

# DIRECT DRIVE MOTOR

Frameless Torque Motor & DD Motor Catalogue



# Company Profile



Shenzhen Mosrac Motor Co., Ltd was established in 2011. The company is located in the COFCO Robotics Technology Park in Fuyong, Bao'an District, Shenzhen. The office area is about 10,000 square meters. It is a high-end direct-drive torque motor manufacturer integrating R&D, production, sales and service. Since its establishment, Mosrac Motor has always adhered to the concept of "innovation drives development, technology leads the future", providing high-precision, high-reliability and maintenance-free direct-drive torque motor solutions to global customers. Our products mainly include frameless torque motors, DD motors, drivers and encoders. In addition to providing a variety of standard motor products, we also provide customers with personalized customization services.

The company's sustainable development is inseparable from continuous innovation. We attach importance to research and development, constantly iterate our products, keep pace with the times, adhere to people-oriented, improve technology, and constantly learn the design concepts, manufacturing processes and industry application experience of advanced products in the industry. We continuously improve our capabilities and service levels to provide customers with high-quality and reliable products and technical solutions.

As an established enterprise with more than ten years of history and R&D and design experience, our frameless torque motors and DD motors have excellent quality, stable performance, high positioning accuracy, small torque fluctuation, and extremely low working noise, which can meet the needs of various equipment.

As a well-known brand in the torque motor industry, our products are widely used in robots, printing, packaging, paper processing equipments, food and beverage processing machinery, medical imaging equipment, in vitro diagnostic and lab automation equipment, pharmaceutical manufacturing machinery, new energy electrode manufacturing equipment, aerospace and other fields.

## Qualification & Honor



## Cooperation Partner



(Vizum)



(HUMANOID)



(PEITIAN ROBOT)



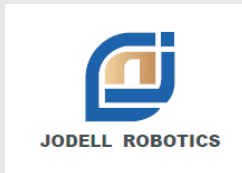
(HARIBIT)



(EYOU ROBOT)



(FEIYUE)



(JODELL ROBOTICS)



(LAIFUAL DRIVE)



(QINGBAO ROBOT)



(DH-ROBOTICS)

## Product Advantages

### Simple and compact structure

Directly drives the workstation plate without adding a transmission mechanism;

### High efficiency

Improve device performance, efficiency and user experience;

### High reliability, high dynamic response

Using brushless technology, no friction loss, high reliability; Directly drives the motor, no need to wait, faster response;

### High rigidity

Large radial and axial static load capacity, can withstand load fluctuations;

### High precise positioning

The load is directly installed on the motor and directly drives the workstation plate to ensure accurate positioning;

### Easy to install, friction-free, maintenance-free

Completely enclosed crossed roller bearings to avoid dust contact; no need for maintenance of belts, chains and other components, reducing usage costs.

## Application Areas



Collaborative Robot



Servo Press



Photoelectric Turntable



Semiconductor Scribing Machine



Robot



Medical Devices

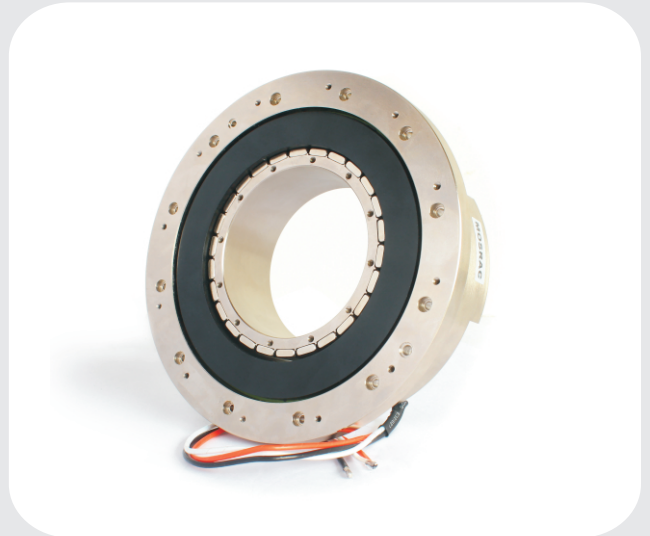
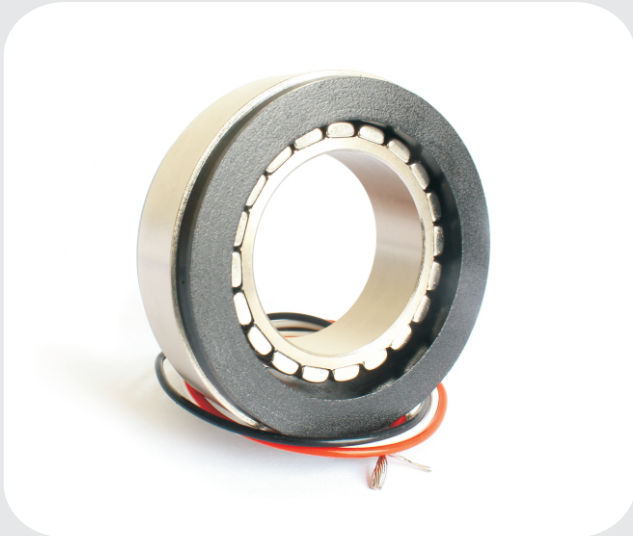


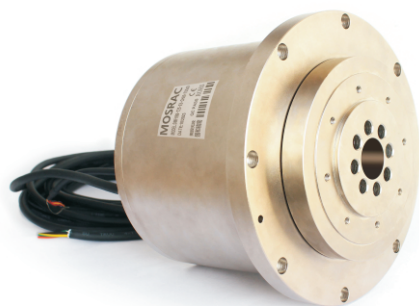
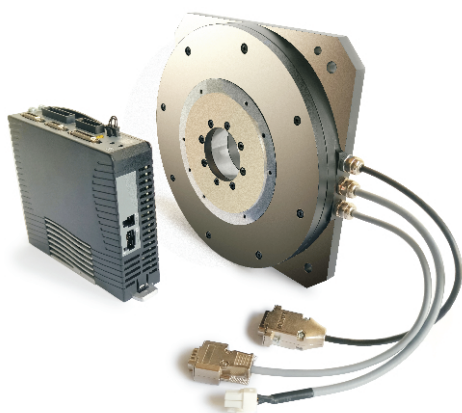
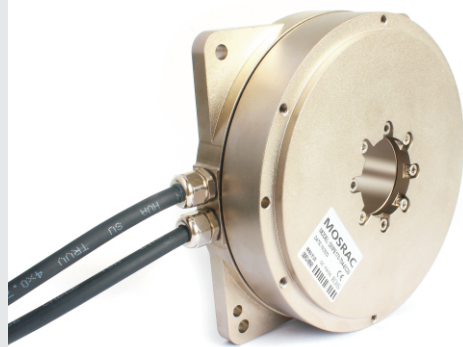
Semiconductor Chip Installation



High Precision Machine Tools

# Some Products Display





## Specifications

Insulation level	Class F
Insulation withstand voltage	AC1500 V 60s
Insulation resistance	Above 10mΩ DC500v
Excitation method	Three-phase Permanent Magnet Motor
Environmental requirements	Temperature-25°C~85°C
	Humidity 20%~85%rh
	The atmospheric environment does not produce strong magnetism, no corrosion, no explosive gas, no oil mist, no dust; the altitude is below 1000 meters.

### (Inner Rotor) Frameless Torque Motor Models List

Model	OD (mm)	ID (mm)	Motor height L(mm)	Rated Torque (Nm)	Rated Power (W)	Rated Speed (rpm)	Voltage (V)	Weight (kg)
U2510	25	11.6	10.8	0.025	10.48	4000	24	0.024
U2515	25	11.6	15.2	0.05	20.96	4000	24	0.036
U2523	25	11.6	23.4	0.075	31.44	4000	24	0.052
U3815	38	18	15.3	0.1	31.4	3000	48	0.048
U3822	38	18	22.3	0.2	62.9	3000	48	0.068
U3834	38	18	34.3	0.35	110.0	3000	48	0.099
U5019	50	28	19.8	0.27	84.89	3000	48	0.12
U5024	50	28	24.3	0.42	132.05	3000	48	0.157
U5037	50	28	37.9	0.7	220.08	3000	48	0.266
U6017	60	33	17.7	0.45	141.48	3000	48	0.146
U6022	60	33	22.2	0.6	188.64	3000	48	0.205
U6035	60	33	35.8	0.96	301.82	3000	48	0.361
U6818	68	37	18.3	0.63	198.07	3000	48	0.197
U6822	68	37	22.8	0.86	270.38	3000	48	0.266
U6836	68	37	36.4	1.54	484.18	3000	48	0.474
U7618	76	42	18.6	0.89	279.82	3000	48	0.245
U7623	76	42	23.1	1.23	386.71	3000	48	0.333
U7636	76	42	36.7	2.06	647.66	3000	48	0.606
U8519	85	47	19.3	1.21	380.42	3000	48	0.306
U8523	85	47	23.8	1.65	518.76	3000	48	0.414
U8537	85	47	37.4	2.69	845.74	3000	48	0.736
U9419	94	42	19.7	1.58	496.75	3000	48	0.382
U9424	94	42	24.2	2.05	644.52	3000	48	0.522
U9437	94	42	37.8	3.67	576.92	1500	48	0.93
U11526	115	65	26.3	3	943.2	3000	48	0.655
U11530	115	65	30.8	3.9	1021.8	2500	48	0.85
U11544	115	65	44.4	6.1	958.92	1500	48	1.45
U13025	130	84	25.9	5	419.2	800	48	0.9
U13035	130	84	35.9	9	471.6	500	48	1.3
U13060	130	84	60.9	18	754.56	400	48	2.7
U16025	160	106	25.9	9	471.6	500	48	1.1
U16035	160	106	35.9	15	471.6	300	48	1.6
U16060	160	106	60.9	32	670.72	200	48	3.3
U20025	200	140	25.9	13	408.72	300	48	1.7
U20035	200	140	35.9	24	503.04	200	48	2.9
U20060	200	140	60.9	50	524	100	48	5.5

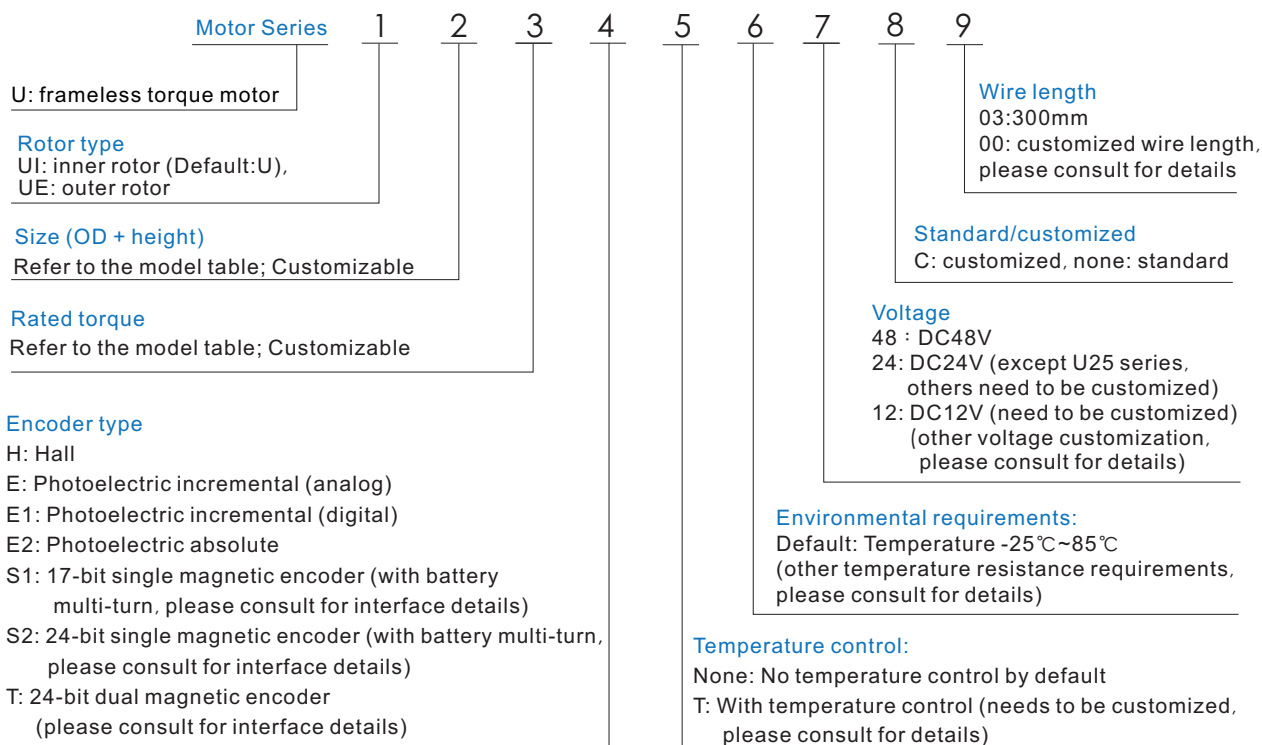


## ( Outer Rotor ) Frameless Torque Motor Models List

Model	OD (mm)	ID (mm)	height L(mm)	Rated Torque (Nm)	Rated Current (Arms)	Rated Speed (rpm)	Voltage (V)	Weight (kg)
UE1406	14.9	5	6.25	0.01	0.59	850	12	0.004
UE2208	22	9	8.5	0.03	0.66	800	12	0.012
UE2506	25.3	10	6.2	0.04	0.66	792	12	0.012
UE3306	33.4	14	6.2	0.06	0.81	950	12	0.022
UE4009	40	22	9.5	0.07	0.79	1325	12	0.024/0.032
UE4013	40	22	13.7	0.11	0.53	363	12	0.036/0.047
UE4913	49	25	13.5	0.21	0.79	343	16	0.078
UE4918	49	25	18.5	0.28	0.59	238	16	0.11
UE5819	58.6	24	19	0.76	1.12	221	24	0.167
UE5829	58.6	24	29	1.26	1.28	221	24	0.281
UE6815	68	36	15.5	0.73	1.19	182	24	0.156
UE6830	68	35.5	30.5	1.77	7.4	504	36	0.345
UE9014	90	58.5	14	1.6	1.75	130	24	0.206
UE9019	90	58.5	19	2.16	17	1800	24~48	0.313
UE10933	109	78	33	6	4	140	24	0.576

