



EMPOWERING FUTURE

Mecwin EV Motors



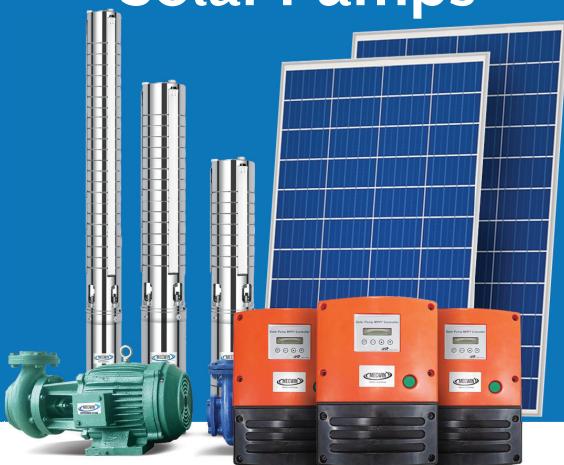
Mecwin Green Propulsions Pvt Ltd
Moving to the Future

Mecwin EV Motors

Advanced Solutions for A Greener Future

Discover how your small actions can make a big impact as we work together to reduce waste, conserve resources, and protect our planet for generations to come.

Solar Pumps



EV Controllers



Motor Stampings



EV Tractors



Sustainability is more than a goal

It's Our Mission

We are committed to reinventing how we power our world. Our dedication to a better tomorrow inspires us to develop creative and sustainable energy solutions that have a significant impact.

Join us on our journey to a cleaner, more vibrant Earth.

70K +
Sq Floors

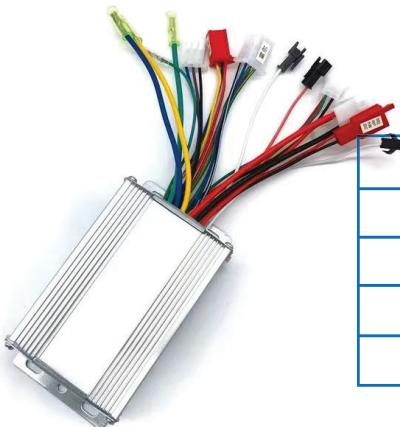
400 +
Skilled Technicians

26 +
States in India

15 +
Countries



ELECTRIC BI CYCLE MOTORS



Controller Spec	Hub Motor controllers
Voltage System	36V/48V
Max Dc current	15 A
CAN/NON CAN	NON CAN
Sensor	Hall Based



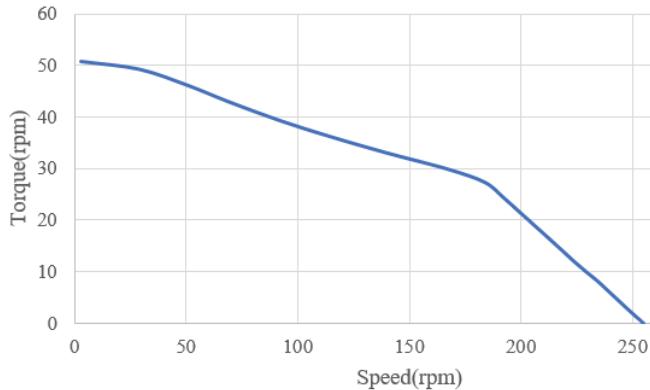
Model Number	MW-5 inch Geared Hub Motor
Voltage Rating	36V/48V
Max DC Current	15 A
Rated Power	250-350W
Max Speed	25Kmph
Brake system	Disc
Rim Size	17 inch Spokes Type
IP Rating	IP67



