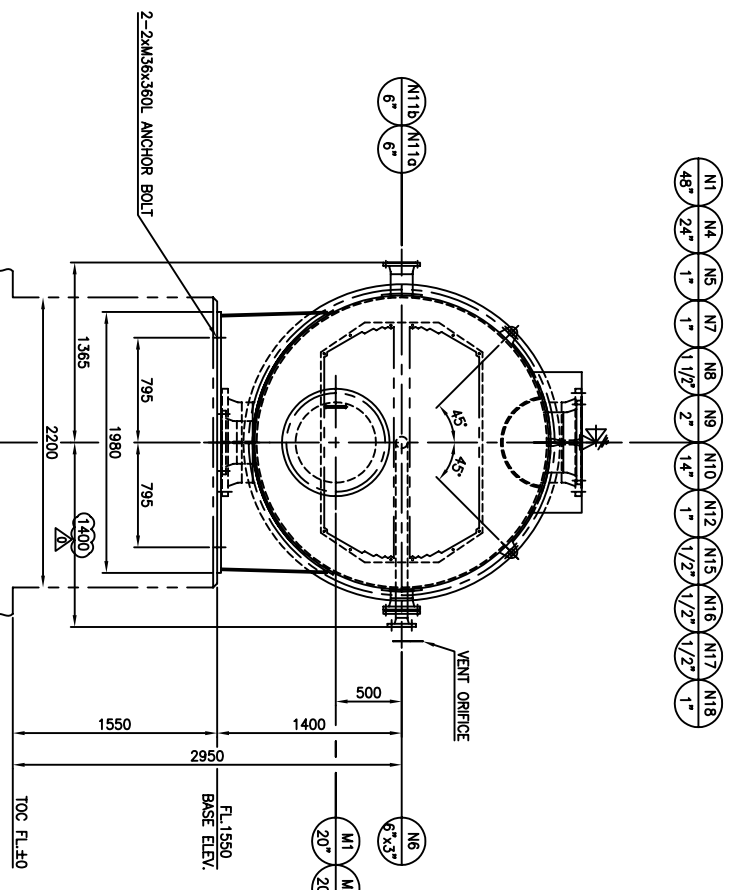
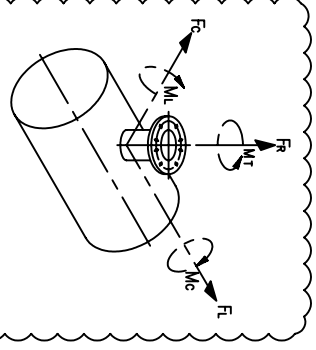


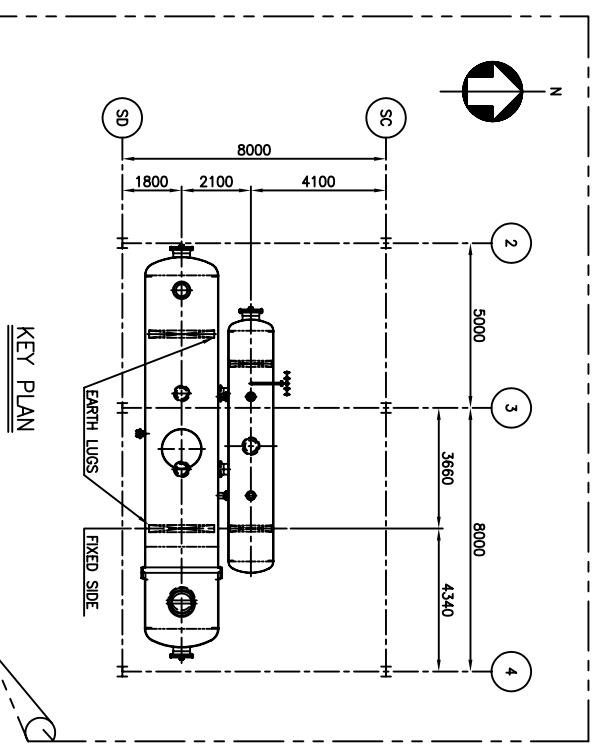
FRONT VIEW (ELEVATION)

\* ALLOWABLE NOZZLE LOADS.

NOZZLE NO.	NOZZLE SIZE	Fw (kgf)	Fv (kgf)	Mw (kgf.m)	Mv (kgf.m)
N1	48"	5,121	6,272	16,600	8,804
N2a,b	12"	2,790	3,417	3,956	2,098
N3,N4	14"	3,401	4,165	5,167	2,740
N6	6"	938	1,149	822	436
N8	2"	293	359	154	82
N10	14"	1,903	2,330	2,891	1,533
N10a,b	6"	1,561	1,912	1,367	725
N14	2"	293	359	154	82
N19	2"	293	359	154	82



SIDE VIEW (VIEW "A")



- NOTES
- ALL OF FLANGE BOLT HOLES SHALL BE STRADDLE NORTH-SOUTH C.L OR NATURAL HORIZONTAL & VERTICAL C.L OF H/EX.
  - GASKET CONTACT SURFACE OF NOZZLE FLANGE SHALL BE SMOOTH FINISH 125~250Rg & GIRTH FLANGE 125~250 ARH.
  - BASE LINE(BL) INDICATES THE GASKET CONTACT SURFACE OF GIRTH FLANGE.

MATERIAL LIST

PART	MATERIAL	MATERIAL
SHELL & HEAD, P/D	A516-70	SS304
CHANNEL	A516-70	SS304
CHANNEL HEAD	A516-70	A28694
SKIDLE	SS400	A213-T304
INTERNAL VENT	A106-B	GASKET
NOZZLE PIPE	A106-B	EARTH LUG
Baffle	SS304	Baffle SPACER
IMPINGEMENT Baffle	SS400	LIFTING LUG
ORIFICE	SS304	

**FOR CONSTRUCTION**

DAEUM INDUSTRIAL CO., LTD. (Seoul, Korea)

인원공업에너지주식회사 (Inwon Energy Co., Ltd.)

경남기공주식회사 (Gyeongnam Kigong Co., Ltd.)

Power Hx Tech Co., Ltd.