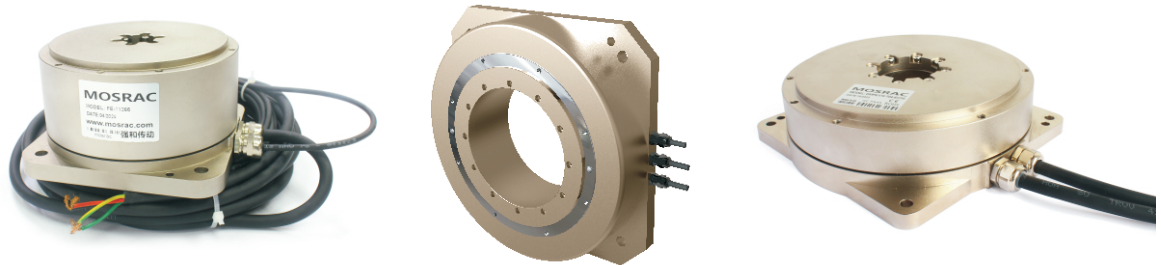


## How To Order



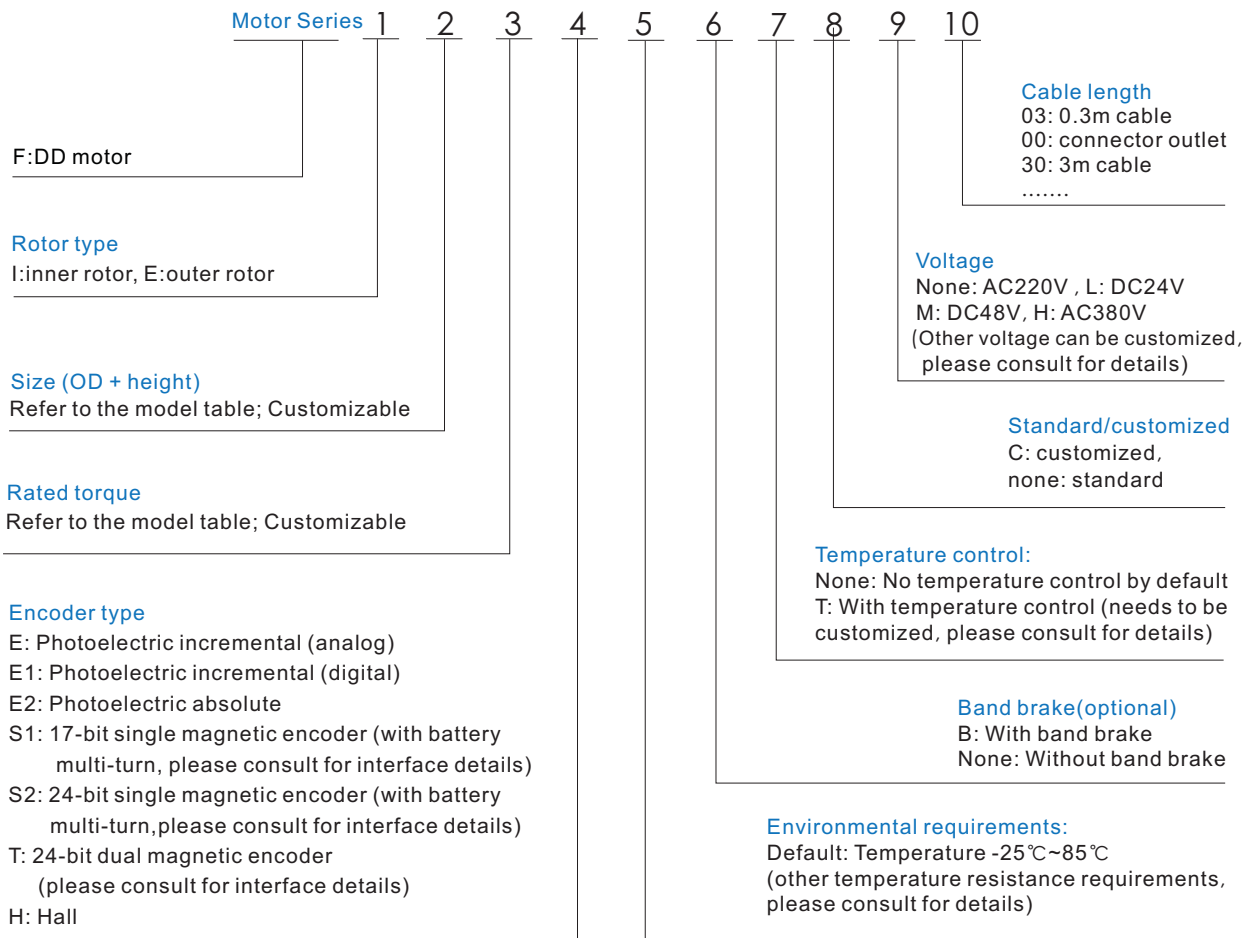
## DD Motor Models List

Model	OD (mm)	ID (mm)	Motor height L (mm)	Rated Torque (Nm)	Rated Power (W)	Rated Speed (rpm)	Absolute accuracy (arc_sec)	Repeatability (arc_sec)	Voltage (V)	Weight (kg)
FI-4048	40	6.5	48	0.25	7.9	300	± 40	± 5	48	0.4
FI-4065	40	6.5	65	0.5	15.7	300	± 40	± 5	48	0.55
FI-6060	60	15	60	0.5	15.7	300	± 40	± 4	220	0.8
FI-6080	60	15	80	1	31.4	300	± 40	± 4	220	1
FE-8047	80	15	47	1	21	200	± 32	± 2.5	220	1.7
FE-8067	80	15	67	2.5	52.4	200	± 32	± 2.5	220	2.3
FI-8050	80	12	50	0.9	28.3	300	± 50	± 2.5	220	1.5
FE-11265	112	19	65	3	62.9	200	± 20	± 1.5	220	3.2
FE-11295	112	19	95	8.5	133.6	150	± 20	± 1.5	220	4.5
FI-12064	120	42	64	2.4	37.7	150	± 20	± 1.5	220	3.9
FE-14050	140	30	50	6	188.6	300	± 20	± 1.5	220	3.4
FE-14080	140	30	80	10.5	220.1	200	± 20	± 1.5	220	5.6
FI-14085	140	28	85	10.5	220.1	200	± 20	± 1.5	220	5.6
FI-140120	140	28	120	14	440.2	300	± 20	± 1.5	220	8
FI-140188	140	28	188	36	1131.8	300	± 20	± 1.5	220	8
FE-17050	170	42	50	4.5	117.9	250	± 20	± 1.5	220	3.9
FE-17065	170	42	65	9	141.5	150	± 20	± 1.5	220	5.6
FE-17095	170	42	95	23.8	249.4	100	± 20	± 1.5	220	10.1
FE-170125	170	42	125	41.8	328.5	75	± 20	± 1.5	220	13.9
FE-170155	170	42	155	59.5	374.1	60	± 20	± 1.5	220	18.1
FI-17050	170	50	50	5.4	141.5	250	± 20	± 1.5	220	3.9
FI-170100	170	50	100	17	267.2	150	± 20	± 1.5	220	5.2
FI-18055	180	50	55	14	220.1	150	± 20	± 1.5	220	5.4
FI-18095	180	50	95	25.2	396.1	150	± 20	± 1.5	220	9.1
FI-180125	180	50	125	40.1	630.4	150	± 20	± 1.5	220	13
FI-220123	220	30	123	50.6	530.3	100	± 20	± 1.5	220	20
FI-220168	220	30	168	86.6	726.1	80	± 20	± 1.5	220	24.7
FI-220208	220	30	208	115	1446.2	120	± 20	± 1.5	220	34
FE-22442	224	50	42	14.1	295.5	200	± 20	± 1.5	220	5.5
FE-22462	224	50	62	35	366.8	100	± 20	± 1.5	220	9.2
FI-22442	224	50	42	9.9	155.6	150	± 20	± 1.5	220	6.3
FE-263113	263	88	113	95	796.5	80	± 20	± 1.5	220	24.4
FE-263138	263	88	138	150	943.2	60	± 20	± 1.5	220	32.5
FE-263163	263	88	163	210	1760.6	80	± 20	± 1.5	220	44
FE-263188	263	88	188	250	1310	50	± 20	± 1.5	220	49.1
FI-28095	280	60	95	45	565.9	120	± 20	± 1.5	220	24.2
FI-280145	280	60	145	90	1131.8	120	± 20	± 1.5	220	46
FI-30075	300	150	75	35	330.1	90	± 20	± 1.5	220	24.2
FI-375150	375	88	150	200	1257.6	60	± 20	± 1.5	220	75
FI-375200	375	88	200	320	2012.2	60	± 20	± 1.5	220	90





## How To Order



### For Example

**U3815** indicates U series frameless torque motor with OD 38mm, height 15.3mm, rated torque 0.1Nm, and inner rotor drive mode;

**U11544** indicates U series frameless torque motor with OD 115mm, height 44.4mm, rated torque 6.1Nm, and inner rotor drive mode;

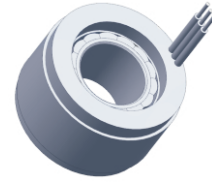
**UE2506** indicates U series frameless torque motor with OD 25.3mm, height 6.2mm, rated torque 0.04Nm, and outer rotor drive mode;

**FI-8050** indicates F series DD motor with OD 80mm, height 50mm, rated torque 0.9Nm, and inner rotor drive mode;

**FE-263188** indicates F series DD motor with OD 263mm, height 188mm, rated torque 250Nm, and outer rotor drive mode;

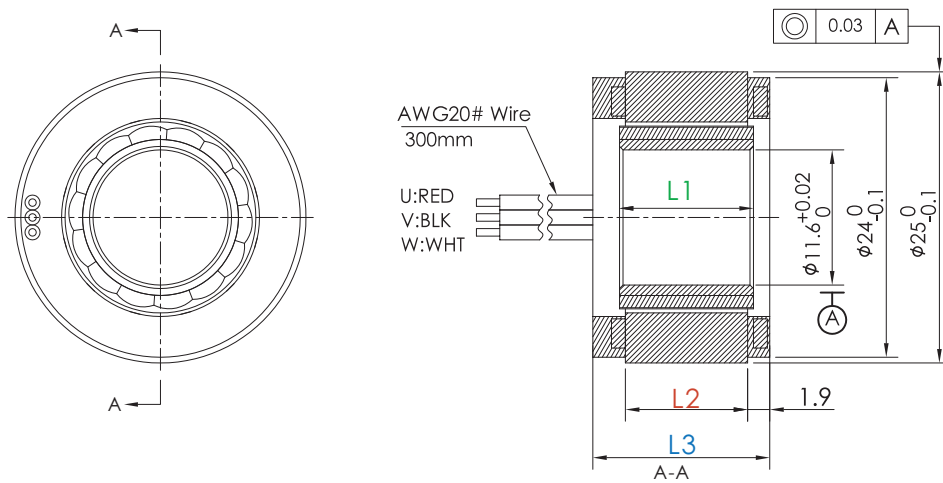
# U25 series

## Frameless Torque Motor



MAIN PARAMETERS		U2510	U2515	U2523
Voltage(VDC)		24	24	24
Rated Output (W)		10.48	20.96	31.44
Rated torque (Nm)		0.025	0.05	0.075
Instant Max Torque (Nm)		0.08	0.16	0.24
Rated Current (Arms)		2.5	2.50	2.50
Instant Max Current (Arms)		8	8	8
Rated Speed (rpm)		4000	4000	4000
Max Speed (rpm)		6000	6000	6000
Torque constant (Nm/Arms)		0.01	0.02	0.03
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		0.003	0.005	0.008
Back EMF coefficient(V/Krpm)		1.1	3.20	3.50
Resistance (Ω)		1.8	2.30	1.50
Inductance (mH)		0.34	0.45	0.55
Pole-pairs number (2P)		7	7	7
Weight (kg)		0.024	0.036	0.052
Motor height L (mm)	L1	7.3	11.5	19.5
	L2	6.3	10.5	18.5
	L3	10.8	15.2	23.4

