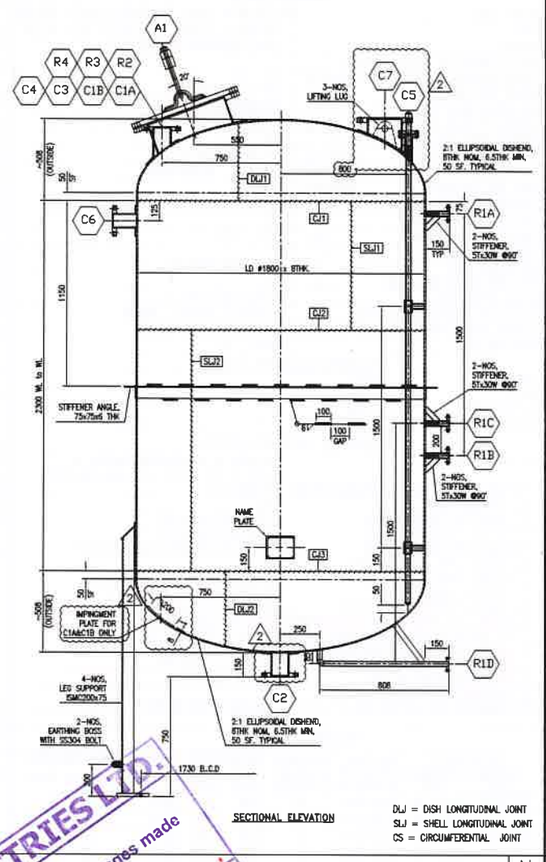
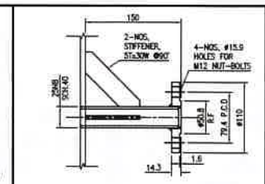
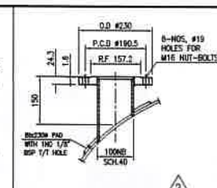


SECTIONAL ELEVATION

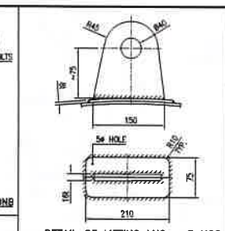
DLJ = DISH LONGITUDINAL JOINT
SLJ = SHELL LONGITUDINAL JOINT
CS = CIRCUMFERENTIAL JOINT



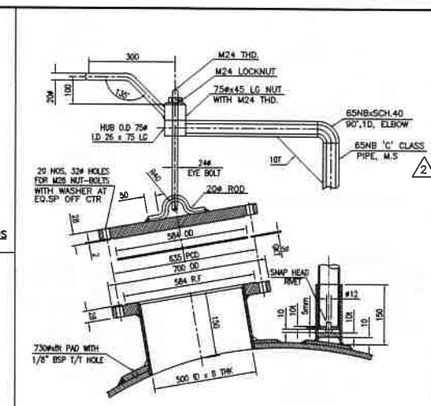
DETAIL OF NOZZLE R1A/B/C – 25NB



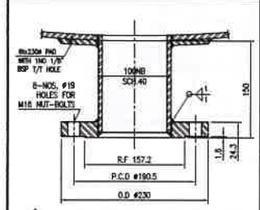
DETAIL OF NOZZLE C1A,C1B & C3-100NB



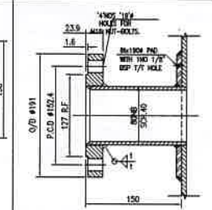
DETAIL OF LIFTING LUG – 3 NOS



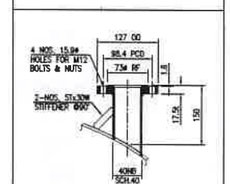
DETAIL OF MAN HOLE (TOP DISH) – A1 500 NB



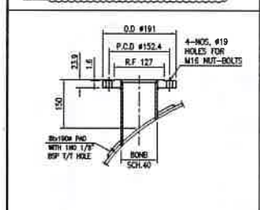
DETAIL OF NOZZLE C2 – 100NB



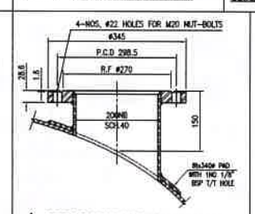
DETAIL OF NOZZLE C6 – 80NB



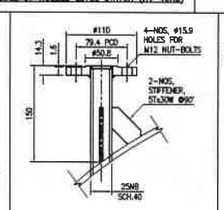
DETAIL OF NOZZLE LEVEL SWITCH (R4–40NB)



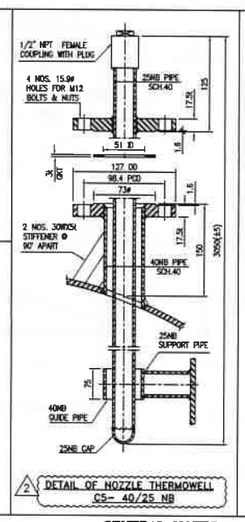
DETAIL OF NOZZLE R2 – 80NB



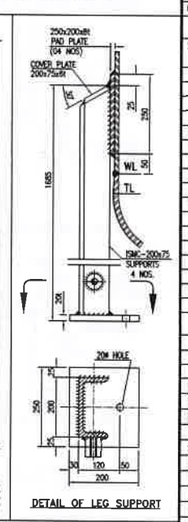
DETAIL OF NOZZLE C7 – 200NB



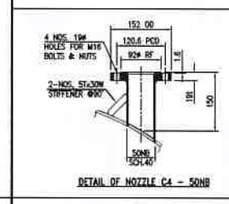
DETAIL OF NOZZLE R3 – 25NB



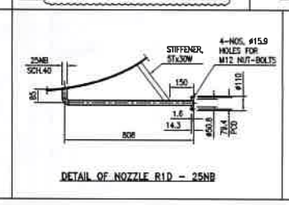
DETAIL OF NOZZLE THERMOWELL C5– 40/25 NB



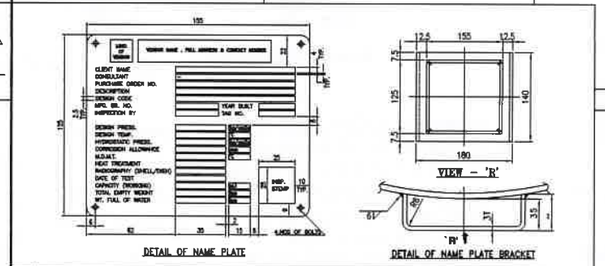
DETAIL OF LEG SUPPORT



DETAIL OF NOZZLE C4 – 50NB

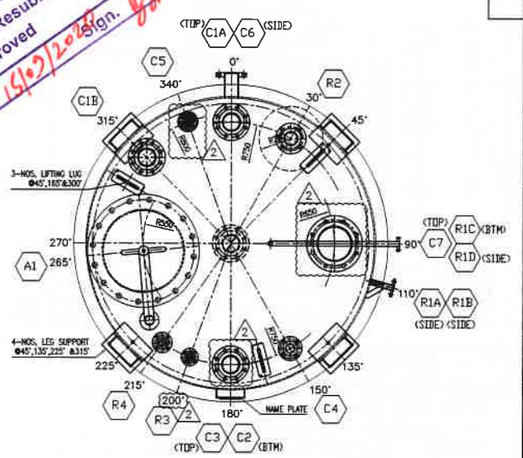


DETAIL OF NOZZLE R1D – 25NB

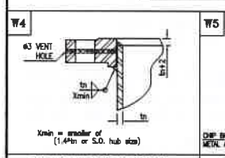


DETAIL OF NAME PLATE

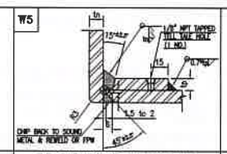
DETAIL OF NAME PLATE BRACKET



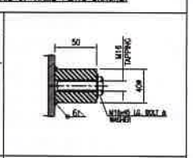
NOZZLE ORIENTATION PLAN



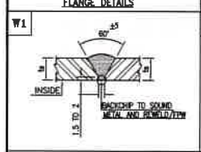
TYP. NOZZLE PIPE TO FORGED FLANGE DETAILS



