



## Features

- Highest torque density
- Highest motor constant
- Low profile
- Direct drive
- High heat dissipation
- Large hollow diameter
- Frameless or housed type

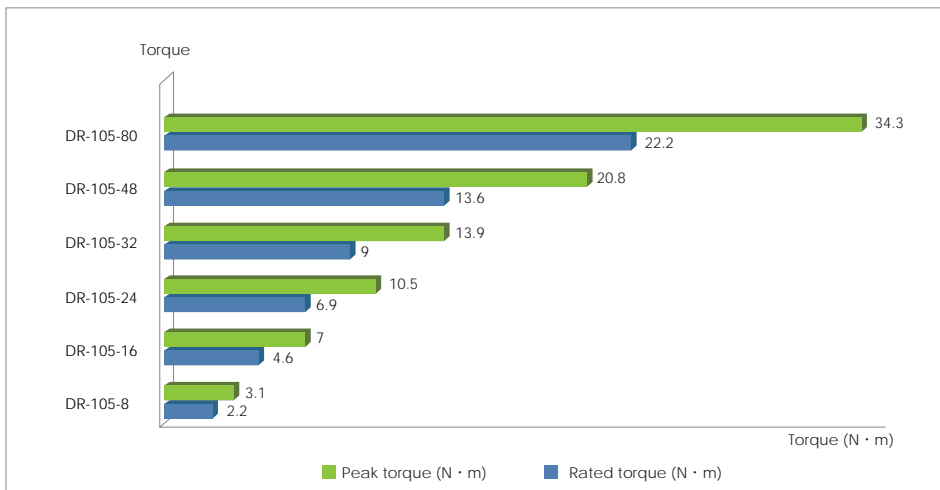


cpc DD Motor



cpc ME1-Magnetic Encoder

## Torque Overview



## Ordering Information

DR	K	105	B	S	P	N	CS	0400
								Cable length (mm) : 0400 : 400 mm (Standard) Rotor : Blank
								Cable exit direction : CS : Radial CU : Axial Rotor : Blank
								Cooling : N : No cooling    W : Water cooling Rotor : Blank
								Temperature sensor : P : PTC-90°C    K : KTY84-130    Rotor : Blank
								Winding code :    S : Standard    F : Small current    Rotor : Blank
								Height of the stator (mm) : 8, 16, 24, 32, 48, 80
								Outside diameter of the stator (mm) : 105
								Part :    K : Kit    S : Stator    R : Rotor
Torque motor								

For more details please contact **cpc**.





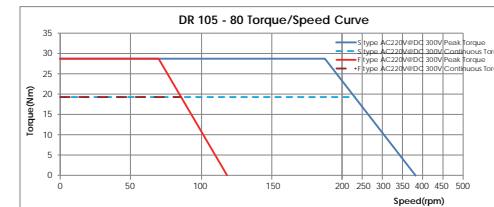
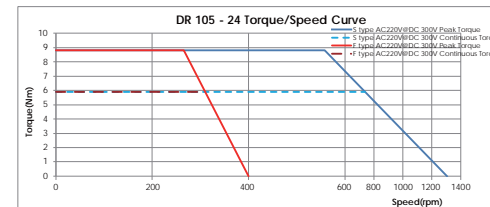
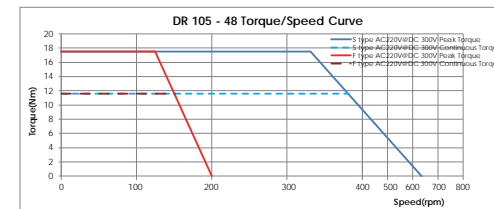
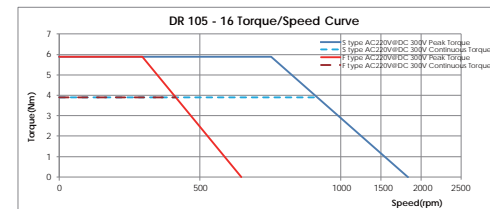
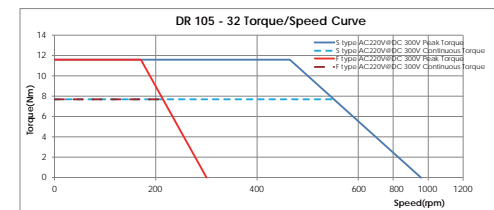
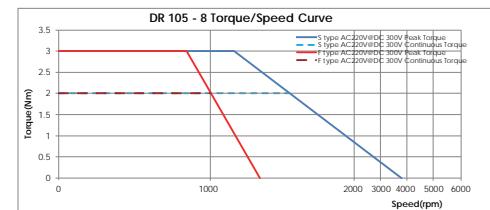
DR-105 series

