

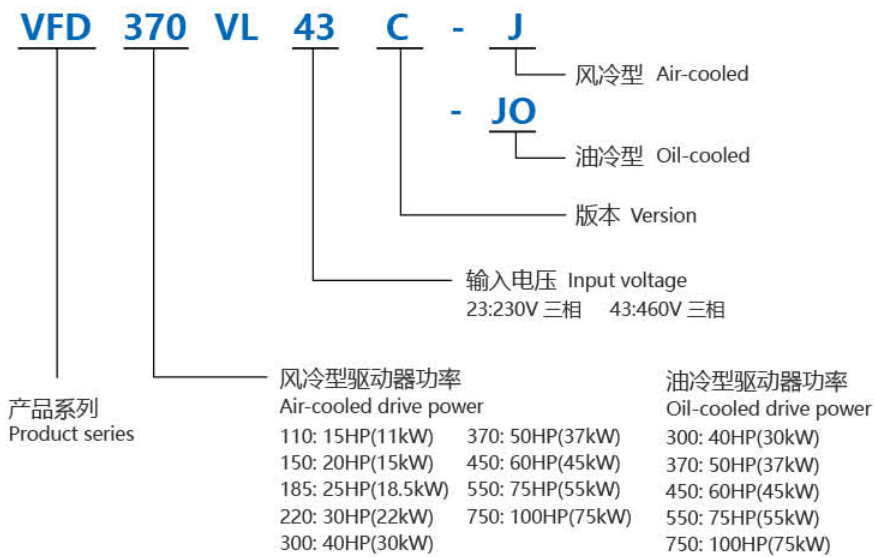
# 伺服驱动/Servo Drive

## 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.

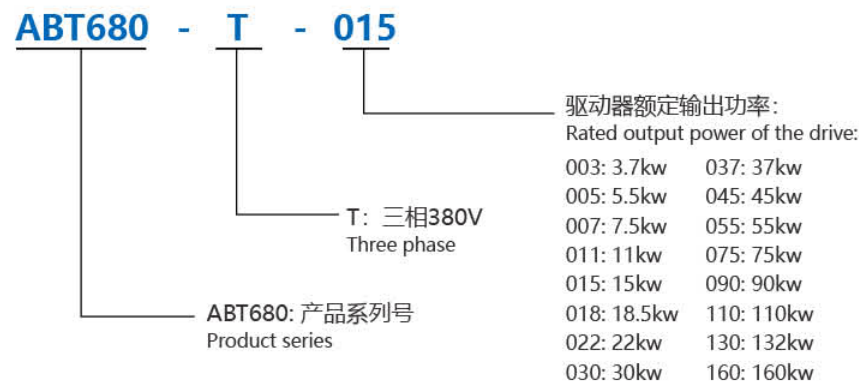


## ABT伺服驱动/Servo Drive



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 Opotion	额定频率 Rated Frequency
单位 Unit	rpm	Nm	kW	A	V	Nm	Nm/A	Kg*cm <sup>2</sup>	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

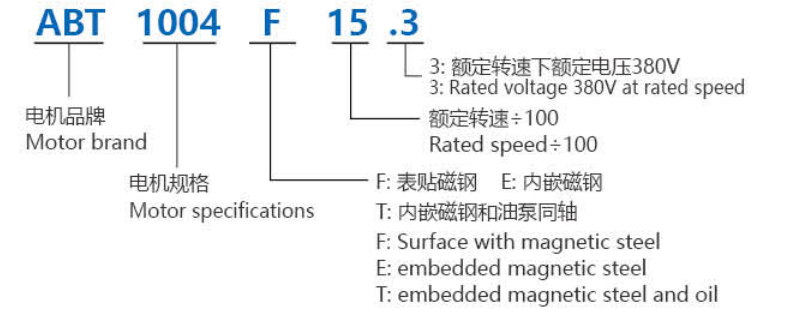
IPM series inner mount servo motor parameters table

