

# DATA SHEET

## Synchronous Alternator



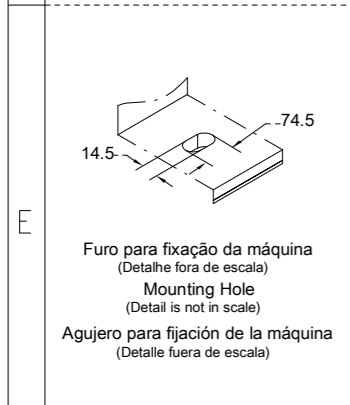
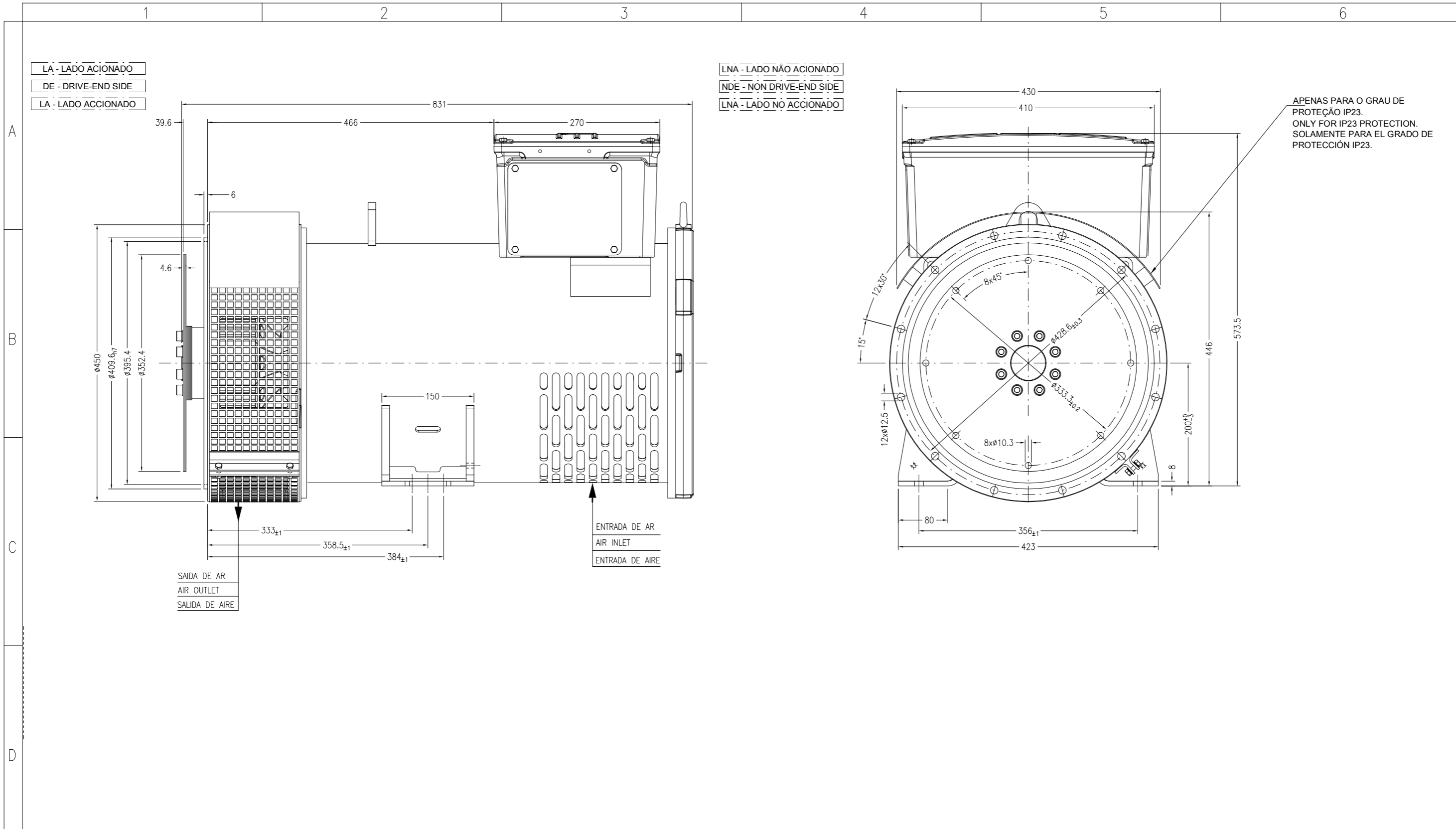
Customer	: HooverTec LLC	Notes:	
Customer reference	:		
Product line	: GTA202AIVS	Product code	: 13943283
Area classification	: Safe		1011326846

