

DATA SHEET

Synchronous Alternator



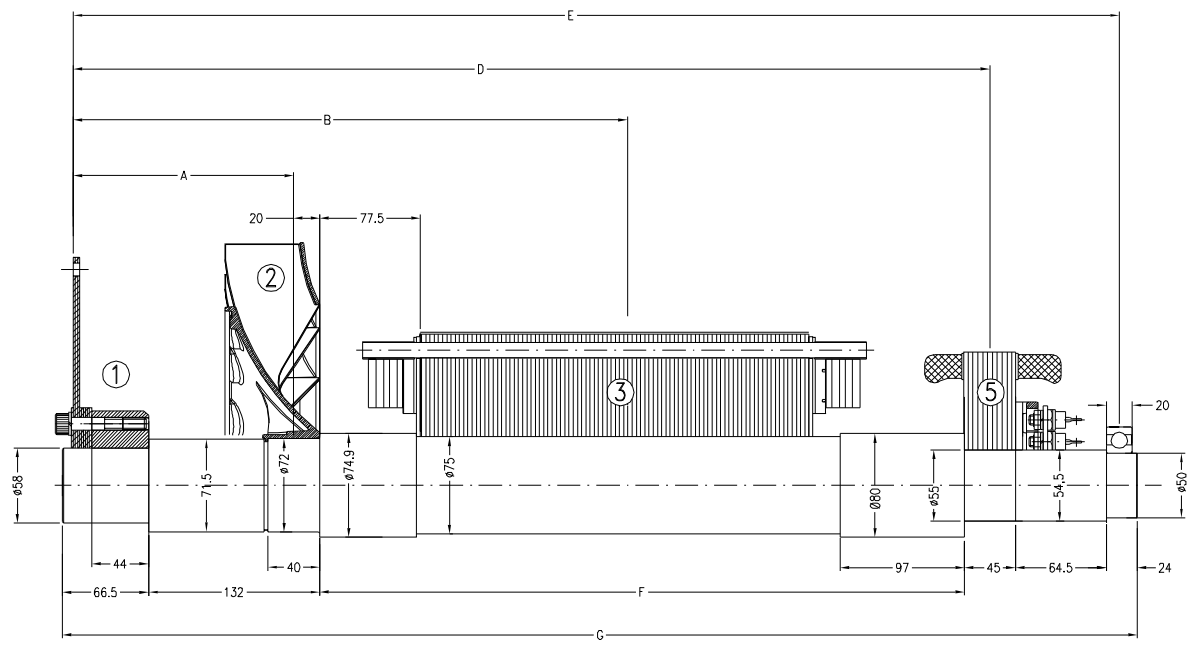
| | | | |
|---------------------|-----------------|--------------|------------|
| Customer | : HooverTec LLC | Notes: | |
| Customer reference | : | | |
| Product line | : GTA201AIHV | Product code | : 13943281 |
| Area classification | : Safe | | 1011326724 |

