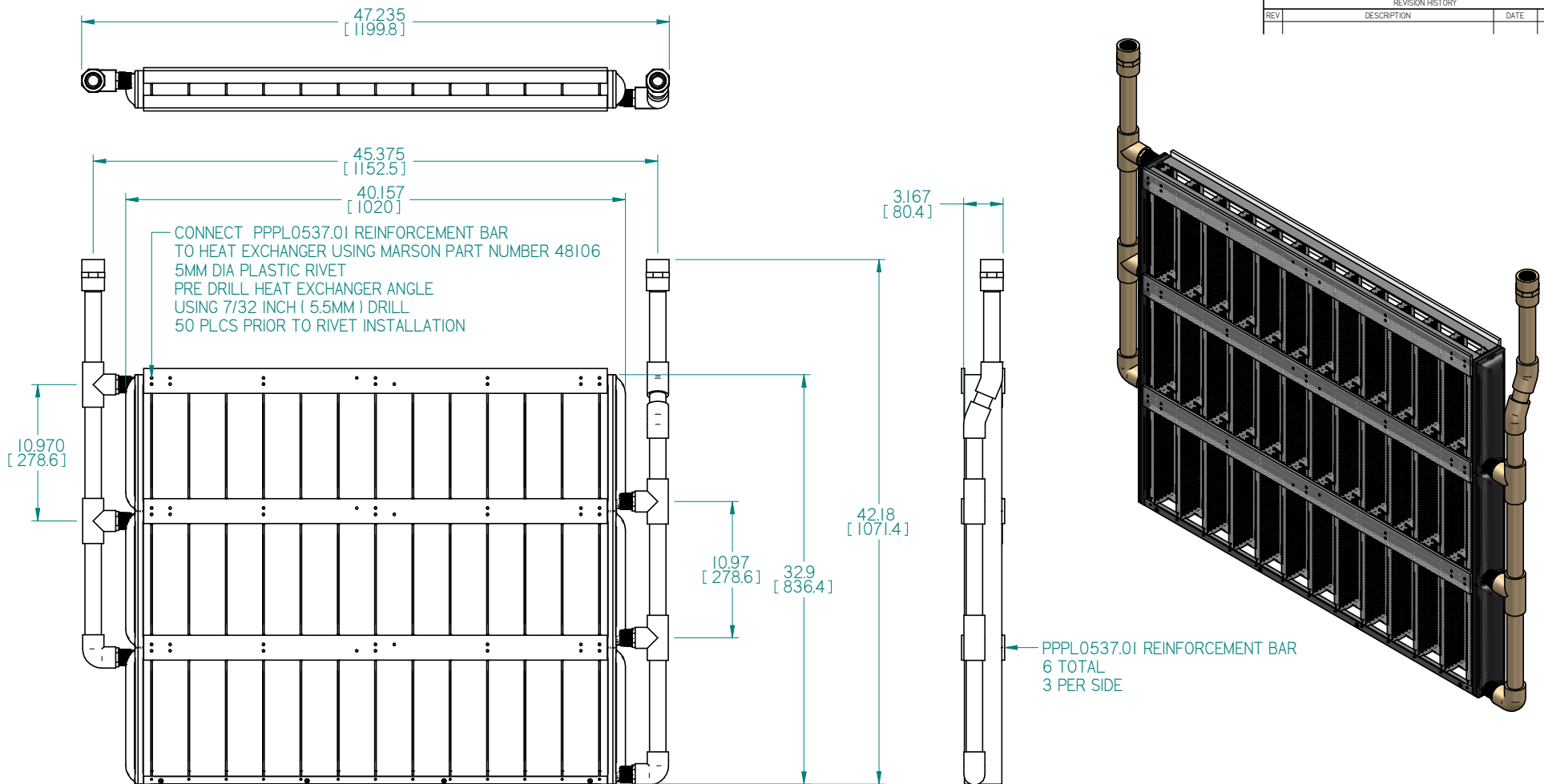


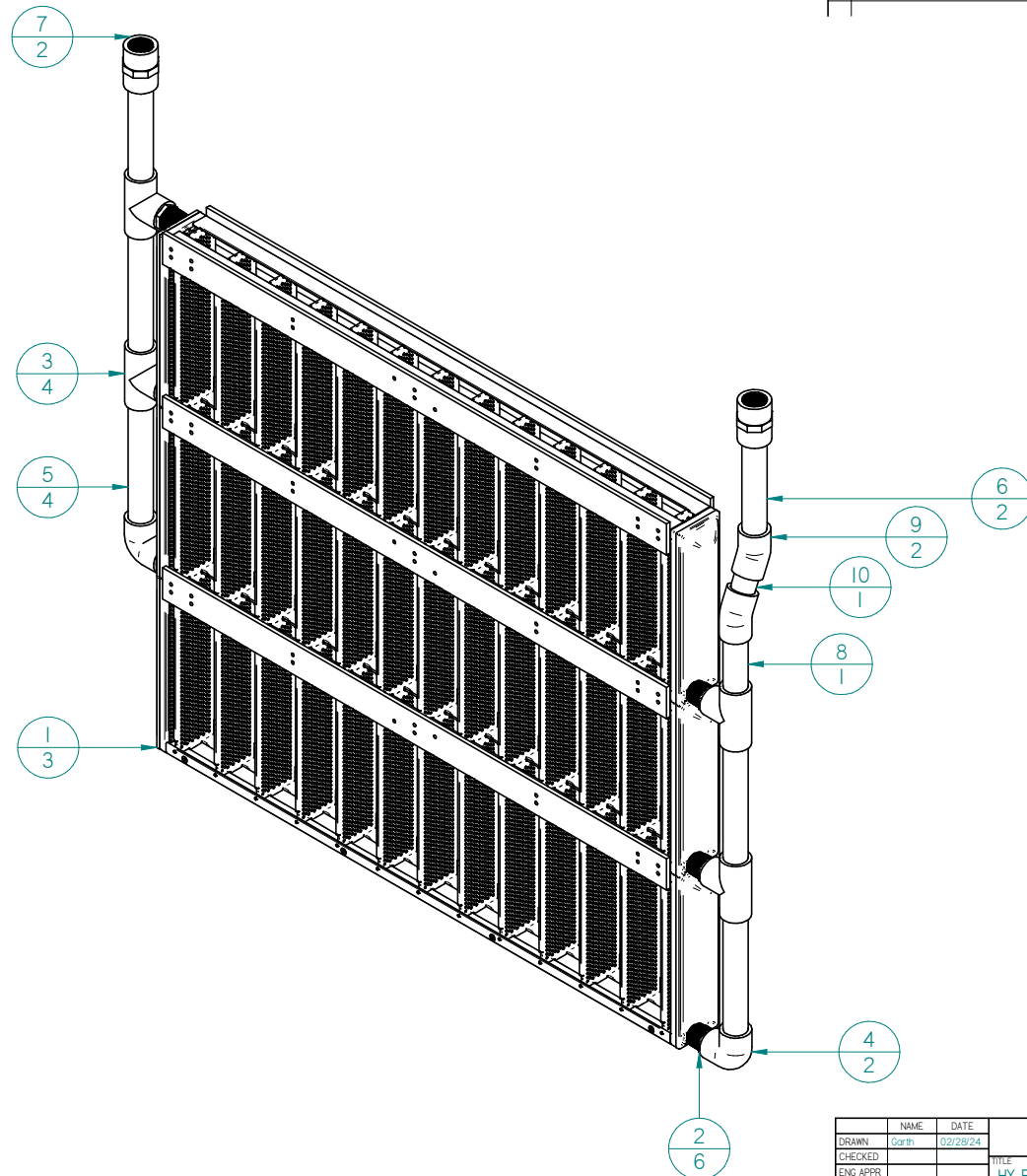
REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



PPPL0484.02  
 HX - PARALLEL CONFIG - CESARONI  
 CONSTRUCTION: 3 CESARONI NYLON HX UNITS - PARALLEL CONFIGURATION  
 PLUMBING IS 1 INCH CPVC ELBOWS, TEES AND PIPE  
 USAGE: DOMESTIC HOT WATER

