

- NOTES**
- UNLESS OTHERWISE NOTED ALL DIMENSIONS ARE IN MILLIMETERS.
 - UNLESS OTHERWISE NOTED OUTSIDE PROJECTION OF NOZZLES ARE MEASURED FROM C.L. OF EXCHANGER TO THE EXTREME FACE OF NOZZLE.
 - ALL WELDS CONTINUOUS EXCEPT NOTED.
 - BOLT HOLES FOR FLANGES SHALL BE STRADDLED TO EQUIPMENT MAIN AXIS.
 - ALL R.F. FLANGES SHALL HAVE SMOOTH FINISH FACING WITH RA= 3.2mm TO RA= 6.3mm.
 - BASE LINE (B.L.) INDICATES THE GASKET CONTACT SURFACE OF TUBE SHEET.
 - REINFORCING PADS FOR NOZZLES SHALL BE TAPPED WITH AT LEAST ONE (1) TELL TALE HOLE NPT 1/4" WITH VENT PIPE.
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- DIMENSIONS REFER TO BAFFLES ARE MEASURED FROM C.L. OF EACH PLATE.
 - GASKET MATERIAL FOR ASME B16.20. SPIRAL WOUND (t4.5)
 - FILLER: GRAPHITE
 - INNER RING: 304 S.S.
 - HOOP: 304 S.S.
 - OUTER RING: 304 S.S.
 - GASKET MATERIAL: SPIRAL WOUND (t4.5)
 - FILLER: GRAPHITE
 - INNER RING: 304 S.S.
 - HOOP: 304 S.S.
 - SPARE PART (OPTIONAL)
- | | CONSTRUCTION & COMMISSIONING |
|-------------------|------------------------------|
| GASKETS | 100% |
| STUD BOLTS & NUTS | 5% (MIN. 2SETS) |
- ALL EXPOSED SURFACE SHALL BE PAINTED AS FOLLOWS: EXPOSED SURFACE FOR EXTERNAL PARTS: E1027-HSE-VD-QC-PRO-002 EXPOSED SURFACE OF INTERNAL: NOT PARTS REQUIRED
 - 1/1.4 FACTOR FOR LOAD COMBINATION HAS BEEN APPLIED
 - TUBES SHALL BE SEAMLESS
 - GASKET CONTACT SURFACE OF TUBE SHEET & GIRTH FLANGE: RA= 1.6µm (MAX)
 - FURTHER DETAILS TO BE ADDED FOR DISCLAIMER PURPOSES SUCH AS AFTER HYDROTEST TO BE CLEANED AND DRIED.

REFERENCE DRAWING	DWG NO.	REV.
-	-	-

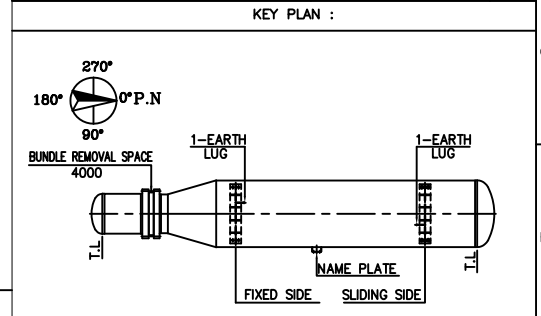


TABLE FOR FOUNDATION LOAD DATA

WIND		SEISMIC (NOTE 13)	
SHEAR (kgf)	MOMENT (kgf-m)	SHEAR (kgf)	MOMENT (kgf-m)
478	430	970	873

MATERIALS

SHELL		GENERAL	
BARREL	SA516-70N	SLIDING BAR/ROD	SA516 70/SA36
FLANGES	-	SEALING STRIP	SA516 70
NOZZLE FROM PIPE	SA333-6	DUMMY TUBE/SEAL ROD	-
NOZZLE FROM PLATE	SA516-70N	BLUNDED NOZZLE BOLT/NUT	SA320 L7/SA194-4
NOZZLE FLANGES	SA350-LF2 CL.1N	BLUNDED NOZZLE GASKET	SEE NOTE "9"
COUPLINGS & PLUGS	-	TEST RING	SA-266 2
NOZZLE REINF. PAD	SA516-70N	G A S K E T S	
EXCHANGERS SUPPORTS	SA283-C	SHELL/COVER	-
SUPPORT WEAR PLATE	SA516-70N	SHELL/TUBESHEET	SEE NOTE "10"
STIFFENING RINGS	SA516-70N	CHANNEL/TUBESHEET	SEE NOTE "10"
EXPANSION JOINT	-	CHANNEL/COVER	-
LINING	-	FLOATING HEAD	-
S H E L L C O V E R		F L O A T I N G H E A D	
BARREL	-	COVER	-
COVER	-	FLANGES	-
FLANGES	-	SPLIT RING	-
C H A N N E L		B O L T S & N U T S	
BARREL	SA516-70N	SHELL/COVER	-
FLANGES	SA266-2N	SHELL/CHANNEL	SA320-L7/SA194-4
COVER	SA516-70N	CHANNEL/COVER	-
FLAT COVER	-	FLOATING HEAD	-
NOZZLE FROM PIPE	SA106-B	SETTING BOLTS/NUTS	SA193 B7 / SA194 2H
NOZZLE REINF.	SA516-70N	T U B E B U N D L E	
NOZZLE FLANGES	SA105N	TUBES	SA334-6
COUPLINGS & PLUGS	-	TUBESHEETS	SA350-LF2 CL1N
NOZZLE REINF. PAD	SA516-70N	BAFFLES/SUPPORTS/MP. PLATE	SA516-70
PARTITION PLATES	SA516-70N	TIE RODS & SPACERS	SA36/SA179

