

HOLTEC PROPRIETARY

D

C

B

HOLTEC PROPRIETARY

HOLTEC PROPRIETARY

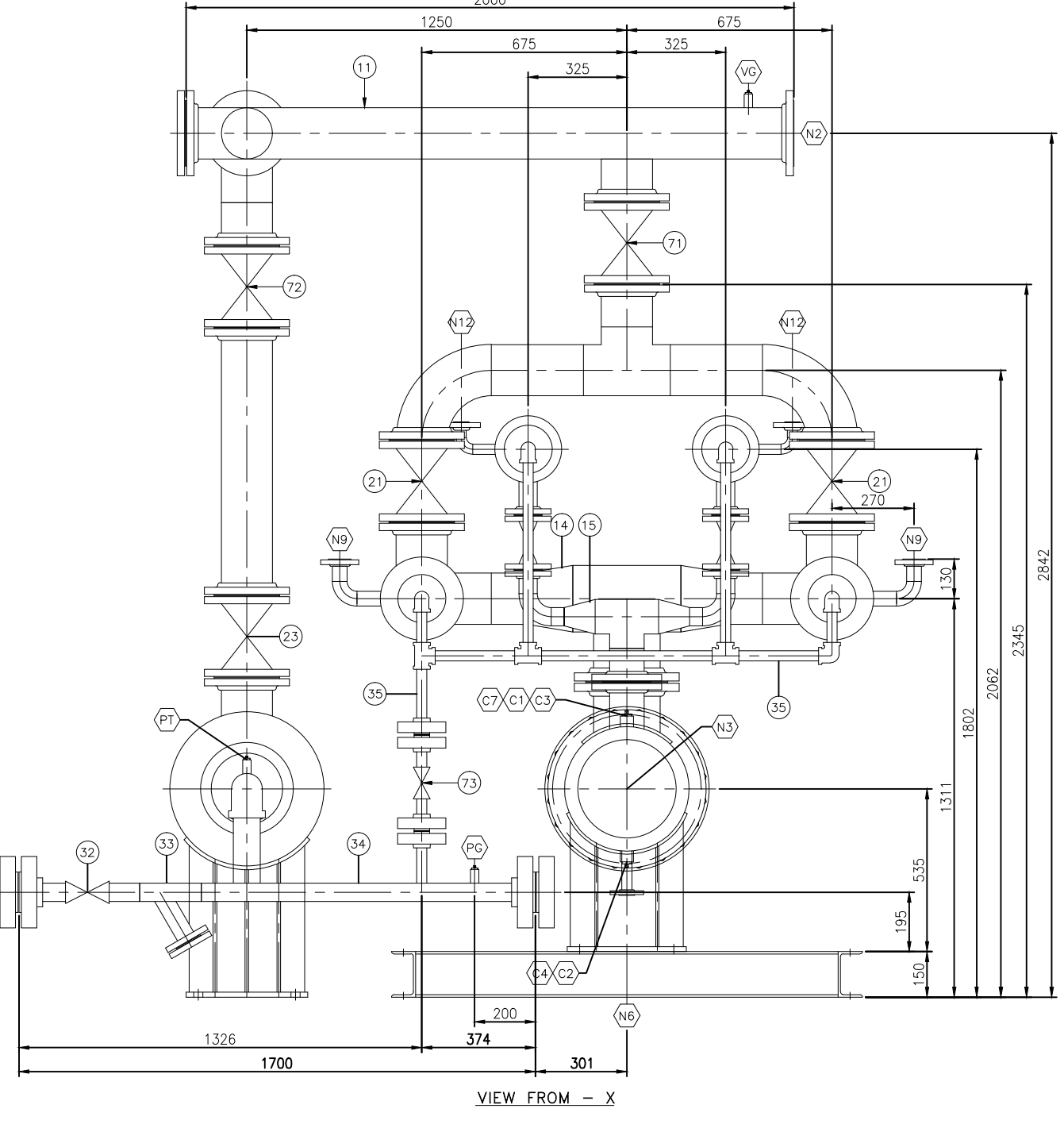
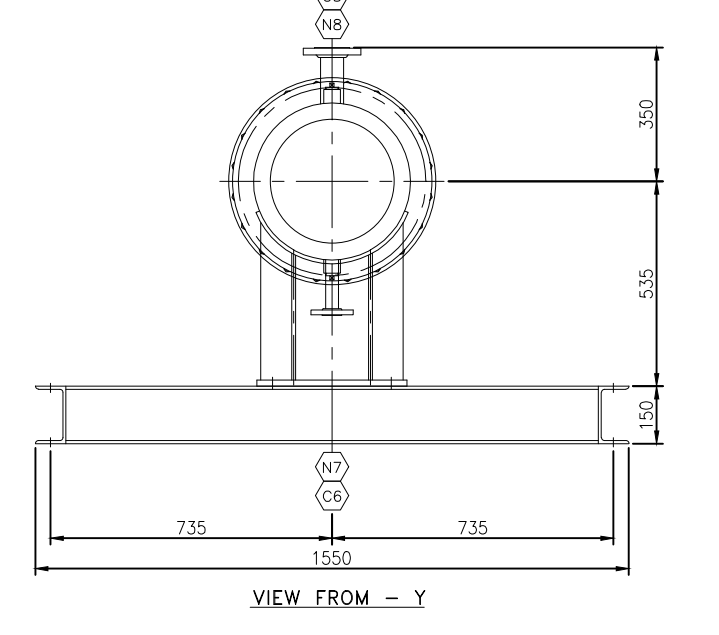
