HOLTEC PROPRIETARY

GENERAL NOTES

1.- ALLOWABLE DIMENSIONAL TOLERANCE AS PER HEI.
2.- PERMANENTLY ATTACH STAINLESS STEEL NAME PLATE BRACKET. NAME PLATE BRACKET SHALL CONTAIN HOLTEC'S NAME PLATE.
3.- NAME PLATE SHOULD CONTAIN THE FOLLOWING:
    OEM NO.: 2135
    PURCHASER'S ORDER No.: 554652
    EQUIPMENT TAG NO.: ********
    HYDROTEST PRESSURE:
        TUBE SIDE = 112.5 P.S.I.G.
        SHELL SIDE = FILLED WITH WATER
    DESIGN PRESSURE & TEMPERATURE:
        TUBE SIDE = 75 P.S.I.G./FULL VACUUM & 150°F
        SHELL SIDE = 15 P.S.I.G./FULL VACUUM & 250°F
4.- SEE NOZZLE PROJECTION CHART FOR PROJECT INFORMATION.
5.- ALL DIMENSIONS ARE IN INCHES.
6.- FLANGE BOLT HOLES TO STRADDLE CENTER LINES.
7.- FOR LIFTING USE SHACKLES OF SUFFICIENT CAPACITY. USE SPREADER BEAM TO EQUALLY DISTRIBUTE LOAD. SEE SHIPMENT DRAWING(S) FOR MORE DETAILS.
8.- DO NOT USE WATER BOX LIFT LUGS TO LIFT THE ENTIRE CONDENSER.
9.- ALL INTERCONNECTING PIPING (CONDENSER TO AUXILIARIES) WILL BE PROVIDED BY OTHERS.
10.- BOLTING AND GASKETS FOR FLANGED INTERFACE JOINTS WILL BE PROVIDED BY OTHERS. (UNLESS OTHERWISE NOTED)
11.- CONDENSER WILL BE DESIGNED IN ACCORDANCE WITH HEI STANDARDS. THE SHELL SIDE AND TUBE SIDE WILL NOT BE ASME SECTION VIII CODE STAMPED.
12.- ALL FLANGES FOR FLANGED CONNECTIONS WILL BE IN ACCORDANCE WITH ANSI B 16.5 (CURRENT EDITION).
13.- MANWAY OPENING CLEARANCE IS 36".
14.- HIGH TEMPERATURE (> 450 °F) DRAIN CONNECTIONS WILL HAVE THERMAL SLEEVES, UNLESS OTHERWISE INCLUDED PER CLEINT SPECIFICATION REQUIREMENTS.
15.- CONDENSER TUBESIDE (1.5 TIMES DESIGN) WILL BE HYDROTESTED IN THE SHOP. CONDENSER SHELL SIDE (STANDING WATER) WILL BE HYDROTESTED IN THE FIELD. (BY OTHERS).
16.- THE CONDENSER CIRCULATING WATER NOZZLES CONFORM TO THE HEAVY WEIGHT 125# ANSI F.F.S.O. FLANGE STANDARDS. (AWWA C207 CLASS "D")
17.- FLOWS SHOWN IN THE NOZZLE SCHEDULE ARE PER NOZZLE.
18.- NOZZLES WITH INTERNAL SPARGERS OR PIPING WILL NOT HAVE THERMAL SLEEVES, UNLESS OTHERWISE NOTED.
19.- SEE FIELD WELDING DRAWING 8287 FOR SPECIFIC INSTRUCTION ON FIELD ASSEMBLY / WELDING / INSTALLATION OF SHIPPED LOOSE NOZZLES.
20.- ALL WATER BOX MANWAYS ("MW" NOZZLES) SHALL HAVE MAGNESIUM SACRIFICIAL ANODES MOUNTED TO THE INSIDE OF THEIR COVERS.

CLEANING & COATINGS

△5 1.- ALL C/S EXTERNAL SURFACES SHALL BE BLASTED AS PER SSPC-SP6 AND RECEIVE ONE COAT (3-4 mils) D.F.T. OF INTERZINC 22 AND ONE COAT OF INTERTHERM 875 (1.5-2 mils) D.F.T. BY HOLTEC.
2.- ALL C/S SHELL INTERIOR SURFACES SHALL BE CLEANED (SSPC-SP1 IF NEEDED) OF ALL RUST AND MILLSCALE PRIOR TO FABRICATION. PRIOR TO SHIPMENT ALL INTERNAL C/S SURFACES SHALL BE COATED WITH A WATER SOLUBLE RUST INHIBITOR.
△7 3.- ALL WATER BOX INTERNALS SHALL BE BLASTED AND LINED TWO COATS (8-16 mils) D.F.T. OF INTERSEAL 670HS.
4.- ALL BUTT WELD END AND FIELD WELD PREPARATIONS (LANDING BARS, ETC.) SHALL RECEIVE (3) mils. D.F.T. OF CARBO WELD 11 (or) EQUAL RUST PREVENTATIVE 2" FROM WELD EDGE.
5.- ALL CONNECTIONS TO BE WELDED IN THE FIELD SHALL NOT BE PAINTED WITHIN 2" OF WELD END.
6.- MACHINED SURFACES & FLANGE FACES SHALL BE COATED WITH RUST PREVENTATIVE WHICH IS EASILY REMOVABLE.

