

# The Master Differences

## ◆ Condensing units are High Quality Industrial Type.

1. High efficiency Condensers.
2. Accumulators.
3. Receivers.
4. Industrial, Frame Type safety and operating control switches.
5. Pump down systems.
6. All have low ambient controls; to +10°F standard, to -35°F optional.

## ◆ Cabinets are strong and durable.

1. Welded STRUCTURAL STEEL 1-1/2" ANGLE IRON Powder Coated.
2. FORMED STEEL PANELS; Powder Coated.
3. Include on/off switch, and TEMPERATURE Indicator and water level gage.

## ◆ Standard Chiller Systems.

1. Insulated Polyethylene tank with cover.
2. High efficiency Spirallex Cluster Coil Evaporator.
3. High Pressure-High Volume Goulds Pumps.
4. Offered in many Styles; Upright Package, 2 to 10 Ton, Side by Side Package, 2 to 20 Ton, Remote System, 2 To 60 Ton and Water-Cooled.

## ◆ In Line Chiller Systems.

1. Insulated Polyethylene tank with cover.
2. High Efficiency Tube in Tube Coaxial Evaporator.
3. Offered, Individually, 3 to 10 Ton and in Systems, 3 to 60 Ton.

## ◆ Cooling Tower Assist Systems.

1. Polyethylene Housing.
2. High efficiency Spirallex Cluster Coil Evaporator.
3. High efficiency Industrial Condensing Unit.

## ◆ Warranty; More Extensive and Inclusive than others.

1. 5 Year warranty on compressor.
2. 1 Year warranty on ALL OTHER PARTS.
3. 1 Year LABOR WARRANTY on equipment. manufactured by Master Chiller Inc.

## ◆ Economically Priced; Lower in Price – Higher in Quality.

Master Chiller Inc. Also Offers; A Complete line of Cooling Towers, Cooling Tower Systems, Evaporative Coolers (swamp coolers), and Air Conditioning Equip.

MASTER CHILLER Inc., (EST 1981) sells chillers in many industries, (Dry Cleaning, Plastics, Machine Tool, Welding, Printing, Food Processing, Medical, Eye Glass mfg., Water Recovery, and Building Conditioning).

*Building better Chiller Systems since 1981*

**MASTER CHILLER INC.** 3730 Dividend Dr. Garland, TX. 75042

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# The Master Chiller News

1. ***What is a pump-down system?*** A pump-down system is a system in which the temperature control operates a solenoid valve that closes when the set temperature is reached. This allows the compressor to continue to run until the suction (low) pressure reaches the set point of the low-pressure control, which then cut the compressor off.
2. ***Why should I have a pump-down chiller system?*** A pump-down chiller system prevents liquid refrigerant from migrating into the compressor during the off cycle. Liquid in the compressor on startup causes slugging (the compressors attempting to pump liquid, which it is incapable of doing,) and/or the oil to be pumped out, either of which will cause compressor failure. This also eliminates the need for wiring between the chiller tank assembly and the condensing unit.
3. ***Why should I have a receiver?*** A receiver is a device for storing refrigerant. It is necessary to help store refrigerant during the off cycle in a pump-down system. It also has the advantage of having a column of liquid ready to the expansion device for immediate start of cooling.
4. ***Why should I have a suction accumulator?*** A suction accumulator prevents liquid refrigerant from returning to the compressor when the condensing unit is running.
5. ***Why should I have the refrigerant coil in the tank?*** Having the refrigerant coil in the tank allows for **maximum** heat transfer from the refrigerant to the liquid in the tank. This also facilitates the storage of cold water (a battery effect) when the load is otherwise low. Our tests have shown that during the start of the drying cycle in a 50-lb. Dry cleaning machine the typical heat load is more than 12 tons. With the coil in the tank creating storage of cold water, this heat load can be handled with a 7.5-ton chiller in most applications. The coil is also accessible for cleaning, repair, or replacement as necessary.
6. ***Why should I have frame type controls?*** Frame type controls are heavier duty controls for industrial applications requiring longer life and greater reliability.
7. ***Why should I have a remote chiller system?*** All applications are not conducive to having a remote chiller, however in those applications where this option is available the advantages are many. A remote system allows the tank assembly to be installed inside, away from freezing weather eliminating the need for large amounts of antifreeze. Antifreeze lowers the heat-transfer capacity of water (increasing the size chiller needed for the same application) and is very expensive. Antifreeze is also an EPA controlled substance unless you use one of the very expensive environmentally friendly brands. A small amount of environmentally friendly antifreeze or the proper amount of water treatment should be added to the water to prevent the growth of algae and other undesirable substances in the water. A remote system also allows the condensing unit to be placed outside removing the heat from inside the building. (A condensing unit gives off 12,000 BTU per ton a 5-ton unit will give off 60,000 BTU, which is enough heat for a typical 3-bedroom house.) Other advantages gained by the condensing unit being outside include the reduction of noise in the building and eliminates the necessity of cleaning the lint of the fins on the condenser coil as often; however remember to install the condensing unit away from the exhaust fans and any steam outlets.

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