

# CENTRAL CHILLERS

## Air-Cooled 5 - 180 Tons

For Use with  
**NEW SYSTEMS** or  
to **EXPAND** an  
Existing System

### CM-APT-RC SERIES 5-180 TONS AIR-COOLED

The MILACRON CM-APT-RC central chilling module is designed to be used as part of a central chilled water system.

Chilling modules are offered in single, dual and triple zone configurations.



CM-APT-40A shown.  
Air-cooled unit with 40 tons capacity, microprocessor controller and remote air-cooled condenser.

**PROCESS TEMPERATURES:** 20°F to 65°F

**AVAILABLE CAPACITIES:** 5 to 180 tons

The CM-APT-RC® refrigerant circuits include disc reciprocating, scroll, or rotary screw compressors, braze plate or tube and shell evaporators, capacity control system, and remote air-cooled condensers.



Microprocessor controller for CM-APT-RC models



A distribution system is required to circulate chilled water from the CM-APT-RC Chiller Module. Choose the

**MILACRON CM-TTK Series**

Pump Tank Station with polyethylene reservoir to provide chilled water distribution to the process use-points.

#### FEATURES - AT A GLANCE:

- Microprocessor control instrument
- Delivered ready to run - not a kit
- Remote air-cooled condensers
- Refrigerant and coolant pressure gauges



# STANDARD FEATURES

**REFRIGERANT CIRCUITS** (per zone): Discus reciprocal, Scroll or Screw compressors • Compressor suction service valve • Compressor discharge service valve • Brazed plate evaporator or shell and tube evaporator • Remote air-cooled condenser • Liquid line solenoid valve • Refrigerant sight glass with moisture indicator • Thermostatic expansion valve • Hot gas by-pass capacity control or compressor unloading • Liquid receiver • HCFC - 22 refrigerant • Oil separator (units with scroll and reciprocating compressors)

**LIMIT DEVICES** (per zone): High refrigerant pressure • Low refrigerant pressure • Evaporator flow

**PRESSURE GAUGES** (per zone): Refrigerant high pressure gauge • Refrigerant low pressure gauge • Coolant pressure gauge

**ELECTRICAL:** Fused transformer • Nema rated electrical cabinet • Power entry terminal block • Fused compressor motor starter (dual and triple zone models)

**CHILLER CONTROL INSTRUMENT:** Microprocessor, multizone controller • Intelligent zone boards • Large temperature display • °F or °C display • Large setup display • Refrigerant circuit indicators • Water circuit indicators • SPI communications interface • Selectable lead/lag mode • Audible and visual alarm

