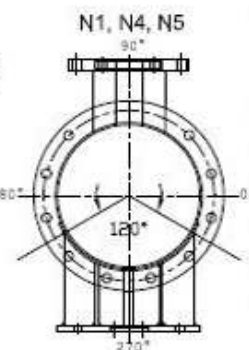
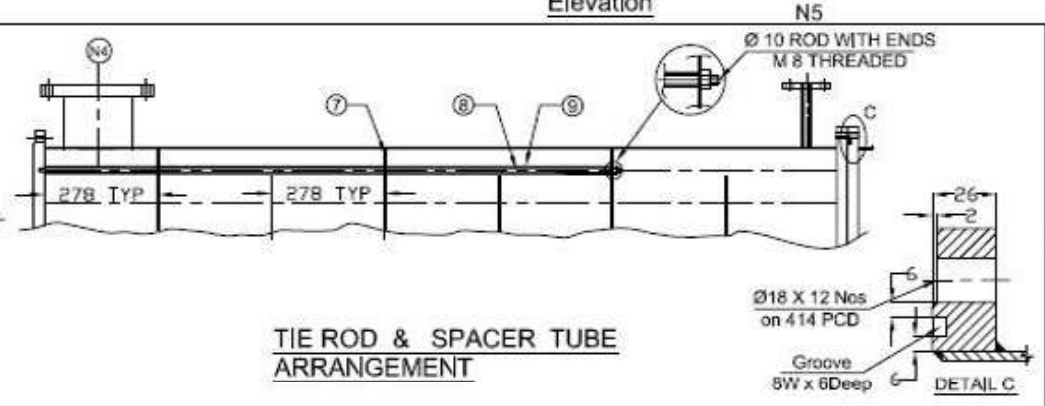