### Specification & drawing



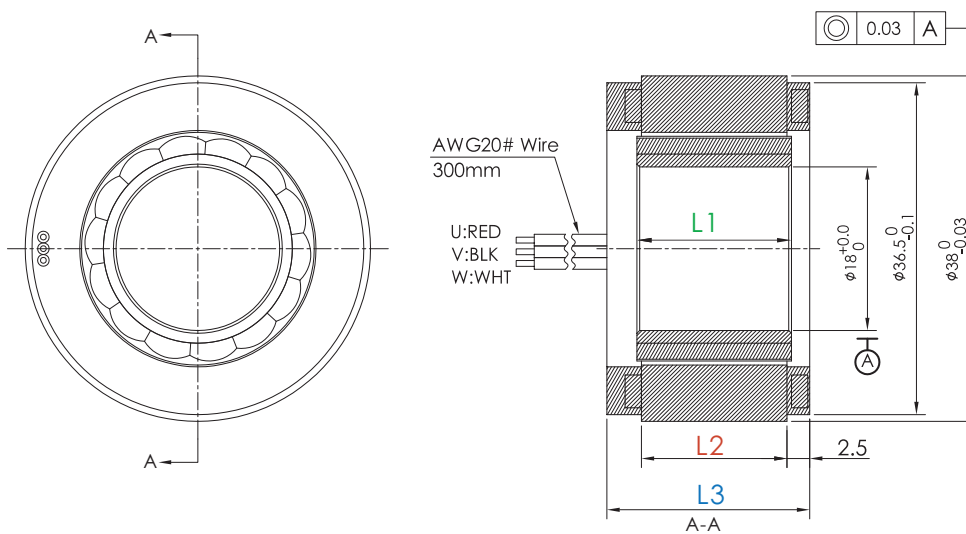


# U38 series

## Frameless Torque Motor

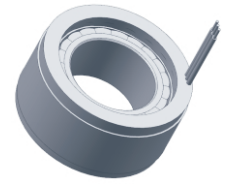
MAIN PARAMETERS		U3815	U3822	U3834
Voltage(VDC)		48	48	48
Rated Output (W)		31.4	62.9	110.0
Rated torque (Nm)		0.1	0.2	0.35
Instant Max Torque (Nm)		0.3	0.60	1.05
Rated Current (Arms)		3	3.50	4.00
Instant Max Current (Arms)		9	10.5	12
Rated Speed (rpm)		3000	3000	3000
Max Speed (rpm)		6000	6000	6000
Torque constant (Nm/Arms)		0.03	0.06	0.09
Rotor inertia $10^{-4}$ kg.m <sup>2</sup>		0.022	0.035	0.07
Back EMF coefficient (V/Krpm)		6	7.00	7.00
Resistance ( $\Omega$ )		2.2	1.80	1.24
Inductance (mH)		0.9	0.75	0.40
Pole-pairs number (2P)		7	7	7
Weight (kg)		0.048	0.068	0.099
Motor height L(mm)	L1	10	17	28
	L2	9	16	27
	L3	15.3	22.3	34.3

### Specification & drawing



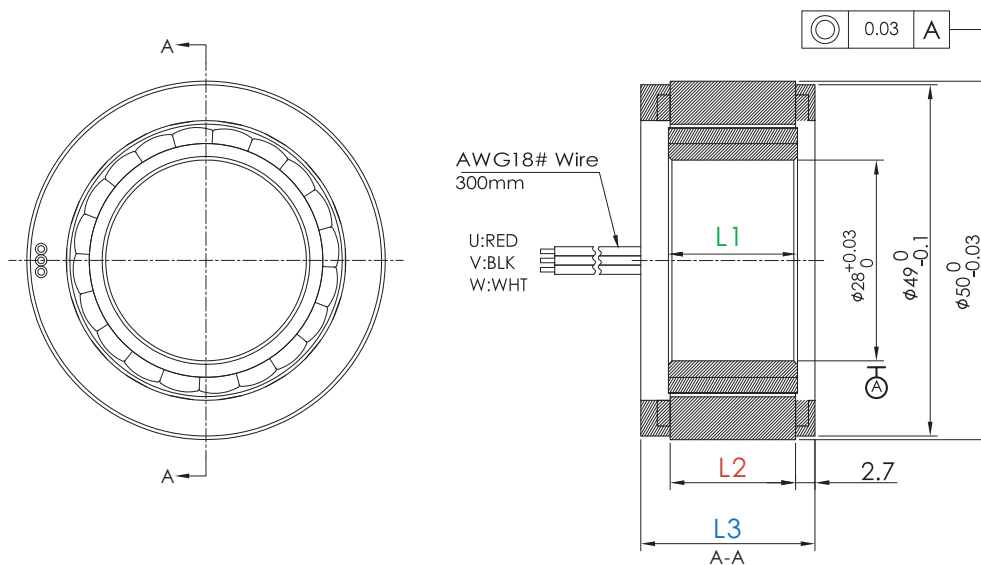
# U50 series

## Frameless Torque Motor



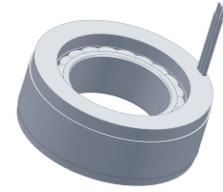
MAIN PARAMETERS		U5019	U5024	U5037
Voltage (VDC)		48	48	48
Rated Output (W)		84.89	132.05	220.08
Rated torque (Nm)		0.27	0.42	0.7
Instant Max Torque (Nm)		0.8	1.2	2
Rated Current (Arms)		4	5.5	6.8
Instant Max Current (Arms)		10	17	17
Rated Speed (rpm)		3000	3000	3000
Max Speed (rpm)		6000	6000	6000
Torque constant (Nm/Arms)		0.07	0.08	0.10
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		0.079	0.105	0.18
Back EMF coefficient (V/Krpm)		7	7	7
Resistance (Ω)		1.24	1	0.85
Inductance (mH)		0.85	0.6	0.5
Pole-pairs number (2P)		10	10	10
Weight (kg)		0.12	0.157	0.266
Motor height L (mm)	L1	14	18	30
	L2	13.5	17.5	29.5
	L3	19.8	24.3	37.9

### Specification & drawing



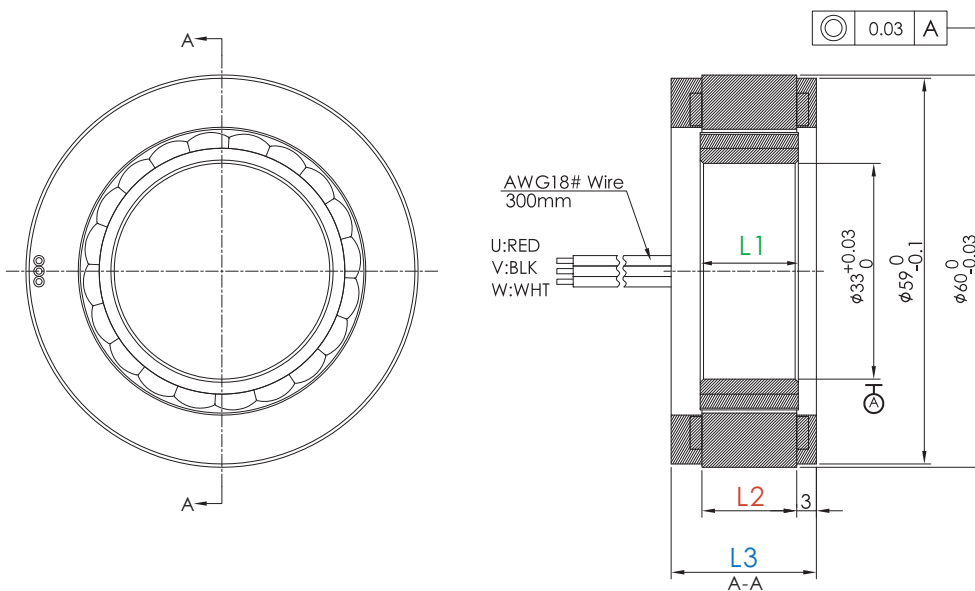
# U60 series

## Frameless Torque Motor



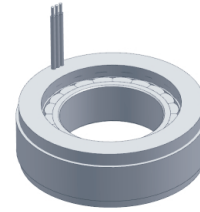
MAIN PARAMETERS		U6017	U6022	U6035
Voltage(VDC)		48	48	48
Rated Output (W)		141.48	188.64	301.82
Rated torque (Nm)		0.45	0.6	0.96
Instant Max Torque (Nm)		1.3	1.8	2.8
Rated Current (Arms)		5	6.3	9.3
Instant Max Current (Arms)		16	15.5	28
Rated Speed (rpm)		3000	3000	3000
Max Speed (rpm)		7000	6000	5000
Torque constant (Nm/Arms)		0.09	0.10	0.10
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		0.137	0.153	0.308
Back EMF coefficient (V/Krpm)		7	7	7
Resistance (Ω)		0.5	0.43	0.12
Inductance (mH)		0.3	0.23	0.13
Pole-pairs number (2P)		10	10	10
Weight (kg)		0.146	0.205	0.361
Motor height L(mm)	L1	10.5	15	28
	L2	10	14.5	27.5
	L3	17.7	22.2	35.8

### Specification & drawing



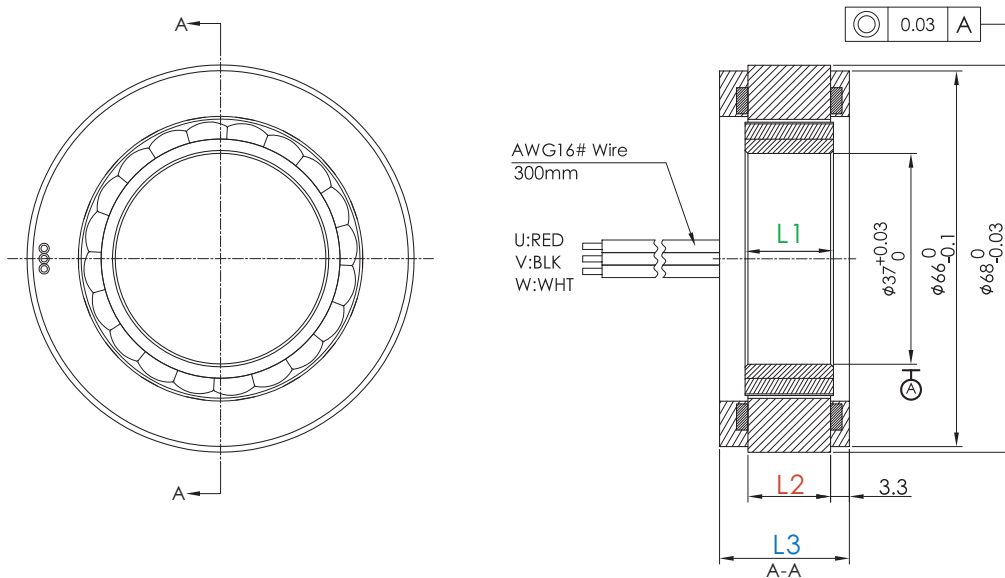
# U68 series

## Frameless Torque Motor



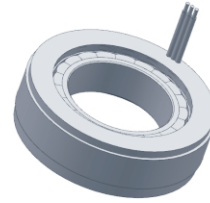
MAIN PARAMETERS		U6818	U6822	U6836
Voltage(VDC)		48	48	48
Rated Output (W)		198.07	270.38	484.18
Rated torque (Nm)		0.63	0.86	1.54
Instant Max Torque (Nm)		1.54	2.14	4
Rated Current (Arms)		8	10	13
Instant Max Current (Arms)		24	30	40
Rated Speed (rpm)		3000	3000	3000
Max Speed (rpm)		6000	6000	5000
Torque constant (Nm/Arms)		0.08	0.09	0.12
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		0.239	0.309	0.518
Back EMF coefficient (V/Krpm)		7	7	9
Resistance (Ω)		0.4	0.21	0.2
Inductance (mH)		0.3	0.16	0.16
Pole-pairs number (2P)		10	10	10
Weight (kg)		0.197	0.266	0.474
Motor height L(mm)	L1	11	15.5	28.5
	L2	10	14.5	27.5
	L3	18.3	22.8	36.4

### Specification & drawing



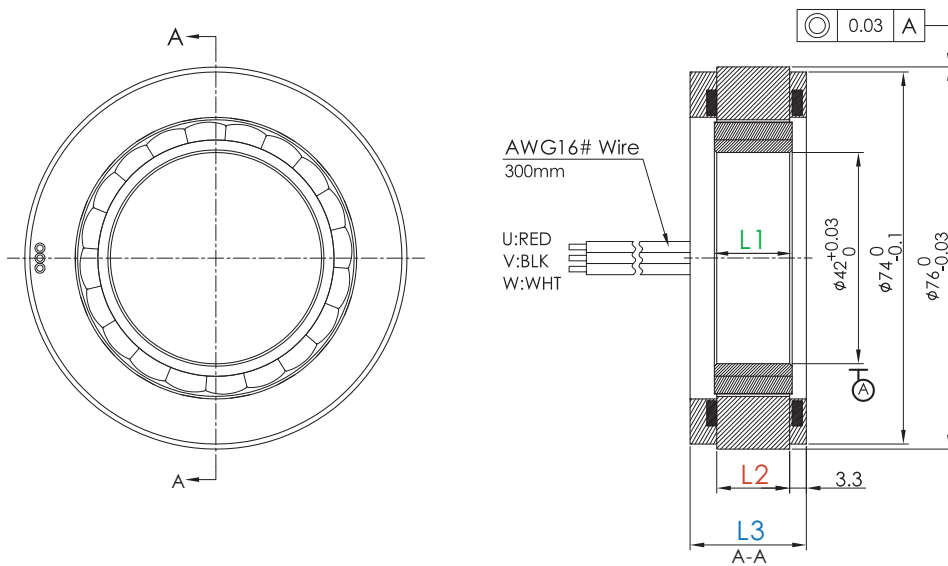
# U76 series

## Frameless Torque Motor



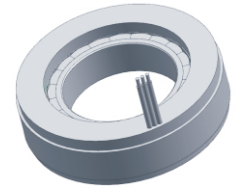
MAIN PARAMETERS		U7618	U7623	U7636
Voltage(VDC)		48	48	48
Rated Output (W)		279.82	386.71	647.66
Rated torque (Nm)		0.89	1.23	2.06
Instant Max Torque (Nm)		2.23	3.43	5.6
Rated Current (Arms)		6	10	13.5
Instant Max Current (Arms)		18	30	40
Rated Speed (rpm)		3000	3000	3000
Max Speed (rpm)		6000	6000	5000
Torque constant (Nm/Arms)		0.15	0.12	0.15
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		0.44	0.58	0.97
Back EMF coefficient (V/Krpm)		7	7	9
Resistance (Ω)		0.35	0.21	0.16
Inductance (mH)		0.3	0.2	0.14
Pole-pairs number (2P)		10	10	10
Weight (kg)		0.245	0.333	0.606
Motor height L(mm)	L1	11	15.5	28.5
	L2	10	14.5	27.5
	L3	18.6	23.1	36.7

