Professional Servo Drive System Provider

Epsivo

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— More energy-efficient
— More stable
— Higher performance
— Higher integration



Epsivo

Integration of Hydraulic Servo System Solutions

Shenzhen Epsivo Technology Co., Ltd.

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.





Epsivo is committed to becoming an outstanding supplier in the field of drive and control. With a team spirit of proactive advancement, steady improvement and accumulation of research and development strength, and efficient execution capabilities in the supply chain, it is committed to customizing more competitive solutions for various equipment manufacturing enterprises and automation products in segmented industries, continuously helping enterprises increase productivity, reduce costs, maximize corporate benefits, and promote the mutual growth of corporate and customer values.





ES/EP

Hydraulic Servo System



Product Description

- The hydraulic servo drive system consists of ES600 series servo drive and EP series servo motor. By combining the capabilities of high-performance general servo platform, it comprehensively enhances servo motion control capabilities. Deeply coupled with the structural characteristics of oil pumps, it significantly reduces hydraulic pressure pulsation. The integrated machine features a duct casing structure, enhancing heat dissipation and increasing mechanical structural strength. With a new electromagnetic design featuring low inertia, the inertia of the frame size 200 is reduced by approximately 10%, meeting high-speed response requirements. By combining software and hardware, vibrations are minimized, achieving ultimate silence. Equipped with CANOPEN communication and coupled with upper computer platform, the entire electrical control solution assists in upgrading hydraulic equipment.
- Paired with intelligent hydraulic position closed-loop algorithm, it significantly enhances positioning accuracy, reduces impact during operation, decreases equipment wear, and improves equipment lifespan. It intelligently diagnoses pump and oil circuit faults based on feedback pressure, actual speed, output current, and other information.

Product Positioning

Es600 series servo drives cover a power range of 3.7kW to 350kW, while the EP series AC permanent magnet servo motors have a rated power of 3.7kW to 350kW, a rated torque range of 2.2Nm to 20000Nm, and a rated speed range of 10rpm to 15000rpm. The hydraulic servo system is mainly used in industries such as injection molding machines, shoe-making machines, large-scale hydraulic stations, hydraulic presses, film blowing machines, metal balers, bending machines, and die-casting machines.

Servo System Product Features

Complete specifications

The fully self-developed servo systems cover a full power range of 3.7kW to 350kW, meeting the needs of customers under various working conditions.

Specialized segmentation

We can provide customers with customized full-range surface-mounted, embedded, and permanent magnet reluctance high-performance servo systems.

Stable and reliable

Since establishment, we have provided over 1 million sets to the market, and our industry service experience of over 10 years ensures the stable and reliable quality of Epsivo servo products.

Flexible selection

The multifunctional drive supports various types of encoders, including rotary transformers, photoelectric encoders, sine-cosine encoders, and absolute value encoders. Optional high-speed buses such as Varan and EtherCAT enhance the expansion capability of the servo system.

Outstanding performance

With optimized current loop and speed loop control characteristics, it supports high-frequency output of over 1KHz. It uses MODBUS and CANBUS communication, FVC control, with high reliability, fast response, strong real-time performance, and more convenient and user-friendly operation and debugging. It is highly humanized and allows for easy implementation of parallel connection of multiple pumps as well as confluence and diversion control.



ES/EP

Hydraulic Servo System



Product Advantages

More energy-efficient

High-efficiency servo drives and synchronous servo motors, combined with high volumetric efficiency hydraulic servo pumps, can eliminate energy losses due to overflow at high pressure in the hydraulic system, leading to energy savings of 40% to 80% compared to traditional asynchronous motor hydraulic systems.

More durable

Using a robust rotary transformer as the speed feedback component, it operates stably in environments with heavy metal dust, high temperatures, high air humidity, severe oil contamination, and significant vibration, ensuring stability, reliability, and extended lifespan of the component.

More precise

It adopts the dual closed-loop control mode for more precise pressure and flow control.

More stable

Designed with a large margin for strong protection capability, it significantly reduces the operating oil temperature of the entire machine.

More user-friendly

Servo motors and drives require no maintenance, and signal acquisition from the upper computer is more user-friendly.

Less noise

It reduces noise by more than 10DB compared to similar products.

More stable

Utilizing 32-bit ARM as the core and advanced motion vector core algorithm, it can operate without overcurrent or tripping under any acceleration and deceleration time and impact load conditions.

Higher performance

With real-time motor temperature monitoring, and built-in high-precision, high-response PID application algorithm module, it achieves precise pressure control, leading the industry in low-speed pressure holding performance. With a response time of 50ms when the pressure starts at 200bar, it has a pressure overshoot of 5bar, and a pressure fluctuation of 0.5bar. The weak magnetic range is improved by 10% compared to the previous generation, with enhanced response and impact suppression capabilities.

