

Web: [www.AdvantageEngineering.com](http://www.AdvantageEngineering.com)

Phone: 317-887-0729

- **Temperature Control Units**  
Water & Oil  
30° - 500°F

- **Package Chillers**  
Air-Cooled  
20° - 70°F

- **Central Chillers**  
Air & Water-Cooled  
Packages & Modules  
20° - 70°F

- **Pump Tank Stations**  
Chilled or Tower Water  
200 - 3600 gallons

- **Cooling Tower Cells**  
45 - 540 tons

- **Filters**

- **Heat Exchangers**

## WMC SERIES

- Water-Cooled
- 38°F to 60°F Fluid Temperatures
- 120 to 180 Tons Capacity
- Ultra Efficient
- Quiet



WMC Series Chiller.

### WARRANTY

- **1 Year:**  
Covering parts and labor

### START UP

- Unit start up by a factory authorized technician is included for units shipped to the continental United States.



Illustration of internal components of centrifugal compressor.

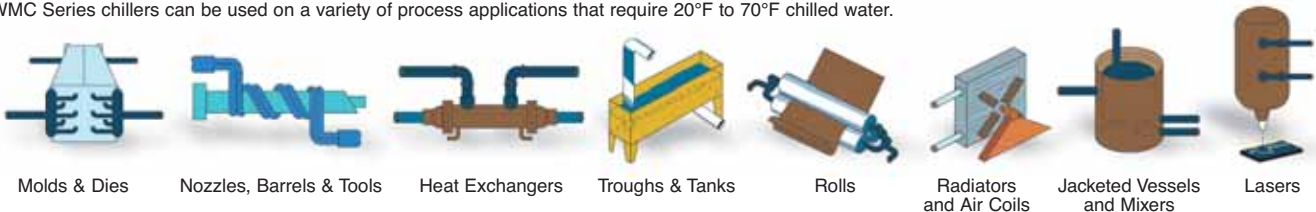
### The WMC Series centrifugal chiller provides next generation technology - today.

WMC Series chillers use centrifugal compressors that utilize magnetic bearings for oil free operation, integral variable speed and high speed direct drive technology. The compressor is matched with highly efficient and reliable shell & tube heat exchanger vessels that capitalize on the compressor efficiency.

The chiller is controlled by an advanced microprocessor control panel with touch screen operator interface.

### APPLICATIONS

WMC Series chillers can be used on a variety of process applications that require 20°F to 70°F chilled water.



Molds & Dies

Nozzles, Barrels & Tools

Heat Exchangers

Troughs & Tanks

Rolls

Radiators and Air Coils

Jacketed Vessels and Mixers

Lasers

## SPECIFICATIONS

WMC Series Specifications		WMC-120	WMC-150	WMC-180
<b>UNIT</b>	Capacity (tons) <sup>1</sup>	120	150	180
<b>EFFICIENCY (KW/ton)</b>	Full Load	0.535	0.572	0.619
	75% Load	0.379	0.404	0.44
	50% Load	0.283	0.255	0.266
<b>REFRIGERANT ZONES</b>		1	1	1
<b>COMPRESSORS</b>	Type	Centrifugal	Centrifugal	Centrifugal
	Number	2	2	2
<b>CONNECTION SIZES (inches)</b>	Process	8"	8"	8"
	Condenser	6"	6"	6"
	Type	Grooved	Grooved	Grooved
<b>WATER FLOW REQUIREMENT</b>	Process	288	360	432
	Flow @ GPM			
	Pressure Drop @ PSI	5.9	8.8	12.3
	Condenser	360	450	540
	Pressure Drop	3.4	5	6.9
<b>UNIT RATED LOAD AMPS @ 460/3/60</b>		95	122	155
<b>MINIMUM CIRCUIT AMPACITY</b>		65.7	82.7	103.4
<b>NUMBER OF POWER DROPS</b>		2	2	2
<b>REFRIGERANT</b>		HFC-134a	HFC-134a	HFC-134a
<b>NOISE (A-weight dBA @ 100% load)</b>		75.8	77.3	78.9
<b>DIMENSIONS (inches)</b>	Length	140	140	140
	Width	35	35	35
	Height	78	78	78
<b>WEIGHT (pounds)</b>	Shipping	7,052	7,052	7,052

### Notes:

1. Capacity based on cooling 2.4 gpm/ton from 60°F to 50°F with 85°F entering condenser water at 3 gpm/ton. Other capacities quoted on request.

