450	3.02	317	100
U1315F17.3	1700	195.29	35.9	72.9	380	450	2.98	317	113
U1315F20.3	2000	191	40	97.8	380	450	2.15	317	133
U1320F15.3	1500	210	33	62	380	550	3.43	410	100
U1320F17.3	1700	229	39.4	92.6	380	550	2.94	410	113
U1320F18.3	1800	232	44	96.46	380	550	2.64	410	120
U1320F20.3	2000	269	56.3	120.7	380	550	2.37	410	133
U1325F15.3	1500	308	49.6	99.9	380	690	3.43	500	100
U1325F17.3	1700	304.5	55.4	111	380	690	3.05	500	113
U1325F20.3	2000	291.2	71.9	141.5	380	690	2.29	500	133
U1330F15.3	1500	380	60	106	380	830	3.56	593	100
U1330F17.3	1700	399	71	155.5	380	830	2.84	593	113
U1330F20.3	2000	389	81.4	155.3	380	830	2.67	593	133
U1340F15.3	1500	450	70	130	380	1100	3.56	777	100
U1340F20.3	2000	511	107	229.7	380	1100	2.37	777	133

注: (1) 最大转速: 若不使用驱动器的弱磁控制功能, 最大转速一般比额定转速高500rpm; 若使用驱动器的弱磁控制功能, 最大转速由驱动器来决定。
(2) 电机的极数: 以上电机的极数均为8极, 即4对极。

Note: 1. Max speed: If you don't use the flux-weakening control function, the max rotational speed will be higher 500rpm than rated speed. If you use the flux-weakening control function, the max rotational speed is decided by the drive.
2. Pole Number: The pole number is of above motor is 8 poles, it's 4pairs of poles.

电机的安装/Servo motor installation:

电机的转轴主要采用标准轴(光轴或带单键轴)、内花键轴、外花键轴或中空轴; 电机接线盒内编码器的信号接线主要采用PCB板, 也可选择航空插座; 电机的安装可选择法兰安装或底板安装。

The motor's spindle is the standard shaft coptic axis or with single bond axis. Internal splined shaft outer splined shaft or hollow shaft. The signal of encoder inside of motor's junction box uses PCB board, also can choose aerial socket. The motor installly can choose flange or baseplate.