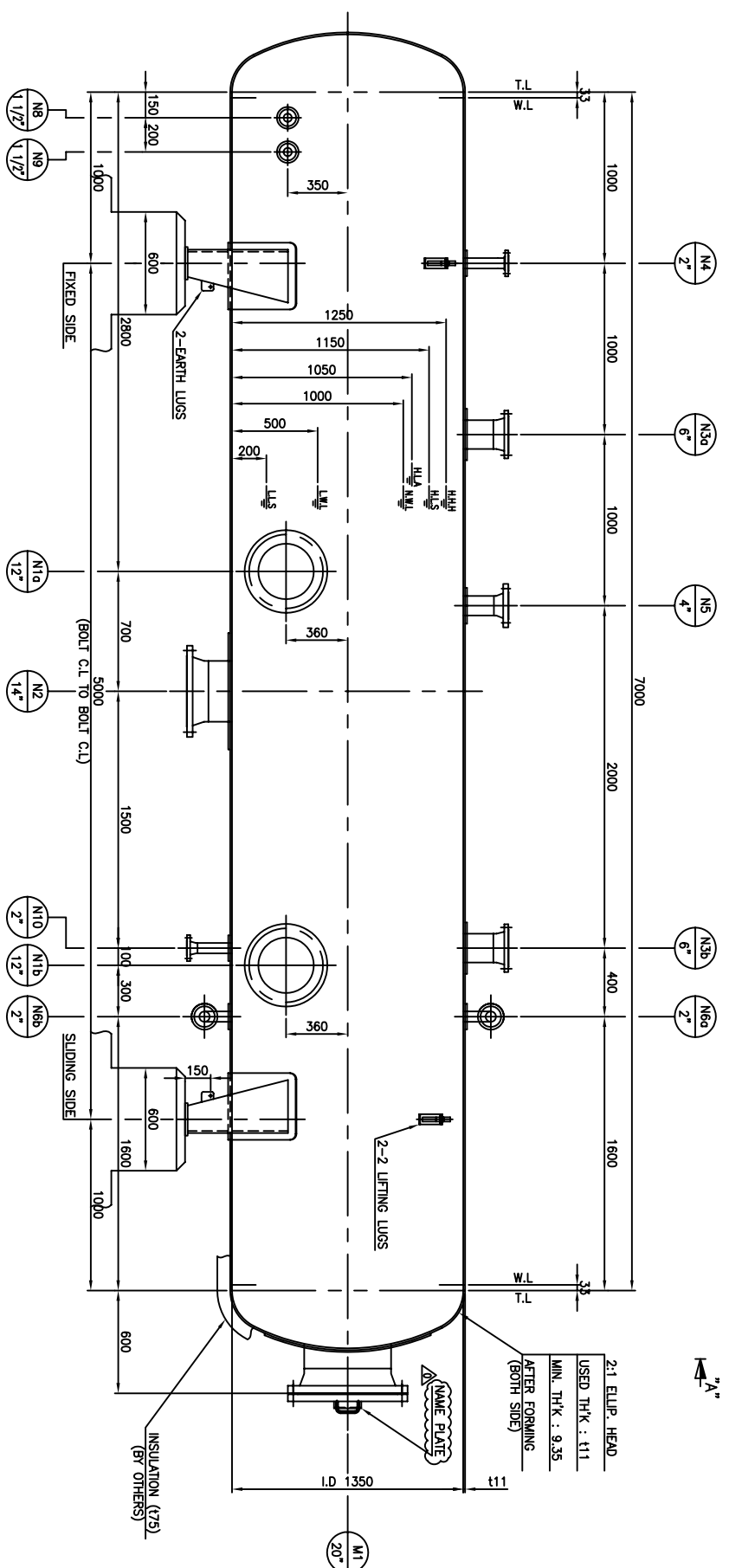
DH HEATER #1 GENERAL ASSEMBLY

NOZZLE SPECIFICATION

NOZZLE NO.	NO.	SIZE	SP. MATERIAL	RATING	TYPE	FRANGING CL.	FROM	DESIGNATION
M1	1	20"	A516-70	ANSI 150#	W/N	R.F.	SEE DWG.	SHELL SIDE MANHOLE
M2	1	20"	A516-70	ANSI 150#	W/N	R.F.	SEE DWG.	CHANNEL SIDE MANHOLE
N1	1	48"	A516-70	-	-	-	1515	STEAM INLET
N1	1	48"	A516-70	ANSI 150#	W/N	R.F.	1365	CONDENSATE OUTLET
N3	1	24"	A516-70	ANSI 150#	W/N	R.F.	1365	DH WATER INLET
N4	1	24"	A516-70	ANSI 150#	W/N	R.F.	1365	DH WATER OUTLET
N5	1	1"x2"	A106-B	ANSI 150#	W/N	R.F.	1365	SAFETY VALVE
N6	1	6"x3"	A106-B	ANSI 150#	W/N	R.F.	1365	N. COND GAS OUTLET
N7	1	1"	A106-B	ANSI 300#	SW	R.F.	1365	INLET (CONDENSATE PUMP)
N8	1	1 1/2"	A106-B	ANSI 150#	SW	R.F.	1365	INLET (CONDENSATE PUMP)
N9	1	2"	A106-B	ANSI 300#	SW	R.F.	1365	VENT INLET (DH HEATER #2)
N10	1	14"	A106-B	ANSI 150#	W/N	R.F.	1365	INLET (DH HEATER #2)
N10a,b	2	6"	A106-B	ANSI 150#	W/N	R.F.	1365	EQUALIZER
N12	1	1"	A106-B	ANSI 150#	SW	R.F.	1365	INLET (N2 GAS)
N13	1	1"	A106-B	ANSI 150#	SW	R.F.	1365	CHANNEL SIDE VENT
N14	1	2"	A106-B	ANSI 150#	SW	R.F.	1365	CHANNEL SIDE DRAIN
N15	1	1/2"	A106-B	ANSI 150#	SW	R.F.	1365	PI
N16	1	1/2"	A106-B	ANSI 150#	SW	R.F.	1365	PI
N17	1	1/2"	A106-B	ANSI 150#	SW	R.F.	1365	PI
N18	1	1"	A106-B	ANSI 150#	SW	R.F.	1365	SHELL SIDE VENT
N19	1	2"	A106-B	ANSI 150#	SW	R.F.	1365	SHELL SIDE DRAIN

DESIGN DATA

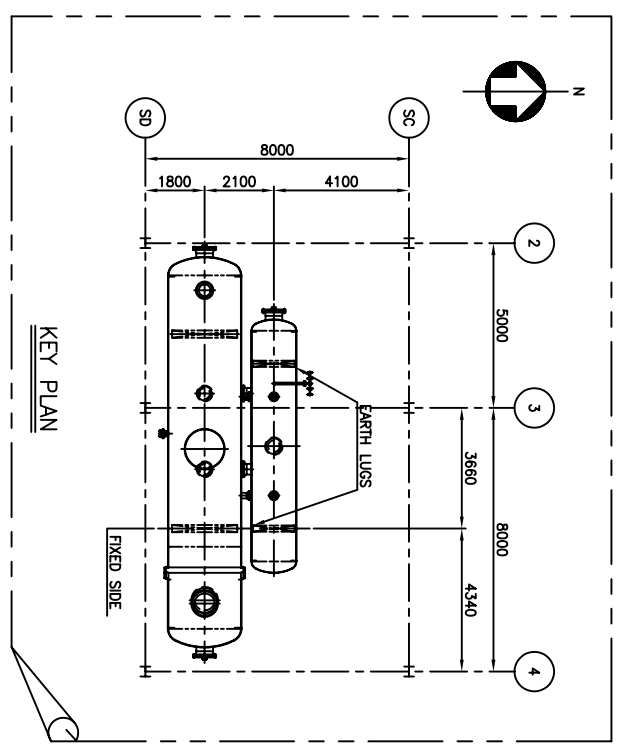
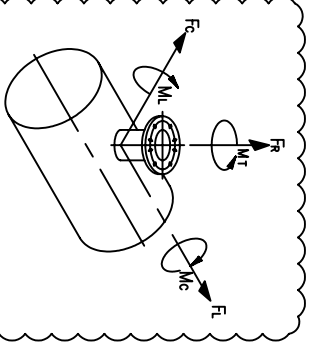
CODE	ZONE	ASME SEC. VIII DIV.1 + HEI
TEMA	C	
NO. REQUIRED	1 (ONE)	EFFICIENT AREA SURFACE AREA
LOAD		DESIGN POINT 2
		SHELL SIDE
		DH WATER
		CONDENSATE
		FLOW RATE
		DESIGN
		OPERATING
		HYDRO. TEST
		PNEUM. TEST
		TEMP.
		DESIGN
		OPERATING
		CORROSION ALLOWANCE
		RADIOPACITY
		JOINT EFFICIENCY
		POST WELD HEAT TREATMENT
		TYPE OF HEAD
		NO. OF PASS PER SHELL
		INSULATION
		TUBE BUNDLE
		EMPTY
		ERECTOR
		OPERATING
		FILL WATER
		PAINTING
		MO.U.T.
		WIND VELOCITY
		EARTHQUAKE FACTOR



