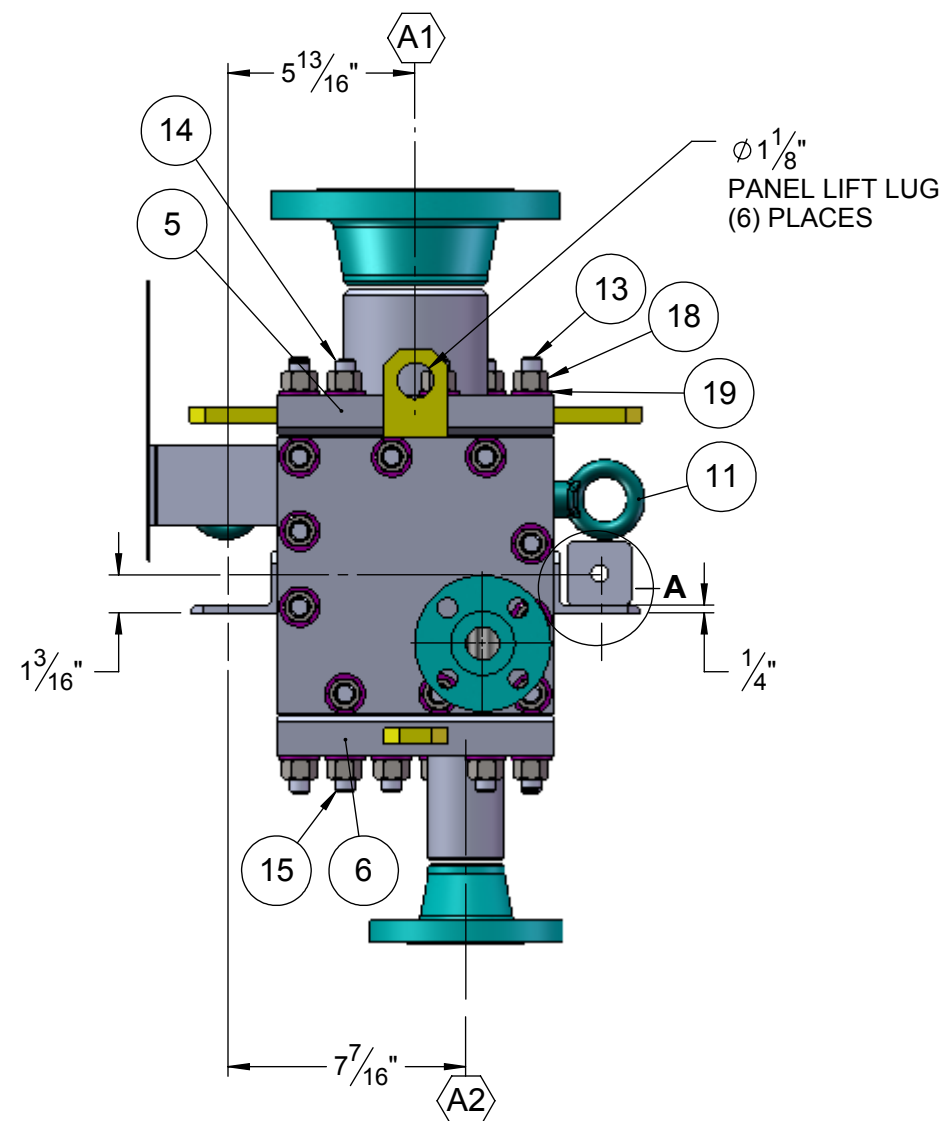
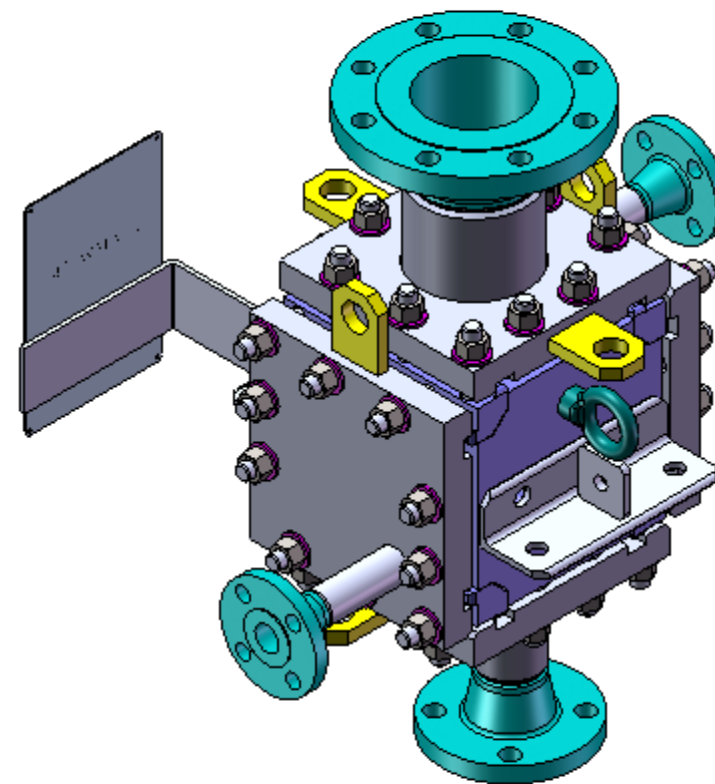
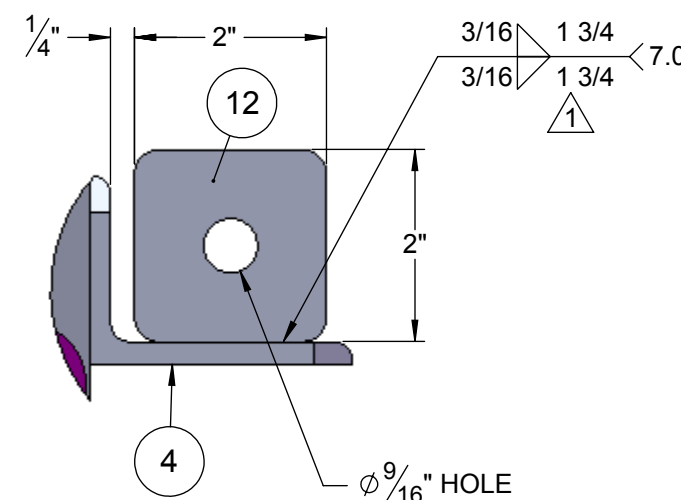
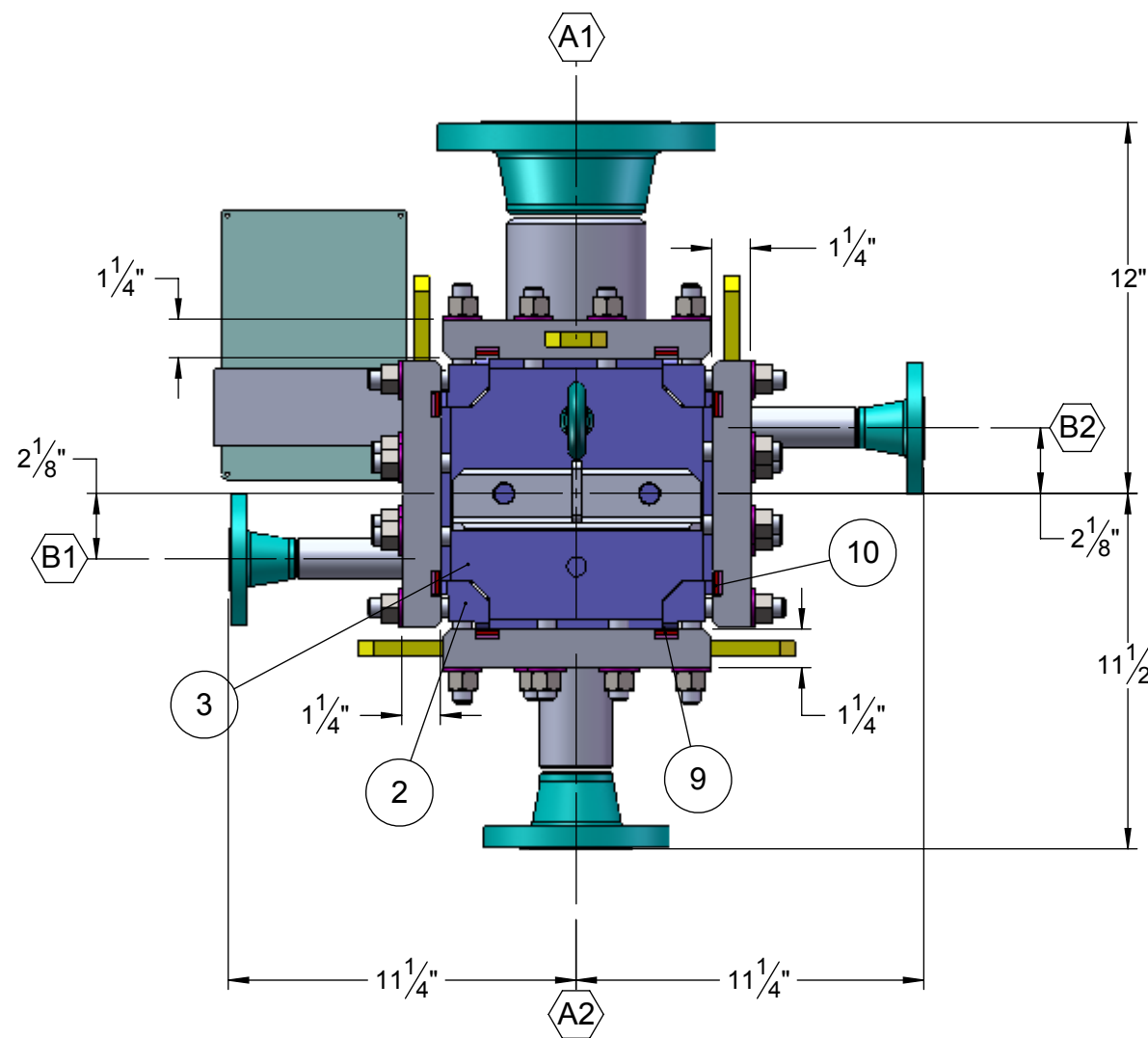


TOP VIEW LOOKING AT PANEL Aa



VIEW LOOKING AT PANEL Ba



DETAIL A  
SCALE 1 : 2

19	40	423-99-9901-001	WASHER - M16	C45.E
18	40	407-99-9902-004	NUT - M16 HEAVY HEX	SA-194 2H
17	8	408-99-9901-019	STUD M16 x 90mm LG (Bb)	SA-193 B7
16	8	408-99-9901-019	STUD M16 x 90mm LG (Ba)	SA-193 B7
15	8	408-99-9901-019	STUD M16 x 90mm LG (Ab)	SA-193 B7
14	8	408-99-9901-019	STUD M16 x 90mm LG (Aa)	SA-193 B7
13	8	408-99-9901-020	STUD M16 x 125mm LG (Corner)	SA-193 B7
12	1	305-69-1713-001	GROUND LUG	SA-240 316L
11	2	AL16	LIFTING EYE - CP15	CS
10	2	411-15-0316-001	GASKET B - CP15-30	GYLON 3504
9	2	411-15-0316-001	GASKET A - CP15-30	GYLON 3504
8	1	203-15-0302-010	PANEL Bb ASSEMBLY	-
7	1	203-15-0302-009	PANEL Ba ASSEMBLY	-
6	1	203-15-0302-008	PANEL Ab ASSEMBLY	-
5	1	203-15-0302-007	PANEL Aa ASSEMBLY	-
4	2	34502134	HORIZONTAL SUPPORT - CP15	SA-36
3	2	34502051	HEAD CP15	SA-516 Gr.60(N)
2	4	3490011527	COLUMN - CP15-30	SA-516 Gr.60(N)
1	1	239-01-0301-001	HEART	SA-240 316/L
ITEM NO.	QTY.	PART NO	DESCRIPTION	MATERIAL