## DR-105

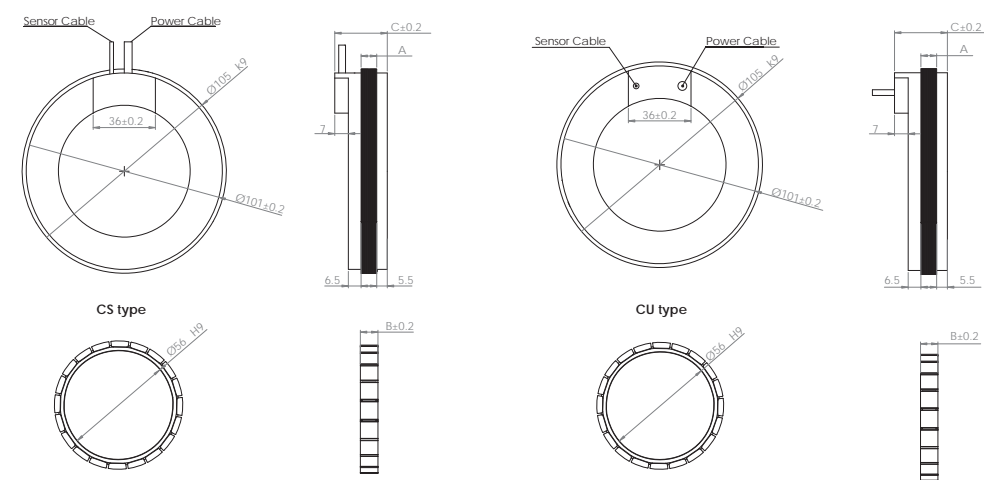
	Unit	cpc											
3-phase synchronous frameless Torque, 220V <sub>ac</sub> , 300V <sub>dc</sub>													
Coil Assembly Model		DR-105-8		DR-105-16		DR-105-24		DR-105-32		DR-105-48		DR-105-80	
Winding code		S	F	S	F	S	F	S	F	S	F	S	F
<b>Performance</b>													
Peak Torque <sup>(2)(3)</sup>	Nm	3.1	7.0	10.5	13.9	20.8	34.3						
Continuous Torque with heat sink <sup>(1)(2)</sup>	Nm	2.2	4.6	6.9	9.0	13.6	22.2						
Continuous Torque without heat sink <sup>(2)(3)</sup>	Nm	1.1	2.2	3.3	4.2	6.3	10.1						
Maximum Power with heat sink <sup>(1)(2)</sup>	W	183.7	242.8	301.8	352.0	467.2	680.3						
Continuous Power with heat sink <sup>(1)(2)</sup>	W	73.3	96.2	119.6	143.1	182.5	261.7						
Continuous Power without heat sink <sup>(2)(3)</sup>	W	18.3	25.0	31.1	34.4	45.6	62.8						
Maximum speed AC 220V@DC 300V	rpm	3647	1210	1824	605	1216	408	912	302	608	202	365	121
Maximum speed AC 420V@DC 600V	rpm	6963	2310	3481	1155	2321	770	1741	577	1161	385	696	231
<b>Mechanical</b>													
Stator OD	mm	105											
Rotor ID	mm	56											
Lamination Stack Height	mm	8	16	24	32	48	80						
Rotor Inertia	kg·m <sup>2</sup>	5.8·10 <sup>-5</sup>	1.2·10 <sup>-4</sup>	1.7·10 <sup>-4</sup>	2.3·10 <sup>-4</sup>	3.5·10 <sup>-4</sup>	5.8·10 <sup>-4</sup>						
Stator Mass	kg	0.51	0.92	1.42	1.93	2.95	4.98						
Rotor Mass	kg	0.06	0.12	0.19	0.25	0.37	0.62						
Total Mass	kg	0.57	1.04	1.61	2.18	3.32	5.6						
<b>Electrical</b>													
Peak Current <sup>(2)(3)</sup>	A <sub>pk</sub>	8.1	2.7	8.1	2.7	8.1	2.7	8.0	2.6	8.0	2.6	7.9	2.5
Continuous Current with heat sink <sup>(1)(2)</sup>	A <sub>pk</sub>	5.1	1.7	5.1	1.7	5.1	1.7	5.1	1.6	5.0	1.6	4.9	1.5
Continuous Current without heat sink <sup>(2)(3)</sup>	A <sub>pk</sub>	2.6	0.8	2.6	0.8	2.6	0.8	2.5	0.7	2.5	0.7	2.4	0.6
Motor Torque constant	Nm/A <sub>pk</sub>	0.43	1.30	0.86	2.60	1.29	3.90	1.72	5.20	2.58	7.81	4.30	13.01
Back EMF constant <sup>(2)</sup>	V/krpm	52.0	156.8	104.0	313.6	156.0	470.3	208.0	627.1	312.0	940.1	520.0	1567.8
Resistant	Ω	2.8	24.8	3.7	32.2	4.6	39.6	5.5	47	7.3	61.8	10.9	91.4
Inductance	mH	16.50	132.50	29.20	229.30	41.90	326.10	54.60	422.90	80.00	616.50	130.80	1003.7
Time constant <sup>(2)</sup>	ms	5.9	5.3	7.9	7.1	9.1	8.2	9.9	9.0	11.0	10.0	12.0	11.0
Thermal Resistant without heat sink <sup>(2)(3)</sup>	°C/W	1.16	0.88	0.71	0.59	0.47	0.32						
Thermal Resistant with heat sink <sup>(1)(2)</sup>	°C/W	4.64	3.40	2.73	2.47	1.86	1.35						
Motor Constant <sup>(2)</sup>	N/√W	0.26	0.45	0.60	0.73	0.95	1.30						
Poles	N(2τ)	10											
Ph-PE dielectric strength		≥1.5KV(AC)											
Ph-PE insulation Resistant		≥600V(DC)											

