



NOZZLE OPENING											SA 240 M Gr 304/SA 240 Gr 304	
NOZZLE	SERVICE	QTY	SIZE(DN)	SCH/THK	NECK MAT.	RATING	TYPE	FLG. MAT.	PAD	NOZZLE PROJ.	REMARKS	
N1	INLET	1	DN150	40S	SA 312M TP 316L	ASME B16.5 CL150	WN RF	SA 182M F316L	-	200mm	-	
N2	OUTLET	1	DN150	40S	SA 312M TP 316L	ASME B16.5 CL150	WN RF	SA 182M F316L	-	200mm	-	
N3	VENT	1	DN25	40S	SA 312M TP 316L	ASME B16.5 CL150	WN RF	SA 182M F316L	-	150mm	-	
N4	DRAIN	1	DN25	40S	SA 312M TP 316L	ASME B16.5 CL150	WN RF	SA 182M F316L	-	150mm	-	
N5A	LEVEL GAUGE	1	DN50	40S	SA 312M TP 316L	ASME B16.5 CL150	WN RF	SA 182M F316L	-	150mm	-	
N5B	LEVEL GAUGE	1	DN50	40S	SA 312M TP 316L	ASME B16.5 CL150	WN RF	SA 182M F316L	-	150mm	-	

BILL OF MATERIAL			
ITEM	QTY.	DESCRIPTION	MATERIAL SPEC.
1A	2	PLATE 1571x600x5mm SHELL TO BE ROLLED	SA 240 M 316L/SA 240 316L
2A	2	DISH HEAD 81mm TO BE FORMED TO 2:1 TYPE	SA 240 M 316L/SA 240 316L
3A	2	SEAMLESS PIPE DN50 x 87 SCH 40S	SA 312 M TP 316L/SA 312 TP 316L
3B	2	SEAMLESS PIPE DN25 x 100 SCH 40S	SA 312 M TP 316L/SA 312 TP 316L
3C	2	SEAMLESS PIPE DN150 x 112 SCH 40S	SA 312 M TP 316L/SA 312 TP 316L
4A	2	FLANGE DN50 CLASS 150 WNRF SCH 40S	SA 182 M F316L/SA 182 F316L
4B	2	FLANGE DN25 CLASS 150 WNRF SCH 40S	SA 182 M F316L/SA 182 F316L
4C	2	FLANGE DN150 CLASS 150 WNRF SCH 40S	SA 182 M F316L/SA 182 F316L
5A	3	BASE PLATE 150 x 150 x 5mm	SA 240 M Gr. 304/SA 240 Gr. 304
5B	2	LIFTING LUG PLATE 100 x 80 x 5mm	SA 240 M 316L/SA 240 316L
5C	3	DOUBLER PLATE 120 x 150 x 12.7mm	SA 240 M Gr. 304/SA 240 Gr. 304
6A	3	EQUAL ANGLE BAR 3" x 3" x 1/4" 1mm	SA 240 M Gr. 304/SA 240 Gr. 304
7	1	LIFTING LUG	SA 240 M Gr. 304/SA 240 Gr. 304

DESIGN DATA	
DESIGN & FABRICATION CODE	ASME SECTION VIII, DIV. 1, 2017 EDITION
LOCAL DOSH REGISTRATION	YES
CLIENT SPECIFICATION	EV-C470-T-ISBL-D5105
TOTAL QUANTITY	1
TAG NO.	T-8.308
OPERATING	PRESSURE BarG 1.0
TEMPERATURE °C	100
DESIGN	PRESSURE BarG 1.1
TEMPERATURE °C	100
TEST	PRESSURE BarG 1.708 @ VERTICAL POSITION
PRESSURE °C	TEMPERATURE °C AMB
CORROSION ALLOWANCE	mm 0
P.W.H.T	NQ, AS PER UHA-32
INSULATION/PERSONAL PROTECTION	-
VESSEL TYPE	VERTICAL
FLUID NAME	CHILLED WATER
FLUID DENSITY Kg/m³	1080
CAPACITY m³	0.161
EMPTY WEIGHT Kg	173.2
OPERATING WEIGHT Kg	346.4
FULL LIQUID WEIGHT Kg	333.5
MIN. DESIGN METAL TEMP.	0°C @ 11BarG
RADIOGRAPHY	RT-3
JOINT EFFICIENCY	0.85
WIND LOADING	32.5 m/s
SEISMIC LOADING	N/A
IMPACT TEST	NQ, AS PER UHA-51
MAWP AS PER UG99b NOTE-36	11BarG @ 100°C

