









OWNER: 	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT							CONTRACTOR  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT	
MC: 	MECHANICAL DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR (20-C-7080)							 Contract No : 52-98/445	
Owner Document Number :	BU	20	VD	303	ME	DSH	0075	rev 03	Page: 1 OF 20

MECHANICAL DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR (20-C-7080)

03	11/03/2022	Approved for Construction	KP	KP	JR	
02	09/12/2021	Approved for Construction	KP	KP	JR	
01	04/11/2021	for approval	KP	KP	JR	
00	12/08/2021	for approval	KP	KP	JR	
Rev.	Date	Description	Prepared By	Checked By	Approved	AC code.
						Class:1 Phase: P

OWNER: 	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT							CONTRACTOR  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT	
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LIST OF REVISED PAGES

REV PAGES	00	01	02	03	REV PAGES	REV PAGES
1	X	X	X	X	46	91
2	X	X	X	X	47	92
3	X	X	X	X	48	93
4	X	X	X	X	49	94
5	X	X	X	X	50	95
6	X	X	X	X	51	96
7	X	X	X	X	52	97
8	X	X	X	X	53	98
9	X	X	X	X	54	99
10	X	X	X	X	55	100
11	X	X	X	X	56	101
12	X	X	X	X	57	102
13	X	X	X	X	58	103
14	X	X	X	X	59	104
15	X	X	X	X	60	105
16	X	X	X	X	61	106
17	X	X	X	X	62	107
18	X	X	X	X	63	108
19	X	X	X	X	64	109
20	X	X	X	X	65	110
21					66	111
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1 APPLICABLE TO: PROPOSALS PURCHASE AS BUILT

2 FOR/USER BUPC SITE/LOCATION ASSALUYEH SERVICE EMERGENCY INSTRUMENT AIR COMP NO. REQ'D ONE SET 1(STAGE)

3 NOTE: INDICATES INFO. TO BE COMPLETED BY PURCH. BY MANUFACTURER WITH PROPOSAL BY MANUFACTURER AFTER ORDER BY MANUFACTURER OR PURCHASER AS APPLICABLE

4 COMPR. MFGR Airpack TYPE MODEL NO(S) SERIAL NO(S) TBD

6 COMPR.THROWS: TOTAL NO. 1 NO. WITH CYLS. 2 NOMINAL FRAME RATING 15 BkW @ RATED RPM OF 400

7 MAX/MIN ALLOWABLE SPEED 690 / 400 RPM

8 DRIVER MFGR. WEG DRIVER NAMEPLATE KW/OPERATING RPM 15 kW / 3000

9 DRIVE SYSTEM: DIRECT COUPLED GEARED & COUPLED V-BELT

10 TYPE OF DRIVER: IND. MOTOR SYN. MOTOR STEAM TURBINE GAS TURBINE ENGINE OTHER

11 NO NEGATIVE TOLERANCE APPLIES: YES - PURCHASER TO FILL IN "REQUIRED CAPACITY" LINES. CYLINDERS: LUBE

12 (NNT) NO - PURCHASER TO FILL IN "MFGR.'S RATED CAP." LINES NON-LUBE

13 MAX ACCEPTABLE AVG PISTON SPEED 3.5 m/s

OPERATING CONDITIONS (EACH MACHINE)

<input checked="" type="radio"/> OPERATING CASE	1						
<input checked="" type="radio"/> STAGE	1						
<input type="radio"/> SIMULATION BASIS							
<input checked="" type="radio"/> NORM. OR ALT. CONDITION	Norm						
<input checked="" type="radio"/> CERTIFIED PT. (X) MARK ONE							
<input checked="" type="radio"/> MOLECULAR WEIGHT	29						
<input checked="" type="radio"/> Cp/Cv (K) @ 65°C OR	1.4						

21 **INLET CONDITIONS:** AT INLET TO: PULSE DEVICES COMPRESSOR CYLINDER FLANGES

22 NOTE: SIDE STREAM TO STAGE(S), THESE INLET PRESS. ARE FIXED

<input checked="" type="radio"/> PRESSURE @ PUL. SUPP. INLET (bara)	8 (Min.:7, Max:8.5)						
<input type="checkbox"/> PRESSURE (Bara) @ CYL. FLANGE	8 (Min.:7, Max:8.5)						
<input checked="" type="radio"/> TEMPERATURE (°C)	AMB.(Min.:10 , Max.:45)						
<input type="radio"/> INLET Cp/Cv	1.4						
<input checked="" type="checkbox"/> COMPRESSIBILITY (Z _s)	1						

28 **INTERSTAGE:** INTERSTAGE Δ P INCL: PULSE DEVICES PIPING COOLERS SEPARATORS OTHER

29 Δ P BETWEEN STAGES, % / BAR

DISCHARGE CONDITIONS:	AT OUTLET FROM:	<input checked="" type="radio"/> PULSE DEVICE	<input type="radio"/> COMP. CYL. FLANGES	<input type="radio"/> OTHER			
<input type="checkbox"/> PRESSURE @ CYL. FLANGE (bara)	8 (Min.:7, Max:8.5)						
<input checked="" type="radio"/> PRESS. (bara) @ PUL. SUPP. OUTLET	21						
<input type="checkbox"/> TEMP., ADIABATIC, °C	180						
<input type="checkbox"/> TEMP., PREDICTED, °C	164						
<input type="checkbox"/> COMPRESSIBILITY (Z ₂) OR (Z _{AVG})	0,04						

36 * **REQUIRED CAPACITY,** RATED FOR PROCESS, AT INLET TO COMPRESSOR, NO NEGATIVE TOLERANCE (-0%)

<input checked="" type="radio"/> kg/h CAPACITY SPECIFIED	55						
<input type="radio"/> WET <input checked="" type="radio"/> DRY							
<input type="radio"/> m³/h (760 mm HG & 0°C)	43						

40 * **MFGR.'S RATED CAPACITY** (AT INLET TO COMPRESSOR) & kW @ CERTIFIED TOLERANCE OF ±3% FOR CAP. & ±3% FOR kW



<input type="checkbox"/> kg/h CAPACITY SPECIFIED	374						
<input type="radio"/> WET <input checked="" type="radio"/> DRY							
<input type="checkbox"/> INLET m³/h	173						
<input type="checkbox"/> Nm³/h	173						
<input type="checkbox"/> kW/STAGE	11						
<input checked="" type="checkbox"/> ABSORBED POWER ESTIMATED, kW	12						
<input type="checkbox"/> TOTAL kW INCLUDING V-BELT & GEAR LOSSES	13						

48 * **CAPACITY FOR NNT**

50 MANUFACTURER'S = REQUIRED ÷ 0.97

51 THEREFORE REQUIRED = MFR'S x 0.97

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	<table border="1" style="width:100%; border-collapse: collapse;"> <tr> <th style="width:10%;">Project</th> <th style="width:10%;">Area</th> <th style="width:10%;">Phase</th> <th style="width:10%;">Unit</th> <th style="width:10%;">Dis.</th> <th style="width:10%;">Doc.</th> <th style="width:10%;">Seq.</th> </tr> <tr> <td>BU</td> <td>20</td> <td>VD</td> <td>303</td> <td>ME</td> <td>DSH</td> <td>75</td> </tr> </table>	Project	Area	Phase	Unit	Dis.	Doc.	Seq.	BU	20	VD	303	ME	DSH	75	
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1	PART LOAD OPERATING CONDITIONS								
2	CAPACITY CONTROL BY:	<input checked="" type="radio"/> MFG'S CAP. CONTROL	<input type="radio"/> PURCHASERS BY-PASS	<input type="radio"/> BOTH	<input type="radio"/> OTHER				
3	FOR:	<input type="radio"/> PART LOAD COND.	<input type="radio"/> START-UP ONLY	<input type="radio"/> BOTH					
4	WITH:	<input checked="" type="radio"/> AUTO LOADING DELAY INTERLOCK	<input checked="" type="radio"/> AUTO IMMEDIATE UNLOADING						
5	USING:	<input type="radio"/> FIXED VOLUME POCK.	<input checked="" type="radio"/> SUCTION VALVE UNLOADERS:	<input type="radio"/> FINGER	<input checked="" type="radio"/> PLUG	<input type="radio"/> OTHER			
6	ACTION:		<input type="radio"/> DIRECT (AIR-TO-UNLOAD)	<input checked="" type="radio"/> REVERSE (AIR-TO-LOAD/FAIL SAFE)					
7	NUMBER OF STEPS:		<input checked="" type="radio"/> ONE	<input type="radio"/> THREE	<input type="radio"/> FIVE	<input type="radio"/> OTHER			
8	<input type="radio"/> RAIN COVER REQUIRED OVER UNLOADERS								

ALL UNLOADING STEPS BASIS MANUFACTURERS CAPACITY SHOWN ON PAGE 1.

