Appliance Cross Reference Data For Hermetic Reciprocating Compressor

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Dear Customer,

Greetings from Emerson!

This ready reckoner is intended to serve as a quick reference guide for refrigeration system component sizing.
We strongly recommend the users to look at these details as a '**starting point**', while building new refrigeration appliances. The system needs to be qualified in a test room with controlled ambient temperature and product load conditions to finalize the system component specs.

System details mentioned in this folder are initial recommendations and may need fine-tuning for optimum appliance performance. For standard appliances, the optimum system operating parameters
are provided at appropriate places, for reference.

Other than the evaporator and condenser sizing, using the correct length of capillary tubing and appropriate amount of refrigerant charge becomes a critical element of system balancing.

We recommend the users to start with the capillary tubing suggested in this folder and suitably balance the refrigeration system, following below guideline:

Observed Parameters			System Problem
High Superheat	Low Sub Cooling	-	Low Charge
Low Superheat	High Sub Cooling	-	High Charge
High Superheat	High Sub Cooling	-	Capillary Tube To Restrictive
Low Superheat	Low Sub Cooling	Higher Evaporating Temperature	Capillary Tube Not Restrictive Enough
Low Superheat	Low Sub Cooling	Low Evaporating Temperature	Inadequate Indoor Coil Or Air Flow

For any more clarifications or support, please contact your nearest Emerson sales representative or Technical Help Desk on 1800-209-1700.

Warm regards,

Technical Support Team

Colour Scheme of Refrigerants

ECZ Hermetic Reciprocating Compressor

Emerson's Next Generation Refrigeration Solutions

Emerson's Fractional Horse Power compressors are known in India, for more than four decades, for their wide range, ease of application, efficiency, reliability and excellent after-sales service – including "repair services" even beyond warranty period.

It has been our endeavor to continuously innovate and offer enhanced product value to be the best in the world. These meet varied cooling needs of our customers in both domestic and exports market.

ECZ Platform comprises 7 compressor models which are in the range of 0.18 to 0.37HP.

ECZ Compressor Features -

- 10% Plus Energy Efficient
- Compact Shape
- Dual Frequency- Motor Capability
- Unique Mount On Accessories
- CB Certified Models
- Low Running Cost
- High Product Quality And Reliability
- Opportunity To Optimise Appliance Cost

Water Cooler

Next Gen. ECZ R134a Models	ECZ421HG-11B	ECZ444HG-11M ECZ434HG-11M	-
Current R134a Models	KCE419HAG	KCE444HAG KCJ444HAG	KCJ467HAG KCN463HAG
R22 Models	-	KCE443HAE	KCE461HAE
*Capacity Ltrs./Hr.	20	40	60
Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 10-12FPI	9 x 9 x 2 ROWS	11 x 10 x 3 ROWS	13 x 12 x 3 ROWS
Condenser Fan Motor	1/83 HP x 1,350 RPM	1/36 HP x 1,350 RPM	1/20 HP x 1,350 RPM
Condenser Fan	8"DIA X 4 BLADE	9"DIA X 4 BLADE	10"DIA X 4 BLADE
Evaporator Size O.D Tube(inch) x Length(ft.)	5/16 x 30	3/8 x 50	3/8 x 70
Capillary Tube (For ECZ/ Current Model) Bore x Length	0.050" x 10 ft. x 1 NO.	ECZ 0.055" x 4 ft. x 1NO./ Current-0.050" x 5 ft. x 1NO.	0.050" x 5 ft. x 2 NO.

*Capacity as per IS 1475 Standard.

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

-	-	-	-
KCJ498HAG	**KCM511CAL**	**KCM514CAL #**	**KCM522CAL #**
KCJ511HAE #	**KCJ513HAE #**	**CR22K6M #**	**CR30K6M #**
100	150	200	300
18 x 15 x 2 ROWS	22 x 16 x 2 ROWS	22 x 16 x 3 ROWS	22 x 16 x 4 ROWS
1/20 HP x 930 RPM	1/12 HP x 930 RPM	1/5 HP x 930 RPM	1/4 HP x 1,350 RPM
12 1/2"DIA X 6 BLADE	15"DIA X 6 BLADE	15"DIA X 6 BLADE	15"DIA X 6 BLADE
3/8 x (45x2 Circuit)	3/8 x (65x2 Circuit)	3/8 x (95x2 Circuit)	3/8 x (125x2 Circuit)
0.055" x 39" x 2 NO.	0.055" x 31" x 2NO.	0.064" x 29" x 2 NO.	0.064" x 28" x 2 NO.

