CLIMATE

VARIABLE CAPACITY CHILLERS

The VARCX chiller automatically matches its capacity to the thermal load of your vessel. This maximizes the system's efficiency and reduces electrical load fluctuations on your generator, allowing you to both maximize your boat's electrical efficiency and maintain a constant temperature in the chiller system's water loop. The VARCX series is available in four different capacity ranges.

VARIABLE CAPACITY
OUTPUT MATCHES DEMAND

STEADY OPERATION
MAXIMUM EFFICIENCY

CONDENSER COIL
IMPERVIOUS TO WEAR

AC

208-230V/50/60Hz
380V/50Hz
460V/60Hz

12,000 - 120,000 BTU

Mobile living made easy.

DOMETIC OUTDOOR

MAXIMIZE EFFICIENCY & REDUCE LOAD FLUCTUATIONS

Maximize chiller efficiency and reduce electrical load fluctuations with the innovative Variable Capacity Chiller (VARCX) that modulates compressor speed to precisely match demand. Its robust titanium condensing coil, impervious to erosion and corrosion, extends the life of the unit. Its Electronic Expansion Valve provides more precise control of superheat.

Key Benefits

- Variable capacity increases or decreases output as the BTU load changes to maintain a constant temperature
- Harmonics are significantly reduced to promote a cleaner sine wave
- Ramp start avoids large inrush current
- Titanium condensing coil extends system life
- Operates steadily at lower speeds to provide maximum efficiency
- Electronic expansion valve provides precise control of superheat
- Econo Mode limits maximum power requirement
- Load shedding assists in power management
- Compact footprint saves space in engine room

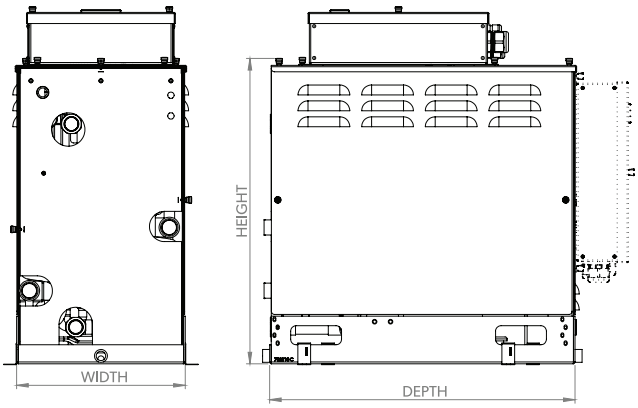
Special Options

- Interactive high-resolution 7"/178mm graphical touchscreen display provides a dynamic interface and improved system metrics and control
- Dometic STIIC software provides interactive management via smart phone, tablet, or computer
- VARCX can be manufactured to include up to 6 stages with manifolds and base

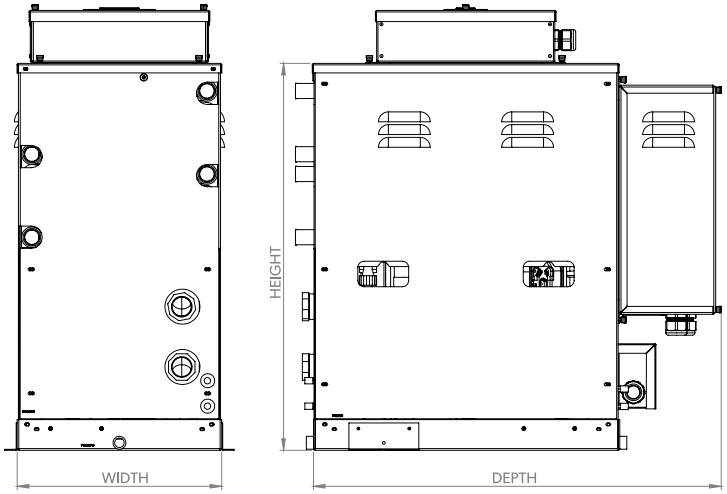
Model	VARCX48	VARCX60	VARCX72	VARCX120		
Capacity (BTU)	12,000-48,000	15,000-60,000	18,000-72,000	30,000 - 120,000		
Voltage (V)	208-230	208-230	208-230	230	230	380-460
Cycle (Hz)	50/60	50/60	50/60	50/60	50/60	50/60
Phase (Ph)	1	1	1	1	3	3
Full Load Amps (FLA) Cool	15.9	21.0**	28.0**	50**	40**	22.3/18.4
Full Load Amps (FLA) Heat	17.0	21.0	28.0**	50**	40**	27.5/22.7
Refrigerant	410A	410A	410A	410A	410A	410A
Seawater Connection OD Tube FPT (in/mm)	1.0 / 25	1.25 / 32	1.25 / 32	*(2x)1.25 / 32	*(2x)1.25 / 32	*(2x)1.25 / 32
Chilled Water Connection FPT (in/mm)	1.0 / 25	1.0 / 25	1.0 / 25	1.5 / 38	1.5 / 38	1.5 / 38
Drain Connection (in/mm)	0.5 / 13	0.5 / 13	0.5 / 13	0.5 / 13	0.5 / 13	0.5 / 13
Net Weight (lbs/kg)	108 / 49	172 / 78	190 / 86	315 / 143	315 / 143	315 / 143
Gross Weight (lbs/kg)	194 / 88	236 / 107	260 / 118	435 / 197	435 / 197	435 / 197
Height (in/mm)	19.7 / 501	24.0 / 610	24.0 / 610	30.4 / 772	30.4 / 772	30.4 / 772
Width (in/mm)	13.0 / 330	13.3 / 338	13.3 / 338	16.1in / 409	16.1in / 409	16.1in / 409
Depth (in/mm)	19.7 / 500	24.0 / 610	24.0 / 610	32.0 / 813	32.0 / 813	32.0 / 813
Height-Electrical Box (in/mm)	N/A	14.2 / 361	14.2 / 361	14.2 / 361	14.2 / 361	14.2 / 361
Width-Electrical Box (in/mm)	N/A	11.7 / 298	11.7 / 298	14.2 / 361	14.2 / 361	14.2 / 361
Depth-Electrical Box (in/mm)	N/A	4.1 / 105	4.1 / 105	4.1 / 106	4.1 / 106	4.1 / 106