INLET AND DISCHARGE PRESSURE ARE <input type="radio"/> AT CYLINDER FLANGES <input checked="" type="radio"/> PULSATION SUPPRESSOR FLANGES																																																																																																																																					
<input type="radio"/> SERVICE OR ITEM NO. <input type="radio"/> STAGE <input type="radio"/> NORMAL OR ALTERNATE CONDITION <input type="radio"/> PERCENT CAPACITY <input type="radio"/> WEIGHT FLOW, kg/h <input type="radio"/> m³ /h (760 mm HG & 0°C) <input type="checkbox"/> POCKETS/VALVES OPERATION * <input type="checkbox"/> POCKET CLEARANCE ADDED % <input type="checkbox"/> TYPE UNLOADERS, PLUG/FINGER <input type="radio"/> INLET TEMPERATURE, °C <input type="radio"/> INLET PRESSURE, (BARA) <input type="radio"/> DISCHARGE PRESSURE, (BARA) <input type="checkbox"/> DISCHARGE TEMP., ADIABATIC °C <input type="checkbox"/> DISCHARGE TEMP., PREDICTED °C <input type="checkbox"/> VOLUMETRIC EFF., %HE/%CE(AVER) <input type="checkbox"/> CALC. GAS ROD LOAD, kN, C ** <input type="checkbox"/> CALC. GAS ROD LOAD, kN, T ** <input type="checkbox"/> COMB. ROD LOAD, kN C (GAS & INERTIA) <input type="checkbox"/> COMB. ROD LOAD, kN T (GAS & INERTIA) <input type="checkbox"/> ROD REV., DEGREES MIN @ X-HD PIN *** <input type="checkbox"/> BkW/STAGE <input type="checkbox"/> TOTAL kW @ COMPRESSOR SHAFT <input type="checkbox"/> TOTAL kW INCL. V-BELT & GEAR LOSSES	<table border="1" style="width:100%; border-collapse: collapse;"> <tr><td>1</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Normal</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>100</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>223</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>173</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Valves</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>NA</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>Plug</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>45</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>8 (Min.:7, Max:8.5)</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>21,5</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>180</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>164</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>75</td><td>/</td><td>/</td><td>/</td><td>/</td><td>/</td></tr> <tr><td>11,06</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0,36</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>10,83</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>0,2</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>195</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>12</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>12</td><td></td><td></td><td></td><td></td><td></td></tr> <tr><td>13</td><td></td><td></td><td></td><td></td><td></td></tr> </table>	1						Normal						100						223						173						Valves						NA						Plug						45						8 (Min.:7, Max:8.5)						21,5						180						164						75	/	/	/	/	/	11,06						0,36						10,83						0,2						195						12						12						13					
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* SHOW OPERATION WITH THE FOLLOWING SYMBOLS:

HEAD END = HE OR CRANK END = CE	} PLUS {	<table border="0" style="width:100%;"> <tr> <td style="width:50%; border-left: 1px solid black; padding-left: 5px;"> SUCTION VALVE(S) UNLOADED = S OR FIXED POCKET OPEN = F OR VARIABLE POCKET OPEN = V </td> <td style="width:5%; vertical-align: middle; text-align: center;">}</td> </tr> </table>	SUCTION VALVE(S) UNLOADED = S OR FIXED POCKET OPEN = F OR VARIABLE POCKET OPEN = V	}
SUCTION VALVE(S) UNLOADED = S OR FIXED POCKET OPEN = F OR VARIABLE POCKET OPEN = V	}			

** C = COMPRESSION T = TENSION *** X - HD = CROSSHEAD

<input type="checkbox"/> MINIMUM PRESSURE REQUIRED TO OPERATE CYLINDER UNLOADING DEVICES, 6 (BARG)	
CYLINDER UNLOADING MEDIUM: <input checked="" type="radio"/> AIR <input type="radio"/> NITROGEN <input type="radio"/> OTHER	
<input checked="" type="radio"/> PRESSURE AVAILABLE FOR CYLINDER UNLOADING DEVICES, MAX/MIN	8,0 / 6,0 (BARG)

52 **SPECIAL REMARK:**
 53
 54

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SCOPE OF BASIC SUPPLY

PURCHASER TO FILL IN () AFTER COMMODITY TO INDICATE: BY COMPR. MFR. BY PURCH. BY OTHERS

DRIVER (): VARIABLE SPEED SPEED RANGE NOT APPLICABLE RPM TO NOT APPLICABLE RPM
 INDUCTION MOTOR SYNCHRONOUS MOTOR STEAM TURBINE ENGINE OTHER _____
 API-541 API-546 API-611 API-612
 OUTBOARD BEARING PROVISION FOR DRY AIR PURGE FOR OUTBOARD BEARING.
 SLIDE BASE FOR DRIVER () SOLE PLATE FOR DRIVER ()
 MOTOR STARTING EQUIPMENT (); DEFINE Local power distribution board
 GEAR (): BASEPLATE FOR GEAR API-613 API-677
 COUPLING(S) (): LOW SPD. HI-SPD. QUILL SHAFT KEY-LESS DRV. KEY'D DRV. OTHER _____
 API 671
 V-BELT DRIVE (): SHEAVES & V-BELTS () STATIC CONDUCTING V-BELTS BANDED V-BELTS
 DRIVE GUARD(S) (): MANUFACTURER'S STD. NON-SPARKING CALIF CODE API-671 APPENDIX C
 OTHER _____

PULSATION SUPPRESSORS WITH INTERNALS (): INITIAL INLET & FINAL DISCHARGE SUPPORTS ()
 INTERSTAGE SUPPORTS ()
 PULSATION SUPPRESSORS WITHOUT INTRNL (): INITIAL INLET & FINAL DISCHARGE SUPPORTS ()
 INTERSTAGE SUPPORTS ()
 SUPPRESSOR(S) TO HAVE MOISTURE REMOVAL SECTION: INITIAL INLET ONLY ALL INLET SUPPRESSORS
 ACOUSTICAL SIMUL. STUDY (): DESIGN APPROACH 1, EMPRICAL PULSATION SUPPRESSION DEVICE SIZING
 DIGITAL ANALOG 2, ACOUSTIC SIMULATION AND PIPING RESTRAINT ANALYSIS
 3, ACOUSTIC SIMULATION AND PIPING RESTRAINT ANALYSIS PLUS MECHANICAL ANALYSIS
 STUDY TO CONSIDER: ALL SPECIFIED LOAD COND., INCL. SINGLE ACT., PLUS
 COMP. OPER. IN PARALLEL ALTERNATE GASES
 WITH EXISTING COMP. AND PIPING SYSTEMS
 STUDY TO BE WITNESSED COMPRESSOR VALVE DYNAMIC RESPONSE
 VENDOR REVIEW OF PURCHASER'S PIPING ARRANGEMENT PULSATION SUPPRESSEN DEVICE LOW CYCLE FATIGUE ANALYSIS
 PIPING SYSTEM FLEXIBILITY

PACKAGED: NO YES () DEFINE BASIC SCOPE OF PACKAGING IN REMARKS SECTION
 SKID SOLEPLT. BASEPLT. BOLTS OR STUDS FOR SOLEPLT. TO FRAME RAILS CHOKE BLOCKS SHIMS
 SUITABLE FOR COLUMN MOUNTING (UNDER SKID AND/OR BASEPLATE)
 LEVELING SCREWS NON-SKID DECKING SUB SOLEPLATES
 DIRECT GROUTED CEMENTED/MORTAR GROUT EPOXY GROUT; MFG/TYPE _____ / _____
 INTERCOOLER(S) () SEPARATOR(S) () AFTERCOOLER(S) ()

INTERCOOLERS:
 INTERSTAGE PIPE () PIPING MATCHMARKED SHOP FITTED MACHINE MTD.
 CONDENSATE SEPARATION & COLLECTION FACILITY SYSTEM PER 3.8.12 OFF MOUNTED
 INLET STRAINER(S) (): INITIAL INLET SIDESTREAM INLET SPOOL PIECE FOR INLET STRAINERS
 MANIFOLD PIPING; DRAINS VENTS RELIEF VALVES AIR/GAS SUPPLY FLANGE FINISH
 RELIEF VALVE(S) (): INITIAL INLET INTERSTAGE FINAL DISCHARGE API-618 FLANGE FINISH
 RUPTURE DISC(S) () THRU STUDS IN PIPING FLANGES
 CRANKCASE RAPID PRESSURE RELIEF DEVICE(S) () FLANGE FINISH PER ANSI 16.5
 SPECIAL PIPING REQUIREMENTS SPECIAL FINISH _____