Performance Curves

Load Test Data

Torque VS Speed



DC Voltage	DC Current	Input Power	Torque	Speed	Output Power	System Efficiency
V	A	W	N-m	rpm	W	%
36.087	1.3528	48.818	0.0	255.2	0.3171	0.6
36.085	1.3972	50.420	0.2	254.6	4.8594	9.6
36.076	1.5400	55.556	0.6	253.7	14.888	26.8
36.066	1.8446	66.527	1.1	252.3	29.458	44.3
36.031	3.1301	112.78	2.9	247.7	76.140	67.5
36.095	5.1171	184.70	6.0	240.0	150.41	81.4
36.097	6.2679	226.25	8.1	234.8	211.32	90.0
36.098	7.8029	281.67	10.0	229.4	240.25	85.3
36.098	8.1840	295.43	10.5	228.1	250.00	84.7
36.097	9.4495	341.10	12.0	224.0	281.73	82.6
36.097	10.565	381.36	14.2	218.5	325.27	85.3
36.096	12.337	445.30	16.6	212.4	369.09	82.9
36.095	14.169	511.44	19.2	205.7	413.01	80.8
36.090	14.607	527.16	20.0	203.7	425.54	80.8
36.078	15.538	560.58	21.7	199.3	452.18	80.7
36.091	17.600	635.22	24.5	192.1	492.99	77.6
36.094	19.744	712.63	27.4	183.8	526.88	73.9
36.093	20.392	736.03	30.0	166.7	522.69	71.0
36.095	20.565	742.29	33.1	139.7	483.72	65.2
36.095	20.522	740.73	36.3	114.2	433.77	58.6
36.095	20.470	738.87	39.4	91.7	377.80	51.1
36.104	20.412	736.95	42.9	69.7	312.95	42.5
36.096	20.335	733.99	46.2	50.6	244.87	33.4
36.094	20.301	732.75	49.3	29.0	149.93	20.5
36.094	20.381	735.63	47.2	14.1	69.731	9.5
36.095	18.688	674.56	50.8	3.0	15.892	2.4

Performance Details

Parameters	DC Voltage	DC Current	Input Power	Torque	Speed	Output power	System Efficiency
	V	A	W	N-m	rpm	W	%
No Load	36.0	1.3528	48.818	0.0	255.2	0.3171	0.6
Max Torque	36.0	18.688	674.56	50.8	3.0	15.892	2.4
Max Input Power	36.0	20.565	742.29	33.1	139.7	483.72	65.2
Max Output Power	36.0	19.744	712.63	27.4	183.8	526.88	73.9
Max Efficiency	36.0	6.2679	226.25	8.1	234.8	211.32	90.0

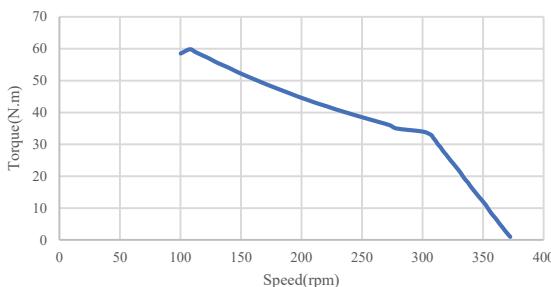
ELECTRIC TWO WHEELER MOTORS

Model Number	MW-10 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	25A-30A
Rated Power	550-1000W
Max Speed	25Kmph-50Kmph
Brake system	110Drum/Disc
Rim Size	2.15 "X10"
IP Rating	IP67



Performance Curves

Torque VS Speed



Load Test Data

DC Voltage	DC Current	RMS line to line Voltage	RMS line Current	Input Power	Torque	Speed	Output Power	System Efficiency
V	A	V	A	W	N·m	rpm	W	%
47.98	1.81	36.42	1.78	87	0.50	373	19	22.4
47.98	2.21	36.62	2.04	106	1	372	39	36.7
47.99	3.02	36.57	2.58	145	2	370	78	53.6
47.99	4.64	36.46	3.84	223	4	366	153	68.9
47.99	6.23	36.39	5.12	299	6	362	228	76.1
47.99	7.82	36.31	6.42	375	8	358	299	79.8
48.00	9.41	36.24	7.72	452	10	354	371	82.1
48.00	10.97	36.18	9.03	526	12	350	440	83.5
48.00	12.53	36.11	10.33	602	14	346	506	84.2
48.00	13.31	36.08	11.00	639	15	343	539	84.4
48.00	14.07	36.05	11.64	676	16	341	572	84.7
48.0	14.48	36.81	12.61	695	17	336	632	91
48.00	17.11	35.93	14.23	821	20	333	698	85.0
48.00	18.60	35.86	15.51	893	22	330	759	85.0
48.00	20.13	35.80	16.87	966	24	325	818	84.6
48.00	21.62	35.75	18.12	1038	26	321	874	84.2
48.00	23.07	35.69	19.41	1108	28	317	929	83.9
48.00	24.55	35.62	20.73	1178	30	313	982	83.4
48.00	25.29	35.60	21.36	1214	31	311	1010	83.2
48.00	26.02	35.56	22.01	1249	32	309	1035	82.9
48.00	26.70	35.52	22.64	1281	33	307	1060	82.8
47.94	26.97	34.66	22.95	1293	34	300	1070	82.7
47.36	26.52	32.54	23.62	1256	35	278	1021	81.2
48.00	26.54	30.62	25.39	1274	38	255	1014	79.6
48.00	26.51	29.00	26.54	1272	40	237	993	78.0
48.00	26.47	26.14	28.93	1271	44	205	943	74.2
48.00	26.47	24.91	30.07	1271	46	190	917	72.2
48.00	26.44	22.67	32.53	1269	50	164	858	67.6
48.00	26.43	21.69	33.74	1269	52	151	824	64.9
48.00	26.41	20.83	34.97	1268	54	140	793	62.5
48.00	26.39	19.08	37.61	1267	58	118	716	56.5
48.00	26.37	18.31	38.75	1266	60	108	675	53.3

