



## Technical Datasheet for Mahniroo Alternators DSG52 L2-4

### Generator data

|                                 |  |  |                        |                   |           |     |
|---------------------------------|--|--|------------------------|-------------------|-----------|-----|
| Generator:                      | DSG52 L2-4                                       | poles:   | 4                      | Standard:         | IEC60034  |     |
| Rated power:                    | 530 KVA  | Rated Current:                                   | 768 A                  | Rated Voltage:    | 400 V     |     |
| Active Power:                   | 424 Kwatt  | Reactive Power:                                  | 318 kvar               | Power Factor:     | 0.8       |     |
| Speed:                          | 1500 rpm   | Freq:  | 50 HZ                  | Mech Power:       | 452 kwatt |     |
| Voltage range/ferquency range : |  | Zone A according IEC 60034-1 (dU=+/-5%,df=+/-2%) |                        |                   |           |     |
| Insulation class                | stator: Class H                                  | Rotor: Class H                                   | Temperature Rise: H    |                   |           |     |
| Winding Pitch:                  | 2/3  |  |                        |                   |           |     |
| Ambient Temperature:            | 40°C   | Site altitude:                                   | 1000 m                 | Enclosure: IP23   |           |     |
| Enviroment: Standard Enviroment |  |  |                        |                   |           |     |
| Cooling:                        | 1C 01-Open-circuit ventilation                   | Cooling Air Vol:                                 | 65 m <sup>3</sup> /min |                   |           |     |
| Weight:                         | 1400   | Momment of Inertia:                              | 7.9                    | Kg/m <sup>2</sup> |           |     |
| Temperature Air inlet:          | 40°C   | Cooling Water Quantity:                          | n/a                    |                   |           |     |
| Losses(enviroment):             | 28   | Kwatt  | Losses(cooling):       | n/a               |           |     |
| Wires:                          | 4 terminals, starpoint connected in terminal box |  |                        | [                 | Single    | yes |
| Voltage regulator:              | Cosimat C /MN                                    |  | Operation mode         |                   | Parallel  | yes |

### Electrical Data (aac,IEC)

|              |      |      |      |      |      |
|--------------|------|------|------|------|------|
| Efficiencies | 110% | 100% | 75%  | 50%  | 25%  |
| P.F 0.8      | 93.1 | 93.8 | 94.5 | 94.7 | 93.2 |
| P.F 1.0      | 95.4 | 95.8 | 96   | 95.8 | 93.9 |

### Reactances (p.u.) and time constants (second)

|                       |       |                       |       |           |          |
|-----------------------|-------|-----------------------|-------|-----------|----------|
| $X_d^{saturated}$     | 2.56  | $X_q^{saturated}$     | 1.2   | $T_{d0}'$ | 1.85 s   |
| $X_{d'}^{saturated}$  | 0.208 | $X_{q''}^{saturated}$ | 0.146 | $T_{d'}$  | 0.151 s  |
| $X_{d''}^{saturated}$ | 0.124 | $X_0^{saturated}$     | 0.059 | $T_{d''}$ | 0.0073 s |
| $X_2^{saturated}$     | 0.135 |                       |       | $T_a$     | 0.0203 s |
| $X_{1s}^{saturated}$  | n.a.  |                       |       | $T_{q'}$  | 0.0107 s |



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