Si	r. No.	Description	UOM (Wherever Applicable)	Data (Common For All Models)	KAA045.14	KAA075.14	KAA115.14	KAA135.14	KAA160.14	KAA175.14	KAA130.24	KAA180.24	KAA195.24	KAA220.24	KAA245.24	KAA280.24	KAA320.24	KAA345.24	KAA365.24	KAA405.34	KAA430.34	KAA450.34
Α	1	General Points Cooling Capacity	ton _{it}	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Power Consumption		Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Specific Power Consumption		Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	Co-Efficient of Performance (COP) No. of Compressors	kW/kW Nos.	Refer KCPL Chiller Selection System Software	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3
	6	No. of Compressors No. of Individual Refrigerant Circuits	Nos.		1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3
	7	Refrigerant Name		R134a																1		т —
Н		Name Quantity		Refer KCPL Chiller Selection System Software				-	-			-								-	-	+
	iii	Technical Specifications	-	Refer ESP-18-19-003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Sound Pressure Level Noise Level	dB	Refer ESP-18-19-001																1		т —
H		Measuring Standard		ANSI/AHRI Standard 575-2008	-			-	-			-								-		+
	9	Insulation Details																				
		Material		Closed Cell Nitrile Foam	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H		Insulation Thickness on Various Parts Evaporator Shell	mm	For Standard Temperature Range (LWT upto -10 0C) 32	-	-	-	-	-	-	-	-			-		-	-		-	-	+
		Evaporator Tubesheet	mm	19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ш		Evaporator Pass Partition Assembly		19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\vdash	+	Evaporator Head Cover Evaporator Support Plate		32 19																		
		Compressor Motor Body		19	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
П		Suction Line Assembly	mm	19	-	-	-	-	-	-	-	-			-		-	-		-	-	-
H	įu.	Liquid Line Assembly Insulation Thickness on Various Parts		9 For Brine Temperature Range (LWT below -10 0C)				-	-						-			-		-		
Н		Evaporator Shell		51 (32+19)				-				-		-	-					-		
		Evaporator Tubesheet		32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\vdash		Evaporator Pass Partition Assembly Evaporator Head Cover		32 51 (32+19)	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	
-		Evaporator Nead Cover Evaporator Support Plate		32			-		-						-					-		-
		Compressor Motor Body	mm	28 (19+9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Н		Suction Line Assembly	mm	28 (19+9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Н		Liquid Line Assembly Density		19 76.6					-											-		l i
	v	Thermal Conductivity		0.035 (at 0 0C Mean Temperature)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vi	Standard	-	IS 14164	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Н		Adhesive Insulation Specifications		Blend of Synthetic Polymers and Synthetic Resin Refer ESP-18-19-004	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H		Vibration Specifications		Refer ESP-18-19-004	-	-	-	-	-	-	-	-			-	_	-	-		-	-	
		Vibration Level		Less than 1.5 mm/sec	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\vdash		Vibration control Standard		Rubber Pads (Standard) / Spring Isolators (At an Additional Cost)	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	 -
	11	Painting Specification		pa =====					_			-			-			-				
	i	Paint Type		RAL 7035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H		Standard Overall Dimensions	-	Coating as per KCPL Standards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	i	Approx. Length	mm	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	T -
	ii.	Approx. Width		Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	13	Approx. Height Space Clearances Required	mm	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Panel Side	mm		2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500	2500
	ii	Opposite to Panel Side	mm	>	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200	2200
	iv	All Other Sides Overhead	mm mm		3000	3000	3000 15000	3000 15000	3000 15000	3000	3000 15000	3000 15000	3000 15000	3000 15000	3000	3000 15000	3000 15000	3000	3000 15000	3000 15000	3000	3000
	14	Weight																				
H		Approx. Shipping Weight	kg	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
\vdash	15	Approx. Operating Weight Cable Sizes	kg	Refer KCPL Chiller Selection System Software						-		-			-			-				
	i	Aluminum Cable		Refer ESP-14-15-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
В	- 11	Copper Cable Compressor Details	-	Refer ESP-14-15-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1	Make		Kirloskar Chillers Private Limited																		
	2	Type / Description	-	Semi-Hermetic Twin Screw Compressor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Н	4	Model Drive		Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	Capacity Control Percentage	%	Direct Driven by Rotor Shaft	100-25%	100-25%	100-25%	100-25%	100-25%	100-25%	100-12.5%	100-12.5%	100-12.5%	100-12.5%	100-12.5%	100-12.5%	100-12.5%	100-12.5%	100-12.5%	100-8.33%	100-8.33%	100-8.33%
	6	Type of Capacity Control	-	Stepless	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	Capacity Control Mechanism		Slide Valve Mechanism		-	-	-	-	-		-			-		-	-		-		
H	9	Volumetric Ratio Design and Test Parameters	-	Fixed Ratio (3.2)		-	-	-	-	-		-			-		-	-		-		
	i	Design Pressure		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\vdash		Test Pressure (Pneumatic)		33	-	-	-	-	-			-			-		-	-		-		
Н	iii	Design Temperature Max. Allowable Discharge Temperature		120 120	-	-	-	-	-	-	-	-	-	-	-		-	-		-	-	+ -
H	10	Max. Allowable Discharge Temperature Bearings	L	1220																		
П		Types of Bearings		Roller Bearings - For Radial Load	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Н				Angular Contact Roller Bearing - For Axial Load	-	-	-	-	-	-	-	-					-	-		-	-	-
H	- 1	Material of Construction Life of Bearing		Steel 50.000																		
ш	iv	Class of Bearing		Proprietary Data	-	-	-	-	-	-	-	-			-	-	-	-		-	-	
$\overline{}$																						

11																					
		Lubrication																			
