



GENERATOR TYPE ECP 34-2S/4

Document : **DS013A/1**

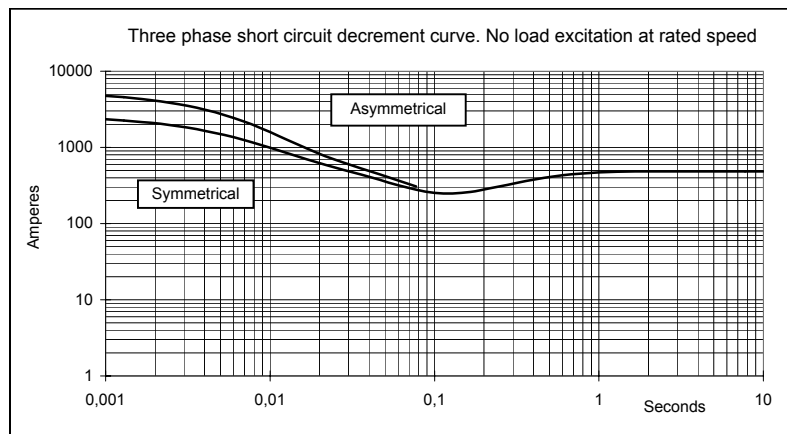
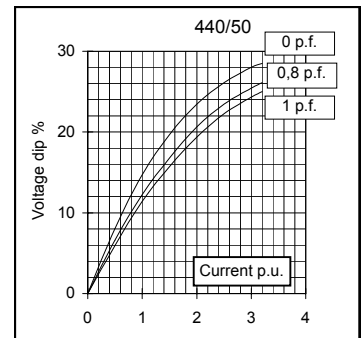
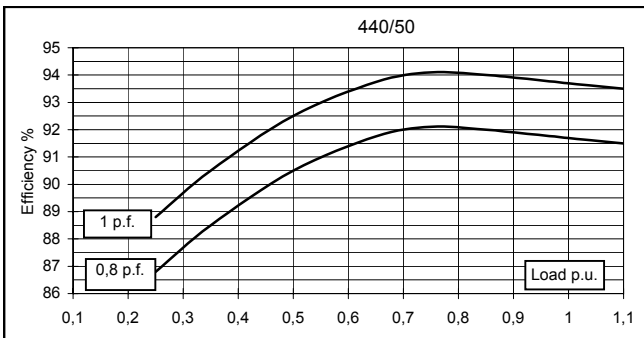
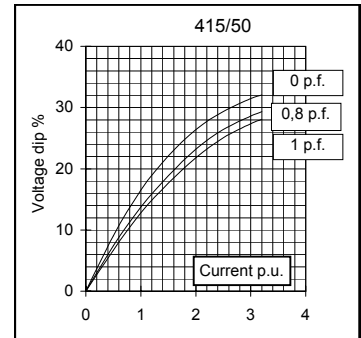
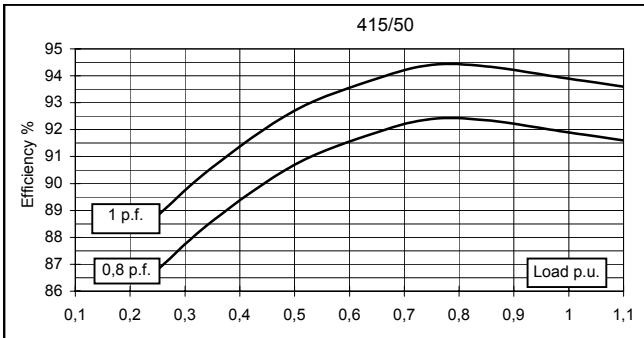
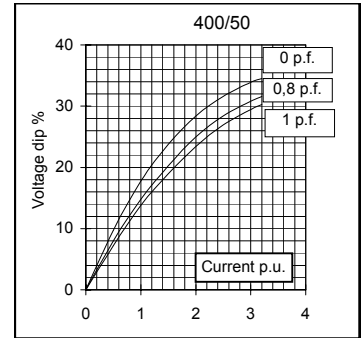
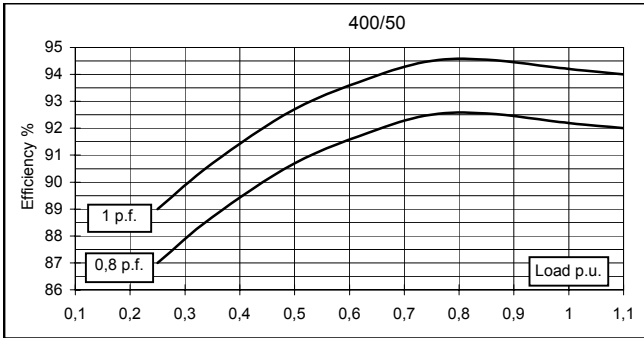
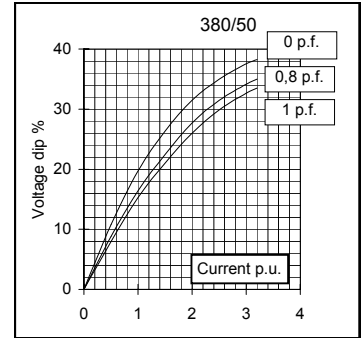
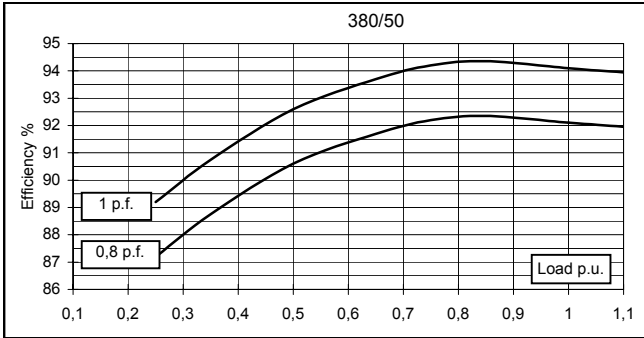
issue 002 date 01/06/2011