Performance Details

Parameters	DC Voltage	DC Current	RMS Line to Line Voltage	RMS Line Current	Input Power	Torque	Speed	Output power	System Efficiency
	V	A	V	A	W	N·m	rpm	W	%
No Load	48.0	1.81	36.42	1.78	87	0.50	373	19	22.4
Max Torque	48.0	26.37	18.31	38.75	1266	60	108	675	53.3
Max Input Power	48.0	26.97	34.66	22.95	1293	34	300	1070	82.7
Max Output Power	48.0	26.97	34.66	22.95	1293	34	300	1070	82.7
Max Efficiency	48.0	14.48	36.81	12.61	695	17	336	632.45	91



Controller Spec	Hub Motor controllers
Voltage System	48V/60V/72V
Max Dc current	25A-50A
CAN/NON CAN	Both are Available
Sensor	Hall Based



Model Number	MW-10 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	25A-50A
Rated Power	1200W-1500W
Max Speed	45KMPH-70KMPH
Brake System	110DRUM/DISC
Rim Size(WxL)	2.15 "X10"
IP Rating	IP67

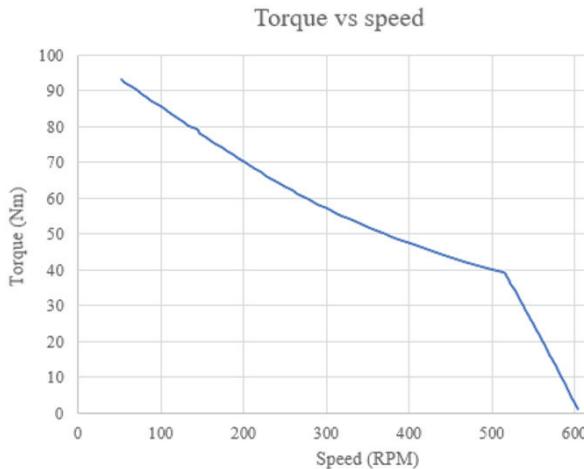


Model Number	MW-14 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	30A-50A
Rated Power	1200W-1500W
Max Speed	45kmph to 70 Kmph
Brake system	110 mm Drum / Disc
Rim Size(WxL)	1.7"x14"
IP Rating	IP67



Model Number	MW-16 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	30A-50A
Rated Power	1200W-1500W
Max Speed	45 kmph to 70 kmph
Brake system	110 mm drum/Disc
Rim Size(WxL)	1.7"x16"
IP Rating	IP67