INITIAL INLET, INTERSTAGE SUCTION PIPING ARR'D FOR: INSULATION (PP) () HEAT TRACING ()
 FOR ATMOSPHERIC INLET AIR COMPR. ONLY: INLET AIR FILTER () INLET FILTER -SILENCER ()
 PREFERRED TYPE OF CYLINDER COOLING (): FORCED THERMOSYPHON _____ STAGE CYL(S)
 STATIC (STAND-PIPE) _____ STAGE CYL(S)
 CYL. COOLING WATER PIPING () MATCH M'RKED
 SINGLE INLET/OUTLET MANIFOLD & VALVES SIGHT GL'S(S)
 INDIVIDUAL INLET/ OUTLET PER CYL. VALVE(S)
 CLOSED SYS. WITH WATER PUMP, COOLER, SURGE TANK, & PIPING
 SHOP RUN ARR'D FOR HEATING JACKET AS WELL AS COOLING

NOTE: MANUFACTURER SHALL RECOMMENDBEST TYPE OF COOLING AFTERFINAL ENGINEERING REVIEW OF ALLOPERATING CONDITIONS

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SCOPE OF BASIC SUPPLY (Con't)

SEPARATE COOLING CONSOLE (): ONE FOR EA. UNIT ONE CMMN TO ALL UNITS DUAL PUMPS (AUX. & MAIN)
 ARRANGED FOR HEATING JACKET WATER AS WELL AS COOLING

ROD PRESS. PACKING COOLING SYSTEM (): SEPARATE CONSOLE COMBINE WITH JKT SYSTEM FILTERS

FRAME LUBE OIL SYSTEM (): AUX. PUMP DUAL FILTERS WITH TRANSFER VALVE SHOP RUN
 CONTINUOUS FLOW IN SENSING LINE TO PRESSURE SWITCHES

SEPARATE LUBE OIL CONSOLE (): EXTENDED TO MOTOR OUTBOARD BEARING SHOP RUN
 API 614 APPLIES NO YES

NOTE: PIPING BETWEEN ALL CONSOLES AND COMPRESSOR UNIT BY PURCHASER

CAPACITY CONTROL (): SEE DATA SHEET PAGE 5 FOR DETAILS INSTRUMENT & CONTROL PANEL
 SEPARATE MACHINE MOUNTED PANEL SEPARATE FREE STANDING PANEL

PNEUMATIC ELECTRIC ELECTRONIC HYDRAULIC
 PROGRAMMABLE CONTROLLER

INSTRUMENT & CONTROL PANEL (): ONE FOR EACH UNIT ONE COMMON TO ALL UNITS
 MACHINE MOUNTED FREE STANDING (OFF UNIT)

BUFFER GAS CONTROL PANEL () = ONE FOR EACH UNIT ONE COMMON TO ALL UNITS
 MACHINE MOUNTED FREE STANDING (OFF UNIT)

SEE INSTRUMENTATION DATA SHEETS FOR DETAILS OF PANEL, ADDITIONAL REMARKS, AND INSTRUMENTATION
 NOTE: ALL TUBING, WIRING, & CONNECTIONS BETWEEN OFF-UNIT FREE STANDING PANELS AND COMPRESSOR UNIT BY PURCHASER

HEATERS (): FRAME LUBE OIL CYL. LUBRICATORS COOLING WATER DRIVER(S) GEAR OIL
 ELECTRIC STEAM

BARRING DEVICE (): MANUAL PNEUMATIC ELECTRIC FLYWHEEL LOCKING DEVICE ()

ROD PRESSURE PACKING COOLING SYSTEM (): SEPARATE CONSOLE FILTERS

SPECIAL CORROSION PROTECTION: NO YES MFR'S STANDARD OTHER _____

HYDRAULIC TENSIONING TOOLS NO YES

MECHANICAL RUN TEST: NO YES MFG'S STANDARD OTHER Approved test procedure
 COMPLETE SHOP RUN TEST OF ALL MACHINE MOUNTED EQUIPMENT, PIPING & APPURT.(S)

PAINTING: MANUFACTURER'S STANDARD SPECIAL Project specification for color

NAMEPLATES: U.S. CUSTOMARY UNITS SI UNITS




SHIPMENT: DOMESTIC EXPORT EXPORT BOXING REQUIRED ()
 STANDARD 6 MONTH STORAGE PREPARATION (), PER SPEC _____
 OUTDOOR STORAGE FOR OVER 12 MONTHS (), PER SPEC _____

INITIAL INSTALLATION AND OPERATING TEMP ALIGNMENT CHECK AT JOBSITE BY VENDOR REPRESENTATIVE

COMPRESSOR MANUFACTURER'S USER'S LIST FOR SIMILAR SERVICE

PERFORMANCE DATA REQUIRED PER 9.3.3: Bkw VS. SUCTION PRESSURE CURVES
 ROD LOAD/GAS LOAD CHARTS
 VALVE FAILURE DATA CHARTED
 SPEED/TORQUE CURVE DATA

Bkw VS. CAPACITY PERFORMANCE CURVES OR TABLES REQUIRED FOR UNLOADING STEPS AND/OR VARIABLE SUCTION/DISCHARGE PRESSURES

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1	<input type="checkbox"/> CYLINDER DATA AT FULL LOAD CONDITION													
2	SERVICE/ITEM NO.	Air												
3	STAGE	1												
4	INLET PRESSURE, (BARA)	8,0												
5	DISCHARGE PRESSURE, (BARA)	21,0												
6	CYLINDERS PER STAGE	2												
7	SINGLE OR DOUBLE ACTING (SA OR DA)	SA												
8	BORE, mm	90												
9	STROKE, mm	140												
10	RPM: RATED / MAX ALLOW	400/690												
11	PISTON SPEED, m/s: RATED / MAX ALLOW	<3,5												
12	CYLINDER LINER, YES/NO	yes												
13	LINER NOMINAL THICKNESS, mm	12,5												
14	PISTON DISPLACEMENT, m³/h	36,9												
15	CYLINDER DESIGN CLEARANCE, % AVERAGE													
16	VOLUMETRIC EFFICIENCY, % AVERAGE	73												
17	VALVES, INLET/DISCHARGE, QTY PER CYL.	1/1						/	/	/	/	/	/	/
18	TYPE OF VALVES	plate												
19	VALVE LIFT, INLET/DISCHARGE, mm	0,8 / 0,8						/	/	/	/	/	/	/
20	VALVE VELOCITY, API 4TH EDITION, m/s	19,9												
21	SUCTION VALVE(S)	16,65												
22	DISCHARGE VALVE(S)	16,65												
23	ROD DIAMETER, (mm)	30												
24	MAX ALLOW. COMBINED ROD LOADING, kN, C *	17,5												
25	MAX ALLOW. COMBINED ROD LOADING, kN, T *	17,5												
26	CALCULATED GAS ROD LOAD, kN, C *	11,06												
27	CALCULATED GAS ROD LOAD, kN, T *	0,36												
28	COMBINED ROD LOAD (GAS + INERTIA), kN, C *	10,83												
29	COMBINED ROD LOAD (GAS + INERTIA), kN, T *	0,20												
30	ROD REV., DEGREES MIN @ X-HD PIN**	195,00												
31	RECIP WT. (PISTON, ROD, X-HD & NUTS), kg**	10,74												
32	MAX ALLOW. WORKING PRESSURE, (BARG)	24												
33	MAX ALLOW. WORKING TEMPERATURE, °C	230												
34	HYDROSTATIC TEST PRESSURE, (BARG)	36												
35	HELIUM TEST PRESSURE, (BARG)	3												
36	INLET FLANGE SIZE/RATING at CYLINDER	150#						/	/	/	/	/	/	/
37	FACING at CYLINDER	RF												
38	DISCHARGE FLANGE SIZE/RATING at CYLINDER	300#						/	/	/	/	/	/	/
39	FACING at CYLINDER	RF												
40	DISCHARGE RELIEF VALVE SETTING DATA AT INLET PRESSURES GIVEN ABOVE:													
41	RECOMMENDED SETTING, (BARG)	~25												
42	GAS ROD LOAD, kN, C *	17,5												
43	GAS ROD LOAD, kN, T *	17,5												
44	COMBINED ROD LOAD, kN, C *	13,13												
45	COMBINED ROD LOAD, kN, T *	12,6												
46	ROD REVERSAL, °MIN @ X-HD PIN**	195												
47	NOTE: CALCULATED AT INLET PRESSURES													
48	GIVEN ABOVE & RECOMMENDED SETTING.													
49	<input type="checkbox"/> SETTLE-OUT GAS PRESSURE	8,5 - 9,5												
50	(DATA REQUIRED FOR STARTING)													
51	* C = COMPRESSION * T = TENSION **X-HD = CROSSHEAD													

