

# PURESTREAM

## CHILL-CUBE MULTIBANK

BY FRIULAIR

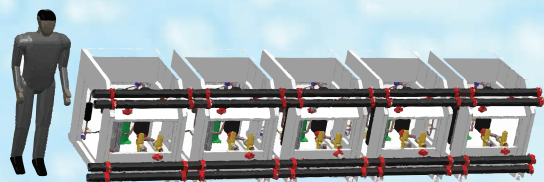


TM

**AVAILABLE FROM STOCK**



**Chill-Cube Multibank Water Cooled Water Chiller  
Cooling Capacity 10 Ton**

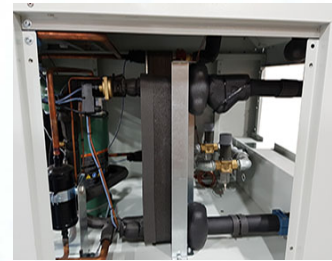


## The MWC Chill-Cube Multibank Water-Cooled Chiller Series

- The MWC 10 Ton Chiller can be installed in new applications or to provide supplemental cooling to an existing water-cooled system.
- Multiple chillers can also be installed in parallel, up to 5 units (50 tons), and controlled by a master controller.
- Compact units can easily be installed in tight spaces and will fit inside elevators.
- Designed to withstand harsh environments. All frame and cabinet cover material is galvanized steel painted with a powder coat paint finish. Fasteners are either stainless steel or electro-galvanized.
- All components, including those requiring maintenance and cleaning, are easily and safely accessed without interfering with chiller operation.

### Compressors

MWC chillers utilize a hermetic scroll compressor in a 10 ton single configuration or a twin 5 ton compressor configuration that will cycle off one of the compressors on lower loads. The scroll compressors provide reliability and efficiency with the additional benefits of quiet operation, no vibration and the ability to adsorb liquid returns. The compressors are mounted on antivibration rubber pads to reduce noise and protected by an electronic device that controls phase sequences to prevent reverse rotation.



### Evaporator and Condenser

Each unit is equipped with a compact and energy efficient stainless steel brazed-plate evaporator and condenser. The electronic controller's anti-freeze function maintains the evaporator's outlet water temperature to prevent freeze ups. A differential pressure switch protects the evaporator against low water flow.

### Refrigerant circuit

The refrigeration circuit is constructed from high quality materials by specially trained personnel following rigorous brazing procedures that conform with Pressure Equipment Directive (PED) 2014/68/EU (formerly 97/23/EC). The refrigeration circuit includes:

- Scroll compressor(s) designed for R410A
- AISI 316 stainless steel brazed plate heat exchangers
- Dehydration filter and sight-glass for flow indication
- Expansion valve
- Manual reset high-pressure switch and automatic reset low-pressure switch
- High and low-pressure gauges
- Refrigerant gauge connection ports for unit servicing
- Hot gas bypass on all single compressor units
- Condenser water head pressure regulating control valve



## Control panel

The control panel design complies with the Canadian electrical code and includes a door lock disconnect that prevents access to the watertight control panel door when it is powered. The control panel includes circuit breaker protection for the compressor and pump, contactors, autotransformers, and compressor rotation direction control devices. The panel wires are all numbered for easy identification, simplifying troubleshooting and maintenance. Each unit has a user-friendly ON/OFF switch on the front door panel.



