



GENERATOR TYPE ECO 38-1LN/4

Document : **DS073A/1**

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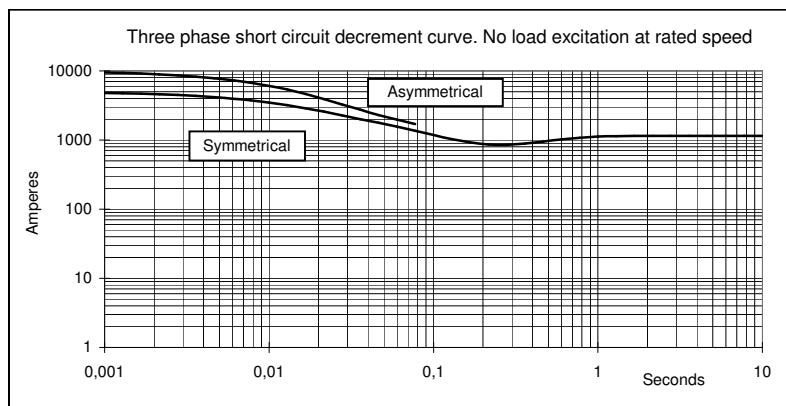
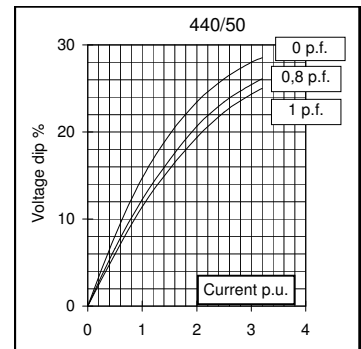
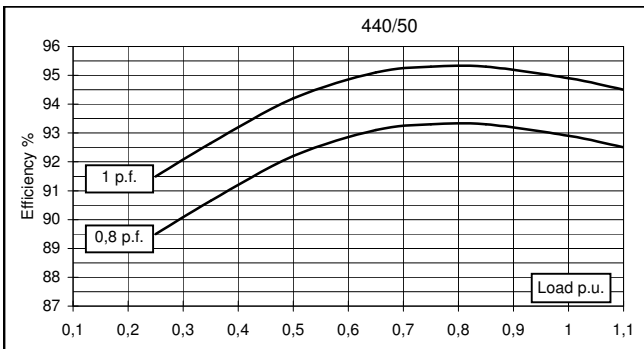
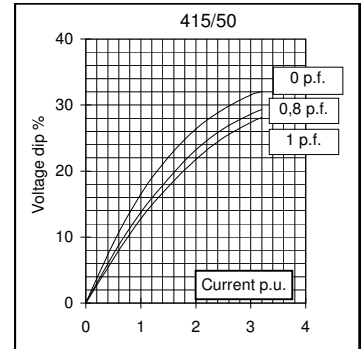
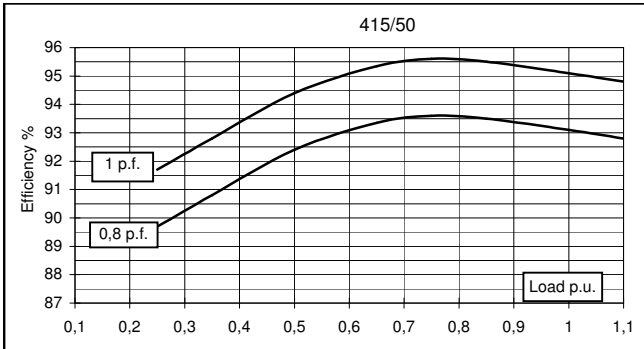
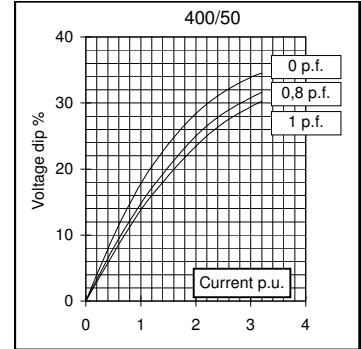
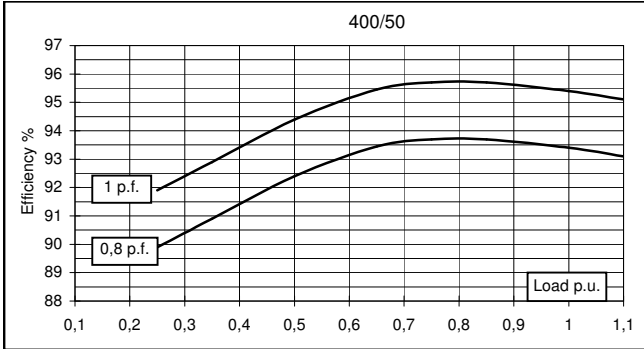
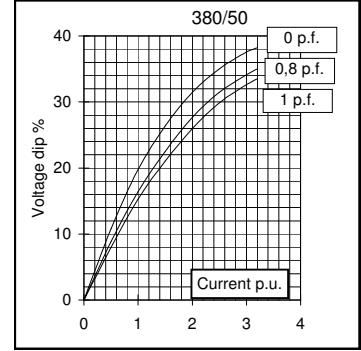
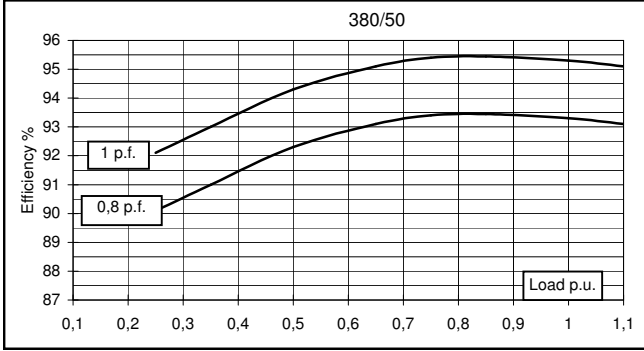
| Electrical Characteristics | | | | | | | | | | |
|--------------------------------------|---------------------|--|---|-------|-------|-------|----------------|-------|-------|-------|
| Frequency | Hz | 50 | | | | 60 | | | | |
| Voltage (series star) | V | 380 | 400 | 415 | 440 | 415 | 440 | 460 | 480 | |
| Rated power class H | kVA | 250 | 250 | 250 | 230 | 290 | 300 | 300 | 300 | |
| | kW | 200 | 200 | 200 | 184 | 232 | 240 | 240 | 240 | |
| Rated power class F | kVA | 230 | 230 | 230 | 215 | 270 | 280 | 280 | 280 | |
| | kW | 184 | 184 | 184 | 172 | 216 | 224 | 224 | 224 | |
| 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 | % | 93,3 | 93,4 | 93,1 | 92,9 | 93,8 | 94,3 | 94,4 | 94,5 |
| (see graph. for details) | 3/4 | % | 93,4 | 93,7 | 93,6 | 93,3 | 94,3 | 94,5 | 94,7 | 94,9 |
| | 2/4 | % | 92,3 | 92,4 | 92,4 | 92,2 | 93,4 | 93,5 | 93,6 | 93,7 |
