

APPLIANCE CROSS REFERENCE DATA FOR HERMETIC RECIPROCATING COMPRESSOR



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Dear Customer,

Greetings from Emerson Climate Technologies!

This ready reckoner is intended to serve as a Quick reference guide to 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 Too 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 Climate sales representative or Technical Help Desk on 1800-209-1700.

Warm regards,

Technical Support Team

Colour Scheme of Refrigerants



Water Cooler

| R134a Models | KCE419HAG | KCE444HAG KCJ444HAG | KCJ467HAG KCN463HAG | KCJ498HAG | KCM511CAL | KCM514CAL # | KCM522CAL # |
|---|----------------------------|---------------------------|---------------------------|-------------------------|-------------------------|-------------------------|--------------------------|
| R22 Models | - | KCE443HAE | KCE461HAE | KCJ511HAE # | KCJ513HAE # | CR22K6M # | CR30K6M # |
| *Capacity Ltrs./Hr. | 20 | 40 | 60 | 100 | 150 | 200 | 300 |
| Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 10-12FPI | 9x9x2 ROWS | 11x10x3 ROWS | 13x12x3 ROWS | 18x15x2 ROWS | 22x16x2 ROWS | 22x16x3 ROWS | 22x16x4 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 | 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 |
| Condenser Fan | 8"DIA X 4 BLADE | 9"DIA X 4 BLADE | 10"DIA X 4 BLADE | 12 1/2"DIA X 6 BLADE | 15"DIA X 6 BLADE | 15"DIA X 6 BLADE | 15"DIA X 6 BLADE |
| Evaporator Size O.D Tube(inch) x Length(ft) | 5/16 x 30 | 3/8 x 50 | 3/8 x 70 | 3/8 x (45x2 Circuit) | 3/8 x (65x2 Circuit) | 3/8 x (95x2 Circuit) | 3/8 x (125x2 Circuit) |
| Capillary Tube Bore x Length | 0.050" x 10 ft. x 1 NO. | 0.050" x 5 ft. x 1 NO. | 0.050" x 5 ft. x 2 NO. | 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. |

*Capacity as per IS 1475 Standard.

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



Dixell Controller Model - XR40CX
(Suitable for all above compressor models)

Typical System Operating Parameters

| Parameters | R134a | | R22 | |
|--|---------------------------------|----------------------------|------------------------|-----------|
| | Ambient Temperature (°C) | 35 | 43 | 35 |
| Suction Pressure (psig) (Bar) | 33 to 38 2.2 to 2.6 | 47 to 50 3.2 to 3.4 | 70 to 72 4.8 to 4.9 | 85 5.8 |
| Discharge Pressure (psig) (Bar) | 165 to 175 11 to 12 | 185 to 200 12.7 to 13.7 | 280 to 290 19 to 20 | 380 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

| R134a Models | KCE 419HAG | KCE425HAG | KCE432HAG | KCE444HAG | KCN463HAG | KCJ498HAG |
|--|--------------------------|--------------------------|-------------------------|--|--------------------------|-------------------------|
| | | KCN413HAG | KCN416CAG | KCJ444HAG | KCJ467HAG | |
| R22 Models | - | - | - | KCE443HAE | KCE461HAE | KCJ511HAE* |
| R404A Models | - | - | - | KCJ422CAL | KCJ438CAL | KCJ461CAL |
| No. of 250ml Bottles | 120-140 | 150-200 | 220-250 | 260-310 | 360-430 | 650-800 |
| Cabinet Volume(Ltrs) | 110-120 | 130-160 | 200-220 | 240-260 | 330-360 | 700-800 |
| 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 | 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 |
| Condenser Fan Motor | 1/83 HP x 1,350 RPM | 1/50 HP x 1,350 RPM | 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 |
| Condenser Fan | 8"DIA | 10"DIA | 8"DIA | 10"DIA | 10"DIA | 12"DIA |
| Evaporator Size O.D Tube(inch) x Length(ft) | 5/16 x 30 | 5/16 x 40 | 3/8 x 50 | 3/8 x 60 | 3/8 x 85 | 3/8 x (70x2Circuit) |
| Capillary Tube Bore x Length | 0.044" x 10 ft x 1NO. | 0.044" x 10 ft x 1NO. | 0.046" x 9 ft x 1NO. | 0.050" x 8 ft x 1NO. For KCE443HAE 0.05" x 55" x 1 NO. | 0.050" x 8 ft x 1 NO. | 0.050" x 55" x 2 NO. |