| | | | |
|----------------------|---------------------------------|--------------------------|--------------------------|
| 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 | : 245 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 | 42.0 | 42.0 | 40.0 | 23.3 | 47.3 | 51.5 | 54.5 | 56.4 | 31.0 | | | | | | | | | |
| | Continuous 105/40 | 48.5 | 48.5 | 45.8 | 26.7 | 54.2 | 59.0 | 62.4 | 64.6 | 35.5 | | | | | | | | | |
| | Continuous 125/40 | 53.0 | 53.0 | 50.0 | 29.2 | 59.1 | 64.3 | 68.1 | 70.5 | 38.8 | | | | | | | | | |
| | Standby 150/40 | 56.0 | 56.0 | 53.2 | 31.9 | 63.2 | 68.8 | 72.8 | 77.2 | 42.5 | | | | | | | | | |
| | Standby 163/27 | 57.5 | 57.5 | 54.6 | 33.3 | 71.0 | 73.8 | 75.7 | 81.0 | 44.3 | | | | | | | | | |
| Electrical data (FP=0.8 / Continuous 125/40 (H)) | Xd(%) Dir. axis synchronous reactance | 280.13 | 245.76 | 233.48 | 373.51 | 361.8 | 330.0 | 312.41 | 272.43 | 416.54 | | | | | | | | | |
| | X'd(%) Dir. axis transient reactance | 24.81 | 21.74 | 20.66 | 33.08 | 32.14 | 29.24 | 27.68 | 24.1 | 36.91 | | | | | | | | | |
| | X''d(%) Dir. axis subtrans. reactance | 20.87 | 18.31 | 17.39 | 27.83 | 27.04 | 24.6 | 23.29 | 20.29 | 31.05 | | | | | | | | | |
| | Xq(%) Quad. axis sync. reactance | 107.02 | 93.89 | 89.19 | 142.69 | 138.19 | 136.6 | 119.34 | 104.08 | 159.13 | | | | | | | | | |
| | X''q(%) Quad. axis subtrans. react. | 18.47 | 16.19 | 15.38 | 24.62 | 23.95 | 36.55 | 20.61 | 17.94 | 27.48 | | | | | | | | | |
| | X2(%) Negative sequence reactance | 19.6 | 17.18 | 16.32 | 26.13 | 25.4 | 30.57 | 21.87 | 19.05 | 29.16 | | | | | | | | | |
| | X0(%) Zero sequence reactance | 3.48 | 3.05 | 2.9 | 4.64 | 4.51 | 4.1 | 3.88 | 3.38 | 5.18 | | | | | | | | | |
| | T'd(ms) Short Circ. Trans. time const. | 56.53 | 56.63 | 56.63 | 75.37 | 56.44 | 72.32 | 56.53 | 56.63 | 75.37 | | | | | | | | | |
| | T''d(ms) Short Circ. Sub. time const. | 1.05 | 1.05 | 1.05 | 1.4 | 1.05 | 1.26 | 1.05 | 1.05 | 1.4 | | | | | | | | | |
| | T'do(ms) Open Circ. time const Trans | 649.05 | 650.01 | 650.01 | 865.4 | 645.52 | 901.86 | 648.48 | 650.01 | 864.64 | | | | | | | | | |
| | T''do(ms) Open Circ. time const Subt | 1.24 | 1.24 | 1.24 | 1.66 | 1.24 | 1.49 | 1.24 | 1.24 | 1.66 | | | | | | | | | |
| | Ta(ms) Armature time const. | 7.52 | 7.53 | 7.53 | 10.03 | 7.51 | 10.51 | 7.52 | 7.53 | 10.03 | | | | | | | | | |
| | uc(V) Full load excitation voltage | 48.66 | 49.01 | 49.01 | 48.66 | 42.79 | 47.88 | 47.42 | 50.57 | 47.42 | | | | | | | | | |
| | ic(A) Full load excitation current | 5.06 | 5.09 | 5.09 | 5.06 | 4.45 | 4.98 | 4.93 | 5.26 | 4.93 | | | | | | | | | |
| ic(A) No load excitation current | 0.7 | 0.9 | 0.9 | 0.93 | 0.4 | 0.64 | 0.6 | 0.8 | 0.8 | | | | | | | | | | |
| Icc(A) Sustained Short-Circ. Current | 241.58 | 229.5 | 208.68 | 219.0 | 269.38 | 255.3 | 268.07 | 254.39 | 242.34 | | | | | | | | | | |
| Kcc Short-circuit ratio | 0.38 | 0.46 | 0.43 | 0.5 | 0.27 | 0.3 | 0.33 | 0.42 | 0.44 | | | | | | | | | | |
| 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 | 89.7 | 92.4 | 89.1 | 92 | 89.4 | 92.3 | 82.5 | 85 | 90.4 | 93 | 90.3 | 92.9 | 90.4 | 92.9 | 89.8 | 92.5 | 83.2 | 85.5 |
| | 50% of load | 89.1 | 92.1 | 89.2 | 92.2 | 89.5 | 92.5 | 82 | 84.8 | 89.6 | 92.3 | 89.8 | 92.5 | 90 | 92.8 | 90 | 92.8 | 82.8 | 85.3 |
| | 75% of load | 87 | 90.6 | 87.5 | 91 | 87.8 | 91.3 | 80 | 83.4 | 87.4 | 90.5 | 87.8 | 91 | 88.1 | 91.3 | 88.5 | 91.8 | 81 | 84 |
| | 100% of load | 84.7 | 88.9 | 85.5 | 89.5 | 85.8 | 89.8 | 77.9 | 81.8 | 84.9 | 88.5 | 85.6 | 89.2 | 86 | 89.7 | 86.7 | 90.4 | 79.1 | 82.5 |
| | 125% of load | 82.4 | 87.1 | 83.4 | 88 | 83.6 | 88.3 | 75.8 | 80.1 | 82.5 | 86.5 | 83.3 | 87.4 | 83.8 | 88 | 84.7 | 89 | 77.1 | 80.9 |

| | | | | | | | | | | | |
|---|--|---------------|--|------------------------------------|------------------------------------|---------------|----------------------|----------|------------|----------------------|--|
| Other characteristics | | Air flow | | : 0.6 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 | | : 0.15532 ohm | | Analog input | | : Yes | | VDE530 | | NBR 5117 | |
| Rotor winding resistance | | : 0.82 ohm | | Digital input | | : No | | ISO 8528 | | CSA | |
| Stator winding layers | | : 2 | | Peak current | | : 7 A/10 s | | | | | |
| Inertia WR² | | : 0.4 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 / | | | | | | | |



| 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 | 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 _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 | 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 | | |

