

BOILER PACKAGE

HP steam pipes from boiler to steam header-Manifold

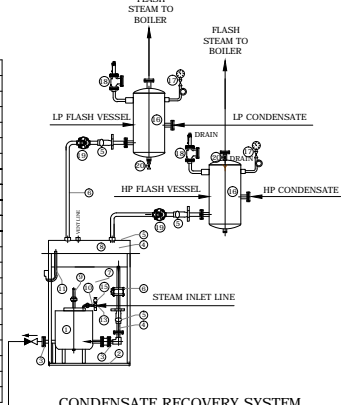
Phase-II
2 - Mechanical Piping vender's scope
1 - Boiler Vendor's scope

LEGEND	
	NEEDLE VALVE
	CONTROL VALVE
	AIR VENT
	MODULATING MOTOR
	MOISTURE SEPARATOR
	TEMPERATURE REGULATOR SENSOR
	RESISTANCE TEMPERATURE DETECTOR (RTD)
	HEAT TRACING
	DUPLEX FILTER
	BLOWDOWN VALVE
	ISOLATION VALVE
	MOTOR
	OPEN BALL VALVE
	CLOSE BALL VALVE
	BALANCING VALVE WITH FLOW MEASURING ARRANGEMENT
	GLOBE VALVE
	PISTON VALVE
	VACUUM BREAKER
	NON RETURN VALVE
	Y-STRAINER
	BUTTERFLY VALVE
	BALL VALVE
	PRESSURE GAUGE (DIAL TYPE)
	TEMPERATURE GAUGE (DIAL TYPE)
	AIR VENT WITH DIAL THERMOMETER
	SOLENOID VALVE(ON/OFF)
	SAFETY RELIEF VALVE
	TRAP
	PLUG VALVE
	TEMP. INDICATING CONTROLLER
	WATER METER/TOTAL SEC.
	STEAM FLOW METER / TOTALIZER
	OIL FLOW METER
	PUMP
	EXPANSION BELLOW WITH ADJUSTING BALLS
	CONDENSATE RECOVERY SYSTEM
	HPS - HIGH PRESSURE STEAM
	MPS - MEDIUM PRESSURE STEAM
	LPS - LOW PRESSURE STEAM
	COND - CONDENSATE
	FEED WATER
	FURNACE OIL HEAT TRACED LINE
	STEAM TRAP MODULE
	INSULATION
	BLOWER AIR
	SYMBOL FOR INTERLOCK LOGIC
	LEVEL SWITCH
	FLOW TOTALISER
	PRESSURE TROLL
	TEMPERATURE SWITCH
	PHOTO CELL
	TEMPERATURE ELEMENT
	LEVEL CONTROLLER
	LEVEL GAUGE
	EXTRA LOW
	LEVEL INDICATOR

LEGEND	
PIPE NUMERIC CODING	
XXX-ABCD-123-BBB	
III	III = HOT INSULATION FOR WITH AL. CLADDING
IIH	IIH = HOT INSULATION FOR WITH SS 304 CLADDING
ICI	ICI = COLD INSULATION FOR WITH AL CLADDING
A1A	A1A = CS ERW PIPE
A2A	A2A = MS IBB PIPE
A1B	A1B = GALVANISED IRON (GI) PIPE
B2A	B2A = CS SEAMLESS PIPE (IBR)
A1D	A1D = SS-304
A1E	A1E = SS-316
A1F	A1F = SS-316L
A1A1	A1A1 = CS ERW PIPE EPOXY PAINTED
AV	AV- Air Vent
CW	CW - Cooling Water
CHW	CHW - Chilled Water
CHB	CHB - Chilled Brine
LPS	LPS - Low Pressure Steam
HPS	HPS - High Pressure Steam
MPS	MPS - Medium Pressure Steam
FO	FO - Furnace oil
NI	NI - Nitrogen
COND	COND - Condensate
FLPS	FLPS - Flash Pressure steam
CA	CA - Compressed Air
FW	FW - FEED WATER TO BOILER
PIPE Ø	PIPE Ø IN NB

