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|---|--|------|-------|------|------|------|--|-------------------------|--------|
| OWNER:  شرکت سست و سویی توهمه ایران (سهامی خاص) | BUSHEHR PETROCHEMICAL COMPANY MEG PLANT | | | | | | EPC CONTRACTOR:  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT | | |
| | COMPRESSOR MOTOR DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR | | | | | |  Netherlands | | |
| MC :  شرکت سست و سویی توهمه ایران (سهامی خاص) | Project | Area | Phase | Unit | Dis. | Doc. | Seq. | Contract No : 52-98/445 | |
| Owner Document Number: 17811-10B | BU | 20 | VD | 303 | EL | DSH | 0099 | Rev.: | Page |
| | | | | | | | | 01 | 1 of 4 |

COMPRESSOR MOTOR DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR

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|  شرکت سست و سویی توهمه ایران (سهامی خاص) |  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT | BUSHEHR PETROCHEMICAL COMPANY MEG PLANT |
| Document Review | | |
| Issue Purpose: | IFA | |
| Result Code: AP,AN,CM,RE,NC | AN | |
| Next Status : IFC,IFA,IFI,AFC,AB | AFC | |
| 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. | | |

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|------|------------|------------------|----------|---------|----------|----------|
| | | | | | | |
| 01 | 20/09/2021 | For approval | KP | LDM | PW | |
| 00 | 24/06/2020 | For approval | KP | LdM | PW | |
| Rev. | Date | Purpose of Issue | Prepared | Checked | Approved | AC Code |
| | | | | | Class: 1 | Phase: P |

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|---|---|--|---------------------|-----------------------------------|-------------------------------------|-----------------------------|---------------------------|--|-------------------------|-----------------|
| OWNER:  | | BUSHEHR PETROCHEMICAL COMPANY MEG PLANT | | | | | | EPC CONTRACTOR:  | | |
| MC:  | | COMPRESSOR MOTOR DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR | | | | | | VENDOR:  | | |
| | | Project | Area | Phase | Unit | Dis. | Doc. | Seq. | Contract No : 52-98/445 | |
| Document Number: | | BU | 20 | VD | 303 | EL | DSH | 0099 | Rev.: 01 | Page: 3 of 4 |
| General Design Data | Tag Nos : | 20-C-7080-M | | | Manufacturer : | WEG | | | | |
| | QTY. : | 1 | | | Plant Location : | Busher | | | | |
| | Client : | Bushehr Petrochemical Company | | | Purchase Order No. : | - | | | | |
| | Applicable Document | | | | Environmental 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. 5°C | | Max. 52°C | | |
| | 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 : | | | | | | |
| Basic Data | Particulars of Equipment | | Unit | Purchaser's Requirements | | | Vendor's Data | | | |
| | Frame Size | | | VTA | | | 160ML | | | |
| | Rated Voltage | | V | 400 | | | 400 | | | |
| | Rated Frequency | | Hz | 50 | | | 50 | | | |
| | Required Shaft Brake Power | | KW | * | | | 11,5 | | | |
| | Rated Power | | KW | * | | | 15 | | | |
| | No. of Phases | | | 3 phases | | | 3 | | | |
| | Duty / Service Factor | | | S1 / 1 | | | S1 | | | |
| | No. of Poles / Synchronous Speed | | | * | | | 4 / 1500 | | | |
| | Stator Connection | | | Delta | | | Delta | | | |
| | Insulation Class | | | Class F | | | F | | | |
| | Design Temperature | | | 48 °C | | | 55 | | | |
| | Temperature Rise | | | Class B | | | B | | | |
| | Ingress Protection Classification (IEC 60529) | | | IP55 | | | IP56 | | | |
| Cooling Type (IEC 60034-6) | | | TEFC, IC 411 | | | TEFC | | | | |
| Performance Characteristics | Full Load Current | | A | VTA | | | 28,5 | | | |
| | Efficiency (FL / 3/4 FL / 1/2FL) | | PU | VTA | | | 93,9 / 96,6 / 92,7 | | | |
| | Power Factor (FL / 3/4 FL / 1/2FL) | | PU | VTA | | | 0,81 / 0,75 / 0,63 | | | |
| | Full Load Torque | | Nm | VTA | | | 97,2 | | | |
| | Break Down Torque | | % | VTA | | | 320 | | | |
| | Pull Up Torque | | % | VTA | | | 255 | | | |
| | Full Load Speed | | rpm | VTA | | | 1475 | | | |
| | Slip at Full Load / 75% Load | | % | VTA | | | 1,67 | | | |
| | Over Speed Capability | | | VTA | | | No overspeed capability | | | |
| | No Load Losses | | watt | VTA | | | Information not available | | | |
| Starting Characteristics | Starting Method | | | Direct on Line | | | DOL | | | |
| | Starting Performance (IEC60034-12) | | | VTA | | | 8,4 | | | |
| | Maximum Allowable Stall Time (Hot / Cold) | | | VTA | | | 3 / 2 | | | |
| | Maximum No. of Successive Starts | | | VTA | | | 3 | | | |
| | Starting Current | | PU | VTA | | | 8,4 | | | |
| | Starting Current | | A | VTA | | | 239 | | | |
| | Locked Rotor Power Factor | | PU | VTA | | | 0,5 | | | |
| | Locked Rotor Torque | | % | VTA | | | 300 | | | |
| | Run-Up Time | | Sec. | VTA | | | 8 | | | |
| | Allowable Run-Up Time from Cold State | | Sec. | VTA | | | 56 | | | |
| | Allowable Run-Up Time from Hot State | | Sec. | VTA | | | 31 | | | |
| | 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 | | | | |

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|---|--|------|-------|------|------|------|------|--|
| OWNER:  | BUSHEHR PETROCHEMICAL COMPANY MEG PLANT | | | | | | | EPC CONTRACTOR:  |
| MC:  | COMPRESSOR MOTOR DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR | | | | | | | VENDOR:  |
| | Project | Area | Phase | Unit | Dis. | Doc. | Seq. | Contract No : 52-98/445 |
| Document Number: | BU | 20 | VD | 303 | EL | DSH | 0099 | Rev.: 01 |
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| | Particulars of Equipment | Unit | Purchaser's Requirements | Vendor's Data |
|--|---|---------------------------------------|---|--|
| Mechanical Detail | Mounting (IEC 60034-7) | | * | B3T |
| | Stator Frame Material | | Ferromagnetic Material | Ferromagnetic Material |
| | Enclosure 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 5010 |
| | Motor Weight | Kg | VTA | 211 |
| | Rotor (Uncoupled) Inertia | Kg.m2 | VTA | 0,1813 |
| | 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 | 61 |
| | 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 | NU309-C3 |
| | No. of Drive End Bearings | | VTA | 1 |
| | None Drive End Bearing Type / Make & Size | | VTA | 6308-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 | 20000 |
| | 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 |
| Terminal Box & Cable Connection | Differential Protection CT's in Neutral Terminal Box | Yes/No | NO | No |
| | 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 | Cu/XLPE/SWA/PVC |
| | Power Cable No. & Size | -- | ** | 4 x 6 Sqmm |
| | Power Cable Gland & Entries | -- | ** | 1 x M25 |
| | Power Cable Entry Direction | -- | ** | side entry |
| | 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 | |

Please be noted that we consider C-7080 as a feeder type, not a motor.
Cable size & cable entry for feeder type is:
Cable: (3C+N)-50mm2
Gland: EX-IP65(C2/M40)
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 carcass 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.