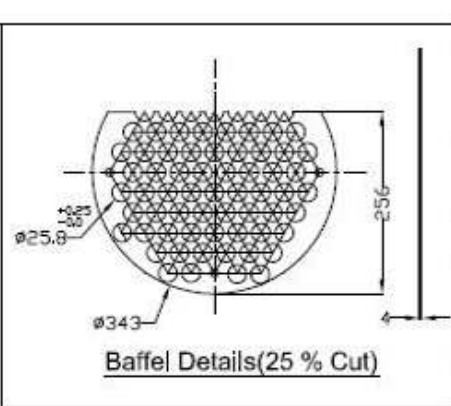
Elevation



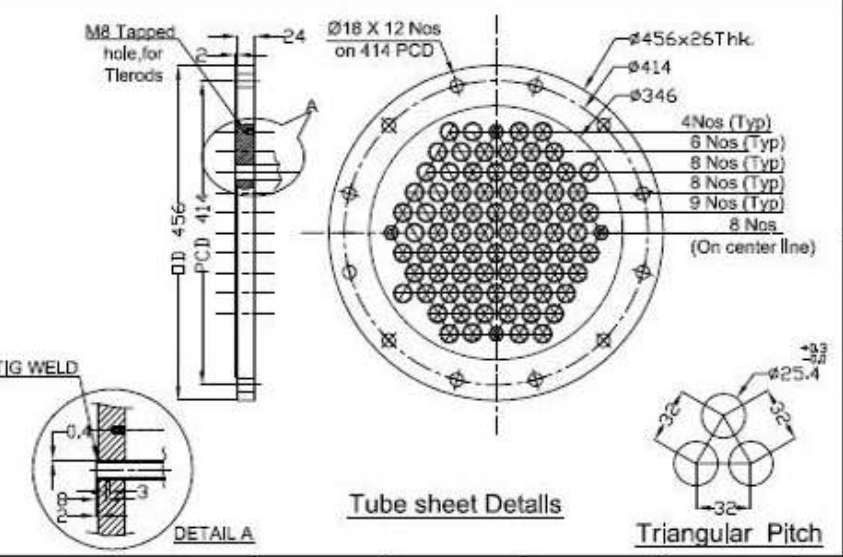
Nozzle Orientation



TIE ROD & SPACER TUBE ARRANGEMENT

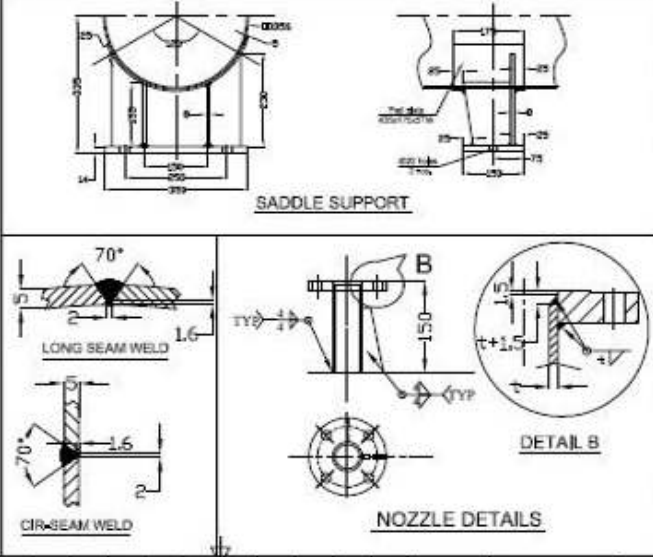


Baffle Details (25% Cut)



Tube sheet Details

Triangular Pitch



SADDLE SUPPORT

DETAIL B

NOZZLE DETAILS

GENERAL DATA

Equipment	Condenser
Position	Horizontal
Heat Transfer Area	12 m ²

DESIGN DATA

SL.No	Description	Shell side	Tube side
1	Design Code	ASME Sec. VIII Div. 1 & TEMA	
2	Operating Pressure	-	-
3	Design Pressure	3 Kg/Sq.cm	3 Kg/Sq.cm
4	Hydrotest Pressure	4.5 Kg/Sq.cm	4.5 Kg/Sq.cm
5	Operating Temperature	-	-
6	Design Temperature	70°C	150°C
7	Empty Weight	570 kg Apprx.	

MATERIAL SPECIFICATION

SL.No	Description	Specification	MOC	Qty
1	Shell	350NB, Sch.10 X 2000 long	SS316	1
2	Bonnet shell	350NB, Sch.10X 300 L & 250 Lg	SS304	1+1
3	Bonnet dish	350 dia	SS304	2
4	Bonnet Flange	OD456 X ID358 X 26 thk	SS304	2
5	Tube Sheet	Ø456 X 26 thk	SS316	2
6	Tubes	25.4 OD X 1.6 thk X 2000 Lg	SS316	78
7	Baffles	Ø343(25% cut)X 4 thk	SS316	6
8	Tie rod	Ø10	SS316	4
9	Spacer Tube	10NB Sch10, Length to suit	SS316	4
10	Saddle support	As per detail drg	SS304	2
11	Lifting hook	As per standard drg	SS304	2
12	Earthing Boss	As per standard drg	SS304	2

NOZZLE SCHEDULE

Mark	Service	Size	thk	Proj	Flange	MOC	Qty
N1	Water Out	50NB	Sch 40	150	ANSI B16.5 Class 150	SS304	1
N2	Water In	50NB	Sch 40	150		SS304	1
N3	Condensate outlet	50NB	Sch 40	150		SS316	1
N4	Vapour In	150NB	Sch 40	150		SS316	1
N5	Vent	15NB	Sch 40	150		SS316	1
N6	Drain	25NB	Sch 40	150		SS316	1
N7	Vent	15NB				SS304	1

NOTES:

- All dimensions are in mm unless otherwise specified.
- All welds to be continuous unless otherwise specified.
- All sharp edges shall be round off.
- All bolt holes shall straddle main center line of the vessel.
- Nozzles less than 50 NB shall provide two stiffeners 30 wide x 6 thk at 90° apart.
- Reinforcement pads shall have vent hole of Ø6 mm.

2	As per client's comments	14.10.10	Praveesh	SUS
1	General	28.03.10	Praveesh	SUS

RevNo Revision note Date Signature Checked

REF: PO

CLIENT: BIOCON LIMITED

DESIGN BY: PRAVEESH M S CHECKED BY: DATE: APPROVED BY: DATE: DRG. NO: REV

SIECO ENGINEERS PVT. LTD.
NO. 25, BOMMASANDRA IND. AREA,
BANGALORE-560 099, INDIA

THE DESCRIPTION: Condenser 12 Sq.m

SCALE: AS SHOWN IN DRAWING

DATE: 13.09.10 SCO/BLP-020/10-11/046