



埃斯顿  
与您共同成长!  
GROWING TOGETHER!



南京埃斯顿自动化股份有限公司  
ESTUN AUTOMATION CO.,LTD

地址: 南京市江宁经济开发区将军大道155号  
电话: 025-52785950  
传真: 025-52785992

ADD: 155 Jiangjun Road, Jiangning Development Zone,  
Nanjing 211106 P.R.C.

TEL: +86-25-52785950

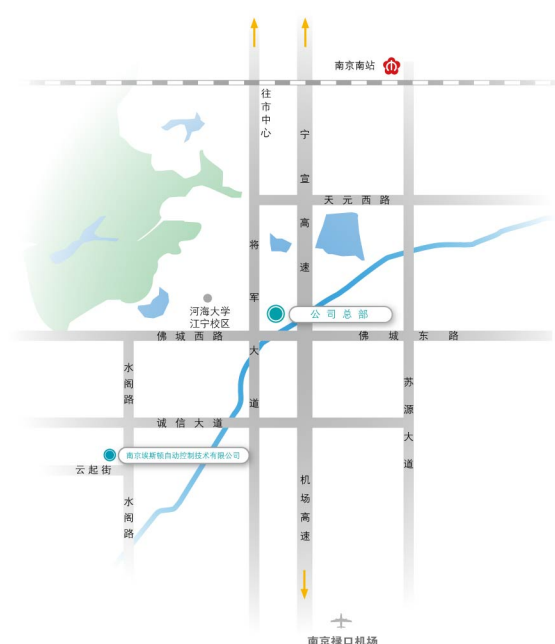
FAX: +86-25-52785992

<http://www.estun.com>

E-mail: [info@estun.com](mailto:info@estun.com)

Version: 1406

内容如有更改, 恕不另行通知。



全电伺服转塔冲床电控解决方案

Complete solution to continuous material  
processing control system

## 公司简介 / About US

埃斯顿自动化提供完整的全电伺服转塔冲床的成套电控解决方案，包括大扭矩重载交流伺服电机、小功率永磁同步伺服电机、数控系统、机械冲头总成、电气成套控制柜等等

配置不同规格的大扭矩重载交流伺服系统，可适用于不同吨位的伺服转塔冲床，满足目前冲床厂家常用20吨、30吨机型需求。

采用水冷大扭矩伺服电机，可长时间持续运转，冷却液为纯净水或防冻液，主轴采用伺服电机直接驱动，减少机械结构，取代液压系统，易维护，提高冲压频次，大幅度降低能耗。

专用大扭矩重载交流伺服驱动器，内置冲床专用软件，实现冲孔、拉伸、刻印、滚筋等工艺需要。

数控系统可使用FAGOR系统、FANUC系统、SIEMENS系统等。我司是西班牙法格公司FAGOR产品在中国的代理商。

ESTUN provides Electronic control solution for full electricity servo turret punch press, including AC high torque servo motor, low-power PMSM, CNC system, assembly of mechanical punch head, a whole set of electric control cabinet.

Equip with AC high torque servo motor torque. Apply to Servo turret punch press of different tonnages, meeting the demand of the punch press manufactures' 20-ton and 30-ton model.

Adopt the water-cooled high torque servo motor, can continuously run for a long time. Coolant is water or antifreeze. Spindle axis is directly driven by servo motor, reduce the mechanical structure. Instead of the hydraulic system, increases the maintainability and the stamping frequency, greatly decreases energy consumption.

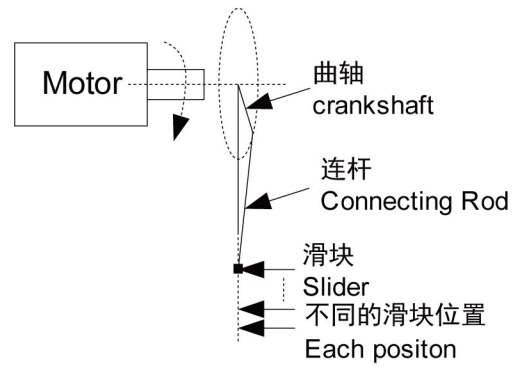
The exclusive high torque AC servo drive, built-in proprietary punch software, can satisfy the technique needs of punching, stretching, stamping and steel rolling.

