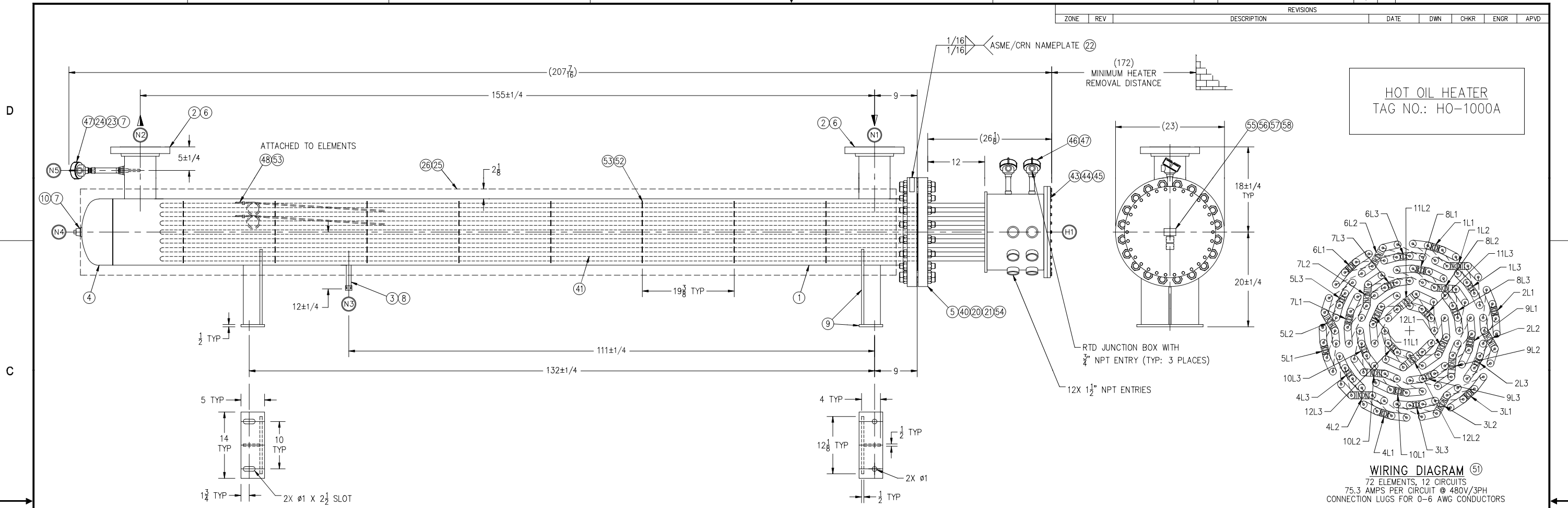
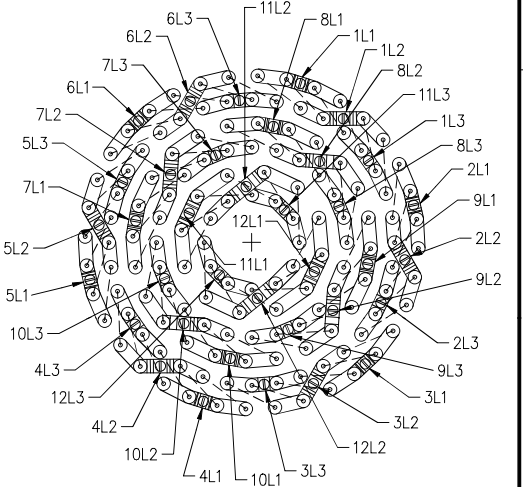