DRAWN	Garth	DATE	02/28/24	<b>POWER PANEL</b>			
CHECKED						TITLE	HX-PARALLEL CONFIG - CESARONI
ENG APPR						SIZE	D
MGR APPR						FILE NAME	PPPL0484.02.dft
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLE: ±X°				SCALE	WEIGHT		
2 PL ±XXX-3 PL ±XXXX					SHEET 1 OF 7		

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



PPPL0484.02  
HX - PARALLEL CONFIG - CESARONI  
CONSTRUCTION: 3 CESARONI NYLON HX UNITS - PARALLEL CONFIGURATION  
PLUMBING IS 1 INCH CPVC ELBOWS, TEES AND PIPE  
USAGE: DOMESTIC HOT WATER OR POOL HEATING

Item Number	File Name	Title	Material	Quantity
1	HX-11x3x3750-no_tubes.asm			3
2	4589K186_THICK-WALL LIGHT GRAY CPVC THRD PIPE FITTING.par	4589K186 - 1 INCH CPVC PIPE ADAPTOR - THREAD TO STUB	CPVC	6
3	6826K340_THK-WALL LIGHT GRAY CPVC UNTHRD PIPE FITTING.TEE 1 IN.par	6826K340 - TEE - 1 INCH - CPVC - SOCKET ENDS	CPVC	4
4	6826K140_CPVC UNTHRD PIPE FITTING-ELBOW - 1 IN SOCKET.par	6826K140 - ELBOW 1 INCH CPVC - SOCKET STYLE	CPVC	2
5	PPPL0486.01.par	PIPE - 1 INCH - CPVC	CPVC	4
6	PPPL0487.01.par	PIPE - 1 IN - CPVC	CPVC	2
7	4589K540_THICK-WALL LIGHT GRAY CPVC THRD PIPE FITTING.par	4589K540 - COUPLING - CPVC - 1 IN - THREADED	CPVC	2
8	PPPL0488.01.par	PIPE - CPVC - 1 INCH	CPVC	1
9	6826K223_1 INCH 22PT5 DEG CPVC UNTHRD PIPE FITTING - ELBOW.par	6826K223 - 1 INCH - 22.5 DEG ELBOW - SOCKET - CPVC	CPVC	2
10	PPPL0504.01.par	PIPE - 1 INCH - CPVC	CPVC	1
11	PPPL0537.01.par	BAR-HX CONNECT	Polycarbonate	6

NAME	DATE	POWER PANEL	
DRAWN Garth	02/28/24	TITLE HX-PARALLEL CONFIG - CESARONI	
CHECKED		SIZE D	DWG NO
ENG APPR		REV	
MGR APPR		FILE NAME: PPPL0484.02.dft	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES ±X°		SCALE:	WEIGHT:
2 PL ±XXX-3 PL ±XXXX			SHEET 2 OF 7

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED

### Applications

- Cooling Towers
- HVAC (non-refrigerates)
- Geothermal
- Marine, Swimming Pools
- Automotive
- Radiant Heating/Cooling



### Materials

Exchanger	Nylon or HPDE
Baffles:	ABS, Nylon, HDPE
Side Frame:	PVC, Nylon, HDPE

### Fluid Compatibility

Water  
 Glycols  
 Salt/Brine Solutions  
 Hydro Carbon & Oils  
 Acids & Alcohols (HDPE only)  
 Chloride Solutions (Nylon 612 only)  
*\*For a additional fluids or a comprehensive list please contact us*

### Physical Details

Dimension (LxWxH )	47.75in x 11in x 3in
Tube Length	42.0 in
Dry Weight	6.5 lb
Internal Fluid Volume	0.79 gal
Number of Tubes	440
Tube Diameter	0.118in

### Warranty

3 year limited warranty on all materials

### Durability

250,000 Pressure Cycle @ 120psi

### Connections

Available : (1in)	Hose Barb, PEX, NPT
Clamp Torque Spec	35 in-lb

### Operating Conditions

<b>Nylon</b>		<b>Polyethylene</b>	
Operating Pressure	80 psi (max)	Operating Pressure	40 psi (max)
Burst Pressure	400 psi	Burst Pressure	130 psi
Temperature Range	-40°F to 250°F	Temperature Range	-40°F to 140°F
Flow Rate	60 GPM (max)	Flow Rate	60 GPM (max)