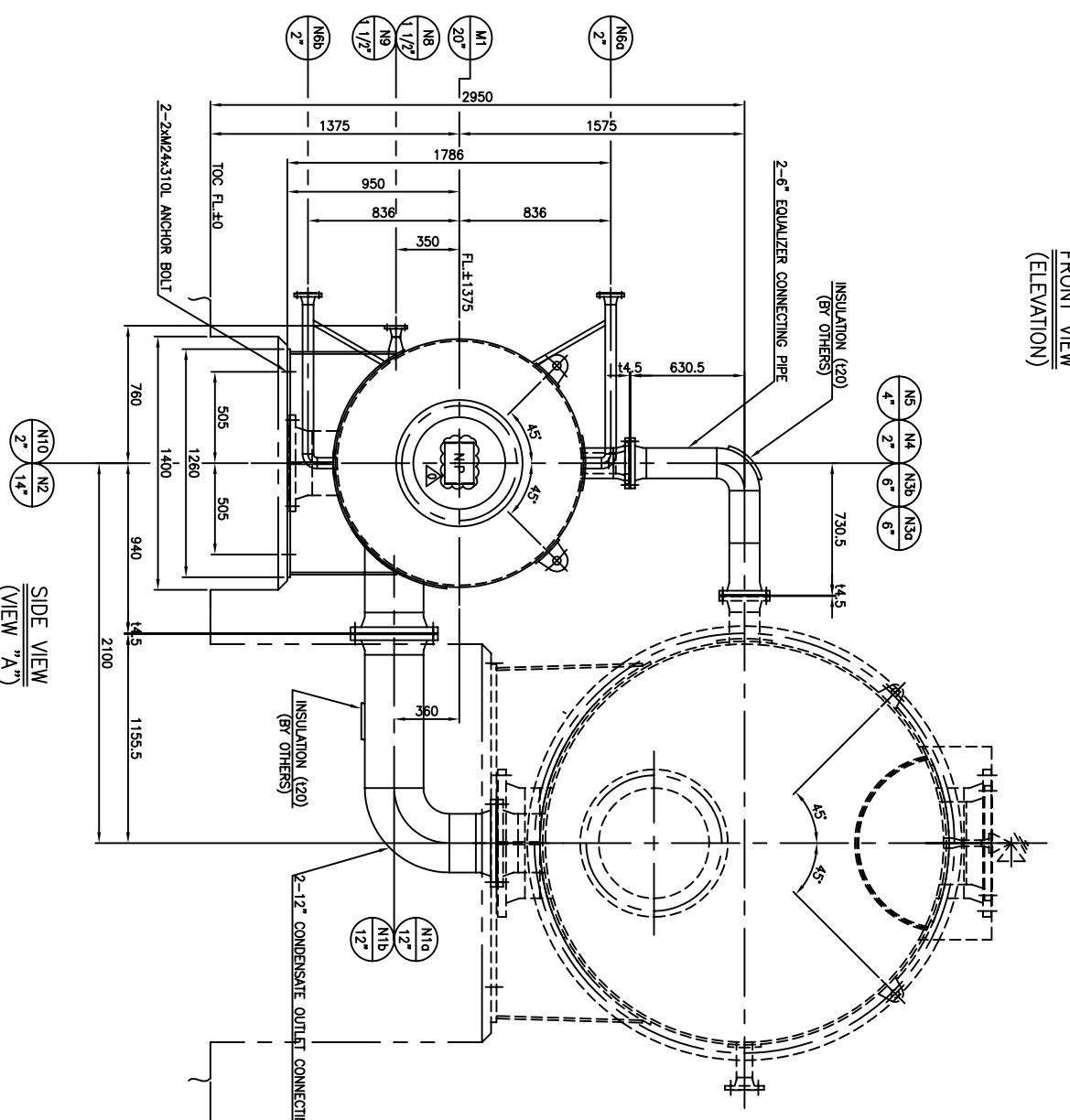
FRONT VIEW  
(ELEVATION)

\* ALLOWABLE NOZZLE LOADS.

NOZZLE NO.	NOZZLE SIZE	F <sub>w</sub> (kgf)	F <sub>v</sub> (kgf)	F <sub>h</sub> (kgf)	M <sub>w</sub> (kgm)	M <sub>v</sub> (kgm)	M <sub>h</sub> (kgm)
N1a,b	12"	2,232	2,733	2,733	3,165	1,678	1,678
N2	14"	2,172	2,660	2,660	3,301	1,750	1,750
N3a,b	6"	938	1,149	1,149	822	436	436
N4,N10	2"	293	359	359	154	82	82
N5	4"	478	586	586	419	222	222



KEY PLAN



SIDE VIEW  
(VIEW "A")

DESIGN DATA

CODE	ASME SEC. VIII DIV.1
TEMA	-
TYPE	HORIZONTAL
NO. REQUIRED	1 (ONE)
CAPACITY	10.66 M <sup>3</sup>
KIND OF FLUID	STEAM / CONDENSATE
LIQUID DENSITY	961.5 KG/M <sup>3</sup>
DESIGN	3.5 / FV
OPERATING	0.87
PRESSURE	5.25 KG/CM <sup>2</sup> A
HYDRO. TEST	5.25 KG/CM <sup>2</sup> G
PNEUM. TEST	-
TEMP.	200 °C
DESIGN	95.17 °C
OPERATING	-
CORROSION ALLOWANCE	1.6 MM
RADIOGRAPHY	(S/N)
JOINT EFFICIENCY	0.85 / 1.00
POST WELD HEAT TREATMENT	PER CODES
TYPE OF HEAD	2-1 ELLIP.
NO. OF PASS PER SHELL	1 (ONE)
INSULATION	75 MM
EMPTY	4,540 KG
ERECTOR	4,080 KG
OPERATING	12,130 KG
WEIGHT	15,110 KG
PAINTING	SEE PAINTING PROCEDURE
METAL TEMP.	-
WIND VELOCITY	N/A
EMBUROUSE FACTOR	1.44 (배율)

NOZZLE SPECIFICATION

NOZZLE REQ'D NO.	PIPE NO.	SIZE	SCH.	MATERIAL	RATING	TYPE	FRANG.	CL.	DESIGNATION
M1	1	20"	111	A516-70	ANSI 150#	W/N	R.F.	SEE DWG.	MANHOLE
N1a,b	2	12"	80	A106-B	ANSI 150#	W/N	R.F.	940	CONDENSATE INLET
N2	1	14"	80	A106-B	ANSI 150#	W/N	R.F.	940	CONDENSATE OUTLET
N3a,b	2	6"	80	A106-B	ANSI 150#	W/N	R.F.	940	EQUALIZER
N4	1	2"	160	A106-B	ANSI 150#	S/W	R.F.	940	INITIAL FILLING
N5	1	4"	80	A106-B	ANSI 300#	W/N	R.F.	940	PUMP MIN. FLOW RETURN
N5a,b	2	2"	80	A106-B	ANSI 150#	W/N	R.F.	940	BRIDLE PIPE CONNECTION
N8	1	1 1/2"	160	A106-B	ANSI 150#	W/N	R.F.	SEE DWG. TI	
N9	1	1 1/2"	160	A106-B	ANSI 150#	W/N	R.F.	SEE DWG. TIT	
N10	1	2"	160	A106-B	ANSI 150#	W/N	R.F.	940	DRAIN

NOTES

1. ALL OF FLANGE BOLT HOLES SHALL BE STRADDLE NORTH-SOUTH C.L. OR NATURAL HORIZONTAL & VERTICAL C.L. OF VESSEL.

Job No.	060353
SIGNED BY :	A - APPROVED
	AW - APPROVED AS NOTED
	WC - WITH COMMENT
	R - REJECTED
DATE	

DAEJUN INDUSTRIAL CO., LTD.

DOCS PERMISSION TO PROCEED OR REVIEW TAKEN ON VENDOR PRINTS SHALL NOT RELIEVE VENDOR FROM ITS RESPONSIBILITIES OR LABELS UNDER THE PURCHASE ORDER.

FOR CONSTRUCTION

PART	MATERIAL	PART	MATERIAL
SHELL & HEAD, PAD	A516-70	SADDLE	SS400
FLANGE	A105	GASKET	SPECIAL WOUND
NOZZLE PIPE	A106-B	B/N	A193-87 / A194-2H
EARTH LUG	SUS304		