| Electrical Characteristics | | | | | | | | | | |
|--------------------------------------|----------------|-----------------------------------------------------------------|--------|-------|-------|----------------|-------|-------|-------|-------|
| Frequency | Hz | 50 | | | | 60 | | | | |
| Voltage (series star) | V | 380 | 400 | 415 | 440 | 415 | 440 | 460 | 480 | |
| Rated power class H | kVA | 105 | 105 | 105 | 85 | 115 | 126 | 126 | 126 | |
| | kW | 84 | 84 | 84 | 68 | 92 | 101 | 101 | 101 | |
| Rated power class F | kVA | 95 | 95 | 95 | 77 | 104 | 114 | 114 | 114 | |
| | kW | 76 | 76 | 76 | 61,6 | 83,2 | 91,2 | 91,2 | 91,2 | |
| Regulation with DSR | | ±1% with any power factor and speed variations between -5% +30% | | | | | | | | |
| Insulation class | | H | | | | | | | | |
| Execution | | Brushless | | | | | | | | |
| Stator winding | | 12 ends | | | | | | | | |
| Rotor | | with damping cage | | | | | | | | |
| Efficiencies class H | 4/4 | % | 92,1 | 92,2 | 91,9 | 91,7 | 93,1 | 93,6 | 93,7 | 93,8 |
| (see graph. for details) | 3/4 | % | 92,2 | 92,5 | 92,4 | 92,1 | 93,6 | 93,8 | 93,9 | 94,1 |
| | 2/4 | % | 90,6 | 90,7 | 90,7 | 90,5 | 92 | 92,1 | 92,2 | 92,3 |
| | 1/4 | % | 87,2 | 87 | 86,8 | 86,8 | 88,2 | 88,2 | 88,2 | 88 |
| Reactances (f. l.cl. F) | | | | | | | | | | |
| | Xd | % | 254,8 | 230 | 213,7 | 153,9 | 280,8 | 273,7 | 250,4 | 230 |
| | Xd' | % | 19,5 | 17,6 | 16,4 | 11,8 | 21,5 | 20,9 | 19,2 | 17,6 |
| | Xd'' | % | 6,3 | 5,7 | 5,3 | 3,8 | 7,0 | 6,8 | 6,2 | 5,7 |
| | Xq | % | 165,8 | 149,6 | 139,0 | 100,1 | 182,7 | 178,0 | 162,9 | 149,6 |
| | Xq' | % | 165,8 | 149,6 | 139,0 | 100,1 | 182,7 | 178,0 | 162,9 | 149,6 |
| | Xq'' | % | 34,6 | 31,2 | 29,0 | 20,9 | 38,1 | 37,1 | 34,0 | 31,2 |
| | X ₂ | % | 20,5 | 18,5 | 17,2 | 12,4 | 22,6 | 22,0 | 20,1 | 18,5 |
| | X ₀ | % | 3,9 | 3,5 | 3,3 | 2,3 | 4,3 | 4,2 | 3,8 | 3,5 |
| Short Circuit Ratio | Kcc | | 0,41 | 0,47 | 0,61 | 0,90 | 0,32 | 0,35 | 0,41 | 0,47 |
| Time Constants | | | | | | | | | | |
| | Td' | sec. | 0,0393 | | | | | | | |
| | Td'' | sec. | 0,0055 | | | | | | | |
| | Tdo' | sec. | 1,70 | | | | | | | |
| | Tα | sec. | 0,0146 | | | | | | | |
| Short Circuit Current Capacity | | | | | | | | | | |
| Excitation at no load | Amp. | | >300 | | | | >350 | | | |
| Excitation at full load | Amp. | | 0,5 | 0,6 | 0,8 | 1,1 | 0,2 | 0,3 | 0,4 | 0,5 |
| Overload (long-term) | % | 1 hour in a 6 hours period 110% rated load | | | | | | | | |
| Overload per 20 sec. | % | 300 | | | | | | | | |
| Stator Winding Resistance (20°C) | Ω | 0,02 | | | | | | | | |
| Rotor Winding Resistance (20°C) | Ω | 2,951 | | | | | | | | |
| Exciter Resistance (20 °C) | Ω | Rotor : 0,410 | | | | Stator : 15,28 | | | | |
| Heat dissipation at f.l.cl.H | W | 7205 | 7106 | 7404 | 6155 | 6818 | 6892 | 6777 | 6663 | |
| 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 % | 1,8 / 1,9 | | | | | | | | |
| Waveform Distors.(THD) at no load | LL/LN % | 2,8 / 2,9 | | | | | | | | |
| Mechanical characteristics | | | | | | | | | | |
| Protection | | IP 21 (other protection on request) | | | | | | | | |
| DE bearing | | 6314.2RS | | | | | | | | |
| NDE bearing | | 6311.2RS | | | | | | | | |
| Weight of wound stator assembly | kg | 126 | | | | | | | | |
| Weight of wound rotor assembly | kg | 81 | | | | | | | | |
| Weight of complete generator | kg | 419 | | | | | | | | |
| Maximun overspeed | rpm | 2250 | | | | | | | | |
| Unbalanced magnetic pull at f.l.cl.F | kN/mm | 5,1 | | | | | | | | |
| Cooling air requirement | m³/min | 19,3 | | | | 23 | | | | |
| Inertia Constant (H) | sec. | 0,111 | | | | 0,133 | | | | |
| Noise level at 1m/7m | dB(A) | 79 / 65 | | | | 83 / 69 | | | | |