* VARCX120 Seawater Connection has two inlets and two outlets at 1.25in/32mm.

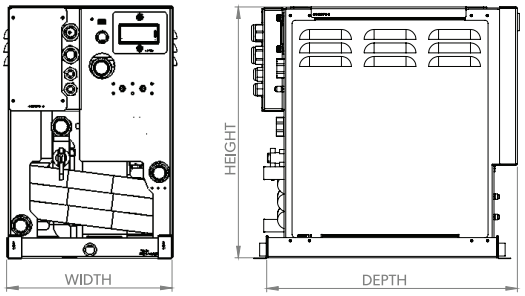
** Maximum VFD input current shown. Actual operating amperages are normally lower



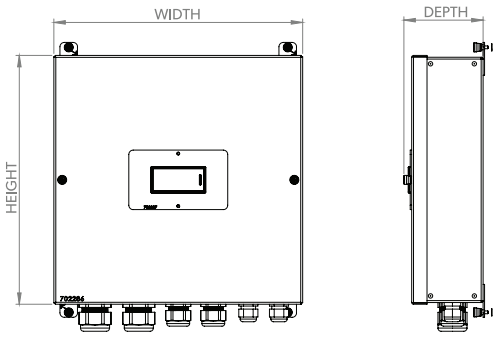
VARCX60/72



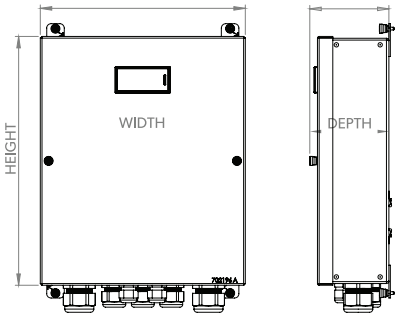
VARCX120



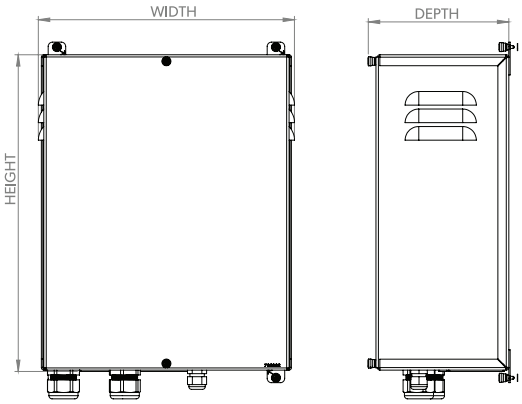
VARCX48



VARCX120 ELECTRICAL BOX



VARCX60/72 ELECTRICAL BOX



VARCX120 VFD ENCLOSURE

MAXIMIZE EFFICIENCY & REDUCE LOAD FLUCTUATIONS

VARCX48

Electrical connections are built in;
no separate electrical box

VARCX60, 72, 120

Remote electrical box can be mounted on top or on back of unit, or on a bulkhead for easy access

1. Durable Condenser Coil

2. Convenient Service Access

3. Digital Status/Input Display

4. Integrated Handles

(not available on VARCX48)

NEW

Dometic Variable Capacity Chiller

Smoothly Adjusts BTUs As Needed

Maximize chiller efficiency and reduce electrical load fluctuations with Dometic's innovative Variable Capacity Chiller (VARC). At full speed, the VARC provides its maximum output of cooling or heating. It also has the ability to modulate its speed in order to precisely match demand.

