FEATURES

STANDARD

- FAIL SAFE CLEAN STEAM OUTLET CONTROLLER
- SAFETY HIGH LIMIT AND SHUTDOWN SYSTEM
- SURFACE BLOWDOWN CONTROL SYSTEM
- SHELL BLOWDOWN VALVE
- EXPANDABLE TUBE DESIGN TO REMOVE INTERNAL SCALE BUILDUP
- INTERNAL CARRYOVER SEPARATOR PLATE ASSEMBLY
- SIGHT LEVEL GAUGE AND LEVEL CONTROL
- NEMA 4, UL LISTED CONTROL PANEL
- MODBUS COMMUNICATIONS
- FACTORY PRESSURE AND LIVE STEAM TESTED PRIOR TO SHIPMENT

OPTIONAL

- COLOR TOUCH SCREEN HMI
- ETHERNET CONNECTIVITY
- BACNET COMMUNICATIONS
- ALLEN BRADLEY OR SIEMENS PLC CONTROL SYSTEM
- AUTOMATIC PUMP TRAP FOR CONDENSATE LIFT
- CONTINUOUS BLOWDOWN COOLING SYSTEM
- SIGHT LEVEL GAUGE AND LEVEL CONTROL

OPERATING & INSTALLATION REQUIREMENTS

- 115 VOLT / SINGLE PHASE / 60 HZ POWER SUPPLY
- 40-80 PSIG DRY COMPRESSED AIR (FOR PNEUMATIC CONTROLLED MODEL)
- SOFT TREATED WATER (<1.0 GRAINS/GALLON)
- BRINE TREATED SOFT WATER SHALL NOT BE USED.
- DRY SATURATED SOURCE STEAM (Q ≥ 0.95) TO CONTROL VALVE CONNECTION
- WATER PRESSURE SHALL BE 15 PSIG MIN. ABOVE STEAM OUTLET PRESSURE
- INLET STEAM SUPPLY SHALL BE SIZED SIZED FOR FT/MIN VELOCITY
- INLET STRAINER AND DRIP TRAP SHALL BE INSTALLED AT CONTROL VALVE INLET
- VERTICAL RISE OF 18" MIN. AND CHECK VALVE REQUIRED AT SYSTEM CLEAN STEAM OUTLET
- REFER TO I.O.M. MANUAL FOR PROPER INSTALLATION

APPROX. DIMENSIONS & WEIGHTS

OVERALL UNIT DIMENSIONS	3'W X 4'L X 8'6"HT.
SHIPPING DIMENSIONS	4'W X 8'6"L X 5' HT.
UNIT WEIGHT (FLOODED)	1320 US LBS
SHIPPING WEIGHT	1680 US LBS

NOTES

RATINGS / CAPACITIES

1A	IF THE OPERATING PRESSURE OF THE SHELL EXCEEDS 40 PSIG THE SHELL RATING WILL BE 150 PSIG.
1B	THESE ARE STANDARD CAPACITIES. NON-STANDARD ARE AVAILABLE, CONSULT THE FACTORY.

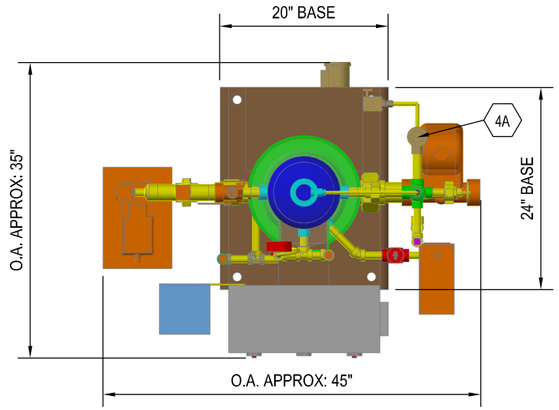
OPTIONS / SIZING

1	TBD(1) OPTIONAL EQUIPMENT / SELECTION AVAILABLE FOR THE ITEM SHOWN OR NOTED.
2	TBD(2) THE SIZE OF ITEM SHOWN OR NOTED VARIES WITH THE OPERATING CONDITIONS OF THE APPLICATION / INSTALLATION.