* Use with only CSCR circuit



Dixell Controller Model - XR35CX
(Suitable for all above compressor models)

Typical System Operating Parameters

| Parameters | R134a | | R22 | | R404A | |
|------------------------------------|------------------------|----------------------------|------------------------|-----------|------------------------|-----------|
| | | | | | | |
| Ambient Temperature (°C) | 35 | 43 | 35 | 43 | 35 | 43 |
| Suction Pressure (psig) (Bar) | 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 |
| Discharge Pressure (psig) (Bar) | 164 to 174 11 to 12 | 187 to 199 12.7 to 13.7 | 280 to 290 19 to 20 | 380 26 | 355 24 | 455 31 |
| Return Gas Temperature (°C) | 16 | 21 | 10 to 13 | 21 | 13 to 15 | 24 |
| • Top Shell Temperature (°C) | 43 to 60 | 49 to 71 | 36 to 46 | 50 to 56 | 38 to 48 | 52 to 58 |

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



Air-conditioner

| R22 Models | KCJ511HAE | KCJ513 HAE | CR22K6M | CR30K6M |
|---|--|-----------------------|----------------------|----------------------|
| Cooling Capacity | 0.75 TR | 1 TR | 1.5 TR | 2 TR |
| Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 13FPI | 18" x 15" x 2 ROWS | 22" x 16" x 2 ROWS | 22" x 16" x 3 ROWS | 22" x 16" x 4ROWS |
| Condenser Fan Motor | 1/12 HP x 930 RPM | 1/10 HP x 930 RPM | 1/5 HP x 930 RPM | 1/4 HP x 1,350 RPM |
| Condenser Fan | 12 1/2" DIA. x 6 BLADE | 13 1/2" DIA x 6 BLADE | 16" DIA x 6 BLADE | 16" DIA x 6 BLADE |
| Evaporator / Condenser Air Flow Qty. | 300/600 CFM | 375/750 CFM | 450/940 CFM | 625/1,200 CFM |
| Evaporator Size (inch) (Length x Height) 3/8"O.D. Tube 13FPI | 14 x 14 x 2 ROWS | 15 x 15 x 2 ROWS | 15 x 15 x 3 ROWS | 15 x 15 x 4 ROWS |
| Evaporator Blower | 7" DIA x 3 1/4"W | 7" DIA x 3 1/4"W | 8 1/2" DIA x 4"W | 8 1/2" DIA x 4"W |
| Capillary Tube Bore x Length | 0.055" x 22" x 1NO. (OR) 0.055" x 40" x 2 NO. | 0.055" x 32" x 2 NO. | 0.064" x 30" x 2 NO. | 0.064" x 28" x 2 NO. |



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



Typical System Operating Parameters

| Parameters | R22 | |
|--|---------------------------------|-----------|
| | Ambient Temperature (°C) | 35 |
| 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

| R134a Models | KCN372LAG | KCJ412LAG | KCN415LAG | - | KCJ423LAG | - |
|--|---------------------|---------------------|---------------------|---------------------|------------------------|-----------------------|
| | KCN396LAG | KCN411LAG | | | | |
| R404A Models | - | - | KCN414LAL | KCN418LAL | KCN422LAL KCJ430LAL | KCJ450LAL |
| *Nominal Capacity Hard Top (Ltrs.) | 300 / 400 | 450 | 500 | 600 | 800 / 1,100 | 1,800 |
| *Nominal Capacity Glass Top (Ltrs.) | 200 / 300 | 300 | 400 | 500 | 700 / 1,000 | 1,700 |
| Condenser Size (inch) (Length x Height) 3/8" O.D. Tube 13FPI | 9 x 9 x 2 ROWS | 11 x 10 x 2 ROWS | 13 x 13 x 2 ROWS | 13 x 13 x 3 ROWS | 14 x 14 x 4 ROWS | 18 x 16 x 4 ROWS |
| Condenser Fan Motor | 1/83 HP x 1,350 RPM | 1/36 HP x 1,350 RPM | 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 |
| Condenser Fan | 9"DIA | 9"DIA | 9"DIA | 12"DIA | 12"DIA | 15"DIA |
| Evaporator Size O.D Tube (inch) x Length(ft) | 5/16 x 30 | 3/8 x 60 | 3/8 x 85 | 3/8 x 95 | 3/8 x (65x2 Circuit) | 1/2 x (100x2 Circuit) |
| Capillary Tube Bore x Length | 0.031" x 12' x 1NO. | 0.036" x 12' x 1NO. | 0.044" x 8' x 1NO. | 0.050" x 8' x 1NO. | 0.050" x 10' x 1NO. | 0.044" x 10' x 2NO. |

