

ElectroCraft MobilePower[™] Geared Motors

Product Datasheets for

MPS32

MP36

MPP36





About ElectroCraft

ElectroCraft, Inc. is a global provider of dependable, application-engineered fractional-horsepower motor and motion products. ElectroCraft custom manufacturing services cover the following products: AC motors, PMDC motors, brushless DC motors, stepper motors, servo motors, gearboxes, gearmotors, linear actuators, drives, servo drives, integrated motor drives.

Our products are found in thousands of different applications within industrial, commercial, and consumer product markets. While ElectroCraft provides a wide array of standard products with many configurable options, we have built our brand on custom OEM solutions that meet the precise performance, cost and quality our customers require.

For OEM customers who are unsatisfied with having to design around inflexible off-the-shelf products, our technical knowledge and customizable product families provide for a design experience which results in motor and motion systems that provide superior reliability and performance at the lowest possible cost. To learn more, visit www.electrocraft.com

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ElectroCraft's MP36 MobilePower™ geared motor is one of our extensive range of purpose designed, fully customizable mobility motors. The MP36 is a four-pole motor delivering smooth, precise and highly controllable power. Its high starting torque and energy-efficiency provide class-leading rough terrain and curb-climbing performance. Available with a wide range of IP ratings, the MP36 is an ideal solution for most mobility applications.

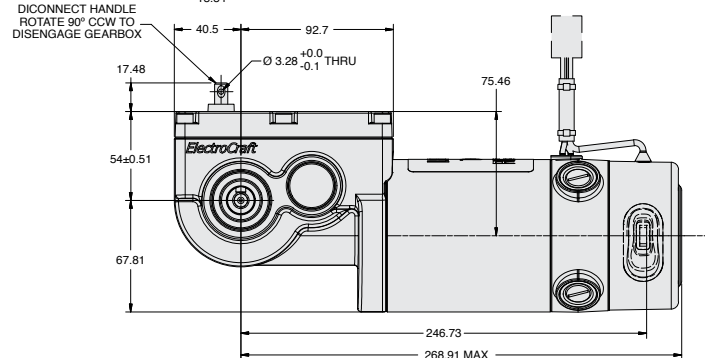
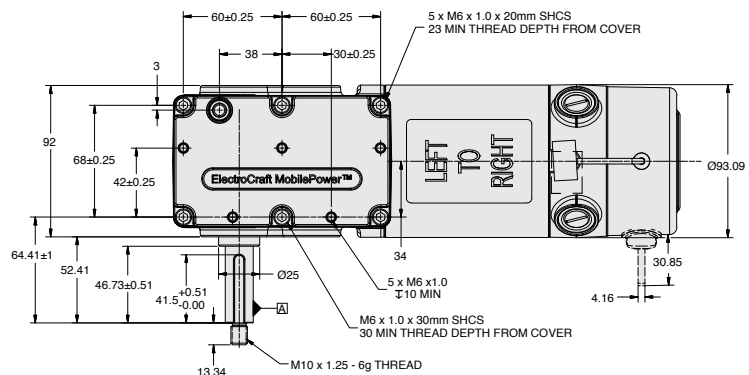
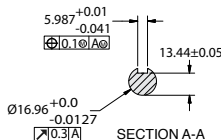
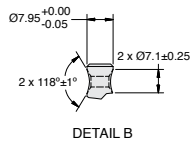
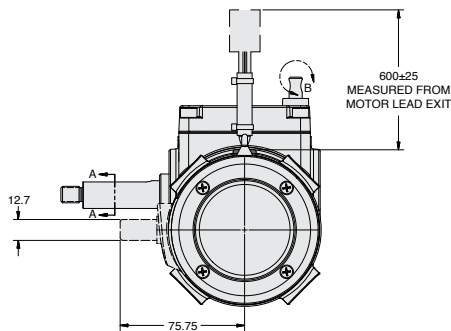
Features:

- Very energy efficient.
- High starting torque.
- Long battery life.
- Smooth, quiet and reliable.
- Controllable variable speed operation.
- Available with a range of IP ratings.



