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|--|----------------|-------------------|--------|--------|--------|--------|---------|
| Technical Data Summary, SBMAX Frame Sizes 70 mm | | | | | | | |
| Winding selection for 3700 rpm with 380 Vac 3 phase drive | | | | | | | |
| Issue 1, 19/7/93 | | | | | | | |
| | | Frame 70 Volt.380 | | | | | Units |
| Reference data: | SBM | 37005 | 3701 | 37015 | 3702 | 37025 | |
| Nominal torque, cont. duty, zero speed (DT=65oC, in air) 1) | Tn | 0,5 | 1,0 | 1,5 | 2,0 | 2,5 | Nmrms |
| Nominal torque, cont. duty, zero speed (DT=105oC, flange mount) 2) | Tl05 | 0,9 | 1,7 | 2,1 | 2,7 | 3,1 | Nmrms |
| Base speed | wn | 388 | 388 | 388 | 388 | 388 | rad/s |
| Nominal power,1) | Pn | 182 | 343 | 512 | 664 | 807 | W |
| Nominal power,2) | P105 | 287 | 509 | 667 | 821 | 922 | W |
| Torque at max. speed 1) | Tw | 0,5 | 0,9 | 1,3 | 1,7 | 2,1 | Nmrms |
| Torque at max. speed 2) | Twl05 | 0,7 | 1,3 | 1,7 | 2,1 | 2,4 | Nmrms |
| Peak torque,zero speed S.I.R.10% 2) | Tpk | 2,9 | 5,3 | 6,7 | 8,4 | 9,7 | Nmrms |
| Physical data: | | | | | | | |
| Maximum speed | wmax | 700 | 700 | 700 | 700 | 700 | rad/s |
| Rotor inertia | Jm | 0,026 | 0,040 | 0,054 | 0,068 | 0,081 | mkgm2 |
| Acceleration at peak torque | apk | 111204 | 131255 | 125351 | 125161 | 119487 | rad/s2 |
| Max. shock on motor, any direction | S | 200 | 200 | 200 | 200 | 200 | m/s2 |
| Max. vibration, radial | Vr | 200 | 200 | 200 | 200 | 200 | m/s2 |
| Max. vibration, axial | Va | 40 | 40 | 40 | 40 | 40 | m/s2 |
| Shaft torsional resonance frequency | f _m | N.A. | N.A. | N.A. | N.A. | N.A. | Hz |
| Mass | M | 2,0 | 2,75 | 3,5 | 4,25 | 4,25 | kg |
| Thermal data: | | | | | | | |
| Motor losses at nominal power | Ln | 31 | 41 | 55 | 65 | 75 | W |
| Thermal impedance, motor to air | Rtha | 2,0968 | 1,5854 | 1,1818 | 1 | 0,8667 | oC/W |
| Thermal impedance, motor to air+flange | Rthf | 1,1 | 0,99 | 0,95 | 0,9 | 0,9 | oC/W |
| Thermal capacity | Cth | 1256 | 1727 | 2198 | 2669 | 2669 | J/oC |
| Thermal time constant in air | ta | 2633 | 2737 | 2597 | 2669 | 2313 | s |
| No load losses at base speed | L0 | 4,3875 | 8,7751 | 13,163 | 17,55 | 21,938 | W |
| Treshold of built-in PTC | PTCt | 130 | 130 | 130 | 130 | 130 | oC |
| Electrical data: | | | | | | | |
| Pole number | PN | 4 | 4 | 4 | 4 | 4 | |
| Connection | | Y | Y | Y | Y | Y | |
| Back E.M.F. between phases | Ke | 0,722 | 0,720 | 0,731 | 0,784 | 0,785 | Vs |
| Torque constant | Kt | 1,2504 | 1,2474 | 1,2657 | 1,357 | 1,361 | Nm/Arms |
| Temperature coefficient of E.M.F. and | dKe/dT | -0,09 | -0,09 | -0,09 | -0,09 | -0,09 | %/oC |
| Winding resistance, 20oC | Rw | 108,1 | 36,6 | 21,9 | 16,9 | 12,9 | Ohm |
| Winding inductance | Lw | 184,33 | 91,716 | 62,955 | 54,307 | 54,552 | mH |
| Nominal voltage | Vn | 327 | 311 | 312 | 331 | 332 | Vrms |
| EMF at 1000 rpm | V1000 | 76 | 75 | 77 | 82 | 82 | Vrms |
| Nominal current, zero speed | In0 | 0,42 | 0,84 | 1,25 | 1,55 | 1,90 | Arms |
| Nominal current at rated power 1) | In | 0,39 | 0,74 | 1,09 | 1,32 | 1,60 | Arms |
| Peak current | Ipk | 2,3 | 4,2 | 5,3 | 6,2 | 7,1 | Arms |
| Frequency | fn | 124 | 124 | 124 | 124 | 124 | Hz |
| Efficiency at rated power | n | 0,854 | 0,893 | 0,903 | 0,911 | 0,915 | |
| Min. demagnetization current, 125oC | Idm | 2,2 | 4,5 | 6,7 | 8,2 | 10,3 | Apk |