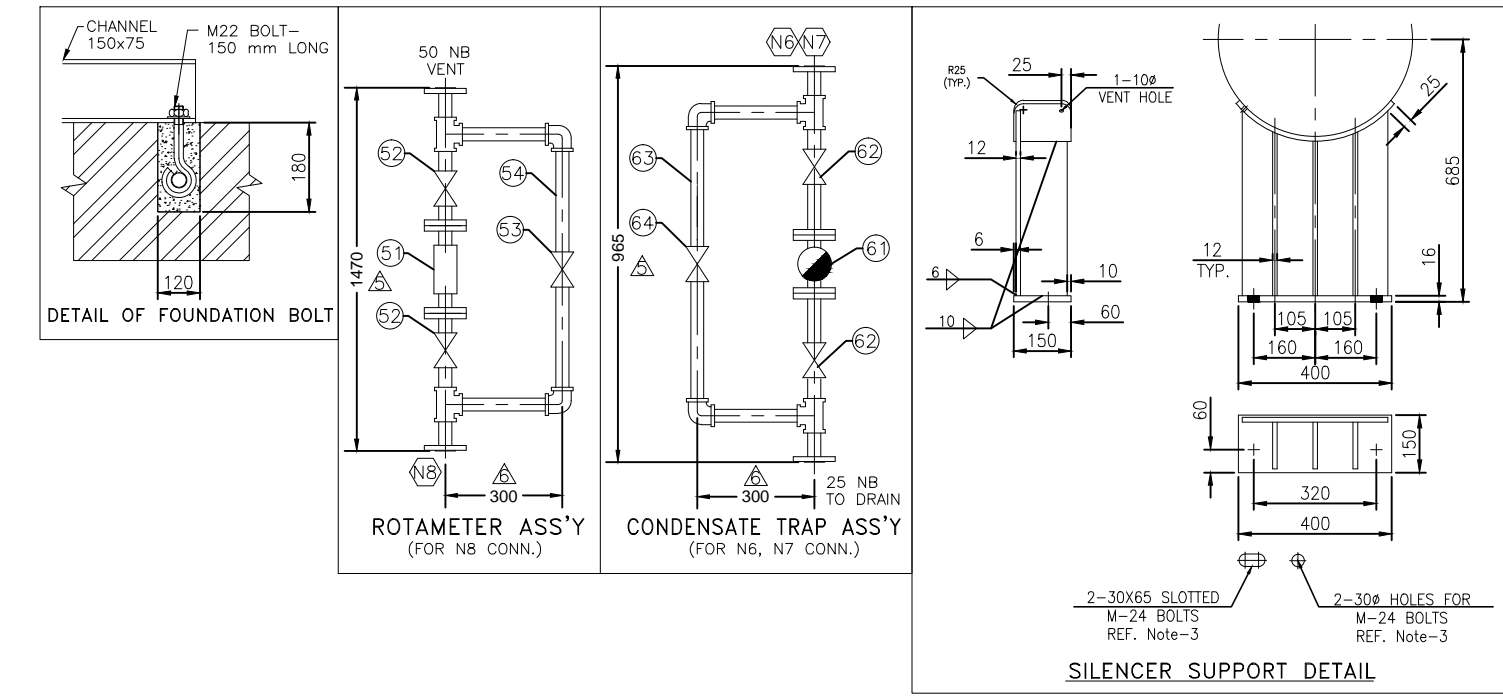
