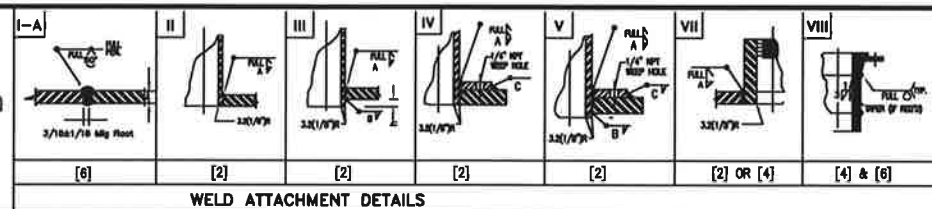
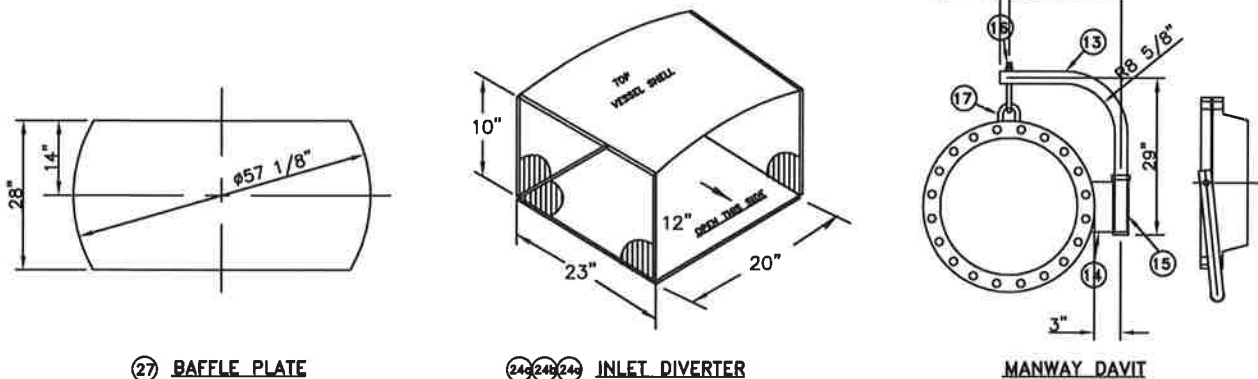


WELD PROCEDURE SPECIFICATIONS
 [2] - WP# MQI-2 REV 1:
 SMAW: (E6010/E7018-1)
 [4] - WP# MQI-4 REV 1:
 GMAW: (E705-2)/SMAW: (E7018-1)
 [6] - WP# MQI-6 REV 1:
 SAW: (F7A2-EM12K)
 MINIMUM PREHEAT TEMPERATURE:
 a) 1/16" TO 1 1/8" THK PREHEAT TO 50°F
 b) 1 1/4" THK & OVER PREHEAT TO 200°F

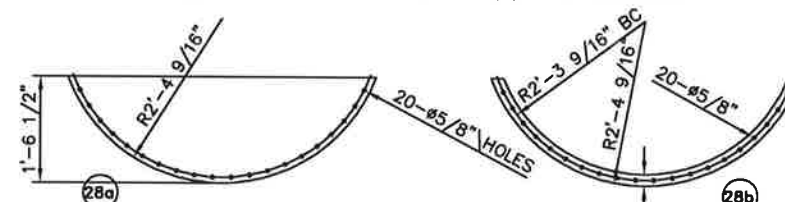


SHELL LONGITUDINAL AND CIRCUMFERENTIAL HEAD-SHELL WELDS SHALL BE PER WELD DETAIL 1-A.



NOZZLE NUMBER	QTY	SIZE	SCH/THK	RATING & FACING	SERVICE	PROJECTION		REPAD	WELD SIZE	WELD TYPE	BILL OF MATERIAL ITEM NUMBERS
						IN	OUT				
N1	1	10"	80	300#RFWN	GAS INLET/INSP	1/2"	8"	16"	3/8"	V/VIII	38, 39, 46
N2	1	8"	80	300#RFWN	GAS OUTLET	1/2"	8"	16"	3/8"	V/VIII	31, 32, 33
N3	1	2"	160	300#RFWN	PSV	Set Flush	4 1/2"		3/8"		40, 41
N4	1	4"	160	300#RFWN	WATER OUTLET	Flush	8"		3/8"	II/VIII	37A, 37B
N5	1	4"	160	300#RFWN	CONDENSATE OUT	Flush	8"	7"	3/8"	II/VIII	37A, 37B, 37C
N6	1	2"	160	300#RFWN	BRIDLE 1	Set Flush	6"		3/8"	II/VIII	40, 41a
N7	1	2"	160	300#RFWN	BRIDLE 1	Set Flush	Shown		3/8"	II/VIII	40, 42
N8	1	2"	160	300#RFWN	BRIDLE 2	Set Flush	Shown		3/8"	II/VIII	40, 42
N9	1	2"	160	300#RFWN	BRIDLE 2	Set Flush	4 1/2"		3/8"	II/VIII	40, 53
N10	1	2"	160	300#RFWN	TI	Set Flush	4 1/2"		3/8"	II/VIII	22, 40, 41, 43, 45
N11	1	3"	160	300#RFWN	HLSD	Set Flush	Shown	7"	3/8"	5/8"	34, 35, 36
N12	1	2"	160	300#RFWN	PI	Set Flush	4 1/2"		3/8"	II/VIII	22, 40, 41, 43, 44
N13	1	4"	160	300#RFWN	SPARE	Flush	8"	7"	3/8"	5/8"	37A, 37B, 37C, 47, 48, 49
BOOT	1	20"	7/8"	-	WATER BOOT	Flush	24"	36"	3/8"	5/8"	3, 4, 5
M1	1	18"	60	300#RFWN	MANWAY	1 1/4"	10"	37 1/2"	3/8"	5/8"	6, 7, 8, 9, 10, 11, 12

