



PINELLAS COUNTY

**2020 DHA UPGRADE PROJECT FOR DDS40
(Engineering Only – PO for devices, instruments,
programming and on-site services later)**

**by
Andritz Separation Inc.**

**DHA MODIFICATION ENGINEERING NO. 02
SUMMARY SUBMITTAL
TRANSMITTAL 2_01-22-2021**

EQUIPMENT NAME:	DHA EXPLOSION SUPPRESSION/PROTECTIVE EQUIPMENT AND MODIFICATIONS
QUANTITY:	-
MANUFACTURER:	ANDRITZ
PRODUCT:	ELECTRICAL INSTUMENTS, EXPLOSION SUPPRESSION DEVICES AND CUSTOM FABRICATED STEEL
SPECIFICATION:	

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3. INSTALLATION

1. GENERAL

1.1. Introduction

This submittal provides information on the equipment noted on the cover page and the general required mechanical modifications.

1.2. Process Equipment Item

The duct section #10 from Drum to Pre-separator (560-10) is to be retrofit with (1) HRD chemical bottle designed to suppress any propagation should a deflagration occur in the Pre-separator. The bottle is programmed to inject chemical when a pressure rise is detected (indicative of a deflagration event) in the Preseparator.

The Preseparator 003 and Polycyclone 004 will be modified to include additional stiffeners sufficient to resist the maximum pressure expected should a deflagration occur without compromising the integrity of the vessels. In addition, each vessel is to be retrofit with (1) pressure sensor and (1) HRD chemical bottle designed to absorb the energy released should a deflagration occur in the Pre-separator.

The duct section #20 from Polycyclone to Fan (560-20) is to be retrofit with (1) HRD chemical bottle designed to suppress any propagation should deflagration occur in the Pre-separator. The bottle is programmed to inject chemical when a pressure rise is detected (indicative of a deflagration event) in the Polycyclone.

The Crusher 010 is to be retrofit with a HRD suppression bottle system. This will include a new inlet chute with an adaptor to accommodate an optical sensor and (1) HRD chemical bottle. The chemical bottle is designed to suppress propagation should a deflagration occur in the Crusher and is detected by the optical sensor. The chemical bottle will be programmed to inject suppression chemical should a deflagration be detected.

The chute from the Crusher 010 and Screw Conveyors 011 is to be retrofit to accommodate (1) HRD suppression bottle designed to suppress propagation should a deflagration occur in the Crusher and is detected by the optical sensor.

Elevator 019 to be retrofit with (1) optical sensor to detect a rise in light should a deflagration occur in the elevator boot.

Both bottles of the crusher suppression bottle system will be activated by either of the (2) optical sensors.

1.3. P&ID

Revised PID drawing show the locations of the new devices and instruments.

PROCESS SYMBOLS

- PRESSURE REGULATOR (REMOTE SENSING)
- SOLENOID VALVE
- 4-WAY SOLENOID VALVE
- MOTORIZED VALVE
- RELIEF VALVE
- SLIDE GATE DAMPER
- ORIFICE METER, FLANGED
- TRAP
- FILTER
- FLEXIBLE CONNECTOR
- CALIBRATION COLUMN
- WATER HAMMER ARRESTOR
- MAGNETIC FLOW METER
- SITE FLOW INDICATOR
- ROTAMETER
- DISPLACEMENT METER
- SPRAY NOZZLE
- CONVEYING AIR BOOSTER VALVE
- DUPLEX FILTER
- SAMPLE PORT
- FLOW METER
- AIR VENT

EQUIPMENT SYMBOLS

- METERING PUMP
- CENTRIFUGAL PUMP
- AIR OPERATED DIAPHRAGM PUMP
- CENTRIFUGAL BLOWER
- CENTRIFUGAL FAN
- PROGRESSIVE CAVITY PUMP
- INLINE MIXER
- INLINE GRINDER
- MIXER
- DAMPER VALVE (FLOW CONTROL)
- ROTARY AIRLOCK
- ROTARY GEAR PUMP
- COMPRESSOR
- CRUSHER
- VIBRATING SCREEN
- MIXER
- BUCKET ELEVATOR
- SCREW CONVEYOR
- SCREW CONVEYOR (SHAFTLESS)
- BELT CONVEYOR
- IN-LINE HEATER
- HEAT TRACING (STEAM) WITH INSULATION
- INSULATION
- PNEUMATIC PISTON ACTUATOR

ISA INSTRUMENTATION IDENTIFICATION					
LETTER	FIRST-LETTER		SUCCEEDING-LETTERS		
	PROCESS OR INITIATING VARIABLE	MODIFIER	READOUT OR PASSIVE FUNCTION	OUTPUT FUNCTION	MODIFIER
A	ANALYSIS		ALARM		
B	BURNER, COMBUSTION				
C				CONTROL	
D	DENSITY (S,G)	DIFFERENTIAL			
E	VOLTAGE		PRIMARY ELEMENT		
F	FLOW RATE	RATIO			
G			GLASS, GAUGE VIEWING DEVICE	GATE	
H	HAND (MANUAL)				HIGH
I	CURRENT (ELECTRICAL)		INDICATE		
J	POWER	SCAN			
K	TIME, TIME SCHEDULE	TIME RATE OF CHANGE		CONTROL STATION	
L	LEVEL		LIGHT (PILOT)		LOW
M	MOTION	MOMENTARY			MIDDLE
N					
O			ORIFICE, RESTRICTION		
P	PRESSURE, VACUUM		POINT (TEST) CONNECTION		
Q	QUANTITY	INTEGRATE			
R	RADIATION		RECORD OR PRINT		
S	SPEED, FREQUENCY	SAFETY		SWITCH	
T	TEMPERATURE			TRANSMIT	
U	MULTIVARIABLE		MULTIFUNCTION	MULTIFUNCTION	MULTIFUNCTION
V	VIBRATION, MECH. ANALYSIS			VALVE, DAMPER LOUVER	
W	WEIGHT, FORCE		WELL		
X	UNCLASSIFIED	X AXIS	UNCLASSIFIED	UNCLASSIFIED	UNCLASSIFIED
Y	EVENT, STATE OR PRESENCE	Y AXIS		RELAY, COMPUTE, CONVERT	
Z	POSITION	Z AXIS		DRIVER, ACTUATOR UNCLASSIFIED FINAL CONTROL ELEMENT	

PIPING SYMBOLS

- GATE VALVE OR MISCELLANEOUS VALVE
- GLOBE VALVE
- NEEDLE VALVE
- BALL VALVE
- CHECK VALVE
- BALL CHECK VALVE
- SPRING LOADED CHECK VALVE
- BUTTERFLY VALVE
- PLUG VALVE
- DIAPHRAGM VALVE
- PRESSURE REGULATOR (SELF CONTAINED)
- COMBINATION FILTER-PRESSURE REGULATOR
- BACKFLOW PREVENTOR
- FLANGED UNION
- THREADED UNION
- HOSE CONNECTION REDUCER
- DRAIN
- INLINE COMPRESSED AIR FILTER
- INLINE COMPRESSED AIR LUBRICATOR
- STRAINER WITH VALVED BLOW OFF

LINE SYMBOLS

- MAJOR PROCESS LINES
- MINOR PROCESS LINES
- FLOW DIRECTION
- LINES LEAVING/ENTERING SCOPE OF WORK
- LINES GOING TO ANOTHER DRAWING
- ELECTRICAL SIGNAL LINE
- PNEUMATIC SIGNAL
- CAPILLARY LINE
- FIBER OPTIC
- SAFETY INTERLOCK
- AUTOMATION INTERLOCK
- HEAT TRACING
- SELF CONTAINED/SKID MOUNTED/VENDOR SUPPLIED
- SILENCER

NOTES:

1. ALL INSTRUMENTS LISTED UNDER PIPING SYMBOLS TO BE PROVIDED BY CONTRACTOR.
2. ALL INSTRUMENTS AND EQUIPMENT LISTED UNDER PROCESS SYMBOLS AND EQUIPMENT SYMBOLS TO BE PROVIDED BY ANDRITZ.
3. INSTRUMENTATION IDENTIFICATION CONFORMS TO ANSI/ISA-S5, 1-1984(R 1992) STANDARD.

- YSS EVENT SAFETY SYSTEM
- DEFLAGRATION VENT

2	UPDATED FOR DHA MODIFICATION	MDW	mmw	10/30/20
1	AS BUILT	FR	BSL	4/8/03
0	CONSTRUCTION ISSUE	FR	BSL	7/3/02
B	ISSUED FOR DESIGN REVIEW	DAN	BSL	4/16/02
REV	EIR	REVISION		DATE
		BY	APVD	

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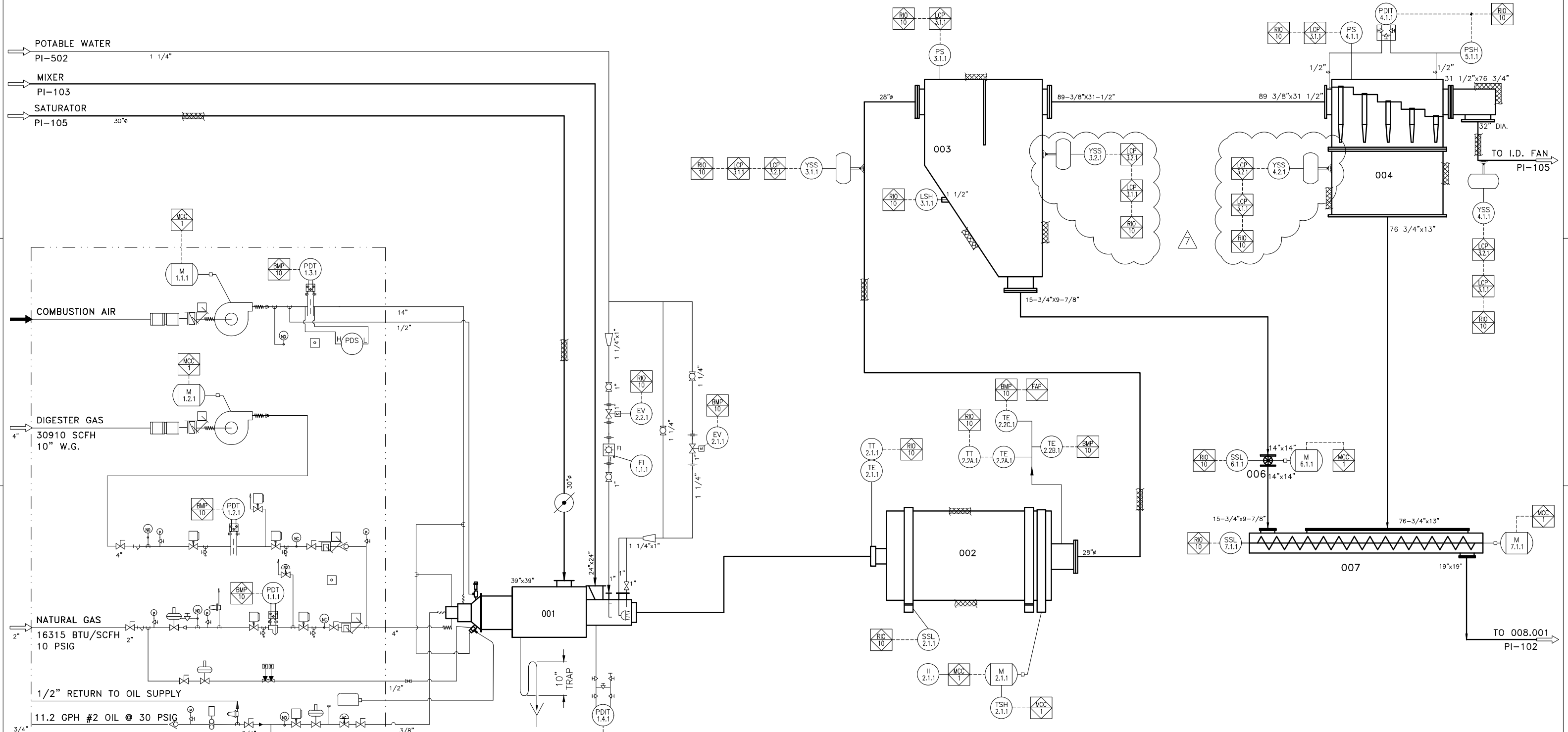
PINELLAS COUNTY UTILITIES
UTILITIES

1010 COMMERCIAL BLVD. SOUTH
ARLINGTON, TEXAS 76017
Phone: (817) 465-5611
Telefax: (817) 472-8589
CERTIFIED CORRECT FOR INSTALLATION
BY: _____ DATE: _____
PROJECT No. _____
THESE DWGS. REFLECT CUSTOMER'S CHANGES AND APPROVAL ON PREVIOUS DWG. TRANSMITTALS

ESTIMATED WEIGHT IN LBS:
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES
FABRICATION TOLERANCES .XXX±.040 ANG±.1° HOLE±.020
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020
MILL FINISH ALL OVER
DRAWN BY: FR DATE: 3/6/01
CHECKED BY: DATE:
APPROVED BY: DATE:
THIRD ANGLE PROJECTION

ANDRITZ
ANDRITZ-RUTHNER, INC.
1010 COMMERCIAL BLVD. SOUTH
ARLINGTON, TEXAS 76001
PHONE: (817) 465-5611

TITLE: PINELLAS COUNTY, FLORIDA
MECHANICAL FLOW DIAGRAM LEGEND
SIZE: 40 PROJECT: 1087 DRAWING NUMBER: PI-001 REV: 2
SCALE: NONE FILE: 1087PI001 SHEET 1 OF 1



ITEMS INSIDE DIVIDING LINE ARE PART OF PREPIPED GAS TRAIN

NOTES:
 LCP-3.1.1: CONEX 1, ZONE 1 — YA-3.1.1, YA-3.2.1, YA-3.3.1
 LCP-3.2.1: BARRIER BOX 1, ZONE 1
 LCP-10.1.1: CONEX 1, ZONE 2 — YA-10.1.1, YA-10.2.1, YA-10.3.1
 LCP-10.2.1: BARRIER BOX 1, ZONE 2

- ITEM NO. 001.220
COMBUSTION BLOWER
- ITEM NO. 001
FURNACE
- ITEM NO. 002
DRUM DRYER
- ITEM NO. 003/004
PRESEPARATOR/
POLYCYCLONE ASSEMBLY
- ITEM NO. 006
ROTARY AIR LOCK
- ITEM NO. 007
POLYCYCLONE SCREW CONVEYOR

REV	EIR	REVISION	BY	DATE
7		REVISED EXPLOSION SUPPRESSION CONFIGURATION	WCH	12/3/20
6		REVISED FOR DHA UPGRADE MODIFICATION	JLW	10/14/20
5		AS BUILT	FR	4/8/03
4		ADDED FAN TO DIGESTER GAS INLET	FR	2/18/03
3		GENERAL UPDATE	FR	11/04/02
2		GENERAL REVISION	DAN	10/17/02
1		ADDED DDS40 PIPE & FLANGE SIZING DATA	FR	8/16/02
0		CONSTRUCTION ISSUE	FR	7/3/02
C		ISSUED FOR DESIGN REVIEW	DAN	4/16/02

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 BY: _____ DATE: _____
 PROJECT No. _____

THESE DWGS. REFLECT CUSTOMER'S CHANGES
 AND APPROVAL ON PREVIOUS DWG. TRANSMITTALS

ESTIMATED WEIGHT IN LBS: _____
 UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES
 FABRICATION TOLERANCES
 .XXX±.040 ANG±1° HOLE±.020
 MACHINING TOLERANCES
 .XXX±.005 ANG±.5° HOLE±.020
 MILL FINISH ALL OVER

DRAWN BY: DAN
 CHECKED BY: _____
 APPROVED BY: _____

DATE: 8/8/01
 DATE: _____
 DATE: _____

THIRD ANGLE PROJECTION

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TITLE
**MECHANICAL FLOW DIAGRAM
 PELLETIZING TRAIN SHEET 1 OF 6**

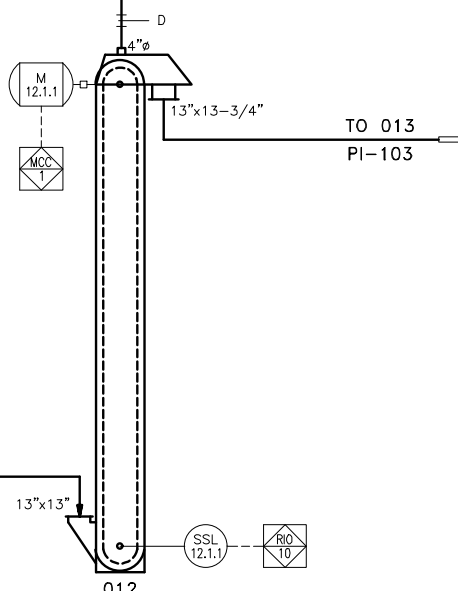
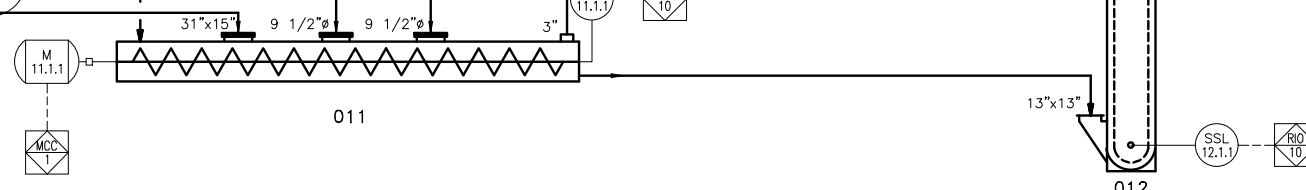
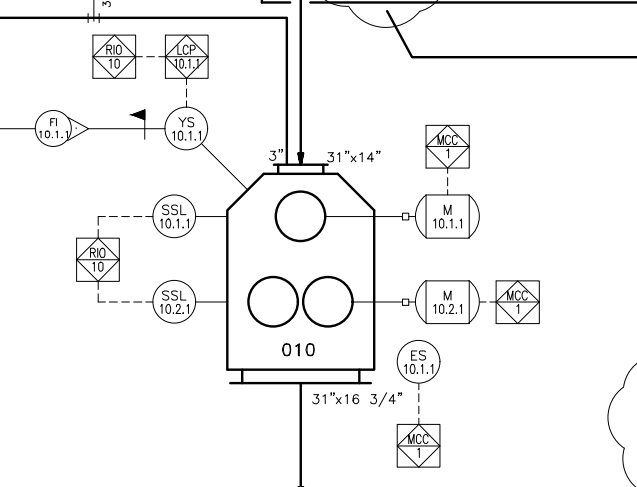
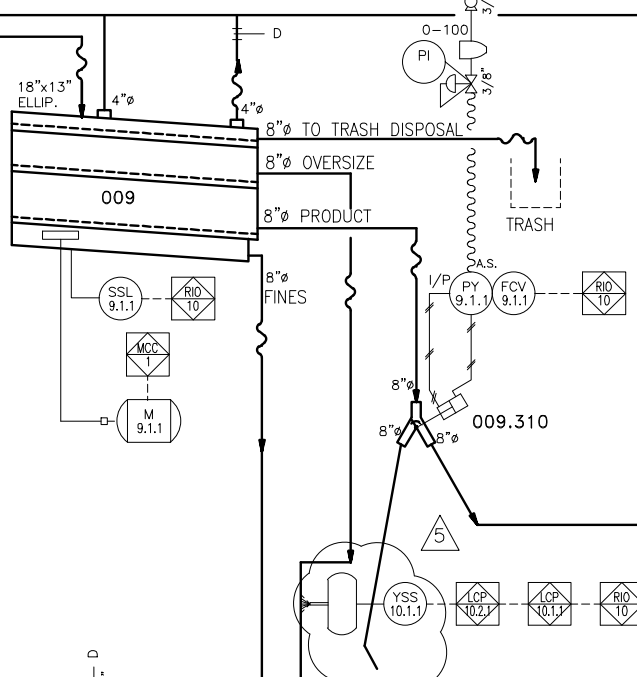
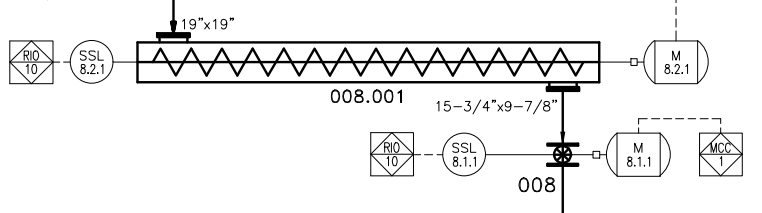
SIZE	PROJECT	DRAWING NUMBER	REV
40	1087	PI-101	7

SCALE NONE FILE 1087PI101 SHEET 1 OF 1

UTILITY AIR
PI-501 1/2"

UTILITY AIR
PI-501 1/2"

FROM SCREW 007



ITEM NO. 008.001
SCREEN FEED SCREW CONVEYOR

ITEM NO. 009.310
PRODUCT DIVERTER

ITEM NO. 011
RECYCLE BIN SCREW CONVEYOR

ITEM NO. 009
SHAKER SCREEN

ITEM NO. 010
ROLLER CRUSHER

ITEM NO. 012
RECYCLE FEED BUCKET ELEVATOR

REV	EIR	REVISION	BY	APVD	DATE
5		DELETED (1) BOTTLE BASED ON AS-BUILT HOSE ARRANGEMENT	MDW	MMW	12/04/20
4		REVISED FOR DHA UPGRADE MODIFICATION	JLW	MMW	10/14/20
3		AS BUILT	FR	BM	4/8/03
2		UPDATED TAG NUMBER	FR	JS	11/04/02
1		UPDATED & ADDED SIZING DATA TO PIPING	FR	BM	8/16/02
0		CONSTRUCTION ISSUE	FR	BM	7/3/02
C		ISSUED FOR DESIGN REVIEW	DAN	BM	4/16/02

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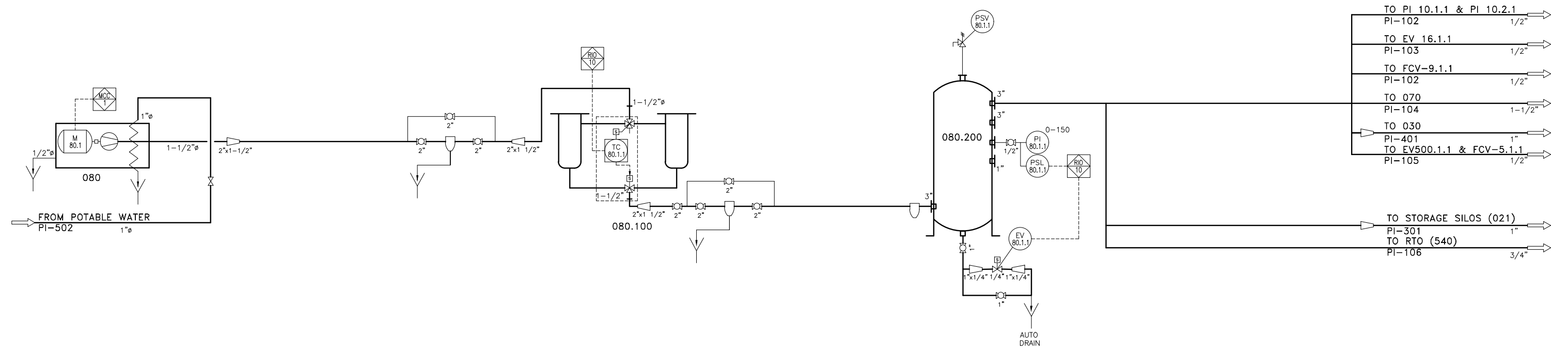
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ESTIMATED WEIGHT IN LBS:
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
FABRICATION TOLERANCES
.XXX±.040 ANG±.1° HOLE±.020
MACHINING TOLERANCES
.XXX±.005 ANG±.5° HOLE±.020
MILL FINISH ALL OVER

DRAWN BY: DAN
CHECKED BY: DATE
APPROVED BY: DATE
THIRD ANGLE PROJECTION

TITLE
PINELLAS COUNTY, FLORIDA
MECHANICAL FLOW DIAGRAM
PELLETIZING TRAIN SHEET 2 OF 6
SIZE 40 PROJECT 1087 DRAWING NUMBER PI-102 REV 5
SCALE NONE FILE 1087PI102 SHEET 1 OF 1



ITEM NO. 080
AIR COMPRESSOR

ITEM NO. 080.100
AIR DRYER

ITEM NO. 080.200
AIR RECEIVER

REV	EIR	REVISION	BY	APVD	DATE
4		REVISED FOR DHA UPDGRADE MODIFICATION	JLW	MSW	11/09/20
3		AS BUILT	FR	BSE	4/8/03
2		ADDED POWER TO TC-80.1.1 FROM PLC-10	FR	JS	11/04/02
1		ADDED PIPE SIZING DATA	FR	BSE	8/16/02
0		CONSTRUCTION ISSUE	FR	BSE	7/3/02
C		GENERAL REVISION	DAN	BSE	4/17/02

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Telefax: (817) 472-8589

CERTIFIED CORRECT FOR INSTALLATION
BY: _____ DATE: _____
PROJECT No. _____

THESE DWGS. REFLECT CUSTOMER'S CHANGES AND APPROVAL ON PREVIOUS DWG. TRANSMITTALS

ESTIMATED WEIGHT IN LBS:
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES

FABRICATION TOLERANCES
.XXX±.040 ANG±1° HOLE±.020

MACHINING TOLERANCES
.XXX±.005 ANG±.5° HOLE±.020

MILL FINISH ALL OVER

DRAWN BY: DAN
DATE: 8/9/01

CHECKED BY: _____
DATE: _____

APPROVED BY: _____
DATE: _____

THIRD ANGLE PROJECTION

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TITLE
PINELLAS COUNTY, FLORIDA
MECHANICAL FLOW DIAGRAM
UTILITY SYSTEMS COMP. AIR SYS.