PERFORMANCE/UNIT	CIRCUIT A	CIRCUIT B
FLUID	150# Steam	Water
FLOW RATE lb/h	1,892	18,290
TEMPERATURE IN/OUT °F	364.0 / 364.0-309.4	70.0 / 165.0
PRESSURE DROP PSIG	0.0735	4.37
SURFACE AREA (sq. ft.)	7.9	30 PLATES
NUMBER OF PASSES	1	3

DESIGN CONDITIONS

DESIGN PRESSURE PSIG	195/FV	195/FV
TEST PRESSURE (PSIG)	254	254
DESIGN TEMPERATURE (°F)	392 / -7	392 / -7
WEIGHT (lbs)	EMPTY: 225	FLOODED: 245

MATERIALS OF CONSTRUCTION

HEAT TRANSFER PLATE PACK	SA-240 316/L	
PANEL COVER	SA-516 GR.70(N)	SA-516 GR.70(N)
HEADS	SA-516 GR.60(N)	SA-516 GR.60(N)
PANEL LINERS	SA-240 316/L	SA-240 316/L
NOZZLE LINERS	UN-LINED	UN-LINED
COLUMN	SA-516 GR.60(N)	SA-516 GR.60(N)
PANEL GASKETS	Gylon 3504	Gylon 3504
BOLTING	SA-193 B7 / SA-194 2H	SA-193 B7 / SA-194 2H

PAINT: SEE NOTE# 5.

NOZZLE SCHEDULE

TAG	SIZE	SCH	DESCRIPTION	SERVICE
A1	4"	STD	150# - WN-RF FLANGE, SA-182-316/L	HOT INLET
A2	2"	STD	150# - WN-RF FLANGE, SA-182-316/L	HOT OUTLET
B1	1"	STD	150# - WN-RF FLANGE, SA-182-316/L	COLD INLET
B2	1"	STD	150# - WN-RF FLANGE, SA-182-316/L	COLD OUTLET

NOTES:

- Designed, constructed and "U" stamped in accordance with ASME Code Section VIII Division 1, 2013 Edition, NB registered.
- Tolerances on linear dimensions  $\pm 1/8"$ , unless otherwise noted. Tolerance on angular dimensions  $\pm 1/2^\circ$ .
- Flange bolt holes to straddle shown center lines.
- Impact testing exempt per subsection C, UCS-66(a)(b) and UHA-51(d).
- Painting: All surfaces except flange faces will be painted, including non-ferrous components. Surface preparation shall be abrasive blasted per SSPC-SP10. Paint- (2 coats) International Intertherm 228HS, 4-6 mils dft. per coat, color: Gray. See panel assembly drawings for welding and panel details.
- ER309 wire used for welding procedure 7.0.