NOTE: # While using these compressor models in storage type water coolers, start capacitors and start relay need not to be used.

Typical System Operating Parameters

Parameters	R134a		R22	
Ambient Temperature (°C)	35	43	35	43
Suction Pressure (psig)	33 to 38	47 to 50	70 to 72	85
(Bar)	2.2 to 2.6	3.2 to 3.4	4.8 to 4.9	5.8
Discharge Pressure (psig)	165 to 175	185 to 200	280 to 290	380
(Bar)	11 to 12	12.7 to13.7	19 to 20	26
Return Gas Temperature (°C)	16	21	10 to 13	21
*** Top Shell Temperature (°C)**	43 to 60	49 to 71	36 to 46	50 to 56

* Shell temp. could slightly vary with different platform models like KCE, KCJ, KCM, CR

Chest Type Bottle Cooler

Next Gen. ECZ R134a Models	ECZ421HG-11B	ECZ426HG-11M
Current R134a Models	KCE 419HAG	KCE425HAG
		KCN413CAG
R22 Models	-	-
R404A Models	-	-
No. of 250ml Bottles	120-140	150-200
Cabinet Volume(Ltrs.)	110-120	130-160
Condenser Size (inch) (Length x Height) 3/8"O.D.Tube 10-12FPI	9 x 9 x 2 ROWS	10 x 11 x 2 ROWS
Condenser Fan Motor	1/83 HP x 1,350 RPM	1/50 HP x 1,350 RPM
Condenser Fan	8"DIA	10"DIA
Evaporator Size O.D Tube(inch) x Length(ft.)	5/16 x 30	5/16 x 40
Capillary Tube Bore x Length	0.044" x 10 ft. x 1NO.	0.044" x 10 ft. x 1NO.

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

Typical System Operating Parameters

Parameters
Ambient Temperature (°C)
Suction Pressure (psig) (Bar)
Discharge Pressure (psig) (Bar)
Return Gas Temperature (°C)
* Top Shell Temperature (°C)

* Shell temp. could slightly vary

ECZ431HG-11M ECZ434HG-11M	ECZ444HG-11M		
KCE432HAG	KCE444HAG	KCN463HAG	KCJ498HAG
KCN416CAG	KCJ444HAG	KCJ467HAG	
-	KCE443HAE	KCE461HAE	KCJ511HAE*
-	KCJ422CAL	KCJ438CAL	KCJ461CAL
220-250	260-310	360-430	650-800
200-220	240-260	330-360	700-800
10 x 9 x 3 ROWS	13 x 12 x 2 ROW (OR) 11" x 10 x 3 ROWS	13 x 12 x 3 ROWS	14 x 14 x 4 ROWS
1/36 HP x 1,350 RPM	1/36 HP x 1,350 RPM	1/20 HP x 1,350 RPM	1/20 HP x 1,350 RPM
8"DIA	10"DIA	10"DIA	12"DIA
3/8 x 50	3/8 x 60	3/8 x 85	3/8 x (70x2Circuit)
0.046" x 9 ft. x 1NO.	0.050" x 8 ft. x 1NO.	0.050" x 8 ft. x 1NO.	0.050" x 55" x 2NO.

R134a		R22		R404A	
35	43	35	43	35	43
18 to 20 1.2 to 1.3	30 to 32 2 to 2.2	40 to 43 2.7 to 3	55 3.8	50 to 55 3.4 to 3.8	65 4.4
164 to 174 11 to 12	187 to 199 12.7 to13.7	280 to 290 19 to 20	380 26	355 24	455 31
16	21	10 to 13	21	13 to15	24
43 to 60	49 to 71	36 to 46	50 to 56	38 to 48	52 to 58

with different platform models like KCJ, KCN, KCE

Air-conditioner

R22 Models	KCJ511HAE
Cooling Capacity	0.75 TR
Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 13FPI	18" x 15" x 2 ROWS
Condenser Fan Motor	1/12 HP x 930 RPM
Condenser Fan	12 ½" DIA. x 6 BLADE
Evaporator / Condenser Air Flow Qty.	300/600 CFM
Evaporator Size (inch) (Length x Height) 3/8"O.D. Tube 13FPI	14 x 14 x 2 ROWS
Evaporator Blower	7" DIA x 3 1/4"W
Capillary Tube Bore x Length	0.055" x 22" x 1NO. (OR) 0.055' x 40" x 2 NO.

