

**CENTRIFUGAL PUMP DATA SHEET**

RPM ENGINEERING, INC.

PETROCON ENGINEERING, INC.

This is an ISO 9000 form and must not be modified without proper approval.  
Q4.1.70-1F, Rev.1 (1/18/00)

106710

CLIENT	Gulf Liquids, LLC			PROJECT NO	124830		
SERVICE	Refrigerant Drain Pump			NO OF UNITS MOTOR DRIVEN	One		
P&ID NO	D-9912-F-13			NO OF UNITS TURBINE DRIVEN			
SIZE	*			PUMP/MOTOR TAG NO	PM17.501 /		
TYPE	Horizontal Regenerative Turbine. Roth Model 101TSFCP5828BDI			PUMP/TURBINE TAG NO	/		
OPERATING CONDITIONS				PERFORMANCE			
1 Fluid	Propane	Flow (gpm)	Min 5 Rated 5	Proposed Curve No	3117A	RPM	3500
2 Temperature	<sup>o</sup> F Nor -43 Max	Disch. Press psig	237.4	Impeller Dia. (in) Rated	5.5	Max	
3 Spec Gr	Nor 0.581 Max	Suct Press psig	0.8	Rated BHP	5.6	EFF %	16
4 Vapor Press	psia Nor 15 Max	Diff. Press psi	236.6	Min Cont Flow (gpm)	Stable	*	
5 Viscosity	cP Nor 0.197 Max	Diff. Head Ft	940.4	Thermal			
6 Specific Heat	Cp (BTU/lb/ <sup>o</sup> F)	NPSH Avail Ft	Min Max 1.9	Max Head @ Rated Impeller (Ft)	1200		
7 Corr/Eros By		Hyd HP		Max Stuffing Box Press (psig)			
8				NPSHR @ Rated Flow (Ft)	1		
9	CONSTRUCTION			Net Suction Specific Speed			
10 NOZZLES	SIZE	RATING	FACING	LOCATION	Rotation Facing Cplg	CCW	
11 SUCTION	2"	300 #	RF	Side	AUXILIARY PIPING		
12 DISCHARGE	1 1/2"	300 #	RF	Top	Heating Jacket	Mat'l	
13 Case Conn Size (in)	Vent 1/4" NP		Drain 1/4" & 1/2" NPT		Seal Flush Plan	API 11/52 Note1 Mat'l	
14 Case MAWP	psig 600 @ 200 <sup>o</sup> F	Hydrotest Press 900 psig		Auxiliary Flush Plan	Mat'l		
15 Mount: Foot	Centerline	Vertical	Brg Bracket	PACKING			
16 Split: Radial	X	Axial		Mfr'g/Type	-		
17 Type: Diffuser	Single Volute	Double Volute		Size/No Rings	-		
18 Impeller Configuration	Open	Closed	Semi-open	Packing cooling injection req'd	-		
19 Impeller Mount	Between Bearings	Overhung	X	MECHANICAL SEAL			
20 Brg Type: Radial	Ball	Thrust	Ball	Manufacturer	Flowserve		
21 Lube Flood	X	Oil Mist	Flinger	Ring Oil	Type Balanced Tandem		
22 Coupling Type	Spacer	Mfr'g Woods	Model SC	Model No	BXQW	Mfr'g Code	*
23 Driver half mounted by Pump	Mfr'g X	Driver Mfr'g	Purchaser	Primary Ring	Carbon	Hardware	*
24	MATERIALS			Mating Ring	Si Carbide	Springs	316 SS
25 API Mat'l Class	Shaft/Sleeve	416 SST/416 SST		Gland Mat'l	316SS	Elastomers:Low Temp Buna	
26 Case	DI	Shaft Dia at Cplg	*	SHOP TEST			
27 Impeller	DI	Shaft Dia between Bearings	*		witness	non-witness	
28 Wear Rings	CI	Span between Bearing centers	*	Hydrostatic		X	
29 Baseplate	Fabricated CS	Span between Bearing and Impeller	*	Performance			
30		Shaft L <sup>3</sup> /D <sup>4</sup>	Max Defl @ Seal *	NPSH		X	
31	MOTOR DRIVER			Dismantle after test			
32 Motor By	Vendor	Manufacturer:	Marathon	Use Job Driver/Cplg			
33 Enclosure	TEFC	Volts / Phase / Hertz	460/3/60	Use Job Lube System			
34 Electrical Area Classification	Class I	Div 2	Group C & D	WEIGHT POUNDS			
35 Insulation Class	F	Hp 7.5	RPM 3500	Bare Pump	300	Baseplate	410
36 Temperature Rise <sup>o</sup> C	40	Bearings	Ball	Lube	Grease	Motor	190 Turbine
37 Space Heater	Volts			Gearbox	Total	900 lbs	
38	GEAR			TURBINE DRIVER			
39 Manufacturer	Driver By	NOZZLES	SIZE	TYPE	POSITION		
40 Model No	Hp RPM	INLET					
41 AGMA Service Factor	Manufacturer	EXHAUST					
42 Reduction ratio	Model No	Case Conn Size	Vent	Drain			
43	Inlet Steam Press psig @ <sup>o</sup> F	Bearings	Lube				
44	Exhaust Steam Press psig @ <sup>o</sup> F	Governor Type					
45	Full Load Steam Rate Lbs/BHP/Hr						
NOTES: 1. API plan 52 w/pressure switch, w/o heat exchanger. Intended buffer fluid is Kerosene.							
* Indicates vendor to furnish data							
REV:	DESCRIPTION	DATE	BY	CH'K	APPROVED		
0	Issued for Inquiry	4/11/02	DSG	RLM			
1	Issued for Purchase	4/30/02	DSG				