52 **NOTES/REMARKS:**

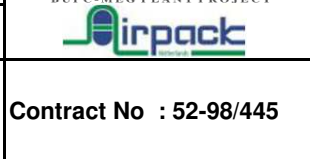
53



**BUSHEHR PETROCHEMICAL COMPANY
MEG PLANT**



**MECHANICAL DATA SHEET FOR EMERGENCY INSTRUMENT AIR
COMPRESSOR (20-C-7080)**



Owner Document Number :

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<input type="checkbox"/> CONSTRUCTION FEATURES						
1						
2	SERVICE ITEM NO.					
3	STAGE					
4	CYLINDER SIZE (BORE DIA), mm					
5	ROD RUN-OUT: NORMAL COLD VERTICAL (per appendix C)					

MATERIALS OF CONSTRUCTION						
8	CYLINDER(S)	DUCTILE CAST IRON				
9	CYLINDER LINER(S)	EN-GJL-250 (SLG)				
10	PISTON(S)	AlCu4PbMgMn T3				
11	PISTON RINGS	PTFE compound				
12	WEAR BANDS	<input type="radio"/> REQUIRED				
13	PISTON ROD(S): MATERIAL/YIELD, N/mm ²	1.2316 (X36CrMo17QT)	>447			
14	THREAD ROOT STRESS @ MACRL * @ X-HD END					
15	PISTON ROD HARDNESS, BASE MATERIAL, Rc	49				
16	PISTON ROD COATING	plasma nitrided to = 1000 HV1				
17	COATING HARDNESS, Rc					
18	VALVE SEATS / SEAT PLATE	SS/SS				
19	VALVE SEAT MIN HARDNESS, Rc					
20	VALVE GUARDS (STOPS)	79RL (Polymer)				
21	VALVE DISCS	79RL (Polymer)				
22	VALVE SPRINGS	79RLX (Polymer)				
23	ROD PRESSURE PACKING RINGS	NBR, 70-ShA				
24	ROD PRESSURE PACKING CASE	Niro (1.4305)				
25	ROD PRESSURE PACKING SPRINGS	-				
26	SEAL / BUFFER PACKING, DISTANCE PIECE	SK703 E (polymer)				
27	SEAL / BUFFER PACKING, INTERMEDIATE	SK703 E (polymer)				
28	WIPER PACKING RINGS	SK703 E (polymer)				
29	MAIN JOURNAL BEARINGS, CRANKSHAFT	-				
30	CONNECTING ROD BEARING, CRANKPIN	-				
31	CONNECTING ROD BUSHING, X-HD END	G-Cu Sn 12				
32	CROSSHEAD (X-HD) PIN BUSHING	-				
33	CROSSHEAD PIN	17Cr3 (1.7016)				
34	CROSSHEAD	EN-GJS-400-15				
35	CROSSHEAD SHOES	EN-GJS-400-15				
36	CYLINDER INDICATOR VALVES (X)					
37	INDICATOR CONNECTIONS ABOVE 5000 PSI					
38	FLUOROCARBON SPRAYED CYLINDER (X)					
39	INSTRUMENTATION IN (X) COLD SIDE					
40	CONTACT W/PROCESS GAS (X) HOT SIDE					
41	* MAXIMUM ALLOWABLE COMBINED ROD LOAD					

USE (X) IN APPROPRIATE COLUMN WHERE APPLICABLE

COMPRESSOR CYLINDER ROD PACKING

FULL FLOATING PACKING

VENTED TO: FLARE @ _____ ATM

SUCTION PRESSURE @ _____ (BARG)

FORCED LUBRICATED NON-LUBE TFE

WATER COOLED, _____ STAGE(S), _____ m³/h REQ'D

OIL COOLED, _____ STAGE(S), _____ m³/h REQ'D

WATER FILTER PROV.FUTURE WATER/OIL COOLING

VENT/BUFFER GAS SEAL PACKING ARR. (Ref: Appndx I FIG I-1)

CONSTANT OR VARIABLE DISPOSAL SYSTEM

BUFFER GAS PRESSURE, _____ (BARG)

SPLASH GUARDS FOR WIPER PACKING

DISTANCE PIECE(S): TYPE A TYPE B TYPE C TYPE D

Ref: Appendix G, Fig. G-3

COVERS: SOLID METAL SCREEN LOUVERED

CYLINDER COMPARTMENT: VENTED TO amb _____ (BARG)

(Outboard Distance Piece) PURGED AT _____ (BARG)

PRESSURIZED TO _____ (BARG)

WITH RELIEF VALVE

FRAME COMPARTMENT: VENTED TO _____ (BARG)

(Inboard Distance Piece) PURGED AT _____ (BARG)

PRESSURIZED TO _____ (BARG)

WITH RELIEF VALVE

DISTANCE PIECE MAWP 0 _____ (BARG)

OWNER:

شركة پتروشیمی بوشهر
BUPC

**BUSHEHR PETROCHEMICAL COMPANY
MEG PLANT**

CONTRACTOR:

Chagalesh-Enerchimi-Steam
Joint Venture
BUPC-MEG PLANT PROJECT

MC:

شرکت مهندسی مکانیک
MEC

**MECHANICAL DATA SHEET FOR EMERGENCY
INSTRUMENT AIR COMPRESSOR (20-C-7080)**

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CONSTRUCTION FEATURES (CONTINUED)

FABRICATED CYLINDER, HEADS, & CONNECTION SKETCHES FOR DESIGN REVIEW BY PURCHASER.

BUFFER GAS PACKING ARR. Ref: Appendix I
 OIL WIPER PACKING PURGE Figures I-1, I-2 & I-3
 INTERMEDIATE PARTITION PURGE
 INERT BUFFER PURGE GAS: N₂ OTHER _____
 VENT, DRAIN, PURGE PIPING BY MFG'R NO YES

COUPLING(S) LOW-SPEED HI-SPEED
 Between Compressor & Driver or Gear Between Driver & Gear

◆ BY MANUFACTURER _____
 ◆ MODEL _____
 ◆ TYPE _____

API-671 APPLIES YES NO

V-BELT DRIVE DRIVEN SHEAVE DRIVE SHEAVE
(Compressor Shaft) (Driver Shaft)

RPM (EXPECTED) 400 _____ 1475 _____
 PITCH DIA. (Inches) _____
 ◆ QTY & GROOVE X-SEC. 4 _____
 POWER TRANSMITT'D 13 _____ 15 _____
Incl. Belt Losses

DRIVER NAMEPLATE HP RATING _____
 CENTER DISTANCE (INCHES) _____
 QTY, TYPE, _____
 X-SEC., & LENGTH BELTS _____
 BELT SERVICE FACTOR (RELATIVE TO DRIVER NAMEPLATE HP RATING) _____

INSPECTION AND SHOP TESTS

	REQ'D	WITN.	OBSER.
*SHOP INSPECTION	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
ACTUAL RUNNING CLEARANCES AND RECORDS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
MFG STANDARD SHOP TESTS	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
CYLINDER HYDROSTATIC TEST	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CYLINDER PNEUMATIC TEST	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CYLINDER HELIUM LEAK TEST	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
CYL. JACKET WATER HYDRO TEST	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*MECHANICAL RUN TEST (4 HR)	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
BAR-OVER TO CHECK ROD RUNOUT	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*LUBE OIL CONSOLE RUN/TEST (4 HR)	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
*COOLING H ₂ O CONSOLE RUN/TEST	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
RADIOGRAPHY BUTT WELDS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/> GAS <input type="radio"/> OIL <input type="radio"/> FAB CYLS.			
MAG PARTICLE/LIQUID PENETRANT OF WELDS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SPECIFY ADDITIONAL REQUIREMENTS (4.2.1.3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
QC OF INACCESSIBLE WELDS (2.14.5.2.4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
SHOP FIT-UP OF PULSATION SUPPL. DEVICES & ALL ASSOCIATED GAS PIPING	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*CLEANLINESS OF EQUIP., PIPING, & APPURTENANCES	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
*HARDNESS OF PARTS, WELDS & HEAT AFFECTED ZONES	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*NOTIFICATION TO PURCHASER OF ANY REPAIRS TO MAJOR COMPONENTS	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
SOUND LEVEL TEST	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
DISMANTLING INSPECTION	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
*SPECIFIC REQUIREMENTS TO BE DEFINED, FOR EXAMPLE, DISMANTLING, AUX EQUIPMENT OPERATIONAL & RUN TESTS.			
APPENDIX K COMPLIANCE: <input type="radio"/> VENDOR <input type="radio"/> PURCHASER			
NOTE: - INSPECTION AND TESTING SHALL BE AS PER SCOPE OF APPROVED ITP			