内嵌系列伺服电机参数表

IPM series inner mount servo motor parameters table

电机型号 Motor Model	额定转速 Rated speed	额定扭矩 Rated torque	额定功率 Rated Power	额定电流 Rated Current	电压等级 Rated Voltage	峰值扭矩 Peak Torque	扭矩常数 Torque constant	转动惯量 Inertia with brake Opeion	额定频率 Rated Frequency
单位 Unit	rpm	Nm	kW	A	V	Nm	Nm/A	Kg*cm ²	Hz
E1004F15.3	1500	50	7.9	15	380	145	3.43	56	100
E1004F17.3	1700	50	8.9	17	380	145	2.91	56	113
E1004F20.3	2000	50	10	19	380	145	2.57	56	133
E1005F15.3	1500	75	12	23	380	222	3.38	80	100
E1005F17.3	1700	74	13	26	380	222	2.86	80	113
E1005F20.3	2000	73	15	29	380	222	2.60	80	133
E1007F15.3	1500	100	16	29	380	297	3.46	103	100
E1007F17.3	1700	99	18	32	380	297	3.12	103	113
E1007F20.3	2000	97	20	38	380	297	2.60	103	133
E1008F15.3	1500	124	20	39	380	371	3.25	126	100
E1008F17.3	1700	123	22	41	380	371	3.03	126	113
E1008F20.3	2000	121	25	47	380	371	2.60	126	133
E1010F15.3	1500	148	23	45	380	445	3.38	150	100
E1010F17.3	1700	146	26	52	380	445	2.86	150	113
E1010F20.3	2000	143	30	56	380	445	2.60	150	133
E1012F15.3	1500	171	27	52	380	520	3.33	173	100
E1012F17.3	1700	168	30	57	380	520	3.03	173	113
E1012F20.3	2000	165	34	69	380	520	2.42	173	133
E1013F15.3	1500	193	30	57	380	594	3.46	196	100
E1013F17.3	1700	190	34	62	380	594	3.12	196	113
E1013F20.3	2000	187	39	69	380	594	2.77	196	133
E1215F15.3	1500	206	32	64	380	467	3.27	253	100
E1215F17.3	1700	203	36	70	380	467	2.98	253	113
E1215F20.3	2000	197	41	75	380	467	2.67	253	133
E1220F15.3	1500	255	40	78	380	585	3.34	310	100
E1220F17.3	1700	250	45	86	380	585	2.98	310	113
E1220F20.3	2000	243	51	95	380	585	2.60	310	133
E1225F15.3	1500	300	47	86	380	700	3.57	370	100
E1225F17.3	1700	294	52	96	380	700	3.13	370	113
E1225F20.3	2000	285	60	109	380	700	2.67	370	133
E1230F15.3	1500	351	55	100	380	800	3.64	427	100
E1230F17.3	1700	344	61	114	380	800	3.13	427	113
E1230F20.3	2000	336	70	134	380	800	2.60	427	133
E1235F15.3	1500	395	62	115	380	920	3.57	485	100
E1235F17.3	1700	387	69	135	380	920	2.98	485	113
E1235F20.3	2000	377	79	164	380	920	2.38	485	133

ABT 伺服电机 Servo Motor

ABT电机是美国艾伯特流体动力有限公司(威斯克子公司)针对油电伺服的特性设计开发的高性能永磁同步伺服电机。

ABT Motor is a high-performance permanent magnetic synchronous servo motor developed by Albert Fluid Power Co., Ltd. (a subsidiary of NVICKS) for the design of the characteristics of oil-electric servo.



伺服电机参数表/Servo motor parameter table

表贴 电机规格 SPM Motor Model	额定 扭矩 Rated torque Nm	额定 转速 Rated speed rpm	额定 电流 Rated Current A	额定 功率 Rated Power Kw	扭矩 常数 Torque constant Nm/A	额定 电压 Rated voltage V
ABT1004E15.3	45	1500	14.0	7.1	3.21	380
ABT1004E17.3	43	1700	14.9	7.7	2.88	380
ABT1004E20.3	42	2000	17.7	8.8	2.37	380
ABT1005E15.3	68	1500	21.6	10.7	3.14	380
ABT1005E17.3	64	1700	22.2	11.4	2.88	380
ABT1005E20.3	65	2000	27.6	13.6	2.35	380
ABT1007E15.3	90	1500	28.2	14.1	3.19	380
ABT1007E17.3	86	1700	29.4	15.3	2.93	380
ABT1007E20.3	85	2000	34.8	17.8	2.44	380
ABT1008E15.3	114	1500	35.5	17.9	3.21	380
ABT1008E17.3	108	1700	37.6	19.2	2.87	380
ABT1008E20.3	107	2000	43.5	22.4	2.46	380
ABT1010E15.3	135	1500	42.5	21.2	3.18	380
ABT1010E18.3	133	1800	48.5	25.1	2.74	380
ABT1010E20.3	129	2000	50.3	27.0	2.56	380
ABT1012E15.3	156	1500	44.7	24.5	3.49	380
ABT1012E17.3	156	1700	53.3	27.8	2.93	380
ABT1012E20.3	155	2000	60.9	32.5	2.55	380
ABT1013E15.3	180	1500	52.0	28.3	3.46	380
ABT1013E17.3	178	1700	64.8	28.8	2.75	380
ABT1013E20.3	174	2000	66.8	36.4	2.60	380
ABT1015E15.3	200	1500	62.5	31.4	3.20	380
ABT1015E17.3	198	1700	69.5	35.2	2.85	380
ABT1015E20.3	190	2000	76.3	39.8	2.49	380
ABT1315E15.3	217	1500	62.9	34.1	3.45	380
ABT1315E17.3	213	1700	72.9	37.9	2.92	380
ABT1315E20.3	214	2000	89.5	44.8	2.39	380
ABT1320E15.3	248	1500	74.7	38.9	3.32	380
ABT1320E17.3	245	1700	80.6	43.6	3.04	380
ABT1320E20.3	240	2000	99.1	50.3	2.42	380
ABT1325E15.3	315	1500	97.6	49.5	3.23	380
ABT1325E17.3	310	1700	109.9	55.2	2.82	380
ABT1325E20.3	295	2000	121.8	61.8	2.42	380
ABT1330E15.3	375	1500	107.1	58.9	3.50	380
ABT1330E17.3	369	1700	122.9	65.7	3.00	380
ABT1330E20.3	364	2000	145.5	76.2	2.50	380
ABT1340E15.3	455	1500	140.3	71.5	3.60	380
ABT1340E17.3	450	1700	166.5	80.1	3.00	380
ABT1340E20.3	440	2000	203.5	92.1	2.40	380
ABT1345E15.3	500	1500	166.5	78.5	3.34	380
ABT1345E17.3	495	1700	206.1	88.1	2.67	380
ABT1345E20.3	488	2000	203.2	102.2	2.67	380