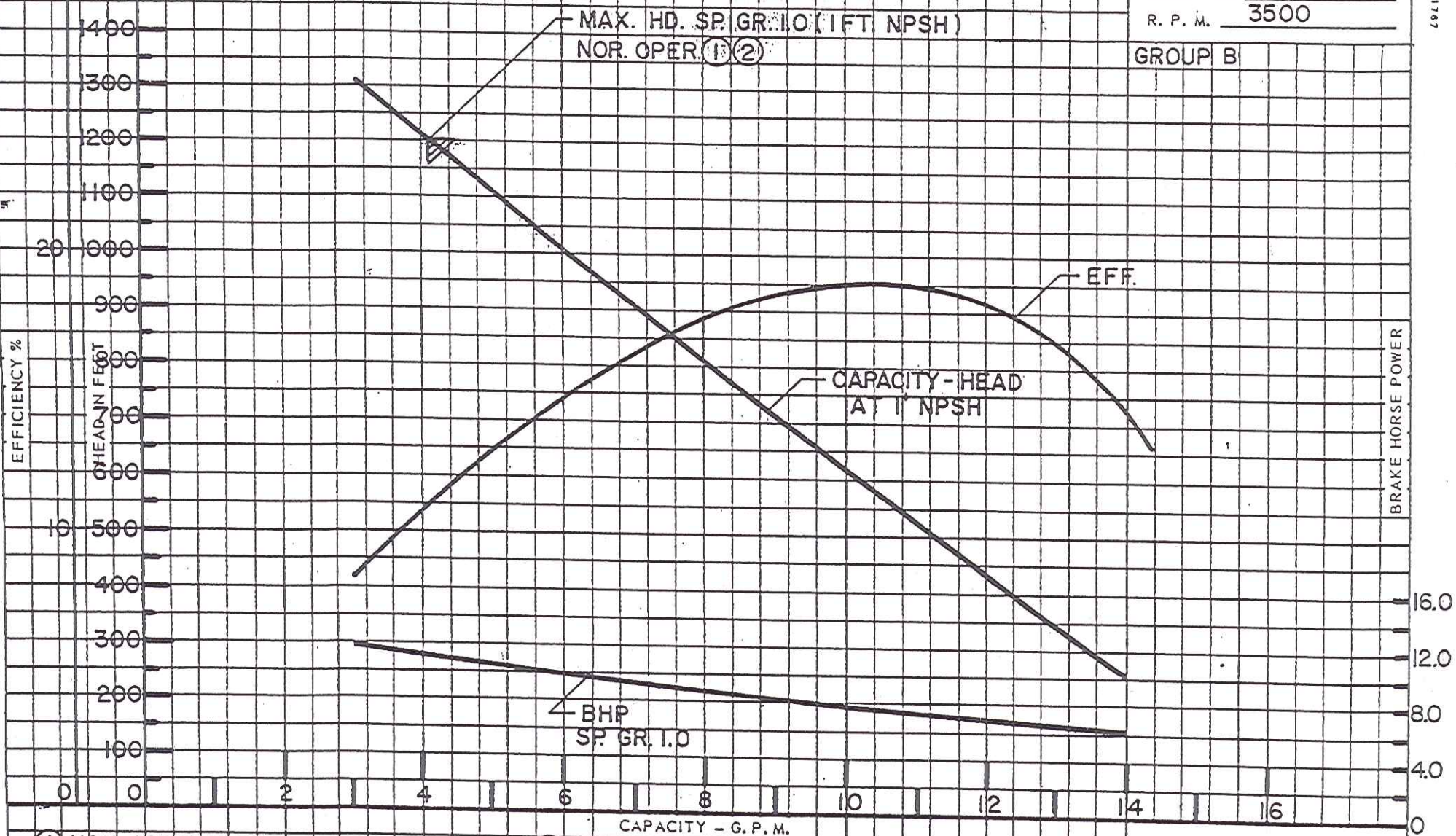


ROY E. ROTH CO.  
PUMP DIVISION  
Rock Island, Illinois

TYPE TURBINE  
SIZE 5828 B  
IMPELLER STD.  
R. P. M. 3500

FORM B-1767

GROUP B



106710

(1) NON-CORROSIVES & LIGHT LUBRICANTS (2) MILD CORROSIVES & WATER SOLUTIONS

CURVE NO. 3117A



106710

RPM ENGINEERING, INC.	<b>MOTOR DATA SHEET</b>	REVISION	0	1	2	3	
		DATE	4/11/02	4/30/02			
		BY	DSG	DSG			

CLIENT	Gulf Liquids, LLC	LOCATION	Sorrento, LA
UNIT		PROJECT TITLE	Refrigeration Gas Plant
SERVICE	Refrigerant Drain Pump	PROJECT NO.	124830
DRIVEN EQUIPMENT TAG NO(S)	PM17.501	REQUISITION NO.	124830-207
MOTOR TAG NO(S)		NUMBER OF UNITS	One

