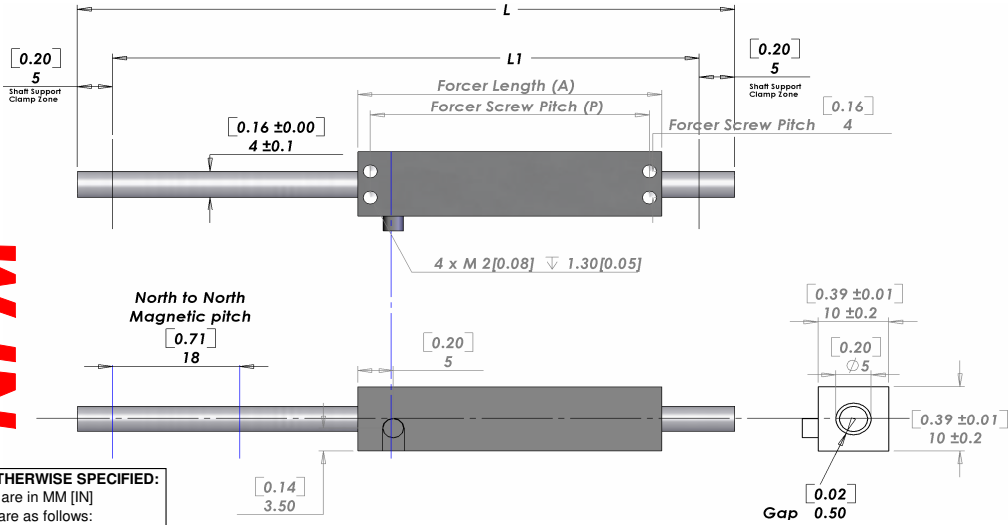


S040
NPM



UNLESS OTHERWISE SPECIFIED:
Dimensions are in MM [IN]
Tolerances are as follows:

Dimension mm	Tolerance mm
- 6	±0.1
7 - 30	±0.2
31 - 120	±0.3
121 - 315	±0.5
316 - 1000	±0.8
1001 - 2000	±1.2
2000 -	±1.5

* Note 1
Cable length 300mm
The bending radius of the motor cable should be 10.72mm (wire diameter 1.34 *8) as suggested by the wire manufacturer. This radius should be maintained. Use supplied connector to attach the proper high flex cable as required by your application.

L = See Shaft Length
L1 = Usable Stroke + A
L2 = See Shaft Support Length
A = See Moving Coil Length
P = See Moving Coil Screw Pitch

Electrical Specifications

	S040D	S040T	S040Q
Continuous Force ¹	0.29N (0.07lbs)	0.45N (0.1lbs)	0.58N (0.13lbs)
Continuous Current ¹	0.3Arms	0.3Arms	0.3Arms
Peak Force ²	1.2N (0.26lbs)	1.8N (0.4lbs)	2.3N (0.52lbs)
Peak Current ²	1.1Arms	1.1Arms	1.1Arms
Force Constant K _f	1.0N/amp (0.2lbs/amp)	1.6N/amp (0.4lbs/amp)	2.1N/amp (0.5lbs/amp)
Back EMF	0.4V/m/s (0.01V/in/s)	0.5V/m/s (0.01V/in/s)	0.7V/m/s (0.02V/in/s)
Resistance 25°C, ³	11.2Ω	16.8Ω	22.4Ω
Inductance ³	0.5mH	0.7mH	1.0mH
Electrical Time Constant	0.045ms	0.042ms	0.044ms
Magnetic Pitch (North-North)	18mm (0.71in)	18mm (0.71in)	18mm (0.71in)

All specifications are for reference only. Specifications may change depending on servo driver selected. Consult Nippon Pulse America.

1) Based on a temp rise of coil surface of 110 °K over 25°C ambient temperature stalled forcer, and no external cooling or heat sinking.

Addition of 25 cm x 25 cm x 2.5 cm aluminum heat sink increases continuous force by 20%.

2) Can be maintained for a maximum of 40 seconds, consult Nippon Pulse America.