	i	Туре	-	Lubrication by Differential Pressure Mechanism	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
ш		Lubricating Oil	-	Synthetic Oil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	III	Grade of Lubricating Oil	-	Proprietary Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	iv	Quantity	Liter	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
12	.2	Compressor Components MOC																			
	1	Screw	-	Alloy Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	ii	Casing	-	Cast Iron	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	III	Shaft	-	Alloy Steel		-	-	-		-	-	-		-	-	-	-	-	-		-
	iv	Rotor	-	Aluminum Alloy		-	-	-		-	-	-		-	-	-	-	-			-
13	.3	Physical Data of Compressor																			
	i	Screw Construction	-	Twin Screw	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	- 11	No. of Lobes Male Rotor	Nos.	5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	=	No. of Lobes Female Rotor	Nos.	6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	iv	Male Rotor Diameter (mm)	mm	Proprietary Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	٧	Female Rotor Diameter (mm)	mm	Proprietary Data	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	vi	Driving Rotor	-	Male Rotor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
14	4	Oil Filter		'		•	•					•					•	•			
	i	Micron Rating	Micron	10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	- 11	Material of Construction	-	Resin Impregnated Fibres	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	iii	Quantity	Nos.	1 No. per Compressor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
15	.5	Copressor Isolation Type												•					•		
	i	At Suction	-	Butterfly Valve				-			-										-
	ii	At Discharge	-	Shut-off Valve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
С		Compressor Motor Details																			_
1	1	Make	-	Kirloskar Approved Vendor				-			-										-
1 2	2	Motor Type	-	Semi-Hermetic Squirrel Cage Induction Motor	-				-	-											
3	3	Type of Duty	-	Continuous	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
Α.	4	Motor Rating	kW	Refer KCPL Chiller Selection System Software		-				-	-	-		-			-	-			
5	5	Motor Speed (Synchronous)	RPM	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4 5 6	6	Ingress Protection (IP)	-	NA, Being Semi-Hermetic Type	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
7	7	GD ² of Rotor	-	Proprietary Data	-				-	-				-	-		-		-		
7	8	Whether SPDP or TEFC?	-	NA, Being Semi-Hermetic Type	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
9	9	Power Supply Details (Standard)																			
		Supply Voltage	V	400	_	-	-	-	_	-	-	-	-	-	_	-	-	-	-		-
		Permissible Voltage Variation	%	±10%	-	_	_	-	-	-	_	-	-	_	_	_	_	_	_		_
	iii	Frequency	Hz	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	iv	Permissible Frequency Variation	%	±3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
		Phase		3		-	-		-		-	-		-	-		-	-			_
10		Performance Indicators				,											,	,			-
H	i	Motor Efficiency Class	-	NA		-	-		-	-	-	-		-	-	-	-	-			-
	ii	Motor Power	kW	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	iii	Motor Efficiency		Consult with Engineering Department on Case to Case Basis	_	_	_		_	_	_	_	_	_	_	_	_	_	_		
	iv	Power Factor	-	Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
	v	Class of Insulation		Class F	_	_	_		_	_	_	_	_	_	_	_	_	_	_		
11	1	Motor Cooling	1			1	1				1	1					1	1			
	ı	Motor Cooling Type	-	Refrigerant Cooled	-	-	-		-	-	-	-	-	-			-	_	-		-
\vdash	ii	Cooling Mechanism		Suction Gas																	
	iii					_	-	-	-	-	_	-	-	-		-	-	-			-
111	2		°c		-	-	-		-	-	-	-	-	-	-	-	-	-	-		
		Temperature at full load Current Details	°c	10 to 15 (At Normal Condtions)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
+		Current Details		10 to 15 (At Normal Conditions)	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
		Current Details Rated Load Current	A	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
	III	Current Details Rated Load Current Full Load Current	A A	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-		-	-		-	-			-
	iii	Current Details Rated Load Current Full Load Current Inrush/Starting Current	A A A	10 to 15 (At Normal Condtions) Refer KCPI. Chiller Selection System Software	-		-		-	-	-	-	-	-	-		-		-		-
	iii iv v	Current Details Rated Load Current Full Load Current Inrush/Starting Current Locked Rotor Current	A A A	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software	-	-	-		-	-	-	-		-	-		-		-		
	iii iv v	Current Details Rated Load Current Full Load Current Inrush/Starting Current	A A A	10 to 15 (At Normal Condtions) Refer KCPI. Chiller Selection System Software		- - - - - - - 172	- - - - - - 260	- - - - - - 260		- - - - - - 394	- - - - - - - - 172 + 172	- - - - - - - 172 + 172	- - - - - - 172 + 172	- - - - - - 260 + 260	- - - - - - 260 + 260	- - - - - - 338 + 260		- - - - - - 394 + 394	- - - - - - 394 + 394		
	iii iv v	Current Details Rated Load Current Full Load Current Innush/Starting Current Locked Rotor Current Starting Torque	A A A A N.m	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software																260 260	0 338
	iii iv v	Current Details Rated Load Current Full Load Current Inrush/Starting Current Locked Rotor Current	A A A	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software	- - - - - 104	- - - - - - 172	- - - - - 260	- - - - - 260	- - - - - - 338	- - - - - 394	- - - - - - 172 + 172 45.7 + 45.7	- - - - - - 172 + 172 45.7 + 45.7	- - - - - - 172 + 172	- - - - - 260 + 260 72.3 + 72.3	- - - - - - - 260 + 260 72.3 + 72.3	- - - - - - - 338 + 260	- - - - - - - 338 + 338	- - - - - - - 394 + 394	- - - - - - 394 + 394 108 + 108		0 338 101 + 101 + 101 ·
	iii iv v vi	Current Details Rated Load Current full Load Current Inrush/Starting Current Locked Rotor Current Starting Torque No Load Current	A A A A N.m	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
	iii iv v vi vii	Current Details Rated Load Current Full Load Current Innuts/Starting Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed	A A A A N.m	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