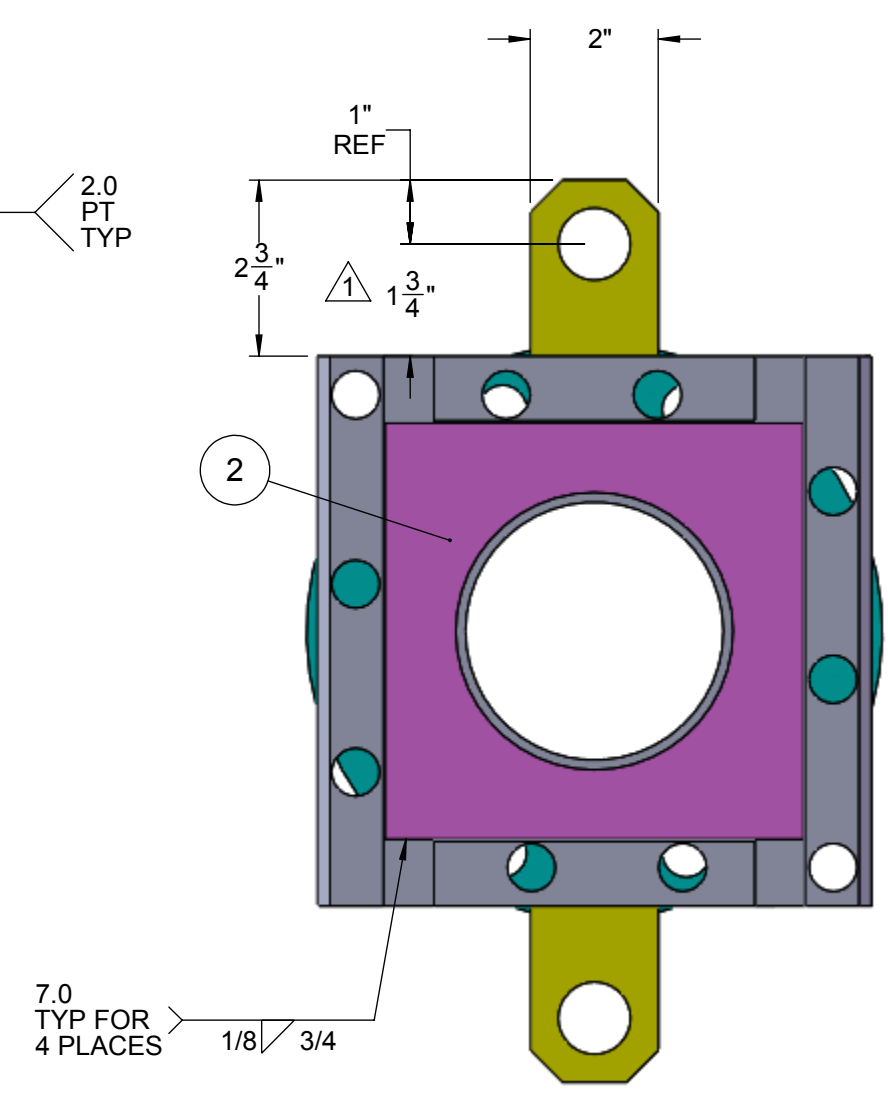
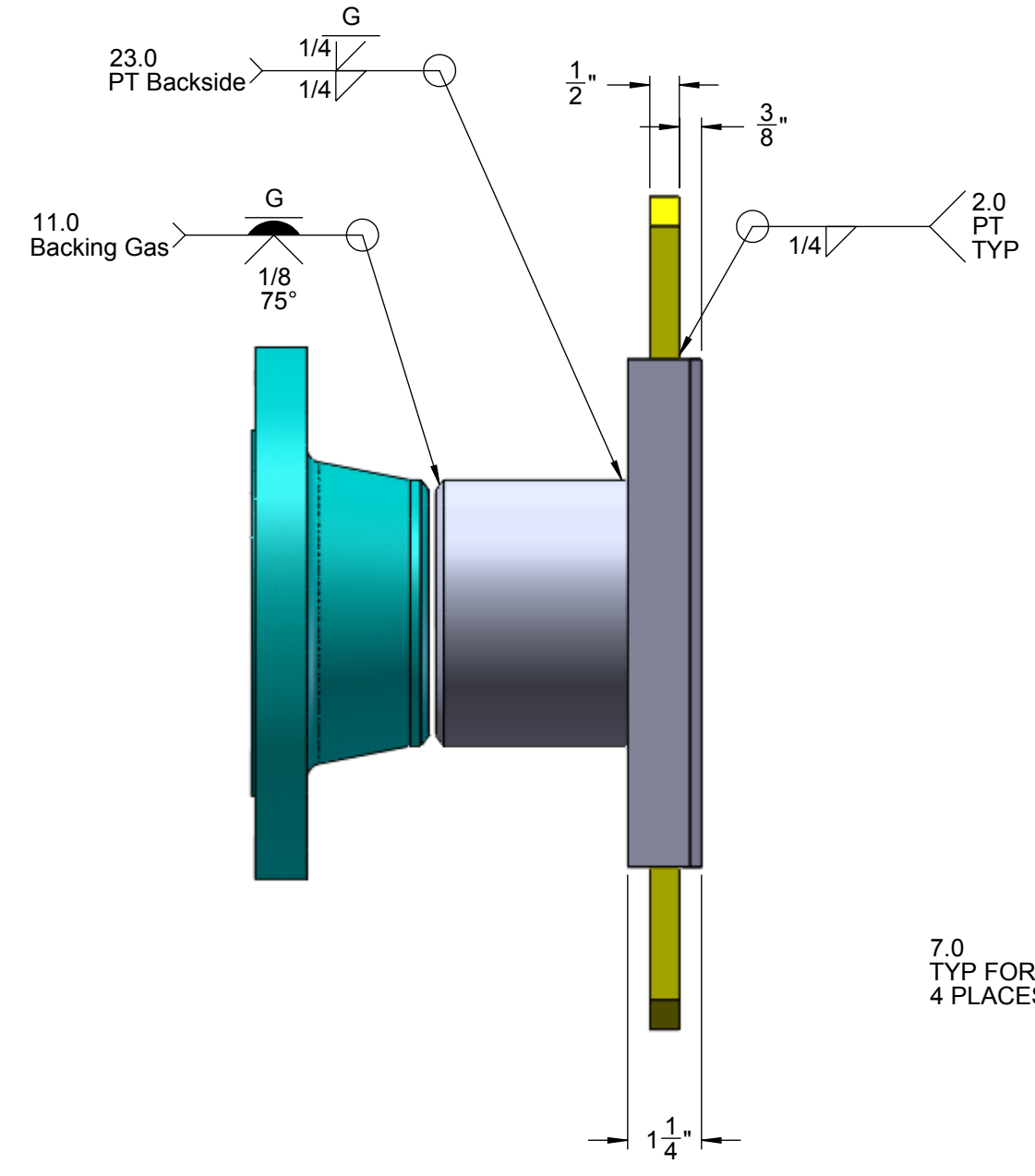
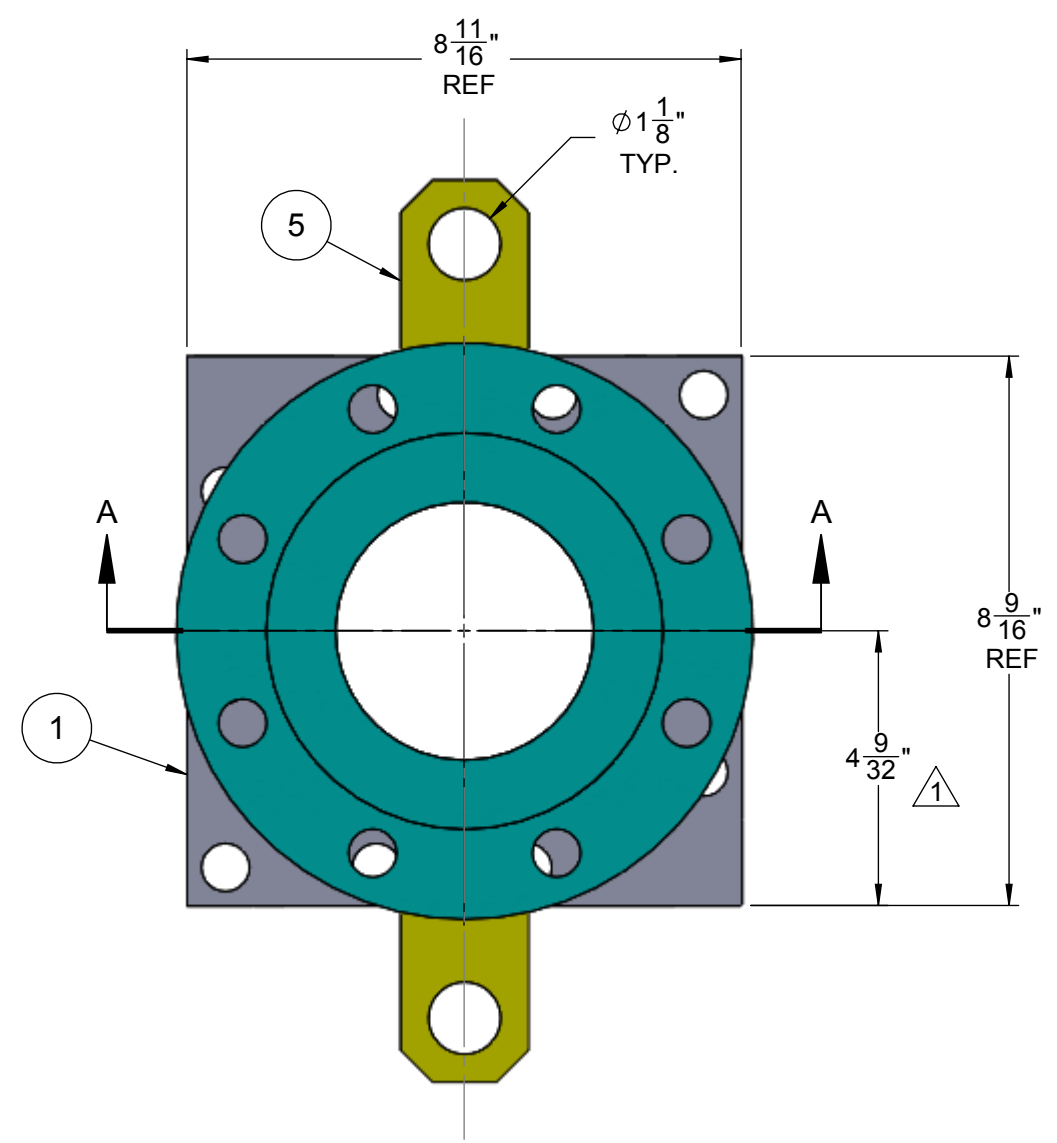
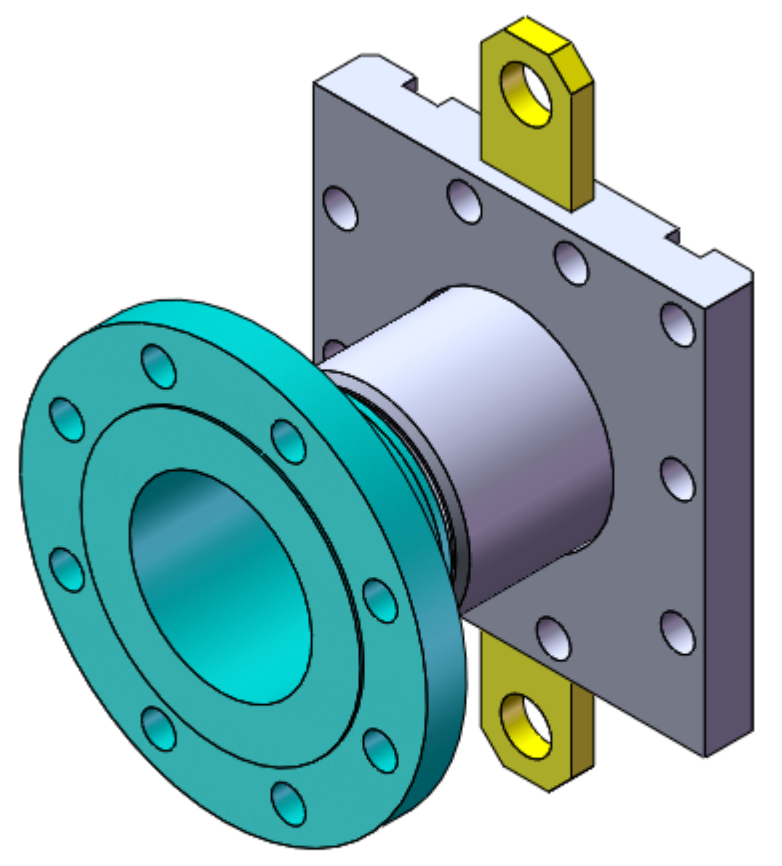
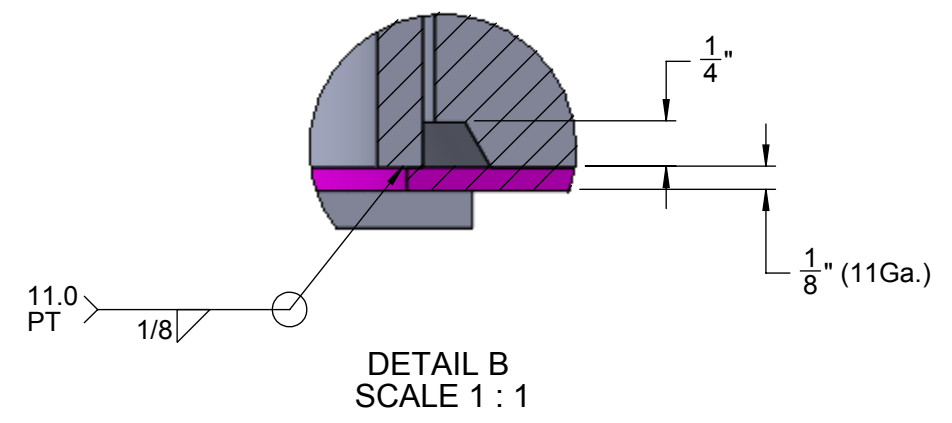
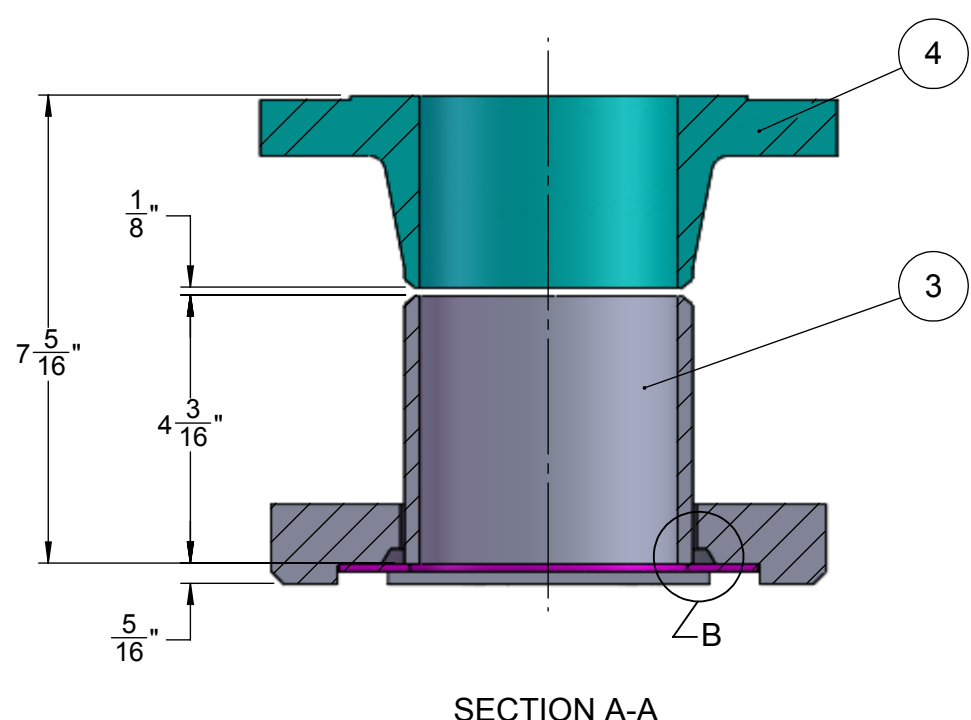
**Certified Print**

Approved for Fabrication or Erection  
By Daniel Ludwig at 3:05 pm, Oct 05, 2015

**PROJECT INFO.**  
Project Location: Raceland, Louisiana  
Project No.: 19J1  
Equipment Tag No.: HE-2402  
Equipment Name: Hemi-Sugars Amine Water Heater

REV.	DESCRIPTION	DATE	APPROVED
1	REVISED MOUNTING MATERIAL AND GROUND LUG WELD	10/2/2015	DLG

<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ALFA LAVAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ALFA LAVAL IS PROHIBITED.		<b>Alfa Laval Inc.</b> Lykens, PA 17048	
CUSTOMER: <b>AMG Inc. (Viridia)</b>		PO No.: <b>148</b>	
SO: <b>1416</b>		<b>COMPABLOC MODEL CP15-H-30</b>	
Serial No: <b>30112-70361</b>	NAME: <b>DLG</b>	DATE: <b>9/1/2015</b>	SIZE: <b>C</b>
MO: <b>4373</b>	DRAWN: <b>DLG</b>	DATE: <b>9/2/2015</b>	DWG. NO.: <b>101-07-0301-002</b>
SCALE: <b>1:6</b>	CHECKED: <b>BLL</b>	DATE: <b>9/2/2015</b>	REV: <b>1</b>



**Certified Print**  
 Approved for Fabrication or Erection  
 By Daniel Ludwig at 3:06 pm, Oct 05, 2015

- NOTES:**  
 1. ER70S-6 WIRE USED FOR WELD PROCEDURE 2.0.  
 2. ER309 WIRE USED FOR WELD PROCEDURE 7.0.  
 3. ER316L WIRE USED FOR WELD PROCEDURE 11.0.  
 4. E309LT-1 WIRE USED FOR WELD PROCEDURE 23.0.  
 5. REQUIRED NDE: PT OF LIFT LUG, LINER WELDS AND NOZZLE TO PANEL GROOVE WELD.