SIZE	PROJECT	DRAWING NUMBER	REV
40	1087	PI-501	4

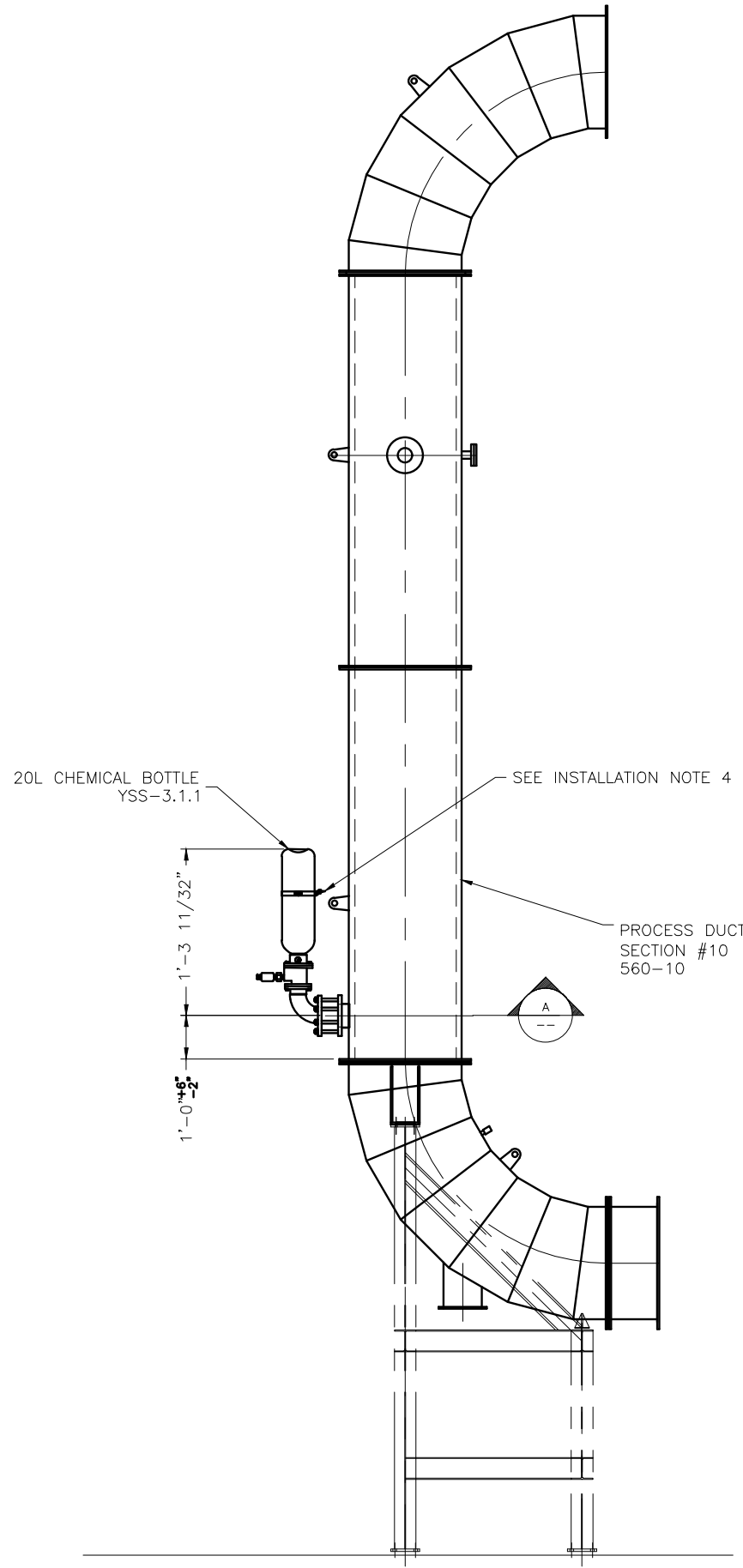
SCALE NONE FILE 1087PI501 SHEET 1 OF 1

2. EQUIPMENT DETAILS

2.1. Drawings and Lists

The following drawings are included in the submittal:

- 560-10-G04834
 - 560-20-G04834
 - 003-G04834
 - 004-G04834
 - 010-G04834
 - 011-G04834
 - 019-G04834
 - 1087-003-REF
 - 1087-004-REF
 - 1087-004-04-REF
 - EP-614
 - EP-702
 - EP-711
 - EP-713
-
- Instrument List – **To Be Revised For IOM After Devices Are Installed**



ELEVATION VIEW

GENERAL NOTES:

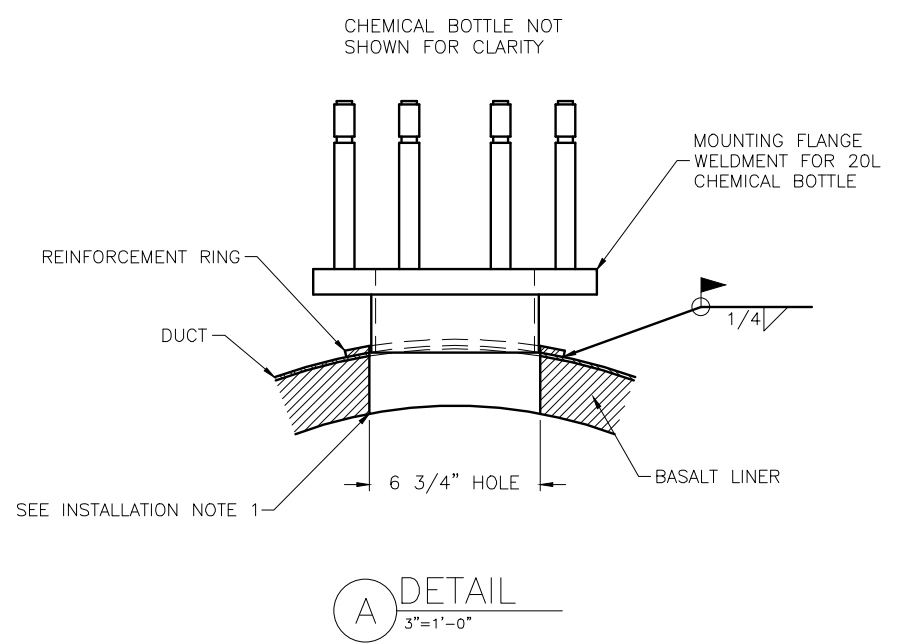
1. ALL FABRICATION AND INSTALLATION WORK IN THE FIELD IS BY OTHER THAN ANDRITZ.
2. REFER TO THE FOLLOWING MANUFACTURER DATA SHEETS FOR DETAILS ON THE 20L CHEMICAL BOTTLE AND MOUNTING FLANGE.
 - CVT 8014
 - CVT 8015

INSTALLATION NOTES:

1. HOLES IN DUCT TO BE DRILLED/CUT IN THE FIELD.
2. MOUNTING FLANGE WELDMENT (WITH REINFORCEMENT RING) TO BE WELDED TO DUCT IN THE FIELD.
3. 20L CHEMICAL BOTTLE TO BE INSTALLED IN THE FIELD TO MOUNTING FLANGE.
4. SUPPORT TAB FOR 20L CHEMICAL BOTTLE LATERAL SUPPORT TO BE DESIGNED, SUPPLIED, AND INSTALLED BY OTHER THAN ANDRITZ.
5. THE BOTTLE LOCATION MAY BE ADJUSTED AROUND CIRCUMFERENCE OF THE DUCT.

ITEMS SUPPLIED BY ANDRITZ:

1. (1) 20L CHEMICAL BOTTLE
2. (1) MOUNTING FLANGE WELDMENT FOR 20L CHEMICAL BOTTLE



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ESTIMATED WEIGHT IN LBS:	DRAWN BY: JLW	DATE 11/23/20	 ANDRITZ-RUTHNER, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001 PHONE: (817) 465-5611			TITLE PINELLAS COUNTY, FLORIDA MODIFICATION DWG DUCT DRUM (002) TO PRESEP (003)		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE				SIZE	PROJECT	DRAWING NUMBER
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020	APPROVED BY: MMW	DATE 11/25/20	40	1087	560-10-G04834	0		
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION		SCALE 1/2" = 1'	FILE 1087 56010G04834	SHEET 1	OF 1		
MILL FINISH ALL OVER								

GENERAL NOTES:

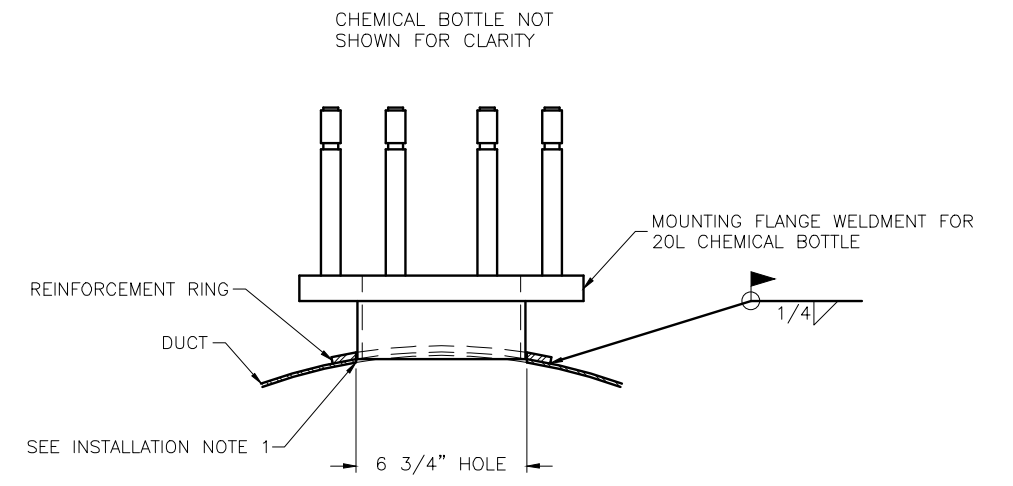
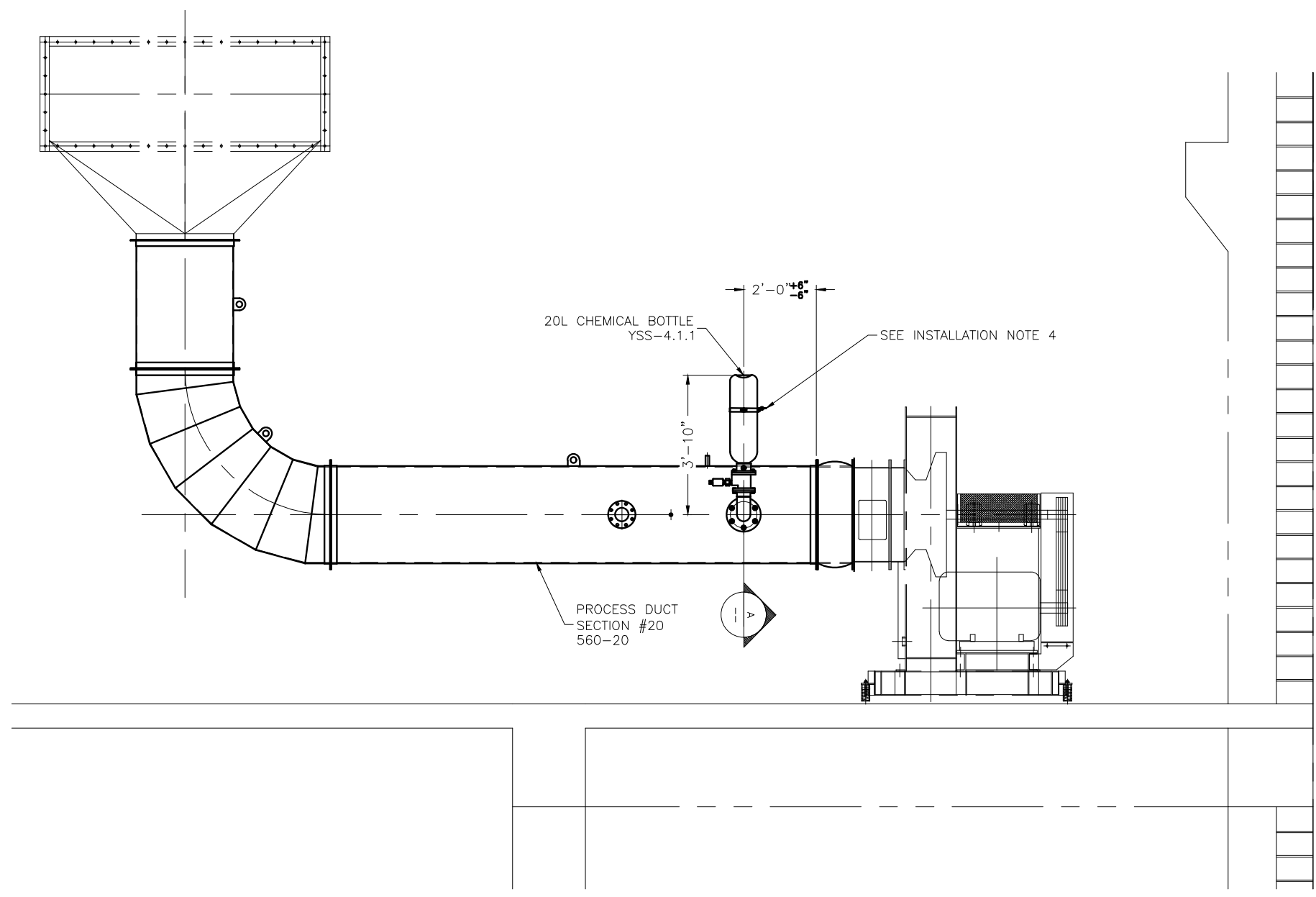
1. ALL FABRICATION AND INSTALLATION WORK IN THE FIELD IS BY OTHER THAN ANDRITZ.
2. REFER TO THE FOLLOWING MANUFACTURER DATA SHEETS FOR DETAILS ON THE 20L CHEMICAL BOTTLE AND MOUNTING FLANGE.
 - CVT 8014
 - CVT 8015

INSTALLATION NOTES:

1. HOLES IN DUCT TO BE DRILLED/CUT IN THE FIELD.
2. MOUNTING FLANGE WELDMENT (WITH REINFORCEMENT RING) TO BE WELDED TO DUCT IN THE FIELD.
3. 20L CHEMICAL BOTTLE TO BE INSTALLED IN THE FIELD TO MOUNTING FLANGE.
4. SUPPORT TAB FOR 20L CHEMICAL BOTTLE LATERAL SUPPORT TO BE DESIGNED, SUPPLIED, AND INSTALLED BY OTHER THAN ANDRITZ.
5. THE BOTTLE CAN BE MOUNTED ON EITHER SIDE OF THE DUCT.

ITEMS SUPPLIED BY ANDRITZ:

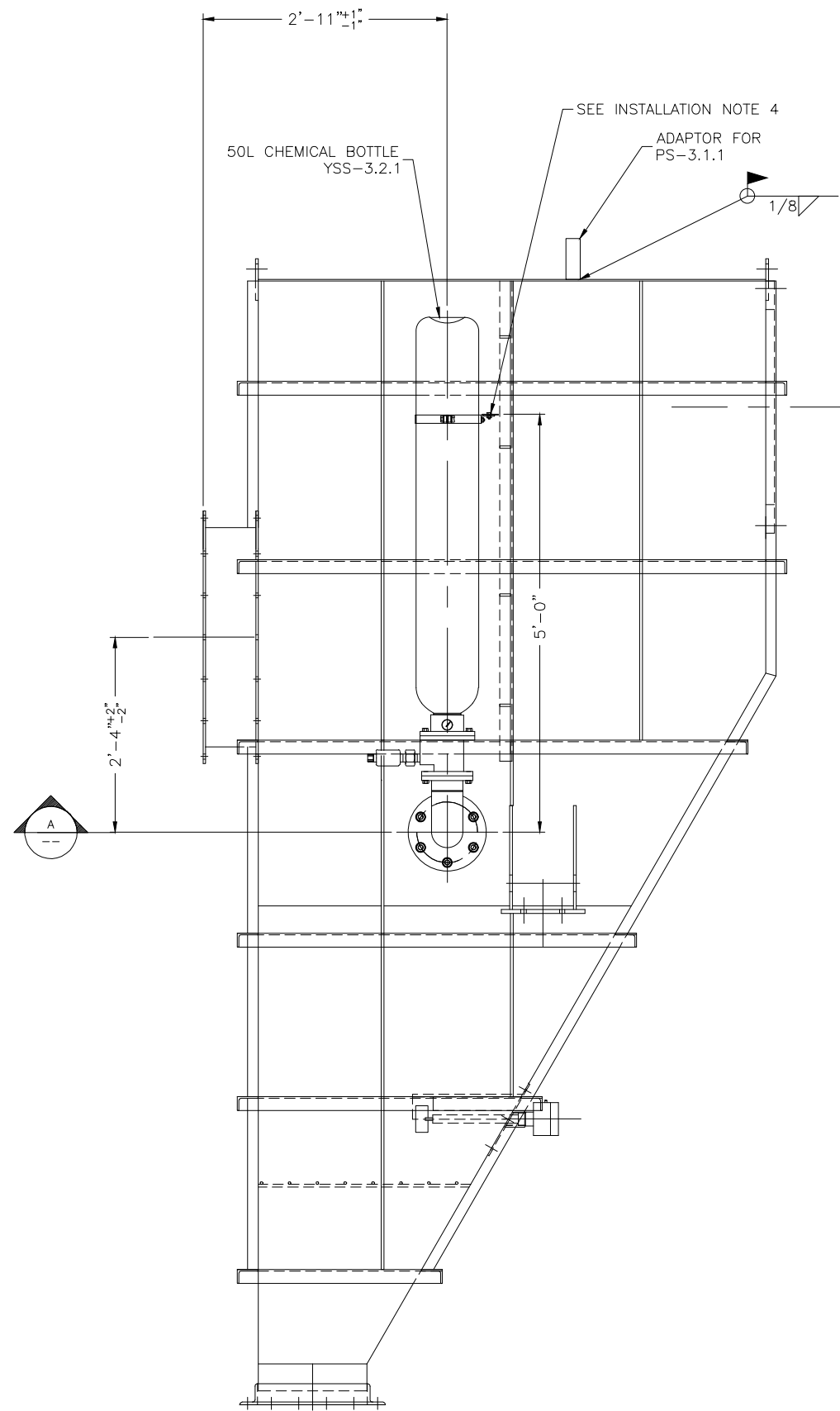
1. (1) 20L CHEMICAL BOTTLE
2. (1) MOUNTING FLANGE WELDMENT FOR 20L CHEMICAL BOTTLE



A DETAIL
3"=1'-0"

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ESTIMATED WEIGHT IN LBS:	DRAWN BY: JLW	DATE 11/23/20				TITLE PINELLAS COUNTY, FLORIDA MODIFICATION DWG. DUCT POLYCYCLONE TO I.D. FAN				
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE				SIZE 40	PROJECT 1087	DRAWING NUMBER 560-20-G04834	REV 0	SCALE 1/2"=1'-0"
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020	APPROVED BY: mmw	DATE 11/25/20	ANDRITZ-RUTHNER, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001 PHONE: (817) 465-5611							
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION									
MILL FINISH ALL OVER										



RIGHT VIEW

GENERAL NOTES:

1. ALL FABRICATION AND INSTALLATION WORK IN THE FIELD IS BY OTHER THAN ANDRITZ.
2. REFER TO THE FOLLOWING MANUFACTURER DATA SHEETS FOR DETAILS ON THE 50L CHEMICAL BOTTLE AND PRESSURE SENSOR.
 - CVT 8014
 - CVT 8015
 - CVT 8032
 - CVT 8033

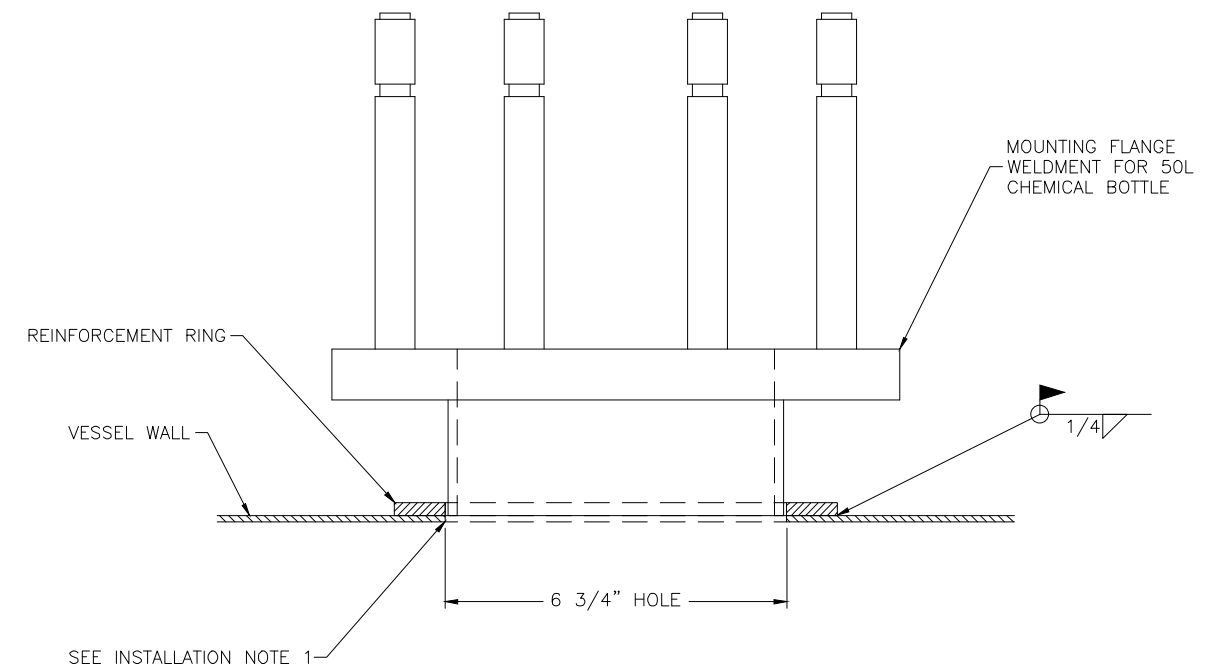
INSTALLATION NOTES:

1. HOLES IN VESSEL TO BE DRILLED/CUT IN THE FIELD.
2. MOUNTING FLANGE (WITH REINFORCEMENT) TO BE WELDED TO VESSEL IN THE FIELD.
3. 50L CHEMICAL BOTTLE TO BE INSTALLED IN THE FIELD TO MOUNTING FLANGE.
4. SUPPORT TAB FOR 50L CHEMICAL BOTTLE LATERAL SUPPORT TO BE DESIGNED, SUPPLIED, AND INSTALLED BY OTHER THAN ANDRITZ.