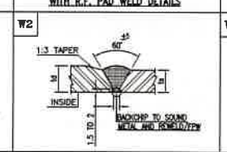
TYP. SHELL/DISH TO NOZZLE PIPE WITH R.F. PAD WELD DETAILS



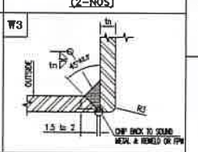
DETAIL OF EARTHING BOSS (2–NOS)



TYP. L/S & C/S FOR SHELL/DISH AND L/S WELD FOR FAB. PIPE WELD DETAILS



TYP. C/S FOR DISH TO SHELL WELD DETAILS (IF DISSIMILAR THICKNESS)



TYP. SHELL/DISH TO NOZZLE PIPE WELD DETAILS

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL NOZZLES UP TO DN40 SHALL BE PROVIDED 2 NO. (30W X 5 THK) STIFFENERS AT 90° APART.
3. ALL NOZZLES ABOVE DN40 SHALL BE PROVIDED REINFORCEMENT PADS.
   REINFORCEMENT PADS FOR NOZZLES TO BE TESTED PNEUMATICALLY AT 1.0 KG/CM2(g).
   AFTER TEST T/T HOLES TO BE FILLED WITH HARD GREASE.
4. NOZZLE FLANGES UP TO 24" SHALL BE AS PER ASME B16.5 STANDARD UNLESS OTHERWISE SPECIFIED. AND GASKET SEATING SURFACE FINISH FOR NOZZLE FLANGES BE SERRATED FACE TO 125–250AARH.
5. ALL BOLT HOLES OF FLANGES SHALL STRADDLE WITH PRINCIPLE ℄ OF VESSEL.
6. ALL BUTT WELDS SHALL BE FULL PENETRATION JOINTS. WHEREVER BACK CHIPPING IS NOT FEASIBLE, ROOT RUN SHALL BE CARRIED OUT BY GTAW.
7. FABRICATION & DIMENSIONAL TOLERANCES SHALL COMPLY WITH THE DESIGN CODE.
8. ALL INSIDE WELDS SHALL BE FLUSH WITH SHELL I.D. ALL SHARP EDGES/CORNERS TO BE ROUNDED OFF.
9. DISHEND SUBJECTED TO D.P. TEST ON KNUCKLE PORTIONS BOTH INSIDE & OUTSIDE.
10. RADIOGRAPHY SHALL BE FULL FOR DISHEND AND SPOT + 100% T–JOINT FOR SHELL.
11. SURFACE FINISH:
    INTERNAL : WELD GRIND AND SMOOTH FINISH.
    EXTERNAL : ONE COAT OF SMOKE GREY PRIMER, BERGER MAKE AND TWO COATS OF PROTECTO MASTIC PAINT, BERGER MAKE AFTER CLEANING & FINISHING OF SURFACE. TOTOL DFT: 250–300 MICRON.
12. EQUIPMENT TO BE HYDROTESTED IN VERTICAL POSITION.EQUIPMENT SHALL BE THOROUGHLY DRIED AFTER HYDROTEST. WATER USED FOR FOR HYDRAULIC TESTING SHALL BE POTABLE WATER HAVING LESS THEN 50 ppm CHLORIDE CONTENT.
13. ALL TYPES OF BOLTS SHOULD BE OF MAKE UNBRAKO/APL/KUNDAN.
14. MINIMUM WIDTH OF SHELL & DISH SHOULD BE AS PER ASME SECTION VIII, DIVISION 1, EDITION 2015.
15. WELDING INSTRUCTION, INSPECTION & TESTING PROCEDURE ARE DEFINE IN ANNEXURE – A
16. LIFTING LUGS ARE DESIGNED FOR LIFTING UNDER EMPTY/COLD CONDITION.
17. WELDING ROD & FILLER WIRE SHOULD BE OF ADANI/ESAB/_____
18. WHERE EVER COMPANION FLANGES OR BLIND FLANGES SPECIFIED, VENDOR SHALL SUPPLY GASKET, STUDS & BOLTS.

NOTE (FOR NAME PLATE) :
1). MATERIAL : SS–304 , 1.6 THK.
2). BACK GROUND OF NAME PLATE :– WHITE
3). LETTERING :– ENGRAVING WITH BLACK COLOUR.
4). MONOGRAM :– ENGRAVING WITH DARK BLUE COLOUR.

DESIGN DATA

DESIGN CODE		ASME SECTION VIII, DIVISION 1, EDITION 2015 & GOOD ENG. PRACTICES
TYPE		CYLINDRICAL VERTICAL WITH DISH AT TOP & BOTTOM
SERVICE		STEAM CONDENSATE STORAGE TANK
SPECIFIC GRAVITY OF CONTENT (DESIGN)		*
DESIGN PRESSURE (INT./EXT.)	Kg/cm2 (g)	6.0 / FV
DESIGN TEMP. (MAX./MIN.)	° C.	200 / 0
MIN. DESIGN METAL TEMP. (MDMT)	° C.	~~(ROOM TEMP.)~~ 3
WORKING PRESSURE (MAX./MIN.)	Kg/cm2 (g)	ATMOSPHERIC
WORKING TEMP. (MAX./MIN.)	° C.	(150 / ~~90~~) 15
TEST PRESSURE (Hydrostatic)	Kg/cm2 (g)	7.8 (REFER NOTE:12)
RADIOGRAPHY	(Shell/Dish)	SPOT/FULL (REFER NOTE:10)
WELD JOINT EFFICIENCY	(Shell/Dish)	0.85/1.0
CORROSION/EROSION ALLOWANCE	MM.	1.5
POST WELD HEAT TREATMENT		NO
CAPACITY (Working / Gross)	Ltrs	6000 / 7200
OPERATING LEVEL	m	---
WIND DESIGN CODE		IS:875–1987 (PART–3)
WIND ZONE /BASIC WIND SPEED	m/s.	44
SEISMIC DESIGN CODE		IS:1893–2005 (ZONE–3)
INSTALLATION ORIENTATION/ LOCATION		CYLINDRICAL VERTICAL / INDOOR
SURFACE PREPARATION (PAINTING/ CLEANING)		AS PER NOTE NO. 11 & 12
INSPECTION BY		CLIENT / TPI