ONE (1) UNIT SHOWN IN BOM, TWO (2) UNITS REQUIRED.



ITEM	QTY	DESCRIPTION	MATERIAL
1	2	SHELL - 60" OD x 120' LG x 1 3/8" THK ROLLED PLATE (10'-0" Two Can)	SA-516-70N
2	2	HEAD - 2:1 SE 60" OD x 1 3/8" NOM THK (1.3125 MIN), 2" SF	SA-516-70N
3	1	WATER BOOT SHELL - 20" OD x 27 1/2" x 7/8" ROLLED PLATE	SA-516-70N
4	1	WATER BOOT HEAD - 2:1 SE 20" OD x 0.875" NOM (0.813 MIN) THK FORMED PLATE	SA-516-70N
5	1	WATER BOOT REPAD - 36" OD x 20 1/8" ID x 1" THK, ROLLED TO 60" ID	SA-516-70N
6	1	MANWAY NECK - 18" SCH 60 SMLS PIPE x 7 1/2" LG	SA-333-6
7	1	MANWAY FLANGE - 18" SCH 60 RFWN SCH 60 (0.75 THK) BORE	SA-350-LF2
8	1	MANWAY COVER - 18" OD 300# RF BLIND FLANGE	SA-350-LF2
9	1	MANWAY GASKET - 1/8" THK, 18" 300# ANSI, SPIRAL WOUND	316 SS
10	24	MANWAY STUD BOLTS - 1 1/4" x 7 3/4" LONG	SA-193-B7M
11	48	MANWAY HEX NUTS - 1 1/4"	SA-194-2HM
12	1	MANWAY REPAD - 37 1/2" OD x 1" THK FORMED TO SUIT 60" OD HEAD OF VESSEL	SA-516-70N
13	1	DAVIT ARM - 1 1/2" SCH XXH PIPE x 48" LG (BEND)	SA-106B
14	1	BRACKET - 8" x 3 1/2" x 5/8" PLATE	SA-36/44W
15	1	SLEEVE - 2" XH PIPE x 9" LG	SA-106B
16	1	5/8" EYEBOLT	STD
17	1	5/8" ROUND U BAR	SA-36/44W
18	1	NAMEPLATE BRACKET/NAMEPLATE	SA-36/304 SS
19	2	BASEPLATE - 55" x 11" x 1" THK PLATE	SA-36/44W
20	2	CHANNEL PLATE - 1/2" THK x 54" W x 10" FLG x 73 7/8" H	SA-36/44W
21	2	WEAR PLATE - 11" x 70" x 1/2" THK ROLLED PLATE TO 60" ID	SA-516-70N
22	16/32	STUD: 5/8" x 3 1/2" BOLT (C/W HEX NUT - SA-194-2HM)	SA-193-B7M
23	2	RIB - 9" x 58 1/2" x 3/4" THK	SA-36/44W
24a	1	INLET DIVERTER - 20" x 23 1/4" x 3/8" PLATE (BOTTOM PLATE)	SA-36/44W
24b	2	10" H x 12" H x 23" W x 3/8" PLATE (SIDE PLATE)	SA-36/44W
24c	1	10" x 20" x 3/8" PLATE (BACK PLATE)	SA-36/44W
25	1	MISPAD - 24" OD x 4" x 9" /cu ft (TWO PIECES)	304 SS
26a	1	MISPAD SUPPORT - 24" ID x 12" LG x 1/4" THK ROLLED PLATE	SA-36/44W
26b	1	1" x 1/4" x 23 7/8" FLAT BAR - STAR DESIGN (Removable)	SA-36/44W
27	1	BAFFLE PLATE - 28" x 3/8" THK x 57 1/8" ROUNDED ON TWO ENDS	SA-36/44W
28a	1	WEIR PLATE - 3/8" THK PLATE - SEE DETAIL	SA-36/44W
28b	1	PLATE CLIP HOLDER - 3/8" THK x 2" W - SEE DETAIL	SA-36/44W
28c	20	1/2" x 2" BOLT (C/W HEX NUT - SA-194-2HM)	SA-193-B7M
29	2	LIFTING LUG - 11 1/4" W x 9" H x 3/4" THK PLATE - See Detail	SA-516-70N
30	2	VORTEX BREAKER - 3/8" THK PLATE - SEE DETAIL	SA-36/44
31	1	FLANGE - 8" 300# RFWN SCH 80 BORE	SA-105N
32	1	NOZZLE NECK, 8" SCH 80 (0.50 THK) x 5 3/4" LG.	SA-106-B
33	1	REPAD, 16" OD x 1" THK ROLLED TO 60" ID	SA-516-70N
34	1	FLANGE - 3" 300# RFWN SCH 160 BORE	SA-105N
35	1	NOZZLE NECK, 3" SCH 160 (0.438 THK) x 5 3/8" LG.	SA-106-B
36	1	REPAD, 6" OD x 1" THK ROLLED TO 60" ID	SA-516-70N
37A	3	FLANGE - 4" 300# RF RFWN SCH 160 BORE	SA-105N
37B	3	NOZZLE NECK - 4" SCH 160 SMLS PIPE x 6 1/2"	SA-106-B
37C	2	REPAD - 1" THK PLATE 7" OD x 4 5/8" ID	SA-516-70N
38	1	FLANGE - 10" 300# RFWN SCH 80 BORE	SA-105N
39	1	NOZZLE NECK, 10" SCH 80 (0.593 THK) x 6" LG.	SA-106-B
40	7	FLANGE - 2" 300# RFWN SCH 160 BORE	SA-105N
41	3	NOZZLE NECK, 2" SCH 160 (0.344 THK) x 3 1/2" LG.	SA-106-B
41a	1	NOZZLE NECK(N6), 2" SCH 160 (0.344 THK) x 4 7/8" LG.	SA-106-B
42	2	NOZZLE NECK, 2" SCH 160 (0.344 THK) x 5 5/8" LG.	SA-106-B
43	2	GASKET - 1/8" THK, 2" 300# ANSI, SPIRAL WOUND	316 SS
44	1	RED. FLANGE - 2" 300# RF x 1/2" NPT	SA-105N
45	1	RED. FLANGE - 2" 300# RF x 3/4" NPT	SA-105N
46	1	REPAD - 19" OD x 10 7/8" ID x 1" THK ROLLED TO 60" ID	SA-516-70N

