



ICA - Integrated Air-Cooled Chillers



Cooling Technology's Integrated Air-Cooled Chillers feature scroll, reciprocating or screw compressors paired with a stainless steel brazed plate evaporator and an optional integral insulated stainless-steel reservoir with a non-ferrous pump.

These chillers are designed for outdoor locations with low ambient controls to 0°F with optional -20°F capability.

ICA line of chillers are available in 15 to 160 ton capacities with an operating range from +65°F to -30°F.

SUPERIOR BY DESIGN

Our use of high quality components and a robust design assures a dependable, long lasting trouble-free machine and a clean corrosion free environment. All components are bolted to a heavy gauge structural steel frame. The frame design incorporates lifting eyes for ease of lifting the chiller to high elevations. Our chillers are designed for outdoor locations with low ambient operation to 0°F. Optional -20°F ambient also is available.

COMPRESSOR

At the heart of the ICA chiller is a robust industrial duty scroll, reciprocating or screw compressor. This highly reliable compressor functions with full or part load efficiency. ICA 15 - 40 chillers are available with scroll or reciprocating compressors. ICA-50 and above are available in screw style compressors. ICA chillers are also available with multiple compressors of either style.

BRAZED PLATE EVAPORATOR

Our ICA series have a stainless steel brazed plate evaporator. Each plate in the evaporator contains flow directors on the top and bottom of the surface and in porthole areas. Every other plate has a reverse pattern so the pattern ridges contact one another on adjacent plates and are brazed together to form a compact pressure-resistant heat exchanger.

The brazing process creates two channel systems allowing two media to flow in counter directions completely separate of each other. All material performs heat transfer and contributes to large surface areas per volume (as well as add to the component's sturdiness).

What does this mean to your operation? This channel design gives rise to vigorous turbulence ensuring *maximum heat transfer*. No other heat exchanger design has as efficient heat transfer properties. Should a comparison be necessary with shell & tube units, the brazed plate heat exchanger coefficients are *three times* as efficient.

HOST OF SAFETIES

A full range of safeties (with fault indicating lights) are standard: high refrigerant pressure relief valve, automatic low refrigerant pressure cut-off, manual high refrigerant pressure cut-off, low oil pressure cut-off, freeze protection, low flow and multiple stage thermostat.

ELECTRICALS

All electrical components are mounted in a NEMA 4 rated electrical panel that is professionally wired and numbered to

correspond with an electrical schematic. The ICA chiller line comes with Carel electronic controllers or MCS full featured electronic control board. Our attention to detail extends to our choosing long life, LED indicator lights. The ICA-R (split system with remote condenser) chiller is fully wired, charged with refrigerant at the factory and tested under simulated load conditions before shipment to job site.

AIR COOLED CONDENSER

Each model ICA includes a condenser that rests above the other chiller components. Inside, the condenser has multiple fans with vertical air discharge; the unit has a heavy gauge (G90) galvanized steel frame and casing, spun venturiers for maximum efficiency and minimum noise, epoxy coated motor mounts and fan guards. The end panels, center support and partitions have collared tube holes to increase tube life. Its coil has 18 gauge galvanized steel casing and 0.8 inch aluminum plate-type tube sheets. Coils are of seamless copper tubing on a staggered pattern. Aluminum fins mechanically expand into copper tubes. 8 fins per inch spacing between fins allow condensers to be cleaned with ease.

The ICA condenser is integrated with the chiller and a normal system will not need any additional refrigerant. All the customer will need to do is open the shut-off valves to release the refrigerant into the piping.

TANK AND PUMP (OPTION)

The internal tank in this chiller is insulated and made of stainless steel. The tank includes a sight glass, drain, and make up port. The non-ferrous centrifugal pump is located beside the tank and is of a closed-coupled design. The pump is selected to run at 3500 rpm. Pump trim includes liquid filled pressure gauge and isolation valves.

Y-STRAINER

For additional ease of maintenance, CTI places an inline Y-strainer with removable stainless-steel screen in the evaporator's supply line to protect it from solids. Refrigerant filter drier cores are also replaceable. Pipes are made with non-ferrous, non-corrosive materials.

AVAILABLE OPTIONS

CTI offers several options for our ICA line of chillers; an automatic water make-up valve can be added to maintain the liquid level or a side stream filter to promote a clean running system. We offer low water level alarm, high temperature and low temperature alarms. For high efficiency under part load conditions, consider variable speed drive for scroll compressors. Refer to specific chiller specifications for technical details.