CNC system includes FAGOR system, FANUC system, SIEMENS system etc. ESTUN is the Chinese agent of Spanish FAGOR Company.

## 南京埃斯顿自动化股份有限公司 ESTUN AUTOMATION CO., LTD

- 04 伺服直驱原理  
The Rationale of the Servo Direct Driving
- 04 伺服直驱的优点  
The advantages of the Servo Direct Driving
- 06 主轴伺服驱动器  
The Main Axis Servo Drive
- 06 技术规格与型号  
Technical Specification and Model
- 07 EHD伺服驱动器外形尺寸  
EHD series servo Drive Dimension
- 08 机械冲头总成  
The Mechanism Punch
- 09 FAGOR-8055I冲床专用数控系统  
FAGOR-8055I punch CNC system
- 11 X、Y、T、C轴送料伺服电机  
X, Y, T, C-axis feed servo motor

## 伺服直驱原理 / The Rationale of the Servo Direct Driving



伺服电机直接与曲轴联接，伺服电机的旋转运动通过曲柄连杆机构转换为滑块的直线运动，滑块的运动速度和位置可以被精准地控制。

Servo motor connects with the crankshaft, the rotational motion of the servo motor is transferred to sliding block's linear motion by crank rod system, the speed and location can be controlled precisely.

## 伺服直驱的优点 / The advantages of the Servo Direct Driving

- 机械传动结构简单，方便设计、制造和安装；
- 传动效率高；
- 冲压启动响应快；
- 精度高，无传动间隙；
- 节能、低噪音；
- 故障率低，维护简单，费用低。
- The structure of the mechanical drive is simple and easy to design, manufacture and install;
- High Transmission Efficiency;
- Quick Response of the Punch Start;
- High Precision, No Transmission Gap;
- Energy-saving, Noise Low;
- Low Fault Rate, Easy Maintenance and Low Cost.

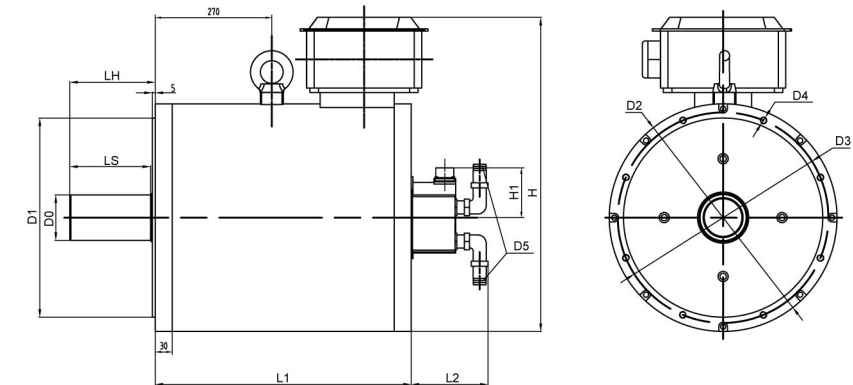
### 产品特性/Feature

- 大扭矩；
- 冷却方式，风冷或者水冷；
- 最高转速600转/分；
- 额定转速500转/分；
- 采用旋转变压器采样位置，分辨率16384P/R
- Large torque
- Cooling, wind or water;
- MAX. Speed 600r/min;
- Rated Speed 500r/min;
- Equipped with resolver, Resolution 16384P/R