| | 1/4 | % | 90,1 | 89,9 | 89,7 | 89,5 | 90,6 | 90,6 | 90,6 | 90,4 |
| Reactances (f. l.cl. F) | Xd | % | 229,4 | 207 | 192,3 | 157,4 | 267,7 | 246,3 | 225,4 | 207 |
| | Xd' | % | 15,5 | 14,0 | 13,0 | 10,6 | 18,1 | 16,7 | 15,2 | 14,0 |
| | Xd'' | % | 8,0 | 7,2 | 6,7 | 5,5 | 9,3 | 8,6 | 7,8 | 7,2 |
| | Xq | % | 129,6 | 117 | 108,7 | 89,0 | 151,3 | 139,2 | 127,4 | 117 |
| | Xq' | % | 129,6 | 117 | 108,7 | 89,0 | 151,3 | 139,2 | 127,4 | 117 |
| | Xq'' | % | 24,4 | 22 | 20,4 | 16,7 | 28,5 | 26,2 | 24,0 | 22 |
| | X ₂ | % | 17,7 | 16,0 | 14,9 | 12,2 | 20,7 | 19,0 | 17,4 | 16,0 |
| | X ₀ | % | 2,7 | 2,4 | 2,2 | 1,8 | 3,1 | 2,9 | 2,6 | 2,4 |
| Short Circuit Ratio | Kcc | | 0,41 | 0,44 | 0,68 | 1,11 | 0,32 | 0,38 | 0,41 | 0,44 |
| Time Constants | Td' | sec. | 0,085 | | | | | | | |
| | Td'' | sec. | 0,013 | | | | | | | |
| | Tdo' | sec. | 1,30 | | | | | | | |
| | Tα | sec. | 0,017 | | | | | | | |
| Short Circuit Current Capacity | | % | >300 | | | | >350 | | | |
| Excitation at no load | Amp. | | 0,6 | 0,71 | 0,8 | 0,95 | 0,4 | 0,5 | 0,58 | 0,7 |
| Excitation at full load | Amp. | | 2,7 | 2,8 | 3 | 3,2 | 2,4 | 2,6 | 2,7 | 2,8 |
| Overload (long-term) | | % | 1 hour in a 6 hours period 110% rated load | | | | | | | |
| Overload per 20 sec. | | % | 300 | | | | | | | |
