

NOZZLES AND CONNECTIONS

MARK	QTY	NOM DIA.	SCH/ THK.	FLANGES			PROJECTION (NOTE-4)	PAD W X T	SERVICE
				CLASS	TYPE	FACING			
F	1	300	10	150	WN	RF	1710	220X10	FEED
T	1	350	10	150	WN	RF	SEE DRG.	150X10	TOP OUTLET
B	1	150	10	150	WN	RF	SEE DRG.	70X10	BOTTOM OUTLET
D	1	50	80S	150	WN	RF	SEE DRG.	-	DRAIN+BF
UC	1	50	80S	150	WN	RF	1660	-	UTILITY CONNECTION+BF
V	1	50	80S	150	WN	RF	SEE DRG.	-	VENT+BF
M	1	500	10	150	WN	RF	SEE DRG.	215X10	MANHOLE+DAVIT+BF
SP 1-2	2	50	80S	150	WN	RF	1660	-	STAND PIPE
LT 3-4	2	38.1 I.D	14.28	150	LWN	RF	1660	-	LT DP TYPE
VR	1	350	12	150	WN	RF	1760	185X10	VAPOUR RETURN
AO 1-2	2	500	10	AS PER EIL STD.			215X10	ACCESS OPENING	
SKV 1-4	4	100	40	AS PER EIL STD.			-	SKIRT VENT	

VESSEL SHALL BE DELIVERED TO BCPL-LAKWA

FILE NAME : 6907-51-16-46-3023-1-1

FOUNDATION LOADING DATA (OPERATING CONDITION)				
TYPE	MAX. MOMENT AT BASE (M) (kgm)		MAX. SHEAR FORCE AT BASE (H) (kg)	
	DBE	101800	DBE	15200
SEISMIC	MCE	—	MCE	—
WIND	54300		9400	

GENERAL NOTES

- UNLESS STATED OTHERWISE.
- ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE STATED.
 - ALL ANCHOR BOLT HOLES TO STRADDLE N/S CENTER LINE.
 - NORTH DIRECTION WHEREVER SHOWN IS WITH RESPECT TO PLAN VIEW.
 - a) FOR NOZZLES ON SHELL PROJECTIONS ARE REFERRED TO FROM VESSEL CENTER LINE TO FLANGE CONTACT FACE.
b) 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.
 - SURFACE CLEANING / PRIMER PAINTING SHALL BE AS PER SPEC. 6907-0642-PT-L07
 - ALL INTERNALS SHALL BE SIZED SO AS TO PASS THROUGH MANHOLE.
 - ALL SS SURFACE SHALL BE PICKLED & PASSIVATED AS PER ASTM A380
 - PIPE TO PIPE, PIPE TO FLANGE, PIPE TO FITTING & FITTING TO FLANGE JOINT SHALL BE WELDED WITH THE SAME TECHNIQUE USED FOR MAIN EQUIPMENT WELDING.
 - ALL FABRICATED NOZZLE/MANWAYS SHALL BE FULLY RADIOGRAPHED.
 - PROVIDE LADDER RUNGS INSIDE SKIRT FROM THE BOTTOM AS PER EIL STD.

SPECIFICATIONS

×	DENOTES APPLICABILITY
×	GENERAL SPEC. FOR PRESSURE VESSELS
×	SUPP. SPEC. FOR SS VESSELS
×	STD. SPEC. FOR BOCS PLATES
×	STD. SPEC. FOR STRUCTURAL QUALITY PLATES
×	STANDARD SPEC. FOR SS PLATE
×	JOB SPEC. FOR SHOP & FIELD PAINTING

STANDARDS

×	VESEL 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 BAFLE	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 2.6
DESIGN PRESSURE	(Kg/Cm ² g) INT 5.6 EXT. – F.V.
WORKING TEMPERATURE	(°C) –92 TO –143
DESIGN TEMPERATURE	(°C) –150/65
MDMT	(°C) –150
CORROSION ALLOWANCE	(mm) NIL
TYPE OF HEADS	TORISPHERICAL
JOINT EFFICIENCY	SHELL 0.85 HEAD 1.0
RADIOGRAPHY	SHELL SPOT HEAD SINGLE PIECE
POST WELD HEAT TREATMENT	–
HEAT TREATMENT	HEAD AS PER SPEC.
WIND SPECIFICATION	IS : 875
EARTH–QUAKE SPECIFICATION	SITE SPECTRA
OPERATING MEDIUM	HC SP. GRAVITY– 0.66
CAPACITY	(M ³) 49.4
PAINTING / CLEANING	AS PER JOB SPEC. (REFER NOTE-10)
INSULATION THICKNESS (mm)	25 SAFETY □ HOT □ COLD
FIRE PROOFING	□ YES □ NO
HYDROSTATIC TEST (Kg/Cm ² g)	HORIZONTAL– VERTICAL
PRESSURE (NEW & COLD)	7.28 (AT TOP)
INSPECTION BY	□ EIL □ CIB □ LLOYDS

