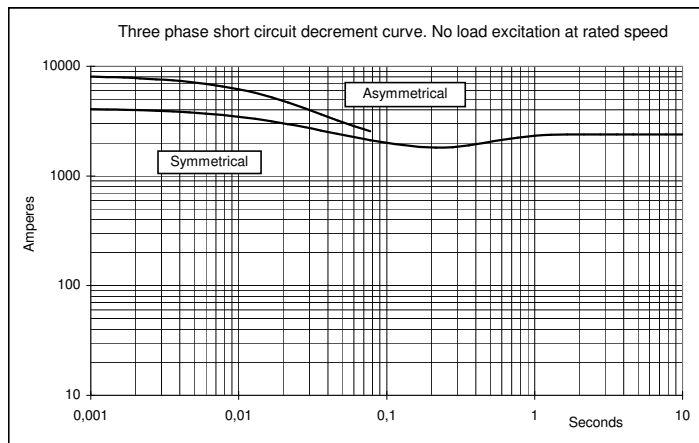
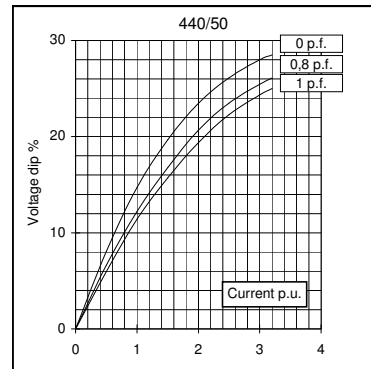
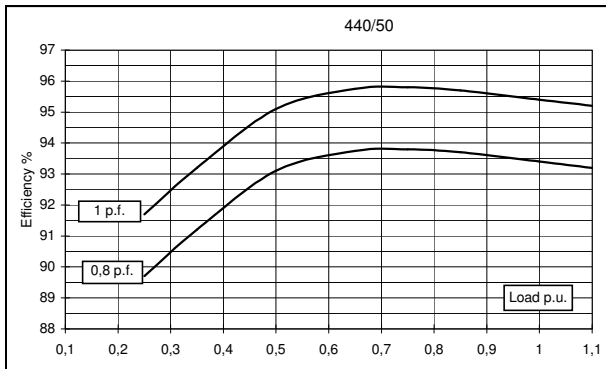
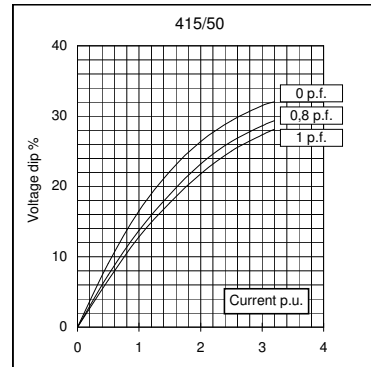
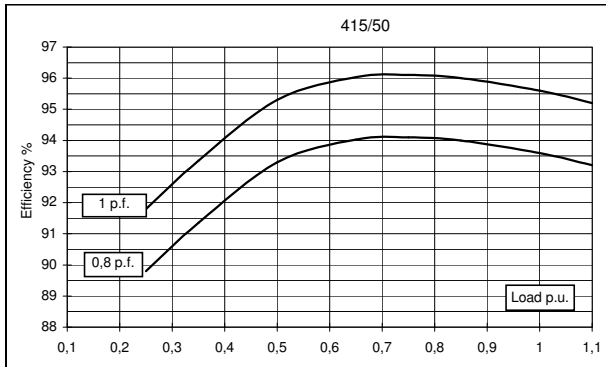
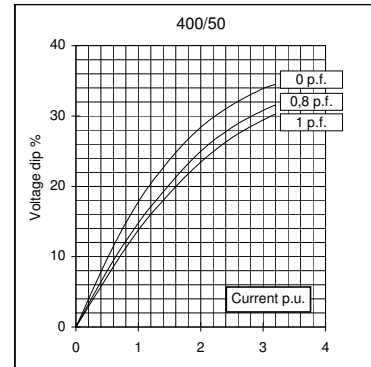
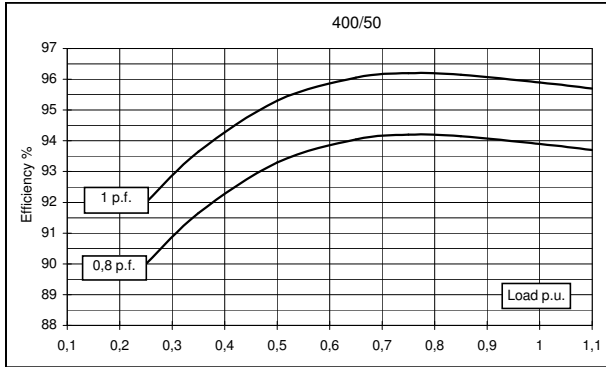
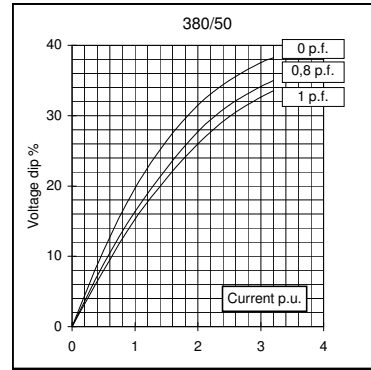
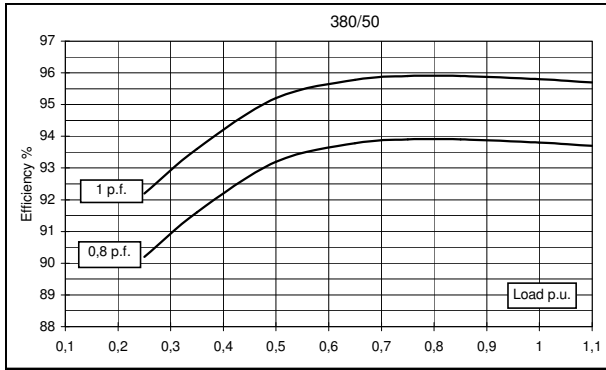
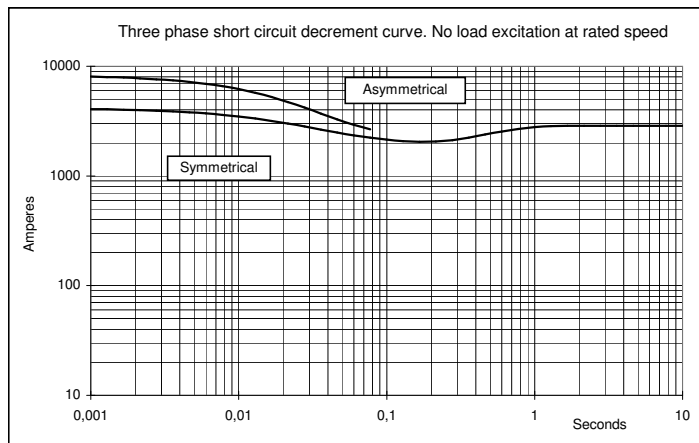
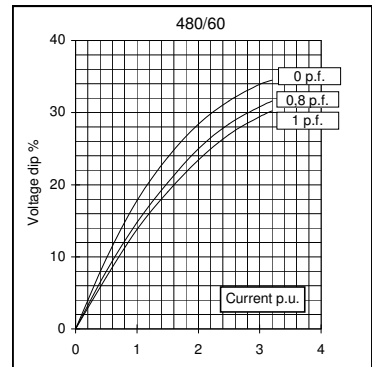
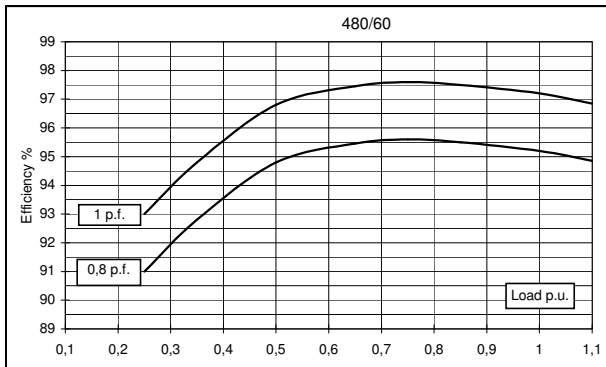
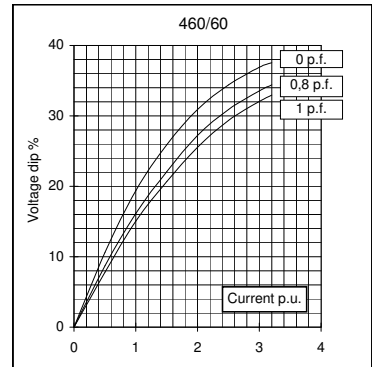
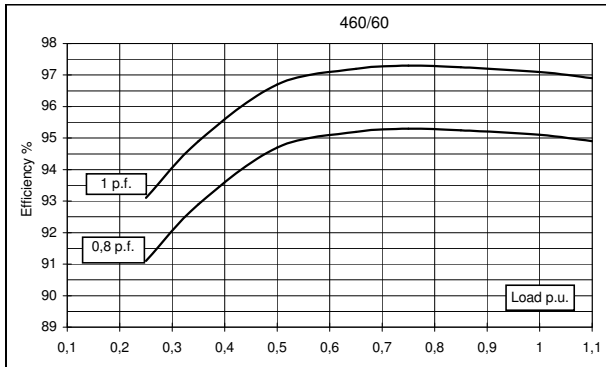
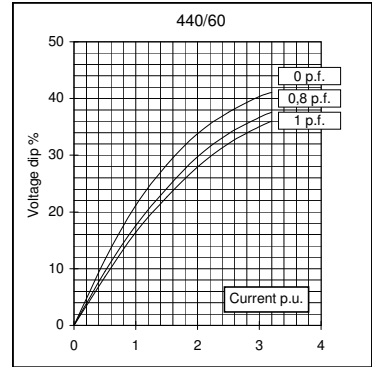
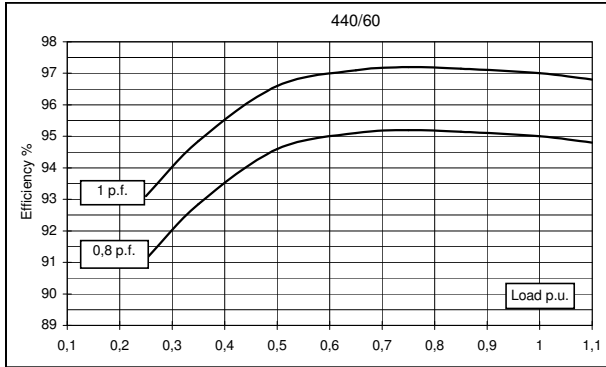
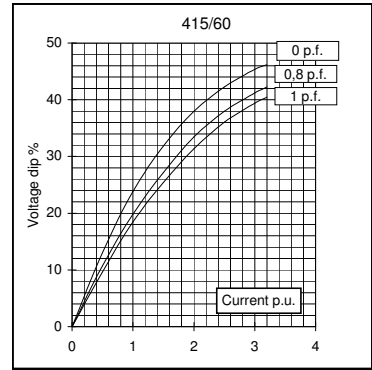
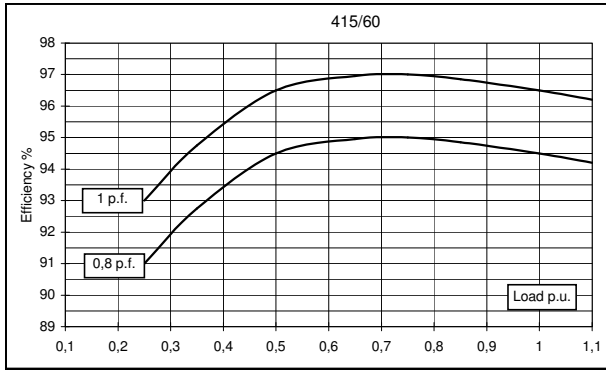


| <b>Electrical Characteristics</b>    |                |   |   |       |       |       |               |       |       |       |
|--------------------------------------|----------------|---|---|-------|-------|-------|---------------|-------|-------|-------|
| Frequency                            | Hz             | 50  |   |       |       | 60    |               |       |       |       |
| Voltage (parallel star)              | V              | 380   | 400   | 415   | 440   | 415   | 440           | 460   | 480   |       |
| Rated power class H                  | kVA            | 500   | 500   | 500   | 460   | 540   | 580           | 600   | 600   |       |