内嵌 电机规格 IPM Motor Model	额定 扭矩 Rated torque Nm	额定 转速 Rated speed rpm	额定 电流 Rated Current Arms	额定 功率 Rated Power Kw	扭矩 常数 Torque constant Nm/A	额定 电压 Rated voltage V
ABT1004F15.3	44	1500	14.3	7.0	3.451	380
ABT1004F17.3	47	1700	18.4	8.3	2.824	380
ABT1004F20.3	47	2000	20.8	9.8	2.510	380
ABT1005F15.3	59	1500	19.8	9.3	3.326	380
ABT1005F17.3	63	1700	24.5	11.2	2.851	380
ABT1005F20.3	62	2000	26.5	13.1	2.613	380
ABT1007F15.3	85	1500	27.0	13.4	3.501	380
ABT1007F17.3	85	1700	33.1	15.2	2.864	380
ABT1007F20.3	87	2000	36.7	18.2	2.530	380
ABT1008F15.3	103	1500	33.2	16.4	3.380	380
ABT1008F17.3	101	1700	37.6	18.0	2.992	380
ABT1008F20.3	95.6	2000	40.1	20.4	2.580	380
ABT1010F15.3	128	1500	41.0	22.0	3.300	380
ABT1010F18.3	122	1800	44.0	23.0	2.870	380
ABT1010F20.3	135	2000	60.5	28.3	2.370	380
ABT1012F20.3	142	2000	58.9	27.8	2.506	380
ABT1013F15.3	186	1500	61.0	29.0	3.260	380
ABT1013F17.3	167	1700	60.7	29.7	3.055	380
ABT1013F20.3	175	2000	73.7	36.7	2.530	380
ABT1315F15.3	241	1500	75.5	37.8	3.539	380
ABT1315F17.3	195.29	1700	72.9	35.9	2.980	380
ABT1315F20.3	192	2000	81.7	40.1	2.606	380
ABT1320F15.3	263	1500	84.2	41.3	3.475	380
ABT1320F17.3	238	1700	93.3	42.3	2.828	380
ABT1320F18.3	256	1800	105.2	48.3	2.703	380
ABT1320F20.3	269	2000	120.7	56.3	2.370	380
ABT1325F15.3	317	1500	97.7	49.8	3.604	380
ABT1325F17.3	308	1700	108.5	54.8	3.153	380
ABT1325F20.3	310	2000	127.4	64.9	2.703	380
ABT1330F15.3	380	1500	106.0	60.0	3.560	380
ABT1330F17.3	399	1700	155.5	71.0	2.840	380
ABT1330F20.3	389	2000	155.3	81.4	2.670	380

