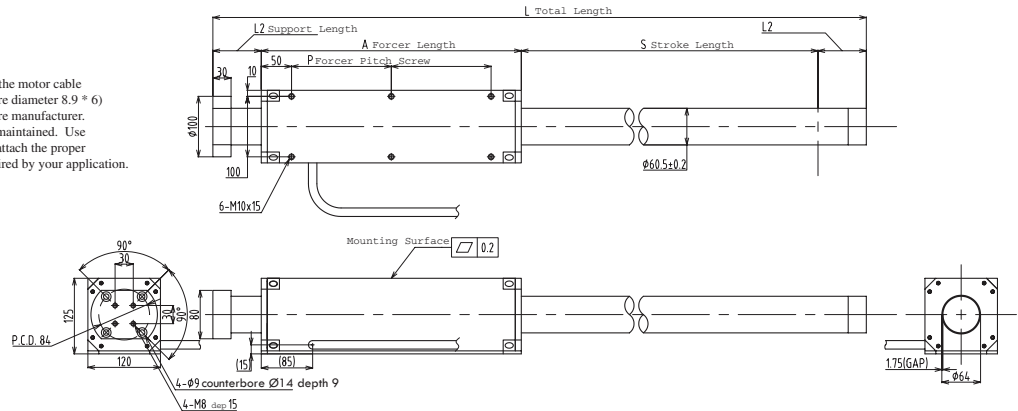


Unless Otherwise Specified:
Dimensions are in mm
Tolerances are as follows:

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 36.6mm (wire diameter 8.9 * 6) 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 Specs	S605D	S605T	S605Q
Continuous Force ¹	420N	610N	780N
Continuous Current ¹	8.8Arms	8.6Arms	8.4Arms
Acceleration Force ²	1000N	2400N	3100N
Acceleration Current ²	35Arms	34Arms	34Arms
Force Constant (K_f)	47N/arms	71N/Arms	93N/Arms
Back EMF (K_e)	16V/m/s	24V/m/s	31V/m/s
Resistance 25°C, ³	1.1Ω	1.7Ω	2.2Ω
Inductance ³	7mH	10mH	13mH
Electric Time Constant	6.36ms	5.88ms	5.91ms
Rated Voltage (AC)	240V	240V	240V
Fundamental Motor Constant (K_m)	44.81N√W	54.45N√W	62.70N√W
Magnetic Pitch (North-North)	240mm	240mm	240mm

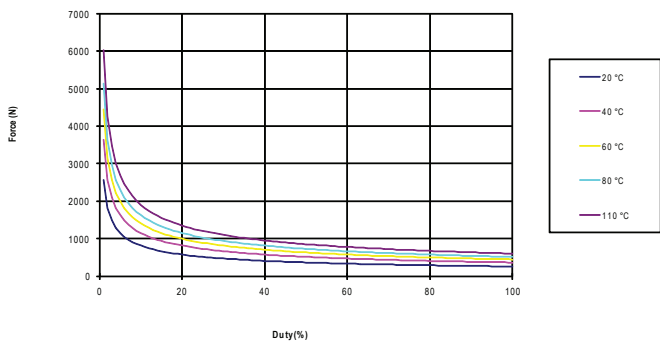
All specifications are for reference only. Specifications may change depending on servo driver selected. Consult Nippon Pulse.
1) Based on a temp rise of coil surface of 110°K over 25°C ambient temperature stalled forcer, and no external cooling or heat sinking
Addition of 25 cm x 25 cm x 2.5 cm aluminum heat sink increases continuous force by 20%
2) Can be maintained for a maximum of 40 seconds, higher forces and current possible for short periods of time, consult Nippon Pulse
3) All winding parameters listed are measured line-to-line (phase-to-phase)

Thermal Specs	S605D	S605T	S605Q
Max Phase Temperature ⁴	135°C	135°C	135°C
Thermal Resistance (Coil) (K_{θ})	1.3°C/W	0.9°C/W	0.7°C/W

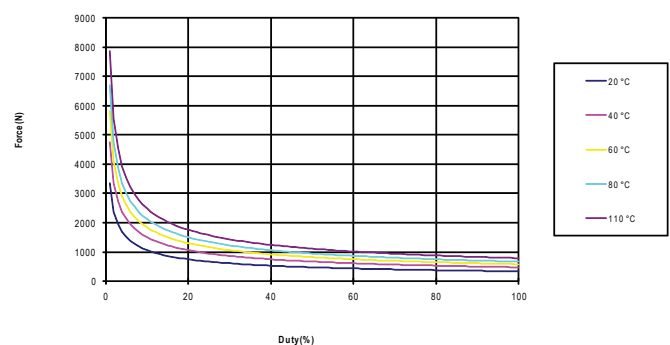
4) The standard temperature difference between the coil and the forcer surface is 40°C

Forcer Specs	S605D	S605T	S605Q
Forcer Length (A)	310mm	430mm	550mm
Forcer Width	125 x 120mm	125 x 120mm	125 x 120mm
Forcer Screw Pitch (P)	105mm	165mm	225mm
Forcer Weight	16kg	21kg	27kg
Gap	1.75mm	1.75mm	1.75mm

S605D Force Duty Curve



S605Q Force Duty Curve



Shaft Length (mm)

