

 Bharat Bijlee		<i>Data sheet for motors</i>			
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		11 / 2P
BBL type tef.		2J16M253	Frame size		MJ160
<i>Installation details</i>			<i>Applicable standards (latest edition)</i>		
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		
Altitude (meters)		1000 or less	Vibrations: IS 12075		
			Noise level: IS 12065		
<i>Hazardous area details</i>			<i>Supply conditions and permissible variations (grid supply)</i>		
Area classification GAS (Zone 1/Zone 2)		ZONE I	Number of phases		Three
Gas group		IIA, IIB	Voltage (Volts) and permissible 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 Coal Mine application then DGMS else PESO			
<i>Electrical parameters</i>					
<i>Starting performance</i>					
Method of starting		DOL	Starting current (%FLC)		650
Load speed (rpm)		CUSTOMER TO FURNISH	Starting torque (%FLT)		210
Motor GD ² (kgm ²)		0.16	Pull out torque (%FLT)		260
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			
<i>Running Performance</i>					
Efficiency class		IE2	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.		19.5	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		3.64	Stator/rotor time constant (min)		90/122
Efficiency in % at FL/0.75FL/0.5FL		89.4 89.4 87.0	Power factor at FL/0.75FL/0.5FL		0.88 0.85 0.79
<i>Mechanical parameters</i>					
Mounting		B3	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 (kgs.)		153	Paint shade		632 as per IS 5
			Earthing provision (two terminals on stator body)		Yes
<i>Bearings</i>			<i>Terminal box</i>		
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 phases/Winding connection/number of terminals		3 / DELTA / 6
<i>Accessories</i>					
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					
<i>Notes:</i>					
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
					Revision
Project:		Contractor/Client			Date:
Consultant		Package			

