

CENTRAL CHILLER

TTI-AC SERIES

with Remote Air-Cooled Condenser



Central Chiller and Pump Station Package

- 20°F - 65°F Process Fluid
- 20 - 180 Tons Capacity
- Multiple Refrigerant Zones
- Integral Pump Distribution System
- Remote Air-Cooled Condenser
- Microprocessor Control



Typical Remote Air-Cooled Condenser

The **CM-TI Series** central chiller is a multiple zone chiller and pump tank station on a single platform. This allows the greatest flexibility in installation and operation. The refrigerant zones can precisely match the process load without over extending compressor life, and the dual pump distribution system provides full flow to the plant, while maintain 100% evaporator flow at all time. Product features include:

RESERVOIR CONSTRUCTION:

- Seamless, rotationally molded, non-rusting polyethylene
- Tank insulation
- Drain valve
- Overflow port
- Hot/cold section partition (baffle)
- Structural base
- Automatic water-level control
- Pump decking
- Spare pump ports
- Hinged tank lid

REFRIGERANT CIRCUITS:

- Hermetic scroll or rotary screw compressors
- Liquid line solenoid valve
- Refrigerant sight glass with moisture indicator
- Thermostatic expansion valve
- Brazed plate or shell & tube evaporator
- Hot gas by-pass or unloading capacity control systems
- Removable heads
- HFC-407C & HFC-410A refrigerant
- Air-cooled Condenser
 - Remote, outdoor condenser
 - Variable speed fan
 - Pressure staging

COOLANT CIRCUIT:

- Large capacity process pump:
 - Suction service valve
 - Discharge service valve
- Evaporator pump:
 - Suction service valve
 - Discharge service valve
 - Discharge basket strainers (models with brazed plate evaporators)

LIMIT DEVICES: (per zone)

- Refrigerant circuit:
 - High pressure limit
 - Low pressure limit
 - Evaporator flow limit
- Coolant circuit:
 - Pump motor overload relay
 - Coolant freeze stat
- Instrument control circuit fuse

ELECTRICAL:

- Nema rated electrical cabinet
- Fused pump motor starters
- Fused compressor motor starters
- Fused transformer
- Power entry terminal block

WARRANTY:

- 1 year on parts and labor

PRESSURE GAUGES (per zone):

- Refrigerant high pressure
- Refrigerant low pressure
- Coolant pressure

OPTIONS

TANK CONSTRUCTION:

- Epoxy coated mild steel
- Stainless steel wetted surfaces

REFRIGERANT CIRCUIT:

- Compressor hour meter
- Oversized condensers

COOLANT CIRCUIT:

- Larger process pumps
- Standby pumps and manifolding

ELECTRICAL:

- UL listed electrical panel
- Disconnects

INSTRUMENTATION:

- Remote display kit
- PLC instrument with color touch screen
- Modbus RTU or TCP interface

WARRANTIES:

- Extended compressor warranty



Specifications

| ODEL ¹ | | TTI-20A | TTI-30A | TTI-40A | TTI-50A | TTI-60A | TTI-80A | TTI-100A | TI-120AD | TTI-90A | TTI-120A | TTI-150A | TTI-180A |
|---------------------------------------|---------------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| REFRIGERANT CIRCUITS | Quantity | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 3 | 3 | 3 |
| APACITY² @ 50°F LWT | Tons | 19.6 | 29.0 | 37.0 | 46.2 | 60 | 80 | 90.0 | 119.5 | 85.5 | 119.5 | 146.0 | 180.0 |
| | kW | 68.8 | 101.8 | 129.8 | 162.1 | 210.5 | | | 419.3 | | 419.3 | 513.4 | |
| COMPRESSOR | Quantity | 2 | 2 | 2 | 2 | 2 | 4 | 4 | 4 | 3 | 3 | 6 | 6 |
| | HP | 10 | 15 | 20 | 25 | 30 | 20 | 25 | 30 | 30 | 40 | 25 | 30 |
| | Type | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll | Scroll |
| VAPORATOR | Type | Brazed Plate | Brazed Plate | Brazed Plate | Brazed Plate | Brazed Plate | Brazed Plate | Brazed Plate | Brazed Plate | Shell & Tube | Shell & Tube | Shell & Tube | Shell & Tube |
| REFRIGERANT³ | Type | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A | R-410A |
| ROCESS PUMP^{4,5} | HP | 5 | 5 | 7.5 | 7.5 | 10 | 15 | 15 | 20 | 15 | 20 | 20 | 25 |
| | GPM | 48 | 72 | 96 | 120 | 144 | 240 | 300 | 360 | 270 | 360 | 450 | 540 |
| | PSI | 60 | 60 | 60 | 63 | 60 | 70 | 60 | 70 | 65 | 65 | 55 | 55 |
| VAPORATOR PUMP | HP | 1.5 | 3 | 3 | 3 | 3 | 5 | 5 | 5 | 5 | 5 | 10 | 15 |
| | GPM | 50 | 70 | 96 | 120 | 144 | 192 | 225 | 260 | 192 | 288 | 338 | 390 |
| RESERVOIR | Operating (gallons) | 340 | 340 | 340 | 340 | 340 | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 | 1,200 |
| | Holding (gallons) | 400 | 400 | 400 | 400 | 400 | 1,475 | 1,475 | 1,475 | 1,475 | 1,475 | 1,475 | 1,475 |
| | Construction ⁶ | PE | PE | PE | PE | PE | PE | PE | PE | PE | PE | PE | PE |
| CONTROL | Standard | MZC | MZC | MZC | MZC | MZC | MZC | MZC | MZC | MZC | MZC | MZC | MZC |
| FULL LOAD AMPERAGE⁷ | 230 volt | 110 | 160 | 190 | 230 | 300 | 390 | 470 | 590 | 450 | 560 | 690 | 880 |
| | 460 volt | 55 | 80 | 95 | 115 | 150 | 195 | 235 | 295 | 225 | 280 | 345 | 440 |
| | 575 volt | 44 | 64 | 76 | 92 | 120 | 156 | 188 | 236 | 180 | 147 | 276 | 352 |
| PROCESS CONNECTION | Process ⁸ | 2 | 3 | 3 | 4 | 4 | 4 | 4 | 6 | 4 | 4 | 6 | 6 |
| | Make-Up (inches) | 1 | 1 | 1 | 1 | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ | 1½ |
| | Overflow | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 |
| DIMENSIONS (inches) | Height | 82 | 82 | 82 | 82 | 82 | 112 | 112 | 114 | 114 | 114 | 114 | 114 |
| | Width | 87 | 87 | 92 | 92 | 92 | 136 | 136 | 147 | 147 | 147 | 147 | 147 |
| | Depth | 96 | 96 | 96 | 96 | 96 | 128 | 128 | 147 | 147 | 147 | 147 | 147 |
| WEIGHTS (pounds) | Shipping ¹⁰ | 3,550 | 4,170 | 4,350 | 4,990 | 5,155 | 6,300 | 6,505 | 6,705 | 6,505 | 8,600 | 9,600 | 10,500 |
| | Operating | 7,925 | 8,530 | 8,710 | 9,650 | 9,515 | 17,300 | 17,705 | 17,905 | 20,705 | 22,820 | 23,820 | 23,700 |