WEIGHTS/LOADING DATA

CONDITION		WEIGHT
EMPTY	kgs	~ 2100
FULL OF WATER	kgs	~ 8100
OPERATING (MAX)	kgs	~ 9300

MATERIAL SPECIFICATION

SR.	PART NAME	MATERIAL OF CONSTRUCTION (CONFIRM TO– ASME SECTION–II PART–A, ED–2007,ADD–2009)
1	SHELL / DISH / R.F.PAD/IMPINGEMENT PLATE	IS 2062 GR.B
2	STIFFENER ANGLE	M.S
3	NOZZLE PIPE (SHELL) ≤ DN150	SA106 GR.B (SEAMLESS)
4	DIP PIPE /J–PIPE/THERMOWELL	SA106 GR.B (SEAMLESS)
5	NOZZLE PIPE (SHELL) > DN150	IS 2062 GR.B (FABRICATED WITH 100% RT)
6	NOZZLE FLANGE (SHELL) ≤ DN80	SA 105
7	NOZZLE FLANGE (SHELL) > DN80	IS 2062 GR.B
8	MANHOLE FLANGE/COVER	IS 2062 GR.B
9	NAME PLATE BRACKET/NAME PLATE	IS 2062 GR.B / SA240 GR.304
10	GASKET 3mm THK(MAKE UNIKLINGER/CHAMPION)	ACIDIC NON ASBESTOS PTFE ENVELOPE
11	EXT. STUD BOLTS & NUTS (WITH SPRING WASHER & LOCK NUT)	SA 193 GR. B7/SA 194 GR. 2H
12	INT. STUD BOLTS & NUTS (WITH SPRING WASHER & LOCK NUT)	SA 193 GR. B7/SA 194 GR. 2H
13	STRUCTURAL/SUPPORT/LIFTING LUG	IS 2062 / IS 2062 GR.B
14	SUPPORT & LIFTING LUG PAD	IS 2062 GR.B
15	EARTHING BOSS WITH BOLT (2 NOS.)	M.S
16	THERMOWELL PIPE CAP (25 NB)	SCH.–40, SA 234 GR.WPB

WELDING DATA

WELDED JOINTS MATERIAL PART	WELDED JOINTS MATERIAL PART	WELD JOINT CONFIGURATION AS PER DRAWING	BACKCHIPPED & REWELDED (IF ACCESSIBLE)	WELDING PROCESS ROOT PASS	WELDING PROCESS OTHER PASSES	FILLER MATERIAL AWS SPECS.	PREHEATING TYPE	PREHEATING TEMP °C
SA240 Gr.316L/ SA182 F 316L	SA240 Gr.316L	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	–
SA312 TP.316L/ SA312 TP.316L	SA240 Gr.316L	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	–
SA240 Gr.316L/ SA312 TP.316L	SA516 Gr.70/ SA105	REFER DETAILS	YES	GTAW	GTAW	ER309LMo	NIL	–
SA240 Gr.316L	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	–
SA240 Gr.304	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER308L	NIL	–
SA312 TP.304/ SA182 F 304	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER308L	NIL	–
SA240 Gr.304/ SA312 TP.304	SA516 Gr.70/ SA105/ IS–2062	REFER DETAILS	YES	GTAW	GTAW	ER309L	NIL	–
SA516 Gr.70	SA516 Gr.70	REFER DETAILS	YES	GTAW+SMAW	SMAW	ER70S2+E–7018	NIL	–
IS 2062/ SA516 Gr.70	IS 2062	REFER DETAILS	YES	SMAW	SMAW	E–7018	NIL	–

NOZZLE SCHEDULE

NOZZ. NO	SIZE NB	PIPE SCH./Thk.	FLANGES STD.	FLANGES RATING	FLANGES TYPE	APP. PROJ.	R.F. PAD (ODxTHK)	SERVICE	REMARKS
A1	500	8 THK	–	–	SORF	150	730øx8	MAN HOLE (ON TOP DISH)	
C1A	100	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	230øx6	INLET–1	
C1B	100	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	230øx6	INLET–2	
C2	100	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	230øx6	OUTLET	
C3	100	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	230øx6	INLET–3	
C4	50	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	120øx6	INLET–4	
C5	40x25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	––	THERMOWELL	
C6	80	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	190øx6	OVERFLOW	
C7	200	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	340øx6	VENT	
R1A/B	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	––	LEVEL GAUGE – 1	
R1C/D	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	––	LEVEL GAUGE – 2	
R2	80	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	190øx6	LEVEL TRANSMITTER	
R3	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	––	INSTRUMENT	
R4	40	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	–	LEVEL SWITCH	

REVISION STATUS

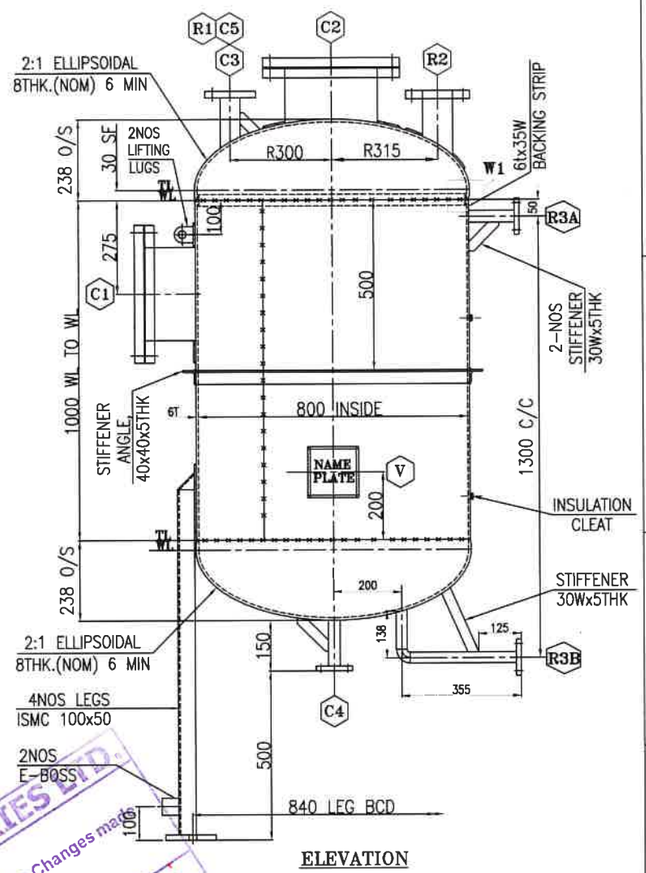
NO.	DATE	DESCRIPTION	BY	CHD.	APPD
3	14.09.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	RBS	RRD	RLD
2	22.07.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	JRS	RRD	RLD
1	30.04.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	JRS	RRD	RLD
0	20.04.2020	ISSUED FOR APPROVAL	JRS	RRD	RLD

UNI-MECH PVT. LTD. DESIGNERS & ENGINEERS
PLOT NO: 5401/A, PHASE IV, GIDC, VATVA, AHMEDABAD
Email: unimechindia@gmail.com; rld@unimechindia.com
TEL:+91– 9825023907; 9374623907