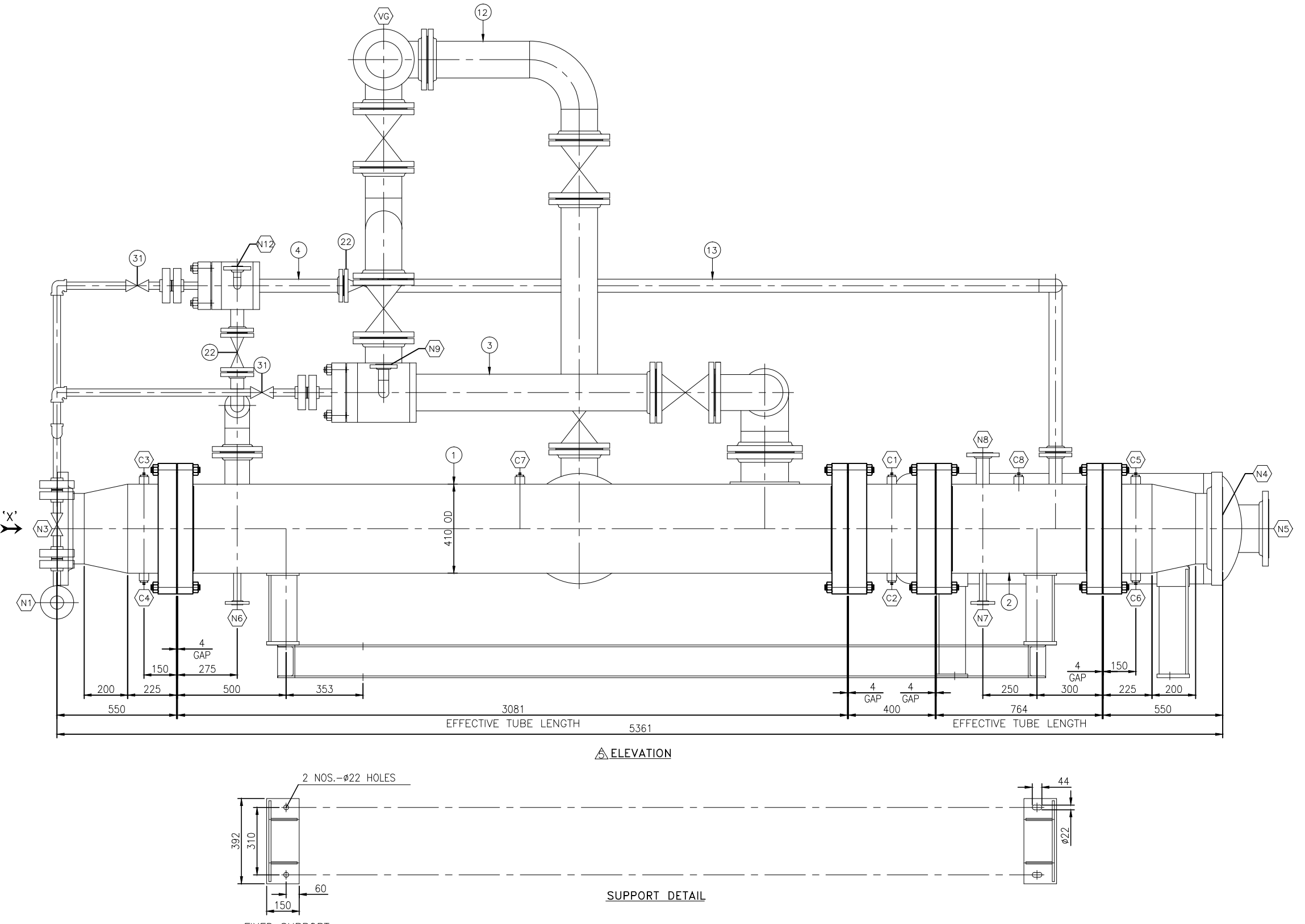
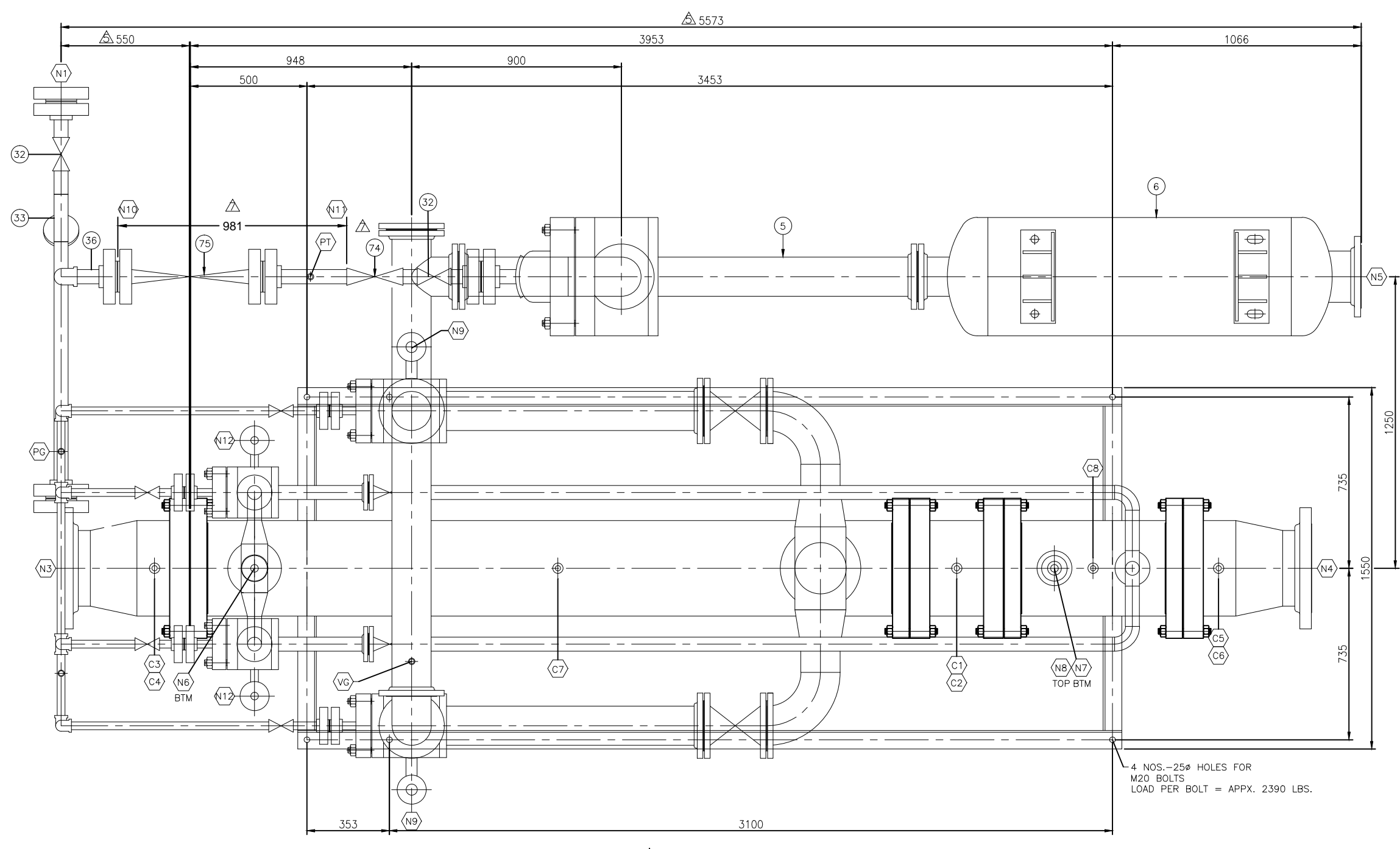
D