CYLINDER LUBRICATION

NON-LUBE _____ STAGE(S)/SERVICE
 LUBRICATED _____ STAGE(S)/SERVICE

TYPE OF LUBE OIL: SYNTHETIC _____
 HYDROCARBON _____

LUBRICATOR COMP. CRANKSHAFT, DIRECT
 DRIVE BY: CHAIN, FROM CRANKSHAFT
 ELECTRIC MOTOR
 OTHER _____

LUBRICATOR MFR _____
 MODEL _____

TYPE LUBRICATOR: SINGLE PLUNGER PER POINT
 DIVIDER BLOCKS _____

COMPARTMT, TOTAL QTY. _____
 PLUNGERS (PUMPS), TOTAL QTY. _____
 SPARE PLUNGERS, QTY. _____
 SPARE COMPARTMT W/OUT PLUNGERS _____
 HEATERS: ELECTRIC W/THERM.(S) STEAM

ESTIMATED WEIGHTS AND NOMINAL DIMENSIONS

TOTAL COMPR. WT, LESS DRIVER & GEAR _____ kg
 ◆ WT, OF COMPLETE UNIT, (LESS CONSOLES) 3200 kg
 ◆ MAXIMUM ERECTION WEIGHT _____ kg
 ◆ MAXIMUM MAINTENANCE WEIGHT 211 kg
 ◆ DRIVER WEIGHT/GEAR WEIGHT / 211 kg
 ◆ LUBE OIL/COOLING H₂O CONS. / _____ kg
 FREE STANDING PANEL _____

SPACE REQUIREMENTS-mm: LENGTH WIDTH HEIGHT

COMPLETE UNIT _____
 LUBE OIL CONSOLE _____
 COOLING H₂O CONSOLE _____
 FREE STANDING PANEL _____
 PISTON ROD REMOVAL DIST. _____

OTHER EQUIPMENT SHIPPED LOOSE (DEFINE)

◆ PULSATION SUPP., WEIGHT _____ 70 kg
 ◆ PIPING _____ 50 kg
 ◆ INTERSTAGE EQUIPMENT _____ kg

OWNER:



شرکت پتروشیمی بوئسهر

**BUSHEHR PETROCHEMICAL COMPANY
MEG PLANT**

CONTRACTOR:



Chagalesh-Enerchimi-Steam
Joint Venture
BUPC-MEG PLANT PROJECT



MC:



**MECHANICAL DATA SHEET FOR EMERGENCY
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UTILITY CONSUMPTION

ELECTRIC MOTORS

	NAMEPLATE HP (kW)	LOCKED ROTOR AMPS	FULL LOAD AMPS
◆ MAIN DRIVER	15	239	28,5
◇ MAIN LUBE OIL PUMP			
◇ AUX LUBE OIL PUMP			
◇ MAIN COOLING WATER PUMP			
◇ AUX COOLING WATER PUMP			
◇ ROD PACKING COOLING PUMP			
◇ CYLINDER LUBRICATOR			

ELECTRIC HEATERS

	WATTS	VOLTS	HERTZ
◆ FRAME OIL HEATER(S)	75	230	50
◇ COOLING WATER HEATER(S)			
◇ CYL. LUBRICATOR HEATER(S)			
◇ MAIN DRIVER SPACE HEATER(S)			






STEAM-NOT APPLICABLE

	FLOW	PRESSURE	TEMPERATURE	BACK PRESSURE
◇ MAIN DRIVER	kg/h @	(BARG) (kPa)	°CTT TO	(BARG) (kPa)
◇ FRAME OIL HEATER(S)	kg/h @	(BARG) (kPa)	°CTT TO	(BARG) (kPa)
◇ CYL. LUB. HEATER(S)	kg/h @	(BARG) (kPa)	°CTT TO	(BARG) (kPa)
	kg/h @	(BARG) (kPa)	°CTT TO	(BARG) (kPa)
	kg/h @	(BARG) (kPa)	°CTT TO	(BARG) (kPa)

COOLING WATER REQUIREMENTS-(NOTE 9)

	FLOW m³/h	INLET TEMP °C	OUTLET TEMP °C	INLET PRESS (BARG)	OUTLET PRESS (BARG)	MAX PRESS (BARG)
□ CYLINDER JACKETS						
◆ INTERCOOLER(S)	1,7	35	45	4,5	3,5	6
◇ AFTERCOOLER						
◇ FRAME LUBE OIL COOLER						
◇ ROD PRESSURE PACKING*						
◆ CYLINDER COOLANT CONSOLE	0,90	35	45	4,5	3,5	6
◆ TOTAL QUANTITY, m³/h	2,6					

49
50
51

OWNER: 	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT	CONTRACTOR:  Chagalesh-Enerchimi-Steam Joint Venture BUPC-MEG PLANT PROJECT 																																																																																																											
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1	<input type="checkbox"/> FRAME LUBE OIL SYSTEM																																																																																																												
2	<input checked="" type="checkbox"/> BASIC LUBE OIL SYSTEM FOR FRAME:																																																																																																												
3	<input type="checkbox"/> REF: TYPE MAIN BEARINGS: <input type="checkbox"/> SPLASH (TBA) <input type="checkbox"/> PRESSURE (FORCED) <input checked="" type="checkbox"/> HEATERS REQUIRED:																																																																																																												
4	<input type="checkbox"/> MAIN OIL PUMP DRIVEN BY: <input type="checkbox"/> COMP. CRANKSHAFT <input checked="" type="checkbox"/> ELEC. W/THERMOSTAT(S) <input type="checkbox"/> STEAM																																																																																																												
5	<input checked="" type="checkbox"/> PRESSURE SYSTEM: <input type="checkbox"/> PSV FOR MAIN PUMP EXTERNAL TO CRANKCASE <input type="checkbox"/> ELEC. MOTOR <input type="checkbox"/> OTHER _____																																																																																																												
6	<input type="checkbox"/> AUX OIL PUMP DRIVEN BY: <input type="checkbox"/> ELEC. MOTOR <input type="checkbox"/> OTHER _____																																																																																																												
7	<input type="checkbox"/> HAND OPERATED PRE-LUBE PUMP FOR STARTING <input checked="" type="checkbox"/> OPERATIONAL TEST & 4 HOUR MECH RUN TEST																																																																																																												
8	<input type="checkbox"/> API-614 LUBE SYSTEM: <input type="checkbox"/> NO <input type="checkbox"/> YES <input type="checkbox"/> CHECK VALVE ON MAIN PUMP																																																																																																												
9	<input type="checkbox"/> CONTINUOUS FLOW THROUGH OIL (7.7.2.5)																																																																																																												
10	<input type="checkbox"/> SEP. CONSOLE FOR PRESS. LUBE SYS: <input type="checkbox"/> ONE CONSOLE FOR EA. COMP. <input type="checkbox"/> ONE CONSOLE FOR _____ COMPRESSORS																																																																																																												
11	<input type="checkbox"/> CONSOLE TO BE OF DECK PLATE TYPE CONSTRUCTION SUITABLE FOR MULTI-POINT SUPPORT AND GROUTING WITH GROUT & VENT HOLES.																																																																																																												
12																																																																																																													
13	<input type="checkbox"/> ELECTRICAL CLASSIFICATION : ZONE 2 , GROUP IIB CLASS _____ T3 <input type="checkbox"/> NON-HAZARDOUS																																																																																																												
14	<input checked="" type="checkbox"/> BASIC SYS. REQ'MTS (NORM. OIL FLOWS & VOLUMES)																																																																																																												
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38	<input type="checkbox"/> REMOVABLE BUNDLE <input type="checkbox"/> WATER COOLED <input type="checkbox"/> AIR COOLED W/AUTO TEMP CONTROL																																																																																																												
39	<input type="checkbox"/> W/BYPASS & TEMP CONTROL VALVE: <input type="checkbox"/> MANUAL <input type="checkbox"/> AUTO <input type="checkbox"/> SEE SEPARATE HEAT EXCHANGER DATA SHEET																																																																																																												
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43	<input type="checkbox"/> MICRON RATING, _____ <input type="checkbox"/> CARTRIDGE MATERIAL, _____ <input type="checkbox"/> CARTRIDGE P/N _____																																																																																																												
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OWNER:  **BUSHEHR PETROCHEMICAL COMPANY
MEG PLANT** **CONTRACTOR:**  **Chagalesh-Enerchimi-Steam
Joint Venture
BUPC-MEG PLANT PROJECT**

