

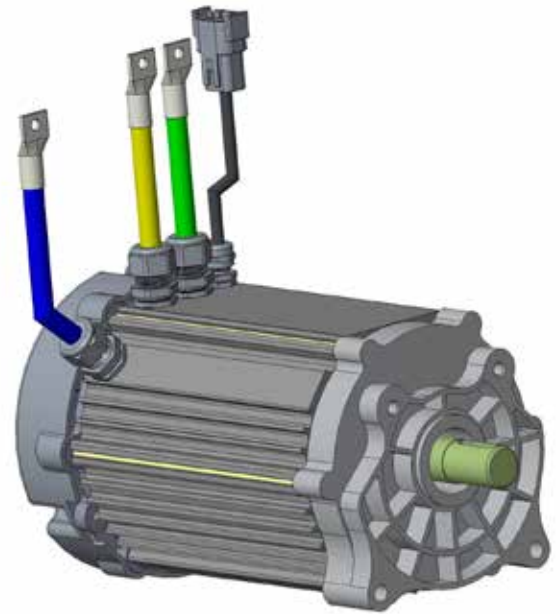
Mid Drive Motor

Technical Data Sheet



Overview

The Mecwin L5 Motor is a next-generation Permanent Magnet Synchronous Motor designed for superior performance and reliability in electric mobility applications. Engineered with advanced technology, it delivers smooth, powerful, and efficient operation while ensuring long-term durability. The motor reflects Mecwin's commitment to innovation and sustainability, offering a perfect balance of power, precision, and eco-friendly design. Built for modern mobility needs, the L5 motor embodies excellence in engineering and stands as a testament to Mecwin's vision for a cleaner and smarter future in electric propulsion.



Motor Specification :

Motor Specification			
Features	Specifications	Features	Specifications
Operating Voltage	48 V	Rated Torque	11 Nm
Rated Power	4.0 kW	Peak Torque	35 Nm
Peak Power	6.2 kW	Max Speed	4500 Rpm

Performance Details :

Parameter	DC Voltage	DC Current	Input Power	Torque	Speed	Output Power	System Efficiency
	V	A	W	N-m	RPM	W	%
No load	48	9.68	464	0.6	4492	282	60.68
Max Torque	48	76.36	3665	34.83	327	1191	32.49
Max Output Power	48	150.69	7233	21.45	2796	6281	86.84
Max Efficiency	48	90.38	4338	11.17	3422	4002	92.25

For More Information, Contact Mecwin :

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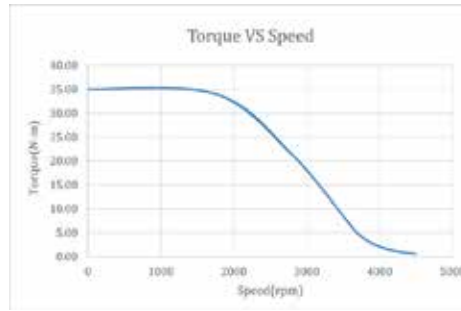
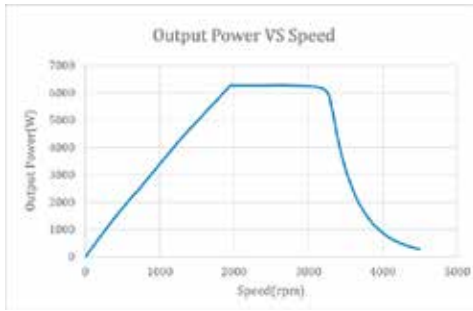
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Performance Curves :



Technical Data :