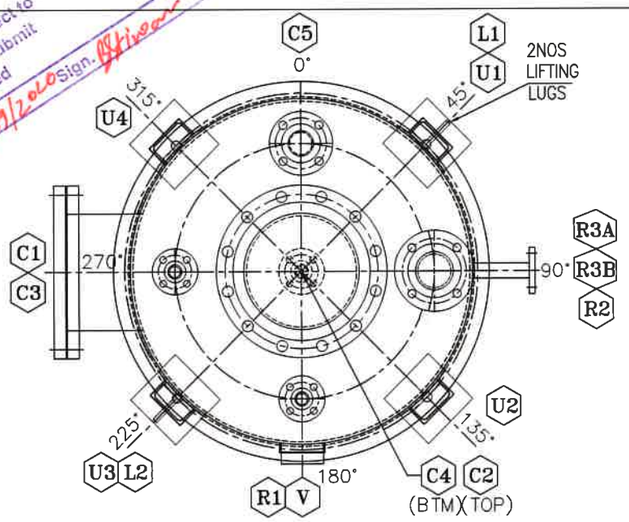
TITLE: **6KL MS STEAM CONDENSATE STORAGE TANK – DETAIL DRG.**

NAME OF CLIENT: PI INDUSTRIES LTD.		INSPECTION BY.. CLIENT / TPI	
P.O. NO. 4500384217	Dtd:– 31.03.2020	QTY.: 01 NO.	TAG NO.: OT10M5701
DRN. BY.. JRS	20.04.2020	DRAWING NO.: UMI/PIIL/6KL/VESSEL/DET/01	
CHKD. BY. RRD	20.04.2020		
APPD. BY. RLD	20.04.2020		
SCALE: 1 : 1	JOB NO. UMI–XX	REF. DRG. NO.: PM VN VDD AL 6KL DO	SHEET 1 OF 1
		REVISION: 0 1 2 3	

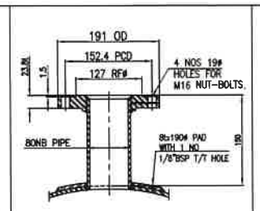
PI INDUSTRIES LTD.
APPROVED
Approved Subject to Changes made
Revise & Resubmit
Not approved
Date 16/02/2021 Sign.



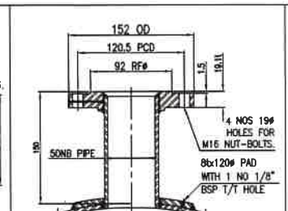
ELEVATION



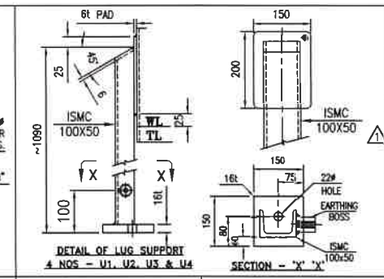
NOZZLE ORIENTATION PLAN



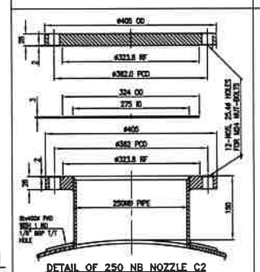
DETAIL OF 80NB NOZZLE R2



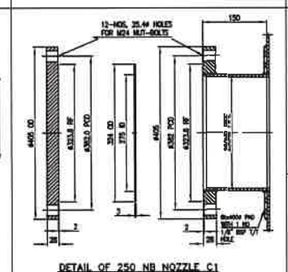
DETAIL OF 50 NB NOZZLE C3 & C5



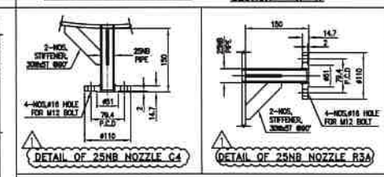
DETAIL OF LUG SUPPORT
4 NOS - U1, U2, U3 & U4



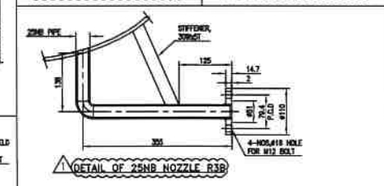
DETAIL OF 250 NB NOZZLE C2



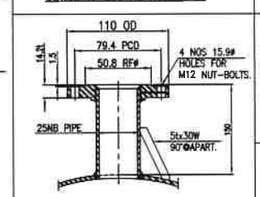
DETAIL OF 250 NB NOZZLE C1



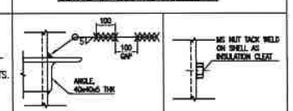
DETAIL OF 25NB NOZZLE C4 | DETAIL OF 25NB NOZZLE R3A



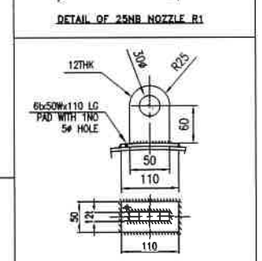
DETAIL OF 25NB NOZZLE R3B



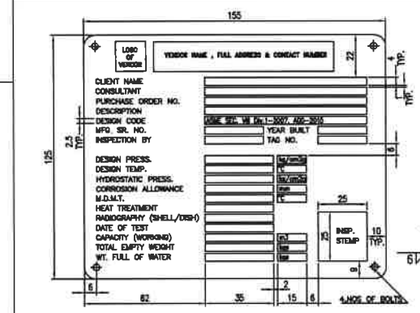
DETAIL OF 25NB NOZZLE R1



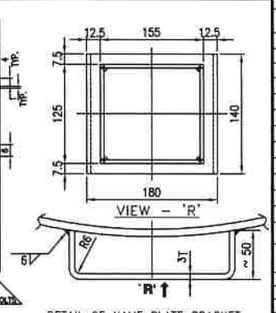
WELD DETAIL OF STIFFENER RING | WELD DETAIL OF INSULATION CLEAT



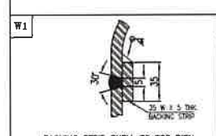
DETAIL OF LIFTING LUGS
2 NOS - L1 & L2



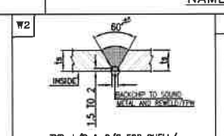
NAME PLATE DETAILS



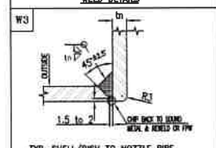
DETAIL OF NAME PLATE BRACKET



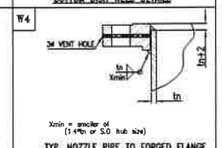
BACKING STRIP SHELL TO TOP DISH WELD DETAILS



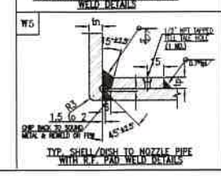
TYP. L/S & C/S FOR SHELL/ BOTTOM DISH WELD DETAILS



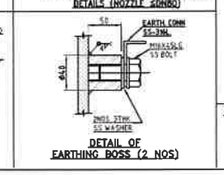
TYP. SHELL/DISH TO NOZZLE PIPE WELD DETAILS



TYP. NOZZLE PIPE TO FORGED FLANGE DETAILS (NOZZLE ≤DN80)



TYP. SHELL/DISH TO NOZZLE PIPE WITH R.F. PAD WELD DETAILS



DETAIL OF EARTHING BOSS (2 NOS)

