

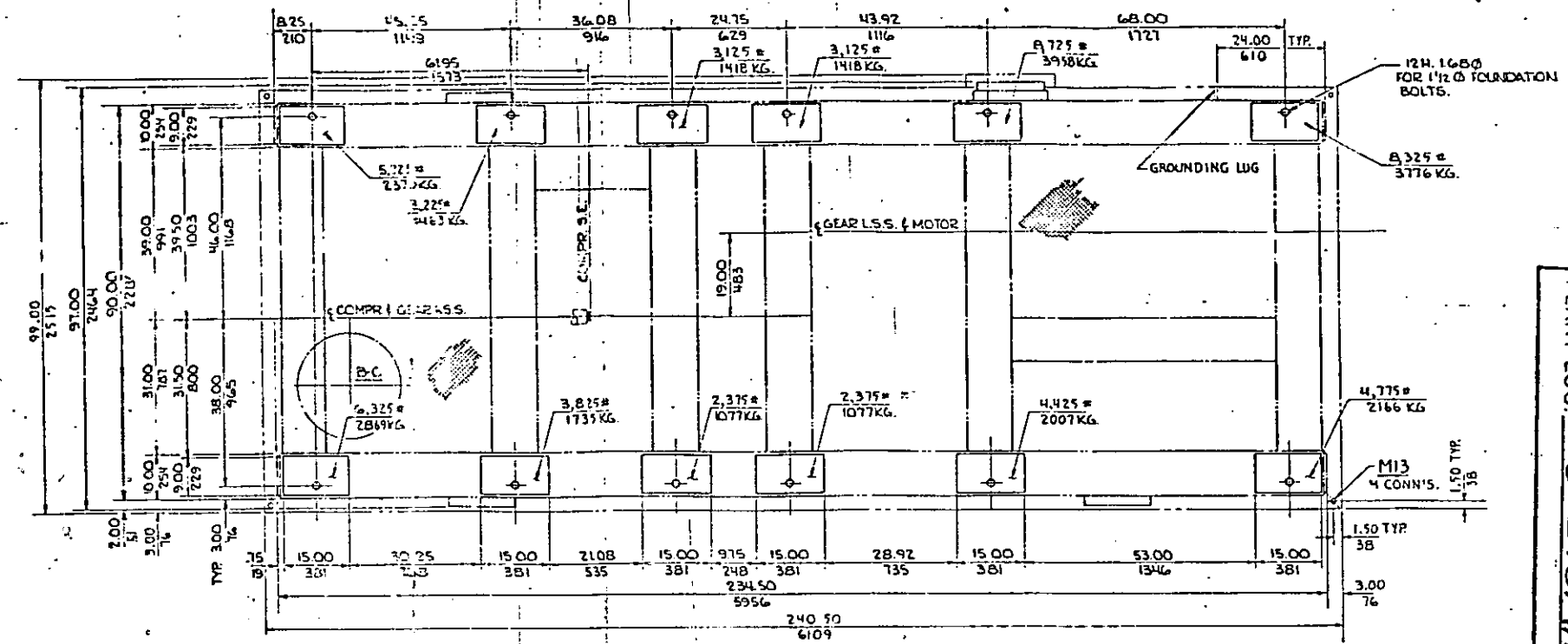
CHANGE DESCRIPTION	APPROVAL
ADDED DECKPLATE, 2" TROUGH, GROUNDING (C)	32 THRU 37
ADDED CONN. "M-C" "M13" & "T2-C"	B417
REVISED PAD LOADINGS AS FOLLOWS: 5225 WAS 5100 3125 WAS 3100 8725 WAS 8600 8325 WAS 8200 6325 WAS 6200 3825 WAS 3700 2315 WAS 2250 4425 WAS 4300 4775 WAS 4650	F2 THRU F6
SEE SHEET NO. 1 J. HOOD 11-1-79	H2 THRU H6
ADDED CONN'S C9-C-1 C9-C-3 & C11-C-1, RED DIM 10990 FOR MOTOR ROTOR BEARING, PICTORIAL REVISED JACKING LUGS QUANTITIES	C-5 C-8 C-1 C-2 C-3

BASF WYANDOTTE CORP.