ITEMS SUPPLIED BY ANDRITZ:

1. (1) 50L CHEMICAL BOTTLE
2. (1) PROCESS ADAPTOR FOR PRESSURE SENSOR
3. (1) MOUNTING FLANGE WELDMENT FOR 50L CHEMICAL BOTTLE

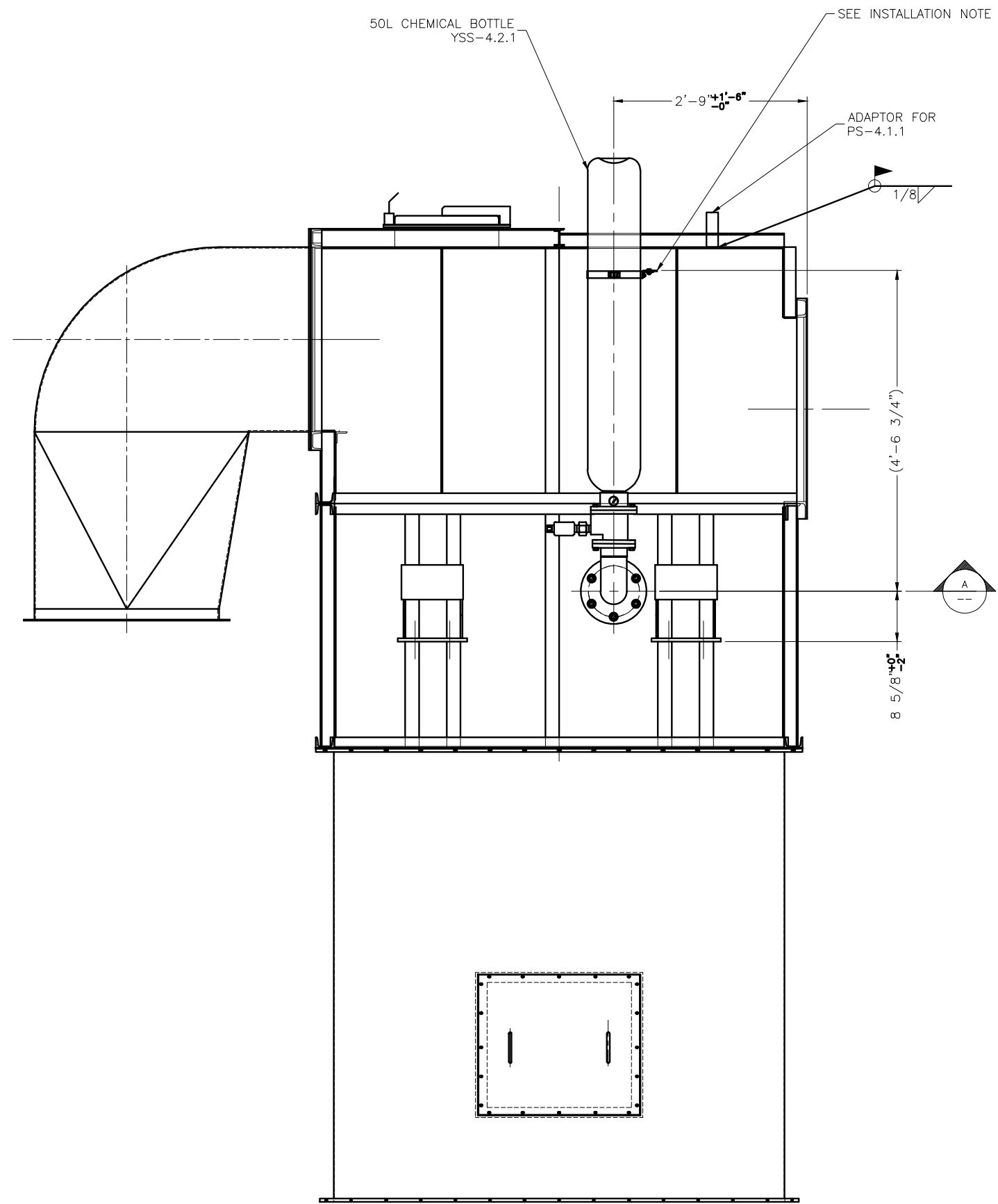
CHEMICAL BOTTLE NOTE SHOWN FOR CLARITY



DETAIL A
6"=1'-0"

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ESTIMATED WEIGHT IN LBS:	DRAWN BY: JLW	DATE: 11/24/20				TITLE PINELLAS COUNTY, FLORIDA PRESEPERATOR GENERAL ARRANGEMENT				
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE:				SIZE	PROJECT	DRAWING NUMBER	REV	
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020	APPROVED BY: MW	DATE: 11/25/20	40	1087	003-G04834	0	ANDRITZ-RUTHNER, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001 PHONE: (817) 465-5611			
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION		SCALE 1"=1'-0"				FILE	1087 003G04834	SHEET	1 OF 1
MILL FINISH ALL OVER										

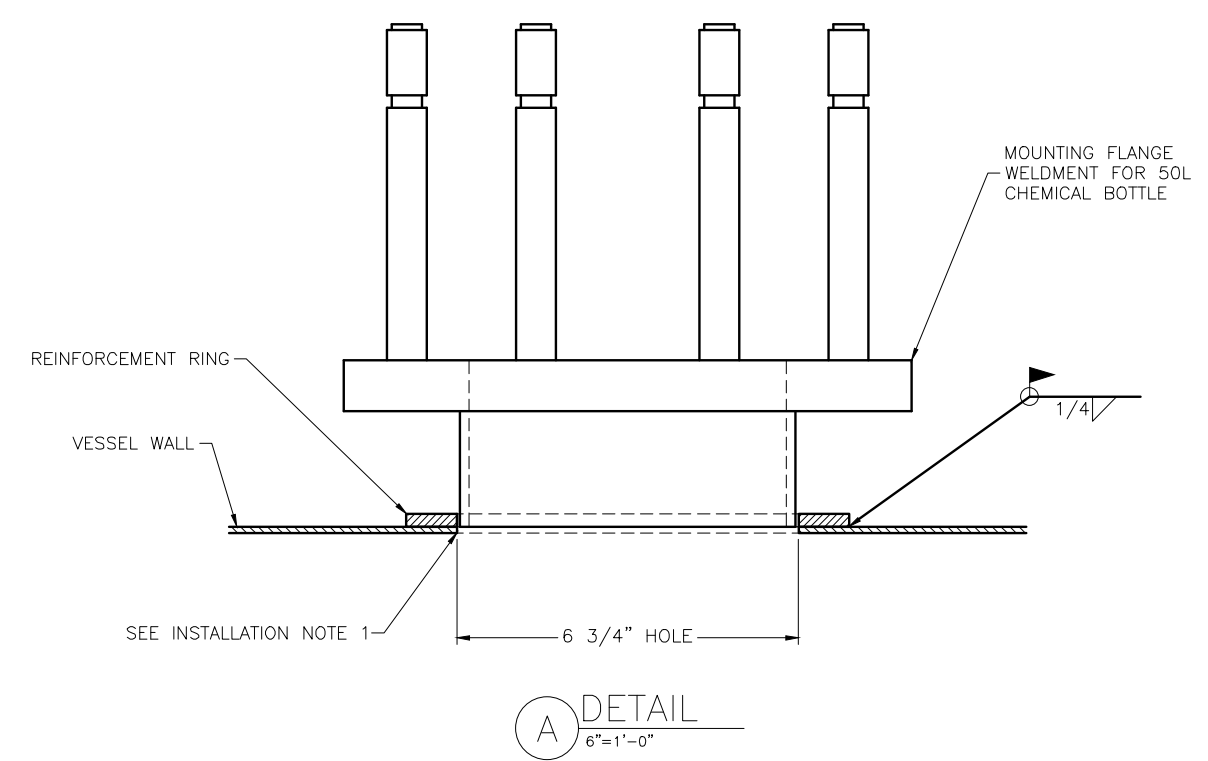


- GENERAL NOTES:**
1. ALL FABRICATION AND INSTALLATION WORK IN THE FIELD IS BY OTHER THAN ANDRITZ.
 2. REFER TO THE FOLLOWING MANUFACTURER DATA SHEETS FOR DETAILS ON THE 50L CHEMICAL BOTTLE AND PRESSURE SENSOR.
 - CVT 8014
 - CVT 8015
 - CVT 8032
 - CVT 8033

- INSTALLATION NOTES:**
1. HOLES IN VESSEL TO BE DRILLED/CUT IN THE FIELD.
 2. MOUNTING FLANGE (WITH REINFORCEMENT) TO BE WELDED TO VESSEL IN THE FIELD.
 3. 50L CHEMICAL BOTTLE TO BE INSTALLED IN THE FIELD TO MOUNTING FLANGE.
 4. SUPPORT TAB FOR 50L CHEMICAL BOTTLE LATERAL SUPPORT TO BE DESIGNED, SUPPLIED, AND INSTALLED BY OTHER THAN ANDRITZ.

- ITEMS SUPPLIED BY ANDRITZ:**
1. (1) 50L CHEMICAL BOTTLE
 2. (1) PROCESS ADAPTOR FOR PRESSURE SENSOR
 3. (1) MOUNTING FLANGE WELDMENT FOR 50L CHEMICAL BOTTLE

CHEMICAL BOTTLE NOT SHOWN FOR CLARITY



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FRONT ELEVATION
(PRESEPARATOR SIDE)

ESTIMATED WEIGHT IN LBS:	DRAWN BY: JLW	DATE 11/24/20
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020	APPROVED BY: MW	DATE 11/25/20
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION	
MILL FINISH ALL OVER		



ANDRITZ-RUTHNER, INC.
1010 COMMERCIAL BLVD. SOUTH
ARLINGTON, TEXAS 76001
PHONE: (817) 465-5611

TITLE PINELLAS COUNTY, FLORIDA POLYCYCLONE HOPPER GENERAL ARRANGEMENT			
SIZE 40	PROJECT 1087	DRAWING NUMBER 004-G04834	REV 0
SCALE 1"=1'-0"		FILE 1087 004G04834	SHEET 1 OF 1

GENERAL NOTES:

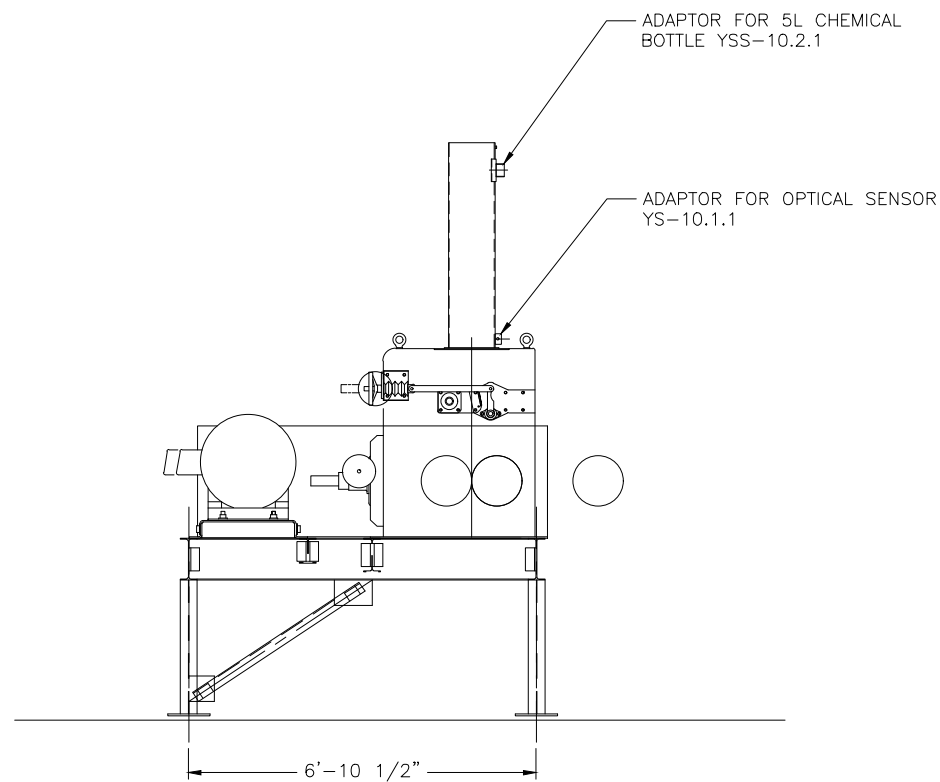
1. ALL FABRICATION AND INSTALLATION WORK IN THE FIELD IS BY OTHER THAN ANDRITZ.
2. REFER TO THE FOLLOWING MANUFACTURER DATA SHEETS FOR DETAILS ON THE 5L CHEMICAL BOTTLE AND LUMEX OPTICAL SENSOR.
 - CVT 8011
 - CVT 8016
 - CVT 8017

INSTALLATION NOTES:

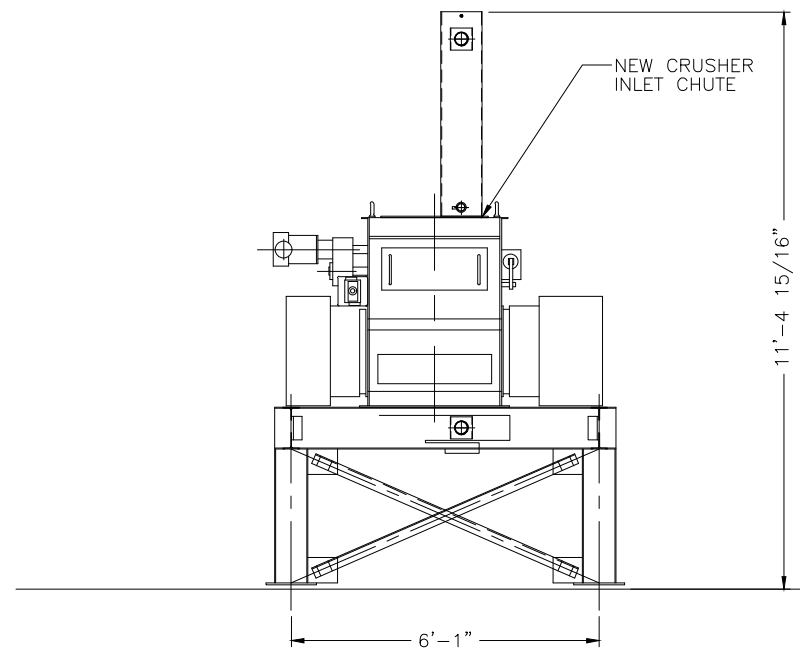
1. NEW INLET BOX TO BE MOUNTED TO CRUSHER.
2. 5L CHEMICAL BOTTLE TO BE INSTALLED IN THE FIELD AND CONNECTED TO ADAPTOR.
3. LUMEX OPTICAL SENSOR TO BE INSTALLED TO MOUNTING ADAPTOR.

ITEMS SUPPLIED BY ANDRITZ:

1. (1) CRUSHER INLET BOX
2. (1) 5L CHEMICAL BOTTLE
3. (1) LUMEX OPTICAL SENSOR



END VIEW



SIDE VIEW

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ESTIMATED WEIGHT IN LBS:	DRAWN BY: ARS	DATE 12/1/20			TITLE PINELLAS COUNTY, FLORIDA CRUSHER GENERAL ARRANGEMENT				
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE			SIZE	PROJECT	DRAWING NUMBER	REV	
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020	APPROVED BY: MW	DATE 12/2/20	40	1087	010-G04834	0	SCALE 1/2"=1'-0"	FILE 1087 010G04834	SHEET 1 OF 1
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION		ANDRITZ-RUTHNER, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001		PHONE: (817) 465-5611				
MILL FINISH ALL OVER									

GENERAL NOTES:

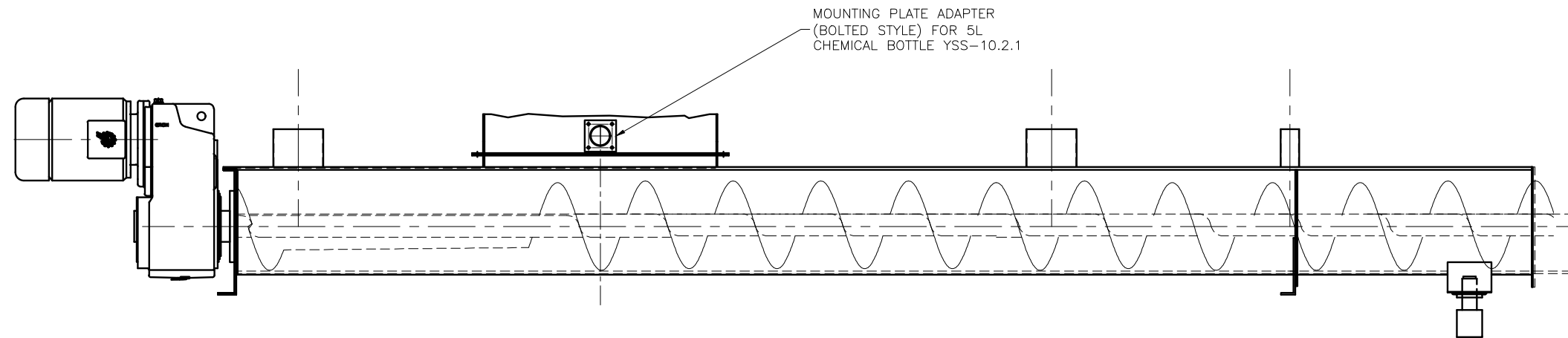
1. ALL FABRICATION AND INSTALLATION WORK IN THE FIELD IS BY OTHER THAN ANDRITZ.
2. REFER TO THE FOLLOWING MANUFACTURER DATA SHEETS FOR DETAILS ON THE 5L CHEMICAL BOTTLE.
 - CVT 8011

INSTALLATION NOTES:

1. HOLE IN CRUSHER DISCHARGE CHUTE TO BE DRILLED/CUT IN THE FIELD.
2. MOUNTING PLATE ADAPTER TO BE INSTALLED TO CHUTE IN THE FIELD.
3. 5L CHEMICAL BOTTLE TO BE INSTALLED IN THE FIELD AND CONNECTED TO ADAPTOR.

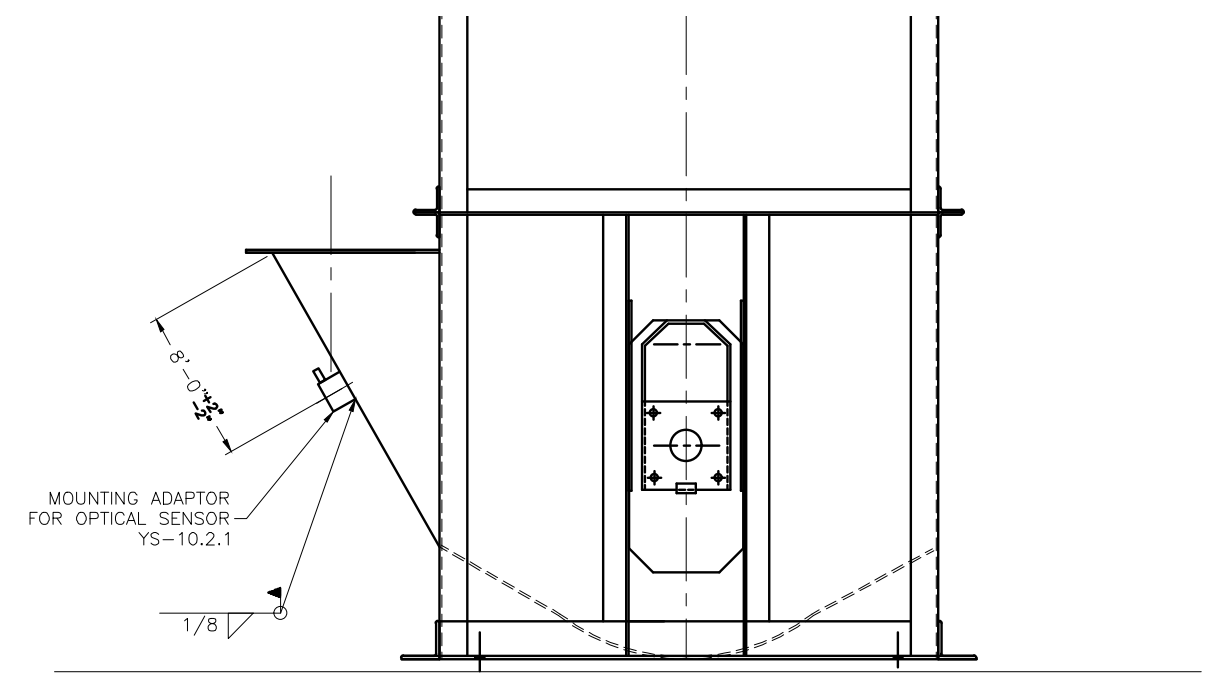
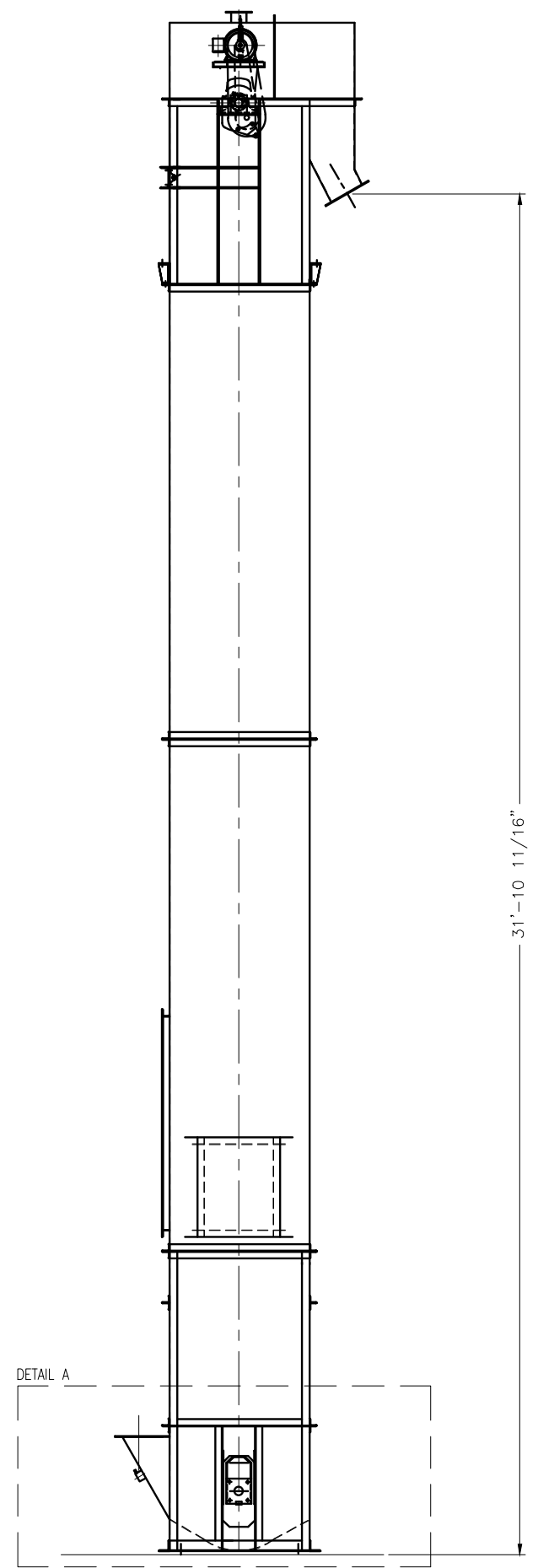
ITEMS SUPPLIED BY ANDRITZ:

1. (1) 5L CHEMICAL BOTTLE
2. (1) MOUNTING PLATE ADAPTOR FOR 5L CHEMICAL BOTTLE



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ESTIMATED WEIGHT IN LBS:	DRAWN BY: JLW	DATE 11/24/20			TITLE PINELLAS COUNTY, FLORIDA RECYCLE ELEVATOR FEED SCREW		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE			SIZE 40	PROJECT 1087	DRAWING NUMBER 011-G04834
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020	APPROVED BY: MW	DATE 11/25/20	ANDRITZ-RUTHNER, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001 PHONE: (817) 465-5611		SCALE 1"=1'-0"	FILE 1087 011G04834	SHEET 1 OF 1
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION						
MILL FINISH ALL OVER							



A DETAIL
1-1/2"=1'-0"

GENERAL NOTES:

1. ALL FABRICATION AND INSTALLATION WORK IN THE FIELD IS BY OTHER THAN ANDRITZ.
2. REFER TO THE FOLLOWING MANUFACTURER DATA SHEETS FOR DETAILS ON LUMEX OPTICAL SENSOR:
 - CVT 8016
 - CVT 8017

INSTALLATION NOTES:

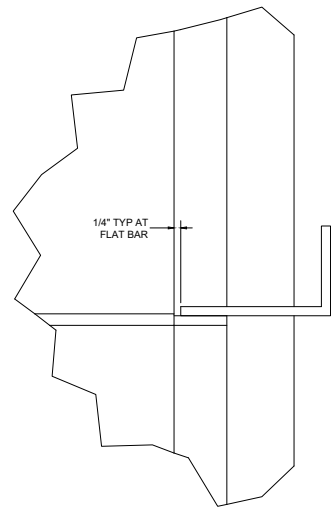
1. HOLE IN INLET TO BE DRILLED/CUT IN THE FIELD.
2. MOUNTING ADAPTOR TO BE REMOVED FROM LUMEX SENSOR AND WELDED DIRECTLY TO INLET.
3. LUMEX OPTICAL SENSOR TO BE INSTALLED IN THE FIELD TO MOUNTING ADAPTOR.