DESIGN DATA

DESIGN AND FABRICATE TO ASME CODE SECT VIII DIV 1 - 2001 EDITION '03 ADDENDA	
DESIGN PRESSURE : 740 PSI	DESIGN TEMPERATURE : 100 °F
RADIOGRAPHY: LONGITUDINAL - 100% CIRC : 100%	EFFICIENCY: 1 [per UW-12(d)]
HYDROSTATIC TEST PRESSURE: 962 PSIG	CORROSION ALLOWANCE : 1/8"
P.W.H.T. : @ 1150°F FOR 90 MIN.	MDMT : -20°F @ 740 PSI
VOLUME: 409 CU FT	OVERALL LENGTH : 286 3/8"
WEIGHT (EMPTY) : 29100 LBS.	OVERALL HEIGHT : 128"
BOOT SHELL DESIGN THICKNESS : 0.875" NOM.	WEIGHT FULL OF WATER : 52160 LBS.
VESSEL SHELL DESIGN THICKNESS : 1.375" NOM.	BOOT HEAD DESIGN THICKNESS : 0.813" MIN
	VESSEL HEAD DESIGN THICKNESS : 1.3125" MIN

NOTES:

- Impact Testing shall be only on shell and heads of the vessel per UG-84 with 15 ft-lb energy; Impact Testing Exempt per UG-20(f), 1 through 5 and UCS-68(a) & (b) and Note (e), for all other parts.
 - External Loading are not Applicable (Ref UG-22).
 - Fabrication tolerances shall be in accordance with Mar-Quinn Industries Ltd. Standard Vessel Tolerances per QCP 10-4.
 - Attachments with no weld detail or symbol shall be attached by a minimum of 1/4" fillet weld using latest revision of WPS MQI-1 or MQI-2 when PWHT is required.
 - Exterior or interior corners or edges of openings without a radius value shall be chamfered to a 1/16" minimum or rounded to a 1/8" minimum radius.
- Ref. Drawing # 330, rev C, CRN R9125.2

