

DATA SHEET

Synchronous Alternator



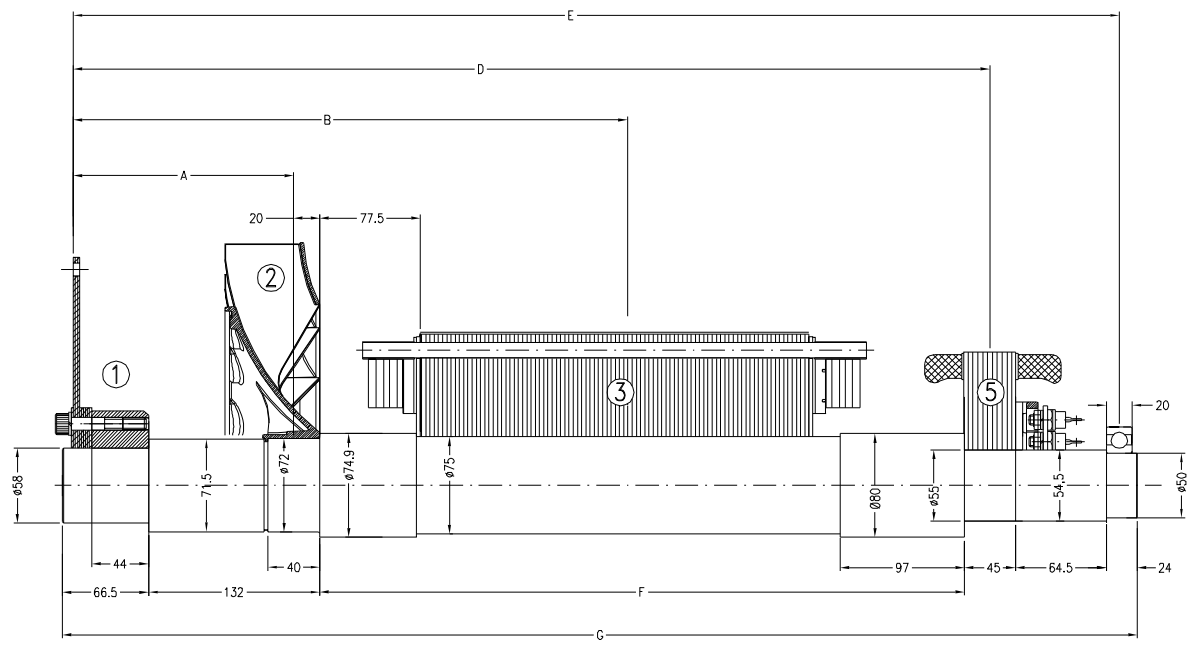
Customer	: HooverTec LLC	Notes:	
Customer reference	:		
Product line	: GTA201AIHB	Product code	: 14417137
Area classification	: Safe		1010314327