Higher integration

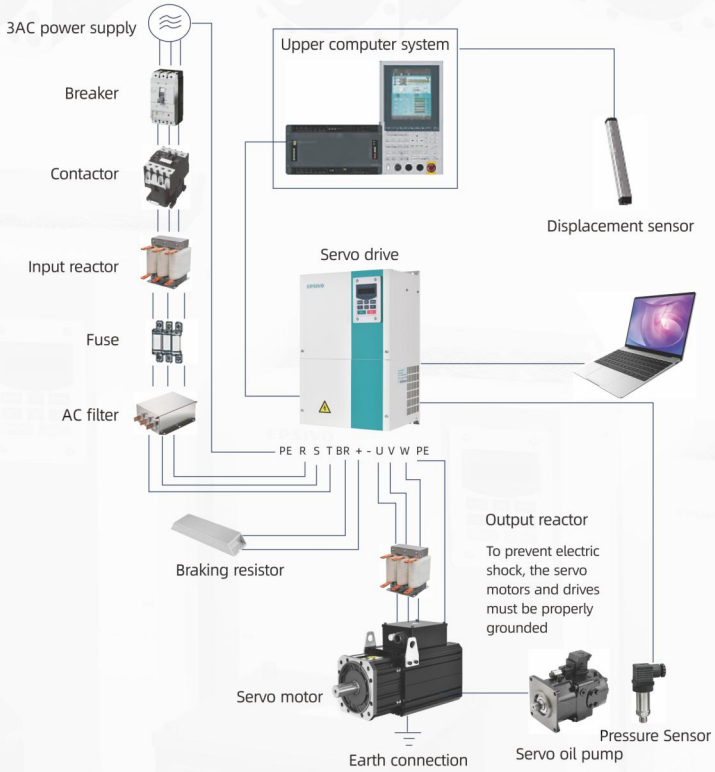
Built-in braking unit

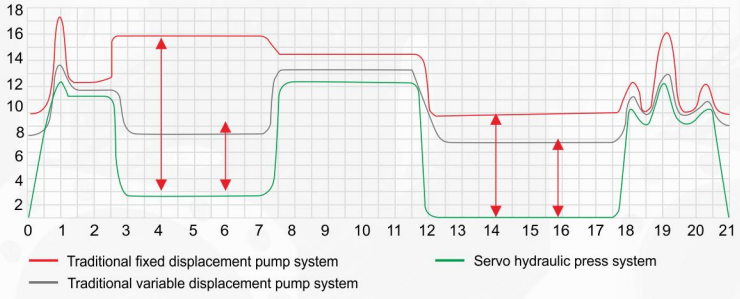
It is equipped with a built-in braking unit for applications in the hydraulic industry under 160KW.

Working Principle

Before the system establishes pressure, the flow is used to control the speed of the servo motor precisely, thus controlling the system flow accurately.

After the system pressure is established, the real-time pressure is rapidly controlled through pressure PID, utilizing the advantages of fast response and precise control of the servo motor to achieve rapid and high-precision pressure control in the system.





ES600

Servo Drive



Model Description

ES600 | T | 025

ES600 series

3AC 380V

Rated output current

017 : 17A　025 : 25A　032 : 32A　037 : 37A　045 : 45A
060 : 60A　075 : 75A　091 : 91A　112 : 112A　150 : 150A
176 : 176A　210 : 210A　253 : 253A　304 : 304A

Technical Specifications

Item	ES600-T-XXX													
	017	025	032	037	045	060	075	091	112	150	176	210	253	304
Power rating (kW)	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132	160
Input voltage	3AC 380V, -15% ~ +10%													
Carrier frequency	0.8K-16K													
Input frequency resolution	Digital setting: 0.01Hz Analog setting: maximum frequency*0.025%													
Motor type	Synchronous motor													
Control mode	Vector control with speed sensor (FVC)													
Speed adjustment range	1 : 1000													
Steady speed accuracy	±0.02%													
Speed fluctuation	±0.5%													
Torque control response	≤200ms													
Overload capacity	150% 60s													
Communication	RS485, CANopen													
Running command source	Keypad, terminal, communication													
Frequency source	Digital, communication, analog, multi-speed, multi-channels switch, superposition given													
Digital input	5 inputs													
Relay output	3 inputs													
Analog input	Ai1: 0~10V Al2: 0~10V Al3: 0~10V or 0~20mA													
Analog output	0~10V													
Motor temperature detection	1 * PTC 130 standard, 1 * KTY84-130 optional													
Working Altitude	Below 2000 meters, derating by 10% for every 1000 meters increase													
Working environment	Indoors, not exposed to direct sunlight, free from dust, corrosive, flammable gas, oil, water vapor, dripping water, salt, etc. -10□ ~+ 40□ (When the ambient temperature is above 40C, please derate, and the output current will decrease by 2% for every 1□ above). Less than 95%RH, no condensation.													