| Stator Winding Resistance (20 °C) | | Ω | 0,0065 | | | | | | | |
| Rotor Winding Resistance (20 °C) | | Ω | 4,887 | | | | | | | |
| Exciter Resistance (20 °C) | | Ω | Rotor : 0,685 | | | | Stator : 15,28 | | | |
| Heat dissipation at f.l.cl.H | W | | 14362 | 14133 | 14823 | 14062 | 15335 | 14507 | 14237 | 13968 |
| Telephone Interference | | | THF < 2% | | | | TIF < 40 | | | |
| Radio interference | | | EN61000-6-3, EN61000-6-2. For others standards apply to factory | | | | | | | |
| Waveform Distors.(THD) at f. load | LL/LN % | | 2 / 2,1 | | | | | | | |
| Waveform Distors.(THD) at no load | LL/LN % | | 2,9 / 3,1 | | | | | | | |
| Mechanical characteristics | | | | | | | | | | |
| Protection | | | IP 21 (other protection on request) | | | | | | | |
| DE bearing | | | 6318.2RS | | | | | | | |
| NDE bearing | | | 6314.2RS | | | | | | | |
| Weight of wound stator assembly | kg | | 231 | | | | | | | |
| Weight of wound rotor assembly | kg | | 147,5 | | | | | | | |
| Weight of complete generator | kg | | 680 | | | | | | | |
| Maximun overspeed | rpm | | 2250 | | | | | | | |
| Unbalanced magnetic pull at f.l.cl.F | kN/mm | | 5,1 | | | | | | | |
| Cooling air requirement | m ³ /min | | 32 | | | | 39 | | | |
| Inertia Constant (H) | sec. | | 0,116 | | | | 0,139 | | | |
| Noise level at 1m/7m | dB(A) | | 82 / 69 | | | | 86 / 73 | | | |