**PROJECT INFO.**  
 Project Location: Raceland, Louisiana  
 Project No.: 19J1  
 Equipment Tag No.: HE-2402  
 Equipment Name: Hemi-Sugars Amine Water Heater

ITEM NO.	QTY.	PART NO	DESCRIPTION	MATERIAL
5	2	301-04-1001-001	LIFTING LUG, PANEL	SA-516 70
4	1	402-04-1503-001	FLANGE - 4" 150# RF WN STD BORE	SA-182 F316/L
3	1	502-04-4108-001	PIPE - 4" sch STD	SA-312 TP316/L
2	1	337-15-0313-010	LINER - CP15-30	SA-240 316/L
1	1	302-15-1102-005	PANEL Aa, CP-15 30 MACHINING	SA-516 70 N

REV.	DESCRIPTION	DATE	APPROVED
1	REVISED PER CUSTOMER COMMENTS	10/2/2015	DLG

SO	MO	SERIAL NO
1416	4373	30112-70361

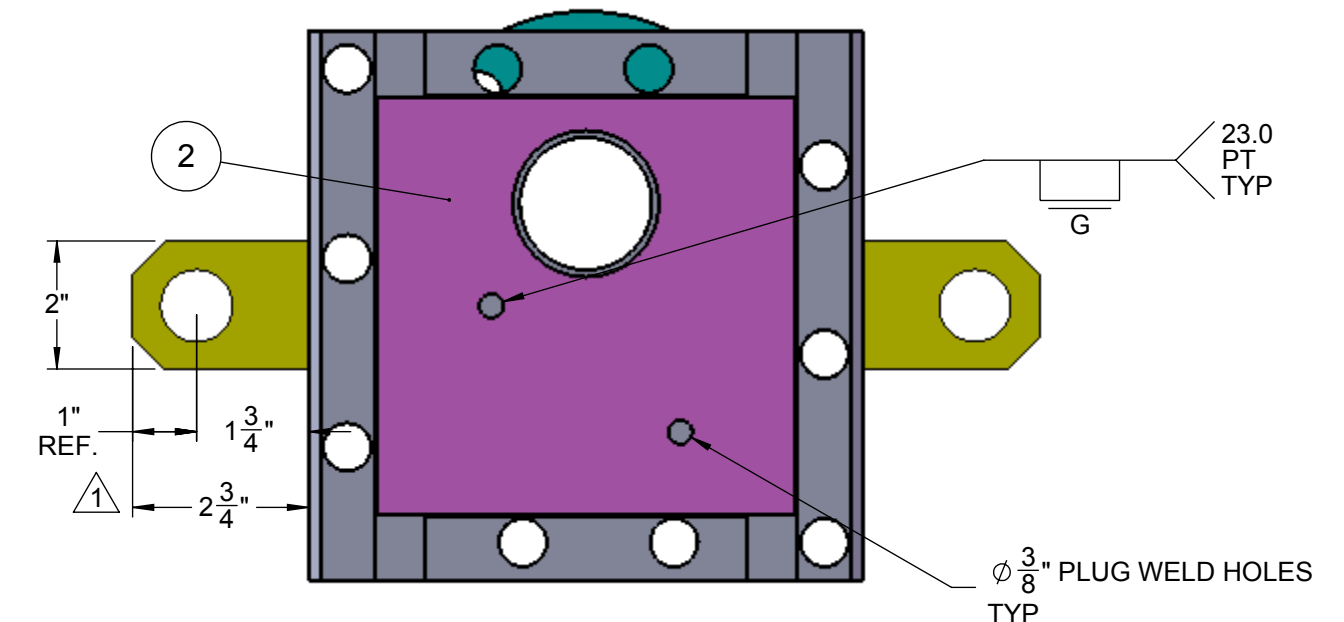
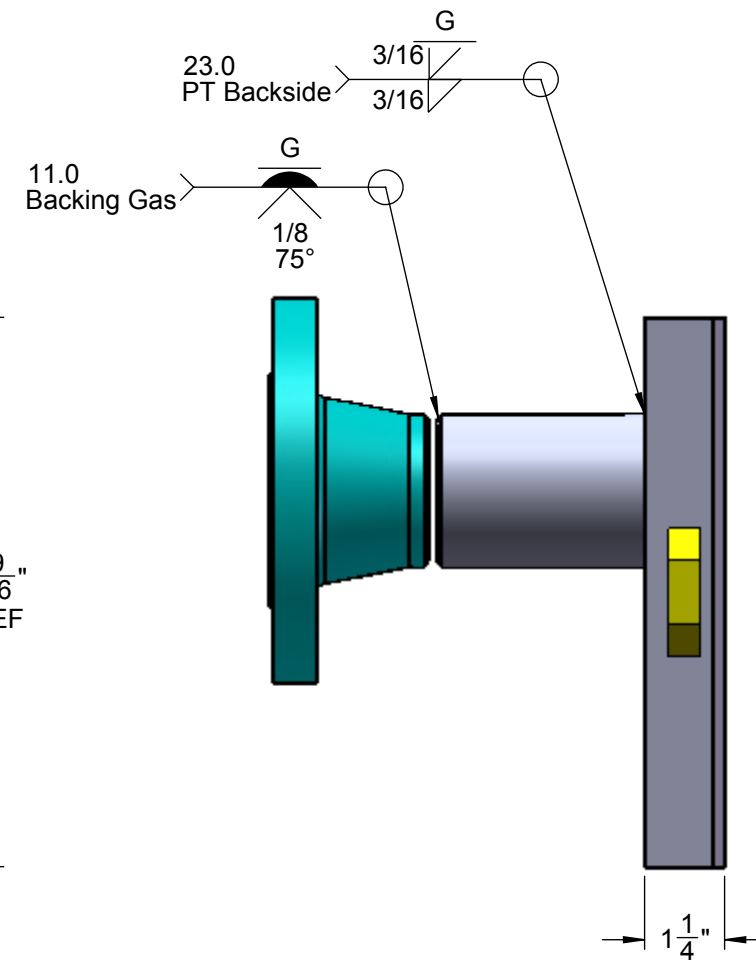
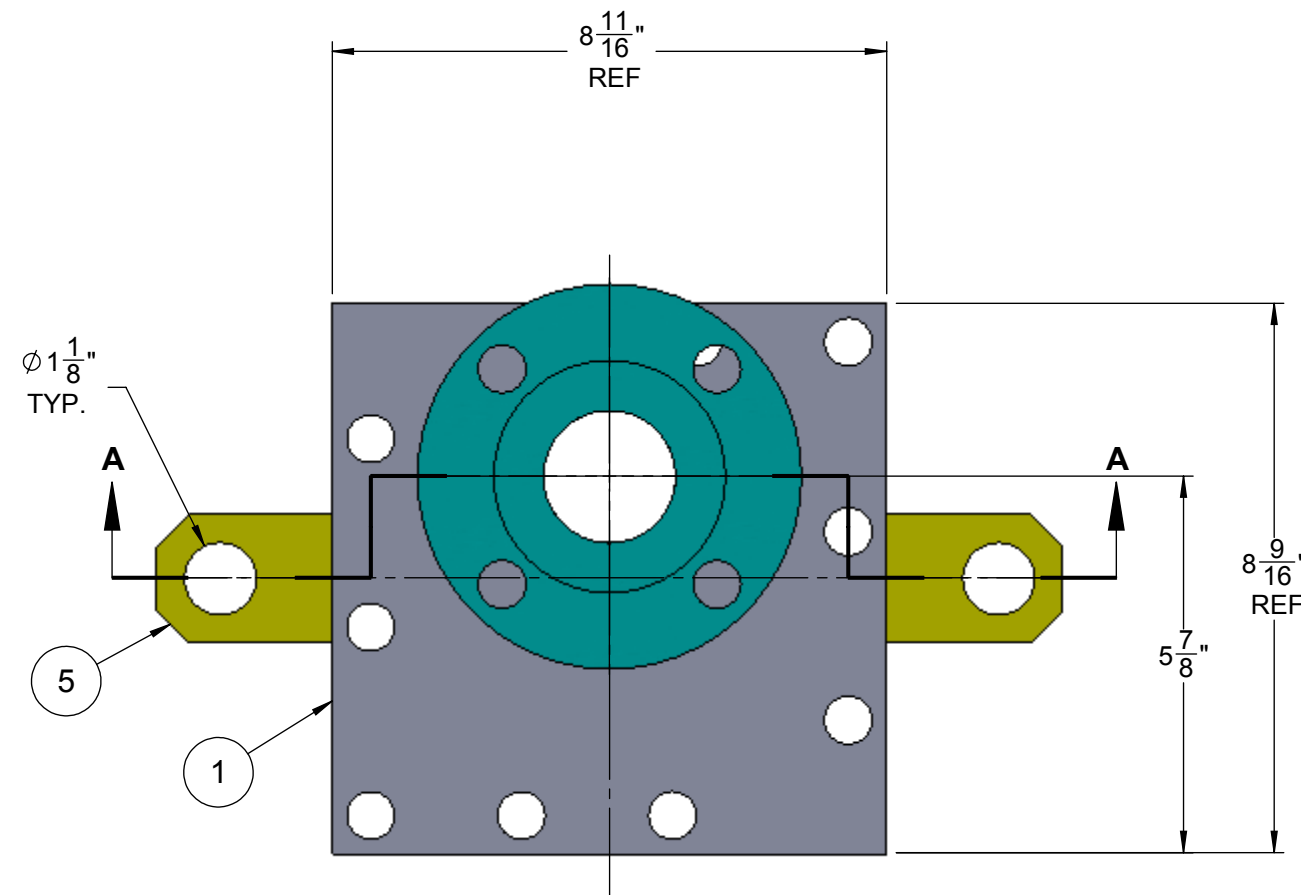
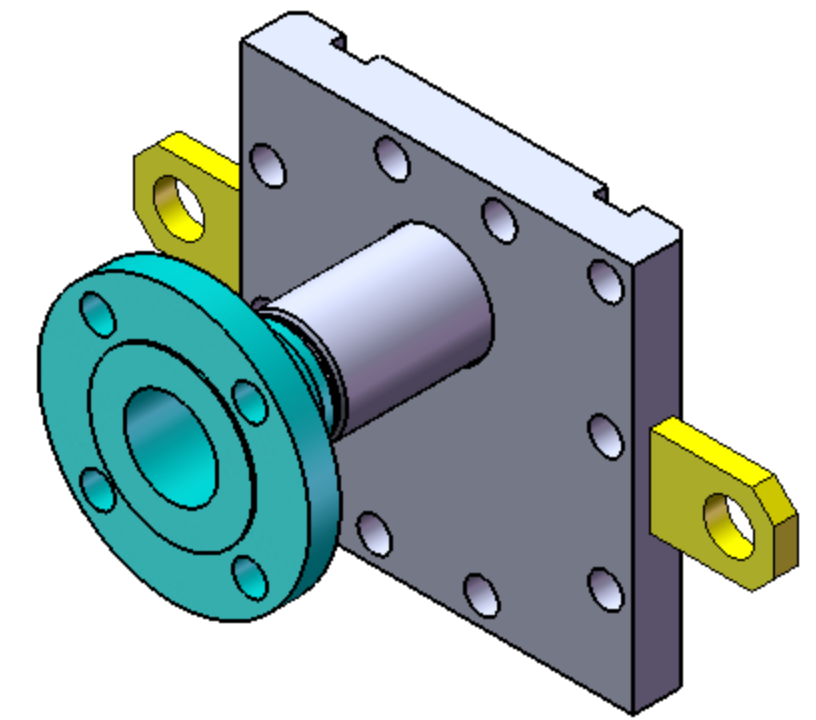
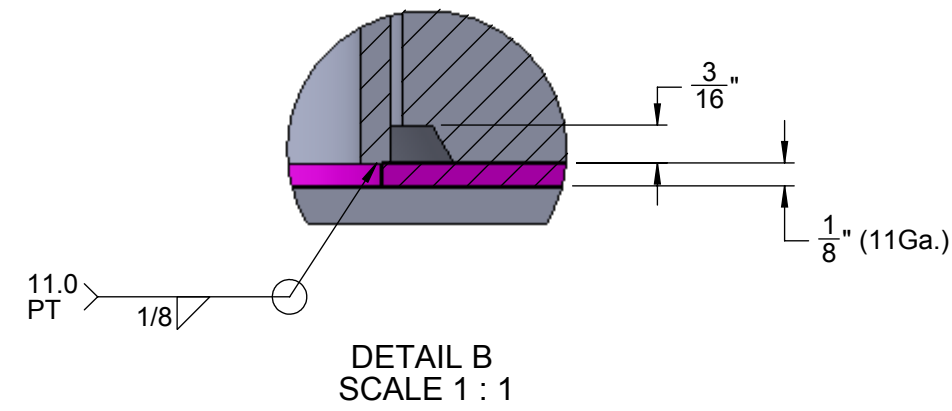
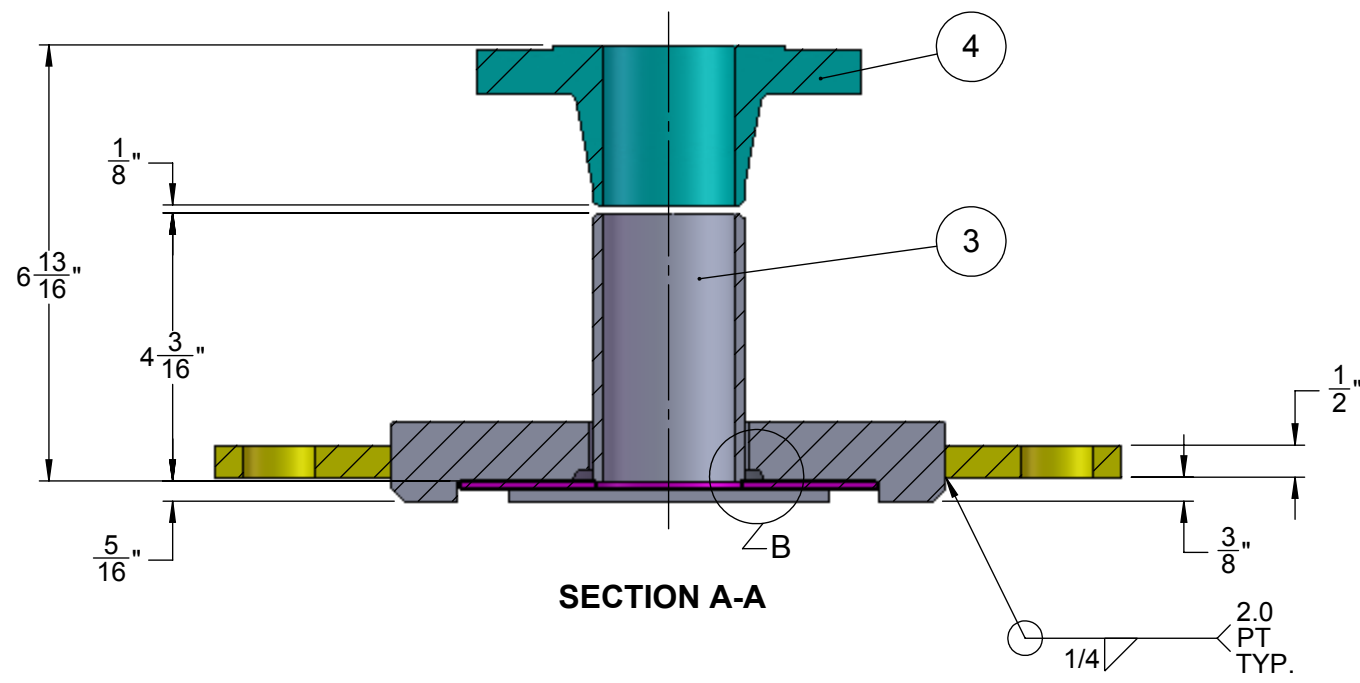
NAME	DATE
DRAWN DLG	9/1/2015
CHECKED BLL	9/2/2015
Customer: AMG Inc. (Virdia)	
PO No.: 148	