All technical data are to be considered as a reference and they can be modified without any notice.

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50 Hz



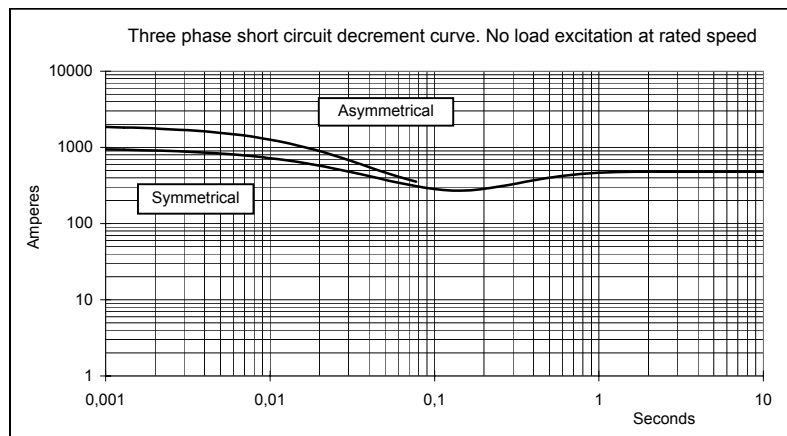
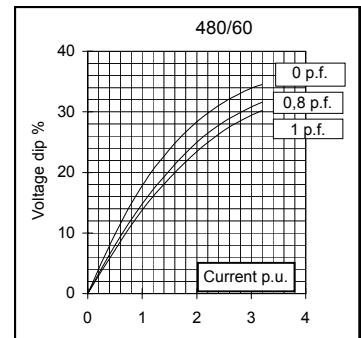
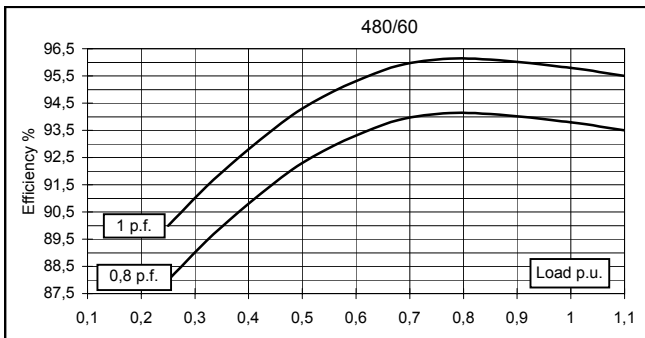