인원총괄: 권오성, 도원번호: 1/20, 프로젝트 번호: 060353, VP-100-1-M-VD-111-111, A1

인원총괄: 권오성, 도원번호: 1/20, 프로젝트 번호: 060353, VP-100-1-M-VD-111-111, A1

GENERAL ASSEMBLY

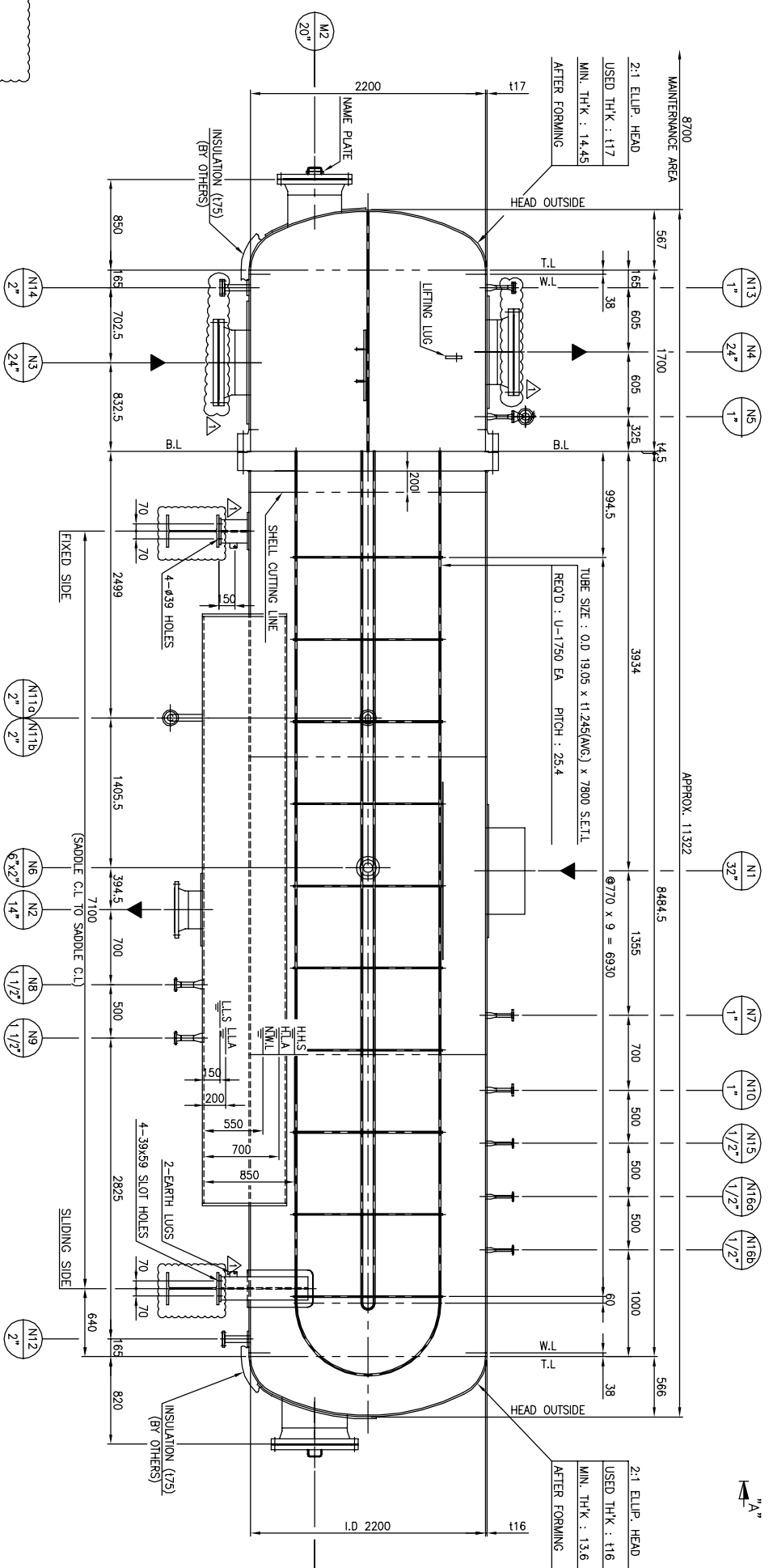
HOT WELL #1

Power Hx Tech Co., Ltd.

DAEJUN INDUSTRIAL CO., LTD. SEUL, KOREA

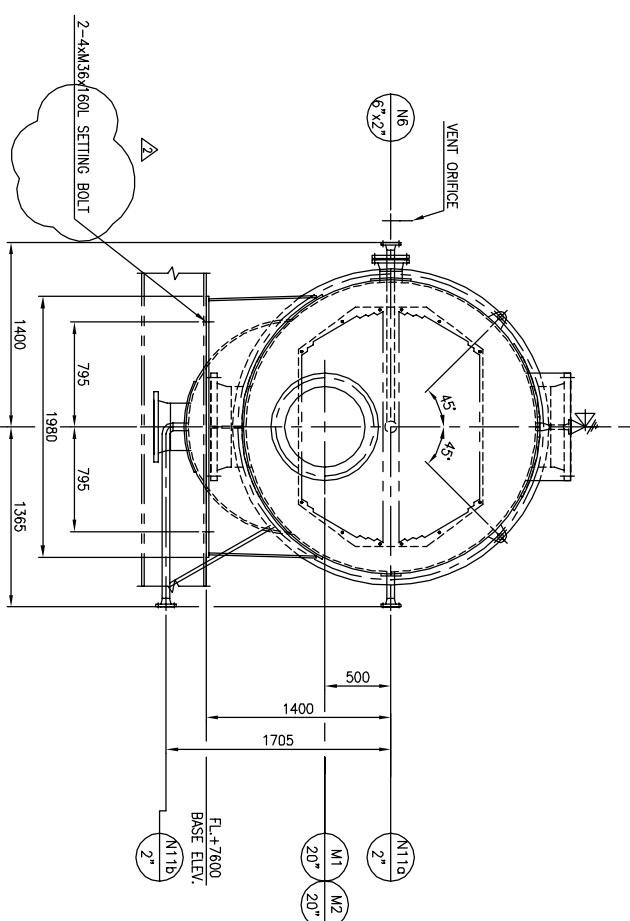
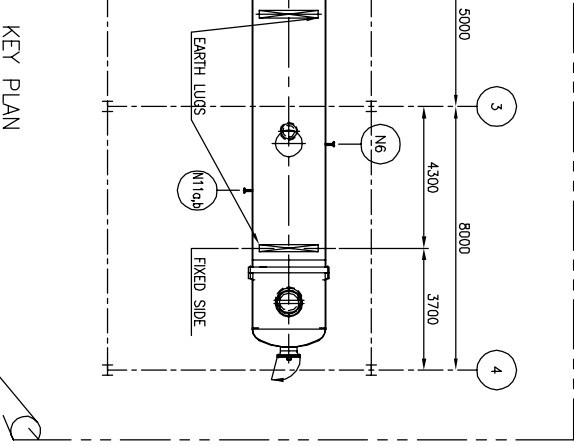
경남 기업 주식회사

인원총괄: 권오성, 도원번호: 1/20, 프로젝트 번호: 060353, VP-100-1-M-VD-111-111, A1



\* ALLOWABLE NOZZLE LOADS.

NOZZLE NO.	NOZZLE SIZE	F <sub>ax</sub> (kgf)	F <sub>ay</sub> (kgf)	F <sub>az</sub> (kgf)	M <sub>ax</sub> (kgf·m)	M <sub>ay</sub> (kgf·m)	M <sub>az</sub> (kgf·m)
N1	32"	3,765	4,611	4,611	9,153	4,854	4,854
N2	14"	1,803	2,208	2,208	2,793	1,453	1,453
N3, N4	24"	4,534	5,553	5,553	9,186	4,872	4,872
N6	6"	888	1,088	1,088	778	413	413
N14	2"	277	340	340	146	77	77



SIDE VIEW (VIEW "A")

- NOTES
1. ALL OF FLANGE BOLT HOLES SHALL BE STRADDLE NORTH-SOUTH C.L OR NATURAL HORIZONTAL & VERTICAL C.L OF H/EX.
  2. GASKET CONTACT SURFACE OF NOZZLE FLANGE SHALL BE SMOOTH FINISH 125-250μg & GIRTH FLANGE 125-250 μARH.
  3. BASE LINE(B.L) INDICATES THE GASKET CONTACT SURFACE OF GIRTH FLANGE

DESIGN DATA

CODE	ASME SEC. VIII DIV.1 + HEI	ZONE	1
TEMP	°C	EFFECTIVE SURFACE AREA	1,747.5 m <sup>2</sup>
NO. REQUIRED	1 (ONE)	DESIGN POINT	1
LOAD		SHELL SIDE	TUBE SIDE
KIND OF FLUID	STEAM	DH WATER	DH WATER
FLOW RATE	117,220 kg/hr		2,012,500 kg/hr
PRESSURE	DESIGN 8.0 / F.V. 2.34	kg/cm <sup>2</sup> g	16.0 kg/cm <sup>2</sup> g
	OPERATING 2.34	kg/cm <sup>2</sup> a	12.0 kg/cm <sup>2</sup> a
	HYDRO. TEST 12.0	kg/cm <sup>2</sup> g	24.0 kg/cm <sup>2</sup> g
TEMP.	DESIGN 360	°C	190 °C
	OPERATING 136.96 / 124.70	°C	89.42 / 120 °C
CORROSION ALLOWANCE	1.6	MM	1.6
RADIOPACITY	(S/H)	SPOT / SEAMLESS	SPOT / SEAMLESS
JOINT EFFICIENCY	(S/H)	0.85 / 1.00	0.85 / 1.00
POST WELD HEAT TREATMENT	PER CODES	PER CODES	PER CODES
TYPE OF HEAD	2-1 ELLIP.		2-1 ELLIP.
NO. OF PASS PER SHELL	1 (ONE)		2 (TWO)
INSULATION		MM	MM
		23,310	75
		40,460	KG
		39,410	KG
		56,360	KG
		82,160	KG
PAINTING		SEE PAINTING PROCEDURE	
M.D.M.T.	-18.2	°C	
WIND VELOCITY	N/A	M/SEC	
EARTHQUAKE FACTOR	1.27(??)		