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 <sup>2</sup>	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 转矩 Rated torque	额定 转速 Rated speed	额定 电流 Rated Current	额定 功率 Rated Power	转矩 常数 Torque constant	额定 电压 Rated voltage
	Nm	rpm	A	Kw	Nm/A	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

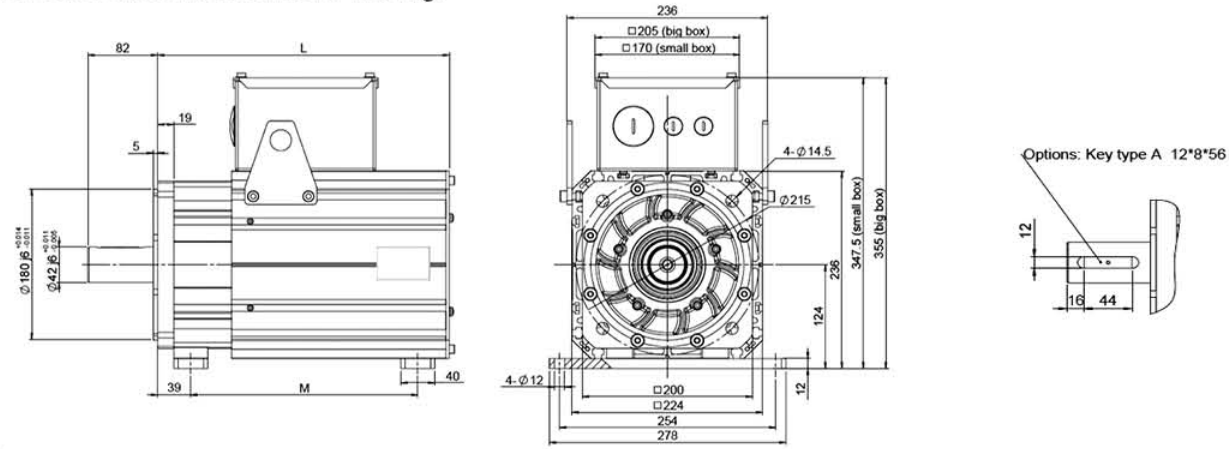
内嵌 电机规格 IPM Motor Model	额定 转矩 Rated torque	额定 转速 Rated speed	额定 电流 Rated Current	额定 功率 Rated Power	转矩 常数 Torque constant	额定 电压 Rated voltage
	Nm	rpm	Arms	Kw	Nm/A	V
ABT1004F15.3	44	1500	14.3	7.0	3.451	380
ABT1004F17.3	47	1700	18.4	8.3	2.824	380
ABT1004F20.3	47	2000	20.8	9.8	2.510	380
ABT1005F15.3	59	1500	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

表贴系列标准轴电机外型图及安装尺寸

SPM series surface mount standard shaft motor drawings and installation dimensions

10F系列标准轴电机尺寸图

10F Series standard shaft motor drawings

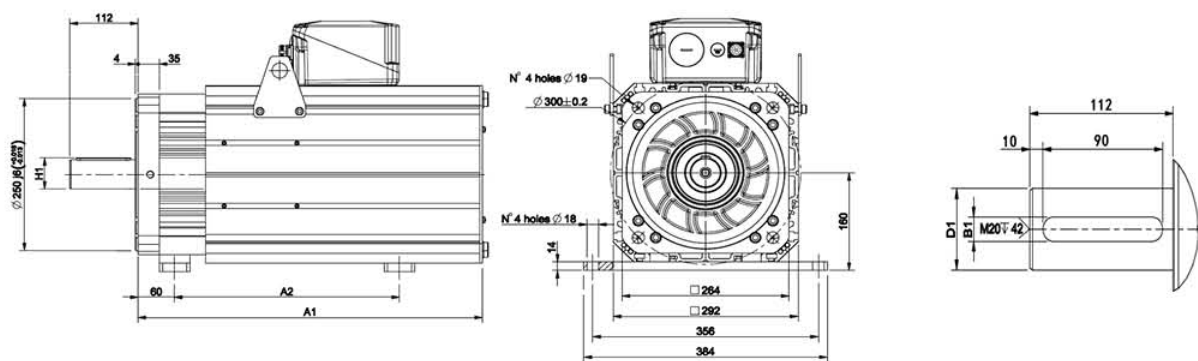


类型 /Type	U1004F	U1005F	U1007F	U1008F	U1010F	U1013F
M	267	285	312	354	396	471
L(Resolver R3,R4,etc)	338.5	377.5	413.5	446.5	487.5	554.5

