

# DATA SHEET

## Synchronous Alternator



Customer	: HooverTec LLC	Notes:	
Customer reference	:		
Product line	: AG10 250MI70AI	Product code	: 14416007
Area classification	: Safe		1010294323

<b>General data</b>		Degree of protection	: IP23
Frame (IEC)	: 250	Mounting style	: B15T
Insulation Class	: 180°C (H)	Number of poles	: 4
THD (L-L, no load)	: ≤ 3%	Type of Pole	: Salient
Stator winding pitch	: 2/3	Rated speed - 50 Hz	: 1500 rpm
Altitude	: up to 1000 m.a.s.l	Nominal rotation - 60 Hz	: 1800 rpm
Number of Leads	: 12	Overspeed	: 2250 rpm
Power factor	: 0.8 to 1.0	Approx. weight	: 843 kg
Excitation system	: Brushless with Auxiliary Coil	Overload	: 1.1x In per 1h each 6h
Cooling	: IC01	Momentary Overload	: 1.5x In per 30s

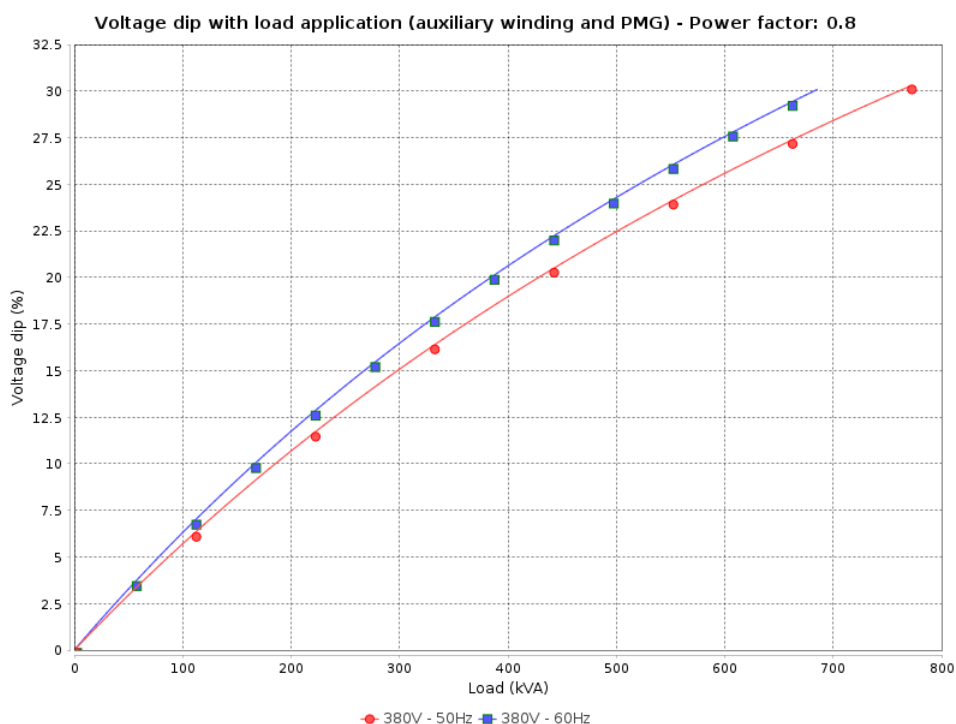
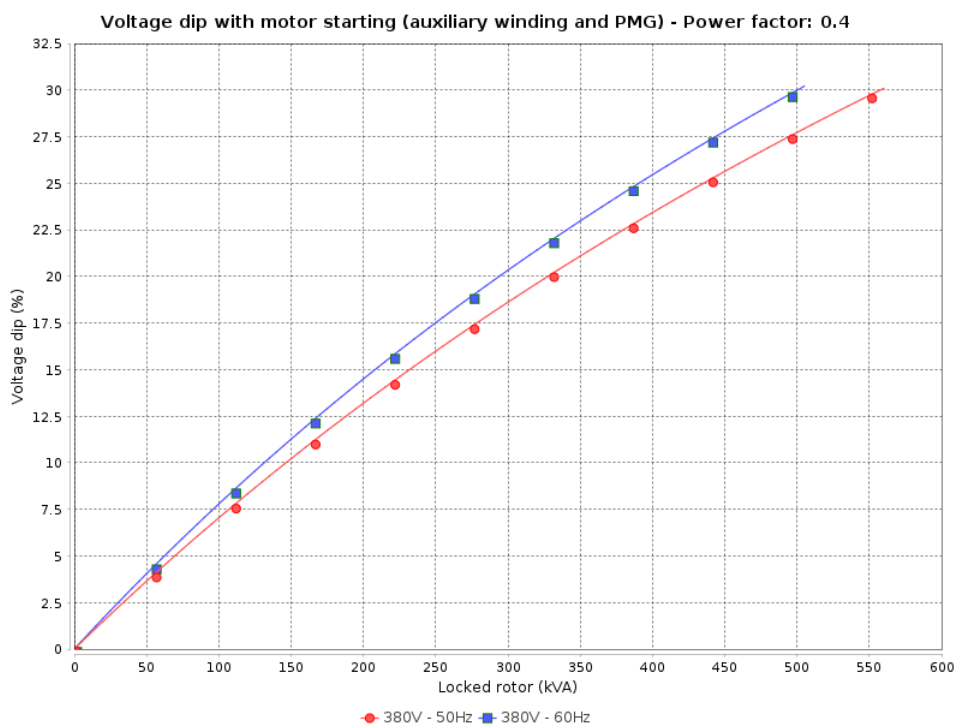
Frequency and number of phases		50 Hz				60 Hz			
		3ph		1ph	3ph		1ph		
Voltages (V)	Y (series star) connection	380	400	-	380	416	440	480	-
	YY (parallel star) connection	190	200	-	190	208	220	240	-
	Δ (series delta) connection	220	230	-	220	240	254	277	-
	ΔΔ (parallel delta) connection	110	115	-	110	120	127	138	-
	Zig-zag or single phase delta	-	-	-	190 - 200	-	-	-	220 - 240
Output power (kVA)	Continuous 80/40	220	220	127.0	244	257	256	292	148.0
	Continuous 105/40	252	252	145.5	288	294	293	335	169
	<b>Continuous 125/40</b>	<b>275</b>	<b>275</b>	<b>159</b>	<b>305</b>	<b>321</b>	<b>325</b>	<b>365</b>	<b>188</b>
	Standby 150/40	291	291	168	330	344	347	400	200
	Standby 163/27	300	300	173	360	376	380	417	219