M P 3 6 - W R 0 2 1 V 2 4 - 2 0 0 - X

MTR-GRB Model MP36 = Standard Duty Gearbox with PMDC 4-Pole	Gear Ratio 016 = 16.44:1 018 = 17.88:1 020 = 19.50:1 021 = 21.33:1 025 = 24.67:1 027 = 26.82:1 029 = 29.25:1 032 = 32.00:1	Rated Voltage 24 = 24 VDC	Encoder Option X = None
Gearbox Option WR = Right Angle Worm & Spur W/ Right Hand Output Shaft WL = Right Angle Worm & Spur W/ Left Hand Output Shaft	Disengage Option 2 = No Gear Release, Manual Release Brake 4 = Gear Release, Std Brake (No Manual Release)	Connector Option 0 = None 5 = Dynamic Controls Shark 6 = PG R-net Drive 7 = Anderson Powerpole 8 = PG VR2 Drive 9 = Curtis enAble Drive	Lead Option 0 = Unshielded Leads Covered with Braided Sleeving



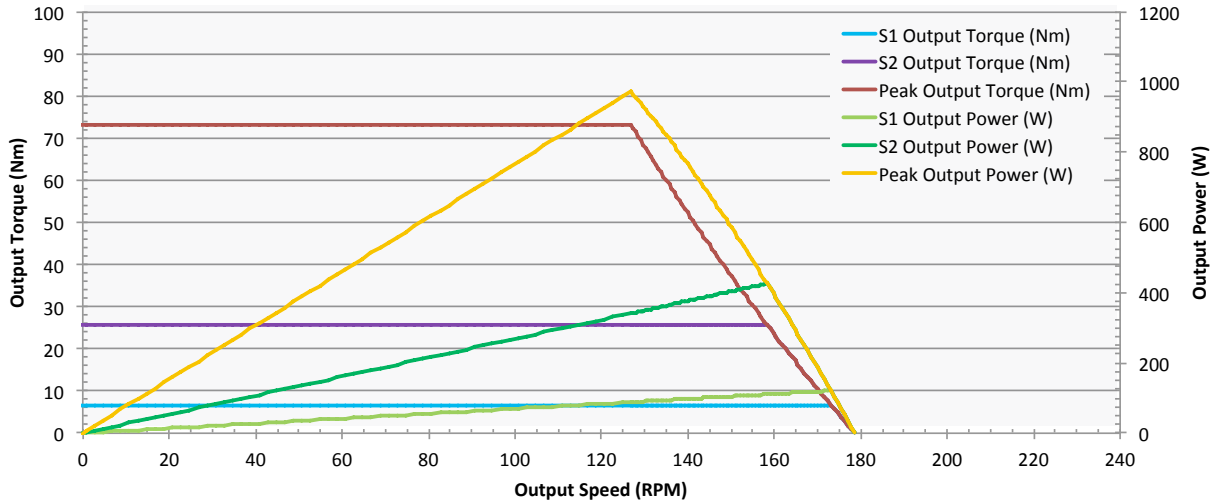
MP36 ElectroCraft MobilePower™

Geared Motor

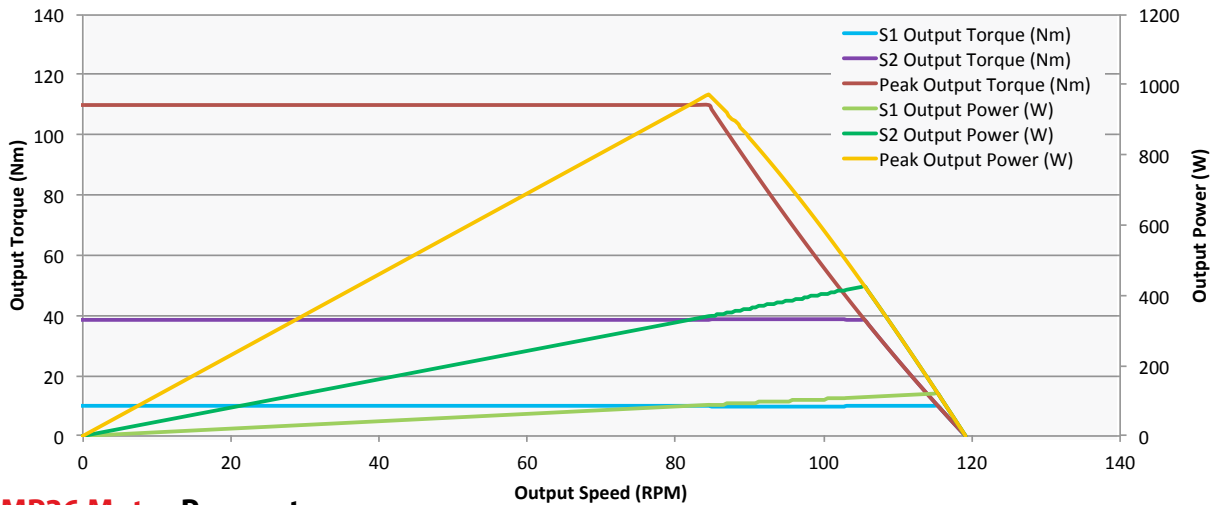
Low Voltage - High Torque



MP36 Motor Performance with 21.33:1 Ratio



MP36 Motor Performance with 32.00:1 Ratio



MP36 Motor Parameters

Gear Ratio	32.00:1	29.25:1	26.82:1	24.67:1	21.33:1	19.50:1	17.88:1	16.44:1
S2 Torque (15 min) (Nm)	38.6	35.2	32.3	29.7	25.7	23.5	21.6	19.8
Torque Constant (Nm/A)	0.05918	0.05918	0.05918	0.05918	0.05918	0.05918	0.05918	0.05918
Max Torque (Nm)	108.5	99.2	90.9	83.6	72.3	66.1	60.6	57.7
