COMPRESSOR MOTOR DATA SHEET FOR NITROGEN GAS BOOSTER

BUSHEHR PETROCHEMICAL COMPANY MEG PLANT	
Document Review	
Issue Purpose:	IFA
Result Code: AP,AN,CM,RE,NC	CM
Next Status : IFC,IFA,IFI,AFC,AB	IFA
Responsible Department	MECHANICAL
Commented Date	Oct /02/2021
Approval or review hereunder shall not be construed to relieve Vendor / Subcontractor of his responsibilities and liability under the contract.	

Rev.	Date	Purpose of Issue	Prepared	Checked	Approved	AC Code
01	20/09/2021	For approval	KP	LDM	PW	
00	08/12/2020	For approval	KP	LdM	PW	

Class: 1 | Phase: P

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OWNER:	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT							EPC CONTRACTOR:
MC :	Motor Data Sheet (Item No: P-2007 A/B)							VENDOR:
	Project	Area	Phase	Unit	Dis.	Doc.	Seq.	Contract No : 52-98/445
Document Number:	BU	20	VD	303	EL	DSH	0051	Rev.: 01 / Page: 3 of 5

Genaral Design Data				
Tag Nos :	**20-C-1002-M**	Manufacturer :	**WEG**	
QTY. :	**1**	Plant Location :	**Busher**	
Client :	**Bushehr Petrochemical Company**	Purchase Order No. :	**-**	
Applicable Document		**Enviromental Condition**		
Project Specification :	BU-20-D-000-EL-SPC-521	Location :	**Outdoor**	
Paint Specification :	BU-20-D-000-PI-SPC-409	Ambient Air Temperature :	**Min. 5ºC**	**Max. 52ºC**
Applicable Standard :	**IEC 60034**	Humidity :	**80%**	
		Altitude :	**8.5m above Sea Level**	
		Area Classification(IEC 60079-10) :	**Zone 2, IIB, T3**	
Power System				
System Voltage &Variations :	**400V ± 5%**	System Earthing :	**Solidly Earthed**	
System Frequency &Variations :	**50Hz ± 2%**	Short circuit capacity at input :		

	Particulars of Equipment	Unit	Purchaser's Requirements	Vendor's Data
Basic Data	Frame Size		**VTA**	225S/M
	Rated Voltage	V	**400**	400
	Rated Frequency	Hz	**50**	50
	Required Shaft Brake Power	KW	*	37
	Rated Power	KW	*	45
	No. of Phases		**3 phases**	3
	Duty / Service Factor		**S1 / 1**	S1
	No. of Poles / Synchronous Speed		*	4
	Stator Connection		**Delta**	Delta
	Insulation Class		**Class F**	F
	Design Temperature		**48 ºC**	55
	Temperature Rise		**Class B**	B
	Ingress Protection Classification (IEC 60529)		**IP55**	IP55
	Cooling Type (IEC 60034-6)		**TEFC, IC 411**	TEFC
Performance Characteristics	Full Load Current	A	**VTA**	83
	Efficiency (FL / 3/4 FL / 1/2FL)	PU	**VTA**	95,4 / 95,0 / 94,2
	Power Factor (FL / 3/4 FL / 1/2FL)	PU	**VTA**	0,82 / 0,74 / 0,62
	Full Load Turque	Nm	**VTA**	290
	Break Down Torque	%	**VTA**	330
	Pull Up Torque	%	**VTA**	245
	Full Load Speed	rpm	**VTA**	1485
	Slip at Full Load / 75% Load	%	**VTA**	1
	Over Speed Capability		**VTA**	N/A
	No Load Losses	watt	**VTA**	N/A

Acc. to TCL, It shall be 55KW.

Specify Synchronous speed of the motor.

Please specify exact value.

Put it in project's cover sheet.

Starting Characteristics	Starting Method		**Direct on Line**	DOL
	Starting Performance (IEC60034-12)		**VTA**	8,3
	Maximum Allowable Stall Time (Hot / Cold)		**VTA**	3 / 2
	Maximum No. of Successive Starts		**VTA**	3
	Starting Current	PU	**VTA**	8,3
	Starting Current	A	**VTA**	688
	Locked Rotor Power Factor	PU	**VTA**	0,5
	Locked Rotor Torque	%	**VTA**	290
	Run-Up Time	Sec.	**VTA**	8
	Allowable Run-Up Time from Cold State	Sec.	**VTA**	27
	Allowable Run-Up Time from Hot State	Sec.	**VTA**	15
Hazardous Area Certification	Motor Explosion Protection Type / Gas Group / Temp. Class	--	**Ex d IIB T3**	Ex d IIB T4
	Terminal Boxes Explosion Protection Type / Gas Group / Temp. Class	--	**Ex d IIB T3**	Ex d IIB T4
	Ex "e" Motor t_e Time	Sec.	**VTA**	N/A
	Recommended Thermal O/L Relay		**VTA**	10
	Certifying Authority	--	**VTA**	as per IECex certificate

OWNER:

MC :

BUSHEHR PETROCHEMICAL COMPANY MEG PLANT

Motor Data Sheet (Item No: P-2007 A/B)

EPC CONTRACTOR:

VENDOR:

Project	Area	Phase	Unit	Dis.	Doc.	Seq.	Contract No : 52-98/445	
Document Number:	BU	20	VD	303	EL	DSH	0051	Rev.: 01	Page: 5 of 5

	Particulars of Equipment	Unit	Purchaser's Requirements	Vendor's Data
Mechanical Detail	Mounting (IEC 60034-7)		*	B3T
	Stator Frame Material		**Ferromagnetic Material**	cast iron
	Enclousure Material		**Sheet Steel/ Cast Iron**	cast iron
	Rotor Cage Material		**Copper/ Die Cast Aluminium**	Die cast aluminium
	Cooling Fan Material		**Aluminium, Cast Iron, Steel, Brass, Bronze**	aluminium
	Rotation Facing Drive End (CW/CCW)		*	Both
	Finish Color		**Gentian Blue RAL-5010**	RAL 6002
	Motor Weight	Kg	**VTA**	561
	Rotor (Uncoupled) Inertia	Kg.m2	**VTA**	0,7346
	Driven Load Inertia (Related to Motor Speed)	Kg.m2	*	TBC
	Coupling Type		**Direct/ Gear Box/ Pulley**	Pulley
	Maximum Sound Pressure Level at one Meter (Full Load)	dB(A)	**Comply with IEC 60034-9 & Note 5**	63
	Sound Power level	dB	**VTA**	N/A
	Noise Silencer	Yes/No	**VTA**	No
	Integral Breather / Drain (IEC60034-5)	Yes/No	**VTA**	No
	Drive End Bearing Type/ Make & Size		**VTA**	6314-C3
	No. of Drive End Bearings		**VTA**	1
	None Drive End Bearing Type / Make & Size		**VTA**	6314-C3
	No. of None Drive End Bearings		**VTA**	1
	Method of Bearing Lubrication		**VTA**	grease nipple
	Bearing Ingress Protection (IEC 60529)		**IP55**	IP55
	Minimum Bearing Lifetime, Motor Only	hr	**40000**	40000
	Maximum Relubrication Interval	hr	**4000/2000 for horizontal/vertical motors**	7000
	Shaft		**Extended / Solid / Hollow**	solid
	Max. Shaft Voltage	mV rms	**VTA**	N/A
	Insulated Bearings	Yes/No	**(Note 4)**	No
	Bearing Insulation Rating	KV	**VTA**	N/A
	Rotor Axial Float + / -	mm	**VTA (If applicable)**	N/A
	Vibration at No Load, Self Mounted, Peak to Peak	mm/S	**VTA (Comply with IEC 60034-14)**	as per IEC 60034-14
	Critical Speed	rpm	**(Note 6)**	N/A
	Lifting Lug	Yes/No	**Yes**	Yes
Accessories	Anti Condensation Heater	Yes/No	**No**	No
	Anti Condensation Heater Power	W	**-**	N/A
	Anti Condensation Heater Voltage	VAC	**-**	N/A
	Winding Temperature Detector	Yes/No	**No**	No
	Bearing Temperature Detector	Yes/No	**No**	No
	Frame Earth / Terminal Box Earth	Yes/No	**Yes (External Stud /Internal Terminal)**	Yes (External Stud /Internal Terminal)
	Accelerometer Shock Pulse Measurement Device	Yes/No	**VTA**	No
	Anti Rotational Device	Yes/No	**VTA**	No
	Vibration Switch	Yes/No	**VTA**	No
	Sun Canopy	Yes/No	**VTA**	No
	Differential Protection CT's in Neutral Terminal Box	Yes/No	**NO**	No
Terminal Box & Cable Connection	Ingress Protection of Terminal Box	--	**IP55**	IP56
	Power Terminal Box Type	--	**Phase Insulated**	
	Power Terminal Box Location (IEC 60034-7)	--	**Top or Right (looking from drive end)**	Top
	Power Cable Type	--	**Cu/XLPE/SWA/PVC**	TBC
	Power Cable No. & Size	--	**	TBC
	Power Cable Gland & Entries	--	**	TBC
	Power Cable Entry Direction	--	**	TBC
	Heater Cable Type			N/A
	Heater Cable No. & Size			N/A
	Heater Cable Gland & Entry			N/A
	Instrument Cable Type			N/A
	Instrument Cable No. & Size			N/A
	Instrument Cable Gland & Entry	--		N/A

Change to ferromagnetic material.

Change to 5010.

IP65

IP65

Please be noted that we consider C-1002 as a feeder type, not a motor.
Cable size & cable entry for feeder type is:
Cable: (3C+N)-150mm2
Gland: EX-IP65(E/M63)
Cable from panel to motor is in vendor's scope of work.

Note 1: Vendor to Advise
Note 2: (*) in "Purchaser Requirement" column should be filled out by driven equipment vendor.
Note 3: (**) Will be informed to motor vendor after receiving preliminary motor data.
Note 4: The shaft voltage shall not exceed 300mV RMS, unless bearings shall be fully insulated from the motor carcase and/or bedplate to prevent a flow of shaft current.
Note 5: The sound pressure level of the loaded machine shall not exceed 77 dB(A) in the work area, measured in accordance with ISO 1680.
Note 6: The machine shall have a rigid, under critical rotor-bearing system with first critical speed not lower than 125 % of the synchronous speed.