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NOZZLES AND CONNECTIONS

MARK	QTY	NOM DIA.	SCH/ THK.	FLANGES			PROJECTION (NOTE-4)	PAD W X T	SER VICE
				CLASS	TYPE	FACING			
F1	1	100	120	150	WN	RF	1010	60X8	FEED
F ^F ₂₋₃	2	80	160	150	WN	RF	1010	45X8	FEED
T	1	38.1 ID	—	150	LWN	RF	960	—	TOP OUTLET
B1	1	50	160	150	WN	RF	960	—	BOTTOM OUTLET
B2	1	80	160	150	WN	RF	1010	45X8	BOTTOM OUTLET
D	1	50	160	150	WN	RF	960	—	DRAIN+BF
V	1	50	160	150	WN	RF	960	—	VENT+BF
UC	1	50	160	150	WN	RF	SEE DRG.	—	UTILITY CONNECTION+BF
L ^T _{3,5,7&9}	4	50	160	150	WN	RF	950	—	LEVEL INSTRUMENTS
P1	1	38.1 ID	—	150	LWN	RF	960	—	PRESSURE INSTRUMENTS
TI	1	38.1 ID	—	150	LWN	RF	960	—	TEMPERATURE INSTRUMENTS
SV	1	152.4 ID	—	150	LWN	RF	1010	85X8	SAFETY VALVE
MH ₁₋₂	2	500	14	150	WN	RF	1060	250X8	MANHOLE+DAVIT+BF
SP1	1	50	160	150	WN	RF	785	—	STAND PIPE
NP	1	38.1 ID	—	150	LWN	RF	960	—	NITROGEN PURGE
P11	1	38.1 ID	—	150	LWN	RF	960	—	PRESSURE INDICATION
L ^T _{4,6,8&10}	4	50	160	150	WN	RF	680	—	LEVEL INSTRUMENTS
SP2	1	50	160	150	WN	RF	960	—	STAND PIPE

GENERAL NOTES

- UNLESS STATED OTHERWISE.
- ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
 - NORTH DIRECTION WHEREVER SHOWN IS WITH RESPECT TO PLAN VIEW.
 - FOR NOZZLES ON SHELL PROJECTIONS ARE REFERRED TO FROM VESSEL CENTER LINE TO FLANGE CONTACT FACE.
 - FOR NOZZLES ON HEAD PROJECTIONS ARE REFERRED TO FROM HEAD T.L. TO FLANGE CONTACT FACE.
 - THE INDICATED THICKNESS IS THE MINIMUM ACCEPTABLE AFTER CONSTRUCTION.
 - FLANGE GASKET FACE SHALL HAVE 125 AARH FINISH.
 - DIMENSIONS OF FLANGES SHALL BE AS PER ANSI B16.5 UNLESS OTHERWISE STATED.
 - ID OF WELD NECK FLANGES SHALL MATCH WITH CORRESPONDING ID OF NOZZLE PIPE/SHELL.
 - NOZZLES 50NB AND BELOW SHALL BE STIFFENED WITH 2NOS.40X6THK. FLATS 90° APART.
 - VESSEL IS SUBJECTED TO STEAM OUT CONDITIONS OF 0.5 KG/CM²(G) @190C.
 - SURFACE CLEANING / PRIMER PAINTING SHALL BE AS PER SPEC. 6907-0642-PT-L07
 - COMPLETE VESSEL SHALL BE STRESS RELIEVED. HARDNESS OF BASE METAL, WELD & HAZ AFTER PWHT SHALL NOT EXCEED 200BHN. HARDNESS MEARURMENT SHALL BE IN ACCORDANCE WITH 6-12-0002
 - ALL CIRCUMFERENTIAL & LONGITUDINAL SEAM INCLUDING NOZZLE NECK TO FLANGE, PIPE TO PIPE & PIPE TO FITTING, SHALL BE FULLY RADIOGRAPHED.
 - DEMISTER SHALL BE SUPPLIED AS PER SPEC. NO. 6907-112-16-46-SP-0009.

