



# MANHATTAN MODULAR CHILLERS

MODULAR CHILLERS TO HUNDREDS OF TONS  
COMPACT MODULES FIT THROUGH MOST DOORS  
AIR-COOLED, WATER COOLED AND SPLIT SYSTEMS  
SCROLL, SCREW, OR OIL FREE CENTRIFUGAL COMPRESSORS  
PRECISE CAPACITY CONTROL & REDUNDANCY  
TANKS, PUMPS AND FREE-COOLING MODULES  
ADVANCED MICROPROCESSOR CONTROLS  
HIGHEST QUALITY MODULAR CHILLERS



**Air & Water Cooled  
Chillers for HVAC  
& Process Cooling**

# High Tonnage Chillers - In small spaces.

## “Manhattan Modular”<sup>®</sup>”

### The New Standard of Efficiency.

Continual product development with users and service professionals has resulted in a new generation of ArcticChill's popular “Manhattan Modular” Chillers. Now, even more compact designs are available, air-cooled and water-cooled, with more capacity and new features.

Standard and custom designs to hundreds of tons allow simplified field assembly from small, lightweight modules, fitting into elevators, through access doors, and around corners.

Microprocessor control systems across all modules allow several

stages of compressor unloading to precisely match energy usage to your heat load. Modules are standard with cleanable shell & tube evaporators and condensers. Options include Free-Cooling modules, Tank and Pump Systems, Glycol-Feed Systems, VFD Fan Drives, high efficiency brazed plate condensers and evaporators, and water valves for system efficiency and variable flow schemes.



#### Simple Concept - Ultimate Flexibility

##### Design and Installation

- Indoor, outdoor and split designs
- Compact modules fit through doors
- Field-assembly of large systems
- High pressure heat exchangers
- Modules connect easily and quickly
- Single point connections

##### Durable and Dependable

- Corrosion free epoxy over aluminum
- Multiple independent circuits
- Quick access service panels
- Highest reliability control system
- Inherent component redundancy

##### Operation and Service

- No proprietary training required
- Excellent part-load efficiency
- Isolate & service individual modules
- Modbus, BACnet or LonWorks interface

##### Numerous Options

- Tanks and pumping systems
- Compressor and condenser options
- Variable frequency fan drives
- Glycol-Feed and Free-Cooling

#### Unparalleled Commitment to Service and Flexibility

Ultimately, our reputation depends on your operational success. By employing the highest quality component selection, assembled and tested by highly skilled technicians, and supported by advanced microprocessor control and communication systems, there is simply no need for second-best - no better choice than ArcticChill. Heavy duty components throughout provide true 350 PSI operation, critical for equipment rooms in high-rise buildings. Scroll, screw or oil-free centrifugal compressors are available to provide even more precise load and duty matching. Air-cooled models can be engineered for high ambient temperatures. Shell & tube heat exchangers allow larger particles to pass through its surfaces, providing the significant advantages of easier serviceability and longer service intervals than with brazed-plate designs. Steel frame minimizes vibration. Mill-finished aluminum or epoxy painted sheet metal panels are easily removable for access. Low noise fans and compressors and sound attenuating access panels are available to meet strict noise level requirements.

# Water-Cooled Modular Chillers

## Efficient and Low Cost



**CONTROLS** - Systems can be equipped with analog or microprocessor controls with remote diagnostics.

**COMPRESSORS** - Scroll, reciprocating and screw compressors provide models from 20 to 130 HP per module.

**HEAT EXCHANGERS** - ArcticChill is the only modular chiller manufacturer to offer cleanable shell and tube evaporators and condensers as standard features on water cooled modular chillers. High efficiency brazed plate evaporators and condensers are optionally available.

**FILTER SERVICE** - Innovative easy-access-filter allows non-technical personnel to perform routine service in minutes on brazed plate package option.

**MODULES** - All package modules are fully charged and run-tested under load prior to shipment. Connections include single-point electrical and rolled groove couplings for piping.



## Superior Engineering By Design

When we launched the design of a new generation of modular chillers, we enlisted the hands-on help of our customers. The result incorporates the most sought after features, some not available from any company, in a low-cost, highly reliable and serviceable design. Filter service is now an easy, non-technical process, reducing costs and increasing condenser reliability.

## Know us by the customers we serve and the company we keep

Nothing speaks louder than the trust and long-term loyalty from customers. In a world where competitors are a click away, we know our niche is in creating higher value by producing close performance highly reliable and attractive products using innovative designs, combined with advanced services. We are honored to be a supplier to these and many other fine companies.



**UNITED STATES  
WHITE HOUSE**



Note: All Logos are those of ArctiChill customers and are the property of the respective company and do not reflect a formal endorsement of ArctiChill or our products.

# Air-Cooled “Manhattan Modular”



*“Manhattan Modular” chillers allow easy field assembly of large tonnage systems, without the need for heavy rigging and construction. Quiet operation and highly reliable components and controls provide dependable air-conditioning and more precise load balancing.*

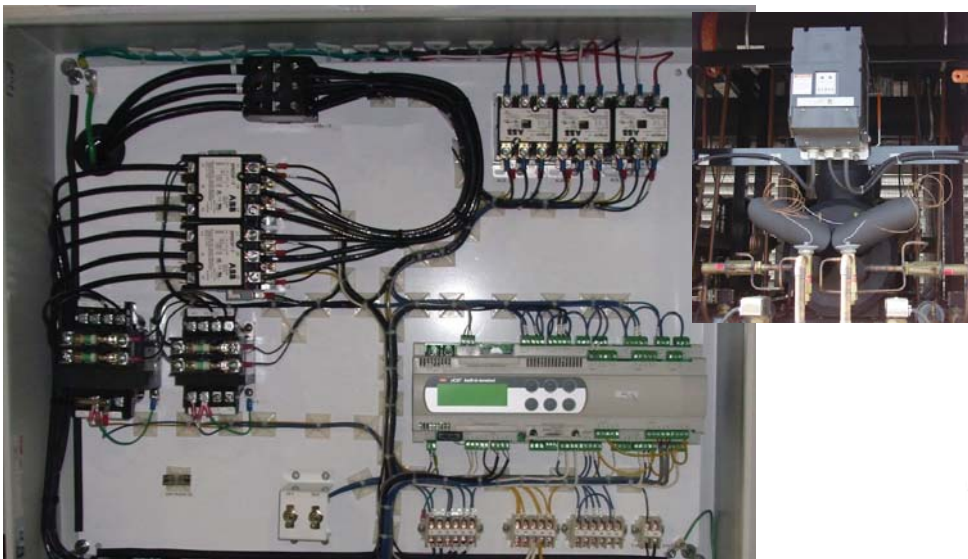
## ArcticChill - Reliability is Built-In!

**High Ambient Condenser Coils** - Means greater efficiency and lower refrigerant head pressures, even on hot building rooftops. Special coatings and low-noise fans are available.

**Choice of Compressors** - Standard designs feature hermetic scroll compressors. Screw and oil-free centrifugal compressors are also available.