ITEMS SUPPLIED BY ANDRITZ:

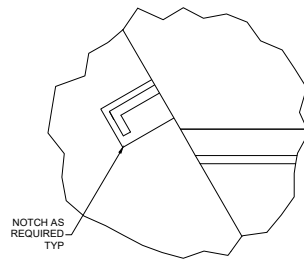
1. (1) LUMEX OPTICAL SENSOR WITH MOUNTING ADAPTOR

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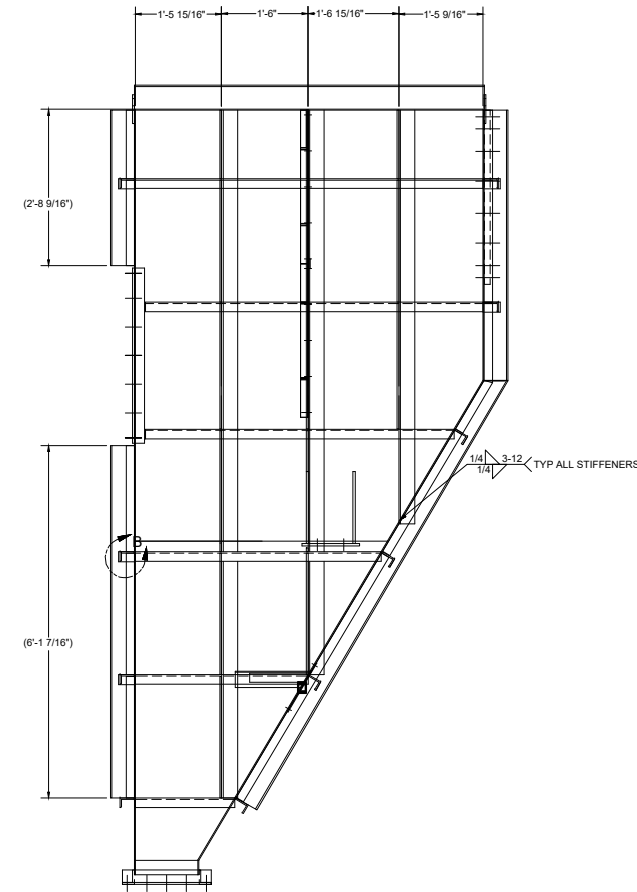
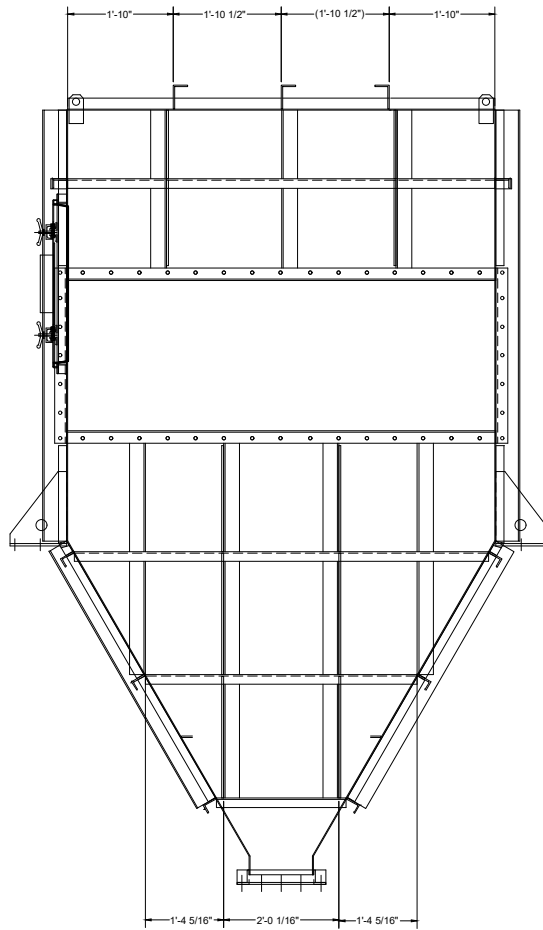
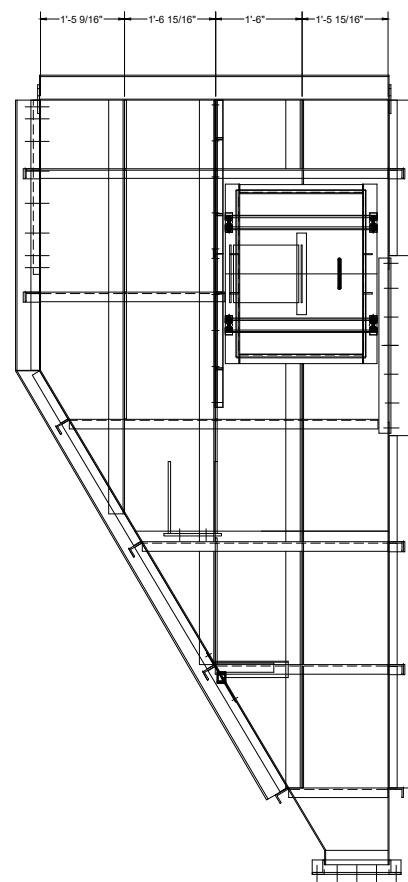
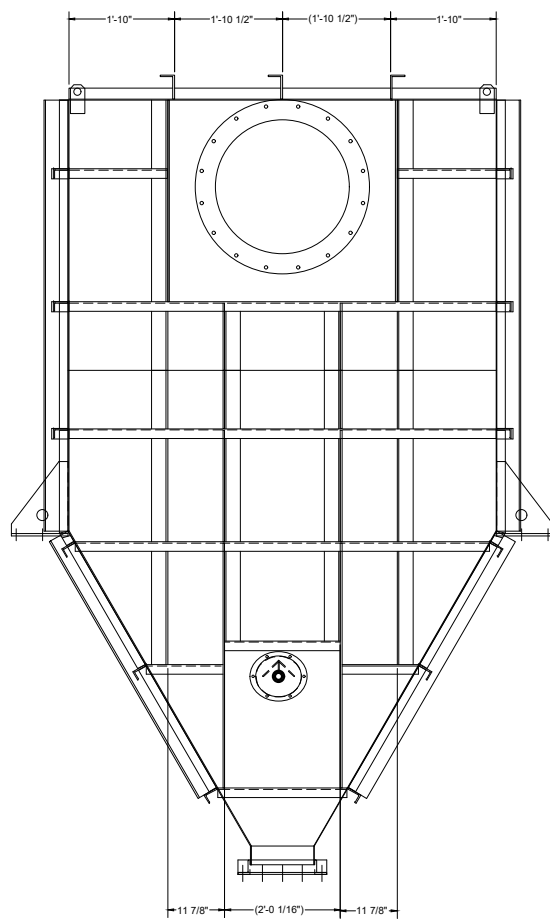
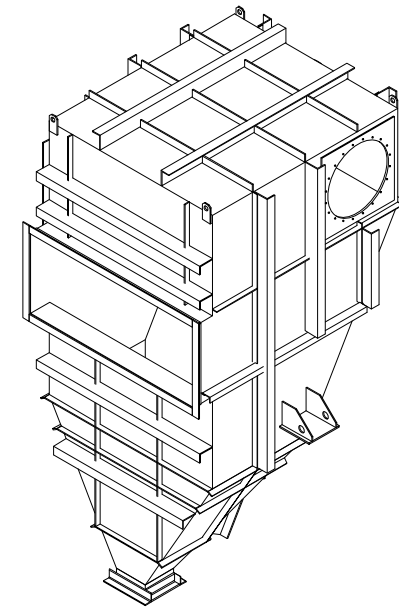
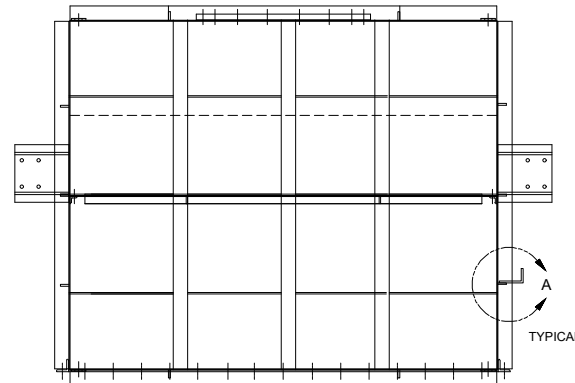
ESTIMATED WEIGHT IN LBS:	DRAWN BY: JLW	DATE 11/24/20	 TITLE PINELLAS COUNTY, FLORIDA FINAL PRODUCT ELEVATOR			
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE				
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020	APPROVED BY: MMW	DATE 11/25/20	40	1087	019-G04834	0
MACHINING TOLERANCES XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION		ANDRITZ-RUTHNER, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001 PHONE: (817) 465-5611			
MILL FINISH ALL OVER			SCALE 1/2"=1'-0"	FILE 1087 019G04834	SHEET 1	OF 1



DETAIL A
TYPICAL



DETAIL B

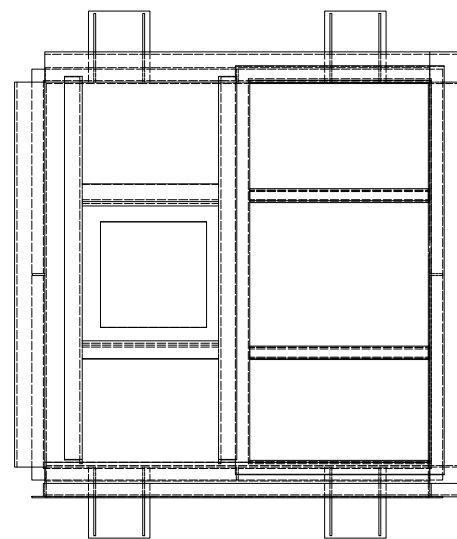


- NOTES:
1. REINFORCING STIFFENERS TO BE 3" X 5" X 3/8" ANGLE (MIN) AND 2-1/2" X 3/8" FLAT BAR UNO. MORE COMMERCIALY AVAILABLE STRUCTURAL MEMBER SIZES MAY BE SUBSTITUTED.
 2. STIFFENERS TO BE NOTCHED AS REQUIRED TO FIT OVER EXISTING VESSEL STIFFENERS.

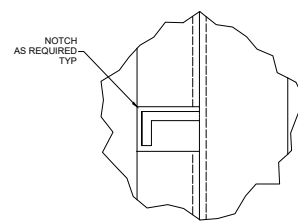
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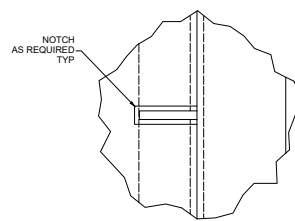
ESTIMATED WEIGHT IN LBS: -	DRAWN BY: MDW	DATE 12/3/20	<p>ANDRITZ SEPARATION, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001 PHONE: (817) 465-5611</p>	TITLE PINELLAS COUNTY, DDS PRESEPARATOR REINFORCEMENT DETAIL		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE		SIZE D	DRAWING NUMBER 1087-003-REF	REV 0
FABRICATION TOLERANCES .XXX±.040 ANG±.1° HOLE±.020	APPROVED BY: MDW	DATE 12/4/20		SCALE 1/16	FILE 1087003-REF	SHEET 1 OF 1
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020	THIRD ANGLE PROJECTION					
MILL FINISH ALL OVER						



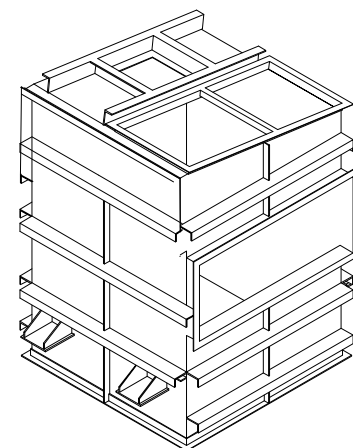
PLAN VIEW



DETAIL A

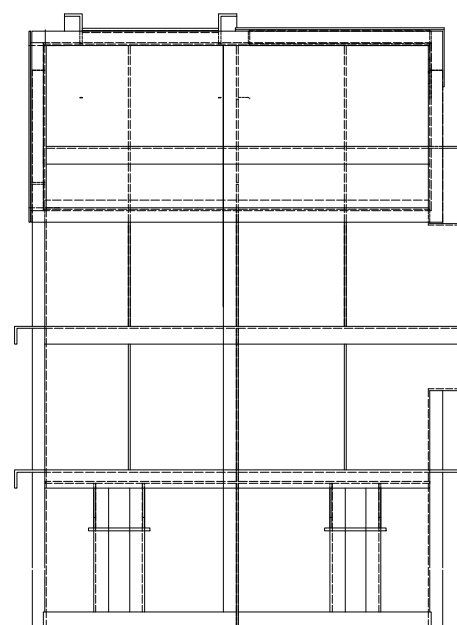


DETAIL B

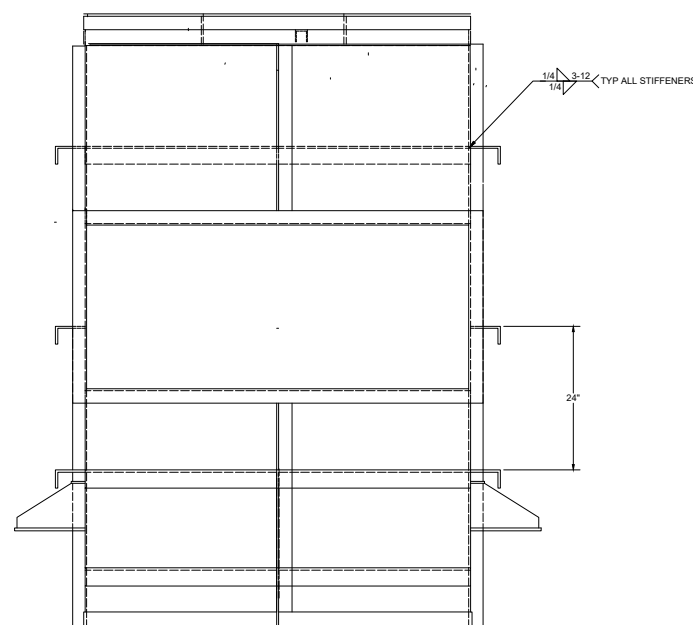


NOTES:

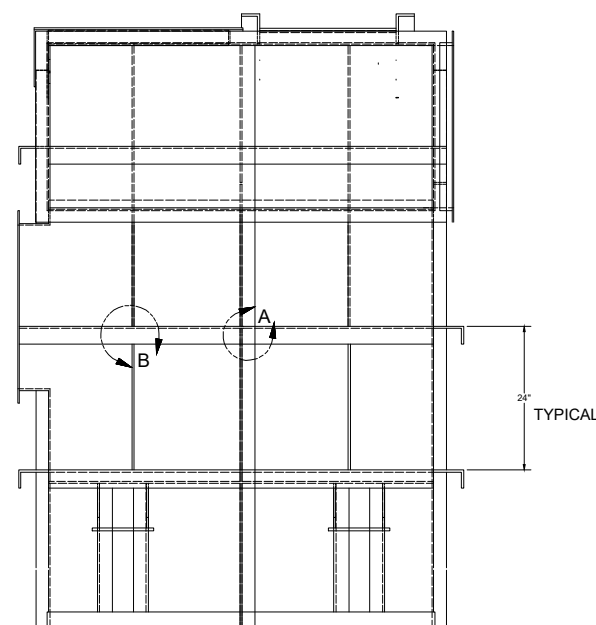
1. REINFORCING STIFFENERS TO BE 3" X 5" X 3/8" ANGLE (MIN). MORE COMMERCIALY AVAILABLE STRUCTURAL MEMBER SIZES MAY BE SUBSTITUTED.
2. STIFFENERS TO BE NOTCHED AS REQUIRED TO FIT OVER EXISTING VESSEL STIFFENERS.



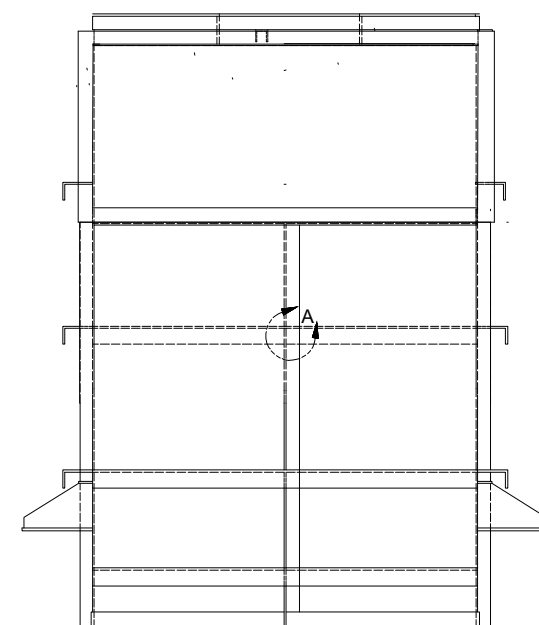
ELEVATION VIEW



SIDE VIEW



ELEVATION VIEW



SIDE VIEW

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RESPONSIBLE CAN CONSTITUTE A CAUSE FOR LEGAL ACTION, THIS DRAWING
MUST BE RETURNED ON REQUEST OF THE COMPANY.

ESTIMATED WEIGHT IN LBS: -	DRAWN BY: MDW	DATE 12/3/20
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES	CHECKED BY:	DATE
FABRICATION TOLERANCES .XXX±.040 ANG±.1" HOLE±.020	APPROVED BY: <i>MDW</i>	DATE 12/4/20
MACHINING TOLERANCES .XXX±.005 ANG±.5" HOLE±.020	THIRD ANGLE PROJECTION	
MILL FINISH ALL OVER		

ANDRITZ
ANDRITZ SEPARATION, INC.
1010 COMMERCIAL BLVD. SOUTH
ARLINGTON, TEXAS 76001
PHONE: (817) 465-5611

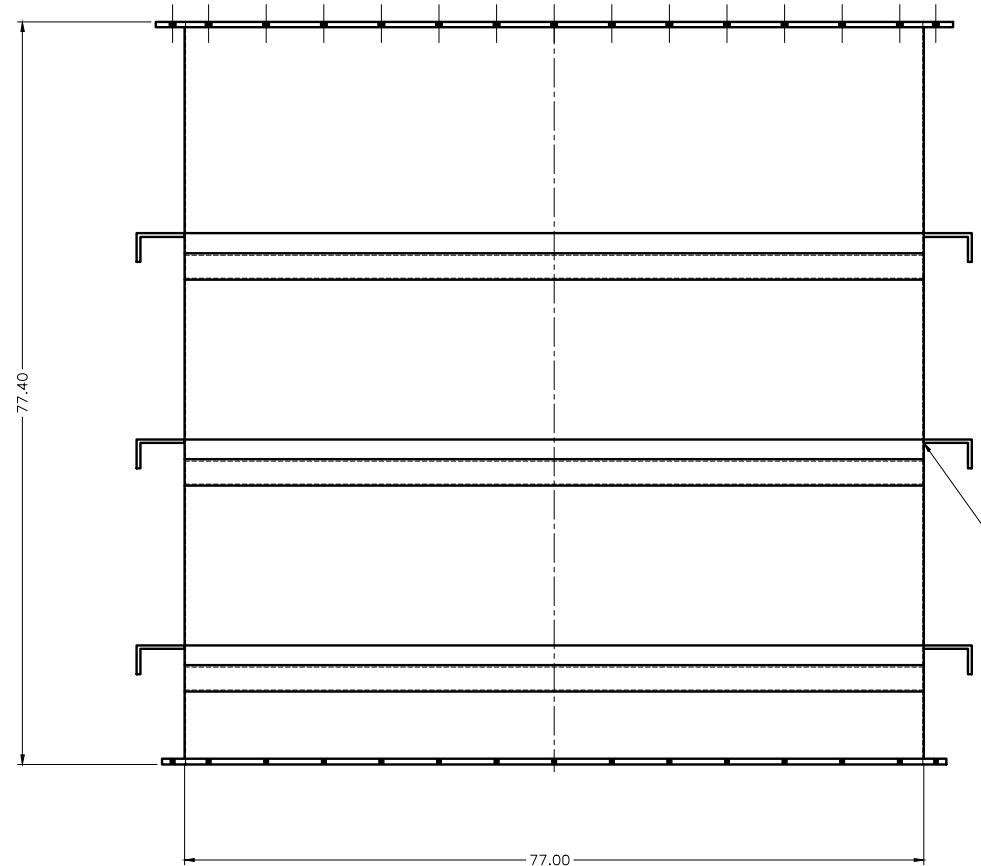
TITLE PINELLAS COUNTY, DDS POLYCYCLONE REINFORCEMENT DETAIL		
SIZE D	DRAWING NUMBER 1087-004-REF	REV O
SCALE 1/16	FILE 1087004-REF	SHEET 1 OF 1

D

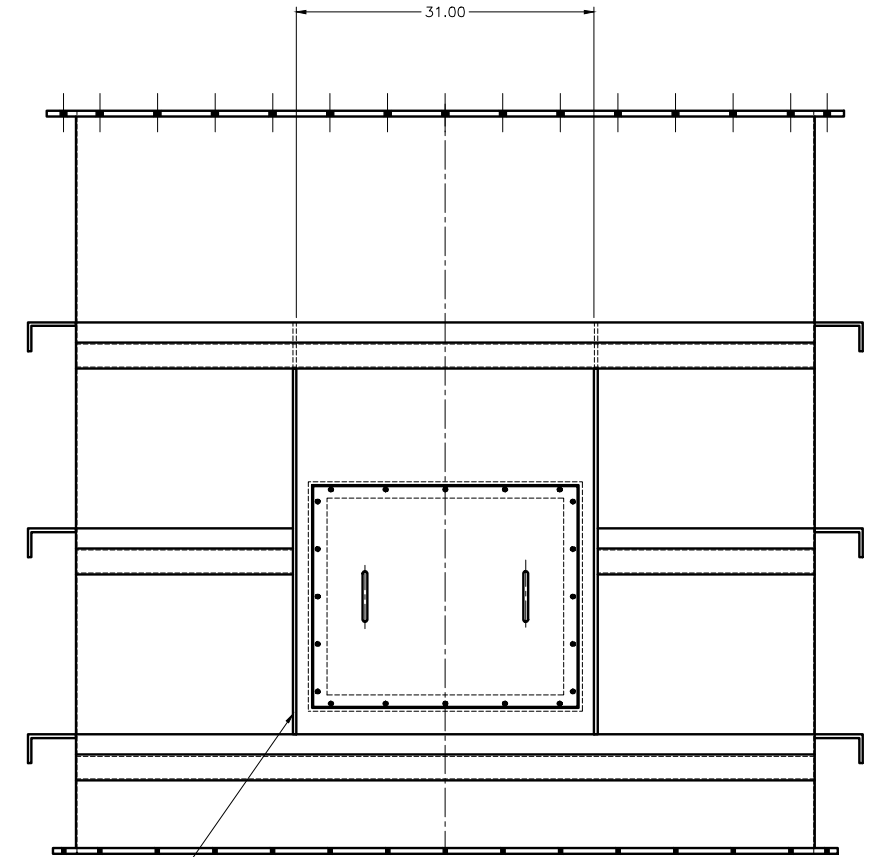
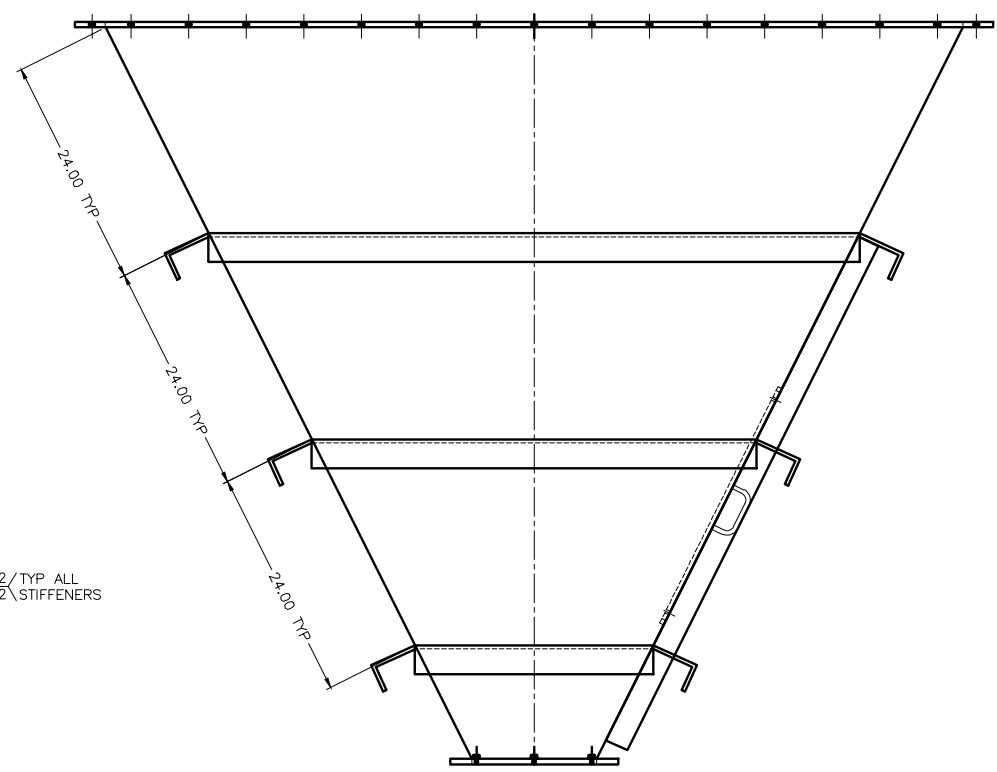
C

B

A



LEFT SIDE VIEW



RIGHT SIDE VIEW

NOTES:

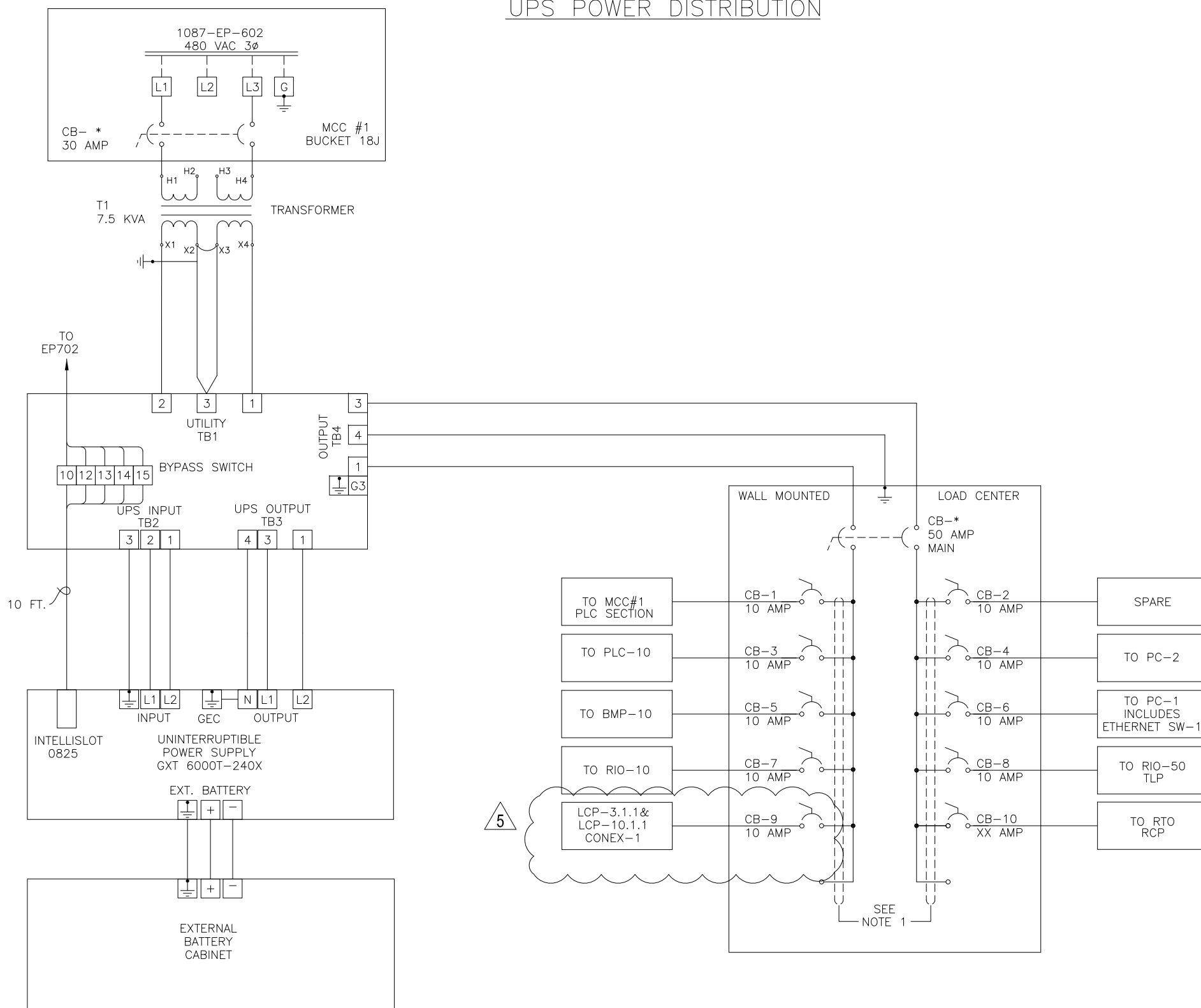
1. REINFORCING STIFFENERS TO BE 3" X 5" X 3/8" ANGLE (MIN) AND 2-1/2" X 3/8" FLAT BAR UNO. MORE COMMERCIALY AVAILABLE STRUCTURAL MEMBER SIZES MAY BE SUBSTITUTED.