Electrical data (FP=0.8 / Continuous 125/40 (H))	Xd(%) Dir. axis synchronous reactance	521.6	417.3	695.5	645.7	532.0	481.5	436.03	601.8
	X'd(%) Dir. axis transient reactance	19.9	15.9	26.5	24.6	20.3	18.4	16.64	23.0
	X''d(%) Dir. axis subtrans. reactance	13.4	10.8	17.9	16.6	13.6	12.3	11.22	17.6
	Xq(%) Quad. axis sync. reactance	144.2	115.4	192.3	178.6	147.1	133.1	120.57	177.5
	X''q(%) Quad. axis subtrans. react.	10.8	8.6	14.3	13.3	23.8	9.9	8.98	14.0
	X2(%) Negative sequence reactance	12.1	9.7	16.1	15.0	18.7	11.1	10.1	15.8
	X0(%) Zero sequence reactance	2.2	1.8	3.0	2.8	2.3	2.1	1.87	2.9
	T'd(ms) Short Circ.Trans.time const.	71.9	57.5	95.9	89.0	73.4	66.4	60.13	88.5
	T''d(ms) Short Circ. Sub. time const.	1.9	1.5	2.5	2.3	1.9	1.8	1.58	2.3
	T''do(ms) Open Circ. time const Trans	1434	1148	1913	1776	1463	1324	1199.11	1765
	T''do(ms) Open Circ. time const Subt	2.6	2.1	3.5	3.2	2.6	2.4	2.17	3.2
	Ta(ms) Armature time const.	12	10	16	15	12	11	9.95	15
	uc(V) Full load excitation voltage	62.9	61.9	62.9	55.6	56.3	55.1	60.71	55.1
ic(A) Full load excitation current	3.8	3.7	3.8	3.3	3.4	3.3	3.65	3.3	
ic(A) No load excitation current	0.7	0.9	1.0	0.6	0.7	0.7	0.89	1.0	
Icc(A) Sustained Short-Circ. Current	1253	1191	1191	1390	1336	1279	1317.08	1175	
Kcc Short-circuit ratio	0.19	0.24	0.14	0.15	0.19	0.21	0.23	0.17	
Efficiency (%)	Power factor	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0
	25% of load	91.5	93.4	91.7	93.5	84.2	85.9	92.1	93.7
	50% of load	92.7	94.5	92.8	94.6	85.3	86.9	93.2	94.8
	75% of load	92.1	94.1	92.4	94.4	84.8	86.6	92.6	94.4
	100% of load	91.2	93.5	91.6	93.8	83.9	86	91.6	93.7
	125% of load	90.2	92.6	90.7	93.2	80.8	83.4	90.4	92.8

