
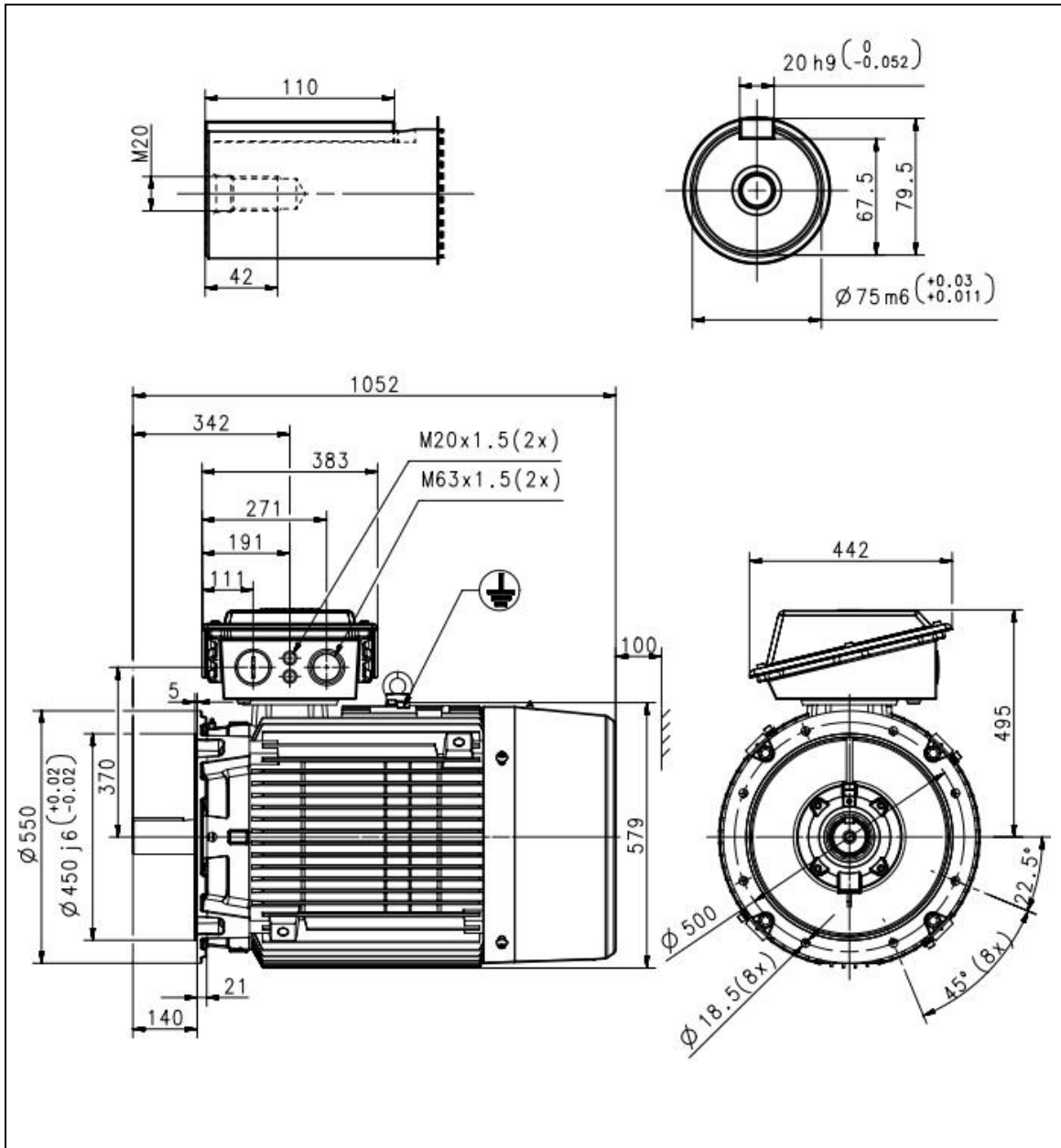


| IEC LV Motors | | Technical Data Sheet | | |  |
|--|--|---|-----------------------------------|--------------------------------------|---|
| Department/Author Gugan E | | Customer name | Customer ref | Item name 1.00007 | |
| Our ref. Trielectric International FZE | | Rev/Changed by A | Date of issue 9/25/2023 | Saving ident untitled.xlsm | Pages 1(3) |
| No. | Definition | Data | Unit | Remarks | |
| 1 | Product | TEFC, 3-phase, squirrel cage induction motor | | | |
| 2 | Product code | 3GBA 283 220-BDMIN | | Calc. ref. | 3GZH021028-10 |
| 3 | Type/Frame | M2BAX 280SMB 6 | | | |
| 4 | Mounting | IM3001, B5(flange) | | | |
| 5 | Rated output P _N | 45 | kW | | |
| 6 | Service factor | 1 | | | |
| 7 | Type of duty | S1 100% | | | |
| 8 | Rated voltage U _N | 400 | VD | | ± 5 % |
| 9 | Rated frequency f _N | 50 | Hz | | ± 2 % |
| 10 | Rated speed n _N | 991 | r/min | | |
| 11 | Rated current I _N | 83 | A | | |
| 12 | | | | | |
| 13 | Starting current I _s /I _N | 7.7 | | | |
| 14 | Nominal torque T _N | 434 | Nm | | |
| 15 | Locked rotor torque T _s /T _N | 2.6 | | | |
| 16 | Maximum torque T _{max} /T _N | 3 | | | |
| 17 | | | | | |
| 18 | | | | | |
| Load characteristics | | Load % | Current A | Efficiency % | Power factor |
| 19 | PLL determined from residual loss | 100 | 83 | 93.7 / IE3 | 0.84 |
| 20 | | 75 | 64.2 | 93.7 | 0.81 |
| 21 | | 50 | 49.2 | 91.7 | 0.72 |
| 22 | | | | | |
| 23 | Thermal withstand time hot | 20 | s | | |
| 24 | Thermal withstand time cold | 35 | s | | |
| 25 | Insulation class / Temperature class | F / B | | | |
| 26 | Ambient temperature | 50 | °C | | |
| 27 | Altitude | 1000 | m.a.s.l. | | |
| 28 | Degree of protection | IP55 | | | |
| 29 | Cooling system | IC411 | | | |
| 30 | Bearing DE/NDE | 6316/C3 - 6316/C3 | | | |
| 31 | Sound pressure level (LP dB(A) 1m) | 85 | dB(A) | | at no-load |
| 32 | Moment of inertia J = ¼ GD2 | 1.87 | kg-m2 | | |
| 33 | Position of terminal box | Top | | | |
| 34 | Direction of rotation | Bi-directional | | | |
| 35 | Weight of rotor | 173 | kg | | |
| 36 | Total weight of motor | 584 | kg | | |
| 37 | Paint shade | Munsell Blue | | | |
| 38 | Cable size | | | | |
| 39 | Vibration | As Per IS 12075 | | | |
| 40 | | | | | |
| 41 | | | | | |
| 42 | | | | | |
| 43 | | | | | |
| 44 | | | | | |
| 45 | | | | | |
| Ex-motors | | | | | |
| 46 | | | | | |
| 47 | | | | | |
| 48 | | | | | |
| Option Variant Codes / Definition | | | | | |
| 49 | | | | | |
| 50 | | | | | |
| 51 | | | | | |
| 52 | | | | | |
| Remarks: | | | | | |
| Applicable standards: IS 12615:2018, IEC 60034-30-1:2014 | | | | | |

All performance values are subject to IS/IEC tolerances



Additional information:

| | | |
|---------------------------------------|---|--|