	iii iv v vi vii viii 3	Current Details Rated Load Current Full Load Current Innush/Starting Current Locked Notor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings	A A A A N.m A Sec	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
13	iii iv viii viii viii 3	Current Details Rated Load Current Full Load Current Innuts/Starting Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour	A A A A N.m	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software >>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>>																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
13	iii iv viii viii viii 3 ii iii	Current Details Rated Load Current Full Load Current full Load Current Innush/Starling Current Locked Rotor Current Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP LOS START	A A A A N.m A Sec	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
13	iii iv v vi vii viii 3 i ii iii	Current Details Rated Load Current Full Load Current Innush/Starling Current Locked Rotor Current Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between START to START Time Between START to START Tower Supply Standard Chiller Icomer)	A A A A N.m A Sec	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software >> 2 to 3 4																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
13 D	iii iv v vi vii viii 3 i ii iii	Current Details Rated Load Current Full Load Current Innush/Starling Current Locked Rotor Current Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between START to START Time Between START to START Tower Supply Standard Chiller Icomer)	A A A A N.m A Sec	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2	iii iv v vi vii viii 3 i ii iii 1 2	Current Details Rated Load Current Full Load Current Full Load Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard-Chiller Lcomer) Supply Voltage	A A A A N.m A Sec Sec Sec Sec	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 4 5 100 100 100																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2	iii iv v vi vii viii 3 i ii iii 1 2	Current Details Rated Load Current Full Load Current Inut Nosafring Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard-Chiller Lomer) Supply Voltage Permissible Voltage Variation Frequency	A A A A A N.m A Sec Sec Sec Sec V % Hz	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 4 300 900 415 510%																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2 2 3 3 4 4	iii iv v v v v v v iii iii iii 1 2 2 3 4 4	Current Details Rated Load Current Full Load Current full Load Current Inoush/Starling Current Locked Rotor Current Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between START to START Time Between START to START Supply Voltage Permissible Voltage Variation Frequency Permissible Voltage Variation	A A A A A N.m A Sec Sec Sec V %	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 4 3 300 300 415																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2	iii iv v v v v v v iii iii iii 1 2 2 3 4 4	Current Details Rated Load Current Full Load Current full Load Current Inoush/Starling Current Locked Rotor Current Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between START to START Time Between START to START Supply Voltage Permissible Voltage Variation Frequency Permissible Voltage Variation	A A A A A N.m A Sec Sec Sec Sec V % Hz	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 4 300 900 415 510%																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 33 44 55	iii iv v vi vii viii iii iii 1 2 3 4 5	Current Details Rated Load Current Full Load Current Innuts/Natring Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard-Chiler Lomer) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase	A A A A N.m A Sec	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 2 2 2 2 3 3 4 3 3 3 3 3 3 3 3 3 3 3 3																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 33 44 55	iii iv v v v v v v iii iii iii 1 2 2 3 4 4	Current Details Rated Load Current Full Load Current full Load Current Inoush/Starling Current Locked Rotor Current Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between START to START Time Between START to START Supply Voltage Permissible Voltage Variation Frequency Permissible Voltage Variation	A A A A A A N.m A Sec Sec Sec Sec V % Hz 5%	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 4 300 900 415 510%																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 3 3 4 5 6	iii iv v vi viii viii iii iiii iii iiii iiii iiii iii ii	Current Details Rated Load Current Full Load Current Innus/NStarling Current Locked Rotor Current Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard-Chiler Loner) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Control Voltage	A A A A N.m A Sec Sec Sec Sec V % % Hz C V V	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 4 50 900 415 415 415 500 50 533 30 30(3)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 33 44 55 66	iii	Current Details Rated Load Current Full Load Current Full Load Current Inculability Starling Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Lomer) Supply Voltage Permissible Voltage Variation Prequency Permissible Frequency Permissible Frequency Permissible Frequency Supply Works Control Voltage Supply Works System	A A A A N.m A Sec	10 to 15 (At Normal Conditions) Refer KCPL Chiller-Selection System Software Refer KCPL Chiller-Selection System Software Refer KCPL Chiller Selection System Software Refer KCPL Chiller Selection System Software 2 to 3 4 to 3 4 to 3 5 to 3 4 to 3 5 to 3 6 to 3 7 to 3 7 to 3 8 to 3 9 to 3 9 to 3 10 (Special-Optional) 10 (Special-Optional) 110 (Special-Optional)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 1 1 2 2 3 3 4 4 5 6 6 7 7 8 8	iii iv v vi viii viii iii iii 1 1 2 2 3 3 4 4 5 5 5 6 6 7 8 8	Current Details Rated Load Current Full Load Current full Load Current Locked Rotor Current Starting Torque No Load Current No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starty per Hour Time Between START Time Between START Time Between START To START Supply Voltage Permissible Voltage Variation Frequency Permissible Voltage Control Voltage Control Voltage Control Voltage Control Voltage Control Voltage Fault Level at Busbar	A A A A N.m A Sec Sec Sec Sec V % % Hz C V V	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 4 300 900 415 110% 50 230 (Standard) 110 (Special-Optional)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2 2 3 3 4 4 5 5 6 6 7 7 8 8	iii iv v vi viii v	Current Details Rated Load Current Full Load Current Full Load Current Inoutal/Starting Current Locked Rotor Current Starting Torque Acceleration Time to Reach Rated Speed Control Settings A. o. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Lomer) Supply Voltage Permissible Voltage Variation Phase Control Voltage Supply Wire System Fault Level at Buchar Ol Separator Details	A A A A A N.m A Sec Sec Sec Sec V V % + T Z V V	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 2 to 3 4 300 900 415 110% 50 13% 3 33 3 33 3 3 (3) 3 101 (Special-Optional) 3 Phase - 4 Wire System (Ssandard) 3 Phase - 4 Wire System (Special-Optional)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 33 44 55 66 77 8	iii iv v vi viii v	Current Details Rated Load Current Full Load Current Full Load Current Inoutal/Starting Current Locked Rotor Current Starting Torque Acceleration Time to Reach Rated Speed Control Settings A. o. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Lomer) Supply Voltage Permissible Voltage Variation Phase Control Voltage Supply Wire System Fault Level at Buchar Ol Separator Details	A A A A A A N.m A A Sec Sec Sec Sec Sec Sec V V % + Hz V V + kA	Active CPL Chiller Selection System Software Refer KCPL Chiller Selection System Software 2 to 3 2 to 3 4 300 900 415 415 510% 50 428 438 439 4303 510 520 534 537 547 558 579 579 579 579 579 579 57																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2 2 3 3 4 4 5 5 6 6 7 7 8 8	iii iv v vi viii v	Current Details Rated Load Current Full Load Current Full Load Current Inoutal/Starting Current Locked Rotor Current Starting Torque Acceleration Time to Reach Rated Speed Control Settings A. o. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Lomer) Supply Voltage Permissible Voltage Variation Phase Control Voltage Supply Wire System Fault Level at Buchar Ol Separator Details	A A A A A N.m A Sec Sec Sec Sec V V % + T Z V V	10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software 2 to 3 2 to 3 4 300 900 415 110% 50 13% 3 33 3 33 3 3 (3) 3 101 (Special-Optional) 3 Phase - 4 Wire System (Ssandard) 3 Phase - 4 Wire System (Special-Optional)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
13 D 1 2 2 3 3 4 5 6 6 7 7 8 E	iii iv v vi viii iii iii iii 122 2 3 3 4 4 5 5 6 6 7 7 8 8 8 1 1 2 2	Current Details Rated Load Current Full Load Current Innuts/Natring Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard-Chiler Lomer) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Control Voltage Supply Wire System Out Supply Wire System Use Supply Wire System Out Supply Wire System Use Sup	A A A A A N.m A A Sec Sec V % % Hz % V V	Active CPL Chiller Selection System Software Refer KCPL Chiller Selection System Software 2 to 3 4 to 3 3 to 3 4 to 3 4 to 3 5 to 3																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
13 D 1 2 2 3 3 4 5 6 6 7 7 8 E	iii iv v vi viii v	Current Details Rated Load Current Full Load Current Full Load Current Inoutal/Starting Current Locked Rotor Current Starting Torque Acceleration Time to Reach Rated Speed Control Settings A. o. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Lomer) Supply Voltage Permissible Voltage Variation Phase Control Voltage Supply Wire System Fault Level at Buchar Ol Separator Details	A A A A A A N.m A A Sec Sec Sec Sec Sec Sec V V % + Hz V V + kA	10 to 15 (At Normal Conditions)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2 2 3 3 4 4 5 5 6 6 7 7 7 8 8 8 E 1 1 2 2 3 3 3	iii iv v vi viii iii iii iii 1 1 2 2 3 3 4 4 5 5 5 6 6 6 6 7 7 8 8 1 1 1 2 2 3 3 3 4 4 5 5 5 5 5 5 5 5	Current Details Rated Load Current Full Load Current Innuts/Natring Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard-Chiler Lomer) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Control Voltage Supply Wire System Out Supply Wire System Use Supply Wire System Out Supply Wire System Use Sup	A A A A A N.m A A Sec Sec V % % Hz % V V	10 to 15 (At Normal Conditions)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 3 3 4 4 4 5 6 6 6 7 7 8 8 E 1 1 2 2 2 3 3 4 4	iii iv v vi viii v	Current Details Rated Load Current Full Load Current Insulability Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Icomer) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Control Voltage Supply Works System Sald Event at Buchar Oil Separator Details Type University Structure Nethod of Oil Separation Oil Separator Details Type Hothod of Oil Separation	A A A A A N.m A A Sec Sec V % % Hz % V V	All Normal Conditions																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 3 3 4 4 4 5 6 6 6 7 7 8 8 E 1 1 2 2 2 3 3 4 4	iii iv v vi viii v	Current Details Rated Load Current Full Load Current Insulability Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Icomer) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Control Voltage Supply Works System Sald Event at Buchar Oil Separator Details Type University Structure Nethod of Oil Separation Oil Separator Details Type Hothod of Oil Separation	A A A A A A A A A A A A A A A A A A A	10 to 15 (At Normal Conditions)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 22 3 3 4 4 4 5 6 6 6 7 7 8 8 E 1 1 2 2 2 3 3 4 4	iii iv v vi viii v	Current Details Rated Load Current Full Load Current Insulability Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Icomer) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Control Voltage Supply Works System Sald Event at Buchar Oil Separator Details Type University Structure Nethod of Oil Separation Oil Separator Details Type Hothod of Oil Separation	A A A A A A A A A A A A A A A A A A A	All Normal Conditions																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2 2 3 3 4 4 5 5 6 6 7 7 8 8 8 E 1 2 2 3 3 4 4 4	iii iv v vi viii viiii iii iii iii iii	Current Details Rated Load Current Full