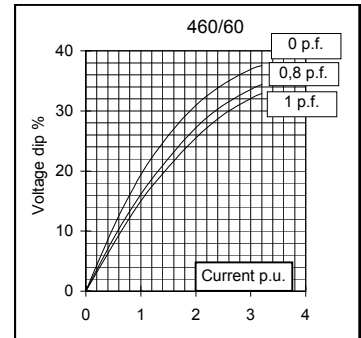
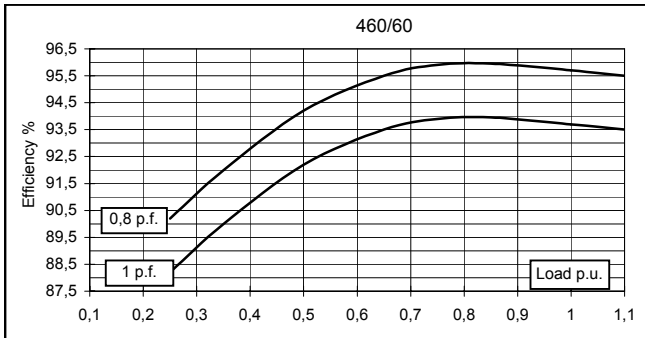
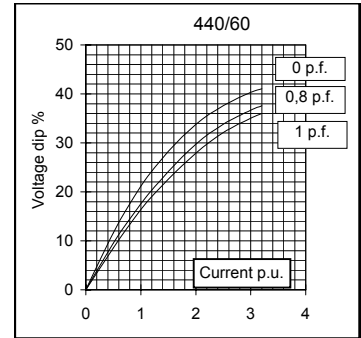
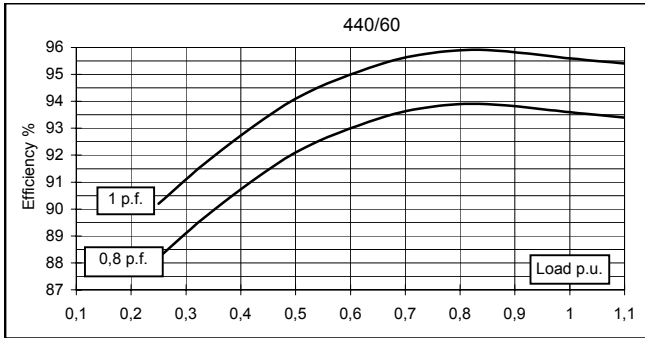
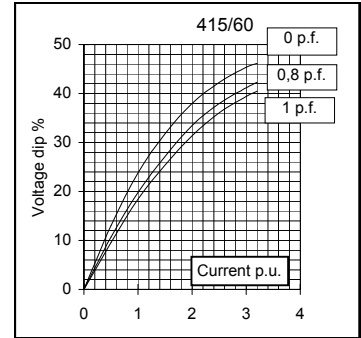
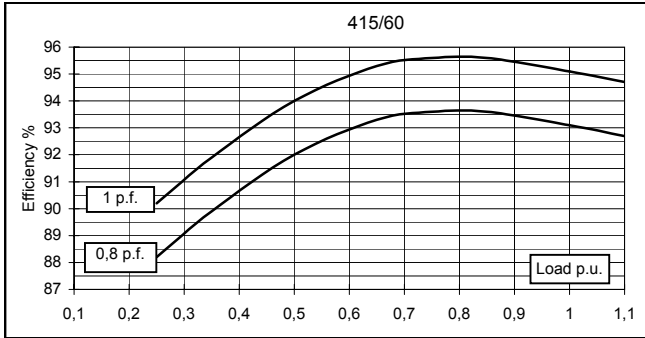


