



GENERATOR TYPE ECO 3-2SN/2

Document : **DS045A/1**

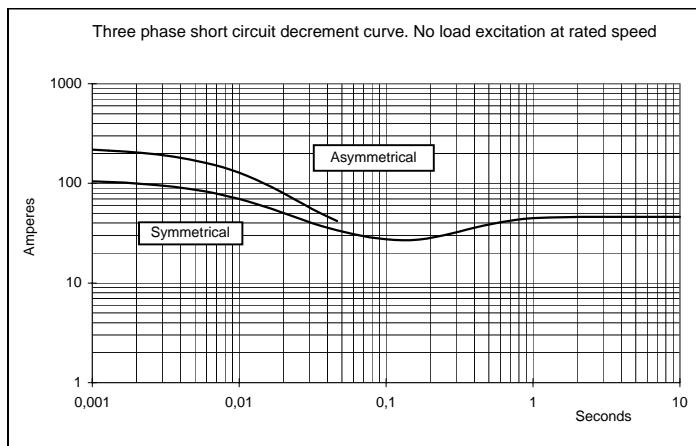
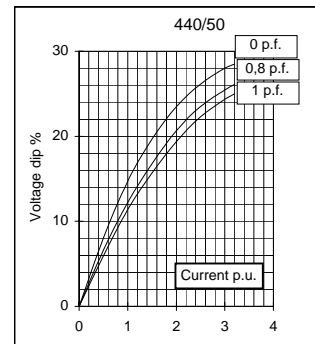
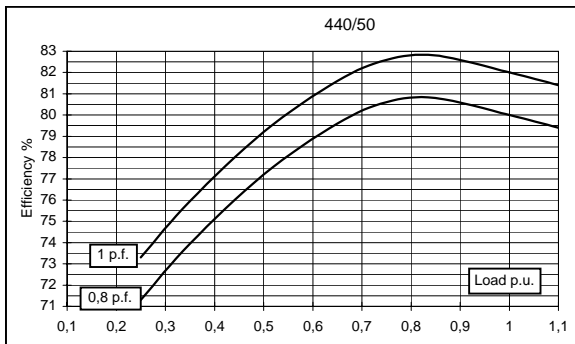
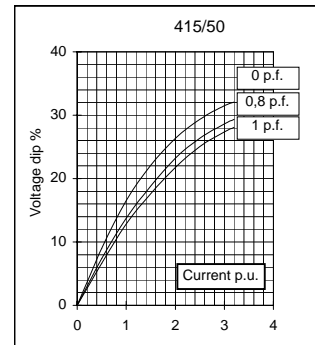
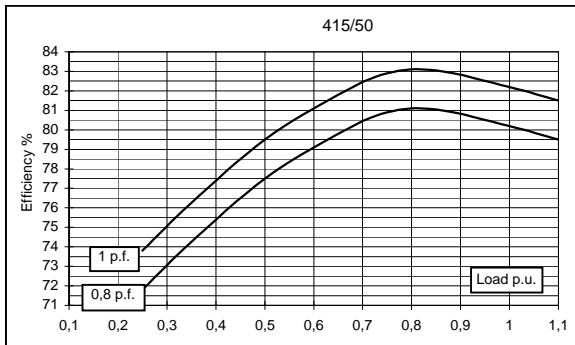
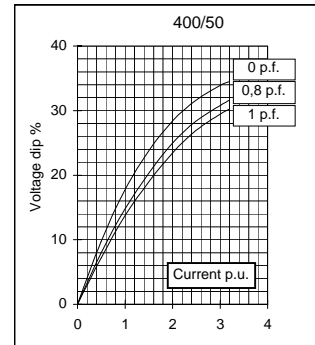
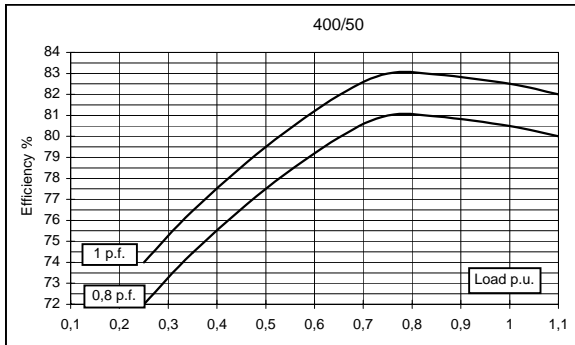
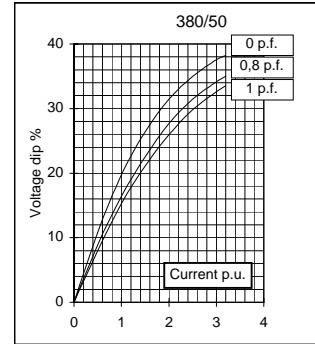
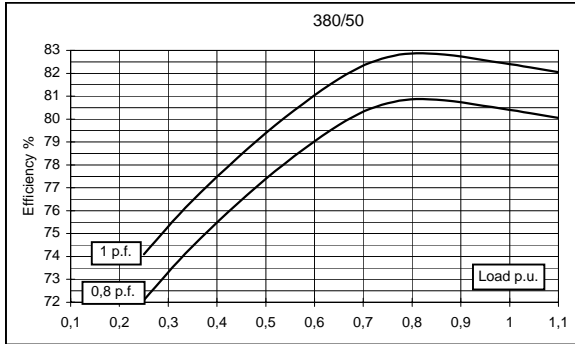
issue 003 date 25/07/2007