DC Voltage	DC Current	Input Power	Torque	Speed	Output Power	System Efficiency
(V)	(A)	(W)	(N-m)	(RPM)	(W)	(%)
48	9.68	464	0.6	4492	282	60.68
48	10.95	526	0.71	4424	327	62.11
48	12.4	595	0.83	4358	378	63.57
48	14.04	674	0.98	4293	439	65.07
48	15.9	763	1.15	4228	508	66.6
48	18	864	1.35	4165	589	68.17
48	20.38	978	1.59	4102	682	69.78
48	23.07	1107	1.87	4041	791	71.42
48	26.12	1254	2.2	3980	916	73.1
48	29.57	1419	2.59	3920	1062	74.82
48	33.48	1607	3.04	3862	1231	76.58
48	37.91	1819	3.58	3804	1426	78.38
48	42.91	2060	4.21	3747	1653	80.23
48	48.59	2332	4.96	3690	1915	82.12
48	55.01	2640	5.83	3635	2219	84.05
48	62.28	2989	6.86	3581	2572	86.03
48	70.51	3385	8.07	3527	2980	88.06
48	79.83	3832	9.5	3474	3454	90.13
48	90.38	4338	11.17	3422	4002	92.25
48	106.33	5104	13.15	3371	4638	90.87
48	132.21	6346	15.47	3320	5680	89.5
48	144.72	6946	18.19	3216	6124	88.16
48	150.69	7233	21.45	2796	6281	86.84
48	151.74	7284	25.04	2376	6230	85.54
48	153.38	7362	27.33	2020	6203	84.25
48	150.87	7242	28.99	1980	6010	82.99
48	140.94	6765	30.85	1950	5530	81.74
48	128.33	6160	31.48	1505	4960	80.52
48	111.75	5364	32.12	1265	4254	79.31
48	78.4	3763	32.78	696	2388	63.45
48	93.87	4506	33.45	653	2287	50.76
48	84.79	4070	34.13	463	1653	40.61
48	76.36	3665	34.83	327	1191	32.49

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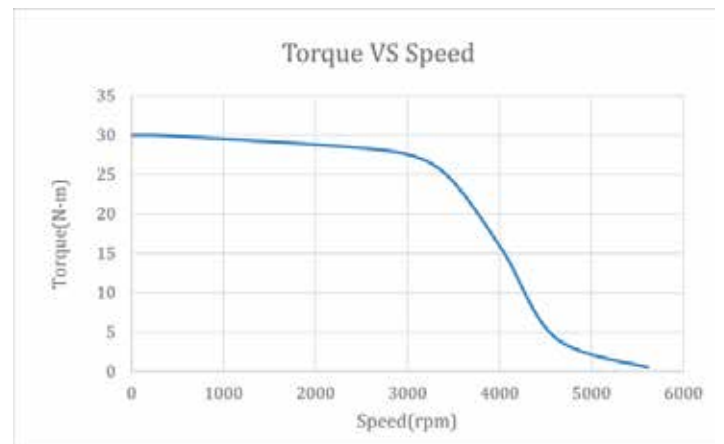
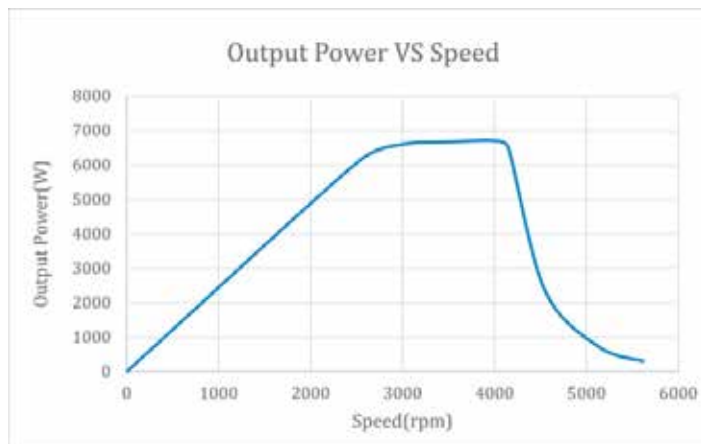


Motor Specification :

Motor Specification			
Parameters	Specifications	Parameters	Specifications
Operating Voltage	60 V	Rated Torque	9 Nm
Rated Power	4.0 kW	Peak Torque	30 Nm
Peak Power	6.7 kW	Max Speed	5600 Rpm

Performance Details :

Parameter	DC Voltage	DC Current	Input Power	Torque	Speed	Output Power	System Efficiency
	V	A	W	N-m	RPM	W	%
No load	60	8.29	497.1	0.52	5615	303.2	61
Max Torque	60	65.35	3921.1	29.91	409	1280.3	32.7
Max Output Power	60	128.94	7736.6	18.45	3495	6752.1	87.3
Max Efficiency	60	77.34	4640.4	9.61	4278	4302.2	92.7



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Technical Data :