### Specification & drawing



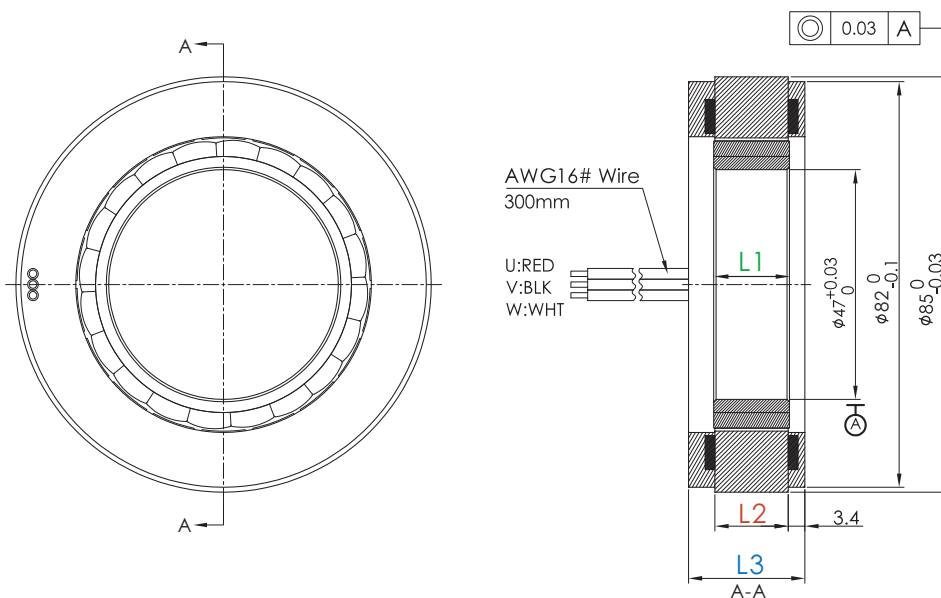
# U85 series

## Frameless Torque Motor



MAIN PARAMETERS		U8519	U8523	U8537
Voltage(VDC)		48	48	48
Rated Output (W)		380.42	518.76	845.74
Rated torque (Nm)		1.21	1.65	2.69
Instant Max Torque (Nm)		3.17	4.45	6
Rated Current (Arms)		8	12	17
Instant Max Current (Arms)		25	36	50
Rated Speed (rpm)		3000	3000	3000
Max Speed (rpm)		6000	6000	4000
Torque constant (Nm/Arms)		0.15	0.14	0.16
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		0.593	0.766	1.27
Back EMF coefficient (V/Krpm)		7	7	10
Resistance (Ω)		0.25	0.1	0.09
Inductance (mH)		0.26	0.12	0.12
Pole-pairs number (2P)		10	10	10
Weight (kg)		0.306	0.414	0.736
Motor height L(mm)	L1	11	15.5	28.5
	L2	10.5	15	28
	L3	19.3	23.8	37.4

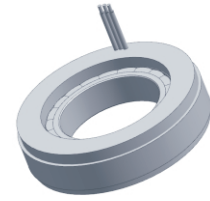
### Specification & drawing





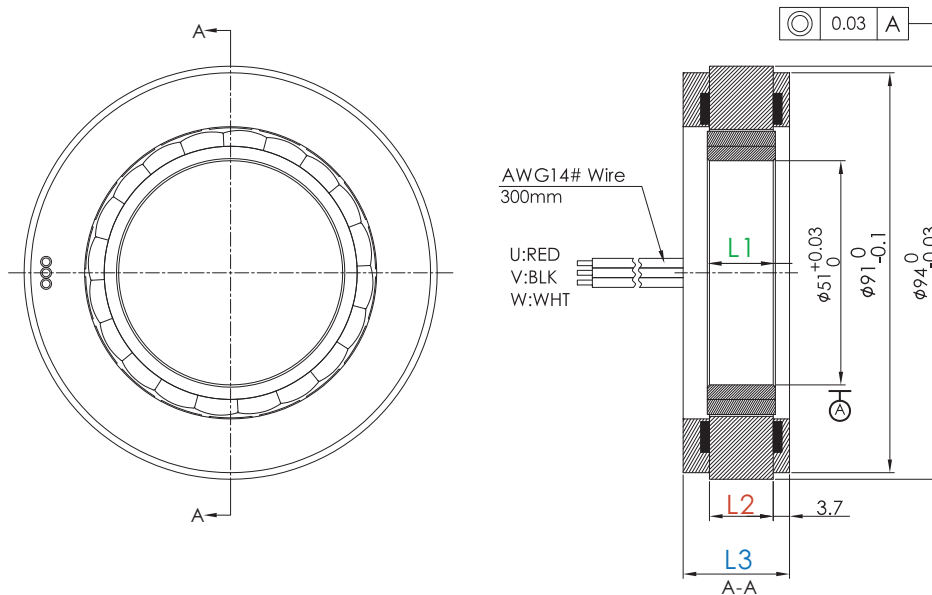
# U94 series

## Frameless Torque Motor



MAIN PARAMETERS		U9419	U9424	U9437
Voltage(VDC)		48	48	48
Rated Output (W)		496.75	644.52	576.92
Rated torque (Nm)		1.58	2.05	3.67
Instant Max Torque (Nm)		4	5.02	9
Rated Current (Arms)		12	16	24
Instant Max Current (Arms)		36	66	72
Rated Speed (rpm)		3000	3000	1500
Max Speed (rpm)		5000	4000	3000
Torque constant (Nm/Arms)		0.13	0.13	0.15
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		0.86	1.15	1.9
Back EMF coefficient (V/Krpm)		8	9	18
Resistance (Ω)		0.25	0.12	0.08
Inductance (mH)		0.36	0.26	0.32
Pole-pairs number (2P)		10	10	10
Weight (kg)		0.382	0.522	0.93
Motor height L(mm)	L1	11	15.5	28
	L2	10	14.5	27
	L3	19.7	24.2	37.8

### Specification & drawing



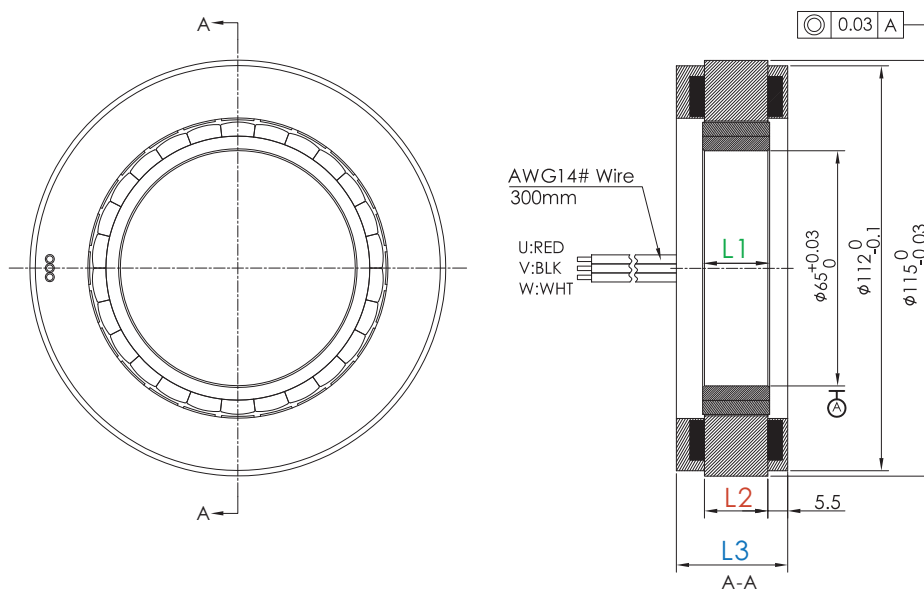
# U115 series

## Frameless Torque Motor



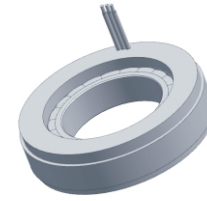
MAIN PARAMETERS		U11526	U11530	U11544
Voltage(VDC)		48	48	48
Rated Output (W)		943.2	1021.8	958.92
Rated torque (Nm)		3	3.9	6.1
Instant Max Torque (Nm)		7.5	9.3	14.5
Rated Current (Arms)		15	22	22
Instant Max Current (Arms)		45	66	72
Rated Speed (rpm)		3000	2500	1500
Max Speed (rpm)		5000	3500	2000
Torque constant (Nm/Arms)		0.20	0.18	0.28
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		1.6	2.08	3.55
Back EMF coefficient (V/Krpm)		6.2	7.7	14.4
Resistance (Ω)		0.13	0.09	0.11
Inductance (mH)		0.35	0.12	0.17
Pole-pairs number (2P)		13	13	13
Weight (kg)		0.655	0.85	1.45
Motor height L(mm)	L1	14	18.5	31.5
	L2	13	17.5	30.5
	L3	26.3	30.8	44.4

### Specification & drawing



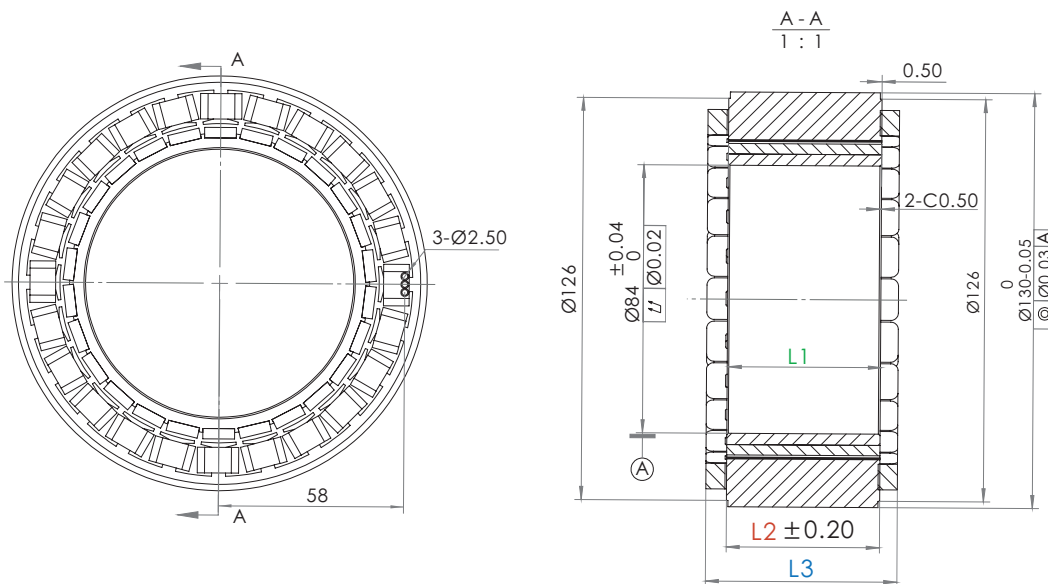
# U130 series

## Frameless Torque Motor



MAIN PARAMETERS		U13025	U13035	U13060
Voltage(VDC)		48	48	48
Rated Output (W)		419.2	471.6	754.56
Rated torque (Nm)		5	9	18
Instant Max Torque (Nm)		11	20	40
Rated Current (Arms)		17	21	30
Instant Max Current (Arms)		40	50	70
Rated Speed (rpm)		800	500	400
Max Speed (rpm)		1400	1000	800
Torque constant (Nm/Arms)		0.29	0.43	0.60
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		3.6	5.2	11
Back EMF coefficient (V/Krpm)		30	42	52
Resistance (Ω)		0.13	0.08	0.06
Inductance (mH)		0.35	0.22	0.17
Pole-pairs number (2P)		13	13	13
Weight (kg)		0.9	1.3	2.7
Motor height L(mm)	L1	15	24	48
	L2	15	24	48
	L3	25.9	35.9	60.9

### Specification & drawing



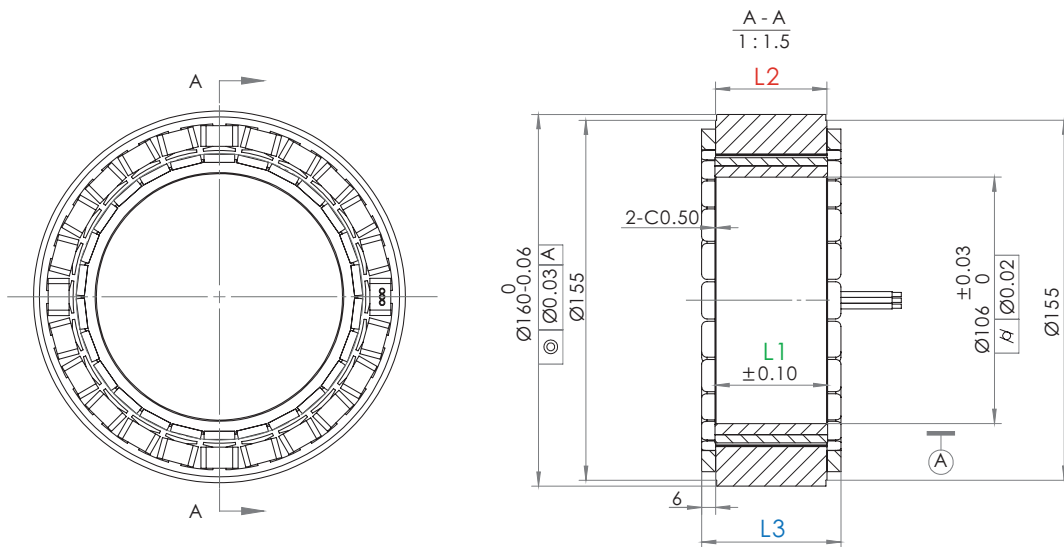
# U160 series

## Frameless Torque Motor



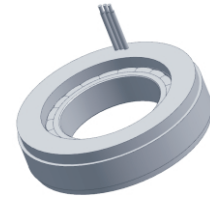
MAIN PARAMETERS		U16025	U16035	U16060
Voltage(VDC)		48	48	48
Rated Output (W)		471.6	471.6	670.72
Rated torque (Nm)		9	15	32
Instant Max Torque (Nm)		20	32	66
Rated Current (Arms)		15	17	20
Instant Max Current (Arms)		35	38	45
Rated Speed (rpm)		500	300	200
Max Speed (rpm)		800	600	400
Torque constant (Nm/Arms)		0.60	0.88	1.60
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		9.2	14	26
Back EMF coefficient (V/Krpm)		42	61	84
Resistance (Ω)		0.18	0.2	0.16
Inductance (mH)		0.35	0.44	0.35
Pole-pairs number (2P)		13	13	13
Weight (kg)		1.1	1.6	3.3
Motor height L(mm)	L1	16.6	24.6	48.6
	L2	16	24	48
	L3	25.9	35.9	60.9