SHIPMENT PROTECTION

1.- ALL N.P.T. AND S.W. CONNECTIONS SHALL BE SEALED FOR SHIPMENT.
2.- FLANGED OPENINGS SHALL BE PROVIDED WITH FULL FLANGE DIAMETER PROTECTIVE COVERS (WOOD OR METAL).
3.- BUTT WELD OPENINGS SHALL BE SEALED WITH A WOODEN COVER THAT WILL BE REMOVED BY OTHERS IN FIELD.
4.- SEE SHIPMENT DETAIL DRAWING(S) FOR MORE DETAILS.

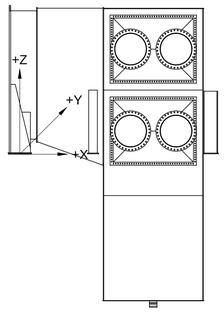
FABRICATOR NOTES

1.- ALL NOZZLE LOCATIONS, QUANTITIES AND PROJECTIONS MUST BE CHECKED PRIOR TO THE SHIPMENT AND SHOULD BE IN ACCORDANCE WITH THE GENERAL ARRANGEMENT DRAWING.
2.- WATER BOXES WILL BE SEPARATED FROM EACH OTHER AFTER THE HYDROTEST FOR THE COATING PURPOSES. THE INTERNAL COATING SHALL BE APPLIED AFTER THE HYDROTEST.
3.- AFTER THE WATER BOX HYDROTEST ALL HYDROTEST GASKETS MUST BE DISCARDED. A NEW SET OF GASKETS MUST BE INSTALLED/PROVIDED.
4.- WATER BOXES WILL BE SHIPPED LOOSE.
5.- ALL SHIPPING BRACES, COVERS, PLATES SHALL BE PAINTED YELLOW OR ORANGE.
6.- ALL SHIPPED LOOSE ITEMS MUST BE TAGGED PROPERLY AND AN APPROPRIATE MATCH MARK SHOULD APPEAR ON THE CONDENSER. (DO NOT PUNCH MARKING)
7.- ALL SHIPPING PACKAGES MUST BE MARKED WITH FOLLOWING:
    a. NAME OF THE COMPONENT
    b. SIZE AND WEIGHT
    c. EQUIPMENT TAG NO.
    d. PROJECT NAME
    e. PURCHASER'S P.O. NO.
    f. LIST OF ITEMS

DRAWING INDEX

DRAWING NO.	DRAWING TITLE
DRAWINGS TO CLIENT:	
8284	GENERAL ARRANGEMENT DRAWING
8285	CLIENT TUBESHEET LAYOUT DRAWING
8286	SHIPMENT & LIFTING DRAWING
8287	FIELD WELDING DRAWING
*DRAWINGS TO FABRICATOR:	
8288	TUBESHEETS & SUPPORT PLATES DETAILS
8289	INLET/OUTLET WATER BOX DETAILS
8290	RETURN WATER BOX DETAILS
8291	HOTWELL DETAILS
8292	LOWER SHELL DETAILS
8293	UPPER SHELL DETAILS
8294	DOME DETAILS
8295	STEAM INLET SPOOL DETAILS

* THESE PROPRIETARY DRAWINGS ARE FOR OUR FABRICATOR ONLY. THEY WILL NOT BE SUBMITTED TO OUR CLIENTS. THESE DRAWINGS MAY BE REVIEWED AT OUR SHOP OR HOLTEC'S OFFICES.



FACING I/O WATER BOX

WEIGHTS

△4 △2

DRY	350,000 LBS
OPERATING	550,000 LBS
FLOODED	1,000,000 LBS

1. DRY WEIGHT IS THE WEIGHT OF THE CONDENSER WITH NO WATER PRESENT (TUBE SIDE OR SHELL SIDE).
2. OPERATING WEIGHT IS THE TUBE SIDE FULL AND THE HOTWELL FILLED TO THE NORMAL WATER LEVEL.
3. FLOODED WEIGHT IS THE SHELL SIDE FILLED WITH WATER (TO THE TOP OF THE CONDENSER) AND THE TUBE SIDE (TUBES AND WATER BOXES) EMPTY.
4. REFER TO HOLTEC DOCUMENT NUMBER FLR-2135 FOR FOUNDATION LOAD CALCULATION RESULTS.

