

AGM-02-0204-PLA-P-0000  
N° PLANO:

P-1004 A/S  
LIQUID FUEL FORWARDING SKID DUPLEX PUMP  
DESIGN CAPACITY: 150 GPM [34.07 M<sup>3</sup>/H]  
DESIGN PRESSURE: 55-150 psig [378-1034 kPa]  
DESIGN TEMP: 40-150°F [4-66°C]

P-1005 A/S  
LIQUID FUEL FORWARDING SKID DUPLEX PUMP  
DESIGN CAPACITY: 150 GPM [34.07 M<sup>3</sup>/H]  
DESIGN PRESSURE: 55-150 psig [378-1034 kPa]  
DESIGN TEMP: 40-150°F [4-66°C]

F-1004  
LIQUID FUEL MANAGEMENT SPOOL  
DESIGN CAPACITY: 150 GPM [34.07 M<sup>3</sup>/H]  
DESIGN PRESSURE: 75 psig [517 kPa]  
DESIGN TEMP: 40-150°F [4-66°C]

F-1005  
LIQUID FUEL MANAGEMENT SPOOL  
DESIGN CAPACITY: 150 GPM [34.07 M<sup>3</sup>/H]  
DESIGN PRESSURE: 75 psig [517 kPa]  
DESIGN TEMP: 40-150°F [4-66°C]

P-0403 A/S  
DEMIN WATER FORWARDING SKID DUPLEX PUMP  
DESIGN CAPACITY: 120 GPM [27.25 M<sup>3</sup>/H]  
DESIGN PRESSURE: 15-59 psig [103-407 kPa]  
DESIGN TEMP: 40-110°F [4-43°C]

P-0404 A/S  
DEMIN WATER FORWARDING SKID DUPLEX PUMP  
DESIGN CAPACITY: 120 GPM [27.25 M<sup>3</sup>/H]  
DESIGN PRESSURE: 15-59 psig [103-407 kPa]  
DESIGN TEMP: 40-110°F [4-43°C]

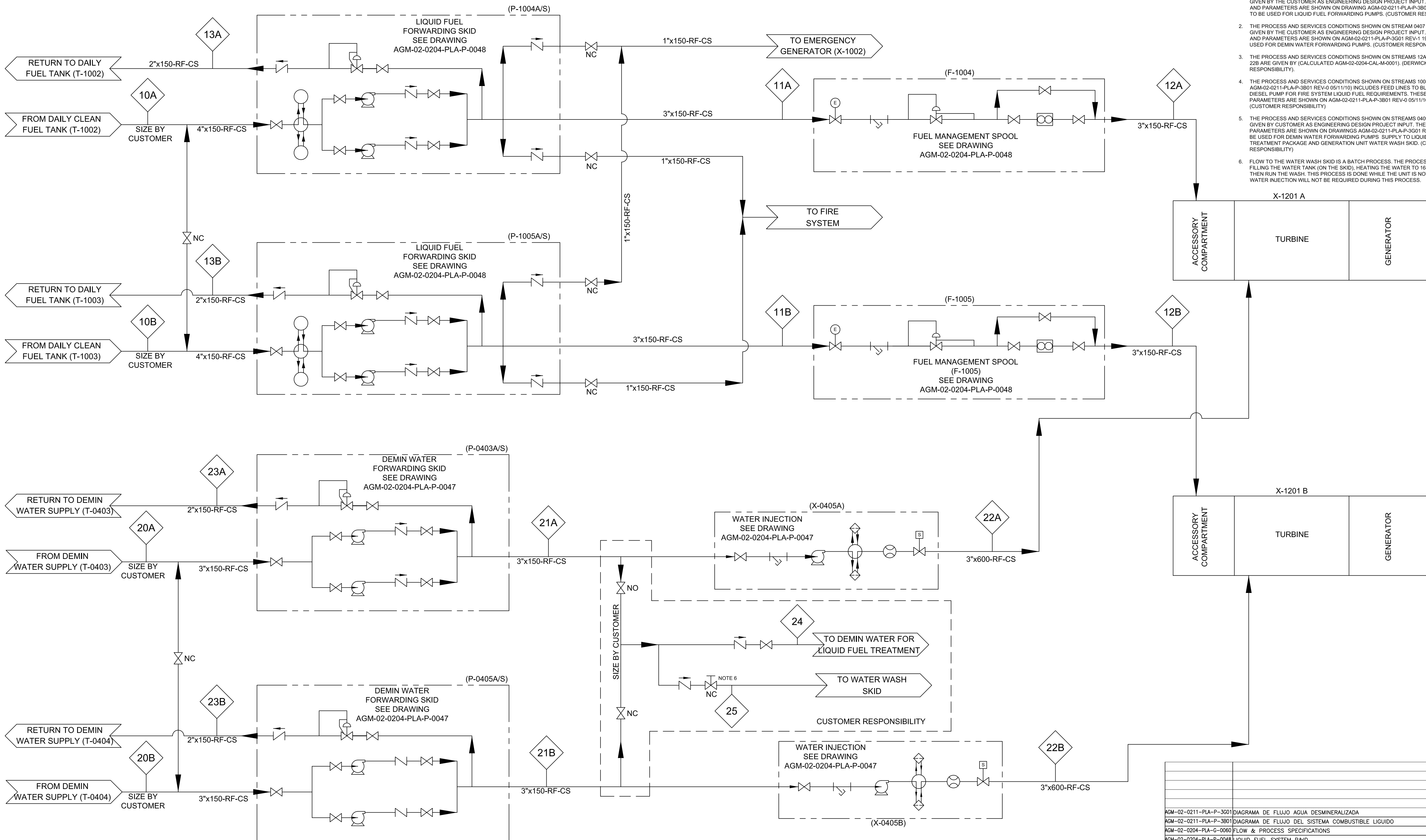
X-0405A  
DEMIN WATER INJECTION SKID  
DESIGN CAPACITY: 115 GPM [26.12 M<sup>3</sup>/H]  
DESIGN PRESSURE: 500 psig [3447 kPa]  
DESIGN TEMP: 40-110°F [4-43°C]

