

DATA SHEET

Synchronous Alternator



Customer	: HooverTec LLC	Notes:	
Customer reference	:		
Product line	: GTA162AIVD	Product code	: 14417107
Area classification	: Safe		1010332145

General data		Degree of protection	: IP23
Frame (IEC)	: 160	Mounting style	: B3T
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	: 175 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	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))	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	-	-	-	-	-				
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		
	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	Automatic voltage regulator		Accuracy (stability)		: +/- 0.5%	According to:	
Exciter stator winding resistance at 20°C		: 10.55 ohm		Rated current		: 5 A		NEMA MG1		IEC 60034	
Stator winding resistance at 20°C		: 0.23176 ohm		Analog input		: Yes		VDE530		NBR 5117	
Rotor winding resistance		: 2.39 ohm		Digital input		: No		ISO 8528		CSA	
Stator winding layers		: 2		Peak current		: 7 A/10 s					
Inertia WR²		: 0.24 kgm²		Droop / TC		: No					
NDE Bearing		: 6209-2RS/ZZ		Dynamic recovery		: 8 to 500 ms					
DE bearing		: 6211-2RS/ZZ		U/F		: Yes					
Flange		: NOT APPLICABLE		Internal voltage adjustment		: +/- 15%					
Coupling disc		: NOT APPLICABLE		External voltage adjustment		: +/- 10%					
				Transient recovery time for ΔU=20%		: 500 ms					

Rev.	Changes Summary				Performed				Checked				Date			
Performed by																
Checked by																
Date	07/09/2023								Page				Revision			
									1 /							