C

B

HOLTEC PROPRIETARY

8 7 6 5 4 3 2 1



DESIGN DATA

DESIGN CODE : HEI FOR THERMAL SIZING ASME SECTION VIII DIV.1 ED. 2010 & TEMA CLASS C NINTH ED. 2007, TEMA TYPE - BEM

SUCTION PRESS. (HEI/DESIGN)	"HG (A)	1"
SUCTION TEMP. (HEI/DESIGN)	"F	71.5
SUCTION FLOW RATE (W.V.)	LBS/HR	123.6
(AIR)	LBS/HR	56.2
MOTIVE STEAM PRESS.	PSIG	1575
MOTIVE STEAM TEMP.	"F	1000
MOTIVE STEAM CONSU. (TOTAL)	LB/HR	735
STEAM CONSU. FOR START-UP EJECTOR	LB/HR	3000
EVACUATION TIME	MIN.	30
SURFACE AREA (INTER/AFTER)	375/85	
INTER COND. CONDENSATE TEMP.(INLET) (MIN/NOR/MAX.)	"F	108.5/108.5/108.5
INTER COND. CONDENSATE TEMP.(OUTLET) (MIN/NOR/MAX.)	"F	113.18/110.85/110.17
AFTER COND. CONDENSATE TEMP.(INLET) (MIN/NOR/MAX.)	"F	113.18/110.85/110.17
AFTER COND. CONDENSATE TEMP.(OUTLET) (MIN/NOR/MAX.)	"F	115.2/112.03/111.01
CONDENSATE QTY.	LB/HR	320,000/693,000/900,000
NO. FASSES (SHELL SIDE/TUBE SIDE)	-	7/1
RADIOGRAPHY	SPOT	NONE
PWHT	NONE	NONE
CLEANLINESS FACTOR	%	85
JOINT EFFICIENCY	%	70
CORROSION ALLOWANCE SHELL SIDE (CS)	MM	3
TUBE SIDE (EXCEPT TUBES)	MM	3
ASME CODE STAMP (FOR INTER & AFTER) REQUIRE	YES	