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ESTIMATED WEIGHT IN LBS: -		DRAWN BY: MDW		DATE 12/3/20		<p>ANDRITZ SEPARATION, INC. 1010 COMMERCIAL BLVD. SOUTH ARLINGTON, TEXAS 76001 PHONE: (817) 465-5611</p>	TITLE PINELLAS COUNTY, DDS POLYCYCLONE DISCHARGE HOPPER REINFORCEMENT DETAIL		
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES		CHECKED BY:		DATE			SIZE D	DRAWING NUMBER 1087-004-01-REF	REV O
FABRICATION TOLERANCES .XXX±.040 ANG±.1° HOLE±.020		APPROVED BY: MW		DATE 12/4/20			SCALE 1/8	FILE# 8700401-REF	SHEET 1 OF 1
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020		THIRD ANGLE PROJECTION							
MILL FINISH ALL OVER		AST No.-							

UPS POWER DISTRIBUTION

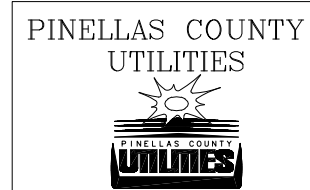


- NOTES:**
- 1) 120 VAC SINGLE PHASE.
 - 2) NO OTHER LOADS ARE TO BE POWERED FROM THE UPS WITHOUT WRITTEN APPROVAL FROM ANDRITZ.

AS BUILT

REV	EIR	REVISION	BY	APVD	DATE
5		AS BUILT: ADDED CONEX CONTROLLER	RA	SCZC	1/18/21
4		AS BUILT	FR	SCZC	4/7/03
3		UPDATED WIRING	FR	gm	1/8/03
2		UPDATED WIRING	FR	gm	10/31/02
1		GENERAL UPDATE	FR	SCZC	5/31/02

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 ARLINGTON, TEXAS 76017
 Phone: (817)465-5611
 Telefax: (817)472-8589

CERTIFIED CORRECT FOR INSTALLATION
 BY: _____ DATE: _____
 PROJECT No. _____

THESE DWGS. REFLECT CUSTOMER'S CHANGES AND APPROVAL ON PREVIOUS DWG. TRANSMITTALS

ESTIMATED WEIGHT IN LBS:
 UNLESS OTHERWISE SPECIFIED:
 DIMENSIONS ARE IN INCHES

FABRICATION TOLERANCES
 .XXX±.040 ANG±1° HOLE±.020

MACHINING TOLERANCES
 .XXX±.005 ANG±5° HOLE±.020

MILL FINISH ALL OVER

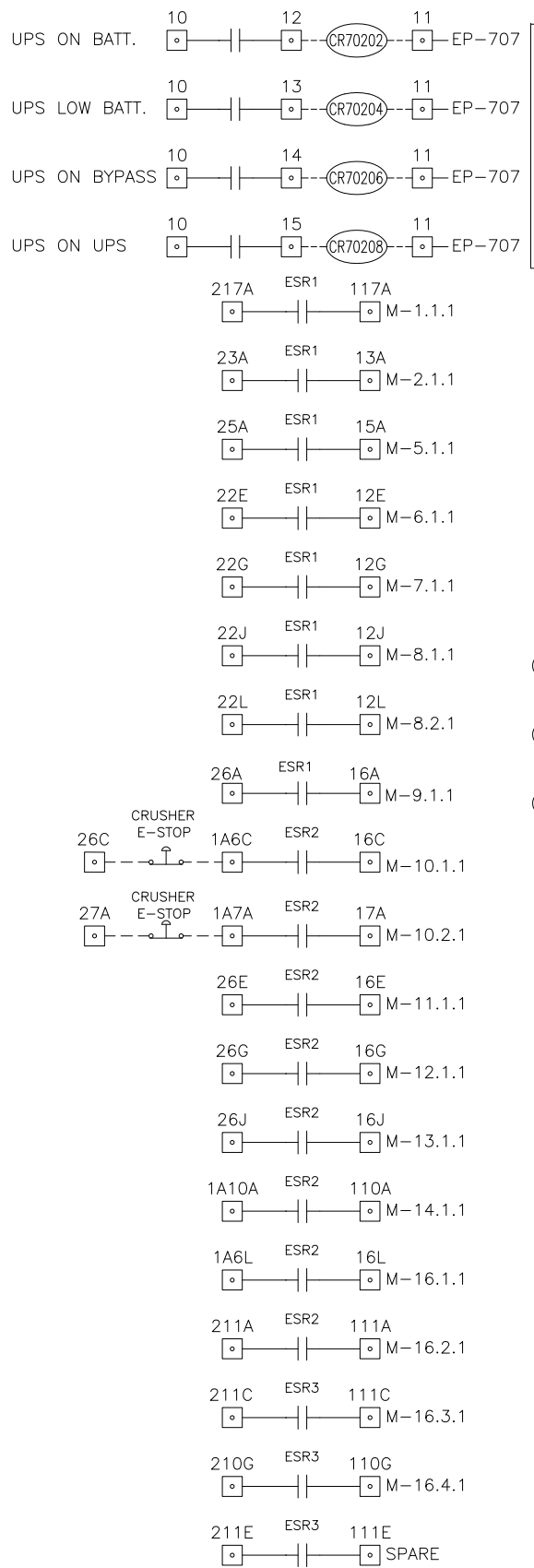
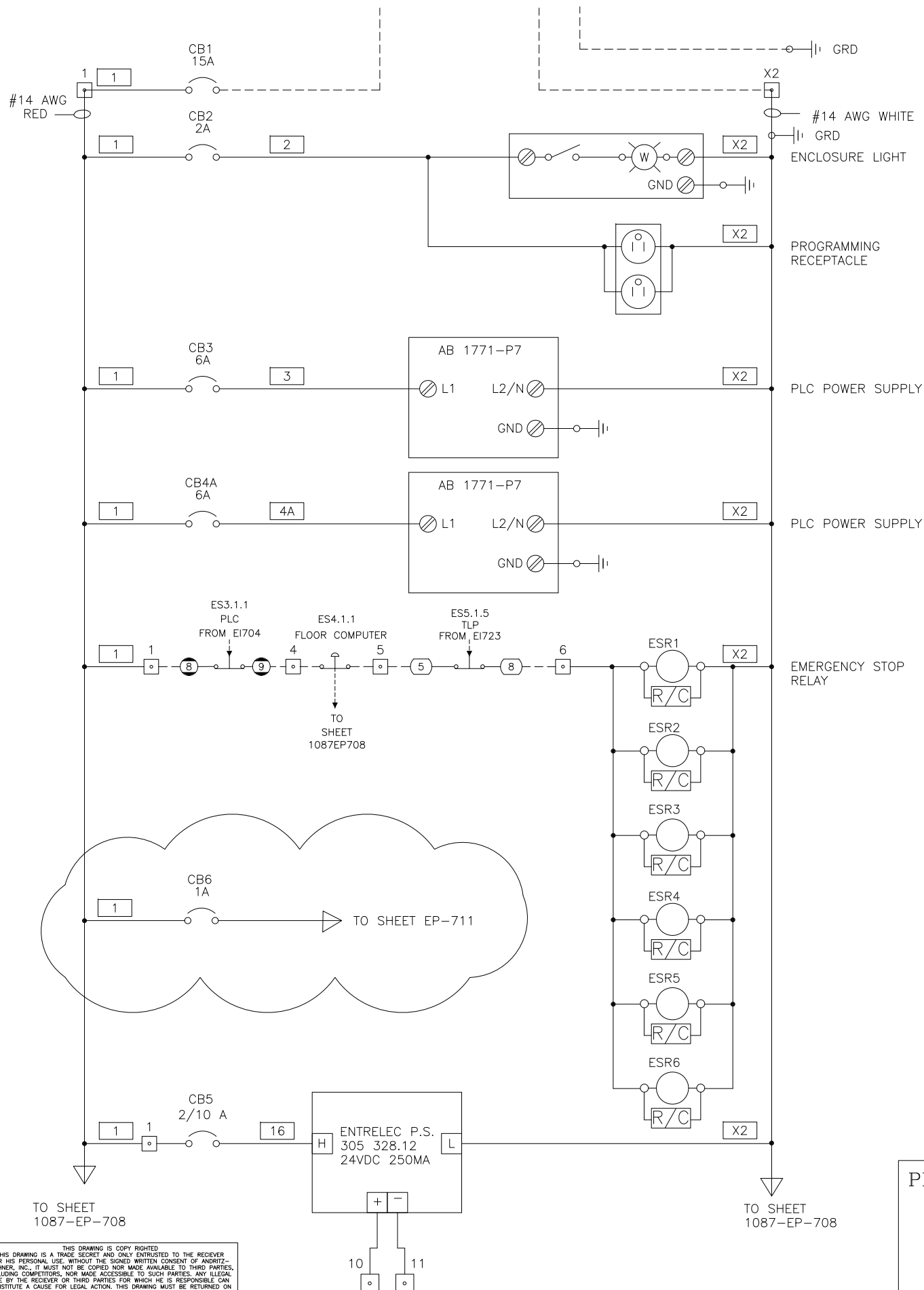
DRAWN BY: FR DATE: 4/11/01
 CHECKED BY: DATE
 APPROVED BY: DATE

THIRD ANGLE PROJECTION



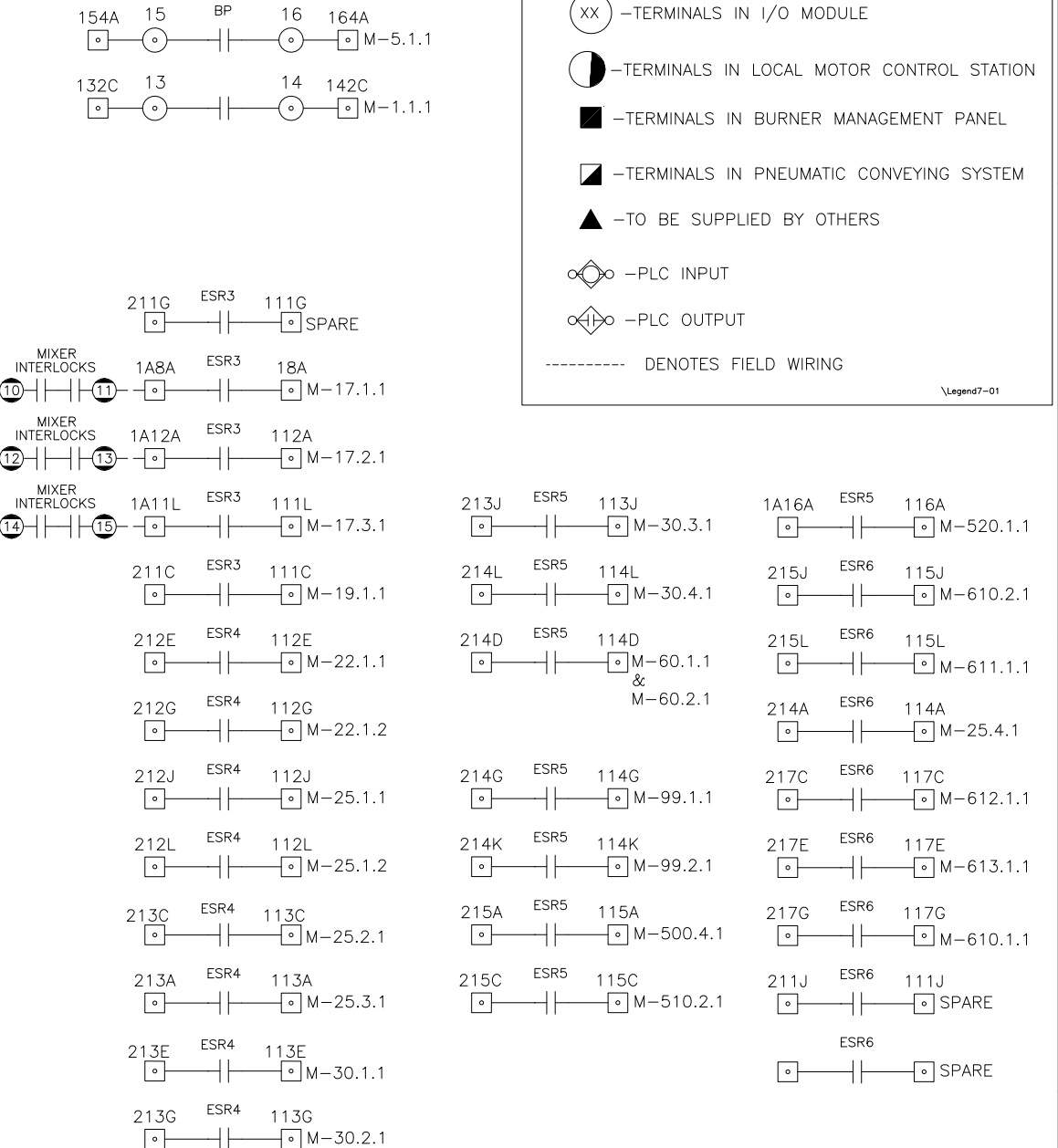
TITLE			
PINELLAS COUNTY, FLORIDA			
UPS #1 POWER DISTRIBUTION			
SIZE	PROJECT	DRAWING NUMBER	REV
40	1087	EP-614	5
SCALE	FILE	SHEET	OF
NONE	1087EP614	1	1

120 VAC, 1-PHASE, 60HZ.
FROM UPS



WIRING SYSTEM	WIRE COLOR	WIRE SIZE
DISCRETE INPUTS	RED	#14
DISCRETE OUTPUTS	YELLOW	#14
ANALOG INPUTS	SHL 2COND. CABLE	#18
ANALOG OUTPUTS	SHL 2COND. CABLE	#18
120 VAC HOT	RED	#14
120 VAC NEUTRAL	WHITE	#14
120 VAC GROUND	GREEN	#14
24 VDC PLUS	BLUE	#14
24 VDC MINUS	BLUE	#14
	BROWN	#14
		AS NOTED

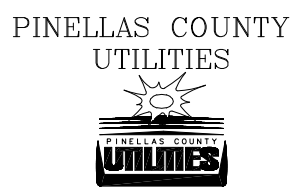
LEGEND	
#	-BUCKET TERMINAL
#X1	-MCC CONTROL PANEL TERMINAL
○	-TERMINALS IN PLC PANEL
○	-TERMINALS IN TRUCK LOADOUT PANEL
○	-TERMINALS IN I/O MODULE
○	-TERMINALS IN LOCAL MOTOR CONTROL STATION
■	-TERMINALS IN BURNER MANAGEMENT PANEL
■	-TERMINALS IN PNEUMATIC CONVEYING SYSTEM
▲	-TO BE SUPPLIED BY OTHERS
◇	-PLC INPUT
◇	-PLC OUTPUT
----	DENOTES FIELD WIRING



AS BUILT

REV	EIR	REVISION	BY	APVD	DATE
7		DHA UPGRADE			1/18/2
6		AS BUILT	FR	SLC	4/7/03
5		UPDATED TERMINAL NUMBERS & WIRING	FR	JM	1/8/03
4		M-610.2.1 WAS M-610.1.1, M-610.1.1 WAS SPARE	FR	JS	11/14/02
3		ADDED POWER SUPPLY & UPS STATUS CIRCUITS	FR	JM	11/06/02
2		UPDATED FOR EQUIPMENT COMPATIBILITY	FR	SLC	5/20/02

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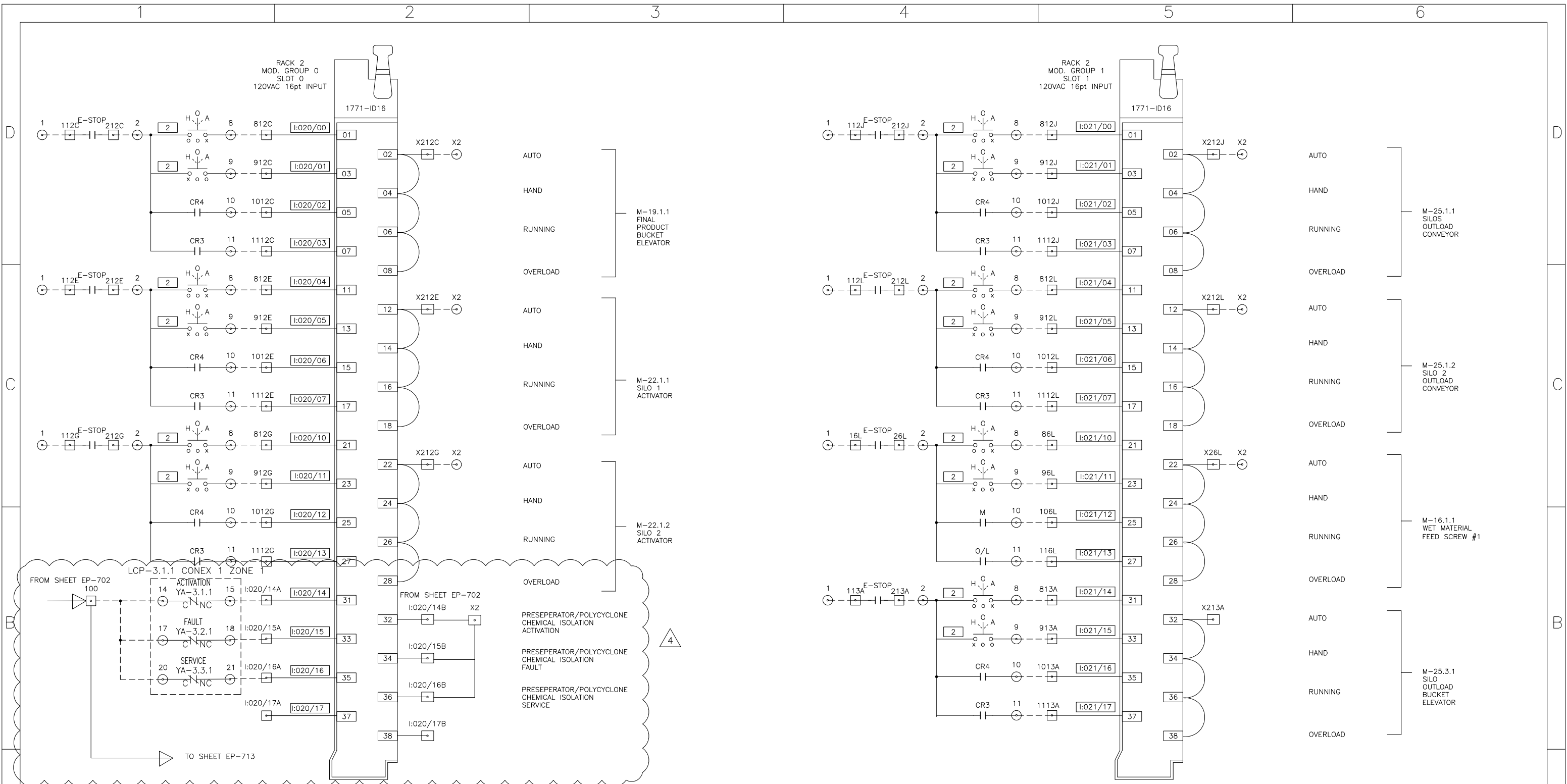


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ARLINGTON, TEXAS 76017
Phone: (817)465-5611
Telefax: (817)472-8589
CERTIFIED CORRECT FOR INSTALLATION
BY: _____ DATE: _____
PROJECT No. _____
THESE DWGS. REFLECT CUSTOMER'S CHANGES
AND APPROVAL ON PREVIOUS DWG. TRANSMITTALS

ESTIMATED WEIGHT IN LBS: _____
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES
FABRICATION TOLERANCES
.XXX±.040 ANG±.1° HOLE±.020
MACHINING TOLERANCES
.XXX±.005 ANG±.5° HOLE±.020
MILL FINISH ALL OVER
DRAWN BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
APPROVED BY: _____ DATE: _____
THIRD ANGLE PROJECTION



TITLE			
PINELLAS COUNTY, FLORIDA			
MCC #1			
POWER DISTRIBUTION			
SIZE	PROJECT	DRAWING NUMBER	REV
40	1087	EP-702	7
SCALE	FILE	SHEET	OF
NONE	1087EP702	1	1



AS BUILT

4	DHA UPGRADE	KLK	01/19/21
3	AS BUILT	FR	4/7/03
2	UPDATED FOR EQUIPMENT COMPATIBILITY	FR	4/30/02
1	UPDATED WIRING	FR	
REV	EIR	REVISION	BY APVD DATE

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CERTIFIED CORRECT FOR INSTALLATION
BY: _____ DATE: _____
PROJECT No. _____

