

DATA SHEET

Synchronous Alternator



Customer	: HooverTec LLC	Notes:	
Customer reference	:		
Product line	: AG10 315LI90AI	Product code	: 14092873
Area classification	: Safe		1011327746

General data		Degree of protection	: IP23
Frame (IEC)	: 315	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	: 2025 kg
Excitation system	: Brushless with Auxiliary Coil	Overload	: 1.1x In per 1h each 6h
Cooling	: IC01	Momentary Overload	: 1.5x In per 30s

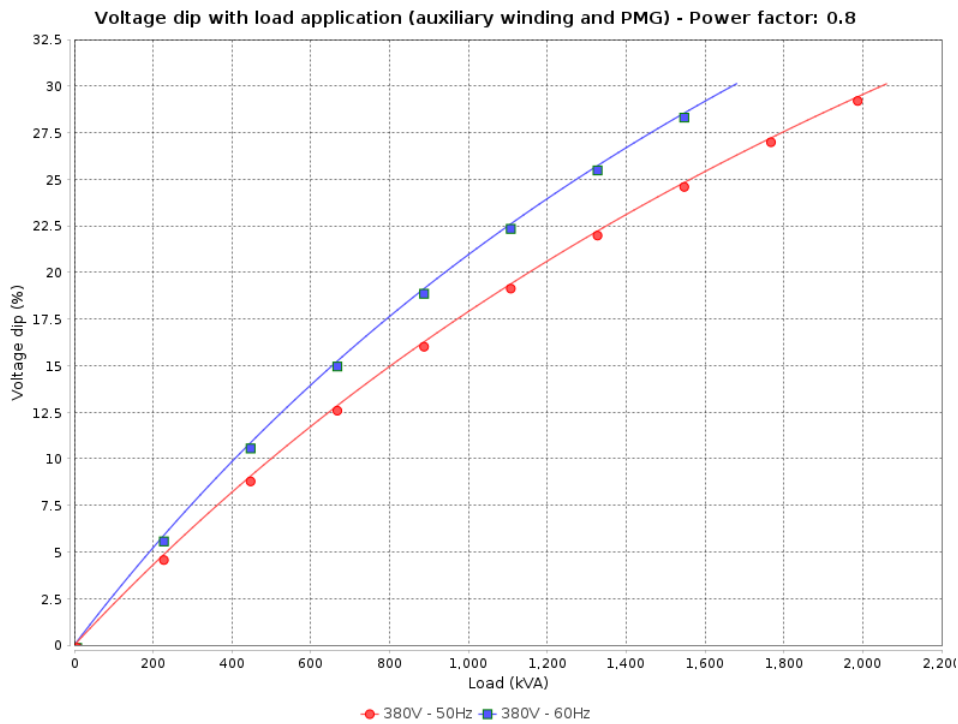
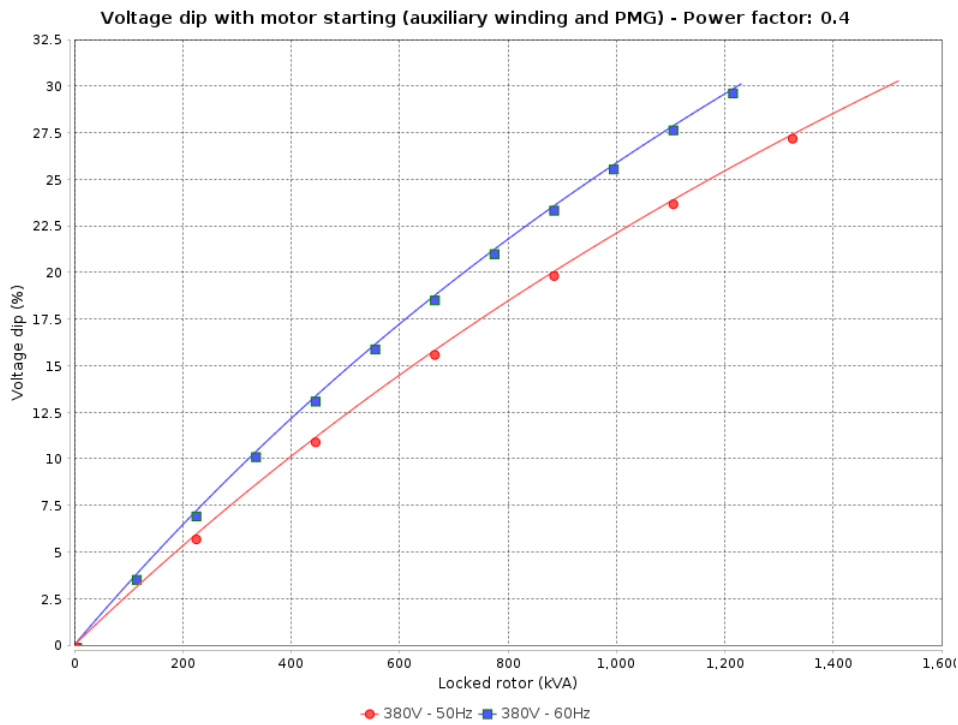
Frequency and number of phases		50 Hz				60 Hz			
		3ph		1ph	3ph		1ph		
Voltages (V)	Y (series star) connection	380	400	-	380	416	440	480	-
	YY (parallel star) connection	190	200	-	190	208	220	240	-
	Δ (series delta) connection	220	230	-	220	240	254	277	-