X-0405B  
DEMIN WATER INJECTION SKID  
DESIGN CAPACITY: 115 GPM [26.12 M<sup>3</sup>/H]  
DESIGN PRESSURE: 500 psig [3447 kPa]  
DESIGN TEMP: 40-110°F [4-43°C]

IMPORTANTE  
ESTE PLANO FUE ELABORADO EN AUTOCAD V.2008  
CUALQUIER MODIFICACION REALIZADA EN CAMPO  
DEBERA SER NOTIFICADO A LA UNIDAD  
RESPONSABLE  
QUEDA PROHIBIDO CORREGIR ESTE PLANO SIN  
AUTORIZACION DE ESTA UNIDAD.  
ALL DIMENSIONS IN BRACKETS [ ] ARE  
METRIC, EXPRESSED UNITS ARE  
IMPERIAL

## NOTES:

- THE PROCESS AND SERVICES CONDITIONS SHOWN ON STREAM 1006 AND 1007 ARE GIVEN BY THE CUSTOMER AS ENGINEERING DESIGN PROJECT INPUT. THESE VALUES AND PARAMETERS ARE SHOWN ON DRAWING AGM-02-0211-PLA-P-3801 REV-0 05/11/10 TO BE USED FOR LIQUID FUEL FORWARDING PUMPS. (CUSTOMER RESPONSIBILITY).
- THE PROCESS AND SERVICES CONDITIONS SHOWN ON STREAM 0407 AND 0408A ARE GIVEN BY THE CUSTOMER AS ENGINEERING DESIGN PROJECT INPUT. THESE VALUES AND PARAMETERS ARE SHOWN ON AGM-02-0211-PLA-P-3801 REV-1 19/01/11 TO BE USED FOR DEMIN WATER FORWARDING PUMPS. (CUSTOMER RESPONSIBILITY).
- THE PROCESS AND SERVICES CONDITIONS SHOWN ON STREAMS 12A, 12B, 22A, AND 22B ARE GIVEN BY (CALCULATED AGM-02-0204-CAL-M-0001). (DERWICK RESPONSIBILITY).
- THE PROCESS AND SERVICES CONDITIONS SHOWN ON STREAMS 1008 AND 1009 (SEE AGM-02-0211-PLA-P-3801 REV-0 05/11/10) INCLUDES FEED LINES TO BLACK START AND DIESEL PUMP FOR FIRE SYSTEM LIQUID FUEL REQUIREMENTS. THESE VALUES AND PARAMETERS ARE SHOWN ON AGM-02-0211-PLA-P-3801 REV-0 05/11/10 NOTE 2 (CUSTOMER RESPONSIBILITY).
- THE PROCESS AND SERVICES CONDITIONS SHOWN ON STREAMS 0409 AND 0412 ARE GIVEN BY CUSTOMER AS ENGINEERING DESIGN PROJECT INPUT. THESE VALUES AND PARAMETERS ARE SHOWN ON DRAWINGS AGM-02-0211-PLA-P-3801 REV-1 19/01/11 TO BE USED FOR DEMIN WATER FORWARDING PUMPS. SUPPLY TO LIQUID FUEL TREATMENT PACKAGE AND GENERATION UNIT WATER WASH SKID. (CUSTOMER RESPONSIBILITY).
- FLOW TO THE WATER WASH SKID IS A BATCH PROCESS. THE PROCESS CONSISTS OF FILLING THE WATER TANK (ON THE SKID), HEATING THE WATER TO 165°F [74°C] AND THEN RUN THE WASH. THIS PROCESS IS DONE WHILE THE UNIT IS NOT RUNNING THUS WATER INJECTION WILL NOT BE REQUIRED DURING THIS PROCESS.