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL NOZZLES UP TO DN40 SHALL BE PROVIDED 2 NO. (30W X 5 THK) STIFFENERS AT 90° APART.
3. ALL NOZZLES ABOVE DN40 SHALL BE PROVIDED REINFORCEMENT PADS.
   REINFORCEMENT PADS FOR NOZZLES TO BE TESTED PNEUMATICALLY AT 1.0 KG/CM2(g).
   AFTER TEST T/T HOLES TO BE FILLED WITH HARD GREASE.
4. NOZZLE FLANGES UP TO 24" SHALL BE AS PER ASME B16.5 STANDARD UNLESS OTHERWISE SPECIFIED. AND GASKET SEATING SURFACE FINISH FOR NOZZLE FLANGES BE SERRATED FACE TO 125-250AARH.
5. ALL BOLT HOLES OF FLANGES SHALL STRADDLE WITH PRINCIPLE ℄ OF VESSEL.
6. ALL BUTT WELDS SHALL BE FULL PENETRATION JOINTS. WHEREVER BACK CHIPPING IS NOT FEASIBLE, ROOT RUN SHALL BE CARRIED OUT BY GTAW.
7. FABRICATION & DIMENSIONAL TOLERANCES SHALL COMPLY WITH THE DESIGN CODE.
8. ALL INSIDE WELDS SHALL BE FLUSH WITH SHELL I.D. ALL SHARP EDGES/CORNERS TO BE ROUNDED OFF.
9. DISHEND SUBJECTED TO D.P. TEST ON KNUCKLE PORTIONS BOTH INSIDE & OUTSIDE.
10. RADIOGRAPHY SHALL BE FULL FOR DISHEND AND SPOT + 100% T-JOINT FOR SHELL.
11. SURFACE FINISH :-
    INTERNAL: WELD GRIND & SMOOTH FINISH.
    EXTERNAL: 1 COAT OF SMOKE GREY PRIMER BERGER MAKE AND 2 COATS OF PROTECTO MASTIC PAINT BERGER MAKE AFTER CLEANING AND FINISHING OF SURFACE. TOTAL DFT: 250-300 MICRON.
12. EQUIPMENT TO BE HYDROTESTED IN VERTICAL POSITION. EQUIPMENT SHALL BE THOROUGHLY DRIED AFTER HYDROTEST. WATER USED FOR FOR HYDRAULIC TESTING SHALL BE POTABLE WATER HAVING LESS THEN 50 ppm CHLORIDE CONTENT.
13. ALL TYPES OF BOLTS SHOULD BE OF MAKE UNBRAKO/APL/KUNDAN.
14. MINIMUM WIDTH OF SHELL & DISH SHOULD BE AS PER ASME SECTION VIII, DIVISION 1, EDITION 2015.
15. WELDING INSTRUCTION, INSPECTION & TESTING PROCEDURE ARE DEFINE IN ANNEXURE - A
16. LIFTING LUGS ARE DESIGNED FOR LIFTING UNDER EMPTY/COLD CONDITION.
17. WELDING ROD & FILLER WIRE SHOULD BE OF ADAN/ESAB/.....
18. WHERE EVER COMPANION FLANGES OR BLIND FLANGES SPECIFIED. VENDOR SHALL SUPPLY GASKET, STUDS & BOLTS.

NOTE FOR NAME PLATE :
1). MATERIAL :- SS-304 ,1.6 THK.
2). BACK GROUND OF NAME PLATE :- WHITE
3). LETTERING :- ENGRAVING WITH BLACK COLOUR.
4). MONOGRAM :- ENGRAVING WITH DARK BLUE COLOUR.

DESIGN DATA

DESIGN CODE		ASME SECTION VIII, DIVISION 1, EDITION 2015 & GOOD ENG. PRACTICES
TYPE		CYLINDRICAL VERTICAL WITH DISHEND AT TOP & BOTTOM
SERVICE		WASTE GAS TRAP POT (VENT POT)
SPECIFIC GRAVITY OF CONTENT (DESIGN)		-
DESIGN PRESSURE (INT./EXT.)	Kg/cm2 (g)	6.0 / FV
DESIGN TEMP. (MAX./MIN.)	° C.	150 / 0
MIN. DESIGN METAL TEMP. (MDMT)	° C.	~~ROOM TEMP.~~ / 2 zero
WORKING PRESSURE (MAX./MIN.)	Kg/cm2 (g)	ATMOSHPERIC
WORKING TEMP. (MAX./MIN.)	° C.	70 / 15
TEST PRESSURE (Hydrostatic)	Kg/cm2 (g)	8.4 (REFER NOTE: 12)
RADIOGRAPHY	(Shell/Dish)	SPOT + 'T' JOINT/FULL (REF. NOTE:10)
WELD JOINT EFFICIENCY	(Shell/Dish)	0.85/1.0
CORROSION/EROSION ALLOWANCE	MM.	3
POST WELD HEAT TREATMENT		NO
CAPACITY (Working / Gross)	LITERS	500 / 700
OPERATING LEVEL	m	---
WIND DESIGN CODE		IS:875-1987 (PART-3)
WIND ZONE /BASIC WIND SPEED	m/s.	44
SEISMIC DESIGN CODE		IS:1893-2005 (ZONE-3)
INSTALLATION ORIENTATION/ LOCATION		CYLINDRICAL VERTICAL / INDOOR
SURFACE PREPARATION (PAINTING/ CLEANING)		AS PER NOTE NO. 11
INSPECTION BY		CLIENT / TPI

WEIGHTS/LOADING DATA

CONDITION		WEIGHT
EMPTY	kgs	~650
FULL OF WATER	kgs	~1150
OPERATING (MAX)	kgs	~1350

MATERIAL SPECIFICATION

SR.	PART NAME	MATERIAL OF CONSTRUCTION (CONFIRM TO- ASME SECTION-II PART-A, ED-2007,ADD-2009)
1	SHELL / DISH / R.F.PAD / BACKING STRIP	IS 2062 GR.B
2	NOZZLE PIPE ≤ DN150	SA106 GR.B (SEAMLESS)
3	NOZZLE PIPE > DN150	IS 2062 GR.B (FABRICATED WITH 100% RT)
4	NOZZLE FLANGE ≤ DN80	SA 105
5	NOZZLE FLANGE > DN80	SA 105
6	BODY FLANGE/COVER (C1 & C2)	IS 2062 GR.B
7	NAME PLATE BRACKET/NAME PLATE	IS 2062 GR.B / SA240 GR.304
8	STRUCTURAL/SUPPORT/LIFTING LUG	IS 2062 E250 C
9	SUPPORT & LIFTING LUG PAD	IS 2062 GR.B
10	EARTHING BOSS WITH BOLT (2 NOS.)	MS

WELDING DATA

WELDED JOINTS MATERIAL PART	WELDED JOINTS MATERIAL PART	WELD JOINT CONFIGURATION AS PER DRAWING	BACKCHIPPED & REWELDED (IF ACCESSIBLE)	WELDING PROCESS ROOT PASS	WELDING PROCESS OTHER PASSES	FILLER MATERIAL AWS SPECS.	PREHEATING TYPE	PREHEATING TEMP °C
SA240 Gr.316L/ SA182 F 316L	SA240 Gr.316L	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	-
SA213 TP.316L/ SA312 TP.316L	SA240 Gr.316L	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	-
SA240 Gr.316L/ SA312 TP.316L	SA516 Gr.70/ SA105	REFER DETAILS	YES	GTAW	GTAW	ER309LMo	NIL	-
SA240 Gr.316L	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	-
SA240 Gr.304	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER308L	NIL	-
SA240 Gr.304	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER308L	NIL	-
SA240 Gr.304/ SA182 F 304	SA516 Gr.70/ SA105/ IS-2062	REFER DETAILS	YES	GTAW	GTAW	ER309L	NIL	-
SA312 TP.304								
SA516 Gr.70	SA516 Gr.70	REFER DETAILS	YES	GTAW+SMAW	SMAW	ER70S2+E-7018	NIL	-
IS 2062/ SA516 Gr.70	IS 2062	REFER DETAILS	YES	SMAW	SMAW	E-7018	NIL	-