类型 /Type	ABT1004F	ABT1005F	ABT1007F	ABT1008F	ABT1010F	ABT1012F	ABT1013F	ABT1015F
L/mm	345	380	416	452	488	524	560	596

13F系列标准轴电机尺寸图

13F Series standard shaft motor drawings



电机型号 Motor Model	A1		A2	ΦD1	B1	H1	KEY
	In ≤ 150A	In > 150A					
U1315F	513.5	553.5	360	48j8	14	51.5	14x9x90
U1320F	566.5	606.5	370	48j7	14	51.5	14x9x91
U1325F	620	660	476	48j8	14	51.5	14x9x92
U1330F	673.5	713.5	476	48j9(60m6)	14(18)	51.5(64)	14x9x93(18x11x90)
U1340F	780.5	820.5	583	60m6	18	64	18x11x90

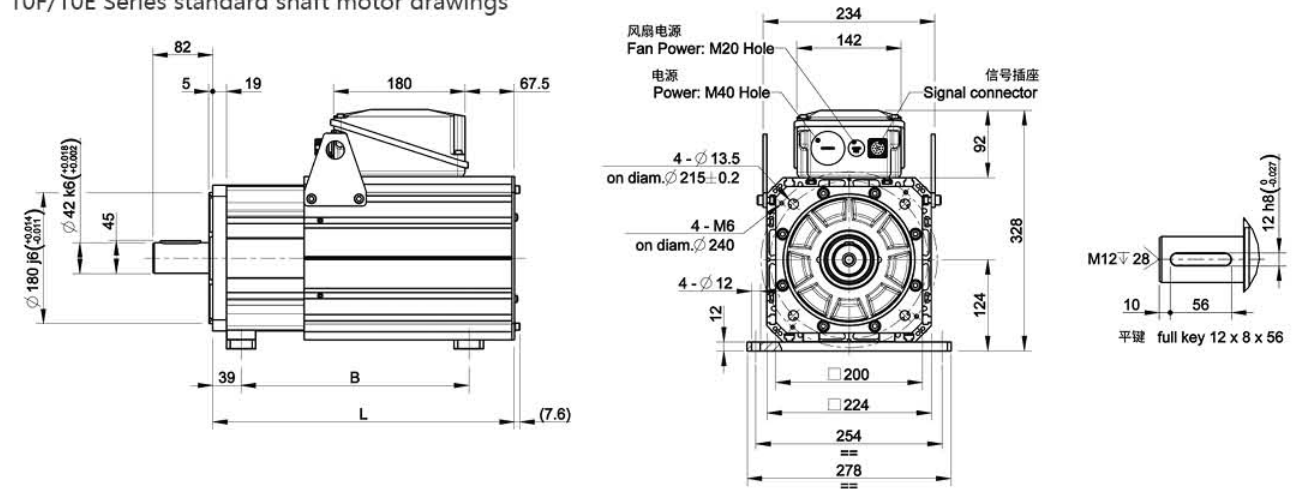
类型 /Type	ABT1315F	ABT1320F	ABT1325F	ABT1330F	ABT1340F	ABT1345F
A1 /mm	518	539	607.5	673	741	789.5