	ΔΔ (parallel delta) connection	110	115	-	110	120	127	138	-
	Zig-zag or single phase delta	-	-	-	190 - 200	-	-	-	-
Output power (kVA)	Continuous 80/40	640	664	370	660	720	768	832	443
	Continuous 105/40	733	761	423	756	825	880	953	508
	Continuous 125/40	800	830	462	825	900	960	1040	554
	Standby 150/40	865	890	499	863	948	1020	1100	589
	Standby 163/27	890	920	514	900	990	1060	1160	612
Electrical data (FP=0.8 / Continuous 125/40 (H))	Xd(%) Dir. axis synchronous reactance	352.2	282.4	469.6	523.4	531.9	507.1	331.64	477.3
	X'd(%) Dir. axis transient reactance	21.5	19.4	28.7	27.2	23.0	21.9	19.46	29.2
	X''d(%) Dir. axis subtrans. reactance	14.0	12.6	18.6	17.8	14.9	14.2	12.58	19.0
	Xq(%) Quad. axis sync. reactance	72.7	59.8	96.9	110.6	96.3	77.4	81.51	122.2
	X''q(%) Quad. axis subtrans. react.	10.4	9.5	13.9	13.3	25.2	10.6	13.12	24.1
	X2(%) Negative sequence reactance	12.2	11.0	16.3	15.6	20.1	12.4	12.85	21.5
	X0(%) Zero sequence reactance	2.3	2.1	3.1	3.0	2.5	2.4	2.1	3.2
	T'd(ms) Short Circ.Trans.time const.	142.3	139.2	189.7	146.9	88.0	77.5	139.27	111.7
	T'd(ms) Short Circ. Sub. time const.	0.9	0.8	1.2	1.2	1.8	1.0	0.8	2.3
	T'do(ms) Open Circ. time const Trans	1652	1535	2202	1834	1161	1705	1538.45	1473
	T''do(ms) Open Circ. time const Subt	1.6	1.6	2.1	1.7	2.2	1.6	1.6	2.9
	Ta(ms) Armature time const.	15	14	20	19	16	16	13.8	21
	uc(V) Full load excitation voltage	70.0	60.0	70.0	60.0	60.3	60.0	62.0	53.5
	ic(A) Full load excitation current	3.5	3.0	3.5	3.0	3.0	3.0	3.1	3.5
ic(A) No load excitation current	0.8	0.9	1.1	0.6	0.6	0.6	0.9	1.3	
Icc(A) Sustained Short-Circ. Current	3646	3594	3464	3760	3747	3779	3752.78	3462	