NOZZLE SCHEDULE

NOZZ. NO	SIZE NB	PIPE SCH./Thk.	FLANGES STD.	FLANGES RATING	FLANGES TYPE	APP. PROJ.	R.F. PAD (ODxTHK)	SERVICE	REMARKS
C1	250	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	400#x6	INLET	
C2	250	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	400#x8	OUTLET	
C3	50	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	120#x8	SPARE	
C4	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	---	DRAIN	
C5	50	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	120#x8	VENT	
R1	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	---	PR. GAUGE	
R2	80	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	190#x8	LEVEL TRANSMITTER	
R3A/B	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	---	INSTRUMENT	

REVISION STATUS

NO.	DATE	DESCRIPTION	BY	CHD.	APPD
2	14.09.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	RBS	RRD	RLD
1	30.04.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	JRS	RRD	RLD
0	20.04.2020	ISSUED FOR APPROVAL	JRS	RRD	RLD

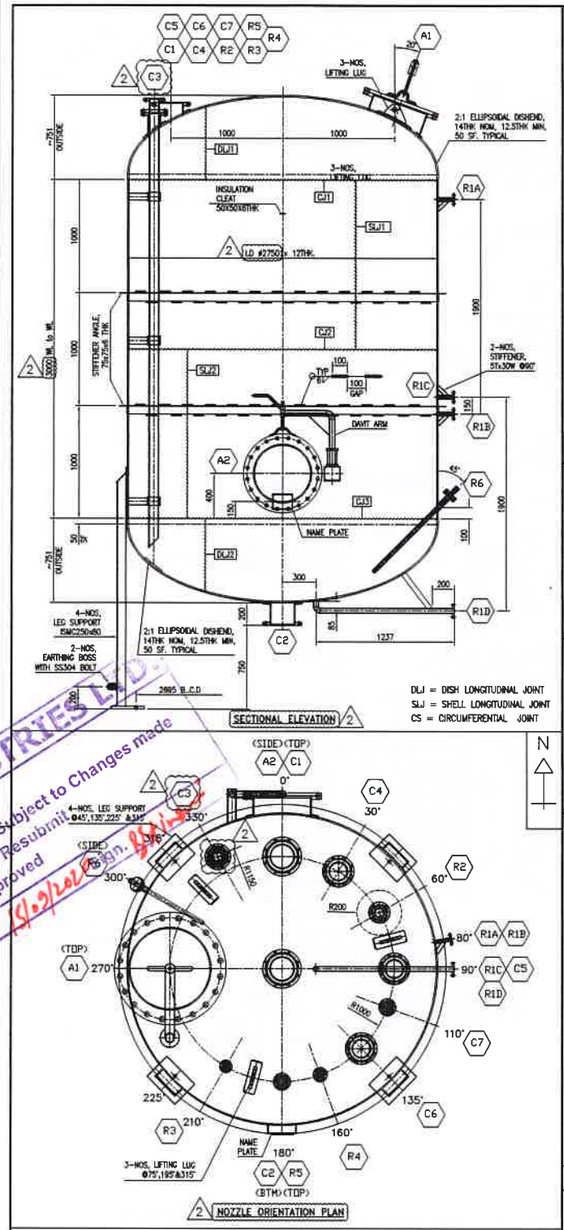
UNI-MECH INDIA PVT. LTD. DESIGNERS & ENGINEERS
PLOT NO: 5401/A, PHASE IV, GIDC, VATVA, AHMEDABAD
Email: unimechindia@gmail.com; rld@unimechindia.com
TEL:+91- 9825023907; 9374623907

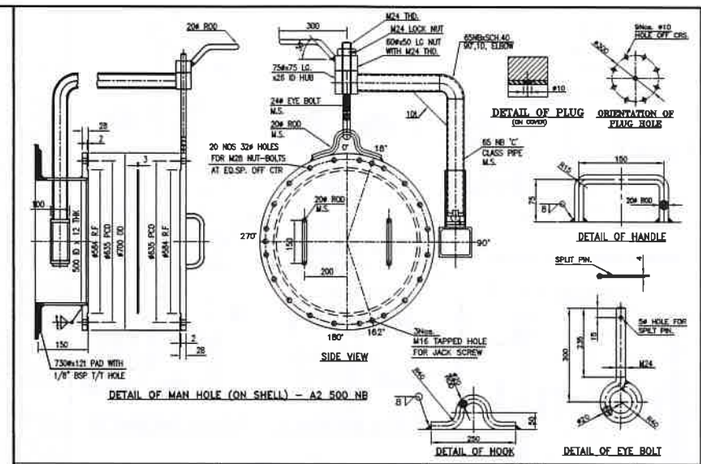
TITLE:

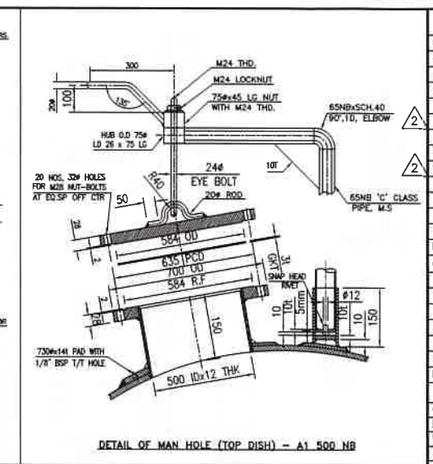
0.5KL MS WASTE GAS TRAP POT - DETAIL DRG.

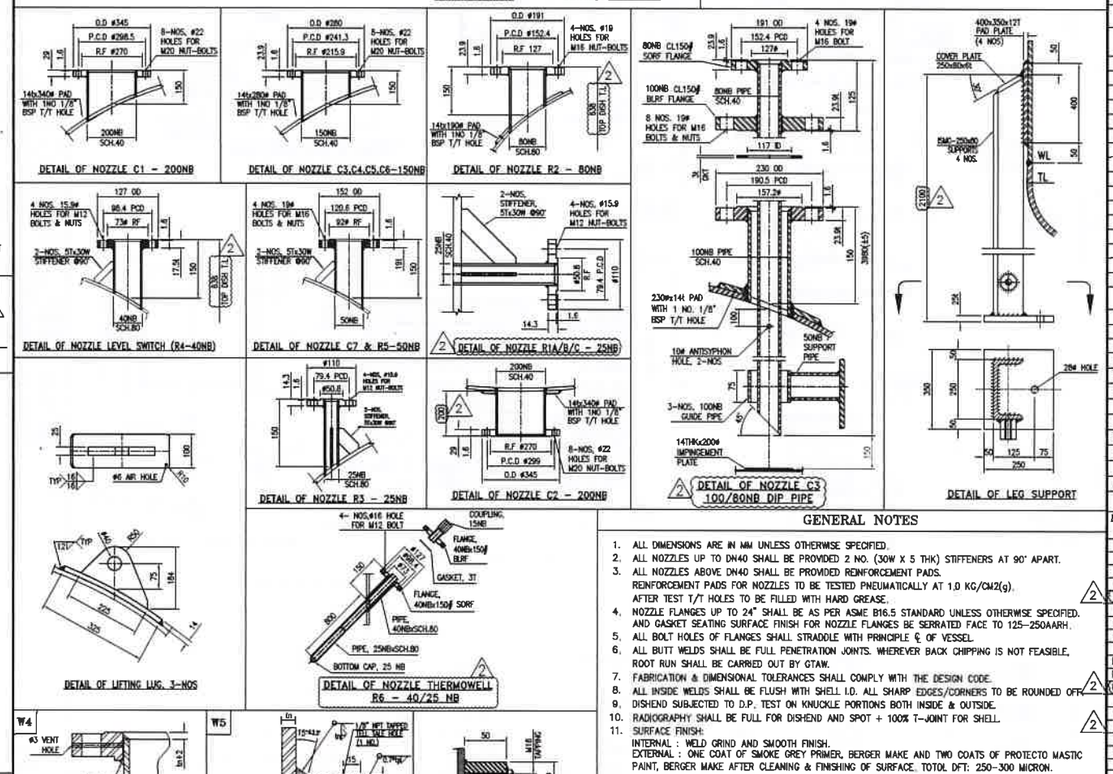
NAME OF CLIENT: PI INDUSTRIES LTD.		INSPECTION BY.: CLIENT / TPI	
P.O. NO.: 4500384217	Dtd:- 31.03.2020	QTY.: 1-NO	TAG NO.: OV10M7601
DRN. BY.: JRS	20.04.2020	DRAWING NO.: UMI/PIIL/0.5KL/VENTPOT/DET/01	
CHKD. BY.: RRD	20.04.2020		
APPD. BY.: RLD	20.04.2020		
SCALE: 1 : 1	JOB NO.: UMI-XX	REF. DRG NO. PM *	SHEET 1 OF 1
		REVISION: 0 1 2	