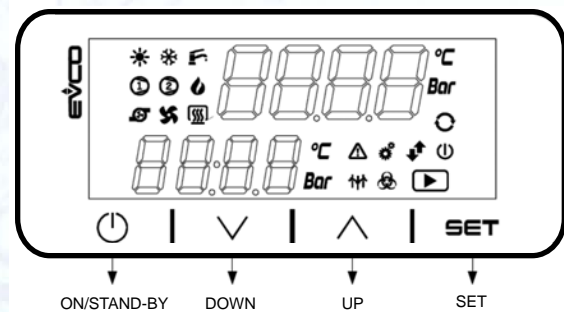
Numbered panel wires



## Microprocessor controller

The electronic microprocessor controller optimizes all chiller functions:

- Regulates evaporator water outlet temperature
- Switches pump on and off
- Manages compressor(s) on and off cycles based on water temperature required
- Compressor cut-out function if water temperature is outside operating limits
- Measurement and display of evaporator inlet and outlet water temperature
- Measurement and display of condensing and evaporating pressures
- Manages the following alarm messages:
  - High and low refrigerant pressure switch
  - Water differential pressure switch
  - Wrong phase sequence
  - Compressor circuit breaker
  - Pump (optional) circuit breaker
  - Temperature and pressure probe failure
  - High water temperature
  - Anti-freeze protection



## Master controller

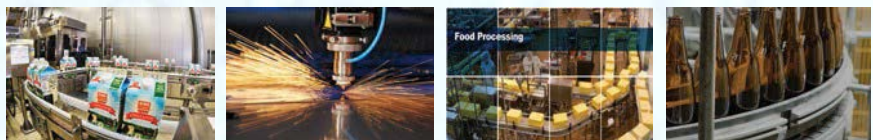
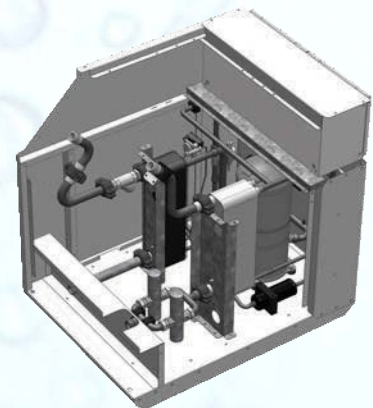
For installation of multiple units in parallel, an additional master control manages the complete system of units to maintain the desired water temperature for the application.

## AVAILABLE ACCESSORIES

- Single pump on the cooled water (evaporator side)
- Single pump on the cooling water (condenser side with water bypass valve)
- Wheels

## APPLICATIONS

- Unlimited process cooling applications
- Supplemental cooling for existing water-cooled systems
- Comfort air conditioning applications
- Lasers
- Dairy and food processing
- Semi-conductor testing
- Breweries and food processing



### MWC Chillers Data - Metric Capacities

		Single compressor		Twin compressors	
		MWC 041		MWC 042	
Model					
Condenser inlet water temperature	[°C]	35.0	35.0	35.0	35.0
Evaporator inlet water temperature	[°C]	20.0	12.0	20.0	12.0
Evaporator outlet water temperature	[°C]	15.0	7.0	15.0	7.0
Ethylene glycol percentage (evap. side)	---	0%	0%	0%	0%
Cooling capacity	[kW]	43.99	35.61	39.49	31.64
Compressors power input	[kW]	8.70	8.44	7.72	7.79
Total power input	[kW]	8.70	8.44	7.72	7.79
Total absorbed current	[A]	9.73	9.46	9.57	9.62
Energy efficiency (pump excluded)	EER/COP	5.06	4.22	5.12	4.06
Evaporator Water flow	[l/h]	7,565.59	6,124.15	6,792.33	5,442.79
Evaporator pressure drop - Approx.	[kPa]	59	40	49	33
Avail. pressure (evap. side - P2 option) - Approx.	[kPa]	210.0	330.0	300.0	350.0
Condenser Water flow	[l/h]	9,061.90	7,575.77	8,119.95	6,783.25
Condenser valves pressure drop - Approx.	[kPa]	80	70	75	65
Avail. pressure (cond. side - P2 option) Approx.	[kPa]	150.0	200.0	190.0	210.0

