

HLL BIOTECH LIMITED									
INTEGRATED VACCINES COMPLEX, Chengalpattu									
		Document Name:		Data Sheet for Water Cooled Brine Chiller				<div style="font-size: 8px; margin-top: 5px;"> HLL BIOTECH LIMITED Subsidiary of HLL Lifecare Limited (A Government of India Enterprise) </div>	
		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
					Tube material / size/thk/Length		XX		XX
	Suction temperature, Deg C	XX			Shell material/ size		XX		XX
	Suction pressure, PSI	XX			Types of tubes (plain/finned)		XX		XX
	Discharge temp., Deg C	XX			Nos.of tube bundle		XX		XX
	Discharge pressure, PSI	XX			Pressure drop in mwc		< 6		< 6
	Total refrigerant charge/unit, Kgs	XX							
	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		