### Specification & drawing



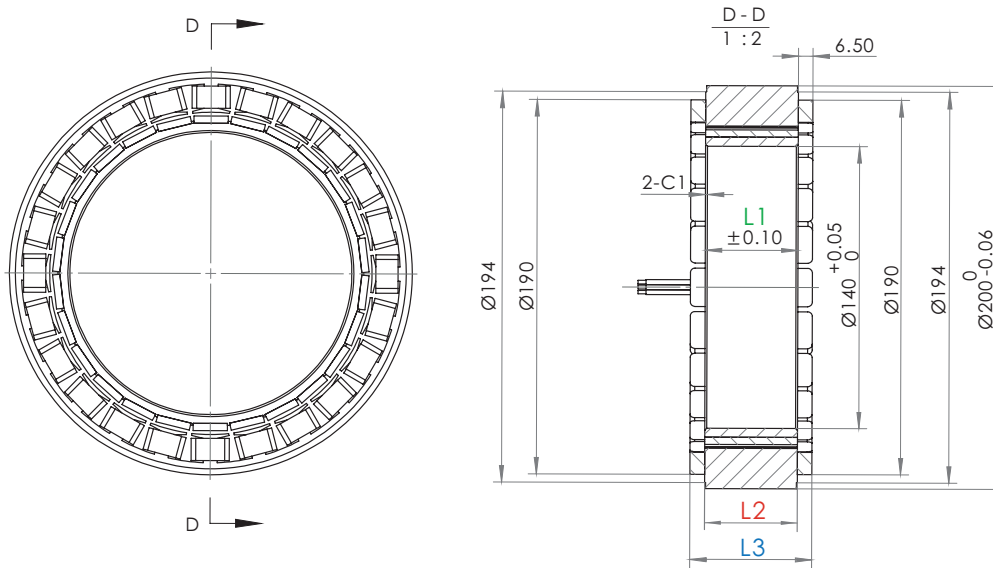
# U200series

## Frameless Torque Motor



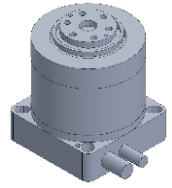
MAIN PARAMETERS		U20025	U20035	U20060
Voltage(VDC)		48	48	48
Rated Output (W)		408.72	503.04	524
Rated torque (Nm)		13	24	50
Instant Max Torque (Nm)		28	50	100
Rated Current (Arms)		14	18	18
Instant Max Current (Arms)		35	40	40
Rated Speed (rpm)		300	200	100
Max Speed (rpm)		500	400	200
Torque constant (Nm/Arms)		0.93	1.33	2.78
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>		28	41	85
Back EMF coefficient (V/Krpm)		88	100	200
Resistance (Ω)		0.18	0.2	0.26
Inductance (mH)		0.35	0.44	0.55
Pole-pairs number (2P)		13	13	13
Weight (kg)		1.7	2.9	5.5
Motor height L(mm)	L1	12	22	46
	L2	12	22	46
	L3	25.9	35.9	60.9

### Specification & drawing



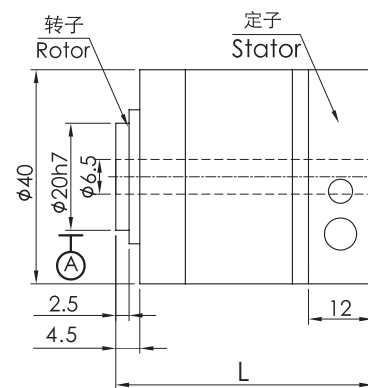
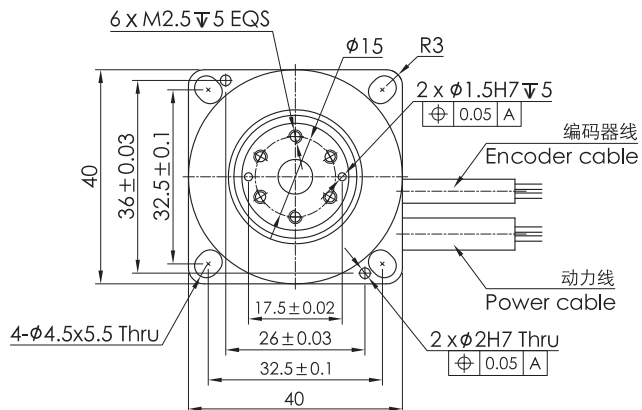
# FI-40series

## DD Motor



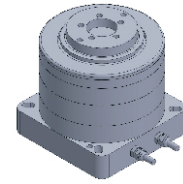
MAIN PARAMETERS	FI-4048	FI-4065
Voltage(VDC)	48	48
Rated torque (Nm)	0.25	0.5
Instant Max Torque (Nm)	0.8	1.3
Torque constant (Nm/Arms)	0.1	0.17
Rated Current (Arms)	2.5	3
Instant Max Current (Arms)	8	8
Resistance ( $\Omega$ )	1.8	2.4
Inductance (mH)	1.1	1.7
Pole-pairs number (2P)	7	7
Back EMF coefficient (V/Krpm)	0.1	0.12
Rated Output (W)	7.9	15.7
Rotor inertia $10^{-4}$ kg.m <sup>2</sup>	0.04	0.05
Rated Speed (rpm)	300	300
Max Speed (rpm)	600	600
Positioning accuracy(arc_sec)	$\pm 40$	$\pm 40$
Repeatability (arc_sec)	$\pm 5$	$\pm 5$
Encoder resolution (sin/cos)	2048	2048
Axial load (N)	600	600
Radial load (N.m)	6	6
Axial runout (mm)	$\leq 0.01$	$\leq 0.01$
Radial runout (mm)	$\leq 0.01$	$\leq 0.01$
Weight (kg)	0.4	0.55
Motor height L(mm)	48	65

### Specification & drawing



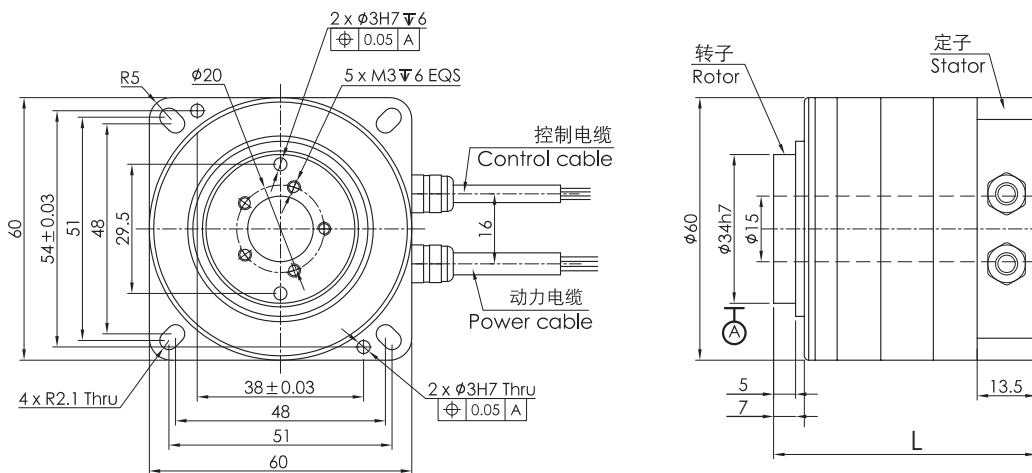
# FI-60 series

## DD Motor



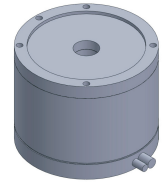
MAIN PARAMETERS	FI-6060	FI-6080
Voltage(VAC)	220	220
Rated torque (Nm)	0.5	1
Instant Max Torque (Nm)	1.6	4.4
Torque constant (Nm/Arms)	0.2	0.4
Rated Current (Arms)	2.5	2.5
Instant Max Current (Arms)	8	11
Resistance (Ω)	4	3.5
Inductance (mH)	3.6	3
Pole-pairs number (2P)	10	10
Back EMF coefficient (V/Krpm)	0.2	0.3
Rated Output (W)	15.7	31.4
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	0.55	0.8
Rated Speed (rpm)	300	300
Max Speed (rpm)	600	600
Positioning accuracy(arc_sec)	± 40	± 40
Repeatability (arc_sec)	± 4	± 4
Encoder resolution (sin/cos)	4096	4096
Axial load (N)	700	700
Radial load (N.m)	10	10
Axial runout (mm)	≤0.01	≤0.01
Radial runout (mm)	≤0.01	≤0.01
Weight (kg)	0.8	1
Motor height L(mm)	60	80

### Specification & drawing



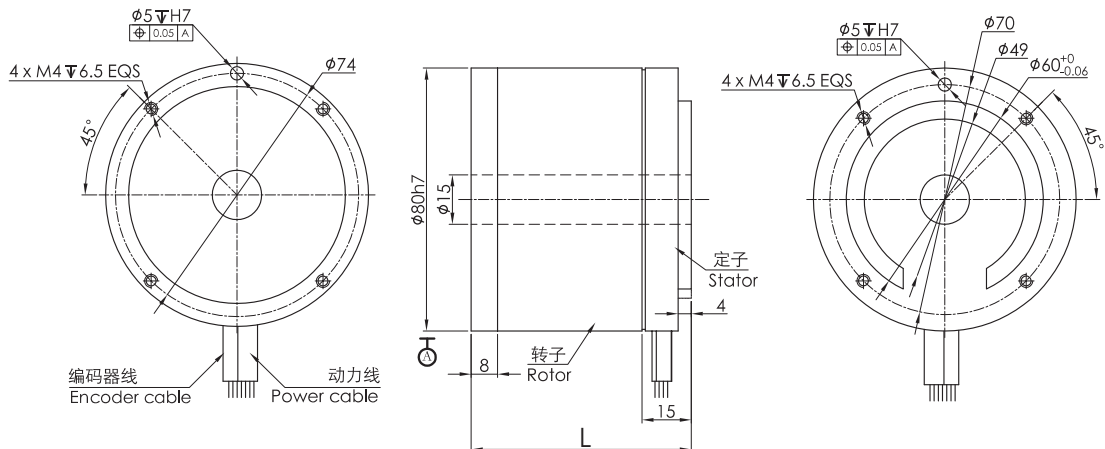
# FE-80 series

## DD Motor (Outer Rotor)



MAIN PARAMETERS	FE-8047	FE-8067
Voltage(VAC)	220	220
Rated torque (Nm)	1	2.5
Instant Max Torque (Nm)	3.3	8.3
Torque constant (Nm/Arms)	1	2
Rated Current (Arms)	1.5	1.5
Instant Max Current (Arms)	5	5
Resistance ( $\Omega$ )	3.8	5.5
Inductance (mH)	4.1	6.2
Pole-pairs number (2P)	10	10
Back EMF coefficient (V/Krpm)	0.25	0.52
Rated Output (W)	21.0	52.4
Rotor inertia $10^{-4}$ kg.m <sup>2</sup>	3.5	6
Rated Speed (rpm)	200	200
Max Speed (rpm)	360	360
Positioning accuracy(arc_sec)	$\pm 32$	$\pm 32$
Repeatability (arc_sec)	$\pm 2.5$	$\pm 2.5$
Encoder resolution (sin/cos)	8192	8192
Axial load (N)	1000	1000
Radial load (N.m)	10	10
Axial runout (mm)	$\leq 0.01$	$\leq 0.01$
Radial runout (mm)	$\leq 0.01$	$\leq 0.01$
Weight (kg)	1.7	2.3
Motor height L(mm)	47	67

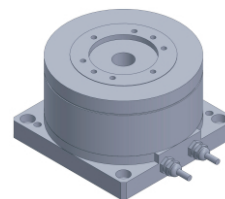
### Specification & drawing





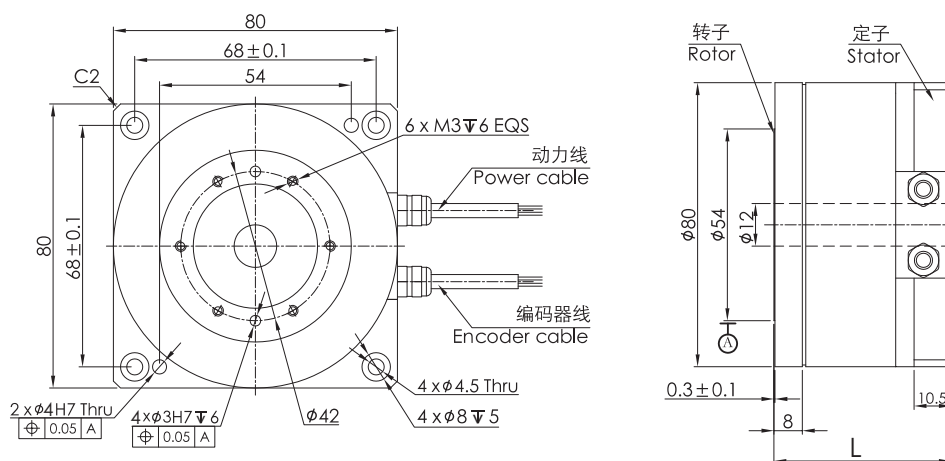
# FI-80 series

## DD Motor



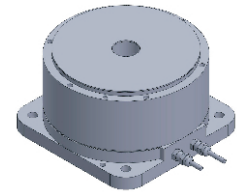
MAIN PARAMETERS	FI-8050
Voltage(VAC)	220
Rated torque (Nm)	0.9
Instant Max Torque (Nm)	2.7
Torque constant (Nm/Arms)	0.28
Rated Current (Arms)	3.2
Instant Max Current (Arms)	9.6
Resistance ( $\Omega$ )	1.3
Inductance (mH)	1.7
Pole-pairs number (2P)	5
Back EMF coefficient (V/Krpm)	0.2
Rated Output (W)	28.3
Rotor inertia $10^{-4}$ kg.m <sup>2</sup>	1.5
Rated Speed (rpm)	300
Max Speed (rpm)	600
Positioning accuracy(arc_sec)	$\pm 50$
Repeatability (arc_sec)	$\pm 2.5$
Encoder resolution (sin/cos)	5000
Axial load (N)	800
Radial load (N.m)	10
Axial runout (mm)	$\leq 0.03$
Radial runout (mm)	$\leq 0.03$
Weight (kg)	1.5
Motor height L(mm)	50