LOCATION NUMBER		10A	10B	11A	11B	12A	12B	13A	13B	20A	20B	21A	21B	22A	22B	23A	23B	24	25
DESCRIPTION		FROM DAILY CLEAN FUEL TANK T-1002	FROM DAILY CLEAN FUEL TANK T-1003	FROM FORWARDING PUMP P-1004 A/S	FROM FORWARDING PUMP P-1005 A/S	FROM FUEL MANAGEMENT SPOOL F-1004	FROM FUEL MANAGEMENT SPOOL F-1005	RETURN TO FUEL SUPPLY T-1004	RETURN TO FUEL SUPPLY T-1005	FROM TREATED WATER SUPPLY T-0403	FROM TREATED WATER SUPPLY T-0404	FROM DEMIN FORWARDING PUMP P-0403 A/S	FROM DEMIN FORWARDING PUMP P-0404 A/S	FROM WATER INJECTION X-0405A	FROM WATER INJECTION X-0405B	RETURN TO TREATED WATER SUPPLY T-0403	RETURN TO TREATED WATER SUPPLY T-0404	TO LIQUID FUEL TREATMENT (NOTE 5)	TO WATER WASH SKID (NOTE 6)
FLOW RATE	GPM (M <sup>3</sup> /H)	150 (34)	150 (34)	108 (24.5)	108 (24.5)	108 (24.5)	108 (24.5)	42 (9.5)	42 (9.5)	115 (26.2)	115 (26.2)	50 (11.4)	50 (11.4)	50 (11.4)	50 (11.4)	63.55 (14.43)	63.55 (14.43)	1.45 (33)	2.09 (475)
TEMPERATURE	°F (°C)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)	81.14 (27.3)
PRESSURE	psig (kPa)	2 (14)	2 (14)	95 (65)	95 (65)	60 (414)	60 (414)	2 (14)	2 (14)	2 (14)	2 (14)	2 (14)	2 (14)	2 (14)	2 (14)	2 (14)	2 (14)	124.43 (867.9)	135.44 (933.9)
DENSITY	lb/ft <sup>3</sup> (kg/m <sup>3</sup> )	53.94 (864)	53.94 (864)	53.94 (864)	53.94 (864)	53.94 (864)	53.94 (864)	53.94 (864)	53.94 (864)	62.8 (1006)	62.8 (1006)	62.8 (1006)	62.8 (1006)	62.8 (1006)	62.8 (1006)	62.8 (1006)	62.8 (1006)	62.8 (1006)	62.8 (1006)
VISCOSITY	Pg-s	0.004000	0.004000	0.004000	0.004000	0.004000	0.004000	0.004000	0.004000	0.000851	0.000851	0.000851	0.000851	0.000851	0.000851	0.000851	0.000851	0.000851	0.000851
TOTAL SOLIDS	ppm	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30	2.30

CUSTOMER RESPONSIBILITY  
NOTE 5 & 6

REV.	FECHA	REVISIONES O MODIFICACIONES	DIBUJO	REVISO	APROBO
1	05/07/11	ISSUED FOR CONSTRUCTION	SAB	CB	TK
2	23/05/11	ISSUED FOR REVIEW	SAB	CB	TK
3	15/03/11	ISSUED FOR REVIEW	SAB	CB	TK

REF. FABRICANTE	FABRICANTE	O/C:
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N° DE DOCUMENTO	DESCRIPCION	REV.	FECHA
DOCUMENTOS DE REFERENCIA			
AGM-02-0211-PLA-P-3601	DIAGRAMA DE FLUJO AGUA DESMINERALIZADA	1	19/01/11
AGM-02-0211-PLA-P-3801	DIAGRAMA DE FLUJO DEL SISTEMA COMBUSTIBLE LIQUIDO	0	05/11/10
AGM-02-0204-PLA-G-0060	FLOW & PROCESS SPECIFICATIONS		
AGM-02-0204-PLA-P-0048	LIQUID FUEL SYSTEM P&ID		
AGM-02-0204-PLA-P-0047	DEMIN WATER FORWARDING/INJECTION SYSTEM P&ID		

DERWICK	ProEnergy	CORPOELEC	Electricidad de Caracas	AGENCIA NACIONAL DE INGENIERIA Y PROTECCION	SENECA
AMPLIACIÓN DE LA CAPACIDAD DE GENERACIÓN Y TRANSPORTE DE ELECTRICIDAD EN LA ISLA DE MARGARITA					
FLOW AND PROCESS					
DUAL FUEL MOD. UNITS 298034 & 298035 (DIAGRAM)					
PROYECTO N°:	REV:	ESCALA:	FECHA:	PLANO N°:	
0409-2956-1		NONE	05/07/11	AGM-02-0204-PLA-P-0009	
CALCULO:	PROYECTO:	CALCULO:	FECHA:	DISK N°	
REVISADO: C. Brown	REVISADO: J. Castillo	REVISADO: J. Castillo	REVISADO: J. Castillo	REVISADO: J. Castillo	
DIBUJO: S. Boerckel	DIBUJO: M. Monticelli	DIBUJO: M. Monticelli	DIBUJO: M. Monticelli	DIBUJO: M. Monticelli	
APROBADO: T. Koontz	APROBADO: M. Monticelli	APROBADO: M. Monticelli	APROBADO: M. Monticelli	APROBADO: M. Monticelli	
ARCHIVO:	ARCHIVO:	ARCHIVO:	ARCHIVO:	ARCHIVO:	
PAGINA:	1	DE:	1	REV:	0