Load Current Full Load Current Innuts/Starting Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Soeed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Lomer) Supply Voltage Permissible Voltage Variation Prasuency Permissible Frequency Variation Phase Control Voltage Supply Wire System Fault Level at Busbar Oil Separator Details Type Internal Structure Method of Oil Separation Oil Heater Details Make Quantity Power Supply	A A A A A A A A A A A A A A A A A A A	10 to 15 (At Normal Conditions)																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 11 2 2 3 3 4 4 5 5 6 6 7 7 8 8 8 E 1 2 2 3 3 4 4 4	iii iv v vi viii viiii iii iii iii iii	Current Details Rated Load Current Full Load Current Full Load Current Innuts/Starting Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Soeed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Lomer) Supply Voltage Permissible Voltage Variation Prasuency Permissible Frequency Variation Phase Control Voltage Supply Wire System Fault Level at Busbar Oil Separator Details Type Internal Structure Method of Oil Separation Oil Heater Details Make Quantity Power Supply	A A A A A A A A A A A A A A A A A A A	All Normal Conditions																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·
D 1 1 2 2 3 3 4 4 5 5 6 6 7 7 8 8 E 1 1 2 2 2 3 3 4 4 4	iii iv iii	Current Details Rated Load Current Full Load Current Insulability Current Locked Rotor Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START to START Power Supply (Standard Chiller Icomer) Supply Voltage Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Control Voltage Supply Works System Sald Event at Buchar Oil Separator Details Type University Structure Nethod of Oil Separation Oil Separator Details Type Hothod of Oil Separation	A A A A A A A A A A A A A A A A A A A	All Normal Conditions																260 260 101 + 72.3 + 101 + 1	0 338 101 + 101 + 101 ·

3 4																						
		uantity		One per Compressor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		eat Duty	kW	Depends on Working Conditions	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		ethod of Cooling		Refrigerant Cooled	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5		aterial of Construction	-	Brazzed PHE, Plate Material - SS	-	-	-	-	-	-	-		-		-		-	-	-	-		-
6	Pre	essure Drop																				
	i Oil	l Side	bar	less than 0.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		efrigerant Side	bar	Proprietary Data				_	-					-	_		-			_	-	
G	Fva	raporator Details	Dui	1 Toprictary Data																		
1				2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0						1	1											1
		odel	-	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
2		esign Code	-	As per KCPL Standards	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
3	Typ	pe		Shell and Tube DX Design	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4	Tub	ube Side (Fluid)	-	Refrigerant	-	-	-	-	-	-	-		-		-		-	-	-	-		-
5	She	nell Side (Fluid)	-	Chilled Water	-	-	-	-	-	-	-				-		-	-	-	-		-
6	Des	esign Parameters																				
		esign Temperature (Refrigerant Side)	°c	65																		
	i be	esign remperature (kerrigerant side)				_	-	-	-	-	-	-	-		-		-	-	-	-		-
	ii Ma	ax. Operating Pressure (Refrigerant Side)	bar	Refer ESP-07-08-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iii De:	esign Pressure (Refrigerant Side)	bar	Refer ESP-07-08-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iv Tes	est pressure (Refrigerant Side)	bar	Refer ESP-07-08-107	-	-	-	-	-	-	-				-		-	-	-	-		-
	v Tes	esting method (Refrigerant Side)	-	Refer ESP-07-08-107	-	-	-			-	-			-	-	-		-	-	-	-	-
	vi No	o. of Passes (Refrigerant Side)	Nos.	\longrightarrow	2	2	2	2	2	2	2	2	2	2	1	1	- 1	1	1	1	1	1
				65				- 2							-	-	1	-	-	-		-
		esign Temperature (Water Side)	°c	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\perp	viii Ma	ax. Operating Pressure (Water Side)	bar	Refer ESP-07-08-107	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		esign Pressure (Water Side)	bar	Refer ESP-07-08-107	-	-	-	-	-		-	-	-	-	-	-	-		-	-		-
		est pressure (Water Side)	bar	Refer ESP-07-08-107			-	-	-	1	-	-		-	-	-	-	-	-		-	-
	xi Tes	esting method (Water Side)	-	Refer ESP-07-08-107	-			-	-	-		-	-	-	-		-				-	
	vii No	p. of Passes (Water Side)	Nos.	Single Pass																		
		ater Velocity	m/s	Less than 3 m/s																		
				Description 3 High						1												
		let Pressure	bar	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)				-							-					-		
	xv Eva	raporating Temperature	°c	Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-		-		-	-	-		-	-		-
7	Phy	nysical Data of Evaporator																				
	i Ovi	verall Length of Evaporator	ft	\rightarrow	6	6	9	9	9	9	9	9	9	9	12	12	12	12	12	12	12	12
	ii She	nell Diameter	inch		12	14	16	16	18	18	16	18	20	20	20	20	22	22	22	24	24	26
		nell Thickness	mm	\longrightarrow	6	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	in An	pprox. Shell Length	mm		1753	1753	2666	2666	2666	2666	2666	2666	2660	2660	3546	3546	3546	3546	3546	3534	3534	3534
	IV Ap	oprox. Siteli Length		Mild Steel	1/33	1/33	2000	2000	2000	2000	2000	2000	2000	2000	3340	3340	3340	3340	3340	3334	3334	3334
		aterial of Construction of Shell	-		-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
	vi Ma	aterial Standard of Shell	-	Refer "MOC" Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vii Tut	ube Type/ Nature of Tube Surface	_	Integral Helical Fins on the Outside Surface and Integral Helical Ridges on		_		_							_		_					
			_	the Inside Surface	_	_		-	-	1	1				_		-	-		-		-
	viii Tub	ibe Length	mm	Refer "HX Details" Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ix Tub	ibe Diameter	mm	Refer "HX Details" Sheet	-	_	_	_	_	-	-		-	-	_	-	_	-	_	-	-	-
	v Tui	ube Thickness	mm	Refer "HX Details" Sheet																		
	A TOL	aterial of Construction of Tube		Cii					_	1	1						_					-
			-				-	-	-	-	-	-	-		-	-	-	-	-	-		-
	xii Ma	aterial Standard of Tube	-	Refer "MOC" Sheet	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-		-
	xiii Wa	ater Volume in Evaporator	Liter	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		ater Box Details																				