### Electrical Data

Maximum power input (pumps excluded)	[kW]	13.5	13.5	13.2	13.2
Maximum absorbed current (pumps excluded)	[A]	14.7	14.7	14.5	14.5
Starting current (pumps excluded)	[A]	97.0	97.0	53.9	53.9
Pumps power input	[kW]	3.40	3.40	3.40	3.40
Pumps absorbed current	[A]	4.80	4.80	4.80	4.80
Power supply	[V/Ph/Hz]	575/3/60	575/3/60	575/3/60	575/3/60
IP protection degree	---	IP54	IP54	IP54	IP54

### Technical Data

Refrigerant	---	R410A	R410A	R410A	R410A
Compressor type	---	Scroll	Scroll	Scroll	Scroll
Evaporator type	---	Braze plates			
Condenser type	---	Braze plates			
N° of compressors	---	1	1	2	2
N° of refrigerant circuits	---	1	1	1	1
Water connections diameter	[inch]	1 1/2	1 1/2	1 1/2	1 1/2"
Width	[mm]	866.0	866.0	866.0	866.0
Depth	[mm]	1250.0	1250.0	1250.0	1250.0
Height	[mm]	1092.0	1092.0	1092.0	1092.0
Weight - Approx.	[kg]	200	200	240	240

## MWC Chillers Data - Imperial Capacities

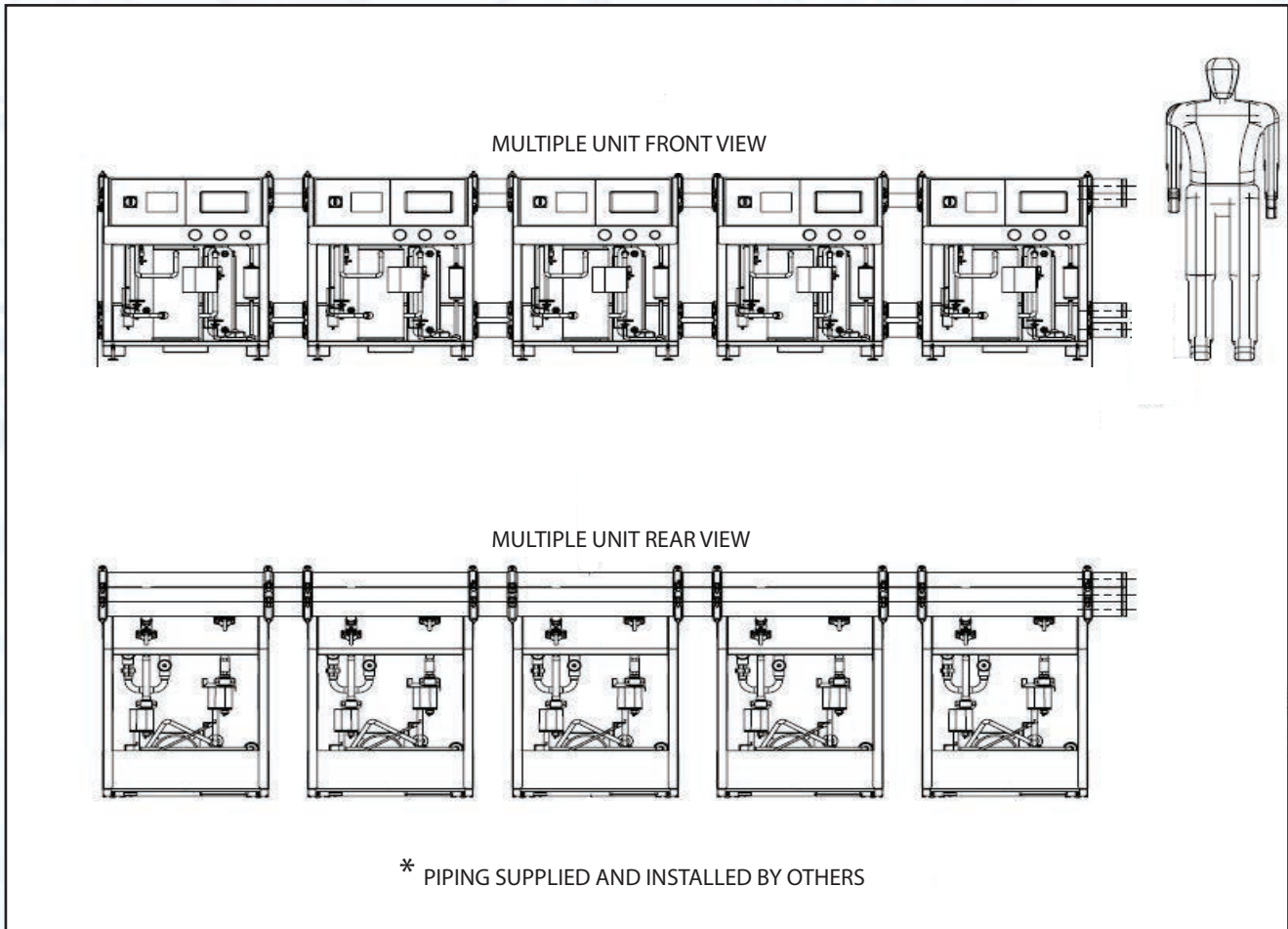