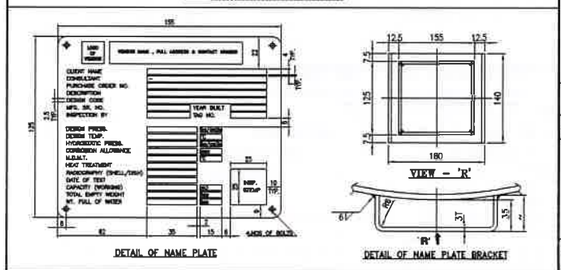
PI INDUSTRIES LTD.
APPROVED
Approved Subject to Changes made
Revise & Resubmit
Not approved
Date 15/9/2020 Sign.











GENERAL NOTES

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED.
2. ALL NOZZLES UP TO DN40 SHALL BE PROVIDED 2 NO. (30W X 5 THK) STIFFENERS AT 90° APART.
3. ALL NOZZLES ABOVE DN40 SHALL BE PROVIDED REINFORCEMENT PADS.
   REINFORCEMENT PADS FOR NOZZLES TO BE TESTED PNEUMATICALLY AT 1.0 KG/CM2(g).
   AFTER TEST T/T HOLES TO BE FILLED WITH HARD GREASE.
4. NOZZLE FLANGES UP TO 24" SHALL BE AS PER ASME B16.5 STANDARD UNLESS OTHERWISE SPECIFIED. AND GASKET SEATING SURFACE FINISH FOR NOZZLE FLANGES BE SERRATED FACE TO 125-250AARH.
5. ALL BOLT HOLES OF FLANGES SHALL STRADDLE WITH PRINCIPLE ℄ OF VESSEL.
6. ALL BUTT WELDS SHALL BE FULL PENETRATION JOINTS. WHEREVER BACK CHIPPING IS NOT FEASIBLE, ROOT RUN SHALL BE CARRIED OUT BY GTAW.
7. FABRICATION & DIMENSIONAL TOLERANCES SHALL COMPLY WITH THE DESIGN CODE.
8. ALL INSIDE WELDS SHALL BE FLUSH WITH SHELL I.D. ALL SHARP EDGES/CORNERS TO BE ROUNDED OFF.
9. DISHEND SUBJECTED TO D.P. TEST ON KNUCKLE PORTIONS BOTH INSIDE & OUTSIDE.
10. RADIOGRAPHY SHALL BE FULL FOR DISHEND AND SPOT + 100% T-JOINT FOR SHELL.
11. SURFACE FINISH:
    INTERNAL : WELD GRIND AND SMOOTH FINISH.
    EXTERNAL : ONE COAT OF SMOKE GREY PRIMER, BERGER MAKE AND TWO COATS OF PROTECTO MASTIC PAINT, BERGER MAKE AFTER CLEANING & FINISHING OF SURFACE. TOTOL DFT: 250-300 MICRON.
12. EQUIPMENT TO BE HYDROTESTED IN VERTICAL POSITION.EQUIPMENT SHALL BE THOROUGHLY DRIED AFTER HYDROTEST. WATER USED FOR FOR HYDRAULIC TESTING SHALL BE POTABLE WATER HAVING LESS THEN 50 ppm CHLORIDE CONTENT.
13. ALL TYPES OF BOLTS SHOULD BE OF MAKE UNBRAKO/APL/KUNDAN.
14. MINIMUM WIDTH OF SHELL & DISH SHOULD BE AS PER ASME SECTION VIII, DIVISION 1, EDITION 2015.
15. WELDING INSTRUCTION, INSPECTION & TESTING PROCEDURE ARE DEFINE IN ANNEXURE - A
16. LIFTING LUGS ARE DESIGNED FOR LIFTING UNDER EMPTY/COLD CONDITION.
17. WELDING ROD & FILLER WIRE SHOULD BE OF ADANI/ESAB/_____
18. WHERE EVER COMPANION FLANGES OR BLIND FLANGES SPECIFIED, VENDOR SHALL SUPPLY GASKET, STUDS & BOLTS.

NOTE (FOR NAME PLATE) :
1). MATERIAL : SS-304 , 1.6 THK.
2). BACK GROUND OF NAME PLATE :- WHITE
3). LETTERING :- ENGRAVING WITH BLACK COLOUR.
4). MONOGRAM :- ENGRAVING WITH DARK BLUE COLOUR.

DESIGN DATA

DESIGN CODE		ASME SECTION VIII, DIVISION 1, EDITION 2015 & GOOD ENG. PRACTICES
TYPE		CYLINDRICAL VERTICAL WITH DISH AT TOP & BOTTOM
SERVICE		HOT WATER COLLECTION TANK
SPECIFIC GRAVITY OF CONTENT (DESIGN)		1
DESIGN PRESSURE (INT./EXT.)	Kg/cm2 (g)	6.0 / FV
DESIGN TEMP. (MAX./MIN.)	° C.	200 / 0
MIN. DESIGN METAL TEMP. (MDMT)	° C.	(ROOM TEMP) 3 ~ 45±0 °C
WORKING PRESSURE (MAX./MIN.)	Kg/cm2 (g)	ATMOSPHERIC
WORKING TEMP. (MAX./MIN.)	° C.	110 / (50) ~ 15
TEST PRESSURE (Hydrostatic)	Kg/cm2 (g)	8.4 (REFER NOTE:12)
RADIOGRAPHY	(Shell/Dish)	SPOT/FULL (REFFER NOTE:10)
WELD JOINT EFFICIENCY	(Shell/Dish)	0.85/1.0
CORROSION/EROSION ALLOWANCE	MM.	1.5
POST WELD HEAT TREATMENT		NO
CAPACITY (Working / Gross)	Ltrs	20000 / 21800
OPERATING LEVEL	m	----
WIND DESIGN CODE		IS:875-1987 (PART-3)
WIND ZONE /BASIC WIND SPEED	m/s.	44
SEISMIC DESIGN CODE		IS:1893-2005 (ZONE-3)
INSTALLATION ORIENTATION/ LOCATION		CYLINDRICAL VERTICAL / INDOOR
SURFACE PREPARATION (PAINTING/ CLEANING)		AS PER NOTE NO. 11 & 12
INSPECTION BY		CLIENT / TPI

