



2-phase stepping motor

# 60mm sq. (2.36inch sq.)

103H782 □  
1.8° /step

Unipolar winding • Connector type

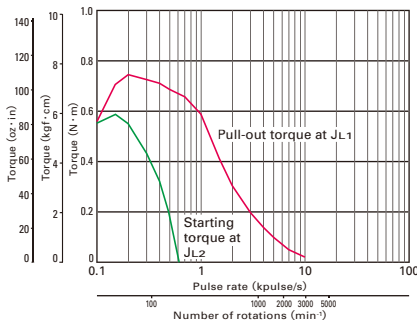
Model		Holding torque at 2-phase energization	Rated current	Wiring resistance	Winding inductance	Rotor inertia	Mass (Weight)
Single shaft	Double shafts	[N · m (oz · in) MIN.]	A/phase	Ω /phase	mH/phase	[×10 <sup>-4</sup> kg · m <sup>2</sup> (oz · in <sup>2</sup> )]	[kg (lbs) ]
103H7821-0140	-0110	0.78 (110.5)	1	5.7	8.3	0.275 (1.50)	0.6 (1.32)
103H7821-0440	-0410	0.78 (110.5)	2	1.5	2	0.275 (1.50)	0.6 (1.32)
103H7821-0740	-0710	0.78 (110.5)	3	0.68	0.8	0.275 (1.50)	0.6 (1.32)
103H7822-0140	-0110	1.17 (165.7)	1	6.9	14	0.4 (2.19)	0.77 (1.70)
103H7822-0440	-0410	1.17 (165.7)	2	1.8	3.6	0.4 (2.19)	0.77 (1.70)
103H7822-0740	-0710	1.17 (165.7)	3	0.8	1.38	0.4 (2.19)	0.77 (1.70)
103H7823-0140	-0110	2.1 (297.4)	1	10	21.7	0.84 (4.59)	1.34 (2.95)
103H7823-0440	-0410	2.1 (297.4)	2	2.7	5.6	0.84 (4.59)	1.34 (2.95)
103H7823-0740	-0710	2.1 (297.4)	3	1.25	2.4	0.84 (4.59)	1.34 (2.95)

Bipolar winding • Connector type

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) ]
103H7821-1740	-1710	0.88 (124.6)	4	0.35	0.8	0.275 (1.50)	0.6 (1.32)
103H7821-5740	-5710	0.88 (124.6)	2	1.27	3.3	0.275 (1.50)	0.6 (1.32)
103H7822-1740	-1710	1.37 (194.0)	4	0.43	1.38	0.4 (2.19)	0.77 (1.70)
103H7822-5740	-5710	1.37 (194.0)	2	1.55	5.5	0.4 (2.19)	0.77 (1.70)
103H7823-1740	-1710	2.7 (382.3)	4	0.65	2.4	0.84 (4.59)	1.34 (2.95)
103H7823-5740	-5710	2.7 (382.3)	2	2.4	9.5	0.84 (4.59)	1.34 (2.95)

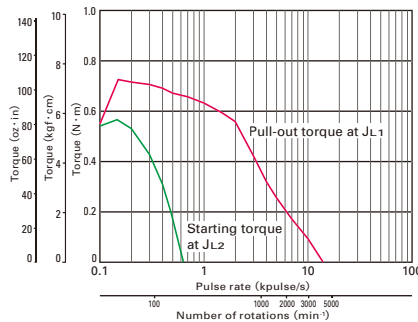
## Pulse rate-torque characteristics

● 103H7821-01 □ □



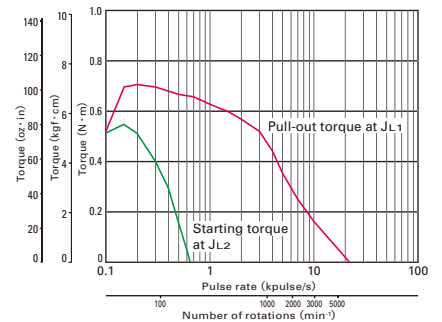
Constant current circuit  
Source voltage : DC24V · operating current : 1A/phase,  
2-phase energization (full-step)  
J<sub>L1</sub> = [0.94×10<sup>-4</sup>kg · m<sup>2</sup> (5.14 oz · in<sup>2</sup>) use the rubber coupling]  
J<sub>L2</sub> = [0.8×10<sup>-4</sup>kg · m<sup>2</sup> (4.37 oz · in<sup>2</sup>) use the direct coupling]