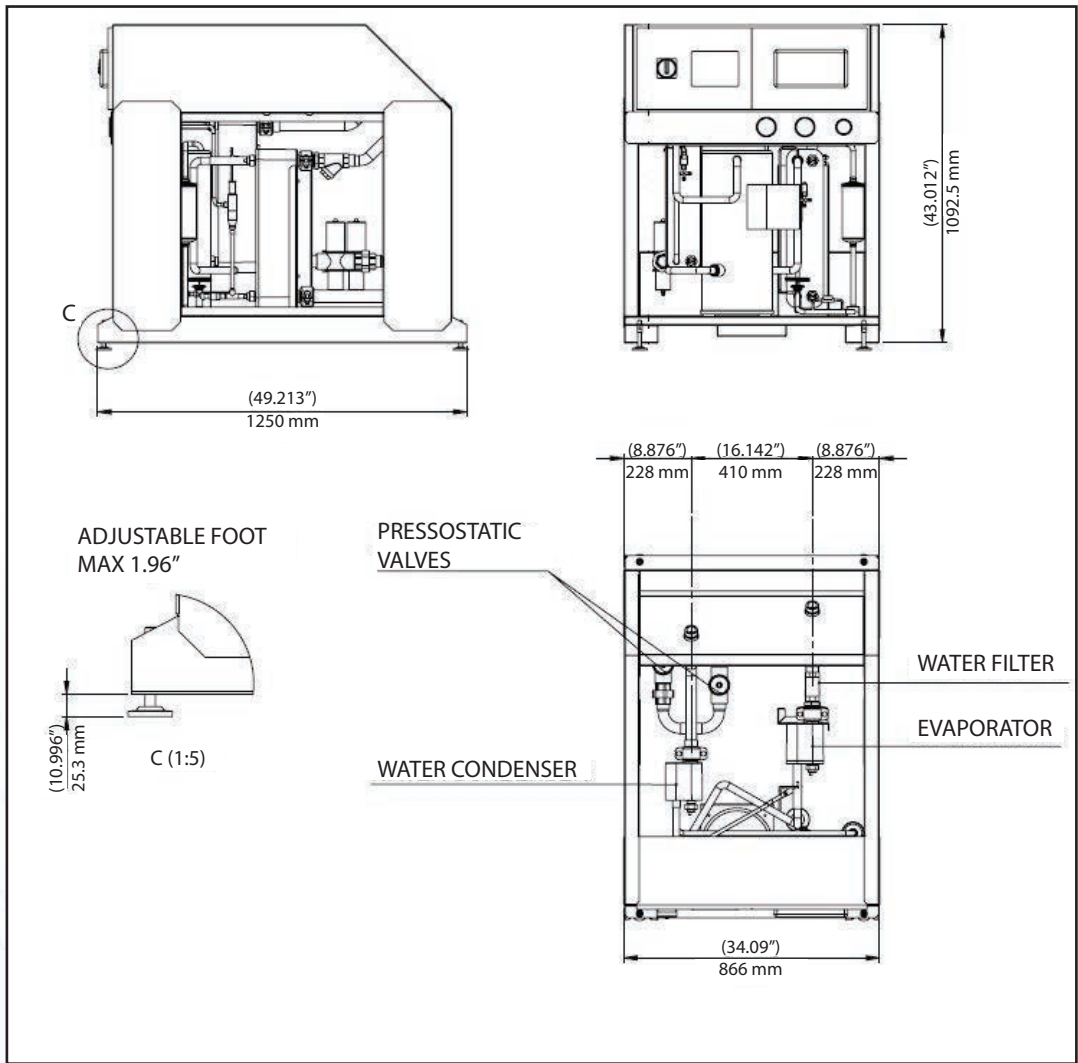
Model		Single compressor		Twin compressors	
		MWC 041		MWC 042	
Condenser Inlet Water temperature	[°F]	95.0	95.0	95.0	95.0
Evaporator Inlet water temperature	[°F]	68.0	53.6	68.0	53.6
Evaporator Outlet water temperature	[°F]	59.0	44.6	59.0	44.6
Ethylene glycol percentage (Evap. Side)	---	0%	0%	0%	0%
Cooling capacity	[Tons]	12.51	10.12	11.23	9.00
Compressors power input	[kW]	8.70	8.44	7.72	7.79
Total power input	[kW]	8.70	8.44	7.72	7.79
Total absorbed current	[A]	9.73	9.46	9.57	9.62
Energy efficiency (pump excluded)	COP[Btu/Btu]	5.06	4.22	5.12	4.06
Evaporator Water flow	[gal/min]	33.31	26.96	29.91	23.96
Evaporator pressure drop - Approx.	[psig]	9	6	7	5
Avail. pressure (evap. side - P2 option) Approx.	[psig]	30.5	47.9	43.5	50.8
Condenser Water flow	[gal/min]	39.90	33.36	35.75	29.87
Condenser & valves pressure drop - Approx.	[psig]	12	10	11	9
Avail. pressure (cond. side - P2 option) - Approx.	[psig]	21.8	29.0	27.6	30.5