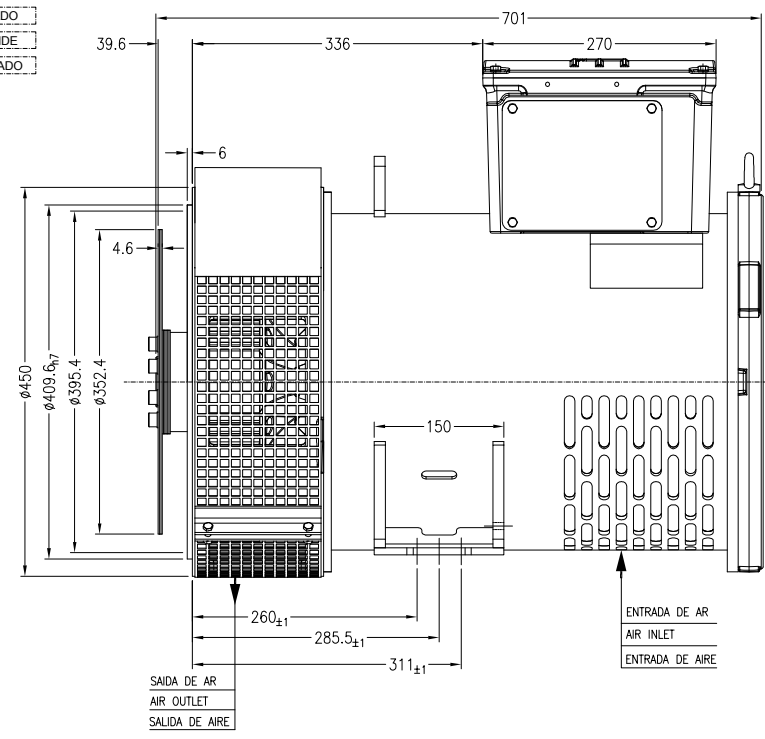
| | | | | | | | | | | |
|------------------------------------|------------|--|---------------------------|---------------|---------|-----------------------|-----------------------|----------------------|--------------|------------|
| PESO BRUTO / GROSS WEIGHT | | kg | PESO LÍQUIDO / NET WEIGHT | | kg | 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 | | | | | |



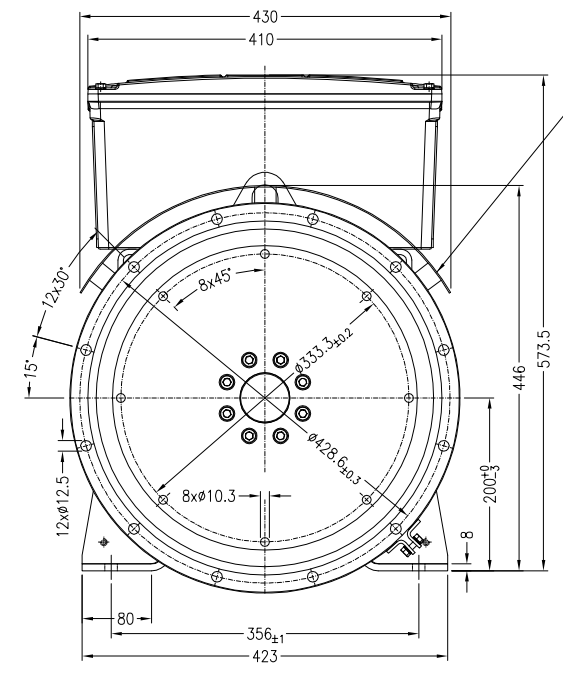
1 2 3 4 5 6

A
B
C
D
E

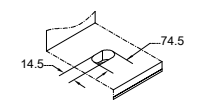
LA - LADO ACIONADO
DE - DRIVE-END SIDE
LA - LADO ACCIONADO



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



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 | RESUMO MODIFICAÇÃO / SUMMARY OF MODIFICATIONS | | EXECUTADO / EXECUTED | VERIFICADO / CHECKED | LIBERADO / RELEASED | DATA / DATE | VER / VER |
| ECM / ECM | LOC | DIMENSIONAL GTA201 B15T | | | | | | |
| VERIF. / CHECKED | | | | 10005056166 | | | | |
| LIBER. / RELEASED | | | | 000 03 | | | | |
| DATA LB / REL DT | 29.01.2018 | WEN | JARAGUA DO SUL | ALTERNADORES GENSET | FOLHA / SHEET | 01 / 01 | | |