THESE DWGS. REFLECT CUSTOMER'S CHANGES
AND APPROVAL ON PREVIOUS DWG. TRANSMITTALS

ESTIMATED WEIGHT IN LBS:
UNLESS OTHERWISE SPECIFIED:
DIMENSIONS ARE IN INCHES

FABRICATION TOLERANCES
.XXX±.040 ANG±1° HOLE±.020

MACHINING TOLERANCES
.XXX±.005 ANG±.5° HOLE±.020

MILL FINISH ALL OVER

DRAWN BY: FR DATE 4/12/01
CHECKED BY: DATE
APPROVED BY: DATE

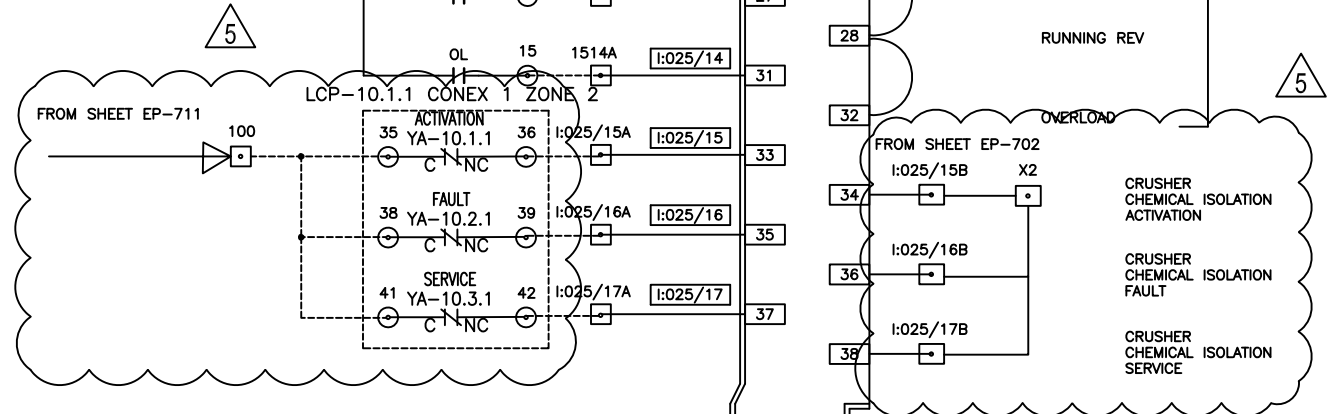
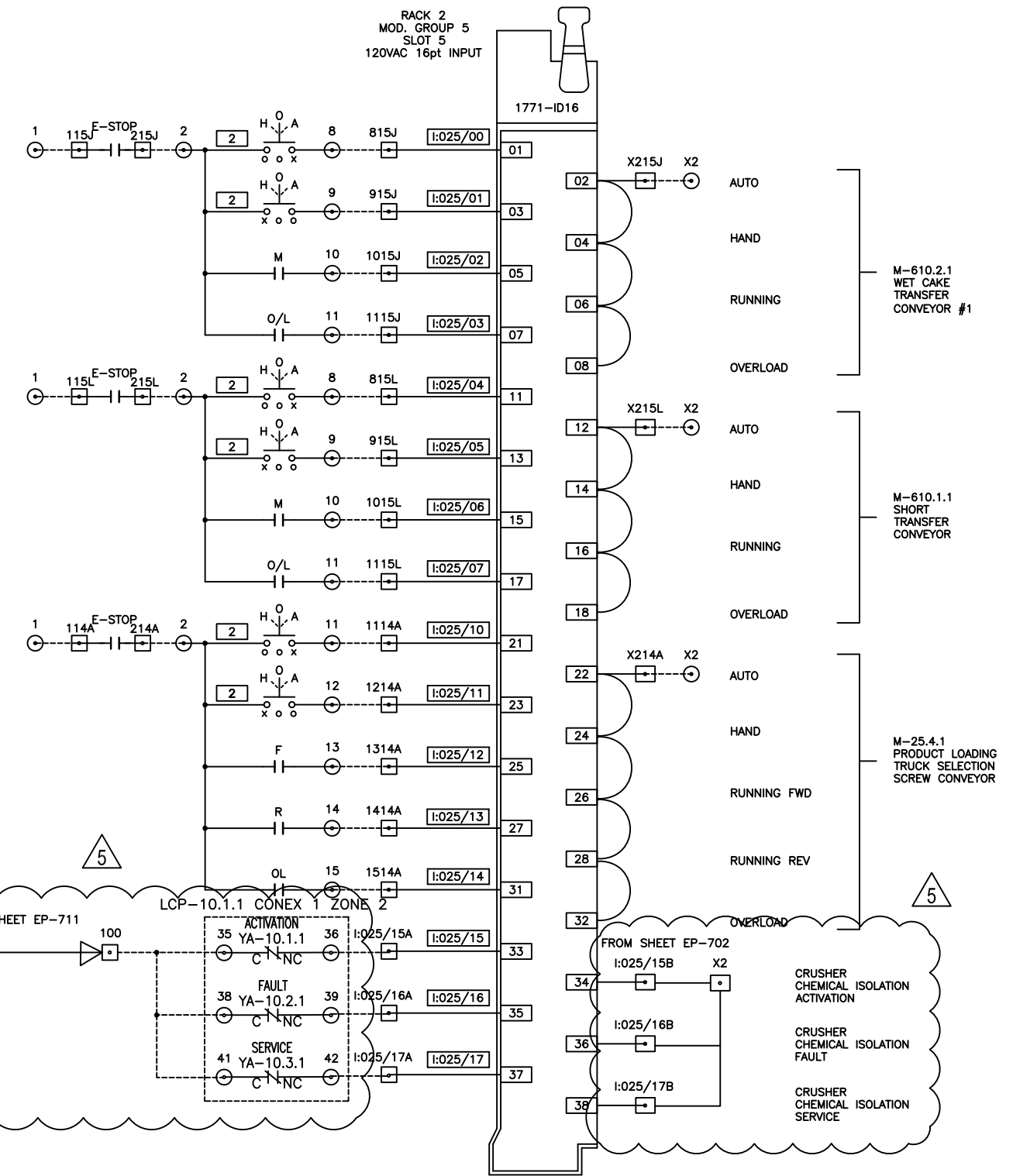
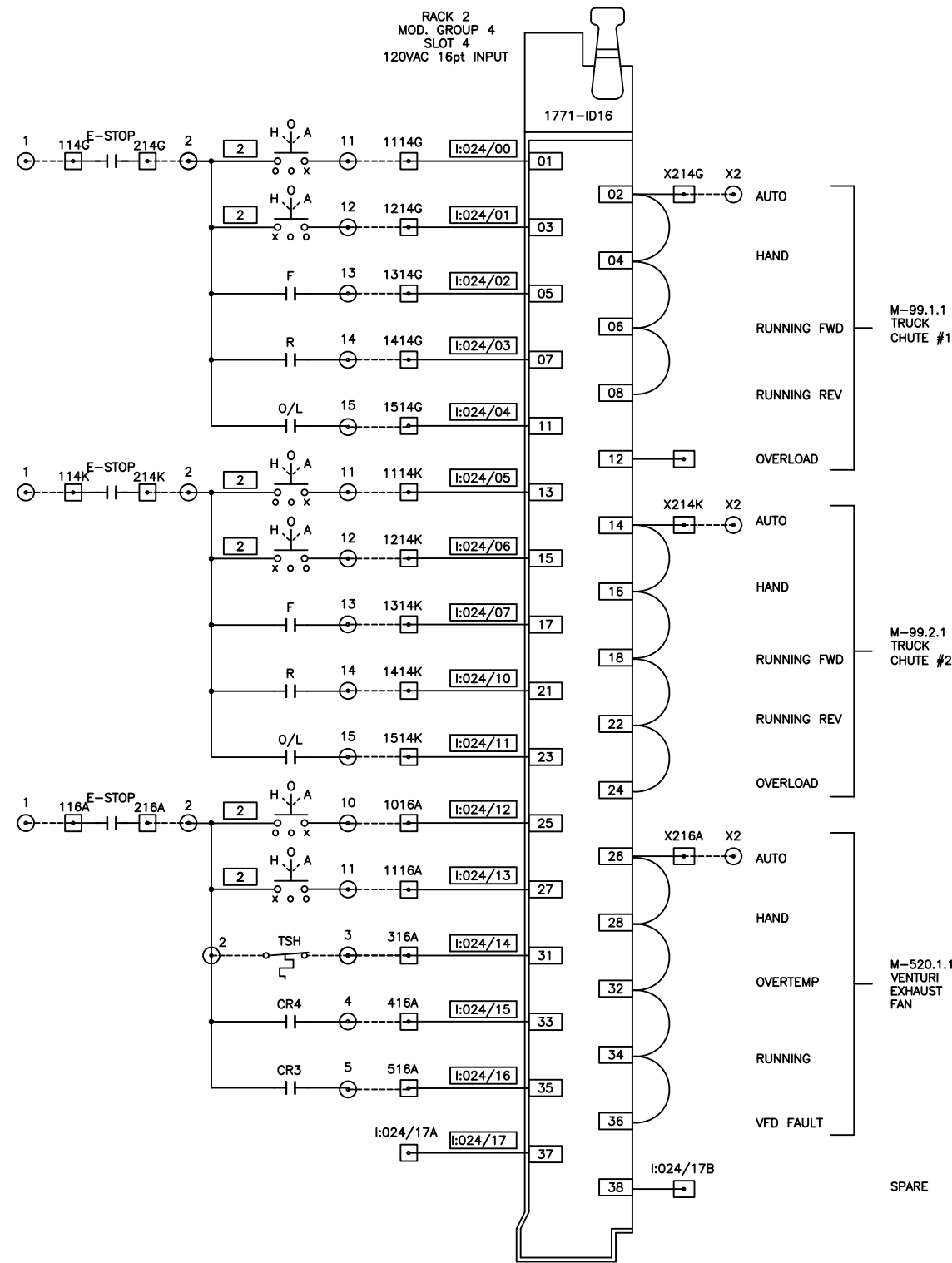
THIRD ANGLE PROJECTION

ANDRITZ
ANDRITZ-RUTHNER, INC.
1010 COMMERCIAL BLVD. SOUTH
ARLINGTON, TEXAS 76001
PHONE: (817) 465-5611

TITLE PINELLAS COUNTY, FLORIDA
MCC #1
PLC I/O WIRING DIAGRAM

SIZE 40	PROJECT 1087	DRAWING NUMBER EP-711	REV 4
SCALE NONE	FILE 1087EP711	SHEET 1	OF 1

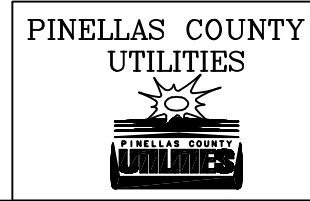
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AS BUILT

5	DHA UPGRADE	RA	SCZC	1/18/21
4	AS BUILT	FR	SCZC	4/7/03
3	UPDATED LOOP SERVICE TAG	FR	js	11/7/02
2	UPDATED FOR EQUIPMENT COMPATIBILITY	FR	SCZC	4/30/02
1	UPDATED WIRING	FR		
REV	EIR	REVISION		BY APVD DATE

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CERTIFIED CORRECT FOR INSTALLATION
BY: _____ DATE: _____
PROJECT No. _____

THESE DWGS. REFLECT CUSTOMER'S CHANGES AND APPROVAL ON PREVIOUS DWG. TRANSMITTALS

ESTIMATED WEIGHT IN LBS:
UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN INCHES
FABRICATION TOLERANCES .XXX±.040 ANG±1° HOLE±.020
MACHINING TOLERANCES .XXX±.005 ANG±.5° HOLE±.020 MILL FINISH ALL OVER

DRAWN BY: FR DATE 4/12/01
CHECKED BY: DATE
APPROVED BY: DATE

THIRD ANGLE PROJECTION



TITLE PINELLAS COUNTY, FLORIDA MCC #1 PLC I/O WIRING DIAGRAM			
SIZE 40	PROJECT 1087	DRAWING NUMBER EP-713	REV 5
SCALE NONE	FILE 1087EP713	SHEET 1	OF 1

2.2. Components

The following items are provided by the OEM. Installation sheets and cut sheets for each are included in the document:

- LumEx Optical Sensor
- DetEx Pressure Sensor
- 5L HRD Bottle
- 20L HRD Bottle
- 50L HRD Bottle
- CONEX Controllers and Barrier Box

INSTALLATION OPTIONS

REV.	DESCRIPTION	ECO #.
1	INITIAL RELEASE	2221
②	Increased Size of LumEx Air Connection	2265
③	Modified Single Detector Case	2323
④	Modified Hatch Ptn for Install Options	2339

Mounting Adaptor Available separate as P/N: 11712 (stainless steel)

Air Sweep Port for 8mm O.D. Tubing ②

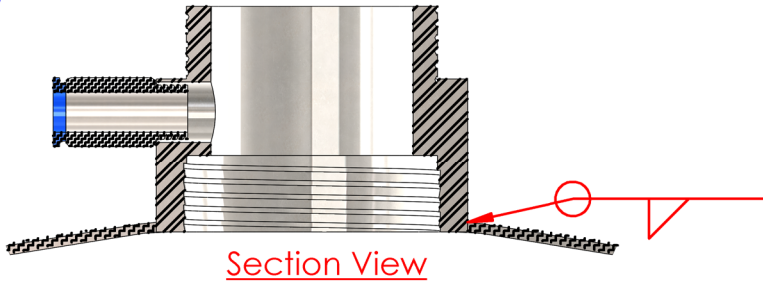
Detainer Retaining HEX Nut

Access to LumEx Sensor

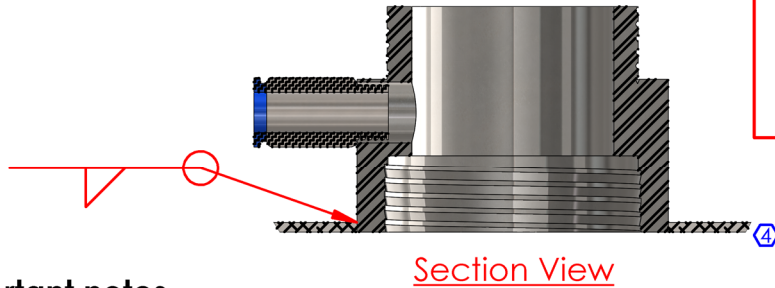
LumEx Sensor (Remove only to connect wiring)

ROUND PIPE Installation for LumEx Adaptor

④

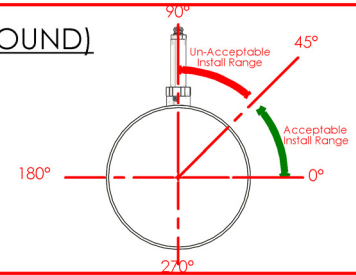


FLAT SURFACE Installation for LumEx Adaptor

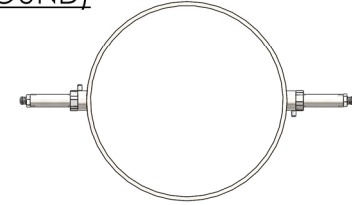


* See page 2 of 2 for important notes.

③ ONE DETECTOR (ROUND)



TWO DETECTOR (ROUND)



THREE DETECTOR (ROUND)



TWO DETECTOR (RECTANGULAR)



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CV TECHNOLOGY
EXPLOSION PROTECTION
15852 Mercantile Court
Jupiter, Florida 33478
Phone 561.694.9588
www.cvtechnology.com

LUMEX-INSTALLATION DRAWING

Drft/Des	N.OUZTS	3/28/2016	REVISION
Quality	RVC	06/10/13	
Engineer	J.KRBEC	03/24/2016	
Title	Name	Date	Description
DRAWING NUMBER: 8016			

4

1. **WARNING:** Do not remove the LumEx Optical Detector from the Process Adaptor unless the correlating control system is in service mode. Removing the LumEx optical detector without putting the correlating control system in service mode can activate the LumEx optical detector and related equipment.

2. **WARNING:** The LumEx Optical Detector is sensitive to light. The LumEx Detector shall only be installed in areas void of any light. Any light will activate the LumEx Optical Detector and will activate any correlating equipment.

3. A connection is available on the Process Adaptor to connect an air sweep. The air sweep provides air to clear material off the lens of the LumEx Detector.

4. The air supply to the valve should be instrument grade, moisture free, and oil free. Plant compressed air can be used as long as it meets these requirements.

5. The air sweep port fitting is designed to accept 8mm O.D. tubing. Black tubing shall be used to prevent light from entering the fitting. Air should be supplied from 1.5 psi to 14 psi, 200L/min.

6. The wiring from the LumEx Optical Detector shall not be located near high voltage sources. If the cables are routed in conduit, they shall be routed by themselves or only with other low voltage sources.



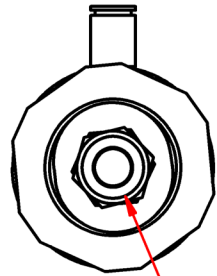
LUMEX-INSTALLATION DRAWING

Drft/Des	N.OUZTS	3/28/2016		REVISION 1
Quality	RVC	06/10/13		
Engineer	J.KRBEC	03/24/2016		
Title	Name	Date	Description	
DRAWING NUMBER: 8016				

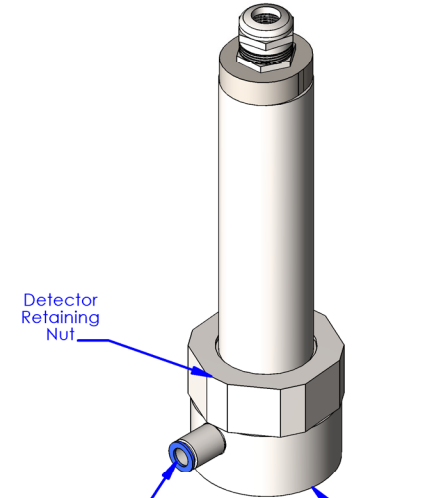
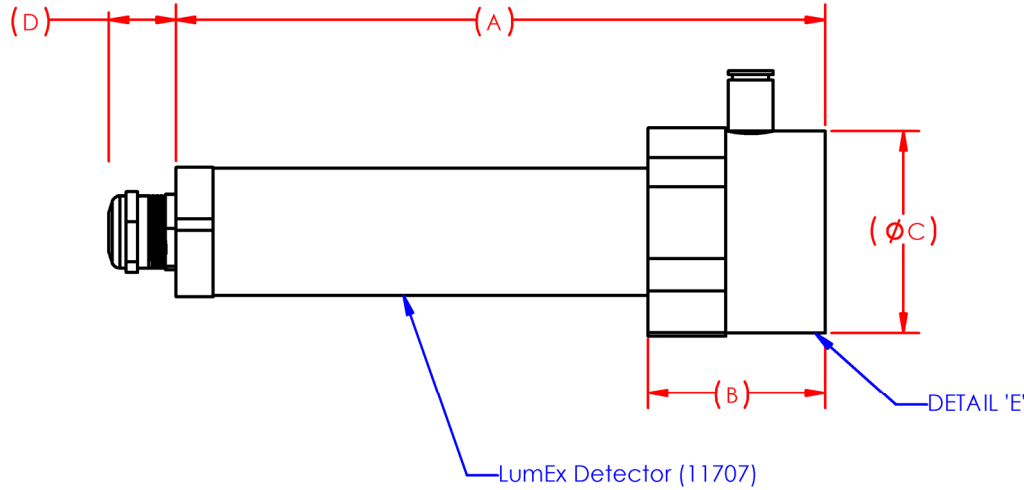
P/N	A (in.)	B (in.)	C (in.)	D (in.)	F (in.)	G (in.)
* 11707	7.72	2.14	2.43	0.81	1.93	0.74

* Note: 11707 includes detector and mounting adaptor.

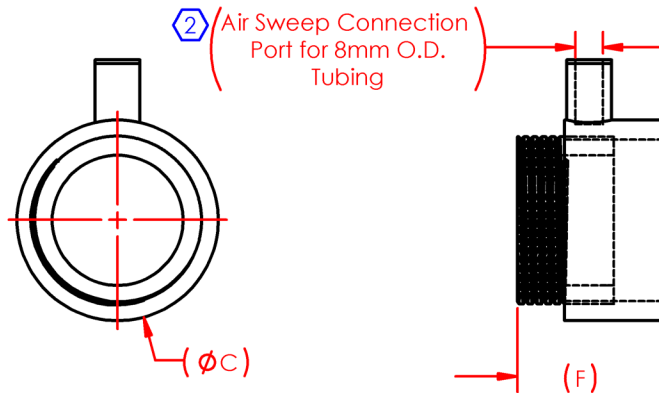
REV.	DESCRIPTION	ECO #.
1	Initial Release	2221
②	Increased Size of Air Port	2265




(ØG)



③ **DETAIL 'E' - 11712, LumEx Mounting Adaptor**

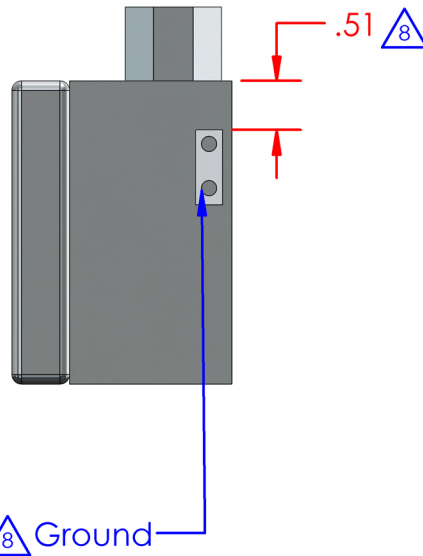
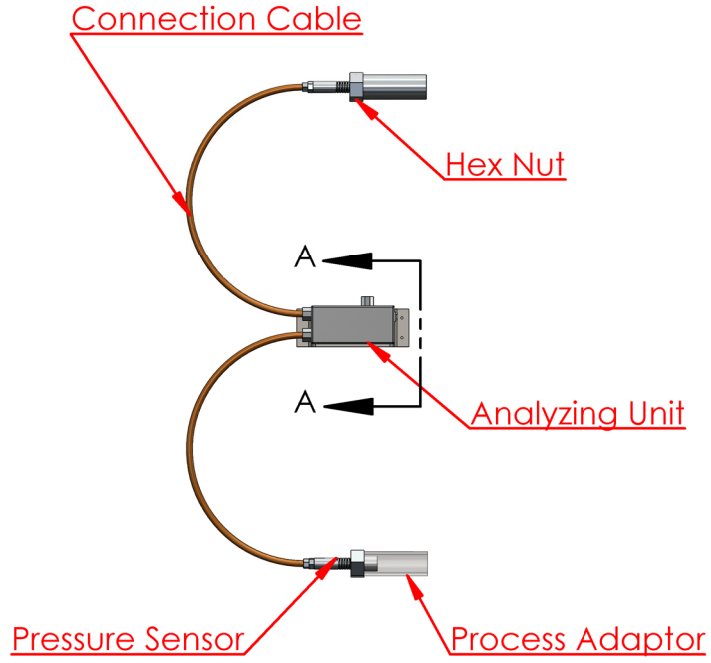


③ Mounting Adaptor available separate as Part # 11712.

UNLESS OTHERWISE SPECIFIED:		NAME	DATE	 CV Technology, Inc. <small>15852 Mercantile Court • Jupiter, Florida 33478 Phone 561.949.9388 • www.cvtechnology.com</small>
DIMENSIONS ARE IN INCHES		DRAWN	N.OUZTS 12/4/2013	
TOLERANCES:		CHECKED	RVC 06/07/13	
FRACTIONAL $\pm 1/16$		ENG APPR.	J.KRBEC 06/06/13	
ANGULAR: MACH $\pm 1/2$				TITLE:
TWO PLACE DECIMAL ± 0.03				LumEx- CUTSHEET
THREE PLACE DECIMAL ± 0.01				SIZE DWG. NO. REV
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y-14.5M		PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CV Technology, Inc. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CV Technology, Inc. IS PROHIBITED.		A 8017 2
MATERIAL		DO NOT SCALE DRAWING		SCALE: WEIGHT: SHEET 1 OF 1

INSTALLATION OPTIONS

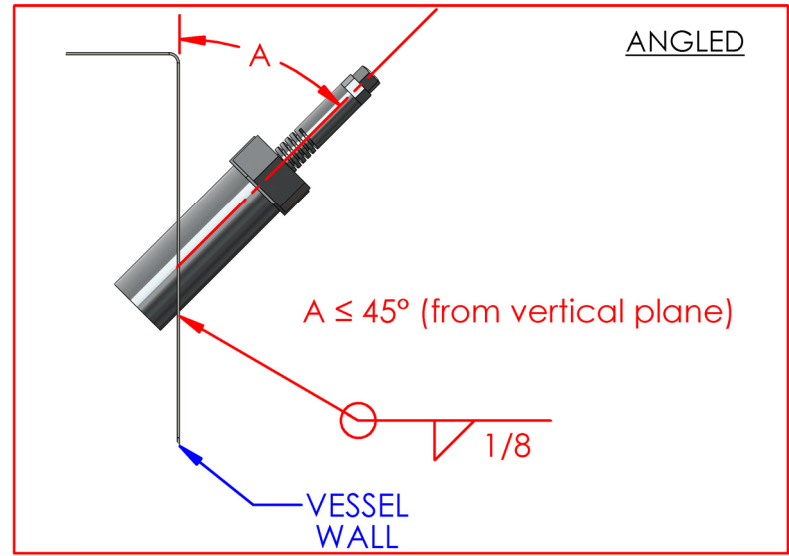
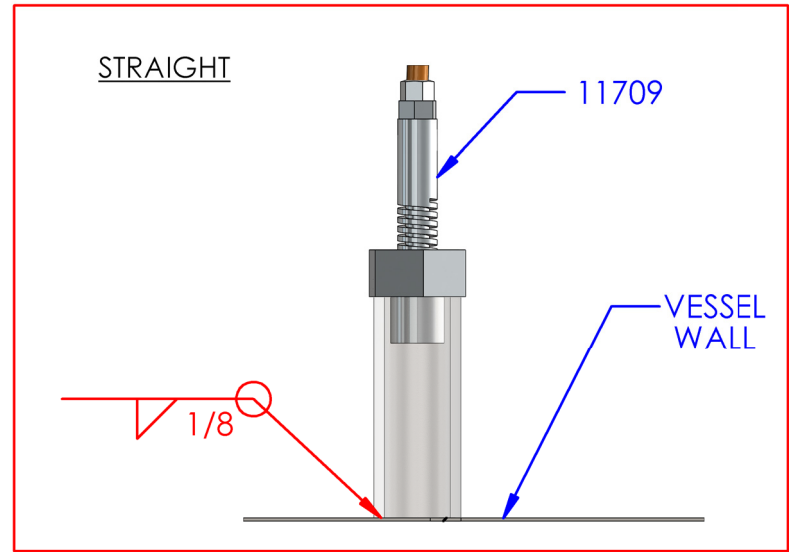
REV.	ECO #.
1	2237
2	2484



SECTION A-A
SCALE 1:2

- WARNING** - Do not remove the DetEx Pressure Detector from the process lines unless the correlating control system is in service mode. Removing the DetEx Pressure Detector without putting the correlating control system in service mode can activate the DetEx Pressure Detector and related equipment.
- WARNING** - The DetEx pressure detector is sensitive to pressure. Do not exceed the pressure noted in the documentation package or the DetEx pressure detector will activate any correlating equipment.
- WARNING** - The DetEx Pressure Detector sensor shall not be installed in areas with vibrations or in areas where it will be subject to impacts or forces.
- The wiring from the DetEx Pressure Detector shall not be located near high voltage sources. If the cables are routed in conduit they shall be routed by themselves or only with other low voltage sources.
- DetEx Pressure Detectors should be wired with a shielded 4 conductor twisted pair, braided data control cable.
- Contact a CV Technology Field Service Technician if you have any questions before performing any maintenance or service on the DetEx Pressure Detector.
- Do not clean the DetEx Pressure Detectors sensor without consulting CV Technology. Do not spray, scrape, or apply any pressure to the pressure sensor on the DetEx sensor.

In order for the DetEx Pressure Detector to function properly, the unit must be grounded through the analyzing unit, by the labeled grounding lug.



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:
FRACTIONAL → ±1/16
ANGULAR: MACH → ±1/2
BEND → ±
.XX DECIMAL → ±.03
.XXX DECIMAL → ±.01

INTERPRET GEOMETRIC TOLERANCING PER:
ASME Y14.5M

MATERIAL

FINISH

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	N.OUZTS	8/6/2019
CHECKED	RVC	07/29/13
ENG APPR.	J.KRBEC	07/29/13
MFG APPR.		
Q.A.		