<b>Other characteristics</b>		<b>Automatic voltage regulator</b>		<b>According to:</b>	
Air flow	: 1.7 m³/s	Accuracy (stability)	: +/- 0.5%	IEC 60034	
Exciter stator winding resistance at 20°C	: 12.17 ohm	Rated current	: 5 A	NBR 5117	
Stator winding resistance at 20°C	: 0.01207 ohm	Analog input	: Yes	NEMA MG1	
Rotor winding resistance	: 1.92 ohm	Digital input	: No	VDE530	
Stator winding layers	: 2	Peak current	: 7 A/10 s	ISO 8528	
Inertia WR²	: 3.23 kgm²	Droop / TC	: Yes	CSA	
NDE Bearing	: 6314 2RS	Dynamic recovery	: 8 to 500 ms		
DE bearing		U/F	: Yes		
Flange	: SAE 3	Internal voltage adjustment	: +/- 15%		
Coupling disc	: SAE 11,5	External voltage adjustment	: +/- 10%		
		Transient recovery time for ΔU=20%	: 500 ms		

Rev.	Changes Summary	Performed	Checked	Date
Performed by				
Checked by			Page	Revision
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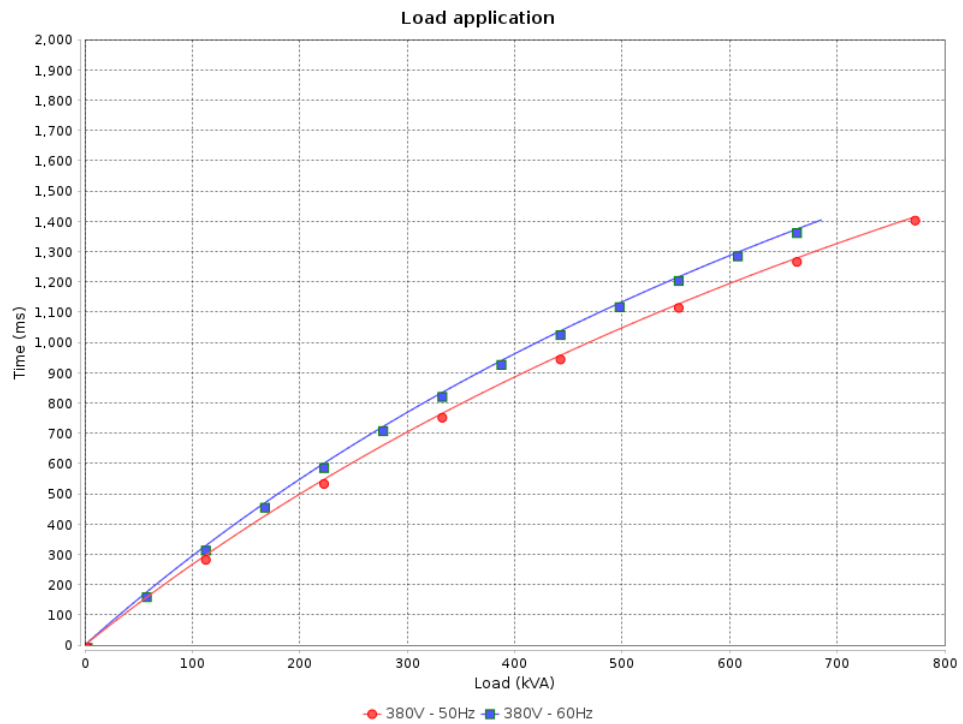
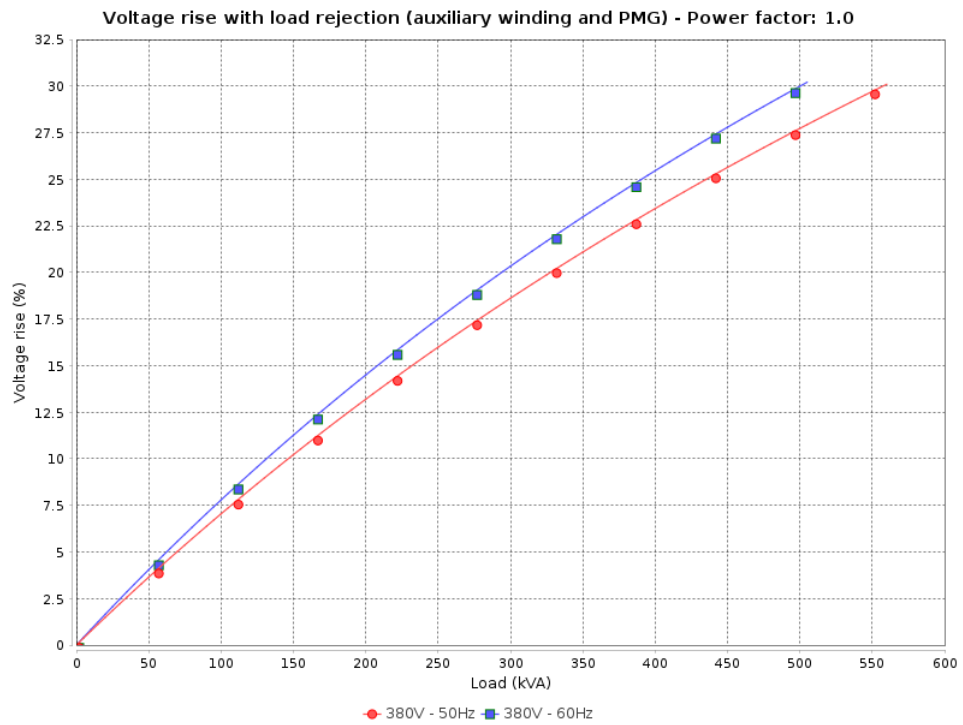
## Synchronous Alternator