伺服配套方案/Servo Matching Solutions

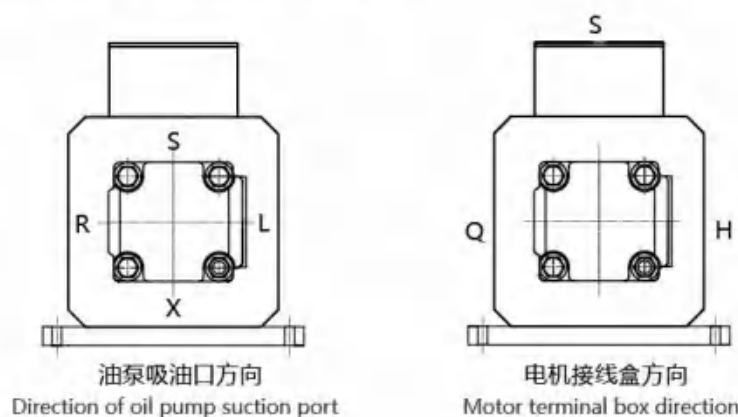
整套伺服系统命名规则/The whole set of servo system naming rules



系统装配方向命名规则/direction of system assembly naming rules

The system direction is composed of two letters
The first letter represents the direction of the suction port of the oil pump
The second letter represents the direction of the motor junction box

系统方向同两个字母组成
第一个字母代表油泵吸油口方向
第二个字母代表电机接线盒方向



常用系统方向示意图/Common system direction diagram



可根据上述产品和客户需求进行配套方案
According to customer demand for supporting programs



序号 No.	油泵 Pump	电机 Motor	驱动 Driver	型号 Model number
1	VG齿轮泵 VG gear pump	ABT电机 ABT servo motor	ABT驱动 ABT servo driver	VG50-ABT1008F-ABT18.5KW-RS
2	VG齿轮泵 VG gear pump	ABT电机 ABT servo motor	台达驱动 Delta servo driver	VG50-ABT1008F-台达/Delta 18.5KW-RS
3	VG齿轮泵 VG gear pump	菲仕电机 Phase servo motor	台达驱动 Delta servo driver	VG50-U1008F-台达/Delta 18.5KW-RS
4	住友齿轮泵 Sumitomo gear pump	菲仕电机 Phase servo motor	台达驱动 Delta servo driver	QT50-U1008F-台达/Delta 18.5KW-RS
5	艾可勒齿轮泵 Eckerle gear pump	菲仕电机 Phase servo motor	台达驱动 Delta servo driver	EIPC50-U1008F-台达/Delta 18.5KW-RS
6	ABT油泵 ABT servo vane pump	同轴电机 Coaxial servo motor	ABT驱动 ABT servo driver	ABT50-ABT1008T-ABT18.5KW-RS
7	ABT油泵 ABT servo vane pump	同轴电机 Coaxial servo motor	台达驱动 Delta servo driver	ABT50-ABT1008T-台达/Delta 18.5kw-RS

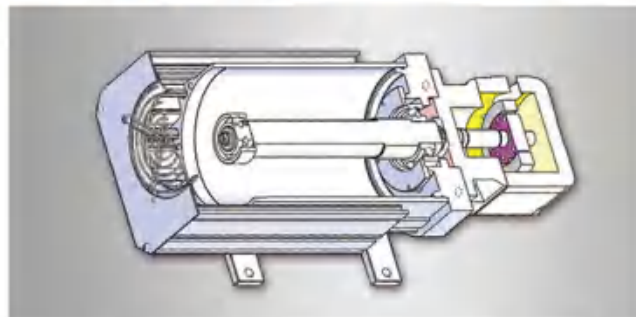
备注: 1. 下单型号以常用的50cc油泵, 匹配18.5kw电机和驱动为例。
2. 同轴电机伺服系统详见威克斯同轴伺服系统样本。

Remarks: 1. The order model takes the commonly use 50cc oil pump, matching 18.5kw motor and drive as an example.
2. For details of the coaxial motor servo system, please refer to the Vicks Coaxial Servo System catalogue.