NOTE : * These compressors can also be suitable for slightly higher capacity deep freezers with very effective insulation, high conductivity inner cabinet material, good evaporator bonding & a very well balanced refrigeration system.



Dixell Controller Model - XR60C
(Suitable for all above compressor models)

Typical System Operating Parameters

| Parameters | R134a | | R404A | |
|---------------------------------|--------------------------|------------------------|------------------------|------------------------|
| | Ambient Temperature (°C) | 32 | 43 | 32 |
| Suction Pressure (psig) (Bar) | 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 |
| Discharge Pressure (psig) (Bar) | 160 11 | 175 to 190 12 to 13 | 293 20 | 316 to 340 22 to 23 |
| Return Gas Temperature (°C) | 10 | 18.3 | 10 | 18.3 |
| • Top Shell Temperature (°C) | 66 | 77 | 66 | 77 |

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



Visi Cooler

| R134a Models | KCE 419HAG | KCE425HAG | KCE432HAG | KCE444HAG | KCN463HAG |
|--|----------------------|----------------------|---------------------|---------------------|---------------------|
| | | KCN413CAG | KCN416CAG | KCJ444HAG | |
| No. Of Case(Lit) | 2(110) | 4(150) | 7(250) | 9(400) | 9(650) |
| 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 | 10 x 9 x 3 ROWS | 11 x 10 x 3 ROWS | 13 x 12 x 3 ROWS |
| Condenser Fan Motor | 1/83 HP x 1,350 RPM | 1/50 HP x 1,350 RPM | 1/36 HP x 1,350 RPM | 1/36 HP x 1,350 RPM | 1/20 HP x 1,350 RPM |
| Condenser Fan | 8"DIA | 9"DIA | 8"DIA X 5 BLADE | 9"DIA X 5 BLADE | 12"DIA X 4 BLADE |
| 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 | 14 x 12 x 2 ROWS | 17 x 14 x 2 ROWS | 17 x 14 x 3 ROWS |
| Capillary Tube Bore x Length | 0.044" x 10' x 1 NO. | 0.044" x 10' x 1 NO. | 0.046" x 9' x 1 NO. | 0.050" x 7' x 1 NO. | 0.050" x 8' x 1 NO. |



Dixell Controller Model - XR60C
(Suitable for all above compressor models)



Typical System Operating Parameters

| Parameters | R134a | |
|------------------------------------|--------------------------|----------------------------|
| | Ambient Temperature (°C) | 35 |
| 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 to 13.7 |
| 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

Softy Ice- Cream Machine

| R134aModels | KCJ423LAG | - | - | - | - | - |
|--|----------------------|----------------------|----------------------|-------------------------|----------------------|-------------------------|
| R404A Models | KCJ430LAL | KCJ450LAL | KCM511CAL | KCM514CAL | KCM519CAL | KCM522CAL |
| Capacity Of Churner (Ltrs.) | 5 to 10 | 10 to 15 | 15 to 20 | 20 to 25 | 25 to 35 | 30 to 40 |
| Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 13FPI | 14 x 14 x 4 ROWS | 18 x 16 x 4 ROWS | 22 x 18 x 3 ROWS | 22 x 18 x 4 ROWS | 22 x 20 x 4 ROWS | 24 x 22 x 4 ROWS |
| Condenser Fan | 1,350 RPM, 12"DIA | 1,350 RPM, 14"DIA | 1,300 RPM, 16"DIA | 1,300 RPM, 16"DIA | 1,400 RPM, 18"DIA | 1,400 RPM, 18"DIA |
| Evaporator Size O.D Tube (inch) x Length(ft) | 1/2 x 15 | 1/2 x 25 | 1/2 x 30 | 1/2 x 40 | 1/2 x 54 | 1/2 x 60 |
| Capillary Tube Bore x Length | 0.050" x 7 ft x 2NO. | 0.060" x 6 ft x 2NO. | 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. |



