Sr. No.	Description	UOM (Wherever Applicable)	Data (Common For All Models)	KAA050.17	KAA075.17	KAA130.17	KAA170.17	KAA200.17	KAA225.17	KAA255.17	KAA140.27	KAA165.27	KAA230.27	KAA260.27	KAA300.27	KAA345.27	KAA370.27	KAA400.27	KAA455.27
A	General Points								1	1			1					1	
1	Cooling Capacity	ton <sub>R</sub>	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2	Power Consumption	kW	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3 4	Specific Power Consumption Co-Efficient of Performance (COP)	kW/ton <sub>R</sub> kW/kW	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	No. of Compressors	Nos.	Refer KCPL Chiller Selection System Software	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
6	No. of Individual Refrigerant Circuits	Nos.		1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
7	Refrigerant																		
	i Name	<u>.</u>	R407C	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ii Quantity iii Technical Specifications	kg	Refer KCPL Chiller Selection System Software Refer ESP-18-19-005		-	-	-	-	-	-	-		-	-	-	•	-	-	
8	Sound Pressure Level		Veier 524-10-13-002	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
	i Noise Level	dB	Refer ESP-18-19-001		-	-	-	-	-	-	-	-	-	-	-	-	-		-
	ii Measuring Standard	-	ANSI/AHRI Standard 575-2008	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9	Insulation Details				1									1	1	ı	1		1
	i Material ii Insulation Thickness on Various Parts		Closed Cell Nitrile Foam For Standard Temperature Range (LWT upto -10 0C)		-	-	-	-	-	-			-	-	-	-	-	-	<del></del>
+++	Evaporator Shell	mm	32		-		-	-		-			-	-		-		-	-
	Evaporator Tubesheet	mm	19		-		-	-	-	-	-	-	-	-		-	-	-	
	Evaporator Pass Partition Assembly	mm	19	-	-	-	-	-	-	-	-	-		-		-	-	-	-
+	Evaporator Head Cover	mm	32	-	-	-	-	-	-	-	-	-	-	-	-	•	-	-	-
+++	Evaporator Support Plate	mm mm	19																
+++	Compressor Motor Body Suction Line Assembly	mm	19																
	Liquid Line Assembly	mm	9		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iii Insulation Thickness on Various Parts		For Brine Temperature Range (LWT below -10 0C)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Evaporator Shell	mm	51 (32+19)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
+++	Evaporator Tubesheet Evaporator Pass Partition Assembly	mm mm	32		-	-	-	-	-	-			-	-	-	-	-	-	-
	Evaporator Head Cover	mm	51 (32+19)																
	Evaporator Support Plate	mm	32		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Compressor Motor Body	mm	28 (19+9)	-	-		-	-	-	-	-	-		-	-		-		-
	Suction Line Assembly	mm	28 (19+9)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
+++	Liquid Line Assembly iv Density	mm 3	76.6		-	-	-	-	-	-			-	-	-	-	-	-	<del></del>
	v Thermal Conductivity	kg/m³ W/m.K	0.035 (at 0 0C Mean Temperature)		-		-	-		-			-	-	-	•	-	-	-
	vi Standard	- ·	IS 14164							-			-		-			-	
1	vii Adhesive	-	Blend of Synthetic Polymers and Synthetic Resin	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iii Insulation Specifications		Refer ESP-18-19-004		-	-	-	-	-	-		-	-	-	-	-	-		-
	Vibration		Location & Commission												1		1		
	i Vibration Level ii Vibration control	mm/sec	Less than 1.5 mm/sec Rubber Pads (Standard) / Spring Isolators (At an Additional Cost)		- :			- :					- :	- :		- :		- :	-
	iii Standard	-	IS 12075	-	-		-	-		-	-	-	-	-	-	-	-	-	
11	Painting Specification																		
	Paint Type	-	RAL 7035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ii Standard Overall Dimensions	-	Coating as per KCPL Standards		-	-	-	-	-	-	-	-	-	-	-	-	-		
	i Approx. Length	mm	Refer KCPL Chiller Selection System Software	-							-	-					-		
	ii Approx. Width	mm	Refer KCPL Chiller Selection System Software		-		-	-	-	-	-		-	-	-	-	-	-	-
	iii Approx. Height	mm	Refer KCPL Chiller Selection System Software	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
	Space Clearances Required			2500	2500	2500	25.00	2500	3500	3500	3500	2500	2500	3500	3500	3500	2500	25.00	3500
	i Panel Side ii Opposite to Panel Side	mm		2500 2200															
	iii All Other Sides	mm		3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000	3000
	iv Overhead	mm		15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000	15000
	Weight				_														
	i Approx. Shipping Weight ii Approx. Operating Weight	kg kg	Refer KCPL Chiller Selection System Software Refer KCPL Chiller Selection System Software	-			-				-								
	Cable Sizes	r.g	more none diffici defection dystem doftware																
	i Aluminum Cable		Refer ESP-14-15-01	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ii Copper Cable	•	Refer ESP-14-15-01	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
В	Compressor Details		and the control of the second of the second																_
2	Make Type / Description		Kirloskar Chillers Private Limited Semi-Hermetic Twin Screw Compressor																_
3	Model Model		Refer KCPL Chiller Selection System Software																
4	Drive	-	Direct Driven by Rotor Shaft	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	Capacity Control Percentage	%	<b>→</b>	100-25%	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%
6	Type of Capacity Control	-	Stepless	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7 8	Capacity Control Mechanism Volumetric Ratio		Slide Valve Mechanism Fixed Ratio (3.2)		-			-					-	-	-	-			
9	Design and Test Parameters		Fixed ratio (5.2)				-	-		-			-		-				
	i Design Pressure	bar	30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ii Test Pressure (Pneumatic)	bar	33	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
	iii Design Temperature	°C	120	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
-																			

		Max. Allowable Discharge Temperature	°C	120																
- 1		Bearings	-0	120	•	•	•	•	-	•	-	-	-	-	-	•	•	-	•	•
1				Roller Bearings - For Radial Load	-						-		-		-			-		-
	i	Types of Bearings	-	Angular Contact Roller Bearing - For Axial Load	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Material of Construction		Steel	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
		Life of Bearing	Hours	50,000	-	-			-	-	-	-	-	-	-	-	-	-	-	-
		Class of Bearing		Proprietary Data					-		-	-	-	-	-	-		-	-	-
1		Lubrication																		
+	- 1	Type	-	Lubrication by Differential Pressure Mechanism Synthetic Oil		-	-		-	-	-	-	-		-	-	-	-	-	-
+		Lubricating Oil Grade of Lubricating Oil	-	Synthetic Oil Proprietary Data	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
_		Quantity	Liter	Refer KCPL Chiller Selection System Software								-								
1	2	Compressor Components MOC																		
	i	Screw	-	Alloy Steel	-	-	-	-	-		-	-	-	-	-	-		-	-	-
	=:	Casing		Cast Iron	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
		Shaft		Alloy Steel	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iv	Rotor Physical Data of Compressor	-	Aluminum Alloy	-	-	-	-	-		-	-	-	-	-	-		-	-	-
		Screw Construction		Twin Screw						1							1			
-		No. of Lobes Male Rotor	Nos.	5								<u> </u>								
_		No. of Lobes Female Rotor	Nos.	6	-	-	-	-			-	-						-		-
		Male Rotor Diameter (mm)	mm	Proprietary Data	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	٧	Female Rotor Diameter (mm)	mm	Proprietary Data	-	-		-	-		-	-	-	-	-	-		-	-	-
		Driving Rotor		Male Rotor	-				-	-	-	-	-		-	-	-	-		-
1	4	Oil Filter																		
+	Į.	Micron Rating	Micron	10	-	-		-	-		-	-	-	-	-	-		-	-	-
+		Material of Construction	Nos.	Resin Impregnated Fibres  1 No. per Compressor		-	-		-	-	-	-	-		-	-	-	-	-	-
1	5 111	Quantity Copressor Isolation Type	NOS.	1 NO. per Compressor			-			-					-	-	-		-	-
++		At Suction	-	Butterfly Valve	-				-		-	-		-	-	-		-		-
_	ii	At Discharge		Shut-off Valve	-				-		-	-	-	-	-	-		-	-	-
С		Compressor Motor Details																		