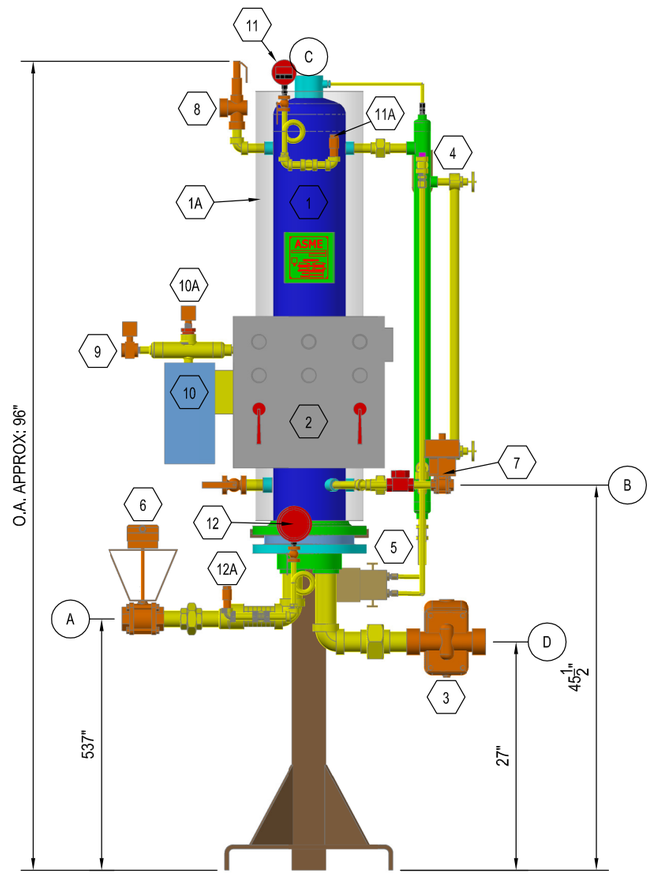
INSTALLATION & OPERATION

1	IF CONDENSATE IS TO BE LIFTED TO OVERHEAD OR PRESSURIZED MAIN, CONSULT THERMAFLO ENGINEERING FOR PUMP-TRAP SELECTION.
2	IT IS ADVISABLE AND RECOMMENDED TO INSTALL A THERMAFLO STEAM SEPARATOR ON THE UNIT OUTLET.
3	IT IS ADVISABLE AND RECOMMENDED THAT ALL STEAM PIPING ON THE SYSTEM OUTLET SHOULD BE INSULATED (2" MIN.) TO ENSURE & MAINTAIN STEAM QUALITY.

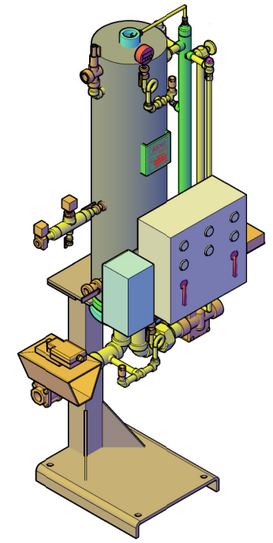
PRELIMINARY
FOR REVIEW ONLY
NOT FOR CONSTRUCTION

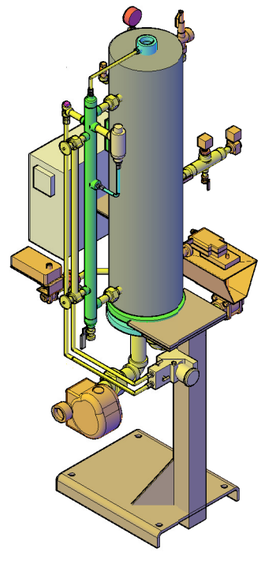


TOP VIEW



FRONT VIEW





ISOMETRIC VIEWS

DESIGN STANDARDS

RATINGS

ASME CODE SECTION VIII, DIV. 1 - STAMPED: U/UB

	SHELL SIDE	*TUBE SIDE*
MAX. WORKING PRESSURE (PSIG)	50 (See Note 1A)	150
MAX. WORKING TEMPERATURE (°F)	400	325

CAPACITIES (See Note 1B)