Electrical Parameters

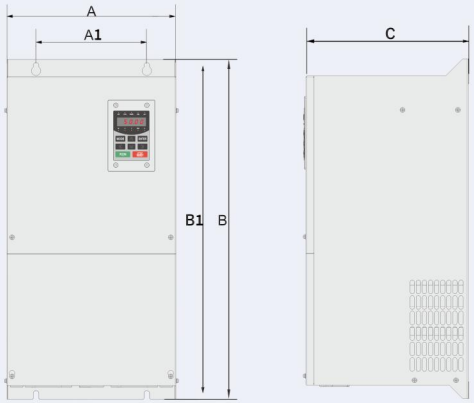
Model	Rated power (kW)	Rated output current (A)	Rated input current (A)	Recommended braking resistor power (kW)	Min. braking resistor	Input reactor (A)	Inductance (mH)	Input filter (A)	Magnetic ring	Braking unit	Remarks
3AC 380V, 50/60Hz											
ES600T017	7.5	17	20	0.8	≥32Ω	40	[illegible]	30			Plastic structure
ES600T025	11	25	29	1.1	≥32Ω	40	[illegible]	40	T63 (input/ output, 3AC)*2 T25 (signal cable)*2	Built-in	Sheet metal structure
ES600T032	15	32	36	1.5	≥20Ω	40	[illegible]	40			
ES600T037	18.5	37	42	1.85	≥20Ω	50	[illegible]	50			
ES600T045	22	45	48	2.2	≥20Ω	50	[illegible]	50			
ES600T060	30	60	62	3	≥12Ω	80	[illegible]	80			
ES600T075	37	75	76	3.7	≥12Ω	90	[illegible]	90			
ES600T091	45	91	92	4.5	≥11Ω	120	[illegible]	120			
ES600T112	55	112	113	5.5	≥8Ω	150	[illegible]	150			
ES600T150	75	150	157	7.5	≥5.5Ω	200	[illegible]	200			
ES600T175	90	175	180	9	≥5Ω	250	[illegible]	250		Optional built-in	
ES600T210	110	210	214	6	≥5Ω*2	250	[illegible]	250			
ES600T253	132	253	256	7	≥5Ω*2	330	[illegible]	330			
ES600T304	160	304	307	8	≥5Ω*2	330	[illegible]	330			



ES600

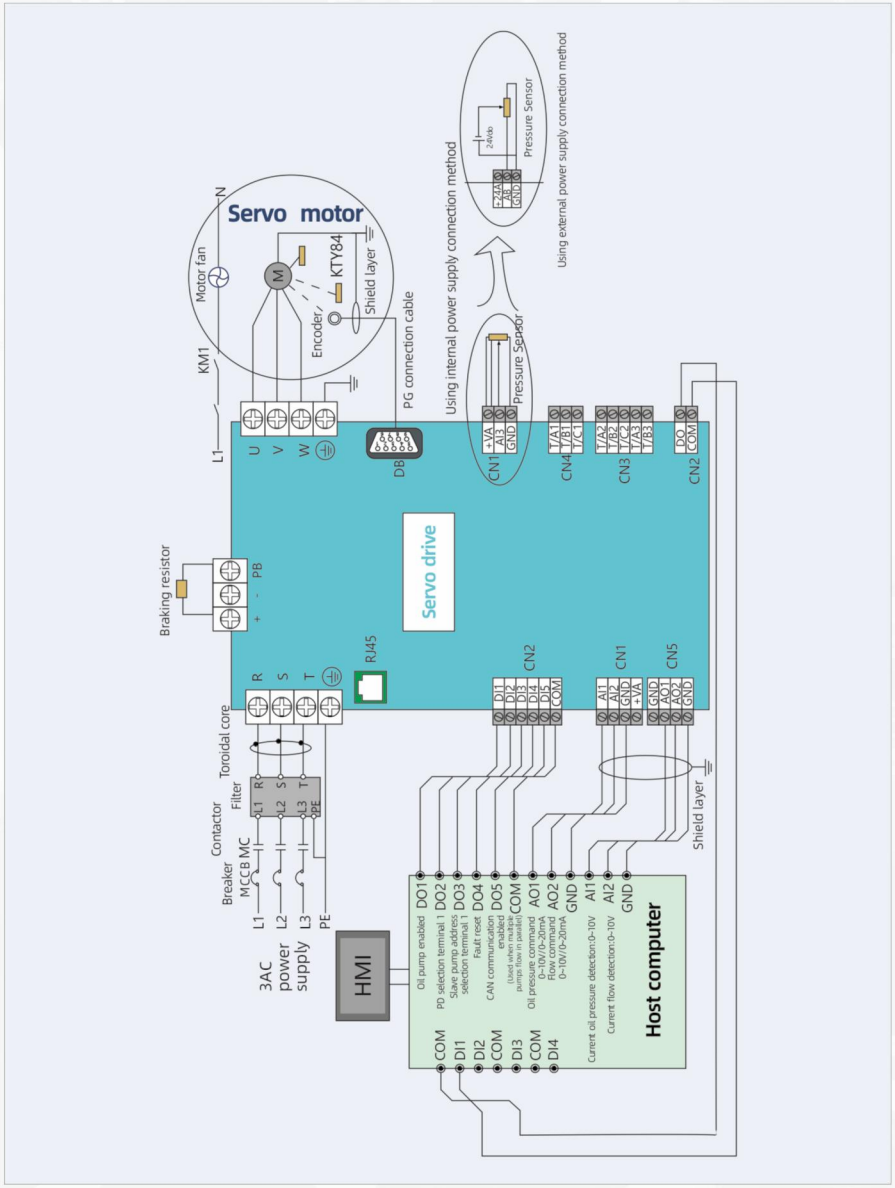
Servo Drive

Installation Dimensions



Model	Installation hole position		Dimensions			Installation aperture	Weight (kg)
	A1	B1	A	B	C		
ES600T017	148	235	160	247	178	Φ5.5	3
ES600T025	140	324	217	335	194	Φ7	9
ES600T032	140	324	217	335	194	Φ7	9
ES600T037	140	324	217	335	194	Φ7	9
ES600T045	139	349	228	361	204	Φ7	11.5
ES600T060	235	447	285	463	224	Φ7	17.7
ES600T075	235	447	285	463	224	Φ7	17.7
ES600T091	245	523	300	542	269	Φ10	23.5
ES600T112	245	523	300	542	269	Φ10	24.5
ES600T150	270	560	338	580	315	Φ10	52
ES600T176	270	560	338	580	315	Φ10	52
ES600T210	270	560	338	580	315	Φ10	52
ES600T253	320	890	400	915	315	Φ11	72
ES600T304	320	890	400	915	315	Φ11	72