**Shell and Tube Evaporators** - Known for their ability to operate in poor water quality environments where brazed-plate designs can become fouled. Large passages allow particulate to pass through the tube bundle. Eliminates frequent filter services. Circuits include equalized expansion valves, liquid line solenoid valve and large filter-driers.

Standard controls feature single-point electrical connections at the Master Module. Control system is microprocessor based with one master and multiple slave controllers. System monitors all temperatures and pressures, compressor run status, and system alarms. The Master Controller has a 4x20 line display that has function and set point control. Optional VFD fan drives.



# Compact. Serviceable. Expandable. Smart.

*"Manhattan Modular" chillers are compact enough to easily field assemble large systems. Service access is the best of all modular chillers. Individual modules can be isolated without shutting down entire system.*



**Water Manifolds** are schedule 40 steel pipe. Modules are attached using roll-groove couplings. Optional isolation valves.



Frames are heavy duty welded structural steel and epoxy painted with an extra thick coating. Service panels have tool-free recessed hardware. Louvers include animal screens. All Slave Modules are connected to the Master Module which houses centralized controls and power connections for the bank of chillers.

Pumping systems are optional and can include primary and standby with automatic pump lead/lag rotation. Pressurized tank and automatic glycol-feed systems are available.



# Performance & Selections - Air Cooled Scroll Models

15-Ton Compact Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	163,000	158,000	152,000	147,000
44°F	175,000	170,000	165,000	159,000
50°F	196,000	190,000	184,000	177,000
55°F	214,000	208,000	200,000	194,000
20-Ton Compact Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	215,000	206,000	197,800	189,000
44°F	231,000	223,000	214,000	204,000
50°F	257,000	248,000	239,000	229,000
55°F	281,000	270,000	260,000	250,000
20-Ton Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	222,000	214,000	205,000	196,400
44°F	239,000	231,000	222,000	213,000
50°F	266,000	257,000	248,000	238,000
55°F	290,000	281,000	271,000	261,000
25-Ton Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	280,000	270,000	262,000	252,000
44°F	300,000	290,000	280,000	270,000
50°F	334,000	324,000	312,000	302,000
55°F	364,000	352,000	340,000	328,000
30-Ton Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	322,000	312,000	300,000	288,000
44°F	346,000	334,000	324,000	312,000
50°F	382,000	372,000	358,000	346,000
55°F	416,000	404,000	390,000	376,000
40-Ton Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	434,000	422,000	408,000	394,000
44°F	466,000	452,000	438,000	424,000
50°F	518,000	502,000	488,000	470,000
55°F	560,000	546,000	528,000	512,000
50-Ton Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	548,000	532,000	516,000	498,000
44°F	586,000	568,000	552,000	532,000
50°F	650,000	632,000	612,000	592,000
55°F	704,000	684,000	662,000	642,000
60-Ton Air Cooled - LWT	Ambient Air Temperature			
	95°F	100°F	105°F	110°F
40°F	692,000	672,000	650,000	628,000
44°F	742,000	720,000	694,000	670,000
50°F	816,000	790,000	766,000	740,000
55°F	880,000	854,000	826,000	798,000

Note: All capacity ratings are in BTUH at varying Leaving Water Temperature, LWT, and ambient air temperature. Capacity is based on R-410A refrigerant. Air cooled models use scroll compressors. Consult factory for alternative refrigerants.

# Performance & Selections - **Water Cooled Scroll Models**

20-Ton Water Cooled - LWT	Condenser Water Temperature				
	75°F	80°F	85°F	90°F	95°F
40°F	256,000	250,000	242,000	235,000	226,000
44°F	276,000	269,000	261,000	253,000	245,000
50°F	306,000	299,000	291,000	283,000	274,000
55°F	333,000	326,000	319,000	311,000	302,000

25-Ton Water Cooled - LWT	Condenser Water Temperature				
	75°F	80°F	85°F	90°F	95°F
40°F	320,000	312,000	304,000	294,000	284,000
44°F	346,000	336,000	328,000	318,000	308,000
50°F	386,000	376,000	366,000	356,000	344,000
55°F	424,000	412,000	402,000	388,000	378,000

30-Ton Water Cooled - LWT	Condenser Water Temperature				
	75°F	80°F	85°F	90°F	95°F
40°F	374,000	364,000	354,000	346,000	334,000
44°F	402,000	394,000	382,000	372,000	360,000
50°F	448,000	438,000	428,000	416,000	404,000
55°F	490,000	478,000	468,000	456,000	442,000

40-Ton Water Cooled - LWT	Condenser Water Temperature				
	75°F	80°F	85°F	90°F	95°F
40°F	498,000	482,000	470,000	456,000	442,000
44°F	534,000	522,000	506,000	492,000	478,000
50°F	594,000	580,000	564,000	544,000	532,000
55°F	648,000	632,000	616,000	598,000	582,000

50-Ton Water Cooled - LWT	Condenser Water Temperature				
	75°F	80°F	85°F	90°F	95°F
40°F	618,000	604,000	586,000	574,000	558,000
44°F	668,000	652,000	634,000	618,000	600,000
50°F	740,000	724,000	704,000	684,000	668,000
55°F	808,000	788,000	766,000	746,000	728,000

60-Ton Water Cooled - LWT	Condenser Water Temperature				
	75°F	80°F	85°F	90°F	95°F
40°F	806,000	788,000	768,000	748,000	728,000
44°F	864,000	846,000	824,000	804,000	780,000
50°F	960,000	936,000	914,000	890,000	866,000
55°F	1,040,000	1,016,000	992,000	968,000	940,000

Note: All capacity ratings are in BTUH at varying Leaving Water Temperature, LWT, and condenser water temperature. Capacity is based on R-410A refrigerant. Water cooled models use scroll compressors. Consult factory for alternative refrigerants.



# Performance & Selections - Water Cooled Screw Models

70-HP Water Cooled - LWT	75°F Cond Water	80°F Cond Water	85°F Cond Water	90°F Cond Water	95°F Cond Water
40°F	793,000	780,000	767,000	752,000	737,000
44°F	858,000	845,000	840,000	815,000	799,000
50°F	946,000	932,000	916,000	899,000	882,000
55°F	1,040,000	1,025,000	1,008,000	989,000	970,000

80-HP Water Cooled - LWT	75°F Cond Water	80°F Cond Water	85°F Cond Water	90°F Cond Water	95°F Cond Water
40°F	889,000	875,000	859,000	843,000	825,000
44°F	963,000	947,000	931,000	913,000	894,000
50°F	1,061,000	1,045,000	1,027,000	1,007,000	987,000
55°F	1,164,000	1,149,000	1,130,000	1,109,000	1,086,000

90-HP Water Cooled - LWT	75°F Cond Water	80°F Cond Water	85°F Cond Water	90°F Cond Water	95°F Cond Water
40°F	1,105,000	1,085,000	1,064,000	1,042,000	1,019,000
44°F	1,196,000	1,175,000	1,152,000	1,128,000	1,104,000
50°F	1,317,000	1,295,000	1,270,000	1,244,000	1,217,000
55°F	1,422,000	1,422,000	1,397,000	1,369,000	1,340,000

