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Epsivo
艾普希隆



SERVO INTEGRATED MACHINE

ES560系列伺服一体机

三合一 全效节能
All-in-One, All-in-Efficiency





关于我们

深圳市艾普希隆科技有限公司成立于2013年，是一家专注于工业驱动产品研发、制造、销售和服务于一体的国家高新技术企业、深圳市专精特新企业，以拥有自主知识产权的工业自动化驱动技术为基础，以快速为客户提供标准产品及个性化定制服务为经营模式，致力于成为世界一流的工业自动化、驱动一体化系统解决方案提供商。

公司已掌握了领先的同步机异步机电液伺服驱动技术、矢量变频控制技术、光伏水泵驱动技术，主要包括伺服驱动器、通用型变频器、光伏水泵变频器三大核心产品，产品电压涵盖 220V、380V、460V，功率涵盖0.4kW~710KW。广泛应用于注塑机、油压机、液压站、制鞋机、金属打包机、吹膜机、砖机等行业。公司已获得国家知识产权局专利近30余项，同时建立了高标准的质量监督体系，已全面通过ISO9001质量体系、ISO14001环境管理体系、ISO45001职业健康及安全管理体系、CE认证等。

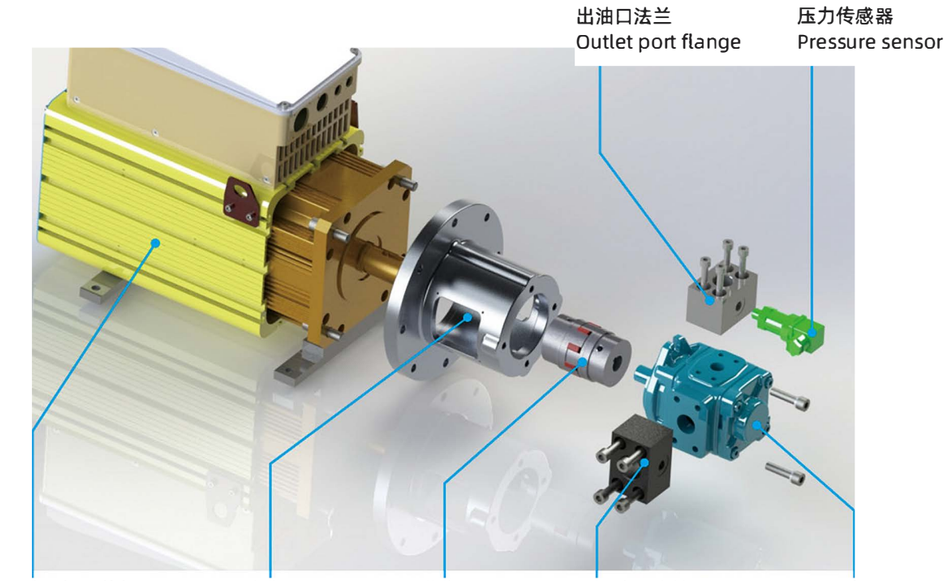
ABOUT EPSIVO

Shenzhen Epsivo Electric Co., Ltd., established in 2013, is a national high-tech enterprise focusing on the R&D, manufacturing, sales, and service of industrial drive products. It is also recognized as a Shenzhen Double-software certified enterprise and a Shenzhen specialized and sophisticated Enterprise. With independently owned intellectual property rights in industrial automation drive technology, Epsivo operates with a business model centered on rapidly providing customers with standard products and personalized customized services. It is committed to becoming a world-class provider of integrated solutions for industrial automation and drive systems.

Epsivo has mastered leading technologies in synchronous/asynchronous motor electro-hydraulic servo drive, variable frequency vector control, and solar pump drive. Its main products include servo drives, general purpose variable frequency drives, and solar pump inverters. These products cover voltages of 220V, 380V, and 460V, with power ranging from 0.4kW to 710kW. They are widely used in various industries, including injection molding machines, hydraulic presses, hydraulic stations, shoe-making machines, metal balers, film blowing machines, brick machines, and others. Epsivo has obtained nearly 30 patents from the China National Intellectual Property Administration. Simultaneously, it has established a high-standard quality supervision system and has comprehensively passed the IS09001 quality system, ISO14001 environmental management system, ISO45001 occupational health and safety management system, CE certification, and other certifications.