MC:   **MECHANICAL DATA SHEET FOR EMERGENCY INSTRUMENT
AIR COMPRESSOR (20-C-7080)** 

Project	Area	Phase	Unit	Dis.	Doc.	Seq.	Contract No : 52-98/445	
Owner Document Number :	BU	20	VD	303	ME	DSH	75	rev 03 Page: 14 OF 20

COOLING WATER SYSTEM

BASIC COOLING SYS. FOR: COMPRESSOR CYL.(S) INTERCOOLER(S) AFTERCOOLER OIL COOLER(S)
 HEATERS REQ'D FOR PRE-HEATING: ELEC./W/ THERMOSTAT(S) STEAM

PRESSURE FORCED CIRCULATING SYS.: OPEN, PIPING BY: PURCH MFR CLOSED, PIPING BY MFR.
 MAIN WATER PUMP DRIVEN BY: ELEC. MOTOR STEAM TURBINE OTHER _____
 AUX WATER PUMP DRIVEN BY: ELEC. MOTOR STEAM TURBINE OTHER _____

SEP. CONSOLE FOR COOLING WATER SYS.: ONE CONSOLE FOR EA. COMP. ONE CONSOLE FOR _____ COMP'RS
 CONSOLE TO BE OF DECK PLATE TYPE CONSTRUCTION SUITABLE FOR MULTI-POINT SUPPORT AND GROUTING WITH GROUT & VENT HOLES.

ELECTRICAL CLASSIFICATION **ZONE 2 IIB T3** NON-HAZARDOUS

BASIC SYS. REQ'MTS (NORM. COOLING WATER FLOW DATA) COOL'G WATER TO BE _____ % ETHYL'NE GLYC'L **SITE**

	FORCED COOL'G	THERMO SYPHON	STAND PIPE	FLOW m³/h	PRESSURE (BARG)	INLET TEMP °C	OUTLET TEMP °C	FLOW INDTR
CYLINDER(S), _____ STAGE	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	0,9	4,5	35	45	<input checked="" type="checkbox"/>
CYLINDER(S), _____ STAGE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
CYLINDER(S), _____ STAGE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
CYLINDER(S), _____ STAGE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
CYLINDER(S), _____ STAGE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
PISTON ROD PACK'G TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
INTERCOOLER(S) TOTAL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
AFTERCOOLER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
OIL COOLER(S)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
JACKET COOLER	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	_____	_____	_____	_____	<input type="checkbox"/>
TOTAL FLOW								

SYS. PRESSURES: DESIGN, _____ (BARG) HYDROTEST, _____ (BARG) RELIEF VALVE(S), SETTING _____ PSIG
 WATER RESERVOIR: SIZE, _____ mm DIA X _____ mm HT. CAPACITY _____ m @ Normal Operating Level

PUMPS: (Centrifugal Only) RESERVOIR MATERI/ c.s INTERNAL COATING, TYPE _____
 LEVEL GAUGE LEVEL SWITCH DRAIN VALVE INSPECTION & CLEAN-OUT OPENINGS
 RAT'D FL'W _____ m³/h PRESS. (BARG) _____ REQ'D _____ kW DRIVER _____ kW SPEED _____ RPM COUPLING REQ'D _____ MECH. SEAL REQ'D _____
MAIN _____ _____ _____
AUXILIARY _____ _____ _____
 PUMP CASING MATERIAL (Ref 6.14.2.1.5): **MAIN PUMP** _____ **AUX PUMP** _____
 GUARD(S) REQ'D FOR COUP'G(S) MAIN PUMP AUX PUMP GUARD TYPE OR CODE _____
 AUX.PUMP CONTROL: MANUAL AUTO ON-OFF-AUTO SEL. SWITCH: BY PURCH. BY MANUFACTURER
 WIRING TO TERMINAL BOX: BY PURCH. BY MANUFACTURER

COOLING WATER HEAT EXCH.: SHELL & TUBE SINGLE DUAL W/TRANSFER VALVE TEMA C TEMA R(API-660)
 AIR COOLED EXCHANGER W/AUTO TEMP CONTROL (API-661 Data Sheets Attached)
 W/BYPASS & TEM. CONTROL VALVE MANUAL AUTO LOUVERS FOR AIR EXCH.
 SEE SEPARATE COOLER DATA SHEET FOR DETAILS; SPECIFY % GLYCOL ON BOTH SIDES OF SHELL & TUBE

SYS. COMPONENT SUPP.	MANUFACTURER	MODEL	MANUFACTURER	MODEL
<input checked="" type="checkbox"/> MAIN PUMP	_____	_____	<input checked="" type="checkbox"/> TEMP CONTROL VALVE(S)	_____
<input checked="" type="checkbox"/> AUXILIARY PUMP	_____	_____	<input checked="" type="checkbox"/> TRANSFER VALVE(S)	_____
<input checked="" type="checkbox"/> MECHANICAL SEALS	_____	_____	<input checked="" type="checkbox"/> PUMP COUPLING(S)	_____
<input checked="" type="checkbox"/> ELECTRIC MOTORS	_____	_____	_____	_____
<input checked="" type="checkbox"/> STEAM TURBINES	_____	_____	_____	_____
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

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Owner Document Number : BU 20 VD 303 ME DSH 75 **rev 03** **Page: 16 OF 20**

1 **PULSATION SUPPRESSION DEVICES FOR RECIPROCATING COMPRESSORS (CONT'D)** SERVICE _____
 2 THESE SHEETS TO BE FILLED OUT FOR EACH SERVICE AND/OR STAGE OF COMPRESSION STAGE NO. _____



3 CONSTRUCTION REQUIREMENTS & DATA	4 INLET SUPPRESSOR		5 DISCHARGE SUPPRESSOR	
	6 ● SUPPRESSOR TAG NUMBER	Carbon Steel		Carbon Steel
7 ● BASIC MATERIAL REQUIRED, CS, SS, ETC.	SA106 gr B	SA234	SA106 gr B	SA234
8 ◆ ACTUAL MATERIAL DESIGNATION	SHELL & HEADS		SHELL & HEADS	
9 ○ SPECIAL HARDNESS LIMITATIONS, Rc	WELDS		WELDS	
10 ○ CORROSION ALLOWANCE., mm	3	mm	3	mm
11 ◆ WALL THICKNESS, mm	8,18	mm	8,18	mm
12 □ NOM. SHELL DIA X OVERALL LGTH. (mm/m ²)	8" X 750	mm/m ²	8" X 750	mm/m ²
13 □ PIPE OR ROLLED PLATE CONSTRUCTION	PIPE	ROLLED PLATE	PIPE	ROLLED PLATE
14 ◆ ACT. MAX ALLOW. WORKING PRESS. AND TEMPERATURE	(BAR)	@	°C	(BAR)
15 ● MINIMUM DESIGN METAL TEMP (2.14.8)	°C		°C	
16 ○ INLET SUPPRESS. TO BE SAME MAWP AS DISCH'RG SUPPRESS.	YES	NO		
17 ◆ MAX EXPECTED PRESSURE DROP (Δ P, %) LINE PRESS	Δ P 0,0926	(BAR) /	54,84	%
18 ◆ WEIGHT (EACH)	65	kg	65	kg
19 ○ INSUL CLIP	NA		NA	
20 ◆ EXPECTED P-P PULSE @ LINE SIDE/CYL FLG, % LINE PRESS BASED ON FINAL SUPPRESSOR DESIGN	%	%	%	%
21 □ SUPPORTS, TYPE/QUANTITY	YES, saddle 2		YES, saddle 2	