Performance Curves



Load Test Data

DC Voltage	DC Current	RMS line to line Voltage	RMS line Current	Input Power	Torque	Speed	Output Power	System Efficiency
V	A	V	A	W	N·m	rpm	W	%
60.15	2.12	43.71	5.49	128	0.00	675	0	0.3
60.13	5.28	43.68	7.76	317	3.01	669	211	66.5
60.13	6.37	43.67	8.47	383	4.00	667	280	73.0
60.12	9.85	43.67	11.36	592	7.00	660	484	81.7
60.09	14.44	43.68	14.60	868	10.99	651	749	86.4
60.08	20.47	43.67	19.44	1230	16.00	639	1071	87.1
60.07	23.68	43.68	22.33	1423	19.01	632	1257	88.4
60.07	27.00	43.65	25.23	1622	22.01	625	1440	88.8
60.06	31.53	43.66	29.09	1894	26.03	615	1675	88.5
60.03	33.35	43.64	31.07	2002	28.00	609	1831	91.5
60.19	39.15	43.65	36.12	2357	33.01	595	2057	87.3
60.07	44.20	43.65	41.08	2655	37.98	584	2322	87.5
60.10	44.63	40.38	44.35	2682	42.00	527	2319	86.5
60.08	44.44	35.56	50.72	2670	48.00	445	2238	83.8
60.08	44.82	34.20	52.95	2693	50.01	421	2205	81.9
60.11	44.11	31.18	59.24	2651	55.00	365	2105	79.4
60.11	43.97	29.44	63.29	2643	58.00	337	2044	77.3
60.06	44.26	27.02	67.91	2658	62.00	301	1951	73.4
60.08	44.04	24.10	71.18	2646	68.00	253	1799	68.0
60.10	43.51	21.47	75.21	2617	76.00	194	1545	59.1
60.22	43.16	19.63	80.26	2599	80.98	161	1362	52.4
60.33	42.84	18.50	83.46	2584	84.00	137	1205	46.6
60.03	43.12	17.81	85.39	2589	86.00	125	1124	43.4
60.06	42.87	16.85	88.00	2575	90.00	106	987	38.3

Performance Details

Parameters	DC Voltage	DC Current	RMS Line to Line Voltage	RMS Line Current	Input Power	Torque	Speed	Output power	System Efficiency
	V	A	V	A	W	N·m	rpm	W	%
No Load	60.0	2.12	43.71	5.49	127.52	0	675	0.33	0.26
Max Torque	60.0	42.98	16.58	88.15	2574.66	90	105	986.86	38.33
Max Input Power	60.0	44.63	40.38	44.35	268.07	42	527	2318.9	86.46
Max Output Power	60.0	44.20	43.65	41.08	2654.8	38	584	2322.4	87.48
Max Efficiency	60.0	33.35	43.64	29.09	2002.0	28	609	1831.8	91.5



Controller Spec	Hub Motor controllers
Voltage System	48V/60V/72V
Max Dc current	45A-80A
CAN/NON CAN	Both are available
Sensor	Hall Based



Model Number	MW-12 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	45A-80A
Rated Power	1200W-3000W
Max Speed	45Kmph-80Kmph
Brake system	Disc
Rim Size(WxL)	2.15 "X12"
IP Rating	IP67



Model Number	MW-12 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	30A-50A
Rated Power	1200W-1500W

Max Speed	45Kmph-80Kmph
Brake system	130 Drum
Rim Size(WxL)	2.15 "X12"
IP Rating	IP67



Model Number	MW-17 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	45A-80A
Rated Power	1500W-3000W

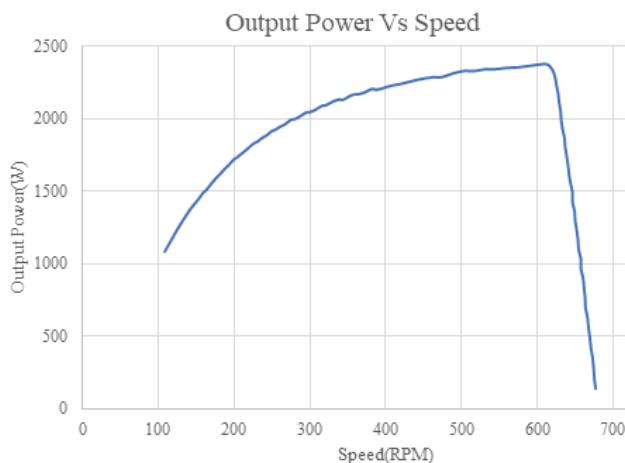
Max Speed	60Kmph-100Kmph
Brake system	130 Drum/Disc
Rim Size(WxL)	3.5 "X17"
IP Rating	IP67



Model Number	MW-17 inch Hub Motor
Voltage Rating	48V/60V/72V
Max DC Current	45A-80A
Rated Power	1500W-3000W

Max Speed	60Kmph-100Kmph
Brake system	130 Drum/Disc
Rim Size(WxL)	2.5 "X17"
IP Rating	IP67