NOZZLE SPECIFICATION

NOZZLE NO.	RECD	PIPE SIZE	SCH. MATERIAL	RATING	FLANGE TYPE	FRG	DESIGNATION
M1	1	20"	A516-70	ANSI 150#	W/N	R.F.	SEE DWG. SHELL SIDE MANHOLE
M2	1	20"	A516-70	ANSI 300#	W/N	R.F.	SEE DWG. CHANNEL SIDE MANHOLE
N1	1	32"	A516-70	-	-	-	1470 STEAM INLET
N2	1	14"	A106-B	ANSI 150#	W/N	R.F.	1800 CONDENSATE OUTLET
N3	1	24"	A516-70	ANSI 300#	W/N	R.F.	1400 DH WATER INLET
N4	1	24"	A516-70	ANSI 300#	W/N	R.F.	1400 DH WATER OUTLET
N5	1	1"x2"	A106-B	ANSI 150#	W/N	R.F.	1365 SAFETY VALVE
N6	1	6"x2"	A106-B	ANSI 150#/300#	W/N	R.F.	1400 N. COND GAS OUTLET
N7	1	1"	A106-B	ANSI 150#	W/N	R.F.	1365 INLET (NITROGEN GAS)
N8	1	1 1/2"	A106-B	ANSI 150#	W/N	R.F.	1800 TIT
N9	1	1 1/2"	A106-B	ANSI 150#	W/N	R.F.	1800 TIT
N10	1	1"	A106-B	ANSI 150#	S/W	R.F.	1365 SHELL SIDE VENT
N11a,b	2	2"	A106-B	ANSI 150#	W/N	R.F.	1365 BRIDLE PIPE CONNECTION
N12	1	2"	A106-B	ANSI 150#	S/W	R.F.	1365 BRIDLE PIPE DRAIN
N13	1	1"	A106-B	ANSI 300#	S/W	R.F.	1365 CHANNEL SIDE VENT
N14	1	2"	A106-B	ANSI 300#	S/W	R.F.	1365 CHANNEL SIDE DRAIN
N15	1	1/2"	A106-B	ANSI 150#	S/W	R.F.	1365 PI
N16a,b	2	1/2"	A106-B	ANSI 150#	S/W	R.F.	1365 PI

FOR CONSTRUCTION

DAELUM INDUSTRIAL CO., LTD.

인원총업에너지주식회사

Insulation Total Energy Company

SONGDO COMBINED HEAT & POWER PLANT

DAELUM INDUSTRIAL CO., LTD.

경남기림주식회사

Power Hx Tech Co., Ltd.

DH HEATER #2 GENERAL ASSEMBLY

MATERIAL LIST

PART	MATERIAL	PART	MATERIAL
SHELL & HEAD, PAD	A516-70	TUBE SUPPORT PLATE	SUS304
CHANNEL	A516-70	TUBE SHEET	A286B94+SUS304(CAD)
CHANNEL HEAD	A516-70	C. FLANGE	A286B94
SADDLE	SS400	TUBE	A213-TP304
FLANGE	A105	GASKET	SPIRAL WOUND
INTERNAL VENT	A106-B	B/N	A193-87 / A194-2H
NOZZLE PIPE	A106-B	EARTH LUG	SUS304
BARTEL	SUS304	BARTEL SPRAKER	SP
LIFTING POINT BARTEL	SS400	LIFTING LUG	SS400
ORIFICE	SUS304		

DESIGN CHECK

NO.	DATE	DESCRIPTION	CHK	APP
09.01.16		FOR CONSTRUCTION		
08.08.18		FOR CONSTRUCTION		
08.03.19		REV. AS MARKED		
08.03.19		REV. AS MARKED		
07.11.19		FOR APPROVAL		

DESIGN DATA

CODE	TEAM	ZONE	ASME SEC. VIII DIV.1 + HEI
	1 (ONE)	2	
NO. REQUIRED	EFFECTIVE SURFACE AREA	TUBE SIDE	1,255.8 M <sup>2</sup>
KIND OF FLUID	STEAM	DH WATER	
FLOW RATE	283,690 KG/HR	2,802,000 KG/HR	
PRESSURE	DESIGN	7.5 / F.V	16.0 KG/CM <sup>2</sup> G
	OPERATING	4.75	12.0 KG/CM <sup>2</sup> A
	HYDRO. TEST	11.25	24.0 KG/CM <sup>2</sup> G
TEMP.	DESIGN	200	170 °C
	OPERATING	159.46 / 115.00	65 / 120 °C
	INSULATION	2 (TWO)	2 (TWO)
CORROSION ALLOWANCE	SPOT / SEAMLESS	1.6	1.6
	PER CODES	0.85 / 1.00	0.85 / 1.00
	POST WELD HEAT TREATMENT	PER CODES	PER CODES
NO. OF PASS PER SHELL	2 (TWO)	2 (TWO)	2 (TWO)
	INSULATION	75	75
	TUBE BUNDLE	21,370	
WEIGHT	EMPTY	31,300	KG
	ERECTOR	30,380	KG
	OPERATING	44,800	KG
	FULL WATER	65,500	KG
PAINTING			
M.D.M.T.	-18.2		
WIND VELOCITY	N/A		
EARTHQUAKE FACTOR	1.4 (설계)		

NOZZLE SPECIFICATION

NOZZLE NO.	NOZZLE SIZE	FLANGE	FRONT	DESCRIPTION
M1	20"	ANSI 150#	R.F.	SEE DWG. SHELL SIDE MANHOLE
M2	20"	ANSI 300#	R.F.	SEE DWG. CHANNEL SIDE MANHOLE
N10a,b	2 24"	-	-	SEE DWG. STEAM INLET
N2	12"	ANSI 150#	R.F.	CONDENSATE OUTLET
N3	24"	ANSI 300#	R.F.	DH WATER INLET
N4	24"	ANSI 300#	R.F.	DH WATER OUTLET
N5	1"x2"	ANSI 500#	R.F.	SAFETY VALVE
N6	6"x3"	ANSI 150#	R.F.	N. COND GAS OUTLET
N7	1"	ANSI 150#	R.F.	INLET (NITROGEN GAS)
N8	1 1/2"	ANSI 150#	R.F.	PIT
N9	6"	ANSI 150#	R.F.	EQUALIZER
N10	1"	ANSI 150#	R.F.	SHELL SIDE VENT
N10a,b	2 24"	ANSI 150#	R.F.	BRIDGE PIPE CONNECTION
N12	1"	ANSI 150#	R.F.	DC ZONE VENT
N13	8"	ANSI 150#	R.F.	RIPTURE DISK
N14	1"	ANSI 300#	R.F.	CHANNEL SIDE VENT
N15	2"	ANSI 300#	R.F.	CHANNEL SIDE DRAIN
N16	1 2"	ANSI 150#	R.F.	SHELL SIDE DRAIN
N17	1 1/2"	ANSI 300#	R.F.	PUMP DISCHARGE VENT
N18	1"	ANSI 150#	R.F.	PUMP SUCTION VENT
N18a-c	3 1/2"	ANSI 150#	R.F.	PSHH
N20	1 2"	ANSI 150#	R.F.	INITIAL FILLING

SIGNED BY :	DATE
AW - APPROVED	
AP - APPROVED AS NOTED	
WC - WITH COMMENT	
R - REJECTED	

DOCS PERMISSION TO PROCEED OR REVIEW TAKEN ON VENDOR PRINTS SHALL NOT RELIEVE VENDOR FROM ITS RESPONSIBILITIES OR LIABILITIES UNDER THE PURCHASE ORDER.

**FOR CONSTRUCTION**

Daewoo Industrial Co., Ltd.

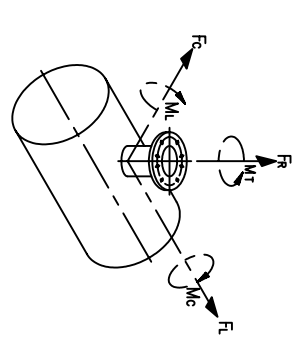
인원동업에너지주식회사  
Incheon Total Energy Company  
수도 전업에너지사업 건설공사  
SONGDO COMBINED HEAT & POWER PLANT

경남기업주식회사  
DAEWOO INDUSTRIAL CO., LTD.  
SEUL, KOREA

Power Hx Tech Co., Ltd.

