EQUIPMENT       : REFRIGERANT DRVER FOR TAC.         VENDOR       : SUMMITS HYGRONICS PVT. LTD.         VENDOR REFERENCE NO.       : E282-1516         Image: Construction of the state of the sta		PACKAGE / SYSTEM EQUIPMENT VENDOR VENDOR REFERENCE NO.			: ASH HANDLING SYSTEM					
VENDOR       : SUMMITS HYGRONICS PVT. LTD.         VENDOR REFERENCE NO.       : E282-1516         Category 5- For Information       12-Dec-19         0       For Information         12-Dec-19       PPD         REV       DESCRIPTION         DESCRIPTION       DATE         PROJECT       IB THERMAL POWER STATION 2 × 660 MW UNITS 3 & 4 BANHARPALI, JHARSUGUDA ODISHA - 768234, INDIA         OWNER       ODISHA POWER GENERATION CORPORATION LIMITED         DEVELOPMENT CONSULTANTS       DEVELOPMENT CONSULTANTS PVT. LTD. CONSULTING ENGINEERS KOLKATA, INDIA         EPC CONTRACTOR       EGR ENERGY SYSTEMS LIMITED CHENNAL - INDIA         SUMMER'S CONSULTANT       MP EQUIPMENT SUPPLIER CHENNAL - INDIA         SEGR ENERGY SYSTEMS LIMITED CHENNAL - INDIA       SUMMITS HYGRONICS PVT. LTD.         NAME       SIGN       DATE         VENDOR       BGR ENERGY SYSTEMS LIMITED CHENNAL - INDIA       SUMMITS HYGRONICS PVT. LTD.         NAME       SIGN       DATE       SHEET SIZE         PPD.       BALAJI       - sd -       12-Dec-19       A4       3         PPD.       SALE       WEIGHT (KG) REF.TO ASSV. DRG.       ITEM NO.       NO. OD         POD.       SALAJI       - sd -       12-Dec-19       A4       3         OUTAMCHAU					: REFRIGERANT DRYER FOR TAC : SUMMITS HYGRONICS PVT. LTD.					
Category 5- For Information       1     Document updated.     03-Feb-20										
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0       For Information       12-Dec-19       Apple         REV       DESCRIPTION       DATE       PPD       CHKD       APPD         PROJECT       IB THERMAL POWER STATION 2 × 660 MW UNITS 3 & 4 BANHARPALI, JHARSUGUDA ODISHA – 768234, INDIA       Odisha Power Station 2 × 660 MW UNITS 3 & 4 BANHARPALI, JHARSUGUDA ODISHA – 768234, INDIA         OWNER       ODISHA POWER GENERATION CORPORATION LIMITED       ODISHA POWER GENERATION CORPORATION LIMITED         OWNER'S CONSULTANT       DEVELOPMENT CONSULTANTS PVT. LTD. CONSULTING ENGINEERS KOLKATA, INDIA       DEVELOPMENT CONSULTANTS PVT. LTD. CONSULTING ENGINEERS KOLKATA, INDIA         EPC CONTRACTOR       BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA       AHP EQUIPMENT SUPPLIER         AHP VENDOR ENERGY       BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA       SUMMITS HYGRONICS PVT. LTD.         MME       SIGN       DATE       SHEET SIZE         NAME       SIGN       DATE       NO. OI SHEETS         PPD.       BALAJI       - sd -       12-Dec-19       A4       3         OEPT.       SCALE       WEIGHT (KG) N.A       REF. TO ASSY. DRG.       ITEM NO.       NO. OI SHEETS         DATASHEET OF REFRIGERANT TYPE DRIER FOR       CARD       BGR DOCUMENT NO.       REV.       REV.         DATASHEET OF REFRIGERANT TYPE DRIER FOR       CARD       BGR DOCUMENT NO.       REV. </th <th>1</th> <th>Documer</th> <th>nt update</th> <th>d.</th> <th></th> <th>03-Feb-20</th> <th></th> <th></th> <th></th>	1	Documer	nt update	d.		03-Feb-20				
