

TECHNICAL GUIDE

APPENDIX 1

Lifting Capacity Chart for 60mm Motor Tube (1.20mm wall, 63.5mm OD) with MaestroShield 56mm Slat Assembly

This Chart takes into consideration friction and all system loss EXCEPT that due to inefficiencies caused by improper installation.

Height	Width																
	60"	66"	72"	78"	84"	90"	96"	102"	108"	114"	120"	126"	132"	138"	144"	150"	156"
66"	20	20	20	20	20	20	20	20	20	30	30	30	30	30	30	30	30
72"	20	20	20	20	20	20	30	30	30	30	30	30	40	40	40	40	40
78"	20	20	20	20	20	30	30	30	30	30	30	40	40	40	40	40	40
84"	20	20	30	30	30	30	30	30	30	40	40	40	40	40	40	50	50
90"	30	30	30	30	30	30	30	40	40	40	40	40	40	50	50	50	50
96"	30	30	30	30	30	40	40	40	40	50	50	50	50	50	50	50	50
102"	30	30	40	40	40	40	40	50	50	50	50	50	50	50	50	50	50
108"	30	40	40	40	40	40	50	50	50	50	50	50	50	50	50	50	50
114"	30	40	40	40	50	50	50	50	50	50	50	50	50	50	50	50	50
120"	40	40	40	50	50	50	50	50	50	50	50	50	50	50	50	50	50
126"	40	40	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
132"	40	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
138"	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
144"	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
150"	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50

APPENDIX 2

Lifting Capacity Chart for 86mm Motor Tube with MaestroShield 56mm Slat Assembly

This Chart takes into consideration friction and all system loss EXCEPT that due to inefficiencies caused by improper installation.

Height	Width																										
	60"	66"	72"	78"	84"	90"	96"	102"	108"	114"	120"	126"	132"	138"	144"	150"	156"	162"	168"	174"	180"	186"	192"	198"	204"	210"	
66"	20	20	20	20	30	30	30	30	30	30	30	40	40	40	40	50	50	50	50	50	50	50	50	50	50	50	60
72"	20	20	20	30	30	30	30	30	30	40	40	40	40	40	40	50	50	50	50	50	50	50	50	50	50	50	60
78"	20	20	30	30	30	30	30	40	40	40	40	40	40	50	50	50	60	60	60	60	60	60	60	60	60	60	80
84"	20	30	30	30	30	30	40	40	40	40	40	50	50	50	50	50	60	60	60	60	60	60	60	60	60	60	80
90"	30	30	30	30	40	40	40	40	40	50	50	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	80
96"	30	30	30	40	40	40	40	50	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
102"	30	30	40	40	40	50	50	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
108"	30	40	40	40	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
114"	40	40	40	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
120"	40	40	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
126"	40	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
132"	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
138"	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
144"	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
150"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
156"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
162"	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
168"	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
174"	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
180"	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
186"	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

APPENDIX 3A

Lifting Capacity Chart for 70mm Motor Tube (1.27mm wall) with MaestroShield 56mm Slat Assembly

This Chart takes into consideration friction and all system loss EXCEPT that due to inefficiencies caused by improper installation.

Height	Width																						
	60"	66"	72"	78"	84"	90"	96"	102"	108"	114"	120"	126"	132"	138"	144"	150"	156"	162"	168"	174"	180"	186"	
66"	20	20	20	20	20	20	20	20	30	30	30	30	30	30	30	30	30	40	40	40	40	40	40
72"	20	20	20	20	20	30	30	30	30	30	30	40	40	40	40	40	40	40	40	40	40	40	50
78"	20	20	20	20	30	30	30	30	30	30	40	40	40	40	40	40	40	50	50	50	50	50	50
84"	20	20	30	30	30	30	30	30	40	40	40	40	40	40	50	50	50	50	50	50	60	60	60
90"	20	30	30	30	30	30	40	40	40	40	50	50	50	50	50	60	60	60	60	60	60	60	80
96"	30	30	30	30	40	40	40	40	40	50	50	50	60	60	60	60	60	60	60	60	60	60	80
102"	30	30	30	40	40	40	40	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	80
108"	30	30	40	40	40	50	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	80
114"	30	40	40	40	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
120"	40	40	40	50	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
126"	40	40	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
132"	40	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
138"	50	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
144"	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
150"	50	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
156"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
162"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
168"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
174"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
180"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80
186"	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	80

APPENDIX 3B

Lifting Capacity Chart for 70mm Motor Tube (1.27mm wall) with 58mm Slat Assembly -- non-MaestroShield

This Chart takes into consideration friction and all system loss EXCEPT that due to inefficiencies caused by improper installation.