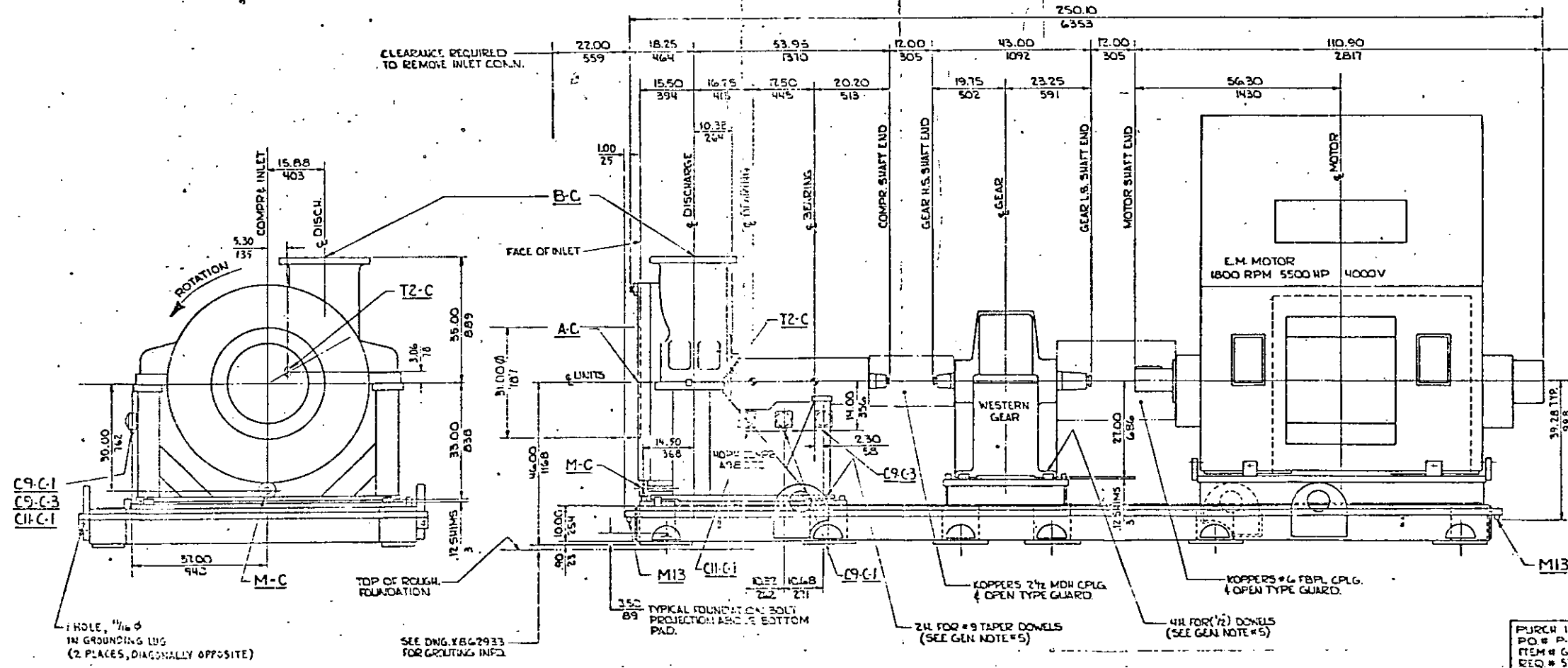
☐ NO COMMENT
☐ COMMENTS NOTED
☐ NOT ACCEPTABLE
☒ PROCEED W/FABRICATION
☐ RESUBMIT APPROVAL DWGS
☐ SUBMIT CERTIFIED DWGS

BY/DATE JH 2/1/80

FILE COPY



PLAN VIEW OF FOUNDATION BOLTS AND CONTACT SURFACES



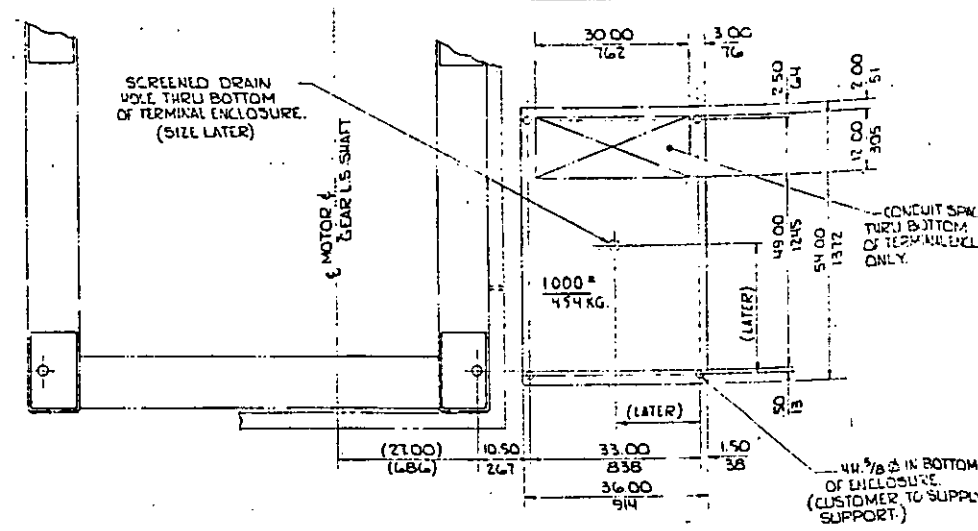
BASF WYANDOTTE CORP.

P.R. NO. 533913110 (1.0)
 P.O. NO. P-44557 CE
 EQUIP. TAG NO. GB-8103
 APPR. NO. 5339
 TITLE #2 EO EXPANSION
 PLANT LOC. GEISMAR, LA.