DC Voltage	DC Current	Input Power	Torque	Speed	Output Power	System Efficiency
(V)	(A)	(W)	(N-m)	(RPM)	(W)	(%)
60	8.29	497.1	0.52	5615	303.2	61
60	9.39	563.2	0.61	5530	351.5	62.4
60	10.6	636	0.71	5448	406.4	63.9
60	12.03	721.6	0.84	5366	471.9	65.4
60	13.6	815.9	0.99	5285	546.1	66.9
60	15.4	924.2	1.16	5206	633.2	68.5
60	17.42	1045.4	1.37	5128	733.2	70.1
60	19.74	1184.7	1.61	5051	850.3	71.8
60	22.34	1340.4	1.89	4975	984.7	73.5
60	25.3	1518.3	2.23	4900	1141.7	75.2
60	28.66	1719.4	2.62	4828	1323.3	77
60	32.43	1946.1	3.08	4755	1533	78.8
60	36.73	2203.8	3.62	4684	1777	80.6
60	41.57	2494.4	4.26	4613	2058.6	82.5
60	47.07	2824	5.01	4544	2385.4	84.5
60	53.3	3197.9	5.9	4476	2764.9	86.5
60	60.33	3619.8	6.94	4409	3203.5	88.5
60	68.32	4099.2	8.17	4343	3713.1	90.6
60	77.34	4640.4	9.61	4278	4302.2	92.7
60	90.99	5459.5	11.3	4214	4985.9	91.3
60	113.14	6788.4	14.05	4150	6106	89.9
60	123.84	7430.3	15.64	4020	6583.3	88.6
60	128.94	7736.6	18.45	3495	6752.1	87.3
60	129.84	7790.4	21.53	2970	6697.3	86
60	131.26	7875.4	25.22	2525	6668.2	84.7
60	129.1	7746.2	24.93	2475	6460.8	83.4
60	120.61	7236.6	23.29	2438	5944.8	82.1
60	109.82	6589	27.07	1881	5332	80.9
60	95.62	5737.4	27.62	1581	4573.1	79.7
60	67.1	4025.7	28.18	870	2567.1	63.8
60	80.32	4819.3	28.76	816	2458.5	51
60	72.57	4353.9	29.32	579	1777	40.8
60	65.35	3921.1	29.91	409	1280.3	32.7

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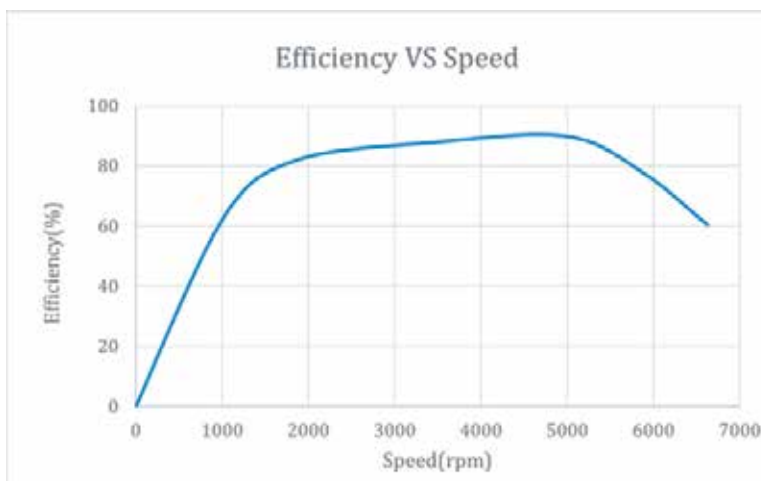
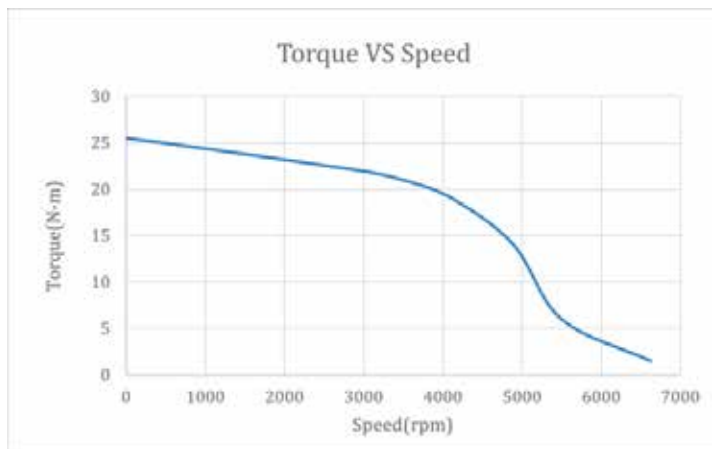
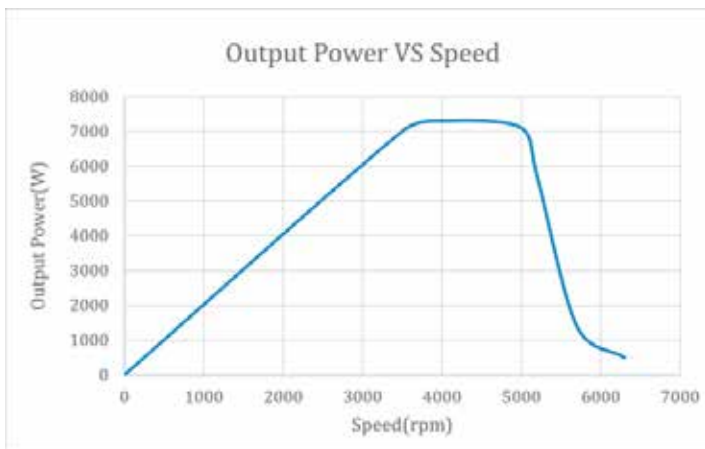
Motor Specification :