CONNECTION REQUIREMENTS & DATA

22 ● LINE SIDE FLANGE. SIZE/RATING/FACING/TYPE	2" 150# RF WNF	2" 300# RF WNF
23 ● COMP CYL FLANGE(S), QTY/SIZE/RATING/FACING/TYPE	2" 150# RF WNF	2" 300# RF WNF
24 ○ FLANGE FINISH, ○ PER 3.9.3.15 ○ SPECIAL (SPECIFY)		
25 >3.2 <6.4 ● PER ANSI 16.5		
26 ● INSPECTION OPENINGS REQUIRED	YES NO BLINDED	YES NO BLINDED
27 ● SPEC. QTY. SIZE, /FLG TYPE & RATING	NA	NA
28 ◆ * QTY. SIZE, /FLG TYPE & RATING		
29 ● VENT CONNECTIONS REQUIRED	YES NO	YES NO
30 ○ SPEC. QTY. SIZE, /FLG TYPE & RATING	NA	NA
31 ◆ * QTY. SIZE, /FLG TYPE & RATING		
32 ● DRAIN CONNECTIONS REQUIRED	YES NO	YES NO
33 ○ SPEC. QTY. SIZE, /FLG TYPE & RATING	1/2"NPT	1/2"NPT
34 ◆ * QTY. SIZE, /FLG TYPE & RATING		
35 ● PRESSURE CONNECTIONS REQUIRED	YES NO	YES NO
36 ○ SPEC. QTY. SIZE, /FLG TYPE & RATING	NA	BA
37 ◆ * QTY. SIZE, /FLG TYPE & RATING		
38 ● TEMPERATURE CONNECTIONS REQUIRED	YES NO	YES NO
39 ○ SPEC. QTY. SIZE, /FLG TYPE & RATING	NA	NA
40 ○ CYL NOZZLE ○ MAIN BODY		
41 ◆ * QTY. SIZE, /FLG TYPE & RATING		

OTHER DATA AND NOTES

47 ◆ COMPRESSOR MFG'S SUPP. OUTLINE OR DRAWING NO.	
48 ◆ SUPP. MFG'S OUTLINE OR DRAWING NO.	
49	
50	
51	
52	

OWNER: 	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT	CONTRACTOR: 
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MC: 	MECHANICAL DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR (20-C-7080)	
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INSTRUMENTATION

PURCHASER TO FILL IN ()) **AFTER COMMODITY TO INDICATE:** **BY COMP. MFR.** **BY PURCH.** **BY OTHERS**

INSTRUMENT & CONTROL PANEL ():

ONE FOR EA. UNIT ONE COMMON TO ALL UNITS

MACHINE M'T'ED FREE STANDING (OFF UNIT) / LOCAL REMOTE INDOORS

PNEUMATIC ELEC. ELECTRONIC HYDRAULIC PROGRAMMABLE CONTR'L'R

NEMA 7, CLASS _____, GROUP IIB _____, DIVISION _____ INTRINSICALLY SAFE (Exi)

I/S BARRIERS ()

NEMA 4, WATERTIGHT & DUSTTIGHT PURGED TO NFPA 496 TYPE X Y Z

OTHER NEMA IP42 _____ LOW PURGE PRESS. ALARM SHUTDOWN

VIB. ISOLATORS STRIP HEATERS PURGE CONN. EXTRA CUTOUTS

ANNUNCIATOR W/FIRST-OUT INDICATION LOCATED ON CONTROL PANEL

PURCHASER'S CONN. BROUGHT OUT TO TERMINAL BOX BY VENDOR

IP PROTECTION : IP 65 FOR LOCAL PANEL , IP 42 FOR CONTROL INDOOR PANEL.

BUFFER GAS CONTROL PANE ONE FOR EA. UNIT ONE COMMON TO ALL UNITS

INSTRUMENTATION SUITABLE FOR: INDOORS OUTDOORS IP PROTECTION: IP-65 OTHER _____

PREFERRED INSTRUMENT SUPPLIERS, (TO BE COMPLETED BY PURCHASER), OTHERWISE MFR'S STANDARD APPLIES

PRESSURE GAUGES	MFR	as per instrument data sheets	SIZE & TYPE	as per instrument data sheets	MTL
TEMPERATURE GAUGES	MFR	as per instrument data sheets	SIZE & TYPE	as per instrument data sheets	MTL
LIQUID LEVEL GAUGES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
DIFF. PRESSURE GAUGES	MFR	as per instrument data sheets	SIZE & TYPE	as per instrument data sheets	MTL
PRESS. TRANSMITTERS	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
LIQUID LEV. TRANSMITTER	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
PRESSURE SWITCHES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
TEMPERATURE SWITCHES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
LIQUID LEVEL SWITCHES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
DIFF. PRESSURE SWITCHES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
CONTROL VALVES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
PRESSURE SAFETY VALVES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
SIGHT FLOW INDICATORS	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
VIBRATION MONITORS & EQUIP.	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
THERMOCOUPLES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
RTD'S	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
SOLENOID VALVES	MFR	as per instrument data sheets	TYPE	as per instrument data sheets	MTL
ANNUNCIATOR	MFR	_____	MODEL & (QTY SPARE POINTS)	_____	()
PROGRAMMABLE CONTROLLER	MFR	_____	TYPE	_____	MTL
_____	MFR	_____	TYPE	_____	MTL
_____	MFR	_____	TYPE	_____	MTL

PRESSURE GAUGE REQUIREMENTS LIQUID FILLED PRESSURE GAUGES: YES NO

	LOCALLY MOUNTED	PANEL MOUNTED		LOCALLY MOUNTED	PANEL MOUNTED
FUNCTION	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	PROCESS GAS: INLET PRESS.	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)
LUBE OIL MAIN PUMP DISCHAR.	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	@ EA. STAGE	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)
LUBE OIL AUX. PUMP DISCHARG.	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)			
LUBE OIL PRESS. AT FRAME HEADER ((<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	DISCH. PRESS. @ EA. STAGE	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)
LUBE OIL FILTER Δ P	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)			
COOLING H ₂ O INLET HEADER	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)			
_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)			
_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)			

REMARKS: _____

OWNER: 	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT	CONTRACTOR:  Chagalesh-Enerchimi-Steam Joint Venture BUPC MEG PLANT PROJECT
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MC: 	MECHANICAL DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR (20-C-7080)	
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INSTRUMENTATION (CONT'D)											
FUNCTION	LOCALLY MOUNTED	PANEL MOUNTED	GAUGE W/ CAPIL'RY	THERMO CPL SYS	RTD SYS	I/S SYS					
LUBE OIL <input type="radio"/> INLET TO <input type="radio"/> OUT OF FRAME	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
LUBE OIL <input type="radio"/> INLET TO <input type="radio"/> OUT OF COOLER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MAIN JRNL BEARINGS (THERMOCOUPLES OR RTD'S ONLY)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
MOTOR BEARING(S) (THERMOCOUPLES OR RTD'S ONLY)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
COOLING WATER HEADER: <input checked="" type="radio"/> INLET <input checked="" type="radio"/> OUTLET	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
CYL. COOLING WATER: <input type="radio"/> INLET <input checked="" type="radio"/> OUTLET <input checked="" type="radio"/> EA. CYL	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
PROCESS GAS: <input checked="" type="radio"/> INLET <input checked="" type="radio"/> DISCH. <input type="radio"/> EACH CYL	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
PROCESS GAS: <input type="radio"/> INLET <input type="radio"/> GAS <input type="radio"/> WATER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
INTERCOOLER(S) <input type="radio"/> INLET <input type="radio"/> GAS <input type="radio"/> WATER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="radio"/> INLET <input type="radio"/> GAS <input type="radio"/> WATER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
AFTERCOOLER: <input type="radio"/> INLET <input type="radio"/> GAS <input type="radio"/> WATER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<input type="radio"/> INLET <input type="radio"/> GAS <input type="radio"/> WATER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
COOLING WATER <input type="radio"/> INLET <input type="radio"/> OUTLET/COOLED PKG CASE(S)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
PRESS. PKG CASE, CYL PIST ROD (THRM'CPLS OR RTD'S ONLY)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
COMPRESSOR VALVES <input type="radio"/> SUCT. <input type="radio"/> DISCH. TC'S OR RTD'S ONLY	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					

ALARM & SHUTDOWN SWITCH REQ'MTS	NOTE: ALARM & SHUTDOWN SWITCHES SHALL BE INDIVIDUALLY SEPARATE
--	--

		ANNUNCIATION POINTS						
		ALARM		SHUTDOWN		TOTAL NO. OF POINTS		
		IN PNL BY MFR	IN CTL ROOM PANEL OTH'RS	IN PNL BY MFR	IN CTL ROOM PANEL OTH'RS			
	FUNCTION	ALARM	SHUT DOWN					
27	LOW LUBE OIL PRESS. @ BEARING HEADER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1
28	HIGH LUBE OIL Δ P ACROSS FILTER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
29	LOW LUBE OIL LEVEL, FRAME	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
30	AUX LUBE OIL PUMP, FAIL TO START	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
31	CYL LUBE SYSTEM PROTECTION	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
32	COMPR. VIBRATION, SHUTDOWN ONLY		(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
33	VIBRATION, W/ CONTINUOUS MONITORING	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
34	ROD DROP DETECTOR, CONTACT TYPE(1/CYL)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
35	ROD DROP PROXIMITY PROBE (1/CYL)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
36	OIL TEMP OUT OF FRAME	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
37	HIGH GAS DISCH. TEMP EACH CYLINDER	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
38	HIGH JACKET WATER TEMP., EA. CYL	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
39	LOW SUCTION PRESS., FIRST STG INLET	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
40	HI DISCH. PRESS. <input type="radio"/> FINAL <input checked="" type="radio"/> EA STG	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
41	HI CYL. GAS Δ P, EACH STAGE	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
42	HI LIQ. LEV., SEPARATOR	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
43	LOW PURGE GAS PRESS, DISTANCE PIECE(S)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
44	HI X-HD PIN TEMP	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
45	PRESS PKG CASE (PISTON ROD TEMP)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
46	LOW PRESSURE COOLING WATER INLET	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
47				TOTAL NUMBER OF ANNUNCIATION POINTS				