General data		Degree of protection	: IP23
Frame (IEC)	: 200	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	: 267 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	415	-	380	416	440	480	-									
	YY (parallel star) connection	190	200	208	-	190	208	220	240	-									
	Δ (series delta) connection	220	230	239	-	220	240	254	277	-									
	ΔΔ (parallel delta) connection	110	115	120	-	110	120	127	138	-									
	Zig-zag or single phase delta	-	-	-	190 - 200	-	-	-	-	220 - 240									
Output power (kVA)	Continuous 80/40	48.0	48.0	46.0	26.4	56.8	58.9	60.4	68.5	37.7									
	Continuous 105/40	53.0	53.0	50.0	30.2	65.1	67.5	69.2	78.5	43.1									
	Continuous 125/40	60.0	60.0	57.0	33.0	71.0	73.7	75.5	85.6	47.1									
	Standby 150/40	62.0	62.0	59.0	36.1	75.9	78.7	80.7	92.2	51.6									
	Standby 163/27	63.0	63.0	60.0	37.7	78.9	82.5	85.0	92.2	53.8									
Electrical data (FP=0.8 / Continuous 125/40 (H)) Saturated reactances values	Xd(%) Dir. axis synchronous reactance	283.4	238.26	226.35	377.87	372.2	323.9	296.6	283.27	395.47									
	X'd(%) Dir. axis transient reactance	23.94	20.11	19.1	31.92	31.55	27.38	25.07	23.91	33.42									
	X''d(%) Dir. axis subtrans. reactance	20.43	17.17	16.31	27.24	26.91	23.37	21.4	20.41	28.53									
	Xq(%) Quad. axis sync. reactance	107.95	90.76	86.23	143.94	141.75	127.91	112.98	107.9	150.64									
	X''q(%) Quad. axis subtrans. react.	18.19	15.28	14.51	24.25	24.0	34.22	19.06	18.16	25.41									
	X2(%) Negative sequence reactance	19.25	16.17	15.36	25.66	25.37	28.8	20.16	19.22	26.88									
	X0(%) Zero sequence reactance	3.41	2.86	2.72	4.54	4.48	3.89	3.57	3.4	4.75									
	T'd(ms) Short Circ. Trans. time const.	59.43	59.43	59.43	79.24	59.24	67.18	59.33	59.43	79.11									
	T''d(ms) Short Circ. Sub. time const.	0.97	0.97	0.97	1.3	0.97	1.17	0.97	0.97	1.3									
	T'do(ms) Open Circ. time const Trans	713.47	714.45	714.45	951.3	709.48	837.79	712.69	714.45	950.26									
	T''do(ms) Open Circ. time const Subt	1.17	1.17	1.17	1.56	1.17	1.39	1.17	1.17	1.56									
	Ta(ms) Armature time const.	8.28	8.28	8.28	11.04	8.26	9.76	8.28	8.28	11.04									
	uc(V) Full load excitation voltage	42.68	41.34	41.34	42.68	38.15	40.61	39.26	44.81	39.26									
	ic(A) Full load excitation current	4.44	4.3	4.3	4.44	3.97	4.22	4.08	4.66	4.08									
ic(A) No load excitation current	0.6	0.9	0.9	0.8	0.5	0.77	0.9	1.3	1.2										
Icc(A) Sustained Short-Circ. Current	273.48	259.81	237.9	247.5	323.62	301.57	297.2	308.88	294.25										
Kcc Short-circuit ratio	0.38	0.47	0.44	0.5	0.26	0.31	0.35	0.4	0.47										
Efficiency (%)	Power factor	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0	0.8	1.0		
	25% of load	86.3	89.5	85.4	88.8	85.7	89	79.4	82.3	87.8	90.7	87.8	90.7	87.8	90.6	87.9	90.8	80.8	83.4
	50% of load	88	91.1	88	91.1	88.3	91.4	81	83.8	88.7	91.5	89	91.8	89.4	92.2	89.4	92.3	82.2	84.8
	75% of load	86.9	90.4	87.5	90.8	87.8	91.1	80	83.2	87.3	90.4	87.9	91	88.5	91.5	88.6	91.7	81.4	84.2
	100% of load	85.2	89.1	86.2	89.9	86.5	90.2	78.4	82	85.4	88.8	86.2	89.6	87.1	90.4	87.1	90.7	80.1	83.2
	125% of load	83.4	87.7	84.6	88.8	84.8	89.1	76.7	80.7	83.3	87.1	84.3	88.1	85.4	89.1	85.5	89.5	78.6	82

Other characteristics		Automatic voltage regulator		According to:	
Air flow	: 0.7 m³/s	Accuracy (stability)	: +/- 0.5%	IEC 60034	
Exciter stator winding resistance at 20°C	: 10.55 ohm	Rated current	: 5 A	NBR 5117	
Stator winding resistance at 20°C	: 0.11734 ohm	Analog input	: Yes	NEMA MG1	
Rotor winding resistance	: 0.91 ohm	Digital input	: No	VDE530	
Stator winding layers	: 2	Peak current	: 7 A/10 s	ISO 8528	
Inertia WR²	: 0.45 kgm²	Droop / TC	: Yes	CSA	
NDE Bearing	: 6210-2RS/ZZ	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			
Date	08/09/2023								1 /							



TIPO TYPE	DISCOS DISCS	DIMENSÕES: mm / DIMENSIONS: mm								1		2		3		5		Total Weight kg	Total Mom _l Iner. kgm ²							
		A	B	C	D	E	F	G	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²										
GTA 201 __HS	SAE 11.5	170.0	327.5	---	580.0	677.0	367.5	699.5	6.4	0.06	0.9	0.01	32.5	0.24	8.0	0.04	47.8	0.35								
GTA 201 __HV			337.5										38.0	0.28					53.3	0.39						
GTA 201 __HB			352.5										45.0	0.33							60.3	0.44				
GTA 201 __HE			362.5										50.0	0.36									65.3	0.47		
GTA 202 __VS			387.5										61.0	0.44											76.3	0.55
GTA 202 __VJ			407.5										70.0	0.50												

TIPO TYPE	DISCOS DISCS	DIMENSÕES: mm / DIMENSIONS: mm								1		2		3		5		Total Weight kg	Total Mom _l Iner. kgm ²							
		A	B	C	D	E	F	G	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²	WEIGHT MASSA kg	MOMENT MOMENTO kgm ²										
GTA 201 __HS	SAE 10	160.5	318.0	---	570.5	667.5	367.5	699.5	5.7	0.04	0.9	0.01	32.5	0.24	8.0	0.04	47.8	0.35								
GTA 201 __HV			328.0										38.0	0.28					53.3	0.39						
GTA 201 __HB			343.0										45.0	0.33							60.3	0.44				
GTA 201 __HE			353.0										50.0	0.36									65.3	0.47		
GTA 202 __VS			378.0										61.0	0.44											75.6	0.53
GTA 202 __VJ			398.0										70.0	0.50												