MATERIAL OF CONSTRUCTION

×	PAD NOZZLES FOR VESSELS	7-12--0014	
×	STANDARD BOLT HOLE ORIENTATION	7-12--0015	
×	ALLOY LINER DETAILS	7-12--0016	SHELL
×	SIGHT GLASSES FOR PRESSURE VESSELS	7-12--0017	REINFORCEMENT PAD
×	INTERNAL FLANGES	7-12--0018	HEADS
×	VORTEX BREAKERS	7-12--0019	SHELL FLANGES
×	INLET DEFLECTOR BAFLE	7-12--0020	NOZZLE FLANGES
×	SUPPORT RING & BOLTING BAR	7-12--0021	NOZZLE NECK UPTO 100NB
×	SUPPORT RING SIZES FOR PACKED TOWERS	7-12--0022	NOZZLE NECK ABOVE 100NB
×	PIPE DAVIT	7-12--0023	PIPE FITTINGS
×	LIFTING LUG TOP HEAD TYPE	7-12--0024	PIPE FITTINGS
×	FIRE PROOFING AND INSULATION SUPPORTS	7-12--0025	GASKETS EXTERNAL
×	EARTHING LUG	7-12--0026	WINDING AND GRAFOIL FILLER MATERIAL WITH SS 316 I/O RING AS PER ASME B16.20
×	NAME PLATE	7-12--0027	GASKETS INTERNAL
×	MANUFACTURER NAME PLATE	7-12--0028	EXTERNAL STUDS/BOLTS/NUTS
×	BRACKET FOR NAME PLATE	7-12--0029	INTERNAL STUDS/BOLTS/NUTS
×	NAME PLATE FOR SMALL EQUIPMENT	7-12--0030	SKIRT / SUPPORT–
×	DETAILS OF FORGED NOZZLES	7-12--0031	SKIRT / SUPPORT BASE
×	SUPPORTS FOR INTERNAL FEED PIPE	7-12--0032	INTERNAL PARTS (WELDED)
×	HOT INSULATION SUPPORTS FOR HORIZONTAL VESSEL	7-12--0033	INTERNAL PARTS (BOLTED)
×	PIPE DAVIT SUPPORT FOR COLD INS. VESSELS	7-12--0034	EXTERNAL CLIPS & ATTACHMENTS WELDED OVER PAD
×	TYP.DETAILS OF WIRE MESH DEMISTER SUPPORTS	7-12--0036	EXTERNAL CLIP & ATTACHMENTS DIRECTLY WELDED TO SHELL
×	S.R. NOZZLE NECK	7-12--0037	EXTERNAL CLIP & ATTACHMENTS DIRECTLY WELDED TO SHELL

REFERENCE DRAWINGS

×	NOZZLE ORIENTATIONS	6907-11-16-43-3101, REV.0
×	LADDERS / PLATFORM CLEATS	–
×	PIPE SUPPORT CLEATS	–
×	TRAY SUPPORT AND BOLTING BARS	N.A.
×	DEMISTER DATA SHEET	N.A.

HOLD UPS

×	NOZZLE ORIENTATIONS	SIZE OF NOZZLES 'SP', 'LT'
×	NOZZLE ELEVATIONS	PIPE SUPPORT CLEATS
×	SUPPORT HEIGHT	LADDER / PLATFORM CLEATS
×	DETAIL OF INTERNALS	TRAY SUPPORTS/ BOLTING BARS
×	REROLLER CLIPS	PIPE DAVIT

STATUTORY REGULATIONS

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

APPROXIMATE WEIGHT (KGS)

ERECTION WEIGHT	8500	OPERATING WEIGHT	27500
HYDROTEST WEIGHT (SHOP)	57850	HYDROTEST WEIGHT (FIELD)	58000
NUMBER OF ITEMS : ONE			

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		ENGINEERS INDIA LIMITED										KOLKATA									
		JOB NO.:		6907																	
		CLIENT:		BCPL																	
		PLANT:		C2 + RECOVERY UNIT																	
				1		26.03.2010		REVISED & REISSUED FOR ENGINEERING													
		0		04.03.2010				ISSUED FOR PURCHASE		A/ROY		BVK//PB		AKG							
		A		01.07.2009				ISSUED FOR BIDS		A/ROY		BVK//PB		AKG							
								REVISION		BY		AS//PB		APPROVED		APPROVED					