1.	APPLICABLE ENG. STDS.: _____	RATED HP:	7.5	AT:	3500	RPM	S.F.:	1.15			
2.	VOLTAGE: <input type="checkbox"/> 115 <input type="checkbox"/> 230 <input checked="" type="checkbox"/> 460 <input type="checkbox"/> 2300 <input type="checkbox"/> _____	PHASE:	<input type="checkbox"/> 1 <input checked="" type="checkbox"/> 3	HERTZ (CYCLES):	<input checked="" type="checkbox"/> 60 <input type="checkbox"/> 50						
3.	AREA CLASSIFICATION: CLASS <u>1</u> GROUP <u>C &amp; D</u> DIV. <u>2</u>	MOTOR TYPE:	<input checked="" type="checkbox"/> SQUIRREL CAGE <input type="checkbox"/> WOUND ROTOR								
4.	ENCLOSURE: <input checked="" type="checkbox"/> TEFC <input type="checkbox"/> WPI <input type="checkbox"/> WP2 <input type="checkbox"/> _____	<input type="checkbox"/> DRAIN REQUIRED	<input checked="" type="checkbox"/> MILL & CHEM DUTY	<input checked="" type="checkbox"/> ENERGY EFFICIENT							
5.	TERMINAL BOX CONDUIT HUB SIZE: _____	MOTOR POWER CABLE SIZE:	_____								
6.	INSUL. CLASS: <input type="checkbox"/> B <input checked="" type="checkbox"/> F NEMA DES. <input checked="" type="checkbox"/> B <input type="checkbox"/> _____	TEMP. RISE	40	°C ABOVE 40°C BY	RESISTANCE	@	1.0	S.F.			
7.	STARTING: <input checked="" type="checkbox"/> FULL VOLTAGE <input type="checkbox"/> REDUCED VOLTAGE <input type="checkbox"/> ADJ. FREQ. DRIVE <input type="checkbox"/> _____	<input checked="" type="checkbox"/> LOADED	<input type="checkbox"/> UNLOADED								
8.	MOUNTING: <input type="checkbox"/> HORIZONTAL <input type="checkbox"/> VERTICAL (SHAFT: <input type="checkbox"/> UP <input type="checkbox"/> DOWN)	<input type="checkbox"/> FOOT MOUNTED	<input type="checkbox"/> FLANGE MOUNTED								
9.	OPTIONS: <input type="checkbox"/> THERMAL SWITCHES	<input type="checkbox"/> THERMOCOUPLES									
10.	<input type="checkbox"/> OVERSIZED TERMINAL BOX	<input type="checkbox"/> SPACE HEATERS _____ VOLTS, _____ WATTS, _____ PHASE									
11.	<input type="checkbox"/> BEARING TEMPERATURE DETECTORS	<input type="checkbox"/> BEARING VIBRATION PROBES _____									
12.	<input type="checkbox"/> WINDING RESISTANCE TEMPERATURE DETECTORS	<input checked="" type="checkbox"/> GROUND CONNECTION IN CONDUIT BOX									
13.	<input type="checkbox"/> _____	<input type="checkbox"/> _____									
14.	MAXIMUM SOUND PRESSURE LEVEL @ 3 FEET: _____ dba	<input type="checkbox"/> DRIVER ONLY <input type="checkbox"/> COMBINED DRIVER + DRIVEN EQUIPMENT									
15.	PAINTING: <input checked="" type="checkbox"/> MFG. STD. <input type="checkbox"/> _____	DRIVER HALF CPLG. MOUNTED BY: _____	VENDOR								
16.	BEARING LUBRICATION: <input checked="" type="checkbox"/> GREASE <input type="checkbox"/> OIL SELF LUBRICATED	<input type="checkbox"/> OIL MIST <input type="checkbox"/> OIL FORCED <input type="checkbox"/> _____									
17.	TESTS: <input type="checkbox"/> ROUTINE WITH CERTIFIED TEST RESULTS <input type="checkbox"/> _____										
18.											
19.											
20.	MOTOR MANUFACTURER: Marathon	MODEL NUMBER:	WS30								
21.	MFG. SERIAL NO(S): _____	MOTOR WK <sup>2</sup> :	0.55	LOAD WK <sup>2</sup> :	_____	(LB-FT <sup>2</sup> )					
22.	FRAME NO.: 213T	WEIGHT:	190	(LBS.)	BEARING TYPE:	<input checked="" type="checkbox"/> BALL <input type="checkbox"/> SLEEVE <input type="checkbox"/> _____					
23.	CPLG END BEARING: MFG _____	PART #	_____	REAR END BEARING: MFG _____	PART #	_____					
24.	FULL LOAD TORQUE (FLT):	11	(FT-LBS)	LOCKED ROTOR TORQUE:	24	(% FLT)					
25.	PULL DOWN TORQUE:	_____	(% FLT)	BREAKDOWN TORQUE:	38	(% FLT)					
26.	CASING: <input checked="" type="checkbox"/> CAST IRON <input type="checkbox"/> CAST ALUM. <input type="checkbox"/> STEEL	WINDING:	<input type="checkbox"/> COPPER <input type="checkbox"/> ALUMINUM								
27.	AMPERES: FULL LOAD	8.9	3/4	1/2	EFFICIENCY: FULL LOAD	91.7	3/4	91.7	1/2	90.2	%
28.	POWER FACT.: FULL LOAD	87	3/4	1/2	ACCELERATION TIME ZERO-FULL SPEED:	_____	SEC.				
29.	NO LOAD CURRENT:	3	AMPS	LOCKED ROTOR CURRENT:	63.5	AMPS.					
30.	MAX. STARTS PER HOUR: COLD	7	HOT	LOCKED ROTOR POWER FACTOR:	40						
31.											