SIZE	DWG. NO.	REV
C	203-15-0302-007	1

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ALFA LAVAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ALFA LAVAL IS PROHIBITED.

ASSEMBLY WEIGHT:  
42 lbs

SCALE: 1:3



**Certified Print**  
 Approved for Fabrication or Erection  
 By Daniel Ludwig at 3:06 pm, Oct 05, 2015

- NOTES:  
 1. ER70S-6 WIRE USED FOR WELD PROCEDURE 2.0.  
 2. ER316L WIRE USED FOR WELD PROCEDURE 11.0.  
 3. E309LT-1 WIRE USED FOR WELD PROCEDURE 23.0.  
 4. REQUIRED NDE: PT OF LIFT LUG, LINER WELDS AND NOZZLE TO PANEL GROOVE WELD.

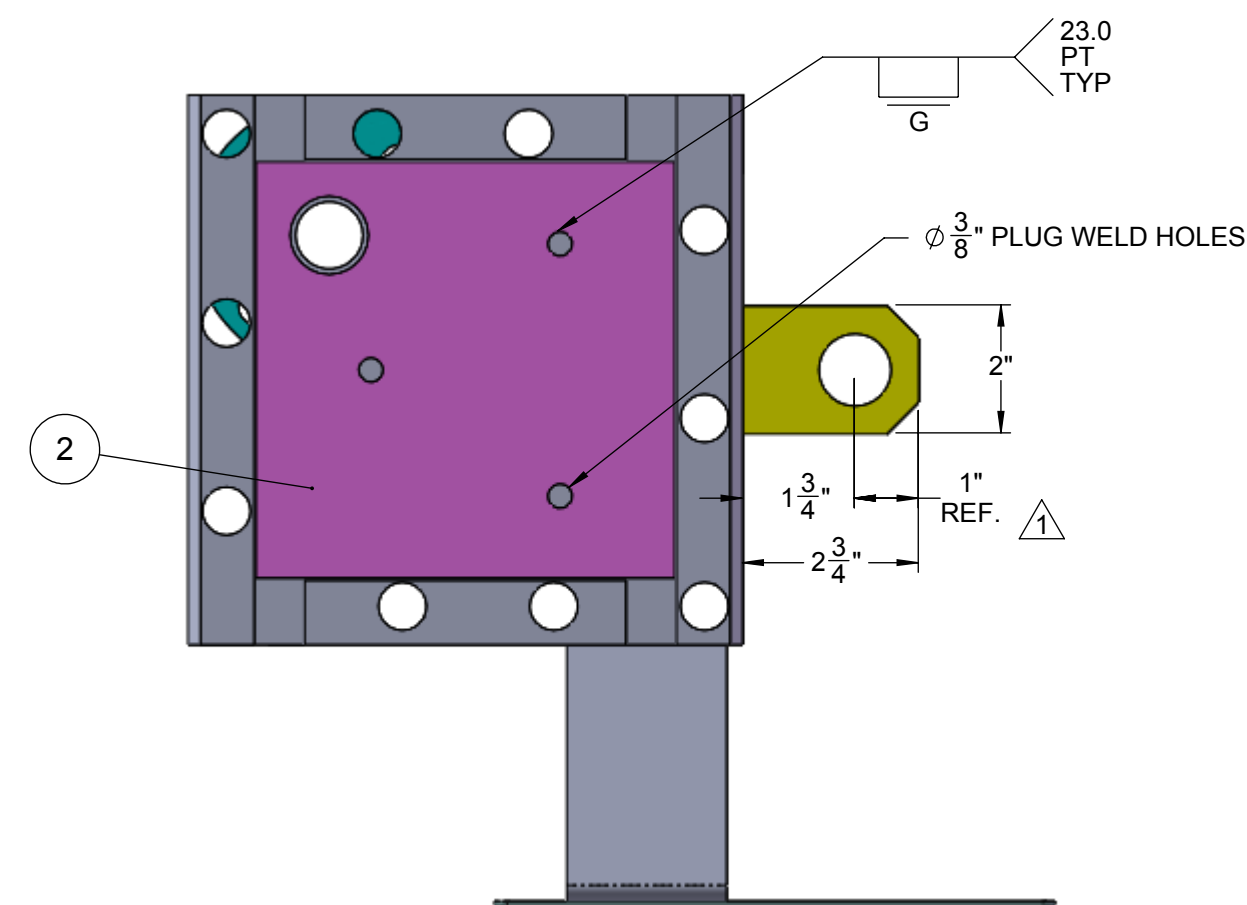
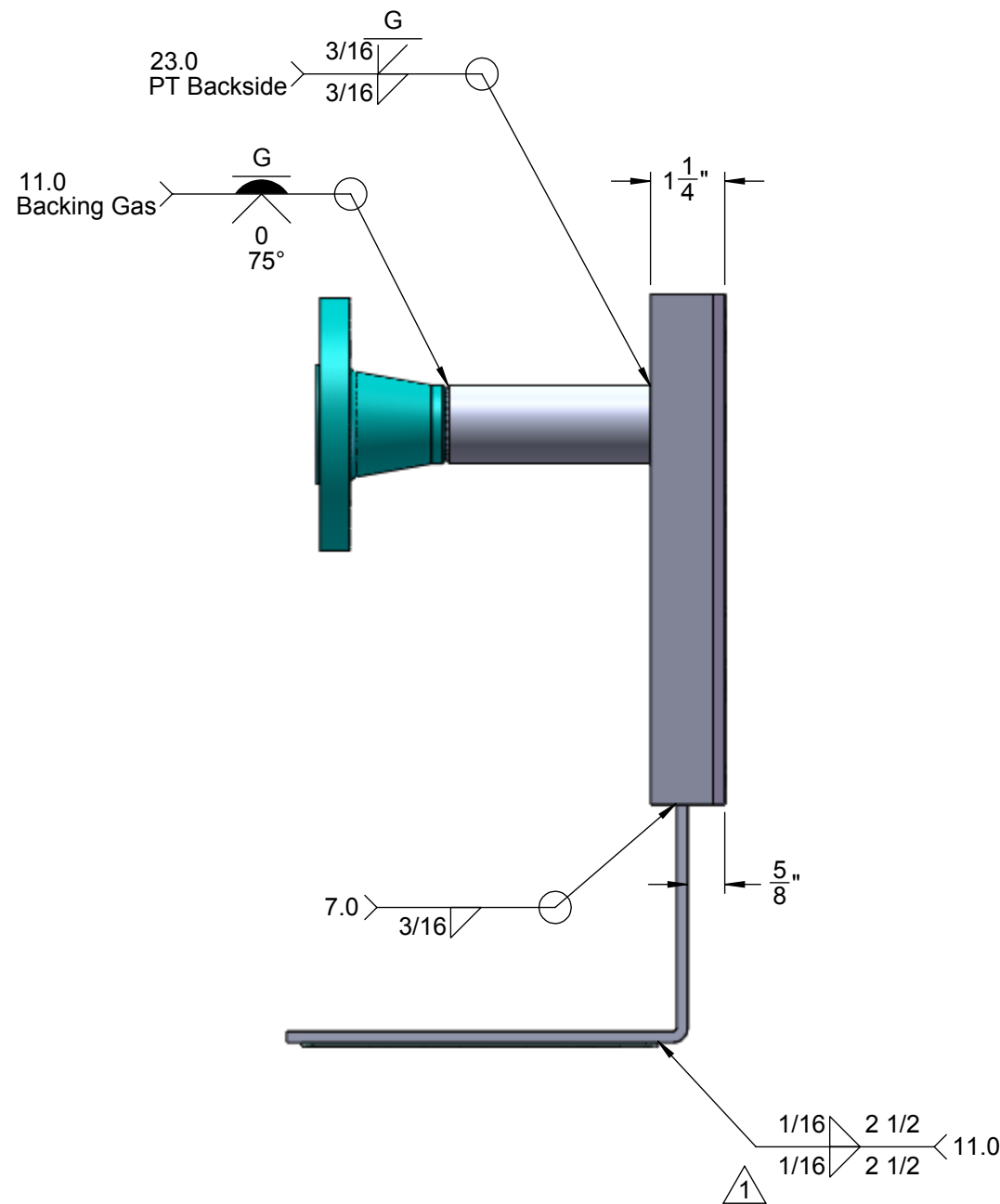
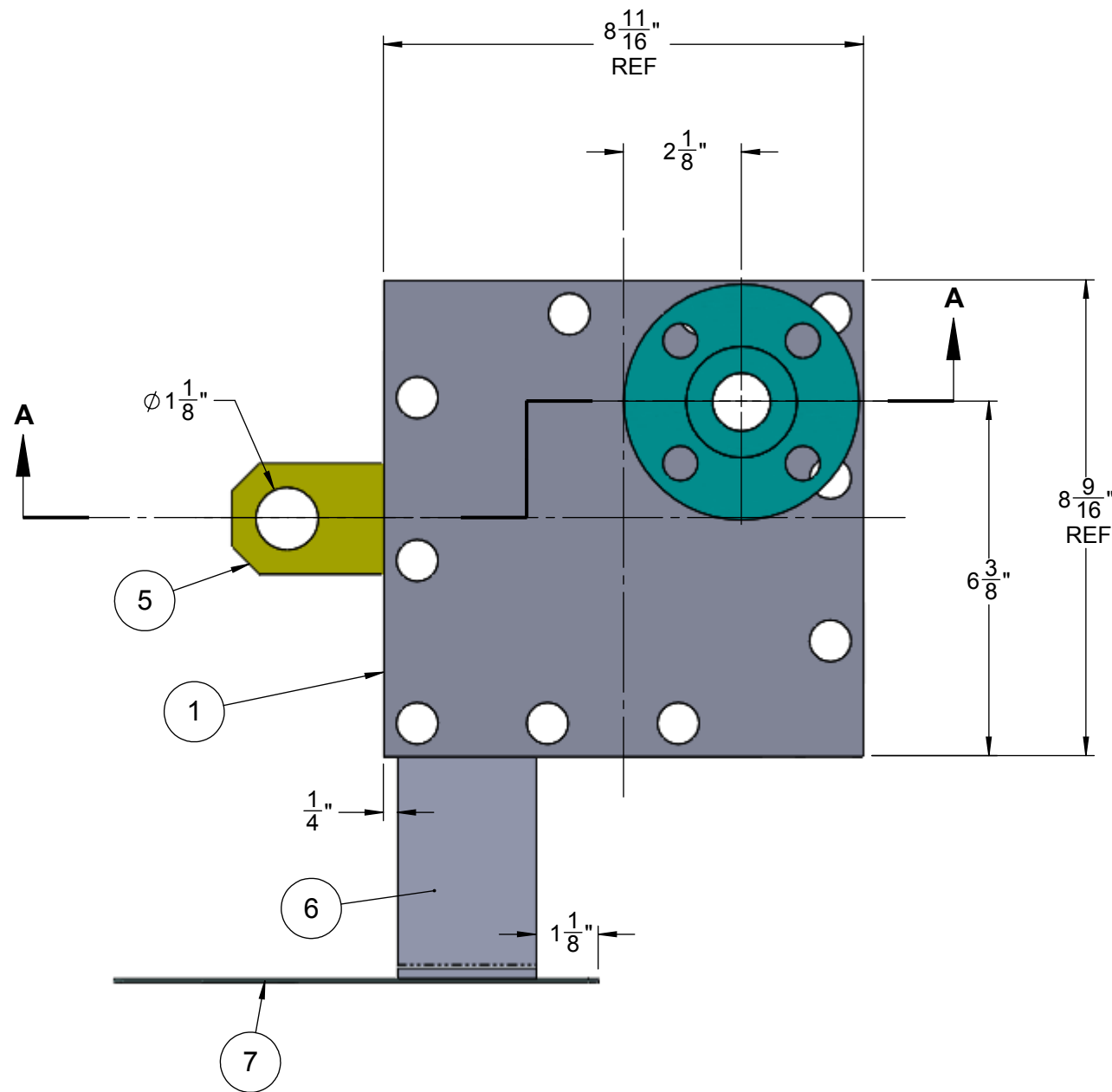
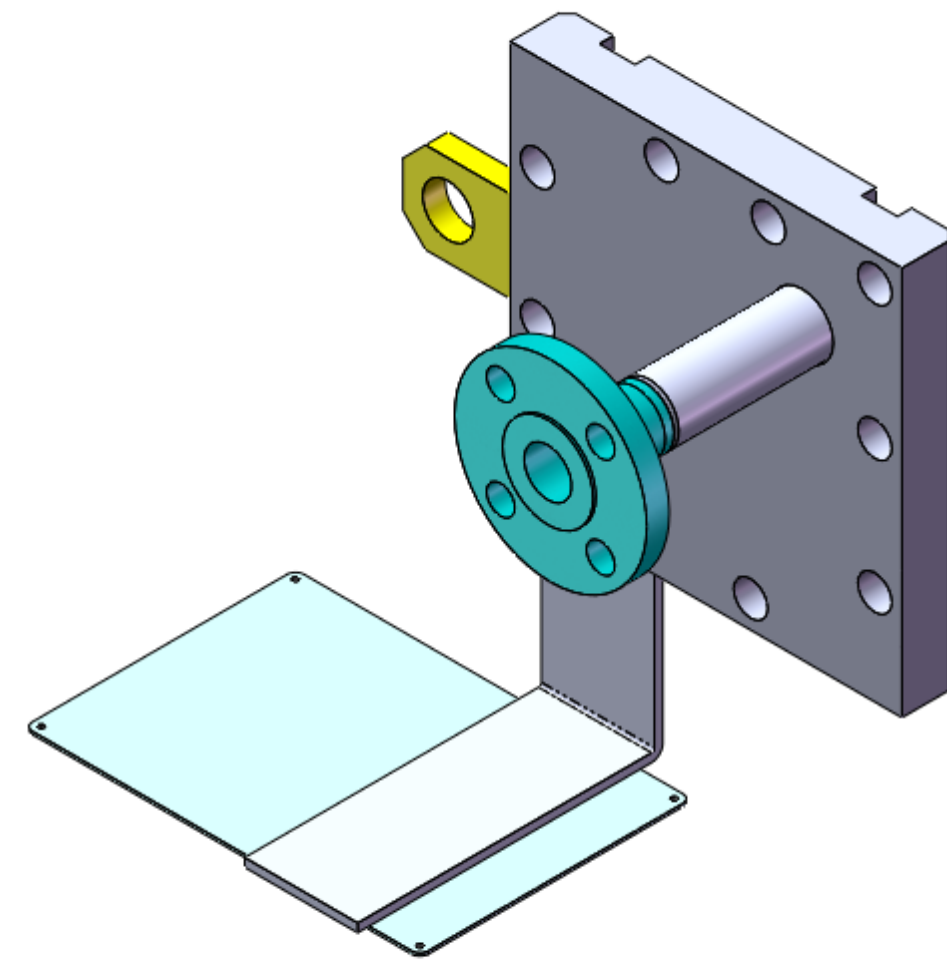
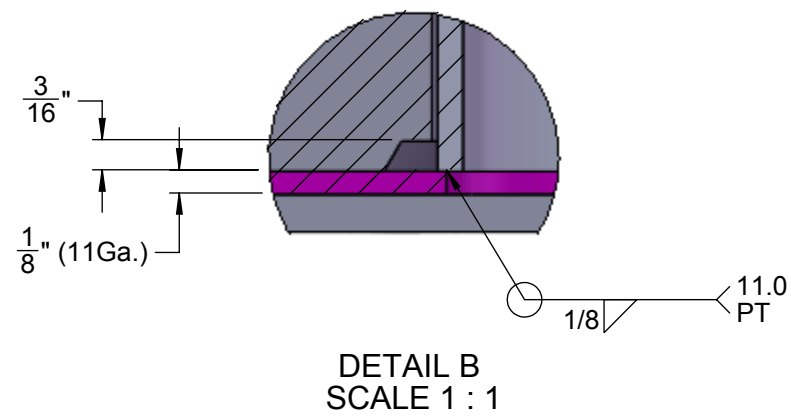
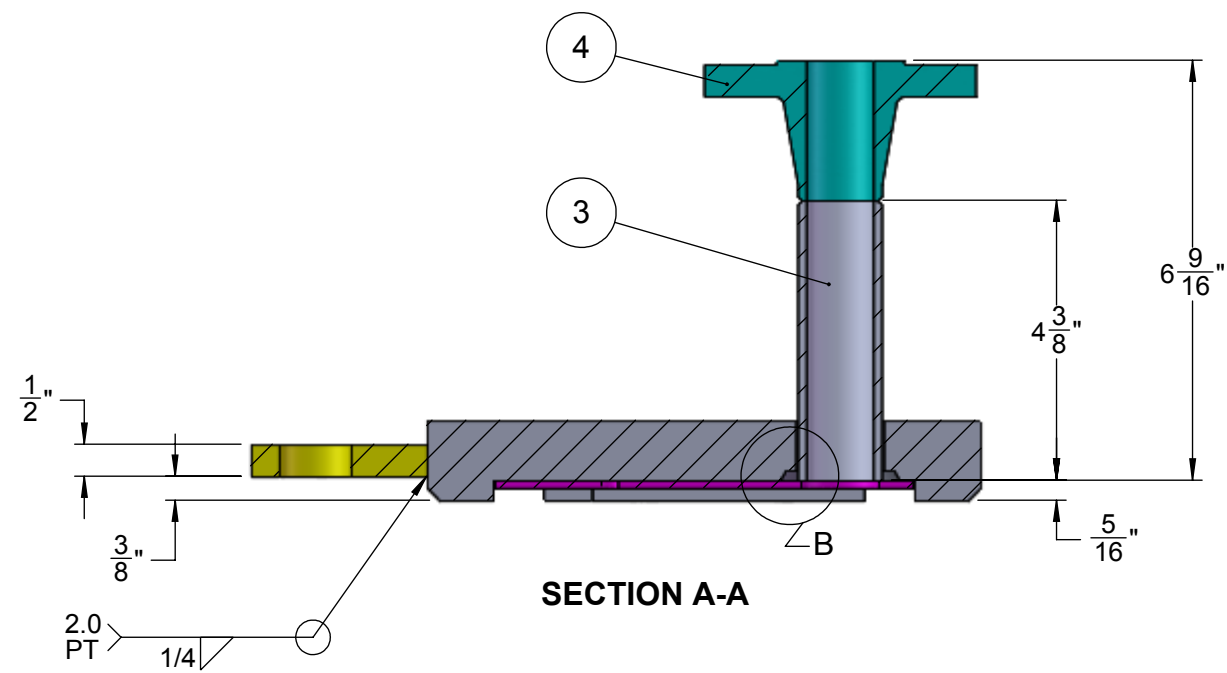
**PROJECT INFO.**  
 Project Location: Raceland, Louisiana  
 Project No.: 19J1  
 Equipment Tag No.: HE-2402  
 Equipment Name: Hemi-Sugars Amine Water Heater