1 2 3 4 5 6

A

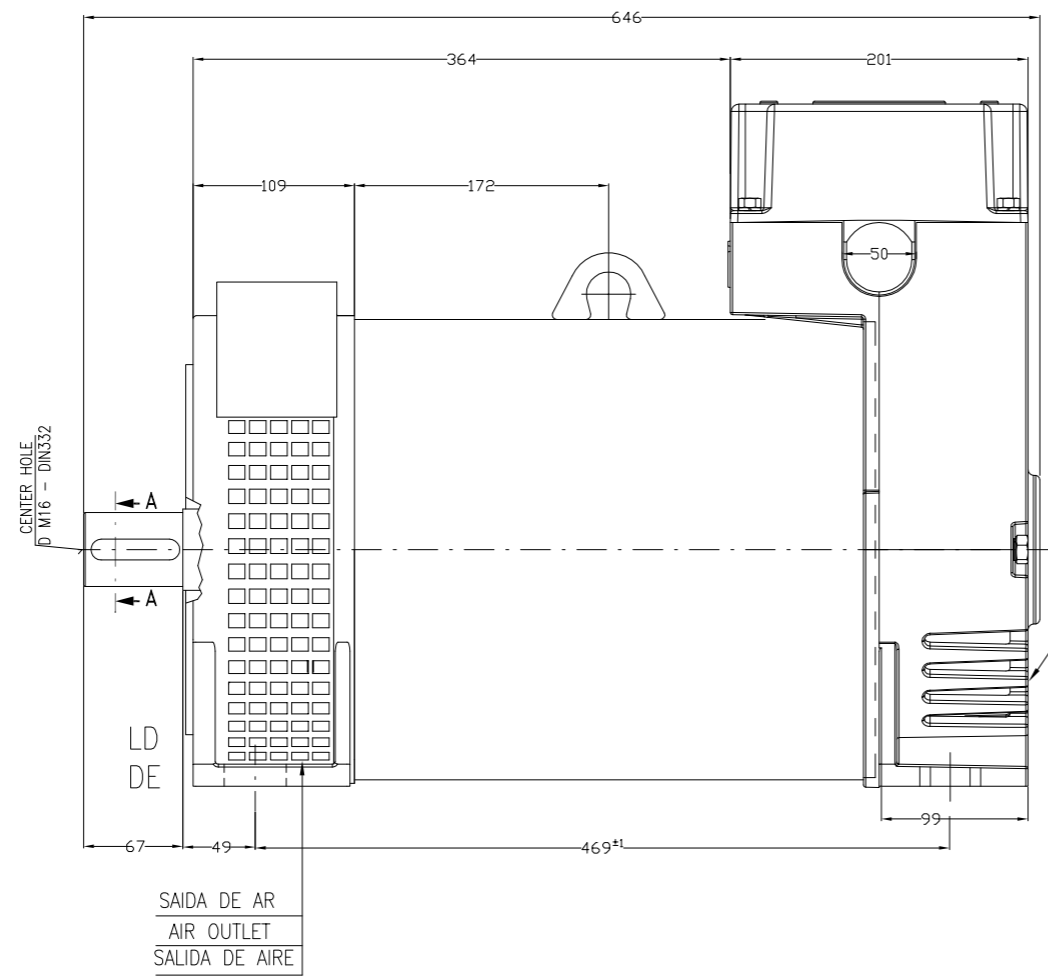
B

C

D

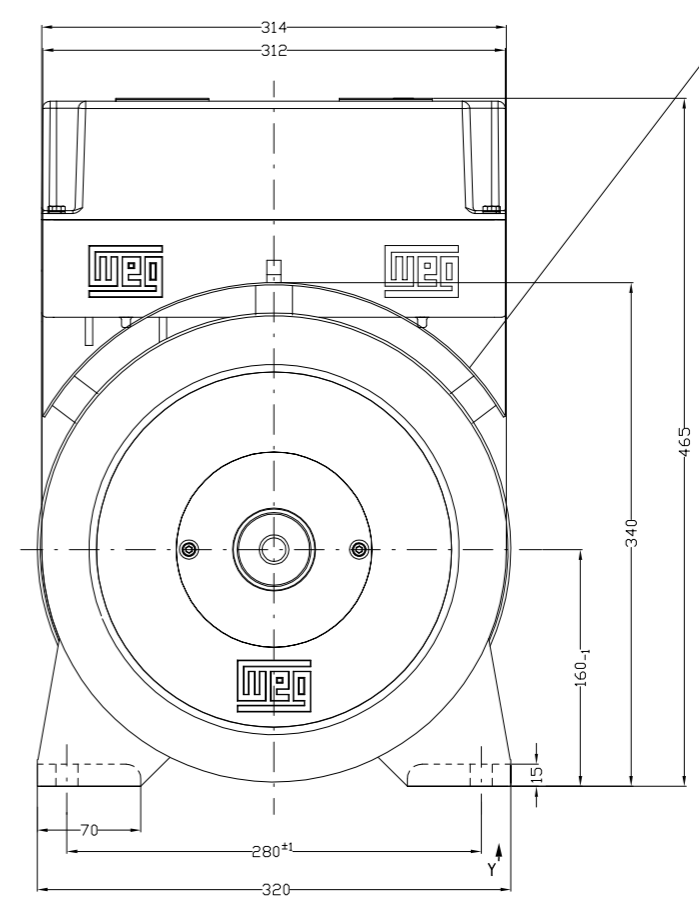
E

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

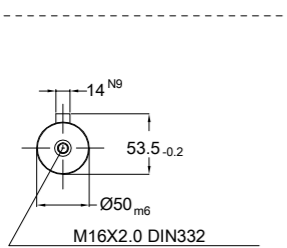


LNA - LADO NÃO ACIONADO
 NDE - NON DRIVE-END SIDE
 LNA - LADO NO ACCIONADO

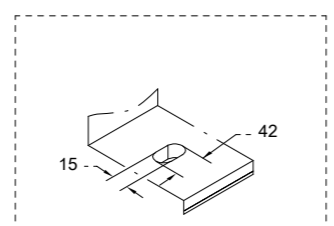
ENTRADA DE AR
 AIR INLET
 ENTRADA DE AIRE
 LT
 NDE



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



Ponta de eixo (LA)
 (Detalhe fora de escala)
 Shaft end (DE)
 (Detail is not in scale)
 Punta de eje (LA)
 (Detalle fuera de escala)