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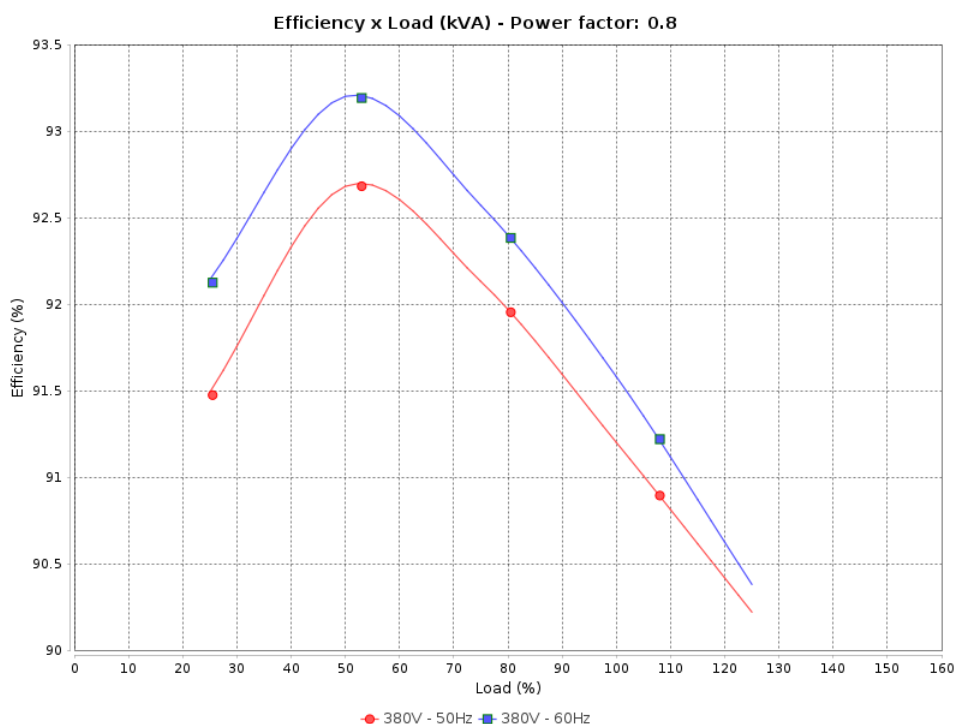
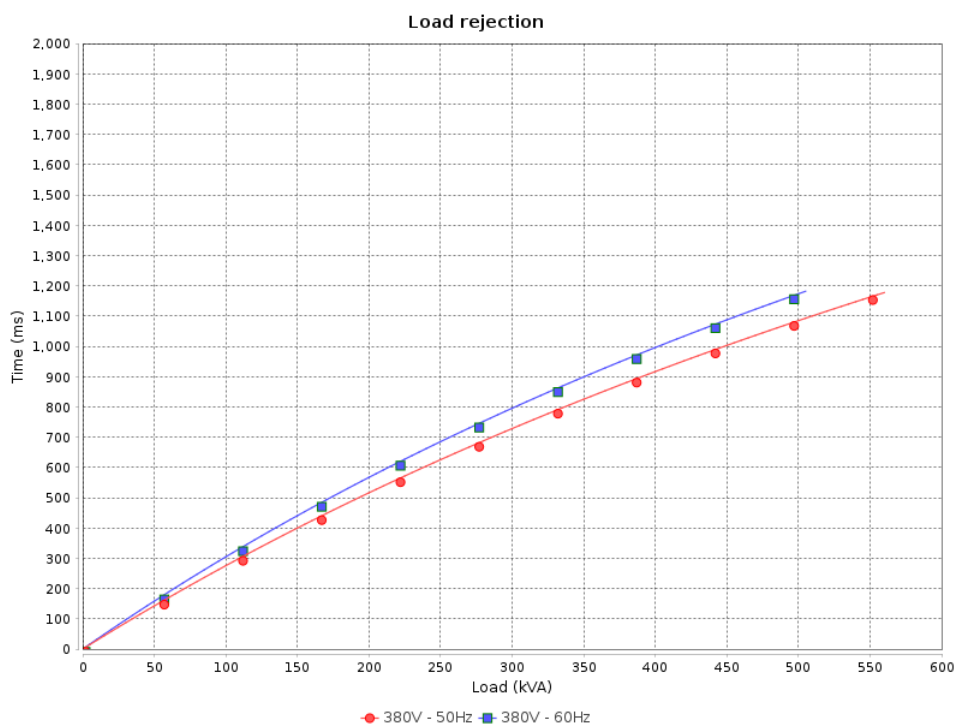