		Make		Kirloskar Approved Vendor	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
2	2	Motor Type		Semi-Hermetic Squirrel Cage Induction Motor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
- 3		Type of Duty	-	Continuous	-				-	-	-	-	-	-	-	-	-	-	-	-
4	1	Motor Rating Motor Speed (Synchronous)	kW RPM	Refer KCPL Chiller Selection System Software 3000		-	-	-	-	•	-	-	-		-	-	•	-	-	-
		Ingress Protection (IP)	- KPIVI	NA, Being Semi-Hermetic Type		-			-	-	-	-					-	-	-	-
-		GD <sup>2</sup> of Rotor		Proprietary Data		-														
8		Whether SPDP or TEFC?		NA, Being Semi-Hermetic Type	-	-			-		-	-	-	-	-	-		-	-	-
9	9	Power Supply Details (Standard)																		
		Supply Voltage	V	400	-	-	-		-		-	-	-	-	-	-	-	-	-	-
_																				
	ii	Permissible Voltage Variation	%	±10%	-	-			-	-	-	-	-		-	-	-	-	-	-
+	iii	Permissible Voltage Variation Frequency	Hz	50	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-
#	iii	Permissible Voltage Variation Frequency Permissible Frequency Variation	Hz %	±10% 50 ±3%	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
1	iii iv v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase	Hz	50	-	-	- - - -	-	-	-	-	-	-	-	-	-		-	-	-
	iii iv v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators	Hz %	50	-	-			-	-	-	-	-	-	-	-	-	-	-	-
	iii iv v 0	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase	Hz % -	50 ±3% 3	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-
	iii iv v 0 i iii	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency	Hz % -	50 23% 3 3 NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iii iv v 0 i ii iii iii	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Power Motor Efficiency Motor Efficiency Motor Efficiency Power Factor	Hz % kW	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis	-	-			-	-	-		-		-	-	-	-	-	-
	iii iv v 0 iii iii iii iv v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Efficiency Motor Efficiency Power Factor Class of Insulation	Hz % - - kW	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis	-	-		-	-			-		-			-	-	-	-
1	iii iv v 0 iii iii iii iii v v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling	Hz %	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F		-		-	-	-	-			-	-	-	-	-	-	-
1	iii iv v 0 iii iii iii iv v 1	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Efficiency Power Factor Loss of Insulation Motor Cooling	Hz %	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-
1	iii   iv   v   0     iii   iii   iv   v   1     i   iii	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Motor Cooling Type Cooling Motor Cooling	Hz %	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Soutcin Gas Soutcin Gas			-	-	-	-		-			-	-	-	-	-	-
1	iii	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Efficiency Power Factor Loss of Insulation Motor Cooling	Hz %	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Refrigerant Cooled	-			-	-	-			-	-	-		-	-	-	
1	iii   iv   v   0     iii   iii   iii   iii   iii   iii   iii   iii   2	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Berlichery Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Mechanism Temperature at full load	Hz %	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Soutcin Gas Soutcin Gas	-		-		-	-	-				-	-	-		-	
1	iii iv v 0 ii iii iii iii iii 2 iii iii iii iii	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Motor Efficiency Power Motor Efficiency Power factor Class of Insulation Motor Cooling Type Cooling Motor Cooling Type Cooling Motor All Cooling Type Courent Details Rated Load Current Fall Load Current	Hz % C A A A	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas 10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software Refer KCPL Chiller Selection System Software	-						-	-							-	
1	iii   iv   v   0     iii   iii   iv   v   1     iii   iii   2     iii   iii   iv   v   1     iii   iv   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Efficiency Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Motor Cooling Type Cooling Mechanism Temperature at full load Current Details Rated Load Current Full Load Current Full Load Current Insuls/Starting Current	Hz %6	50 23% 3 NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F Refrigerant Cooled Soutcion Gas 10 to 15 (At Normal Conditions) Refer KCPL Chiller Selection System Software Refer KCPL Chiller Selection System Software Refer KCPL Chiller Selection System Software	-										-	-	-	-	-	
1	iii   iv   v   0     iii   iii   iv   v   1     iii   iii   2     iii   iiv   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Type Cooling Mechanism Temperature at full load Current Details Rated Load Current Full Load Current Inrush/Starting Current Locked Rotor Current	Hz %	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas 10 to 15 (AN Normal Conditions)  Refer KCPL Chiller Selection System Software						-						-				
1	iii   iv   v   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Motor Motor Cooling Type Cooling Motor Cooling Motor Cooling Motor Cooling Motor Cooling Motor Cooling Motor Cooling Fype Cooling Motor Fype Fype Fype Fype Fype Fype Fype Fype	Hz % %	50  23%  3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Socition Gas 10 to 15 (At Normal Condtions)  Refer KCPL Chiller Selection System Software						- 483										
1	iii   iv   v   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Efficiency Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Mechanism Temperature at full load Current Details Rated Load Current Innush/Starting Current Locked Rotor Current Starting Torque No Load Current	Hz %	SO  13%  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software						-										
1 1	iii   iv   v   v   o   i   iii   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of Insulation Motor Cooling Figure Motor Cooling Motor	Hz % %	50  23%  3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Socition Gas 10 to 15 (At Normal Condtions)  Refer KCPL Chiller Selection System Software						- 483										
11	iii   iv   v   0     iii   iiv   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Coolin	Hz %	SO  13%  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483										
11	iii   iv   v   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Efficiency Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Motor Cooling Motor Cooling Twee Cooling Mechanism Temperature at full load Current Details Rated Load Current Full Load Current Starting Torque No Load Current Starting Torque No Load Current Acceleration Time to Reach Rated Speed Control Setting No. of Starts per Hour Time Between STOP to START	Hz %	SO  13%  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483										
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iii   iv   v   0     iii   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Mechanism Temperature at full load Current Details Rated Load Current Full Load Current Insulation Not Load Current Starting Current Locked Rotor Current Starting Corrigue No Load Current Starting Corrigue No Load Current Acceleration Time to Reach Rated Speed Control Settings No. of Starts per Hour Time Between STOP to START Time Between START START	Hz %	SO  13%  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483										
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iii   iv   v   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Efficiency Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Mechanism Temperature at full load Current Details Rated Load Current Full Load Current Full Load Current Locked Rotor Current Starting Torque No Load Current No Load Current No Load Current Starting Torque No Load Current Starting Torque No Load Current No Load Starting Lorque No Load Starting Lorque No Load Starting Lorgue Time Between START LO START	Hz %	SO  133  NA  NA  Refer KCPL Chiller Selection System Software  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Class F  Refrigerant Cooled  Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483										