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

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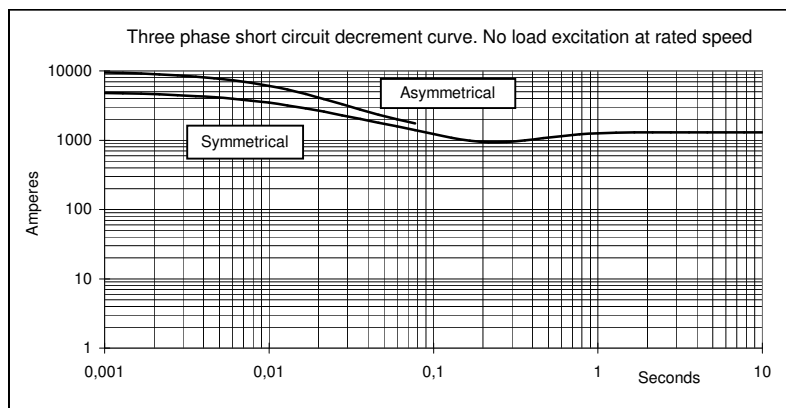
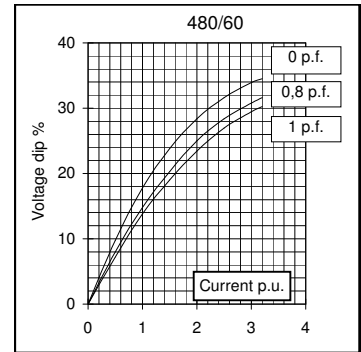
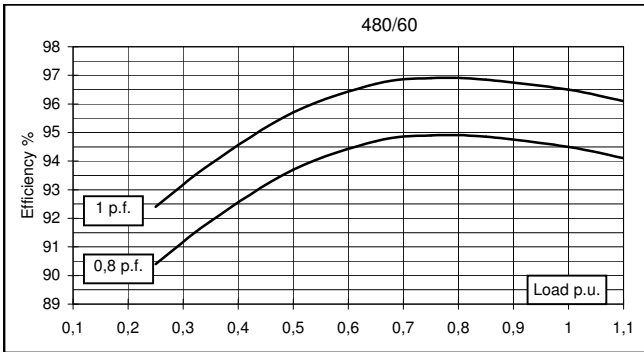
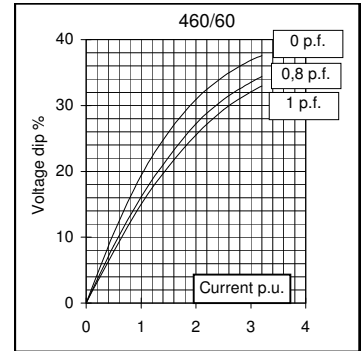
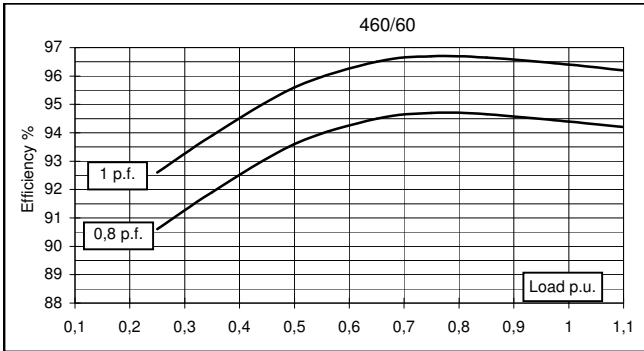
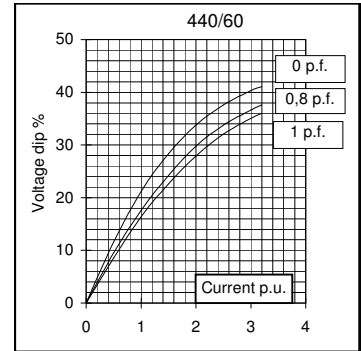
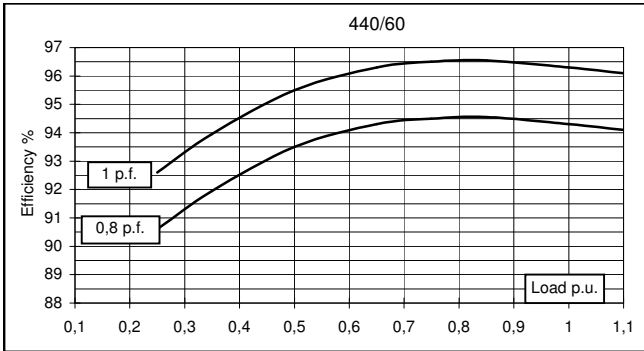
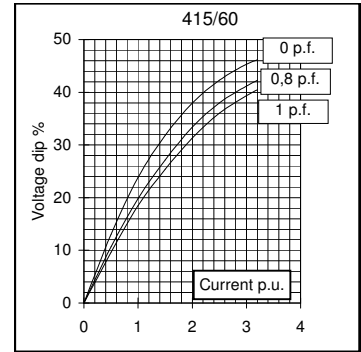
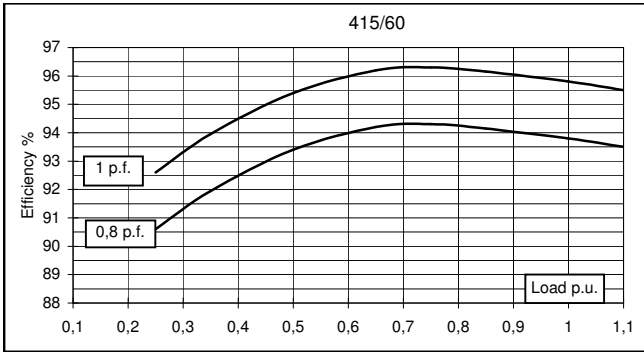


