

**ICA – Integral Air Cooled Chillers (R-134A)**



|   | ICA-15        | ICA-20        | ICA-25        | ICA-30       | ICA-40       | ICA-50       | ICA-60       | ICA-80       | ICA-95       | ICA-115      |
|---|---------------|---------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| TR (Tons of Refrig.) @50°F LWT                | 13.3          | 19.9          | 26.75         | 33           | 38.7         | 51.2         | 60.5         | 83           | 94.5         | 112.6        |
| Refrigeration Capacity (Btu/Hr.)              |               |               |               |              |              |              |              |              |              |              |
| Capacity @ 10°F LFT                           | 58,000        | 76,000        | 105,000       | 139,600      | 152,000      | 211,000      | 249,300      | 343,500      | 397,300      | 473,300      |
| Capacity @ 20°F LFT                           | 80,000        | 105,000       | 144,000       | 192,000      | 210,000      | 290,200      | 342,800      | 472,500      | 546,500      | 651,000      |
| Capacity @ 30°F LFT                           | 108,000       | 141,600       | 192,000       | 252,600      | 277,000      | 381,200      | 450,900      | 621,400      | 718,800      | 856,200      |
| Capacity @ 40°F LWT                           | 141,000       | 185,800       | 251,000       | 323,500      | 372,900      | 488,700      | 577,400      | 795,700      | 920,300      | 1,096,300    |
| Capacity @ 50°F LWT                           | 159,300       | 239,000       | 321,000       | 398,000      | 464,400      | 614,300      | 726,000      | 995,600      | 1,134,600    | 1,351,300    |
| Compressor                                    | Reciprocating | Reciprocating | Reciprocating | Screw        | Screw        | Screw        | Screw        | Screw        | Screw        | Screw        |
| Compressor HP                                 | 20            | 30            | 40            | 45           | 50           | 70           | 80           | 110          | 125          | 150          |
| Compressor kW                                 | 17.12         | 21.7          | 30.4          | 34.8         | 39.3         | 51.9         | 59.1         | 82           | 91.9         | 109.1        |
| Compressor Current @460 A                     | 24.1          | 30.3          | 46.8          | 49.6         | 56.1         | 74.1         | 84.3         | 117          | 131.1        | 155.6        |
| COP/EER                                       | 10.6          | 11.04         | 10.57         | 11.46        | 11.8         | 11.3         | 12.28        | 12.14        | 12.34        | 12.39        |
| Condenser                                     | Integrated    | Integrated    | Integrated    | Integrated   | Integrated   | Integrated   | Integrated   | Integrated   | Integrated   | Integrated   |
| Fan Arrangement                               | 1             | 1 x 2         | 1 x 2         | 1 x 2        | 1 x 3        | 1 x 3        | 2 x 2        | 2 x 3        | 2 x 3        | 2 x 3        |
| Fan HP  | 2             | 2             | 2             | 2            | 2            | 2            | 2            | 2            | 2            | 2            |
| Fan Motor FLA (3.4/motor)                     | 3.4           | 6.8           | 6.8           | 6.8          | 10.2         | 10.2         | 13.6         | 20.4         | 20.4         | 20.4         |
| Fan Min. Ampacity                             | 4.3           | 7.7           | 7.7           | 7.7          | 11.1         | 11.1         | 14.5         | 21.3         | 21.3         | 21.3         |
| Pump HP                                       | 3             | 3             | 5             | 5            | 7½           | 7½           | 7½           | 10           | 10           | 15           |
| Evaporator                                    | Brazed Plate  | Brazed Plate  | Brazed Plate  | Shell & Tube | Shell & Tube | Shell & Tube | Shell & Tube | Shell & Tube | Shell & Tube | Shell & Tube |
| SS Insulated Tank Size (gal)                  | 40            | 40            | 40            | 135          | 135          | 135          | 270          | 270          | 360          | 360          |
| Chilled Water Flow Rate @ 50°F LWT (gpm@ psi) | 25            | 50            | 70            | 85           | 100          | 130          | 150          | 210          | 235          | 280          |
| Dimensions (in.)                              |               |               |               |              |              |              |              |              |              |              |
| Length  | 78            | 136           | 136           | 136          | 192          | 192          | 136          | 192          | 192          | 192          |
| Width   | 48            | 48            | 48            | 48           | 48           | 48           | 96           | 96           | 96           | 96           |
| Height  | 66            | 66            | 66            | 66           | 66           | 66           | 72           | 72           | 72           | 72           |
| Shipping Weight (lbs.)                        |               |               |               |              |              |              |              |              |              |              |
| Electrical Rating                             |               |               |               |              |              |              |              |              |              |              |
| FLA @ 230-3-60                                | 55            | 74.2          | 107.2         | 112.8        | 132.6        | 168.6        | 195.8        | 274          | 303          | 352          |
| FLA @ 460-3-60                                | 27.5          | 37.1          | 53.6          | 56.4         | 66.3         | 84.3         | 97.9         | 137.4        | 151.5        | 176          |
| Connection Sizes                              |               |               |               |              |              |              |              |              |              |              |
| Chilled Water Conn. (in.)                     | 1½"           | 1½"           | 2"            | 2"           | 2½"          | 3"           | 3"           | 4"           | 4"           | 4"           |
| Lifting Eyes                                  | standard      | standard      | standard      | standard     | standard     | standard     | standard     | standard     | standard     | standard     |
| Hot Gas By-Pass                               | standard      | standard      | standard      | standard     | n/a          | n/a          | n/a          | n/a          | n/a          | n/a          |
| Options                                       |               |               |               |              |              |              |              |              |              |              |
| Automatic Water Make-Up                       | optional      | optional      | optional      | optional     | optional     | optional     | optional     | optional     | optional     | optional     |
| Low Water Level Alarm                         | optional      | optional      | optional      | optional     | optional     | optional     | optional     | optional     | optional     | optional     |
| High Temperature Alarm                        | optional      | optional      | optional      | optional     | optional     | optional     | optional     | optional     | optional     | optional     |
| On Site- Start-Up                             | optional      | optional      | optional      | optional     | optional     | optional     | optional     | optional     | optional     | optional     |

