


|  Bharat Bijlee | | Data sheet for motors | | | | | | | |
|---|------------------------------------|--|--------------------|-------------|--|-------------|--|----------|--|
| Manufacturer | Bharat Bijlee Ltd. | Customer | | | | | | | |
| Type of motor | 3 Phase Induction Motor | BBL Enquiry reference No | | | | | | | |
| Quantity | | Customer P.O.Number | | | | | | | |
| Application | CUSTOMER TO FURNISH | W.O. No. / SAP No. | | | | | | | |
| Tag no. | | Output kW / pole | 9.3 / 2P | | | | | | |
| BBL type tef. | | Frame size | 160M | | | | | | |
| Installation details | | Applicable standards (latest edition) | | | | | | | |
| Area classification (Safe / Hazardous) | Industrial safe area | Performance: IS/IEC 60034-1 Maintenance IS:900 | | | | | | | |
| Location: indoor/outdoor/deck | Indoor | Dimensions: IS 1231/IS 2223/IS:8223 | | | | | | | |
| Altitude (meters) | 1000 or less | Vibrations: IS 12075 | | | | | | | |
| | | Noise level: IS 12065 | | | | | | | |
| Hazardous area details | | Supply conditions and permissible variations (grid supply) | | | | | | | |
| Area classification GAS (Zone 1/Zone 2) | N.A. | Number of phases | Three | | | | | | |
| Gas group | N.A. | Voltage (Volts) and permissible variation | 415 ±10% | | | | | | |
| Temp.class | N.A. | Frequency (Hz) and permissible variation | 50 ±5% | | | | | | |
| Type of Explosion protection (FLP/Type 'e'/Type 'n') | N.A. | Combined variation (absolute sum) | ±10% | | | | | | |
| Approving authority for hazardous area | Not Applicable | | | | | | | | |
| Electrical parameters | | | | | | | | | |
| Starting performance | | | | | | | | | |
| Method of starting | DOL | Starting current (%FLC) | 600 | | | | | | |
| Load speed (rpm) | CUSTOMER TO FURNISH | Starting torque (%FLT) | 200 | | | | | | |
| Motor GD ² (kgm ²) | 0.142 | Pull out torque (%FLT) | 250 | | | | | | |
| Load GD ² (kgm ²) | CUSTOMER TO FURNISH | Locked rotor withstand time (hot/cold) (sec) | 8 / 16 | | | | | | |
| Load torque-speed curve | Parabolic TS curve | Number of consecutive starts (hot/cold) (nos.) provided Load GD2 = Motor GD2 | 2 / 3 | | | | | | |
| Starting time at rated voltage (sec) | PLEASE FURNISH ALL ABOVE DETAILS | | | | | | | | |
| Running Performance | | | | | | | | | |
| Efficiency class | IE2 | Duty and designation | Continuous (S1) | | | | | | |
| Ambient temp./temp.rise by resistance (deg.C) | 50 / 70 | CDF/Equivalent starts per hour/FI | - | | | | | | |
| Enclosure | TEFC (TOTALLY ENCLOSED FAN COOLED) | Insulation class / utilisation class on DOL | F/B | | | | | | |
| Full load current (FLC) amps. | 16.5 | Rotor type (Squirrel Cage/ Slip ring) | Squirrel Cage | | | | | | |
| Full load speed (rpm) | 2940 | Rotor voltage/rotor current (RV/RA) (Volts/Amps) | Not applicable | | | | | | |
| Full load torque (FLT) kg-m | 3.08 | Stator/rotor time constant (min) | 90/122 | | | | | | |
| Efficiency in % at FL/0.75FL/0.5FL | 88.9 88.6 86.0 | Power factor at FL/0.75FL/0.5FL | 0.88 0.86 0.81 | | | | | | |
| Mechanical parameters | | | | | | | | | |
| Mounting | B5 | Mounting dimensions | Refer GA drawing | | | | | | |
| Shaft extention | Single cylindrical | Direction of rotation viewed from DE | Clockwise | | | | | | |
| Degree of protection | IP 55 | Suitable for bidirectional rotation | Yes | | | | | | |
| Method of cooling (TEFC/forced cooled/TEFC) | TEFC (IC 411) | Paint type | Acrylic | | | | | | |
| Net weight of motor (kgs.) | 98 | Paint shade | RAL 5000 | | | | | | |
| | | Earthing provision (two terminals on stator body) | Yes | | | | | | |
| Bearings | | Terminal box | | | | | | | |
| Coupling (Direct/flexible/Belt & Pulley/Gearbox) | Direct | Terminal box location when viewed from DE | As per GA drawing | | | | | | |
| Dimensions of pulley (OD x width) mm | - | Direction of cable entry | As per GA drawing | | | | | | |
| Bearings (roller/ball/angular contact) | Ball /Ball | Cable size and type(Aluminium) | 2R X 3C X 10 SQ MM | | | | | | |
| Bearing size DE/NDE | 6309 2Z C3 / 6209 2Z C3 | Earthing provision (one terminal in TB) | Yes | | | | | | |
| Type of lubrication | LITHIUM SOAP BASE GREASE | No of phases/Winding connection/number of terminals | 3 / DELTA / 6 | | | | | | |
| Accessories | | | | | | | | | |
| RTDs - 3 numbers simplex (w/o controller) | | Arrow plate for direction of rotation | | | | | | | |
| BTDS - 1 number per bearing (w/o controller) | | Double compression glands (main cable) | | | | | | | |
| Space heaters - single phase 50z, 230V | | Double compression glands (Space heater/thermistors/RTDs) | | | | | | | |
| Thermistors - PTC , 1 number per phase | | Brake (Type/voltage/torque) | | | | | | | |
| Additional T-Box for Accessories | | | | | | | | | |
| Additional nameplate | | | | | | | | | |
| Notes: | | | | | | | | | |
| 1)All performance values are subject to IS/IEC 60034-1 tolerances, unless otherwise specified. | | | | | | | | | |
| 2)Performance values are at rated voltage and rated frequency condition and for DOL starting condition. | | | | | | | | | |
| 3)Motor GD ² = Load GD ² assumed wherever not mentioned. | | | | | | | | | |
| 4)Where starting time is more than 10 seconds, provision of heavy duty relays is mandatory. | | | | | | | | | |
| 5)Kilowatt rating is mandatory and HP is approximate. | | | | | | | | | |
| 6) Accessories provided are marked as "YES" | | | | | | | | | |
| | | <table border="1"> <tr> <td>Prepared by</td> <td></td> </tr> <tr> <td>Approved by</td> <td></td> </tr> <tr> <td>Revision</td> <td></td> </tr> </table> | | Prepared by | | Approved by | | Revision | |
| Prepared by | | | | | | | | | |
| Approved by | | | | | | | | | |
| Revision | | | | | | | | | |
| Project: | | Contractor/Client | | | | | | | |
| Consultant | | Package | | | | | | | |
| | | Date: | | | | | | | |