PPPL0484.02

HX - PARALLEL CONFIG - CESARONI

CONSTRUCTION: 3 CESARONI NYLON HX UNITS - PARALLEL CONFIGURATION

PLUMBING IS 1 INCH CPVC ELBOWS, TEES AND PIPE

USAGE: DOMESTIC HOT WATER

DRAWN	NAME	DATE	<b>POWER PANEL</b>	
CHECKED	Garth	02/28/24	TITLE	
ENG APPR			HX-PARALLEL CONFIG - CESARONI	
MGR APPR			SIZE	REV
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES ±X°X			D	
2 PL ±XXX 3 PL ±XXXX			FILE NAME: PPPL0484.02.dft	
			SCALE:	WEIGHT:
			SHEET 3 OF 7	

Power Panel

FLOW DATA

Part Number PPPL0484.02

Immersive Heat Exchanger Assembly

Parallel Arrangement - 3 Cesaroni HX-11X3X3750 - NYLON

Test Period - May 2021

Test rig utilized was 16 module PVT array with single 350 gallon tank with immersive Heat Exchanger installed

Test rig was run to keep tank at constant temp during flow runs

METER - EKM 3/4 inch Hot Water - Model HOT- SPWM-075-HD

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED

Flow Rate	Flow Rate	Inlet Water Temp	Exit Water Temp	Tank Temperature	Pressure Drop	Heat Transfer Rate
LPM	GPM	DEG C	DEG C	DEG C	(psi)	(kW)
2	0.53	22	44	44	0	3.1
4	1.06	20	44	44	0	6.7
6	1.59	20	44	44	0	10.0
8	2.11	20.5	43.5	44	0.5	12.8
10	2.64	21	43	44	0.5	15.3
12	3.17	21	43	44	1	18.4
14	3.70	20	42.5	44	1	22.0
16	no data					
18	no data					
20	no data					
22	no data					
24	no data					
26	no data					
28	7.40	18	41	44	2.5	44.9

PPPL0484.02

HX - PARALLEL CONFIG - CESARONI

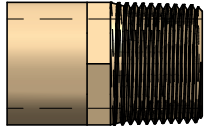
CONSTRUCTION: 3 CESARONI NYLON HX UNITS - PARALLEL CONFIGURATION

PLUMBING IS 1 INCH CPVC ELBOWS, TEES AND PIPE

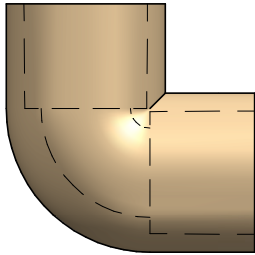
USAGE: DOMESTIC HOT WATER

DRAWN	NAME	DATE	<b>POWER PANEL</b>	
CHECKED	Garth	02/28/24	TITLE	
ENG APPR			HX-PARALLEL CONFIG - CESARONI	
MGR APPR			SIZE	REV
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES °X'X"			D	
2 PL *XXX 3 PL *XXXX			FILE NAME: PPPL0484.02.dft	
			SCALE	WEIGHT
			SHEET 4 OF 7	

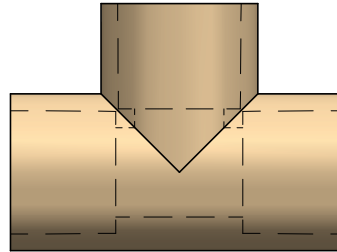
REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



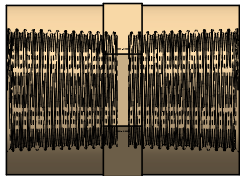
4589K186 - 1 INCH CPVC PIPE ADAPTOR  
USAGE : 6 PCS