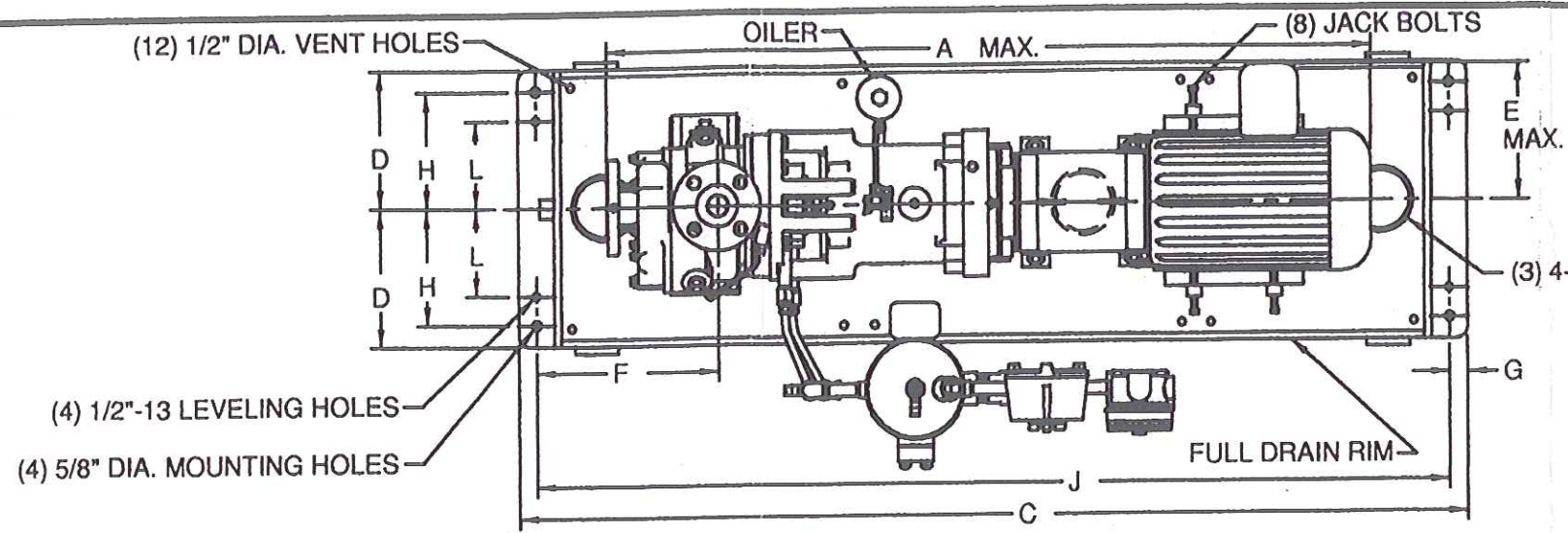
<b>VENDOR SHALL COMPLETE THIS DATA SHEET AND RETURN WITH PROPOSAL</b>	PREPARED BY	CHECKED BY	APPROVED BY	ITEM NO.
	D. Gandhir	R.L. Matens		PM17.501 MOTOR

G:\Client\GulfLiquids\124830\Mech\Data Sheets\Data Sheet PM17.501 Motor.xls]Sheet1



**OVERALL & LOCATION DIMENSIONS**

1. Dimensions marked approximate(app) ±1"
2. No decimal place ±1/2"
3. One decimal place ±1/4"
4. Two decimal places ±1/8"
5. Three decimal places ±1/32"
- Pierced or drilled holes ±1/64"