Operational Voltage (Volts DC)	24	24	24	24	24	24	24	24
Nominal Speed at 24 VDC (RPM)	115	126	138	130	173	179	200	228
Back EMF Constant (V/KRPM)	6.2	6.2	6.2	6.2	6.2	6.2	6.2	6.2
Motor Mass (kg)	6.26	6.26	6.26	6.26	6.26	6.26	6.26	6.26
Motor Inertia (Armature) (kg.mm ²)	1386.10	1386.10	1386.10	1386.10	1386.10	1386.10	1386.10	1386.10
Motor Winding Resistance (Ohms)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Motor Winding Inductance (μH)	79	79	79	79	79	79	79	79
Motor Max Winding Temp (°C)	155	155	155	155	155	155	155	155
Motor Poles	4 Poles							
Max Motor Current (A)	80							
S2 motor power (15 min) (W)	425							
Max Motor Power (Watts)	850							

Continuous rating based on nominal operating voltage 24 VDC.



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ElectroCraft's MPP36 MobilePower™ geared motor is one of our extensive range of purpose designed, fully customizable mobility motors. The MPP36 is a bariatric product with a specially designed, very robust 2-stage gearbox. With high starting torque and high energy-efficiency, the MPP36 performs as well over rough terrain as smooth, and has no problems with curb-climbing. Available with a wide range of IP ratings, the MPP36 is the ideal product for bariatric mobility applications.