NOZZLE SCHEDULE	
SR.	SIZE
N1	DN 50 1 160 CL. 2500 SORF STEAM INLET
N2	DN 150 1 80 CL. 150 SORF VAPOUR INLET
N3	DN 300 1 14THK. CL. 300 SORF WATER INLET
N4	DN 300 1 14THK. CL. 300 SORF WATER OUTLET
N5	DN 200 1 40 CL. 150 SORF TO ATM
N6	DN 25 1 160 CL. 150 SORF CONDENSER DRAIN (SHELL)-INTER
N7	DN 25 1 160 CL. 150 SORF CONDENSER DRAIN (SHELL)-AFTER
N8	DN 50 1 160 CL. 150 SORF VAPOR OUTLET - AFTER
N9	DN 40 2 160 CL. 150 SORF SAFETY RELIEF VALVE CONN. (Y-EJECTOR)
N10	DN 50 1 160 CL. 2500 SORF CLIENT TERMINATION POINT
N11	DN 50 1 160 CL. 2500 SORF CLIENT TERMINATION POINT
N12	DN 25 2 160 CL. 300 SORF SAFETY RELIEF VALVE CONN. (Z-EJECTOR)
C1	DN 20 1 VENT (TUBE)-WATER BOX
C2	DN 20 1 DRAIN (TUBE)-WATER BOX
C3	DN 20 1 VENT (TUBE)-INTER
C4	DN 20 1 DRAIN (TUBE)-INTER
C5	DN 20 1 VENT (TUBE)-AFTER
C6	DN 20 1 DRAIN (TUBE)-AFTER
C7	DN 20 1 EXTRA CONN. (SHELL)-AFTER
C8	DN 20 1
C9	DN 15 1 CL. 3000 NPT COUP. WITH PLUG SILENCER DRAIN

INSTRUMENTS, CONNECTION	
SR.	SIZE
VG	DN 15 2 VACUUM GAUGE CONN.
PG	DN 15 1 CL. 3000 NPT COUP. WITH PLUG PRESS. GAUGE CONN.
PT	DN 15 1 PRESSURE TRANSMITTER

CLIENT'S SCOPE	
SR.	DESCRIPTION
75	THROTTLING VALVE (BY CLIENT) 50 1 SA 182 F22 FLANGED-2500#
74	PNEUMATIC VALVE (BY HOLTEC) 50 1 SA 182 F22 S.W. - 800#
73	PNEUMATIC VALVE (BY HOLTEC) 25 1 SA 182 F22 S.W. - 1500#
72	PNEUMATIC VALVE (BY HOLTEC) 150 1 SA 216 GR.WCB FLANGED-150#
71	PNEUMATIC VALVE (BY HOLTEC) 150 1 SA 216 GR.WCB FLANGED-150#
TRAP ASS'Y	
64	GATE VALVE 25 1 SA 105 S.W. - 800#
63	DIST. PIECE 25 SA 106 GR. B FLANGED/WELDED
62	GLOBE VALVE 25 2 SA 105 S.W. - 800#
61	CONDENSATE TRAP 25 1 SA 216 GR.WCB FLANGED - 150#
ROTAMETER ASS'Y	
54	DIST. PIECE 50 SA 106 GR. B FLANGED/WELDED
53	GATE VALVE 50 1 SA 105 S.W. - 800#
52	GLOBE VALVE 50 2 SA 216 GR.WCB FLANGED - 150#
51	ROTA METER 50 1 GLASS TUBE FLANGED - 150#
INSTRUMENT	
46	PRESSURE TRANSMITTER (BY CLIENT) 1/2"NPT 1 - SCREWED
45	ISO. VALVE FOR VG 15 2 SA 105 S.W. - 800#
44	MANIFOLD VALVE FOR - PG 1/2"NPT 1 SS 304 SCREWED
43	MANIFOLD VALVE FOR - VG 1/2"NPT 2 SS 304 SCREWED
42	PRESS. GAUGE 1/2"NPT 1 6"DIAL(0 TO 2275 PSI) SCREWED
41	VACUUM GAUGE 1/2"NPT 2 6"DIAL(-14.22 TO 0 PSI) SCREWED
STEAM PIPING	
37	ISO. VALVE FOR PG 15 1 SA 182 F22 S.W. - 800#
36	DIST. PIECE 50 1 SA 335 GR. P22 FLANGED/WELDED
35	DIST. PIECE 25 1 SA 335 GR. P22 FLANGED/WELDED
34	STEAM HEADER 50 1 SA 335 GR. P22 FLANGED/WELDED
33	Y-TYPE STRAINER 50 1 SA 217 GR.WCB/WC9 B.W. - 2500#
32	GLOBE VALVE 50 2 SA 182 F22 S.W. - 2500#
31	GLOBE VALVE 25 2 SA 182 F22 S.W. - 2500#
VALVES	
28	SAFETY RELIEF VALVE 25x50 1 SA 216 GR.WCB FLANGED-300#x150#
27	SAFETY RELIEF VALVE 40x50 1 SA 216 GR.WCB FLANGED-150#x150#
26	SILENCER DRAIN VALVE 15 1 SA 105 S.W. - 2500#
25	VENT GATE VALVE - SHELL 20 6 SA 105 S.W. - 800#
24	VENT & DRAIN VALVE - TUBE 20 2 SA 105 S.W. - 800#
23	GATE VALVE 150 1 SA 216 GR.WCB FLANGED-150#
22	GATE VALVE 50 2 SA 216 GR.WCB FLANGED-150#
21	GATE VALVE 150 2 SA 216 GR.WCB FLANGED-150#
PIPING	
15	REDUCER 100x50 1 SA 105
14	REDUCER 200x150 1 SA 105
13	DIST. PIECE 50 1 CARBON STEEL FLANGED/WELDED-150#
12	DIST. PIECE 150 1 CARBON STEEL FLANGED/WELDED-150#
11	SUCTION HEADER 150 1 SA 106 GR. B FLANGED - 150#
MAIN ITEM	
6	SILENCER 150x200 1 SA 516 GR.70 FLANGED
5	HODGER EJECTOR 150 1 SEE DETAIL M.O.C. FLANGED
4	Z-EJECTOR 150 1 SEE DETAIL M.O.C. FLANGED
3	Y-EJECTOR 150 1 SEE DETAIL M.O.C. FLANGED
2	AFTER CONDENSER 410 OD 1 SEE DETAIL M.O.C. FLANGED
1	INTER CONDENSER 410 OD 1 SEE DETAIL M.O.C. FLANGED