Motor Specification

Parameters	Specifications	Parameters	Specifications
Operating Voltage	72 V	Rated Torque	8 Nm
Rated Power	4.0 kW	Peak Torque	27 Nm
Peak Power	7.1 kW	Max Speed	6600 Rpm

Performance Details :

Parameter	DC Voltage	DC Current	Input Power	Torque	Speed	Output Power	System Efficiency
	V	A	W	N-m	RPM	W	%
No load	72	7.4	531	0.46	6626	321	60.5
Max Torque	72	58.2	4188	26.87	482	1357	32.4
Max Output Power	72	114.8	8262	16.57	4124	7157	86.6
Max Efficiency	72	68.8	4956	8.63	5047	4560	92



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Technical Data :

DC Voltage	DC Current	Input Power	Torque	Speed	Output Power	System Efficiency
(V)	(A)	(W)	(N-m)	(RPM)	(W)	(%)
72	7.4	531	0.46	6626	321	60.5
72	8.4	601	0.55	6525	373	62
72	9.4	679	0.64	6428	431	63.4
72	10.7	771	0.75	6332	500	64.9
72	12.1	871	0.89	6236	579	66.4
72	13.7	987	1.04	6143	671	68
72	15.5	1116	1.23	6050	777	69.6
72	17.6	1265	1.44	5960	901	71.2
72	19.9	1431	1.7	5871	1044	72.9
72	22.5	1621	2	5782	1210	74.6
72	25.5	1836	2.35	5696	1403	76.4
72	28.9	2078	2.77	5611	1625	78.2
72	32.7	2354	3.25	5527	1884	80
72	37	2664	3.83	5443	2182	81.9
72	41.9	3016	4.5	5362	2529	83.8
72	47.4	3415	5.3	5282	2931	85.8
72	53.7	3866	6.23	5202	3396	87.8
72	60.8	4378	7.34	5124	3936	89.9
72	68.8	4956	8.63	5047	4560	92
72	81	5831	10.15	4972	5285	90.6
72	100.7	7250	12.62	4897	6472	89.3
72	110.2	7935	14.05	4744	6978	87.9
72	114.8	8262	16.57	4124	7157	86.6
72	115.6	8320	19.34	3505	7099	85.3
72	116.8	8411	20.9	2980	7068	84
72	114.9	8273	22.39	2921	6848	82.8
72	107.3	7728	22.7	2876	6301	81.5
72	97.7	7037	24.31	2220	5652	80.3
72	85.1	6127	24.81	1866	4847	79.1
72	59.7	4299	25.31	1027	2721	63.3
72	71.5	5147	25.84	963	2606	50.6
72	64.6	4650	26.34	683	1884	40.5
72	58.2	4188	26.87	482	1357	32.4

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Gear Box Combinations :