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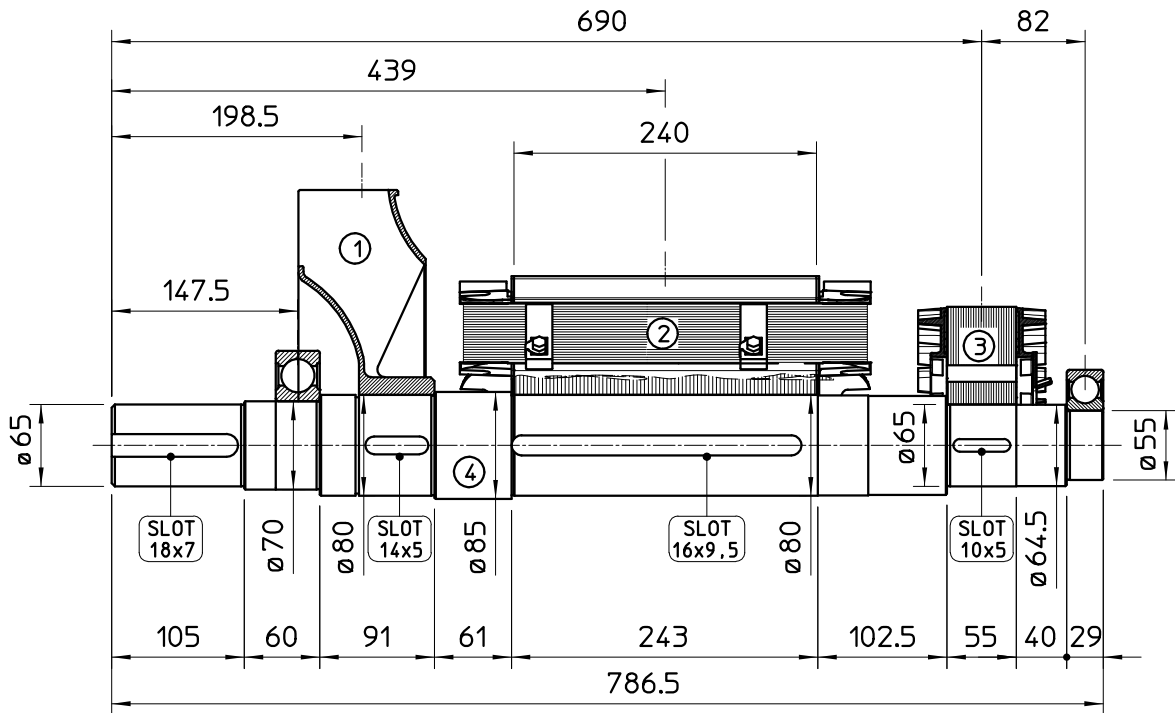
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60 Hz