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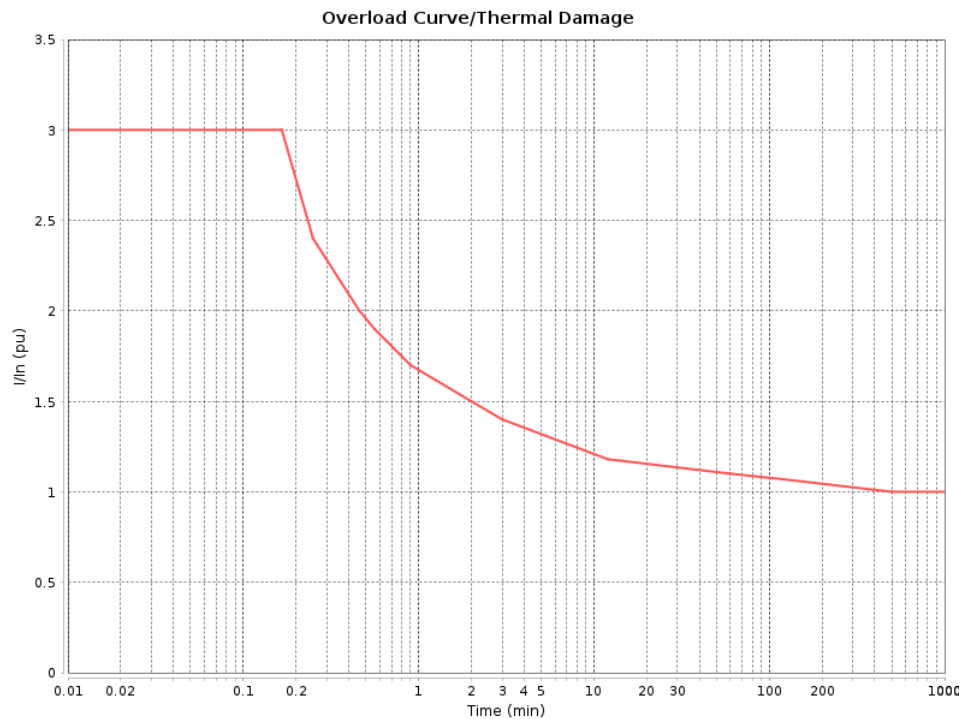
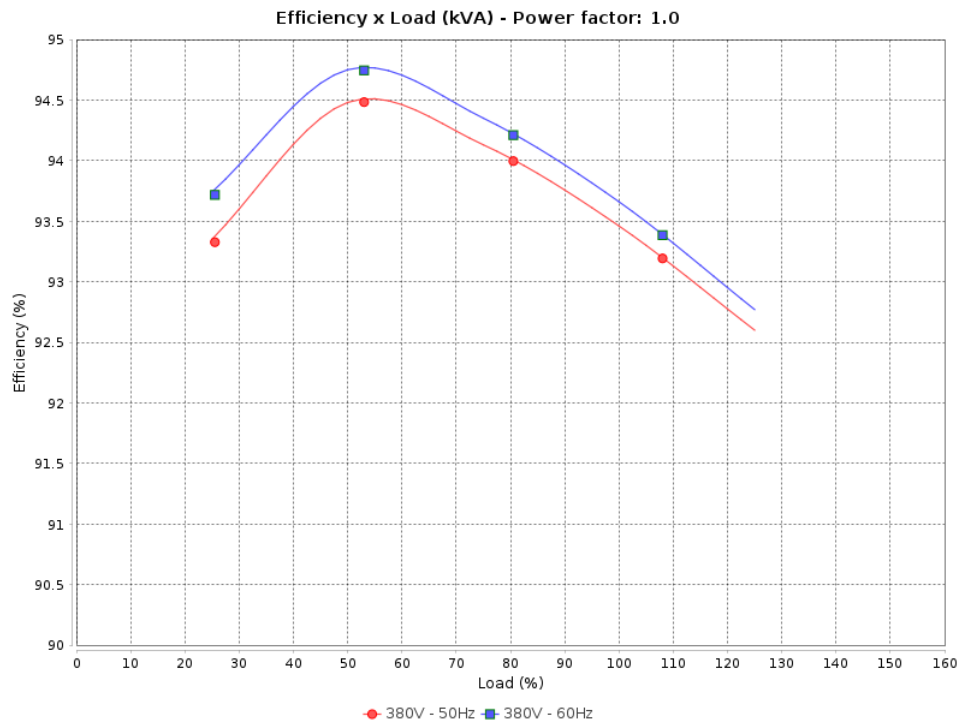
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