REV		DESCRIPTION	DATE	DWN	CHKR	ENGR	APVD



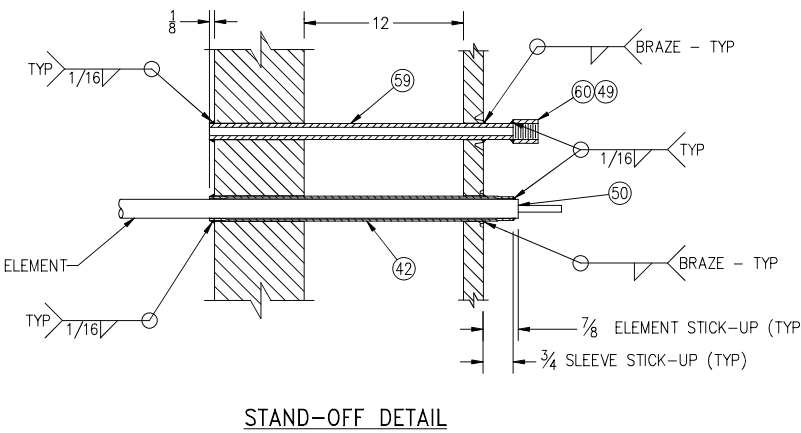
HOT OIL HEATER  
TAG NO.: HO-1000A



NOZZLE SCHEDULE NOTE: PROJECTION IS FROM CENTER-LINE

MARK	NOM. SIZE	WALL	O.D.	RATING	FACING	TYPE	PROJECTION	DESCRIPTION
(N1)	6"	.280	6.625	300#	RF	SO	18.0	INLET
(N2)	6"	.280	6.625	300#	RF	SO	18.0	OUTLET
(N3)	3/4"	.219	1.05	-	-	NPT	12.0	DRAIN
(N4)	3/4"	.219	1.703	3000#	-	NPT	N/A	AUX
(N5)	3/4"	.219	1.703	3000#	-	NPT	4.5	INSTRUMENT
(H1)	14"	.375	14.0	300#	RF	SO	N/A	HEATER

- NOTES:
- ALL FLANGE BOLT HOLES SHALL STRADDLE PIPE CENTERLINES.
  - ONE GROUNDING LUG, PER CONDUIT OPENING, IS INCLUDED IN HEATER TERMINAL BOX.
  - CSA CERTIFIED FOR CLASS I, ZONE 1, IIB+H2 HAZARDOUS AREAS (T3).
  - HEATER SHALL INCLUDE CRN FOR ALBERTA, CANADA.
  - CORROSION ALLOWANCE: .063" (CARBON STEEL ONLY).
  - IMPACT TESTING EXEMPT PER FIGURE UCS-66.1 (CARBON STEEL), FIGURE UCS-66 (FLANGE BOLTING), UHA-51(d)(1)(a) (STAINLESS STEELS), AND UNF-65 (INCOLOY 800). WELD PROCEDURES EXEMPT PER UCS-67.
  - GASKET FACTORS: M=3.30, Y = 5000 (LOW-STRESS SPIRAL WOUND).
  - INTERNAL VOLUME = 14.9 CU.FT.
  - FINISH: KEM HI-TEMP 850 (COLOR: NO. 15 CHARCOAL GRAY).
  - DIMENSIONS IN PARENTHESES ( ) ARE FOR REFERENCE ONLY.
  - ALL SEAMS AND OPENINGS IN INSULATION JACKET SHALL BE SEALED WITH HIGH-TEMP RTV.
  - BUTT WELDS SHALL RECEIVE SPOT RADIOGRAPHY (RT-3) MINIMUM.
  - WEIGHT EMPTY: 2570 LB. WEIGHT HYDRO-TEST: 3500 LB. HEATER BUNDLE WEIGHT: 1200 LB.