48 SWITCH CONTACT OPERATION NOTE: EACH SWITCH SHALL BE MINIMUM SPDT ARRANGEMENT

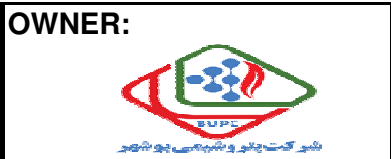
49 ALARM CONTACTS SHALL: OPEN (DE-ENER) TO SOUND ALARM & BE ENERGIZED WHEN COMPR. IS IN OPERATION(NORMALLY CLOSE)

50 CLOSE (ENERGIZE) TO SOUND ALARM & BE DE-ENERGIZED WHEN COMPR. IS IN OPERATION(NORMALLY OPEN)

51 SHUTDOWN CONTACTS SHALL: OPEN (DE-ENERGIZED) TO SHUTDOWN & BE ENERGIZE WHEN COMPR. IS IN OPERATION(NORMALLY CLOSE)

52 CLOSE (ENERGIZE) TO SHUTDOWN & BE DE-ENERGIZE WHEN COMPR. IS IN OPERATION(NORMALLY OPEN)

53 REF: 7.6.6.2 FOR MINIMUM RECOMMENDED PROTECTION REQUIREMENTS



**BUSHEHR PETROCHEMICAL COMPANY
MEG PLANT**



**MECHANICAL DATA SHEET FOR EMERGENCY
INSTRUMENT AIR COMPRESSOR (20-C-7080)**

Contract No : 52-98/445

Owner Document Number :

Project	Area	Phase	Unit	Dis.	Doc.	Seq.
BU	20	VD	303	ME	DSH	75

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INSTRUMENTATION (CONT'D)

<input checked="" type="checkbox"/> MISCELLANEOUS INSTRUMENTATION	<input type="checkbox"/> INTERCLR(S)	<input type="checkbox"/> AFTERCLR	<input type="checkbox"/> OIL CLR	<input type="checkbox"/> H₂O CLR
SIGHT FLOW IND. (COOLING H ₂ O ONLY) (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	<input type="checkbox"/> CYL JACKET WATER	<input type="checkbox"/> ROD PRESS. PKG CASES		
PNEUMATIC PRESSURE TRANSMITTERS (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
PRESSURE TRANSMITTERS (ELEC. OUTP.) (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
PNEUMATIC LEVEL TRANSMITTERS (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
ALARM HORN & ACK'N/LMT TEST BUTTON (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
CONDUIT & WIRING W/JUNCT. BOXES (CON- <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
TEST VALVES (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
DRAIN VALVES (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	Coolers			
GAUGE GLASS(ES) (<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	Recirculating Oil,			
TACHOMETER (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____ SPEED RANGE _____ TO _____ RPM			
CRANKSHAFT KEY PHASER AND TRANSDUCER (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
LEVEL GAUGE ON SUCTION SUPPRESSOR (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			
OIL LEVEL SWITCH ON CRAKCASE (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>) FOR:	_____			




<input type="checkbox"/> SEPARATE LUBE OIL CONSOLE INSTRUMENTATION:	PURCH. TO LIST REQ'MTS IN ADDITION TO ANY ABOVE REQ'MTS
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____

<input type="checkbox"/> SEPARATE COOLING WATER CONSOLE INSTRUMENT:	PURCH. TO LIST REQ'MTS IN ADDITION TO ANY ABOVE REQ'MTS
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____
_____ (<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____

<input checked="" type="checkbox"/> RELIEF VALVES	LOCATION	BY	MANUFACTURER	TYPE	<input type="checkbox"/> SIZE	<input type="checkbox"/> SETTING
33	EACH STAGE DISCHARGE	(<input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	TBC	_____	<input type="checkbox"/> 1" / 1 1/2"	<input type="checkbox"/> 26 barg
34	COOLING WATER OUTLET	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
35	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
36	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
37	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
38	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
39	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
40	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
41	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____
42	_____	(<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>)	_____	_____	_____	_____

NOTES:
#1 SEE MOTOR DATA SHEET FOR ADDITIONAL MOTOR INSTRUMENTATION REQUIREMENTS

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OWNER: 	BUSHEHR PETROCHEMICAL COMPANY MEG PLANT						CONTRACTOR: 		
MC: 	MECHANICAL DATA SHEET FOR EMERGENCY INSTRUMENT AIR COMPRESSOR (20-C-7080)						Contract No : 52-98/445		
Owner Document Number :	BU	20	VD	303	ME	DSH	75	rev 03	Page: 20 OF 20

GENERAL NOTES

- (1) COMPRESSOR STARTS BY MEANS OF A LOW-PRESSURE SWITCH ON DELIVERY PIPE AND STOPS WHEN HIGH PRESSURE IS REACHED . THE REQUIRED LOW/HIGH PRESSURE TRANSMITTER (PT-71107) TO MAINTAIN THE REQUIRED DELIVERY PRESSURE. THE OPERATION IS INTERMITTENT.
- (2) VENDOR SHALL PROVIDE AFTER-COOLER .AFTERCOOLER OUTLET GAS TEMPERATURE TO BE 42 DEG C, AS CONFIRMED BY COOLER CALCULATION.
- (3) DELETED
- (4) DELETED
- (5) FOR UTILITIES SUPPLY CONDITION AND CLIMATE CONDITION REFER TO "AMBIENT ,SITE CONDITION & UTILITY DATA" , (BU-20-B-000-PR-SPC-111)
- (6) MINIMUM METAL TEMPRATURE = 0 DEG C
- (7) DELETED
- (8) DEW POINT AT INLET -170 DEG C, DEW POINT AT ATM. -194.6 DEG C
- 9) TYPE OF COMPRESSOR : VERTICAL
- (10) VENDOR ALSO SHALL PROVIDE BELOW ITEMS:
SPARE PARTS
TEMPORARY STRAINER
- (11)GENERAL NOTES :
- A. PROVIDE CONTACTS OPEN FOR CUMULATIVE ALARM AND CUMULATIVE SHUTDOWN .
- B. PROVIDE SAFETY VALVE ON COMPRESSOR DISCHARGE ,WITH LOCKED OPEN ISOLATING VALVE .
- C. PROVIDE SEPARATE INSTRUMENT FOR ALARM AND SHUTDOWN.
- D. THE VENDOR TOGETHER WITH THE INSTRUMENT DOCUMENTATION MUST SUPPLY. A COMPLETE LIST OF ALL THE ALARMS AND INTERLOCKS WITH ALL SET VALUES.
- E. PROVIDE A VISUAL FLOWMETER ON COOLING WATER RETURN LINE.
- F. NOISE PRESSURE LEVEL AT 1 M. SHALL BE LESS THAN 80 DB(A)
- (12)VENDOR SHOULD FOLLOW DOC NO.: BU-20-D-000-IN-SPC-676 FOR SPECIFICATION OF APPLICABLE INSTRUMENT.
- (13)PLC PACKAGE SYSTEM (UCP) WILL BE INSTALLED IN CONTROL/AUXILIARY ROOM.
LOCAL PANEL INCLUDING START/STOP PUSH BUTTONS ,LAMPS AND INDICATORS, TRIP RESET PUSH BUTTON ,AMMETER AND ETC (AS PER PROJECT REQUIREMENTS) WILL BE INSTALLED IN FIELD.
INSTRUMENT WILL BE INSTALLED ON MACHINE OR FREE STANDING.
- (14) DELETED
- (15) THE CAPACITY TO BE SUPPLIED CONSIDERING NO NEGATIVE TOLERANCE. THE REQUIRED CAPACITY (NNT) IS 1.1*50=55 KG/H.
- (16) COMPRESSOR TYPE IS RECIPROCATING