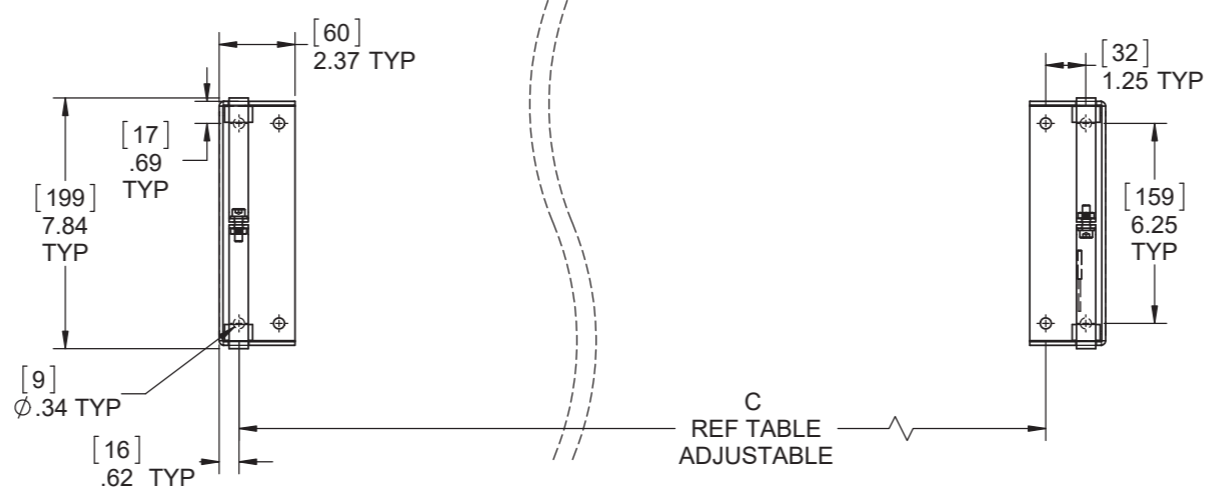
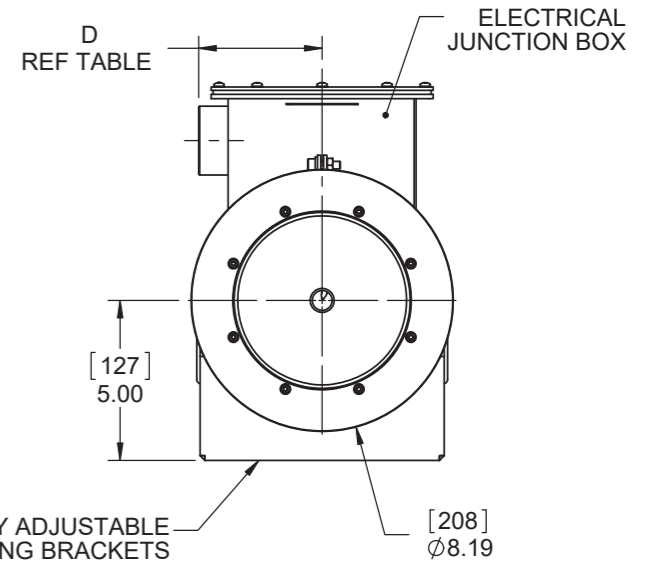
