



2-phase stepping motor

# 42mm sq.( 1.65inch sq. )

103H52  
1.8 °/step

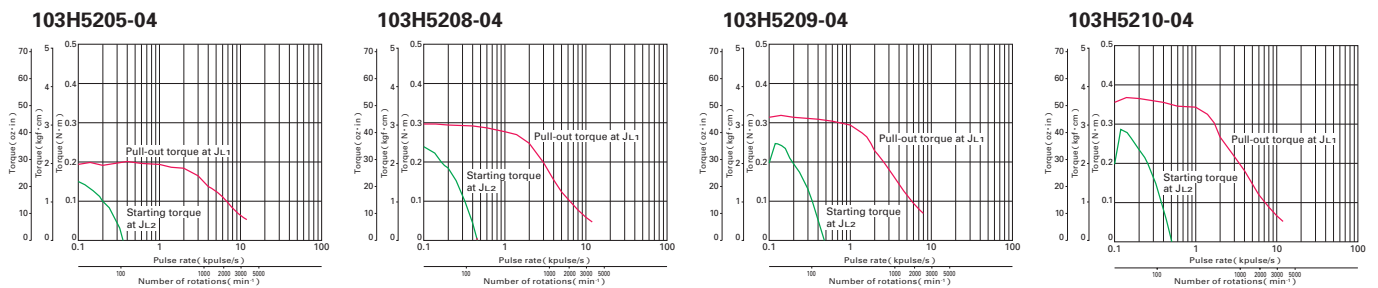
## Unipolar winding

Model	Holding torque at 2-phase energization	Rated current	Wiring resistance	Winding inductance	Rotor inertia	Mass ( Weight )
Single shaft	Double shafts	[N · m ( oz · in ) MIN.]	A/phase	/phase	mH/phase	[ ×10 <sup>-4</sup> kg · m <sup>2</sup> ( oz · in <sup>2</sup> ) ] [kg( lbs )]
103H5205-0440	-0410	0.2 ( 28.32 )	1.2	2.4	2.3	0.036 ( 0.20 ) 0.23 ( 0.51 )
103H5208-0440	-0410	0.3 ( 42.48 )	1.2	2.9	3.4	0.056 ( 0.31 ) 0.29 ( 0.64 )
103H5209-0440	-0410	0.32 ( 45.31 )	1.2	3	3.9	0.062 ( 0.34 ) 0.31 ( 0.68 )
103H5210-0440	-0410	0.37 ( 52.39 )	1.2	3.3	3.4	0.074 ( 0.40 ) 0.37 ( 0.82 )

## Bipolar winding

Model	Holding torque at 2-phase energization	Rated current	Wiring resistance	Winding inductance	Rotor inertia	Mass ( Weight )
Single shaft	Double shafts	[N · m ( oz · in ) MIN.]	A/phase	/phase	mH/phase	[ ×10 <sup>-4</sup> kg · m <sup>2</sup> ( oz · in <sup>2</sup> ) ] [kg( lbs )]
103H5205-5040	-5010	0.23 ( 32.57 )	0.25	54	78	0.036 ( 0.20 ) 0.23 ( 0.51 )
103H5205-5140	-5110	0.25 ( 35.40 )	0.5	13.4	23.4	0.036 ( 0.20 ) 0.23 ( 0.51 )
103H5205-5240	-5210	0.265 ( 37.53 )	1	3.4	6.5	0.036 ( 0.20 ) 0.23 ( 0.51 )
103H5208-5040	-5010	0.35 ( 49.56 )	0.25	66	116	0.056 ( 0.31 ) 0.3 ( 0.66 )
103H5208-5140	-5110	0.38 ( 53.81 )	0.5	16.5	34	0.056 ( 0.31 ) 0.3 ( 0.66 )
103H5208-5240	-5210	0.39 ( 55.23 )	1	4.1	9.5	0.056 ( 0.31 ) 0.3 ( 0.66 )
103H5209-5040	-5010	0.38 ( 53.81 )	0.25	71.4	132	0.062 ( 0.34 ) 0.31 ( 0.68 )
103H5209-5140	-5110	0.41 ( 58.06 )	0.5	18.2	39	0.062 ( 0.34 ) 0.31 ( 0.68 )
103H5209-5240	-5210	0.425 ( 60.18 )	1	4.4	11	0.062 ( 0.34 ) 0.31 ( 0.68 )
103H5210-5040	-5010	0.465 ( 65.85 )	0.25	80	123.3	0.074 ( 0.40 ) 0.37 ( 0.82 )
103H5210-5140	-5110	0.49 ( 69.39 )	0.5	20	35	0.074 ( 0.40 ) 0.37 ( 0.82 )
103H5210-5240	-5210	0.51 ( 72.22 )	1	4.8	9.5	0.074 ( 0.40 ) 0.37 ( 0.82 )

## Pulse rate-torque characteristics



Sanyo constant current circuit  
Source voltage : DC24V · operating current : 1.2A/phase,  
2-phase energization( full-step )  
J<sub>11</sub> = [ 0.94x10<sup>-4</sup>kg · m<sup>2</sup> ( 5.14 oz · in<sup>2</sup> ) use the rubber coupling ]  
J<sub>12</sub> = [ 0.8x10<sup>-4</sup>kg · m<sup>2</sup> ( 4.37 oz · in<sup>2</sup> ) use the direct coupling ]

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