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iii   iii   v   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of insulation Motor Cooling Motor Cooling Type Cooling Myechanism Temperature at full load Current Details Rated Load Current Fail Load Current Inrush/Starting Current Starting Current Starting Torque No Load Current Starting Torque No Load Current Starting Torque No Load Current Time Between STOP to START Time Between START LO START	Hz	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas 10 to 15 (AN Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483										
1 1 1 D 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iii   iii   v   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Voltage Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Motor Cooling Motor Cooling Type Cooling Motor Cooling Type Cooling Motor Motor Research Full Load Current Full Load Current Full Load Current Full Load Current Locked Rotor Current Starting Torque No Load Current Time Between STOP to START Time Between STOP to START Time Between STOP to START Spuers Supply Voltage Permissible Voltage Variation	Hz %	SO  133  NA  NA  Refer KCPL Chiller Selection System Software  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Class F  Refrigerant Cooled  Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483						338 + 260				
1 1 1 D D	iii   iv   v   o   iii   iii	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Class Motor Power Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Coolin	Hz	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas 10 to 15 (AN Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483										
1 1 1 D D 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2	iii   iv   v   0   i   iii	Permissible Voltage Variation Frequency Permissible Voltage Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of Insulation Motor Cooling	Hz %	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas 10 to 15 (AN Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483				260 + 209 72.3 + 57.2		338 + 260		394 + 338 108 + 101		
11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iii   iv   v   v   v   v   v   v   v	Permissible Voltage Variation Frequency Permissible Frequency Variation Permissible Frequency Variation Permissible Frequency Variation Permissible Frequency Variation Power Factor Class of Insulation Motor Footer Class of Insulation Motor Cooling Motor Cooling Type Cooling Mechanism Temperature at full load Current Details Rated Load Current Full Load Current Full Load Current Full Load Current Starting Torque No Load Current	Hz H	50 23% 3  NA Refer KCPL Chiller Selection System Software Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis Class F  Refrigerant Cooled Suction Gas 10 to 15 (AN Normal Conditions)  Refer KCPL Chiller Selection System Software						- 483										
11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iii   iv   v   0   i   iii	Permissible Voltage Variation Frequency Permissible Voltage Variation Phase Performance Indicators Motor Efficiency Class Motor Fower Motor Efficiency Power Factor Class of Insulation Motor Cooling	Hz	SO  133  NA  Refer KCPL Chiller Selection System Software  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Class F  Refrigerant Cooled  Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software  Refer KCPL Chiller Selection Syst						- 483										
11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	iii	Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Motor Cooling Motor Cooling Type Cooling Motor Cooling Motor Cooling Type Cooling Motor Motor Read Good Current Full Load Current Starting Torque No Load Current Starting Torque No Load Current Starting Torque No Load Current Torque No Load Current Starting Torque No Load Current Starting Torque No Load Current Time Between STOP to START Power Supply Voltage Permissible Voltage Variation Phase Control Voltage	Hz	SO  133  NA  Refer KCPL Chiller Selection System Software  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Class F  Refrigerant Cooled  Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software  2 to 3  4  300  900  435  435  430  430  430  430  430  4					394 108	- 483		132 + 132 47.4 + 47.4				338 + 260 101 + 72.3		394 + 338   108 + 101		
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Motor Efficiency Power factor Class of insulation Motor Cooling Type Cooling Motor Motor Type Cooling Motor	Hz H	SO  SA  NA  NA  Refer KCPL Chiller Selection System Software  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Consult with Engineering Department on Case to Case Basis  Class F  Refrigerant Cooled  Suction Gas  10 to 15 (At Normal Conditions)  Refer KCPL Chiller Selection System Software  Refer KCPL Chille						- 483										
11 11 11 11 11 11 11 11 11 11 11 11 11		Permissible Voltage Variation Frequency Permissible Frequency Variation Phase Performance Indicators Motor Efficiency Motor Efficiency Power Factor Class of Insulation Motor Cooling Motor Cooling Type Cooling Motor Cooling Motor Cooling Type Cooling Motor Cooling Motor Cooling Type Cooling Motor Motor Read Good Current Full Load Current Starting Torque No Load Current Starting Torque No Load Current Starting Torque No Load Current Torque No Load Current Starting Torque No Load Current Starting Torque No Load Current Time Between STOP to START Power Supply Voltage Permissible Voltage Variation Phase Control Voltage	Hz H	SO						- 483							338+338 101+101		394 + 394 108 + 108	483+483848

Е	т т	Oil Separator Details																		
1		Type	-	Dome Type (Built in Compressor)											-					
2		Internal Structure	-	Demister Arrangement																
				Differential Mass Between Oil and Gas, Impact with Surfaces, Filtering of																
3		Method of Oil Separation	-	Oil-Gas Mixture	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4		Oil Heater Details		Oil GIS Wixture																
		Make	-	Kirloskar Approved Vendor	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Quantity	Nos.	$\rightarrow$	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
		Power Supply	V	230		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Rating	w	250		-	-	-		-	-	-	-	_	-	-	-	-	-	
F		Oil Cooler	-	If Applicable	-		-	-	-	-	-	-	-	-	-	-		-	-	
1		Туре	-	Plate Type		-	-	-		-	-	-	-	-	-	-	-	-	-	
2		Quantity	Nos.	One per Compressor		-	-	-		-	-	-	-	-	-	-	-	-	-	
3		Heat Duty	kW	Depends on Working Conditions		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4		Method of Cooling	-	Refrigerant Cooled																
5		Material of Construction	-	Brazzed PHE, Plate Material - SS		-	-	-		-	-	-	-	-	-	-	-	-	-	
6		Pressure Drop																		
	i	Oil Side	bar	less than 0.5		-	-	-		-	-	-	-	-	-	-	-		-	-
	ii	Refrigerant Side	bar	Proprietary Data	-	-	-	-		-	-	-	-	-	-	-	-	-	-	
G		Evaporator Details														-				
1		Model	-	Refer KCPL Chiller Selection System Software	-		-	-	-	-	-	-	-	-	-	-		-	-	-
2		Design Code		As per KCPL Standards	-		-	-	-	-	-	-	-	-	-	-		-	-	-
3		Туре		Shell and Tube DX Design	-		-	-	-	-	-	-	-	-	-	-		-	-	-
4		Tube Side (Fluid)	-	Refrigerant	-		-		-	-	-	-	-	-	-	-		-	-	-
5		Shell Side (Fluid)		Chilled Water	-		-	-	-		-	-	-	-	-	-		-	-	-
6		Design Parameters																		
		Design Temperature (Refrigerant Side)	°C	65	-		-		-	-	-	-	-	-	-	-		-	-	-
		Max. Operating Pressure (Refrigerant Side)	bar	Refer ESP-07-08-107											-					