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APPD	TITLE	OC
	3 PHASE SEPARATOR 60" OD x 20'-0" s/s + 1/8" C.A. 740 PSI @ -20/100°F (SOUR SERVICE)	LAYOUT/PROP VESSEL FAB 3RD FAB PFRM/PWT ARIA/P. ENG
DRAWING NO.	138-02-04-A	DATE
SCALE	3/4"=1'-0"	DATE
BY	APPD	DATE
REV	DESCRIPTION	DATE

V-100
SOUR INLET SEPARATOR

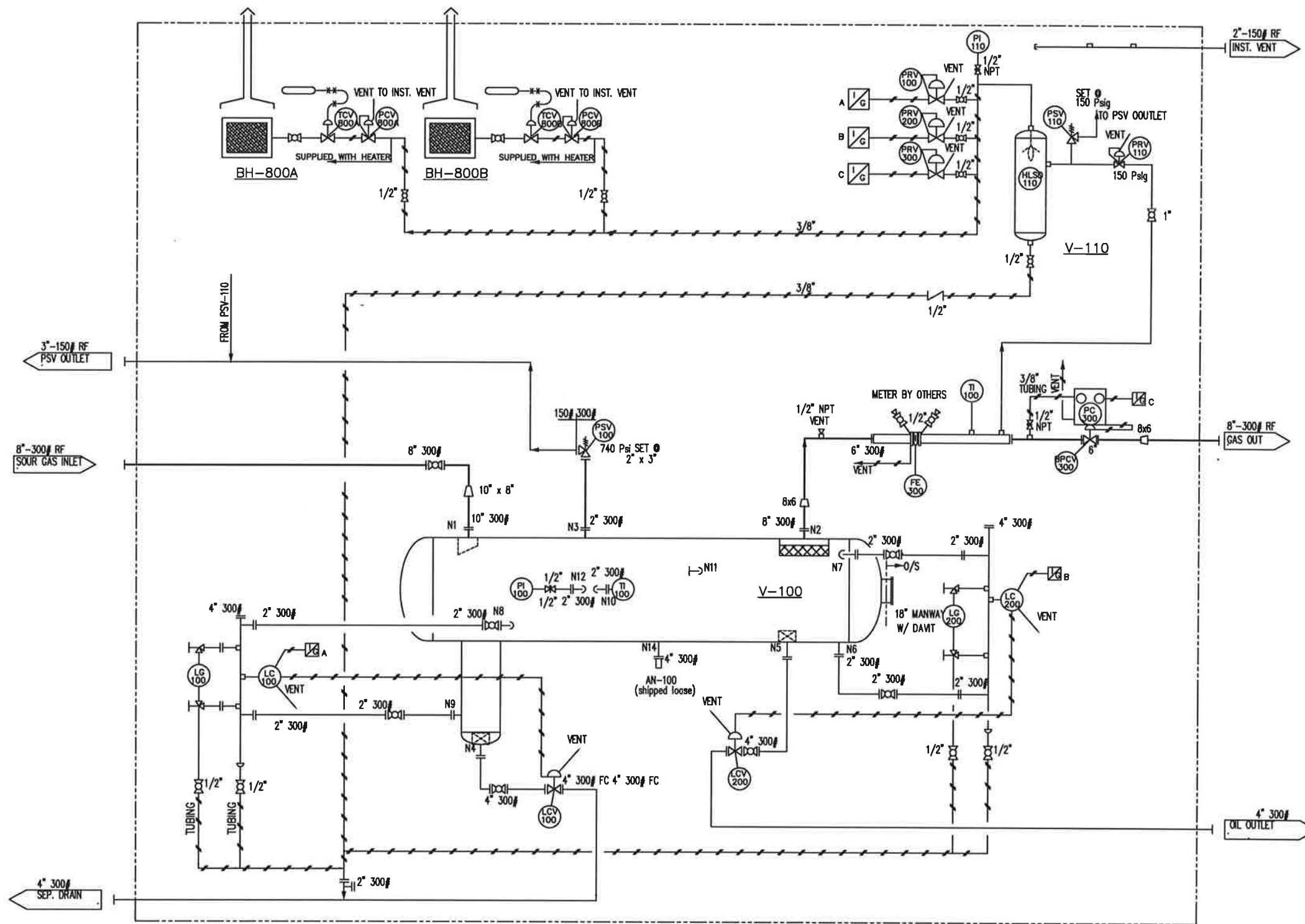
VENDOR: MARQUINN INDUSTRIES LTD.
SIZE: 60" OD x 240" s/s
D.P.: 740 PSIG @ -20/100°F
CA : 1/8", PWHT, 100% RT

BH-800A/B
CATADYNE BUILDING HEATER

VENDOR: CCI THERMAL TECHNOLOGIES
MODEL: CATADYNE Bx24x24, 12VDC START
DUTY: 24000 BTU HEATER C/W 100%
SSOV, GRILL, FISHER 912
REGULATOR, VENT HOOD AND
TEMPERATURE CONTROL
NATURAL GAS