## Electrical Data

Maximum power input (pumps excluded)	[kW]	13.5	13.5	13.2	13.2
Maximum absorbed current (pumps excluded)	[A]	14.7	14.7	14.5	14.5
Starting current (pumps excluded)	[A]	97.0	97.0	53.9	53.9
Pump power input	[kW]	3.40	3.40	3.40	3.40
Pump absorbed current	[A]	4.80	4.80	4.80	4.80
Power supply	[V/Ph/Hz]	575/3/60	575/3/60	575/3/60	575/3/60
IP protection degree	---	IP54	IP54	IP54	IP54

## Technical Data

Refrigerant	---	R410A	R410A	R410A	R410A
Compressor type	---	Scroll	Scroll	Scroll	Scroll
Evaporator type	---	Braze plates			
Condenser type	---	Braze plates			
N° of compressors	---	1	1	2	2
N° of refrigerant circuits	---	1	1	1	1
Water connections diameter	[inch]	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Width	[inch]	34.1	34.1	34.1	34.1
Depth	[inch]	49.2	49.2	49.2	49.2
Height	[inch]	43.0	43.0	43.0	43.0
Weight	[lb]	441	441	529	529



# PURESTREAM

## CHILLER SERIES

Air-Cooled Chillers From 1/2 ton to 40 ton



Water Cooled Chillers 10 ton (Modular Design)



**Spot Cooler: Portable  
A/C Water Cooled  
AC Solutions**

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