100-HP Water Cooled - LWT	75°F Cond Water	80°F Cond Water	85°F Cond Water	90°F Cond Water	95°F Cond Water
40°F	1,206,000	1,184,000	1,161,000	1,136,000	1,110,000
44°F	1,305,000	1,282,000	1,257,000	1,232,000	1,205,000
50°F	1,438,000	1,412,000	1,386,000	1,359,000	1,331,000
55°F	1,581,000	1,553,000	1,524,000	1,495,000	1,466,000

120-HP Water Cooled - LWT	75°F Cond Water	80°F Cond Water	85°F Cond Water	90°F Cond Water	95°F Cond Water
40°F	1,355,000	1,330,000	1,303,000	1,276,000	1,247,000
44°F	1,467,000	1,439,000	1,412,000	1,383,000	1,353,000
50°F	1,617,000	1,587,000	1,556,000	1,525,000	1,494,000
55°F	1,776,000	1,746,000	1,713,000	1,679,000	1,644,000

130-HP Water Cooled - LWT	75°F Cond Water	80°F Cond Water	85°F Cond Water	90°F Cond Water	95°F Cond Water
40°F	1,529,000	1,482,000	1,433,000	1,383,000	1,331,000
44°F	1,672,000	1,622,000	1,570,000	1,516,000	1,461,000
50°F	1,864,000	1,810,000	1,755,000	1,697,000	1,638,000
55°F	2,073,000	2,015,000	1,956,000	1,894,000	1,830,000

Note: All capacity ratings are in BTUH at varying Leaving Water Temperature, LWT, and condenser water temperature. Above models use one screw compressor per module using R-134a refrigerant. Consult factory for alternative refrigerants.



**When the  
competition just  
doesn't stack up,**



# Performance & Selections - Water Cooled Oil-Free Centrifugal Models

70-Ton Water Cooled - LWT	75°F Cond Water		80°F Cond Water		85°F Cond Water	
	Power Input	EER	Power Input	EER	Power Input	EER
40°F	47.70	17.61	52.30	16.06	57.40	14.63
44°F	43.80	19.18	48.10	17.46	51.30	16.37
50°F	39.30	21.37	43.40	19.35	47.80	17.57
55°F	35.20	23.86	39.10	21.48	43.30	19.40

80-Ton Water Cooled - LWT	75°F Cond Water		80°F Cond Water		85°F Cond Water	
	Power Input	EER	Power Input	EER	Power Input	EER
40°F	57.20	16.78	62.80	15.29	66.60	14.41
44°F	52.10	18.43	57.10	16.81	59.90	16.03
50°F	48.90	19.63	51.20	18.75	54.40	17.65
55°F	46.60	20.60	46.00	20.87	49.10	19.55

90-Ton Water Cooled - LWT	75°F Cond Water		80°F Cond Water		85°F Cond Water	
	Power Input	EER	Power Input	EER	Power Input	EER
40°F	62.00	17.42	68.70	15.72	70.10	15.41
44°F	55.70	19.39	62.00	17.42	65.20	16.56
50°F	59.10	18.27	64.70	16.69	59.40	18.18
55°F	53.40	20.22	58.10	18.59	53.90	20.04

100-Ton Water Cooled - LWT	75°F Cond Water		80°F Cond Water		85°F Cond Water	
	Power Input	EER	Power Input	EER	Power Input	EER
40°F	65.70	18.26	72.10	16.64	79.20	15.15
44°F	60.50	19.83	66.50	18.05	72.90	16.46
50°F	54.50	22.02	60.20	19.93	66.30	18.10
55°F	48.70	24.64	54.20	22.14	60.10	19.97

120-Ton Water Cooled - LWT	75°F Cond Water		80°F Cond Water		85°F Cond Water	
	Power Input	EER	Power Input	EER	Power Input	EER
40°F	76.60	18.80	84.70	17.00	94.10	15.30
44°F	69.80	20.63	77.00	18.70	85.00	16.94
50°F	62.60	23.00	69.30	20.78	76.50	18.82
55°F	55.90	25.76	62.30	23.11	69.20	20.81

130-Ton Water Cooled - LWT	75°F Cond Water		80°F Cond Water		85°F Cond Water	
	Power Input	EER	Power Input	EER	Power Input	EER
40°F	86.60	18.01	96.80	16.12	96.80	16.12
44°F	77.50	20.13	85.60	18.22	93.20	16.74
50°F	69.00	22.61	76.10	20.50	96.80	16.12
55°F	61.60	25.32	68.30	22.84	96.80	16.12

Note: Capacity is at all Leaving Water Temperature, LWT, and condenser water temperatures. Above models use one oil-free centrifugal compressor per module using R-134a refrigerant. Consult factory for alternative refrigerants.

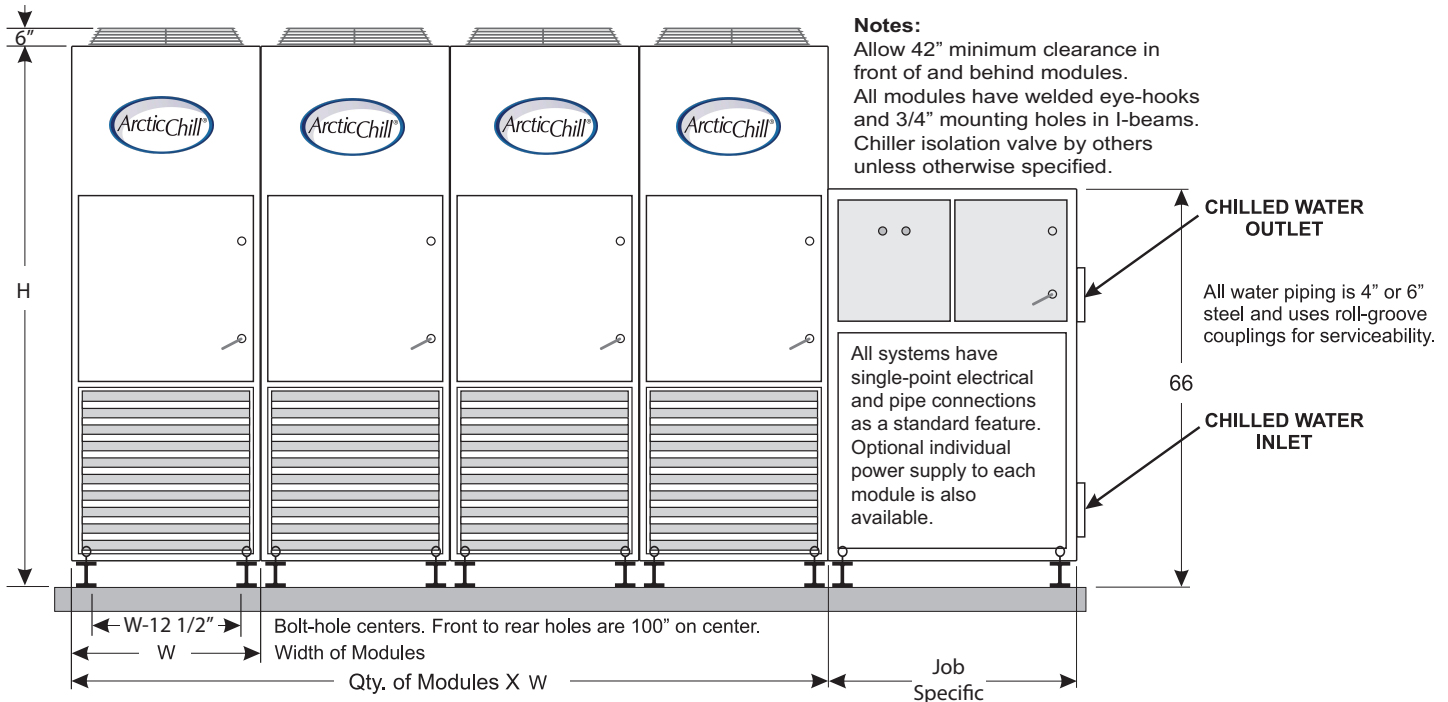
# Choose ArcticChill!