JOB NO. : 6907
CLIENT : BCPL
PLANT : C2+RECOVERY UNIT, LAKWA

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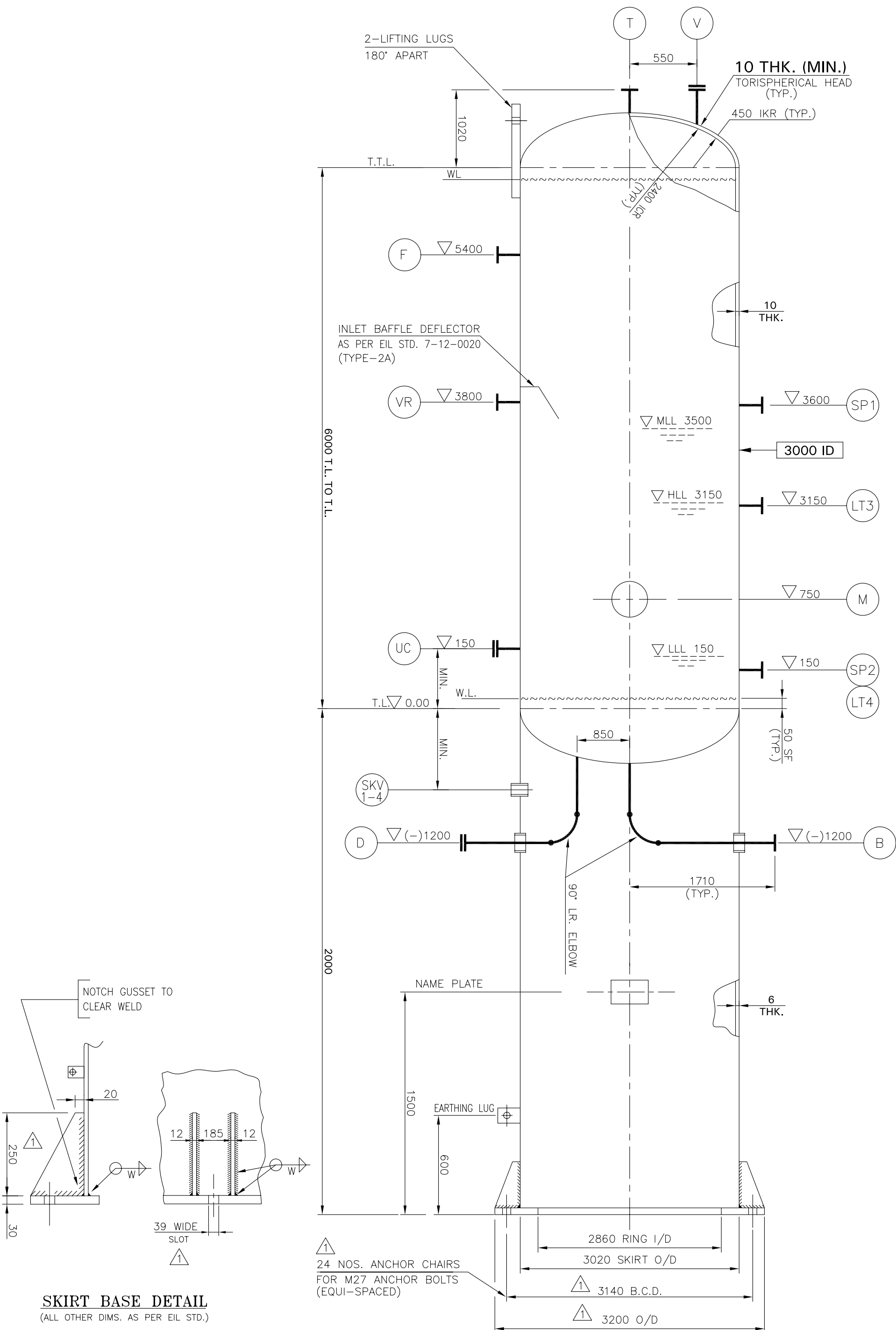
VESSEL DESIGN DATA
BLOWDOWN DRUM
ITEM NO. 11-V-015

वसंत डिजाइन डाटा
ब्लोडाउन ड्रम
आइटम नम्बर 11-बी-015

DRAWING NO.	REV
6907-11-16-46-3023	1

SHEET 2 OF 2

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