同轴伺服系统/Coaxial Servo System

剖面结构/Section structure:

实体图/Physical drawing:



同轴结构是宁波威克斯液压有限公司在海天花键连接基础上进行的升级，在具备花键结构优点的同时，避免了花键连接带来的缺陷，如花键连接处的润滑脂在长时间使用后容易干，油泵和电机的花键直接正反撞击产生打齿现象，导致花键打滑需要更换油泵和电机整套，售后成本昂贵。而同轴伺服系统里面，电机和油泵共用一根轴，经过一体精加工外圆磨一刀下来，既能保证同轴度，又不需要润滑脂。同轴的强度更高达到4倍扭矩设计，断轴概率极低。

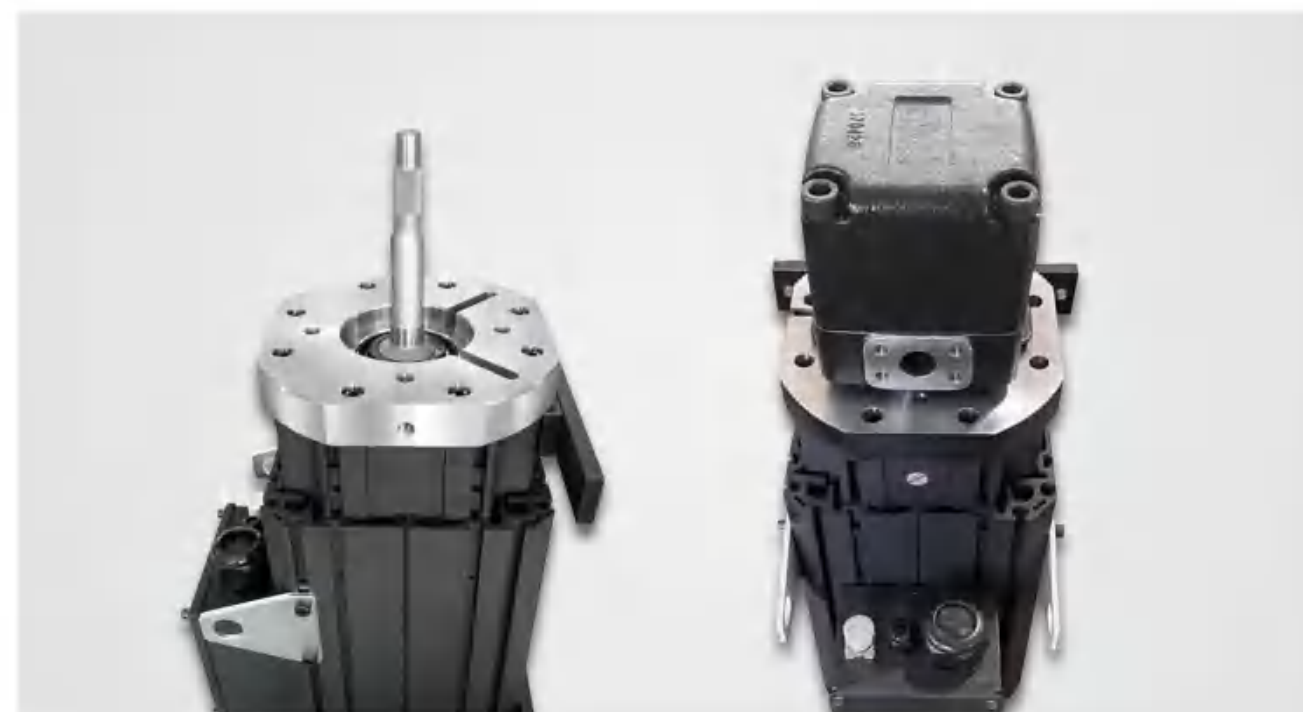
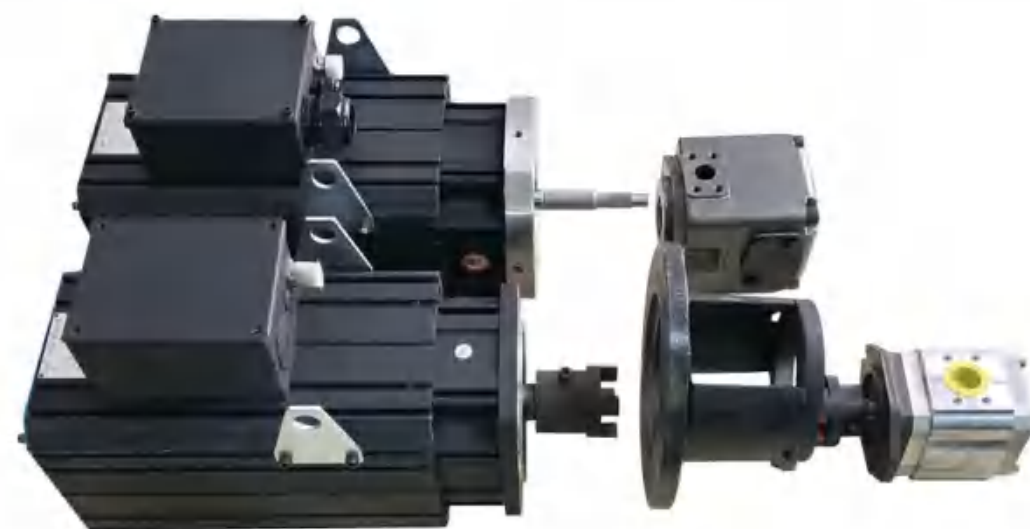
The coaxial structure is an upgrade made by Ningbo Vicks Hydraulics Co., Ltd. on the basis of the Haitian spline connection. It has the advantages of the spline structure and avoids the spline connection defect. For example, the grease at the spline joint is easy to dry after long-term use, and the splines of the oil pump and the motor directly collide positively and negatively to make tooth hitting, which causes the spline to slip. It is expensive to replace the oil pump and motor set. In the coaxial servo system, the motor and the oil pump share the same shaft, which can be cut by a single round after an integrated finishing process. To ensure the coaxiality, no grease is needed. The strength of the coaxial is higher up to 4 times the torque design, and the probability of shaft breakage is extremely low.