REV     DESCRIPTION     DATE     PPD     CHKD     APPD       PROJECT     IB THERMAL POWER STATION 2 × 660 MW UNITS 3 & 4 BANHARPALI, JHARSUGUDA ODISHA – 768234, INDIA       OWNER     ODISHA POWER GENERATION CORPORATION LIMITED       OWNER'S CONSULTANT     ODISHA POWER GENERATION CORPORATION LIMITED       OWNER'S CONSULTANT     DEVELOPMENT CONSULTANTS PVT. LTD. CONSULTING ENGINEERS KOLKATA, INDIA       EPC CONTRACTOR     BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA       BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA     AHP EQUIPMENT SUPPLIER SUMMITS HYGRONICS PVT. LTD.       MAME     SIGN       DATE     SHEET SIZE       NAME     SIGN       DATE     SHEET SIZE       NAME     12-Dec-19       A4     3       APPD.     SRM       - sd -     12-Dec-19       A4     3       APPD.     SRM       - sd -     12-Dec-19       A4     3       DEPT.     SCALE       N.A     N.A       N.A     N.A       N.A     N.A       NA     N.A       NA     N.A       NA     N.A       DEPT.     SCALE       CATC     GID-208-ME-ETP-DS-55351       TAC     TAC	0	For Inf	ormation			12-Dec-19				
PROJECT         IB THERMAL POWER STATION 2 × 660 MW UNITS 3 & 4 BANHARPALI, JHARSUGUDA ODISHA – 768234, INDIA         OWNER         OUNNER         OUNNER'S CONSULTANT         DEVELOPMENT CONSULTANTS PVT. LTD.         DEVELOPMENT CONSULTANTS PVT. LTD.         CONSULTANT         DEVELOPMENT CONSULTANTS PVT. LTD.         DEVELOPMENT SUPLIER         BGR ENERGY SYSTEMS LIMITED         DERGE         SUMMITS HYGRONICS PVT. LTD.         TOTO         DATE         SHEET SIZE         NAME         SIGN         DATE         SHEET SIZE         NA         SHEET SIZE         NA         SUMMITS HYGRONICS PVT. LTD.         PD         BALAJI      <	REV	DESC	RIPTION			DATE	PPD	СНКД	APPD	
BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA AHP VENDOR BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA CHENNAI - INDIA SUMMITS HYGRONICS PVT. LTD. NAME SIGN DATE SHEET SIZE NO. OF SHEET SIZE NO. OF SHEET SIZE NO. OF SHEET SIZE CHD. GOUTAMCHAUDHURI - sd - 12-Dec-19 A4 3 DEPT. CODE N.A N.A N.A N.A N.A N.A N.A N.A		OPG Power for Pr	ogress							
AHP VENDOR BGR ENERGY SYSTEMS LIMITED CHENNAI - INDIA NAME SIGN NAME SIGN NAME SIGN DATE SHEET SIZE CHD. GOUTAMCHAUDHURI - sd - SHEET SIZE CHD. GOUTAMCHAUDHURI - sd - SHEET SIZE SHEET SIZE NO. OF SHEET SIZE SHEET SIZE NO. OF SHEET SIZE NO. OF SHEET SIZE NO. OF SHEET SIZE SHEET SIZE NO. OF SHEET SIZE SHEET SIZE SHE	OWNER				DEVE	LOPMENT CONSU CONSULTING KOLKATA,	JLTANTS P ENGINEERS INDIA	VT. LTD. S		
Image: Name       SIGN       DATE       SHEET SIZE       NO. OF SHEETS         PPD.       BALAJI       - sd -       12-Dec-19       A4       SHEET SIZE       SHEET SIZE <td< th=""><th></th><th></th><th>R</th><th></th><th>DEVE BGR EN CHENN</th><th>LOPMENT CONSU CONSULTING KOLKATA, IERGY SYSTEMS AI - INDIA</th><th>JLTANTS P ENGINEERS INDIA LIMITED</th><th>VT. LTD. S</th><th></th></td<>			R		DEVE BGR EN CHENN	LOPMENT CONSU CONSULTING KOLKATA, IERGY SYSTEMS AI - INDIA	JLTANTS P ENGINEERS INDIA LIMITED	VT. LTD. S		