MATERIALS

(UNLESS OTHERWISE NOTED)

DESCRIPTION	SHELL SIDE	TUBE SIDE
SHELL	SA-516 70	SA-516 70
HEADS (WATER BOX)	SA-516 70	SA-516 70
BODY FLANGES	SA-516 70	SA-516 70
TUBESHEETS	SA-240 317	
TUBES: (COND./COOL./IMP.)	SA-249 317 (0.75" OD X 22 B.W.G.)	
NOZZLE NECKS	SA-106 B	SA-106 B
NOZZLE FLANGES	SA-105	SA-105
COVERS	SA-516 70	SA-516 70
TUBE SUPPORT PLATES	SA-516 70	N/A
COUPLINGS	SA-105	SA-105
PARTITION PLATES	N/A	SA-516 70
IMPINGEMENT PLATES	SA-240 304	N/A
SUPPORTS	SA-516 70	N/A
AIR REMOVAL CHANNEL	SA-36	N/A
HOTWELL	SA-516 70	N/A
GASKETS	N/A	CLOTH INSERTED NEOPRENE RUBBER
INTERNAL BOLTS/STUDS	SA-193 B8	SA-193 B8
INTERNAL NUTS	SA-194 GR8	SA-194 GR8
EXTERNAL BOLTS/STUDS	SA-193 B7	SA-193 B7
EXTERNAL NUTS	SA-194 2H	SA-194 2H

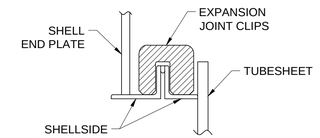
DESIGN DATA		
VARIABLES	SHELL SIDE	TUBE SIDE
APPLICABLE CODES	H.E.I. STANDARDS FOR STEAM SURFACE CONDENSERS, 10TH ED.	
DESIGN PRESSURE	15 PSIG & FV	75 PSIG & FV
DESIGN TEMPERATURE	250°F	150°F
CORROSION ALLOWANCE	1/8" ON C/S	1/4" ON C/S
RADIOGRAPHIC EXAMINATION	NONE	SPOT
FINAL TEST PRESSURE	*FILLED W/WATER	112.5 PSIG
INSPECTION	HOLTEC & CUSTOMER	

*SHELL SIDE HYDROTEST IS BY OTHERS (IN THE FIELD)

MAJOR CONDENSER SHIPPING COMPONENTS

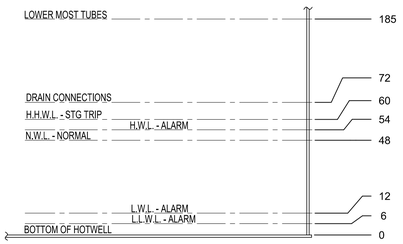
SEE SHIPMENT DRAWING 8286 FOR WEIGHTS, DIMENSIONS, AND OTHER INFO

ITEM	QTY.
HOTWELL	1
LOWER SHELL	1
UPPER SHELL	1
DOME HALF	2
STEAM INLET SPOOL	1
INLET/OUTLET WATER BOX	2
RETURN WATER BOX	2



SHELLSIDE EXPANSION JOINT DETAIL

CLIPS HAVE BEEN INSTALLED ON THE SHELLSIDE EXPANSION JOINT FOR FIELD TUBESIDE HYDROTESTING. THESE CLIPS HAVE BEEN INSTALLED ON THE RETURN WATERBOX ONLY AND ARE TO BE REMOVED AFTER THE HYDROTEST (BY OTHERS).



HOTWELL LEVELS

UNLESS OTHERWISE SPECIFIED
ALL DIMENSIONS ARE IN INCHES. BRACKETED [ ] DIMENSIONS ARE IN mm.
DO NOT SCALE DRAWING.
INTERPRET DIMENSIONING AND TOLERANCING PER ASME Y14.5M-1994.
TOLERANCES PER APPLICABLE H.E.I. STANDARD.

△X REVISION IDENTIFIER
(X) NOZZLE IDENTIFIER
THIRD ANGLE PROJECTION

HOLTEC INTERNATIONAL
POWER PLANT COMPONENTS DIVISION
HOLTEC CENTER
555 LINCOLN DRIVE WEST
MARLTON, NJ 08053 (USA)

PROJECT / CLIENT: GAINESVILLE RENEWABLE ENERGY CENTER, FAGEN, INC.
TITLE: GENERAL ARRANGEMENT DRAWING FOR STEAM SURFACE CONDENSER
CLIENT JOB NO.: 104009
ENGINEER: ZACHRY ENGINEERING CORPORATION
CLIENT P.O. NO.: 554652
LOCATION: GAINESVILLE, FLORIDA
CLIENT DOC. NO.: O-A014200-SPCG481116

SIZE	PROJECT NO.	DRAWING NO.	SHEET	REV.
D	2135	8284	8 OF 8	7

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