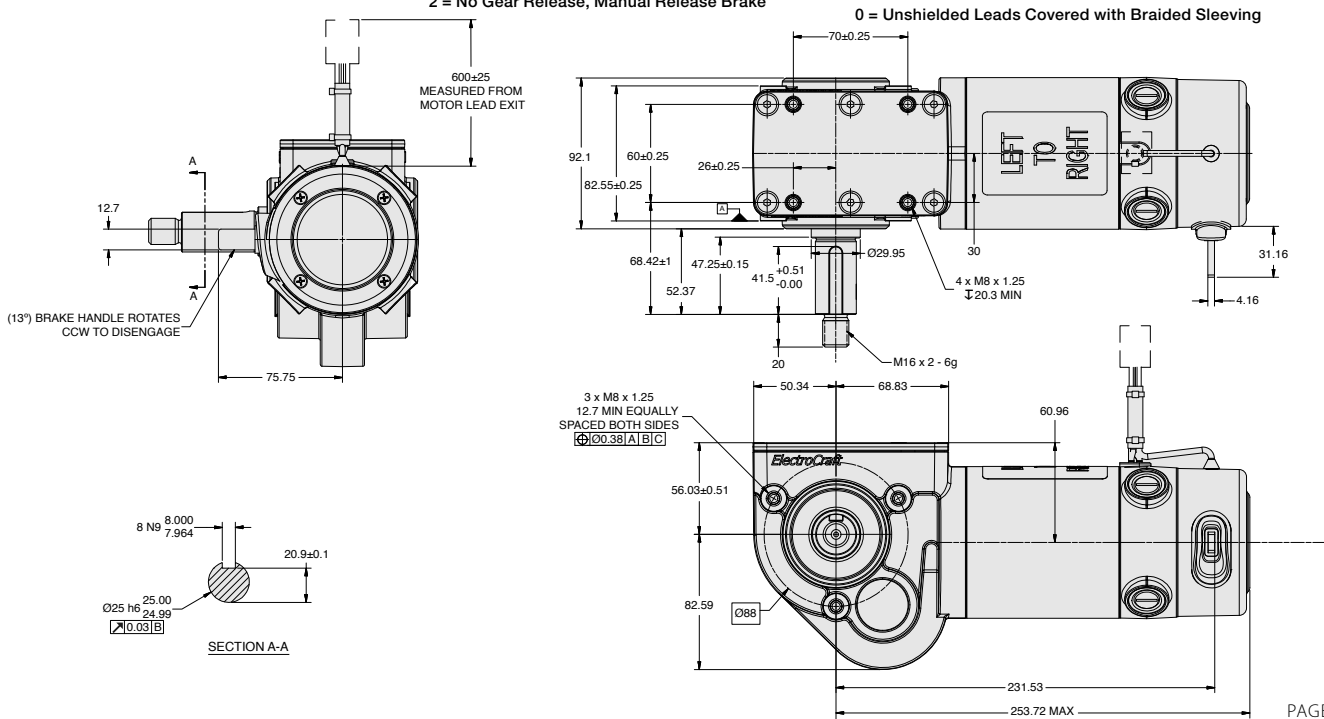
Features:

- Very energy efficient
- Smooth and quiet operation
- High starting torque
- Long battery life
- Controllable variable speed operation
- Available with a range of IP ratings



M P P 3 6 - W R 0 3 3 V 2 4 - 2 0 7 - X

M P P 3 6	W R	0 3 3	V 2 4	2 0 7	X
MTR-GRB Model Heavy Duty Gearbox With PMDC 4-Pole = MPP36	Gear Ratio 017 = 16.97:1 018 = 18.35:1 020 = 19.91:1 022 = 21.67:1 024 = 23.68:1 025 = 25.41:1 028 = 27.56:1 030 = 30.00:1 033 = 32.79:1	Rated Voltage 24 = 24 VDC	Encoder Option X = None	Connector Option 0 = None 5 = Dynamic Controls Shark 6 = PG R-net Drive 7 = Anderson Powerpole 8 = PG VR2 Drive 9 = Curtis enAble Drive	Lead Option 0 = Unshielded Leads Covered with Braided Slewing
Gearbox Option WR = Right Angle Worm & Spur W/ Right Hand Output Shaft WL = Right Angle Worm & Spur W/ Left Hand Output Shaft	Disengage Option 2 = No Gear Release, Manual Release Brake				