PPD.     BALAJI     - sd -     12-Dec-19     SHEET SIZE     SHEET SIZE       CHD.     GOUTAMCHAUDHURI     - sd -     12-Dec-19     A4     3       APPD.     SRM     - sd -     12-Dec-19     A4     3       DEPT.     SCALE     WEIGHT (KG)     REF.TO ASSY. DRG.     ITEM NO.     NO. OF       CODE     N.A     N.A     N.A     N.A     N.A       TITLE     CARD     BGR DOCUMENT NO.     REV.     REV.       DATASHEET OF REFRIGERANT TYPE DRIER FOR     CODE     GID-208-ME-ETP-DS-55351     1		NTRACTOR BGR ENERGY S CHENNAI - INC	YSTEMS I	LIMITED	DEVEI BGR EN CHENN	LOPMENT CONSU CONSULTING KOLKATA, IERGY SYSTEMS AI - INDIA AHP EQUIPMEN SUMMITS HYGF	JLTANTS P ENGINEERS INDIA LIMITED	VT. LTD. S R T. LTD.		
CHD.       GOUTAMCHAUDHURI       - sd -       12-Dec-19       A4       3         APPD.       SRM       - sd -       12-Dec-19       A4       3         DEPT.       SCALE       WEIGHT (KG)       REF.TO ASSY. DRG.       ITEM NO.       NO. OF ITEMS         CODE       N.A       N.A       N.A       N.A       N.A       N.A         TITLE       CARD       BGR DOCUMENT NO.       REV.       REV.       REV.       1         DATASHEET OF REFRIGERANT TYPE DRIER FOR       CODE       CODE       GID-208-ME-ETP-DS-55351       1		NTRACTOR BGR ENERGY S CHENNAI - INC	YSTEMS I	LIMITED	DEVEI BGR EN CHENN	LOPMENT CONSU CONSULTING KOLKATA, IERGY SYSTEMS AI - INDIA AHP EQUIPMEN SUMMITS HYGF	JLTANTS P ENGINEERS INDIA LIMITED	VT. LTD. S	NO. OF	
APPD.       SRM       - sd -       12-Dec-19       A4       3         DEPT.       SCALE       WEIGHT (KG)       REF.TO ASSY. DRG.       ITEM NO.       NO. OF         CODE       N.A       N.A       N.A       N.A       N.A       N.A         TITLE       CARD       BGR DOCUMENT NO.       REV.       REV.       REV.       1         DATASHEET OF REFRIGERANT TYPE DRIER FOR       CODE       CODE       GID-208-ME-ETP-DS-55351       1		NTRACTOR BGR ENERGY S CHENNAI - INE BALAJI	YSTEMS I	LIMITED SIGN - sd -	DEVEI BGR EN CHENN	LOPMENT CONSU CONSULTING KOLKATA, IERGY SYSTEMS AI - INDIA AHP EQUIPMEN SUMMITS HYGF DATE 12-Dec	JLTANTS P ENGINEERS INDIA LIMITED T SUPPLIE RONICS PV	VT. LTD. S R T. LTD. SHEET SIZE	NO. OF SHEETS	
DEPT.       SCALE       WEIGHT (KG)       REF.TO ASSY. DRG.       ITEM NO.       NO. OF ITEMS         CODE       N.A       N.A       N.A       N.A       N.A       N.A         TITLE       CARD       BGR DOCUMENT NO.       REV.       REV.         DATASHEET OF REFRIGERANT TYPE DRIER FOR       CODE       GID-208-ME-ETP-DS-55351       1	EPC COI	NTRACTOR NDOR BGR ENERGY S CHENNAI - INE BALAJI GOUTAMCHAUDHURI		LIMITED SIGN - sd - - sd -	DEVEI BGR EN CHENN	LOPMENT CONSU CONSULTING KOLKATA, IERGY SYSTEMS AI - INDIA AHP EQUIPMEN SUMMITS HYGF DATE 12-Dec 12-Dec	JLTANTS P ENGINEERS INDIA LIMITED T SUPPLIE RONICS PV	VT. LTD. S R T. LTD. SHEET SIZE	NO. OF SHEETS	
