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	18.5 /	2P
BBL type Ref.		MD16L273	Frame size	MJ160	
Installation details			***Applicable standards (latest edition)***		
Area classification (Safe / Hazardous)		Hazardous area	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		
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)		ZONE I	Number of phases	Three	
Gas group		IIA, IIB	Voltage (Volts) and permisible variation	415	±10%
Temp.class		T5	Frequency (Hz) and permissible variation	50	±5%
Type of Explosion protection (FLP/Type 'e'/Type 'n')		Ex 'd'	Combined variation (absolute sum)	±10%	
Approving authority for hazardous area		If Mine application then DGMS else PESO			
Electrical parameters					
Starting performance					
Method of starting		DOL	Starting current (%FLC)	650	
Load speed (rpm)		CUSTOMER TO FURNISH	Starting torque (%FLT)	200	
Motor GD^2 (kgm^2)		0.225	Pull out torque (%FLT)	300	
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		-	Duty and designation	Continuous (S1)	
Ambient temp./temp.rise by resistance (deg.C)	45 /	75	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.		31.6	Rotor type (Squirrel Cage/ Slip ring)	Squirrel Cage	
Full load speed (rpm)		2920	Rotor voltage/rotor current (RV/RA) (Volts/Amps)	Not applicable	
Full load torque (FLT) kg-m		6.18	Stator/rotor time constant (min)	90/122	
Efficiency in % at FL/0.75FL/0.5FL	90.5	90.0 88.0	Power factor at FL/0.75FL/0.5FL	0.90	0.88 0.86
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/TESC)		TEFC (IC 411)	Paint type	Acid Alkali Proof	
Net weight of motor (kg)		168	Paint shade	632 as per IS 5	
			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	
Dimenssions 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 35 SQ MM	
Bearing size DE/NDE		6209 2Z C3/6209 2Z C3	Earthing provision (one terminal in TB)	Yes	
Type of lubrication		LITHIUM SOAP BASE GREASE	No of phase/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/Thermisters/RTDs)		
Thermisters - PTC			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"

Prepared by	
Approved by	

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Project:		**Contractor/Client**		**Date:**	
Consultant		**Package**			