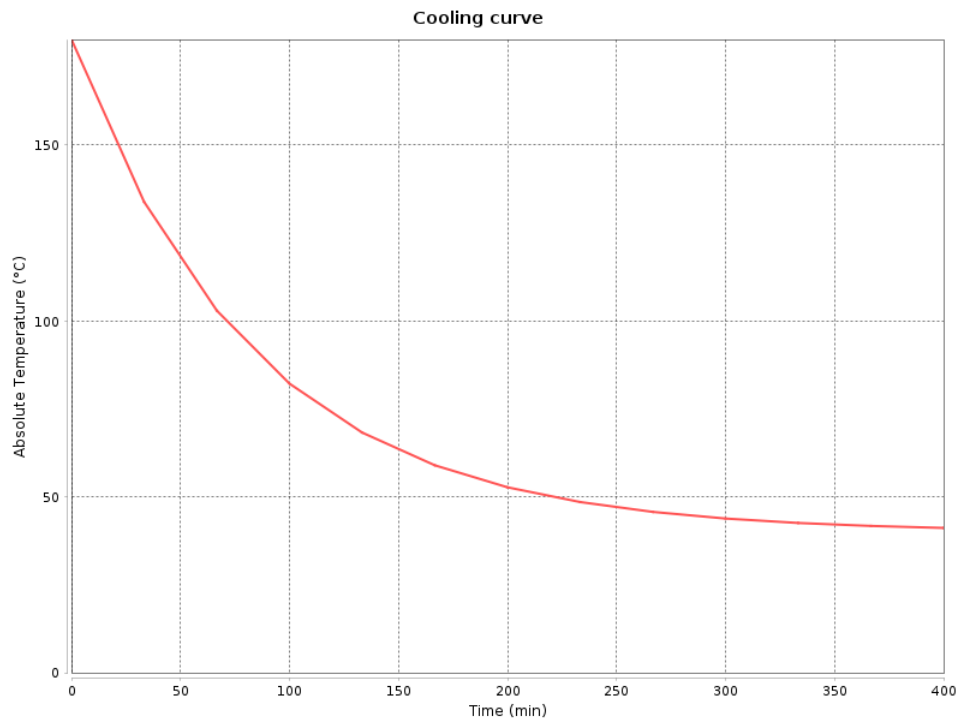
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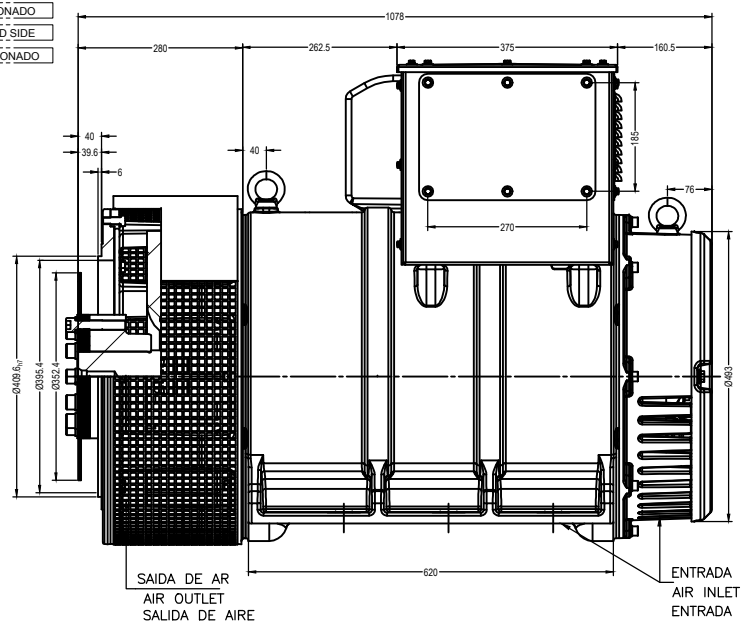