TABLE 'A'
CONDENSATE RECOVERY SYSTEM COMPONENTS

MATERIAL OF CONSTRUCTION			
S.N.	DESCRIPTION	MATERIAL	STANDARD
1	PRESSURE POWERED PUMP	M.S.	IS 2062
2	FRAME ASSEMBLY	M.S.	IS 2062
3	DISK CHECK VALVE	S.S. TYPE SS316	-----
4	CONDENSATE INLET LINE	M.S.	IS 1239
5	STRAINER	C.I.	IS 210 FG 220
6	BUTTERFLY VALVE	C.I. SS	IS 1239 CLASS C
7	MOTIVE FLUID (STEAM) INLET	M.S.	IS 2062
8	RECEIVER (CONDENSATE)	M.S.	IS 2062
9	EXHAUST (AIR VENT)	M.S.	IS 1239 CLASS C
10	STEAM INLET LINE TO PUMP	M.S.	IS 1239 CLASS C
11	OVER FLOW LINE	M.S.	IS 1239 CLASS C
12	NEEDLE VALVE (STEAM LINE)	S.S. TYPE 304	-----
13	TEE	M.S.	IS2062
14	TD-3 TRAP (STEAM LINE)	S.S. TYPE 420	-----
15	SIGHT GLASS	C.I.	IS 210 FG 220
16	FLASH VESSEL	M.S.	IS 2062
17	PRESSURE GAUGE (0 TO 6 KG)	M.S.	IS 2062
18	SAFETY VALVE	C.I.	IS 210 FG 220
19	BALL FLOAT STEAM TRAP	C.I.	-----
20	BALL VALVE (DRAIN)	C.I.	-----



PRS ARRANGEMENT			
S.NO	ITEM	QTY	
1	MOISTURE SEPARATOR	1	
2	PRESSURE GAUGE	2	
3	I/L STOP VALVE	1	
4	STRAINER	1	
5	O/L STOP VALVE	1	
6	B/P STOP VALVE	1	
7	SAFETY VALVE	1	
8	PRESSURE REDUCING VALVE	1	
9	THERMODYNAMIC TRAP MODULE(TDM)	1	

PRS TABLE							
SR. NO.	PRS NO.	INLET PRESS. (kg/Sq.Cm(g))		OUTLET PRESS. (kg/Sq.Cm(g))		FLOW (kg/Hr)	
		MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
01.	PRS-01	10.54	-	6.0-8.0	-	-	-
02.	PRS-02	10.54	-	3.5	-	-	-

AVDT ARRANGEMENT DETAIL 'B'			
SR.NO	DESCRIPTION	END CONN.	
1	AIR VENT 15NB	SCREWED	
2	BEND 15NB	SCREWED	
3	REDUCER 50x15		
4	AIR COLLECTOR PIPE 50NB		
5	PIPE NIPPLE 15NB	SCREWED	
6	PISTON VALVE 15NB	SCREWED	
7	DIAL GAUGE	SCREWED	
8	15NB EQUIL TEE	SCREWED	

TYPICAL ARRANGEMENT OF FLOAT TRAP MODULE(FTM)	
Sr. No.	DESCRIPTION
1	FLOAT TRAP
2	PISTON VALVE
3	STRAINER
4	SIGHT GLASS
5	S/O FLANGE
6	DISC CHECK VALVE
7	INTER CONNECTING PIPEWORK

THERMODYNAMIC TRAP MODULE(TDM)	
Sr. No.	DESCRIPTION
1	IN-BUILT BY-PASS VALVE
2	THERMODYNAMIC TRAP
3	90 Deg. ELBOW.
4	TRAP TEST VALVE
5	15 NB PIPE
6	MATING FLANGE
7	DRIPLEG DRAIN
8	PIPELINE CONNECTOR
9	ALLEN BOLT
10	15NB ISOLATION VALVE S.S. INTERNALS

NOTE 2: A1D (SS-304) PIPE SHALL BE USED INSIDE CLEAN ROOM.
NOTE 1: USER POINT SEQUENCE SHOWN IS TENTATIVE, IT MAY VARY DURING DETAIL ENGINEERING.

02	07.02.2013	SSP	SMBY	Boiler details updated.					
01	08.11.2012	SSP	SMBY	User point details updated.					
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Description:				HLL BIOTECH LIMITED INTEGRATED VACCINES COMPLEX					
Drawing no:				NPI/120310/UTL(SCH)/S1/02A					
Scale-NTS				Units : mm		Size : A3			
Drawn				Date		Name			
Checked				18/06/2013		SPP			
Approved				19/06/2013		SLMU/BTGV			
Scale-NTS				20/06/2013		PhRK/DEAV			
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