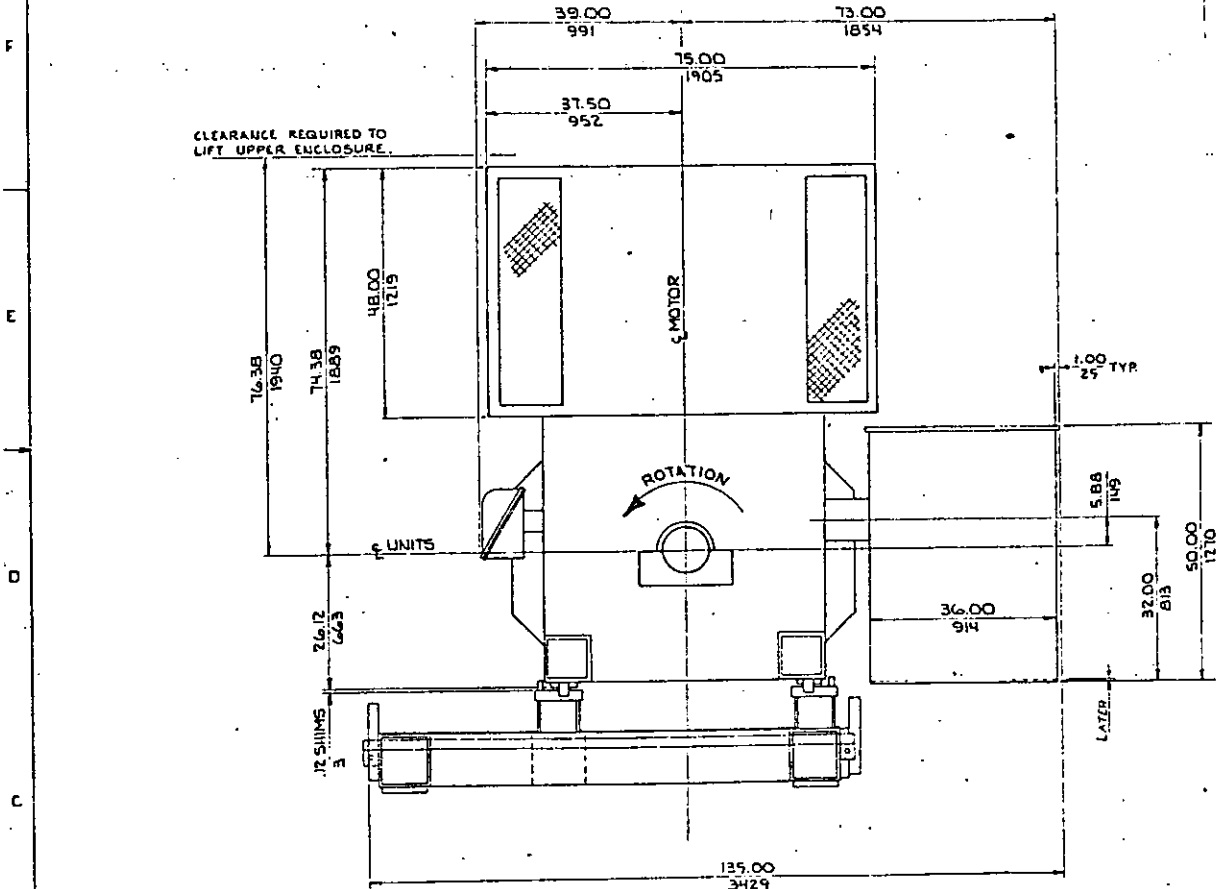
80803

PURCH IDENTIFICATION	
PO #	P-44557 CE
ITEM #	GB-8103
REQ #	533913110
SERVICE: ETHYLENE OXIDE RECYCLE COMPRESSOR	
HOPKINS WESTERN GEAR & E.M. MOTOR	
BASE PLATE MOUNTED	
DATE	2/1/80
BY	JH
CHECKED	W-80803

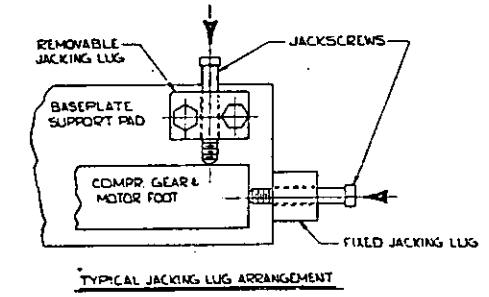
CHANGE DESCRIPTION	ZONE
ADDED COVN. MC. THIS 12" IN CONN. BLOCK.	J1 THRU J5
ADDED DECKPLATE DRIP TROUGH & GROUND LUGS.	C7A8 H7
ADDED COUPLING INFO IN PULL-UP CHARTS	C1A2 C3A4
ADDED SKETCH NO. FOR NOTE #13	A8
BASEPLATE WEIGHT WAS 4600; TOTAL WAS 55,350	A6
ADDED OIL PIPING & WIRING DIAGRAM DWG. NO'S. IN SUPP. DWG. BLOCK.	A4
DWG. RE-ISSUED FOR RECORD.	
J.HOOD 11-1-79	



ITEM	DESCRIPTION	SIZE	UNIT	QTY	UNIT PRICE	TOTAL	REMARKS
A-C	COMPRESSOR INLET	20" CLASS 300	2700	24	14.7	348.00	SEE NOTE #12 STUD PROJECTION 412/105
B-C	COMPRESSOR DISCHARGE	6" CLASS 300	2550	20	1.38	351.00	
M-C	COMPRESSOR CASING DRAIN	3/4" CLASS 300	4.62	4	.75	3.48	BLIND FLANGED
M-13	BASEPLATE TROUGH DRAIN	1" N.P.T. (FEMALE)					4 CONN.'S.
T2-C	COMPRESSOR BUFFER GAS	3/4" N.P.T. (FEMALE)					PLUGGED



BASF WYANDOTTE CORP.
NO COMMENT
COMMENTS NOTED
NOT ACCEPTABLE
PROCEED W/FABRICATION
RESUBMIT APPROVAL DWGS
SUBMIT CERTIFIED DWGS
BY/DATE