Height	Width																						
	60"	66"	72"	78"	84"	90"	96"	102"	108"	114"	120"	126"	132"	138"	144"	150"	156"	162"	168"	174"	180"	186"	
66"	20	20	20	20	20	20	20	20	30	30	30	30	30	30	30	30	30	40	40	40	40	40	40
72"	20	20	20	20	20	20	30	30	30	30	30	30	30	40	40	40	40	40	40	40	40	40	50
78"	20	20	20	20	30	30	30	30	30	30	40	40	40	40	40	40	50	50	50	50	50	50	50
84"	20	20	30	30	30	30	30	30	40	40	40	40	50	50	50	50	50	50	60	60	60	60	60
90"	20	30	30	30	30	40	40	40	40	40	50	50	50	50	50	60	60	60	60	60	60	60	60
96"	30	30	30	40	40	40	40	40	50	50	50	60	60	60	60	80	80	80	80	80	80	80	80
102"	30	30	40	40	40	40	50	50	50	50	60	60	60	60	80	80	80	80	80	80	80	80	100
108"	30	40	40	40	50	50	50	50	60	60	60	80	80	80	80	80	80	80	100	100	100	100	100
114"	40	40	40	50	50	50	60	60	60	80	80	80	80	80	80	100	100	100	100	100	100	100	100
120"	40	40	50	50	50	60	60	60	80	80	80	80	80	100	100	100	100	100	100	100	100	100	100
126"	40	50	50	60	60	60	80	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100
132"	50	50	60	60	60	80	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100
138"	50	60	60	80	80	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
144"	60	60	80	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
150"	60	60	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
156"	60	80	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
162"	80	80	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
168"	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
174"	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
180"	80	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
186"	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100

APPENDIX 4A

Lifting Capacity Chart for 100mm Motor Tube (94mm ID and up to 102mm OD) with MaestroShield 56mm Slat Assembly

This Chart takes into consideration friction and all system loss EXCEPT that due to inefficiencies caused by improper installation.

Height	Width										
	144"	156"	168"	180"	192"	204"	216"	228"	240"	252"	
66"	50	50	60	60	60	80	80	100	100	100	
72"	50	60	60	60	80	80	100	100	100	100	
78"	60	60	60	80	80	100	100	100	100	100	
84"	80	80	80	80	100	100	100	100	100	100	
90"	80	80	100	100	100	100	100	140	140	140	
96"	80	80	100	100	100	100	140	140	140	140	
102"	80	100	100	100	100	140	140	140	140	140	
108"	80	100	100	100	140	140	140	140	140	140	
114"	100	140	140	140	140	140	180	180	180	180	
120"	100	140	140	140	140	180	180	180	180	180	
126"	140	140	140	140	140	180	180	180	180	230	
132"	140	140	140	140	180	180	180	180	230	230	
138"	140	140	180	180	180	230	230	230	230	230	
144"	140	180	180	180	180	230	230	230	230	230	
150"	180	180	180	180	230	230	230	300	300	300	
156"	180	180	230	230	230	300	300	300	300	300	
162"	180	230	230	230	230	300	300	300	300	300	
168"	180	230	230	230	230	300	300	300	300	300	
174"	180	230	230	230	300	300	300	300	300	300	
180"	230	230	300	300	300	300	300	300	300	300	
186"	230	300	300	300	300	300	300	300	300	300	

APPENDIX 4B

Lifting Capacity Chart for 100mm Motor Tube (94mm ID and up to 102mm OD) with 58mm Slat Assembly -- non-MaestroShield

This Chart takes into consideration friction and all system loss EXCEPT that due to inefficiencies caused by improper installation.

Height	Width										
	144"	156"	168"	180"	192"	204"	216"	228"	240"	252"	
66"	50	50	60	60	60	80	80	100	100	100	100
72"	50	60	60	60	80	80	100	100	100	100	100
78"	60	60	60	80	80	100	100	100	100	100	100
84"	60	80	80	80	100	100	100	100	100	100	100
90"	80	80	100	100	100	100	100	100	140	140	140
96"	80	100	100	100	140	140	140	140	140	140	140
102"	80	100	100	100	140	140	140	140	140	140	140
108"	100	100	140	140	140	140	140	180	180	180	180
114"	100	140	140	140	140	140	180	180	180	180	180
120"	140	140	140	140	140	180	180	180	180	180	230
126"	140	140	140	140	180	180	180	180	230	230	230
132"	140	140	140	140	180	180	180	230	230	230	230
138"	140	140	140	180	180	180	180	230	230	230	230
144"	140	140	180	180	180	230	230	230	230	230	230
150"	140	180	180	180	230	230	230	230	300	300	300
156"	180	180	180	230	230	230	300	300	300	300	300
162"	180	180	230	230	230	230	300	300	300	300	300
168"	180	230	230	230	230	300	300	300	300	300	300
174"	180	230	230	230	300	300	300	300	300	300	300
180"	230	230	230	300	300	300	300	300	300	300	300
186"	230	230	300	300	300	300	300	300	300	300	300

THEORETICAL LIFTING CAPACITY

Theoretical Lifting Capacity is an indicator of the torque aptitude of a motor without consideration of factors that impact the actual load value, such as tube diameter, length and deflection, friction and system loss, material dimensions and accessories used.

For all published motor theoretical lifting capacities, an additional 25% safety factor is excluded from the max published lifting capacity and to achieve optimal performance of the Motor, MaestroShield strongly suggest utilization of full line of MaestroShield Brand accessory components.