SOURCE STEAM INLET PRESSURE (PSIG)	CLEAN STEAM OUTLET PRESSURE (PSIG)	CLEAN STEAM CAPACITY (LBS / HR)
15	5	110
25	5 - 30	330
50	5 - 30	440
75	5 - 30	500
100	5 - 40	550
125	5 - 40	770

MATERIALS

STANDARD

SHELL	316L STAINLESS STEEL
TUBES (SINGLE WALL)	316L STAINLESS STEEL
TUBESHEET	316L STAINLESS STEEL
STEAM HEAD	CLOSE GRAIN CAST IRON
INSULATION	2" FIBERGLASS
INSULATION JACKET	VINYL (REMOVABLE)

OPTIONAL

SHELL	CARBON STEEL
TUBES (SINGLE / DOUBLE WALL)	COPPER, CUPRONICKLE, 304 S.S.
TUBESHEET	BRASS, 304 S.S
STEAM HEAD	CARBON STEEL, 304 S.S., 316L S.S.
INSULATION	3" FIBERGLASS
INSULATION JACKET	ALUMINUM, 316L STAINLESS STEEL

BILL of MATERIALS

ITEM	DESCRIPTION	SIZE / MODEL
1	THERMAFLO (TFEI) MDL. THSCV-500 CLEAN STEAM GENERATOR SYSTEM	8X48 SHELL BUNDLE: TBD
1A	INSULATION JACKET	TBD(1)
2	NEMA 4 ELECTRONIC SYSTEM CONTROL PANEL W/ HIGH & LOW LEVEL AND PRESSURE ALARM & HORN. W/ SYSTEM SHUTDOWN	N/A
3	THERMOSTATIC STEAM TRAP (OPTIONAL CONDENSTAE LIFT PUMP)	TBD(2) BFT
4	TFEI 316SS LEVEL CONTROL STILLING WELL (HIGH, LOW & MAKEUP WATER) W/ SIGHT GLASS	CLS-40
4A	GEMS HIGH, HIGH LEVEL INDEPENDENT SHUTDOWN SWITCH	LS-800-5
5	DIFFERENTIAL PRESSURE TRANSMITTER	TBD(1)
6	TFEI ELECTRONIC "FAIL SAFE" STEAM CONTROL VALVE	TBD(2) BVV
7	TFEI ELECTRONIC MODULATING MAKEUP WATER CONTROL VALVE	TBD(2) BVV
8	PRESSURE & TEMPERATURE RELIEF VALVE	TBD(1)
9	NEMA 4 GRANZOW ELECTRONIC SURFACE BLOWDOWN VALVE	1/4" 21L2K1T55
10	NEMA 4 LMI ELECTRONIC CONDUCTIVITY CONTROLER (OPTIONAL)	DC 4000
10A	CONDUCTIVITY SENSOR PROBE	34761
11	DIGITAL PRESSURE GAUGE TRANSMITTER W/ SYPHON AND ISOLATION VALVE	TBD(1)
11A	VACUUM BREAKER	1/2"
12	PRESSURE GAUGE W/ SYPHON AND ISOLATION VALVE, RATED: TBD	4"
12A	VACUUM BREAKER	1/2"

NOZZELS and CONNECTIONS

ITEM	*SIZE (In)*	*TYPE & RATING*	*SERVICE*
A	TBD (2)	TBD	STEAM INLET
B	1/2	NPT	MAKEUP WATER INLET
C	2" OR TBD (2)	NPT	CLEAN STEAM OUTLET
D	2	NPT	CONDENSATE OUTLET

THERMAFLO ENGINEERING INC. Since 1986
Manufacturers Of Steam Fired Specialty Equipment
12249 Nations Ford Road, Pineville NC 28134
(704) 940-1228 www.thermafloengineering.com

DESCRIPTION: THCSV-500-EL CLEAN STEAM GENERATOR

CUSTOMER:	JOB #	QTY.	DATE:
TIS SHEET	-	-	09/25/14

SCALE:	DRAWN:	PO #	PLAN #	FILE:	REV. #	PAGE:
NTS	TCru	-	-	8X48 CSG TIS	-	1