Dixell Controller Model - IC200CX
(Suitable for all above compressor models)

KCJ513 HAE	CR22K6M	CR30K6M
1 TR	1.5 TR	2 TR
22" x 16" x 2 ROWS	22" x 16" x 3 ROWS	22" x 16" x 4ROWS
1/10 HP x 930 RPM	1/5 HP x 930 RPM	1/4 HP x 1,350 RPM
13 1/2" DIA x 6 BLADE	16" DIA x 6 BLADE	16" DIA x 6 BLADE
375/750 CFM	450/940 CFM	625/1,200 CFM
15 x 15 x 2 ROWS	15 x 15 x 3 ROWS	15 x 15 x 4 ROWS
7" DIA x 3 1/4"W	8 1/2" DIA x 4"W	8 1/2" DIA x 4"W
0.055" x 32" x 2 NO.	0.064" x 30" x 2 NO.	0.064" x 28" x 2 NO.

Typical System Operating Parameters

Parameters	R22	
Ambient Temperature (°C)	35	43
Suction Pressure (psig) **(Bar)**	70 to 72 4.8 to 4.9	85 5.8
Discharge Pressure (psig) **(Bar)**	280 to 290 19 to 20	380 26
Return Gas Temperature (°C)	10 to 13	21
*** Top Shell Temperature (°C)**	36 to 46	50 to 56

* Shell temp. could slightly vary with different platform models like KCJ, CR.

Deep Freezer

Next Gen. ECZ R134a Models	ECZ380LG - 11M	-
Current R134a Models	KCN372LAG	KCJ412LAG
	KCN396LAG	KCN411LAG
R404A Models	-	-
*Nominal Capacity Hard Top (Ltrs.)	300 / 400	450
*Nominal Capacity Glass Top (Ltrs.)	200 / 300	300
Condenser Size (inch) (Length x Height) 3/8"O.D.Tube 13FPI	9 x 9 x 2 ROWS	11 x 10 x 2 ROWS
Condenser Fan Motor	1/83 HP x 1,350 RPM	1/36 HP x 1,350 RPM
Condenser Fan	9"DIA	9"DIA
Evaporator Size O.D Tube (inch) x Length(ft.)	5/16 x 30	3/8 x 60
Capillary Tube (For ECZ/ Current Model) Bore x Length	ECZ 0.036"x10'x1NO./ Current 0.031"x12'x1NO.	0.036" x 12' x 1NO.

NOTE : * These compressors can also be suitable for slightly higher capacity deep material, good evaporator bonding & a very well balanced refrigeration

Dixell Controller Model - XR02CX
(Off Cycle Defrost)
(Suitable for all above compressor models)

Typical System Operating Parameters

Parameters
Ambient Temperature (°C)
Suction Pressure (psig) (Bar)
Discharge Pressure (psig) (Bar)
Return Gas Temperature (°C)
* Top Shell Temperature (°C)

* Shell temp. could slightly vary

ECZ416LG - 13M	-	-	-
KCN415LAG	-	**KCJ423LAG**	-
KCN414LAL	**KCN418LAL**	**KCN422LAL** **KCJ430LAL**	**KCJ450LAL**
500	600	800 / 1,100	1,800
400	500	700 / 1,000	1,700
13 x 13 x 2 ROWS	13 x 13 x 3 ROWS	14 x 14 x 4 ROWS	18 x 16 x 4 ROWS
1/36 HP x 1,350 RPM	1/36 HP x 1,350 RPM	1/20 HP x 1,350 RPM	1/5 HP x 1,350 RPM
9"DIA	12"DIA	12"DIA	15"DIA
3/8 x 85	3/8 x 95	3/8 x (65x2 Circuit)	1/2 x (100x2 Circuit)
ECZ 0.036" x13' x 1 NO./ Legacy 0.044" x 8' x 1NO.	0.050" x 8' x 1NO.	0.050" x 10' x 1NO.	0.044" x 10' x2NO.

freezers with very effective insulation, high conductivity inner cabinet system.