内嵌系列标准轴电机外型图及安装尺寸

IPM series inner mount standard shaft motor drawings and installation dimensions

10F/10E系列标准轴电机尺寸图

10F/10E Series standard shaft motor drawings

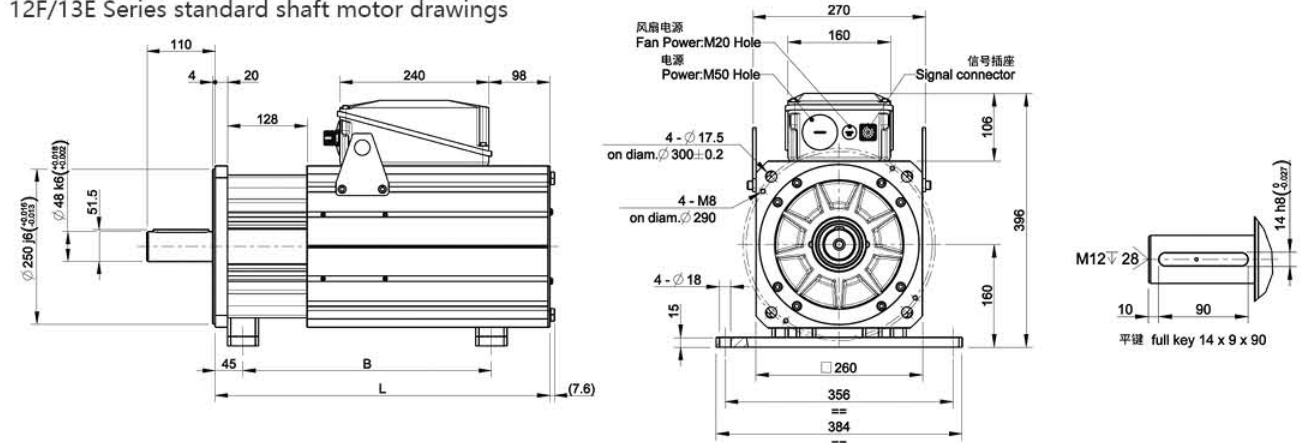


类型 /Type	E1004F	E1005F	E1007F	E1008F	E1010F	E1012F	E1013F
B/mm	267	285	312	354	396	400	471
L/mm	342	378	414	450	486	527	558

类型 /Type	ABT1004E	ABT1005E	ABT1007E	ABT1008E	ABT1010E	ABT1012E	ABT1013E	ABT1015E
L/mm	345	380	416	452	488	524	560	596

12F/13E系列标准轴电机尺寸图

12F/13E Series standard shaft motor drawings



类型 /Type	E1215F	E1220F	E1225F	E1230F	E1235F
B/mm	400	450	500	550	600
L/mm	539	589	639	689	739

类型 /Type	ABT1315E	ABT1320E	ABT1325E	ABT1330E	ABT1340E	ABT1345E
L /mm	518	539	607.5	673	741	789.5
轴直径 shaft Φ	48K6			60m6		
Key	14x9x90			18x11x90		

## 伺服配套方案/Servo Matching Solutions

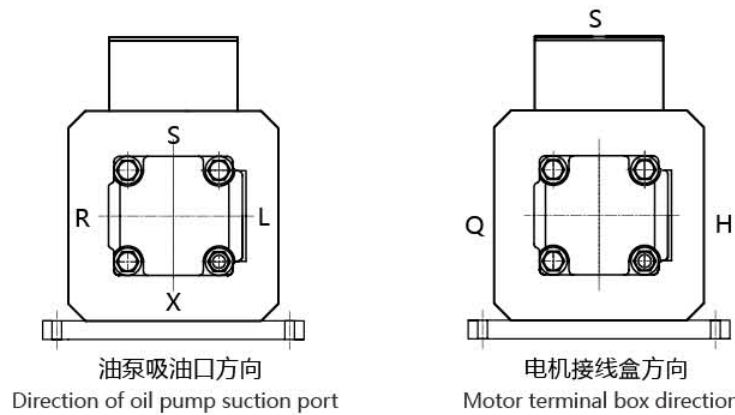
### 整套伺服系统命名规则/The whole set of servo system naming rules



### 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.