### Specification & drawing



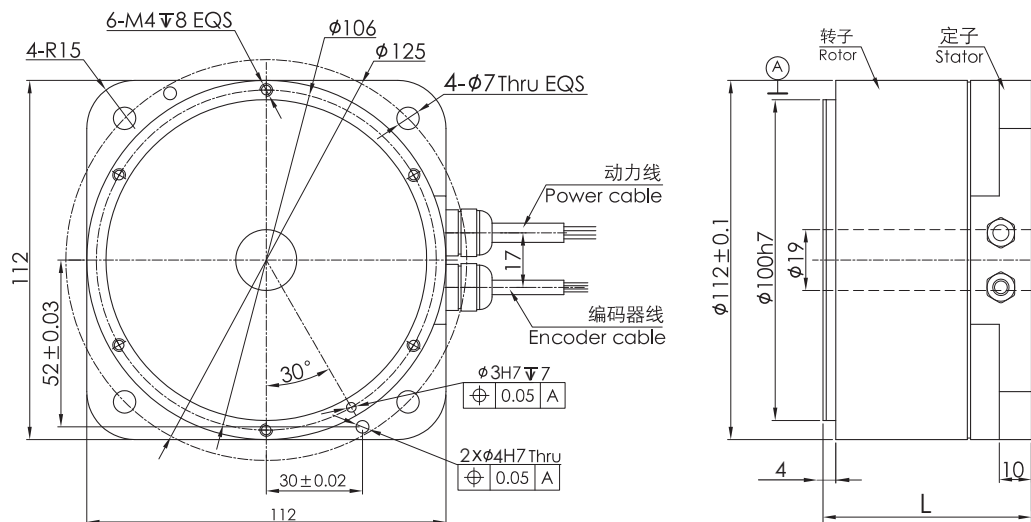
# FE-112 series

## DD Motor (Outer Rotor)



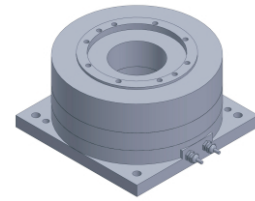
MAIN PARAMETERS	FE-11265	FE-11295
Voltage(VAC)	220	220
Rated torque (Nm)	3.0	8.5
Instant Max Torque (Nm)	9	25.5
Torque constant (Nm/Arms)	1.2	3.4
Rated Current (Arms)	2.5	2.5
Instant Max Current (Arms)	7.5	7.5
Resistance ( $\Omega$ )	2.2	4.6
Inductance (mH)	1.8	4.2
Pole-pairs number (2P)	14	14
Back EMF coefficient (V/Krpm)	1.0	2.8
Rated Output (W)	62.9	133.6
Rotor inertia $10^{-4}$ kg.m <sup>2</sup>	26	38
Rated Speed (rpm)	200	150
Max Speed (rpm)	350	250
Positioning accuracy(arc_sec)	$\pm 20$	$\pm 20$
Repeatability (arc_sec)	$\pm 1.5$	$\pm 1.5$
Encoder resolution (sin/cos)	8192	8192
Axial load (N)	2500	2500
Radial load (N.m)	20	20
Axial runout (mm)	$\leq 0.005$	$\leq 0.005$
Radial runout (mm)	$\leq 0.005$	$\leq 0.005$
Weight (kg)	3.2	4.5
Motor height L(mm)	65	95

### Specification & drawing



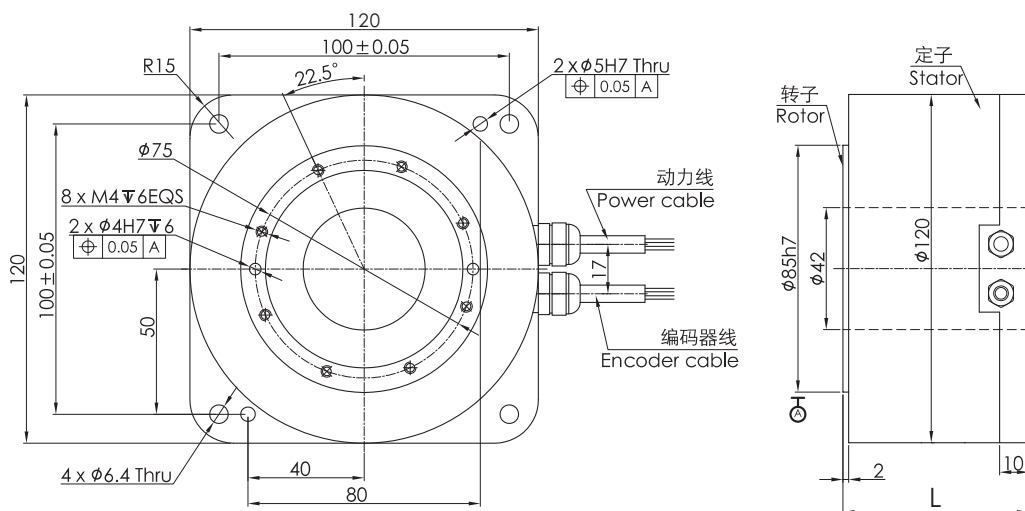
# FI-120 series

## DD Motor



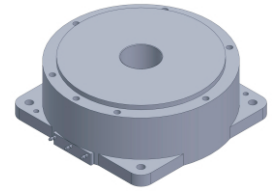
MAIN PARAMETERS	FI-12064
Voltage(VAC)	220
Rated torque (Nm)	2.4
Instant Max Torque (Nm)	8
Torque constant (Nm/Arms)	1.7
Rated Current (Arms)	1.5
Instant Max Current (Arms)	5
Resistance (Ω)	2.9
Inductance (mH)	3.1
Pole-pairs number (2P)	13
Back EMF coefficient (V/Krpm)	2
Rated Output (W)	37.7
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	26
Rated Speed (rpm)	150
Max Speed (rpm)	300
Positioning accuracy(arc_sec)	±20
Repeatability (arc_sec)	±1.5
Encoder resolution (sin/cos)	8192
Axial load (N)	1200
Radial load (N.m)	60
Axial runout (mm)	≤0.005
Radial runout (mm)	≤0.005
Weight (kg)	3.9
Motor height L(mm)	64

### Specification & drawing



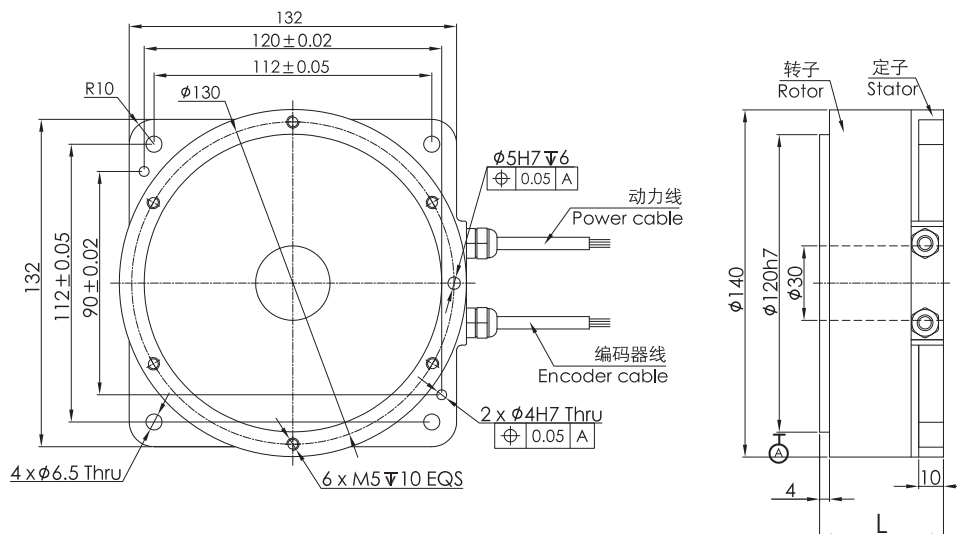
# FE-140 series

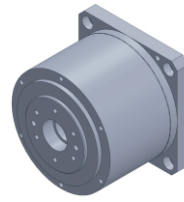
## DD Motor (Outer Rotor)



MAIN PARAMETERS	FE-14050	FE-14080
Voltage(VAC)	220	220
Rated torque (Nm)	6.0	10.5
Instant Max Torque (Nm)	16.8	28
Torque constant (Nm/Arms)	2.4	4.2
Rated Current (Arms)	2.5	2.5
Instant Max Current (Arms)	7	7
Resistance (Ω)	3.7	5.9
Inductance (mH)	3.8	6
Pole-pairs number (2P)	14	14
Back EMF coefficient (V/Krpm)	2.0	3.4
Rated Output (W)	188.6	220.1
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	45	76
Rated Speed (rpm)	300	200
Max Speed (rpm)	600	350
Positioning accuracy(arc_sec)	± 20	± 20
Repeatability (arc_sec)	± 1.5	± 1.5
Encoder resolution (sin/cos)	8192	8192
Axial load (N)	2500	2500
Radial load (N.m)	20	20
Axial runout (mm)	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005
Weight (kg)	3.4	5.6
Motor height L(mm)	50	80

### Specification & drawing



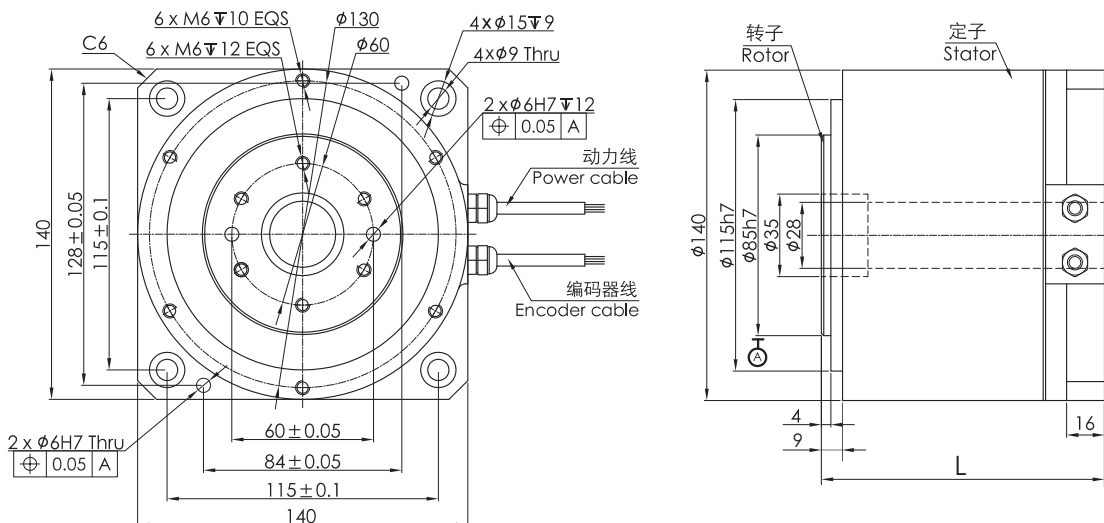


# FI-140 series

## DD Motor

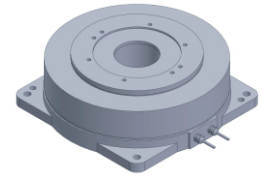
MAIN PARAMETERS	FI-14085	FI-140120	FI-140188
Voltage(VAC)	220	220	220
Rated torque (Nm)	10.5	14	36
Instant Max Torque (Nm)	29.4	35	100
Torque constant (Nm/Arms)	4.2	7	4
Rated Current (Arms)	2.5	2	9
Instant Max Current (Arms)	7	5	25
Resistance (Ω)	5.9	3.3	1.28
Inductance (mH)	6	6	12.5
Pole-pairs number (2P)	14	13	13
Back EMF coefficient (V/Krpm)	3.4	2	2.4
Rated Output (W)	220.1	440.2	1131.8
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	70	85	102
Rated Speed (rpm)	200	300	300
Max Speed (rpm)	350	600	600
Positioning accuracy(arc_sec)	± 20	± 20	± 20
Repeatability (arc_sec)	± 1.5	± 1.5	± 1.5
Encoder resolution (sin/cos)	8192	8192	8192
Axial load (N)	2500	3200	4000
Radial load (N.m)	30	80	110
Axial runout (mm)	≤0.005	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005	≤0.005
Weight (kg)	5.6	8	8
Motor height L(mm)	85	120	188