Wiring Diagram



EP18

Servo Motor

Model Description

EP | 18 | 40F | 15K

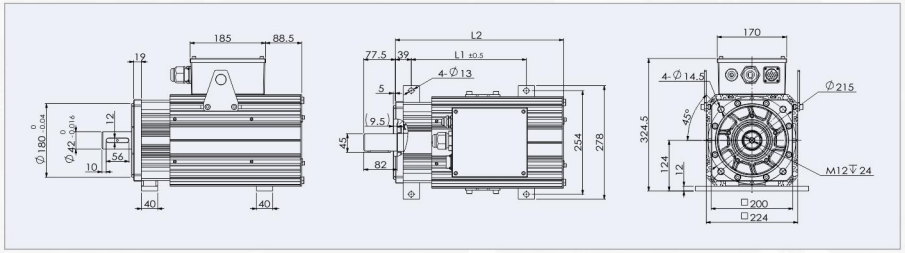
- EP: EP series AC permanent magnet synchronous motor
- 18: Installation flange diameter: Multiplied by 10
- 40F: Rated torque: (eg. 24-53NM; 62-168NM)
- 15K: Rated speed



Product Features

- Adopting a new embedded structure to enhance weak magnetic overspeed and demagnetization resistance, better suiting the operational requirements of the hydraulic machinery industry
- Utilizing high-precision encoders as speed feedback devices to enhance shock and oil resistance, meeting the demands of harsh working conditions
- The standard torque range covers 2.2Nm to 2000Nm, with a power range of up to 350kW
- Simulation design conducted using Ansoft software ensures superior electromagnetic performance
- Employing high-performance neodymium-iron-boron excitation for minimal iron and copper losses, resulting in higher efficiency and reduced heat generation
- Supporting dual protection with PTC and KTY
- Accommodating custom non-standard requirements from customers

Dimension Drawing



Rated torque Nm	42	53	63	74	84	95	105	116	126	137	147	158	168	179	189	200
L1 (mm)	250	250	250	266	282	298	314	330	346	362	378	394	410	426	442	458
L2 (mm)	378	378	378	395	412	429	446	463	480	497	514	531	548	565	582	599

Technical Specifications

Model	Rated torque Tn (Nm)	Rated current (A)	KT (Nm/A)	Rated power Pn (kW)	Rated speed n (RPM)	Rated frequency f (Hz)	Power level (V)	Counter emf EMK (V)	Rotor inertia J (kg.m².10-3)
EP18-40F15K-SL	42	11.6	3.62	6.6	1500	100	380	310.9	59
EP18-40F17K-SL	42	13.3	3.16	7.5	1700	113.3	380	308.3	59
EP18-40F20K-SL	42	15.5	2.71	8.8	2000	133.3	380	310.9	59
EP18-50F15K-SL	53	15.6	3.40	8.3	1500	100	380	291.5	71
EP18-50F17K-SL	53	17.5	3.03	9.4	1700	113.3	380	293.6	71
EP18-50F20K-SL	53	20.1	2.64	11.1	2000	133.3	380	302.3	71
EP18-66F15K-SL	63	17.4	3.62	9.9	1500	100	380	310.9	81
EP18-66F17K-SL	63	19.8	3.18	11.2	1700	113.3	380	308.3	81
EP18-66F20K-SL	63	23.2	2.72	13.2	2000	133.3	380	310.9	81
EP18-70F15K-SL	74	21.5	3.44	11.6	1500	100	380	294.7	94
EP18-70F17K-SL	74	23.4	3.16	13.2	1700	113.3	380	308.3	94
EP18-70F20K-SL	74	28	2.64	15.5	2000	133.3	380	302.3	94
EP18-88F15K-SL	84	23.2	3.62	13.2	1500	100	380	310.9	105
EP18-88F17K-SL	84	27.9	3.01	15	1700	113.3	380	293.6	105
EP18-88F20K-SL	84	30.9	2.72	17.6	2000	133.3	380	310.9	105
EP18-95F15K-SL	95	26.6	3.57	14.9	1500	100	380	306.1	118
EP18-95F17K-SL	95	31.1	3.05	16.9	1700	113.3	380	297.3	118
EP18-95F20K-SL	95	35	2.71	19.9	2000	133.3	380	310.9	118
EP18-105F15K-SL	107	34.9	3.32	18.2	1500	100	380	285	142
EP18-105F17K-SL	107	39.8	2.91	20.6	1700	113.3	380	282.6	142
EP18-105F20K-SL	107	43	2.70	24.3	2000	133.3	380	308.8	142
EP18-120F15K-SL	126	34.8	3.62	19.8	1500	100	380	310.9	153
EP18-120F17K-SL	126	39.7	3.17	22.4	1700	113.3	380	308.3	153
EP18-120F20K-SL	126	50.6	2.49	26.4	2000	133.3	380	285	153
EP18-131F15K-SL	137	39.9	3.43	21.5	1500	100	380	294.7	166
EP18-131F17K-SL	137	43	3.19	24.4	1700	113.3	380	310.2	166
EP18-131F20K-SL	137	55.9	2.45	28.7	2000	133.3	380	280.7	166
EP18-148F15K-SL	147	42.8	3.43	23.1	1500	100	380	294.7	177
EP18-148F17K-SL	147	46.4	3.17	26.2	1700	113.3	380	308.3	177
EP18-148F20K-SL	147	55.7	2.64	30.8	2000	133.3	380	302.3	177
EP18-153F15K-SL	158	42.9	3.68	24.8	1500	100	380	315.8	190
EP18-153F17K-SL	158	53.1	2.98	28.1	1700	113.3	380	289.1	190
EP18-153F20K-SL	158	62	2.55	33.1	2000	133.3	380	291.5	190
EP18-168F15K-SL	168	46.4	3.62	26.4	1500	100	380	310.9	201
EP18-168F17K-SL	168	55.6	3.02	29.9	1700	113.3	380	294	201
EP18-168F20K-SL	168	61.8	2.72	35.2	2000	133.3	380	310.9	201
EP18-179F15K-SL	179	53.1	3.37	28.1	1500	100	380	289.1	214
EP18-179F17K-SL	179	55.9	3.20	31.9	1700	113	380	312.0	214
EP18-179F20K-SL	179	69.8	2.56	37.5	2000	133	380	293.6	214
EP18-189F15K-SL	189	55.7	3.39	29.7	1500	100	380	291.5	225
EP18-189F17K-SL	189	58.5	3.23	33.6	1700	113.3	380	313.8	225
EP18-189F20K-SL	189	69.6	2.72	39.6	2000	133.3	380	310.9	225
EP18-210F15K-SL	200	55.7	3.59	31.4	1500	100	380	307.7	238
EP18-210F17K-SL	200	62	3.23	35.6	1700	113.3	380	313.8	238
EP18-210F20K-SL	200	79.7	2.51	41.9	2000	133.3	380	287.2	238

