

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 10.72 mm (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

	S080D	S080T	S080Q
Continuous Force ¹	1.8N (0.4lbs)	2.7N (0.61lbs)	3.5N (0.79lbs)
Continuous Current ¹	0.8Arms	0.8Arms	0.8Arms
Peak Force ²	7.2N (1.62lbs)	10.8N (2.43lbs)	14N (3.15lbs)
Peak Current ²	3.4Arms	3.4Arms	3.4Arms
Force Constant K _f	2.1N/Arms (0.5lb/Arms)	3.2N/Arms (0.7lb/Arms)	4.2N/Arms (0.9lb/Arms)
Back EMF	0.7V/m/s (0.02 V/in/s)	1.1V/m/s (0.03 V/in/s)	1.4V/m/s (0.04 V/in/s)
Resistance 25°C, ³	4.7Ω	6.8Ω	9.0Ω
Inductance ³	0.7mH	1.0mH	1.3mH
Electrical Time Constant	0.149ms	0.147ms	0.144ms
Magnetic Pitch (North-North)	30mm (1.18in)	30mm (1.18in)	30mm (1.18in)

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*^oK 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.

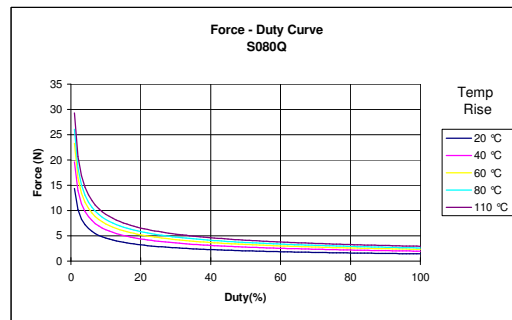
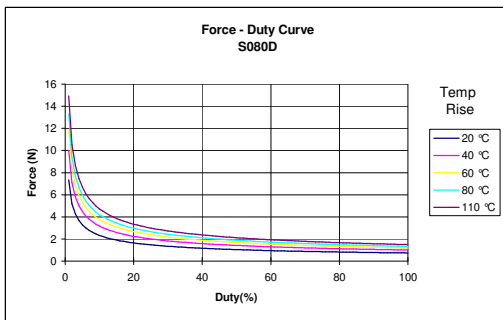
3) All winding parameters listed are measured line-to-line (phase-to-phase).

Thermal Specifications

	S080D	S080T	S080Q
Max phase temperature	135°C (275°F)	135°C (275°F)	135°C (275°F)
Thermal Resistance K _q	33.2°C/W	22.9°C/W	17.3°C/W

Mechanical Specifications

Forcer		S080D	S080T	S080Q
Forcer Length	A	40mm (1.57in)	55mm (2.17in)	70mm (2.76in)
Forcer Width		20mm (0.79in)	20mm (0.79in)	20mm (0.79in)
Forcer Screw Pitch	P	34mm (1.34in)	49mm (1.93in)	64mm (2.52in)
Forcer Weight		0.05kg (0.11lb)	0.06kg (0.13lb)	0.08kg (0.18lb)
Gap		0.50mm (0.019in)	0.50mm (0.019in)	0.50mm (0.019in)



Mechanical Specifications

Shaft

Shaft Diameter (D) 8 ±0.1mm (0.32in)

Shaft Length (L) **Maximum Stroke length 300mm (11.8in)**

Stroke	S080D	S080T	S080Q
50	110mm (4.3in)	125mm (4.9in)	140mm (5.5in)
100	160mm (6.3in)	175mm (6.9in)	190mm (7.5in)
150	210mm (8.3in)	225mm (8.9in)	240mm (9.4in)
200	260mm (10.2in)	275mm (10.8in)	290mm (11.4in)
250	310mm (12.2in)	325mm (12.8in)	340mm (13.4in)
300	360mm (14.2in)	375mm (14.8in)	390mm (15.4in)

Stroke lengths from 25mm are available. Please consult Nippon Pulse America for more information.

Support and Bending

Stroke	Shaft Support length (L2)	Max Bending
All	10mm (0.4in)	0.05mm (0.00in)

Shaft Mass

Motor Type	S080D	S080T	S080Q
Stroke			
50	0.03kg (0.07lb)	0.04kg (0.08lb)	0.04kg (0.09lb)
100	0.05kg (0.11lb)	0.05kg (0.12lb)	0.06kg (0.13lb)
150	0.07kg (0.15lb)	0.07kg (0.16lb)	0.08kg (0.17lb)
200	0.08kg (0.19lb)	0.09kg (0.2lb)	0.1kg (0.21lb)
250	0.1kg (0.22lb)	0.11kg (0.24lb)	0.11kg (0.25lb)
300	0.12kg (0.26lb)	0.12kg (0.28lb)	0.13kg (0.29lb)

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

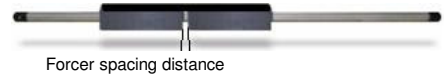
The bending radius of the motor cable should be 10.72mm as suggested by the wire manufacturer.

Supplied 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)

Dual Forcer



	S080T	S080Q
Forcer spacing distance	5	5
Pole (North-South) distance	15	15
Forcer length	55	70
Flip forcers	No	Yes

2007/2/28