Performance Curves



Load Test Data

DC Voltage	DC Current	RMS line to line Voltage	RMS line Current	Input Power	Torque	Speed	Output Power	System Efficiency
V	A	V	A	W	N-m	RPM	W	%
60.73	4.50	45.46	3.86	278	1.5	696	109	39.27
60.30	5.16	44.24	3.91	309	2.0	678	142	45.82
59.93	10.12	44.23	6.87	606	6.0	671	422	69.59
60.21	25.89	44.16	19.47	1558	19.9	650	1360	87.34
59.99	32.10	44.21	24.40	1924	25.0	641	1679	87.28
59.89	44.58	43.47	35.27	2672	36.9	612	2372	88.77
60.10	40.53	44.20	31.78	2436	33.0	628	2116	91.00
60.26	44.21	41.22	37.14	2650	38.9	576	2351	88.72
60.22	44.27	40.27	38.18	2655	40.0	560	2346	88.38
59.90	44.34	37.80	41.02	2658	43.0	516	2324	87.45
60.06	44.03	36.28	42.96	2647	44.9	491	2311	87.31
60.21	44.09	34.12	45.87	2652	48.0	453	2275	85.8
59.98	43.97	32.18	48.93	2647	51.0	418	2234	84.4
59.96	44.43	30.65	52.18	2666	54.0	388	2197	82.4
59.97	44.48	29.24	55.29	2666	56.9	363	2166	81.23
59.98	44.13	28.34	58.08	2645	59.0	344	2128	80.46
59.99	44.09	27.20	61.39	2642	61.9	322	2092	79.17
59.99	44.12	25.63	64.79	2645	66.0	295	2040	77.13
59.91	44.02	24.25	65.31	2639	69.0	275	1990	75.41
59.96	43.60	23.84	65.68	2621	70.0	267	1957	74.64
59.95	43.94	22.66	66.68	2640	73.0	250	1913	72.45
59.90	44.21	22.05	68.35	2639	75.1	238	1867	70.75
59.97	43.30	20.17	76.08	2597	82.1	200	1716	66.08
59.95	43.53	19.57	78.62	2610	84.1	188	1653	63.31
60.10	43.01	18.40	83.28	2576	88.2	163	1504	58.38
59.96	42.70	17.45	86.34	2557	91.3	148	1409	55.11
59.97	40.89	16.13	89.05	2450	94.4	126	1245	50.81
60.12	38.34	14.84	89.24	2312	95.8	109	1084	46.88

Performance Details

Parameters	DC Voltage	DC Current	RMS Line to Line Voltage	RMS Line Current	Input Power	Torque	Speed	Output power	System Efficiency
	V	A	V	A	W	Nm	RPM	W	%
No Load	61.73	4.50	45.46	3.86	278	1.5	696	109	39.27
Max Torque	60.12	38.34	14.84	89.24	2312	95.08	109	1085	46.88
Max Input Power	60.02	44.77	39.39	39.09	2687	41	545	2339	86.99
Max Output Power	59.95	44.58	43.47	35.27	2672	36.99	612	2370	88.77
Max Efficiency	60.10	40.53	44.2	31.78	2436	33	628	2116	91.00

ELECTRIC THREE WHEELER MOTORS



Model Number	MW- Mid drive Motor
Voltage Rating	48V/60V/72V
Max DC Current	40A-100A
Rated Power	1000-1500W

Max Speed	2000RPM TO 3000RPM
Cooling	Forced Air Cooling
Gear Type	Helical Gear
IP Rating	IP67





Model Number	MW-Mid drive Motor
Voltage Rating	48V/60V/72V
Max DC Current	100A-150A
Rated Power	1800-3200W
Max Speed	2500RPM -4000RPM
Cooling	Forced Air /Natural Cooling
Gear Type	Helical/spline gear
IP Rating	IP67