EP25

Servo Motor

Model Description



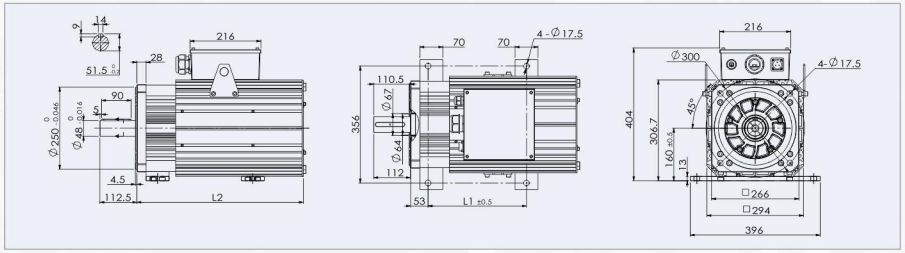
EP | 25 | 40F | 15K

- EP: EP series AC permanent magnet synchronous motor
- 25: Installation flange diameter: Multiplied by 10
- 40F: Rated torque: (eg. 24-53NM; 62-168NM)
- 15K: Rated speed

Product Features

- Adopting a new embedded structure to enhance weak magnetic overspeed and demagnetization resistance, better suiting the operational requirements of the hydraulic machinery industry
- Utilizing high-precision encoders as speed feedback devices to enhance shock and oil resistance, meeting the demands of harsh working conditions
- The standard torque range covers 2.2Nm to 2000Nm, with a power range of up to 350kW
- Simulation design conducted using Ansoft software ensures superior electromagnetic performance
- Employing high-performance neodymium-iron-boron excitation for minimal iron and copper losses, resulting in higher efficiency and reduced heat generation
- Supporting dual protection with PTC and KTY
- Accommodating custom non-standard requirements from customers

Dimension Drawing

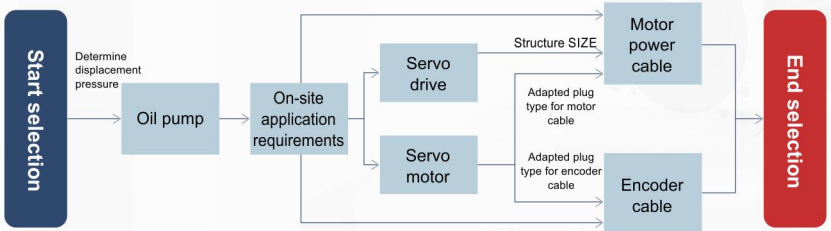


Rated torque Nm	160.5	187	214	241	267.5	294	321	348	374.5	401	428	455	481.5	508	535
L1 (mm)	224	243	262	281	300	319	338	357	376	395	414	433	452	471	490
L2 (mm)	432	450.75	469.5	488.25	507	525.75	544.5	563.25	582	600.75	619.5	638.25	657	675.75	694.5