		Design Pressure (Refrigerant Side)	bar	Refer ESP-07-08-107																
	jv	Test pressure (Refrigerant Side)	bar	Refer ESP-07-08-107 Refer ESP-07-08-107																
	v	Testing method (Refrigerant Side)	-	Refer ESP-07-08-107	-				-						-			-		-
		No. of Passes (Refrigerant Side)	Nos.	<b>→</b>	2	2	2	2	1	1	1	2	2	1	1	1	1	1	1	1
		Design Temperature (Water Side)	°C	65								-			-					
		Max. Operating Pressure (Water Side)	bar	Refer ESP-07-08-107									-							
		Design Pressure (Water Side)	bar	Refer ESP-07-08-107									-							
		Test pressure (Water Side)	bar	Refer ESP-07-08-107																
		Testing method (Water Side)	Dai	Refer ESP-07-08-107																
	vii	No. of Passes (Water Side)	Nos.	Single Pass																
		Water Velocity		Less than 3 m/s																
					-	-	-	-	_	-	-	-	-	-			-	-	-	
$\vdash$	XIII	Inlet Pressure	m/s har	Depends on Site Pining Layout (Maximum Allowable - 9.4 har)	-	-	-	-	-	-	-	-	-			-	-		-	-
	xiv	Inlet Pressure	bar	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	xiv	Evaporating Temperature Physical Data of Evaporator		Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)  Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-
7	xiv	Inlet Pressure Evaporating Temperature Physical Data of Evaporator	bar °C	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)					12			- - -	- - -	12	12			12		12
7	xiv xv i	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator	bar °C ft	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis			9	- - - 9	12	12 20	- - - 12 20	_	- - - 9	- - - 12 20	- - - 12 20	- - - 12 22	12 22	- - - 12 24	12	12 26
7	xiv xv i	Inlet Pressure Evaporating Temperature Physical Data of Evaporator	bar °C	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis	14 8	16 8		20 8	18 8	20 8	20 8	18	18 8	20 8	20 8	22 8	22 8	24 8	12 24 8	26 8
7	xiv xv i ii iii iii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length	bar °C ft inch	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis	14	16	9	20	18	20	20	18	18	20	20	22	22	24	12 24	26
7	xiv xv i ii iii iii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length	bar  °C  ft  inch  mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8	18	18 8	20 8	20 8	22 8	22 8	24 8	12 24 8	26 8
7	xiv xv i ii iii iii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness	ft inch mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All the Consult with Engineering Department on Case to Case Basis  Will Steel Refer "MOC" Sheet	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8	18	18 8	20 8	20 8	22 8	22 8	24 8	12 24 8	26 8
7	xiv xv i ii iii iv v	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell	ft inch mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  Mild Steel  Mild Steel Refer "MOC" Sheet Integral Helical Firs on the Outside Surface and Integral Helical Ridges on	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8	18	18 8	20 8	20 8	22 8	22 8	24 8	12 24 8	26 8
7	xiv xv i ii iii iv v vi	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction Tube Type/ Nature of Tube Surface	bar  C  ft  inch  mm  mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Wild Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	i ii iii iv v vi vii viii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length	bar  C  ft  inch  mm  -  -  mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Mid Steel Refer "MOC" Sheet Integral Helical First on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "MO Editals" Sheet	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	i ii iii iv viii viii ix	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Ength Material of Construction of Shell Material Standard of Shell Tube Lype/ Nature of Tube Surface Tube Length Tube Diameter	bar  °C  ft inch mm mm mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel  Mild Steel  Refer "MDC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "HX Details" Sheet	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	i ii iii iv v vi vii viii ix x	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Tiloness	bar  °C  ft  inch  mm  mm  -  -  mm  mm  mm  mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Mid Steel Refer "MOC" Sheet Integral Helical First on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "MO Editals" Sheet	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	i ii iii iv v vii viii ix x xi	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Length Tube Length Tube Diameter Tube Diameter Tube Diameter Tube Thickness Material Stondord of Tube Material Stondord of Tube Diameter Tube Thickness Material of Construction of Tube	bar  °C  ft inch mm mm mm mm mm mm mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Steel  Mild Ste	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	i ii iii iv v vii viii ix x xi xii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overal Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material of Construction of Tube Material of Construction of Tube Material Standard of Tube	bar  °C  ft inch mm mm mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)  Consult with Engineering Department on Case to Case Basis   Mild Steel  Refer "MOC" Sheet  Integral Helical Firs on the Outside Surface and Integral Helical Ridges on the Inside Surface  Refer "HX Details" Sheet  Refer "HX Details" Sheet  Refer "HX Details" Sheet  Cu  Gerer "MOC" Sheet	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	xiv xv i ii iii iv v vi viii ix x xi xiii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Length Tube Length Tube Diameter Tube Diameter Tube Thickness Material Standard of Tube Material Water Volume in Evaporator	bar  °C  ft inch mm mm mm mm mm mm mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Steel  Mild Ste	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	xiv xv i iii iii iv v vi vii viii ix x xi xii xi	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material of Construction of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details	bar  C  ft  inch  mm  mm  -  mm  mm  mm  mm  mm  mm  mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "HX Details" Sheet Cu Refer "MOC" Sheet Refer "MOC" Sheet Refer KCPL Chiller Selection System Software	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	xiv xv i i ii iii iii iv v vi vii ix x xi xii xi	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Diameter Tube Time Shell Tube Thickness Material of Construction of Tube Material Standard of Tube Material Standard of Tube Water Box Details Type Water Box Details Type	bar  °C  ft inch mm mm mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  ***  **  **  **  **  **  **  **  **	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Standard of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material Standard of Tube Material Standard of Material Sta	bar  OC  ft inch mm mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Diameter Tube Thickness Material of Construction of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material Standard of Material	bar  OC  ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  ***  **  **  **  **  **  **  **  **	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Standard of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material Standard (Material) Nozzle size	bar  ©C  ft inch mm mm mm mm mm Liter  NB	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel  Mild Steel  Mild Steel  Refer "MOC" Sheet  Refer "HX Details" Sheet  Refer ENGC" Sheet  Refer ENGC Sheet  Refer MOC" Sheet  Refer KOPT Chiller Selection System Software	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