<b>General data</b>		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	: 311 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	66.0	66.0	63.0	39.3	72.0	77.8	82.0	88.0	48.0									
	Continuous 105/40	76.0	76.0	72.0	45.0	82.5	89.4	94.4	100.8	55.0									
	<b>Continuous 125/40</b>	<b>83.0</b>	<b>83.0</b>	<b>79.0</b>	<b>47.9</b>	<b>90.0</b>	<b>97.6</b>	<b>103.0</b>	<b>110.0</b>	<b>59.0</b>									
	Standby 150/40	88.0	88.0	84.0	52.0	97.0	105.7	112.0	116.0	65.0									
	Standby 163/27	91.0	91.0	86.0	54.0	100.0	108.7	115.0	120.0	66.0									
Electrical data (FP=0.8 / Continuous 125/40 (H))	Xd(%) Dir. axis synchronous reactance	340.16	292.25	277.63	453.54	450.89	396.64	374.17	322.79	498.9									
	X'd(%) Dir. axis transient reactance	23.5	20.19	19.18	31.33	31.15	27.4	25.85	22.3	34.47									
	X''d(%) Dir. axis subtrans. reactance	20.27	17.4	16.53	27.03	26.91	23.66	22.32	19.21	29.76									
	Xq(%) Quad. axis sync. reactance	109.8	94.33	89.61	146.39	145.54	128.03	120.78	104.19	161.03									
	X''q(%) Quad. axis subtrans. react.	21.48	18.46	17.53	28.64	28.48	34.25	23.63	20.39	31.51									
	X2(%) Negative sequence reactance	20.88	17.93	17.03	27.84	27.69	28.96	22.98	19.8	30.63									
	X0(%) Zero sequence reactance	3.38	2.9	2.76	4.5	4.49	3.94	3.72	3.2	4.96									
	T'd(ms) Short Circ. Trans. time const.	64.15	55.11	55.11	85.53	85.03	67.92	70.56	60.87	94.09									
	T'd(ms) Short Circ. Sub. time const.	1.12	0.96	0.96	1.49	1.49	1.19	1.23	1.06	1.64									
	T'do(ms) Open Circ. time const Trans	799.94	687.27	687.27	1066.59	1060.35	847.02	879.94	759.09	1173.25									
	T'do(ms) Open Circ. time const Subt	1.32	1.14	1.14	1.76	1.75	1.4	1.46	1.26	1.94									
	Ta(ms) Armature time const.	9.32	8.01	8.01	12.43	12.36	9.87	10.25	8.85	13.67									
	uc(V) Full load excitation voltage	35.11	35.59	35.59	35.11	32.71	34.24	33.67	35.59	33.67									
ic(A) Full load excitation current	3.65	3.7	3.7	3.65	3.4	3.56	3.5	3.7	3.5										
ic(A) No load excitation current	1.0	1.1	1.1	1.33	0.7	0.97	0.95	1.2	1.27										
Icc(A) Sustained Short-Circ. Current	378.32	359.4	329.72	359.4	410.22	396.08	405.46	396.93	368.75										
Kcc Short-circuit ratio	0.49	0.42	0.36	0.66	0.66	0.59	0.54	0.47	0.72										
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	87.6	90.6	86.8	89.8	87.1	90.1	80.6	83.3	89.1	91.6	88.7	91.4	88.6	91.3	87.9	90.7	81.5	84
	50% of load	88.8	91.7	88.7	91.6	88.9	91.9	81.6	84.3	89.6	92.1	89.6	92.2	89.8	92.4	89.7	92.3	82.6	85
	75% of load	87.5	90.7	87.8	91	88	91.3	80.5	83.5	88	90.8	88.3	91.2	88.7	91.5	88.8	91.8	81.6	84.2
	100% of load	85.6	89.3	86.3	89.9	86.5	90.2	78.8	82.2	86	89.1	86.6	89.8	87	90.2	87.4	90.8	80.1	83
	125% of load	83.7	87.7	84.6	88.6	84.8	88.9	77	80.7	83.9	87.4	84.6	88.2	85.2	88.8	85.8	89.6	78.4	81.7