## 主轴电机外形尺寸 / Main axis motor dimension

### 电机外形尺寸图 (motor dimension)



单位：毫米  
Unit: mm

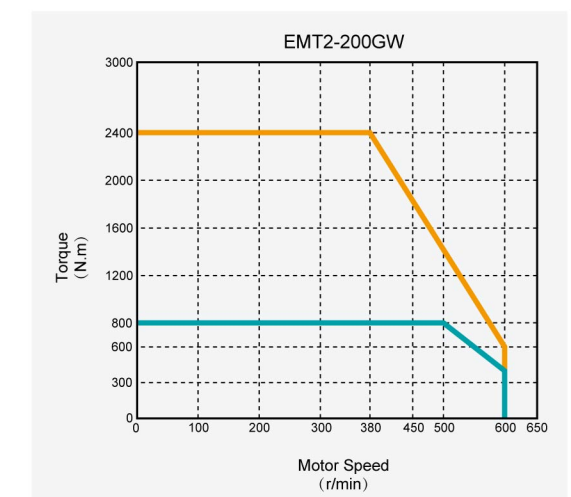
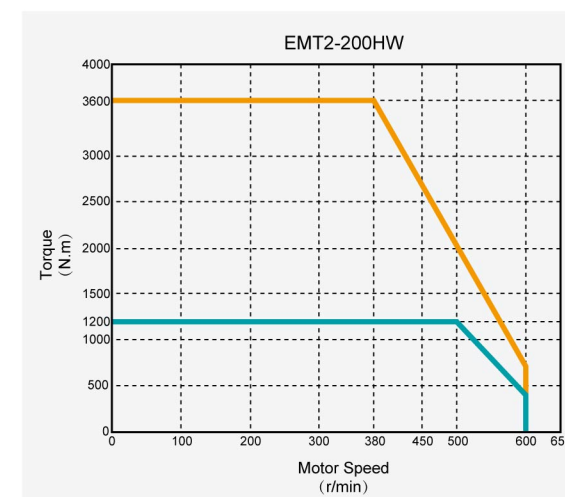
### 电机尺寸对照表 (Table of motor dimension)

型号 (model)	L1	L2	H	D0	安装尺寸 (Mounting dimension)							
					LS	LH	D1	D2	D3	D4	D5	H1
EMT2-200GW-LAVA30-001	450	135	552	70	142	150	350	400	370	8-M12	2×G1/2"	87.5
EMT2-200HW-LAVA30-001	575	135	552	80	142	150	350	400	370	8-M12	2×G1/2"	87.5

## 主轴电机性能 / Main axis motor features

适合机型 For models	伺服电机型号 Servo motor model	伺服驱动器型号 Servo drive model	额定功率 (Rated power) KW	额定转矩 (Rated torque) N · m	最大转矩 (MAX. torque) N · m	额定转速 (Rated speed) rpm	最高转速 (Max. speed) rpm	额定电流 Rated current A	瞬时最大电流 (Instantaneous max. current) A	转子惯量(不带抱闸) Rotor moment of inertia Kg · m <sup>2</sup>
20T伺服冲床 20TServo press	EMT2-200GW	EHD-3E	42	800	2400	500	600	81	261	0.34
30T伺服冲床 30TServo press	EMT2-200HW	EHD-5Z	63	1200	3600	500	600	130	390	0.53

## 转矩-转速特性 / Torque-speed feature



## 主轴伺服驱动器 / The Main Axis Servo Drive

EHD伺服驱动器/EHD Model Servo Drive



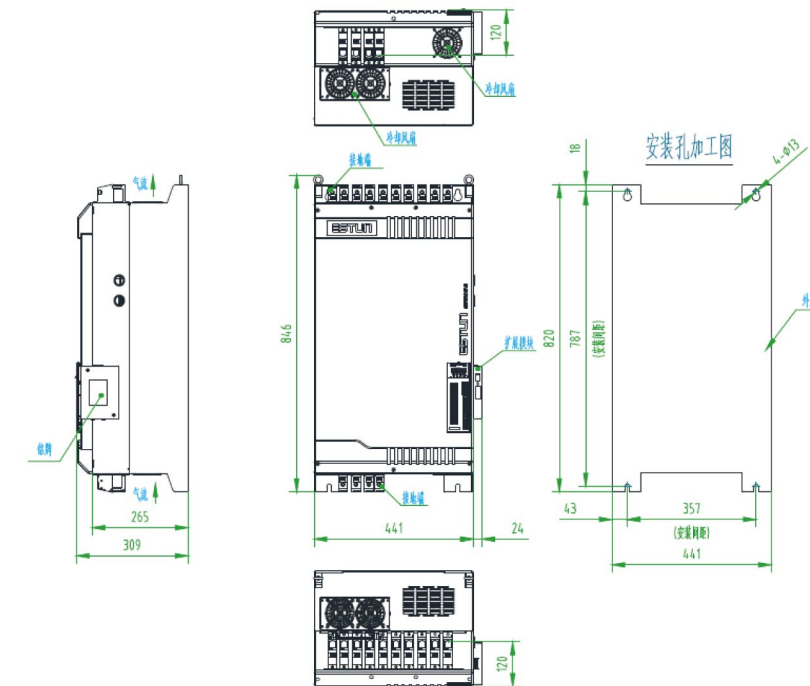
- 说明: 内置电容箱
- NOTE: Build-in capacitor case