COUPLING LOCATION	GEAR TO MOTOR	MODEL	MODEL
COUPLING IDENTIFICATION	MODEL KOPPER'S 2 1/2 MDH		
Key Shaft Size	4.00 / 152.4		
Key Shaft Bore	5.50 / 139.7		
Key Shaft Length	.072 / 183		
Key Shaft Tolerance	.006 / 168		
Key Shaft Material	304 / 7.625		
Key Shaft Finish	0.003 / 0.254		

COUPLING LOCATION	COMPR. TO GEAR	MODEL	MODEL
COUPLING IDENTIFICATION	MODEL KOPPER'S 2 1/2 MDH		
Key Shaft Size	4.00 / 101.6		
Key Shaft Bore	3.00 / 76.2		
Key Shaft Length	11.615 / 295.02		
Key Shaft Tolerance	11.635 / 295.53		
Key Shaft Material	304 / 7.625		
Key Shaft Finish	0.003 / 0.254		
Key Shaft Supplier	BASF WYANDOTTE CORP.		
Key Shaft Part No.	P-44557		
Key Shaft Tag No.	533913110660		
Key Shaft Title	# 2 EO		
Key Shaft Plant Loc.	GEISMAR, LA		

COMPRESSOR NOTES	GENERAL NOTES	ITEMS INCLUDED	EXCLUDED ITEMS	APPROVALS	REVISIONS
1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	400H COMPRESSOR	400H COMPRESSOR	APPROVED BY: [Signature]	REVISIONS: [Table]
2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	2. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	GEAR	GEAR	APPROVED BY: [Signature]	REVISIONS: [Table]
3. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	3. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	MOTOR	MOTOR	APPROVED BY: [Signature]	REVISIONS: [Table]
4. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	4. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	BASEPLATE	BASEPLATE	APPROVED BY: [Signature]	REVISIONS: [Table]
5. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	5. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED.	TOTAL	TOTAL	APPROVED BY: [Signature]	REVISIONS: [Table]

- NOTES:



PLANT: NO2 ETHYLENE OXIDE EXPANSION				PROJECT NO. 63-04-155	
LOCATION GEISMAR, LA				BLDG. NO.	
MANUFACTURER ELLIOTT COMPANY				NO. UNITS ONE	
MODEL 40 PH				SIZE/TYPE	
Vapor or Gas Handled RECYCLE GAS - NOTE 16; Sord with WATER at 188.7 psia & 88 °F				W.R. NO.	
Mol Wt (Total Composition) 23.58 NOTE-17; Critical Press. 730 atm-psia; Critical Temp. - 63 °F				APPR. NO. 5339	
Co/Cv at 175°F = 1.27 NOTE-17; Normal Barometer				P.O. NO.	
Operating Condition - CASE-B				NO. UNITS ONE	
		Rated		A - WINTER	
		Suction		Discharge	
		Suction		Discharge	
Weights Flow lb/hr		600661		600661	
Volumetric Flow at P & T cfm		12653		10122	
Pressure (P) psia		190.7		259.7	
Temperature (T) °F		88		137	
Viscosity cP		0.012		0.012	
Compressibility Factor		0.969		0.965	
GAS hp		4275		4645	
BHP (Including Gear Loss) 14% hp		4406		4724	
Speed rpm		7585		7585	
Estimated Mechanical Efficiency %		79.6		79.1	
Surge at 57 % Capacity					
Maximum Continuous Speed 7585 rpm; First Critical Speed 10530 rpm; Second Critical Speed					
Overspeed Test 8723 rpm					
Number of Stages ONE; Direction of Rotation Facing Compressor Coupling End; CW - CCW					
Case: Design Pressure 300 psig; Impeller Type CLOSED					
Hydrostatic Test Pressure 450 psig; Diameter 23.89"					
Split: Horizontal - Vertical - Barrel VERTICAL; Removable Liner: Yes - No NO					
Support Foot - Pedestal - Bracket OVERHUNG					
Cooling Water Required on: Casing - Stuffing Box - Bearings - Pedestal NONE					
Gland Sealing: Yes - No NO; Seal Type: ISO-CARBON					
Venting Glands: Yes - No					
Bearings: Thrust 24.5 in Type KINGSBURY					
Radial 4" x 2" Type TILT-PAD Coupling: Type H.S. DRAHAM - L.S. GEAR TYPE					
Baseplate: Type FABRICATED STEEL NOT-SELF SUPPORTING Guard Yes - TYPE ENCLOSED - CS					
Controls: Speed Suction Valve - Inter-Vane; Source: Manual - FEED-FRONT					
Nozzles Size Rating Facing Lubrication System: PER API-614					
Suction 20" 300# RF					
Discharge 16" 300# RF					
Cooling Water					
Casing & Covers: CAST STEEL					
Diaphragms: NONE					
Guide Vanes: NONE					
Shaft: AISI 4140					
Shaft Sleeves: NONE					
Intercoolers: NONE					
Impeller Hubs & Covers: AISI 4140 / 4130					
Impeller Vanes: AISI 4130					
Bushings: NONE					
Glands: NONE					
Liners: NONE					
Aftercoolers: NONE					
Furnished by: ELEC. MACH.; Type Elec. Motor - Steam Turbine - Other; Direct - Gear - Belt - V-Belt					
Electric Motor: Make ELECTRIC MACHINERY; Steam Turbine: Make; Model					
Enclosure NEMA II					
Frame					
Estimated BHP Req'd: 4784 hp					
Nominal Motor Horsepower: 5500 hp					
Speed 1800 rpm					
Volts 4000; Phase 3; Cycles 60					
See Driver Specification No.					
Wt. of Compressor (Less Base) 14900 lb					
Wt. of Compressor (with Base)					
Wt. of Driver 23550 lb					
Shipping Weight					
Outline Drawing					
Cross Section Drawing					
Performance Curve ER 2500B; Certified Year: No					
Nameplate					