THIS DRAWING IS THE INTELLECTUAL PROPERTY OF HOLTEC INTERNATIONAL. IT IS PROVIDED TO THE RECIPIENT UNDER THE EXPLICIT CONDITION THAT IT WILL NOT BE DUPLICATED IN WHOLE OR PART, OR GIVEN TO OTHERS WITHOUT WRITTEN CONSENT OF HOLTEC INTERNATIONAL.

PROJECT / CLIENT: GAINESVILLE RENEWABLE ENERGY CENTER, FAGEN, INC.

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

CLIENT JOB NO.: 104009

ENGINEER: ZACHRY ENGINEERING CORPORATION

CLIENT P.O. NO.: 554652

LOCATION: GAINESVILLE, FLORIDA

CLIENT DOC. NO.: O-A014200-SPCG481116

SIZE: 2135

PROJECT NO.: 8402

DRAWING NO.: 1 OF 1

SHEET NO.: 7

FILE PATH: G:\PROJECTS\2135-0-DRAWINGS\JAE\B402_REV 7

PLOTTED July 13, 2012 11:43:06 AM BY TY PETRAKIS

MECHANICAL DESIGN DATA

DESIGN PRESSURE	PSIG	DESIGN TEMP.	"F	HYD. PRESSURE	PSIG
EJECTOR	100 & FV	550	130	130	130
CONDENSER	100 & FV	550	130	130	130

M.O.C. OF EJECTORS

No.	DISCRPTION	M.O.C.
1	NOZZLE	SA 479 TP 304
2	SUCTION CHAMBER	SA 106 GR.70 SA 516 GR. 70
3	DIFFUSER	SA 105 SA 516 GR. 70
4	NOZZLE HOLDER	SA 312 TP 304
5	FLANGES	SA 105 - PROCESS SIDE - 2500# SA 105 - PROCESS SIDE - 150#
6	GASKET	STEAM SIDE - SPIRAL WOUND PROCESS SIDE - NON ASBESTOS