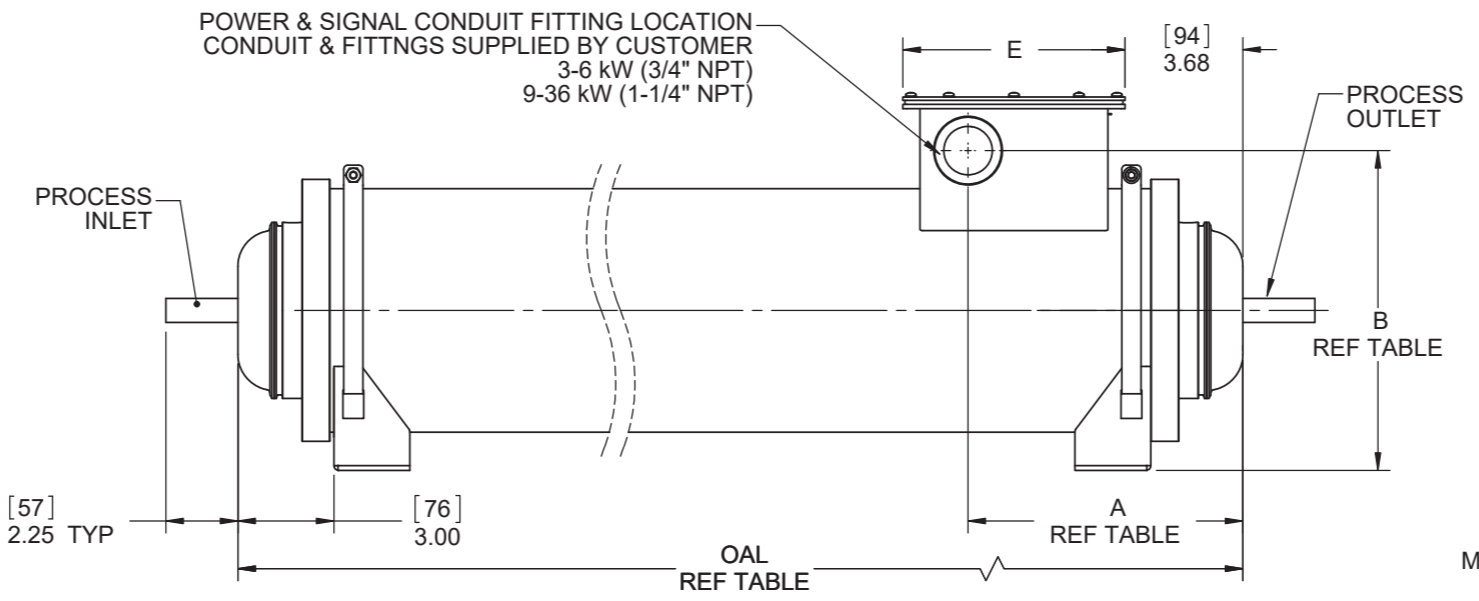
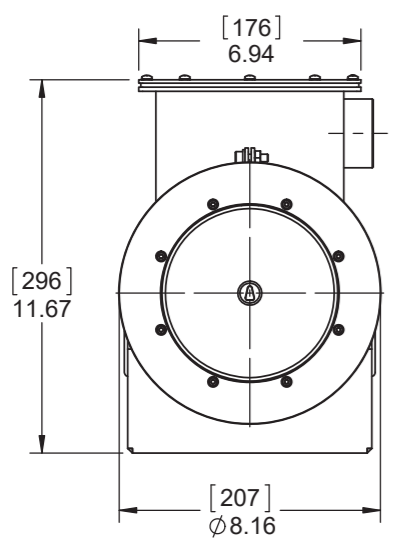