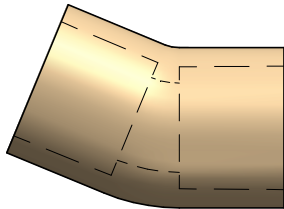
6826K140- ELBOW - 1 INCH CPVC - SOCKET STYLE  
USAGE : 2 PCS



6826K340- TEE - 1 INCH CPVC - SOCKET STYLE  
USAGE : 4 PCS



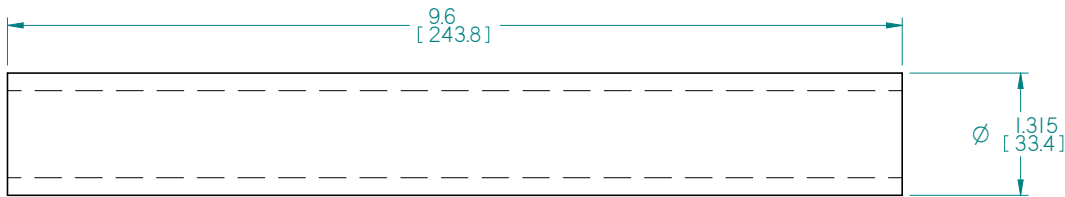
4589K540 - COUPLING - CPVC - INCH - THREADED  
USAGE : 2 PCS



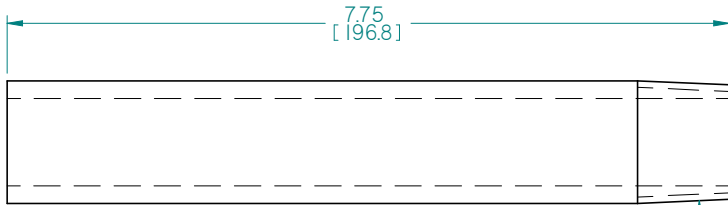
6826K223- ELBOW - 22.5 DEG - 1 INCH CPVC - SOCKET STYLE  
USAGE : 2 PCS

DRAWN	NAME	DATE	<b>POWER PANEL</b>	
CHECKED	Garth	02/28/24	TITLE	
ENG APPR			HX-PARALLEL CONFIG - CESARONI	
MGR APPR			SIZE	REV
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES ±X°			D	
2 PL ±XXX 3 PL ±XXXX			FILE NAME: PPPL04B4.02.dft	
			SCALE:	WEIGHT: SHEET 5 OF 7