EHD2伺服驱动器/EHD2 Model Servo Drive



- 说明: 外置电容箱, I/O模块可以扩展
- NOTE: External capacitor case and the I/O module can be extended.

## EHD伺服驱动器外形尺寸 / EHD series servo Drive Dimension

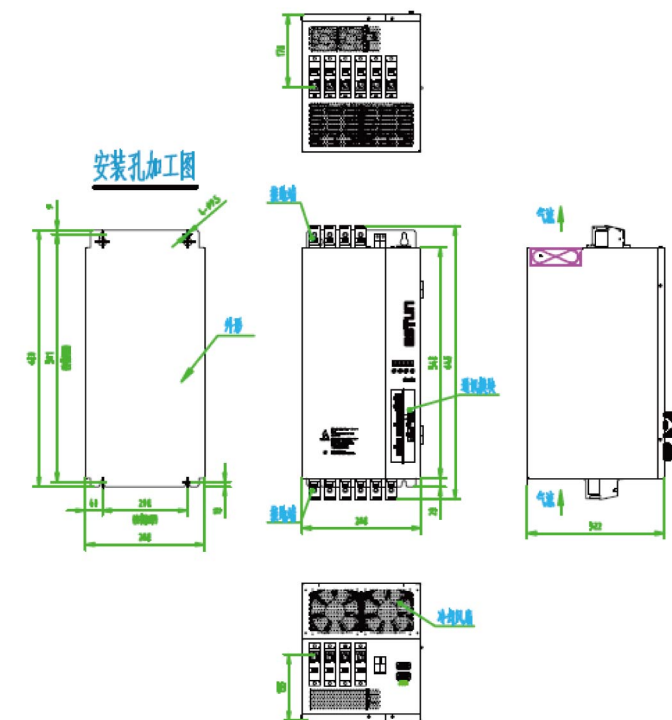


单位: 毫米  
Unit: mm

## 技术规格与型号 / Technical Specification and Model

伺服驱动器型号 Servo Drive Model		EHD-3E	EHD-5Z	EHD2-3E	EHD2-5Z
连续输出电流 Continuons Output Current		105A			
最大输出电流 Max. Output Current		420A			
输入电源 Power Supply	主电路 main Circuit	三相 323~515VAC (50Hz/60Hz)			
	控制电路 Control Circuit	380VAC		24VDC	
	电源功率 Power	125 KVA			
控制方式 Control Mode		SVPWM 控制 SVPWM Control			
反馈 Feedback		旋转变压器: 32768P/R (最高) Resolver: 32768P/R(Highest)			
使用条件 Working Condition	使用温度/保存温度 Operating/Storage Temperature	使用温度: 0 ~ +55°C, 保存温度: -20 ~ +85°C Ambient Temperature: 0 ~ +55°C, Storage Temperature: -20 ~ +85°C			
	使用湿度/保存湿度 Operating/Storage Humidity	90% RH 以下 (不结露) 90% RH or less (no condensation)			
	海拔高度 Elevation	1000m 以下 1000m or less			
	耐振动/耐冲击 Vibration/Impact Resistance	耐振动: 4.9m/s <sup>2</sup> , 耐冲击: 19.6m/s <sup>2</sup> Vibration Resistance: 4.9m/s <sup>2</sup> , Impact Resistance: 19.6m/s <sup>2</sup>			
构造 Configuration		底座安装 Base_mounted			