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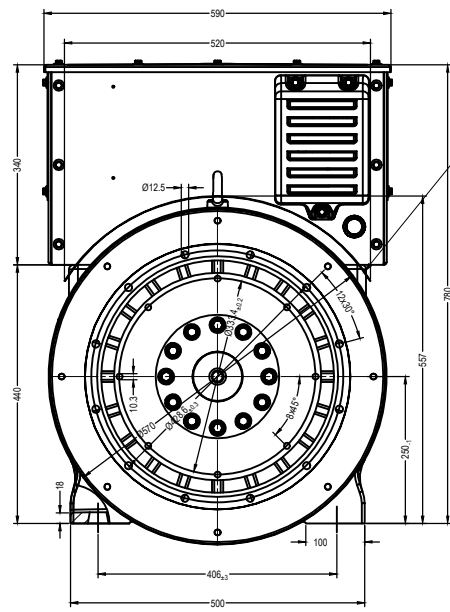
1                          2                          3                          4                          5                          6

A  
B  
C  
D  
E

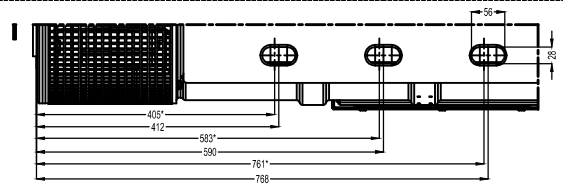
LA - LADO ACIONADO  
DE - DRIVE-END SIDE  
LA - LADO ACIONADO



LNA - LADO NÃO ACIONADO  
NDE - NON DRIVE-END SIDE  
LNA - LADO NO ACIONADO



APENAS PARA O GRAU DE PROTEÇÃO IP23.  
ONLY FOR IP23 PROTECTION.  
SOLAMENTE PARA EL GRADO DE PROTECCIÓN IP23.



Furo para fixação da máquina  
(Detalle fora de escala)  
Mounting Hole  
(Detail is not in scale)

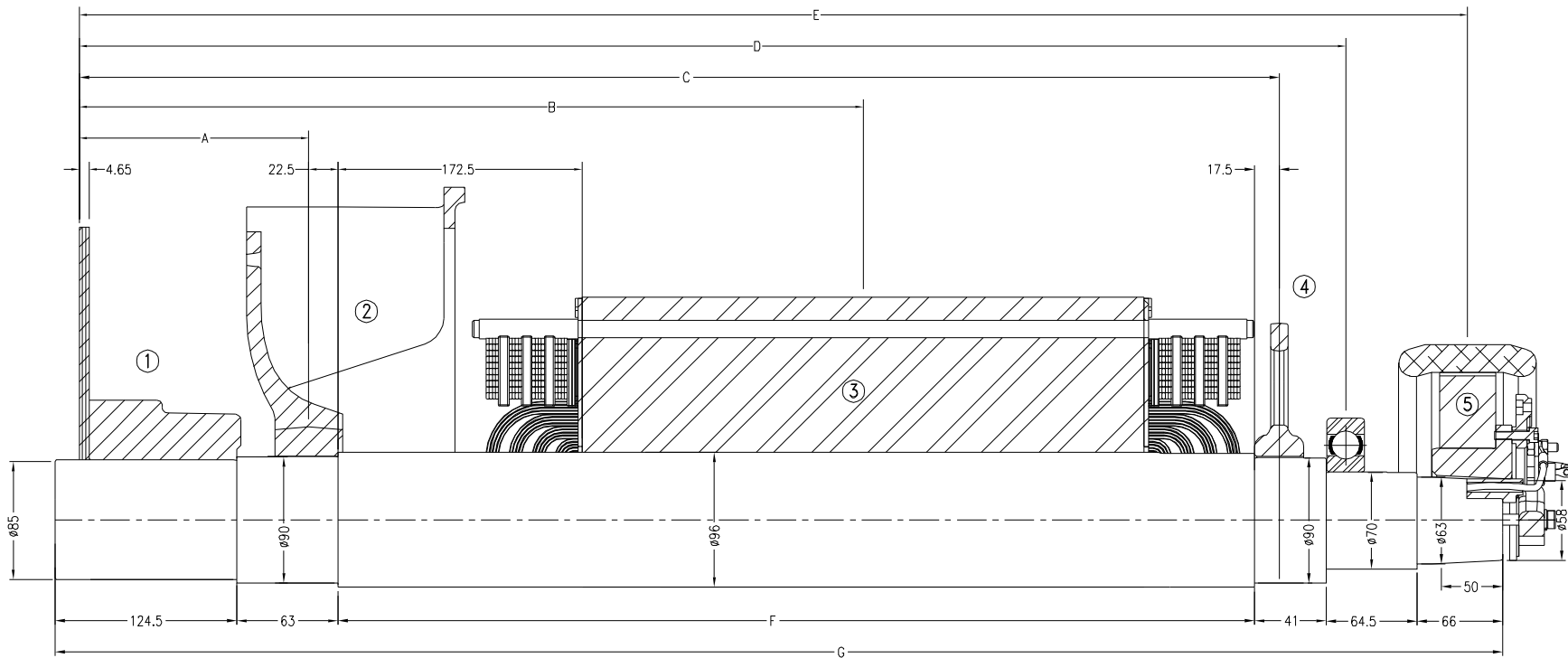
Agujero para fijación de la máquina  
(Detalle fuera de escala)

