



TEMPERATURE CONTROLLERS... PORTABLE CHILLERS... CENTRAL CHILLERS... PUMP TANK STATIONS... TOWER SYSTEMS...

SUBJECT: COMPARISON OF PORTABLE AND CENTRAL CHILLERS

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This FYI compares some of the differences between portable chillers and central chillers. Although they both are refrigeration devices for heat transfer, they are two different breeds. Portable chillers are designed to cool one use point while central chillers are designed to provide cooling water to an entire facility and servicing multiple use points. Since the objectives of these chillers are radically different, they therefore, are different. In some cases portable chillers can be 'modified' with some standard options to act as a central chiller. However, the portable chiller does not and will not provide all the benefits of a central chiller.



Maximum MK-20A with blower option

Titan TI-180W

Both have their place in the heat transfer market. But if selected improperly or expected to perform beyond design specifications, then issues will arise along with operator frustration.

This comparison pertains to Advantage Engineering Maximum portable chillers and Titan central chillers.

SUBJECT	PORTABLE	CENTRAL
REFRIGERANT CIRCUITS:		
Quantity of refrigeration circuits:	Single	Multiple
Expandability:	None	Yes
Capacity staging:	50%	Down to 15% in some cases
Redundancy (i.e. backup):	None	Yes
Air discharge (air condensed units):	Typically into plant ¹	Outdoors via outdoor condenser
FLUID COOLANT:		
Quantity of use point design (typical):	Single	Multiple
Reservoir capacity:	Small	Large
Fluid flywheel:	Little if any	Large
Thermal mass:	Little if any	Large
Dedicated evaporator pump:	No	Yes
Dedicated process pump:	No	Yes
Low flow bypass:	Required	Not needed since evaporator pump
Pump Redundancy (i.e. backup):	None	Yes
Larger pumping capability:	Limited	Relative unlimited
Drain back prevention:	Required (overhead piping kit)	Vacuum breakers
INSTRUMENTATION:		
Controller:	Single circuit control	Multiple circuit control
Redundancy(i.e. back up):	None	Yes
INSTALLATION REQUIREMENTS:		
	Relative very little ²	A lot

1. A portable chiller can utilize an outdoor condenser also in lieu of fans or a blower. 2. Installation costs for a portable chiller could be the same as a central if used as a central with multiple use points.