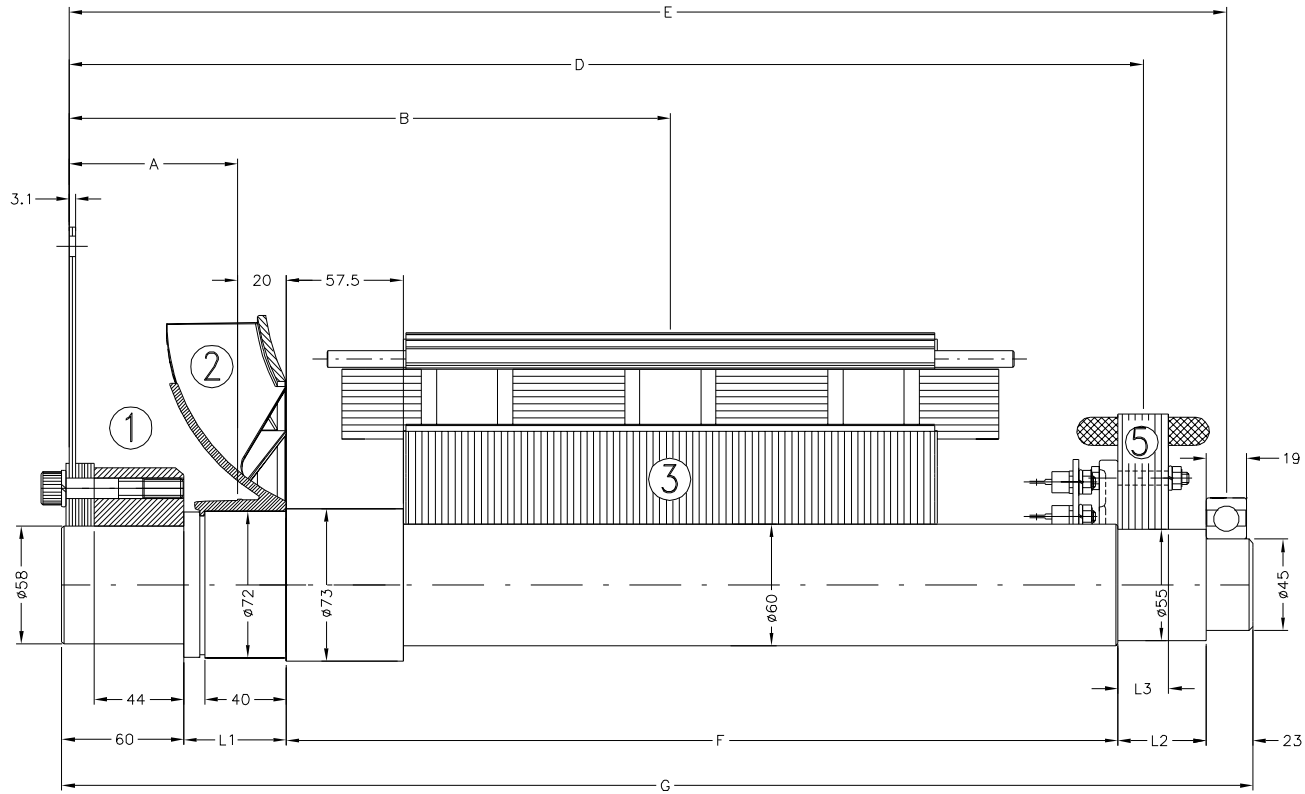


Furo para fixação da máquina
 (Detalhe fora de escala)
 Mounting Hole
 (Detail is not in scale)
 Agujero para fijación de la máquina
 (Detalle fuera de escala)

NOTAS / NOTES / NOTAS
 Máquina / Machine / Máquina : GTA162 - B3T
 Grau de proteção / Protection / Grado de protección: IP21 / IP23

PESO BRUTO / GROSS WEIGHT		PESO LIQUIDO / NET WEIGHT		ESC / SCALE	1:8			
ECM	LOC	RESUMO MODIFICAÇÃO SUMMARY OF MODIFICATIONS		EXECUTADO EXECUTED	VERIFICADO CHECKED	LIBERADO RELEASED	DATA DATE	VER
EXEC. / EXECUTED		DIMENSIONAL GTA162 B3T			10005054996			
VERIF. / CHECKED					000	03		
LIBER. / RELEASED								
DATA LB / REL DT	10.07.2017	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. J																		
		L1	L2	L3	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																				
GTA 162 __VD	SAE 11.5	49	56.5	35	85.5	---	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	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
GTA 161 __HS																			223	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GTA 161 __HH																			228	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GTA 161 __HI																			238	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GTA 161 __HJ																			253	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TIPO	DISCOS	DIMENSÕES: mm / DIMENSIONS: mm										1		2		3		5		Total Weight kg	Total Mom. Iner. J																		
		L1	L2	L3	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																				
GTA 162 __VD	SAE 7.5	49	56.5	35	76.0	---	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	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
GTA 161 __HS																			213.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GTA 161 __HH																			218.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GTA 161 __HI																			228.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
GTA 161 __HJ																			243.5	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

PESO BRUTO / GROSS WEIGHT		kg		PESO LÍQUIDO / NET WEIGHT		kg		ESC / SCALE		1:4		
EMISSÃO INICIAL / INITIAL EMISSION												
ECM	LOC	RESUMO MODIFICAÇÃO / SUMMARY OF MODIFICATIONS						EXECUTADO	VERIFICADO	LIBERADO	DATA	VER
EXEC / EXECUTED	LOC	ANÁLISE TORSIONAL LINHA G-PLUS 160 B15						EXECUTED	CHECKED	RELEASED	DATE	VER
VERIF. / CHECKED								10009091394				
LIBER. / RELEASED								000				00
DATA LB / REL. DT		JARAGUA DO SUL		ENGENHARIA DO PRODUTO		FOLHA / SHEET		1 / 1				