	\$50	00D	\$50	00Т		S500Q		
Electrical Specs	S500D	S500D 2S	S500T	S500T 3S	S500Q	S500Q 4S	S500Q 2S	
Continuous Force <sup>1</sup>	289N	(65lbs)	440N (	440N (99lbs)		585N (132lbs)		
Continuous Current <sup>1</sup>	3.8Arms	1.9Arms	5.8Arms	1.9Arms	7.7Arms	1.9Arms	3.9Arms	
Acceleration Force <sup>2</sup>	1156N (260lbs)	1157 (260.2lbs)	1760N (	396lbs)		2340N (526lbs)		
Acceleration Current <sup>2</sup>	15.2Arms	7.6Arms	23Arms	7.7Arms	31Arms	7.7Arms	15Arms	
Force Constant (K <sub>f</sub> )	76N/Arms (17.1lbs/amp)	152N/Arms (34.2lbs/amp)	76N/Arms (17lbs/amp)	228N/Arms (51lbs/amp)	76N/Arms (17lbs/amp)	304N/Arms (68lbs/amp)	152N/Arms (34lbs/amp)	
Back EMF (K <sub>e</sub> )	25V/m/s (0.64V/in/s)	51V/m/s (1.31V/in/s)	25V/m/s (0.64V/in/s)	76V/m/s (1.95V/in/s)	25V/m/s (0.64V/in/s)	101V/m/s (2.59V/in/s)	51V/m/s (1.31V/in/s)	
Resistance 25°C, <sup>3</sup>	4.4Ω	18Ω	3.3Ω	30Ω	2.2Ω	35Ω	8.8Ω	
Inductance <sup>3</sup>	27mH	108mH	20mH	178mH	13mH	211mH	53mH	
Electric Time Constant	6.14ms 6.0ms 6.0ms							
Max. Rated Voltage (AC)	240V							
Fundamental Motor Constant (K <sub>m</sub> )	36.26N√W 36.28N√W 41.76N√W		51.22N√W					
Magnetic Pitch (North-North)	180mm (7.09in)							

Is this the proper Linear Shaft Motor for your application? Use our SMART sizing program to assist in your decision.

This motor can be customized to fit your application demands; contact your application engineer for more information.

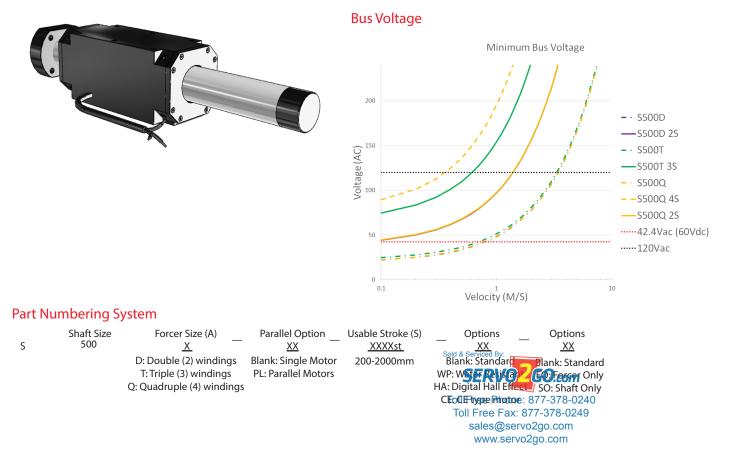
<sup>1</sup> Based on a temp rise of coil surface of 110°K over 25°C ambient temperature stalled forcer, and no external cooling or heat sinking.

<sup>2</sup> Can be maintained for a maximum of 40 seconds. Higher forces and current possible for short periods of time, consult Nippon Pulse for more information.