V-110
SCRUBBER

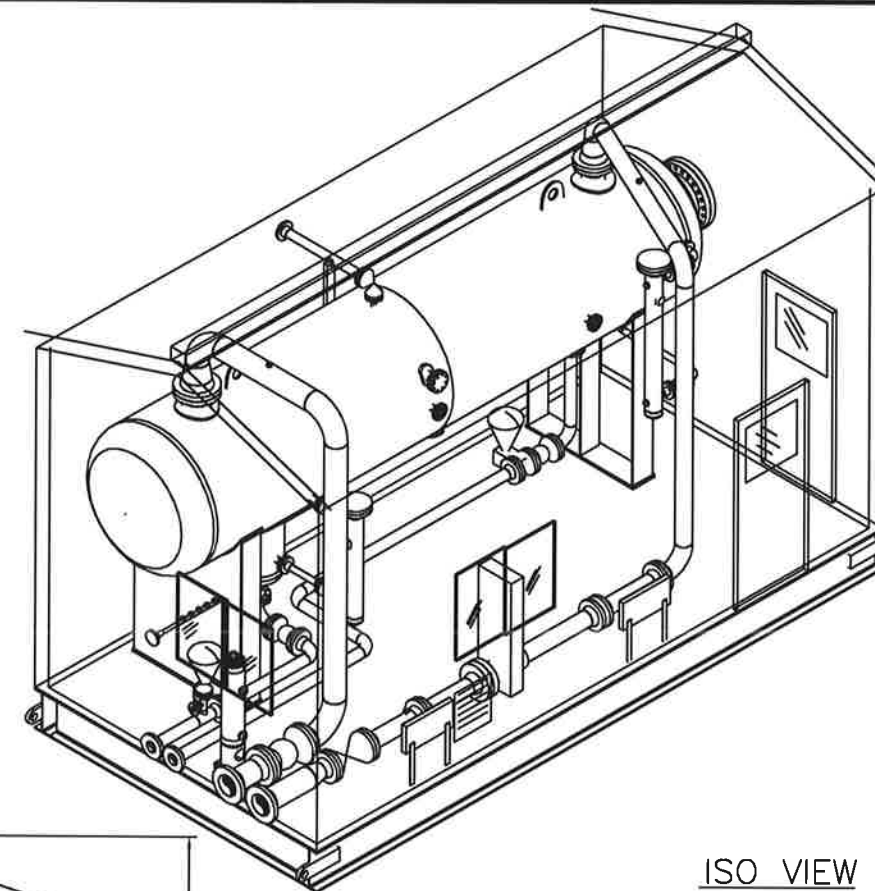
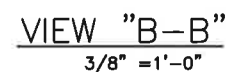
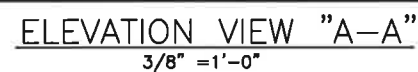
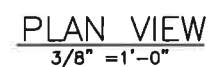
VENDOR: MARQUINN INDUSTRIES LTD.
SIZE: 8 5/8" OD x 30" s/s
D.P.: 250 PSIG @ -20/100°F
CA : 1/8", PWHT, 100% RT