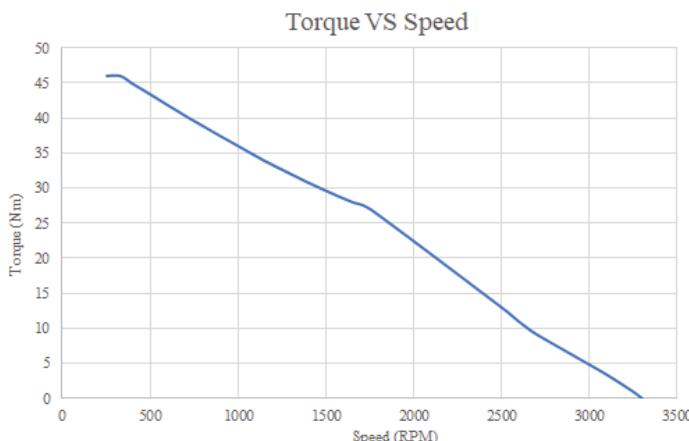
Model Number	MW- Mid drive Motor
Voltage Rating	48V/60V/72V
Max DC Current	150A-250A
Rated Power	3500-5000W
Max Speed	2500 RPM to 5000 RPM
Cooling	Forced Air/Natural cooling
Gear Type	Spline gear
IP Rating	IP67



Controller Spec	Hub Motor controllers
Voltage System	48V/60V/72V
Max Dc current	60A
CAN/NON CAN	Both are Available
Sensor based	Hall Based

Controller Spec	Hub Motor controllers
Voltage System	48V/60V/72V
Max Dc current	60A-300A
CAN/NON CAN	CAN Based
Sensor based	Hall & Encoder Based

Performance Curves



Load Test Data

DC Voltage	DC Current	RMS line to line Voltage	RMS line Current	Input Power	Torque	Speed	Output Power	System Efficiency
V	A	V	A	W	N-m	rpm	W	%
48	12.92	38.97	12.47	620.16	0	3302	1.38	0.22
48	18.94	38.97	18.04	909.12	1	3249	339.10	37.30
48	25.05	38.97	24.04	1202.40	2	3188	665.47	55.35
48	31.10	38.97	30.15	1492.80	3	3125	983.17	65.86
48	37.62	38.98	36.87	1805.76	4	3059	1280.16	70.89
48	62.00	38.58	70.91	2976.00	9	2710	2554.95	85.85
48	66.00	38.47	77.40	3168.00	10	2650	2775.93	87.62
48	69.50	38.35	83.64	3336.00	11	2598	2991.33	89.67
48	74.13	38.23	89.99	3558.24	12	2550	3309.12	93
48	80.02	38.11	96.35	3840.96	13	2500	3403.08	88.60
48	143.47	31.20	179.69	6886.56	27	1753	4958.11	72.00
48	143.40	29.69	186.47	6883.20	28	1654	4849.84	70.46
48	143.18	28.23	193.42	6872.64	29	1558	4731.15	68.84
48	142.87	26.90	200.12	6857.76	30	1469	4615.63	67.31
48	142.61	25.66	207.22	6845.28	31	1383	4491.01	65.61
48	142.31	24.48	214.33	6830.88	32	1303	4365.52	63.91
48	141.91	23.31	221.52	6811.68	33	1222	4222.68	61.99
48	141.42	22.16	228.67	6788.16	34	1145	4075.58	60.04
48	141.19	21.10	235.78	6777.12	35	1072	3930.44	58.00
48	141.09	20.08	242.98	6772.32	36	1002	3779.06	55.80
48	140.72	19.03	250.06	6754.56	37	932	3609.43	53.44
48	140.39	17.98	257.36	6738.72	38	860	3423.60	50.80
48	140.07	16.99	264.76	6723.36	39	792	3233.59	48.09
48	139.65	15.99	272.82	6703.20	40	722	3023.31	45.10
48	139.29	15.07	280.55	6685.92	41	656	2816.08	42.12
48	139.04	14.14	288.64	6673.92	42	590	2596.02	38.90
48	138.88	13.24	296.28	6666.24	43	526	2370.06	35.55
48	138.59	12.29	303.63	6652.32	44	460	2120.07	31.87
48	138.31	11.32	309.91	6638.88	45	394	1854.85	27.94
48	138.18	10.38	315.10	6632.64	46	327	1578.17	23.79
48	135.17	9.38	312.26	6488.16	46	252	1215.64	18.74

Performance Details

Parameters	DC Voltage	DC Current	RMS Line to Line Voltage	RMS Line Current	Input Power	Torque	Speed	Output power	System Efficiency
	V	A	V	A	W	N-m	rpm	W	%
No Load	48.0	12.92	38.97	12.47	620.16	0	3302	1.38	0.22
Max Torque	48.0	135.17	9.38	312.26	6488.16	46	252	1215.64	18.74
Max Input Power	48.0	143.47	31.20	179.69	6886.56	27	1753	4958.11	72.00
Max Output Power	48.0	143.47	31.20	179.69	6886.56	27	1753	4958.11	72.00
Max Efficiency	48.0	74.13	38.23	89.99	3558.24	12	2550	3309.12	93

EV Motors Production Line



Production line Details:

Our factory has professional production Automatic Winding machine, Automatic magnet assembly machine, Automatic motor assembly and testing machines.