ES560伺服一体机简介
Introduction of ES Integrated servo machine

伺服一体机爆炸图



伺服一体机结构图
Structure



ES560液压伺服一体机优势
Advantage of ES Integrated servo machine

ES液压同服一体机，在保证系统性能、稳定性及性价比的情况下， 该系统着重简化了用户的安装、使用要求，降低同服系统的使用门槛。ES系列一体机是一款高防护、一体化组合的成套解决方案，可实现对永磁同步电机的高性能矢量控制，高响应，低干扰。同时还具备后台软件监控、通讯总线功能，支持免调谐功能，组合功能丰富强大，性能稳定。

除一般液压领域外， 特别适合不配备电控柜的应用场合如节能型硫化机、电液折弯机、注塑机、压机等。

While ensuring system performance, stability, and cost-effectiveness, the **ES** hydraulic all-in-one system emphasizes simplified installation and usage, lowering the barrier to entry. The **ES** series all-in-one system is a highly protected, integrated solution that enables high-performance vector control of permanent magnet synchronous motors with high response and low interference. It also features background software monitoring, a communication bus, and tuning-free support, offering a rich and powerful combination of features and stable performance.
In addition to general hydraulic applications, it is particularly suitable for applications that do not require an electrical control cabinet, such as energy-saving vulcanizers, electro-hydraulic bending machine, injection molding machines, presses, etc.

ES560伺服一体机特征

◇ **结构紧凑**

摒弃了传统的异步马达，采用最新永磁同步伺服马达替代，同功率下体积相比异步马达缩小 30%。

驱动模组安装机壳采用铝压铸一体成型，另外增加独立散热风扇减少驱动温升延长使用寿命， 驱动模组拆卸简单。上盖采用ABS阻燃材料同时添加防水密封条。

与常规的永磁同步伺服系统相较，该系统采用集成式方案，体积更加紧凑 。用户无需额外的 电控柜来安装驱动器，既有效节省空间，又能缩减配线的繁琐程度，提升用户的使用体验感。

◇ **性能优异**

继承了同步伺服的优势，具备高速动态响应能力，其相应时间约为30ms，而异步电机 的变频方案也需200ms以上。

可根据工艺需要实时调节转速，提高生产效率，降低能耗 。采用双闭环控制方式，通过电机内部的编码器与油路上的压力传感器 ，实时跟踪系统当前流量输出与压力输出，满足 精密生产需要。

全系列内置制动单元及制动电阻，搭配17bit磁编编码器，支持免调谐。

◇ **低噪低油温**

传统异步马达噪音大且持续，该系统噪音随转速变化而变化，同比低8-10dB。且冷却风机启停可自动控制，在设备低负载运转状态下，风机不启动进一步降低噪音。由于伺服方案不需要高压溢流 ，且许多场合配合工艺需要低速运转，油温可降低5 -10C。

◇ **简便使用**

出厂即根据用户要求参数调试完毕，用户无需进行复杂的调试工作，全系列均采用航插接线，用户无需进行繁琐的接线作业，即插即用极大地降低安装复杂度、时间和人工成本，也减少了接线错误风险。

ES560 Servo Integrated Unit: Features & Benefits

◇ **Compact & Integrated Design**

Features an ultra-compact design, replacing traditional asynchronous motors with a latest-generation permanent magnet synchronous servo motor, reducing dimension by approximately 30% for the same power rating.
The drive module housing is manufactured using die-cast aluminum for superior heat dissipation, supplemented with an independent cooling fan to reduce temperature rise and extend service life. The module is designed for easy disassembly.
The top cover is made of flame-retardant ABS material and includes a waterproof sealing strip for enhanced durability and protection.
This all-in-one integrated solution eliminates the need for a separate external control cabinet, saving significant space, simplifying wiring, and drastically improving the user experience.