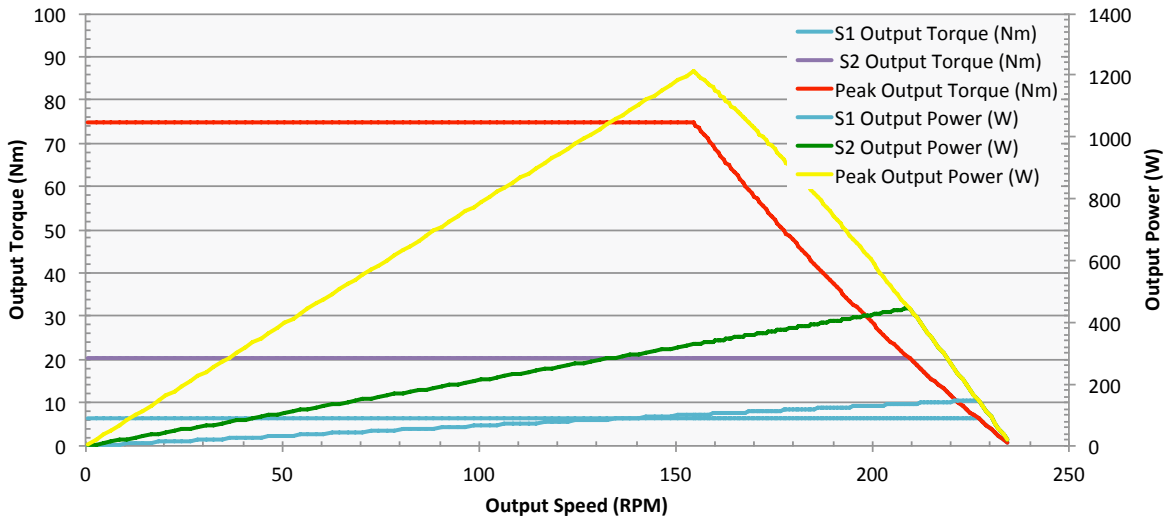
MPP36 ElectroCraft MobilePower™

Geared Mobility Motor

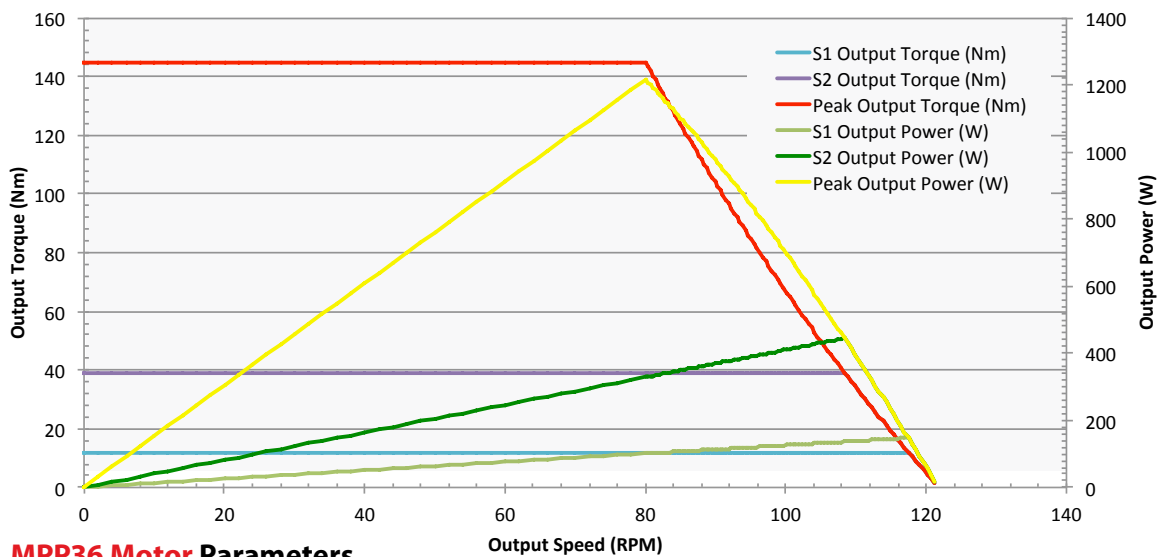
Low Voltage - High Torque



MPP36 Motor Performance 16.97:1 Ratio



MPP36 Motor Performance with 32.79:1 Ratio



MPP36 Motor Parameters

Gear Ratio	32.79:1	30.00:1	27.56:1	25.41:1	23.68:1	21.67:1	19.91:1	18.35:1	16.97:1
S2 Torque (15 min) (Nm)	39.2	35.9	32.3	29.7	25.7	23.5	21.6	19.8	20.3148
Torque Constant (Nm/A)	0.0568	0.0568	0.0568	0.0568	0.0568	0.0568	0.0568	0.0568	0.0568
Max Torque (Nm)	134.23	122.93	112.87	104.06	96.94	88.81	81.58	75.13	69.49
Operational Voltage (Volts DC)	24	24	24	24	24	24	24	24	24
Nominal Speed at 24 VDC (RPM)	130	143.00	156	169	180	197	214	232	252
Back EMF Constant (V/KRPM)	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95	5.95
Motor Mass (kg)	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
Motor Inertia (Armature) (kg.mm ²)	1129.23	1129.23	1129.23	1129.23	1129.23	1129.23	1129.23	1129.23	1129.23