# Electrical & Installation - Air Cooled Scroll Models

Air Cooled Scroll Models	Nom Tons	EER kW/Ton	IPLV kW/Ton	Power Supply	Compressors		Fan Motors		Chiller			Installation	
					LRA Amps (ea)	RLA Amps (ea)	Fan HP (ea)	RLA Amps (ea)	RLA Total	Min Ckt	Max Fuse	Dimensions LxWxH	Wght (Lbs)
PACVMV0200D3-MM	20	11.8 1.01	16.7 0.72	208/3/60	239	33	(2ea) 1.5	6.4	80.8	90	110	96"x38"x87"	2,400
PACVMV0200D3-MM				230/3/60	239	29.8		6.4	74.4	82	110		
PACVMV0200D4-MM				460/3/60	125	14.9		3.2	38.2	42	50		
PACVMV0200D5-MM				575/3/60	80	11.5		2.4	25	28	35		
PACVMV0250D3-MM	25	11.4 1.05	16.1 0.75	208/3/60	300	43.5	(3ea) 1.5	6.4	108.2	120	150	96"x38"x87"	2,500
PACVMV0250D3-MM				230/3/60	300	39.3		6.4	99.8	110	125		
PACVMV0250D4-MM				460/3/60	150	19.1		3.2	49.8	55	70		
PACVMV0250D5-MM				575/3/60	109	16.8		2.4	42.8	47	60		
PACVMV0300D3-MM	30	11.1 1.08	15.4 0.78	208/3/60	340	46.0	(3ea) 1.5	6.4	127	141	175	96"x38"x87"	2,500
PACVMV0300D3-MM				230/3/60	340	42.0		6.4	116.8	129	175		
PACVMV0300D4-MM				460/3/60	173	21.0		3.2	59.8	66	80		
PACVMV0300D5-MM				575/3/60	132	17.2		2.4	48.6	54	70		
PACVMV0400D3-MM	40	11.9 1.01	16.5 0.73	208/3/60	505	64.4	(4ea) 1.5	6.4	156.4	173	200	96"x76"x87"	4,800
PACVMV0400D3-MM				230/3/60	505	58.2		6.4	144	159	200		
PACVMV0400D4-MM				460/3/60	225	27.7		3.2	70.2	78	100		
PACVMV0400D5-MM				575/3/60	180	22.1		2.4	55.8	62	80		
PACVMV0500D3-MM	50	11.7 1.02	16.4 0.73	208/3/60	605	80.9	(6ea) 1.5	6.4	202.2	223	300	96"x76"x87"	5,000
PACVMV0500D3-MM				230/3/60	605	73.2		6.4	186.8	206	250		
PACVMV0500D4-MM				460/3/60	272	34.8		3.2	90.8	100	125		
PACVMV0500D5-MM				575/3/60	238	27.8		2.4	72	79	100		
PACVMV0600D3-MM	60	11.1 1.08	15.7 0.77	208/3/60	599	99.2	(6ea) 1.5	6.4	238.8	264	350	96"x76"x87"	5,000
PACVMV0600D3-MM				230/3/60	599	89.7		6.4	219.8	243	300		
PACVMV0600D4-MM				460/3/60	310	44.8		3.2	110.8	122	150		
PACVMV0600D5-MM				575/3/60	239	35.8		2.4	88	97	125		

Note: Nominal tons based on R-410A, 44F LWT and 95°F ambient air. All modules have two compressors. Evaporator pressure drop for all models is less than 10 psi.



# Electrical & Installation - Compact Air Cooled Scroll Models

Air Cooled Scroll Models	Nom Tons	EER kW/Ton	IPLV kW/Ton	Power Supply	Compressors		Fan Motors		Chiller			Installation	
					LRA Amps (ea)	RLA Amps (ea)	Fan HP (ea)	RLA Amps (ea)	RLA Total	Min Ckt	Max Fuse	Dimensions LxWxH	Wght (Lbs)
PACVMV0150D3-MM	15	11.2 1.08	15.8 0.76	208/3/60	195	25.2	(2ea) 1.5	6.4	65.2	72	90	72"x32"x76"	1,700
PACVMV0150D3-MM				230/3/60	195	22.8		6.4	60.4	67	80		
PACVMV0150D4-MM				460/3/60	95	11.4		3.2	31.2	35	45		
PACVMV0150D5-MM				575/3/60	80	9.1		2.4	25	28	35		
PACVMV0200D3-MM	20	10.9 1.10	15.6 0.77	208/3/60	239	33	(2ea) 1.5	6.4	80.8	90	110	72"x32"x76"	1,800
PACVMV0200D3-MM				230/3/60	239	29.8		6.4	74.4	82	110		
PACVMV0200D4-MM				460/3/60	125	14.9		3.2	38.2	42	50		
PACVMV0200D5-MM				575/3/60	80	11.5		2.4	25	28	35		

Note: Nominal tons based on R-410A, 44°F LWT and 95°F ambient air. All modules have two compressors. Evaporator pressure drop for all models is less than 10 psi.