同轴优点 Coaxial advantages	说明/Description
省成本 Cost saving	节省联轴器、泵托架成本，缩短装配工时。 Save the cost of coupling and pump bracket, and shorten assembly time.
省空间 Space saving	相同排量配置下，同轴电机泵比使用泵托架的系统减少25%-30%的体积，更有利于客户安装。 Under the same displacement configuration, the coaxial motor pump reduces the volume by 25%-30% compared to the system using the pump bracket, which is more conducive to customer installation.
更可靠 More reliable	无须担心联轴器松脱、安装偏心或平面度误差引起的油泵及电机故障情况。 There is no need to worry about oil pump and motor failure caused by loose coupling, installation eccentricity or flatness error.
更高效 More efficient	内啮合齿轮泵在2500RPM时，噪音高达85分贝以上，为了降低噪音只能用到2000RPM，而同轴电机泵在2500RPM时，噪音不高于80分贝，相较内啮合齿轮泵的2000RPM，多出25%的流量输出。 When the internal gear pump is at 2500RPM, the noise is as high as 85 decibels. In order to reduce the noise, only 2000RPM can be used. When the coaxial motor pump is at 2500RPM, the noise is not higher than 80 decibels, which is more than the 2000RPM of the internal gear pump, extra 25% flow output.
更稳定 More stable	同轴电机泵做注塑保压时，压力波动更稳定，在做低速高压成型时，3%的转速可建立140bar的射出压力。 When the coaxial motor pump is used for injection molding, the pressure fluctuation is more stable. When doing low-speed and high-pressure molding, the injection pressure of 140bar can be established at 3% of the speed.
更长寿 Longer life	故障点减少，叶片泵结构简单、耐磨，抗污性强，有效延长使用寿命。 The failure points are reduced, the vane pump is simple in structure, wear-resistant, and has strong anti-fouling performance, which effectively extends the service life.
更节能 More energy saving	直动设计降低机械损耗，高容积效率减少能源浪费。 Direct-acting design reduces mechanical loss and high volume efficiency reduces energy waste.
易维护 Easy to maintain	叶片泵故障时，仅需更换内胆即可恢复机器工作，快速方便成本低，有效降低客户投诉。 When the vane pump fails, the machine can be restored to work only by replacing the cartridge, which is fast, convenient and low-cost, effectively reducing customer complaints.
易应用 Easy to apply	伺服叶片泵工作压力达280bar,可轻松用于锻压机、压铸机等高压设备。 The servo vane pump working pressure can reach 280bar, which can be easily used for high-pressure equipment such as forging presses and die-casting machines.