◇ **Superior Performance**

Inherits the advantages of synchronous servo technology, providing high-speed dynamic response with a reaction time of approximately 30ms, far surpassing the 200ms+ typically required by asynchronous motor inverter systems.
Enables real-time speed adjustment based on process demands, boosting production efficiency and reducing energy consumption.
Utilizes a dual closed-loop control system, leveraging the motor's internal resolver and a pressure sensor on the oil circuit, to precisely track and control real-time flow and pressure output for high-precision production requirements.
The full series comes with a built-in braking unit and brake resistor, and is equipped with a 17-bit magnetic resolver supporting auto-tuning for setup.

◇ **Low Noise & Reduced Oil Temperature**

Operates significantly quieter than traditional constant-noise asynchronous motors, with noise levels reduced by 8-10 dB on average. Noise varies with speed, and the cooling fan can be set to auto-stop under low load conditions for even quieter operation.
The servo-based system eliminates the need for high-pressure overflow and often runs at lower speeds according to the process, leading to a notable reduction in oil temperature of 5-10°C.

◇ **Simplified Installation & Use**

Arrives pre-configured based on user parameters, requiring no complex debugging on-site.
The entire series utilizes aviation-style plugs for all connections, enabling true "plug-and-play" operation. This greatly reduces installation complexity, time, labor costs, and the risk of wiring errors.

命名方式
Naming Convention

	ES560	-075	-7	-T	-16	-C	-W1
	①系列 Series	②功率 Power	③转速 Speed	④油泵朝向 Outlet Port Position	⑤油泵排量 Pump Displacement	⑥法兰安装方式 Flange Mounting	⑦安装方式 Mounting
①	系列	**ES630系列**					
②	额定功率	037 /055 /075 /090 /100 /120 /150 /185 [x0.1 千瓦]					
③	额定转速	5: 1500； 7: 1700； 2: 2000 转 / 分钟					
④	出油口方向	从油泵方向看 T: 上方 L: 左侧 R: 右侧 D: 下方					
⑤	油泵排量	xx：单泵； xxxx：双联泵 [例 16：单泵 16cc； 2010：双联泵 20cc+10cc]					
⑥	出油口法兰类型	A: 螺纹法兰 B: 焊接法兰 C: 螺纹法兰带传感器孔					
⑦	安装方式	W1：标准卧式安装 L1：立式安装 00: 不安装					
①	Series	ES630 series					
②	Rated Power	037 /055 /075 /090 /100 /120 /150 /185 [x0.1 KW]					
③	Rated Speed	5: 1500； 7: 1700； 2: 2000 rpm					
④	Outlet P ort Position	T: Up L: Left R: Right D: Down					
⑤	Pump Displacement	xx：single pump； xxxx：double pump [For example: 16 single pump 16cc; 2010：double pump 20cc+10cc]					
⑥	Outlet Flange Mounting	A: Threaded flange B: Welding flange C: Threaded flange with Sensor hole					
⑦	Mounting	W1: Standard horizontal installation L1: Vertical installation 00: Not installed					

