DATA SHEET
Synchronous Alternator

Customer	: HooverTec LLC	Notes:	
Customer reference	:		
Product line	: GTA162AIVD	Product code	: 13943207
Area classification	: Safe		1011326647

General data

Frame (IEC)	: 160	Degree of protection	: IP23
Insulation Class	: 180°C (H)	Mounting style	: B15T
THD (L-L, no load)	: ≤ 3%	Number of poles	: 4
Stator winding pitch	: 2/3	Type of Pole	: Salient
Altitude	: up to 1000 m.a.s.l	Rated speed - 50 Hz	: 1500 rpm
Number of Leads	: 12	Nominal rotation - 60 Hz	: 1800 rpm
Power factor	: 0.8 to 1.0	Overspeed	: 2250 rpm
Excitation system	: Brushless with Auxiliary Coil	Approx. weight	: 181 kg
Cooling	: IC01	Overload	: 1.1x In per 1h each 6h
		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	21.0	21.0		12.0	25.4	27.7	29.4	25.9	18.0
	Continuous 105/40	24.0	24.0		14.0	29.1	31.8	33.7	29.7	21.0
	Continuous 125/40	**27.0**	**27.0**		**15.6**	**40.0**	**41.2**	**42.0**	**42.0**	**23.1**
	Standby 150/40	29.0	29.0		17.0	40.0	42.4	44.0	44.0	25.0
	Standby 163/27	31.0	31.0		19.0	42.0	44.4	46.0	46.0	26.0
Electrical data (FP=0.8 / Continuous 125/40 (H)) Satured reactances values	Xd(%) Dir. axis synchronous reactance	173.47	156.8		231.29	267.0	230.59	210.12	177.04	280.16
	X'd(%) Dir. axis transient reactance	10.79	9.74		14.39	16.67	14.35	13.08	11.0	17.44
	X"d(%) Dir. axis subtrans. reactance	8.35	7.54		11.13	12.9	11.11	10.12	8.52	13.49
	Xq(%) Quad. axis sync. reactance	70.98	64.16		94.64	109.23	82.06	85.97	72.44	114.63
	X"q(%) Quad. axis subtrans. react.	8.47	7.65		11.29	13.11	17.94	10.27	8.64	13.69
	X2(%) Negative sequence reactance	8.41	7.59		11.21	13.0	14.52	10.19	8.58	13.59
	X0(%) Zero sequence reactance	1.39	1.26		1.86	2.15	1.85	1.69	1.42	2.25
	T'd(ms) Short Circ.Trans.time const.	36.4	36.4		48.53	36.3	33.93	36.4	36.4	48.53
	T"d(ms) Short Circ. Sub. time const.	0.5	0.5		0.67	0.5	0.45	0.5	0.5	0.67
	T'do(ms) Open Circ. time const Trans	593.4	594.3		791.2	589.9	484.92	592.7	594.3	790.27
	T"do(ms) Open Circ. time const Subt	0.6	0.6		0.8	0.6	0.62	0.6	0.6	0.8
	Ta(ms) Armature time const.	3.81	3.81		5.08	3.81	3.07	3.81	3.82	5.08
	uc(V) Full load excitation voltage	22.99	23.38		22.99	23.14	23.14	23.24	23.57	23.24
	ic(A) Full load excitation current	2.18	2.22		2.18	2.19	2.19	2.2	2.23	2.2
	ic(A) No load excitation current	0.5	0.7		0.67	0.3	0.44	0.4	0.6	0.53
	Icc(A) Sustained Short-Circ. Current	123.07	116.91		116.91	182.32	149.99	165.33	151.55	144.38
	Kcc Short-circuit ratio	0.61	0.69		0.81	0.37	0.44	0.49	0.61	0.66

	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
Efficiency (%)	25% of load	74.2	78.8	73.9	78.6			68.3	72.5	78.5	82.6	78.6	82.7	78.8	82.9	78.4	82.5	72.5	76.2
	50% of load	81.8	85.6	81.8	85.7			75.3	78.8	83.7	87.2	84.2	87.6	84.6	88	84.8	88.1	77.8	81
	75% of load	83.4	87.1	83.7	87.4			76.7	80.2	84	87.4	84.8	88.2	85.4	88.7	86	89.2	78.6	81.6
	100% of load	83.3	87.1	83.8	87.5			76.6	80.1	82.9	86.5	84	87.5	84.9	88.3	85.8	89.1	78.1	81.2
	125% of load	82.5	86.5	83.2	87.1			75.9	79.6	81.4	85.2	82.8	86.5	83.8	87.4	85	88.5	77.1	80.4