# Electrical & Installation - Air Cooled Split Models

Air Cooled Split Scroll Models	Nom Tons	EER kW/Ton	IPLV kW/Ton	Power Supply	Compressors		Chiller			Condenser			Installation	
					LRA Amps (ea)	RLA Amps (ea)	RLA Total	Min Ckt	Max Fuse	RLA Total	Min Ckt	Max Fuse	Dimensions LxWxH *Braze Plate **Shell & Tube	Wght (Lbs) *Braze Plate **Shell & Tube
PACRMV0200D3-MM	20	11.5 1.05	16.3 0.73	208/3/60	239	33	68	77	100	13	15	20	Chiller *52"x22"x68" **66"x24"x76" Condenser 96"x48"x43"	*1,400 **2,400 630
PACRMV0200D3-MM				230/3/60	239	29.8	61.6	70	90	13	15	20		
PACRMV0200D4-MM				460/3/60	125	14.9	31.8	36	50	6.6	15	15		
PACRMV0200D5-MM				575/3/60	80	11.5	25	28	35	4.8	15	15		
PACRMV0250D3-MM	25	11.5 1.04	16.6 0.73	208/3/60	300	43.5	89	100	125	13	15	20	Chiller *52"x22"x68" **66"x24"x76" Condenser 96"x48"x43"	*1,500 **2,500 730
PACRMV0250D3-MM				230/3/60	300	39.3	80.6	91	125	13	15	20		
PACRMV0250D4-MM				460/3/60	150	19.1	40.2	45	60	6.6	15	15		
PACRMV0250D5-MM				575/3/60	109	16.8	35.6	40	50	4.8	15	15		
PACRMV0300D3-MM	30	11.1 1.08	15.7 0.76	208/3/60	340	46.0	107.8	122	150	13	15	20	Chiller *52"x22"x68" **66"x24"x76" Condenser 96"x48"x43"	*1,600 **2,500 730
PACRMV0300D3-MM				230/3/60	340	42.0	97.6	110	150	13	15	20		
PACRMV0300D4-MM				460/3/60	173	21.0	50.2	57	80	6.6	15	15		
PACRMV0300D5-MM				575/3/60	132	17.2	41.4	47	60	4.8	15	15		
PACRMV0400D3-MM	40	11.2 1.07	15.7 0.77	208/3/60	505	64.4	130.8	147	200	19.5	22	25	Chiller *60"x32"x74" **66"x28"x76" Condenser 144"x48"x43"	*2,200 **2,800 930
PACRMV0400D3-MM				230/3/60	505	58.2	118.4	133	175	19.5	22	25		
PACRMV0400D4-MM				460/3/60	225	27.7	57.4	65	90	9.9	15	15		
PACRMV0400D5-MM				575/3/60	180	22.1	46.2	52	70	7.2	15	15		
PACRMV0500D3-MM	50	11.3 1.06	15.9 0.75	208/3/60	605	80.9	163.8	185	250	26	28	30	Chiller *60"x32"x74" **66"x28"x76" Condenser 96"x96"x43"	*2,300 **2,900 1190
PACRMV0500D3-MM				230/3/60	605	73.2	148.4	167	200	26	28	30		
PACRMV0500D4-MM				460/3/60	272	34.8	71.6	81	110	13.2	15	15		
PACRMV0500D5-MM				575/3/60	238	27.8	57.6	65	90	9.6	15	15		

Note: Nominal tons based on R-410A, 44°F LWT and 95°F ambient air. All modules have two compressors. Evaporator pressure drop for all models is less than 10 psi.

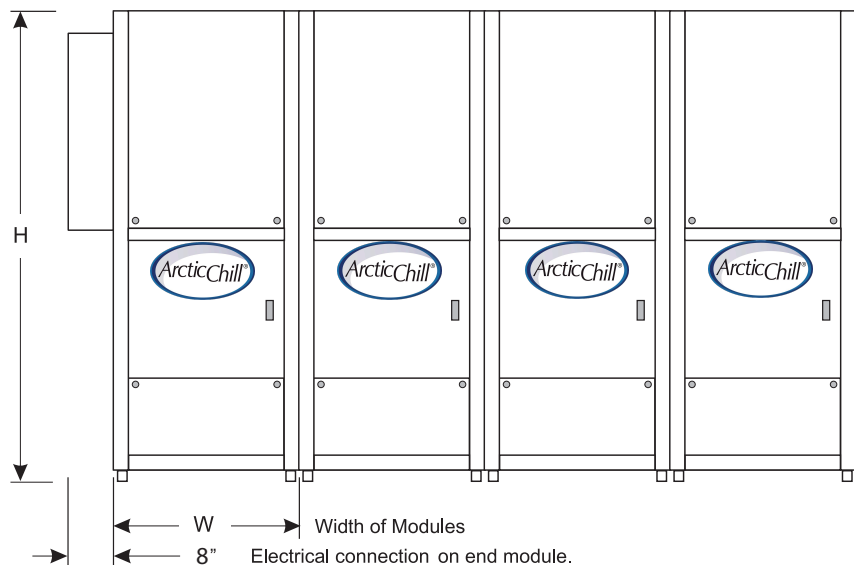
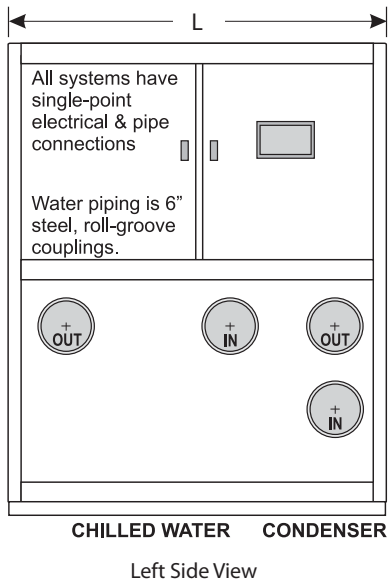
# Electrical & Installation - Water Cooled Scroll Models

Water Cooled Scroll Models	Nom Tons	EER kW/Ton	IPLV kW/Ton	Power Supply	Compressors		Chiller			Installation	
					LRA Amps (ea)	RLA Amps (ea)	RLA Total	Min Ckt	Max Fuse	Dimensions LxWxH **Braze Plate **Shell and Tube	Wght (Lbs)
PWCCMV0200D3-MM	20	16.7 0.72	20.8 0.58	208/3/60	239	29	60	68	90	*52"x22"x68" **66"x24"x76"	*1,400 **2,400
PWCCMV0200D3-MM				230/3/60	239	26.3	54.5	62	80		
PWCCMV0200D4-MM				460/3/60	125	13.1	28.2	32	40		
PWCCMV0200D5-MM				575/3/60	80	10	22	25	30		
PWCCMV0250D3-MM	25	16.1 0.75	20.6 0.58	208/3/60	300	39.1	80.2	90	125	*52"x22"x68" **66"x24"x76"	*1,500 **2,500
PWCCMV0250D3-MM				230/3/60	300	35.4	72.8	82	110		
PWCCMV0250D4-MM				460/3/60	150	16.8	35.6	40	50		
PWCCMV0250D5-MM				575/3/60	109	14.9	31.8	36	50		
PWCCMV0300D3-MM	30	16.0 0.75	19.9 0.60	208/3/60	340	46.0	97.8	110	150	*52"x22"x68" **66"x24"x76"	*1,600 **2,500
PWCCMV0300D3-MM				230/3/60	340	42.0	88.6	100	125		
PWCCMV0300D4-MM				460/3/60	173	21.0	45.6	52	70		
PWCCMV0300D5-MM				575/3/60	132	17.2	37.8	43	60		
PWCCMV0400D3-MM	40	16.4 0.73	20.8 0.58	208/3/60	505	56.5	115	130	175	*60"x32"x74" **66"x28"x76"	*2,200 **2,800
PWCCMV0400D3-MM				230/3/60	505	51.1	104.2	117	150		
PWCCMV0400D4-MM				460/3/60	225	24.3	50.6	57	80		
PWCCMV0400D5-MM				575/3/60	180	19.4	40.8	46	60		
PWCCMV0500D3-MM	50	16.3 0.74	20.4 0.59	208/3/60	605	71.2	144.4	163	200	*60"x32"x74" **66"x28"x76"	*2,300 **2,800
PWCCMV0500D3-MM				230/3/60	605	64.3	130.6	147	200		
PWCCMV0500D4-MM				460/3/60	272	30.6	63.2	71	100		
PWCCMV0500D5-MM				575/3/60	238	24.4	50.8	57	80		
PWCCMV0600D3-MM	60	16.3 0.74	20.3 0.59	208/3/60	599	86.5	175	197	250	*60"x32"x74" **66"x32"x80"	*2,400 **3,100
PWCCMV0600D3-MM				230/3/60	599	78.2	158.4	178	250		
PWCCMV0600D4-MM				460/3/60	310	39.1	80.2	90	125		
PWCCMV0600D5-MM				575/3/60	239	31.2	64.4	73	100		