- DEMISTER SHALL CONSIST OF 03 NOS. OF LAYERS AS FOLLOWS :
- TOP LAYER : 3" OF 128 KG/M³ (8 LB/FT³)
- MIDDLE LAYER : 3" OF 144 KG/M³ (9 LB/FT³)
- BOTTOM LAYER : 3" OF 80 KG/M³ (5 LB/FT³)

SPECIFICATIONS

×	DENOTES APPLICABILITY
×	GENERAL SPEC. FOR PRESSURE VESSELS
×	SUPP. SPEC. FOR CS VESSELS
×	STD. SPEC. FOR BOCS PLATES
×	STD. SPEC. FOR STRUCTURAL QUALITY PLATES
×	JOB SPEC. FOR SHOP & FIELD PAINTING
×	JOB SPEC. FOR KNITTED WIREMESH DEMISTER

STANDARDS

×	VESSEL TOLERANCES	7-12--0001
×	SUPPORT FOR HORIZONTAL VESSEL	7-12--0002
×	WOODEN PILLOWS FOR SADDLE SUPPORT	7-12--0003
×	SKIRT BASE DETAILS	7-12--0004
×	SKIRT OPENING DETAILS	7-12--0005
×	ANGLE LEG SUPPORT	7-12--0006
×	PIPE LEG SUPPORT	7-12--0007
×	BRACKET SUPPORT FOR VERTICAL VESSEL	7-12--0008
×	MANHOLE WITH HINGED COVER	7-12--0009
×	MANHOLE WITH DAVIT	7-12--0010
×	LADDER RUNGS FOR MANHOLE/DEMISTER	7-12--0011
×	RETAINING PLATE	7-12--0012
×	NOZZLE REINFORCEMENT AND PROJECTION	7-12--0013
×	PAD NOZZLES FOR VESSELS	7-12--0014
×	STANDARD BOLT HOLE ORIENTATION	7-12--0015
×	ALLOY LINER DETAILS	7-12--0016
×	SIGHT GLASSES FOR PRESSURE VESSELS	7-12--0017
×	INTERNAL FLANGES	7-12--0018
×	VORTEX BREAKERS	7-12--0019
×	INLET DEFLECTOR BAFFLE	7-12--0020
×	SUPPORT RING & BOLTING BAR	7-12--0021
×	SUPPORT RING SIZES FOR PACKED TOWERS	7-12--0022
×	PIPE DAVIT	7-12--0023
×	LIFTING LUG TOP HEAD TYPE	7-12--0024
×	FIRE PROOFING AND INSULATION SUPPORTS	7-12--0025
×	EARTHING LUG	7-12--0026
×	NAME PLATE	7-12--0027
×	MANUFACTURER NAME PLATE	7-12--0028
×	BRACKET FOR NAME PLATE	7-12--0029
×	NAME PLATE FOR SMALL EQUIPMENT	7-12--0030
×	DETAILS OF FORGED NOZZLES	7-12--0031
×	SUPPORTS FOR INTERNAL FEED PIPE	7-12--0032
×	HOT INSULATION SUPPORTS FOR HORIZONTAL VESSEL	7-12--0033
×	PIPE DAVIT SUPPORT FOR COLD INS. VESSELS	7-12--0034
×	TYP.DETAILS OF WIRE MESH DEMISTER SUPPORTS	7-12--0036
×	S.R. NOZZLE NECK	7-12--0037

DESIGN DATA

CODE	ASME SEC. VIII DIV 1(LATEST) + ADDENDA
WORKING PRESSURE	(Kg/Cm ² g) INT 4.6 EXT.
DESIGN PRESSURE	(Kg/Cm ² g) INT 6.6 EXT.
WORKING TEMPERATURE	(°C) 59.2–60.3
DESIGN TEMPERATURE	(°C) 75.3
MDMT	(°C) 1
CORROSION ALLOWANCE	(mm) 3.0
TYPE OF HEADS	TORISPHERICAL
JOINT EFFICIENCY	SHELL 1.0 HEAD 1.0
RADIOGRAPHY	SHELL FULL HEAD SINGLE PIECE
POST WELD HEAT TREATMENT	YES (COMPLETE VESSEL)
HEAT TREATMENT	HEAD AS PER SPEC.
WIND SPECIFICATION	IS : 875
EARTH-QUAKE SPECIFICATION	SITE SPECTRA
OPERATING MEDIUM	RICH AMNE+002 SP. GRAVITY– 1.0209–1.0221
CAPACITY	(M ³) 10.6
PAINTING / CLEANING	AS PER JOB SPEC.
INSULATION THICKNESS (mm) NIL	☐ HOT ☐ COLD
FIRE PROOFING	☐ YES ☒ NO
HYDROSTATIC TEST (Kg/Cm ² g)	HORIZONTAL –VERTICAL–
PRESSURE (NEW & COLD)	8.58
INSPECTION BY	☒ EIL ☐ CIB ☐ LLOYDS

MATERIAL OF CONSTRUCTION

(AS PER ASME /S OR EQUIVALENT)