	i Typ																					
		pe	-	Standard - On Shell Nozzle	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ii Ma	rpe aterial	-	Standard - On Shell Nozzle Mild Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ii Ma	aterial		Mild Steel	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
	ii Ma iii Sta	aterial andard (Material)		Mild Steel Refer "MOC" Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ii Ma iii Sta iv No	aterial andard (Material) ozzle size		Mild Steel Refer "MOC" Sheet Refer KCPL Chiller Selection System Software	-	-		-		-		- - - -	-	-	-	-		-		-		-
	ii Ma iii Sta iv No. v End	aterial andard (Material) ozzle size nd connection		Mild Steel Refer "MOC" Sheet Refer KCPL Chiller Selection System Software Standard - Victaulic Conn. (Flanged Conn Optional)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		- - - -	
	ii Ma iii Sta iv No. v End vi MC	aterial andard (Material) pozzle size nd connection OC of Water Side Gasket		Mild Steel Refer "MOC" Sheet Refer KCPL Chiller Selection System Software Standard - Victaulic Conn. (Planged Conn Optional) NAM AF 120	-	-			-	-					-			-		-	- - - - -	
	ii Ma iii Sta iv No. v End vi MC	aterial andard (Material) ozzle size dd connection C of Water Side Gasket OC of Refrigerant Side Gasket		Mild Steel Refer "MOC" Sheet Refer KCPL Chiller Selection System Software Standard - Victaulic Conn. (Flanged Conn Optional)	-			-		-	-				-	-					- - - - - - -	
	ii Ma iii Sta iv No. v End vi MC vii MC	aterial andard (Material) pozzle size nd connection OC of Water side Gasket CC of Refrigerant Side Gasket ccessories Provided	NB	Mild Steel Refer TMDC: Sheet Refer KCPL Chiller Selection System Software Standard - Victualic Conn. (Flanged Conn Optional) NAMA F 120 NAM AF 159	-	-					-											
9	ii Ma iii Sta iv No v End vi MC vii MC Acc i Pre	aterial andard (Material) DZIE size d connection CC of Water Side Gasket OC of Refrigerant Side Gasket cessories Provided essure Relief Valve	NB	Mild Steel Refer MCC Sheet Refer KCPL Chiller Selection System Software Standard - Victualic Conn. (Flanged Conn Optional) NAM AF 120 NAM AF 120 Spring Loaded (For Safety Valve Set Pressure Refer ESP)	-			-		-					-					-		
9	ii Ma iii Sta iv No v End vi MC vii MC Acc i Pre ii Dra	aterial nadraf (Material) nzzle size d connection OC of Water Side Gasket OC of Refrigerant Side Gasket cossories Provided essure Relief Valve any/Nent Valves	NB	Mild Steel Refer TMDC: Sheet Refer KCPL Chiller Selection System Software Standard - Victualic Conn. (Flanged Conn Optional) NAMA F 120 NAM AF 159	-			-	-	-	-			-		-	-			-		
9	ii Ma iii Sta iv No. v Enc vi MC vii MC Acc i Pre ii Dra Coo	aterial andrad (Material) ozzle size d connection OC of Water Side Gasket OC of Refrigerant side Gasket cessories Provided essure Relief Valve ann/vent Valves underner Coll Details	NB	Mild Steel Refer MCC' Sheet Refer KOPL Chiller Selection System Software Standard - Victualic Conn. (Flanged Conn Optional) NAM AF 120 NAM AF 129 Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT)	-			-	-	-	-			-	-	-		-		-		
9	ii Ma iii Sta iv No. v Enc vi MC vii MC Acc i Pre ii Dra Coo	aterial nadraf (Material) nzzle size d connection OC of Water Side Gasket OC of Refrigerant Side Gasket cossories Provided essure Relief Valve any/Nent Valves	NB	Mild Steel Refer MCC' Sheet Refer KOPL Chiller Selection System Software Standard - Victualic Conn. (Flanged Conn Optional) NAM AF 120 NAM AF 129 Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT)			-	-	-	-	-				-				-	-		
9 H	ii Ma iii Sta iv No v Enc vi MC vii MC Acc ii Pre iii Dra Cool Ma	aterial andrad (Material) zozie size d connection OC of Water Side Gasket OC of Refrigerant Side Gasket cessories Provided essure Relief Valve salve Result Valve and/Nent Valves ondenser Coll Details ake	NB	Mild Steel Refer MCC' Sheet Refer KDC' Cheet Refer KDC Chiller Selection System Software Standard - Victualic Conn. [Flanged Conn Optional] NAM AF 120 NAM AF 120 Spring Loaded For Safety Valve Set Pressure Refer ESP] Plugged Connection Provided (3/8" NPT) Kirloskar Approved Vendor Fin and Tube Design	-		-	-	-		-				-			-	-			
9 H	ii Ma iii Sta iv No v Enc vi MC vii MC Acc ii Pre iii Dra Cool Ma	aterial andrad (Material) zozie size d connection OC of Water Side Gasket OC of Refrigerant Side Gasket cessories Provided essure Relief Valve salve Result Valve and/Nent Valves ondenser Coll Details ake	NB	Mild Steel Refer MCC' Sheet Refer KDC' Cheet Refer KDC Chiller Selection System Software Standard - Victualic Conn. [Flanged Conn Optional] NAM AF 120 NAM AF 120 Spring Loaded For Safety Valve Set Pressure Refer ESP] Plugged Connection Provided (3/8" NPT) Kirloskar Approved Vendor Fin and Tube Design		-	-		-	-	-				-				-			
9 H	ii Ma iii Sta iv No v Eno vi MC vii MC i Pre ii Dra Coo Ma Typ	aterial andard (Material) zzzle size d d connection OC of Water Side Gasket OC of Water Side Gasket OC of Refrigerant Side Gasket ccessories Provided essure Relief Valve any Vent Valve and Vent Valve and Vent Valve pe pe Jul Arrangement	NB Inch	Mild Steel Refer MCC' Sheet Refer KCPL Chiller Selection System Software Standard - Vetaulic Conn. (Flanged Conn Optional) NAMA F 120 RAMA F 129 Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT) Kirloskar Approved Vendor Fin and Tube Design V 1 ype						-	-					- - - - - - - - -			-	-		
9 H 1 2	ii Ma iii Sta iv No v Enc vi MC vii MC i Pre ii Dra Coo Ma Typ	aterial andrad (Material) zozle size d connection OC of Water Side Gasket OC of Refrigerant iside Gasket ccessories Provided essuer Relief Valve ann/vent Valves ondenser Coll Details ake jil Arrangement be Side (Filid)	NB Inch	Mild Steel Refer MCC' Sheet Refer KCPL Chiller Selection System Software Standard - Victualic Conn. (Flanged Conn Optional) NAM AF 120 NAM AF 120 Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT) Kirloskar Approved Vendor Finishar Tube Design V Type Refrigerant	-	-	-	-	-		-				-				-			