Other characteristics

Air flow	: 0.4 m³/s
Exciter stator winding resistance at 20ºC	: 10.55 ohm
Stator winding resistance at 20ºC	: 0.23176 ohm
Rotor winding resistance	: 2.39 ohm
Stator winding layers	: 2
Inertia WR²	: 0.26 kgm²
NDE Bearing	: 6209-2RS/ZZ
DE bearing	
Flange	: SAE 4
Coupling disc	: SAE 7,5

Automatic voltage regulator

Accuracy (stability)	: +/- 0.5%
Rated current	: 5 A
Analog input	: Yes
Digital input	: No
Peak current	: 7 A/10 s
Droop / TC	: No
Dynamic recovery	: 8 to 500 ms
U/F	: Yes
Internal voltage adjustment	: +/- 15%
External voltage adjustment	: +/- 10%
Transient recovery time for ΔU=20%	: 500 ms

According to:

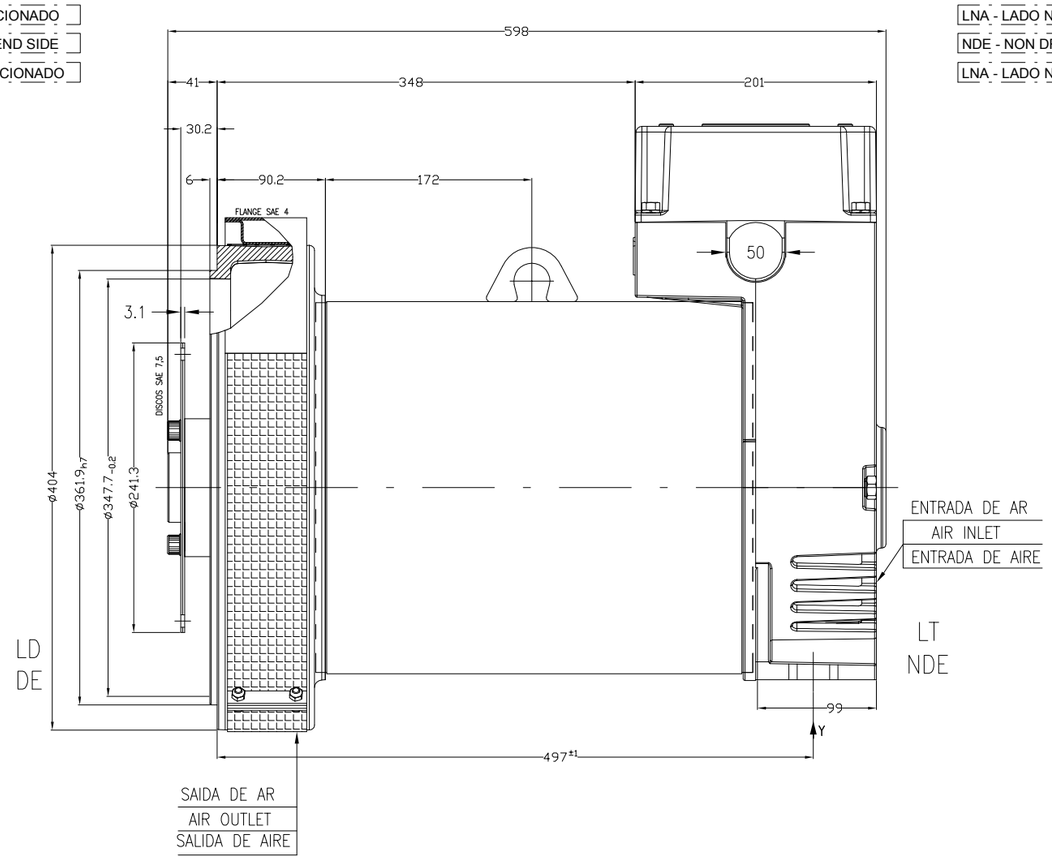
IEC 60034
NBR 5117
NEMA MG1
VDE530
ISO 8528
CSA