Note: Nominal tons based on R-410A, 44°F LWT and 85°F condenser water. All modules have two compressors. Evaporator pressure drop for all models is less than 10 psi.

## Water Cooled Models

Allow 36" minimum clearance in front, rear and distribution panel side for service.



# Electrical & Installation - Water Cooled Screw Models

Water Cooled Screw Models	Nom Tons	EER kW/Ton	IPLV kW/Ton	Power Supply	Compressor		Chiller			Installation	
					LRA Amps	RLA Amps	RLA Total	Min Ckt	Max Fuse	Dimensions LxWxH **Brazen Plate **Shell and Tube	Wght (Lbs)
PWCCMV0700S3-MM	70	17.1 0.70	18.6 0.65	208/3/60	1167	169	171	212	350	*78"x36"x78" **84"x40"x84"	*3,600 **4,200
PWCCMV0700S3-MM				230/3/60	1015	147	149	184	300		
PWCCMV0700S4-MM				460/3/60	485	74	76	92	150		
PWCCMV0700S5-MM				575/3/60	386	59	61	74	125		
PWCCMV0800S3-MM	80	16.8 0.71	18.9 0.64	208/3/60	1408	214	216	268	450	*78"x36"x78" **84"x40"x84"	*3,900 **4,500
PWCCMV0800S3-MM				230/3/60	1224	186	188	233	400		
PWCCMV0800S4-MM				460/3/60	585	93	95	116	200		
PWCCMV0800S5-MM				575/3/60	465	74	76	93	150		
PWCCMV0900S3-MM	90	17.2 0.70	18.2 0.66	208/3/60	1650	217	219	272	450	*78"x36"x78" **84"x40"x84"	*4,000 **4,600
PWCCMV0900S3-MM				230/3/60	1435	190	192	237	400		
PWCCMV0900S4-MM				460/3/60	686	96	98	120	200		
PWCCMV0900S5-MM				575/3/60	546	76	78	95	150		
PWCCMV1000S3-MM	100	17.0 0.71	17.5 0.69	208/3/60	1580	252	254	315	500	*84"x36"x84" **90"x40"x84"	*4,800 **5,400
PWCCMV1000S3-MM				230/3/60	1602	220	222	275	500		
PWCCMV1000S4-MM				460/3/60	801	111	113	139	250		
PWCCMV1000S5-MM				575/3/60	642	88	90	110	200		
PWCCMV1200S3-MM	120	17.0 0.71	19.43 0.62	208/3/60	1861	287	289	359	600	*90"x40"x84" **90"x40"x84"	*4,900 **5,700
PWCCMV1200S3-MM				230/3/60	1886	251	253	314	500		
PWCCMV1200S4-MM				460/3/60	943	126	128	158	250		
PWCCMV1200S5-MM				575/3/60	755	101	103	126	225		
PWCCMV1300S3-MM	130	16.1 0.75	18.2 0.66	208/3/60	2569	319	321	399	700	*96"x40"x84" **96"x40"x84"	*5,200 **5,900
PWCCMV1300S3-MM				230/3/60	2569	279	281	348	600		
PWCCMV1300S4-MM				460/3/60	1139	140	142	176	300		
PWCCMV1300S5-MM				575/3/60	918	112	114	140	250		

Note: Nominal tons based on R-134a, 44°F LWT and 85°F condenser water. All modules have one compressor. Evaporator pressure drop for all models is less than 10 psi.

# Electrical & Installation - Water Cooled Oil-Free Centrifugal Models

Water Cooled Oil-Free Centrifugal Models	Nom Tons	EER kW/Ton	IPLV kW/Ton	Power Supply	Compressor		Chiller			Installation	
					LRA Amps	RLA Amps	RLA Total	Min Ckt	Max Fuse	Dimensions LxWxH **Brazen Plate **Shell and Tube	Wght (Lbs)
PWCCMV0700S3-MM	70	16.4 0.73	20.1 0.55	460/3/60	110	71	73	89	150	*78"x36"x78" **84"x40"x82"	*2,100 **3,200
PWCCMV0700S3-MM				575/3/60	88	57	59	71	125		
PWCCMV0800S3-MM	80	16.0 0.75	22.1 0.54	460/3/60	110	85	87	106	175	*78"x36"x78" **84"x40"x82"	*2,600 **3,700
PWCCMV0800S3-MM				575/3/60	88	68	70	85	150		
PWCCMV0900S3-MM	90	16.6 0.72	22.7 0.53	460/3/60	121	98	100	123	200	*84"x36"x82" **84"x40"x82"	*3,100 **3,900
PWCCMV0900S3-MM				575/3/60	97	79	81	98	175		
PWCCMV1000S3-MM	100	16.5 0.73	22.4 0.54	460/3/60	121	109	111	136	225	*84"x36"x82" **84"x40"x82"	*3,300 **4,100
PWCCMV1000S3-MM				575/3/60	97	87	89	109	175		
PWCCMV1200S3-MM	120	16.9 0.71	23.6 0.51	460/3/60	132	124	126	155	250	*90"x40"x82" **90"x40"x82"	*3,600 **4,500
PWCCMV1200S3-MM				575/3/60	106	99	101	124	200		
PWCCMV1300S3-MM	130	16.7 0.72	23.5 0.51	460/3/60	154	134	136	167	301	*96"x40"x82" **96"x40"x82"	*4,000 **4,600
PWCCMV1300S3-MM				575/3/60	123	107	109	134	225		

Note: Nominal tons based on R-134a, 44°F LWT and 85°F condenser water. All modules have one compressor. Evaporator pressure drop for all models is less than 10 psi.

