

ST series stepper motors

Parker offer a range of stepper motors carefully matched to give optimum performance with each of the drive families. These motors incorporate an improved rotor design which increases high-speed performance, and the high-efficiency electrical design gives improved duty cycle ratings. Mechanical construction is aimed at minimising the audible noise. Performance data for typical motor-drive combinations will be found within the corresponding drive section of this catalogue. The motors listed here are standard stock types, but alternative windings, frame sizes and mechanical arrangements are available and details will be provided on request.

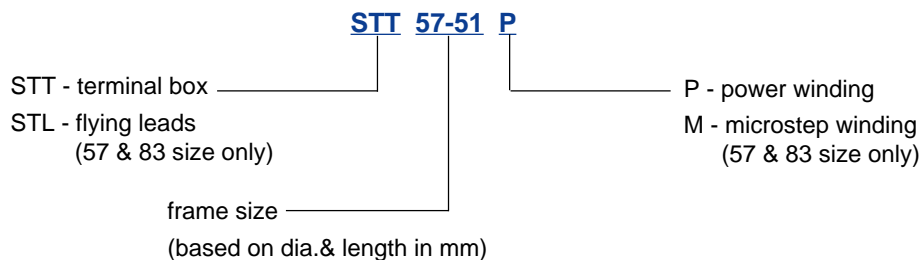
Motors in the 57 and 83 frame sizes are available with either flying leads or a terminal box. Terminal box versions of 57-size motors are internally connected in parallel and cannot be changed to series. 106-size motors come with a terminal box only. The terminal box version is recommended when compliance with the European EMC Directive is required. Flying lead motors are protected to

IP22; terminal box versions are protected to IP44 as standard, with IP54 or IP66 available as an option. The IP66 version incorporates a shaft seal in the front end plate and an O-ring seal in the terminal box housing. IP67 protection ratings are also available to special order.

57 and 83 frame size motors are listed with two alternative windings - a high-current winding suited to dynamic positioning applications and a low-current winding which is more appropriate when used with a microstep drive. Performance data listed in each drive section is based on the winding suitable for the majority of applications.

All motors have a 1.8° step angle (200 full steps per rev) and are manufactured to NEMA standards. Metric flanges and shafts are available to special order. Insulation ratings are Class B for 57 size motors and Class F for larger sizes. Details of additional options are available on request, these include integral encoders and safety brakes, vacuum preparation and radiation hardening.