\*Dimensão recomendada pela WEG para a furação no skid  
\*Recommended dimension for mounting hole position on the skid  
\*Dimensión recomendada para el montaje del agujero sobre el skid

NOTAS / NOTES / NOTAS  
Máquina / Machine / Máquina - AG10250M - B15T  
Grau de proteção / Protection / Grado de protección: IP21 / IP23  
Flange de acoplamento / Coupling flange / Brida de acoplamiento: SAE 3  
Disco de acoplamento / Coupling disc / Disco de acoplamiento: SAE 11.5

PESO BRUTO / GROSS WEIGHT		PESO LÍQUIDO / NET WEIGHT		ESC / SCALE	
ECM ECM	LOC LOC	RESUMO MODIFICAÇÃO SUMMARY OF MODIFICATIONS		EXECUTADO EXECUTED	VERIFICADO CHECKED
EXEC. / EXECUTED		DIMENSIONAL AG10 250M B15T		LIBERADO RELEASED	DATA DATE
VERIF. / CHECKED				LIBERADO RELEASED	VER VER
LIBER. / RELEASED				000	01
DATA LB / REL DT	10.07.2017			FOLHA / SHEET 01 / 01	





TIPO/AG10	DISCO	DIMENSÕES: mm / DIMENSIONS: mm								1		2		3		4		5		Total Weight	Total Mom. Iner.
TYPE/AG10	DISCS	A	B	C	D	E	F	G	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	kg	J kgm <sup>2</sup>	
250S_50	SAE 14	150.0	450.0	-	732.0	820.0	501	860.0	23.9	0.276	15.4	0.428	121.8	1.706	-	-	14.0	0.14	175.1	2.550	
250M_60			487.5	-	882.0	970.0	651	1010.0					158.7	2.334					212.0	3.178	
250M_70			512.5	-	882.0	970.0	651	1010.0					182.1	2.563					235.4	3.407	
250M_80			545.0	-	882.0	970.0	651	1010.0					213.1	2.863					266.4	3.707	

TIPO/AG10	DISCO	DIMENSÕES: mm / DIMENSIONS: mm								1		2		3		4		5		Total Weight	Total Mom. Iner.
TYPE/AG10	DISCS	A	B	C	D	E	F	G	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	kg	J kgm <sup>2</sup>	
250S_50	SAE 11.5	150.0	450.0	-	732.0	820.0	501	860.0	21.3	0.162	15.4	0.428	121.8	1.706	-	-	14.0	0.14	172.5	2.436	
250M_60			487.5	-	882.0	970.0	651	1010.0					158.7	2.334					209.4	3.064	
250M_70			512.5	-	882.0	970.0	651	1010.0					182.1	2.563					232.8	3.293	
250M_80			545.0	-	882.0	970.0	651	1010.0					213.1	2.863					263.8	3.593	

TIPO/AG10	DISCO	DIMENSÕES: mm / DIMENSIONS: mm								1		2		3		4		5		Total Weight	Total Mom. Iner.
TYPE/AG10	DISCS	A	B	C	D	E	F	G	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	WEIGHT MASSA kg	MOMENT MOMENTO kgm <sup>2</sup>	kg	J kgm <sup>2</sup>	
250S_50	SAE 10	150.0	450.0	-	732.0	820.0	501	860.0	20.5	0.140	15.4	0.428	121.8	1.706	-	-	14.0	0.14	171.7	2.414	
250M_60			487.5	-	882.0	970.0	651	1010.0					158.7	2.334					208.6	3.042	
250M_70			512.5	-	882.0	970.0	651	1010.0					182.1	2.563					232.0	3.271	
250M_80			545.0	-	882.0	970.0	651	1010.0					213.1	2.863					263.0	3.571	

Nota: Valores sujeitos a alterações sem aviso prévio  
 Values subject to modifications without previous notice

PESO BRUTO		PESO LÍQUIDO		ENCARGO		CIC		RDE	
ESQ	DIR	ESQ	DIR	ESQ	DIR	ESQ	DIR	ESQ	DIR
EMISSÃO FINAL: IMPLANT		EMISSÃO MODIFICAÇÃO		VERIFICADO		LIBERADO		DATA	
REVISÃO		REVISÃO		REVISÃO		REVISÃO		REVISÃO	
10009091304		10009091304		10009091304		10009091304		10009091304	
000		000		000		000		000	
00		00		00		00		00	
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