



2-phase stepping motor

# 106mm cir. (4.17inch cir.)

103H8922 □  
1.8° /step

Unipolar winding

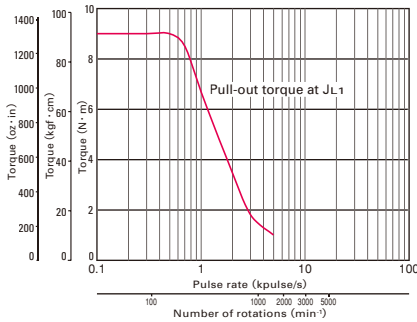
Model		Holding torque at 2-phase energization	Rated current	Wiring resistance	Winding inductance	Rotor inertia	Mass (Weight)
Single shaft	Double shafts	[N · m (oz · in) MIN.]	A/phase	Ω /phase	mH/phase	[×10 <sup>-4</sup> kg · m <sup>2</sup> (oz · in <sup>2</sup> )]	[kg (lbs) ]
<b>103H89222-0941</b>	<b>-0911</b>	10.8 (1529.4)	4	0.98	6.3	14.6 (79.83)	7.5 (16.53)
<b>103H89223-0941</b>	<b>-0911</b>	15.5 (2194.9)	4	1.4	9.7	22 (120.28)	10.5 (23.15)

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	Ω /phase	mH/phase	[×10 <sup>-4</sup> kg · m <sup>2</sup> (oz · in <sup>2</sup> )]	[kg (lbs) ]
<b>103H89222-5241</b>	<b>-5211</b>	13.2 (1869.2)	6	0.45	5.4	14.6 (79.83)	7.5 (16.53)
<b>103H89223-5241</b>	<b>-5211</b>	19 (2690.5)	6	0.63	8	22 (120.28)	10.5 (23.15)

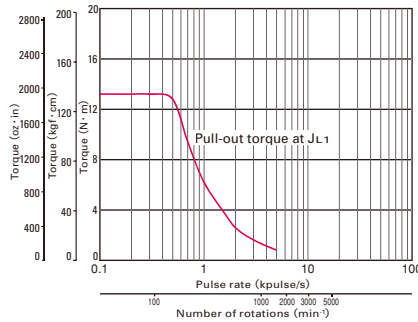
## Pulse rate-torque characteristics

● 103H89222-09 □ □



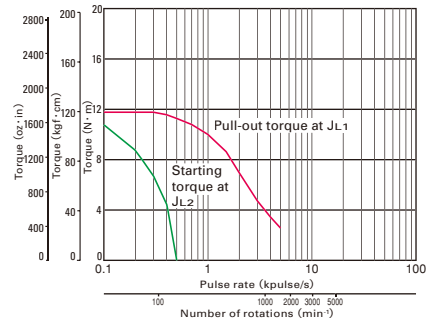
Constant current circuit  
Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step)  
 $J_{L1} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

● 103H89223-09 □ □



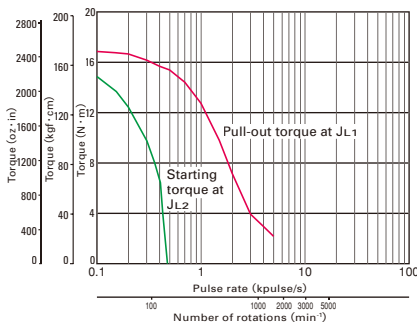
Constant current circuit  
Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step)  
 $J_{L1} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

● 103H89222-52 □ □



Constant current circuit  
Source voltage : AC100V · operating current : 6A/phase,  
2-phase energization (full-step)  
 $J_{L1} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

● 103H89223-52 □ □



Constant current circuit  
Source voltage : AC100V · operating current : 6A/phase,  
2-phase energization (full-step)  
 $J_{L1} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]



## 2-phase stepping motor

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CE marking

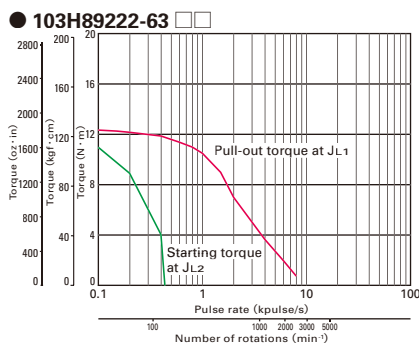
1.8° /step



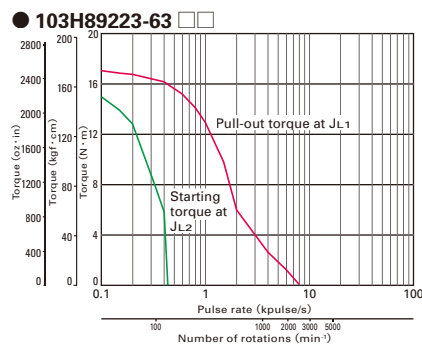
## Bipolar winding

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	Ω /phase	mH/phase	[×10 <sup>-4</sup> kg · m <sup>2</sup> (oz · in <sup>2</sup> )]	[kg (lbs) ]
<b>103H89222-6341</b>	<b>-6311</b>	13.2 (1869.2)	6	0.45	5.4	14.6 (79.83)	7.5 (16.53)
<b>103H89223-6341</b>	<b>-6311</b>	19 (2690.5)	6	0.63	8	22 (120.28)	10.5 (23.15)

## Pulse rate-torque characteristics



Constant current circuit

Source voltage : AC100V · operating current : 6A/phase,  
2-phase energization (full-step) $J_{L1} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling] $J_{L2} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]

Constant current circuit

Source voltage : AC100V · operating current : 6A/phase,  
2-phase energization (full-step) $J_{L1} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling] $J_{L2} = [43 \times 10^{-4} \text{kg} \cdot \text{m}^2 (235.10 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]