Technical Specifications

Model	Rated torque Tn (Nm)	Rated current (A)	KT (Nm/A)	Rated power Pn (kW)	Rated speed n (RPM)	Rated frequency f (Hz)	Power level (V)	Counter emf EMK (V)	Rotor inertia J (kg.m².10-3)
EP25-189F15K-SL	214	63.6	3.36	33.6	1500	100	380	317.2	577
EP25-189F17K-SL	214	68.9	3.11	38.1	1700	113.3	380	331.8	577
EP25-189F20K-SL	214	82.7	2.59	44.8	2000	133.3	380	325.3	577
EP25-236F15K-SL	241	69.1	3.49	37.9	1500	100	380	329.4	644
EP25-236F17K-SL	241	82.8	2.91	42.9	1700	113.3	380	311.1	644
EP25-236F20K-SL	241	97.4	2.47	50.5	2000	133.3	380	311.1	644
EP25-278F15K-SL	267.5	82.7	3.23	42	1500	100	380	305	711
EP25-278F17K-SL	267.5	87	3.07	47.6	1700	113.3	380	328.4	711
EP25-278F20K-SL	267.5	103.3	2.59	56	2000	133.3	380	325.3	711
EP25-314F15K-SL	294	82.7	3.56	46.2	1500	100	380	335.5	779
EP25-314F17K-SL	294	97.1	3.03	52.3	1700	113.3	380	323.2	779
EP25-314F20K-SL	294	118.1	2.49	61.6	2000	133.3	380	313.1	779
EP25-324F15K-SL	321	97.2	3.30	50.4	1500	100	380	311.1	846
EP25-324F17K-SL	321	103.3	3.11	57.1	1700	113.3	380	331.8	846
EP25-324F20K-SL	321	127.2	2.52	67.2	2000	133.3	380	317.2	846
EP25-344F15K-SL	348	97.4	3.57	54.7	1500	100	380	337	914
EP25-344F17K-SL	348	110.2	3.16	61.9	1700	113.3	380	337	914
EP25-344F20K-SL	348	137.9	2.52	72.9	2000	133.3	380	317.2	914
EP25-380F15K-SL	374.5	110.2	3.40	58.8	1500	100	380	320.2	982
EP25-380F17K-SL	374.5	118.2	3.17	66.7	1700	113.3	380	338.7	982
EP25-380F20K-SL	374.5	150.3	2.49	78.4	2000	133.3	380	313.1	982
EP25-400F15K-SL	401	118.1	3.40	63	1500	100	380	320.2	1049
EP25-400F17K-SL	401	137.8	2.91	71.4	1700	113.3	380	311.1	1049
EP25-400F20K-SL	401	150.3	2.67	84	2000	133.3	380	335.5	1049
EP25-428F15K-SL	428	127.2	3.36	67.2	1500	100	380	317.2	1117
EP25-428F17K-SL	428	137.8	3.11	76.2	1700	113.3	380	331.8	1117
EP25-428F20K-SL	428	165.3	2.59	89.6	2000	133.3	380	325.3	1117
EP25-455F15K-SL	455	137.9	3.30	71.5	1500	100	380	311.1	1184
EP25-455F17K-SL	455	150.4	3.03	81	1700	113.3	380	323.2	1184
EP25-455F20K-SL	455	183.9	2.47	95.3	2000	133.3	380	311.1	1184
EP25-480F15K-SL	481.5	150.3	3.20	75.6	1500	100	380	301.9	1252
EP25-480F17K-SL	481.5	165.3	2.91	85.7	1700	113.3	380	311.1	1252
EP25-480F20K-SL	481.5	183.7	2.62	100.8	2000	133.3	380	329.4	1252

Typical applications and solutions



Application and solutions in the shoe-making machine industry





Product Features

The servo power system for shoe-making machines covers a power range of 15-22kW and various other specifications. The continuously optimized software platform leads the industry in control, enabling the entire system to achieve faster speed, higher precision, and more reliable and stable performance.

Note: This configuration is designed for applications with short-term high pressure, with the motor torque and drive power adjusted according to the working conditions.

14MPa system pressure hydraulic station servo complete configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
14	50	EP18-88F17K	84Nm,1700rpm	ES600T032	15KW
14	63	EP18-105F17K	107Nm,1700rpm	ES600T037	18.5KW
14	63	EP18-120F17K	126Nm,1700rpm	ES600T045	22KW

Application and solutions in the Injection molding machine industry





Product Features

The servo power system for injection molding machines covers a power range of 5.5-160kW, with system pressure covering various specifications such as 14MPa and 17.5MPa. The greatly increased system pressure (exceeding 20MPa), enriched bus interfaces, and optimized control solutions enable the entire system to achieve faster speed, higher precision, and more reliable and stable performance. The system can meet the performance requirements of high-speed machines (injection acceleration >0.5g, unloaded 0-2000rpm acceleration time of 25ms, loaded 450-2000rpm acceleration time of up to 50ms), all-electric injection molding machines, and hybrid oil-electric injection molding machines.

