

Alternatori 4 poli
per gruppi elettrogeni industriali

*4 pole alternators
for industrial gen-sets*

SK 400 / 450

800 to 1800 kVA / 50 Hz



 **Sincro**[®]

Alternatori sincroni in bassa tensione AC | IP23

Synchronous low voltage AC alternators | IP23



TRIFASE - THREE PHASE

SENZA SPAZZOLE / AVR
BRUSHLESS / AVR

dati elettrici

electric data

| | | | |
|--|-------------------|---|---------------------------------|
| Classe d'isolamento - <i>Insulation class</i> | H | Precisione regolazione di tensione - <i>Voltage regulation accuracy**</i> | ± 0,25% |
| Terminali - <i>Leads</i> | 6 | Compatibilità elettromagnetica - <i>Electromagnetic compatibility</i> | EN 61000-6-2 - EN 61000-6-4 |
| Passo d'avvolgimento - <i>Winding pitch</i> | 2 / 3 | Corrente di corto circuito - <i>Short circuit current</i> | > 300 % I _n for 10s |
| Sistema di eccitazione - <i>Excitation system</i> | Brushless + PMG* | Distorsione armonica - <i>Total harmonic content***</i> | < 2% |
| Tipo di regolatore di tensione - <i>Voltage regulator type</i> | AVR DBL 1 DIGITAL | Protezione basse velocità - <i>Underspeed protection</i> | Vers. Standard - Standard vers. |

* PERMANENT MAGNET GENERATOR

** Con carico da 0 a 100%, variazione di velocità da -2% a +5%, cos φ 0,8, carico lineare ed equilibrato - *With load from 0 to 100%, speed variation from -2% to +5%, power factor 0,8 linear and balanced load*

*** Tra fase e fase, a pieno carico nominale lineare ed equilibrato - *Line to line, at full linear and balanced rated load*

informazioni tecniche

technical information

- > **Norme di riferimento:**
EN 60034-1, IEC 60034-1, ISO8528-3
- > **Grado di protezione:**
Lo standard è IP23
- > **Cuscinetti:**
I cuscinetti sono dimensionati per un utilizzo pesante
- > **Comportamento transitorio:**
La caduta di tensione transitoria per un'applicazione del carico nominale a cos φ 0,8 è inferiore al 18%
- > **Tropicalizzazione**
Standard
- > **Standards:**
EN 60034-1, IEC 60034-1, ISO8528-3
- > **Protection degree:**
Standard is IP23
- > **Bearings:**
Bearings are dimensioned for heavy duty
- > **Transient features:**
Transient voltage drop for rated step load at 0,8 power factor is less than 18%
- > **Tropicalization**
Standard

potenze e rendimenti

powers and efficiencies

| | powers | | | | | | efficiencies | | | |
|-----------------------------|--------------------|------|------|--------------------|------|------|--------------------|------|------|------------|
| | S1 40/105 °C cl. F | | | S1 40/125 °C cl. H | | | Stand by 27/163 °C | | | 4/4 at S1 |
| 50 Hz • 1500 rpm | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | p.f. = 0,8 |
| tensione - <i>voltage</i> Y | 380 | 400 | 415 | 380 | 400 | 415 | 380 | 400 | 415 | 400 |
| tensione - <i>voltage</i> Δ | 220 | 230 | 240 | 220 | 230 | 240 | 220 | 230 | 240 | 230 |
| model | kVA | | | kVA | | | kVA | | | % |
| SK 400 SD | 737 | 737 | 737 | 800 | 800 | 800 | 858 | 858 | 858 | 94,7 |
| SK 400 SE | 829 | 829 | 829 | 900 | 900 | 900 | 966 | 966 | 966 | 94,9 |
| SK 400 SF | 921 | 921 | 921 | 1000 | 1000 | 1000 | 1073 | 1073 | 1073 | 95,1 |
| SK 400 SG | 1013 | 1013 | 1013 | 1100 | 1100 | 1100 | 1180 | 1180 | 1180 | 95,2 |
| SK 450 ME | 1197 | 1197 | 1197 | 1300 | 1300 | 1300 | 1395 | 1395 | 1395 | 95,6 |
| SK 450 MF | 1382 | 1382 | 1382 | 1500 | 1500 | 1500 | 1610 | 1610 | 1610 | 95,8 |
| SK 450 MG | 1474 | 1474 | 1474 | 1600 | 1600 | 1600 | 1717 | 1717 | 1717 | 95,9 |
| SK 450 LE | 1658 | 1658 | 1658 | 1800 | 1800 | 1800 | 1932 | 1932 | 1932 | 96,1 |
| 60 Hz • 1800 rpm | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | 3 ph | p.f. = 0,8 |
| tensione - <i>voltage</i> Y | 416 | 440 | 480 | 416 | 440 | 480 | 416 | 440 | 480 | 480 |
| tensione - <i>voltage</i> Δ | 240 | 254 | 277 | 240 | 254 | 277 | 240 | 254 | 277 | 277 |
| model | kVA | | | kVA | | | kVA | | | % |
| SK 400 SD | 827 | 854 | 879 | 902 | 932 | 960 | 984 | 1017 | 1047 | 95,3 |
| SK 400 SE | 930 | 961 | 989 | 1015 | 1049 | 1080 | 1107 | 1144 | 1178 | 95,5 |
| SK 400 SF | 1033 | 1067 | 1099 | 1128 | 1165 | 1200 | 1230 | 1271 | 1309 | 95,6 |
| SK 400 SG | 1136 | 1174 | 1209 | 1241 | 1282 | 1320 | 1353 | 1398 | 1439 | 95,7 |
| SK 450 ME | 1343 | 1388 | 1429 | 1466 | 1515 | 1560 | 1599 | 1652 | 1701 | 96,1 |
| SK 450 MF | 1550 | 1601 | 1649 | 1692 | 1748 | 1800 | 1845 | 1906 | 1963 | 96,3 |
| SK 450 MG | 1653 | 1708 | 1753 | 1805 | 1864 | 1920 | 1968 | 2033 | 2094 | 96,4 |
| SK 450 LE | 1860 | 1921 | 1979 | 2031 | 2097 | 2160 | 2214 | 2287 | 2356 | 96,6 |