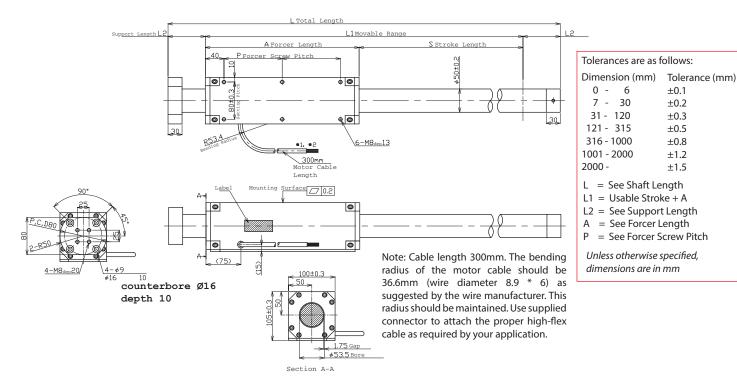
<sup>3</sup> All winding parameters listed are measured line-to-line (phase-to-phase).

Thermal Specs	S500D	S500T	S500Q	
Max Phase Temperature <sup>4</sup>	135°C (275°F)			
Thermal Resistance (Coil) (K <sub>q</sub> )	1.7°C/W (3.7°F/W)	1°C/W (2.2°F/W)	0.8°C/W (1.8°F/W)	

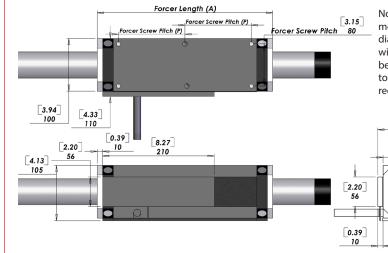
<sup>4</sup> The standard temperature difference between the coil and the forcer surface is 40°C.



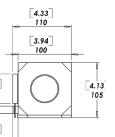
Forcer Specs	S500D	S500T	S500Q	
Forcer Length (A)	240mm (9.45in)	330mm (12.99in)	420mm (16.54in)	
Forcer Width	100 x 105mm (3.94 x 4.13in)			
Forcer Screw Pitch (P)	80mm (3.15in)	125mm (4.9in)	170mm (6.7in)	
Forcer Weight	10kg (22lbs)	13kg (28.7lbs)	15kg (33.1lbs)	
Gap	1.75mm (0.07in)			



### Hall Effect Specs



Note: 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.

UL 2570FA

14

Red

White

### **CE Type Motor Cable**

Wire Type	UL 1330	G
Wire AWG	24	W
U Phase	Red	W
V Phase	White	Fr
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.

#### 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
Solo	4 & Serviced By:

To be installed by the user.

W Phase Black 300mm lead wire bare leads. The

SERVOC GO: epipering radius of the motor cable should be 36.6mm as suggested by the Toll Free Phone: 877-Wile Brathufacturer.

Lead Wire

Wire Type Wire AWG

U Phase

V Phase

Toll Free Fax: 877-378-0249 sales@servo2go.com www.servo2go.com

# Forcer Spacing Distance

Spec	S500T	S500Q	
Forcer Spacing Distance	30mm		
Pole (N/S) Distance	90mm		
Forcer Length	330mm	420mm	
Flip Forcers	No	Yes	

### **Tandem Forcer**

Forcer Spacing Distance

## Support and Bending

Stroke	Support Length (L2)	Max. Bending
0~750	80mm	0.00mm
800~max.	100mm	0.15mm

 $\begin{array}{l} Shaft \mbox{ Diameter (D) - 50mm \pm 0.2} \\ Total \mbox{ Length (L)=Stroke (S)+Forcer \mbox{ Length (A)+} \\ (Support \mbox{ Length (L2)x2)} \end{array}$ 