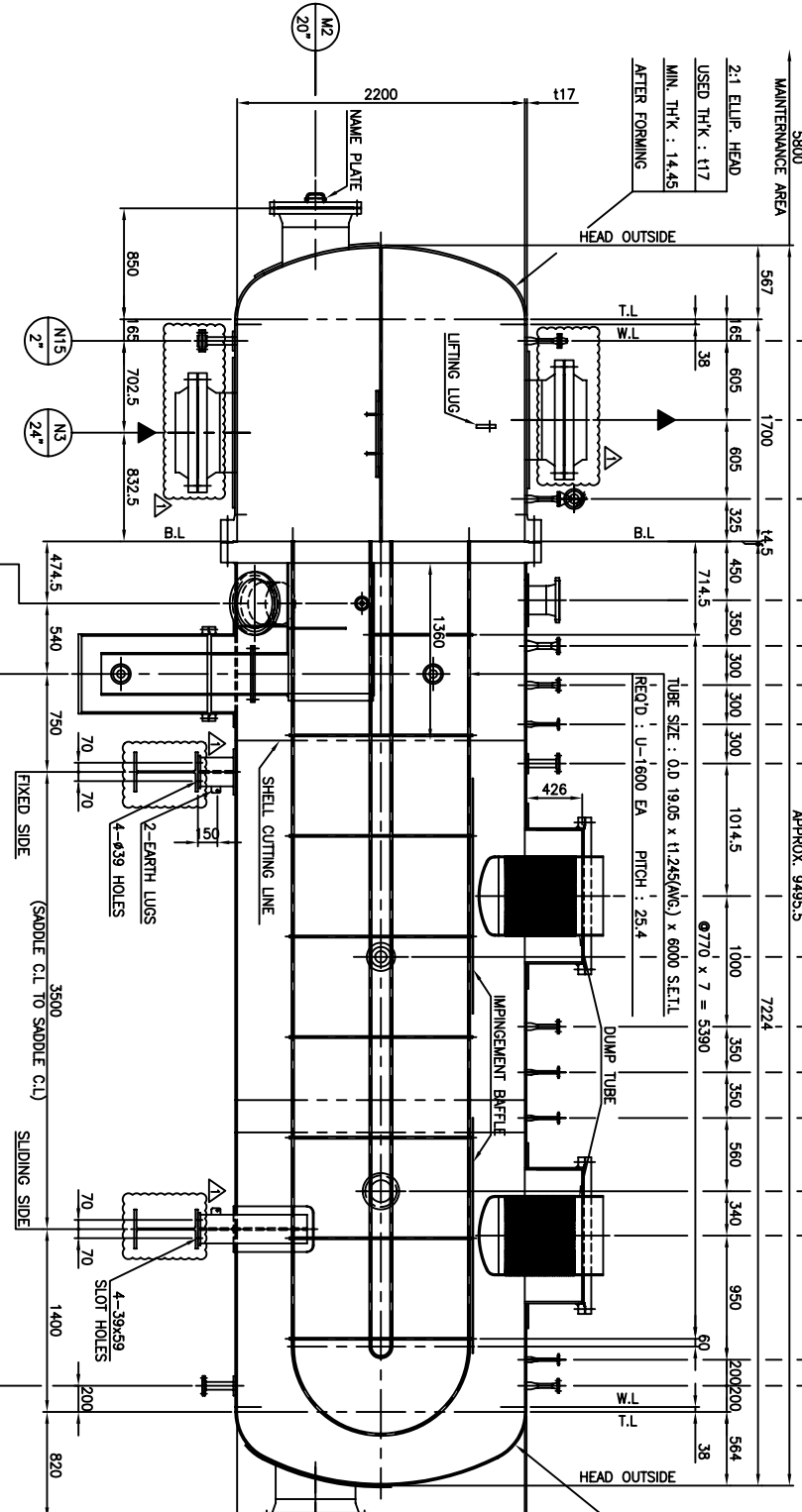
DH HEATER #3  
GENERAL ASSEMBLY

1/30 060353 VP-100-1-M-V0-111-301 A1

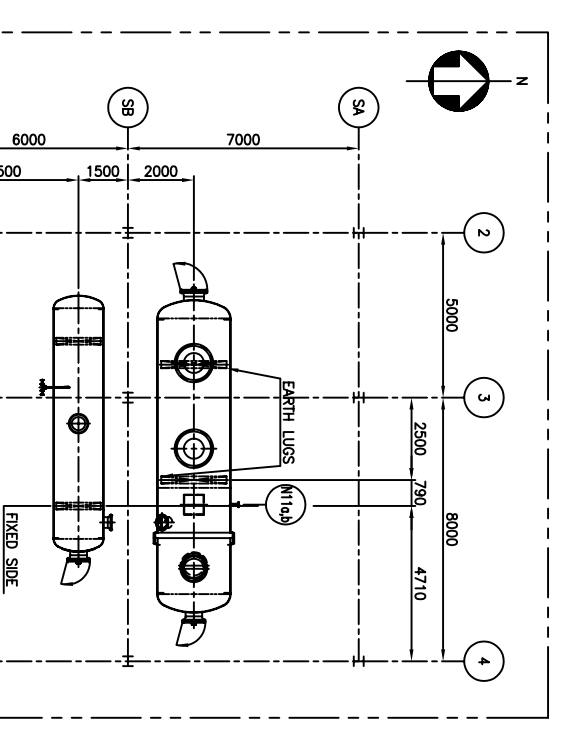


\* ALLOWABLE NOZZLE LOADS.

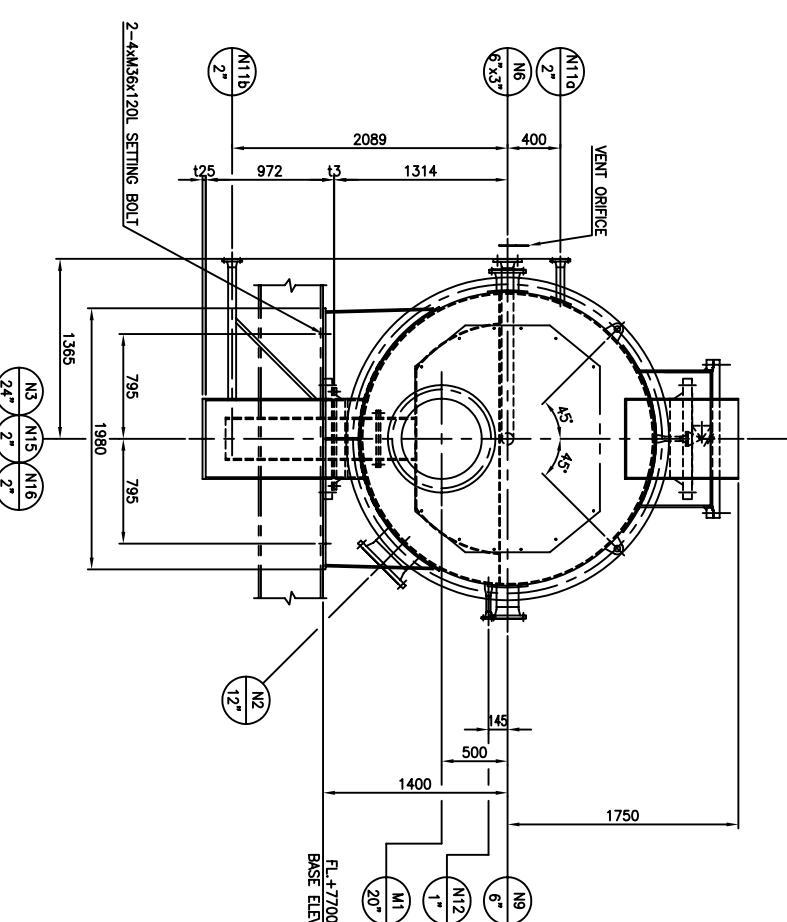
NOZZLE NO.	NOZZLE SIZE	Fr (kgf)	Ft (kgf)	M (kgf/m)
N1	24"	3,414	4,181	6,917
N2	12"	2,790	3,417	3,956
N3	24"	4,534	5,553	9,186
N4	6"	938	1,149	822
N5	1,175	1,439	1,439	1,372
N6	8"	1,175	1,439	1,372
N7	2"	293	359	154
N8	2"	293	359	154
N9	2"	293	359	154
N10	2"	293	359	154



FRONT VIEW  
(ELEVATION)



KEY PLAN



SIDE VIEW  
(VIEW "A")

NOTES

- ALL OF FLANGE BOLT HOLES SHALL BE STRADDLE NORTH-SOUTH C.L. OR NATURAL HORIZONTAL & VERTICAL C.L. OF H/EX.
- GASKET CONTACT SURFACE OF NOZZLE FLANGE SHALL BE SMOOTH FINISH 125~250Rg & GIRTH FLANGE 125~250 AARH.
- BASE LINE(B1) INDICATES THE GASKET CONTACT SURFACE OF GIRTH FLANGE.