## EHD2伺服驱动器外形尺寸 / EHD2 series servo Drive Dimension



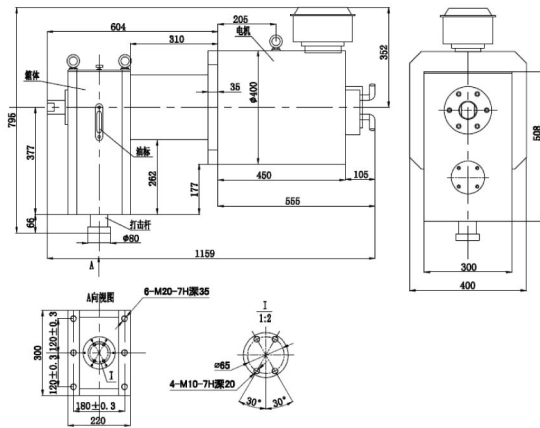
单位: 毫米  
Unit: mm

机械冲头总成 / The Mechanism Punch

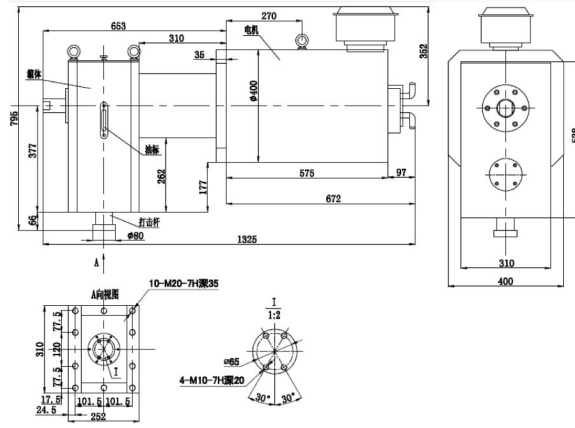
FAGOR-8055I冲床专用数控系统 / FAGOR-8055I punch CNC system

安装尺寸/Dimension

20吨冲头机构  
20T Punch Dimension

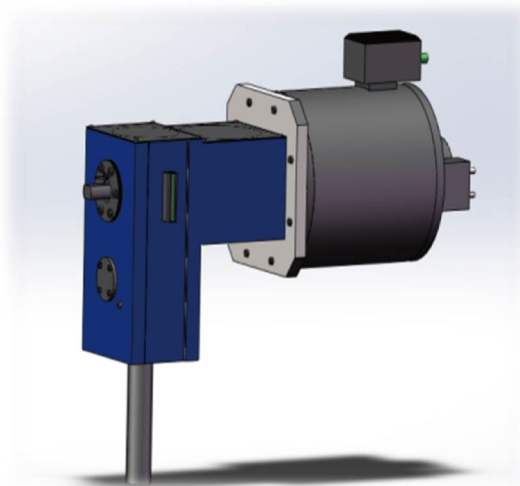


30吨冲头机构  
30T Punch Dimension



冲头结构/Punch Construction

- 冲压频率 (200KN为例):  
2mm 冲程 每分钟1900次  
3mm 冲程 每分钟1700次  
4mm 冲程 每分钟1500次
- 冲压行程: 32mm
- 公称压力: 200KN/300KN
- Punching Frequency:  
2mm stroke 1900 times per minute  
3mm stroke 1700 times per minute  
4mm stroke 1500 times per minute
- Punching Stroke: 32mm
- Nominal Pressure: 200KN\300KN

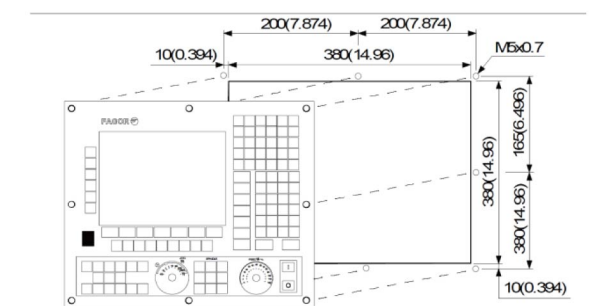
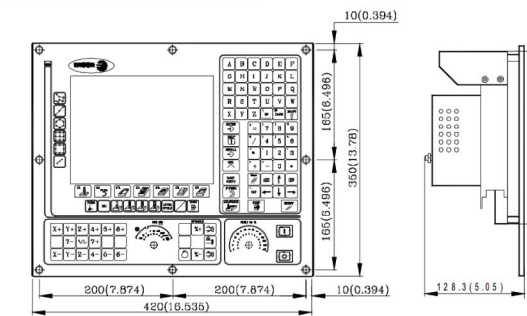