50 Hz



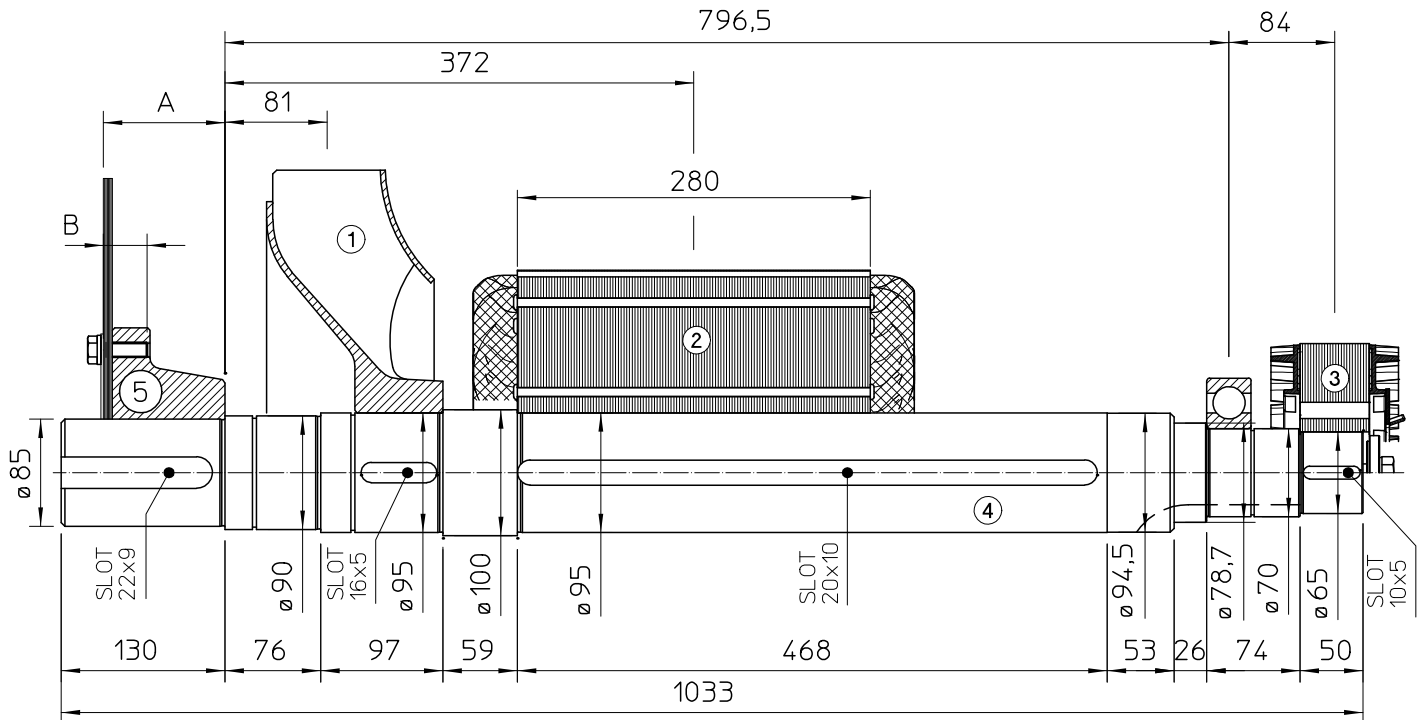


60 Hz



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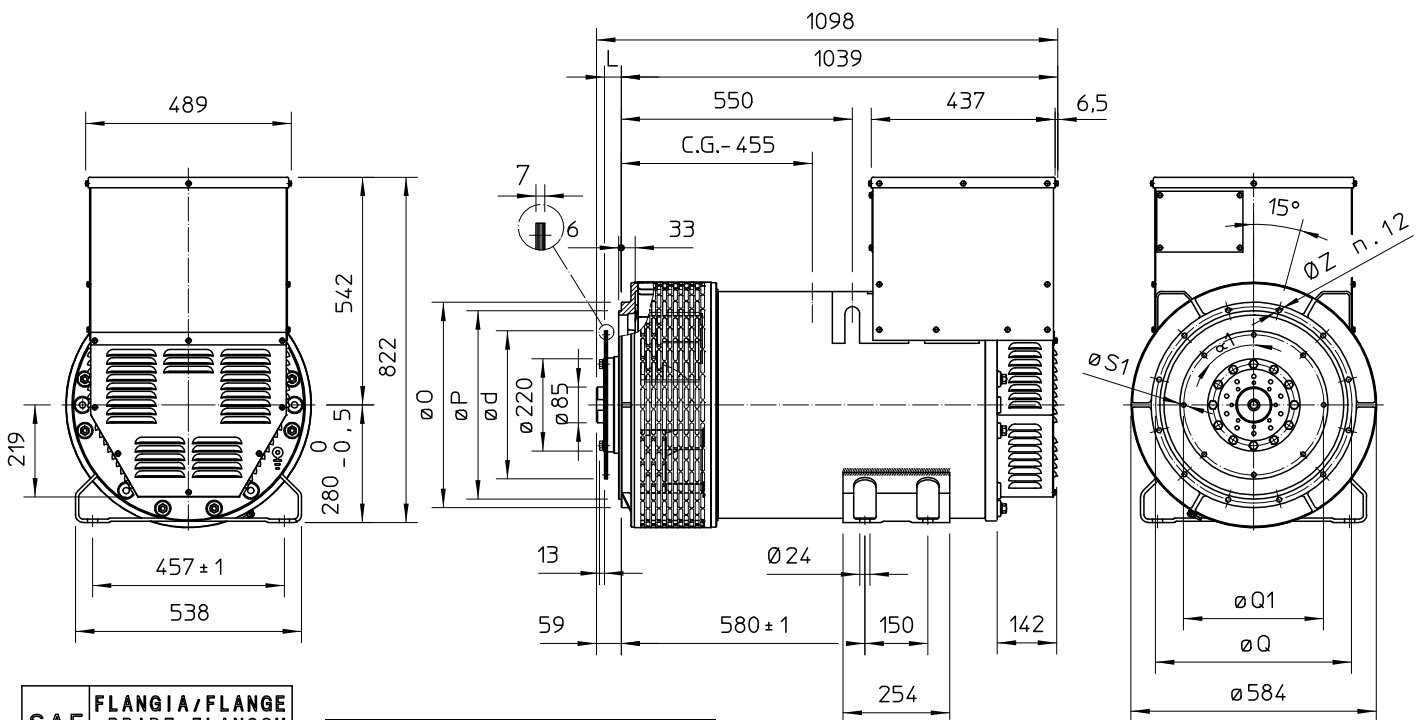
SINGLE BEARING MOMENTS OF INERTIA



| POS. | COMPONENT | WEIGHT (kg) | J (kgm ²) |
|-------|------------|-------------|-----------------------|
| 1 | FAN | 6.1 | 0.1887 |
| 2 | MAIN ROTOR | 147.5 | 2.0195 |
| 3 | EX. ROTOR | 14.5 | 0.0874 |
| 4 | SHAFT | 49.9 | 0.0525 |
| TOTAL | | 218 | 2.3481 |

| SAE N° | 5 | | SHAFTS COUPLING FLEX PLATE | |
|--------|-------|------|----------------------------|--------------------|
| | A | B | WEIGHT kg | J kgm ² |
| 11.5 | 110.4 | 41.1 | 20.5 | 0.174 |
| 14 | 96.4 | 34.7 | 23.5 | 0.275 |

SINGLE BEARING DIMENSIONS



| SAE N. | FLANGIA/FLANGE BRIDE/FLANSCH | | |
|--------|------------------------------|-------|-------|
| | O | P | Q |
| 3 | 451 | 409,6 | 428,6 |
| 2 | 489 | 447,7 | 466,7 |
| 1 | 552 | 511,2 | 530,2 |
| 1/2 | 648 | 584,2 | 619,1 |

| SAE N. | GIUNTI A DISCHI DISC COUPLING DISQUE DE MONOPALIER SCHEIBENKUPPLUNG | | | | | |
|--------|---|--------|--------|-------------------|----|-----|
| | L | d | Q1 | n _{fori} | S1 | α1 |
| 11 1/2 | 39,6 | 352,42 | 333,37 | 8 | 11 | 45° |
| 14 | 25,4 | 466,72 | 438,15 | 8 | 14 | 45° |

RAD Diesel

021-58437

C.G.= GRAVITY CENTER