We have fully automated manufacturing facility built with total capacity of **2000 motors per day**. Separate production lines installed for Mid and Hub motors.

R&D dyno for Hub and mid motor Testing

Motor Testing Dyno For R&D

Testing motor type: Hub motor &
Mid motor & Axial flux motor

Max Power of Dyno : 24kw
Max Speed : 10000 rpm
Max Torque : 300N.m

Setup1: Highspeed & Lowtorque
[10,000RPM&10Nm]

Setup2: Lowspeed & Hightorque
[1000RPM&100Nm]

The Load motor is controlled by a Servo
Drive which is controlled by NI PXI Controller.



The Test Bench monitors the real time data of the parameters like torque, voltage, current, speed & angle. with its respective sensors using NI Data Acquisition and also controls the process in the test bench system.

The Test Bench System controls the power supply, Thermal chamber and servo motor.

The Test system executes systematically as per the required sequence.

The Torque sensor is used for measuring the DUT motor torque(min & max) and the Encoder is used for measuring the DUT speed and position.

A Thermal chamber is used for measuring the Temperature and Performance of DUT motor at different temperature levels.(Ex: -40 °C to +150 °C)

Vehicle dyno for 2 wheeler Testing (On road Test)

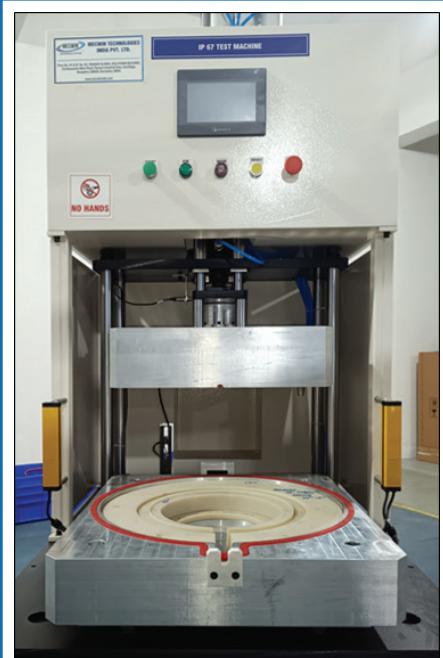


Chassis Dyno – Electric Two wheeler

Basic Functional Test possible are: -

- Acceleration or Deceleration Performance
- Grade Effects on Vehicle Performance
- Max Speed Validation
- Steady State Speed Test
- Vehicle Coast Down Characteristic Test
- Range Test
- Measurement of Electrical Energy Consumption (by using Power Analyzer)
- Net Power Test
- Gradient Test up to 30 degree inclination.
- Vehicle Power at Wheel Test (30 min Power Test)
- Road Load Simulation Mode to simulate Road Load Condition in Lab

In-house Reliability Testing Facilities



**IP-67 Testing Machine
Controlled by Pressure**



Dust Chamber



Environmental Test Chamber

Temperature range: 40deg c to +180deg c

Humidity range: 10%RH -98%RH



Salt Spray Test Machine

Dry cycle: Temp:55deg c

Wet Cycle : Temp:55deg c, Humidity:95-100%RH



R&D

R&D is the life of company, our engineers regularly talk with customers to study & learn from market innovate constantly & improve the performance of the motor.



Innovations

We keep and push ourselves for innovation to stay improvement of the service for our customers we are leading hub motor supplier in this field.



Customized Service

No matter from the design of motors constructions, to the customised packing for our customers, Mecwin are always listening and thinking about our customers for the best solutions.



Quality

We keep and push ourselves for innovation to stay improvement of the service for our customers we are leading hub motor supplier in this field.



Service

The dedicated integration team will work with customers to get complete power train solution for their vehicles



Experience

We keep and push ourselves for innovation to stay improvement of the service for our customers we are leading hub motor supplier in this field.



EMPOWERING FUTURE

Manufacturing Site **Mecwin Green Propulsions Pvt Ltd - EV Motors**

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