Kcc Short-circuit ratio	0.28	0.35	0.21	0.19	0.19	0.2	0.3	0.21	
Efficiency (%)	Power factor	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0
	25% of load	91.4	93.2	91	93	84.1	85.7	92.6	94.2
	50% of load	93.9	95.4	93.8	95.3	86.4	87.7	94.6	95.8
	75% of load	94.3	95.7	94.2	95.7	86.7	88	94.8	96
	100% of load	94	95.6	94.1	95.7	86.5	87.9	94.4	95.7
	125% of load	93.6	95.3	93.7	95.4	86.1	87.6	93.9	95.3

Other characteristics		Automatic voltage regulator		According to:
Air flow	: 3.2 m³/s	Accuracy (stability)	: +/- 0.5%	IEC 60034
Exciter stator winding resistance at 20°C	: 15.26 ohm	Rated current	: 5 A	NBR 5117
Stator winding resistance at 20°C	: 0.00378 ohm	Analog input	: Yes	NEMA MG1
Rotor winding resistance	: 3.04 ohm	Digital input	: No	VDE530
Stator winding layers	: 2	Peak current	: 7 A/10 s	ISO 8528
Inertia WR²	: 10.28 kgm²	Droop / TC	: Yes	CSA
NDE Bearing	: 6316 2RS	Dynamic recovery	: 8 to 500 ms	
DE bearing		U/F	: Yes	
Flange	: SAE 1	Internal voltage adjustment	: +/- 15%	
Coupling disc	: SAE 14	External voltage adjustment	: +/- 10%	
		Transient recovery time for ΔU=20%	: 500 ms	

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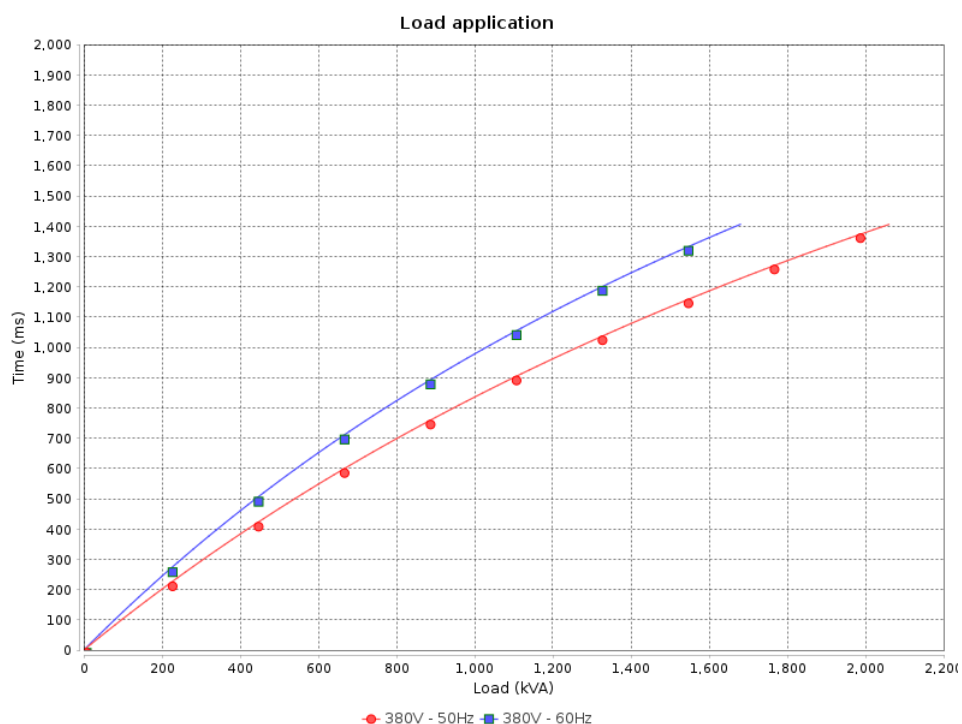
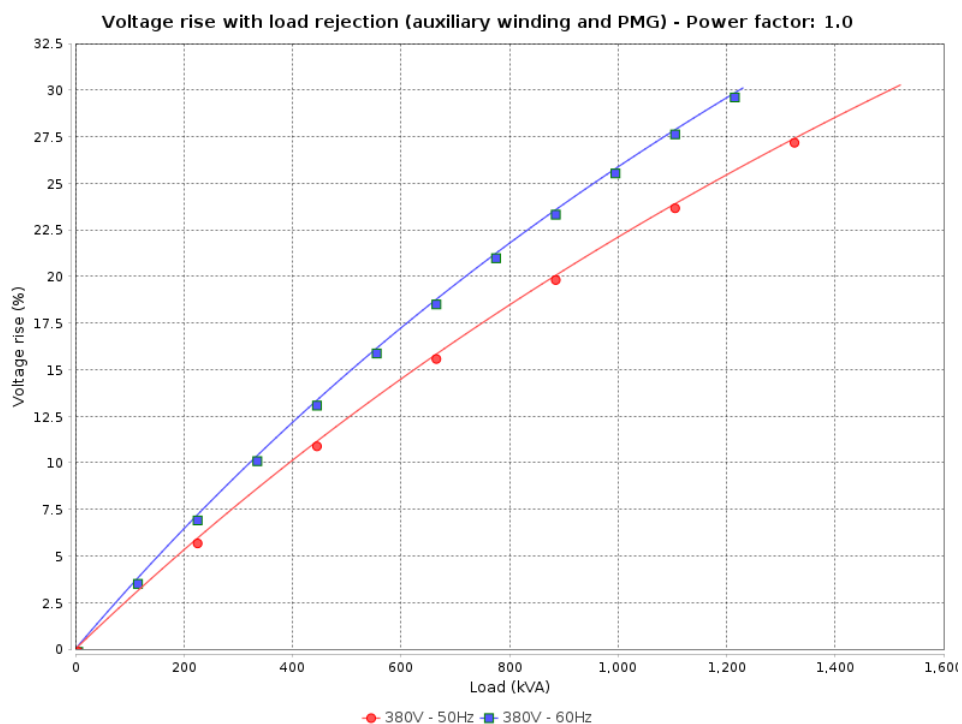
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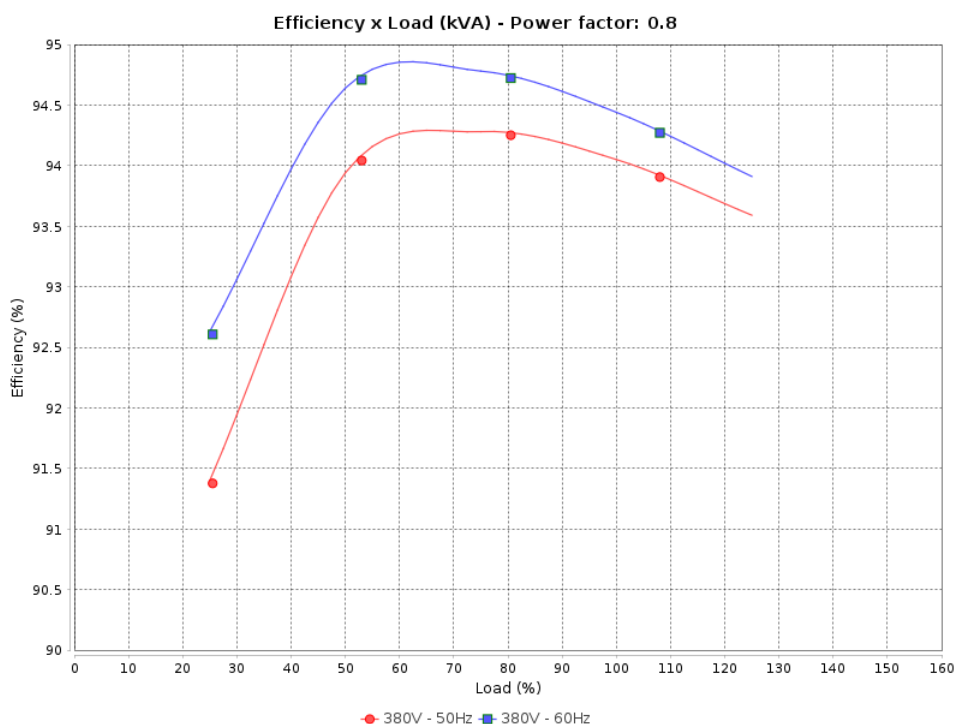
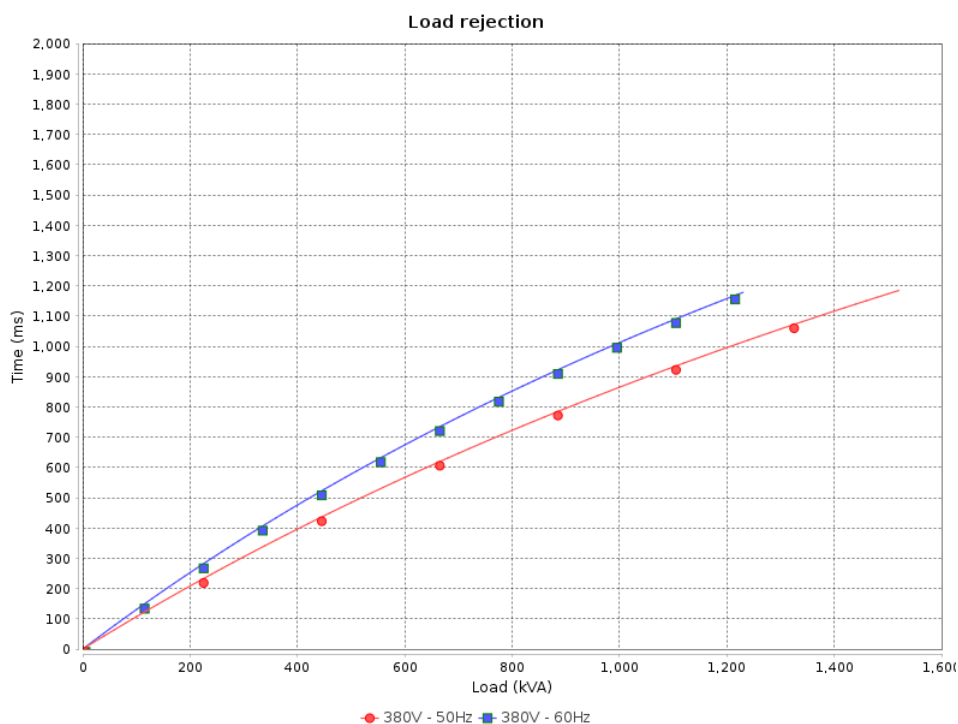
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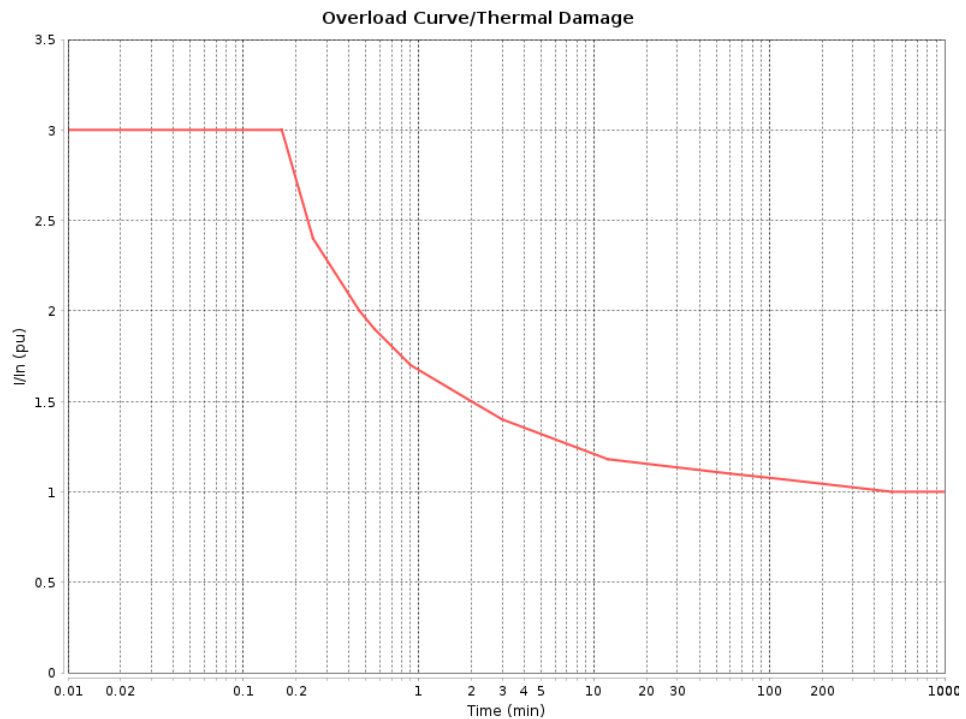
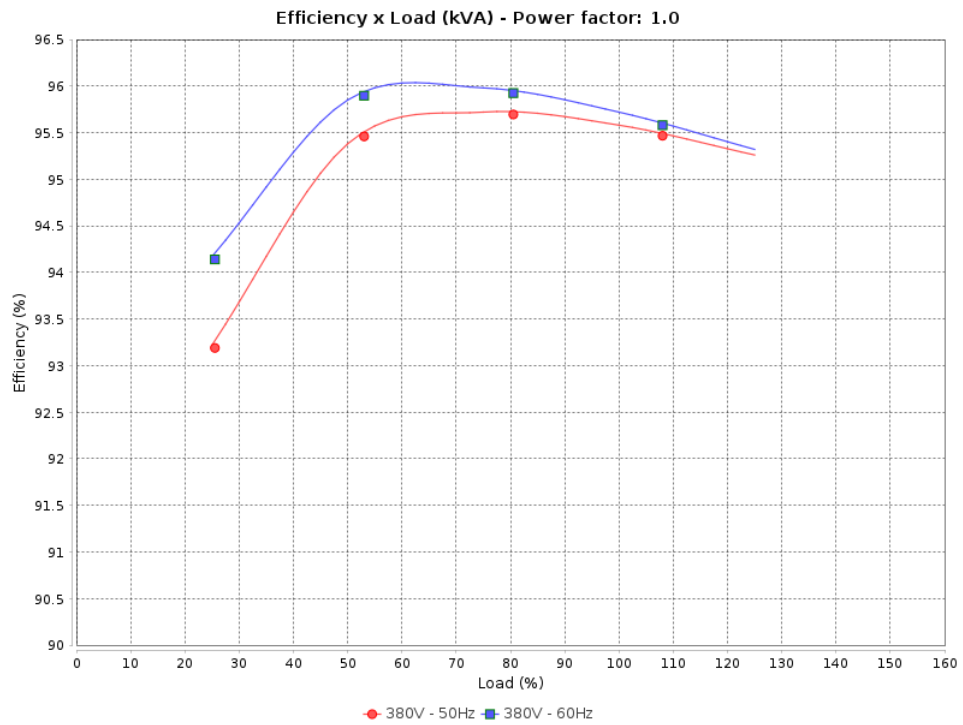
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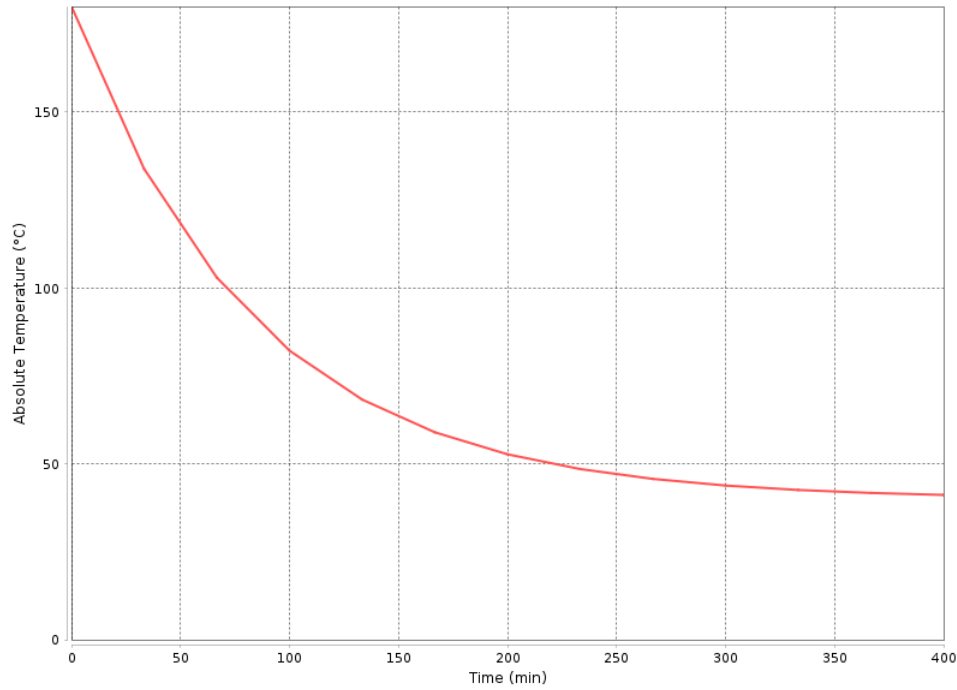