SHELL	SA 516 GR.60
REINFORCEMENT PAD	SA 516 GR.60
HEADS	SA 516 GR.60
SHELL FLANGES	–
NOZZLE FLANGES	SA 105
NOZZLE NECK UPTO 250NB	SA 106 GR.B
NOZZLE NECK ABOVE 250NB	SA 516 GR.60
PIPE FITTINGS	SA 234 GR.WPB
GASKETS EXTERNAL	SPIRAL WOUND GASKET WITH SS 316 METAL
	WINDING AND GRAFOIL FILLER MATERIAL AS PER ASME B16.20
GASKETS INTERNAL	COMPRESSED FIBRE ASBESTOS FREE
EXTERNAL STUDS/BOLTS/NUTS	SA 193 GR.B7/SA 194 GR.2H
INTERNAL STUDS/BOLTS/NUTS	SS 304L
SKIRT /SUPPORT	IS 2062 GR.B
SKIRT /SUPPORT BASE	IS 2062 GR.B
INTERNAL PARTS (WELDED)	SA 516 GR.60/SA 106 GR.B
INTERNAL PARTS (BOLTED)	SA 516 GR.60/SA 106 GR.B
CLIPS & ATTACHMENTS (EXTERNAL)	SA 516 GR.60
WRAPPER PLATE	SA 516 GR.60
DEMISTER / GRID	SS 304L
PAD FOR EXTERNAL ATTACHMENTS	SA 516 GR.60
PIPE DAVIT	–

STATUTORY REGULATIONS

INDIAN BOILER REGULATIONS (IBR)
DEPARTMENT OF EXPLOSIVES, NAGPUR (CCOE)

APPROXIMATE WEIGHT (KGS)

ERECTION WEIGHT	3100	OPERATING WEIGHT	7400
HYDROTEST WEIGHT	13800	HYDROTEST WEIGHT	13100
(SHOP)		(FIELD)	

NUMBER OF ITEMS : ONE

NOZZLES AND CONNECTIONS

GENERAL NOTES

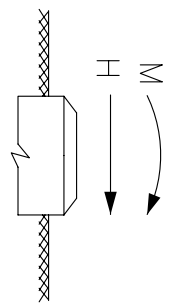
SPECIFICATIONS

DESIGN DATA

VESSEL SHALL BE DELIVERED TO BCPL-LAKWA

FOUNDATION LOADING DATA

(OPERATING CONDITION)

	MAX. MOMENT AT BASE (M)		MAX. SHEAR FORCE AT BASE (H)	
	DBE	–	DBE	–
	MCE	–	MCE	–
	WIND	–		–

SPECIFICATIONS

DESIGN DATA

REFERENCE DRAWINGS

×	NOZZLE ORIENTATIONS	6907-051-16-43-4101, REV1
×	LADDERS / PLATFORM CLEATS	–
×	PIPE SUPPORT CLEATS	–
×	TRAY SUPPORT AND BOLTING BARS	N.A.
×	DEMISTER DATA SHEET	6907-051-02-DS-1906

HOLD UPS

NOZZLE ORIENTATIONS	SIZE OF NOZZLES LI, PI & TI
NOZZLE ELEVATIONS	PIPE SUPPORT CLEATS
SUPPORT HEIGHT	LADDER / PLATFORM CLEATS
DETAIL OF INTERNALS	TRAY SUPPORTS/ BOLTING BARS
REBOILER CLIPS	PIPE DAVIT

SPECIFICATIONS

DESIGN DATA

STATUTORY REGULATIONS

INDIAN BOILER REGULATIONS (IBR)
DEPARTMENT OF EXPLOSIVES, NAGPUR (CCOE)

APPROXIMATE WEIGHT (KGS)

ERECTION WEIGHT	3100	OPERATING WEIGHT	7400
HYDROTEST WEIGHT	13800	HYDROTEST WEIGHT	13100
(SHOP)		(FIELD)	

NUMBER OF ITEMS : ONE



ENGINEERS INDIA LIMITED
KOLKATA

JOB NO.:	6907
CLIENT:	BCPL
PLANT:	GAS SWEETENING UNIT

ISSUED FOR PURCHASE	ISSUED FOR BIDS
REVISION	BY

CHK	APPROVED	APPROVED
CHK	APPROVED	APPROVED

VESSEL DESIGN DATA	RICH AMINE FLASH DRUM
ITEM NO.	051-VV-101

वर्सेल डिजाइन ड्राट रिच एमार्नि फ्लैश ड्रम आइटम नम्बर 051-वीवी-101

DRAWING NO.	REV.
6907-051-16-46-3015	0
SHEET 1 OF 2	