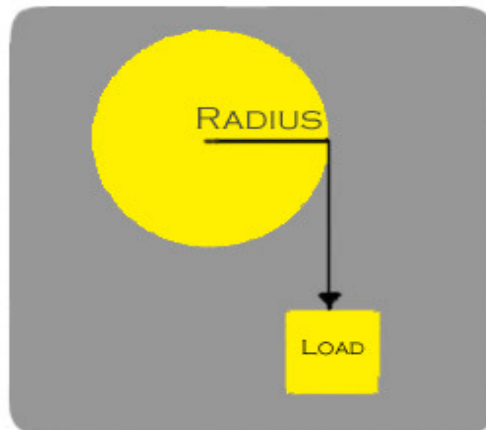
Description	Speed (RPM)	Theoretical Lifting Capacity — in Pounds					
		40mm Tube	50mm Tube	60mm Tube	70mm Tube	85mm Tube	100mm Tube
0.7 Nm Motor, 12 volt	34	5 lbs	4 lbs	4 lbs	3 lbs		
3 Nm Motor, 12 volt	24	25 lbs	20 lbs	17 lbs	14 lbs		
6 Nm Motor, 12 volt	24	50 lbs	40 lbs	33 lbs	29 lbs		
20 Nm Motor, 12 volt	14	168 lbs	134 lbs	112 lbs	96 lbs		
35 Nm Motor, 12 volt	7	295 lbs	236 lbs	196 lbs	168 lbs		
6 Nm Motor	33	50 lbs	40 lbs	33 lbs	29 lbs		
10 Nm Motor	19	84 lbs	67 lbs	56 lbs	48 lbs		
13 Nm Motor	15	109 lbs	87 lbs	73 lbs	62 lbs		
20 Nm Motor	19			112 lbs	96 lbs	79 lbs	68 lbs
30 Nm Motor	14			167 lbs	144 lbs	118 lbs	101 lbs
40 Nm Motor	14			223 lbs	192 lbs	158 lbs	135 lbs
50 Nm Motor	13			279 lbs	240 lbs	198 lbs	113 lbs
60 Nm Motor	14				288 lbs	237 lbs	202 lbs
80 Nm Motor	14				386 lbs	317 lbs	269 lbs
100 Nm Motor	11				481 lbs	396 lbs	336 lbs
140 Nm Motor	12						471 lbs
180 Nm Motor	12						606 lbs
230 Nm Motor	12						775 lbs
300 Nm Motor	6						1011 lbs

NOTE: For actual lifting based upon tube size and product used with actual deductions taken for system loss and friction, please refer to previous appendix lifting capacity charts.

MOTOR SELECTION

When selecting your Tubular Motor the Radius of the Motor Tube and the Load being lifted both impact the strength needed for the motor. Use the formula below to choose your motor, keeping in mind that there is significant system loss when dealing with a height or width above 8 feet/25.6cm and various levels of friction dependent upon the system in which the motor is utilized.

$$\text{TORQUE (In. Lb. or Nm)} \\ = \text{RADIUS X LOAD (in. x Lb. or mm x kg)}$$



MAESTROSHIELD WARRANTY*



MAESTROSHIELD® MOTORS 5 YEAR WARRANTY

MaestroShield Tubular Motors are covered by a 5 Year 100% Replacement Warranty from date of sale to Dealer.

This limited warranty does not cover any damage to product that results from improper installation, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or any unauthorized disassembly, repair, or modification. This limited warranty also does not apply to any product on which the original identification information has been altered, obliterated or removed, has not been handled or packaged correctly, has been sold as second-hand or has been resold contrary to the US export regulations without consent from MaestroShield.

Should there be evidence of a potential warranty issue on a Motor within the specified 5 year Warranty timeframe, MaestroShield will follow its standard procedure to insure that a brand new product is sent to the MaestroShield Dealer who originally purchased the product, free of charge.

The defective motor must be returned to MaestroShield for evaluation within 30 days of Warranty Replacement. Should more than 30 days elapse or should the product evaluation prove that the malfunctioning of the product was the result of any of the aforementioned items, the Dealer will be notified of the point of failure and, subsequently, will be charged the cost of the replacement motor.

MAESTROSHIELD® ELECTRONICS 2 YEAR WARRANTY



MaestroShield Electronics are covered by a 2 Year 100% Replacement Warranty from date of sale to Dealer.

This limited warranty does not cover any damage to product that results from improper installation, accident, abuse, misuse, natural disaster, insufficient or excessive electrical supply, abnormal mechanical or environmental conditions, or any unauthorized disassembly, repair, or modification.

Should there be evidence of a potential warranty issue on any Electronic unit within the specified 5 year Warranty timeframe, MaestroShield will follow its standard procedure to insure that a brand new product is sent to the MaestroShield Dealer who originally purchased the product, free of charge.

The defective unit must be returned to MaestroShield for evaluation within 30 days of Warranty Replacement. Should more than 30 days elapse or should the product evaluation prove that the malfunctioning of the product was the result of any of the aforementioned items, the Dealer will be notified of the point of failure and, subsequently, will be charged the cost of the replacement unit.

*This document serves only as an overview of the MaestroShield Warranty. For full coverage and return policy details please contact the corporate office at +1 (239) 596-8883.