SPEC BY JM / LCA		SERVICE		EQUIP. NO. GB-8103	
CHECKED:		RECYCLE GAS COMPRESSOR		CENTRIFUGAL COMPRESSOR SPECIFICATIONS	
APP'D:		REVISION DATE A 8/7/79 B C		SPEC	
DATE: 12-20-79					
VENDOR TO COMPLETE ALL INFORMATION MARKED					

F 5837

[illegible]

EC. 9Y ER 10/26/78		[REDACTED]				EQUIP. NO. GB-81 03	
CHECKED:	SERVICE Recycle Gas Compressor						MOTOR DATA SHEET
APP'D:							
DATE: 12-20-78	Revision Date	A	8/7/79	B		C	
VENDOR TO COMPLETE ALL INFORMATION MARKED							SPEC. 63-04-155- NO. 00-0000

PLANT		NO. 2 ETHYLENE OXIDE EXPANSION				PROJECT NO.		63-04-155	
LOCATION		GEISMAR, LA				BLDG. NO.		W.R. NO.	
MANUFACTURER		NO. UNITS TWO				APPR. NO.		5339	
TYPE		Lube supply pumps (NOTE-1)				P.O. NO.			
NO. UNITS		TWO				MODEL			
SERVICE COND.		Capacity at P.T.				gpm		Speed rpm	
1		Liquid Pumped							
2		Pumping Temperature (P.T.)				psia		Efficiency %	
3		Specific Gravity at P.T.				psia		BHP at Rating hp	
4		Viscosity at P.T.				psi		Max. BHP for Frame hp	
5		Vapor Pressure at P.T.				ft.		Recommended HP Driver hp	
6		Corrosion or Erosion Factors:				ft.		NPSH Required (Water) ft.	
7		Case SWP				psig at		Bridgell	
8		Minimum Thickness				in.; Corr. Allow.		in.	
9		Support Type				; Split Horiz. - Vert.			
10		Rotor or Gear Overhung: Yes - No							
11		Diameter - Size				in.; Type			
12		Type Gear: Spur - Helical - Herring Bone							
13		Rotation Facing Pump Coupling: CW - CCW							
14		Relief Valves: Int. - Ext.; Press. Setting				psig			
15		Clearance (Diam.)				in.; Side Plate		in.	
16		Stuffing Boxes: Bore				in.; Depth		in.	
17		Jacketed: Yes - No; Smothering Gland: Yes - No							
18		Packing: No. Rings				; Size			
19		Material							
20		Mechanical Seal: Make & Type							
21		Mat'l. Rot. Face				Stat. Face			
22		Sealing Gasket							
23		Thrust Brgs.: Ball-Sleeve; Oil-Grease; Int. - Ext.							
24		Type							
25		Radial Brgs.: Ball-Sleeve; Oil-Grease; Int. - Ext.							
26		Type							
27		Coupling Mfr.				Type			
28		Guard: Yes - No							
29		Base Plate: Yes - No; Type							
30		Wt. Pump				lb; wt. Base		lb.	
31		Wt. Driver				lb; Shipping Wt.		17.575 lb.	
32		Service		Size	Rating	Facing	Location		
33		Suction							
34		Discharge							
35		Vents							
36		Drains							
37		Cooling H ₂ O							
38		Thrust Bearings: Yes - No; Water Req'd.				gpm			
39		Radial Bearings: Yes - No; Water Req'd.				gpm			
40		Stuffing Box: Yes - No; Water Req'd.				gpm			
41		Performance Test: Yes - No; Std. Shop Test: Yes - No							
42		Certified Curve: Yes - No							
43		Witnessed: Yes - No							
44		Hydrostatic Test: Yes - No; Test Press.				psig			
45		Submergence Test: Yes - No							
46		Shop Inspection: Yes - No							
47		(1) PAGE ADDED							
48									
49									
50									

SPEC. BY LEA

CHECKED:

APP'D.

DATE: 6-19-79

SERVICE

RECYCLE GAS COMPRESSOR

LUBE OIL SUPPLY PUMPS

Revision Date

A

B-7-79

B

A7 PULIT

C

VENDOR TO COMPLETE ALL INFORMATION MARKED

SHEET 4 OF 12

GB-8103

EQUIP. NO.

ROTARY PUMP
SPECIFICATIONS

SPEC.