REV	BY	DATE	DESCRIPTION
3	TRJ	11/22/17	UPDATED MODEL # NOMENCLATURE
2	TRJ	04/19/16	CONSOLIDATED ALL FRONTIER SALES PRINTS
1	SSM	09/03/13	REMOVED FEP AS WETTED MAT'L & VITON AS ENCLOSURE SEAL

HEATER SIZE	A		B		C		D		E		OAL		UNIT WEIGHT (APPROX.)	
	in	mm	in	mm	in	mm	in	mm	in	mm	in	mm	lbs	kg
3 - 6 kW	7.34	186	10.24	260	5.88	149	3.61	92	5.19	132	12.63	321	38	17
9 - 12 kW	8.59	218	9.99	254	11.38	289	3.86	98	6.94	176	18.13	461	51	23
18 - 24 kW	8.59	218	9.99	254	22.38	568	3.86	98	6.94	176	29.13	740	86	39
36 kW	8.59	218	9.99	254	33.38	848	3.86	98	6.94	176	40.13	1019	121	55



- NOTE(S):
1. HEATER WATTAGE AND VOLTAGE PER CUSTOMER SPECIFICATION.
  2. STANDARD WIRE LEAD LENGTH: 10ft [3.0m]
  3. CONSULT FACTORY FOR CUSTOM LEAD LENGTHS OR ALTERNATE CONDUIT LOCATIONS.
  4. MOUNT VERTICALLY WITH PROCESS OUTLET DIRECTLY ABOVE PROCESS INLET.
  5. WETTED COMPONENTS ARE ELECTROPOLISHED 316L SS, PFA, AND PTFE.
  6. BRACKETS, FASTENERS AND OUTER ENCLOSURE ARE STAINLESS.
  7. NON WETTED ENCLOSURE SEALS ARE SILICONE.
  8. 3 THERMAL CUT-OFF DEVICES ARE PROVIDED (BI-METALLIC SWITCHES).
  9. 3 OVERTEMP SENSORS ARE PROVIDED.
  10. PROCESS INLET AND OUTLET CONNECTIONS PER CUSTOMER SPECIFICATION.
  11. WHEN FLOW RANGES OVERLAP THE RANGES FOUND IN THE TABLE ABOVE, DEFER TO THE LOWER FLOW CONFIGURATION.



F R S 3 - 2 1 -SN75- 3 R 3 1 L - ##

Series	Element Type	Wetted Material	Wattage	Voltage	Phase	Plumbing Connections (316SS)	# of Sensors	Overtemp Sensor Type	# of TCO	TCO type	Flow Configuration	Overall Length	Options
F = Frontier	R = Resistive style	S = 316SS (EP)	3 = 3000	1 = 208V	1 = single phase	SN50 = 1/2" Non Threaded Tube Stubs	1	K = K-type TC	1	1 = 232°C TCO. For applications up to 125°C	L = Low flow range: (8*-30) lpm	1 = 12.63" Overall Length	Blank = No Options X_# = With Wire (specify length in inches and conduit position (ex. X180A)) NE = Non-electropolished ## = TBD as needed #### = Custom Clean req
	P = PTC style		6 = 6000	2 = 240V	3 = three phase	SN75 = 3/4" Non Threaded Tube Stubs	3	E = E-type TC	3	2 = 288°C TCO. For applications between 125-200°C	M = Medium flow range: (20-80) lpm	2 = 18.13" Overall Length	
			9 = 9000	3 = 380V		SN100 = 1" Non Threaded Tube Stubs		H = 100-Ohm RTD (2-wire)		*3 = Non -Hermetically sealed 270°C TCO	H = High flow range: (60+) lpm	3 = 29.13" Overall Length	
			12 = 12000	4 = 400V		V50 = 1/2" Sw agelok VCR connections		R = 1000-Ohm RTD (2-wire)		*4 = Non -Hermetically sealed 232°C TCO (for applications up to 125°C)		4 = 40.13" Overall Length	
			18 = 18000	5 = 415V		V75 = 3/4" Sw agelok VCR connections				*5 = Non -Hermetically sealed 288°C TCO (for applications up to 200°C)			
			24 = 24000	6 = 480V		SF50 = 1/2" Sanitary Flange							
			36 = 36000	7 = 440V		SF75 = 3/4" Sanitary Flange							
				8 = 575V		SF100 = 1" Sanitary Flange							
				9 = 220V									
				10 = 200V									
				12 = 120V									
				14 = 600V									
				15 = 230V									

**PROCESS TECHNOLOGY®**

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ITEM:

MATERIAL:

UNLESS NOTED TOLERANCES ARE:

0.00 ± .25  
0.000 ± .125  
ANGLES ± 1°

[mm]  
INCHES

SECONDARY UNIT FOR REFERENCE ONLY

DRAWN BY: SSM

DATE: 04/30/13

DESCRIPTION:  
**SALES, FRONTIER**

CONTROLLED DOCUMENT LOCATIONS:

APPROVAL INFORMATION:  
BY: AJM  
DATE: 11/22/17

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INTERPRET GEOMETRIC DIMENSIONING AND TOLERANCING PER ASME Y14.5M

SIZE: B

SCALE: NONE

PAGE: 1 OF 1

DRAWING No. **61-0049-3**