

 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	B8	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"									
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Project:		Contractor/Client							
Consultant		Package							
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