

HLL BIOTECH LIMITED							
INTEGRATED VACCINES COMPLEX, Chengalpattu							
nne pharmaplan®		Document Name:		Data Sheet for Water Cooled Brine Chiller			 HLL BIOTECH LIMITED <small>Subsidiary of HLL (Govt. Owned) (A Government of India Enterprise)</small>
		Data Sheet No.		NPI/120310/DS/U/CHB 01/02/03			
		Date / Revision		2014.05.08/ 01			
1	Make	XX		11	Climate Conditions		
2	Model No	XX			Min.temperature	18.3	Deg C
3	Location	Indoor	<input checked="" type="checkbox"/>		Max.temperature	39.4	Deg C
		Outdoor	<input type="checkbox"/>		Max R H	88	%
4	Capacity of Brine Chiller	100 TR			Min R H	41	%
5	Quantity	3		12	Refrigerant	R 134a or similar ozone friendly refrigerant	
6	Type	Constant speed Screw type					
7	Compressor	Semi-Hermetically/ Hermetically sealed/Open		13	Brine temperature	Outlet	-5 Deg C
						Inlet	0 Deg C
8	Operation	Continuous <input checked="" type="checkbox"/>					
		Dis-continuous <input type="checkbox"/>		14	Chilled brine outlet temp.control band	±0.2 Deg C	
9	Cooling	Water	<input checked="" type="checkbox"/>	15	Sound level	<80 db(A)	
		Air	<input type="checkbox"/>				
10	Chilled Brine flow	** USGPM		16	Brine Concentration	20 to 40% by mass (Vendor to confirm with respect to the mentioned required temp.)	
11	Brine used	MEG (Mono Ethylene Glycol)**		17	Design condenser temp.	Inlet	32 ° C
				18		Outlet	37 ° C
MANUFACTURER DATA							
16	Chiller source country	XX		29	Heat Exchanger data	Evaporator	Condenser
17	Overall Dimension (LXWXH), Mtr	XX			Model	XX	XX
18	Operating weight, MT	XX			Design code	TEMA C, ASME,Sec VIII, Div-1 latest edition	
19	Rigging weight, MT	XX			Type	Flooded	Water Cooled
20	Shipping weight, MT	XX			Tube side (fluid)	XX	XX
21	Clearance (Front/back/top), Mtr	XX			Shell side (fluid)	XX	XX
22	Tube replacement length, Mtr	XX			Flow rate, CMH	XX	XX
23	Gap between two chillers, Mtr	XX			Brine/Water velocity, M/Sec	XX	XX
					Design temp., Deg C	XX	XX
24	Compressor :				Design Pressure, Psi	XX	XX
					In/out temperature	XX	XX
	No.of stages	XX			Fouling factor, Ft ² -F/Btu (fps units)	0.0001	0.001
	Compressor speed, RPM	XX			No: of passes	XX	XX
	Suction temperature, Deg C	XX			Tube material / size/thk/Length	XX	XX
	Suction pressure, PSI	XX			Shell material/ size	XX	XX
	Discharge temp., Deg C	XX			Types of tubes (plain/finned)	XX	XX
	Discharge pressure, PSI	XX			Nos.of tube bundle	XX	XX
	Total refrigerant charge/unit, Kgs	XX			Pressure drop in mwc	< 6	< 6
	Refrigeration cap.at design cond, TR	XX		30	Oil coolers		
	Power consumpt. at design cond, KW	XX			Type	Shell & Tube	
	Type of capacity control	XX			Qty	XX	
	Min.capacity (TR) %	XX			Heat duty, Kcal/Hr	XX	
25	Compressor motor details			31	Lube oil pump		
	Make	XX			Type	XX	
	Motor type	XX			Make/Source	XX	
	Motor rating, kW	XX			Qty	XX	
	Motor, RPM	XX			Discharge press., PSI	XX	
	Volts / Hz/Phase	415 V, 50 Hz, 3 Ph			Motor rating, kW	XX	
	Encl:	XX			Volts / Hz/Phase	XX	
26	Part load IKW/TR (100%,75%,25%)	XX		32	Electrical		
					Starter	Star/Delta	
					Isolation switch	XX	
					Wiring from panel to motor	XX	
27	Oil heater				Full load current, Amps	XX	
	Make	XX			Starting current, Amps	XX	
	Qty	XX			Running current, Amps	XX	
	Rating, Watts	XX			Current transformer	XX	
28	Variable speed drive	Not required		33	Motor		
					Make	XX	
					Motor type	XX	
					Motor rating, kW	XX	
					Volts / Hz/Phase	415 V, 50 Hz, 3 Ph	
INSTRUMENTATION							
34	Flow switch for chilled brine	Required		42	Low oil flow	Required	
35	Temp.senser for chilled brine inlet/outlet	Required		43	High oil temp.	Required	
36	Diffr.Pressure gauge for chilled brine	Required		44	High compressor discharge temp.	Required	
37	Low evaporator refrigerant temp.	Required		45	High bearing temperature	Required	
38	High condenser refrigerant temp.	Required		46	High motor winding temperature	Required	
39	Low evaporator/condenser diff.pressure	Required		47	BMS Connectivity	Required	
40	Deep freeze temperature cut	Required		48			
41				49			
51	Remarks	1) The chiller shall be supplied as a skid mounted unit 2) Chiller shall be designed & fabricated as per ASME code for unfired pressure vessels. 3) Material test certificate is required for H / Exchanger shell & tubes. 4) Heat exchanger shall be pressure tested for leakages. 5) Finger touch membrane type start/ stop, load, un-load, display selector button required in panel. 6) Vendor should clearly mention the number of starts and stops permissible with the motors. 7) XX VENDOR TO SPECIFY					
		AFI -- Approved for enquiry, AFO -- Approved for ordering					
01	2014.05.08	VSHI	SMBY	HLL/PIIC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	sheet:
Rev	Date	Prepared by	Checked by	Approved by	AFI	AFO	1 / 2