R134a		**R404A**	
32	43	32	43
1 to 2 0 to 0.1	0 to 5 0 to 0.3	22 to 24 1.5 to 1.6	21 to 31 1.4 to 2.1
160 11	175 to 190 12 to 13	293 20	316 to 340 22 to 23
10	18.3	10	18.3
66	77	66	77

with different platform models like KCJ, KCN

Visi Cooler

Next Gen. ECZ R134a Models	ECZ421HG-11B	ECZ426HG-11M
Current R134a Models	KCE 419HAG	KCE425HAG
		KCN413CAG
No. Of Case(Ltrs.)	2(70-120)	4(220-260)
Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 6-11FPI	10 x 9 x 2 ROWS	11 x 10 x 2 ROWS
Condenser Fan Motor	1/83 HP x 1,350 RPM	1/50 HP x 1,350 RPM
Condenser Fan	8"DIA	9"DIA
Evaporator Size (Inch) (Length x Height) 3/8"O.D. Tube, 6-11 FPI	11 x 10 x 2 ROWS	12 x 11 x 2 ROWS
Capillary Tube Bore x Length	0.044" x 10' x 1 NO.	0.044" x 10' x 1 NO.

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

ECZ431HG-11M ECZ434HG-11M	**ECZ444HG-11M**	**-**
KCE432HAG	**KCE444HAG**	**KCN463HAG**
KCN416CAG	**KCJ444HAG**	
7(350-400)	**9(400-650)**	**9(850)**
10 x 9 x 3 ROWS	11 x 10 x 3 ROWS	13 x 12 x 3 ROWS
1/36 HP x 1,350 RPM	1/36 HP x 1,350 RPM	1/20 HP x 1,350 RPM
8"DIA X 5 BLADE	9"DIA X 5 BLADE	12"DIA X 4 BLADE
14 x 12 x 2 ROWS	17 x 14 x 2 ROWS	17 x 14 x 3 ROWS
0.046" x 9' x 1 NO.	0.050" x 7' x 1 NO.	0.050" x 8' x 1 NO.

Typical System Operating Parameters

Parameters	R134a	
Ambient Temperature (°C)	35	43
Suction Pressure (psig) (Bar)	18 to 20 1.2 to 1.3	30 to 32 2 to 2.2
Discharge Pressure (psig) (Bar)	164 to 174 11 to 12	187 to 199 12.7 to13.7
Return Gas Temperature (°C)	16	21
*** Top Shell Temperature (°C)**	43 to 60	49 to 71

* Shell temp. could slightly vary with different platform models like KCJ, KCN ,KCE

Pastry Cooler

Next Gen. ECZ R134a Models	**ECZ421HG-11B**
Current R134a Models	**KCE 419HAG**
R22 Models	**-**
R404A Models	**-**
Pastry Cooler Size (Ft.)	2'
Cabinet Volume(Ltrs.)	110-120
Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 10-12FPI	9 x 9 x 2 ROWS
Condenser Fan Motor	1/83 HP x 1,350 RPM
Condenser Fan	8"DIA
Evaporator Size O.D Tube (inch) x Length(ft.)	5/16 x 30
Capillary Tube Bore x Length	0.044" x 10 ft x 1 NO.

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

Typical System Operating Parameters

Parameters
Ambient Temperature (°C)
Suction Pressure (psig) (Bar)
Discharge Pressure (psig) (Bar)
Return Gas Temperature (°C)
*** Top Shell Temperature (°C)**

* Shell temp.could slightly vary with

ECZ444HG-11M	**-**	**-**
KCE444HAG	**KCJ467HAG**	**KCJ498HAG**
KCJ444HAG	**KCN463HAG**	
KCE443HAE	**KCE461HAE**	**KCJ511HAE**
KCJ422CAL	**KCJ438CAL**	**KCJ461CAL**
3'	4'	5' – 6'
240-260	300-360	450-600
13 x 12 x 2 ROWS (OR) 11 x 10 x 3 ROWS	13 x 12 x 3 ROWS	14 x 14 x 4 ROWS
1/36 HP x 1,350 RPM	1/20 HP x 1,350 RPM	1/20 HP x 1,350 RPM
10"DIA	10"DIA	12"DIA
3/8 x 60	3/8 x 85	3/8 x (70X2 Circuit)
0.050" x 8 ft x 1NO. For KCE443HAE 0.055" x 55" x 1NO.	0.050" x 8 ft x 1 NO.	0.050" x 8 ft" x 1 NO.