8	XiV   XV   XV   I   I   I   I   I   I   I   I   I	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overal Length of Evaporator Shell Diameter Shell Diameter Shell Thickness Approx. Shell Length Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Diameter Tube Thickness Material of Construction of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material Standard of Tube Material Standard of Tube Material Standard of Tube Material Standard of Tube Material Standard (Fuber Material Standard Water Box Details Type Material Standard (Material) Nozzle size End connection	bar  OC  ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  ***  **  **  **  **  **  **  **  **	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV   XV   XV   XV   XV   XV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Standard of Tube Material Standard of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material (Material) Nozzle size End connection MOC of Water Side Gasket	bar  ©C  ft inch mm mm mm mm mm Liter  NB	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel  Mild Mild Steel  Mild Mild Mild Mild Mild Mild Mild Mild	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overal Length of Evaporator Shell Diameter Shell Diameter Shell Thickness Approx. Shell Length Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Diameter Tube Thickness Material of Construction of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material Standard of Tube Material Standard of Tube Material Standard of Tube Material Standard of Tube Material Standard (Fuber Material Standard Water Box Details Type Material Standard (Material) Nozzle size End connection	bar  occording to the state of	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  ***  **  **  **  **  **  **  **  **	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material Good of Shell Material Good of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Owner Shell Standard (Material) Nozzle size End connection MOC of Meter Side Gasket MOC of Water Side Gasket MOC of Meter Side Gasket MOC of Meter Side Gasket MOC of Meter Side Gasket MOC of Water Side Gasket	bar  occording to the state of	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "MOC" Sheet Refer KEV Chiller Selection System Software  Standard - On Sheel Nozzle Mild Steel Refer KTO Chiller Selection System Software  Standard - Victaulic Conn. (Flanged Conn Optional) NAMA F 150  NAMA F 150  NAMA F 150  NAMA F 150	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV   XV   XV   XV   XV   XV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material of Construction of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material Standard of Material Standard (Material) Nozzle size End connection MCC of Water Side Gasket MCC of Water Side Gasket MCC of Water Side Gasket MCC of Valve	bar °C ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)  Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "MOC" Sheet Refer MOC" Sheet Refer MOC" Sheet Refer MOC" Sheet Refer MOC" Sheet Refer KPL Chiller Selection System Software  Standard - On Shell Noxzle Mild Steel Refer "KDC" Sheet Refer KPC Littler Selection System Software  Standard - Victualic Conn. (Flanged Conn Optional) NAM M # 120  Spring Loaded (For Safety Valve Set Pressure Refer ESP)	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7	XiV   XV   XV   XV   XV   XV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material Good of Shell Material Good of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Owner Shell Standard (Material) Nozzle size End connection MOC of Meter Side Gasket MOC of Water Side Gasket MOC of Meter Side Gasket MOC of Meter Side Gasket MOC of Meter Side Gasket MOC of Water Side Gasket	bar oc ft inch mm mm mm mm c	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "MOC" Sheet Refer KEV Chiller Selection System Software  Standard - On Sheel Nozzle Mild Steel Refer KTO Chiller Selection System Software  Standard - Victaulic Conn. (Flanged Conn Optional) NAMA F 150  NAMA F 150  NAMA F 150  NAMA F 150	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	XiV   XV   XV   XV   XV   XV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material Good of Shell Material Good of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Standard of Tube Material Construction of Tube Material Construction of Tube Material Oschreiber Material Standard of Tube Material Standard of Tube Material Standard of Tube Material Standard (Material) Nozzie size End connection MOC of Water Side Gasket MOC of Meter Side Gasket MOC of Meter Side Gasket MOC of Meter Side Gasket Accessories Provided Pressure Relief Valves	bar °C ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
77 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	XiV   XV   XV   XV   XV   XV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Diameter Tube Thickness Material of Construction of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Type Material Standard of Material Standard (Material) Nozzle Size End connection MOC of Water Side Gasket MOC of Refireparnt Side Gasket MOC of Refireparnt Side Gasket MOC of Refireparnt Side Gasket Topical Pressure Relief Valve Drain/Vent Valves Drain/Vent Valves Condenser Coll Details	bar °C ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)  Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "MOC" Sheet Refer MOC" Sheet Refer MOC" Sheet Refer MOC" Sheet Refer MOC" Sheet Refer KPL Chiller Selection System Software  Standard - On Shell Noxzle Mild Steel Refer "KDC" Sheet Refer KPC Littler Selection System Software  Standard - Victualic Conn. (Flanged Conn Optional) NAM M # 120  Spring Loaded (For Safety Valve Set Pressure Refer ESP)	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	XiV   XV   XV   XV   XV   XV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Length Tube Length Tube Length Tube Diameter Tube Thickness Material Standard of Tube Surface Tube Thickness Material Onstruction of Tube Material Standard of Tube Material Material Standard of Tube Material Material Material Standard (Material) Nozzle size End connection MCC of Water Side Gasket MCC of Refrigerant Side Gasket MCC of Refrigerant Gods Pressure Relief Valve Dirain/Yent Valves Condenser Coll Details Make	bar °C ft inch mm mm mm mm mm	Depends on Site Piping Layout (Maximum Allowable: 9.4 bar) Consult with Engineering Department on Case to Case Basis	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
77 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	XiV   XV   XV   XV   XV   XV   XV   XV	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Standard (Material) Nozzle size End connection MOC of Water Side Gasket Accessories Provided Pressure Relief Valve Diani/Vent Valves Condenser Coil Details Make Type Coil Arrangement	bar °C ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  Mid Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Integral Helical Ridges on the Inside Surface Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Integral Helical Fins on the Outside Surface and Integral Helical Ridges on Refer "INX Details" Sheet Refer "INX Details" Sheet Refer "MOC" Sheet Refer KOR Collise Selection System Software Standard - On Shell Nozele Mid Steel Refer KOR Collier Selection System Software Standard - Victaulic Conn. (Flanged Conn Optional) NAMAM & 120 NAMAM & 120 NAMAM & 125 Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT) Kirloskar Approved Vendor	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