REMOTE AIR-COOLED CONDENSER¹¹

| Advantage Model | | RCSZ-10LK | RCSZ-30LK | RCDZ-40LK | RCDZ-50LK | RCDZ-60LK | RCDZ-80LK | RCDZ-100LK | RCDZ-120LK | RCSZ-30LK | RCDZ-40LK | RCSZ-50LK | RCSZ-60LK |
|--|------------------------|-----------|-----------|-----------|-----------|-----------|-----------|------------|------------|-----------|-----------|-----------|-----------|
| QUANTITY | | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 3 | 3 | 3 | 3 |
| APACITY R410A @ 1° TD | MBT/hr | 8.0 | 23.4 | 30.2 | 38.3 | 46.1 | 58.9 | 76.7 | 92.1 | 23.4 | 30.2 | 38.3 | 41.3 |
| | R410A @ 20° TD Tons | 10.6 | 31.2 | 41.6 | 51.0 | 62.4 | 79.8 | 102.2 | 122.8 | 31.2 | 41.6 | 51 | 55 |
| ANS¹² | Quantity | 1 | 3 | 4 | 4 | 6 | 6 | 8 | 10 | 3 | 4 | 4 | 5 |
| | RPM | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 | 1,140 |
| CONNECTIONS¹¹ | Hot Gas | 1½ | 2½ | 2@1½ | 2@2½ | 2@2½ | 2@2½ | 2@2½ | 2@2½ | 2½ | 2@1½ | 2½ | 2½ |
| | Liquid | 1½ | 2½ | 2@1½ | 2@2½ | 2@2½ | 2@2½ | 2@2½ | 2@2½ | 2½ | 2@1½ | 2½ | 2½ |
| FULL LOAD AMPERAGE¹³ | 460/3Ø | 3.5 | 12.0 | 14.0 | 14.0 | 21.0 | 21.0 | 28.0 | 35.0 | 12.0 | 14.0 | 14.0 | 17.5 |
| CONSTRUCTION | Tube Material | Copper | Copper | Copper | Copper | Copper | Copper | Copper | Copper | Copper | Copper | Copper | Copper |
| | Fin Material | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum | Aluminum |
| | Fins Per Inch | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 | 14 |
| | Coating | None | None | None | None | None | None | None | None | None | None | None | None |
| DIMENSIONS (inches) | Height | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 | 49.1 |
| | Width | 45.4 | 45.4 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 88.0 | 45.4 | 88.0 | 45.4 | 45.4 |
| | Depth | 73.0 | 180.0 | 127.0 | 127.0 | 180.0 | 180.0 | 233.0 | 286.0 | 180.0 | 127.0 | 233.0 | 286.0 |
| WEIGHT (pounds) | Shipping ¹⁰ | 330 | 930 | 1,340 | 1,440 | 1,990 | 2,140 | 2,830 | 3,540 | 930 | 1,340 | 1,310 | 1,510 |

Notes

- Since product innovation and improvement is our constant goal, all features and specifications are subject to change without notice or liability. Selection of certain optional features may change listed specifications.
- Tons or Kilowatts capacity at 12,000 Btu/hr/ton @ 50°F LWT, 95°F ambient and 115°F condensing. Capacity multipliers are 50°F - 1.00; 40°F - .80; 30°F - .60; 20°F - .40. The minimum recommended operating temperature when no glycol is used is 48°F.
- This is a non ozone depleting refrigerant.
- Consult FYI #4-C-38 and 5-A-261 for characteristics relating to pump curves.
- Selection of optional pumps for higher flow rates will raise the minimum recommended operating temperature when no glycol is used.
- P = polyethylene reservoir. Mild steel and stainless steel are optional.
- Full Load amps are higher than run load amps and must be used for sizing disconnects and supply wiring.
- Consult factory for 50hz operation.
- Process connections may vary based on unique pump flow requirements of your process. Confirm you connection size requirement with your Advantage sales representative.
- Approximate unit weight crated for shipment.
- Connection sizes shown per refrigerant zone. Connection size does not indicate proper line size between indoor and outdoor units. Consult factory for proper line size.
- Vertical air discharge from condenser.
- Full load amperage shown for single condenser. Some models use multiple condensers.

For More Information ... call SWHC 214-340-7500

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