NO. 63-04-155-GB-8103

F 5837

PLANT	NO 2 ETHYLENE OXIDE EXPANSION		PROJECT NO.	63-04-155
LOCATION	GEISMAR, LA		P.R. NO.	
MANUFACTURER			APPR. NO.	5339
	BLOG. NO.		P.O. NO.	
	NO. UNITS ONE			

NOTE-1

1	Manufacturer			Type
2	Full/Operating (%)	HP/	HP	Frame
3	Speed	RPM		Winding
4	Voltage	460	V 60 HERTZ 3	Phase
5	Full Load Amperes*	A		Locked Rotor Amperes*
6	Ambient Temperature	°C		Surf. Temp. Code
7	Enclosure - TEFC ☒ TENV ☐ CL.I.Div. 1 ☐ CL.II.Div. 1 ☐ Group A ☐ B ☐ C ☐ D ☐ E ☐ F ☐ G ☐			
8	Service Factor	1.00 ☒ 1.15 ☐ Mfr's Std ☐		
9	Efficiency Full/Operating*	%/	%	
10	Power Factor Full/Operating*	%/	%	
11	Insulation	B ☒ F ☐ Mfr's Std ☐		
12	Noise*	dBA	ft.	
13	NEMA Design	B ☒ Other ☐		
14	Space Heater	Yes ☐ No ☐ Voltage 115v ☐ Other ☐		
15	Temp. Sensor Winding ☐ Bearing ☐ Type & Data*			
16	Spare Parts List for One (1) Year Maintenance ☐			
17				
18	Notes to Vendor			
19	a) All above data not specified by BASF Wyandotte Corporation shall be supplied by vendor.			
20	b) All data marked with * shall be supplied/confirmed by vendor.			
21	c) Motor Description: Multiphase, constant speed; squirrel cage induction motor;			
22	cast/malleable iron housing, fan cover, connecting boxes;			
23	integrally cast feet; greaseable/ring oiled bearings;			
24	stainless steel nameplate, breather-drain and hardware;			
25	epoxy-based corrosion resistant paint.			
26	(Vendor shall indicate if the offered motor differs from the above description.)			
27				
28				
29	d) Utilization Voltages:			
30	1. Motors rated 1/2 to 150 HP to be 460 volts, 3 phase			
31	2. Motors rated below 1/2 HP to be 115 volts, single phase			
32				
33	e) Motors 50 HP and above shall be equipped with 115 volt space heaters.			
34	f) Acceptable vendors and types:			
35	Allis Chalmers, Chemical Duty/Severe Service, Type RGZCH TEFC.			
36	Type RGZZCH Explosion Proof			
37				
38	General Electric, Triclad Line Type K Severe Duty			
39				
40	Louis Allis, Pacemaker Chemical Duty/Severe Service			
41				
42	Reliance, Duty Master XT Chemical Service			
43				
44	Westinghouse, MAC Life-line Mill and Chemical Service			
45				
46				
47				
48	11. PAGE ADDED			
49				
50				

REC. BY	5M/LEA	EQUIP. NO.		GB-8103-B
CHECKED:		SERVICE		RECYCLE GAS COMPRESSOR
APP'D:		LUBE OIL PUMP DRIVER		MOTOR DATA SHEET
DATE:	6-19-79	Revision Date	A	8-17-79
VENDOR TO COMPLETE ALL INFORMATION MARKED		Sheet		5 of 12
		SPEC.		NO. 63-04-155-GA-8103

PLANT NO 2 ETHYLENE OXIDE EXPANSION

LOCATION GEISMAR, LA

BLDG. NO.

W.R. NO.

MANUFACTURER

NO. UNITS ONE

APPR. NO.

5339

P.O. NO.

OPERATION: CONTINUOUS - INTERMITTENT - STANDBY

(PAGE ADDED)

NO. UNITS ONE

1		Arrangement: Horizontal-Vertical; Direct Connected-Gear		Rotation Viewing Governor End: CW - CCW			
SERVICE CONDITIONS	2	Type: Single Stage - Multi Stage	No. Stages	Location: Indoor - Outdoor			
	3	Operating Condition		Rated	MAX NOR MIN		
	4	Horsepower	hp				
	5	Speed	rpm				
	6	Steam Pressure at Inlet Flange	psig	210	195 175		
	7	Steam Temperature at Inlet Flange	°F	SAT	SAT SAT		
	8	Steam Press. at Outlet Flg. (Condensing), In. Hg. abs.					
	9	Steam Press. at Outlet Flg. (Non-Condensing)	psig	35	30 30		
	10	Water Rate	lb/hr				
	11	Hand-Controlled Nozzle Valve Desired for Condition					
TURBINE LIMITATIONS	12	Position of Hand Valves					
	13	Max. Allowable Continuous Oper. Speed	rpm; First Critical Speed	rpm; Trip at	rpm		
	14	Maximum Inlet Steam Pressure	psig				
	15	Maximum Inlet Steam Temperature	°F				
	16	Maximum Exhaust Steam Pressure	psig				
	17	Maximum Speed	rpm				
	18	Maximum Number Hand Valves					
	19	Maximum Nozzling at Rated Steam and Speed	hp				
	20						
	21						
TURBINE MATERIALS	22	Trip Throttle Valve:					
	23	Rating	psig at °F				
	24	Make	Material				
	25	Speed Regulating Governor:					
	26	NEMA Class	Adjustable Speed Range				
	27	Type: Mechanical Oil Relay - Hydraulic On/Off					
	28	Other:					
	29	Speed Regulation No Load to Full Load					
	30	Speed Variation (Dead Band)					
	31	Speed Changer: Hand - Other:					
CONSTRUCTION DETAILS	32	Turbine Mounted External Control Device: Yes - No					
	33	Type	Pressure Range	psig			
	34	Hand-Controlled Nozzle Valves: Yes - No; Number					
	35	Governing Valve: Single - Multiple					
	36	Overspeed Governor: Yes - No; Type Valve					
	37	Set at	rpm				
	38	Sparkless Trip Lever: Yes - No					
	39	Tachometer: Yes - No; Electric - Mechanical; Speed					
	40	Electrical Classification					
	41	Casing Relief Valve: Yes - No; Control - Full Relief					
CONNECTIONS	42	Size	Setting	psig			
	43	Capacity	MFR				
	44	Live Steam Strainers: Yes - No; Integral - Separate					
	45	Type					
	46	Vacuum Breaker: Yes - No	Vibration Detector: Yes - No				
	47	Steam Seal Piping: Yes - No	IF REQUIRED				
	48	Steam Gages: Yes - No	Remote - Local Panel - Turbine				
	49	Steam Chest YES	Exhaust YES				
	50	Each Nozzle Chamber	NO				
	51	Steel Jacketed Lagging: Yes - No					
REDUCTION GEAR	52	Base Plate: Yes - No; Type	DRIP RIM				
	53	Shipping Weight	lb				
	54	Cross Section Drawing No.					
	55	Outline Drawing No.					
	TESTING	56	Service	Size	Rtg	Face	Location
		57	Inlet				
		58	Exhaust				
		59	Drains				
		60	Coaling Water				
		61	Mfgn.	Type			
62		Arrangement: Coupled - Integral					
63		Low Speed Shaft	rpm; Rating			hp	
64		Service Factor					
65		Lubrication:					
MISC.	66	Tests: Mechanical Run In: Yes - No					
	67	Witnessed Performance: Yes - No					
	68	Dynamic Balancing of Rotor: Yes - No					
	69	Hydrostatic Case: Yes - No; Press.				psig	
	70	Hydrostatic Chest: Yes - No; Press.				psig	
	71	Shop Inspection: Yes - No					
	72						
	73						
	74						
	75						