同轴伺服系统介绍

Introduction to coaxial servo system

- 在现有伺服油泵和电机的基础上，改变联轴方式产生**更节能、更稳定、更易用**的伺服系统方案。
- 同轴伺服系统具有**省泵托架、省联轴器、省空间、同心度更好**等优势。
- On the basis of the existing servo oil pump and motor, changing the coupling mode makes a more energy saving, more stable and easier-to-use servo system solution.
- The coaxial servo system has the advantages of saving pump brackets, saving couplings, saving space, and better concentricity.



同轴伺服系统具有更高的可靠性 Coaxial servo system has higher reliability

- ◆ 电机油泵轴使用注塑机哥林柱材料 42CrMo, 强度是最大扭矩的4倍
- ◆ 电机油泵轴采用一体式精密加工, 保证同心度、平行度和垂直度
- ◆ The motor oil pump shaft is made of 42CrMo, which is made of plastic injection molding machine, and its strength is 4 times the maximum torque.
- ◆ Motor and oil pump shaft adopt integrated precision machining to ensure concentricity, parallelism and perpendicularity.



油泵花键表面高硬度
High hardness of pump spline surface

破坏扭矩大于电机最大扭矩4倍
The damage torque is 4 times of the motor maximum torque

整支轴心一体
Whole piece shaft concentricity keep same

压力传感器/Pressure sensor



美国NVK压力传感器是基于放置在不锈钢膜片上的薄膜敏感元件技术, 采用最新瑞士Metallux芯片和紧凑不锈钢构造, 使传感器非常坚固和可靠, 适用于高压冲击、震动、高低温的恶劣液体条件中, 如注塑机、压铸机、油压机等。

The American NVK pressure sensor is based on the thin-film sensor technology placed on the stainless steel diaphragm. It adopts the latest Swiss Metallux chip and compact stainless steel structure, making the sensor very sturdy and reliable, suitable for harsh liquid conditions with high shock, vibration, pressure and temperature shock fluid, such as injection molding machine, die-casting machine, hydraulic press, etc.