Dixell Controller Model - XR20C
(Suitable for all above compressor models)



Water Chiller

| | | | | | | | | | | |
|--|---|------------------------------|------------------------------|-----------------------------|------------------------------|------------------------------|--------------------------------|--------------------------------|--------------------------------|--------------------------------|
| R134a Models | - | KCM519CAL | KCM522CAL | - | - | - | - | - | - | - |
| R22 Models | - | CR22K6M | CR30K6M | CR36K6M | CR42K6M | CR47KQM | CR53KQM | CR57KQM | CR62KQM | CR72KQM |
| R404A Models | KCJ484CAL | KCM511CAL | KCM514CAL | KCM519CAL | KCM522CAL | - | - | - | - | - |
| Approx. Chilled Water Flow Rate(LPH) * | 600 | 830 | 1,000 | 1,400 | 1,600 | 1,800 | 2,000 | 2,200 | 2,400 | 2,600 |
| Compressor Capacity # (Btu/Hr) | - | 15,528 | 17,822 | - | - | - | - | - | - | - |
| | - | 16,200 | 21,800 | 25,900 | 31,100 | 36,100 | 40,648 | 42,600 | 47,000 | 52,240 |
| | 11,412 | 16,500 | 21,400 | 27,200 | 31,500 | - | - | - | - | - |
| 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 | 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 |
| Condenser Fan | 14" DIA, 1300 RPM | 14" DIA, 1300 RPM | 15" DIA, 1300 RPM | 15" DIA, 1400 RPM | 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. |
| Evaporator Type | Select suitable model of BPHE/Shell & Tube HE from your known reliable source | | | | | | | | | |
| 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) | 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 x 1 / 2 (145 x 4 Circuits) | 640 x 1 / 2 (160 x 4 Circuits) | 700 x 1 / 2 (175 x 4 Circuits) |
| TXV (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) | 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 002) | R404A-TIE-SW (Orifice 003) | R404A- TIE-SW (Orifice 003) | R404A- TIE-SW (Orifice 004) | R404A- TIE-SW (Orifice 004) | - | - | - | - | - |



Dixell Controller Model - IC110CX
(Suitable for all above compressor models)

#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



Cold Room

(+ 4°C Room Temperature)

| | | | | | | | |
|---|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|------------------------------|------------------------------|
| R134a Models | KCM511CAL | KCM511CAL | KCM514CAL | KCM522CAL | - | - | - |
| R22 Models | KCJ513HAE | CR22K6M | CR30K6M | CR36K6M | CR42K6M | CR53KQM | CR62KQM |
| R404A Models | KCJ484CAL | KCM511CAL | KCM514CAL | KCM519CAL | KCM522CAL | - | - |
| App. Room Size* (Ft) | 10 x 6 x 8 | 10 x 10 x 8 | 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 |
| 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 | 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 |
| Condenser Fan | 14"DIA, 1,300 RPM | 14"DIA, 1,300 RPM | 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. |
| 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 | 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 |
| Evaporator Airflow Qty. | 1,150 CFM | 1,450 CFM | 1,750 CFM | 2,000 CFM | 2,300 CFM | 2,600 CFM | 2,900 CFM |
| TXV (Alco Make) | R134a-TIE-MW (Orifice 001) | R134a-TIE-MW (Orifice 001) | R134a-TIE-MW (Orifice 002) | R134a-TIE-MW (Orifice 003) | - | - | - |
| | R22-TIE-HW (Orifice 001) | R22-TIE-HW (Orifice 001) | 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 002) | R404A-TIE-SW (Orifice 002) | R404A-TIE-SW (Orifice 003) | R404A-TIE-SW (Orifice 003) | - | - |

*These are preliminary room sizes for cold room. Please verify the product load and select suitable compressor model.