### Specification & drawing



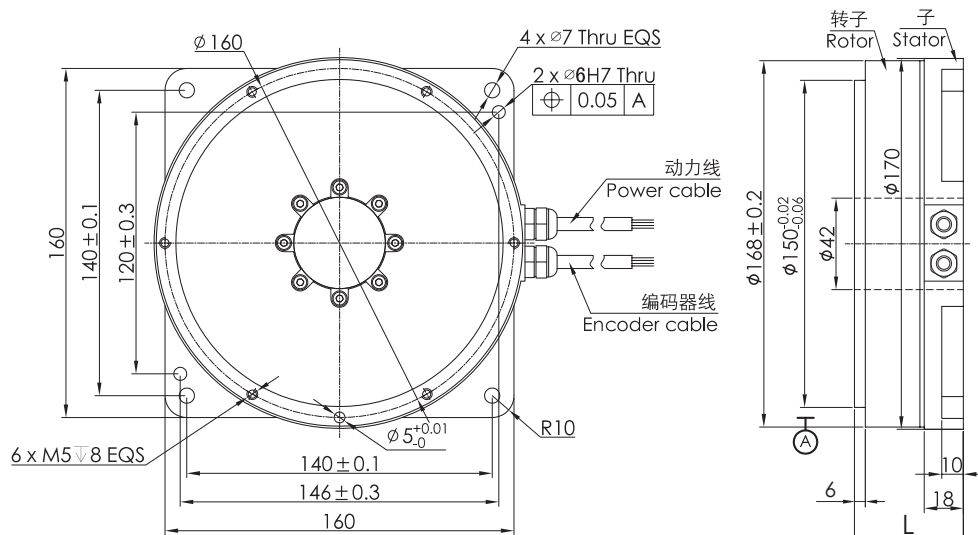
# FE-170 series

## DD Motor (Outer Rotor)



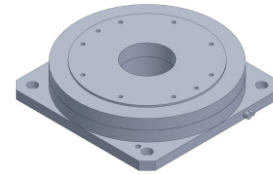
MAIN PARAMETERS	FE-17050	FE-17065	FE-17095	FE-170125	FE-170155
Voltage(VAC)	220	220	220	220	220
Rated torque (Nm)	4.5	9	23.8	41.8	59.5
Instant Max Torque (Nm)	14.0	30	71	125	179
Torque constant (Nm/Arms)	3.4	6	9.5	16.7	23.8
Rated Current (Arms)	1.4	1.5	2.5	2.5	2.5
Instant Max Current (Arms)	4.2	5	7.5	7.5	7.5
Resistance (Ω)	5.0	10	9.4	14.4	20.0
Inductance (mH)	7.6	29	17.9	34.7	45
Pole-pairs number (2P)	15	19	15	15	15
Back EMF coefficient (V/Krpm)	2.8	4	7.8	13.6	19.4
Rated Output (W)	117.9	141.5	249.4	328.5	374.1
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	68	76	230	320	410
Rated Speed (rpm)	250	150	100	75	60
Max Speed (rpm)	450	240	190	150	120
Positioning accuracy(arc_sec)	±20	±20	±20	±20	±20
Repeatability (arc_sec)	±1.5	±1.5	±1.5	±1.5	±1.5
Encoder resolution (sin/cos)	11740	11740	11740	11740	11740
Axial load (N)	4000	10000	15000	15000	15000
Radial load (N.m)	40	150	200	200	200
Axial runout (mm)	≤0.005	≤0.005	≤0.005	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005	≤0.005	≤0.005	≤0.005
Weight (kg)	3.9	5.6	10.1	13.9	18.1
Motor height L(mm)	50	65	95	125	155

### Specification & drawing



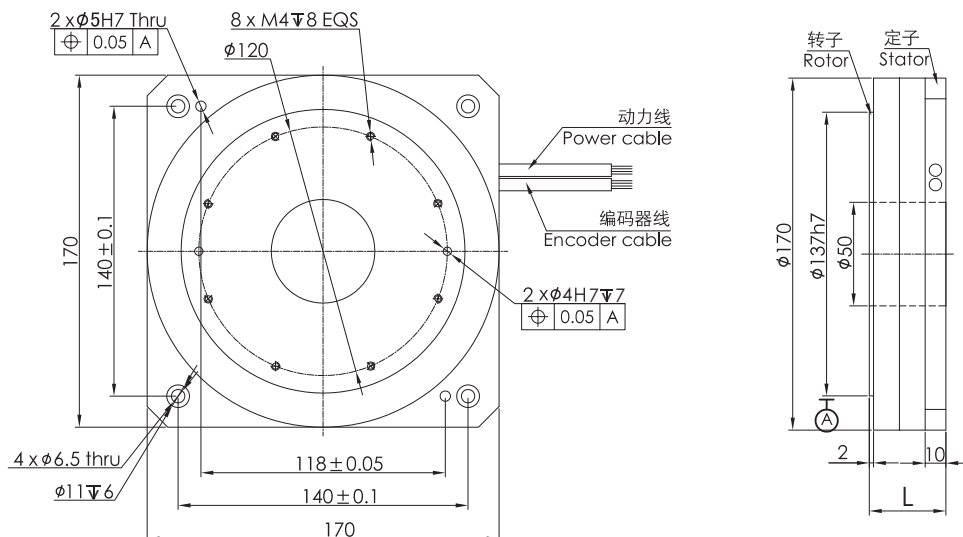
# FI-170 series

## DD Motor



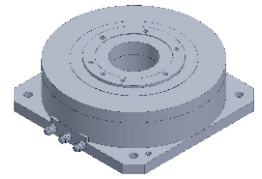
MAIN PARAMETERS	FI-17050	FI-170100
Voltage(VAC)	220	220
Rated torque (Nm)	5.4	17
Instant Max Torque (Nm)	16	55.3
Torque constant (Nm/Arms)	1.8	4.3
Rated Current (Arms)	3	4
Instant Max Current (Arms)	9	13
Resistance (Ω)	6.9	11
Inductance (mH)	8.3	16.8
Pole-pairs number (2P)	20	19
Back EMF coefficient (V/Krpm)	1.5	3.2
Rated Output (W)	141.5	267.2
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	40	80
Rated Speed (rpm)	250	150
Max Speed (rpm)	500	300
Positioning accuracy(arc_sec)	± 20	± 20
Repeatability (arc_sec)	± 1.5	± 1.5
Encoder resolution (sin/cos)	11740	11740
Axial load (N)	2500	2500
Radial load (N.m)	20	60
Axial runout (mm)	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005
Weight (kg)	3.9	5.2
Motor height L(mm)	50	100

### Specification & drawing



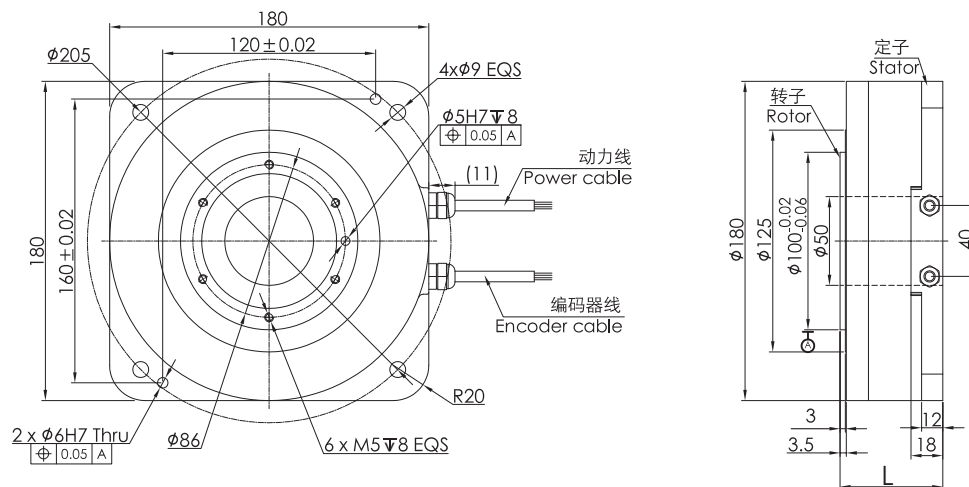
# FI-180 series

## DD Motor

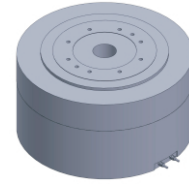


MAIN PARAMETERS	FI-18055	FI-18095	FI-180125
Voltage(VAC)	220	220	220
Rated torque (Nm)	14	25.2	40.1
Instant Max Torque (Nm)	42	76	120
Torque constant (Nm/Arms)	3.1	5.6	8.9
Rated Current (Arms)	4.5	4.5	4.5
Instant Max Current (Arms)	13.5	13.5	13.5
Resistance ( $\Omega$ )	3.5	1.5	8
Inductance (mH)	5.7	2.6	15.8
Pole-pairs number (2P)	16	16	16
Back EMF coefficient (V/Krpm)	2.5	4.6	7.3
Rated Output (W)	220.1	396.1	630.4
Rotor inertia $10^{-4}$ kg.m <sup>2</sup>	40	67	100
Rated Speed (rpm)	150	150	150
Max Speed (rpm)	250	300	250
Positioning accuracy(arc_sec)	$\pm 20$	$\pm 20$	$\pm 20$
Repeatability(arc_sec)	$\pm 1.5$	$\pm 1.5$	$\pm 1.5$
Encoder resolution (sin/cos)	11740	11740	11740
Axial load (N)	4000	4000	4000
Radial load (N.m)	50	50	50
Axial runout (mm)	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$
Radial runout (mm)	$\leq 0.005$	$\leq 0.005$	$\leq 0.005$
Weight (kg)	5.4	9.1	13
Motor height L(mm)	55	95	125

### Specification & drawing





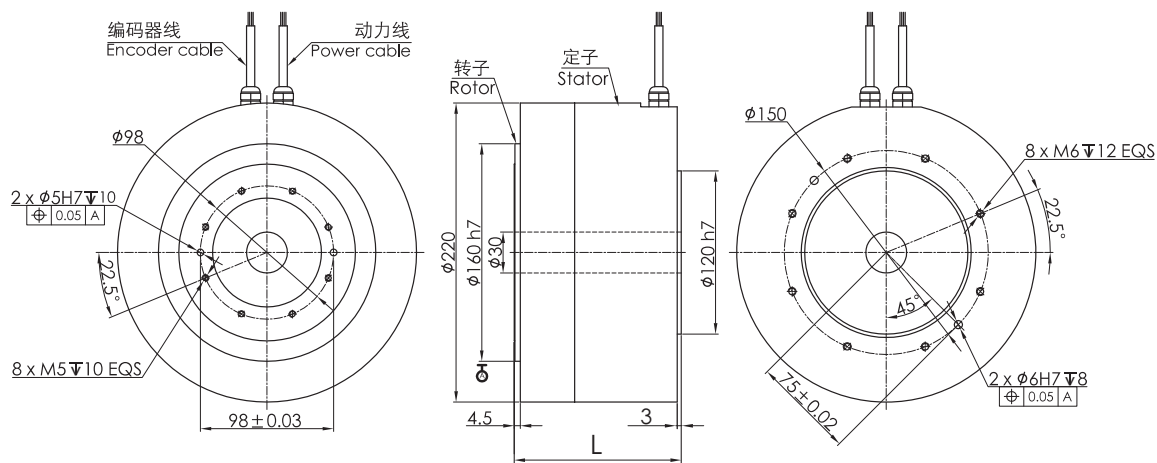


# FI-220 series

## DD Motor

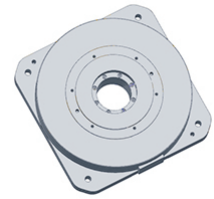
MAIN PARAMETERS	FI-220123	FI-220168	FI-220208
Voltage(VAC)	220	220	220
Rated torque (Nm)	50.6	86.6	115
Instant Max Torque (Nm)	152	266	350
Torque constant (Nm/Arms)	9.2	15.2	14.4
Rated Current (Arms)	5.5	5.7	5.75
Instant Max Current (Arms)	16.5	35	17.5
Resistance (Ω)	3.2	4.2	4.2
Inductance (mH)	8.5	11.6	14
Pole-pairs number (2P)	20	20	26
Back EMF coefficient (V/Krpm)	8.3	12.4	7.9
Rated Output (W)	530.3	726.1	1446.2
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	340	360	560
Rated Speed (rpm)	100	80	120
Max Speed (rpm)	200	150	240
Positioning accuracy(arc_sec)	± 20	± 20	± 20
Repeatability(arc_sec)	± 1.5	± 1.5	± 1.5
Encoder resolution (sin/cos)	11740	11740	11740
Axial load (N)	8000	8000	20000
Radial load (N.m)	120	120	500
Axial runout (mm)	≤0.005	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005	≤0.005
Weight (kg)	20	24.7	34
Motor height L(mm)	123	168	208

### Specification & drawing



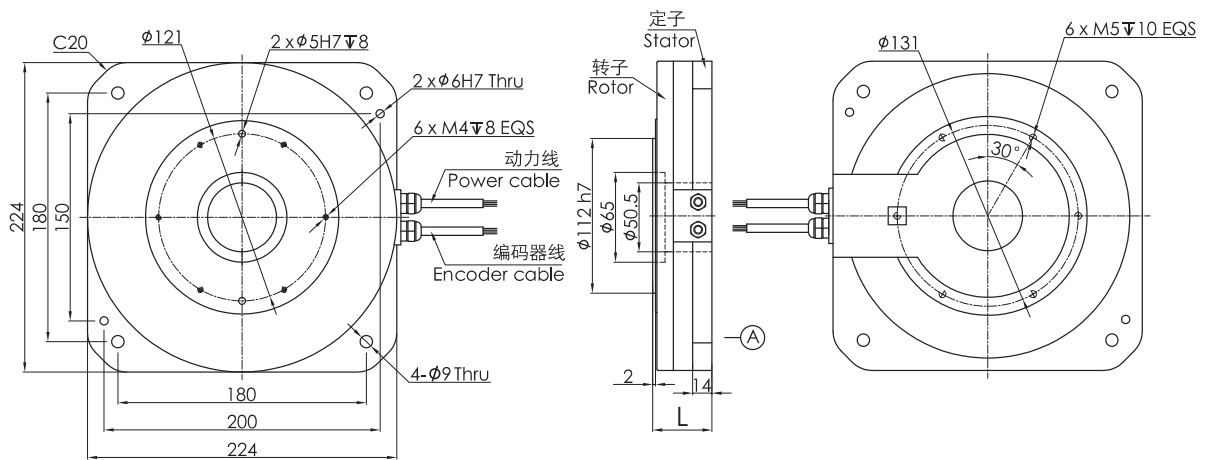
# FE-224 series

## DD Motor (Outer Rotor)



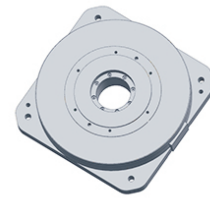
MAIN PARAMETERS	FE-22442	FE-22462
Voltage(VAC)	220	220
Rated torque (Nm)	14.1	35.0
Instant Max Torque (Nm)	42.2	105
Torque constant (Nm/Arms)	6.4	15.7
Rated Current (Arms)	2.2	2.2
Instant Max Current (Arms)	6.6	6.6
Resistance (Ω)	7.5	13.8
Inductance (mH)	17.1	40
Pole-pairs number (2P)	20	20
Back EMF coefficient (V/Krpm)	5.2	12.8
Rated Output (W)	295.5	366.8
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	120	300
Rated Speed (rpm)	200	100
Max Speed (rpm)	380	200
Positioning accuracy(arc_sec)	± 20	± 20
Repeatability (arc_sec)	± 1.5	± 1.5
Encoder resolution (sin/cos)	11740	16384
Axial load (N)	10000	10000
Radial load (N.m)	120	120
Axial runout (mm)	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005
Weight (kg)	5.5	9.2
Motor height L(mm)	42	62