|                                      | kW             | 400   | 400   | 400   | 368   | 432   | 464           | 480   | 480   |       |
| Rated power class F                  | kVA            | 450   | 450   | 450   | 414   | 484   | 520           | 540   | 540   |       |
|                                      | kW             | 360   | 360   | 360   | 331   | 387   | 416           | 432   | 432   |       |
| Regulation with DER1                 |                | ±1% with any power factor and speed variations between -5% +30%         |   |       |       |       |               |       |       |       |
| Insulation class                     |                | H   |   |       |       |       |               |       |       |       |
| Execution                            |                | Brushless   |   |       |       |       |               |       |       |       |
| Stator winding                       |                | 12 ends (nameplate data : 800V-50Hz Series Star, 960V-60Hz Series Star) |   |       |       |       |               |       |       |       |
| Rotor                                |                | with damping cage   |   |       |       |       |               |       |       |       |
| Efficiencies class H                 | 4/4            | %   | 93,8  | 93,9  | 93,6  | 93,4  | 94,5          | 95    | 95,1  | 95,2  |
| (see graph. for details)             | 3/4            | %   | 93,9  | 94,2  | 94,1  | 93,8  | 95            | 95,2  | 95,3  | 95,6  |
|                                      | 2/4            | %   | 93,2  | 93,3  | 93,3  | 93,1  | 94,5          | 94,6  | 94,7  | 94,8  |
|                                      | 1/4            | %   | 90,2  | 90    | 89,8  | 89,7  | 91            | 91,1  | 91,1  | 91    |
| Reactances (f. l.cl. F)              | Xd             | %   | 291,3   | 262,9 | 244,2 | 199,9 | 316,5         | 302,4 | 286,3 | 262,9 |
|                                      | Xd'            | %   | 30,6  | 27,6  | 25,6  | 21,0  | 33,2          | 31,8  | 30,1  | 27,6  |
|                                      | Xd''           | %   | 20,3  | 18,3  | 17,0  | 13,9  | 22,0          | 21,1  | 19,9  | 18,3  |
|                                      | Xq             | %   | 179,5   | 162   | 150,5 | 123,2 | 195,0         | 186,4 | 176,4 | 162   |
|                                      | Xq'            | %   | 179,5   | 162   | 150,5 | 123,2 | 195,0         | 186,4 | 176,4 | 162   |
|                                      | Xq''           | %   | 25,9  | 23,4  | 21,7  | 17,8  | 28,2          | 26,9  | 25,5  | 23,4  |
|                                      | X <sub>2</sub> | %   | 23,0  | 20,8  | 19,3  | 15,8  | 25,0          | 23,9  | 22,6  | 20,8  |