Dixell Controller Model - XLR100 COOL MATE
(Suitable for all above compressor models)



Pastry Cooler

| R134a Models | KCE 419HAG | KCE444HAG | KCJ467HAG | KCJ498HAG |
|--|------------------------|--|-----------------------|------------------------|
| | | KCJ444HAG | KCN463HAG | |
| R22 Models | - | KCE443HAE | KCE461HAE | KCJ511HAE |
| R404A Models | - | KCJ422CAL | KCJ438CAL | KCJ461CAL |
| Pastry Cooler Size (Ft) | 2' | 3' | 4' | 5' – 6' |
| Cabinet Volume(Ltrs) | 110-120 | 240-260 | 300-360 | 450-600 |
| Condenser Size (inch) (Length x Height) 3/8"O.D. Tube 10-12FPI | 9 x 9 x 2 ROWS | 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 |
| Condenser Fan Motor | 1/83 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 |
| Condenser Fan | 8"DIA | 10"DIA | 10"DIA | 12"DIA |
| Evaporator Size O.D Tube (inch) x Length(ft) | 5/16 x 30 | 3/8 x 60 | 3/8 x 85 | 3/8 x (70X2 Circuit) |
| Capillary Tube Bore x Length | 0.044" x 10 ft x 1 NO. | 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. |



Dixell Controller Model - XR64CX
(Suitable for all above compressor models)

Typical System Operating Parameters



| Parameters | R134a | | R22 | | R404A | |
|---------------------------------|--------------------------|----------------------------|------------------------|-----------|------------------------|-----------|
| | Ambient Temperature (°C) | 35 | 43 | 35 | 43 | 35 |
| Suction Pressure (psig) (Bar) | 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 |
| Discharge Pressure (psig) (Bar) | 164 to 174 11 to 12 | 187 to 199 12.7 to 13.7 | 280 to 290 19 to 20 | 380 26 | 355 24 | 455 31 |
| Return Gas Temperature (°C) | 16 | 21 | 10 to 13 | 21 | 13 to 15 | 24 |
| • Top Shell Temperature (°C) | 43 to 60 | 49 to 71 | 36 to 46 | 50 to 56 | 38 to 48 | 52 to 58 |

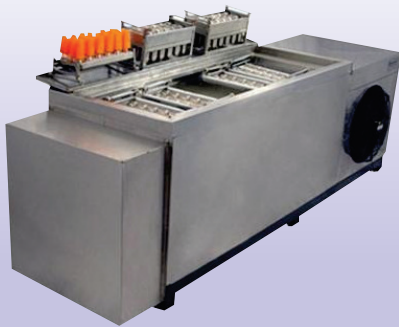
• Shell temp. could slightly vary with different platform models like KCJ, KCN, KCE

Ice Candy Machine

| R404A Models | KCJ430LAL | KCJ450LAL | KCM475LAL | KCM515LAL |
|---|---------------------|-----------------------|----------------------|----------------------|
| Appliance size (No. Of Candies Of 60 ml / Day) | 2,350 | 4,000 | 6,000 | 12,000 |
| Condenser Size (inch) (Length x Height) 3/8"O.D., 10-12FPI | 18" x 16" x 4 ROWS | 22" x 16" x 4 ROWS | 25" x 22" x 3 ROWS | 36" x 32" x 3 ROWS |
| Condenser Fan Motor | 1/15H.P x 1,350 RPM | 1/12H.P x 1,100 RPM | 1/10H.P x 1,350 RPM | 1/6 H.P x 1,350 RPM |
| Condenser Fan | 15" DIA | 16" DIA | 18" DIA | 20" DIA |
| Evaporator Size O.D Tube(inch) x Length(ft) | 3/8"O.D. (75'+75') | 1/2" O.D. (100'+100') | 1/2"O.D. (130'+130') | 1/2 O.D. (225'+225') |
| Capillary Tube Bore x Length | 0.050" x 8' x 1 NO. | 0.060" x 7' x 2 NO. | 0.064" x 10' x 2 NO. | 0.090" x 12' x 2 NO. |



Dixell Controller Model- XR60C
(Suitable for all above compressor models)



Typical System Operating Parameters

| Parameters | R404A | |
|--|---------------------------------|--------------------------|
| | Ambient Temperature (°C) | 32 |
| 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

Simple But Important Tips:

- Use two stage rotary vacuum pump of minimum 50 LPM capacity.
- 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.