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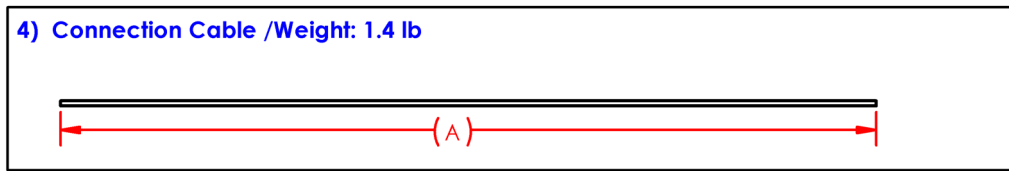
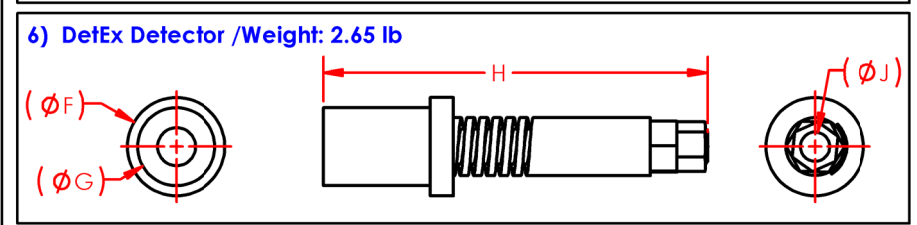
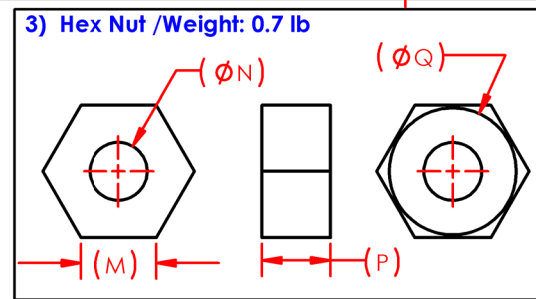
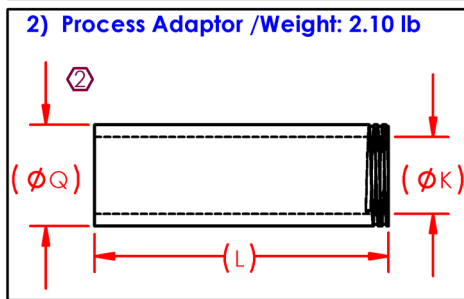
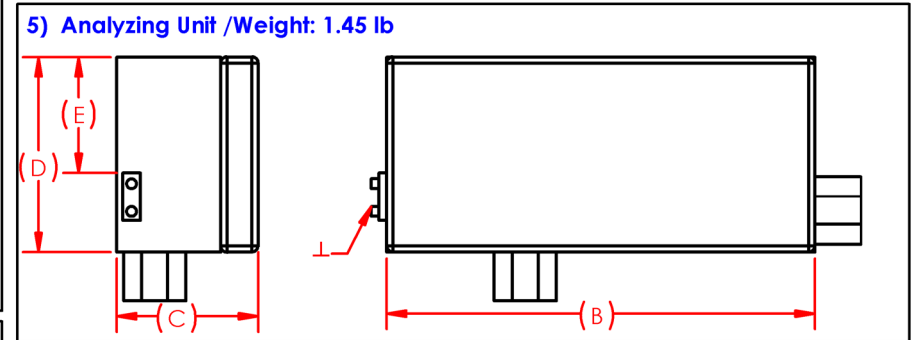
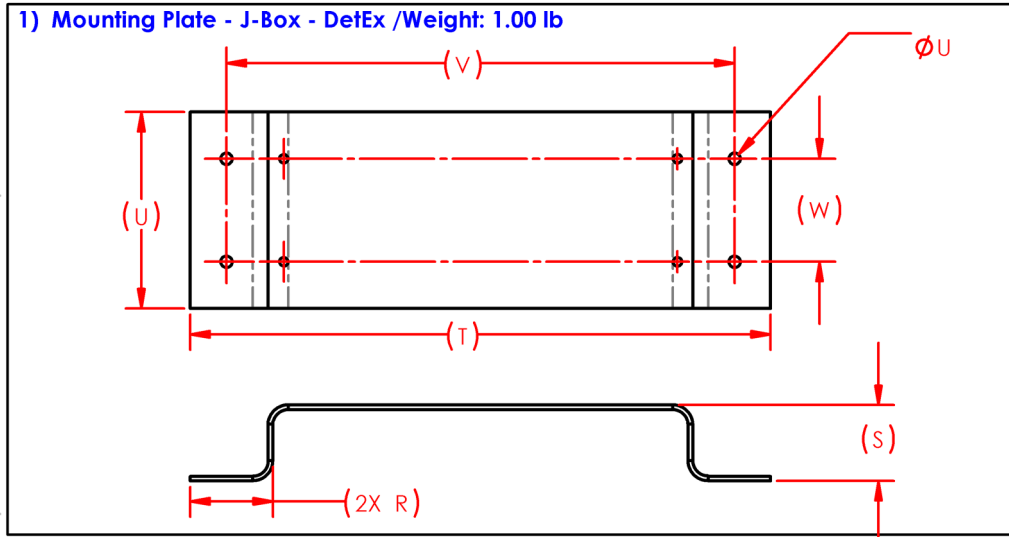
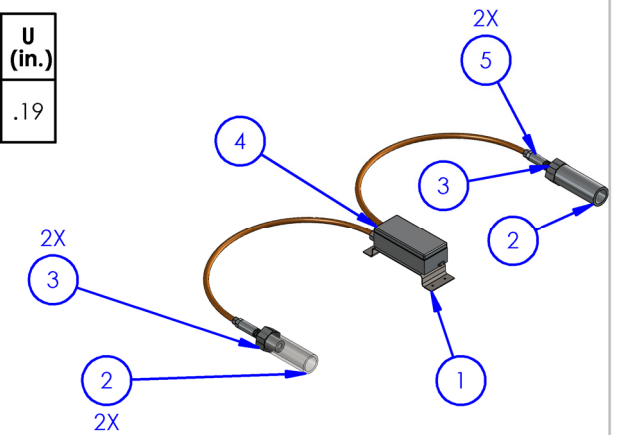
TITLE:
DetEx®, Dual – General Installation Drawing

SIZE A	DWG. NO. 8032	REV 2
-------------------------	-------------------------	-----------------

SCALE: N.T.S. **WEIGHT:** **SHEET 1 OF 1**

P/N	A (m)	B (in.)	C (in.)	D (in.)	E (in.)	F (in.)	G (in.)	H (in.)	J (in.)	K (in.)	L (in.)	M (in.)	N (in.)	P (in.)	Q (in.)	R (in.)	S (in.)	T (in.)	U (in.)	V (in.)	W (in.)	U (in.)
11861 (Dual DetEx KIT)	4	6.88	2.29	3.15	1.86	1.58	1.26	6.17	.47	1.54	5.9	1.23	0.93	1.10	2.04	1.33	1.24	9.34	3.15	8.18	1.65	.19

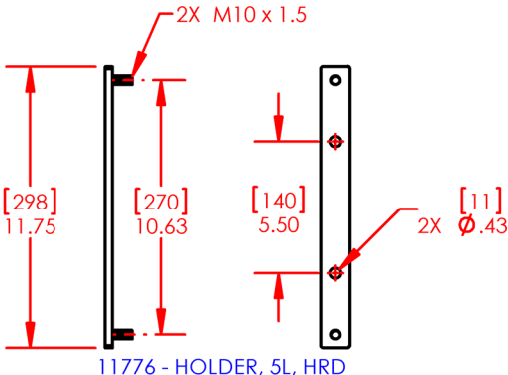
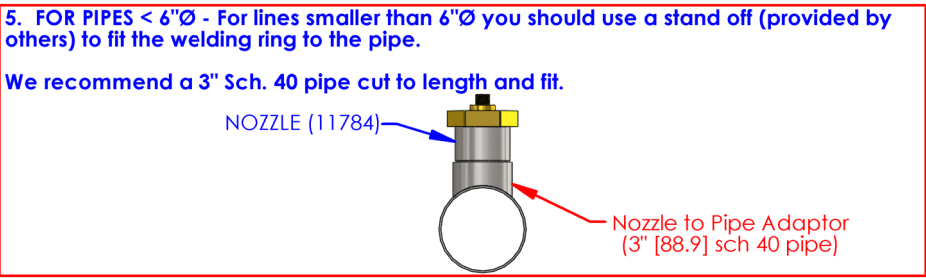
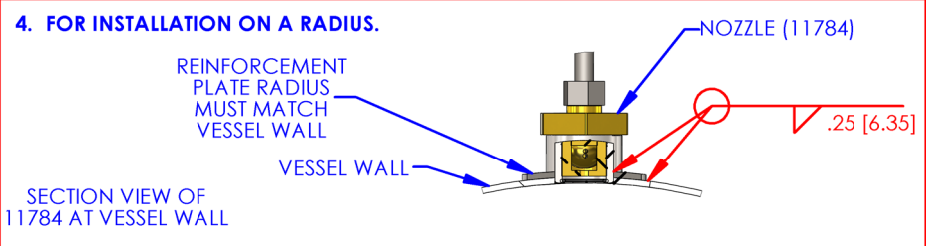
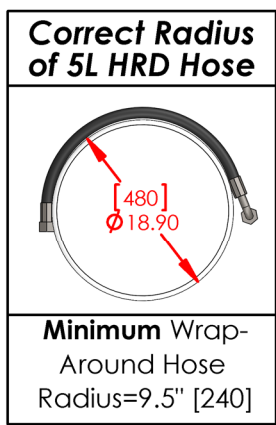
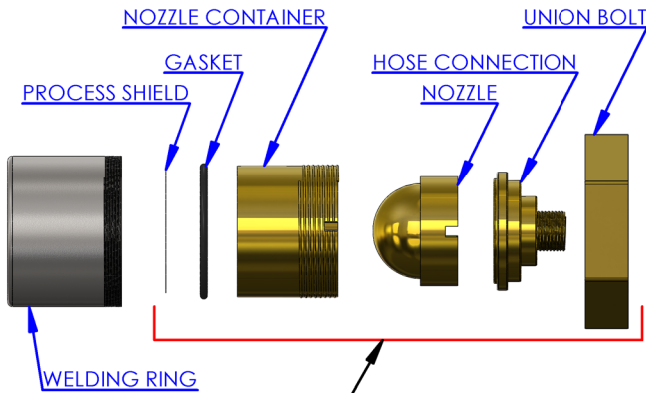
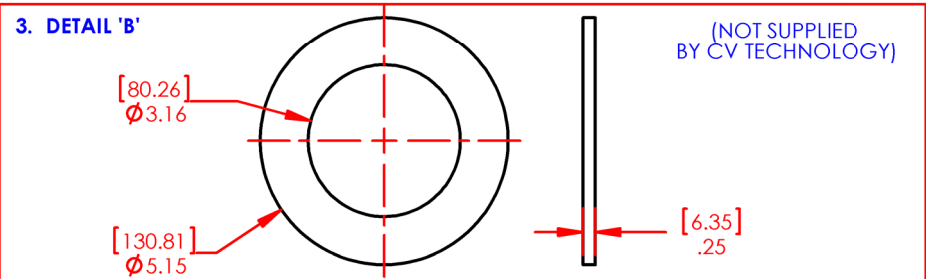
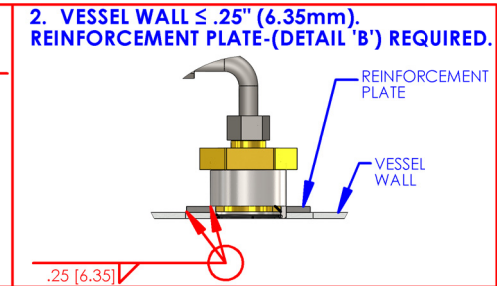
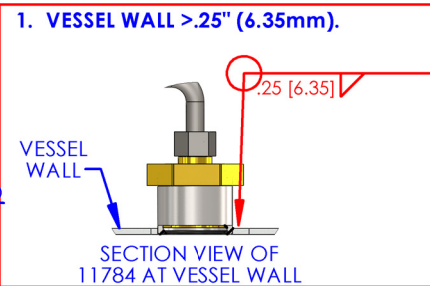
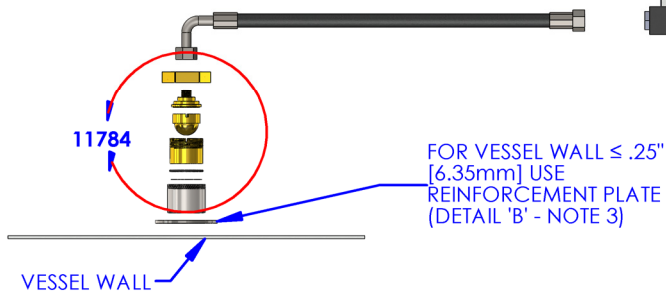
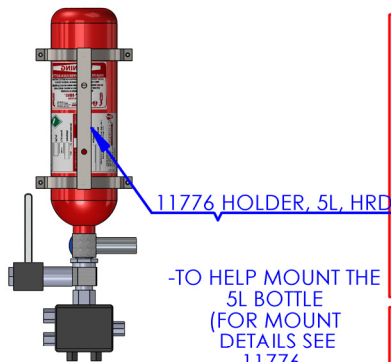
REV.	ECO#
1	2237
2	2246
3	2484



UNLESS OTHERWISE SPECIFIED:	NAME	DATE	 <small>15852 Mercantile Court Jupiter, Florida 33478 Phone 561.974.3588 www.cvtechnology.com</small>	
DIMENSIONS ARE IN INCHES	DRAWN	N.OUZTS		8/6/2019
TOLERANCES:	CHECKED	RVC		07/29/13
FRACTIONAL: $\pm 1/16$	ENG APPR.	J.KRBEC	08/26/13	
ANGULAR: MACH $\pm 1/2$ BEND $\pm 1/2$	TITLE:			
TWO PLACE DECIMAL ± 0.03	DetEx®, Dual – Cut Sheet			
THREE PLACE DECIMAL ± 0.01				
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y-14.5M	SIZE A DWG. NO. 8033 REV 3			
MATERIAL	PROPRIETARY AND CONFIDENTIAL THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CV Technology, Inc. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CV Technology, Inc. IS PROHIBITED.			
FINISH	SCALE: NTS WEIGHT: SHEET 1 OF 1			
DO NOT SCALE DRAWING				

INSTALLATION OPTIONS

REV.	ECO #.	ECO DATE
1	2224	06/20/13
2	2315	10/01/2015
3	2339	03/23/2016
4	2381	12/16/2016



**Remove these Items Before Welding the Welding Ring

NOTE: REFERENCE CV TECHNOLOGY INTERCEPTOR-HRD INSTALLATION AND MAINTENANCE MANUAL FOR BOTTLES (CV TECHNOLOGY 3010)-FOR ADDITIONAL ASSEMBLY AND INSTALLATION DETAILS.

DO NOT SCALE DRAWING	UNLESS OTHERWISE SPECIFIED:
PROPRIETARY AND CONFIDENTIAL	INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CV TECHNOLOGY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CV TECHNOLOGY IS PROHIBITED.	DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL--> ±1/16 ANGULAR--> ±1/2 BEND --> ± .XX DECIMAL --> ±.03 .XXX DECIMAL --> ±.01

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Phone 561.694.9588
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Alternate dimensions in millimeters [mm].

Interceptor-HRD 5L Bottle Installation Drawing

Drft/Des	N.OUZTS	12/16/2016	SEE ECO TABLE.	REVISION 4
Quality	RVC	12/16/2016		
Engineer	J.KRBEC	12/16/2016	Description	
Title	Name	Date		
DRAWING NUMBER: 8011				

5

4

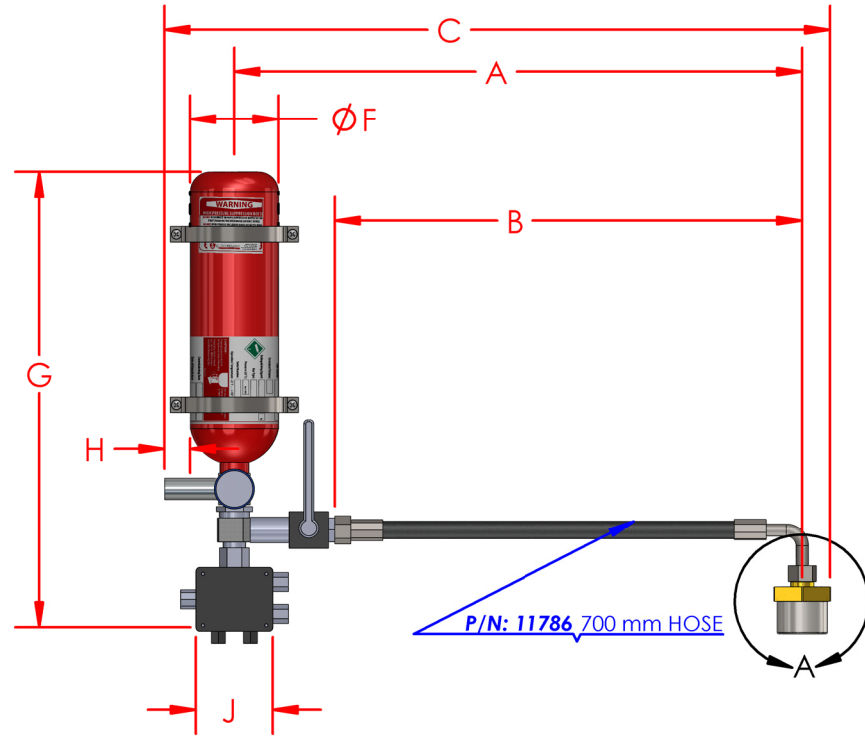
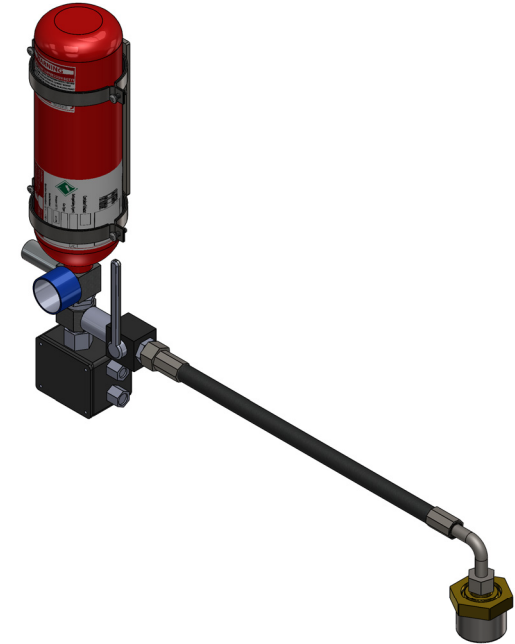
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2

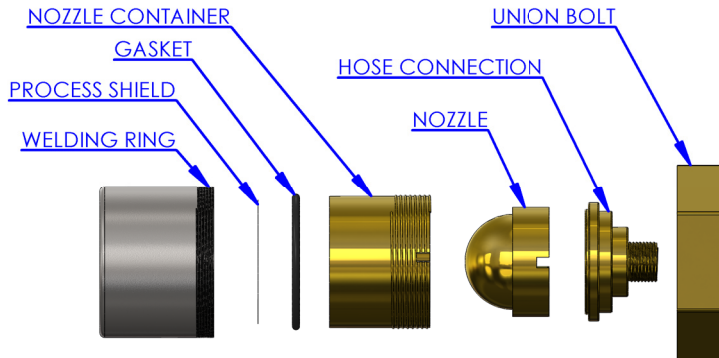
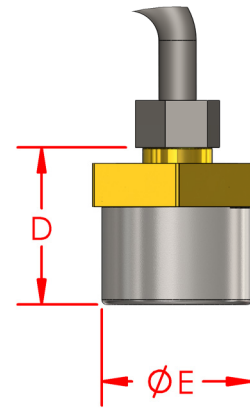
1

	HOSE LENGTH	A	B	C	D	E	F	G	H	J	Weight ±5%
11700-00SX	15.7 in [400mm]	24.83 [630.68]	18.56 [471.42]	30.89 [784.61]	4.27 [108.46]	3.16 [80.26]	5.35 [135.59]	28.94 [735.08]	1.68 [42.67]	4.81 [122.17]	44 lbs. [20 kg]
11700-02SX	27.6 in [700mm]	35.52 [902.21]	29.25 [742.95]	41.58 [1056.1]	4.27 [108.46]	3.16 [80.26]	5.35 [135.89]	28.94 [735.08]	1.68 [42.67]	4.81 [122.17]	44 lbs. [20 kg]

REV.	DESCRIPTION	ECO #.
1	INITIAL RELEASE	2224
2	Updated Drawing	2381



P/N: 11786 700 mm HOSE



DETAIL 'A'
(Exploded)
-11784-

P/N:	SUPPRESSANT MATERIAL
-XXX1	SODIUM BICARBONATE
-XXX2	FUREX

UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN inches
DUAL DIMENSIONS IN mm

TOLERANCES:
FRACTIONAL--> ±1/16
ANGULAR-- MACH--> ±1/2
BEND --> ±
.XX DECIMAL --> ±.03
.XXX DECIMAL --> ±.01

INTERPRET GEOMETRIC
TOLERANCING PER:
ASME Y14.5M

MATERIAL

FINISH

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	N.OUZTS	12/16/2016
CHECKED	RVC	12/16/2016
ENG APPR.	J.KRBEC	12/16/2016
MFG APPR.		
Q.A.		

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TITLE:
5L BOTTLE SERIES

SIZE A	DWG. NO. 8012	REV 2
SCALE: N.T.S. WEIGHT: See Table		SHEET 1 OF 1

1. Alternate dimensions in millimeters. (mm)

5

4

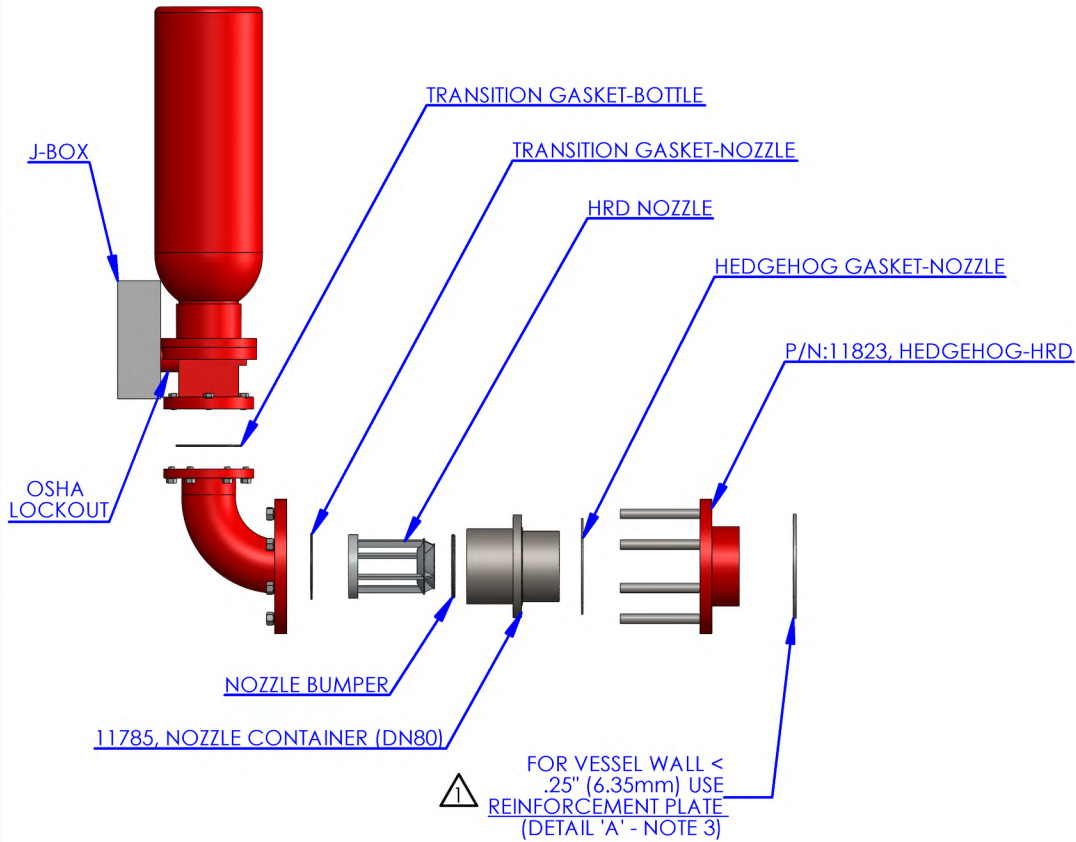
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2

1

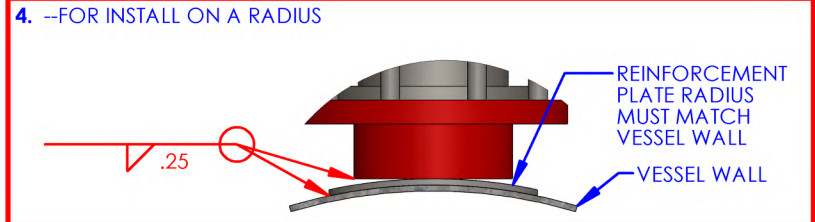
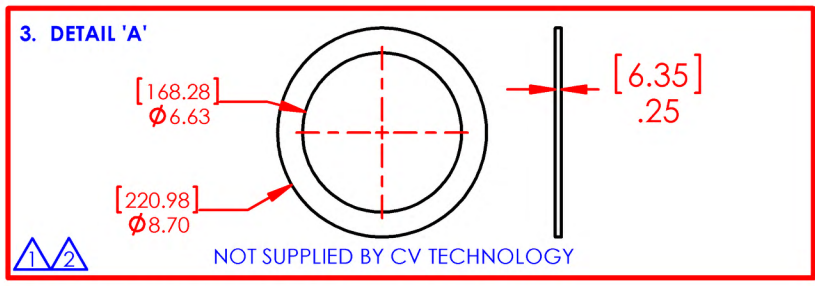
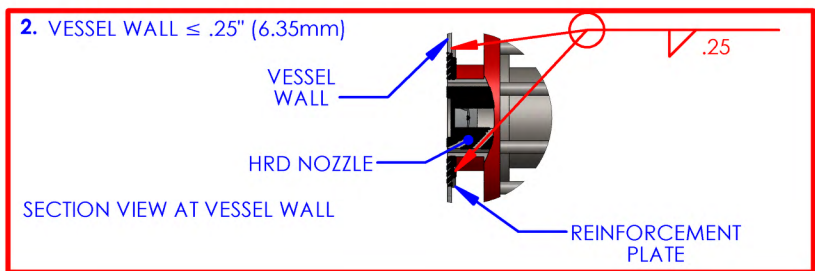
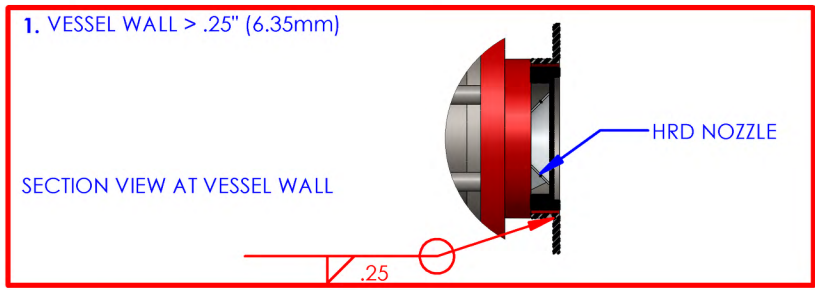
INSTALLATION OPTIONS

REV.	DESCRIPTION	ECO #.
1	INITIAL RELEASE	2224



P/N	HRD BOTTLE
11701-3	8L 3" VALVE
11882-3	20L-3" VALVE
11882-4	20L-4" VALVE
11883-3	50L-3" VALVE
11884-4	50L-4" VALVE

- NOTES:**
- ▲ REINFORCEMENT PLATE REQUIRED FOR VESSELS WITH A WALL THICKNESS LESS THAN 0.25" (6.35mm). THE REINFORCEMENT PLATE IS NOT PROVIDED BY CV TECHNOLOGY.
 - ▲ REINFORCEMENT PLATE IS TO HAVE MINIMUM THICKNESS OF 0.25" (6.35mm) AND IS TO BE 2" (51mm) WIDER PER DETAIL.
 - 3. REFERENCE CV TECHNOLOGY INTERCEPTOR-HRD INSTALLATION AND MAINTENANCE MANUAL FOR BOTTLES (CV TECHNOLOGY 3010) FOR ADDITIONAL ASSEMBLY AND INSTALLATION DETAILS.