|                                      | X <sub>0</sub> | %   | 3,2   | 2,9   | 2,7   | 2,2   | 3,5           | 3,3   | 3,2   | 2,9   |
| Short Circuit Ratio                  | Kcc            |   | 0,31  | 0,40  | 0,60  | 0,96  | 0,23          | 0,27  | 0,31  | 0,40  |
| Time Constants                       | Td'            | sec.  | 0,125   |       |       |       |               |       |       |       |
|                                      | Td''           | sec.  | 0,0193  |       |       |       |               |       |       |       |
|                                      | Tdo'           | sec.  | 2,71  |       |       |       |               |       |       |       |
|                                      | Tα             | sec.  | 0,0258  |       |       |       |               |       |       |       |
| Short Circuit Current Capacity       |                | %   | >300  |       |       |       | >350          |       |       |       |
| Excitation at no load                | Amp.           |   | 0,6   | 0,7   | 1     | 1,2   | 0,4           | 0,5   | 0,6   | 0,7   |
| Excitation at full load              | Amp.           |   | 3,6   | 3,5   | 3,9   | 4     | 3             | 3,1   | 3,2   | 3,4   |
| Overload (long-term)                 |                | %   | 1 hour in a 6 hours period 110% rated load                      |       |       |       |               |       |       |       |