14MPa injection molding machine oil pump complete servo system configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	型号	参数	型号	参数
14	32	EP18-66F17K	63Nm,1700rpm	ES600T032	15KW
14	40	EP18-70F17K	74Nm,1700rpm	ES600T032	15KW
14	50	EP18-88F17K	84Nm,1700rpm	ES600T037	18.5KW
14	63	EP18-105F17K	107Nm,1700rpm	ES600T045	22KW
14	80	EP18-148F17K	147Nm,1700rpm	ES600T060	30KW
14	100	EP18-168F17K	168Nm,1700rpm	ES600T075	37KW
14	125	EP25-189F17K	214Nm,1700rpm	ES600T091	45KW
14	160	EP25-278F17K	267Nm,1700rpm	ES600T112	55KW

17.5MPa injection molding machine oil pump complete servo system configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
17.5	32	EP18-70F17K	74Nm,1700rpm	ES600T032	15KW
17.5	40	EP18-88F17K	84Nm,1700rpm	ES600T037	18.5KW
17.5	50	EP18-120F17K	126Nm,1700rpm	ES600T045	22KW
17.5	63	EP18-148F17K	147Nm,1700rpm	ES600T060	30KW
17.5	80	EP18-168F17K	168Nm,1700rpm	ES600T075	37KW
17.5	100	EP25-189F17K	214Nm,1700rpm	ES600T091	45KW
17.5	125	EP25-278F17K	267Nm,1700rpm	ES600T112	55KW
17.5	160	EP25-344F17K	348Nm,1700rpm	ES600T150	75KW

Application and solutions in large-scale hydraulic station industry





Product Features

Equipped with dedicated ES600 hydraulic servo drives and EP series servo motors, it covers a power range of 3.7-160kW and various other specifications.

By detecting the real-time motor speed through encoder line, speed closed-loop control is achieved. Real-time pressure sensing via pressure sensors enables pressure closed-loop control of the system, ultimately achieving dual-loop control of hydraulic flow and pressure. Energy consumption is reduced by 30-60%. Under equivalent conditions, oil temperature decreases by 5-10°C. After complete station transformation, noise is reduced by 5-10DB. Only the motor is replaced, with no modifications to the hydraulic system. Motor oiling is reduced, leading to decreased maintenance. The system can operate continuously at high speed at 40°C for 6-8 years. The overall construction process takes a minimum of one day and does not require shutdown, thus not affecting production.

25MPa system pressure hydraulic station servo complete configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
25	20	EP18-66F17K	63Nm,1700rpm	ES600T025	11KW
25	25	EP18-70F17K	74Nm,1700rpm	ES600T032	15kw
25	32	EP18-105F17K	107Nm,1700rpm	ES600T037	18.5kw
25	40	EP18-120F17K	126Nm,1700rpm	ES600T045	22KW
25	50	EP18-153F17K	158Nm,1700rpm	ES600T060	30KW
25	63	EP18-189F17K	189Nm,1700rpm	ES600T075	37KW
25	80	EP25-236F17K	241Nm,1700rpm	ES600T091	45KW
25	100	EP25-314F17K	294Nm,1700rpm	ES600T112	55KW
25	125	EP25-380F17K	375Nm,1700rpm	ES600T150	75KW
25	160	EP25-480F17K	481Nm,1700rpm	ES600T176	90KW

17.5MPa system pressure hydraulic station servo complete configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
17.5	20	EP18-40F17K	42Nm,1700rpm	ES600T017	7.5KW
17.5	25	EP18-66F17K	63Nm,1700rpm	ES600T025	11kw
17.5	32	EP18-70F17K	74Nm,1700rpm	ES600T032	15kw
17.5	40	EP18-88F17K	84Nm,1700rpm	ES600T032	15KW
17.5	50	EP18-105F17K	107Nm,1700rpm	ES600T037	18.5KW
17.5	63	EP18-120F17K	126Nm,1700rpm	ES600T045	22KW
17.5	80	EP18-168F17K	168Nm,1700rpm	ES600T075	37KW
17.5	100	EP25-189F17K	214Nm,1700rpm	ES600T091	45KW
17.5	125	EP25-278F17K	267Nm,1700rpm	ES600T112	55KW
17.5	160	EP25-344F17K	348Nm,1700rpm	ES600T150	75KW

Application and solutions in the hydraulic press industry





Product Features

Traditional hydraulic presses use ordinary asynchronous motors, which are bulky and occupy a lot of space. Moreover, their non-stop operation leads to overall high oil temperatures, necessitating a correspondingly large oil tank volume. In contrast, the electro-hydraulic servo system adopts an intelligent servo energy-saving system, reducing power consumption by 30%-50%. Each machine is equipped with an infrared grating, which effectively protects operators. It can achieve pressure control accuracy of up to 1bar and position control accuracy of 0.05mm on different types of hydraulic press equipment. The system supports various pressing modes (such as sheet stamping, drawing, resistance to drawing, precision stamping), ensuring the machine's repeat positioning accuracy of up to ±0.05mm and pressure error within ±1%. The servo intelligent control system operates efficiently, preventing unnecessary work and minimizing oil temperature increase. Additionally, the absence of negative pressure within the oil circuit system significantly reduces the failure rate, prolonging the lifespan of hydraulic components. The electrical equipment is equipped with automatic fault alarms and a one-click reset function. Currently, it serves numerous large oil pressure equipment manufacturers and users worldwide, receiving unanimous recognition within the industry.