ITEM NO.	QTY.	PART NO	DESCRIPTION	MATERIAL
5	2	301-04-1001-001	LIFTING LUG, PANEL	SA-516 70
4	1	402-02-1503-001	FLANGE - 2" 150# RF WN STD BORE	SA-182 F316/L
3	1	502-02-4108-001	PIPE - 2" sch STD	SA-312 TP316/L
2	1	337-15-0313-011	LINER - CP15-30	SA-240 316/L
1	1	302-15-1102-006	PANEL Ab, CP-15 30 MACHINING	SA-516 70 N

REV.	DESCRIPTION	DATE	APPROVED
1	REVISED, ADDED LIFT LUG DIMENSIONS.	10/2/2015	DLG

UNLESS OTHERWISE SPECIFIED:			NAME		DATE	
DIMENSIONS ARE IN INCHES			DRAWN	DLG	9/2/2015	
TOLERANCES:			CHECKED	BLL	9/2/2015	
FRACTIONAL ± 1/8			Customer: <b>AMG Inc. (Virdia)</b>			
ANGULAR: ± 1/2"			PO No.: <b>148</b>			
TWO PLACE DECIMAL ±.05			<b>PROPRIETARY AND CONFIDENTIAL</b> THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ALFA LAVAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ALFA LAVAL IS PROHIBITED.			
THREE PLACE DECIMAL ±.005						
BOLT HOLES STRADDLE CENTER LINES			<b>Alfa Laval</b> 300 Chestnut St. Lykens, PA 17048			
ASSEMBLY WEIGHT: 32 lbs			TITLE:		<b>PANEL Ab ASSEMBLY FOR CP15-H-30</b>	
SCALE: 1:3			SIZE	DWG. NO.	REV	
			<b>C</b>	<b>203-15-0302-008</b>	<b>1</b>	





**Certified Print**  
 Approved for Fabrication or Erection  
 By Daniel Ludwig at 3:06 pm, Oct 05, 2015

**NOTES:**

1. ER70S-6 WIRE USED FOR WELD PROCEDURE 2.0.
2. ER309 WIRE USED FOR WELD PROCEDURE 7.0.
3. ER316L WIRE USED FOR WELD PROCEDURE 11.0.
4. E309LT-1 WIRE USED FOR WELD PROCEDURE 23.0.
5. REQUIRED NDE: PT OF LIFT LUG, LINER WELDS AND NOZZLE TO PANEL GROOVE WELD.

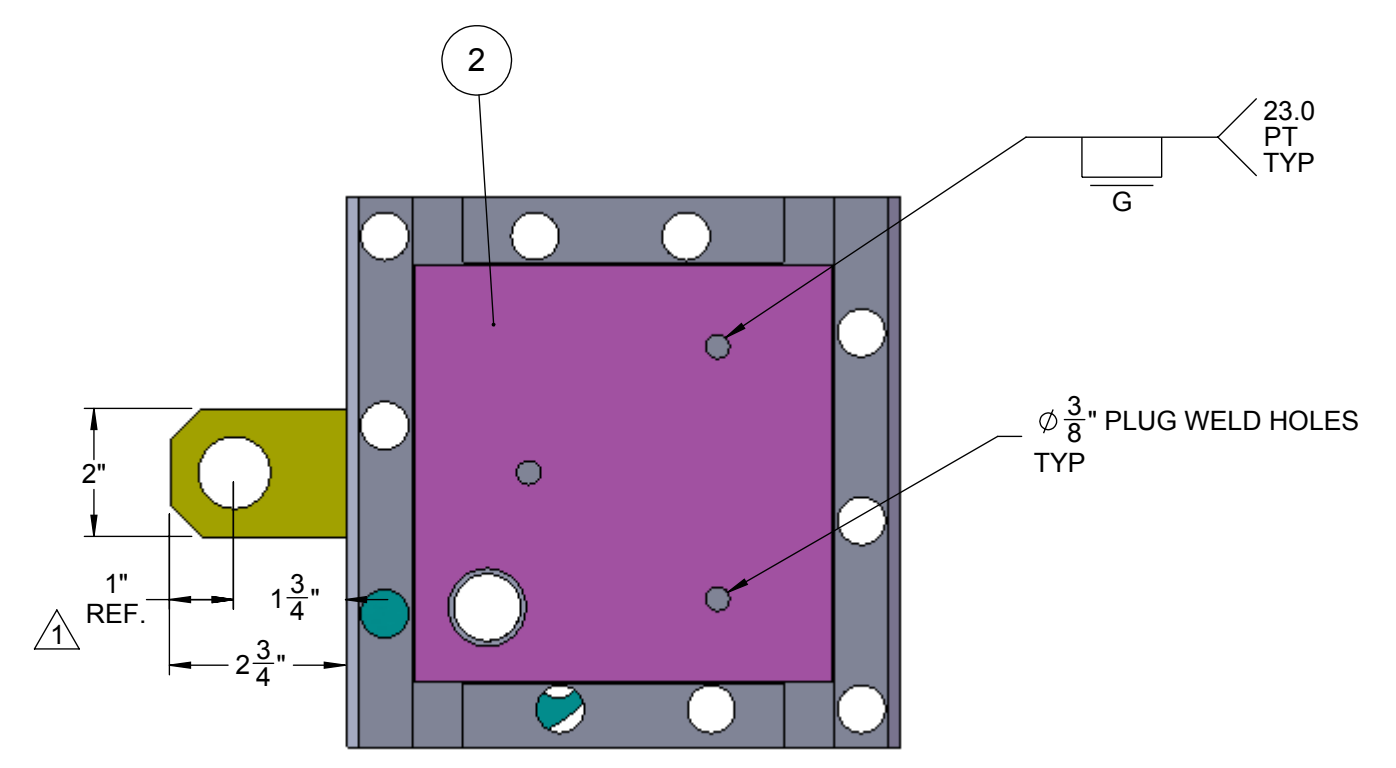
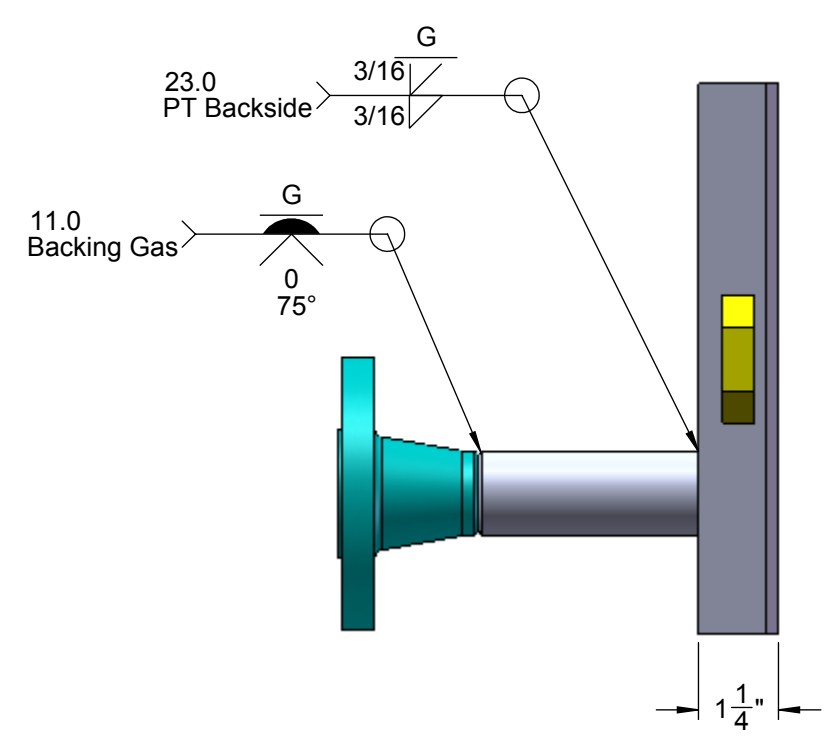
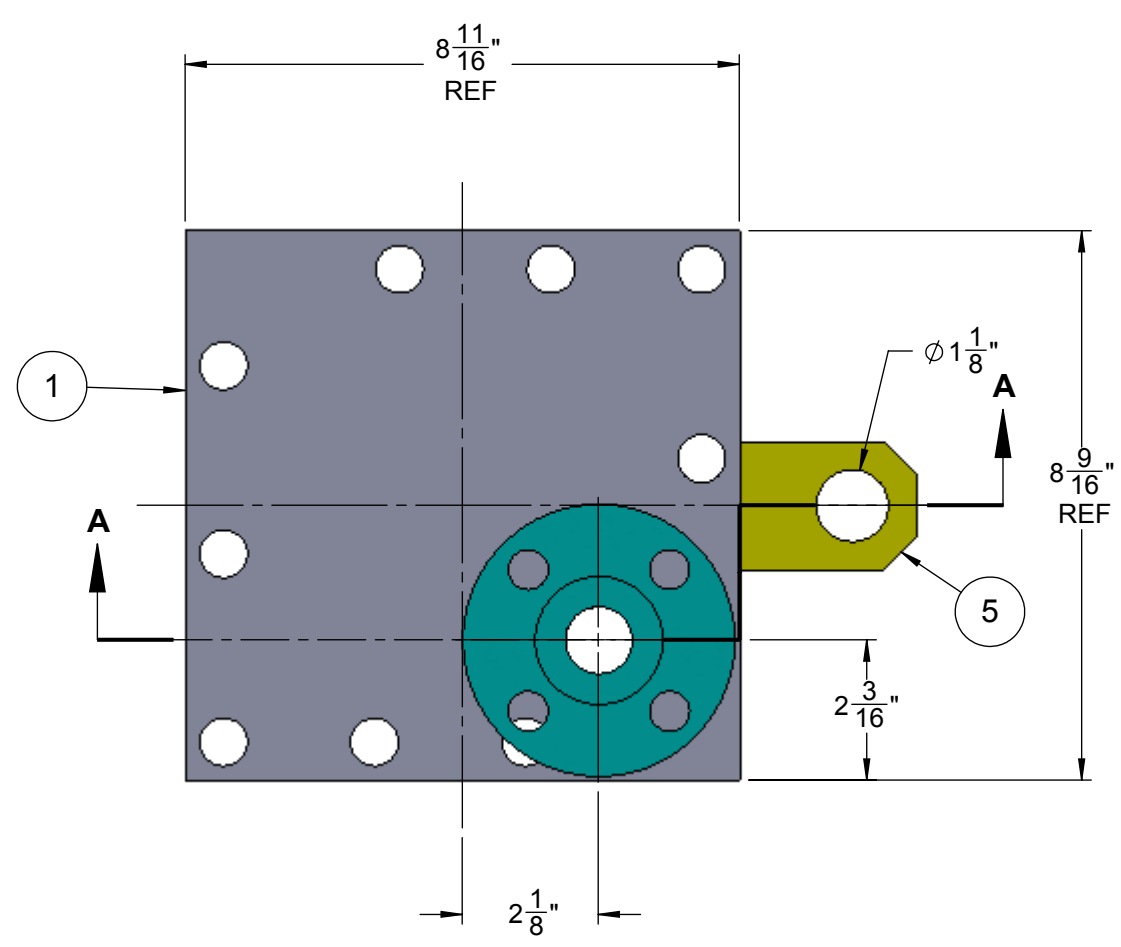
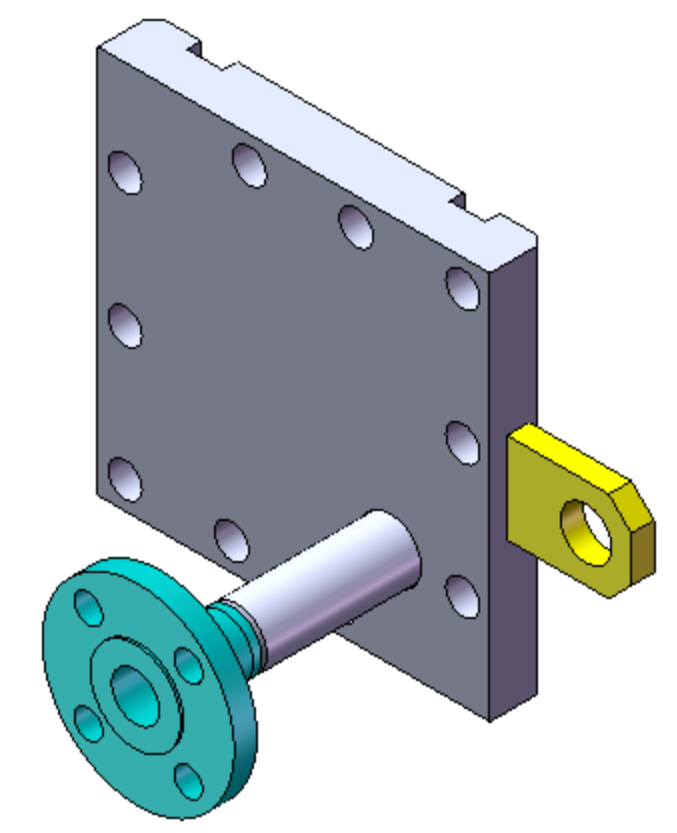
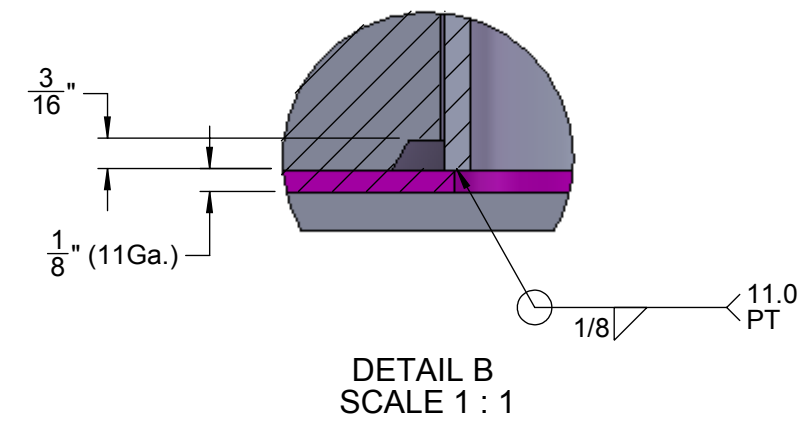
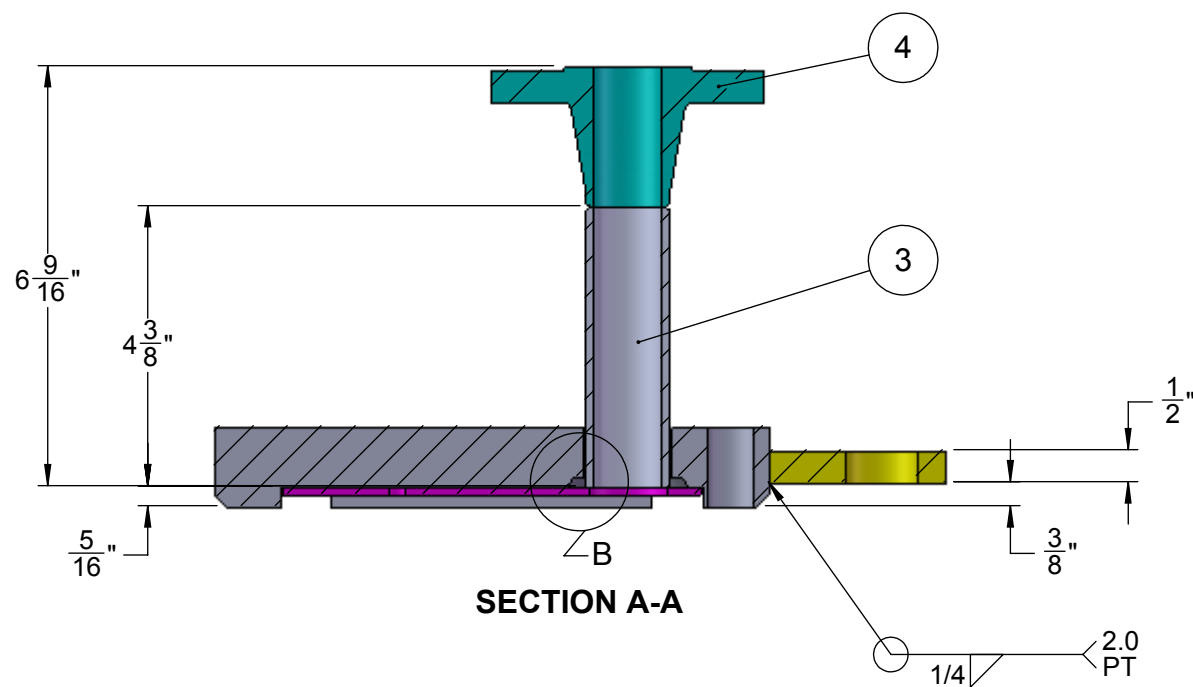
**PROJECT INFO.**  
 Project Location: Raceland, Louisiana  
 Project No.: 19J1  
 Equipment Tag No.: HE-2402  
 Equipment Name: Hemi-Sugars Amine Water Heater

