(B) Bharat Bijlee Data sheet for motors Customer Bharat Bijlee Ltd. Manufacturer 3 Phase Induction Motor Type of motor **BBL** Enquiry reference No **Customer P.O.Number** Quantity **CUSTOMER TO FURNISH** W.O. No. / SAP No. Application 9.3 4P Output kW / pole Tag no. 2J16M4C3 BBL type tef. Frame size MJ160 Installation details Applicable standards (latest edition) Area classification (Safe / Hazardous) Hazardous Performance: IS/IEC 60034-1 Maintenance IS:900 FLP Motors: IS/IEC 60079-1 Location: indoor/outdoor/deck Indoor Dimensions: IS 1231/IS 2223/IS:8223 1000 or less Vibrations: IS 12075 Altitude (meters) Noise level: IS 12065 Hazardous area details Supply conditions and permissible variations (grid supply) Area classification GAS (Zone 1/Zone 2) **ZONE I** Number of phases Three Voltage (Volts) and permisible variation IIA, IIB 415 ±10% Gas group T5 Temp.class Frequency (Hz) and permissible variation 50 ±5% Type of Explosion protection (FLP/Type Ex d ±10% Combined variation (absolute sum) 'e'/Type 'n') If Coal Mine application then Approving authority for hazardous area DGMS else PESO Electrical parameters Starting performance DOL Method of starting Starting current (%FLC) 650 Load speed (rpm) **CUSTOMER TO FURNISH** Starting torque (%FLT) 240 Motor GD^2 (kgm²) 0.187Pull out torque (%FLT) 270 Load GD²(kgm²) **CUSTOMER TO FURNISH** Locked rotor withstand time (hot/cold) (sec) 8 16 Number of consecutive starts (hot/cold) (nos.) Parabolic TS curve 2/3 Load torque-speed curve provided Load GD2 = Motor GD2 PLEASE FURNISH ALL ABOVE Starting time at rated voltage (sec) **DETAILS** Running Performance Efficiency class IE2 Duty and designation Continuous (S1) 45 75 CDF/Equivalent starts per hour/FI Ambient temp./temp.rise by resistance (deg.C) TEFC (TOTALLY ENCLOSED F/B Insulation class / utilisation class on DOL Enclosure FAN COOLED) 17.6 Full load current (FLC) amps. Rotor type (Squirrel Cage/ Slip ring) Squirrel Cage Not applicable Full load speed (rpm) Rotor voltage/rotor current (RV/RA) (Volts/Amps) 1465 Stator/rotor time constant (min) 90/122 Full load torque (FLT) kg-m 6.18 Power factor at FL/0.75FL/0.5FL Efficiency in % at FL/0.75FL/0.5FL 89.4 89.4 87.0 0.82 0.76 0.68 Mechanical parameters Mounting B8 Mounting dimensions Refer GA drawing Shaft extention Single cylindrical Direction of rotation viewed from DE Clockwise IP 55 Yes Degree of protection Suitable for bidirectional rotation Method of cooling (TEFC/forced TEFC (IC 411) Acid Alkali Proof Paint type cooled/TESC) Paint shade Net weight of motor (kgs.) 148 632 as per IS 5 Earthing provision (two terminals on stator body) Yes Terminal box **Bearings** Coupling (Direct/flexible/Belt & Direct Terminal box location when viewed from DE As per GA drawing Pulley/Gearbox) Dimenssions of pulley (OD x width) mm As per GA drawing Direction of cable entry Bearings (roller/ball/angular contact) Ball/Ball 2R X 3C X 35 SQ MM Cable size and type(Aluminium) 6209 2Z C3 Earthing provision (one terminal in TB) Bearing size DE/NDE 6209 2Z C3 Yes No of phases/Winding connection/number of LITHIUM SOAP BASE GREASE 3 / DELTA / 6 Type of lubrication terminals 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) Double compression glands (Space Space heaters - single phase 50z, 230V heater/thermisters/RTDs) Thermisters - 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"

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