Motor Power	3 kW	5 kW	7.5 kW	10 kW	12 kW	15 kW
Voltage Options	72V	72V /96V	96V	96V /120V	120V	120V /144V
Rated Torque (Nm)	60	95	120	150	170	200
Peak Torque (Nm)	120	160	180	220	250	300
Rated Power (kW)	3	5	7.5	10	12	15
Peak Power (kW)	6	8	10	15	18	22
Rated Current (A)	65	80	90	110	130	150
Peak Current (A)	130	150	180	200	230	270
Rated Speed (RPM)	3200	3300	3500	3500	3600	3600
Peak Speed (RPM)	4000	4000	4200	4500	4500	4800
Differential / Axle Type (42" 46" 48" 52" 56" 62" 66" 68" 72" higher based on request	3W Cargo Axle (56")	Heavy Duty 3W Axle	L5 4W Differential (Local/Chinese)	Heavy 4W Differential (5T rated)	Reinforced 4W Diff. (5T rated)	Heavy Duty 4W Diff. (6T rated)
Gear Ratio (1:8 /1:16 /1:13 /1:26)	12:01	12:01	12:01	13:01	13:01	14:01
Wheel RPM at Rated	267	275	292	269	277	257
Wheel RPM at Peak	333	333	350	346	346	343
Wheel Size (inch)	10	10	12	13	14	14.5
Tyre Size	4.00-8	4.00-10	145/70-12	155/65-13	165/60-14	175/60-14
Payload (kg)	500-600	700-800	900-1000	1200+	1500	1800-2000
Vehicle Load incl. Passengers (kg)	~750	~1000	~1300	~1600	~2000	~2500
Self Weight (kg)	~350	~450	~500	~700	~800-1000	~1000-1200
GVW (kg)	~800	~1000	~1500	~2000- 2200	~2500	~3000- 3200
Battery Capacity (kWh)	7-8	8-10	12-15	15-18	18-22	22-26
Top Speed (km/h)	40	45-50	55-60	65-70	70-75	75-80
Range (km)	70-100	60-90	100-120	90-120	90-130	80-120
Vehicle Category	L5 Cargo / Loaders	L5 Cargo 3W / Light 4W	L5 Passenger 4W	L5 Cargo 4W / Mini LCV	4W LCV Cargo	LCV / Mini- Truck
Vehicle Type / Application	Cargo 3W / Mini loader	Heavy cargo 3W	Micro EV, L5 passenger 4W	Mini LCV / light cargo EV	4W LCV Cargo / goods	LCV / Mini Truck EV