# OPTIONS

**REFRIGERANT CIRCUIT:**  
 • Compressor CCPR valve  
 • Compressor hour meter

**INSTRUMENTATION:**  
 • Remote display kit  
 • Color touch screen PLC

**ELECTRICAL:**  
 • UL listed electrical panel

# SPECIFICATIONS

|  |                       | C-5    | C-7.5  | C-10   | C-15   | C-20   | C-25   | C-30   | C-35   | C-40   | C-50   | C-60   |
|--|-----------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| <b>COMPRESSOR</b>  | Capacity <sup>3</sup> | 5      | 9.1    | 11.5   | 15     | 19     | 25     | 30     | 36     | 40     | 50     | 60     |
|  | Number                | 1      | 1      | 1      | 1      | 2      | 2      | 2      | 1      | 1      | 1      | 1      |
|  | HP each               | 5      | 7-1/2  | 10     | 15     | 10     | 13     | 15     | 35     | 40     | 50     | 60     |
|  | Type <sup>4</sup>     | SC     | SC     | SC     | SC     | SC     | SC     | SC     | D      | D      | S      | S      |
| <b>CONNECTION SIZES</b> (inches)                               | Process (to/from)     | 1-1/4" | 1-1/4" | 1-1/4" | 2"     | 2"     | 2-1/2" | 2-1/2" | 2-1/2" | 2-1/2" | 3"     | 3"     |
| <b>FLOW REQUIREMENTS</b> (GPM)                                 | Process               | 13     | 22     | 28     | 36     | 47     | 60     | 72     | 86     | 101    | 120    | 138    |
| <b>FULL LOAD<sup>1</sup></b>                                   | 230 volt              | 22     | 31     | 43     | 56     | 66     | 83     | 94     | 107    | 142    | 180    | 224    |
|  | 460 volt              | 10     | 16     | 22     | 28     | 33     | 42     | 47     | 54     | 71     | 90     | 112    |
| <b>AMPERAGE@3ø/60hz<sup>2</sup></b>                            | 230 volt              | 8      | 13     | 17     | 25     | 28     | 34     | 39     | 43     | 57     | 75     | 80     |
|  | 460 volt              | 22     | 22     | 22     | 22     | 22     | 22     | 22     | 22     | 22     | 22     | 22     |
| <b>REFRIGERANT</b>   | Type HCFC             | 52"    | 52"    | 52"    | 52"    | 52"    | 57"    | 57"    | 57"    | 57"    | 57"    | 57"    |
| <b>DIMENSIONS</b> (inches)                                     | Height                | 24"    | 24"    | 24"    | 24"    | 24"    | 29"    | 29"    | 29"    | 36"    | 36"    | 36"    |
|  | Width                 | 62"    | 62"    | 62"    | 70"    | 70"    | 70"    | 70"    | 70"    | 84"    | 84"    | 84"    |
|  | Depth                 | 450    | 525    | 545    | 845    | 885    | 1,040  | 1,100  | 1,150  | 1,200  | 1,300  | 1,400  |
| <b>WEIGHTS</b> (pounds)  | Shipping <sup>5</sup> |        |        |        |        |        |        |        |        |        |        |        |
| <b>REMOTE AIR-COOLED CONDENSER</b>                             |                       |        |        |        |        |        |        |        |        |        |        |        |
| <b>CONNECTIONS<sup>6</sup></b>                                 | Liquid                | 1-1/8" | 1-1/8" | 1-1/8" | 1-3/8" | 1-3/8" | 1-5/8" | 1-5/8" | 1-5/8" | 2-1/8" | 2-1/8" | 2-1/8" |
|  | Hot Gas               | 1-3/8" | 1-3/8" | 1-3/8" | 2-1/8" | 2-1/8" | 2-1/8" | 2-5/8" | 2-5/8" | 2-5/8" | 3-1/8" | 3-1/8" |
| <b>AIR FLOW<sup>7</sup></b>                                    | Fan Quantity          | 1      | 1      | 1      | 2      | 2      | 2      | 3      | 3      | 3      | 4      | 4      |
| <b>FULL LOAD AMPERAGE<sup>8</sup></b><br>@3ø/60hz <sup>4</sup> | 230 volt              | 6.2    | 6.2    | 6.2    | 12.4   | 12.4   | 12.4   | 18.6   | 18.6   | 18.6   | 24.8   | 24.8   |
|  | 460 volt              | 3.1    | 3.1    | 3.1    | 6.2    | 6.2    | 6.2    | 9.3    | 9.3    | 9.3    | 12.4   | 12.4   |
|  | 575 volt              | 2.48   | 2.48   | 2.48   | 4.96   | 4.96   | 4.96   | 7.44   | 7.44   | 7.44   | 9.92   | 9.92   |
| <b>DIMENSIONS</b> (inches)                                     | Height                | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    |
|  | Width                 | 46"    | 46"    | 46"    | 46"    | 46"    | 46"    | 46"    | 46"    | 46"    | 46"    | 46"    |
|  | Depth                 | 50"    | 50"    | 50"    | 97"    | 97"    | 97"    | 144"   | 144"   | 144"   | 243"   | 243"   |
| <b>WEIGHT</b> (pounds)   | Shipping              | 380    | 380    | 440    | 620    | 690    | 890    | 970    | 1,170  | 1,310  | 1,810  | 1,990  |

Notes:  
 1. Full load amps shown. No allowance for inrush. Service disconnect by owner. Full Load amps are higher than run load amps and must be used for sizing disconnects and supply wiring. 2. Consult factory for 50hz operation. 3. Tons capacity at 12,000 BTU/ton @ 50 F LWT @ 115°F condensing temperature. Capacities may be +/- 5% as reserved by the compressor manufacturer. 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. 4. D = discus, S = screw, SC = scroll. 5. Unit weight crated for shipment. 6. Field installation and piping connection of condenser by owner. 7. Vertical discharge from condenser. 8. Requires three condensers. Specifications shown for single unit. 9. Requires two condensing units. Specifications shown for single unit.