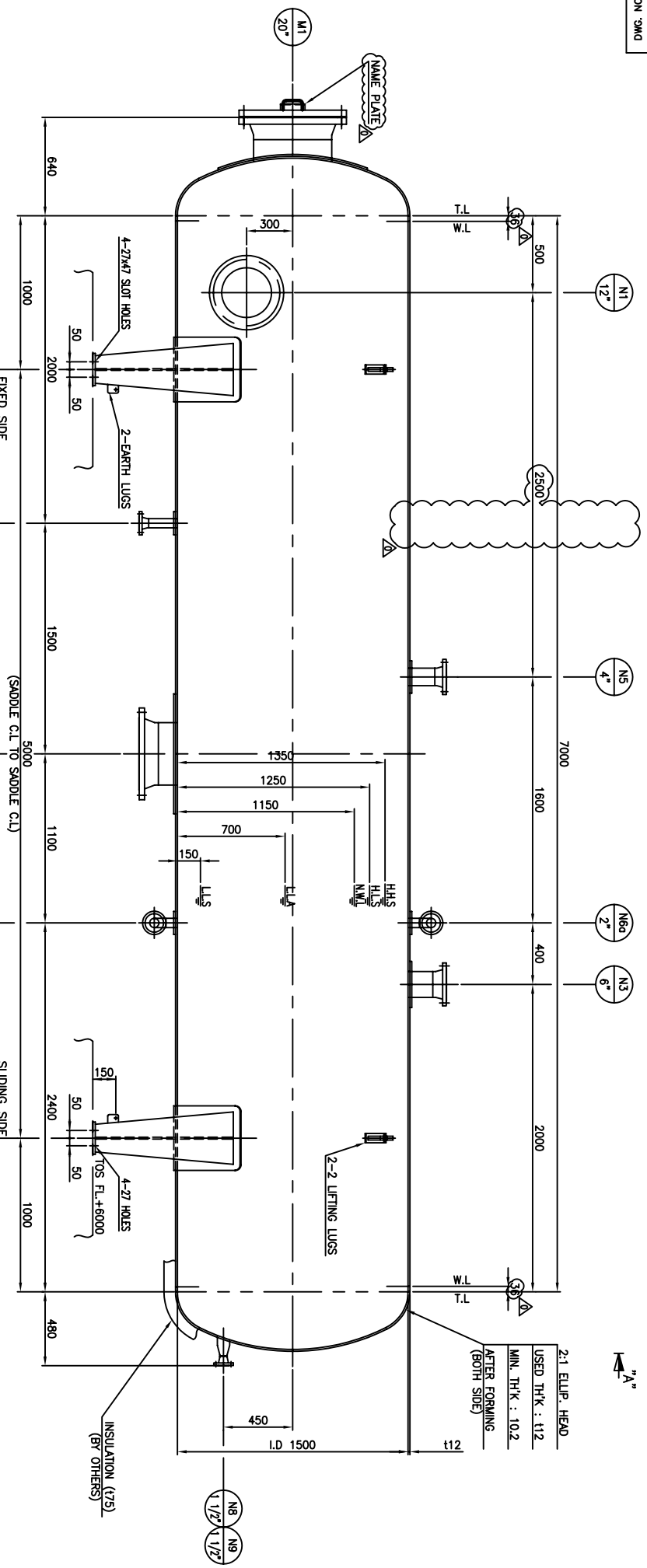
WATER LEVEL  
(SHELL SIDE)

**MATERIAL LIST**

PART	MATERIAL	QUANTITY
SHELL & HEAD, P.D.	A516-70	1
CHANNEL	A516-70	1
CHANNEL HEAD	A516-70	1
SADDLE	SA400	1
FLANGE	A100-B	1
INTERNAL VENT	A100-B	1
NOZZLE PIPE	A100-B	1
BAFFLE	SS304	1
IMPINGEMENT BAFFLE	SS304	1
LIFTING LUG	SS304	1
ORIBICE	SS304	1

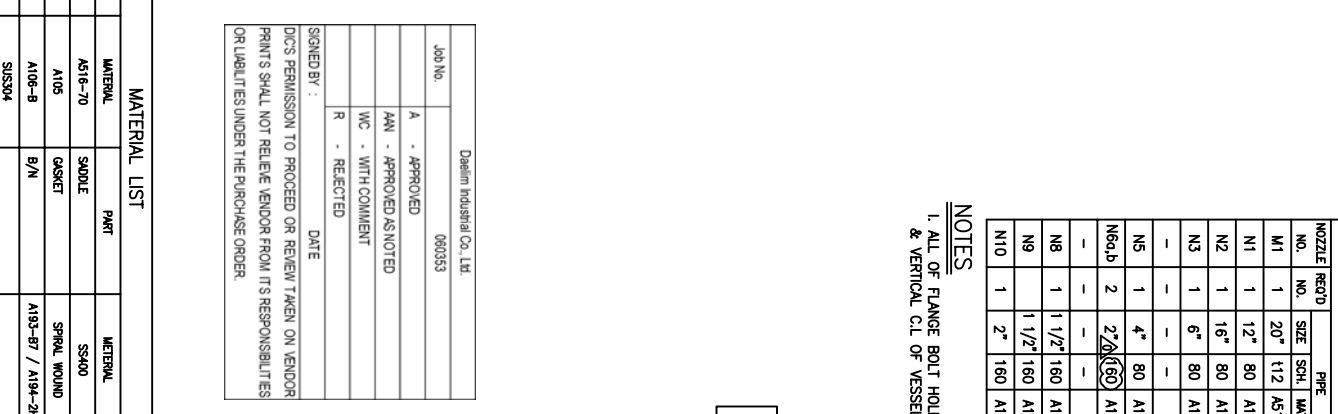
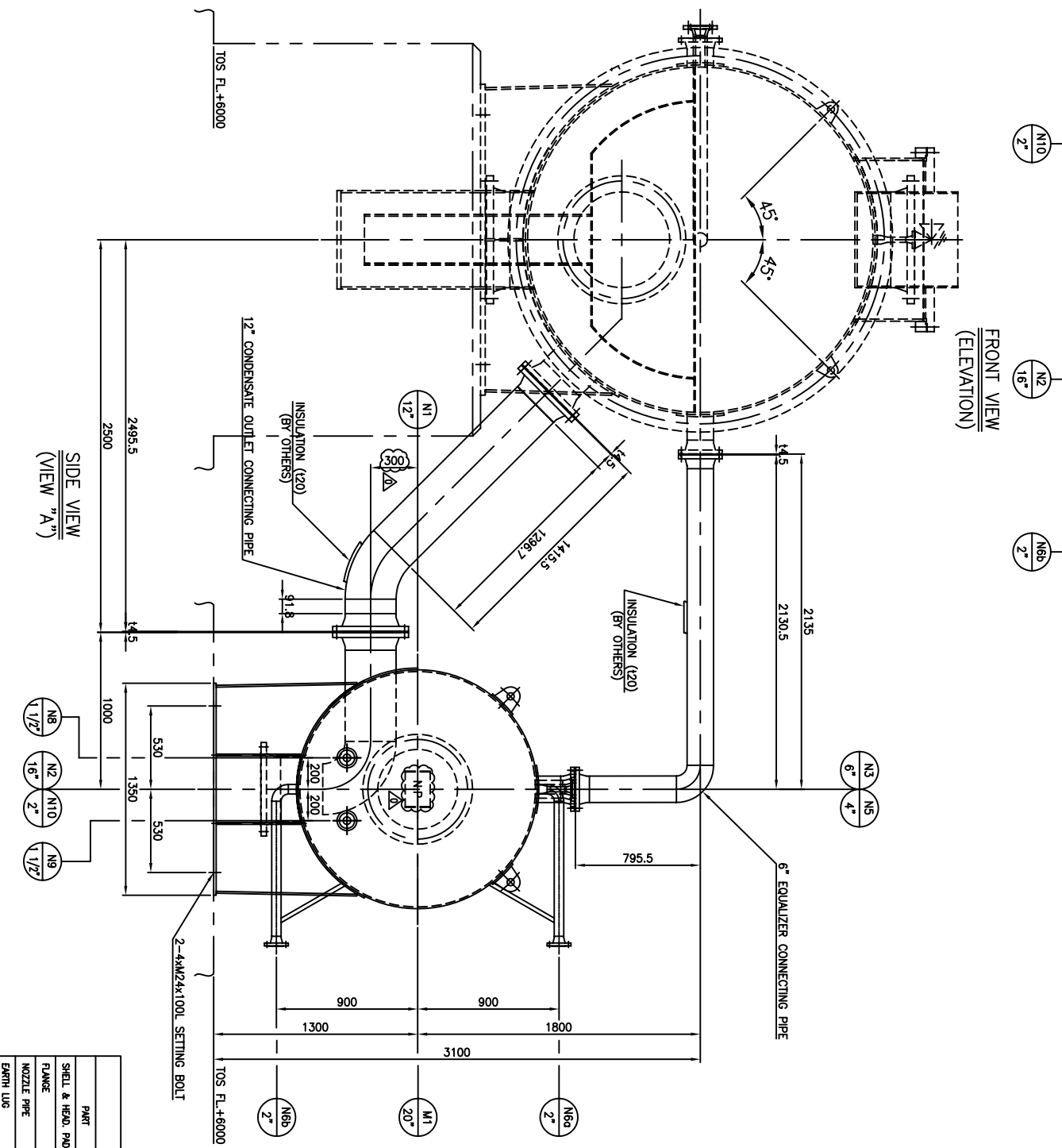
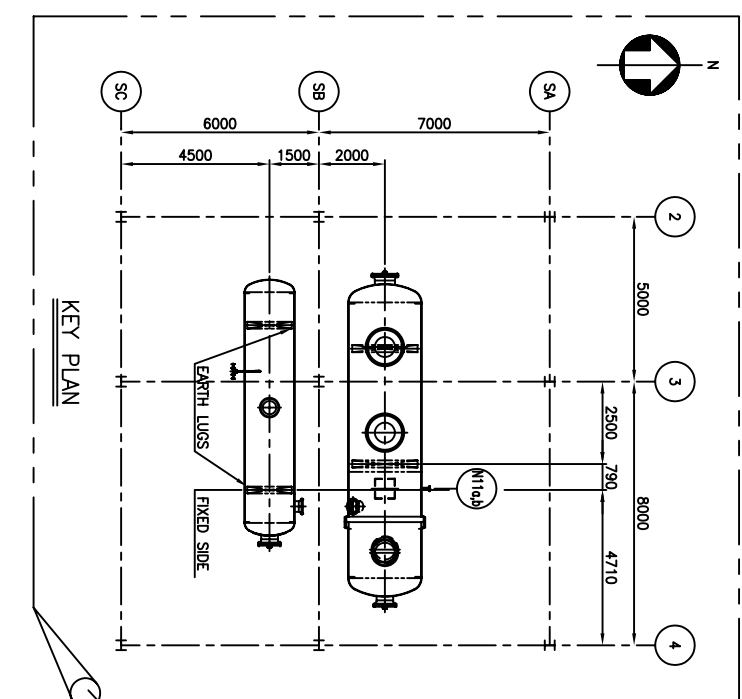
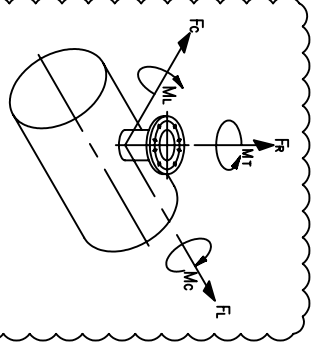
**FOR CONSTRUCTION**