77	xiv xv ii iii iii iii iii iiv v viii ii iii ii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material of Construction Tube Length Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Standard of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Standard (Material) Nozzle Size End connection MOC of Water Side Gasket MOC of Mater Side Gasket Accessories Provided Pressure Reidel Valve Drain/Vent Valves Condenser Coll Details Make Type	bar °C ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  Mid Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "INX Details" Sheet Refer "MOC" Sheet Refer KCPL Chiller Selection System Software  Standard - On Shell Nozzle Mid Steel Refer KCPL Chiller Selection System Software Standard - Victaulic Conn. (Flanged Conn Optional) RAWAM # 129  NAWAM # 129  Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT)  Kirloskar Approved Vendor Fin and Tube Design V Type	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7 7 7 8 8 8 8 9 9 9 H H 1 1 2 2 3 3 4 4	xiv xv ii iii iii iii iii iii iii iii ii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material of Construction Tube Length Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Tube Material Standard (Material) Nozzle size End connection MOC of Water Side Gasket MOC of Mater Side Gasket MOC of Water Side Gasket MOC of Mater Side Gasket MOC of Material MOC of Mater Side Gasket MOC of Mater Side Gasket MOC of Mate	bar °C  ft inch mm  mm  mm  mm  c  -  Liter  -  -  -  -  -  -  -  -  -  -  -  -  -	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  Mid Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "INX Details" Sheet Refer "MOC" Sheet Refer KCPL Chiller Selection System Software  Standard - On Shell Nozzle Mid Steel Refer KCPL Chiller Selection System Software Standard - Victaulic Conn. (Flanged Conn Optional) RAWAM # 129  NAWAM # 129  Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT)  Kirloskar Approved Vendor Fin and Tube Design V Type	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7 7 8 8 8 8 8 9 9 9 1 1 2 2 3 3 3 4 4 5 5 5	xiv xv xv ii iii iii iii iii iii iii iii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Shell Diameter Shell Diameter Shell Shameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material Standard of Shell Tube Length Tube Length Tube Length Tube Diameter Tube Diameter Tube Diameter Tube Thickness Material Standard of Tube Material Standard of Material Nozzle size End connection MOC of Material MOC of Refrigerant Side Gasket Accessories Provided Pressure Relief Valve Drain/Vent Valves Condenser Coil Details Make Type Coll Arrangement Tube Side (Fluid) Tube Side (Fluid)	bar °C  ft inch mm  mm  mm  mm  c  -  Liter  -  -  -  -  -  -  -  -  -  -  -  -  -	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  Mid Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "INX Details" Sheet Refer "MOC" Sheet Refer KCPL Chiller Selection System Software  Standard - On Shell Nozzle Mid Steel Refer KCPL Chiller Selection System Software Standard - Victaulic Conn. (Flanged Conn Optional) RAWAM # 129  NAWAM # 129  Spring Loaded (For Safety Valve Set Pressure Refer ESP) Plugged Connection Provided (3/8" NPT)  Kirloskar Approved Vendor Fin and Tube Design V Type	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7 7 8 8 8 8 8 9 9 9 1 1 2 2 3 3 3 4 4 5 5 5	xiv   xv   xv   xv   xv   xv   xv   xv	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material of Construction Tube Length Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Shell Material Standard of Tube Water Volume in Evaporator Water Box Details Standard (Material) Nozzle size End connection MOC of Water Side Gasket MOC of Refrigerant Side Gasket MOC of Mater Side Gasket MOC of Mater Side Gasket MOC of Mater Side Gasket MOC of Water Side Gasket MOC of Water Side Gasket MOC of Water Side Gasket Condenser Coll Details Make Type Universide (Fluid) Fin Side (Fluid)	bar °C  ft inch mm  mm  mm  mm  mm  titer  Liter  -  -  -  -  -  -  -  -  -  -  -  -  -	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	xiv   xv   xv   xv   xv   xv   xv   xv	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Diameter Shell Thickness Approx. Shell Length Material Gonstruction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material Standard of Shell Material Standard of Shell Material Standard of Tube Material Over Shell Material Standard (Material) Noxzle size End connection MOC of Metrisde Gasket MOC of Metrisde Gasket MOC of Metrisde Gasket MoC of Metrisde Gasket MoC of Judice Side Gasket Make Type Condenser Coil Details Make Type Coll Arrangement Tube Side (Fluid) Perssure Refirigerant Side) Max. Operating Pressure (Refrigerant Side) Design Parameters Design Parame	bar bar cccccccccccccccccccccccccccccccc	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar)  Consult with Engineering Department on Case to Case Basis  All Consult with Engineering Department on Case to Case Basis  Mild Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "MOC" Sheet Refer MCC" Sheet Refer MCC" Sheet Refer MCC Consult Refer MCC" Sheet Refer MCC Sheet Refer MCC Sheet Refer KCPL Chiller Selection System Software  Standard - On Shell Noxzle Mild Steel Refer "KDC" 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 Ein and Tube Design V" Type Refrigerant Air	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8
7 7 8 8 8 8 8 9 9 9 1 1 1 1 2 2 3 3 4 4 4 5 5 6 6	xiv xv xv ii iii iii iii iii iii iii iii	Inlet Pressure Evaporating Temperature Physical Data of Evaporator Overall Length of Evaporator Overall Length of Evaporator Shell Thickness Approx. Shell Length Material of Construction of Shell Material of Construction of Shell Material Standard of Shell Tube Type/ Nature of Tube Surface Tube Length Tube Diameter Tube Thickness Material of Construction of Tube Material Standard of Tube Water Volume in Evaporator Water Box Details Standard (Material) Nozzle Size End connection MCC of Water Side Gasket MCC of Refrigerant Side Gasket Accessories Provided Pressure Relief Valve Drain/Vent Valves Coul Arrangement Tube Side (Fixid) Finds	bar °C  ft inch mm mm	Depends on Site Piping Layout (Maximum Allowable - 9.4 bar) Consult with Engineering Department on Case to Case Basis  Mid Steel Refer "MOC" Sheet Integral Helical Fins on the Outside Surface and Integral Helical Ridges on the Inside Surface Refer "HX Details" Sheet Refer "MOC" Sheet Refer REFER CONTROL" Sheet Refer REFER CONTROL REFER SHEET REFER CONTROL REF	14 8	16 8	9 18 8	20 8	18 8	20 8	20 8 3546 -	18	18 8	20 8	20 8	22 8 3546 -	22 8	24 8	12 24 8 3534 -	26 8

		Testing method (Refrigerant Side)		Refer FSP_07_08_107		1														
		Total Heat Rejection	ton <sub>R</sub>	Formula - THR = Chiller Cooling Capacity + (3.51685/Input Power)	-	-	-	-	-	-	-	-				-	-	-	-	-
		Condensing Temperature	°C	Consult with Engineering Department on Case to Case Basis										-						
		Degree of Subcooling	°C	consult with Engineering Department on case to case basis		+ -														
	6	Physical Structure		3								-	-	-		-			-	-
		No. of Passes (Refrigerant Side)	Nos.	4	-		-		-		-	-	-	-	-	-	-	-		-
	ii	No. of Rows (Refrigerant Side)	Nos.	3	-	-	-	-	-	-	-	-			-	-	-	-	-	-
	iii	Coil Face Area	m <sup>2</sup>	2.23875 per coil	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	iv	Air Velocity	m/s	Average 3 m/s		-	-	-	-	-		-	-	-		-	-		-	-
	v	Air Flow Rate	m³/s	Refer KCPL Chiller Selection System Software	-	-	-	-	-	-	-	-			-	-		-	-	-
	vi	No. of Coils	Nos.	Refer KCPL Chiller Selection System Software		-	-	-	-	-		-	-	-		-	-		-	-
	vii	Fin Density (No. of Fins/inch)	Fins/inch	14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Tube Diameter	mm	Refer "HX Details" Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-		Tube Thickness	mm	Refer "HX Details" Sheet	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
	X vi	Material of Construction of Tubes  Material Standard	-	Refer "MOC" Sheet	-			-	-									-		-
	xii	Material of Construction of Fins	-	Aluminum		-		-					-				-	-		