PESO BRUTO / GROSS WEIGHT		kg	PESO LÍQUIDO / NET WEIGHT		kg	ESC / SCALE	1:4			
EMISSÃO INICIAL / INITIAL EMISSION										
ECM ECM	LOC LOC	RESUMO MODIFICAÇÃO SUMMARY OF MODIFICATIONS				EXECUTADO EXECUTED	VERIFICADO CHECKED	LIBERADO RELEASED	DATA DATE	VER VER
EXEC. / EXECUTED		ANÁLISE TORSIONAL LINHA G-PLUS 200 B15				10009091390				
VERIF. / CHECKED						000		00		
LIBER. / RELEASED										
DATA LB / REL. DT		JARAGUA DO SUL	ENGENHARIA DO PRODUTO	FOLHA / SHEET	01 / 01					

A

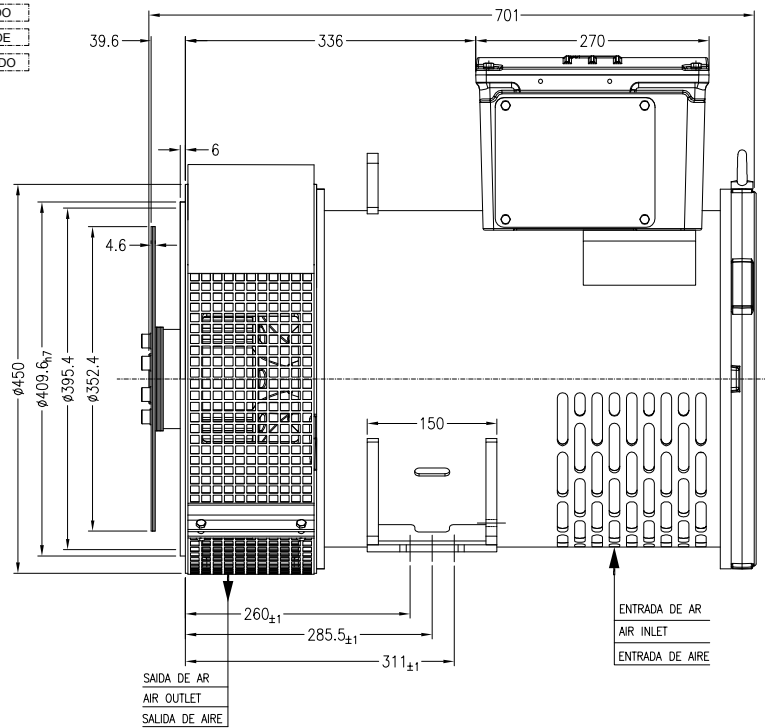
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C

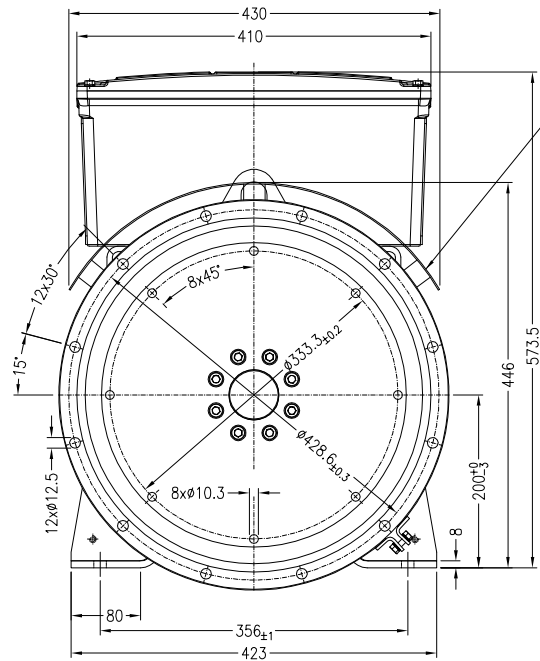
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E

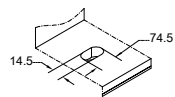
LA - LADO ACIONADO
DE - DRIVE-END SIDE
LA - LADO ACCIONADO



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



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)

				NOTAS / NOTES / NOTAS Máquina / Machine / Máquina : GTA201 - 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 LIQUIDO / NET WEIGHT		ESC / SCALE			
EXEC. / EXECUTED	LOC. / LOC	RESUMO MODIFICAÇÃO / SUMMARY OF MODIFICATIONS		EXECUTADO / EXECUTED	VERIFICADO / CHECKED	LIBERADO / RELEASED	DATA / DATE
VERIF. / CHECKED		DIMENSIONAL GTA201 B15T			10005056166		
LIBER. / RELEASED					000	03	
DATA LB / REL DT	29.01.2018	WEN	JARAGUA DO SUL	ALTERNADORES GENSET	FOLHA / SHEET	01 / 01	