SPEC BY JM/LEA

CHECKED:

SERVICE

RECYCLE GAS COMPRESSOR

APP'D:

LUBE OIL PUMP DRIVER

DATE: 6-19-79

REVISION DATE

A 8-7-79

B

C

VENDOR TO COMPLETE ALL INFORMATION MARKED

SHEET 6 OF 12

SPEC

NO. 63-04-135-GA-8103

EQUIP. NO.

GB-8103-A

STEAM TURBINE
SPECIFICATIONS

PLANT	No. 2 Ethylene Oxide Expansion		PROJECT NO.	63-04-155
LOCATION	Geismar, LA	BLDG. NO.	W.R. NO.	
MANUFACTURER		NO. UNITS	APPR. NO.	5339
			P.O. NO.	

NOTES

1. The unit shall be in accordance with API-617 Third Edition, dated October 1973.
2. Compressor shall be equipped with a mechanical contact type seal having a provision for a buffer gas section.
Ethylene gas is available at 350 psig. Vendor shall advise the expected amount of gas leakage into the compressor and the amount to be handled by a scavenging system.
3. The casing shall be of steel construction.
4. The suction and discharge connections shall be manufacturer's standard arrangement.
5. All casing connections effected by suction or discharge pressure shall be suitable for the design pressure of the casing.
6. Lube system is to be pressure type common to driver, gear, compressor and compressor seals. It shall be in accordance with API-614.
7. Main lube oil pump to be turbine driven. Steam conditions range from a minimum of 175 psig @ 377°F dry and saturated to a maximum of 210 psig @ 500°F total temperature.
8. ~~Overhead emergency lube tank to be quoted as an extra. It is to be complete with high level alarm contact connections.~~
9. All design data, curves, guarantee points, etc., shall be based on the rated conditions. The compressor train shall be capable of operating at variable flow rates of 57% to 110% of rated conditions. The compressor vendor shall guarantee the surge point. ~~It shall not occur at flow rate greater than 35% of the rated condition.~~
10. High and low speed couplings shall both be spacer type ~~and batch lube. Idling adapters shall be quoted as an extra if required for each driving half.~~ The coupling shall be ^{H.S.}Waldron or equal Koppers Diaphragm type. I.S. coupling to be Koppers Grease-Packed type.
11. The compressor shall be balanced in accordance with API-617.
the compressor train
12. The maximum/sound pressure level of ^{anticipated}any equipment item, including its driver and ancillary equipment, shall not exceed at least one of the following:
be specified by the vendor.
~~A. Test data in Semi-Reverberant acoustical environment 87 dBA.~~
~~B. Test data in free field acoustical environment 83 dBA.~~

SPEC BY	LEA	[REDACTED]			EQUIP. NO.	GB-8103	
CHECKED:	SERVICE					SPECIFICATIONS	
APP'D:	RECYCLE COMPRESSOR						
DATE:	6-19-79	REVISION DATE	A	8/7/79	B	C	SPEC. NO. 63-04-155-GB-8103
VENDOR TO COMPLETE ALL INFORMATION MARKED						SHEET 7 OF 12	

PLANT	No. 2 Ethylene Oxide Expansion		PROJECT NO.	63-04-155
LOCATION	Geismar, LA	BLDG. NO.	W.R. NO.	
MANUFACTURER		NO. UNITS	APPR. NO.	5339
			NO. NO.	