Motor Winding Resistance (Ohms)	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Motor Winding Inductance (µH)	73	73	73	73	73	73	73	73	73
Motor Max Winding Temp (°C)	155	155	155	155	155	155	155	155	155
Motor Poles	4 Poles								
Max Motor Current (A)	100								
S2 motor power (15 min) (W)	445								
Max Motor Power (Watts)	1,100								

Continuous rating based on nominal operating voltage 24 VDC.



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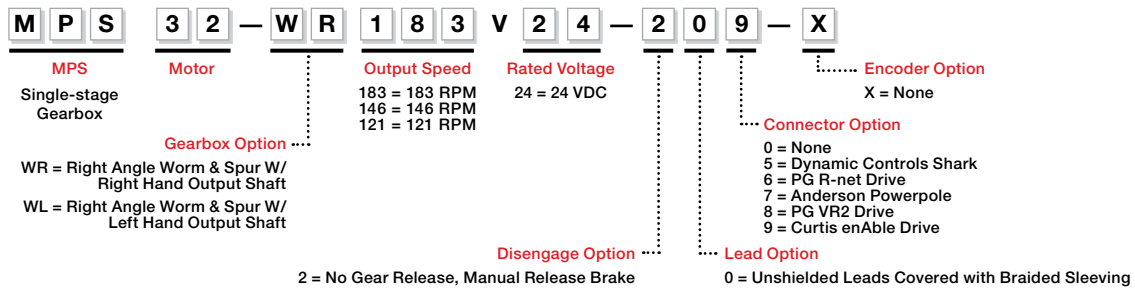
ElectroCraft's MPS32 geared motor is part of our extensive range of purpose designed, fully customizable mobility motors.

This two pole motor has excellent performance and efficiency and is coupled with a high-efficiency single-stage gearbox, to deliver power smoothly, reliably and quietly. With high starting torque for curb-climbing and rough terrain use, the MPS32 is the ideal choice for a wide variety of mobility applications.