● 103H7821-04 □ □



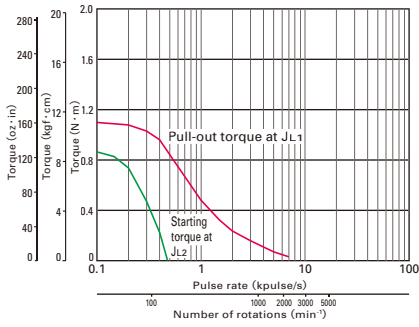
Constant current circuit  
Source voltage : DC24V · operating current : 2A/phase,  
2-phase energization (full-step)  
J<sub>L1</sub> = [0.94×10<sup>-4</sup>kg · m<sup>2</sup> (5.14 oz · in<sup>2</sup>) use the rubber coupling]  
J<sub>L2</sub> = [0.8×10<sup>-4</sup>kg · m<sup>2</sup> (4.37 oz · in<sup>2</sup>) use the direct coupling]

● 103H7821-07 □ □



Constant current circuit  
Source voltage : DC24V · operating current : 3A/phase,  
2-phase energization (full-step)  
J<sub>L1</sub> = [0.94×10<sup>-4</sup>kg · m<sup>2</sup> (5.14 oz · in<sup>2</sup>) use the rubber coupling]  
J<sub>L2</sub> = [0.8×10<sup>-4</sup>kg · m<sup>2</sup> (4.37 oz · in<sup>2</sup>) use the direct coupling]

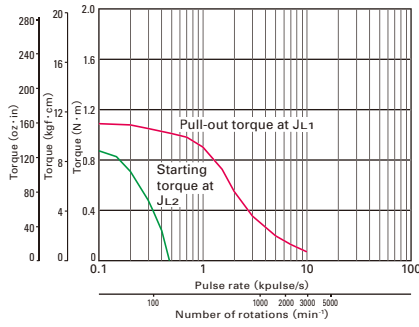
## ● 103H7822-01 □□



Constant current circuit

Source voltage : DC24V · operating current : 1A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]

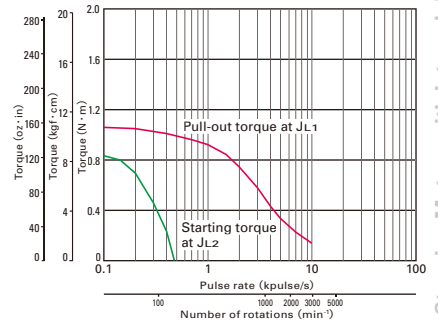
## ● 103H7822-04 □□



Constant current circuit

Source voltage : DC24V · operating current : 2A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]

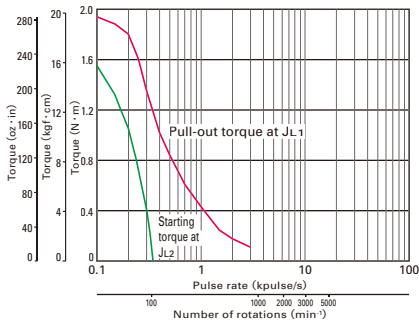
## ● 103H7822-07 □□



Constant current circuit

Source voltage : DC24V · operating current : 3A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]

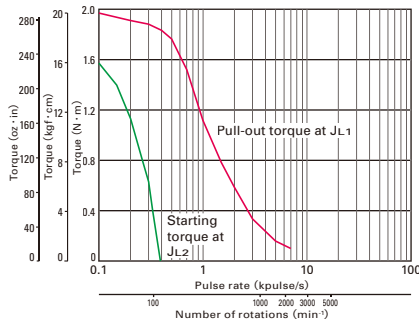
## ● 103H7823-01 □□



Constant current circuit

Source voltage : DC24V · operating current : 1A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]

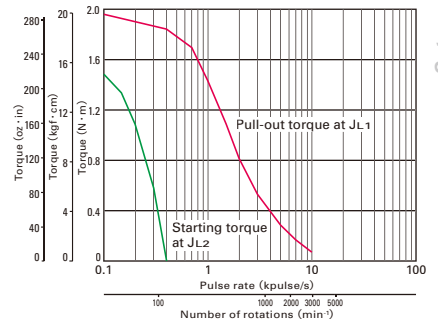
## ● 103H7823-04 □□



Constant current circuit

Source voltage : DC24V · operating current : 2A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]