| Electrical Characteristics | | | | | | | | | | |
|--------------------------------------|----------------|--|---|------|-------|-------|----------------|-------|-------|------|
| Frequency | Hz | 50 | | | | 60 | | | | |
| Voltage (star) | V | 380 | 400 | 415 | 440 | 415 | 440 | 460 | 480 | |
| Rated power class H | kVA | 10 | 10 | 10 | 8,5 | 10,5 | 12 | 12 | 12 | |
| | kW | 8 | 8 | 8 | 6,8 | 8,4 | 9,6 | 9,6 | 9,6 | |
| Rated power class F | kVA | 9 | 9 | 9 | 7,5 | 9 | 10,2 | 10,8 | 10,8 | |
| | kW | 7,2 | 7,2 | 7,2 | 6 | 7,2 | 8,2 | 8,6 | 8,6 | |
| Regulation with SR7/2 | | ±1,5 % with any power factor and speed variations between -5% +30% | | | | | | | | |
| Insulation class | | H | | | | | | | | |
| Execution | | Brushless | | | | | | | | |
| Stator winding | | 6 ends | | | | | | | | |
| Rotor | | with damping cage | | | | | | | | |
| Efficiencies class H | 4/4 | % | 80,4 | 80,5 | 80,2 | 80 | 82,1 | 82,6 | 82,7 | 82,8 |
| (see graph. for details) | 3/4 | % | 80,7 | 81 | 80,9 | 80,6 | 82,6 | 82,8 | 83 | 83,2 |
| | 2/4 | % | 77,4 | 77,5 | 77,5 | 77,2 | 79,5 | 79,6 | 79,7 | 79,8 |
| | 1/4 | % | 72,1 | 72 | 71,8 | 71,3 | 72,8 | 72,6 | 72,7 | 73 |
| Reactances (f. l.cl. F) | Xd | % | 346,8 | 313 | 290,8 | 219,9 | 366,4 | 372,5 | 340,8 | 313 |
| | Xd' | % | 35,79 | 32,3 | 30,01 | 22,69 | 37,81 | 38,44 | 35,17 | 32,3 |
| | Xd'' | % | 18,50 | 16,7 | 15,51 | 11,73 | 19,55 | 19,87 | 18,18 | 16,7 |
| | Xq | % | 108,0 | 97,5 | 90,6 | 68,5 | 114,1 | 116,0 | 106,2 | 97,5 |
| | Xq' | % | 108,0 | 97,5 | 90,6 | 68,5 | 114,1 | 116,0 | 106,2 | 97,5 |
| | Xq'' | % | 41,7 | 37,6 | 34,9 | 26,4 | 44,0 | 44,7 | 40,9 | 37,6 |
| | X ₂ | % | 20,72 | 18,7 | 17,37 | 13,14 | 21,89 | 22,25 | 20,36 | 18,7 |
| | X ₀ | % | 7,53 | 6,8 | 6,32 | 4,78 | 7,96 | 8,09 | 7,40 | 6,8 |
| Short Circuit Ratio | Kcc | | 0,36 | 0,48 | 0,69 | 1,31 | 0,23 | 0,31 | 0,36 | 0,48 |