1 ton = 12,000 btu/hr.  
 Specifications based on 95° F ambient temp.

Note: Cooling Technology, Inc. reserves the right to change manufacturers of components as found necessary.

## Basic Construction



### **CONSTRUCTION**

|        |   |
|--------|---|
| Frame  | Heavy gauge carbon steel base. Bolted frame construction. |
| Finish | Primed & Painted with Acrylic Enamel                      |

### **COMPRESSOR**

|                 |  |
|-----------------|--|
| Compressor Type | Reciprocating (ICA 10-25) Screw (ICA 30-115)                       |
| Unloading       | Cylinder unloading followed by Hot Gas By-Pass                     |
| Features        | Integral force feed lubrication system<br>Motor winding protection |

### **CONDENSER**

|                  |  |
|------------------|--|
| Type             | Remote Air Cooled, forced draft, vertical discharge                                |
| Design Air Temp  | 20°F to 95°F   |
| Construction     | Seamless, deoxidized heavy wall smooth copper tubes with 12 aluminum fins per inch |
| Casing Material  | Heavy-gauge G-90 galvanized steel, plated hardware                                 |
| Pressure Control | Fan cycling with variable speed control on header end                              |
| Features         | Side access panels for cleaning and inspection                                     |

### **EVAPORATOR**

|                     |   |
|---------------------|---|
| Type                | Direct expansion – Brazed plate design              |
| Construction        | AISI 316L Stainless Steel plate with copper brazing |
| Insulation          | Closed cell foam                                    |
| Fluid Pressure Drop | <6 psig (typical)                                   |

### **ELECTRICAL CONTROLS**

|                          |                                |
|--------------------------|--------------------------------|
| Nema 12 rated enclosure  | Motor overload protection      |
| Low-flow cutout          | High pressure cut-out          |
| Freeze stat protection   | Motor starters                 |
| Long-life LED indicators | Time delay low pressure cutout |

### **INLINE WATER FILTER WITH STAINLESS STEEL MESH**

|              |   |
|--------------|---|
| Construction | AISI 304 Stainless Steel filter element with bronze or ABS body |
| Filter Size  | 18 mesh   |

### **TANK**

|              |  |
|--------------|--|
| Construction | Stainless Steel                            |
| Insulation   | ½" foam insulation                         |
| Features     | Sight glass<br>Drain<br>Make-up connection |

### **REFRIGERATION SPECIALTIES**

|                                  |
|----------------------------------|
| Thermal expansion valve          |
| Liquid line solenoid valve       |
| High pressure relief valve       |
| Sight glass / moisture indicator |
| Filter Dryer                     |

**ICA TYPICAL PIPING LAYOUT**