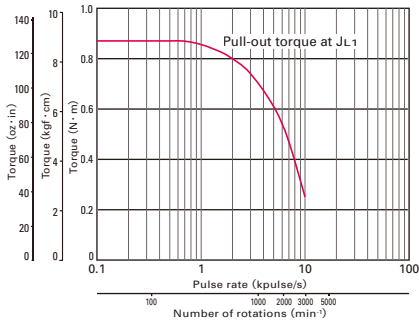
## ● 103H7823-07 □□



Constant current circuit

Source voltage : DC24V · operating current : 3A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]  
 $J_{L2} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the direct coupling]

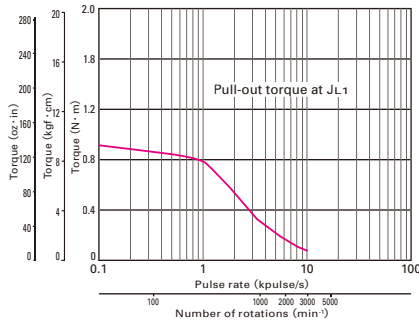
## ● 103H7821-17 □□



Constant current circuit

Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step) $J_{L1} = [2.6 \times 10^{-4} \text{kg} \cdot \text{m}^2 (14.22 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

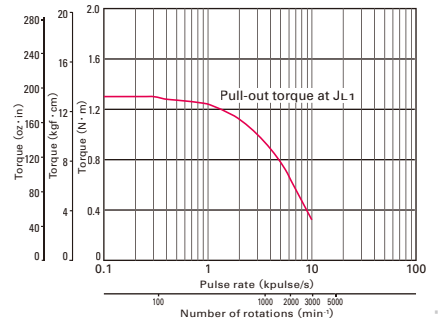
## ● 103H7821-57 □□



Constant current circuit

Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step) $J_{L1} = [2.6 \times 10^{-4} \text{kg} \cdot \text{m}^2 (14.22 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

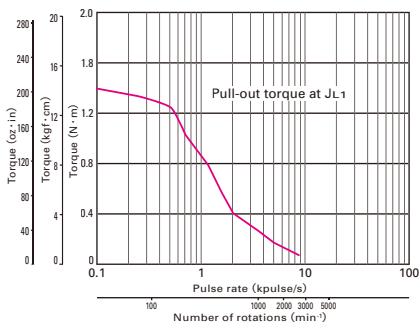
## ● 103H7822-17 □□



Constant current circuit

Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step) $J_{L1} = [2.6 \times 10^{-4} \text{kg} \cdot \text{m}^2 (14.22 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

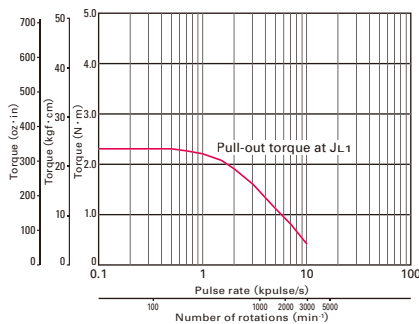
## ● 103H7822-57 □□



Constant current circuit

Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

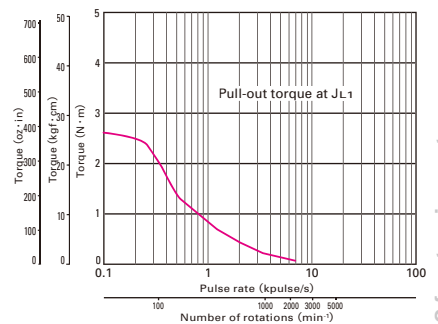
## ● 103H7823-17 □□



Constant current circuit

Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]

## ● 103H7823-57 □□



Constant current circuit

Source voltage : AC100V · operating current : 4A/phase,  
2-phase energization (full-step) $J_{L1} = [7.4 \times 10^{-4} \text{kg} \cdot \text{m}^2 (40.46 \text{oz} \cdot \text{in}^2)]$  use the rubber coupling]