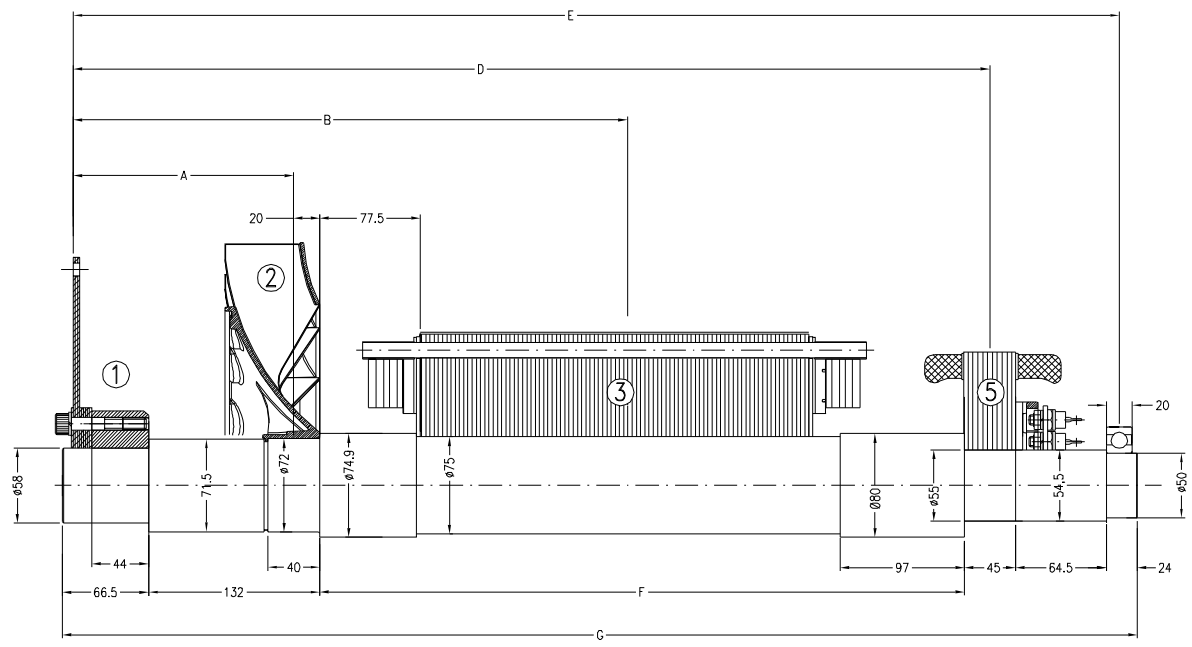
<b>Other characteristics</b>		Air flow		: 0.9 m³/s	<b>Automatic voltage regulator</b>		Accuracy (stability)		: +/- 0.5%	<b>According to:</b>	
Exciter stator winding resistance at 20°C		: 9.62 ohm		Rated current		: 5 A		NEMA MG1		IEC 60034	
Stator winding resistance at 20°C		: 0.0848 ohm		Analog input		: Yes		VDE530		NBR 5117	
Rotor winding resistance		: 1.13 ohm		Digital input		: No		ISO 8528		CSA	
Stator winding layers		: 2		Peak current		: 7 A/10 s					
Inertia WR²		: 0.52 kgm²		Droop / TC		: Yes					
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																
Date	08/09/2023								Page				Revision			
									1 /							



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
EXEC. / EXECUTED		DIMENSIONAL GTA202 B15T					
VERIF. / CHECKED							
LIBER. / RELEASED							
DATA LB / REL DT	29.01.2018	WEN	JARAGUA DO SUL	ALTERNADORES GENSET	FOLHA / SHEET	01 / 01	





TIPO TYPE	DISCOS DISCS	DIMENSÕES: mm / DIMENSIONS: mm								1		2		3		5		Total Weight kg	Total Mom <sub>l</sub> Iner. kgm <sup>2</sup>
		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>			
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	53.3			0.39		
GTA 201 __HB			352.5										45.0	60.3			0.44		
GTA 201 __HE			362.5										50.0	65.3			0.47		
GTA 202 __VS			387.5										61.0	76.3			0.55		
GTA 202 __VJ			407.5										70.0	85.3			0.61		

TIPO TYPE	DISCOS DISCS	DIMENSÕES: mm / DIMENSIONS: mm								1		2		3		5		Total Weight kg	Total Mom <sub>l</sub> Iner. kgm <sup>2</sup>
		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>			
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	53.3			0.39		
GTA 201 __HB			343.0										45.0	60.3			0.44		
GTA 201 __HE			353.0										50.0	65.3			0.47		
GTA 202 __VS			378.0										61.0	75.6			0.53		
GTA 202 __VJ			398.0										70.0	85.3			0.61		

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					