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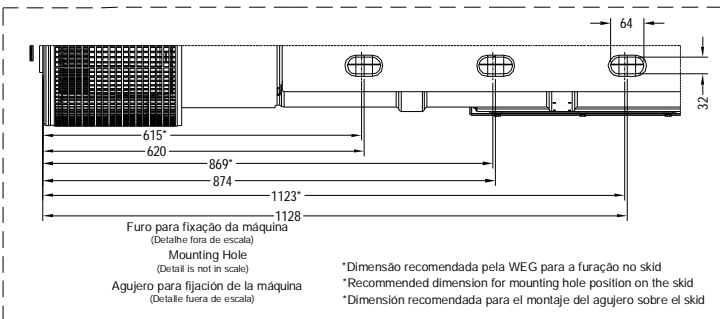
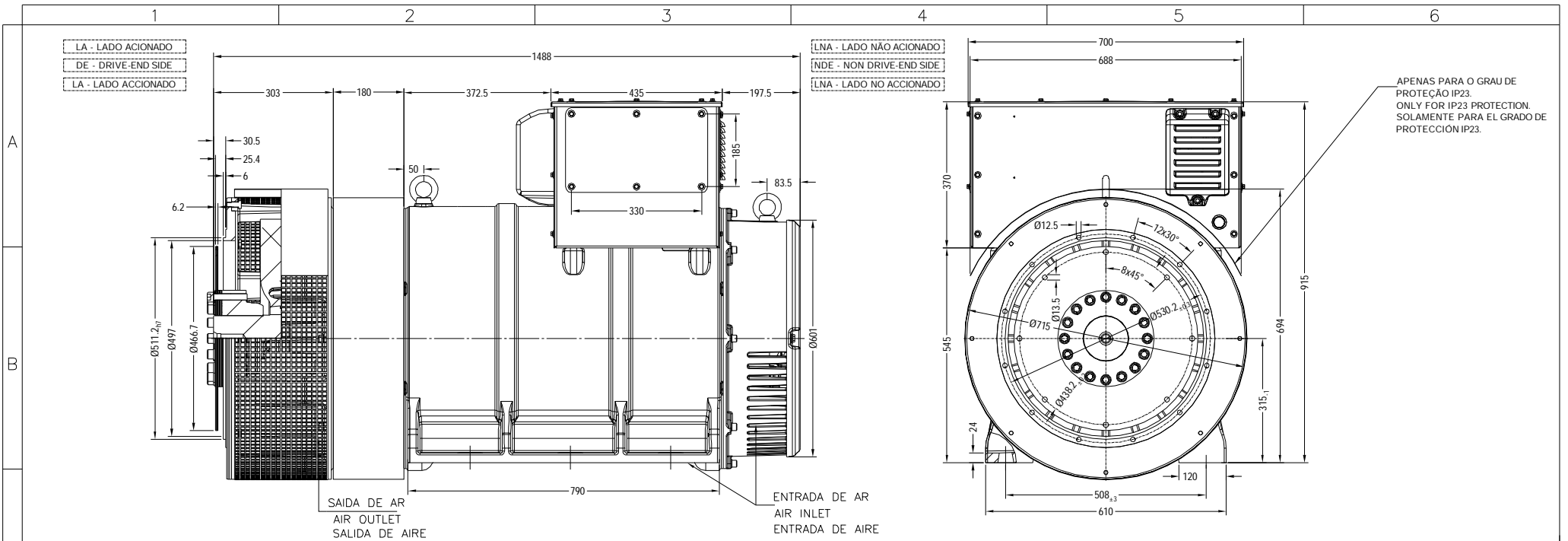
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Cooling curve



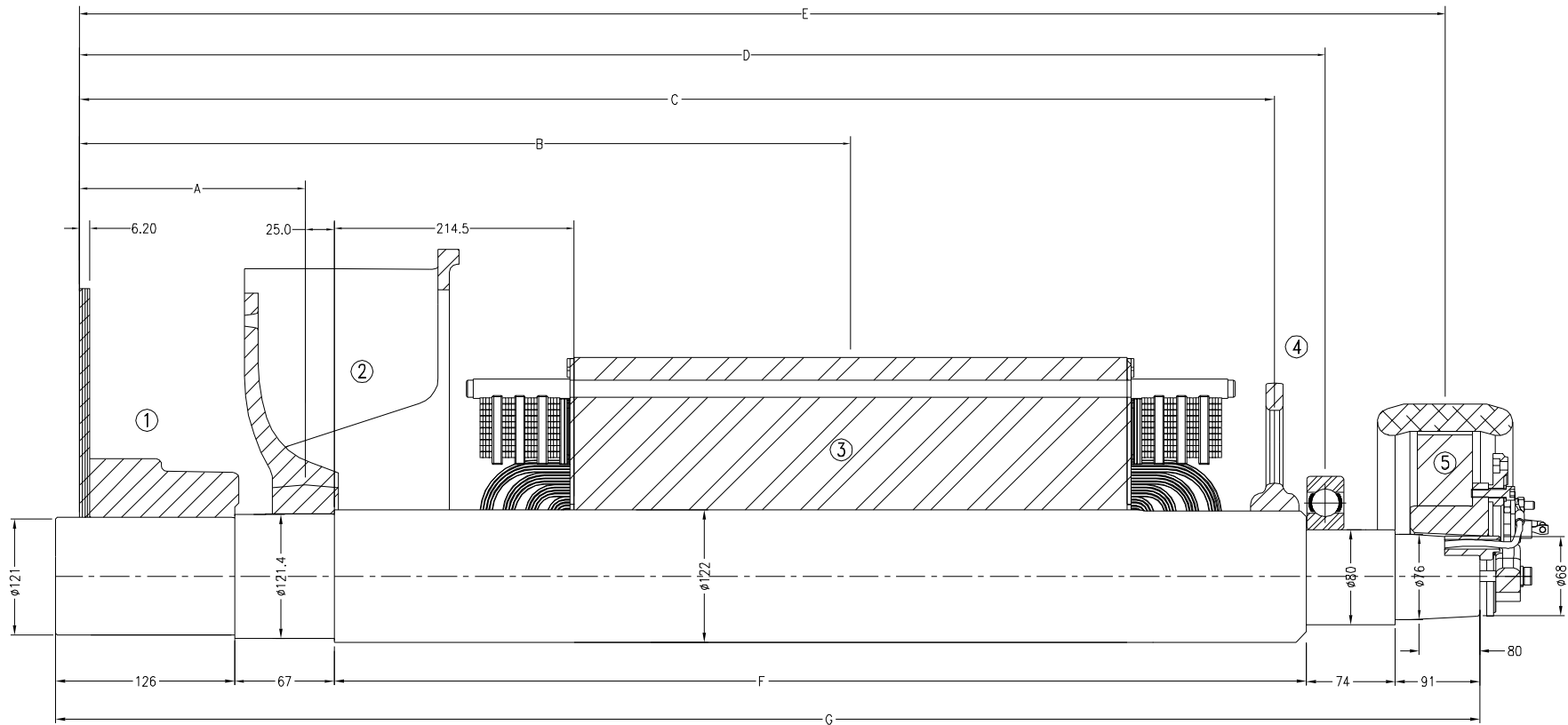
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PESO BRUTO / GROSS WEIGHT		PESO LÍQUIDO / NET WEIGHT		ESC / SCALE	
EXEC / EXECUTED	LOC LOC	RESUMO MODIFICAÇÃO / SUMMARY OF MODIFICATIONS		EXECUTADO / EXECUTED	VERIFICADO / CHECKED
LIBER. / RELEASED		DIMENSIONAL AG10 315 L B15T		LIBERADO / RELEASED	DATA DATE
DATA LB / REL.DT	10.07.2017			10005117644	VER VER
				FOLHA / SHEET	01 / 01

NOTAS / NOTES / NOTAS
Máquina / Machine / Máquina : AG10315L - B15T
Grau de proteção / Protection / Grado de protección: IP21 / IP23