规格说明 Specifications

压力量程/Pressure range: 0-400bar
测量精度/Masurement accuracy: $\pm 0.25\%$
输出信号/Output signal: 0-10Vdc
供电电源/Power supply: 12-33Vdc
安装接口/Installation interface: G1/4
连接引脚/Connection pins: 1+, 2-, 3signal

科霸电脑/KEBA Computer

可扩展的KePlast 产品范围 The scalable KePlast product range

无论简单的液压注塑机还是复杂的多组件设备 (带有深加工机械手), KePlast控制系统都能应对。

From simple hydraulic injection molding machines to complex multi-component systems with process-integrated robotics - KePlast control systems cover the entire range of applications.

i1000、i2000和i8000系列控制系统因精准性高、生产率高而出类拔萃, 并且节能。整套软件和可扩展的硬件 - 无论在控制性能还是操作方面都具有最大的灵活性。在可视化方面使用相同元素, 在整个范围内确保统一的可视化操作。

The control systems of the i1000, i2000 and i8000 series stand out thanks to their precision and high productivity and ensure savings in energy consumption. The common software platform and the scalable hardware - both in control performance and in the operating unit - provide maximum flexibility. Identical elements are also used for visualization in order to ensure uniform visual operation over the entire range.



KePlast i2000

i2000系列硬件由一个性能等级可调的高性能单板控制器组成。I/O模块或电子驱动装置通过集成的高速实时EtherCAT总线联结。

The hardware of the i2000 series consists of a high-performance single-board computer with scalable performance level. I/O modules or electric drives are connected via the integrated high-speed real-time EtherCAT bus.

- 用于液压、混合和全电动注塑机
- 基于Intel Atom处理器上的模块化硬件
- 高性能的EtherCAT界面
- 12英寸SVGA至15英寸XGA TFT显示屏, 纵向和横向规格
- 触摸屏操作
- 无缝集成KEBA驱动技术包括全电动注塑机应用包
- 全面的质量数据包

- For hydraulic, hybrid and all-electric injection molding machines
- Modular hardware based on Intel Atom
- High-performance EtherCAT interface
- 12" SVGA to 15" XGA TFT displays in portrait and landscape format
- Operation via touchscreen
- Seamless integration of the KEBA drive technology incl. application package for all-electric injection molding machines
- Comprehensive quality data package



KePlast i1000

KePlast控制系统1000源于强大的稳定的控制核心, 保证了生产中的稳定与高效。

Owing to its powerful computer core, the KePlast control system i1000 is real-time-capable, thereby enabling a continuously controlled quality of production.

- 适用于标准的液压注塑机
- 超紧凑型单板控制器
- 7至12英寸显示屏
- 微动开关操作
- 注射闭环, 包括通过注射图监控
- SPC软件包 (流程控制统计)
- CAN总线扩展
- 通过Ethernet接口实现互联

- For hydraulic standard injection molding machines
- Ultracompact single-board computer
- 7" to 12" TFT displays
- Operation via microswitch keyboard
- Closed-loop injection process including monitoring by means of injection graphic
- SPC package (Statistic Process Control)
- Expandable via CAN bus
- Network-compatible through Ethernet connection



KePlast i8000

i8000系列控制解决方案提供了最高的控制性能 和最大的灵活性。整个程序包基于Linux, 最先进的手势操作和开放的控制平台结合在一起, 提供最大程度的个性化。

The control solution of the i8000 series offers the very latest multitouch technology in combination with top performance. The Linux-based complete package combines state-of-the-art gesture operation with an open control platform and provides maximum individuality.

- 用于液压、混合和全电动多组件注塑机以及大型设备
- 开放式 Linux 控制平台, 最短控制周期
- 带有 Linux 操作系统和JavaFx技术的有效操作单元
- 纵向模式的15英寸和21.5英寸宽屏显示器
- 通过EtherCAT界面无缝集成KEBA驱动技术

- For hydraulic, hybrid and all-electric multicomponent injection molding machines as well as high tonnage IMMs
- Open Linux control platform with extremely short control cycles
- Active operating unit with Linux operating system and JavaFx technology
- 15" and 21.5" multitouch widescreen displays in portrait format
- Seamless integration of KEBA drive technology via EtherCAT interface