*12/18/20  
9912-207  
PM17-501*

VENDOR DATA REVIEW

NO EXCEPTION TAKEN \*\*

NO EXCEPTION TAKEN SUBMIT CERTIFIED \*\*

REVISE & RESUBMIT FOR APPROVAL

REVISE & RESUBMIT CERTIFIED \*\*

PROCEED WITH FABRICATION

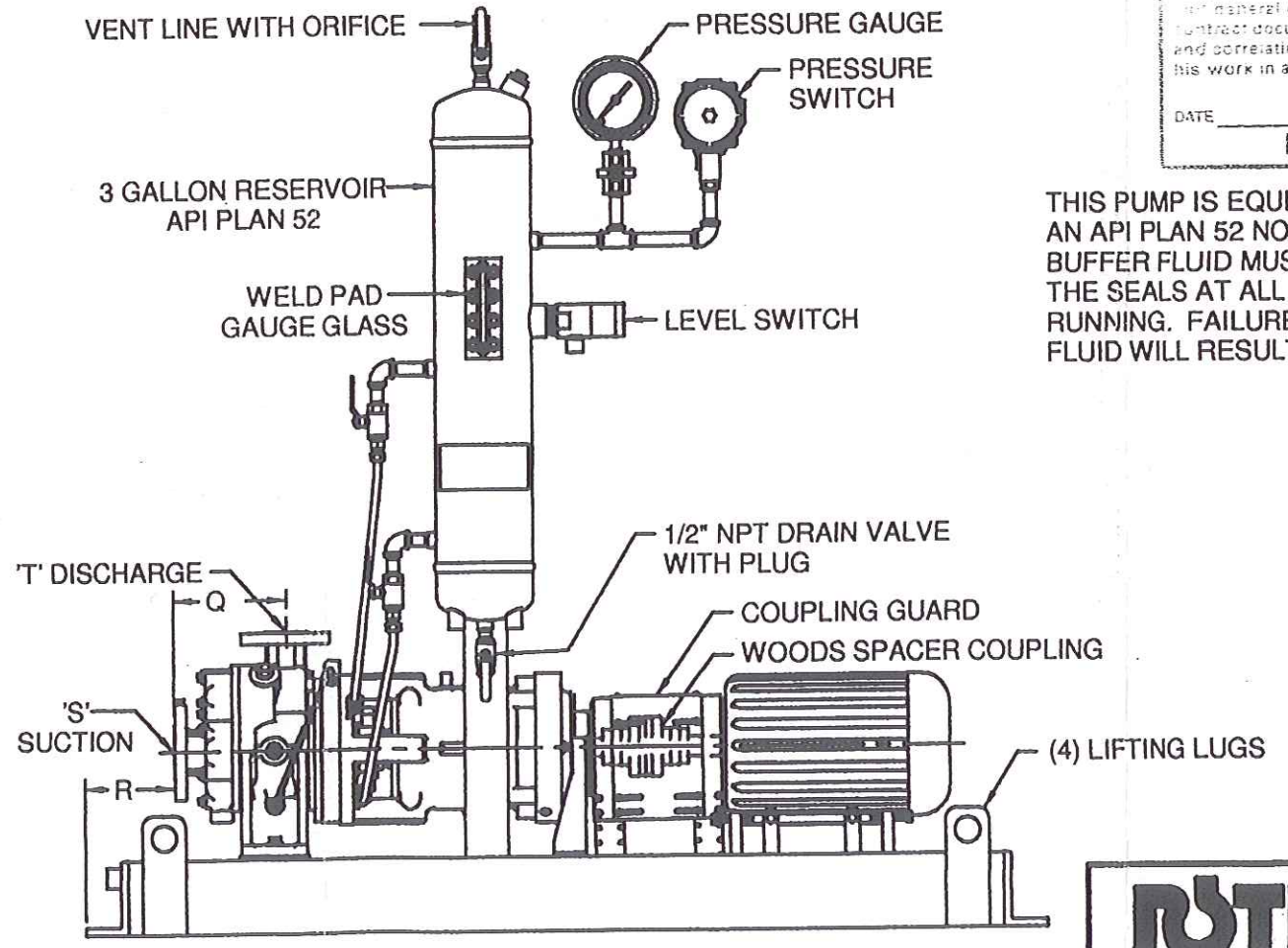
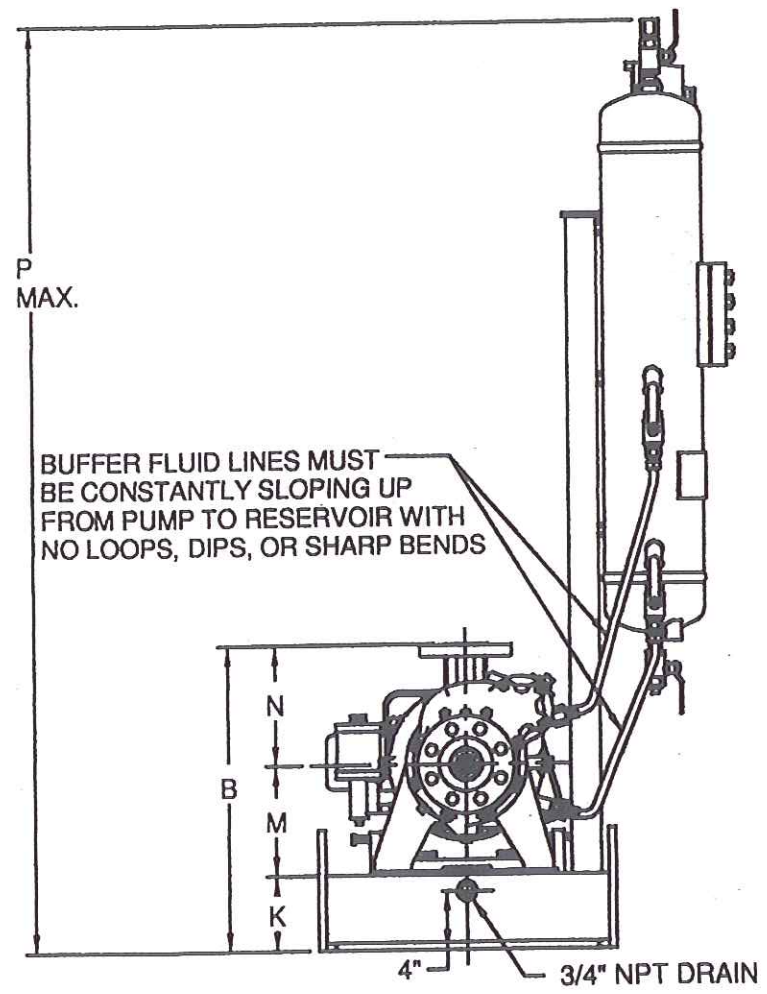
Corrections or comments made on vendor data during this review do not relieve vendor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The vendor is responsible for confirming and correlating all quantities and dimensions and performing his work in a safe and satisfactory manner.