DATE	DESCRIPTION
06.05.19	FOR CONSTRUCTION
06.05.19	REV. AS MARKED
06.03.19	REV. AS MARKED
07.11.19	FOR APPROVAL
07.11.19	REVISION
07.11.19	REVISION
07.11.19	REVISION
07.11.19	REVISION



\* ALLOWABLE NOZZLE LOADS.

NOZZLE NO.	NOZZLE SIZE	F <sub>w</sub> (kgf)	F <sub>u</sub> (kgf)	F <sub>w</sub> (kgf)	M <sub>w</sub> (kgm)	M <sub>u</sub> (kgm)	M <sub>w</sub> (kgm)	M <sub>u</sub> (kgm)
N1	12"	2,232	2,733	2,733	3,165	1,678	1,678	1,678
N2	16"	3,911	4,790	4,790	6,339	3,362	3,362	3,362
N3	6"	938	1,149	822	436	436	436	436
N5	4"	478	586	586	419	222	222	222
N10	2"	293	359	359	154	82	82	82



MATERIAL LIST

PART	MATERIAL	PART	MATERIAL
SHELL & HEAD, PAD	A516-70	SADDLE	SS400
FLANGE	A105	GASKET	SPIRAL WOUND
NOZZLE PIPE	A106-B	B/N	A193-B7 / A194-2H
EARTH LUG	SUS304		

Daem Industrial Co., Ltd.  
 Job No. 060353  
 A - APPROVED  
 AM - APPROVED AS NOTED  
 WC - WITH COMMENT  
 R - REJECTED  
 SIGNED BY :  
 DATE :  
 DCS PERMISSION TO PROCEED OR REVIEW TAKEN ON VENDOR PRINTS SHALL NOT RELIEVE VENDOR FROM ITS RESPONSIBILITIES OR LIABILITIES UNDER THE PURCHASE ORDER.

**FOR CONSTRUCTION**

인원총합에너지주식회사  
 Incheon Total Energy Company  
 수도권에너지사업 건설공사  
 SONGDO COMBINED HEAT & POWER PLANT

DAEUM INDUSTRIAL CO., LTD.  
 SEOUL, KOREA

경남기업주식회사  
 DAEUM ENERGY INVESTMEN & CONSTRUCTION CO., LTD.  
 SEOUL, KOREA

Power Hx Tech Co., Ltd.

HOT WELL #3  
 GENERAL ASSEMBLY

1/20 060353 VP-100-1-M-V0-111-313 A1

DESIGN DATA

CODE	ASME SEC. VIII DIV.1	TYPE	HORIZONTAL
NO. REQUIRED	1 (ONE)	CAPACITY	13.25 M <sup>3</sup>
KIND OF FLUID	STEAM / CONDENSATE		
LIQUID DENSITY	DESIGN 961.5	OPERATING 7.5 / F.V	KG/M <sup>3</sup>
PRESSURE	DESIGN 4.75	HYDRO. TEST 11.25	KG/CM <sup>2</sup> A
TEMP.	DESIGN 200	OPERATING 115	°C
CORROSION ALLOWANCE	1.6 MM		
RADIOGRAPHY	(S/N) SPOT / SEAMLESS		
JOINT EFFICIENCY	(S/M) 0.85 / 1.00		
POST WELD HEAT TREATMENT	PER CODES		
NO. OF PASS PER SHELL	1 (ONE)		
INSULATION	75 MM		
EMPTY	5,380 KG		
ERECTOR	4,700 KG		
OPERATING	15,160 KG		
FULL WATER	18,520 KG		
PAINTING	SEE PAINTING PROCEDURE		
METAL TEMP.	-		
WIND VELOCITY	N/A		
EARTHQUAKE FACTOR	1.4(1.4倍)		

NOZZLE SPECIFICATION

NOZZLE NO.	REC'D NO.	PIPE NO.	SIZE	MATERIAL	RATING	FLANGE TYPE	FRACING	FROM CL.	DESCRIPTION
M1	1	20"	112	A516-70	ANSI 150#	W/N	R.F.	SEE DWG.	MANHOLE
N1	1	12"	80	A106-B	ANSI 150#	W/N	R.F.	1000	CONDENSATE INLET
N2	1	16"	80	A106-B	ANSI 150#	W/N	R.F.	1000	CONDENSATE OUTLET
N3	1	6"	80	A106-B	ANSI 150#	W/N	R.F.	1000	EQUALIZER
N5	1	4"	80	A106-B	ANSI 150#	W/N	R.F.	1000	PUMP MIN. FLOW RETURN
N6a,b	2	2"	180	A106-B	ANSI 150#	W/N	R.F.	1000	LT
N8	1	1/2"	180	A106-B	ANSI 150#	W/N	R.F.	SEE DWG.	TI
N9	1	1/2"	180	A106-B	ANSI 150#	W/N	R.F.	SEE DWG.	TI
N10	1	2"	180	A106-B	ANSI 150#	W/N	R.F.	1000	DRAIN

NOTES  
 1. ALL OF FLANGE BOLT HOLES SHALL BE STRADDLE NORTH-SOUTH C.L. OR NATURAL HORIZONTAL & VERTICAL C.L. OF VESSEL.