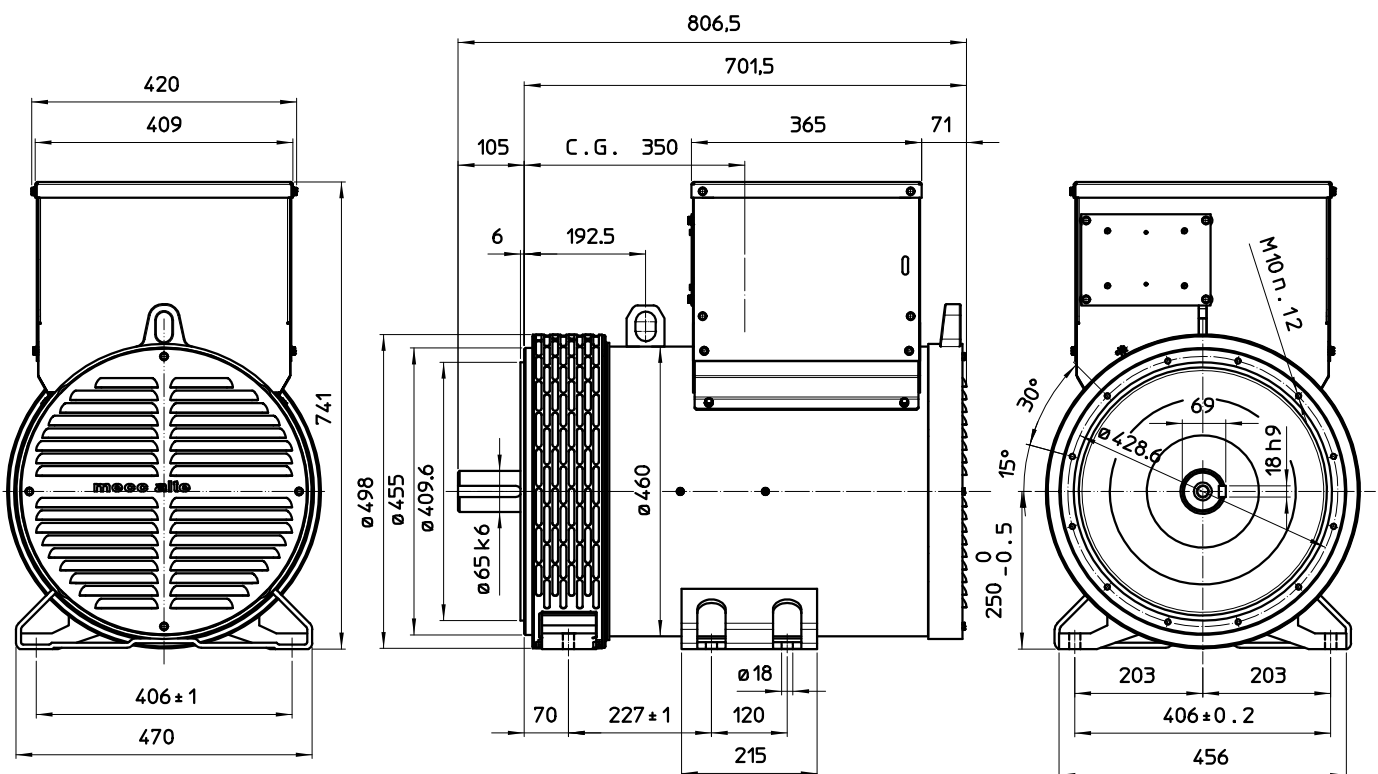


TWO BEARING MOMENTS OF INERTIA



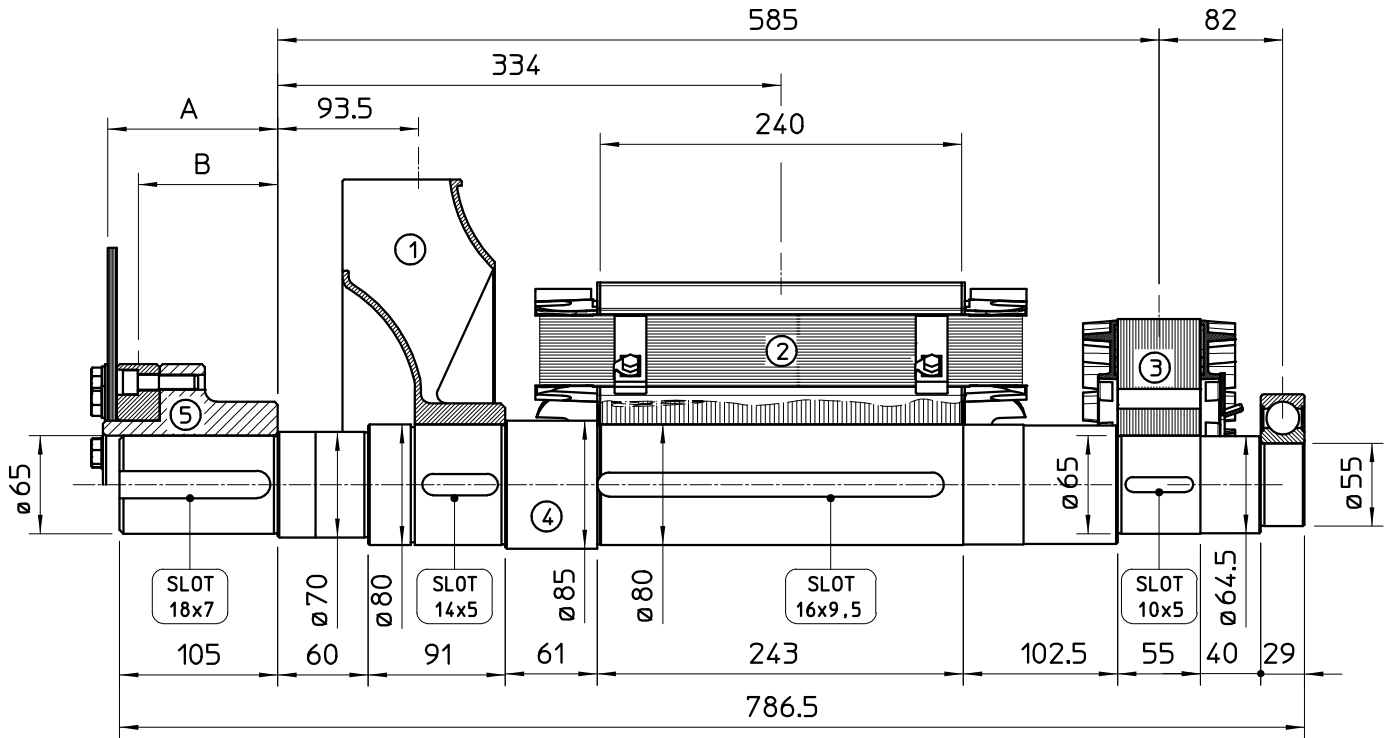
| POS. | COMPONENT | WEIGHT (kg) | J (kgm ²) |
|-------|------------|-------------|-----------------------|
| 1 | FAN | 3.3 | 0.0451 |
| 2 | MAIN ROTOR | 83.7 | 0.7539 |
| 3 | EX. ROTOR | 14.5 | 0.0874 |
| 4 | SHAFT | 26.8 | 0.0196 |
| TOTAL | | 128.3 | 0.906 |