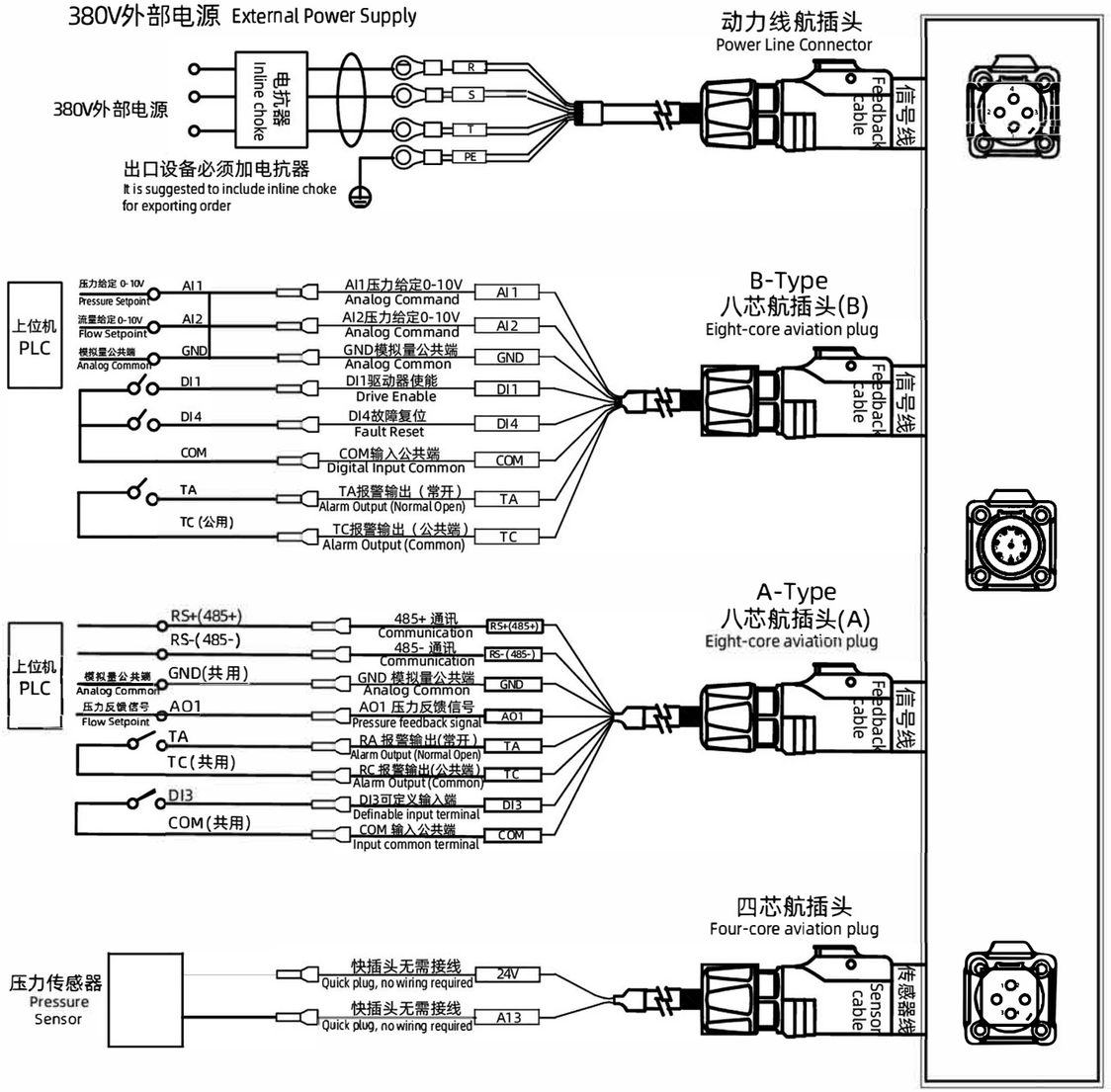
一体机配置参考方案
Configuration Plan

基座 Structure	型号 Model	电机额定扭矩 Motor Rated Torque Nm	峰值扭矩 Peak Torque Nm	电机额定转速 Motor Rated Speed rpm	电机额定频率 Rated Frequency Hz	电机额定功率 Motor Rated Power KW	电机额定电流 Motor Rated Current A	KT 值 Value	驱动功率 Drive Power KW	驱动额定电流 Drive Rated Current A	140Bar 油泵 排量 Pump Displacement CC	175Bar 油泵 排量 Pump Displacement CC	210Bar 油泵 排量 Pump Displacement CC	250Bar 油泵 排量 Pump Displacement CC
130	037	23	46	1700	113.33	4.1	7.7	3.28	3.7	9	13	10	08	05
	055	30	60	1700		5.4	9.8	3.08	5.5	13	16	13	10	08
	075	41	81	1700		7.3	12.7	3.18	7.5	17	20	16	13	10
180	090	48	96	1700		9	14.3	3.4	11	25	25	20	16	13
	100	56	105	1700		10.0	16.5	3.39	11	25	32	25	20	16
	120	69	129	1700		11.5	21	3.28	15	32	40	32	25	20
	150	84	168	1700		15	27	3.11	15	32	50	40	32	25
	185	112	224	1700		19.5	32	3.31	18.5	37	63	50	40	32

