

Axial Motor



FOC
Drive

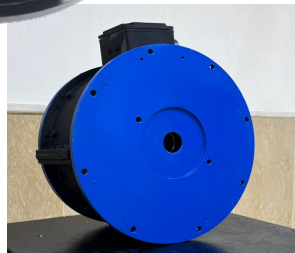
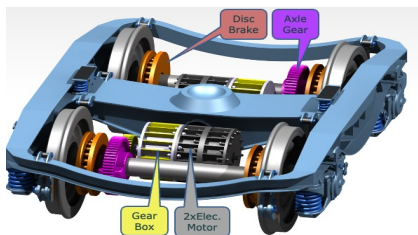
Wet
Brake

Planetary
Gearbox

Hub
Bearing



This "Axial Flux Motor" with PMSM structure has 9 sizes. Peak Power range is 62-1336 kW and can use on triple stack.



Motor, Axial Flux PMSM				Continuous			Peak			Electrical			Mechanical		
M	Nominal Dia.	External Width	Total Weight	Torque	Speed	Power	Torque	Speed	Power	Stator Coils	Rotor Magnets	Input Cable mm2	Ref. Dia. DIN 5480	Bearing Size ###	Oil ΔT=20°C Lit/min
#	Inches	mm	kg	Nm	RPM	kW	Nm	RPM	kW	#	#				
1	008" ST	24	96	31			192		62			3x10			3
2	010" ST	38	150	48	3000	48	300	6000	97	12	10	3x25	030-040	6208	4
3	012" ST	55	216	70			432		139			3x35			6
4	016" XS	121	384	99			768		198			3x50			9
5	020" XS	190	600	155	2400	155	1200	4800	309	18	16	3x70	040-050	6210	14
6	024" XS	273	864	223			1728		445			3x95			20
7	032" XS	607	1536	297			3072		594			3x120			27
8	040" XS	949	2400	464	1800	464	4800	3600	928	24	22	3x185	050-080	6216	42
9	048" XS	1366	3456	668			6912		1336			3x300			60

540 Volts AC, 2 Stators & 1 Rotor.

Peak Power only for 30s, Continuous Torque & Power are 50% of Peaks.

Torques & RPMs between Continuous & Peak can be used Continuously when Power is less than 40% of Peak Power.

Motor is Stage 1.

Hub min hardness is 60RC.

Axial Motor



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FOC Drive

Wet Brake

Planetary Gearbox

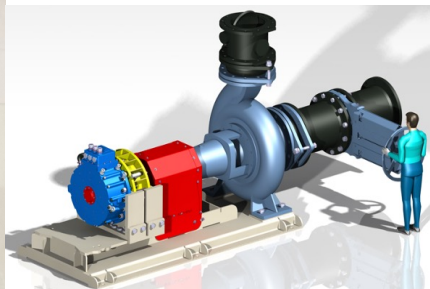
Hub Bearing

Drive: FOC: 0-500 Volts						
D #	Peak Power kW	Input Voltage V DC	Overall Length mm	Overall Width mm	Overall Height mm	Input Cable mm2
1	62	540±5%	350	250	140	4x10
2	97					4x25
3	139					4x35
4	198	540±5%	400	300	160	4x50
5	309					4x70
6	445					4x95
7	594	540±5%	450	350	180	4x120
8	928					4x185
9	1336					4x300
						Total Weight kg
						13
						20
						29

Peak Power only for 30s, Continuous Power is 50% of Peak.
Brake efficiency is 80%.

This "FOC Drive" with IGBT switching has 9 sizes.

Peak Power range is 62-1336 kW.



Axial Motor



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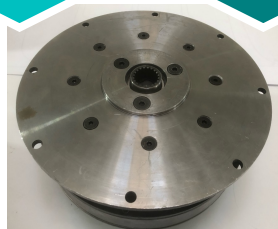
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FOC Drive

Wet Brake

Planetary Gearbox

Hub Bearing



This "Planetary Gearbox" has 9 ratios for each motor size with capability of triple stages. Peak Power range is 62-3x1336 kW.