DATE \_\_\_\_\_ BY \_\_\_\_\_

RPM Engineering, Inc.

THIS PUMP IS EQUIPPED WITH A TANDEM SEAL AND AN API PLAN 52 NON-PRESSURIZED SEAL POT. A BUFFER FLUID MUST BE CIRCULATED BETWEEN THE SEALS AT ALL TIMES WHEN THE PUMP IS RUNNING. FAILURE OF THIS SUPPLY OF BUFFER FLUID WILL RESULT IN OUTER SEAL FAILURE.

*NOTE: SEAL  
Being furnished  
will be John Crane  
in lieu of  
Flowserve*



MOTOR FRAME	A	B	C	D	E	F	G	H	J	K
7-1/2 HP 213T	56"	20.3"	66"	9.5"	12"	12.6"	1.25"	8"	63.5"	5"
L	M	N	P	Q	R	S	T			
6"	7.3"	8.0"	64"	7.6"	6.2"	2" 300# R.F. FLG.	1-1/2" 300# R.F. FLG.			

GULF LIQUIDS NEW RIVER  
P.O. NO. : 9912-207  
TAG : PM17.501

CKD	DATE	LET.	REVISIONS	BY

**ROTH** TURBINE PUMPS  
ROTH PUMP CO.  
Subsidiary of Roy E. Roth Company  
ROCK ISLAND, ILLINOIS 61204

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**93TSFCP5828BDI PUMPSET**

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DATE 5-13-2  
SCALE   
DRAWN TM  
CHECKED LK

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DRG. NO. B-32067

*106710*