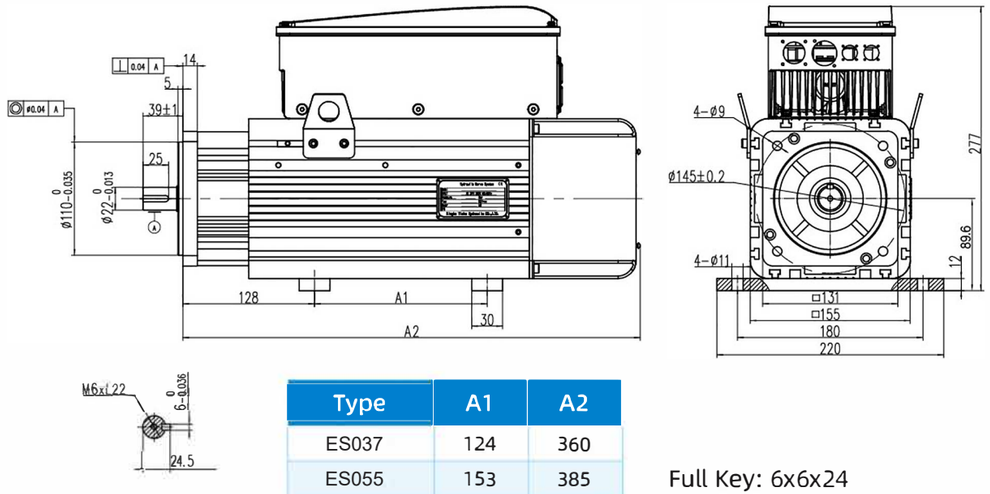
系统技术参数
Technical Data

型号/Model ES560		037	055	075	090	100	120	150	185
电机基座 Motor Structure		130系列/Series			180系列/Series				
额定功率 Rated power	Pn [kW]	3.7	5. 5	7. 5	9.0	10.0	12	15.0	18.5
额定转矩 Rated torque	Tn [Nm]	23	30	41	48	56	69	84	112
额定转速 Rated speed	N [rpm]	1700	1700	1700	1700	1700	1700	1700	1700
额定频率 Rated frequency	Fn [Hz]	113.33							
峰值转矩 Peak torque	T max [Nm]	46	60	81	96	105	129	168	224
峰值转速 Peak speed	N max [rpm]	2300	2300	2300	2300	2300	2300	2300	2300
极对数 Number of pole pairs	P	4	4	4	4	4	4	4	4
转矩常数 Torque constant	Kt [Nm/A]	3.0	3.08	3.18	3.4	3.39	3.28	3.11	3.31
反电动势 Back EMF	EMF [V/k rpm]	191	193	199	197	195	193	196	186
转动惯量 Moment of inertia	J m [kgcm²]	27.7	31.4	38.8	96.4	122.5	167.2	192.8	255
额定输入电流 Rated input current	In [A]	8.20	9.80	12.5	15.3	18	21	27	36.5
輸入电压范围 Input power range	Vol [V]	380-440							
輸入电压频率 Input voltage frequency	Fn	50/60Hz							
輸入电压相数 Input voltage phases	Phase	3							
防护等级 Protection level	IP	54							
温升 /Temperature rise: 环境温度 /Ambient Temperature:		100 K 30℃							