Gearbox Combi Ratios											
Stage 1	Stage 2		Stage 3								
			Ratio7 4.00	Ratio8 3.25	Ratio9 2.50						
Ratio1 6.00	Ratio4	4.67	112.00	91.00	70.00				28.00		
	Ratio5	3.75	90.00	73.13	56.25				22.50		
	Ratio6	2.69	64.62	52.50	40.38				16.15		
Ratio2 5.29	Ratio4	4.67	24.00	19.50	15.00				6.00		
	Ratio5	3.75	98.67	80.17	61.67				24.67		
	Ratio6	2.69	79.29	64.42	49.35				19.82		
	-	-	56.92	46.25	35.58				14.23		
	-	-	21.14	17.18	13.21				5.29		
Ratio3 3.00	Ratio4	4.67	56.00	45.50	35.00				14.00		
	Ratio5	3.75	45.00	36.56	28.13				11.25		
	Ratio6	2.69	32.31	26.25	20.19				8.08		
	-	-	12.00	9.75	7.50				3.00		
-	Ratio4	4.67	18.67	15.17	11.67				4.67		
	Ratio5	3.75	15.00	12.19	9.38				3.75		
	Ratio6	2.69	10.77	8.75	6.73				2.69		
	-	-	4.00	3.25	2.50				1.00		

Axial Motor



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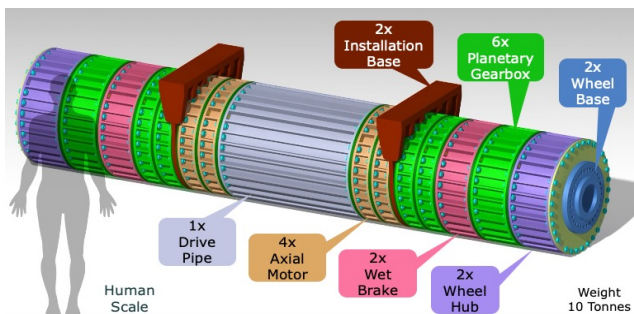
FOC Drive

Wet Brake

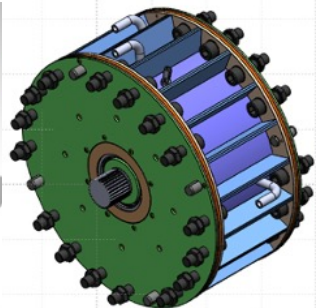
Planetary Gearbox

Hub Bearing

This "Hydraulic Wet Brake" multi pad structure has 9 sizes in 4 stages. Peak Braking Torque range is 1-215 kNm.



Weight
10 Tonnes



Brake: Stage 1							
#	B	Shaft-Hub Ref. Dia. DIN 5480	Total Width mm	Total Weight kg	Pad Numbers	Hydraulic Piston mm	Brake Torque kNm
11	21	030-040	170	22	02	04x8032	1.0
31	21			34			1.2
41	31			48			1.5
51	41	040-050	200	101	03	04x8060	10
61	51			158			13
71	61			228			15
81	71	050-080	220	445	04	06x100	114
91	81			696			143
	91			1002			172

Install after motor.

Brake: Stage 2							
#	B	Shaft-Hub Ref. Dia. DIN 5480	Total Width mm	Total Weight kg	Pad Numbers	Hydraulic Piston mm	Brake Torque kNm
12	22	040-050	200	25	04	05x832	3
32	22			57			4
42	32			111			11
52	42	050-080	220	174	05	06x840	14
62	52			250			17
72	62			506			57
82	72	080-120	250	790	06	08x850	71
92	82			1138			86

Install After Gearbox Stage2.

Brake: General Spec.					
Peak Power kW	Nominal Dia. Inches	Pad Ext Dia mm	Pad Int Dia mm	Pad Ext Dia mm	Pad Int Dia mm
62	008" ST	185	130		
97	010" ST	228	152		
139	012" ST	274	182		
198	016" XS	362	241		
309	020" XS	453	302		
445	024" XS	545	363		
594	032" XS	727	485		
928	040" XS	910	607		
1336	048" XS	1094	729		

Brake: Stage 3							
#	B	Shaft-Hub Ref. Dia. DIN 5480	Total Width mm	Total Weight kg	Pad Numbers	Hydraulic Piston mm	Brake Torque kNm
13	23	050-080	220	43	05	06x832	4
23	23			83			5
33	33			126			21
43	43	080-120	250	198	07	08x840	27
53	53			285			32
63	63			567			95
73	73	120-180	280	885	08	10x850	119
83	83			1275			143
93	93						

Install After Gearbox Stage3.