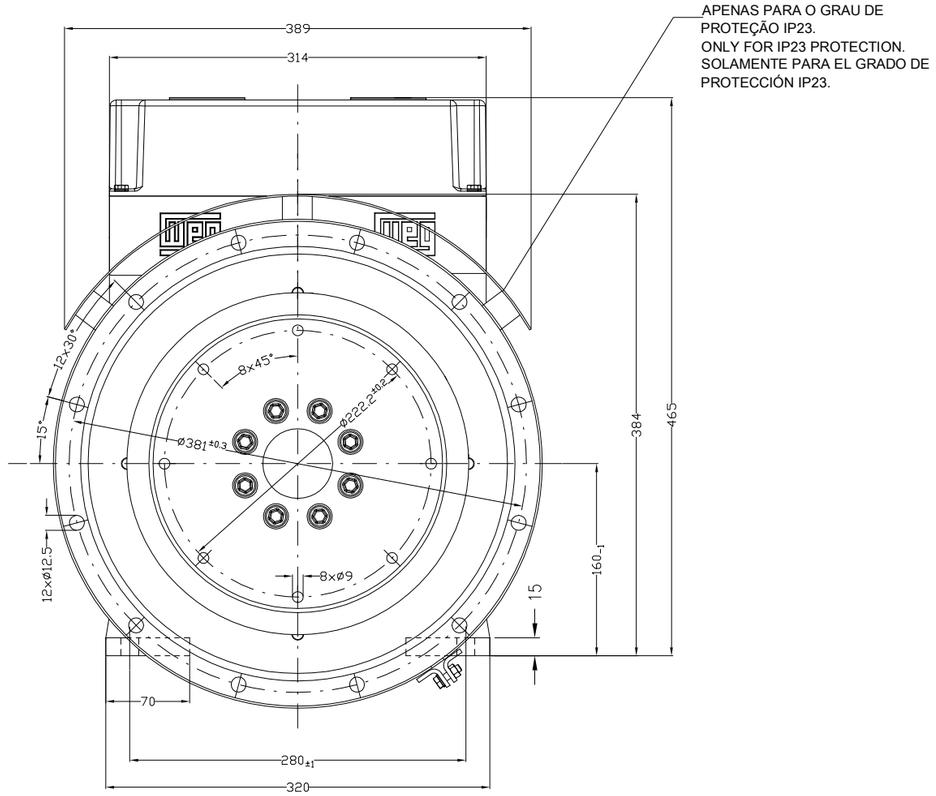
Rev.	Changes Summary	Performed	Checked	Date

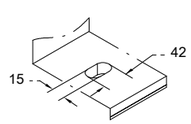
Performed by				
Checked by			Page	Revision
Date	08/09/2023		1 /	

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

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







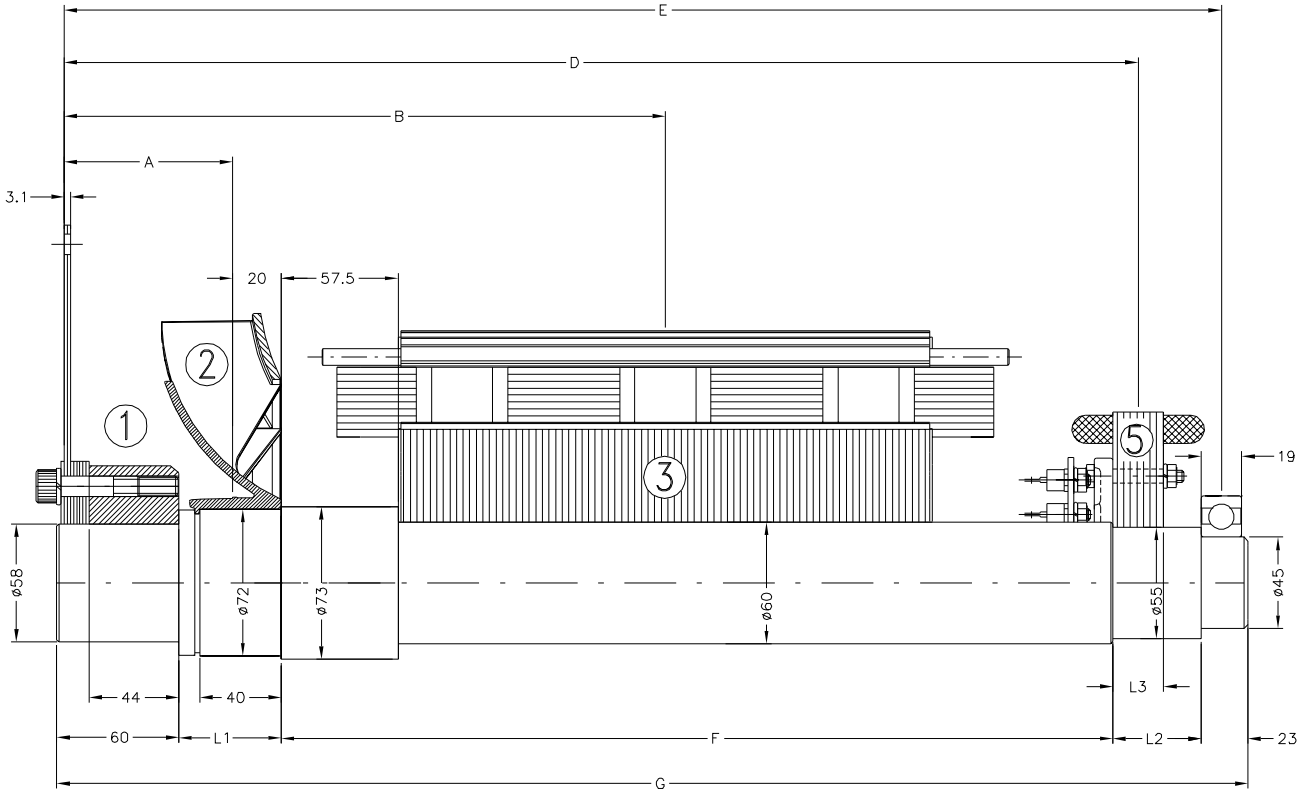
Furo para fixação da máquina
(Detalhe fora de escala)
Mounting Hole
(Detail is not in scale)
Agujero para fijación de la máquina
(Detalle fuera de escala)