Stroke	S605D	S605T	S605Q
200	670	790	910
250	720	840	960
300	770	890	1010
350	820	940	1060
400	870	990	1110
450	920	1040	1160
500	970	1090	1210
550	1020	1140	1260
600	1070	1190	1310
650	1120	1240	1360
700	1170	1290	1410
750	1220	1340	1460
800	1310	1430	1550
850	1360	1480	1600
900	1410	1530	1650
950	1460	1580	1700
1000	1510	1630	1750
1050	1560	1680	1800
1100	1610	1730	1850
1150	1650	1780	1900
1200	1710	1830	1950
1250	1750	1880	2000
1300	1810	1930	2050
1350	1860	1980	2100
1400	1910	2030	2100
1450	1960	2080	2150
1500	2010	2130	2250
1550	2100	2220	2340
1600	2150	2270	2390
1650	2200	2320	2440
1700	2250	2370	2490
1750	2300	2420	2540
1800	2350	2470	2590
1850	2400	2530	2640
1900	2450	2580	2690
1950	2500	2630	2740
2000	2550	2680	2790

Shaft Mass (kg)

Stroke	S605D	S605T	S605Q
200	13.57	16.29	19.01
250	14.58	17.30	20.01
300	15.59	18.30	21.02
350	16.59	19.31	22.03
400	17.60	20.32	23.03
450	18.61	21.32	24.04
500	19.61	22.33	25.04
550	20.62	23.33	26.05
600	21.62	24.34	27.06
650	22.63	25.35	28.06
700	23.64	26.35	29.07
750	24.64	27.36	30.08
800	26.20	28.92	31.64
850	27.21	29.93	32.64
900	28.22	30.93	33.65
950	29.22	31.94	34.66
1000	30.23	32.95	35.66
1050	31.24	33.95	36.67
1100	32.24	34.96	37.68
1150	33.25	35.96	38.68
1200	34.25	36.97	39.69
1250	35.26	37.98	40.69
1300	36.27	38.98	41.70
1350	37.27	39.99	42.71
1400	38.28	41.00	43.71
1450	39.28	42.00	44.72
1500	40.29	43.01	45.72
1550	41.30	44.01	46.73
1600	42.30	45.02	47.74
1650	43.31	46.03	48.74
1700	44.32	47.03	49.75
1750	45.32	48.04	50.76
1800	46.33	49.04	51.76
1850	47.33	50.05	52.77
1900	48.34	51.06	53.77
1950	49.35	52.06	54.78
2000	50.35	53.07	55.79

S605

Linear Shaft Motor

Lead Wire

Wire Type	UL 2570FA
Wire AWG	14
U Phase	Red
V Phase	White
W Phase	Black

300mm lead wire bare leads
The bending radius of the motor cable should be 36.6mm as suggested by the wire manufacturer.

Connector (Motor Cable)

Receptacle Housing	VLR-03V
Plug Housing	VLP-03V
Retainer	VLS-03V
Pin Contact	SVM-61T-P2.0
Socket Contact	SVF-61T-P2.0

To be installed by the user

CE Type Motor Cable

Wire Type	UL 1330
Wire AWG	24
U Phase	Red
V Phase	White
W Phase	Black

Ground Wire	CE
Wire Type	UL 1330
Wire AWG	20
Frame Ground	Green/Yellow

300mm lead wire bare leads
The bending radius of the motor cable should be 16.96mm as suggested by the wire manufacturer.

Support and Bending

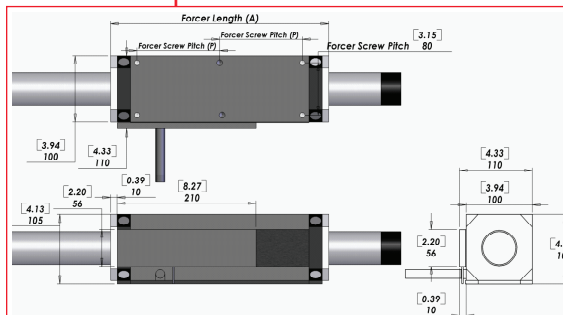
Stroke	Support Length	Max. bending
0~550	80mm	0.00mm
551~750	80mm	0.15mm
751~1500	100mm	0.60mm
1501~max	120mm	1.10mm

Shaft Diameter (D) - 60.5mm ±0.2

Total Length (L)=Stroke (S)+Forcer Length (A)+(Support Length (L2)×2)

Stroke lengths available from 100mm to 3000mm. Contact Nippon Pulse for more information.

Hall Effect Specs



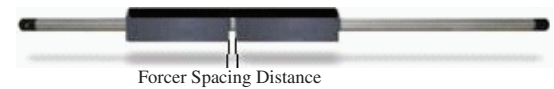
* Note 1
The bending radius of the motor cable should be R36.6mm (wire diameter 4.6 * 6) as suggested by the wire manufacturer. This radius should be maintained. Use supplied connector to attach the proper high flex cable as required by your application.

Sensor Cable Specs

Wire Type	UL 758
Wire AWG	28
VCC	White/Red
GND	White/Black
Sensor 1	Orange/Red
Sensor 2	Orange/Black
Sensor 3	Gray/Red

The bending radius of the sensor cable should be R27.6mm (wire diameter 6.1 * 6) as suggested by the wire manufacturer. This radius should be maintained. Attach the proper high flex cable as required by your application.

Tandem Forcer



Forcer Spacing Distance

Spec	S605T	S605Q
Forcer Spacing Distance	50mm	50mm
Pole (N/S) Distance	120mm	120mm
Forcer Length	430mm	550mm
Flip Forcers	No	Yes

Tandem S605D forcers are possible, but are equivalent to one (1) S605Q forcer and thus are not listed above.

Part Numbering System

S	Shaft Size (D) 605	Forcer Size (A) X	Parallel Option XX	Usable Stroke XXXX 200-2000mm	Options XX	Options XX	# of Forcers XX
		D: Double (2) windings T: Triple (3) windings Q: Quadruple (4) windings	Blank: Single Motor PL: Parallel Motors		Blank: Standard WP: Water Resistant HA: Digital Hall Effect	Blank: Standard FO: Forcer Only SO: Shaft Only	Two or more