ITEM NO.	QTY.	PART NO	DESCRIPTION	MATERIAL
7	1	319-12-0004-002	ALFA LAVAL STD NAMEPLATE	SA-240 304/L
6	1	313-10-2113-001	Custom Nameplate Bracket 3/16"Thk. x 2 1/2" x 10 5/8"Lg	SA-240 316/L
5	1	301-04-1001-001	LIFTING LUG, PANEL	SA-516 70
4	1	402-01-1503-001	FLANGE - 1" 150# RF WN STD BORE	SA-182 F316/L
3	1	502-01-4108-001	PIPE - 1" sch Std	SA-312 TP316/L
2	1	337-15-0313-012	LINER - CP15-30	SA-240 316/L
1	1	302-15-1102-007	PANEL Ba, CP-15 30 MACHINING	SA-516 70 N

REV.	DESCRIPTION	DATE	APPROVED
1	REVISED, ADDED LIFT LUG DIMS, ADDED WELD CALLOUT	10/2/2015	DLG

UNLESS OTHERWISE SPECIFIED:			NAME	DATE
DIMENSIONS ARE IN INCHES			DLG	9/2/2015
TOLERANCES:			BLL	9/3/2015
FRACTIONAL ± 1/8"			Customer: <b>AMG Inc. (Viridia)</b>	
ANGULAR: ± 1/2°			PO No.: <b>148</b>	
TWO PLACE DECIMAL ±.05			TITLE: <b>PANEL Ba ASSEMBLY FOR CP15-H-30</b>	
THREE PLACE DECIMAL ±.005			SIZE: <b>C</b>	
BOLT HOLES STRADDLE CENTER LINES			DWG. NO.: <b>203-15-0302-009</b>	
ASSEMBLY WEIGHT: 32 lbs			REV: <b>1</b>	
SCALE: 1:3			APPLICATION: <b>1416 4373 30112-70361</b>	

A



**Certified Print**  
 Approved for Fabrication or Erection  
 By Daniel Ludwig at 3:06 pm, Oct 05, 2015

- NOTES:**  
 1. ER70S-6 WIRE USED FOR WELD PROCEDURE 2.0.  
 2. ER316L WIRE USED FOR WELD PROCEDURE 11.0.  
 3. E309LT-1 WIRE USED FOR WELD PROCEDURE 23.0.  
 4. REQUIRED NDE: PT OF LIFT LUG, LINER WELDS AND NOZZLE TO PANEL GROOVE WELD.

**PROJECT INFO.**  
 Project Location: Raceland, Louisiana  
 Project No.: 19J1  
 Equipment Tag No.: HE-2402  
 Equipment Name: Hemi-Sugars Amine Water Heater

ITEM NO.	QTY.	PART NO	DESCRIPTION	MATERIAL
5	1	301-04-1001-001	LIFTING LUG, PANEL	SA-516 70
4	1	402-01-1503-001	FLANGE - 1" 150# RF WN STD BORE	SA-182 F316/L
3	1	502-01-4108-001	PIPE - 1" sch Std	SA-312 TP316/L
2	1	337-15-0313-013	LINER - CP15-30	SA-240 316/L
1	1	302-15-1102-008	PANEL Bb, CP-15 30 MACHINING	SA-516 70 N

REV.	DESCRIPTION	DATE	APPROVED
1	REVISED, ADDED LIFT LUG DIMENSIONS	10/2/2015	DLG

SO	MO	SERIAL NO
1416	4373	30112-70361

NAME	DATE
DRAWN DLG	9/3/2015
CHECKED BLL	9/3/2015
Customer: AMG Inc. (Virdia)	
PO No.: 148	

SIZE	DWG. NO.	REV
C	203-15-0302-010	1

**PROPRIETARY AND CONFIDENTIAL**  
 THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF ALFA LAVAL. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF ALFA LAVAL IS PROHIBITED.

UNLESS OTHERWISE SPECIFIED:  
 DIMENSIONS ARE IN INCHES  
 TOLERANCES:  
 FRACTIONAL ± 1/8  
 ANGULAR: ± 1/2"  
 TWO PLACE DECIMAL ±.05  
 THREE PLACE DECIMAL ±.005

BOLT HOLES STRADDLE CENTER LINES  
 ASSEMBLY WEIGHT:  
 28 lbs  
 SCALE: 1:3