| Overload per 20 sec.                 |                | %   | 300   |       |       |       |               |       |       |       |
| Stator Winding Resistance (20 °C)    | Ω              |   | 0,0106  |       |       |       |               |       |       |       |
| Rotor Winding Resistance (20 °C)     | Ω              |   | 5,176   |       |       |       |               |       |       |       |
| Exciter Resistance (20 °C)           | Ω              |   | Rotor : 0,317   |       |       |       | Stator : 8,85 |       |       |       |
| Heat dissipation at f.l.cl.H         | W              |   | 26439   | 25985 | 27350 | 26004 | 25143         | 24421 | 24732 | 24202 |
| Telephone Interference               |                |   | THF < 2%  |       |       |       | TIF < 40      |       |       |       |
| Radio interference                   |                |   | EN61000-6-3, EN61000-6-1. For others standards apply to factory |       |       |       |               |       |       |       |
| Waveform Distors.(THD) at f. load    | LL/LN %        |   | 2,4 / 2,5   |       |       |       |               |       |       |       |
| Waveform Distors.(THD) at no load    | LL/LN %        |   | 2,6 / 2,5   |       |       |       |               |       |       |       |
| <b>Mechanical characteristics</b>    |                |   |   |       |       |       |               |       |       |       |
| Protection                           |                |   | IP 21 (other protection on request)                             |       |       |       |               |       |       |       |
| DE bearing                           |                |   | 6322  |       |       |       |               |       |       |       |
| NDE bearing                          |                |   | 6318.2RS  |       |       |       |               |       |       |       |
| Weight of wound stator assembly      | kg             |   | 428   |       |       |       |               |       |       |       |
| Weight of wound rotor assembly       | kg             |   | 274,6   |       |       |       |               |       |       |       |
| Weight of complete generator         | kg             |   | 1171  |       |       |       |               |       |       |       |
| Maximun overspeed                    | rpm            |   | 2250  |       |       |       |               |       |       |       |
| Unbalanced magnetic pull at f.l.cl.F | kN/mm          |   | 6,5   |       |       |       |               |       |       |       |
| Cooling air requirement              | m³/min         |   | 54  |       |       |       | 64,8          |       |       |       |