9 H 1 2 3 4 5	ii Ma iii Sta iv No v End vi MC vii MC Acc i Pre ii Dra Cool Tub Fin	aterial andard (Material) zzile size d d connection d connection d connection CC of Water Side Gasket CC of Refrigerant Side Gasket CC of Refrigerant Side Gasket ccessories Provided essure Relief Valve and yeart Valves and yeart Valves and yeart Valves and yeart Valves d connection d connecti	NB Inch	Mild Steel Refer MCC' Sheet Refer KCPL Chiller Selection System Software Standard - Vetaulic Conn. (Flanged Conn Optional) NAMA F 120 RAMA F 129 Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT) Kirloskar Approved Vendor Fin and Tube Design V 1 ype																		
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	xiii	Type of Coating	-	Hydrophilic Coating - Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
+	- de -	Thickness of Layer (Coating)	mm	Blygold Coating - Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
H	XIV	Life of Fins with Coating		Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis																		
		Condenser Fan Details	10013	consult with Engineering Department on case to case basis		1				1		1			1							
	1	Make	-	Kirloskar Approved Vendor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	Fan Speed	RPM	910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	No. of Blades Static Pressure	Nos.	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	Static Pressure		70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Noise Level	dB	73	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
\vdash		Motor Details		0.01																		
H		Motor Type Starter Type	-	3 Phase Induction Motor DOL	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	_	-
+	- "	Class of Insulation		Class F				1				-						1				
H		Motor Rating	kW	1.4																		
	v	Motor Current		2.3	-	-		-	-	-		-	-	-		-		-	-	-	-	-
	vi	Supply Voltage		415	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vii	Phase	-	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	viii	Frequency	Hz	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Motor Protection Class	-	IP54	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ш		Material of Construction		1							_									ı		
\perp	- 1	Fan Blades	-	Aluminum Alloy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\vdash	ii.	Motor	-	Aluminum			-	-							-	-		-		-		_
	III	Safety Guard Adiabatic Kit Details	-	Steel Wire				1 -			1 -	_						1 -	-	_		
		Adiabatic Rit Details Adiabatic Pad Make		Kirloskar Approved Vendor																		
	2	Material of Construction	<u> </u>	miliosius reproved vendoi	-					1	-	1										-
\vdash		Adiabatic Pad	-	Cellulose Material		-	-	-	-	-		-	-	-	-	-	-	-		-	-	-
\vdash		Frame of Adiabatic Pad		Aluminum	-					-	-		-	-				-	-	-	-	
\vdash	iii	Storage Tank	-	SS	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
	3	Fogger Pump Details	•	•																		
	ī	Make	-	Kirloskar Approved Vendor	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-		-
	ii	Motor Type	-	3 Phase Induction Motor	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
\vdash	III	Starter Type		DOL	-		-	-	-				-	-		-	-	-	-	-	-	
++	iv	Water Flow Rate		Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-		-
+	V	Motor Rating	kW A	Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-		
+	vii	Motor Current Supply Voltage	V	Consult with Engineering Department on Case to Case Basis 415								1										₩÷.
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\vdash	ix	Frequency	Hz	50		-	-	_	-			-			-	-	-	_		-		-
	4	Filter Details		4-Stage Filter Unit with Filter Cartridge																		
K		Chiller Base Frame Details										•										
ш	1	Material	-		GI	GI	GI	GI	GI	GI	GI	GI	MS	MS	MS	MS	MS	MS	MS	MS	MS	MS
	2	Method and details of construction OR Nature and joints used-folded/Welded /Bolted	-	Welded Bottom Frame and Remaining Components are Bolted with Bottom Frame	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	Finish - Hot Dip Galvanised, Corrosion Resistant etc.	-	Spray Galvanising for MS Material NA for GI Material (Coat Base frame and Casing with a Corrosion-Resistant Coating Capable of withstanding a 1000 hour Salt-Spray Test According to ASTM B117)	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-		-
1		Suction Line								ı						I				1		
Ħ		Design Code	-	ASME B31.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	2	Isolation Valve	-	Butterfly Valve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Material of Construction	-	Carbon Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	Material Standard		Refer "MOC" Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
м	5	Angle Valve Discharge Line	-	Provided on Suction Line For Service Purpose		-								-		-				-		
	1	Design Code	-	ASME B31.3	-															-		
		Isolation Valve		Shut-off Valve	-		-	-	-	-				-		-	-	-	-	-	-	-
	3	Material of Construction	-	Carbon Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	4	Material Standard	-	Refer "MOC" Sheet	-	-	-	-	-	-		-		-	-	-	-	-	-	-		-
	5	Skin Type Thermowell	-	Provided on Discharge Line For Discharge Temp. Sensor	-	-	-	-	-	-				-	-	-	-	-	-	-	-	-
N	_	Liquid Line		10145 001 0							_											
	2	Design Code Expansion Valve	-	ASME B31.3	-	-	-			1	1	-		-	-	-	-	1	-	1		
+		Type		Electronic Expansion Valve	-															-		
\vdash	- 1	Make		Kirloskar Approved Vendor																		
	iii	Quantity		>	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2	3	3	3
	iv	Sight Glass	-	Inbuilt	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	v	Moisture Indicator	-	NA	-	-	-	-	-	-	-	-		-		-	-	-		-	-	-
	3	Moisture Indicator Filter Drier		Provided		-		-				-		-	-	-	-	-	-	-		-
	4	Material of Construction		Copper	-		-	-	-	-	-			-		-	-	-	-	-		-
		Material Standard	-	Refer "MOC" Sheet	-	-	-	-	-	-			-	-	-	-	-	-	-	-		
0	1	Desuperheater Type	-	Plate Type																		
	3	Quantity Operating Conditions		One per Compressor			-									-				-		
H	- 1	Heat Duty	kW	Depends on Working Conditions	-						-						-			-		
H	T i	Hot Water Inlet Temperaure	°C	Depends on Site Conditions (Max. Possible - 50)			-	-		-			-	-				-	-	-	-	
+	jji	Hot Water Outlet Temperaure		Max. Possible - 55																		
H		Hot Water Flow Rate		Depends on Working Conditions			-		-				-	-			-	-		-		