## Shaft Mass

Stroke	S500D	S500T	S500Q
100	Stroke is le	ss than the electric	al cycle length.
150		Contact Nippon Pu	ılse.
200	7.9kg (17.4lb)	9.1kg (20lb)	10.2kg (22.6lb)
250	8.5kg (18.8lb)	9.7kg (21.4lb)	10.9kg (24lb)
300	9.2kg (20.3lb)	10.4kg (22.9lb)	11.6kg (25.5lb)
350	9.8kg (21.7lb)	11kg (24.3lb)	12.2kg (26.9lb)
400	10.5kg (23.2lb)	11.7kg (25.8lb)	12.9kg (28.4lb)
450	11.2kg (24.6lb)	12.3kg (27.2lb)	13.5kg (29.8lb)
500	11.8kg (26.1lb)	13kg (28.7lb)	14.2kg (31.3lb)
550	12.5kg (27.5lb)	13.7kg (30.1lb)	14.8kg (32.7lb)
600	13.1kg (28.9lb)	14.3kg (31.6lb)	15.5kg (34.2lb)
650	13.8kg (30.4lb)	15kg (33lb)	16.1kg (35.6lb)
700	14.4kg (31.8lb)	15.6kg (34.4lb)	16.8kg (37.1lb)
750	15.1kg (33.3lb)	16.3kg (35.9lb)	17.5kg (38.5lb)
800	16.3kg (35.9lb)	17.5kg (38.5lb)	18.6kg (41.1lb)
850	16.9kg (37.3lb)	18.1kg (39.9lb)	19.3kg (42.6lb)
900	17.6kg (38.8lb)	18.8kg (41.4lb)	20kg (44lb)
950	18.3kg (40.2lb)	19.4kg (42.8lb)	20.6kg (45.4lb)
1000	18.9kg (41.7lb)	20.1kg (44.3lb)	21.3kg (46.9lb)
1050	19.6kg (43.1lb)	20.7kg (45.7lb)	21.9kg (48.3lb)
1100	20.2kg (44.6lb)	21.4kg (47.2lb)	22.6kg (49.8lb)
1150	20.9kg (46lb)	22.1kg (48.6lb)	23.2kg (51.2lb)
1200	21.5kg (47.5lb)	22.7kg (50.1lb)	23.9kg (52.7lb)
1250	22.2kg (48.9lb)	23.4kg (51.5lb)	24.6kg (54.1lb)
1300	22.8kg (50.4lb)	24kg (53lb)	25.2kg (55.6lb)
1350	23.5kg (51.8lb)	24.7kg (54.4lb)	25.9kg (57lb)
1400	24.2kg (53.3lb)	25.3kg (55.9lb)	26.5kg (58.5lb)
1450	24.8kg (54.7lb)	26kg (57.3lb)	27.2kg (59.9lb)
1500	25.5kg (56.2lb)	26.7kg (58.8lb)	27.8kg (61.4lb)
1550	26.1kg (57.6lb)	27.3kg (60.2lb)	28.5kg (62.8lb)
1600	26.8kg (59.1lb)	28kg (61.7lb)	29.1kg (64.3lb)
1650	27.4kg (60.5lb)	28.6kg (63.1lb)	29.8kg (65.7lb)
1700	28.1kg (61.9lb)	29.3kg (64.6lb)	30.5kg (67.2lb)
1750	28.8kg (63.4lb)	29.9kg (66lb)	31.1kg (68.6lb)
1800	29.4kg (64.8lb)	30.6kg (67.4lb)	31.8kg (70.1lb)
1850	30.1kg (66.3lb)	31.2kg (68.9lb)	32.4kg (71.5lb)
1900	30.7kg (67.7lb)	31.9kg (70.3lb)	33.1kg (72.9lb)
1950	31.4kg (69.2lb) Sold & Serviced	32.6kg (71.8lb)	33.7kg (74.4lb)
2000	32kg (70.6lb)	3 <mark>3.2 (</mark> 73.2lb)	34.4kg (75.8lb)

Tandem S500D forcers are possible, but are equivalent to one (1) S500Q forcer and thus are not listed above.