| Time Constants | Td' | sec. | 0,072 | | | | | | | |
| | Td'' | sec. | 0,012 | | | | | | | |
| | Tdo' | sec. | 0,63 | | | | | | | |
| | Tα | sec. | 0,006 | | | | | | | |
| Short Circuit Current Capacity | | % | >300 | | | | >320 | | | |
| Excitation at no load | Amp. | | 0,2 | 0,25 | 0,3 | 0,4 | 0,16 | 0,17 | 0,2 | 0,23 |
| Excitation at full load | Amp. | | 1 | 1,06 | 1,1 | 1,2 | 0,8 | 0,85 | 0,9 | 1 |
| Overload (long-term) | | % | 1 hour in a 6 hours period 110% rated load | | | | | | | |
| Overload per 20 sec. | | % | 300 | | | | | | | |
| Stator Winding Resistance (20°C) | Ω | | 1,084 | | | | | | | |
| Rotor Winding Resistance (20°C) | Ω | | 7,364 | | | | | | | |
| Exciter Resistance (20 °C) | Ω | | Rotor : 1,453 | | | | Stator : 15,71 | | | |
| Heat dissipation at f.l.cl.H | W | | 1950 | 1938 | 1975 | 1700 | 1831 | 2022 | 2008 | 1994 |
| Telephone Interference | | | THF < 2% | | | | TIF < 45 | | | |
| Radio interference | | | EN60034-1, VDE0875K. For others standards apply to factory. | | | | | | | |
| Waveform Distors.(THD) at f. load | LL/LN % | | 4,8 / 4,6 | | | | | | | |
| Waveform Distors.(THD) at no load | LL/LN % | | 4,1 / 3,9 | | | | | | | |
| Mechanical characteristics | | | | | | | | | | |
| Protection | | | IP 23 (other protection on request) | | | | | | | |
| DE bearing | | | 6308-2RS | | | | | | | |
| NDE bearing | | | 6305-2RS | | | | | | | |
| Weight of wound stator assembly | kg | | 19,4 | | | | | | | |
| Weight of wound rotor assembly | kg | | 10,5 | | | | | | | |
| Weight of complete generator | kg | | 63 | | | | | | | |
| Maximun overspeed | rpm | | 4500 | | | | | | | |
| Unbalanced magnetic pull at f.l.cl.F | kN/mm | | 2,6 | | | | | | | |
| Cooling air requirement | m³/min | | 6,3 | | | | 7,8 | | | |
| Inertia Constant (H) | sec. | | 0,195 | | | | 0,234 | | | |
| Noise level at 1m/7m | dB(A) | | 85 / 70 | | | | 89 / 73 | | | |