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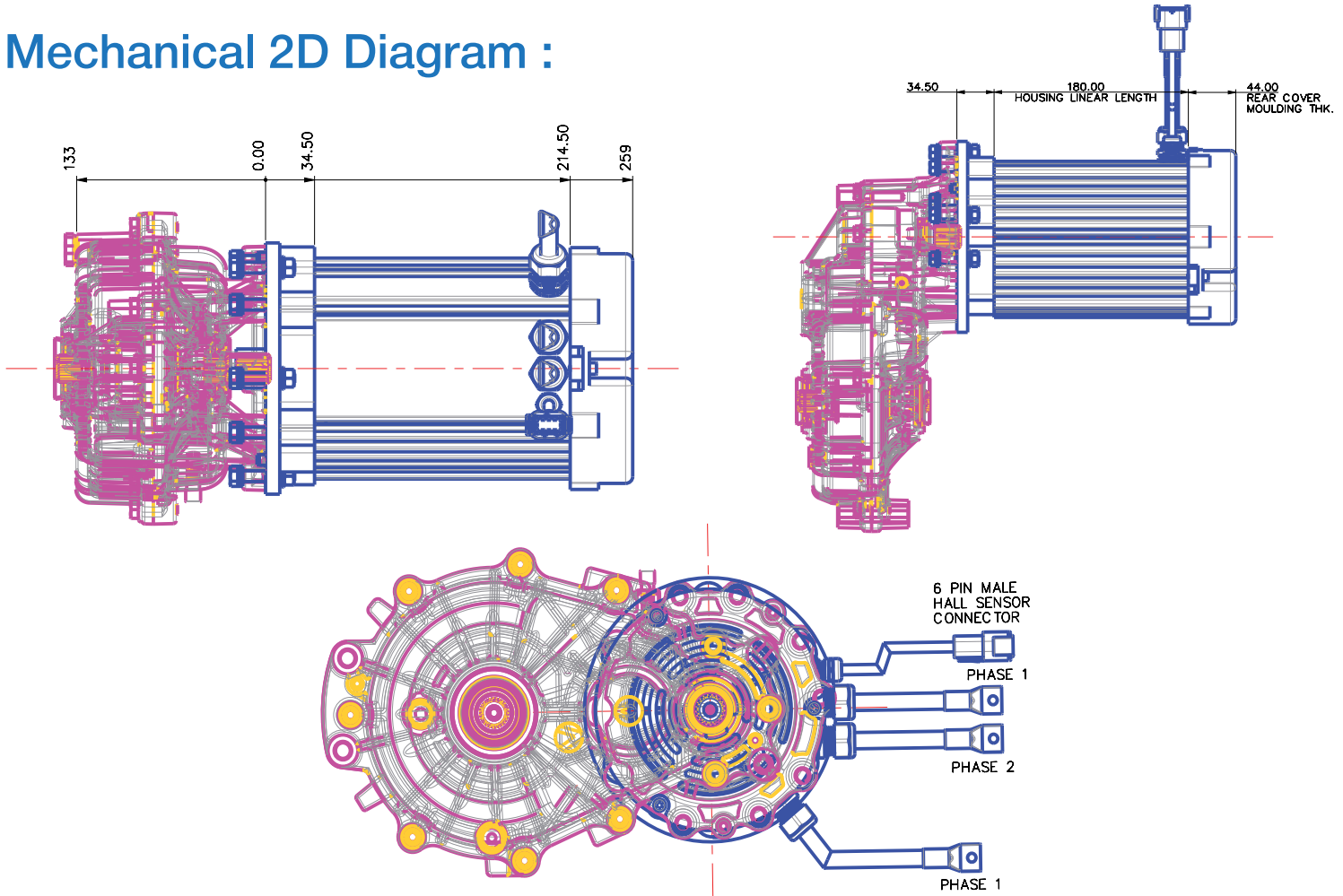
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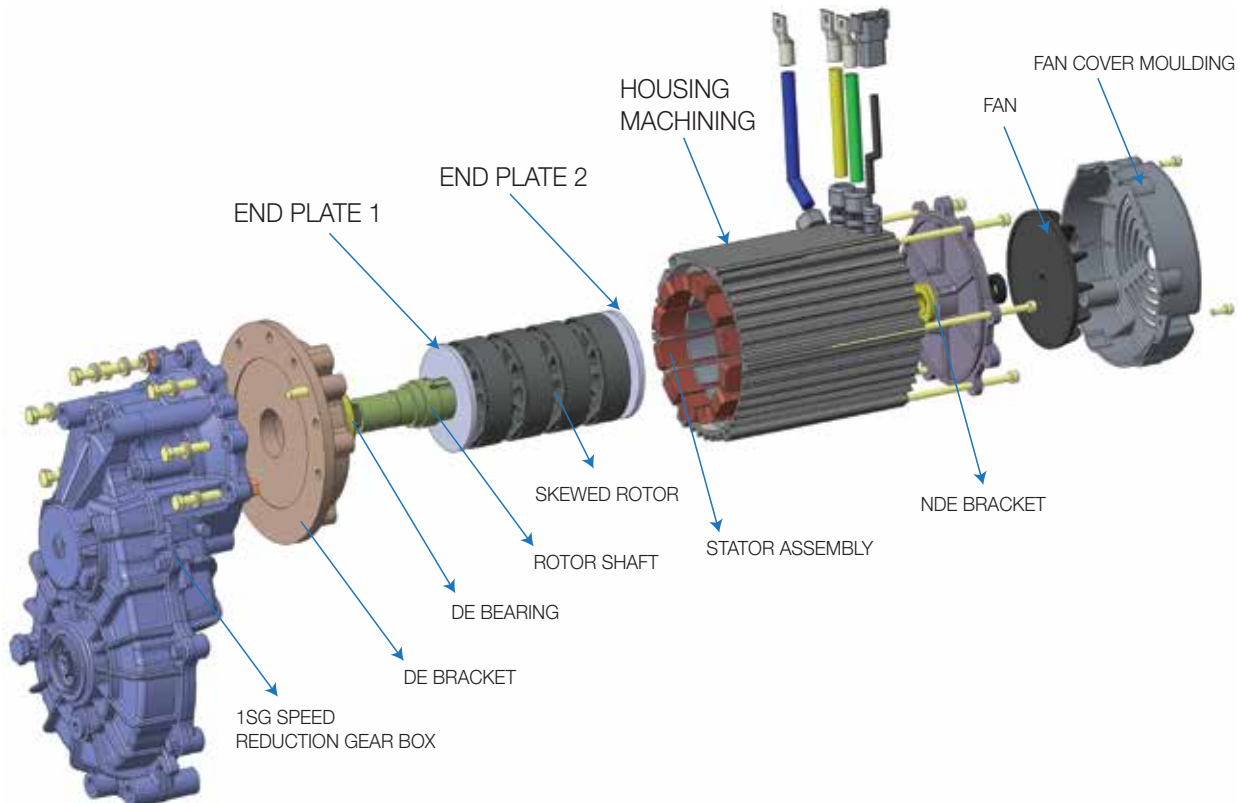
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Mechanical 2D Diagram :



Exploded View :



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