TWO BEARING DIMENSIONS



C.G.= GRAVITY CENTER

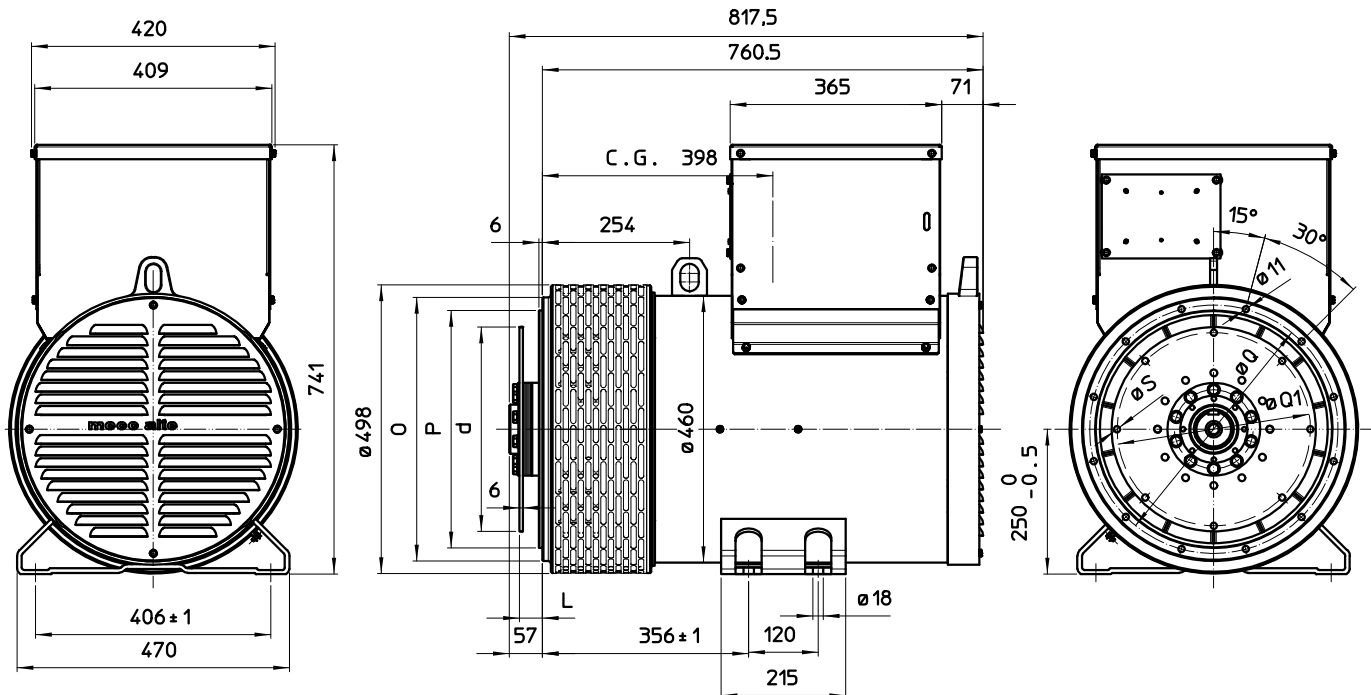
SINGLE BEARING MOMENTS OF INERTIA



| POS. | COMPONENT | WEIGHT (kg) | J (kgm ²) |
|-------|------------|-------------|-----------------------|
| 1 | FAN | 3.3 | 0.0451 |
| 2 | MAIN ROTOR | 83.7 | 0.7539 |
| 3 | EX. ROTOR | 14.5 | 0.0874 |
| 4 | SHAFT | 26.8 | 0.0196 |
| TOTAL | | 128.3 | 0.906 |

| SAE N° | A | B | WEIGHT kg | J kgm ² |
|--------|----------------------------|------|-----------|--------------------|
| 5 | SHAFTS COUPLING FLEX PLATE | | | |
| 10 | 112.8 | 35.6 | 13.5 | 0.0770 |
| 11 1/2 | 98.6 | 71.5 | 12.4 | 0.0956 |
| 14 | 84.4 | 68.6 | 14.8 | 0.2360 |

SINGLE BEARING DIMENSIONS



| SAE N. | GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG | | | | |
|--------|------------------------------------------------------------------------------|--------|--------|---------|----|
| | L | d | Q1 | N. fori | S |
| 10 | 53,8 | 314,32 | 295,27 | 8 | 11 |
| 11 1/2 | 39,6 | 352,42 | 333,37 | 8 | 11 |
| 14 | 25,4 | 466,72 | 438,15 | 8 | 14 |

| SAE N. | FLANGIA/FLANGE BRIDE/FLANSCH | | | |
|--------|---------------------------------|-------|-------|---------|
| | O | P | Q | N. fori |
| 3 | 451 | 409,6 | 428,6 | 12 |
| 2 | 489 | 447,7 | 466,7 | 12 |
| 1 | 552 | 511,2 | 530,2 | 12 |

C.G.= GRAVITY CENTER