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TITLE     CARD     BGR DOCUMENT NO.     REV.       DATASHEET OF REFRIGERANT TYPE DRIER FOR     CODE     GID-208-ME-ETP-DS-55351     1	EPC COI	NTRACTOR NTRACTOR BGR ENERGY S CHENNAI - INC NAME BALAJI GOUTAMCHAUDHURI SRM	SCALE	LIMITED SIGN - sd - - sd - - sd - WEIGH	DEVEI BGR EN CHENN	LOPMENT CONSU CONSULTING KOLKATA, IERGY SYSTEMS AI - INDIA AHP EQUIPMEN SUMMITS HYGF 12-Dec 12-Dec 12-Dec REF.TO ASSY. D	JLTANTS P ENGINEERS INDIA LIMITED T SUPPLIE CONICS PV CONICS PV CONICS PV CONICS PV CONICS PV CONICS PV CONICS PV	VT. LTD. S R T. LTD. SHEET SIZE A4 ITEM NO.	NO. OF SHEETS 3 NO. OF ITEMS	
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## Summits Hygronics Private Limited



DATA SHEET OF R	EFRIGERANT	TYPE DRIER FOR TAC			
Doc No.: GID-208-ME-ETP-DS-55351	E282-1516	Date: 24.03.2016			
Product Classification:	Project Category (P Category)				
Product Group:	Air Dryer, Ref	rigeration			
Product Series:	SI Series				
Model Variance:	SI 650 DW				
Total Otv	3 No's				
Description	LIOM	Parameter			
Capacity at ideal condition	M3/HR	6185			
	///////////////////////////////////////	Vapour Compression Water Cooled			
End Connection, In/ Out, Compressed air	N1.N2	8" NB, ANSI B 16.5 CL, 150 LBS SORF			
End Connection, In/ Out, Cooling water	N3.N4	1-1/2" NB, ANSI B 16.5 CL, 150 LBS SORF			
Drain End Connection	N5	1/2"BSPF,1000#			
Pressure Drop across Air Dryer	bar g	0.2			
Ideal condition					
Ambient temperature	°C	50			
Inlet air pressure	Kg/cm2 g	1.8			
Inlet air temperature	°C	42			
Outlet air temperature	°C	38			
Relative Humidity of inlet air	%	100			
Inlet water temperature	°C	30 to 38			
Outlet water temperature	°C	46			
Pressure dew point of outlet air	°C	+2			
Air Quality at inlet, Recommended		ISO 8573-1,2010 Table 1, Class 2			
Design of Air Quality at outlet		ISO 8573-1,2010 Table 2, Class 4			
Code of construction		ASME SEC VIII DIV. I			
Operating range	1				
Inlet air pressure	Kg/cm2 g	1.8 to 3			
Inlet air temperature	°C	40 to 42			
Ambient temperature	°C	35 to 50			
Inlet water temperature	°C	38 to 43			
Relative Humidity of inlet air	% *				
Pressure dew point of outlet air	°C				
Outlet Air Temperature	<u>ر</u>	3 to 7 less then inlet			
Outlet water temperature     C     8 high then inlet					
Design Prossure	bar a	110 % of Maximum operating processo			
Power Supply, Load Circuit	Daig	415 VAC 3 Pb with poutral 50 Hz			
Refrigerant Compressor		413 VAC, 5 FII, With heatrat 50 Hz			
Make Of motor		Emerson Copeland/Danfoss/Bitzer			
		Semi hermitic, reciprocating			
Refrigerant		R22			
Operating power	KW	19.7			
Rated Power	KW	34			
Condenser					
Make		Summits			
Туре		Water Cooled, Brazed Plate Heat exchanger			
Cooling Medium		Water			
Water flow rate	Lpm	180			

Water In/Out temperature	°C	38 / 46			
Water inlet pressure	Kg/cm2	2.5 to 5.5			
Water outlet pressure	Kg/cm2	1 less than the inlet pressure			
Expansion Device					
Make		Danfoss/Emerson			
Туре		Thermostatic			
Evaporator (Heat Exchanger)					
Make		Summits			
Туре		Plate type, cross flow aluminium alloy heat			
Moisture separator type		Demister pad			