H	4	Material of Construction Water Side End connection Details		Brazzed PHE, Plate Material - SS	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
		Water Inlet Connection	NB	Consult with Engineering Department on Case to Case Basis																		
		water met connection																				

		Water Outlet Connection	NB	Consult with Engineering Department on Case to Case Basis																		
1 6	5	Pressure Drop				•	•	•				•	•			•	•	•	•	•		
	i	Water Side	bar	less than 0.5	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
	ii	Refrigerant Side	bar	Proprietary Data	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
Р		Economizer		•			•	•	•	•	•		•			•	•		•	•		
1	ı .	Type	-	Plate Type	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 2	2	Quantity		One per Compressor		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3	t	Heat Duty	kW	Proprietary Data	-	-	_	_	-	_	_	-	_	-	-	_	_	-	-	-	_	-
- 4		Material of Construction	-	Brazzed PHE, Plate Material - SS		_	_	_	_	_		_				_	_	_	_		_	_
0	+	Starter and Control Panel		Didited File, Flate Material 33																		
1		Panel Enclosure	-	Starter and Control Panel Integrated in Single Fabricated Box																		-
1 2		Make		Kirloskar Approved Vendor				-				1						-	-			
3		Material of Enclosure		Fabricated Enclosure - GI						-	-						-	-	-	-	-	_
- 1-3	•	Material of Effciosure		Fabricated Enclosure		-	-	-	-		-		-	-		-	-	-				_
	.	with the same of																				
4	١.	Thickness of Enclosure	mm	Load Bearing Member - 2 mm	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
Н.	_			Non-Load Bearing Member - 1.6 mm																		
5		Ingress Protection (IP)	-	Consult with Engineering Department on Case to Case Basis	-	-	-			-	-	-	-	-		-	-			-	-	
- 6		Painting Specification							_	_	_								_			
\perp		Paint Type		RAL 7035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\perp	ii.			Coating as per KCPL Standards	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	7	Mounting Arrangement		Mounted on Chiller	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	3	Type of Starter	-	Star-Delta Starter (Soft Starter / VFD - Optional)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				MCCB in case of Star-Delta Starter																		
9	.	Type of Isolation		FSD in case of Soft Starter				_				_					_					
2	'	Type of Isolation	-	Consult with Engineering Department on Case to Case Basis in case of VFD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				Starter																		
				MCCB in case of Star-Delta Starter																		
				FSD in case of Soft Starter																		
1	0	Type of Protection	-	Consult with Engineering Department on Case to Case Basis in case of VFD	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
				Starter																		
1	1	Switchgear Make	-	Siemens																		
-	1	Switchgedi Wake		Sieniens			-	-	_		-	_				-	_			-	-	-
				Power - PVC Insulated Single Core (Vtg. Grade 1.1 kV)																		
1	2	Electrical and Control Cables	-	Control- PVC Insulated Single Core, Multicore Cable (Vtg. Grade 1.1 kV)	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
				Signal- Shielded Cable																		
-	_	0.0.16.4																				
1		Optional Features																				
		Phase Indicating Lamps	-	Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	- ii			Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iii			Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\perp		Door Handle		Special-Optional Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
\perp	v			Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	vi	VFD for Condenser Fans		Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R		Controller								,	,											
1		Make	-	Refer "Make List" Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2		Transmitters	-	NA	-	-		-	-	-	-		-						-	-	-	-
3		Oil Level Switch		NA	-	-	-		-	-	-	-	-	-		-		-	-	-	-	-
4		Oil Level Failure Trip	-	NA	-	-	-	-	-	-		-		-		-		-	-	-	-	-
5	<u>. </u>	LP Switch and Gauge	-	No, Controller Program will Take Care of Low Pressure	-	-	-	-	-	-		-		-		-		-	-	-	-	-
6		HP Switch and Gauge	-	No, Controller Program will Take Care of High Pressure	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-
7		Chilled Water Flow Failure		Yes	-	-	-	-	-			-	-	-	-	-	-	-		-	-	-
8	3	Cooling Water Flow Failure	-	Yes			-	-		-	-	-	-			-	-				-	
)	Reverse Rotor Protection	-	No	-	-	-	-	-			-	-	-	-	-		-	-	-	-	-
1		High/Low Voltage Trip	-	Yes		-	-	-		-	-	-	-	-	-	-	-			-	-	-
		Low Current Trip (Current Based-Analog)		Yes																		
				Yes																		
					-		-					-	-				_		<u> </u>		-	
1	2	High Current Trip (Current Based-Analog)	-										-	-								
1	3	High Current Trip (Current Based-Analog) Phase Failure/Reverse Phasing Trip	-	Yes	-	-	-	-		-												
1 1	2 3 4	High Current Trip (Current Based-Analog) Phase Failure/Reverse Phasing Trip Earth Fault Trip	-	Yes No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1 1 1	2 3 4	High Current Trip (Current Based-Analog) Phase Fallure/Reverse Phasing Trip Earth Fault Trip Communication Through RS232/RS485	-	Yes No RS485		-	-	-		-	-	-	-	- 1	-	-	-	-	-	-	-	-
1 1 1 1	2 3 4 5	High Current Trip (Current Based-Analog) Phase Failure/Reverse Phasing Trip Earth Fault Trip Communication Through RS232/RS485 Display of Microprocessor	-	Yes No RS485 Yes		-	-	-	-		-	-	-		-	-	-	-	-		-	
1 1 1 1 1	2 3 4 5 6	High Current Trip (Current Based-Analog) Phase Fallure/Reverse Phasing Trip Earth Fault Trip Communication Through RS232/RS485 Display of Microprocessor Type of Display	- - - -	Yes No R5485 Yes P600 Screen		-	-	-	-	-	-	-	-		-	-		-	-		-	
1 1 1 1 1 1	2 3 4 5 6 7 8	High Current Trip (Current Based-Analog) Phase Failure/Reverse Phasing Trip Earth Fault Trip Communication Through RS232/RS485 Display of Microprocessor Type of Display Remote Monitoring Facility		Yes No RS485 Yes PG00 Screen Yes	1		-		-			-	-	-	- - - -	-			-			
1 1 1 1 1 1 1	2 3 4 5 6 7 8	High Current Trip (Current Based-Analog) Phase Fallure/Reverse Phasing Trip Earth Fault Trip Communication Through RS232/RS485 Display of Microprocessor Type of Display	- - - -	Yes No R5485 Yes P600 Screen			-						-	-		-						