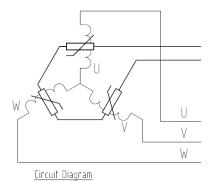
## Shaft Length (L)

Stroke	S500D	S500T	S500Q	
100	Stroke is le	ss than the electrical	cycle length.	
150	Contact Nippon Pulse.			
200	600mm (23.6in)	690mm (27.2in)	780mm (30.7in)	
250	650mm (25.6in)	740mm (29.1in)	830mm (32.7in)	
300	700mm (27.6in)	790mm (31.1in)	880mm (34.6in)	
350	750mm (29.5in)	840mm (33.1in)	930mm (36.6in)	
400	800mm (31.5in)	890mm (35in)	980mm (38.6in)	
450	850mm (33.5in)	940mm (37in)	1030mm (40.6in)	
500	900mm (35.4in)	990mm (39in)	1080mm (42.5in)	
550	950mm (37.4in)	1040mm (40.9in)	1130mm (44.5in)	
600	1000mm (39.4in)	1090mm (42.9in)	1180mm (46.5in)	
650	1050mm (41.3in)	1140mm (44.9in)	1230mm (48.4in)	
700	1100mm (43.3in)	1190mm (46.9in)	1280mm (50.4in)	
750	1150mm (45.3in)	1240mm (48.8in)	1330mm (52.4in)	
800	1240mm (48.8in)	1330mm (52.4in)	1420mm (55.9in)	
850	1290mm (50.8in)	1380mm (54.3in)	1470mm (57.9in)	
900	1340mm (52.8in)	1430mm (56.3in)	1520mm (59.8in)	
950	1390mm (54.7in)	1480mm (58.3in)	1570mm (61.8in)	
1000	1440mm (56.7in)	1530mm (60.2in)	1620mm (63.8in)	
1050	1490mm (58.7in)	1580mm (62.2in)	1670mm (65.7in)	
1100	1540mm (60.6in)	1630mm (64.2in)	1720mm (67.7in)	
1150	1590mm (62.6in)	1680mm (66.1in)	1770mm (69.7in)	
1200	1640mm (64.6in)	1730mm (68.1in)	1820mm (71.7in)	
1250	1690mm (66.5in)	1780mm (70.1in)	1870mm (73.6in)	
1300	1740mm (68.5in)	1830mm (72in)	1920mm (75.6in)	
1350	1790mm (70.5in)	1880mm (74in)	1970mm (77.6in)	
1400	1840mm (72.4in)	1930mm (76in)	2020mm (79.5in)	
1450	1890mm (74.4in)	1980mm (78in)	2070mm (81.5in)	
1500	1940mm (76.4in)	2030mm (79.9in)	2120mm (83.5in)	
1550	1990mm (78.3in)	2080mm (81.9in)	2170mm (85.4in)	
1600	2040mm (80.3in)	2130mm (83.9in)	2220mm (87.4in)	
1650	2090mm (82.3in)	2180mm (85.8in)	2270mm (89.4in)	
1700	2140mm (84.3in)	2230mm (87.8in)	2320mm (91.3in)	
1750	2190mm (86.2in)	2280mm (89.8in)	2370mm (93.3in)	
1800	2240mm (88.2in)	2330mm (91.7in)	2420mm (95.3in)	
1850	2290mm (90.2in)	2380mm (93.7in)	2470mm (97.2in)	
1900	2340mm (92.1in)	2430mm (95.7in)	2520mm (99.2in)	
1950	2390mm (94.1in)	2480mm (97.6in)	2570mm (101.2in)	
2000	2440mm (96.1in)	2530mm (99.6in)	2620mm (103.1in)	

Additional stroke lengths are available (up to 3380mm for S500D, 3290mm for S500T, and 3200mm for S500Q).

Toll Free Phone: 877-378-0240 Toll Free Fax: 877-378-0249 sales@servo2go.com www.servo2go.com

# **THM Option**



4. Thermistor PTCSL20T071DBE(Vishay)

# Thermocouple

Themal sensor Thermocouple K type (marked each phase name) Attached to the surface of inside of coil Length 3000mm

Note: Metric units guaranteed. Imperial (United States customary) units are calculated.