ITEM NO.	DESCRIPTION	QTY	U/M	MATERIAL	REMARKS
60	HALF COUPLING, THREADED 1/8" NPT, 3000#	2	PC	SA-182 F304	
59	TUBING, SEAMLESS, 1/8" SCH XS, 15.5" LG	2	PC	SA-312 TP304	
58	RIVET, U-DRIVE, NO. 2	6	PC	STAINLESS STEEL	
57	NAMEPLATE, WIRE TEMP	1	PC	ALUMINUM	
56	NAMEPLATE, OVER-TEMP WARNING	1	PC	ALUMINUM	
55	NAMEPLATE, CHROMALOX, CSA	1	PC	ALUMINUM	
54	GASKET, 14"-300#, LOW-STRESS SPIRAL WOUND	1	PC	304 SST WINDINGS, STEEL OUTER RING	FLEXIBLE GRAPHITE SEAL
53	HOSE CLAMP, #5/8" OD MAX, 5/16" WIDTH	68	PC	316 STAINLESS STEEL	
52	ELEMENT SUPPORT SPACER	8	PC	304 STAINLESS STEEL	
51	WIRING DIAGRAM / ELEMENT BUS BARS	1	PC	COPPER	
50	ELEMENT TERMINAL SEAL	144	PC	RTV/ CERAMIC	
49	FITTING, COMPRESSION, STRAIGHT 1/8" TUBE, 1/8" MALE NPT	2	PC	SA-182 F316	
48	RTD, DUPLEX, 3-WIRE, 100 OHM PT, 3/16" OD	2	PC	SA-213 TP316	
47	JUNCTION BOX, EXPLOSION PROOF, WITH TERMINAL BLOCK	3	PC	EPOXY-COATED ALUMINUM	
46	NIPPLE, 1/2" X 4" LG	2	PC	GALVANIZED STEEL	
45	GROUND STUD, 1/4"-20	12	PC	STAINLESS STEEL	
44	HEATER TERMINAL BOX, EXPLOSION-PROOF	1	PC	CARBON STEEL	
43	TERMINAL BOX MOUNTING PLATE	1	PC	SA-240 304	
42	TUBING, #.625" O.D., .050" WALL, AS-WELDED, 15.5" LG	144	PC	INCOLOY 800	
41	HEATER ELEMENT, .475" OD, .028" WALL AS-WELDED	72	PC	INCOLOY 800	
40	FLANGE, RF BLIND, 14"-300#	1	PC	SA-105	
26	INSULATION, BLANKET	1	PC	HIGH-TEMP FIBERGLASS	
25	INSULATION JACKET	1	PC	CARBON STEEL	
24	RTD, SINGLE, 3-WIRE, 100 OHM PT, SPRING-LOADED	1	PC	316 STAINLESS STEEL	
23	THERMOWELL, STEPPED, 3/4" NPT	1	PC	316 STAINLESS STEEL	THERMOWELL CRN: OF12718.52
22	NAMEPLATE, ASME/CRN	1	PC	SA-240 304	
21	NUT, HEAVY HEX, 1-1/8"-8	40	PC	SA-194 2HM	
20	STUD, THREADED, 1-1/8"-8, 7.5" LG	20	PC	SA-193 B7	
10	PIPE PLUG, THREADED, 3/4" NPT, 3000#	1	PC	SA-105	
9	PLATE, 1/2" THICK	6	PC	SA-516 70N	
8	PIPE CAP, THREADED, 3/4" NPT, 3000#	1	PC	SA-105	
7	FITTING, THREADOLET, 3/4" NPT, 3000#	2	PC	SA-105	
6	FLANGE, RFSO, 6"-300#	2	PC	SA-105	
5	FLANGE, RFSO, 14"-300#	1	PC	SA-105	
4	PIPE CAP, SEAMLESS, 14" SCH STD	1	PC	SA-234 WPB	
3	PIPE, SEAMLESS, 3/4" SCH 160	1	PC	SA-106B	
2	PIPE, SEAMLESS, 6" SCH STD	2	PC	SA-106B	
1	PIPE, SEAMLESS, 14" SCH STD	1	PC	SA-106B	

BILL OF MATERIAL

DESIGNED & CERTIFIED IN ACCORDANCE WITH ASME BOILER & PRESSURE VESSEL CODE SECTION VIII, DIVISION 1, ("U" STAMP) EDITION 2015, ADDENDA NONE

HYDROSTATIC TEST: 337 PSIG FOR 20 MINUTES.

**DESIGN DATA**

HEATED MEDIUM: SYL THERM 800  
LETHAL SUBSTANCE: YES  NO   
DESIGN PRESSURE: 196 PSIG (MAWP)  
EXTERNAL MAWP: N/A PSIG  
PROCESS DESIGN TEMP: 752 °F  
MIN. TEMP. (MDMT): -25.6 °F

ASME APPROVED FOR CONSTRUCTION

BY: \_\_\_\_\_  
DATE: \_\_\_\_\_  
SERIAL NO: \_\_\_\_\_

USER DATA APPROVAL DATE: \_\_\_\_\_

MIN. FLOW RATE: 0 LB/HR  
MAX. FLOW RATE: 145,840 LB/HR

OPERATING PRESSURE: 50 PSIG  
OPERATING TEMPERATURE: 716 °F

CONTRACT NO: \_\_\_\_\_

USED ON: \_\_\_\_\_

APPROVALS: DWN JDH 5/10/2016, CHKR AYN 5/10/2016, ENGR JDH 5/10/2016, APVD RPW 5/10/2016

CO# 2275981

**Chromalox** Ogden, Utah 84404 www.chromalox.com

CIRCULATION HEATER, OIL, ASME, CRN NWHOI-72-750P-E2XX, 480V, 750KW, 12-3PH 14"-300# W/ 6"-300# IN/OUT, CARBON STEEL

SIZE CODE IDENT NO: D 07131  
DRAWING NO: 052-122782-122  
REV: 0

SCALE 1:10 DO NOT SCALE DRAWING SHEET 1 OF 1