|                                  |                       | CC-20 | CC-30 | CC-40 | CC-50 | CC-60 | CC-70 | CC-80 | CC-100 | CC-120 | CCC-90 | CCC-105 | CCC-120 | CCC-150 | CCC-180 |
|----------------------------------|-----------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|--------|---------|---------|---------|---------|
| <b>COMPRESSOR</b>                | Capacity <sup>3</sup> | 23    | 30    | 38    | 50    | 60    | 70    | 80    | 100    | 124    | 90     | 103     | 120     | 158     | 186     |
|                                  | Number                | 2     | 2     | 4     | 4     | 4     | 2     | 2     | 2      | 2      | 6      | 3       | 3       | 3       | 3       |
|                                  | HP each               | 10    | 15    | 10    | 13    | 15    | 35    | 40    | 50     | 60     | 15     | 35      | 40      | 50      | 60      |
|                                  | Type <sup>4</sup>     | SC    | SC    | SC    | SC    | SC    | D     | D     | S      | S      | S      | SC      | D       | S       | S       |
| <b>CONNECTION SIZES</b> (inches) | Process (to/from)     | 2"    | 2.5"  | 2.5"  | 3"    | 3"    | 4"    | 4"    | 4"     | 4"     | 4"     | 4"      | 4"      | 6"      | 6"      |
| <b>FLOW REQUIREMENTS</b> (GPM)   | Process               | 72    | 85    | 96    | 120   | 144   | 168   | 192   | 240    | 277    | 216    | 260     | 288     | 359     | 415     |
| <b>FULL LOAD<sup>1</sup></b>     | 230 volt              | 85    | 113   | 152   | 196   | 232   | 214   | 284   | 360    | 448    | 347    | 321     | 426     | 540     | 672     |
|                                  | 460 volt              | 43    | 56    | 76    | 98    | 117   | 107   | 142   | 180    | 224    | 174    | 161     | 213     | 270     | 336     |
|                                  | 575 volt              | 34    | 46    | 53    | 68    | 75    | 86    | 113.8 | 144    | 180    | 115    | 130     | 170     | 216     | 269     |
| <b>REFRIGERANT</b>               | Type HCFC             | 22    | 22    | 22    | 22    | 22    | 22    | 22    | 22     | 22     | 22     | 22      | 22      | 22      | 22      |
| <b>DIMENSIONS</b> (inches)       | Height                | 57"   | 57"   | 57"   | 57"   | 57"   | 57"   | 57"   | 70"    | 70"    | 85"    | 85"     | 85"     | 85"     | 85"     |
|                                  | Width                 | 48"   | 48"   | 48"   | 52"   | 52"   | 72"   | 72"   | 90"    | 90"    | 73"    | 73"     | 73"     | 73"     | 73"     |
|                                  | Depth                 | 76"   | 76"   | 76"   | 79"   | 79"   | 84"   | 84"   | 115"   | 115"   | 130"   | 130"    | 130"    | 130"    | 130"    |
| <b>WEIGHTS</b> (pounds)          | Shipping <sup>5</sup> | 1,200 | 1,800 | 1,900 | 2,200 | 2,350 | 2,500 | 2,600 | 3,450  | 3,700  | 3,300  | 3,450   | 3,600   | 3,900   | 4,200   |

|  |              | 1-1/8" <sup>8</sup> | 1-3/8" | 2-1/8" | 2-1/8" | 2-5/8" | 2-5/8" | 2-5/8" | 2-5/8" | 2-5/8" | 1-5/8" <sup>8</sup> | 1-5/8" <sup>8</sup> | 2-1/8" <sup>8</sup> | 2-1/8" <sup>8</sup> | 2-1/8" <sup>8</sup> |
|--|--------------|---------------------|--------|--------|--------|--------|--------|--------|--------|--------|---------------------|---------------------|---------------------|---------------------|---------------------|
| <b>CONNECTIONS<sup>6</sup></b>                                 | Liquid       | 1-1/8" <sup>8</sup> | 1-3/8" | 2-1/8" | 2-1/8" | 2-5/8" | 2-5/8" | 2-5/8" | 2-5/8" | 2-5/8" | 1-5/8" <sup>8</sup> | 1-5/8" <sup>8</sup> | 2-1/8" <sup>8</sup> | 2-1/8" <sup>8</sup> | 2-1/8" <sup>8</sup> |
|  | Hot Gas      | 1-3/8"              | 2-1/8" | 1-3/8" | 1-5/8" | 1-5/8" | 1-5/8" | 1-5/8" | 2-1/8" | 2-1/8" | 2-5/8"              | 2-5/8"              | 2-5/8"              | 3-1/8"              | 3-1/8"              |
| <b>AIR FLOW<sup>7</sup></b>                                    | Fan Quantity | 1                   | 4      | 4      | 4      | 6      | 6      | 6      | 8      | 10     | 3                   | 3                   | 3                   | 4                   | 4                   |
| <b>FULL LOAD AMPERAGE<sup>8</sup></b><br>@3ø/60hz <sup>4</sup> | 230 volt     | 6.2                 | 24.8   | 24.8   | 24.8   | 37.2   | 37.2   | 37.2   | 49.6   | 62     | 18.6                | 18.6                | 18.6                | 24.8                | 24.8                |
|  | 460 volt     | 3.1                 | 12.4   | 12.4   | 12.4   | 18.6   | 18.6   | 18.6   | 24.8   | 31     | 9.3                 | 9.3                 | 9.3                 | 12.4                | 12.4                |
|  | 575 volt     | 2.48                | 9.92   | 9.92   | 9.92   | 14.88  | 14.88  | 14.88  | 19.84  | 24.8   | 7.44                | 7.44                | 7.44                | 9.92                | 9.92                |
| <b>DIMENSIONS</b> (inches)                                     | Height       | 49"                 | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"    | 49"                 | 49"                 | 49"                 | 49"                 | 49"                 |
|  | Width        | 46"                 | 88"    | 88"    | 88"    | 88"    | 88"    | 88"    | 88"    | 88"    | 46"                 | 46"                 | 46"                 | 46"                 | 46"                 |
|  | Depth        | 50"                 | 97"    | 97"    | 123"   | 144"   | 187"   | 187"   | 243"   | 243"   | 144"                | 144"                | 144"                | 243"                | 243"                |
| <b>WEIGHT</b> (pounds)   | Shipping     | 440                 | 1,070  | 1,200  | 1,590  | 1,720  | 2,060  | 2,340  | 3,100  | 4,000  | 970                 | 1,170               | 1,310               | 1,810               | 1,990               |



## MILACRON PROCESS SUPPORT BUSINESS

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