PR # 533913110

NOTES (cont'd)

~~12. G. Sound pressure reference level~~

$$-2 \times 10^{-5} \text{ N/m}^2$$

~~D. Sound power level (PWL) - 92 dBA~~
~~(Reference level 10⁻¹² watts).~~

The sound pressure level requirement must be met at a distance of three feet. The vendor shall include with his quote a table showing his guaranteed sound pressure levels for the different octave bands.

13. The driver is to be an induction motor meeting Class I, Division II, Group B operating on 4160 volt, 60 cycles, 3 phase.

Bearings in motor are to be force feed lubricated common to gear and compressor. See attached motor specifications.

~~14. Vendor supplied local panel shall meet the electrical area code classification Class I, Division II, Group B. It shall consist of the following instruments: Motor Ammeter, Compressor Suction and Discharge Pressure, Lube Pump Discharge Pressure and Lube Filter Discharge Pressure.~~

15. The following items shall be included:

A. Compressor:

1. Low oil pressure alarm and trip switch
2. High oil temperature alarm and trip switch
3. Low diff. seal pressure alarm and trip switch
4. Reservoir oil level alarm switch
5. High oil filter diff. press. alarm switch
6. Auxiliary pump running alarm switch
7. Every-angle thermometers in oil drain line for each bearing and seal
8. 2 Bentley Nevada 7200 series vibration probes (with proximitors, cable, and junction box) for radial movement on outboard bearing.
9. 2 B-N probes for axial movement on thrust bearing.
10. 1 B-N probe arranged for tachometer readout.
11. 2 RTD's embedded in each journal bearing (4 total).
12. 2 RTD's embedded in each side of thrust bearing (4 total).
13. S.S. oil degassing tank on console.

B. Gear"

1. 2 B-N probes for radial movement on input and output bearings (4 total)

SPEC BY	LEA	80803		EQUIP. NO.	GB-8103
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APP'D:		RECYCLE COMPRESSOR		SPECIFICATIONS	
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VENDOR TO COMPLETE ALL INFORMATION MARKED				SHEET 3 OF 12	SPEC. NO. 63-04-155-GB-8103

PLANT . No. 2 Ethylene Oxide Expansion		PROJECT NO. 63-04-155
LOCATION Geismar, LA	BLDG. NO.	W.R. NO.
MANUFACTURER	NO. UNITS	APPR. NO. 5339
		P.O. NO.
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2. 1 B-N probe for axial movement on thrust bearing.

3. Enclosure for 5 vibration probes

4. 2 RTD's embedded in input and output journal bearings, plus 1 RTD in each side of thrust bearing (6 total)

5. Enclosure for six (6) RTD's

6. One pressure gauge.

C. Motor:

1. 2 B-N probes for radial movement in each bearing (4 total)

2. 2 RTD's embedded in each bearing (4 total)

3. 6 RTD's embedded in stator.

4. 3 thermocouples embedded in rotor, plus readout device for monitoring rotor temperature.

5. S. S. air inlet screens.

6. S. S. air filters.

7. Thermometer in each bearing oil sump.

8. Terminal box for current transformers.

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SPECIFICATIONS

SPEC

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PLANT	No. 2 Ethylene Oxide Expansion	PROJECT NO.	63-04-155
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NOTES (Cont'd)~~G. Alarm Only~~~~1. Low oil level in reservoir.~~~~2. High oil filter differential pressure.~~~~3. Stand-by oil pump running.~~~~4. High bearing temperature (compressor, gear & motor).~~~~5. Overhead emergency lube tank high level.~~~~6. Vibration level.~~~~7. Compressor gas.~~~~a. High discharge pressure~~~~b. High discharge temperature~~~~c. Low suction press~~~~D. Local T.I. in oil return for each bearing with 5 inch diameter gauges Aschroft, or equal.~~

16. See last page for gas analysis.

17. Vendor to verify this value.

18. Site Conditions

Temp. Range 10°F to 105°F

Relative Humidity - 44% to 74%

Annual Rain Full 46 to 54 inches/year.

SPEC. BY <i>L.F.R.</i>	XXXXXXXXXXXXXXXXXXXXXXXXXXXX		EQUIP. NO. GB-8103			
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DATE: 6-19-79	REVISION DATE	A	8/7/79	B	C	SPEC.
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F 671

PLANT	No. 2 Ethylene Oxide Expansion		PROJECT NO. 63-04-155
LOCATION	Geismar, LA	BLDG. NO.	W.R. NO.
MANUFACTURER	NO. UNITS		APPR. NO. 5339
			P.O. NO.
PR # 533913110			

19. Testing:

- A. Mechanical run tests for ocmpressor, gear, and motor will be witnessed.
- B. Compressor casing hydrotest and oil console mechanical run test will not be witnessed.
- C. All vibration measurements will be made with purchaser's probes installed. The use of shop probes is not acceptable for compressor and motor.

20. Painting:

- A. Compressor, gear, baseplate, and console shall be painted per spec. no. 245-05-39. Elliott Standard grey finish paint is acceptable.
- B. E-M motor may be painted with manufacturer's standard finish.

SPEC. BY <i>LEA</i>	<i>Raymond Corporation</i>			EQUIP. NO. GB-8103		
CHECKED:	SERVICE RECYCLE COMPRESSOR			SPECIFICATIONS		
APP'D:						
DATE: <i>8-7-79</i>	REVISION DATE	A	8/7/79	B	C	SPEC.
VENDOR TO COMPLETE ALL INFORMATION MARKED						NO. 63-04-155-GB-8103