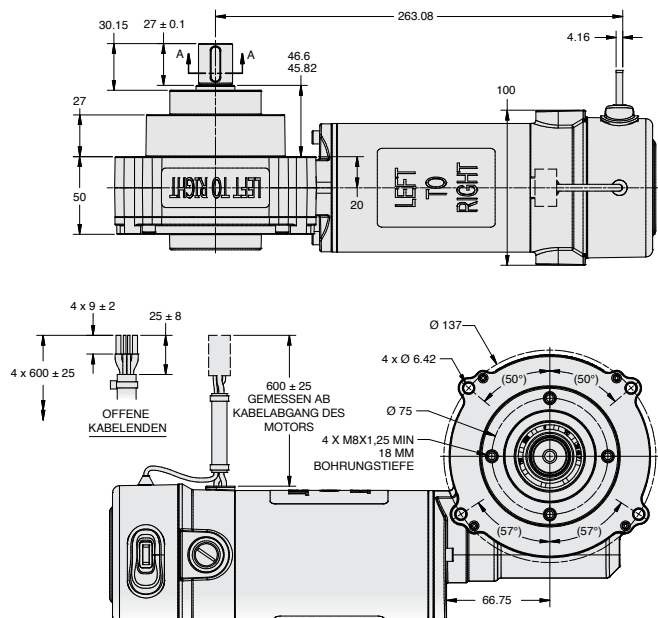
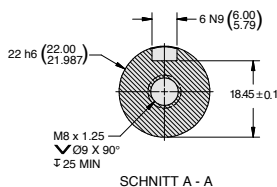
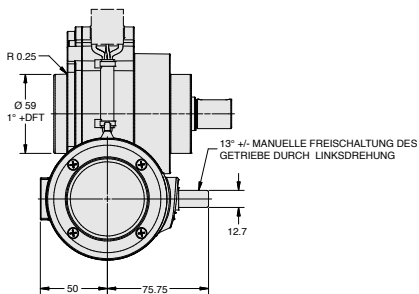


Features:

- High energy efficiency.
- High torque density with excellent torque per frame size performance.
- High starting torque.
- Extended battery life.
- Very quiet and very reliable.
- Controllable variable speed operation.
- Available with a range of IP ratings.



All measurements in mm.