接线说明
Wiring Instructions



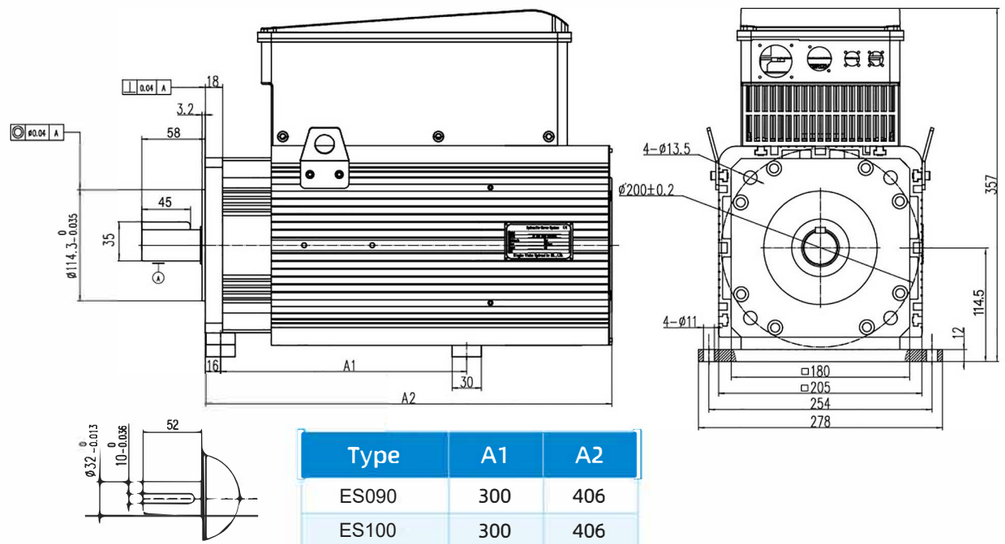
ES130基座尺寸
ES130 base dimensions



Type	A1	A2
ES037	124	360
ES055	153	385
ES075	168	445

Full Key: 6x6x24

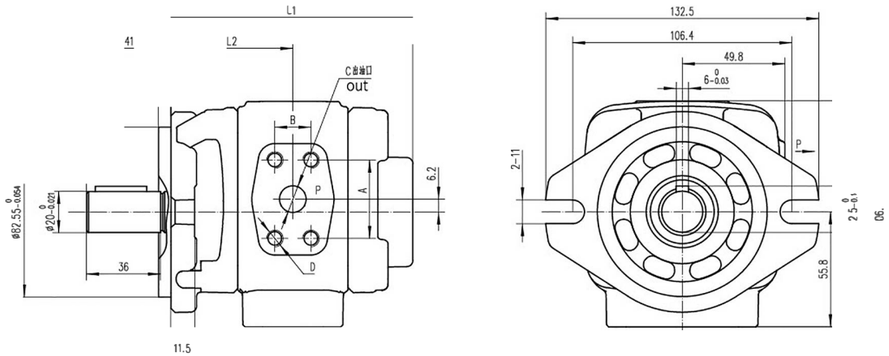
ES180基座尺寸
ES180 base dimensions

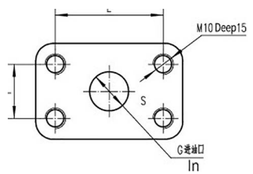


Type	A1	A2
ES090	300	406
ES100	300	406
ES120	340	448
ES150	340	465
ES185	380	533

Full Key: 10x8x40

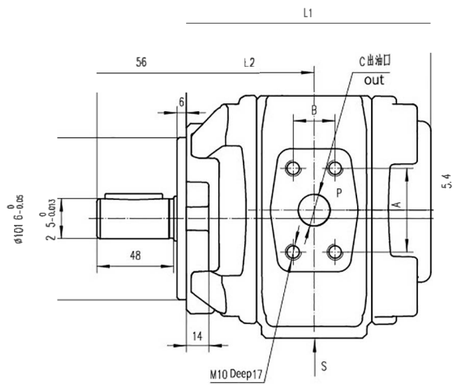
VG0 内啮齿轮泵
VG0 -Internal gear pump

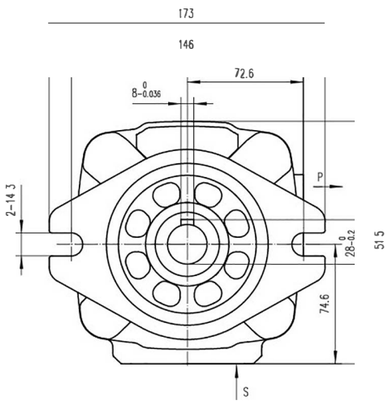


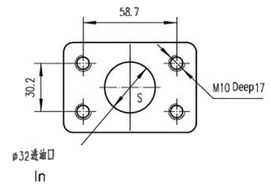


油泵排量 Pump Displacement CC	L1	L2	A	B	C	D	E	F	G
08	107	54					47.6	22.2	
10	111	56							
13	117.5	59.25	38.1	17.5	φ13	M8 Deep 13	52.4	26.2	φ19
16	123	62							
20	131	66			φ18				φ26
25	139	70	47.6	22.2		M10 Deep 15	58.7	30.2	
28	145	73			φ19				φ28

VG1 内啮齿轮泵
VG1 -Internal gear pump

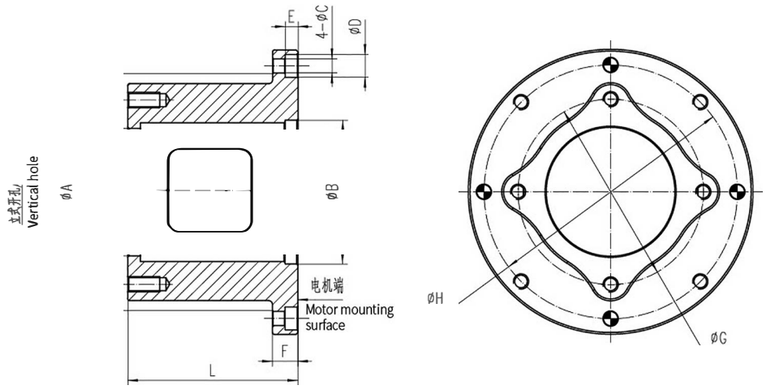






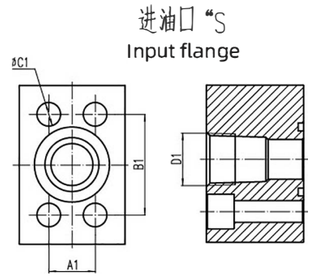