DESIGN DATA

CODE	ASME SEC. VIII DIV.1 (2021 ED.)		TYPE	H-BKU
TEMA CLASS	TEMA 10TH ED. (CLASS "R")	CODE STAMP	NO	
LOCAL REGULATION	NO	WIND / SEISMIC CODE	UBC 97	
FLUID	PROPANE	STYRENE	WIND EXPOSURE / VELOCITY (km/h)	D / 125
DESIGN (INT.EXT.)	PRESS. barg	22/F.V.	6.8	Ca/Cv/Nv
	TEMP. (°C)	120/85	85	SEISMIC IMPROVANCE FACTOR/RESPONSE FACTOR
	STEAM OUT CONDITION	-	-	INSULATION (TYPE/THK.)
OPER. (IN/OUT)	PRESS. barg	3.813	4.5	FIRE PROOFING (mm)
	TEMP. (°C)	1.24/1	15.2/5	PAINTING
CORROSION ALLOWANCE (mm)	3	3	3	TUBE TO TUBESHEET JOINT
JOINT EFFICIENCY (S/H)	1.0/1.0	1.0/1.0	1.0	NO. OF PASS
RADIOGRAPHY (S/H)	FULL/FULL	FULL/FULL		BUNDLE (KG)
HYDRO. TEST PRESS. (SHOP/FIELD)	barg	28.6/28.6	8.84/8.84	ERECTION (KG)
HYDRO. TEST TYPE	(U-90) NDE (S)	(U-90) NDE (S)	(U-90) NDE (S)	EMPTY (KG)
PNEUM. TEST PRESS. barg	-	-	-	OPER. (KG)
M.D.M.T. (°C)	-45	-29		FULL WATER (KG)
M.A.P (HOT & CORRODED) barg	22	6.8		SURFACE AREA/SHELL (M²)
M.A.P (NEW & COLD) barg	22	6.8		VOLUME (M³)
P.W.H.T	NO	NO		FLUID DENSITY (kg/m³)
IMPACT TEST	NO	NO		MEAN METAL TEMP. (°C)
S.R. OF HEAD AFTER COLD FORMING	YES	YES		

NOZZLE LIST

NOZZLE MARK	Q'TY / 1 SET	SIZE (INCH)	FLANGE RATING	SCH.	SERVICE	H/EX. CL. PROJECTION	REINF. PAD TH'K	O.D.
S1	1	4"	ASME B16.5 300# WLR.F	120	SHELL SIDE INLET	SEE DWG.	12	220
S2	1	6"	ASME B16.5 300# WLR.F	80	SHELL SIDE OUTLET	675	12	300
T1	1	3"	ASME B16.5 150# WLR.F	80	CHANNEL SIDE INLET	SEE DWG.	10	190
T2	1	3"	ASME B16.5 150# WLR.F	80	CHANNEL SIDE OUTLET	SEE DWG.	10	190
D	1	2"	ASME B16.5 300# WLR.F	160	SHELL SIDE DRAIN	SEE DWG.	-	-
LG1	1	2"	ASME B16.5 300# WLR.F	160	LEVEL GAUGE	SEE DWG.	-	-
LG2	1	2"	ASME B16.5 300# WLR.F	160	LEVEL GAUGE	SEE DWG.	-	-
PSV	1	3"	ASME B16.5 300# WLR.F	160	PRESSURE SAFETY VALVE	675	12	190
V	1	2"	ASME B16.5 300# WLR.F	160	VENT	t16.6	675	-
S3	1	2"	ASME B16.5 300# WLR.F	160	SHELL SPARE/PURGE	SEE DWG.	-	-

LEGEND

B.L. = BASE LINE
 C.L. = CENTER LINE
 M.D.M.T. = MIN. DESIGN METAL TEMPERATURE
 N. = NORMALIZED
 O.T.L. = OUTER TUBE LINE
 C.O.G. = CENTER OF GRAVITY
 T.O.G. = TOP OF GROUTING
 W.P. = WORKING POINT

REV.	ISSUE DATE	DESCRIPTION	PREPARED	CHECKED	APPROVED
00	05.20.2024	ISSUED FOR APPROVAL (IFA)	D.SH	M.O.	A.M.

CLIENT

CONSULTING ENGINEER

PROJECT:

DRAWING TITLE:

GENERAL ARRANGEMENT DRAWING FOR CHILLER (EVAPORATOR)

DRAWING NO.	REV.	SCALE	SHEET
E1027-HSE-VD-ME-DWG-008	00	A3	1 of 1