| Dimension Print | Motor Type: M2BA/BAX 280SM_4-6 B5 V1 V3. | Document No: 3GZC500028-76 C 13 BA 280 A |
| | Description: STANDARD SQUIRREL CAGE MOTOR | |
| Unit: ABB Ltd., Motors and Generators | Issued by: Bin Zou | Replaces: |
| Date: 2015-08-13 | Approved by: Anna Feng | Replaced by: |
| ABB Ltd. | Customer Reference: | ABB |

Motors in brief

General performance IE3 premium efficiency cast iron motors in brief

| Size | | 280 2-8 Pole | 315 2 Pole | 315 4-8 Pole | 355 2 Pole | 355 4-8 Pole |
|----------------------------|---------------------|--|-----------------|--------------|------------|--------------|
| Stator | Material | Cast iron grade 150, IS:210 | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | C3 medium according to ISO / EN 12944-5 | | | | |
| Feet | | Integrated with stator | | | | |
| | Material | Cast iron grade 150, IS:210 | | | | |
| Bearing end shields | Material | Cast iron grade 150, IS:210 | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | C3 medium according to ISO / EN 12944-5 | | | | |
| Bearings | D-end | 6316/C3 | 6316/C3 | 6319/C3 | 6319/C3 | 6322/C3 |
| | N-end | 6315/C3 | 6316/C3 | 6316/C3 | 6319/C3 | 6319/C3 |
| Axially-locked | Inner Bearing Cover | As standard, locked at D-end | | | | |
| Lubrication | | Regreasable bearing, Regreasing nipple M10x1 | | | | |
| Measuring nipple | | - | | | | |
| Rating plate | Material | Steel | | | | |
| Terminal Box | Frame material | Cast iron grade 150, ISO: 210 | | | | |
| | Cover Material | Cast iron grade 150, ISO:210 | | | | |
| | Screws | Steel | | | | |
| Connections | Cable Entries | 2 x 2" BSC | 2 x 2-1/2" BSC* | | | |
| | Cable Sizes | 280 : 2Rx3Cx185Sqmm Cu/Al Cable 315 : 2Rx3Cx240Sqmm Cu/Al Cable 355 : 2Rx3Cx240Sqmm Cu/Al Cable* | | | | |
| | Terminal Stud Size | M12 | M16 | | | |
| | Terminals | 6 terminals for connection, cable lugs (not included) | | | | |
| | Fan | Material | PP** Aluminium | | | |
| Fan Cover | Material | Sheet of steel, Cold Rolled | | | | |
| | Paint colour shade | Munsell blue 8B 4.5/3.25 / NCS 4822 B05G | | | | |
| | Surface Treatment | C3 medium according to ISO / EN 12944-5 | | | | |
| Stator winding | Material | Copper | | | | |
| | Insulation | Insulation class F, Temperature rise class B unless otherwise stated | | | | |
| | Winding protection | - | | | | |
| Rotor winding | Material | Pressure diecast aluminum | | | | |
| Balancing method | | Half Key Balancing as Standard | | | | |
| Key ways | | Open Key Way | | | | |
| Enclosure | | IP 55 | | | | |
| Cooling method | | IC 411 | | | | |
| Drain holes | | Drain holes with closable plastic plugs, open on delivery | | | | |
| Lifting lugs | | Bolted with the stator | | | | |

*Cable sizes for 355MLC2,355MLD2,355MLB4, 355MLB6H & 355MLB4H will be 2Rx3Cx300 Sqmm Cu/Al , Threaded opening 2x3" BSC

**Polypropylene, Reinforced with 20% glass fibre.