系统特性/System features

- ➔ 先进算法适合高速加工
- ➔ 控制程序为冲床深度定制
- ➔ 提供多种优化调试工具
- ➔ HMI, PLC易于二次开发



安装尺寸/Dimension



技术参数 / Technical specification

系统配置 / System configuration

	CNC 8055 FL	CNC 8055 POWER
基本轴配置 / Basic axis configuration	4	4
最大轴配置 / Maximum axis configuration	4	7
最大主轴配置 / Maximum spindle configuration	2	2
系统内存 / User memory (RAM)	1 MB	1 MB
硬盘容量 (CF卡) / User memory (Compact Flash)	512 MB / 2 GB	512 MB / 2 GB
段处理周期 / Block processing time	3.5 ms	1 ms
最大 IO 扩展数量 / Maximum remote digital I/O	288 / 192	288 / 192
Sercos 总线 / Sercos digital servo system	选配 / Optional	选配 / Optional
CAN 总线 / CAN digital servo system	选配 / Optional	选配 / Optional
模拟量 / Analog servo system	标配 / Standard	标配 / Standard
最大模拟量轴数量 Maximum analog axis configuration (integrated model)	5	5

通用特征 / General purpose features

	CNC 8055 FL	CNC 8055 POWER
最大模具库 / Maximum number of tools	255	255
最大模具补偿 / Maximum number of tool offsets	255	255
USB	标配 / Standard	标配 / Standard
远程诊断 / Tele-diagnosis	选配 / Optional	选配 / Optional
支持语言 / Supported languages	13	13
自定义接口 / Customizable interface	标配 / Standard	标配 / Standard
手轮 / Feed handwheel	标配 / Standard	标配 / Standard

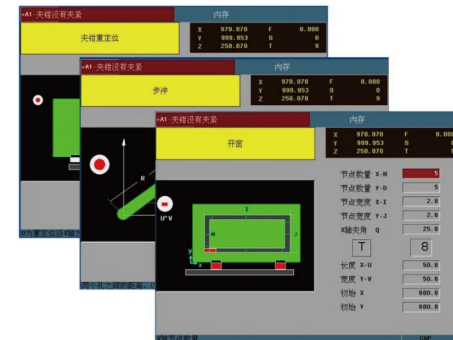
选项功能 / Optional

支持中文、英语、西班牙语、意大利语、法语、等13种语言  
English, Spanish, French, Italian, German, Dutch, Portuguese, Czech, Polish, Mainland Chinese, Basque, Russian, Turkish.