### Specification & drawing



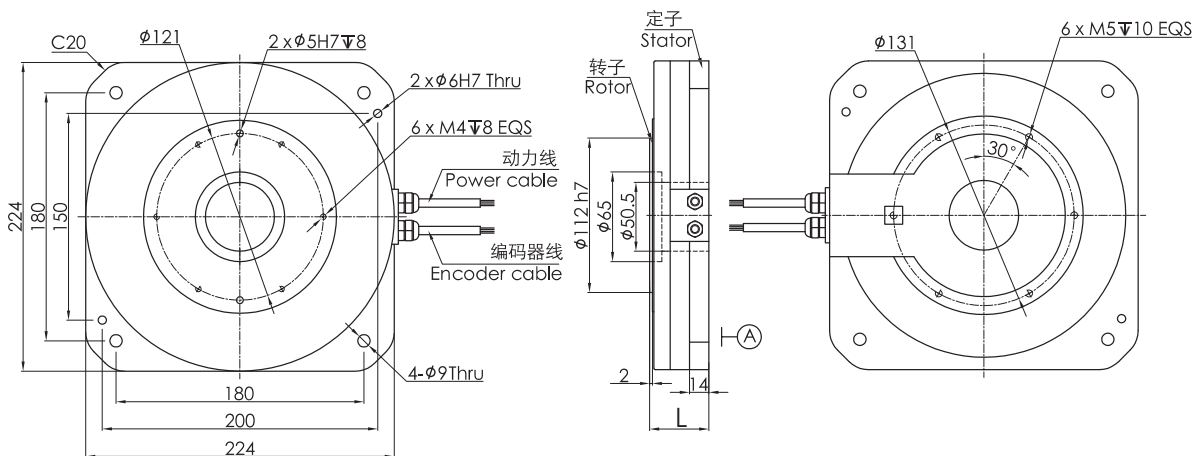
# FI-224 series

## DD Motor



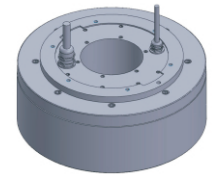
MAIN PARAMETERS	FI-22442
Voltage(VAC)	220
Rated torque (Nm)	9.9
Instant Max Torque (Nm)	30
Torque constant (Nm/Arms)	4.3
Rated Current (Arms)	2.3
Instant Max Current (Arms)	7
Resistance ( $\Omega$ )	22.5
Inductance (mH)	50.4
Pole-pairs number (2P)	20
Back EMF coefficient (V/Krpm)	3.5
Rated Output (W)	155.6
Rotor inertia $10^{-4}$ kg.m <sup>2</sup>	72
Rated Speed (rpm)	150
Max Speed (rpm)	250
Positioning accuracy(arc_sec)	$\pm 20$
Repeatability (arc_sec)	$\pm 1.5$
Encoder resolution (sin/cos)	11740
Axial load (N)	2500
Radial load (N.m)	50
Axial runout (mm)	$\leq 0.005$
Radial runout (mm)	$\leq 0.005$
Weight (kg)	6.3
Motor height L(mm)	42

### Specification & drawing



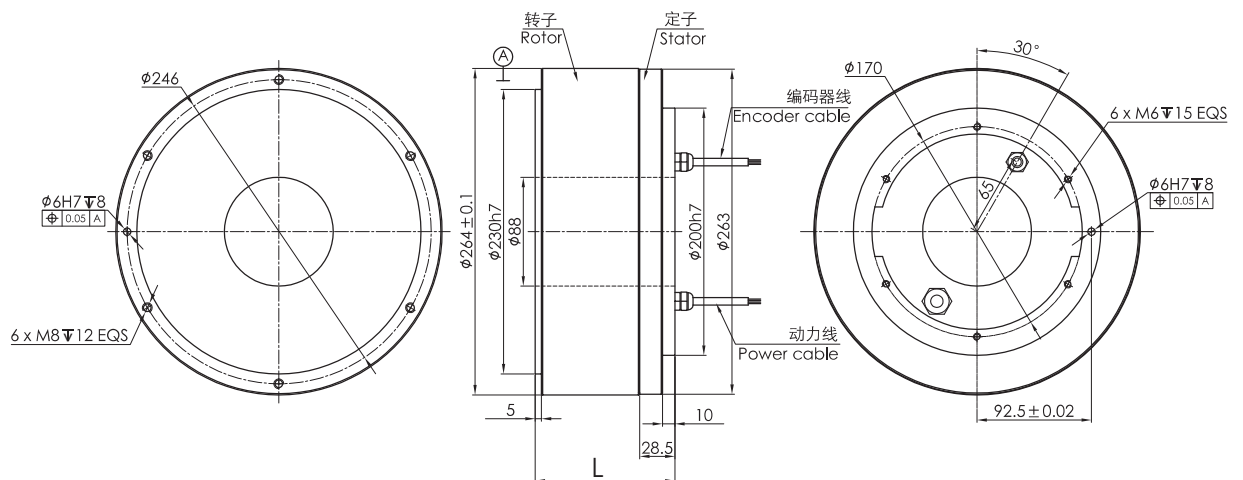
# FE-263 series

## DD Motor (Outer Rotor)



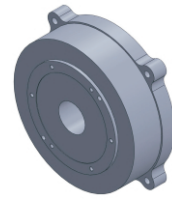
MAIN PARAMETERS	FE-263113	FE-263138	FE-263163	FE-263188
Voltage(VAC)	220	220	220	220
Rated torque (Nm)	95.0	150.0	210	250.0
Instant Max Torque (Nm)	190	300	420	500
Torque constant (Nm/Arms)	13.4	21.9	29.6	35.2
Rated Current (Arms)	7.1	7.1	7.1	7.1
Instant Max Current (Arms)	14.2	14.2	14.2	14.2
Resistance (Ω)	2.7	3.9	2	6.7
Inductance (mH)	8.3	13.4	7	22.8
Pole-pairs number (2P)	20	20	23	20
Back EMF coefficient (V/Krpm)	10.9	17.9	10.1	28.7
Rated Output (W)	796.5	943.2	1760.6	1310.0
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	1000	1500	1600	2100
Rated Speed (rpm)	80	60	80	50
Max Speed (rpm)	150	120	150	100
Positioning accuracy(arc_sec)	± 20	± 20	± 20	± 20
Repeatability (arc_sec)	± 1.5	± 1.5	± 1.5	± 1.5
Encoder resolution (sin/cos)	16384	16384	16384	16384
Axial load (N)	40000	40000	40000	40000
Radial load (N.m)	400	400	400	400
Axial runout (mm)	≤0.005	≤0.005	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005	≤0.005	≤0.005
Weight (kg)	24.4	32.5	44	49.1
Motor height L(mm)	113	138	163	188

### Specification & drawing



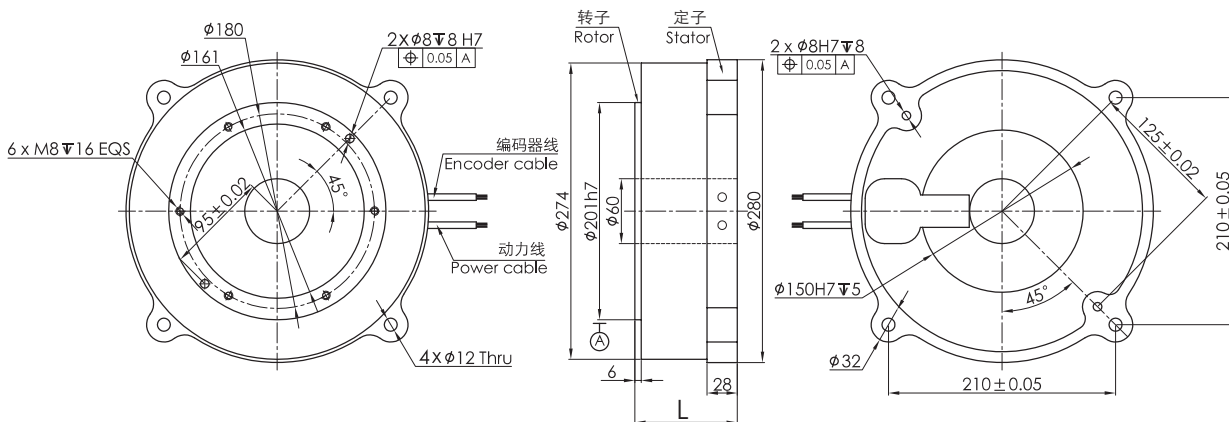
# FI-280 series

## DD Motor



MAIN PARAMETERS	FI-28095	FI-280145
Voltage(VAC)	220	220
Rated torque (Nm)	45	90
Instant Max Torque (Nm)	146.3	288
Torque constant (Nm/Arms)	11.3	18
Rated Current (Arms)	4	5
Instant Max Current (Arms)	13	16
Resistance (Ω)	5.5	3.3
Inductance (mH)	24	15.5
Pole-pairs number (2P)	23	23
Back EMF coefficient (V/Krpm)	7.1	10
Rated Output (W)	565.9	1131.8
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	312	512
Rated Speed (rpm)	120	120
Max Speed (rpm)	240	240
Positioning accuracy(arc_sec)	± 20	± 20
Repeatability(arc_sec)	± 1.5	± 1.5
Encoder resolution (sin/cos)	16384	16384
Axial load (N)	12000	12000
Radial load (N.m)	400	400
Axial runout (mm)	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005
Weight (kg)	24.2	46
Motor height L(mm)	95	145

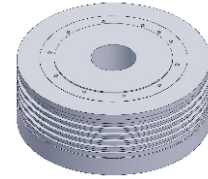
### Specification & drawing





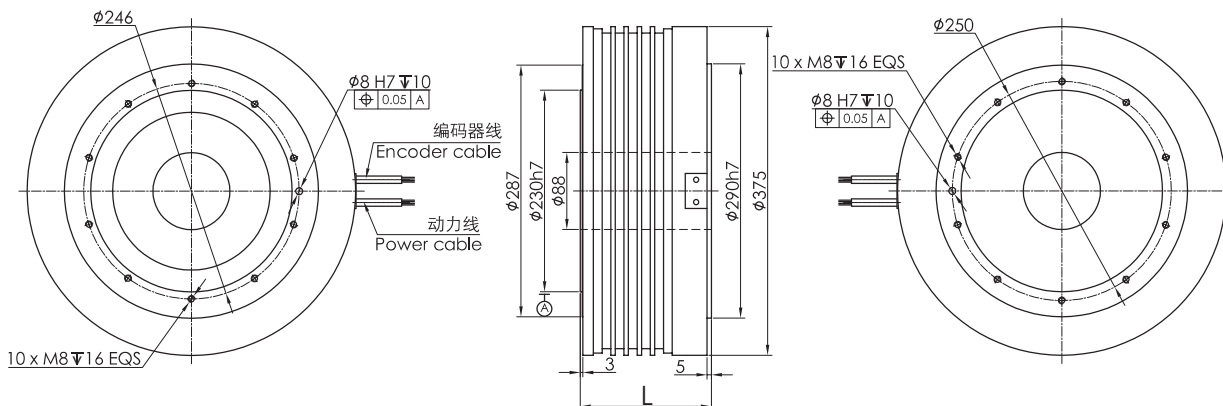
# FI-375 series

## DD Motor



MAIN PARAMETERS	FI-375150	FI-375200
Voltage(VAC)	220	220
Rated torque (Nm)	200	320
Instant Max Torque (Nm)	625	1000
Torque constant (Nm/Arms)	25	45
Rated Current (Arms)	8	8
Instant Max Current (Arms)	25	25
Resistance (Ω)	5.2	5.2
Inductance (mH)	32	32
Pole-pairs number (2P)	42	42
Back EMF coefficient (V/Krpm)	18.8	26.6
Rated Output (W)	1257.6	2012.2
Rotor inertia 10 <sup>-4</sup> kg.m <sup>2</sup>	3900	5200
Rated Speed (rpm)	60	60
Max Speed (rpm)	120	120
Positioning accuracy(arc_sec)	± 20	± 20
Repeatability (arc_sec)	± 1.5	± 1.5
Encoder resolution (sin/cos)	16384	16384
Axial load (N)	20000	20000
Radial load (N.m)	1200	1200
Axial runout (mm)	≤0.005	≤0.005
Radial runout (mm)	≤0.005	≤0.005
Weight (kg)	75	90
Motor height L(mm)	150	200

### Specification & drawing





## Shenzhen Mosrac Motor Co., Ltd

Tel: +86-755-23091465

Fax: +86-755-33250183

Email: [Sales12@mosrac.com](mailto:Sales12@mosrac.com)

Company address: Building 1, COFCO (Fu'an) Robotics Technology Park, No. 90-1, Dayang Road, Bao'an District, Shenzhen, China.

Factory address: No. 36, Xingda Road, Yanluo Street, Bao'an District, Shenzhen, China.

Website: <https://www.mosrac.com>



( MOSRAC )

Scan me for more advice