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN inches
DUAL DIMENSIONS IN mm

TOLERANCES:
FRACTIONAL--> ±1/16
ANGULAR: MACH--> ±1/2
BEND --> ±
.XX DECIMAL --> ±.03
.XXX DECIMAL --> ±.01

INTERPRET GEOMETRIC
TOLERANCING PER:
ASME Y14.5M

MATERIAL
FINISH
DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	N.OUZTS	6/20/2013
CHECKED	RVC	06/19/13
ENG APPR.	J.KRBEC	06/17/13
MFG APPR.		
Q.A.		

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TITLE:
**8L/20L/50L BOTTLE
INSTALLATION DRAWING**

SIZE A	DWG. NO. 8014	REV 1
SCALE: N.T.S.	WEIGHT:	SHEET 1 OF 2

Table 1

P/N	Description	A (±1.00")	B (±0.50")	C (±0.01")	D (±0.1")	E (±2.00")	F (±2.00")	Weight (±5%)
11701-3	8L 3" VALVE	22.35	7.51	6.63	5.5	46.12	40.51	208
11882-3 & 11702-3	20L-3" VALVE	22.35	7.51	6.63	9.0	51.63	46.02	265
11882-4 & 11702-4	20L-4" VALVE	23.35	8.25	6.63	9.0	52.75	47.14	296
11883-3 & 11703-3	50L-3" VALVE	22.35	7.51	6.63	9.0	78.25	72.64	374
11884-4 & 11703-4	50L-4" VALVE	23.35	8.25	6.63	9.0	79.25	73.64	392

Table 2

P/N Suffix	Suppressant Material
-XXX1	Sodium Bicarbonate
-XXX2	Furex

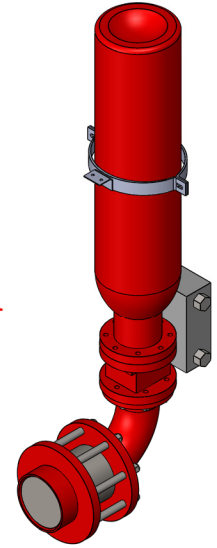
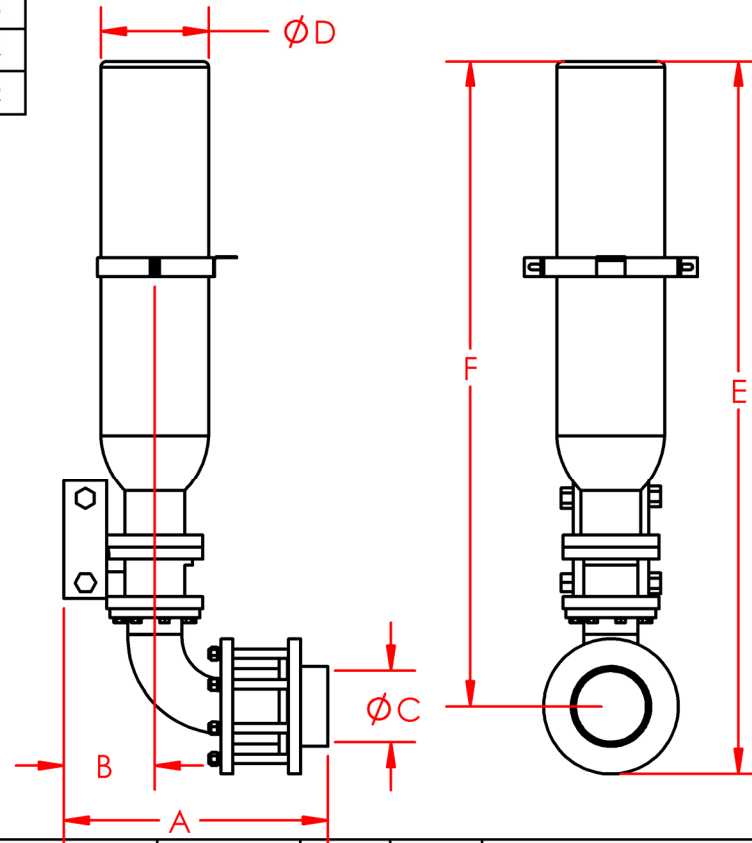
Table 3

P/N Suffix	Transition Piece
-EXXX	Elbow
-XIXX	Straight

Table 4

P/N Suffix	Nozzle Material
-XXFX	Food Grade
-XXSX	Stainless
-XXCX	Carbon Steel

REV.	DESCRIPTION	ECO #.
1	INITIAL RELEASE	2224
3	MODIFIED TABLE VALUES	2240
3	UPDATE LOGO, MODIFIED TABLE VALUES	2297



UNLESS OTHERWISE SPECIFIED:

DIMENSIONS ARE IN INCHES

TOLERANCES:
 FRACTIONAL--> ±1/16
 ANGULAR: MACH--> ±1/2
 BEND --> ±
 .XX DECIMAL --> ±.03
 .XXX DECIMAL --> ±.01

INTERPRET GEOMETRIC
 TOLERANCING PER:
ASME Y14.5M

MATERIAL

FINISH

DO NOT SCALE DRAWING

	NAME	DATE
DRAWN	N.OUZTS	08/02/13
CHECKED	RVC	08/02/13
ENG APPR.	J.KRBEC	08/02/13

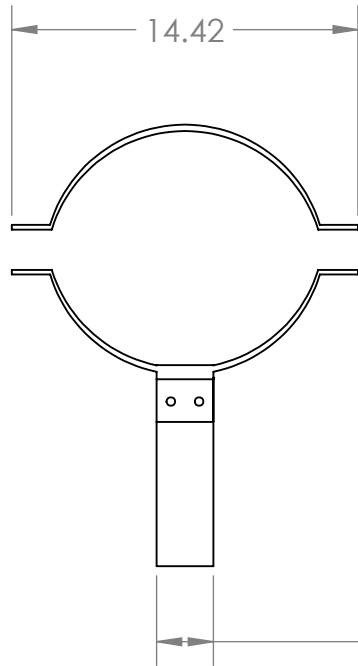
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TITLE:
8L/20L/50L BOTTLE SERIES

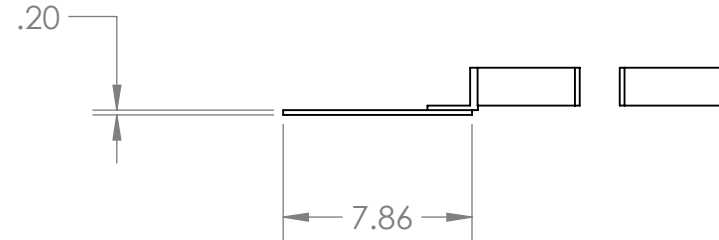
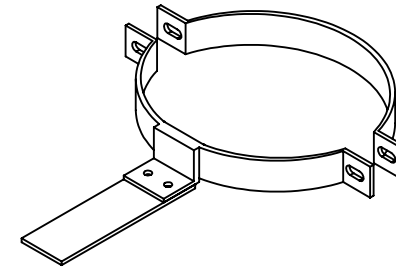
SIZE	DWG. NO.	REV
A	8015	3

SCALE: N.T.S. | WEIGHT: N/A | SHEET 1 OF 1



NOT SHOWN IN DRAWING:
 FOUR-(4) BOLTS
 FOUR-(4) LOCK WASHERS
 FOUR-(4) FLAT WASHERS
 FOUR-(4) NUTS

REVISIONS			
REV.	DESCRIPTION	DATE	ECO#
1	INITIAL RELEASE	04/16/12	2186



FOR ADDITIONAL INFORMATION
 REFER TO HRD BOTTLES I&O MANUAL

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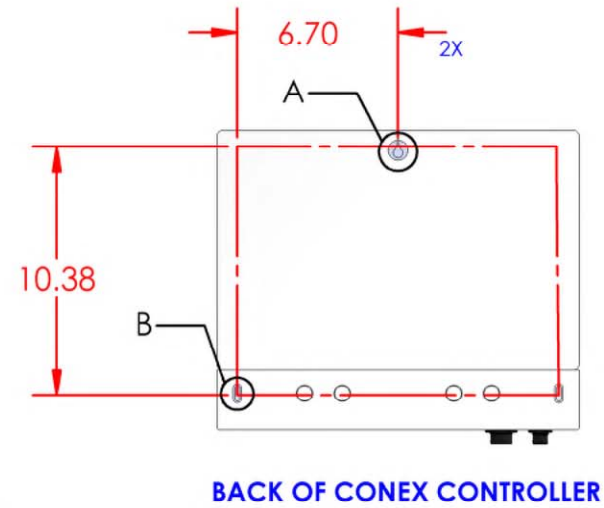
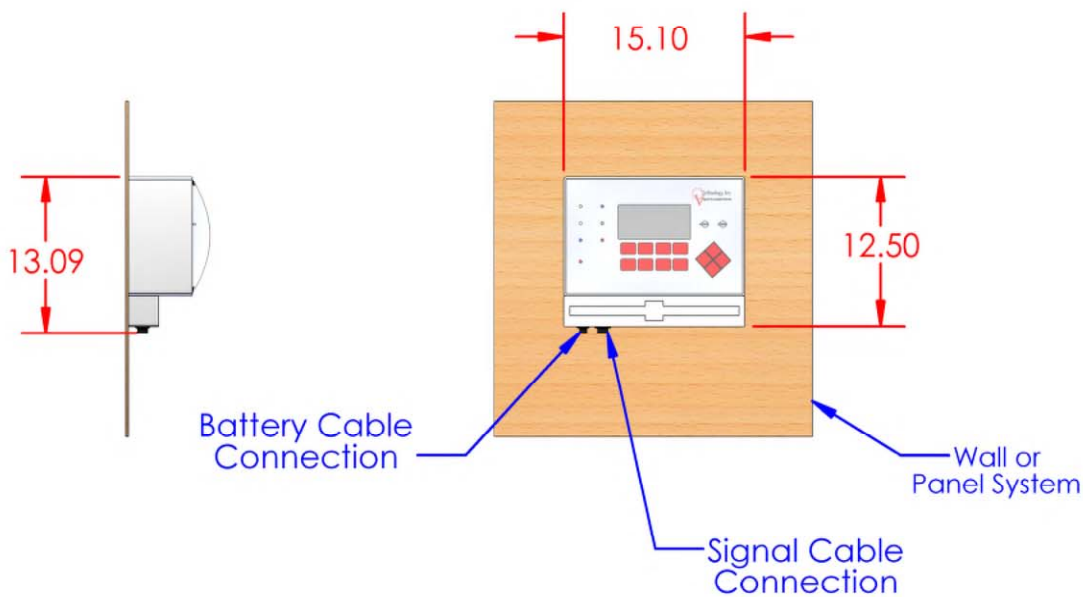
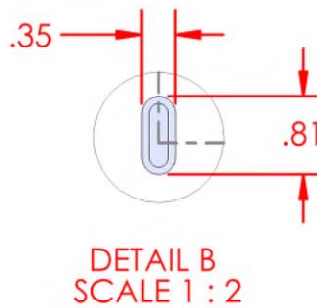
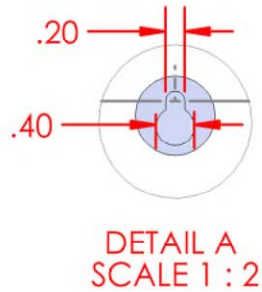
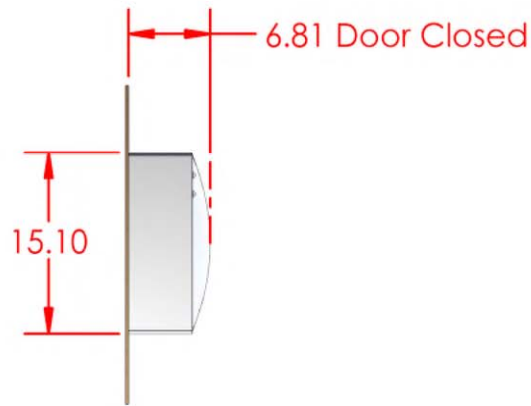
		UNLESS OTHERWISE SPECIFIED:		NAME	DATE
		DIMENSIONS ARE IN INCHES	DRAWN		
		TOLERANCES:	CHECKED		
		FRACTIONAL ±	ENG APPR.		
		ANGULAR: MACH ± BEND ±	MFG APPR.		
		TWO PLACE DECIMAL ±	Q.A.		
		THREE PLACE DECIMAL ±	COMMENTS:		
		INTERPRET GEOMETRIC TOLERANCING PER:			
		MATERIAL			
		FINISH			
NEXT ASSY	USED ON				
APPLICATION		DO NOT SCALE DRAWING			

TITLE:
20L & 50L HRD BOTTLE CLIP

SIZE DWG. NO. REV
A 11782_01

SCALE: 1:8 WEIGHT: SHEET 1 OF 1

REV.	DESCRIPTION	ECO#.
1	Initial Release	2239



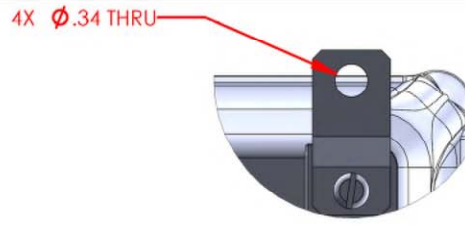
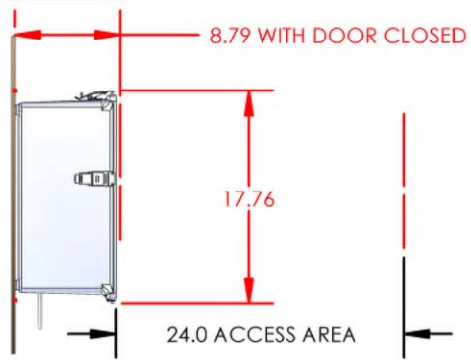
- NOTES:
1. THE CONTROLLER SHOULD BE INSTALLED IN AN EASILY VISIBLE LOCATION IN A DRY AREA WITH AN AMBIENT TEMPERATURE RANGE BETWEEN 32°F AND 105°F.
 2. SUPPLY VOLTAGE REQUIREMENTS: 100-240 VAC 50/60Hz.
 3. REFER TO THE HRD[®] CONEX[™] INSTALLATION AND OPERATION MANUAL, CV DOCUMENT #3011, FOR COMPLETE INSTALLATION DETAILS.
 4. MOUNT THE CONEX CONTROLLER IN RELATION TO THE BARRIER BOX SUCH THAT THE BATTERY AND SIGNAL CABLE MAY BE CONNECTED WITHOUT STRAIN ON THE CABLE(S) OR CONNECTOR.

UNLESS OTHERWISE SPECIFIED:		NAME	DATE
DIMENSIONS ARE IN INCHES		DRAWN	N.OUZTS 05/30/13
TOLERANCES: FRACTIONAL--> ±1/16 ANGULAR: MACH--> ±1/2 BEND --> ± .XX DECIMAL --> ±.03 .XXX DECIMAL --> ±.01		CHECKED	RVC 08/05/13
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M		ENG APPR.	J.KRBEC 07/25/13
MATERIAL		PROPRIETARY AND CONFIDENTIAL	
FINISH		THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CV TECHNOLOGY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CV TECHNOLOGY IS PROHIBITED.	
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TITLE: **INTERCEPTOR-CONEX CONTROLLER -(2 Zone)-INSTALLATION**

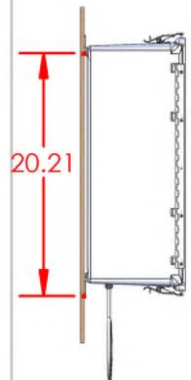
SIZE A	DWG. NO. 8019	REV 1
SCALE: N.T.S.	WEIGHT: N/A	SHEET 1 OF 1



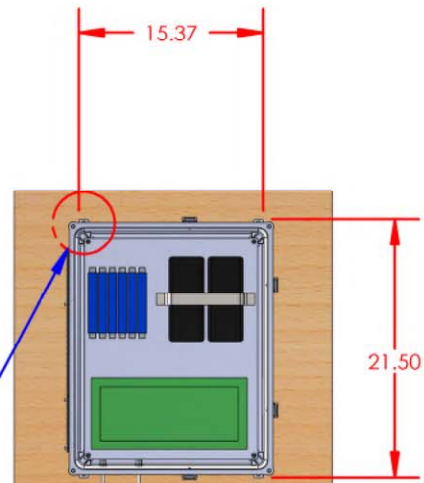
REV.	DESCRIPTION	ECO#.
1	Initial Release	2237

DETAIL A
SCALE 1 : 2

BARRIER BOX
(FRONT PANEL
DOOR REMOVED)



DETAIL 'A'
(MOUNTING
HOLES LOCATED
ON PANEL SIDE
OF BARRIER BOX)

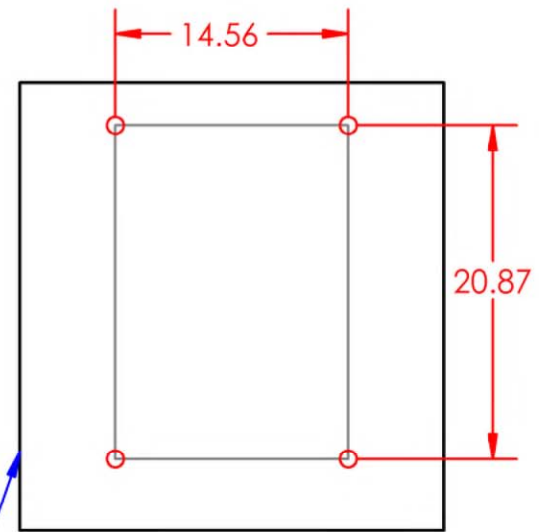


SIGNAL CABLE

BATTERY CABLE

4 FOOT CABLES (2)
CONNECTED TO CONEX
CONTROLLER

WALL OR
PANEL SYSTEM



MOUNTING PATTERN

NOTES:

1. THE CONEX CONTROLLER AND BARRIER BOX SHOULD BE INSTALLED IN AN EASILY VISIBLE LOCATION IN A DRY AREA WITH AN AMBIENT TEMPERATURE RANGE BETWEEN 32°F AND 105°F.
2. MEASURE OR ESTIMATE THE DISTANCE THE CABLE WILL BE ROUTED BETWEEN THE CONTROLLER AND THE BARRIER BOX MAKING SURE THE DISTANCE IS BELOW 4 ft (1.5 m).
3. REFER TO THE INTERCEPTOR® -HRD™ INSTALLATION AND OPERATION MANUAL, CV DOCUMENT #3011 & 3016, FOR COMPLETE INSTALLATION DETAILS.

UNLESS OTHERWISE SPECIFIED:	NAME	DATE
DIMENSIONS ARE IN INCHES	DRAWN N.OUZTS	7/29/2013
TOLERANCES: FRACTIONAL → ±1/16 ANGULAR: MACH → ±½ BEND → ±	CHECKED RVC	07/29/13
.XX DECIMAL → ±.03 .XXX DECIMAL → ±.01	ENG APPR. J.KRBEC	07/25/13
INTERPRET GEOMETRIC TOLERANCING PER: ASME Y14.5M		
MATERIAL	PROPRIETARY AND CONFIDENTIAL	
FINISH	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF CV TECHNOLOGY. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF CV TECHNOLOGY IS PROHIBITED.	
DO NOT SCALE DRAWING		

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TITLE: BARRIER BOX- INSTALLATION DRAWING		
SIZE A	DWG. NO. 8013	REV 1
SCALE: N.T.S.	WEIGHT: N/A	SHEET 1 OF 1

3. INSTALLATION

DUCT 560-10 (DRUM to PRESEPARATOR):

Components for the modification:

- 20L HRD Bottle from OEM
- Fabricated mounting adaptor from Andritz

The insulation of the duct will need to be removed. The duct wall is to be drilled to accommodate one-(1) 20L Interceptor®-HRD™ bottle (YSS 3.1.1). Prior to insulating the duct, the bottle mounting plate/flange assembly will be installed to the duct. The mounting flange plate to be supplied by ANDRITZ for welding in the field by others, per drawing 560-10-G04834. The HRD bottle to be supplied by ANDRITZ and installed by others, per the standard document for handling and installation attached in this document.

PRESEPARATOR 003 and POLYCYCLONE 004:

Components for the modification:

- (2) 50L HRD Bottle from OEM
- Dual Head DetEx sensor from the OEM
- Controller and Barrier Box from OEM

The insulation of each vessel will need to be removed and the additional stiffeners will need to be welded to vessel. The wall of each vessel is to be drilled to accommodate one-(1) 50L Interceptor®-HRD™ bottle (YSS 3.2.1 and YSS 4.2.1). The mounting flange plate to be supplied by ANDRITZ for welding in the field by others, per drawings 003-G04834 and 004-G04834. The HRD bottle to be supplied by ANDRITZ and installed by others, per the standard document for handling and installation attached in this document. In addition, an adaptor for a pressure sensor will be welded to each vessel per drawings 003-G04834 and 004-G04834. The vessels will then need to be re-insulated.

DUCT 560-20 (FAN to POLYCYCLONE):

Components for the modification:

- 20L HRD Bottle from OEM
- Fabricated mounting adaptor from Andritz

The insulation of the duct will need to be removed. The duct wall to be drilled to accommodate one-(1) 20L Interceptor®-HRD™ isolation bottle (YSS 4.1.1). The mounting flange plate to be supplied by ANDRITZ for welding in the field by others, per drawing 560-20-G04834. The HRD bottle to be supplied by ANDRITZ and installed by others, per the standard document for handling and installation attached in this document.

Near the PRESEPARATOR/POLYCYCLONE, mount one-(1) 2-zone CONEX controller (LCP 3.1.1) and one-(1) Barrier Box (LCP 3.2.1) to operate the Interceptor®-HRD™ system.

The CONEX controller features independent zones, programmable relays, data recording, and a 24 hour battery backup.

NOTE: This controller will be shared between the PRESEPARATOR/POLYCYCLONE and the SHAKER/CRUSHER.

CRUSHER 010:

Components for the modification:

- HRD Bottle from OEM
- Fabricated inlet chute with HRD adaptor and LumEx optical sensor mounting adaptor from Andritz
- LumEx sensor from Andritz

A new inlet chute to be supplied by Andritz, to accommodate one-(1) 5L Interceptor®-HRD™ isolation bottle (YSS 10.1.1) between shaker and crusher, per drawing 010-G04834. The chute will also have the LumEx adaptor welded in place to accommodate one-(1) LumEx optical sensor (YS 10.1.1). The HRD Bottle supplied by Andritz to be installed by others, per the standard document for handling and installation attached in this document.

SCREW CONVEYOR 011:

Components for the modification:

- HRD Bottle from OEM
- Fabricated HRD mounting adaptor from Andritz

The chute from the crusher to the recycle screw conveyor will need to be modified to accommodate one-(1) 5L Interceptor®-HRD™ isolation bottle (YSS 10.2.1). The mounting adaptor plate (bolted design) to be supplied by ANDRITZ to be installed in the field by others, per drawing 011-G04834. The HRD bottle to be supplied by ANDRITZ and installed by others, per the standard document for handling and installation attached in this document.

ELEVATOR BE 019:

Components for the modification:

- LumEx sensor from OEM

The elevator will need to be modified to accommodate one-(1) optical sensors (YS 10.2.1), per drawing 019-G04834. The LumEx adaptor to be installed per the standard documents attached at the end of this document

DHA REMOTE I/O PANEL:

Components for the modification:

- DHA Panel

A remote I/O panel will be supplied to accommodate the added DHA protective equipment. This panel should accommodate additional devices added in the future as other areas of the dryer system are modified with explosion suppression devices and other protective equipment.

GENERAL:

Air hose (black) with control valve will need to be run to each optical sensor (two-(2) sensors total). The hose and valves to be the responsibility of other than ANDRITZ.

All conduit, electrical wiring and mechanical installation will be responsibility of other than ANDRITZ.