HLL BIOTECH LIMITED			
INTEGRATED VACCINES COMPLEX, Chengalpattu			
nne pharmaplan®	Document Name:	Data Sheet for Air Cooled Brine Chiller - Cold Rooms	HBL HLL BIOTECH LIMITED (Subsidiary of HLL Lifecare Limited) (A Government of India Enterprise)
	Data Sheet No.	NPI/120310/DS/U/CHB 01/02/03	
	Date / Revision	2014.05.08/ 01	

ACCESSORIES / SAFETIES / INTERLOCKS					
52	Relief valve	Required	60	Control Panel	Required
53	Drain valve	Required	61	(System ON / OFF)	Required
54	Air vent	Required	62	Solenoid valve	Required
55	Motor overload relay	Required	63	Sensor Calibration	Required
56	Power on Indicator	Required	64	Flow monitor	Required
57	Stop valve	Required	65		
58	Motor over current	Warning / cut off	66		
59			67		
DATA TO BE TRANSFERRED FROM MICROPROCESSOR TO BMS					
68	Chilled brine in & out temp.	Required	74	Chiller trip status	Required
69	Condenser refrigerant temp.	Required	75	Chiller brine flow status	Required
70	Evaporator refrigerant temp.	Required	76	Chiller ON/OFF	Required
71	Chiller RUN status	Required	77		
72	Cooling Water in & Out temp.	Required	78		
73			79		
MICROPROCESSOR OPERATION DETAILS					
80	Control system start up sequence	Required	85	Failure reset	Required
81	Unload at start	Required	86	Chiller stop sequence	Required
82	Failure detection and recovery	Required	87	System is enabled after satisfying permissive interlock like flow switch	Required
83					
84			88		
SPECIFIC POWER CONSUMPTION					
89	Sp.power consumption at inlet Cooling water temperature.		90	Sp.power consumption at part load	
	34 Deg C	XX KW/TR		100%	XX
	33 Deg C	XX KW/TR		90%	XX
	32 Deg C	XX KW/TR		80%	XX
	31 Deg C	XX KW/TR		70%	XX
	30 Deg C	XX KW/TR		60%	XX
	29 Deg C	XX KW/TR		50%	XX
	28 Deg C	XX KW/TR		40%	XX
	27 Deg C	XX KW/TR		30%	XX
	26 Deg C	XX KW/TR		20%	XX
	25 Deg C	XX KW/TR		10%	XX
	24 Deg C	XX KW/TR			
	23 Deg C	XX KW/TR			
	22 Deg C	XX KW/TR			
	21 Deg C	XX KW/TR			
	20 Deg C	XX KW/TR			
PERFORMANCE					
91	Performance check		92	Target performance	
	Total refrigeration generation	XX TR		Sp.power consumption (Max)	0.9 KW/TR at duty condition
	Motor power consumption	XX TR			
	Condenser heat rejection	XX TR			
	Deviation	XX TR			
SCOPE OF SUPPLY OF VENDOR					
93	First charge of refrigerant	Vendor's scope	101	Transportation from stores to exact location within site	Vendor's scope
94	First charge of oil	Vendor's scope			
95	Isolation pads	Vendor's scope	102	Errection & commissioning at site	Vendor's scope
96	Holding down/Foundation bolts	Vendor's scope	103	Performance testing at factory	Vendor's scope
97	Cold insulation of chiller & vendor to mention insulation material and thickness to be used for chiller parts	Vendor's scope	104	Commissioning spares	Vendor's scope
			105	2- year & 5 year running spares	Vendor's scope
98	Painting	Vendor's scope	106	Material handling equipments	Vendor's scope
99	Victaulic coupling for chilled BrineInlet & outlet	Vendor's scope	107	Coordination with client while commissioning the chiller at site	Required
100					

NOTES

1) The chiller equipment shall be complete with necessary pipings, isolation valves, control panel, sequence timer, control valves, pressure / temperature instruments, relief valves,solenoid valves, auto drain valves, safety interlocks, alarm hooters, etc.
2) All valves shall be supplied with relevant test certificates.
3) All instruments shall be supplied with relevant calibration certificates & traceability certificate from reputed Testing Lab.
4) **Asbestos based gasket material is prohibited.**
5) Vendor should mention makes of all components.
6) **Vendor should submitt the DQ, IQ & OQ documents to the client.**
7) **Communication port suitable to connect to the central BMS system to be provided**

PRE-DESPATCH / INSPECTION DOCUMENTS REQUIRED

1) Complete operational test of the unit with FAT protocol
2) Operational and Maint. Manual in 3 set
3) GA drawing
4) Electric circuit diagram
5) Control logic
6) Dimensional drawing indicating size and location of nozzles
7) As built drawings
8) List of fast moving spares with part nos
9) Material test certificates
10) Foundation detail drawing

AFI -- Approved for enquiry, AFO -- Approved for ordering

Rev.	Date	Prepared by	Checked by	Approved by	AFI	AFO	sheet:
01	2014.05.08	VSHI	SMBY	HLL/PIIC	☑	☐	2 / 2