| Inertia Constant (H)                 | sec.           |   | 0,175   |       |       |       | 0,210         |       |       |       |
| Noise level at 1m/7m                 | dB(A)          |   | 94 / 82   |       |       |       | 98 / 88       |       |       |       |

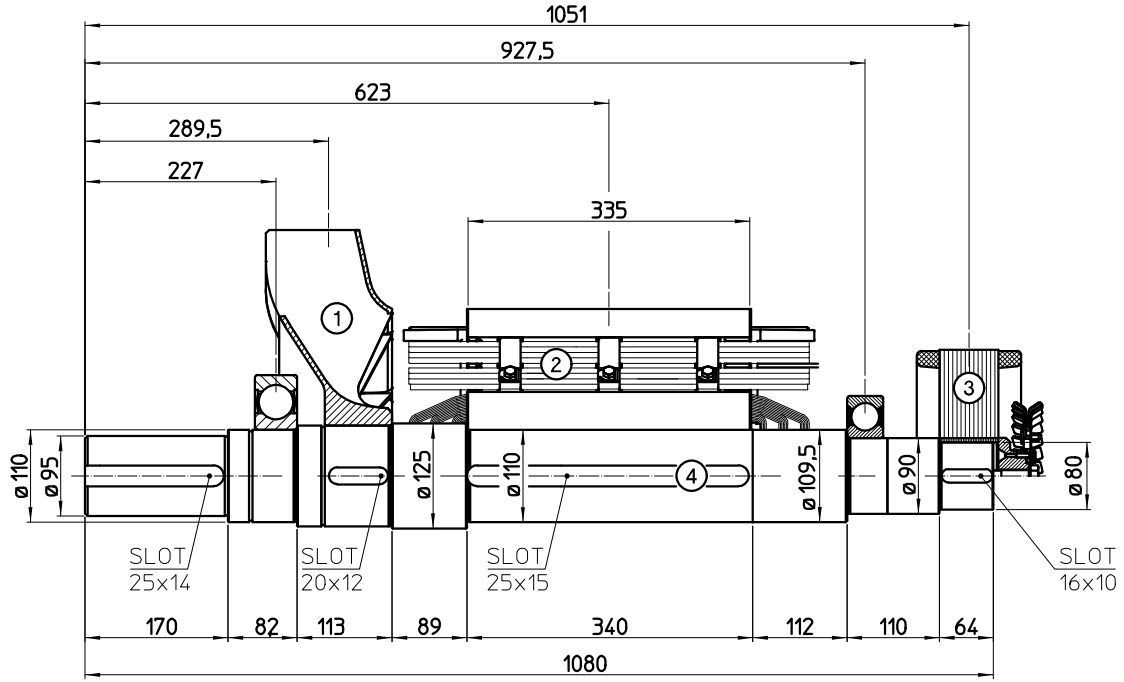
**50 Hz**



**60 Hz**

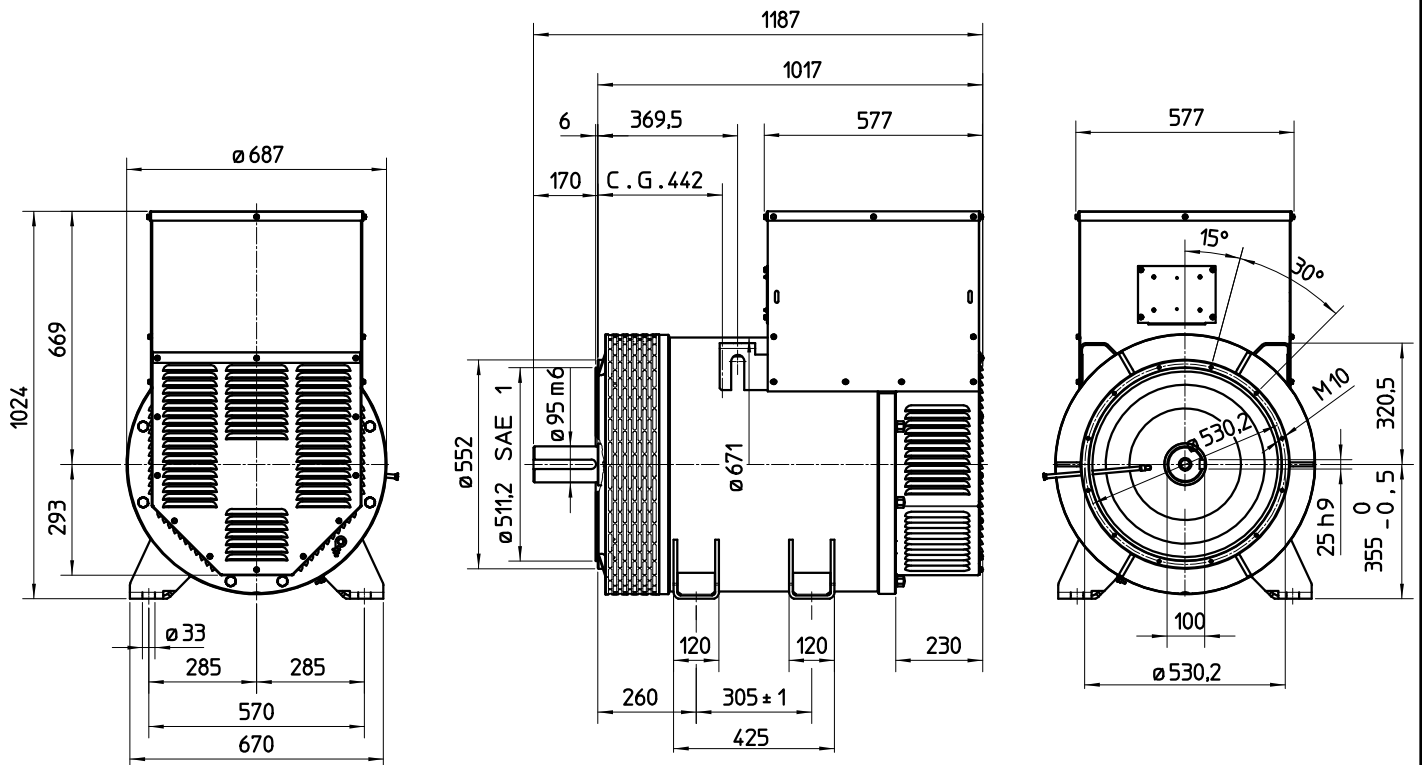


### TWO BEARING MOMENTS OF INERTIA



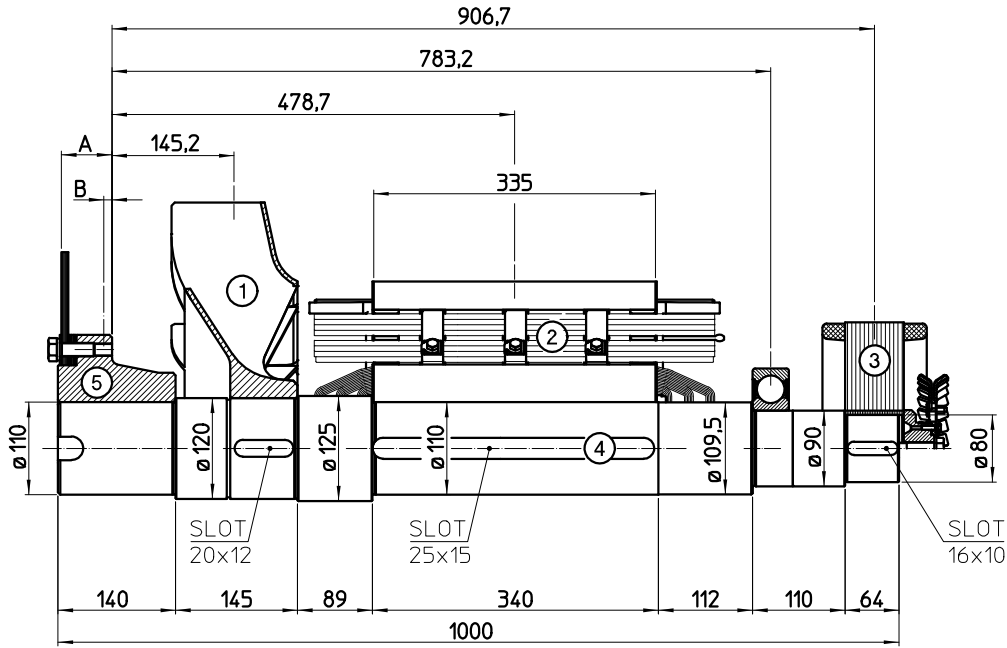
| COMPONENT    | WEIGHT kg | J kgm <sup>2</sup> |
|--------------|-----------|--------------------|
| 1 FAN        | 10,2      | 0,335              |
| 2 MAIN ROTOR | 274,6     | 5,846              |
| 3 EX. ROTOR  | 35        | 0,562              |
| 4 SHAFT      | 73,6      | 0,109              |
| TOTAL        | 393,4     | 6,852              |

### TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

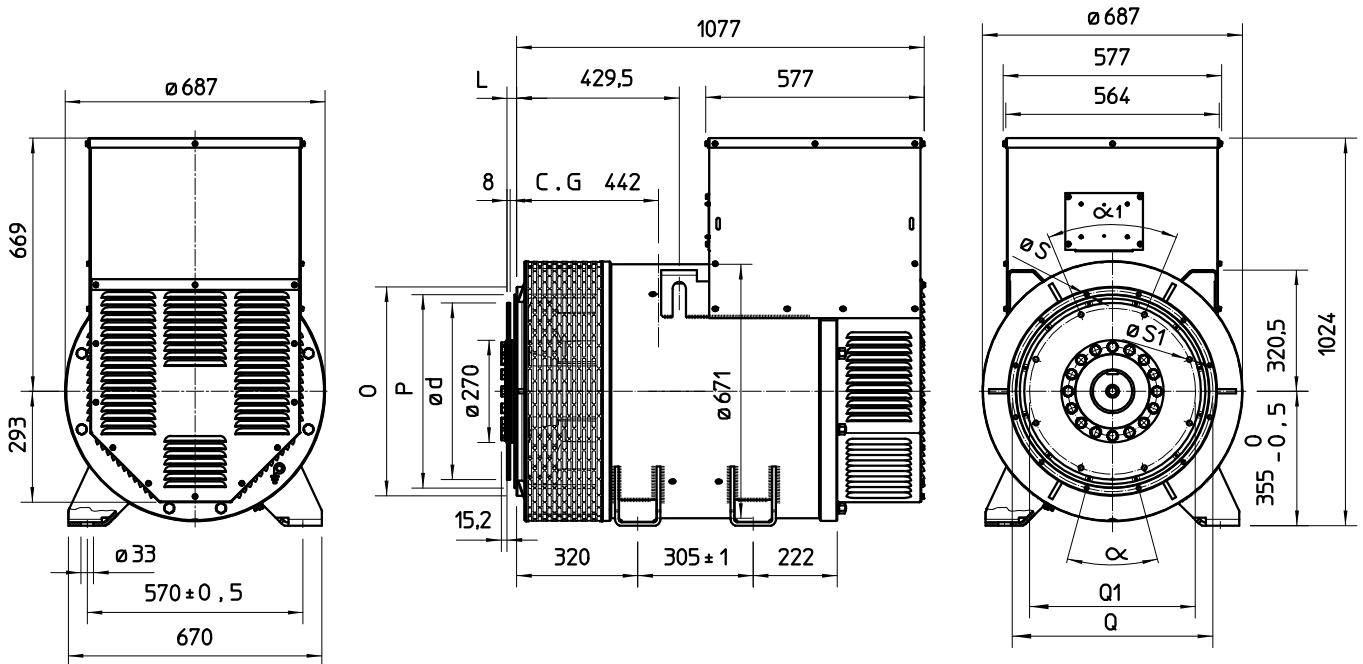
SINGLE BEARING MOMENTS OF INERTIA



| COMPONENT    | WEIGHT kg | J kgm <sup>2</sup> |
|--------------|-----------|--------------------|
| 1 FAN        | 10,2      | 0,335              |
| 2 MAIN ROTOR | 274,6     | 5,846              |
| 3 EX. ROTOR  | 35        | 0,562              |
| 4 SHAFT      | 72        | 0,111              |
| TOTAL        | 391,8     | 6,854              |