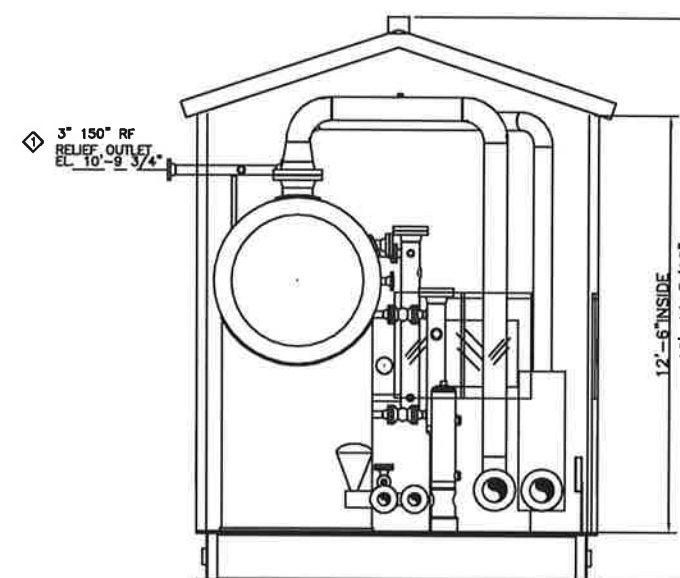
TAG-NO.	QTY	MAKE	DESCRIPTION
PRV-110	1	Fisher	1" NPT - 627 Regulator (Nace) 70-150 psi Range, 3/16" Orifice
PRV-100	1	Fisher	67CFR REGULATOR 0-35 PSI RANGE, Sour Service
PRV-200	1	Fisher	67CFR REGULATOR 0-35 PSI RANGE, Sour Service
PRV-300	1	Fisher	67CFR REGULATOR 0-35 PSI RANGE, Sour Service
BPCV-300	1	CVS	6" 300# RF A-100 c/w 70 Actuator, Fail close, 0-30 psi
PC-200	1	Fisher	4150KR Pressure Controller, Sour Service, 0-1500 psi
LCV-100	1	Fisher	4" 300# ANSI, V100 Control Valve, c/w 1051-40 FC Actuator
LCV-200	1	Fisher	4" 300# ANSI, V100 Control Valve, c/w 1051-40 FC Actuator
HLSO-110	1	Zirco	2" NPT Float Style High Level Shut Off Valve
LG-100	1	Jerguson	19-R-20SG Reflex Gauge c/w 146 Gage Valves, Sour Service
LG-200	1	Jerguson	19-R-20SG Transparent Gauge c/w 146 Gage Valves, Sour Service
LC-100	1	Fisher	L2 Level Controller, Sour Service
LC-200	1	Fisher	L2 Level Controller, Sour Service
PSV-100	1	FARRIS	26HA12-120/S7 SET AT 740 PSIG 2" 300# x 3" 150# RF, NACE
PSV-110	1	FARRIS	27DA33/S7 1" x 1" NPT SET AT 150 psig, NACE
PI-100	1	Wika	Modell 233.54, 4 1/2" Liquid Field, 0-1500 psig Dual Scale
PI-110	1	Wika	Modell 111.10, 2 1/2" Dry, 0-160 psig Dual Scale
TI-100	1	Gaugetech	Model GT34-02 - 3" Face, DUAL SCALE c/w 316SS THERMOWELL
TI-300	1	Gaugetech	Model GT34-02 - 3" Face, DUAL SCALE c/w 316SS THERMOWELL
FE-300	1	Daniel	6" 300# S80, Senior Meter Run, CGA-50E
Ball Valve	1	Nutron	8" 300# FULL PORT Ball valves, SOUR SERVICE
Ball Valve	2	Nutron	4" 300# FULL PORT Ball valves, Model B3-F40R03S SOUR SERVICE
Ball Valve	4	Nutron	2" 300# REG. PORT BALL VALVES, SOUR, T3-R20R03S
Ball Valve	1	Nutron	1" 3000# REG. PORT BALL VALVE, Sour, T3-R10S30S
Ball Valve	8	Nutron	1/2" 2000# FULL PORT BALL VALVE, SOUR, T3-F05S20S
Needle Valve	3	Century	1/2" 6000# NPT Needle Valves, CM2-1-F44T-BV, 316SS
Check Valve	1	Wheatley	1/2" 6000# NPT Check Valve
AN-100	1	AMS	4" 300# FLANGED ZINC ANODE, SHIPPED LOOSE

- NOTES:
1. ALL TUBING AND TUBE FITTINGS TO BE 316SS
 2. ALL FLEXATALLIC GASKETS TO BE 316SS.
 3. ALL INSTRUMENTS VENTS TO HEADER

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APP'D 	DESIGNED CD	TITLE PROCESS INSTRUMENT DIAGRAM 60" OD x 20'-0" S/S 740 PSI HORIZONTAL SEPARATOR PACKAGE (SOUR SERVICE)	DRAWN CD	CHECKED CD	DATE 11.16.04
AS BUILT REV		DESCRIPTION SP3602-04	DATE 11.16.04	DRAWING NO. 138-02-04-B	SCALE NTS
		PROJECT NO. 138-02-04-B	SHEET NO. 11.16.04	SHEET TOTAL 11.16.04	SHEET TOTAL 11.16.04