	1.00			Standard - No Coating	-	-	-	-	-	-	-	-			-	-	-	-	-	-
	xiii	Type of Coating	-	Hydrophilic Coating - Optional			-	-	-	-		-	-	-	-	-	-		-	-
				Blygold Coating - Optional	-	-	-	-	-	-	-	-				-		-		-
		Thickness of Layer (Coating)	mm	Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	XV	Life of Fins with Coating	Years	Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
1	1	Condenser Fan Details		Videolog Approved Vendor																
+	2	Make Fan Speed	RPM	Kirloskar Approved Vendor																
		No. of Blades	Nos.	7																
		Static Pressure	Pa Pa	70	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	5	Noise Level	dB	73	-		-		-	-	-	-				-	-	-		-
		Motor Details																		
ЩĪ	i	Motor Type	-	3 Phase Induction Motor	-		-	-	-	-	-	-			-	-	-	-	-	-
	ii	Starter Type	-	DOL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	iii	Class of Insulation Motor Rating	- kW	Class F	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	IV	Motor Current	A	1.4				-	-				-	-				-	-	-
		Supply Voltage	v	415																
		Phase		3 Phase	-	-	-	-	-	-	-	-			-	-	-	-	-	-
		Frequency	Hz	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	ix	Motor Protection Class		IP54	-	-	-	-	-	-	-	-	-			-	-	-		-
		Material of Construction																		
		Fan Blades	-	Aluminum Alloy	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Motor Sefeta Second	<del></del>	Aluminum	-	-	-	-	-	-	-	-				-	-	-	-	-
J		Safety Guard Adiabatic Kit Details		Steel Wire	-	-	-		-	-	-	-	•	-		-	•	-	-	-
	1	Adiabatic Pad Make	-	Kirloskar Approved Vendor	-		-		-		-	-	-	-	-	-	-	-	-	-
	2	Material of Construction							1	1										
		Adiabatic Pad		Cellulose Material	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
		Frame of Adiabatic Pad		Aluminum	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-
		Storage Tank		SS	-	-	-	-	-	-	-	-	-	-		-		-	-	-
-		Fogger Pump Details		Miles have Assessed Manufacture																
		Make Motor Type	-	Kirloskar Approved Vendor  3 Phase Induction Motor	-	-	-		-		-	-		-		-	•	-		-
+		Starter Type		DOI																
H	iv	Water Flow Rate	LPM	Consult with Engineering Department on Case to Case Basis	-	-	-	-	-	-	-	-	-	-					-	-
	v	Motor Rating		Consult with Engineering Department on Case to Case Basis	-											-	-	-		
П	vi		kW	consult with Engineering Department on case to case basis		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1		Motor Current	kW A	Consult with Engineering Department on Case to Case Basis	-	-		-	-	-	-	-	-	-	-	-		-	-	-
+		Supply Voltage	kW A V	Consult with Engineering Department on Case to Case Basis 415	- :	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	viii	Supply Voltage i Phase	kW A V	Consult with Engineering Department on Case to Case Basis		-	-	:	-	-	-	-			-	-	-	-	-	-
	viii ix	Supply Voltage i Phase Frequency	kW A V	Consult with Engineering Department on Case to Case Basis 415 3 50		-	-	-	-	-	-	-	-	-		-		-	-	-
K	viii ix	Supply Voltage i Phase	kW A V - Hz	Consult with Engineering Department on Case to Case Basis		-	-	-	-	-	-	-	-	-	-	-		-	-	-
K	viii ix	Supply Voltage Phase Frequency Filter Details	kW A V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 50	- - - -	- - - -	- - - -				MS	- - - -	- - - -	- - - - -	- - - - -		MS	- - - - - -		- - - - -
K	viii ix	Supply Voltage   Phase	kW A V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 50 4-Stage Filter Unit with Filter Cartridge	- - - -	- - - -	- - - -	- - - - - -		- - - - -	- - - - -	- - - - -	- - - - -	- - - - - GI	- - - - -	MS		MS	- - - - -	
K	viii ix	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature	kW A V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 50 4-Stage Filter Unit with Filter Cartridge  Welded Bottom Frame and Remaining Components are Bolted with Bottom		- - - - - -							- - - - - GI	- - - - - - GI	MS					
K	viii ix 4	Supply Voltage   Phase	kW A V - Hz -	Consult with Engineering Department on Case to Case Basis 415 3 50 4-Stage Filter Unit with Filter Cartridge	- - - - -								- - - - - GI	- - - - - -	MS					
K	viii ix 4	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature	kW A V - Hz -	Consult with Engineering Department on Case to Case Basis 415 3 455 455 455 4551 4551 4651 4651 4651 46	- - - - -								- - - - - GI	- - - - - -						
К	viii ix 4	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature	kW A V - Hz -	Consult with Engineering Department on Case to Case Basis 415 3 50 4-Stage Filter Unit with Filter Cartridge  Welded Bottom Frame and Remaining Components are Bolted with Bottom	-	-	-		-	-		-			-	-		-	-	-
К	viii ix 4	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded / Bolted	kW A V - Hz -	Consult with Engineering Department on Case to Case Basis 415 3 50 4-Stage Filter Unit with Filter Cartridge	GI								GI	GI	MS					
К	viii ix 4	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded /Bolted Finish - Hot Dip Galvanised, Corrosion Resistant	kW A V - Hz -	Consult with Engineering Department on Case to Case Basis 415 3 3 4-Stage Filter Unit with Filter Cartridge  Welded Bottom Frame and Remaining Components are Bolted with Bottom Frame Spray Galvanising for MS Material NA for GI Material	-	-	-		-	-		-			-	-		-	-	-
К	viii ix 4 1 2	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded /Bolted Finish - Hot Dip Galvanised, Corrosion Resistant	kW A V - Hz -	Consult with Engineering Department on Case to Case Basis 415 3 50 4-Stage Filter Unit with Filter Cartridge	-	-	-		-	-		-			-	-		-	-	-
K L	viii ix 4 1 2 2 3 3	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded / Bolted  Finish - Hot Dip Galvanised, Corrosion Resistant etc.	kW A V - Hz -	Consult with Engineering Department on Case to Case Basis 415 3 50 4-Stage Filter Unit with Filter Cartridge	-	-	-		-	-		-			-	-		-	-	-
K L	viii ix 4 1 2 3 3 1 1 2 1 2 1 2 1 2 1 2 1 2 1 1 2 1 1 2 1 1 2 1 1 1 2 1	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded /Boited  Finish - Hot Dip Galvanised, Corrosion Resistant etc.  Suction Line Design Code Isolation Valve	kW A V V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 405 40-51 40-5	-	-	-		-	-		-			-	-		-	-	-
L	viii ix 4 1 2 3 3 1 2 3 3 1 2 3 3 1 1 2 3 3 1 1 2 3 3 1 1 1 2 1 3 3 1 1 1 2 1 3 1 1 1 1	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded /Bolted Finish - Het Dip Galvanised, Corrosion Resistant etc.  Suction Line Design Code Isolation Valve Material of Construction	kW A V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 455 4-Stage Filter Unit with Filter Cartridge  Welded Bottom Frame and Remaining Components are Bolted with Bottom Frame Spray Galvanising for MS Material NA for Gi Material (Coat Base Fame and Casing with a Corrosion-Resistant Coating Capable of withstanding a 1000 hour Salt-Spray Test According to ASTM B117)  ASME B31.3 Butterfly Valve Carbon Steel	-	-	-		-	-		-			-	-		-	-	-
L	viii ix 4 1 2 3 3 4 4	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded /Boited  Finish - Hot Dip Galvanised, Corrosion Resistant etc.  Suction Line Design Code Isolation Valve Material of Construction Material Standard	kW A V V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 455 456 457 458 458 458 458 458 458 458 458 458 468 468 468 468 468 468 468 468 468 46	-	-	-		-	-		-			-	-		-	-	-
L	3 3 4 5	Supply Voltage Phase Frequency Eilter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded / Bolted Finish - Hot Dip Galvanised, Corrosion Resistant etc.  Suction Line Design Code Isolation Valve Material of Construction Material of Construction Material Standard Angle Valve	kW A V V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 455 4-Stage Filter Unit with Filter Cartridge  Welded Bottom Frame and Remaining Components are Bolted with Bottom Frame Spray Galvanising for MS Material NA for Gi Material (Coat Base Fame and Casing with a Corrosion-Resistant Coating Capable of withstanding a 1000 hour Salt-Spray Test According to ASTM B117)  ASME B31.3 Butterfly Valve Carbon Steel	-	-	-		-	-		-			-	-		-	-	-