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED

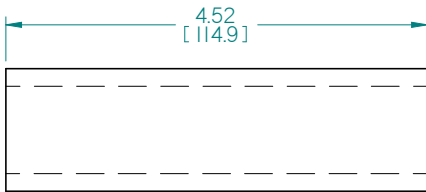


PPPL0486.01  
 PIPE - 1 INCH - CPVC  
 USAGE: 4 PCS

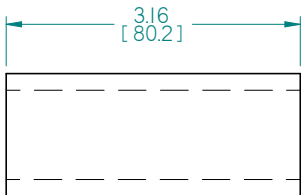


PPPL0487.01  
 PIPE - 1 INCH - CPVC  
 USAGE: 2 PCS

11.5 NPT THREAD



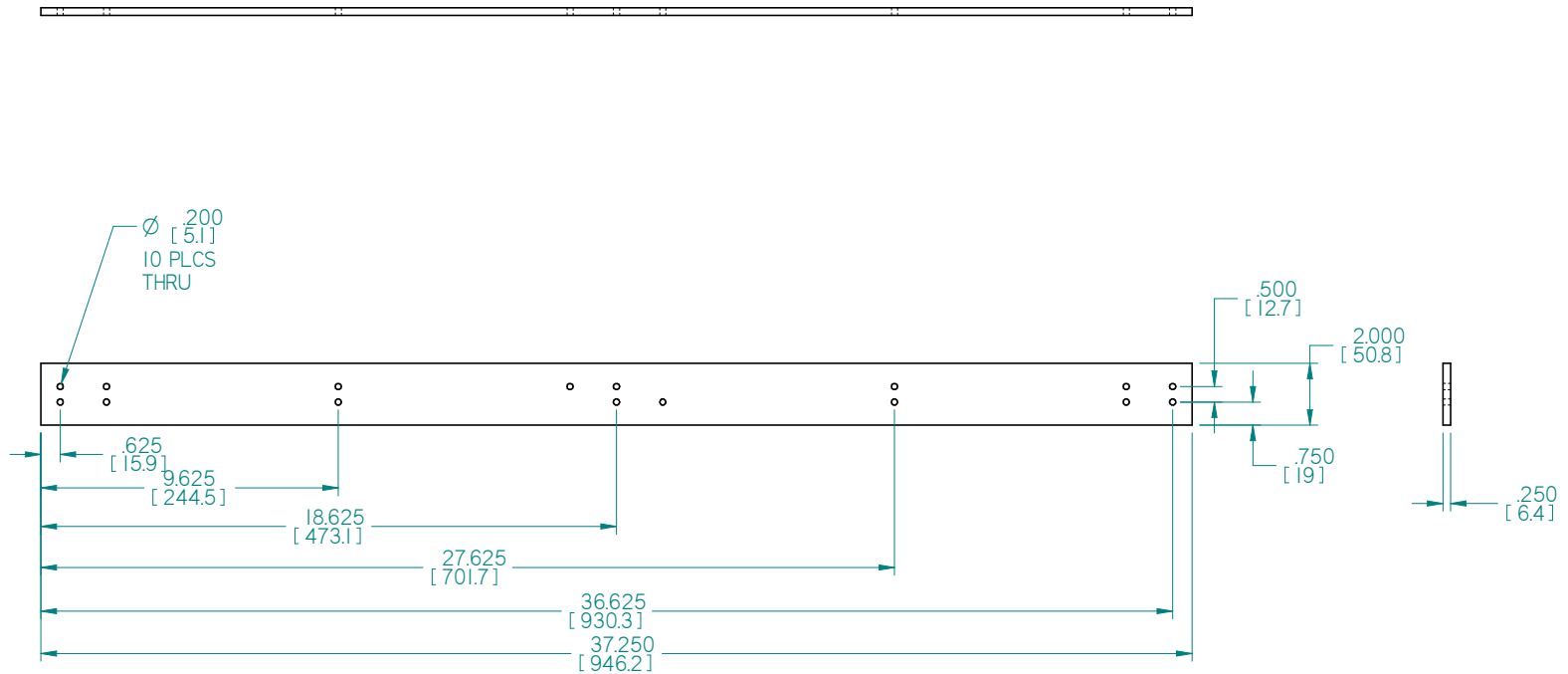
PPPL0488.01  
 PIPE - 1 INCH - CPVC  
 USAGE: 1 PC



PPPL0504.01  
 PIPE - 1 INCH - CPVC  
 USAGE: 1 PC

DRAWN	NAME	DATE	<b>POWER PANEL</b>	
CHECKED	Garth	02/28/24	TITLE	
ENG APPR			HX-PARALLEL CONFIG - CESARONI	
MGR APPR			SIZE	REV
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES ±X°			D	
2 PL ±XXX-3 PL ±XXXX			FILE NAME: PPPL0484.02.dft	
SCALE:			WEIGHT:	SHEET 6 OF 7

REVISION HISTORY			
REV	DESCRIPTION	DATE	APPROVED



PPPL0537.01  
BAR -HX CONNECT

MATERIAL 0.220 INCH TO 0.250 INCH THICK CLEAR POLYCARBONATE  
FINISH: FREE OF BURRS AND SHARP EDGES

FOR CNC ROUTER PROGRAMMING USE .188 DIA DRILL FOR HOLES  
( 10 PLCS ) AND .25 INCH DIA FOR PERIMETER CUT

NAME	DATE	POWER PANEL	
DRAWN Garth	02/28/24	TITLE	
CHECKED		HX-PARALLEL CONFIG - CESARONI	
ENG APPR		SIZE DWG NO	REV
MGR APPR		D	
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES ANGLES °X'X"		FILE NAME: PPPL04B4.02.dft	
2 PL -XXXX-3 PL -XXXX	SCALE:	WEIGHT:	SHEET 7 OF 7