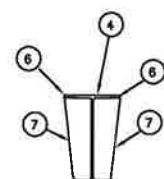
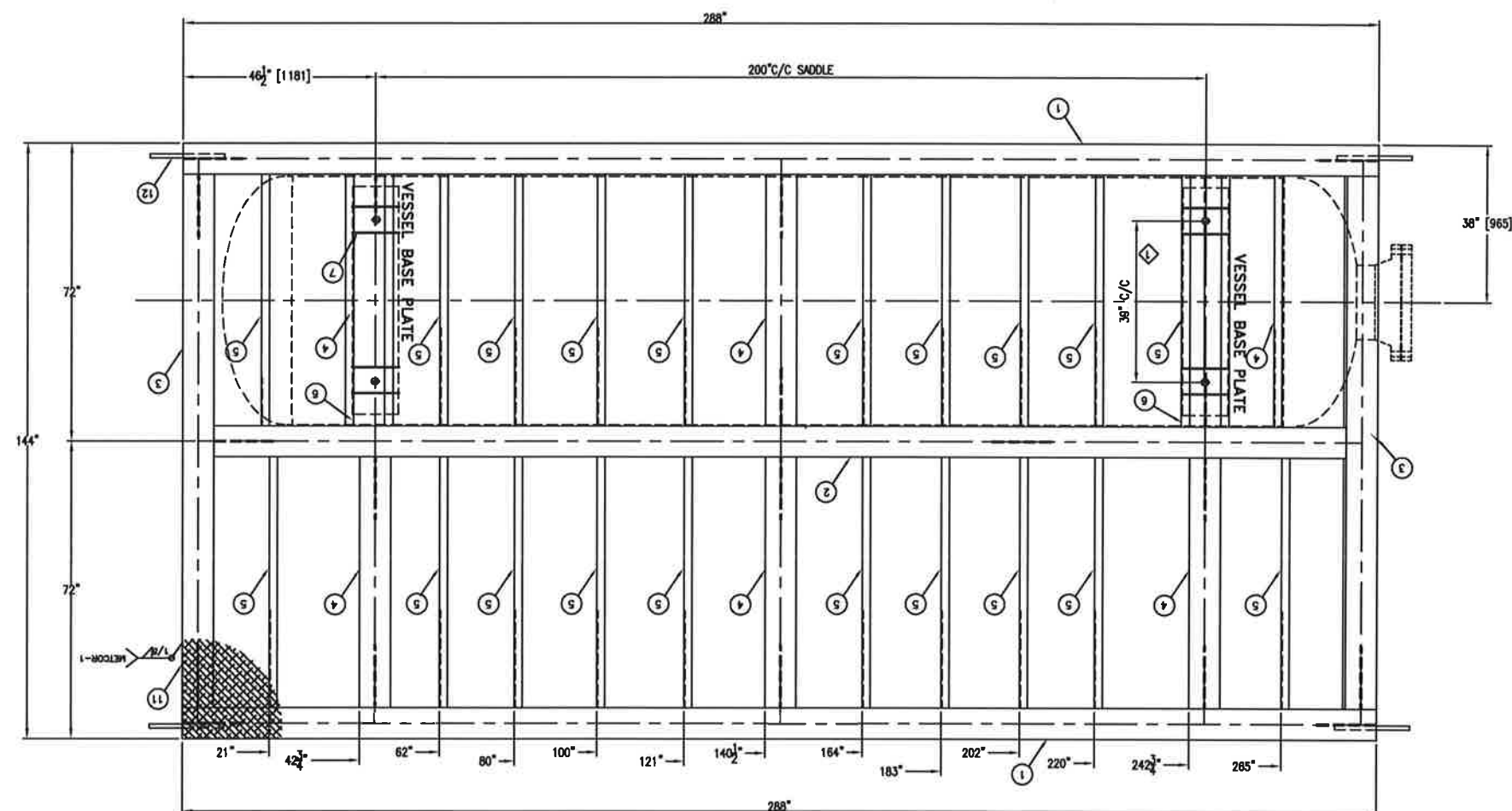
ISO VIEW



END VIEW "C-C"
 $\frac{3}{8}" = 1'-0"$

- 1) PIPING DESIGN AND FABRICATE PER ASME B31.3 2002 EDITION
- 2) WELDED PIPING ARE- FOR 300# 2" AND ABOVE SCH XH;
THREADED PIPE 1/2" & UNDER SCH. XXH PIPE, 3/4" & ABOVE SCH 160
PIPE- SA-106-B, FLANGE - SA-105N, FITING - SA-234-WPB
- 3) RADIOGRAHY FOR WELDED PIPING SHALL BE 100% PER ASME B31.3.
- 4) PIPING STRESS RELIEVED @ 1150°F FOR 60 MINUTES PER ASME B31.3
- 5) STUDS = A-193-B7M, NUTS = A-194 2HM , GASKETS = 316 SS FLEXATALLIC.
- 6) PNEUMATIC INSTRUMENT TUBINGS ARE 316 STAINLESS STEEL.
- 7) INSTRUMENT FITTINGS ARE SWAGelok 316 STAINLESS STEEL.
- 8) ALBERTA QUALITY CONTROL NO. AQP 1128, WELDING PROCEDURE NO. 884.2 MQI-1, MQI-3

MAR-QUINN					MAR-QUINN INDUSTRIES LTD. LEDUC, ALBERTA					ENERFLEX Leduc Ltd.	
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					APPD		TITLE PIPING ARRANGEMENT DRAWING 60" OD x 20'-0" S/S 740 PSIG HORIZONTAL SEPARATOR PACKAGE (SOUR SERVICE)			DC LAYOUT/PROP VESSEL FAB TEND FAB PIPING/INST	
					CHECK					ASEA/P. ENG.	
DRAWN		CD			08.26.04						
BRIDLE REVISED		CD		10.05.04							
ISSUED FOR CONSTRUCTION		CD		06.16.04		JOB NO. SP3802-3803-04		DRAWING NO. 138-02-04-C		REV 1	
REV		DESCRIPTION		BY		APPD		DATE		SCALE SHOWN	
										ISSUE DATE 09.16.04	
										TOTAL	