Brake: Stage 4							
#	B	Shaft-Hub Ref. Dia. DIN 5480	Total Width mm	Total Weight kg	Pad Numbers	Hydraulic Piston mm	Brake Torque kNm
14	24	080-120	250	32	07	07x832	6
24	24			49			7
34	34			142			34
44	44	120-180	280	221	09	10x840	43
54	54			319			51
64	64			607			143
74	74	180-240	300	949	10	12x850	179
84	84			1366			215
94	94						

Install After Gearbox Stage4.

All the Bearings are 618#
Rubber Seal: DIN 3760
Hub min. Hardness is 60RC.

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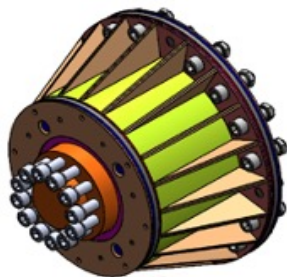
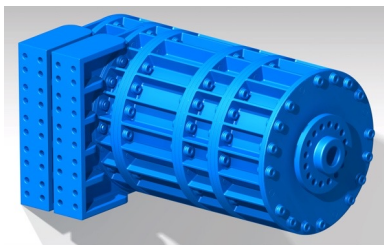
FOC Drive

Wet Brake

Planetary Gearbox

Hub Bearing

This "Hub Bearing" double bearing structure has 9 sizes in 4 stages. Peak Load range is 2x9-2x320 kN for 1 Billion Rev.



Hub, Stage 1							
H #	Peak Power kW	Nominal Dia. Inches	Shaft Ref. Dia. DIN 5480	Hub Bearings 313#	Load 1 BRev kN	Total Width mm	Total Weight kg
11	62	008" ST	030-040	31308	9	150	19
21	97	010" ST				30	22
31	139	012" ST				43	34
41	198	016" XS	040-050	31312	18	86	48
51	309	020" XS				134	101
61	445	024" XS				194	158
71	594	032" XS	050-080	31320	62	405	228
81	928	040" XS				632	506
91	1336	048" XS				911	790

Install after motor or Brake Stage1.

Hub, Stage 3							
H #	Peak Power kW	Nominal Dia. Inches	Shaft Ref. Dia. DIN 5480	Hub Bearings 313#	Load 1 BRev kN	Total Width mm	Total Weight kg
13	62	008" ST	050-080	31320	62	200	25
23	97	010" ST				40	32
33	139	012" ST				57	49
43	198	016" XS	080-120	31328	74	126	71
53	309	020" XS				198	152
63	445	024" XS				285	237
73	594	032" XS	120-180	31340	140	607	341
83	928	040" XS				949	708
93	1336	048" XS				1366	1107

Install after Gearbox Stage3 or Brake Stage3.

Hub, Stage 2							
H #	Peak Power kW	Nominal Dia. Inches	Shaft Ref. Dia. DIN 5480	Hub Bearings 313#	Load 1 BRev kN	Total Width mm	Total Weight kg
12	62	008" ST	040-050	31312	18	170	22
22	97	010" ST				30	34
32	139	012" ST				43	48
42	198	016" XS	050-080	31320	62	200	101
52	309	020" XS				194	158
62	445	024" XS				228	228
72	594	032" XS	080-120	31328	74	250	506
82	928	040" XS				790	790
92	1336	048" XS				1138	1138

Install after Gearbox Stage2 or Brake Stage2.

Hub, Stage 4							
H #	Peak Power kW	Nominal Dia. Inches	Shaft Ref. Dia. DIN 5480	Hub Bearings 313#	Load 1 BRev kN	Total Width mm	Total Weight kg
14	62	008" ST	080-120	31328	74	250	32
24	97	010" ST				49	49
34	139	012" ST				71	71
44	198	016" XS	120-180	31340	140	300	152
54	309	020" XS				237	237
64	445	024" XS				341	341
74	594	032" XS	180-240	31360	320	350	708
84	928	040" XS				1107	1107
94	1336	048" XS				1594	1594

Install after Gearbox Stage4 or Brake Stage4.

General Notes: Rubber Seal: DIN 3760

Hub min. Hardness is 60RC.

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