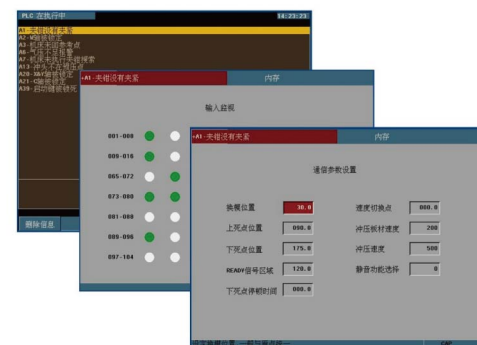
界面说明 / Interface Description



快捷的图形化编程功能  
Speedy Graphic Programming Function



丰富的冲压循环子程序  
Rich Subprograms of Punching Cycle



简便的通讯监视功能  
Convenient Communication Surveillance Function



强大的调试诊断功能  
Strong Debugging Diagnosis Function

X、Y、T、C轴送料伺服电机 / X, Y, T, C-axis feed servo motor

EMS型伺服电机/EMS Model Servo Motor

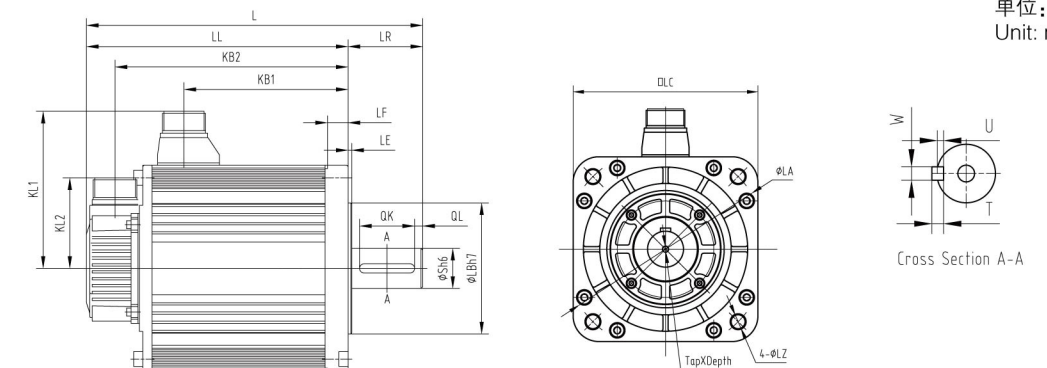
- 最高转速达5000r/min
- 峰值扭矩可达300%
- 配备17位绝对值编码器，可选配旋转变压器
- MAX. Speed up to 5000r/min
- Peak Torque up to 300%
- Mounted 17 bits absolute encoder, Optional mounted resolver



额定值和规格/Rated Value and Specification

ESTUN 定制送料电机参数表					
伺服电机型号 / Servo motor model		EMJ-45DSA12	EMJ-55DSA12	EMB-18DSA12	EMB-12DSA12
冲床使用轴 / Punch press axis		X	Y	T	C
额定输出功率 / Rated power	kW	4.5	5.5	1.8	12
额定扭矩 / Rated torque	N.m	22	40	12	8
瞬间最大扭矩 / Instantaneous peak torque	N.m	60	100-110	42	24
额定转速 / Rated Speed	min <sup>-1</sup>	3000	3000	1500	1500
最高转速 / MAX.Speed	min <sup>-1</sup>	4000	4000	2000	2000
转子转动惯量 / Rotor Moment Of Inertia	× 10 <sup>-4</sup> kg.m <sup>2</sup>	53	84	41	19
法兰直径 / Flange diameter	mm	180	180	180	130
编码器 / Encoder	绝对值编码器(Absolute Encoder): 131072P/R				
耐热等级 / Insulation Class	F				
环境温度 / Ambient Temperature	0~+40℃ (不结冰 / no freezing)				
环境湿度 / Ambient Humidity	20~80%RH (不结露 / non-condensing)				
保护方式 / Enclosure	全封闭, 自冷, IP65(如果不配油封, 则排除轴伸端) Totally Enclosed, Self-cooled, IP65(Except for shaft opening, when not equipped With oil seal.)				
抗振性能 / Vibration	49m/s <sup>2</sup>				
伺服驱动器型号 / Servo drive model		ProNet-75D	ProNet-75D	ProNet-20D	ProNet-15D
伺服驱动器电压 / Servo drive voltage	400VAC				

外型尺寸/Dimension



单位: 毫米  
Unit: mm

型号(model)	L	LL	KB1	KB2	KL1	KL2	安装尺寸(Mounting dimension)						
							LR	LE	LF	LC	LA	LB	LZ
EMJ-45DSA	332(401)	253(322)	168	228(245)	140	79	79	3.2	18	180	200	114.3	13.5
EMJ-55DSA	372(443)	293(364)	208	268(287)	140	79	79	3.2	18	180	200	114.3	13.5
EMB-18DSA	307(378)	228(299)	143	203(274)	140	79	79	3.2	18	180	200	114.3	13.5
EMB-12DSA	265(323)	210(268)	135	185(243)	118	79	55	6	12	130	145	110	19