	Dhanat Dillag I tol		Customer		
Manufacturer	Bharat Bijlee Ltd.3 phase Induction Motor		Customer BBI Enguing noference No		
<b>Type of motor</b> Quantity	5 phase induction wrotor		BBL Enquiry reference No Customer P.O.Number		
Application	CUSTOME	R TO FURNISH	W.O. No. / SAP No.		
Fag no.	CUSIONIE		Output kW / Pole	15 / 4P	
BBL type Ref.		MD16L4K5	Frame size	MJ160	
Installation deta	ils		Applicable standards (latest edition)		
	on (Safe / Hazardous)	Hazardous area	Performance: IS/IEC 60034-1 Maintenance IS	S:900 FLP Motors: IS/IEC 60079-	
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 classificatio	on 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 (EL D/Type 'e'/Type 'e')		Ex 'd'	Combined variation (absolute sum)	±10%	
Approving authority for hazardous area		If Mine application then D else PESO	GMS		
Electrical param					
Starting perform					
Method of starting		DOL	Starting current (%FLC)	600	
Load speed (rpm		CUSTOMER TO FURN		210	
Motor $GD^2$ (kgm <sup>2</sup> )		0.235	Pull out torque (%FLT)	250	
Load $GD^2$ (kgm <sup>2</sup> )		CUSTOMER TO FURN	ISH 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 ra	ated voltage (sec)	PLEASE FURNISH ALL A DETAILS	BOVE		
Running Perforn	nance				
Efficiency class		-	Duty and designation	Continuous (S1)	
Ambient temp./temp.rise by resistance (deg.C)			75 CDF/Equivalent starts per hour/FI	-	
Enclosure		TEFC (TOTALLY ENCL FAN COOLED)	Insulation class / utilisation class on DOL	F/B	
Full load current		27.5	Rotor type (Squirrel Cage/ Slip ring )	Squirrel Cage	
Full load speed (rpm)		1450 10.1	Rotor voltage/rotor current (RV/RA) (Volts/An	nps) Not applicable 90/122	
Full load torque (FLT) kg-m Efficiency in % at FL/0.75FL/0.5FL			Stator/rotor time constant (min)0.0Power factor at FL/0.75FL/0.5FL	0.84 0.83 0.79	
Mechanical para		90.2 90.3 9	J.0 FOWER RACIONAL I'L/0.751'L/0.51'L	0.04 0.03 0.75	
Mounting		B5	Mounting dimensions	Refer GA drawing	
Shaft extention		Single cylindrical	Direction of rotation viewed from DE	Clockwise	
Degree of protect	tion	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)		156	Paint shade	632 as per IS 5	
			Earthing provision (two terminals on stator bod	y) Yes	
Bearings			Terminal box		
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		-	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 C		Yes	
Type of lubrication	on	LITHIUM SOAP BASE G	REASE [	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) Space heaters - single phase 50z, 230V			Double compression glands (main cable)Double compression glands (SpaceLeast on (The main term (DTDa))		
•			heater/Thermisters/RTDs)		
Thermisters - PT			Brake (Type/voltage/torque)		
Additional T-Box Additional name	x for Accessories				
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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	

			Revison	
<b>Project:</b>	Contractor/Client		Date:	
Consultant	Package			