L L	2 3 4 5 5	Supply Voltage Phase Frequency Filter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded / Bolted  Finish - Hot Dip Galvanised, Corrosion Resistant etc.  Suction Line Design Code Isolation Valve Material of Construction Material Standard Angle Valve Discharge Line	kW A V V - Hz	Consult with Engineering Department on Case to Case Basis 415 3 455 455 456 457 458 458 458 458 458 458 458 468 468 468 468 468 468 468 468 468 46	-	-	-		-	-		-			-	-		-	-	-
L	3 3 4 5 5 1	Supply Voltage Phase Frequency Eilter Details Chiller Base Frame Details Material Method and details of construction OR Nature and joints used-folded/Welded / Bolted Finish - Hot Dip Galvanised, Corrosion Resistant etc.  Suction Line Design Code Isolation Valve Material of Construction Material of Construction Material Standard Angle Valve	kW A V V	Consult with Engineering Department on Case to Case Basis 415 3 455 456 457 458 458 458 458 458 458 458 458 458 468 468 468 468 468 468 468 468 468 46	-	-	-		-	-		-			-	-		-	-	-

		Material of Construction Material Standard		Carbon Steel  Refer "MOC" Sheet	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
$\vdash$		Skin Type Thermowell		Provided on Discharge Line For Discharge Temp. Sensor				- :			- :									
N		Liquid Line		Provided on Discharge Line For Discharge Femp. Sensor						_					_			_		
		Design Code	-	ASME B31.3	-		-	-	-		-	-	-	-	-	-		-	-	-
		Expansion Valve																		
	i	Туре	-	Electronic Expansion Valve	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-
		Make	-	Kirloskar Approved Vendor	-	-			-	-	-	-	-	-	-	-	-		-	-
	iii	Quantity	Nos.	<b>→</b>	1	1	1	1	1	1	1	2	2	2	2	2	2	2	2	2
	iv	Sight Glass	-	Inbuilt	-		-	-	-		-	-	-	-	-	-	-	-	-	-
		Moisture Indicator		NA .	-	-	-	-	-	-	-	-		-	-	-		-		-
		Filter Drier		Provided	-	-	-	-	-	-	-	-	-		-	-		-	-	-
	5	Material of Construction Material Standard	- :	Copper Refer "MOC" Sheet	-	-	-	-	-	-	-	-	-		-	-	•	-		
0		Desuperheater		Refer MOC Sheet	•	-		•		-	•	-	•	-	-	•	•	•	•	
		Type	-	Plate Type						_		_			-					
		Quantity	Nos.	One per Compressor																
		Operating Conditions	1403.	one per compressor																
	i	Heat Duty	kW	Depends on Working Conditions	-	-	-	-		-	-	-	-	-	-	-		-		-
		Hot Water Inlet Temperaure	°c	Depends on Site Conditions (Max. Possible - 55)		-	-	-	-	-	-	-	-		-	-	-	-		-
		Hot Water Outlet Temperaure	°C	Max. Possible - 60	-	-					-	-	-	-	-	-		-		-
H		Hot Water Flow Rate	L/s	Depends on Working Conditions	-	-	-	-	-		-	-	-	-	-	-		-	-	-
H		Material of Construction	-	Brazzed PHE, Plate Material - SS	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Water Side End connection Details																		
		Water Inlet Connection	NB	Consult with Engineering Department on Case to Case Basis Consult with Engineering Department on Case to Case Basis			-	-	-		-	-		-	-		-	-	-	-
		Water Outlet Connection	NB	Consult with Engineering Department on Case to Case Basis			-		-		-	-					-			-
$\coprod$	6	Pressure Drop					_	_			_				_			_		
$\sqcup$		Water Side	bar	less than 0.5	-	-	-		-	-	-	-	-	-	-	-	-	-		-
$\vdash$	ii	Refrigerant Side	bar	Proprietary Data	-		-		-	-	-	-			-	-	-	-		
Р		Economizer		Plate Torre					1								1			
		Type	Nec	Plate Type	-				-		-	-	-		-	-				
	3	Quantity Heat Duty	Nos. kW	One per Compressor Proprietary Data																
		Material of Construction	kW -	Proprietary Data Brazzed PHE, Plate Material - SS																
Q		Starter and Control Panel	-	ordized trie, rade Waterial - 33																
		Panel Enclosure	-	Starter and Control Panel Integrated in Single Fabricated Box	-		-		-	-	-	-	-		-	-		-		-
		Make		Kirloskar Approved Vendor														-	-	-
		Material of Enclosure		Fabricated Enclosure - GI	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
				Fabricated Enclosure																
	4	Thickness of Enclosure	mm	Load Bearing Member - 2 mm	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
$\sqcup$				Non-Load Bearing Member - 1.6 mm																
	5	Ingress Protection (IP)		Consult with Engineering Department on Case to Case Basis	-	-	-		-	-	-	-	-	-	-	-	-	-		-
$\vdash$		Painting Specification		DAI 7035																
$\vdash$	- 1	Paint Type Standard	-:-	RAL 7035 Coating as per KCPL Standards	-		-				-				-					
$\vdash$	7	Mounting Arrangement	-:-	Coating as per KCPL Standards  Mounted on Chiller									-	-						
		Type of Starter		Star-Delta Starter (Soft Starter / VFD - Optional)																
H	-	, per s. storter	· ·	MCCB in case of Star-Delta Starter																
	9	= 2.1		FSD in case of Soft Starter																
	9	Type of Isolation	-	Consult with Engineering Department on Case to Case Basis in case of VFD	-	-	-		-	-	-	-	-	-	-	-	-	-	-	
Ш				Starter																
ΙĪ	1 -			MCCB in case of Star-Delta Starter																
	10	Type of Protection		FSD in case of Soft Starter						-	_	_			-					_
		7,72		Consult with Engineering Department on Case to Case Basis in case of VFD																
$\vdash$	11	C. Sahara Mala		Starter																
$\vdash$	11	Switchgear Make	-	Siemens							-	-				-				
				Power - PVC Insulated Single Core (Vtg. Grade 1.1 kV)																
	12	Electrical and Control Cables	-	Control- PVC Insulated Single Core, Multicore Cable (Vtg. Grade 1.1 kV)	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-
				Signal- Shielded Cable																
H	13	Optional Features																		
	i	Phase Indicating Lamps		Special-Optional	-	-	-	-	-	-	_	-	-	-	_	-	-	-	-	-
	ii	Hooter		Special-Optional		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ш	iii	Energymeter		Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
$\sqcup$	iv	Door Handle	-	Special-Optional	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
$\vdash$	V .	LOTO Arrangement		Special-Optional	-	-	-	-	-	-	-	-			-	-	-	-		
R	vi	VFD for Condenser Fans Controller	-	Special-Optional	-						-	-			-	-				
		Make		Refer "Make List" Sheet																
		Transmitters	- :	NA																
		Oil Level Switch		NA NA																
		Oil Level Failure Trip		NA NA									-							
		LP Switch and Gauge		No, Controller Program will Take Care of Low Pressure	-		-		-		-	-	-		-	-		-		
		HP Switch and Gauge	-	No, Controller Program will Take Care of High Pressure	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Chilled Water Flow Failure		Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	8	Cooling Water Flow Failure		Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	9	Reverse Rotor Protection		No			-		-		-	-					-	-		-
	10	High/Low Voltage Trip		Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
П	11	Low Current Trip (Current Based-Analog)	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-

1		High Current Trip (Current Based-Analog)	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	-
1		Phase Failure/Reverse Phasing Trip	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	-
1	4	Earth Fault Trip	-	No	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	-
1	5	Communication Through RS232/RS485	-	RS485	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	-
1	5	Display of Microprocessor	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	-
1	7	Type of Display	-	PGD0 Screen	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
1	3	Remote Monitoring Facility	-	Yes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	-
1	9	Output to DCS	-	Applicable (Only if RS485 is Available)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	- /	-