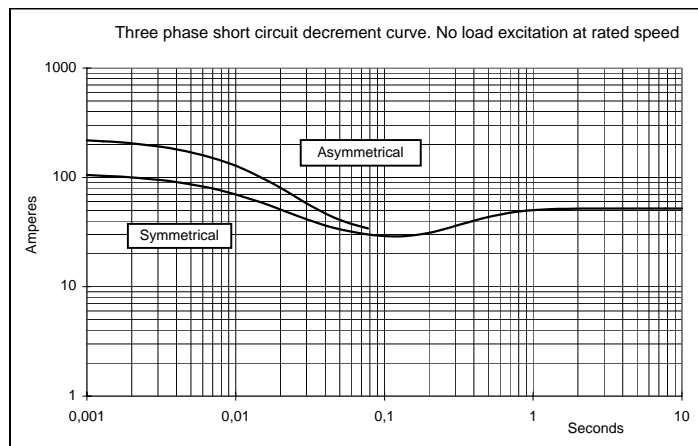
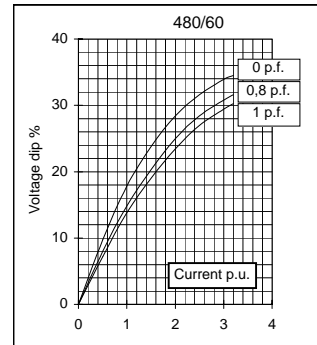
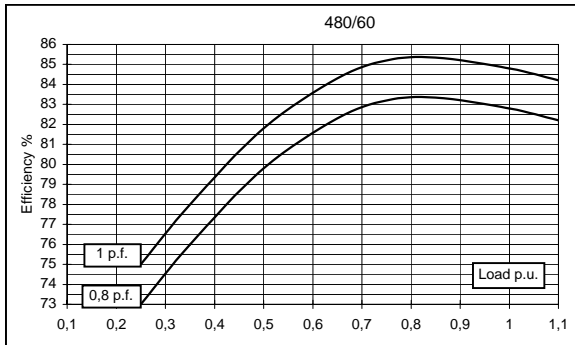
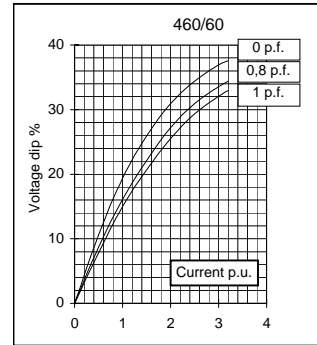
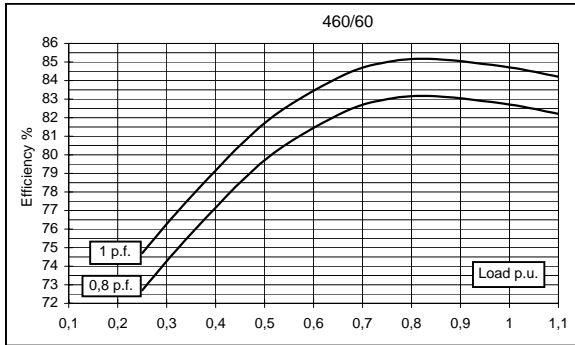
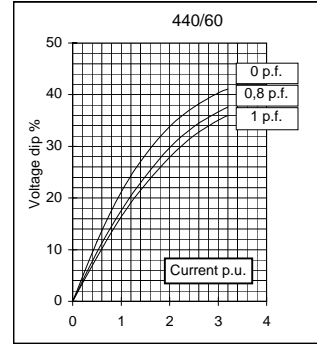
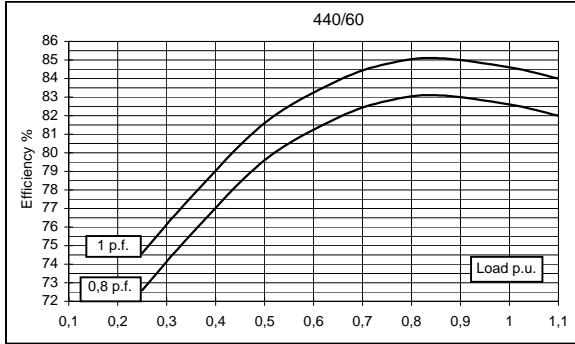
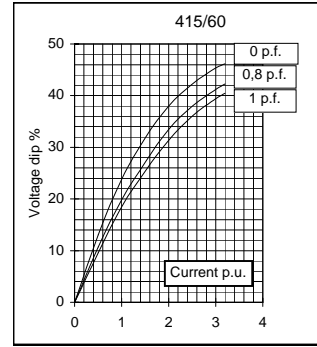
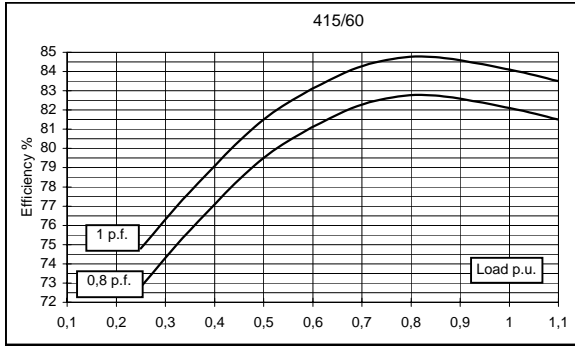