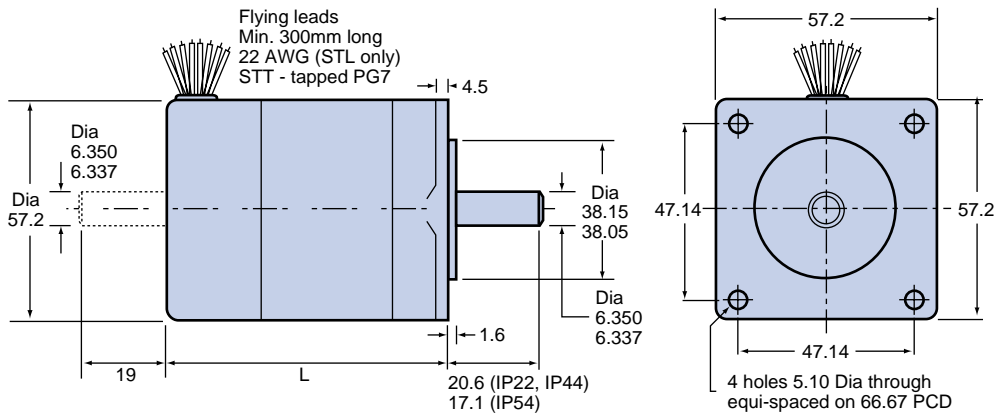
Ordering Codes



Technical data

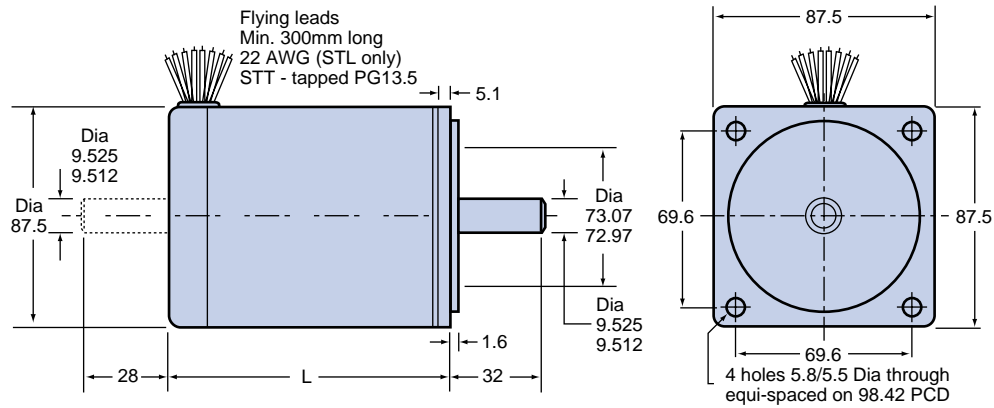
<i>Frame reference</i>	<i>Maximum Holding Torque</i> Nm	<i>Current per phase (parallel)</i> Amps	<i>Inductance per phase</i> mH	<i>Rotor Inertia</i> kgcm²	<i>Weight</i> kg	<i>Axial bearing loading</i> N	<i>Radial bearing loading</i> N
STL/STT57-51M	0.4	1.4	9.5	0.11	0.50	70	120
STL/STT57-51P	0.4	3.0	2.0	0.11	0.50	70	120
STL/STT57-83M	0.8	2.7	5.7	0.23	0.95	70	120
STL/STT57-83P	0.8	6.6	0.8	0.23	0.95	70	120
STL/STT57-102M	1.0	4.1	2.5	0.33	1.10	70	120
STL/STT57-102P	1.0	6.5	1.0	0.33	1.10	70	120
STL/STT83-62M	1.5	2.4	5.2	0.60	2.2	160	250
STL/STT83-62P	1.5	4.5	1.5	0.60	2.2	160	250
STL/STT83-93M	3.5	5.6	3.2	1.25	3.2	160	250
STL/STT83-93P	3.5	7.0	2.0	1.25	3.2	160	250
STL/STT83-135M	5.0	5.4	5.6	2.00	4.0	160	250
STL/STT83-135P	5.0	10.0	1.6	2.00	4.0	160	250
STT106-140P	5.0	7.0	2.8	3.65	4.8	180	330
STT106-178P	9.0	10.5	2.6	7.50	8.0	180	330
STT106-250P	13.0	12.0	2.9	11.5	11.0	180	600

STL/STT - 57 size



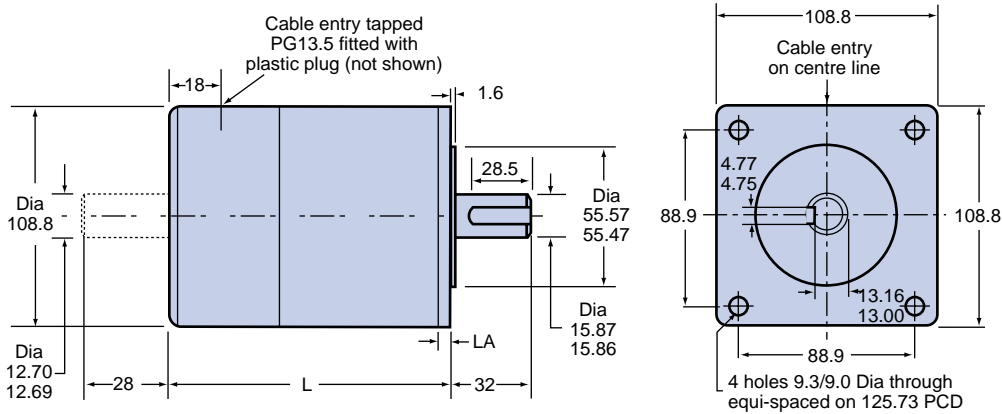
Frame Size	L IP22	L IP44	L IP54
STL57-51	51	-	-
STL57-83	82	-	-
STL57-102	102	-	-
STT57-51	-	71	75
STT57-83	-	101	105
STT57-102	-	122	126

STL/STT - 83 size



Frame Size	L IP22	L IP44/54	L IP66
STL83-62	73	-	-
STL83-93	105	-	-
STL83-135	138	-	-
STT83-62	-	98	117
STT83-93	-	131	149
STT83-135	-	163	182

STT - 106 size



Frame Size	LA	L IP44	L IP66
STT106-140	8.4	136	159
STT106-178	8.4	189	212
STT106-250	13.3	247	270