M.O.C. OF INTER+AFTER CONDENSERS

No.	DISCRPTION	M.O.C.	SIZE
1	MAIN SHELL	SA 516 GR 70	10 THK. x 410 O.D.
2	CHANNEL SHELL	SA 516 GR 70	14 THK. x 410 O.D.
3	TUBE SHEET	SA 240 TP 304/SA 182 F 304	85 THK. x 600 O.D.
4	TUBE	SA 249 TP 304	19.05 OD x 20 BWG
5	TUBE PITCH	-	Δ 23.81 mm
6	TUBE INTER	-	3.109 MTRS. x 192 NOS.
7	TUBE AFTER	-	7.92 MTR. x 192 NOS.
8	BODY FLANGE	SA 516 GR 70/SA 266 CL.2	85 THK. x 600 O.D.
9	BAFFLE	-	-
10	NOZZLE PIPE	SA 106 GR. B	-
11	NOZZLE FLANGE	SA 105	-

GENERAL NOTES :

- ALL DIMENSIONS ARE IN MM.
- ALL NOZZLE FLANGES SHALL BE AS PER ASME B16.5
- ALL ISOLATION VALVES FOR PRESSURE AND VACUUM GAUGES WILL BE OF GLOBE TYPE.
- FOUNDATION BOLTS NUT WITH NUTS WILL BE SUPPLIED LOOSE.
- THE HYDRO TEST PRESS. SHALL BE HELD FOR AT LEAST 1 HR. TEST FLUID SHALL BE POTABLE WATER. WATER USED FOR SS SHALL NOT CONTAIN MORE THAN 30 PPM OF CHLORIDES.
- MACHINED, POLISHED & OTHER FERROUS & NON FERROUS SURFACES WHICH ARE NOT TO BE PAINTED SHALL BE COATED WITH RUST PREVENTIVE COMPOUND SUCH AS DEARBORN CHEMICAL "NO-OX-ID", HOUGHTON HOUGHTON "RUST WETO344", RUST-OLEUM "R-9", SHELL ERSIS OIL OR EQUIVALENT.
- FLANGE OPENINGS SHALL BE PROVIDED WITH FULL FLANGE DIA. 5 THK. PROTECTIVE COVERS.
- ASBESTOS MATERIAL SHALL NOT BE USED.
- NOZZLE UP TO DN 50 WILL BE STIFFENED WITH 2 NOS. 40W x 6 THK. STIFFENERS TO BE WELDED AT 90° APART.

PAINTING:
FOR C.S. MATERIAL: SURFACE PREPARATION: BLAST CLEANING AS PER SA 2 1/2 PRIMER: 1 COAT OF ZINC RICH PRIMER COMPATIBLE WITH DESIGN TEMPERATURE. FINAL PAINT: HEAT RESISTANT ALUMINUM PAINT (RAL 9006).
FOR S.S. MATERIAL: NIL

NO.	REVISIONS	DATE
7	REVISED CLASS RATINGS OF ITEMS 73 & 74, REVISED VIEW OF SPOOL PIECE FOR THROTTLING VALVE	JULY 13, 2012
6	REVISED PER CLIENT COMMENTS	MAY 17, 2012
5	REVISED FOR CLIENT REVIEW	MAY 2, 2012
4	REVISED FOR CLIENT REVIEW	APR 10, 2012
3	REVISED FOR CLIENT REVIEW	APR 4, 2012
2	REVISED PER CLIENT COMMENTS	FEB 29, 2012
1	REVISED PER CLIENT COMMENTS AND PER INTERNAL UPDATES	JAN 27, 2012
0	INITIAL RELEASE FOR CLIENT REVIEW	DEC 1, 2011
REV	DESCRIPTION	DATE APVD

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.

