

WC Modular Scroll Chiller

Large Commercial / 20-80 Ton
Water Source/Geothermal Heat Pump



WC MODULAR SCROLL CHILLER FOR COMMERCIAL APPLICATIONS

The WaterFurnace WC Modular Scroll Chiller is the perfect fit for commercial and industrial applications. Its R-410A dual scroll compressors provide high efficiency and the ultimate in capacity control while the modular cabinet design is perfect for multiple chiller bank installations. The optional *6-pipe header rack allows for application and enables the system to provide simultaneous heating and cooling with impressive efficiencies.

KEY FEATURES

HIGH-EFFICIENCY COMPRESSORS: WC Scroll Chillers use high efficiency R-410A dual scroll compressors that are mounted on rubber grommets for vibration isolation.

REMOVABLE *6-PIPE HEADER RACK: Piping racks can be installed and flushed before installing the refrigerant module, and additional header racks can be installed for future central plant expansion. Each header rack is compatible with all tonnage modules. The 4-pipe header racks can be combined with *6 pipe header racks to meet the heat recovery capacity required for every project.

INSULATED & EFFICIENT WATER-TO-REFRIGERANT HEAT EXCHANGER: Large oversized stainless steel interlaced copper-brazed plate water-to-refrigerant heat exchangers provide unparalleled efficiency. All heat exchangers, water lines, and suction lines are insulated to prevent condensation during low temperature inlet water operation.

CONVENIENT CONTROL PANEL FOR EASE OF SERVICE: WC Chiller control panel features a heavy-duty, hinged service door with a convenient user interface display for ease of service and installation. The top control panel features high voltage components such as the electrical disconnect, fuses, and compressor contactors. While the bottom control panel features the main control board, and superheat board. The control panel was designed with the technician in mind to provide convenient, clear wiring with plenty of working space.

4-WAY REVERSING VALVE: WC Chillers enabled for reverse mode* are equipped with a heavy-duty 4-way reversing valve with low refrigerant pressure drop. 4-way valves are operated by the system controller to enhance reliability.

2-WAY ISOLATION VALVES: WC Chillers are equipped with low pressure drop (high Cv) solenoid valves to vary the pump according to flow required.

ADDED CONTROL WITH ELECTRONIC EXPANSION VALVE:

Optional electronic expansion valves in the WC Scroll Chillers provide great superheat control along with a wider range of operation. Superheat values are reported back to the system controller which allows more diagnostic information to the technician without requiring the use of refrigerant manifold gauges.

ELECTRICAL DISCONNECT: A factory mounted, internally wired, disconnect is available to provide electrical isolation from high voltage supply at the chiller.

COMPRESSOR PROTECTION MODULE: Most chillers come with external compressor protection module that provides additional motor protection such as reverse phase detection and a pre-wire thermistor. All other models have internal overload protection with reverse phase detection.

FLOW SWITCH FOR EXTENDED COMPRESSOR LIFE: Stainless steel, multi-segment paddle type flow switches come standard on every unit to protect the compressor from running when low flows are encountered.

PROTECTIVE CABINET: All chiller frames are constructed of heavy gauge steel and painted with corrosion resistant, polyester, powder coat paint. The frame includes fork truck pockets to assist in maneuverability of the product during installation.

AVAILABILITY INFO

- SHR Max Size
- Reversibility up to 50 ton
- 6 pipe up to 50 ton

WC MODULAR SCROLL CHILLER 20-80 TON

Dual Scroll Modular IPLV Ratings

Model	Full Load Rating			IPLV	
	Cooling Capacity (MBtu/hr)	Input Power (kW)	EER	EER	kW/ton
020	265,000	15.8	16.8	21.6	0.557
030	390,000	24.1	16.3	20.5	0.584
040	510,000	31.1	16.4	22.4	0.536
050	620,000	37.9	16.5	22.0	0.546
060	805,000	49.1	16.4	22.0	0.546
070	892,000	54.7	16.3	21.5	0.558
080	990,000	62.5	15.9	21.3	0.564

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Dimensional Data: Without Header Rack

Model	Width	Depth	Height
020 - 080	33.0"	55.5"	73.3"

Dimensional Data: With Header Rack

Model	Width	Depth	Height
020 - 080	33.4"	74.98"	74.69"

Modular Physical Data

Model	Scroll Modular						
	020	030	040	050	060	070	080
Refrigerant	R-410A						
Number of Circuits	2	2	2	2	2	2	2
Factory Charge, lbs [kg]	*1 to 1.5 lbs per nominal ton [0.45 to 0.68 kg]						
Compressor	Single Speed Scroll						
Compressor Quantity [tons]	2 [10]	2 [15]	2 [20]	2 [25]	2 [30]	2 [35]	2 [40]
Compressor Weight, lbs [kg] (each)	150 [68]	167 [76]	251 [114]	262 [119]	370 [168]	316 [143]	406 [184]
Oil Charge, oz	112 [3.3]	122 [3.6]	227 [6.7]	227 [6.7]	227 [6.7]	179 [5.3]	227 [6.7]
Evaporator	Brazed Plate						
Quantity	1	1	1	1	1	1	1
Weight, lbs [kg]	80 [36]	127 [57]	157 [71]	194 [88]	217 [98]	241 [109]	241 [109]
Water Volume, gal [L]	2.2 [8.5]	3.6 [13.5]	4.4 [16.8]	5.5 [20.9]	6.2 [23.4]	6.8 [25.9]	6.8 [25.9]
Circuit Configuration	Stainless Steel Dual Circuit						
Condenser	Brazed Plate						
Quantity	1	1	1	1	1	1	1
Weight, lbs [kg]	74 [33]	112 [51]	142 [64]	179 [81]	202 [91]	224 [101]	224 [101]
Water Volume, gal [L]	2 [7.6]	3.1 [11.8]	4 [15.1]	5.1 [19.3]	5.7 [21.7]	6.3 [23.8]	6.3 [23.8]
Circuit Configuration	Stainless Steel Dual Circuit						
Modular							
Shipping Weight, lbs [kg]	1847 [838]	1889 [857]	1921 [871]	1979 [898]	2039 [925]	2046 [928]	2046 [928]

* - Consult nameplate for exact charge quantity.

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Header Rack Physical Data

Model	Header Rack	
	4"	6"
4 Pipe		
Water Volume, gal [L]	8.6 [32.7]	17.7 [67.2]
Water Weight, lbs [kg]	72 [33]	148 [67]
Shipping Weight, lbs [kg]	548 [249]	653 [296]
4 Pipe Reversing		
Water Volume, gal [L]	8.6 [32.7]	17.7 [67.2]
Water Weight, lbs [kg]	72 [33]	148 [67]
Shipping Weight, lbs [kg]	615 [279]	720 [327]
6 Pipe Standard		
Water Volume, gal [L]	12.2 [46.3]	26.3 [99.4]
Water Weight, lbs [kg]	102 [46]	219 [99]
Shipping Weight, lbs [kg]	684 [310]	841 [381]
6 Pipe Dedicated Geo		
Water Volume, gal [L]	12.2 [46.3]	26.3 [99.4]
Water Weight, lbs [kg]	102 [46]	219 [99]
Shipping Weight, lbs [kg]	684 [310]	841 [381]

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