油泵排量 Pump Displacement CC	L1	L2	A	B	C
25	139	73	47.6	22.2	φ18
32	146	76.5			
40	153	80	52.4	26.2	φ20
50	163	85			
63	177	92			

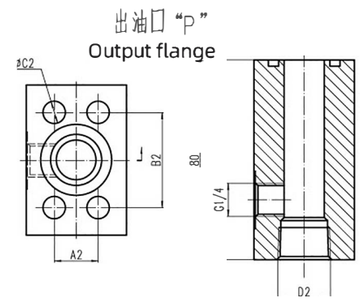
泵托架
Bracket



产品型号 prodaoct model	A	B	C	D	E	F	G	H	L	S
130-82.55卧式 Standard horizontal	82.55	110				12	106.5		104	
130-82.55立式 Vertical	82.55	110	9.5	15.2	3	12	106.5	182	104.5	156
180-101.6立卧通用 Applicable for horizontal and vertical	101.6	114.3	11	18	10	20	146.1	200	134	185
180-82.55立卧通用 Applicable for horizontal and vertical	82.55	114.3	11	18	10	20	106.5	200	134	168

油口连接法兰
Input & Output Flanges





油泵排量 Pump Displacement CC		A1	B1	C1	D1	型号 Model	A2	B2	C2	D2	型号 Model
VG0	8	47.6	22.2	11	Rc3/4"	F06	38.1	17.5	9	Rc1/2"	F04C厚
	10	52.4	26.2		Rc1"	F08					
	13										
	16										
	20	58.7	30.2	12	Rc1-1/4"	F10	47.6	22.2	11	Rc3/4"	F06C厚
	25										
	28										
VG1	25	58.7	30.2				52.4	26.2		Rc1"	F08C厚
	32										
	40										
	50										
	63										