| Sae No | SHAFTS COUPLING FLEX PLATE |     |           |                    |
|--------|----------------------------|-----|-----------|--------------------|
|        | A                          | B   | WEIGHT kg | J kgm <sup>2</sup> |
| 14     | 60                         | 9,6 | 41,4      | 0,511              |
| 18     | 50                         | 6,6 | 45,1      | 0,858              |

SINGLE BEARING DIMENSIONS



| SAE N. | FLANGIA / FLANGE BRIDE / FLANSCH |       |       |         |    |       |
|--------|----------------------------------|-------|-------|---------|----|-------|
|        | O                                | P     | Q     | N. FORI | S  | α     |
| 1      | 552                              | 511,2 | 530,2 | 12      | 11 | 30°   |
| 1/2    | 648                              | 584,2 | 619,1 | 12      | 14 | 30°   |
| 0      | 711                              | 647,7 | 679,5 | 16      | 14 | 22,5° |
| 00     | 883                              | 787,4 | 850,9 | 16      | 14 | 22,5° |

| VOL. N. | GIUNTI A DISCHI / DISC COUPLING DISQUE DE MONOPALIER / SCHEIBENKUPPLUNG |        |        |         |    |     |
|---------|---|--------|--------|---------|----|-----|
|         | L   | d      | Q1     | N. FORI | S1 | α1  |
| 14      | 25,4  | 466,72 | 438,15 | 8       | 14 | 45° |
| 18      | 15,7  | 571,5  | 542,92 | 6       | 17 | 60° |

C.G.= GRAVITY CENTER