- GENERAL NOTES
- ALL UNITS ARE IN mm, BRACKETED DIMENSION FOR REFERENCE ONLY
 - ALL BOLTS HOLES SHALL STRADDLE THE PRINCIPAL AXIS.
 - ALL WELDS SHALL BE CONTINUOUS UNLESS OTHERWISE NOTED.
 - REINFORCEMENT PLATE SHALL BE MADE IN ONE PIECE OF PLATE.
 - FLANGES SHALL BE ACCORDANCE TO ASME B16.5 ED. 2013.
 - FLANGE BOLT HOLES SHALL BE STRADDLE TO VESSEL NORMAL CENTERLINES UNLESS INDICATED.
 - PRIOR TO FINAL INSPECTION, ALL SLAGS, DIRT, DUST, LOOSE SCALE, OIL, PAINT, WELD SPLATTERS AND OTHER FOREIGN MATERIAL SHALL BE REMOVED FROM INSIDE AND OUTSIDE OF THE VESSEL.
 - CIRCUMFERENTIAL AND LONGITUDINAL WELDING JOINT SHALL REFER TO MISCELLANEOUS DETAIL DRAWING.
 - PAINTING PLEASE REFER TO PAINTING PROCEDURE.
 - ALL FLANGE BOLT HOLES TO STRADDLE VESSEL MAJOR AXIS.
 - FABRICATION TOLERANCES SHALL BE IN ACCORDANCE WITH PRESSURE VESSEL TOLERANCE SPECIFICATION EV/ENG-TLRN-00 REV 0.
 - TOLERANCE FOR FILLET WELD SIZE IS -0 TO 3mm.
 - ALL SHARP CORNERS INSIDE THE PRESSURE VESSEL SHALL BE RADIUS MINIMUM 3mm.
 - CONSTRUCTION DETAIL REFER TO DWG NO. EV-C470-T-ISBL-DWG105 REV 1.
 - NAME PLATE BRACKET AND DETAILS REFER DWG NO. EV-C470-T-ISBL-DWG105 REV 2.
 - THIS VESSEL COMPONENTS ARE EXEMPTED FROM IMPACT TESTING AS FOLLOWS:
 - (a) SHELL, HEADS, SKIRT AND BASE PLATE ARE EXEMPTED BY PARA UHA-51
 - (b) FLANGES ARE EXEMPTED BY PARA UHA-51
 - (c) NOZZLE NECKS ARE EXEMPTED BY PARA UHA-51
 - CONVERSION
 - 1 Mpa = 14.5 PSIG, 1mm = 0.03937 INCH
 - 1 Cu METER = 35.3145 Cu FEET, 1kg = 2.2046 lbs
 - PRESSURE SAFETY RELIEF VALVE BE INSTALLED AT PIPING SYSTEM BY CLIENT.
 - N1 AND N2 ARE ALSO USED AS INSPECTION OPENING.

X1	20/09/2019	AS-BUILT	HAFIZ	HAFIZ	CK. ANG
2	19/02/2019	IFC - ISSUE FOR CONSTRUCTION	HAFIZ	HAFIZ	CK. ANG
1	21/01/2019	IFC - ISSUE FOR CONSTRUCTION	ZUL	PANG	CK. ANG
0	13/11/2018	IFC - ISSUE FOR CONSTRUCTION	ZUL	PANG	CK. ANG
A	14/10/2018	IFA - ISSUE FOR APPROVAL	ZUL	PANG	CK. ANG
REV	DATE	DESCRIPTION	PRE BY	CHKD BY	APPD BY



NORMAN-8 PROJECT EXTENDER OILS
PLANT CONSTRUCTION AT TANJUNG LANGSAT



GENERAL ARRANGEMENT DRAWING
T-8.308 (ISBL)
EXPANSION TANK

SCALE	PID DWG. NO	UNIT CODE	SHEET
N.T.S	PID-8-010-1		1 OF 3
DWG NO	EV-C470-T-ISBL-DWG105	REVISION	X1