# Electrical & Installation - Free Cool Model

Air Cooled Free Cool Models	Power Supply	Fan Motors		Chiller			Installation	
		Fan HP (ea)	RLA Amps (ea)	RLA Total	Min Ckt	Max Fuse	Dimensions LxWxH	Wght (Lbs)
FC0080	208/3/60	(3ea) 1.5	6.4	21.2	23	25	96"x38"x87"	2,000
FC0080	230/3/60		6.4	21.2	23	25		
FC0080	460/3/60		3.2	11.6	15	15		
FC0080	575/3/60		2.4	9.2	15	15		
FC0160	208/3/60	(6ea) 1.5	6.4	40.4	42	45	96"x76"x87"	4,000
FC0160	230/3/60		6.4	40.4	42	45		
FC0160	460/3/60		3.2	21.2	22	25		
FC0160	575/3/60		2.4	16.4	17	20		

When the only cooling you need is free of compressors, why run them? If fans will do the job, do not run fans AND compressors!

Note: Pressure drop for all models is less than 10 psi.

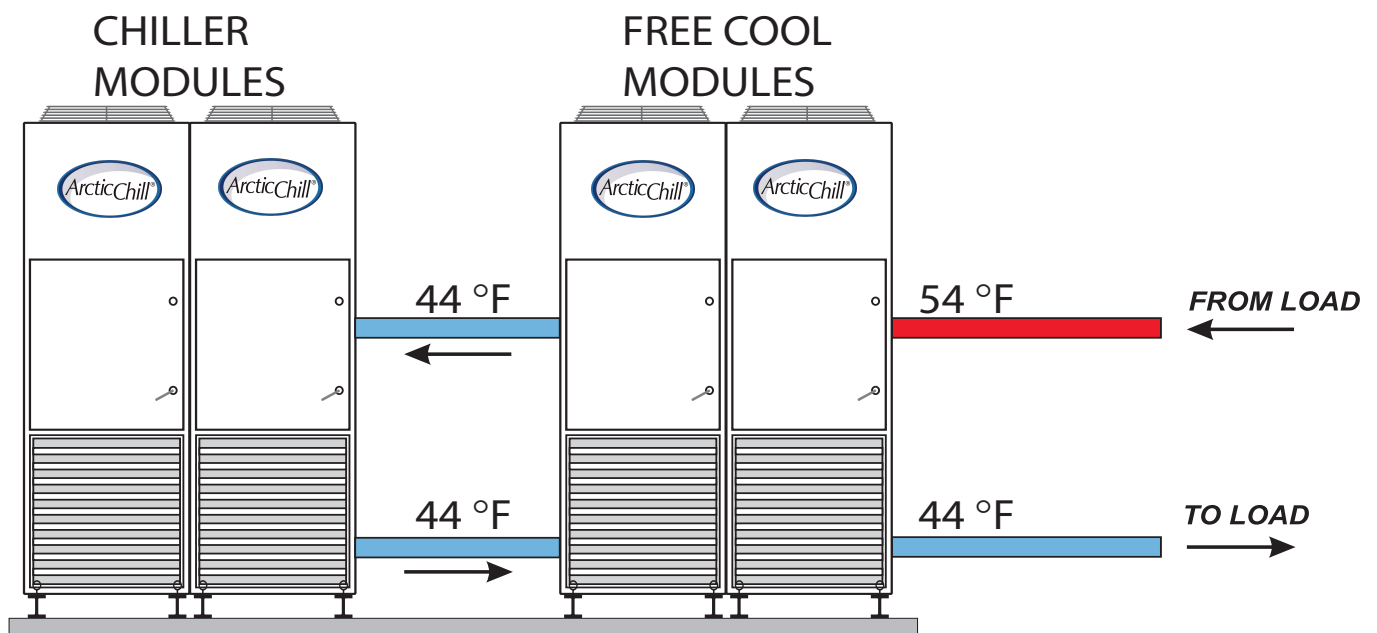
## Performance & Selections - Free Cool Models

FC0080 Entering Water Temp EWT	Ambient Air Temperature			
	10°F	20°F	30°F	35°F
54°F	680,000	518,600	360,800	283,500
56°F	711,500	549,500	391,200	313,700
58°F	743,200	580,600	421,700	343,800
60°F	774,800	611,700	452,000	374,000

Note: Capacities for the FC0080 are based upon a flow rate of 80 GPM per module.

FC0160 Entering Water Temp EWT	Ambient Air Temperature			
	10°F	20°F	30°F	35°F
54°F	1,360,000	1,037,200	721,600	567,000
56°F	1,423,000	1,099,000	782,400	627,400
58°F	1,486,400	1,161,200	843,400	687,600
60°F	1,549,600	1,223,400	904,000	748,000

Note: Capacities for the FC0160 are based upon a flow rate of 160 GPM per module with water. Installation of free cooling modules in an ambient below 32°F requires the system to operate with an adequate glycol solution to prevent freezing.



# Glycol Adjustment Factors

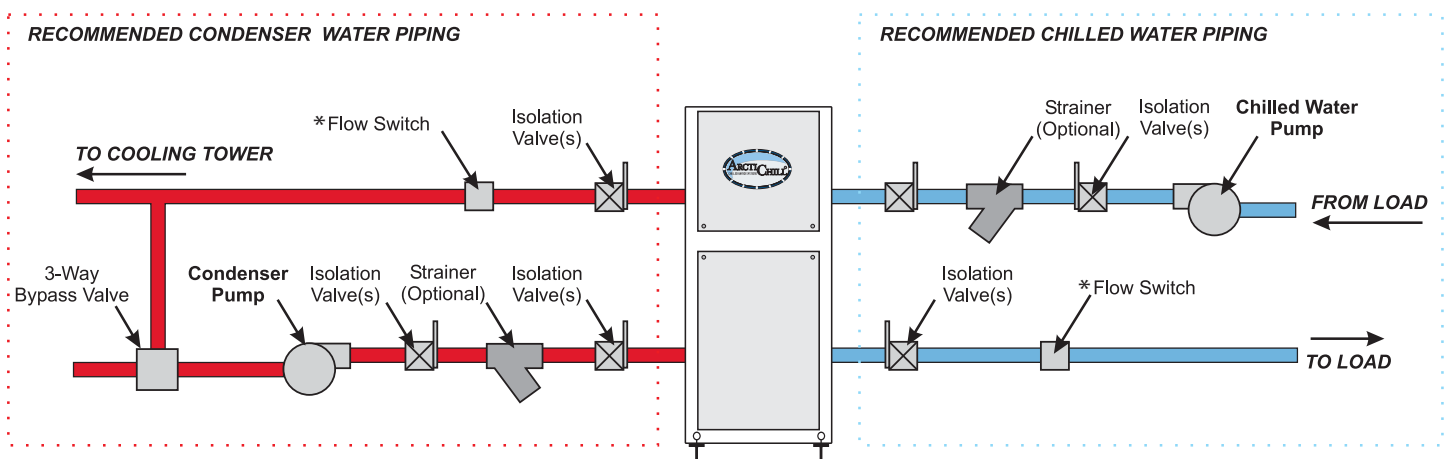
Leaving Water Temp LWT	30% Propylene Glycol		40% Propylene Glycol		50% Propylene Glycol	
	Capacity Factor	Pressure Drop Factor	Capacity Factor	Pressure Drop Factor	Capacity Factor	Pressure Drop Factor
20°F	-	-	0.80	1.74	0.74	2.07
30°F	0.92	1.39	0.87	1.63	0.82	1.94
40°F	0.93	1.36	0.89	1.55	0.85	1.83
45°F	0.94	1.35	0.90	1.53	0.87	1.81
50°F	0.94	1.33	0.91	1.51	0.88	1.75
55°F	0.95	1.31	0.92	1.50	0.89	1.73
60°F	0.95	1.31	0.92	1.47	0.90	1.68
70°F	0.96	1.27	0.93	1.43	0.91	1.63