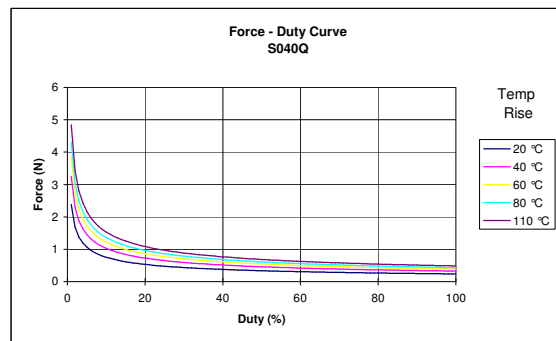
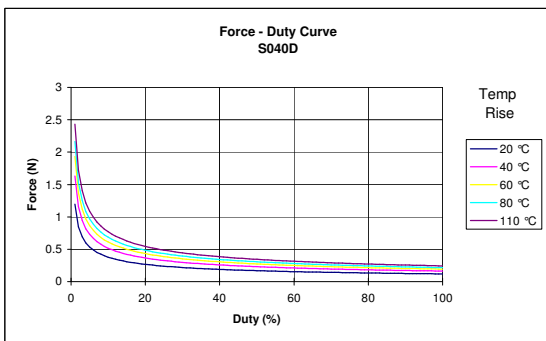
3) All winding parameters listed are measured line-to-line (phase-to-phase).

Thermal Specifications

	S040D	S040T	S040Q
Max phase temperature	135°C (275°F)	135°C (275°F)	135°C (275°F)
Thermal Resistance K _q	125.3°C/W	83.5°C/W	62.6°C/W

Mechanical Specifications

	S040D	S040T	S040Q
Forcer Length A	25mm (0.98in)	34mm (1.3in)	43mm (1.7in)
Forcer Width	10mm (0.39in)	10mm (0.39in)	10mm (0.39in)
Forcer Screw Pitch P	21.5mm (0.85in)	30.5mm (1.2in)	39.5mm (1.55in)
Forcer Weight	0.009kg (0.02lb)	0.011kg (0.024lb)	0.014kg (0.31lb)
Gap	0.50mm (0.019in)	0.50mm (0.019in)	0.50mm (0.019in)



Mechanical Specifications

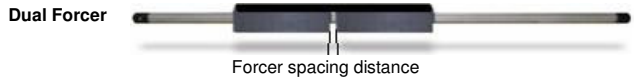
Shaft

Shaft Diameter (D)	4 ±0.1mm (0.16in)		
Shaft Length (L)	Maximum Stroke length 40mm (1.57in)		
Motor Type	S040D	S040T	S040Q
Stroke			
20	55mm (2.2in)	64mm (2.5in)	73mm (2.9in)
30	65mm (2.6in)	74mm (2.9in)	83mm (3.3in)
40	75mm (3in)	84mm (3.3in)	93mm (3.7in)
Shaft Mass			
Motor Type	S040D	S040T	S040Q
Stroke			
20	5.5 g (0.19 oz)	6.4 g (0.23 oz)	7.3 g (0.26 oz)
30	6.5 g (0.23 oz)	7.4 g (0.26 oz)	8.3 g (0.29 oz)
40	7.5 g (0.26 oz)	8.4 g (0.3 oz)	9.3 g (0.33 oz)
Support and Bending			
Stroke	Shaft Support length (L2)	Max Bending	
All	5mm (0.2in)	0.00mm (0.00in)	

Lead Wire

Motor Cable	
Wire Type	UL 1430
Wire AWG	28
U phase	Red
V phase	White
W phase	Black
300mm lead wire bare leads	
The bending radius of the motor cable should be 10.72mm as suggested by the wire manufacturer.	

Connector (Motor Cable)	
Receptacle housing	XMR-03V
Plug Housing	XMP-03V
Retainer	XMS-03V
Pin contact	SXM-001T-P0.6
Socket contact	SXA-001T-P0.6
(To be installed by the user)	



	S040T	S040Q
Forcer spacing distance	2mm	2mm
Pole (North-South) distance	9mm	9mm
Forcer length	34mm	43mm
Flip forcers	No	Yes

2007/2/28