Flange de acoplamento / Coupling flange / Brida de acoplamiento: SAE 1
Disco de acoplamento / Coupling disc / Disco de acoplamiento: SAE 14





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 kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	kg	J kgm ²
315M_50	SAE 18	178.0	582.5	—	1079.5	1185.0	882.0	1240.0	35.1	0.705	23.9	0.988	285.6	5.609	—	—	27.4	0.23	372.0	7.294
315M_60			582.5	—									372.0	7.294						
315M_70			647.5	—									454.8	8.559						
315L_80			687.5	—									518.1	10.041						
315L_90			717.5	—									558.5	10.558						

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 kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	kg	J kgm ²
315M_50	SAE 14	178.0	582.5	—	1079.5	1185.0	882.0	1240.0	30.9	0.423	23.9	0.988	285.6	5.609	—	—	27.4	0.23	367.8	7.012
315M_60			582.5	—									367.8	7.012						
315M_70			647.5	—									450.6	8.279						
315M_80			687.5	—									513.9	9.759						
315L_90			717.5	—									554.3	10.278						

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 kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	WEIGHT kg	MOMENT kgm ²	kg	J kgm ²
315M_50	SAE 11,5	178.0	582.5	—	1079.5	1185.0	882.0	1240.0	27.4	0.271	23.9	0.988	285.6	5.609	—	—	27.4	0.23	364.3	6.860
315M_60			582.5	—									364.3	6.860						
315M_70			647.5	—									447.1	8.125						
315M_80			687.5	—									510.4	9.607						
315L_90			717.5	—									550.8	10.124						

PESO BRUTO		PESO LÍQUIDO		SIC		NOME	
ESCALA	UNID.	EMISSÃO FINAL / IMPRIM. EXTERNA		E REVISÃO		VERIFICADO	
1:1	mm	REVISÃO MODIFICAÇÃO		ELABORADO		LIBERADO	
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LIBERADO						7	