condizioni d'impiego

operating conditions

- Le potenze indicate sono riferite alle seguenti condizioni d'impiego:
- > temperatura ambiente 40 °C
 - > altitudine non superiore a 1000 m. s.l.m.
 - > cos φ 0,8
 - > carico equilibrato non distorcete
 - > le potenze in stand-by sono riferite a 27 °C di temperatura ambiente e si riferiscono ad alimentazione continua del carico per ogni possibile interruzione di rete; in tali servizi non sono ammessi sovraccarichi.

The ratings given are referred to the following conditions:

- > ambient temperature 40 °C
- > altitude below 1000 m. a.s.l.
- > power factor 0,8
- > symmetrical non distorting load
- > stand-by ratings are based on ambient temperature max 27 °C, for continuous supply of loads for any utility power failure; no overloads are allowed.

fattori correttivi

correction factors

| | | | | | |
|--------------|-------|-------|-------|-------|-------|
| temp. amb. | 25 °C | 40 °C | 45 °C | 50 °C | 55 °C |
| amb temp | 1,05 | 1,00 | 0,96 | 0,92 | 0,88 |
| altitudine | 1000m | 1500m | 2000m | 2500m | 3000m |
| altitude | 1,00 | 0,96 | 0,93 | 0,90 | 0,86 |
| cos φ | 1,0 | 0,8 | 0,7 | 0,6 | 0,5 |
| power factor | 1,00 | 1,00 | 0,93 | 0,88 | 0,84 |

monosupporto SAE
single bearing SAE

| giunto a dischi <i>disk joint</i> | flangia SAE-flange SAE | | | G | I1 | L | R1 | fori <i>holes</i> | S1 |
|--------------------------------------|------------------------|--------|--------|-------|-------|------|----|----------------------|-----|
| | 0,5 | 0 | 00 | | | | | | |
| 18 | • | • | • | 571,5 | 542,9 | 15,7 | 18 | 6 | 60° |
| 21 | | | • | 673,1 | 641,4 | 0 | 18 | 12 | 30° |
| P | 584,2 | 647,7 | 787,4 | | | | | | |
| Q | 664 | 754 | 877 | | | | | | |
| I | 619,1 | 679,5 | 851 | | | | | | |
| V | 877 | 877 | 877 | | | | | | |
| S | 15° | 11,25° | 11,25° | | | | | | |
| R | 14 | 14 | 14 | | | | | | |
| fori - holes | 12 | 16 | 16 | | | | | | |

| model | Cg (mm) | B (mm) | H (mm) | F (mm) | mass (Kg) |
|-----------|------------|-----------|-----------|-----------|--------------|
| SK 400 SD | 493 | 1136 | 400 | 1173 | 1610 |
| SK 400 SE | 513 | 1136 | 400 | 1173 | 1700 |
| SK 400 SF | 523,5 | 1136 | 400 | 1173 | 1765 |
| SK 400 SG | 545,5 | 1136 | 400 | 1173 | 1900 |
| SK 450 ME | 593 | 1411 | 450 | 1223 | 2230 |
| SK 450 MF | 638 | 1411 | 450 | 1223 | 2490 |
| SK 450 MG | 668 | 1411 | 450 | 1223 | 2660 |
| SK 450 LE | 715 | 1511 | 450 | 1223 | 2940 |

bisupporto IM B34
double bearing IM B34

| model | Cg (mm) | B (mm) | H (mm) | F (mm) | mass (Kg) |
|-----------|------------|-----------|-----------|-----------|--------------|
| SK 400 SD | 528 | 1186 | 400 | 1173 | 1670 |
| SK 400 SE | 551 | 1186 | 400 | 1173 | 1760 |
| SK 400 SF | 561 | 1186 | 400 | 1173 | 1825 |
| SK 400 SG | 583,5 | 1186 | 400 | 1173 | 1960 |
| SK 450 ME | 631 | 1461 | 450 | 1223 | 2300 |
| SK 450 MF | 676 | 1461 | 450 | 1223 | 2560 |
| SK 450 MG | 706 | 1461 | 450 | 1223 | 2730 |
| SK 450 LE | 754 | 1561 | 450 | 1223 | 3010 |

WE MAKE INNOVAT

ITALIAN DESIGN & INDUSTRIAL MANUFACTURING
MOTORS, ALTERNATORS, CONTROLLERS, DR
FOR ENERGY & AUTOMATION

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Warranty conditions

Soga guarantees the own alternators for a period of 18 months starting from the invoice date or 12 months starting from the first start up, whichever occurs first. We confirm that warranty is directed only to Soga customers to which we respond. Soga does not grant warranty to those who have not directly purchased the product from the factory, in spite of the possession of it.

Within the above mentioned terms, Soga commits itself to supply free of charge those

spare parts that, according to its judgment or to the one of an authorized representative, appear with manufacturing or material defects or, always to its judgment, to directly or through an authorized center carry out the repairing without undertaking transport costs. We anyhow exclude forms of responsibility or obligation for other costs, damages and direct or indirect loss caused by total or partial usage or impossible usage of the products. The repairing or the

substitution will not extend or renew the warranty duration. Warranty will not be granted: whenever break-downs or problems may appear because of lack of experience, usage over the nominal performances, if the product had been modified or should return incomplete, disassembled or with modified nameplate data.



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