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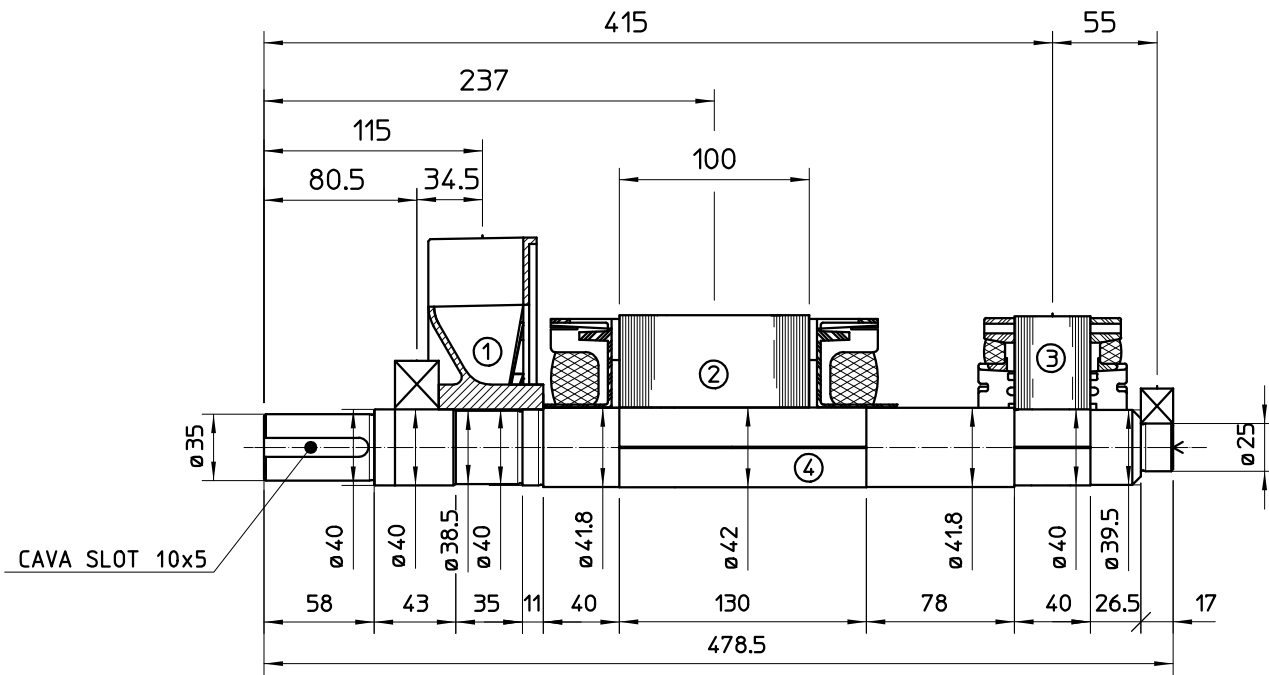
50 Hz



60 Hz



TWO BEARING MOMENTS OF INERTIA



| COMPONENT | WEIGHT Kg | J Kg ² |
|--------------|-----------|-------------------|
| 1 FAN | 0.93 | 0.0036 |
| 2 MAIN ROTOR | 10.25 | 0.024 |
| 3 EX ROTOR | 4.12 | 0.011 |
| 4 SHAFT | 4.7 | 0.00097 |
| 6 TOTAL | 20 | 0.03957 |

TWO BEARING DIMENSIONS