R134a		R22		R404A	
35	43	35	43	35	43
18 to 20 1.2 to 1.3	30 to 32 2 to 2.2	40 to 43 2.7 to 3	55 3.8	50 to 55 3.4 to 3.8	65 4.4
164 to 174 11 to 12	187 to 199 12.7 to13.7	280 to 290 19 to 20	380 26	355 24	455 31
16	21	10 to 13	21	13 to 15	24
43 to 60	49 to 71	36 to 46	50 to 56	38 to 48	52 to 58

different platform models like KCJ, KCN ,KCE

Panel Cooler

Next Gen. ECZ R134a Models	
Current R134a Models	
***Panel Cooler Capacity (watt)**	
Condenser Size (inch) (Length x Height) 1/4" O.D. Tube10-12 FPI	
Condenser Fan Motor	
Condenser Fan	
Evaporator Size (inch) (Length x Height) 5/16" O.D Tube 13 FPI	
Capillary Tube (For ECZ/Legacy Model) Bore x Length	

NOTE: * Panel Cooler desired temperature = 28°C

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

ECZ421HG-11B	ECZ426HG-11M	ECZ431HG-11M
KCE419HAG	KCE425HAG	KCE425HAG
450	600	700
9 x 5 x 4 ROWS	9 x 5 x 4 ROWS	8 x 7x 3 ROWS
1/20 HP x 1,350 RPM	1/20 HP x 1,350 RPM	1/20 HP x 1,350 RPM
5"DIA	5"DIA	5"DIA
11" x 2" x 4 ROWS	11" x 2" x 4 ROWS	8" x 6" x 3 ROWS
0.050" x 30" x 1 NO.	0.050" x 30" x 1NO.	0.044" x 48" x 1NO.

Typical System Operating Parameters

Parameters	R134	
Ambient Temperature (°C)	35	43
Suction Pressure (psig) (Bar)	45 to 50 3.1 to 3.4	58 to 63 4.1 to 4.3
Discharge Pressure (psig) (Bar)	170 to 180 11.7 to 12.4	190 to 200 13.7 to13.8
Return Gas Temperature (°C)	18 to 20	22 to 25
Top Shell Temperature (°C)	41 to 44	47 to 55

Cold Room

(+ 4°C Room Temperature)

Next Gen. R134a Models	KCM511CAL	KCM511CAL
R22 Models	KCJ513HAE	CR22K6M
R404A Models	KCJ484CAL	KCM511CAL
App. Room Size* (Ft.)	10 x 6 x 8	10 x 10 x 8
Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 6-11FPI	20 x 16 x 3 ROWS	22 x 18 x 3 ROWS
Condenser Fan	14"DIA, 1,300 RPM	14"DIA, 1,300 RPM
Evaporator Size (inch) (Length x Height) 3/8"O.D. Tube 6-8FPI	22 x 16 x 4 ROWS	22 x 20 x 4 ROWS
Evaporator Airflow Qty.	1,150 CFM	1,450 CFM
TXV (Alco Make)	R134a-TIE-MW (Orifice 001)	R134a-TIE-MW (Orifice 001)
	R22-TIE-HW (Orifice 001)	R22-TIE-HW (Orifice 001)
	R404A-TIE-SW (Orifice 002)	R404A-TIE-SW (Orifice 002)

*These are preliminary room sizes for cold room. Please verify the product load and

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

KCM514CAL	KCM522CAL	-	-	-
CR30K6M	CR36K6M	CR42K6M	CR53KQM	CR62KQM
KCM514CAL	KCM519CAL	KCM522CAL	-	-
12 x 12 x 8	18 x 12 x 8	18 x 16 x 8	20 x 20 x 8	20 x 32 x 8
22 x 20 x 3 ROWS	22 x 20 x 4 ROWS	24 x 22 x 4 ROWS	26 x 24 x 4 ROWS	28 x 26 x 4 ROWS
14"DIA, 1,300 RPM	15"DIA, 1,400 RPM	15"DIA, 1,400 RPM X 2 NO.	16"DIA, 1,400 RPM X 2 NO.	15"DIA, 1,800 RPM X 2 NO.
24 x 22 x 4 ROWS	26 x 24 x 4 ROWS	28 x 26 x 4 ROWS	30 x 28 x 4 ROWS	32 x 29 x 4 ROWS
1,750 CFM	2,000 CFM	2,300 CFM	2,600 CFM	2,900 CFM
R134a-TIE-MW (Orifice 002)	R134a-TIE-MW (Orifice 003)	-	-	-
R22-TIE-HW (Orifice 002)	R22-TIE-HW (Orifice 002)	R22-TIE-HW (Orifice 003)	R22-TIE-HW (Orifice 004)	R22-TIE-HW (Orifice 004)
R404A-TIE-SW (Orifice 002)	R404A-TIE-SW (Orifice 003)	R404A-TIE-SW (Orifice 003)	-	-

select suitable compressor model.