Note: Minimum LWT for 30% PG is 25°F; 40% PG is 10°F; 50% PG is -10°F  
 Minimum ambient air temp for air cooled models: 30% PG is 10°F; 40% PG is -4°F; 50% PG is -20°F  
 Consult factory for applications where the LWT is below 20°F

Leaving Water Temp LWT	30% Ethylene Glycol		40% Ethylene Glycol		50% Ethylene Glycol	
	Capacity Factor	Pressure Drop Factor	Capacity Factor	Pressure Drop Factor	Capacity Factor	Pressure Drop Factor
20°F	0.92	1.39	0.89	1.61	0.86	1.86
30°F	0.96	1.34	0.93	1.53	0.90	1.78
40°F	0.96	1.33	0.94	1.52	0.92	1.74
45°F	0.96	1.33	0.94	1.51	0.93	1.72
50°F	0.96	1.31	0.95	1.49	0.93	1.69
55°F	0.96	1.31	0.95	1.47	0.94	1.67
60°F	0.97	1.31	0.96	1.47	0.94	1.65
70°F	0.97	1.27	0.96	1.49	0.95	1.62

Note: Minimum LWT for 30% EG is 20°F; 40% EG is 5°F; 50% EG is -15°F  
 Minimum ambient air temp for air cooled models: 30% EG is 5°F; 40% EG is -9°F; 50% EG is -28°F  
 Consult factory for applications where the LWT is below 20°F

## Field Installation - Recommended Piping



Note: Sensor ports for chilled water system are furnished within each module. Inlet and outlet chilled water temperatures can be read from the microprocessor interface panel. Water cooled modules with brazed plate heat exchangers have easy-access filters. Only system isolation valves are suggested. Isolation between modules is not required. All external components by contractor.  
 \*Chillers can be ordered with flow switches installed in each module for redundancy and reliability.

# Standard & Custom Specifications - "Manhattan Modular"

Component	Standard Specifications	Optional Specifications
<b>Cabinet</b>	Welded steel frame, primed and epoxy painted. Reinforced white epoxy painted aluminum panels with easy access hardware. Water cooled and split systems can pass through 34" doors. Adjacent modules connected using heavy steel headers with rolled groove couplings.	<ul style="list-style-type: none"> <li>Stainless steel access panels</li> <li>Sound attenuating access panels</li> <li>Smaller enclosure sizes</li> <li>Engineered frames to accommodate special size restrictions</li> </ul>
<b>Controls and Safeties</b>	Microprocessor controller monitors temperatures and pressures. Manual reset high and auto reset low refrigerant safeties. Alternating lead/lag with anti short cycle compressors. Power supply monitor. Keypad interface for set points, temperatures, pressures and alarms. Dual pump lead/lag operation. Modules with distributed master control can be run with full safeties independent of master controller.	<ul style="list-style-type: none"> <li>Flooded head pressure controls</li> <li>Modbus, BACnet, or LonWorks interface</li> <li>Up to 32 compressors for load matching</li> </ul>
<b>Electrical</b>	Models can be specified for 208-230, 460, 575 or 380 Volts with 50 or 60 Hz three phase operation. 24 volt control circuit. Single point power connections. Master Module has circuit breakers for all modules and conduit between modules.	<ul style="list-style-type: none"> <li>Panel or remote disconnect</li> <li>Single phase for large models</li> <li>Special voltages</li> </ul>
<b>Indicators</b>	Chiller run status, compressor run hours, active alarm indication, alarm logging of previous 100 alarms. Water temperature and refrigerant pressure readouts. Dry contacts for building automation systems.	<ul style="list-style-type: none"> <li>Remote panel with flow, temp, and pressures indicators</li> </ul>
<b>Refrigeration</b>	Scroll units have two independent HFC R-410A circuits and include filter-driers. Service valves for isolation service and pump down are provided. Other refrigerants are available.	<ul style="list-style-type: none"> <li>Alternate refrigerants</li> <li>Hot gas bypass capacity control</li> </ul>
<b>Air Cooled Condensers</b>	Enhanced seamless copper tubing. Mechanically bonded aluminum fins. Integral subcooling. Overload protected TEAO fan motors. Glass fiber composite fans.	<ul style="list-style-type: none"> <li>Coated or copper fins for corrosion</li> <li>Free cooling module</li> <li>High ambient and altitude designs</li> <li>Low noise fans</li> </ul>
<b>Water Cooled Condensers</b>	Direct expansion shell & tube standard for serviceability and increased particle tolerance. Seamless, enhanced surface copper tubing on shell and tube.	<ul style="list-style-type: none"> <li>Special construction materials</li> <li>High pressure designs</li> <li>3-way water regulating valve</li> <li>Brazed plate condensers</li> </ul>
<b>Evaporators</b>	Direct expansion shell & tube standard on air cooled and water cooled units. Other configurations available. Evaporators include closed cell insulation.	<ul style="list-style-type: none"> <li>Special construction materials</li> <li>Options for low ambients</li> <li>Brazed plate evaporators</li> </ul>
<b>Compressors</b>	Hermetic scroll standard, screw or oil-free centrifugal available. Internal overload protection. Crankcase heaters and service valves.	<ul style="list-style-type: none"> <li>Digital Scroll compressors</li> </ul>
<b>Piping</b>	Refrigerant piping is rigid copper with service valves. Insulated suction lines. Water circuit is insulated steel piping with roll-groove couplings for leak free service.	<ul style="list-style-type: none"> <li>Alternative materials for special fluids and corrosion resistance</li> <li>Water valves to heat exchangers for energy efficiency and variable flow</li> <li>Easy access water filters on brazed plate units</li> </ul>
<b>Warranty and Certifications</b>	One year parts, five year limited compressor warranty. ETL Listed. MEA-386-92-E Vol 3 for metropolitan New York.	<ul style="list-style-type: none"> <li>Extended parts &amp; labor warranty</li> <li>Guaranteed emergency response</li> <li>Factory start-up and maintenance</li> </ul>

**ArcticChill**  
**71 Industrial Park Road**  
**Newberry, SC 29108**

**TOLL FREE - 1-800-849-7778**  
[www.arcticchillergroup.com](http://www.arcticchillergroup.com)