## EASY TO WORK WITH COMPRESSORS

- **EASY ON THE EARS** : a quiet compressor with virtually no structure-borne vibration eliminates the need for expensive attenuation accessories.
- **EASY TO HANDLE** : the compressor weight of 264 lbs. (120 kg.) is less than 20% of the weight of competitive compressors and approximately 50% smaller, so it can mount on lighter and smaller frames.
- **EASY REFRIGERANT CHOICE** : the compressor is optimized for HFC-134a, positive pressure, with no ozone depletion potential and no phase-out schedule.
- **EASY TO CONTROL** : onboard digital electronics provide smart controls. The compressor is totally self-correcting and incorporates a system of sophisticated self-diagnostics, monitoring and control
- **EASY ON POWER INTERRUPTIONS** : in the event of a power failure, the compressor motor acts as a generator, providing power for the bearing control system during coast down. It also has a system to gently de-levitate the shaft.

## WATER CIRCULATION SYSTEM



TTK-1600 pump tank station with polyethylene reservoir and optional Checkmate control and standby pump and manifold shown.

The WMC Series central chiller requires the use of a water circulation system to provide chilled water to process use points. The Advantage TTK Series pump tank station offers capacities to 300 tons with process pumps to 60 HP and evaporators pumps to 40 HP for total system balance and temperature control. Optional Checkmate control and standby pump and manifold are available.

## TOUCH SCREEN OPERATOR PANEL



The home screen is the primary viewing screen. It gives real time data on unit status, water temperatures, set point and motor amp draw. If an alarm occurs, a red button appears on the screen. Pressing this button immediately accesses the Active Fault Screen that gives complete fault information.

Change the set point from any screen by pressing the SET button, then the WATER button. Press button #1 to set the Leaving Water Temperature.

## FRICTION-LESS COMPRESSOR

The compressor is totally oil-free eliminating oil management hardware and controls of conventional oil-lubricated bearings. The compressor's one moving part is levitated during rotation by a digitally controlled magnetic bearing system. Position sensors at each magnetic bearing provide real-time feedback to the bearing control system. Compressor unloading and chiller capacity reduction is accomplished by a compressor mounted variable frequency drive. The variable speed drive is important factor in providing tremendous energy savings at part load operation and reduces starting inrush current.

## EVAPORATORS & CONDENSERS

High performance shell & tube evaporators and condensers are used on the WMC Series central chiller. Their unique design greatly increases heat transfer and reduces the unit footprint. Because the system is oil-free no loss of efficiency is experienced due to oil coating on the heat transfer surfaces that is common with systems that use oil for lubrication.

## ELECTRONIC EXPANSION VALVE

Controlled refrigerant flow over the entire capacity range saves energy and dollars. An electronic expansion valve meters refrigerant flow in direct response to the unit controller input. The controller balances suction superheat and liquid subcooling to reach optimum efficiency.

**MANUFACTURED BY AN INDUSTRY LEADER** : the WMC Series chiller is manufactured for Advantage by McQuay International, a recognized leader in chiller technology. Advantage markets the WMC Series chiller to the industrial market with permission of McQuay to offer the best possible package to our customers.



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ADVANTAGE PRODUCTS: TEMPERATURE CONTROLLERS · PORTABLE CHILLERS · CENTRAL CHILLERS · PUMP TANK STATIONS · TOWER SYSTEMS · FILTERS

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