Softy Ice- Cream Machine

Next Gen. R134aModels	KCJ423LAG	-
R404A Models	KCJ430LAL	KCJ450LAL
Capacity Of Churner (Ltrs.)	5 to 10	10 to 15
Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 13FPI	14 x 14 x 4 ROWS	18 x 16 x 4 ROWS
Condenser Fan	1,350 RPM, 12"DIA	1,350 RPM, 14"DIA
Evaporator Size O.D Tube(inch) x Length(ft.)	1/2 x 15	1/2 x 25
Capillary Tube Bore x Length	0.050" x 7 ft. x 2NO.	0.060" x 6 ft. x 2NO.

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

-	-	-	-
KCM511CAL	**KCM514CAL**	**KCM519CAL**	**KCM522CAL**
15 to 20	20 to 25	25 to 35	30 to 40
22 x 18 x 3 ROWS	22 x 18 x 4 ROWS	22 x 20 x 4 ROWS	24 x 22 x 4 ROWS
1,300 RPM, 16"DIA	1,300 RPM, 16"DIA	1,400 RPM, 18"DIA	1,400 RPM, 18"DIA
1/2 x 30	1/2 x 40	1/2 x 54	1/2 x 60
0.060" x 6 ft. x 2NO.	0.060" x 5 ft. 6" x 2NO.	0.060" x 5 ft. x 2NO.	0.060" x 4 ft. 6" x 2NO.

Water Chiller

Next Gen. R134aModels	-	KCM519CAL	KCM522CAL	-
R22 Models	-	CR22K6M	CR30K6M	CR36K6M
R404A Models	KCJ484CAL	KCM511CAL	KCM514CAL	KCM519CAL
Approx. Chilled Water Flow Rate(LPH) *	600	830	1,000	1,400
Compressor Capacity # (Btu/Hr.)	-	15,528	17,822	-
	-	16,200	21,800	25,900
	11,412	16,500	21,400	27,200
Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 13FPI	20 x 16 x 3 ROWS	22 x 18 x 3 ROWS	22 x 20 x 3 ROWS	22 x 20 x 4 ROWS
Condenser Fan	14" DIA, 1300 RPM	14" DIA,1300 RPM	15" DIA,1300 RPM	15" DIA,1400 RPM
Evaporator Type	Select suitable model			
Coil in Tank Type Evaporator Length(ft.) x O.D Tube (inch)	130 x 3/8 (65x2 Circuit)	200 x 3/8 (100x2 Circuit)	260 x 3/8 (130x2 Circuit)	330 x 3/8 (82 x 4 Circuits)
Thermostatic Expansion Valve (Alco Make)	-	R134a - TIE-MW (Orifice 003)	R134a -TIE-MW (Orifice 003)	-
	R22-TIE-HW (Orifice 001)	R22- TIE-HW (Orifice 002)	R22- TIE-HW (Orifice 003)	R22- TIE-HW (Orifice 003)
	R404A-TIE-SW (Orifice 002)	R404A-TIE-SW (Orifice 003)	R404A- TIE-SW (Orifice 003)	R404A- TIE-SW (Orifice 004)

Dixell Controller Model - XR02CX
(Suitable for all above compressor models)