Consists of		Pre-cooler Evaporator Moisture Separator			
Refrigerant Liquid line Filter drier					
Make		Alco / Danfoss / Sporlan / Emerson			
Pressure Transmitters Refrigerant Suction	Discharge	Aco / Damoss / Sponan / Emcision			
Make		Honeywell / Summits			
Pressure gauges Refrigerant Suction & Disch	arge	honeyweet / bannings			
Make		Wika / H GURU / Summits			
Capacity regulator Hot gas by-pass valve					
		Electrical / Electronic operated			
Make		Danfoss / Emerson / Sanhua / carel			
Sight glass		Samos / Emerson / Samaa / Caret			
Make		Castle / Danfoss / Emerson			
Suction line accumulator & liquid line receiv	er				
Make		Summits			
l iquid l ine indicator		Summes			
Make		Fmerson			
Oil Heater		Lincipoli			
Make		Danfoss/Emerson			
Drver controller		Parrossi Emerson			
Type		Programmed micro controller			
Make		Summits			
Annunciation					
Audio Visual alarms					
) Compressor over loa	d				
J High refrigerant con	densing temperat	ure			
Low refrigerant suction pressure					
<ul> <li>High refrigerant discharge pressure</li> <li>High refrigerant discharge temperature</li> </ul>					
<ul> <li>Poor Dew Point</li> </ul>					
) High Inlet air temp					
) Phase failure					
Display					
<ul> <li>J High refrigerant condensing temperature</li> </ul>					
Low refrigerant suction pressure					
) High refrigerant discharge pressure					
High refrigerant discharge temperature					
) Poor Dew Point High Inlet air temp					
) Phase failure					
Indications.					
Compressor over load					
High refrigerant condensing temperature					
<ul> <li>Low retrigerant suction pressure</li> <li>High refrigerant discharge pressure</li> </ul>					
	naise pressure				

J High refrigerant dis	charge temperat	ure			
) Poor Dew Point High Inlot air tomp					
) High met all temp					
Cooling water flow rate low					
Drver Air inlet flow rate low					
System Trips.					
) Compressor over load					
High refrigerant condensing temperature					
) Low refrigerant suc	) Low refrigerant suction pressure				
High refrigerant dis	charge pressure	ure			
High Inlet air temp					
) Phase failure					
) Cooling water flow	rate low				
) Dryer Air inlet flow	rate low				
RS 485 MODBUS interfacing available.					
Drain Valve	sor due to sudde	nTallure			
		Zoro loss			
Size	inch				
Size Watar Value	IIICII	172 B3P F			
		Electrical constant			
Type	• • • • •				
Size	INCh	1-1/2" BSP F			
Painting details					
Equipment Description		Dryer Canopy			
Мос	_	Powder Coated sheet steel			
Surface Preparation		7 tank process			
Colour as per IS		DA Grey & Sky blue (632&101)			
Total DFT	Micron	150			
Dimensions Details					
Overall Size (W x D x H)	mm	As per GA drawing			
Weight (approx.)	Kg's	1800 (approx)			

Control Details							
Rev No.	Date	Details	Altered By	Checked By	Approved By		
00	11.12.2019	For Approval	SS	KM	RMS		

Notes:

) Unless otherwise specified make and specification of bought items are as per manufacturing standard.

) Inspection & testing shall be as per Approved QAP.

) Scope of supply inclusive of matting flanges with fasteners.