- This value applies to the static sinusoidal drive under specific heat sink and temperature ranges from 25°C up to 110°C. The actual performance is dependent on the heat sink configuration, system cooling condition and ambient temperature.
- The tolerance levels for the total performance and electrical specification is ±10%
- This value applies to static sinusoidal drive operating under temperatures from 25°C up to 110°C, without a heat sink.
- The above "without heat sink" figure assumes a working condition of 1 atm, 25°C ambient temperature, in which the linear motor is stationary and not in contact with any other objects, relying only on free air convection for cooling. As all heat conductive objects in direct contact with the motor, including the plate, bearing and housing, can be considered a kind of heat sink, the "with heat sink" figure should be taken as the primary reference in actual application design.

## Torque / Speed Curve

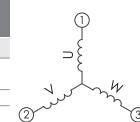


## Dimension



### OUTPUT CABLE (All cable standard length is 400 mm)

Motor Wire Table			Thermal Protection Wire Table		
Pin Number	Function	Cross section	Color	Function	Cable Dia.
White (1)	U phase	0.5 mm <sup>2</sup>	Brown	Thermal sensor	0.14 mm <sup>2</sup>
Yellow (2)	V phase	0.5 mm <sup>2</sup>	Blue		
Brown (3)	W phase	0.5 mm <sup>2</sup>		Shielding	
Green	PE + shielding	0.5 mm <sup>2</sup>			



### DIMENSIONS

Type	A	B	C
DR-105-8	8	9	27
DR-105-16	16	17	35
DR-105-24	24	25	43
DR-105-32	32	33	51
DR-105-48	48	49	67
DR-105-80	80	81	99