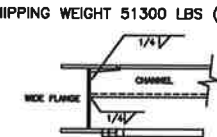
STIFFENER DETAIL

MATERIAL LIST				
ITEM	QTY	PART	DESCRIPTION	MATERIAL
1	2	MAIN MEMBER	18" ϕ 50# /FT WIDE FLANGE x 288" LG. $\pm$	44W
2	1	MAIN MEMBER	18" ϕ 50# /FT WIDE FLANGE x 280" LG. $\pm$	44W
3	2	END MEMBER	18" ϕ 50# /FT WIDE FLANGE x 136" LG. $\pm$	44W
4	6	CROSS MEMBER	18" ϕ 50# /FT WIDE FLANGE x 67 3/4" LG. $\pm$	44W
5	20	MEMBER	C6 x8.2# /FT x 67 3/4" LG. $\pm$	44W
6	4	CROSS MEMBER EXTENSION	F.B. 1/2" THK x 2" WD x 67 3/4" LG $\pm$	44W
7	16	STIFFENER	1/4" x 7" WD x 17 1/4" HI PLATE (CUT TO HALVES)	44W
8			SEE DETAIL	
9				
10				
11	1	FLOOR	12' x 24' x 6mm CHECKER PLATE (TOTAL SIZE)	44W
12	4	LIFTING LUGS	1" x 12" x 24" PLATE	44W
13				
14				
15				

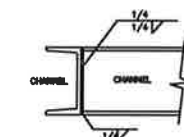
ONE (1) UNIT SHOWN IN BOM, TWO (2) UNITS REQUIRED.

NOTES :

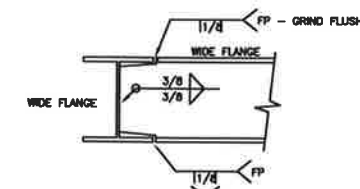
- 1) TOP OF CHECKER PLATE REF. ELEV. 0".
- 2) CHECKER PLATE SHALL BE 6mm (~1/4") THICK. PLATES WILL MEET ON STRUCTURAL MEMBERS, 100% SEAL WELDED ON TOP AND STITCH-WELDED TO STRUCTURAL MEMBER ON BOTTOM.
- 3) SKID SURFACE PREPARATION TO BE PER SSPC-SP8.
- 4) SKID TO BE PAINTED AS FOLLOWS:
ONE COAT PRIMER
ONE COATS WARM GREY ENAMEL
- 5) 2" URETHANE FOAM INSULATION APPLIED UNDERSIDE OF SKID c/w FIRE RETARDANT.
- 6) SKID SHALL BE LIFTED AT EMPTY VESSEL.
- 7) SKID ESTIMATED WEIGHT 12200 LBS
- 8) TOTAL SHIPPING WEIGHT 51300 LBS (ESTIMATED)



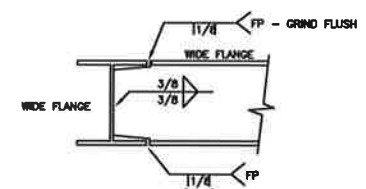
WIDE FLANGE - CHANNEL WELD



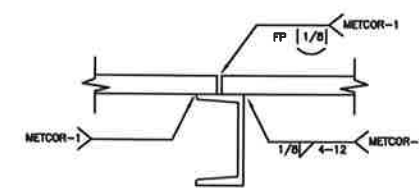
MAIN CHANNEL - MAIN CHANNEL WELD
MAIN CHANNEL - VESSEL SUPPORT CHANNEL



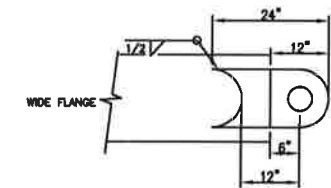
MAIN MEMBER-END MEMBER



MAIN MEMBER-CROSS MEMBER WF



CHECKER PLATE WELD SEAM



LUG & WELD SIZE VARIES AS PER TOTAL LOAD
LIFTING LUG

TYPICAL WELD CONNECTIONS

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APPD		TITLE		12' W x 24' LG SKID w/ 18" 50# MAIN BEAM FOR 60" OD x 20'-0" s/s HORIZONTAL THREE PHASE SEPARATOR			
CHKD				MAR-QUINN LAYOUT/PREP			
DRAWN				VESSEL FAB			
CD		09.08.04		SKID FAB			
04				PIPING/INST			
JOB NO.		DRAWING NO.		REV		SCALE	
SK3802-3803-04		138-02-04-D		1"=2'		ISSUE DATE	
E				1"		TOTAL	