NOTAS / NOTES / NOTAS
Máquina / Machine / Máquina : GTA162 - B15T
Grau de proteção / Protection / Grado de protección: IP21 / IP23
Flange de acoplamento / Coupling flange / Brida de acoplamiento: SAE 4
Disco de acoplamento / Coupling disc / Disco de acoplamiento: SAE 7.5

PESO BRUTO / *GROSS WEIGHT*		PESO LIQUIDO / *NET WEIGHT*		ESC / *SCALE*	1:8

ECM *ECM*	LOC *LOC*	RESUMO MODIFICAÇÃO *SUMMARY OF MODIFICATIONS*	EXECUTADO *EXECUTED*	VERIFICADO *CHECKED*	LIBERADO *RELEASED*	DATA *DATE*	VER *VER*

EXEC. / *EXECUTED*		DIMENSIONAL GTA162 B15T	10005054430
VERIF. / *CHECKED*			000 | 03
LIBER. / *RELEASED*			
DATA LB / *REL DT*	29.01.2018	WEN JARAGUA DO SUL ALTERNADORES GENSET	FOLHA / *SHEET* 01 / 01



TIPO	DISCOS	DIMENSÕES: mm / DIMENSIONS: mm										1		2		3		5		Total Weight kg	Total Mom. Iner. kgm²
TYPE	DISCS	L1	L2	L3	A	B	C	D	E	F	G	WEIGHT MASSA kg	MOMENT MOMENTO kgm²	WEIGHT MASSA kg	MOMENT MOMENTO kgm²	WEIGHT MASSA kg	MOMENT MOMENTO kgm²	WEIGHT MASSA kg	MOMENT MOMENTO kgm²		J
GTA 162 __VD	SAE 11.5	49	56.5	35	85.5	293	---	528.5	577.0	405.5	617.5	4.5	0.041	0.6	0.004	38.0	0.18	5.2	0.023	48.3	0.24
GTA 161 __SR						213										21.0	0.10	3.9	0.018	30.0	0.16
GTA 161 __HS			46.5	25		223										22.0	0.11			31.0	0.17
GTA 161 __HH						228	---	453.5	497.0	335.5	514.0					24.0	0.11			33.0	0.17
GTA 161 __HI						238										27.5	0.12			36.5	0.18
GTA 161 __HJ						253										32.0	0.15			41.0	0.21

TIPO	DISCOS	DIMENSÕES: mm / DIMENSIONS: mm										1		2		3		5		Total Weight kg	Total Mom. Iner. kgm²
TYPE	DISCS	L1	L2	L3	A	B	C	D	E	F	G	WEIGHT MASSA kg	MOMENT MOMENTO kgm²	WEIGHT MASSA kg	MOMENT MOMENTO kgm²	WEIGHT MASSA kg	MOMENT MOMENTO kgm²	WEIGHT MASSA kg	MOMENT MOMENTO kgm²		J
GTA 162 __VD	SAE 7.5	49	56.5	35	76.0	283.5	---	519.0	567.5	405.5	617.5	3.3	0.012	0.6	0.004	38.0	0.18	5.2	0.023	47.1	0.22
GTA 161 __SR						203.5										21.0	0.10	3.9	0.018	28.8	0.13
GTA 161 __HS			46.5	25		213.5										22.0	0.11			29.8	0.14
GTA 161 __HH						218.5	---	444.0	487.5	335.5	514.0					24.0	0.11			31.8	0.15
GTA 161 __HI						228.5										27.5	0.12			35.3	0.16
GTA 161 __HJ						243.5										32.0	0.15			39.8	0.19

PESO BRUTO / GROSS WEIGHT		kg	PESO LIQUIDO / 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		ANALISE TORSIONAL LINHA G-PLUS 160 B15			10009091394		
VERIF. / CHECKED					000	00	
LIBER. / RELEASED							
DATA LB / REL DT		JARAGUA DO SUL	ENGENHARIA DO PRODUTO		FOLHA / SHEET	1 / 1	