MPS32 ElectroCraft MobilePower™

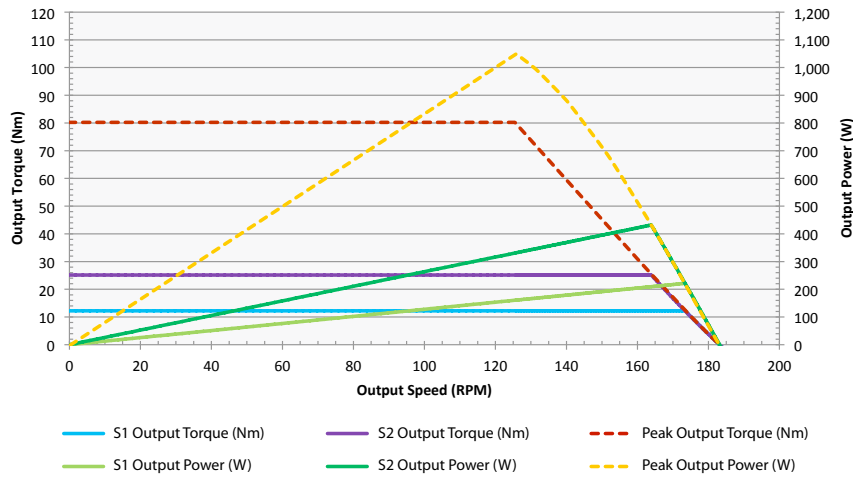
Geared Motor

Longer battery life - More power

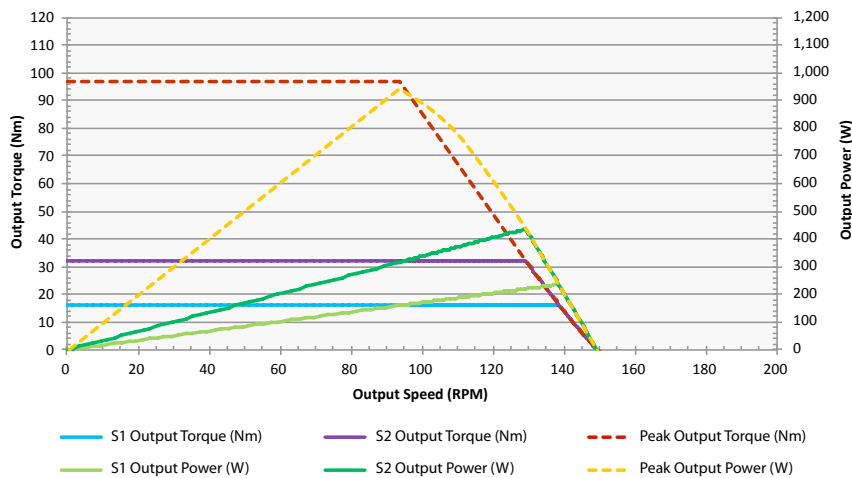


MPS32 Performance

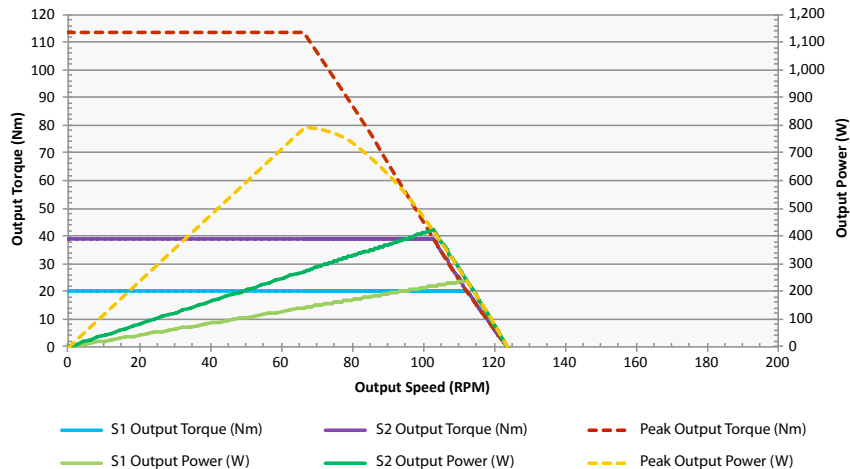
MPS32-W#-183V24-20#-X 183 RPM



MPS32-W#-150V24-20#-X 146 RPM



MPS32-W#-121V24-20#-X 121 RPM



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MPS32 ElectroCraft MobilePower™ Geared Motor

Longer battery life - More power



MPS32 Motor Parameters

Winding/speed	183	150	124
Gear Ratio	29.00:1		
Operational Voltage (Volts DC)	24		
Motor Poles	2		
Nominal Back EMF Constant (V/KRPM)	4.44	5.53	6.63
Nominal Torque Constant (Nm/A)	0.0424	0.0528	0.0633
Nominal No-Load Speed at 24 VDC (RPM)	183	150	124
Nominal MTR-GRB-BRK Mass (kg)	6.69		
Nominal Motor Armature Inertia (kg-cm ²)	12.70		
Nominal Winding Resistance (Ohms)	0.136	0.141	0.182
Nominal Winding Inductance (µH)	94	144	197
Max Winding Temp (°C)	155		
Max Operating Temperature On Gearbox/Motor Housing (°C)	95		
Max Input Current (A)	80		
S1 Input Current (A)	16.0		
S1 Output Torque (Nm)	12.20	16.27	20.34
S1 Output Power (W)	220	235	235
S2-15 Min Input Current (A)	28.0		
S2-15 Min Output Torque (Nm)	25.08	32.20	39.21
S2-15 Min Output Power (W)	430	435	420
Nominal Peak Output Torque (Nm)	79.77	96.60	113.66
Nominal Peak Output Power (W)	1050	940	790

Continuous rating based on nominal operating voltage 24 VDC.



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