25MPa hydraulic press pump complete servo system configuration table

Pressure	System total oil pump displacement = combined displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
25	20	EP18-66F17K	63Nm,1700rpm	ES600T025	11KW
25	25	EP18-70F17K	74Nm,1700rpm	ES600T032	15KW
25	32	EP18-105F17K	107Nm,1700rpm	ES600T037	18.5KW
25	40	EP18-120F17K	126Nm,1700rpm	ES600T045	22KW
25	50	EP18-148F17K	147Nm,1700rpm	ES600T060	30KW
25	55	EP18-168F17K	168NM,1700rpm	ES600T075	37KW
25	63	EP18-189F17K	189Nm,1700rpm	ES600T075	37KW
25	80	EP25-236F17K	241Nm,1700rpm	ES600T091	45KW
25	100	EP25-314F17K	294Nm,1700rpm	ES600T112	55KW
25	125	EP25-380F17K	375Nm,1700rpm	ES600T150	75KW
25	150	EP25-455F17K	455Nm,1700rpm	ES600T176	90kw
25	160	EP25-500F17K	508Nm,1700rpm	ES600T210	110kw

Application and solutions in the baler industry





Product Features

The servo power system for balers and hydraulic covers a power range of 15-160kW and various other specifications. The continuously optimized software platform leads the industry in control, enabling the entire system to achieve faster speed, higher precision, more reliable and stable performance.

Balers commonly use asynchronous motors operating at mains frequency, with pressure and speed controlled by proportional valves. Excess oil flows back to the tank through overflow, and during idle times, the motors continue to run at mains frequency. This results in significant energy loss, high oil temperatures requiring additional external cooling, increased failure rates of hydraulic components, and higher noise levels from the motor running at mains frequency. After switching to synchronous servo systems, balers primarily operate in speed mode, with the pressure controlled by variable valves. The motor runs at a speed determined by the upper computer without any excess overflow. This leads to a significant reduction in oil temperature, and the servo motor operates with lower noise levels. Additionally, as the motor's output speed decreases after frequency conversion, the input current also decreases, resulting in less power consumption and achieving energy-saving and emission-reducing effects. The application of synchronous servo systems in industrial equipment is becoming increasingly widespread and is also a superior solution for industry upgrading and product differentiation. The selection of servo systems for balers varies according to the maximum pressure and actual displacement, with adjustments made to the motor driver models accordingly. Different industries, such as metal, straw, and waste paper baling, have varying system pressures, thus requiring different configurations of motor drivers.

25MPa baler complete servo system configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
25	160	EP18-168F17K	168Nm,1700rpm	ES600T060	30KW
25	180	EP18-189F17K	189Nm,1700rpm	ES600T075	37KW
25	180	EP25-236F17K	241Nm,1700rpm	ES600T091	45KW
25	180+180	EP25-314F17K	294Nm,1700rpm	ES600T112	55KW
25	180+250	EP25-344F17K	348Nm,1700rpm	ES600T150	75KW
25	250+250	EP25-500F17K	508Nm,1700rpm	ES600T176	90KW
25	250+250	EP25-588F17K	588Nm,1700rpm	ES600T210	110KW

Application and solutions in the die-casting machine industry





Product Features

Es600 is designed for die-casting machines, which often operate in relatively harsh environments with high ambient temperatures. It offers specialized liquid-cooled embedded servo motors for die-casting machines, ranging from 130mm to 445mm (10-3000N.m) in frame size. These products cover various structural forms such as flat key, spline, single-output shaft, and double-output shaft liquid-cooled servo motors. The embedded structure significantly improves the motor's weak magnetic overspeed performance, demagnetization resistance, and overload characteristics (short-term overload up to 3 times below 80% rated speed). This ensures that die-casting machines operate with high efficiency, precision, responsiveness, and reliability.

16MPa die-casting machine complete servo system configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
16	32	EP18-70F17K	74Nm,1700rpm	ES600T032	15KW
16	40	EP18-88F17K	84Nm,1700rpm	ES600T037	18.5KW
16	50	EP18-105F17K	107Nm,1700rpm	ES600T045	22KW
16	63	EP18-120F17K	126Nm,1700rpm	ES600T060	30KW
16	80	EP18-168F17K	168Nm,1700rpm	ES600T075	37KW
16	100	EP25-189F17K	218Nm,1700rpm	ES600T091	45KW
16	125	EP25-278F17K	267Nm,1700rpm	ES600T112	55KW

Application and solutions in the bending machine industry





Product Features

- The servo power system for bending machines covers a range of power from 7.5 to 37kW.
- It features energy saving, low noise, and high-performance permanent magnet synchronous motors, resulting in smoother operation of the machinery and equipment.
- This system enables precise control of the bending angle of sheet metal, exhibiting high precision, efficiency, and reliability.
- With dedicated electro-hydraulic system software, the drive can choose between analog control mode and multi-stage speed control mode.
- The system is easy to install and commission, with low equipment failure rates.

22-26MPa bending machine complete servo system configuration table

Pressure	Oil pump displacement	Motor		Servo drive	
Mpa	cc	Model	Parameter	Model	Parameter
22-26	16-20	EP18-40F17K	42NM,1700RPM	ES600T017	7.5KW
22-26	25	EP18-66F17K	63NM,1700RPM	ES600T025	11KW
22-26	32	EP18-88F17K	84NM,1700RPM	ES600T032	15KW
22-26	40	EP18-105F17K	107NM,1700RPM	ES600T037	18KW
22-26	50	EP18-120F17K	126NM,1700RPM	ES600T045	22KW
22-26	63	EP18-148F17K	147NM,1700RPM	ES600N060	30KW
22-26	80	EP25-189F17K	214NM,1700RPM	ES600T075	37KW



- Headquarters
- Exported to more than 50 countries

With rich product lines, worldwide sales and service network, EPSIVO can always provide you fast support.