WEIGHTS/LOADING DATA

CONDITION		WEIGHT
EMPTY	kgs	~ 5900
FULL OF WATER	kgs	~ 25900
OPERATING (MAX)	kgs	~ 27700

MATERIAL SPECIFICATION

SR.	PART NAME	MATERIAL OF CONSTRUCTION (CONFIRM TO- ASME SECTION-II PART-A, ED-2007,ADD-2009)
1	SHELL / DISH / R.F.PAD/IMPINGEMENT PLATE	IS 2062 GR.B
2	STIFFENER ANGLE	M.S
3	NOZZLE PIPE (SHELL) ≤ DN150	SA106 GR.B (SEAMLESS)
4	DIP PIPE /J-PIPE/THERMOWELL	SA106 GR.B (SEAMLESS)
5	NOZZLE PIPE (SHELL) > DN150	IS 2062 GR.B (FABRICATED WITH 100% RT)
6	NOZZLE FLANGE (SHELL) ≤ DN80	SA 105
7	NOZZLE FLANGE (SHELL) > DN80	IS 2062 GR.B
8	MANHOLE FLANGE/COVER	IS 2062 GR.B
9	NAME PLATE BRACKET/NAME PLATE	IS 2062 GR.B / SA240 GR.304
10	GASKET 3mm THK(MAKE UNIKLINGER/CHAMPION)	ACIDIC NON ASBESTOS PTFE ENVELOPE
11	EXT. STUD BOLTS & NUTS (WITH SPRING WASHER & LOCK NUT)	SA 193 GR. B7/SA 194 GR. 2H
12	INT. STUD BOLTS & NUTS (WITH SPRING WASHER & LOCK NUT)	SA 193 GR. B7/SA 194 GR. 2H
13	STRUCTURAL/SUPPORT/LIFTING LUG	IS 2062 / IS 2062 GR.B
14	SUPPORT & LIFTING LUG PAD	IS 2062 GR.B
15	EARTHING BOSS WITH BOLT (2 NOS.)	M.S
16	THERMOWELL PIPE CAP (25 NB)	SCH.-40, SA 234 GR.WPB

WELDING DATA

WELDED JOINTS				WELDING PROCESS		FILLER MATERIAL	PREHEATING	
MATERIAL PART	MATERIAL PART	WELD JOINT CONFIGURATION AS PER DRAWING	BACKCHIPPED & REWELDED (IF ACCESSIBLE)	ROOT PASS	OTHER PASSES	AWS SPECS.	TYPE	TEMP °C
SA240 Gr.316L/ SA182 F 316L	SA240 Gr.316L	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	-
SA213 TP.316L/ SA312 TP.316L	SA240 Gr.316L	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	-
SA240 Gr.316L/ SA312 TP.316L	SA516 Gr.70/ SA105	REFER DETAILS	YES	GTAW	GTAW	ER309LMo	NIL	-
SA240 Gr.316L	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER317L	NIL	-
SA240 Gr.304	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER309L	NIL	-
SA312 TP.304/ SA182 F 304	SA240 Gr.304	REFER DETAILS	YES	GTAW	GTAW	ER308L	NIL	-
SA240 Gr.304/ SA312 TP.304	SA516 Gr.70/ SA105/ IS-2062	REFER DETAILS	YES	GTAW	GTAW	ER309L	NIL	-
SA516 Gr.70	SA516 Gr.70	REFER DETAILS	YES	GTAW+SMAW	SMAW	ER70S2+E-7018	NIL	-
IS 2062/ SA516 Gr.70	IS 2062	REFER DETAILS	YES	SMAW	SMAW	E-7018	NIL	-

NOZZLE SCHEDULE

NOZZ. NO	SIZE NB	PIPE SCH./Thk.	FLANGES STD.	FLANGES RATING	FLANGES TYPE	APP. PROJ.	R.F. PAD (ODxTHK)	SERVICE	REMARKES
A1	500	12 THK	–	–	RF	150	730øx14	MAN HOLE (ON TOP DISH)	
A2	500	12 THK	–	–	RF	150	730øx12	MAN HOLE (ON SHELL)	
C1	200	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	340øx14	INLET-1	
C2	200	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	340øx14	OUTLET	
C3	100/80	SCH.40	ASME B.16.5	ANSI.150#	SORF	150/125	230øx14	INLET-2 WITH DIP PIPE	
C4	150	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	280øx14	INLET-3	
C5	150	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	280øx14	CIRCULATION	
C6	150	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	280øx14	INLET-4	
C7	50	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	120øx14	VENT	
R1A/B	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	---	LEVEL GAUGE - 1	
R1C/D	25	SCH.40	ASME B.16.5	ANSI.150#	SORF	150	---	LEVEL GAUGE - 2	
R1E/F								DELETED	
R2	80	SCH.80	ASME B.16.5	ANSI.150#	SORF	150	190øx14	LEVEL TRANSMITTER	
R3	25	SCH.80	ASME B.16.5	ANSI.150#	SORF	150	---	INSTRUMENT	
R4	40	SCH.80	ASME B.16.5	ANSI.150#	SORF	150	190øx14	LEVEL SWITCH WITH DIP PIPE	
R5	50	SCH.80	ASME B.16.5	ANSI.150#	SORF	150	120øx14	SAFETY VALVE	
R6	40x25	SCH.80	ASME B.16.5	ANSI.150#	SORF	150/100	---	THERMOWELL	

NO.	DATE	DESCRIPTION	BY	CHD.	APPD
3	14.09.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	RBS	RRD	RLD
2	14.05.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	JRS	RRD	RLD
1	30.04.2020	CLIENT'S COMMENTS ADDED. ISSUED FOR APPROVAL	JRS	RRD	RLD
0	20.04.2020	ISSUED FOR APPROVAL	JRS	RRD	RLD

REVISION STATUS

UNI-MECH
DESIGNERS & ENGINEERS
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TITLE:
20KL MS HOT WATER COLLECTION TANK - DETAIL DRG.

NAME OF CLIENT: PI INDUSTRIES LTD.		INSPECTION BY: CLIENT / TPI	
P.O. NO.: 4500384217	Dtd:- 31.03.2020	QTY.: 02 NOS. TAG NO. 0T10M5501, 0T10M5601	
DRN. BY: JRS	20.04.2020	DRAWING NO.: UMI/PIIL/20KL/VESSEL/DET/01	
CHKD. BY: RRD	20.04.2020		
APPD. BY: RLD	20.04.2020		
SCALE: 1 : 1	JOB NO.: UMI-XX	REF. DRG. NO.: PM -	SHEET 1 OF 1
		REVISION: 0 1 2 3	

PI INDUSTRIES LTD.
APPROVED
Approved Subject to Changes made
Revise & Resubmit
Not approved
Date 15/9/2020 Sign. 8/9/20