-	-	-	-	-	-
CR42K6M	**CR47KQM**	**CR53KQM**	**CR57KQM**	**CR62KQM**	**CR72KQM**
KCM522CAL	**-**	**-**	**-**	**-**	**-**
1,600	1,800	2,000	2,200	2,400	2,600
-	-	-	-	-	-
31,100	36,100	40,648	42,600	47,000	52,240
31,500	-	-	-	-	-
24 x 22 x 4 ROWS	34 x 28 x 3 ROWS	34 x 32 x 3 ROWS	33 x 26 x 4 ROWS	36 x 26 x 4 ROWS	40 x 26 x 4 ROWS
18" DIA, 1400 RPM	16" DIA,1400 RPM	16" DIA, 1400 RPM x 2NO.	16" DIA, 1800 RPM x 2NO.	16" DIA, 1800 RPM x 2NO.	19" DIA, 1800 RPM x 2NO.
of BPHE/Shell & Tube HE from your known reliable source					
400 x 3/8 (100 x 4 Circuits)	460 x 3/8 (115 x 4 Circuits)	520 x 1 / 2 (130 x 4 Circuits)	580 x1 / 2 (145 x 4 Circuits)	640 x 1 / 2 (160 x 4 Circuits)	700 x 1 / 2 (175 x 4 Circuits)
-	-	-	-	-	-
R22-TIE-HW (Orifice 003)	R22-TIE-HW (Orifice 003)	R22-TIE-HW (Orifice 004)	R22-TIE-HW (Orifice 004)	R22-TIE-HW (Orifice 004)	R22-TIE-HW (Orifice 005)
R404A- TIE-SW (Orifice 004)	-	-	-	-	-

#Rating Conditions - Evaporating Temp. = 4.4 °C, Condensing Temp. = 54.4 °C
Sub cooling=8.3K, Return Gas Temp.=35 ° C
***Water Inlet Temperature: 15 °C**
Water Outlet Temperature: 10 °C

Ice Candy Machine

R404A Models	KCJ430LAL
Appliance size (No. Of Candies Of 60 ml / Day)	2,350
Condenser Size (inch) (Length x Height) 3/8"O.D., 10-12FPI	18" x 16" x 4 ROWS
Condenser Fan Motor	1/15H.P x 1,350 RPM
Condenser Fan	15" DIA
Evaporator Size O.D Tube(inch) x Length(ft.)	3/8"O.D. (75'+75')
Capillary Tube Bore x Length	0.050" x 8' x 1 NO.

Dixell Controller Model- XR02CX / XR06CX (Off Cycle Defrost)
(Suitable for all above compressor models)

KCJ450LAL	KCM475LAL	KCM515LAL
4,000	6,000	12,000
22" x 16" x 4 ROWS	25" x 22" x 3 ROWS	36" x 32" x 3 ROWS
1/12H.P x 1,100 RPM	1/10H.P x 1,350 RPM	1/6 H.P x 1,350 RPM
16" DIA	18" DIA	20" DIA
1/2" O.D. (100'+100')	1/2"O.D. (130'+130')	1/2 O.D. (225'+225')
0.060" x 7' x 2 NO.	0.064" x 10' x 2 NO.	0.090" x 12' x 2 NO.

Typical System Operating Parameters

Parameters	R404A	
Ambient Temperature (°C)	32	43
Suction Pressure (psig) **(Bar)**	(22 to 24) 1.5 to 1.6	(21 to 31) 1.4 to 2.1
Discharge Pressure (psig) **(Bar)**	(293) 20	(316 to 340) 22 to 23
Return Gas Temperature (°C)	10	18.3
*** Top Shell Temperature (°C)**	62 to 67	72 to 78

* Shell temp. could slightly vary with different platform models like KCJ, KCM

System Practice Guidelines:

- All ECZ models are capable of handling 50/60 Hz dual frequency supply.
- Recommended only for stationary application.
- Use only for specified refrigerant / application.
- Gas charging to be done by monitoring suction temp, not by top shell temp.
- Gas charging by monitoring top shell temp. will lead to refrigerant flooding.
- The suction & process tube are not interchangeable.
- The low temp. models have a special patented oil, hence field top up is not recommended.
- Products are certified for CB, hence use of genuine electrical accessories for safe operation.
- Ensure proper earthing for safe operation.
- The unique protector senses the internal temp. through fusite pin & hence need to ensure proper fitment all the time.
- Pumping check in open air is not recommended, as it will lead to moisture entry into the compressor.
- Do not run the compressor in vacuum with R134 a refrigerant.
- Use two stage rotary vacuum pump of minimum 50 LPM capacity.
- Evaporator circuit should be from bottom to top.
- Remove compressor tube rubber plugs just 10 minutes prior to brazing.
- Use trichloroethylene to flush the components.
- Use bright annealed copper tubes and keep all coils and tubes Nitrogen charged & sealed.
- Use separate set of gauges, hoses, cylinders for different refrigerant and keep them labeled.

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