Other chillers use a basic all-on or all-off method for water-loop temperature control, continuously starting and stopping which greatly changes the load on the generator. By precisely balancing output to load, the swing (hysteresis) in loop water temperature is minimized. The VARC uses a precision PID (proportional integral derivative) loop control algorithm that modulates the compressor speed and balances chiller output with required load. This smooth operation eliminates large swings in current on the generator.

The VARC uses the advanced technology of an Electronic Expansion Valve (EEV). This provides more precise control of superheat across a broad range of conditions with no erratic swings as the valve reacts to temperature and pressure changes (no "hunting"). Using an advanced algorithm, superior superheat control is maintained over extreme operating conditions.

The innovative design of plumbing connections improves ease of installation and maintenance. All connections come straight out of the unit to simplify the manifold and minimize the final installation depth while also presenting clean and professional plumbing connections.

An optional high-resolution color touchscreen provides a dynamic interface and improved system metrics and control. Access detailed, complex system information from a single location and interact accordingly.

Built-in variable frequency drive.

Integrated digital chiller control/display.

Electronic expansion valve for precise control of superheat.

Key Benefits

- Variable capacity increases or decreases BTUs as thermal load changes
- Compact footprint
- Operates steadily at lower speeds to provide maximum efficiency
- Select from 3 user-adjustable amp limits: Econo, Normal, or Boost
- Electronic expansion valve for precise control of superheat
- Easy, flexible plumbing configurations with less depth needed
- The VARC72 has a remote mountable electric box (up to 5 ft/1.5 m) with two mounting positions on the unit
- The VARC72 has built-in lifting handles

Special Options

- High-resolution, interactive touchscreen display
- Dometic STIIC software provides interactive management via smart phone, tablet, or computer
- Dometic STIIC software provides secure access from Dometic global technical support

DOMETIC

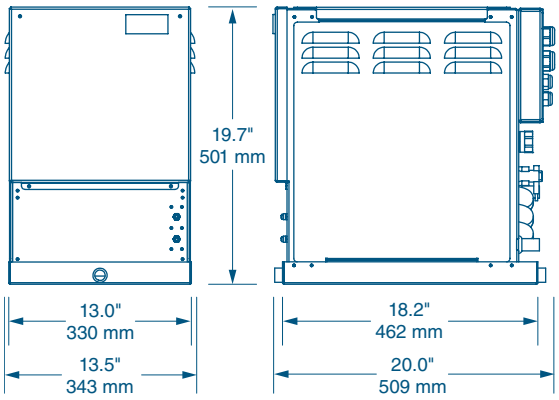
Specifications for Variable Capacity Chiller

Model	VARC48	VARC72
Capacity (BTU/h)	48,000	72,000
Voltage/Cycle/Ph	208-230V/50 or 60Hz/1 Ph	208-230V/50 or 60Hz/1 Ph
Full Load Amps (FLA) Cool	15.9 (1)	22.0 (2)
Full Load Amps (FLA) Heat	17.0 (1)	14.0 (2)
Seawater Connection	7/8 in. OD tube	1 in. OD tube
Chilled Water Connection	1 in. FPT	1 in. FPT
Drain Connection	1/2 in. NPT	1/2 in. NPT
Seawater Pressure Drop @ 12 GPM	7.1 PSI	7.0 PSI
Chilled Water Pressure Drop @ 12 GPM	11.8 PSI	11.5 PSI
Gross Weight (lbs/kg)	205/92.9	270/122.4

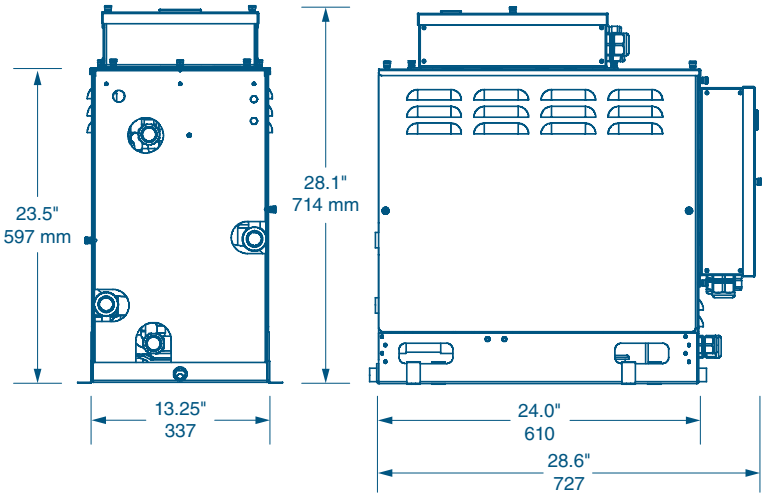
[1] At full speed and 230V/50 or 60Hz/1-phase input power.
[2] FLA amps are in normal mode default setting.

Dimensions

VARC48

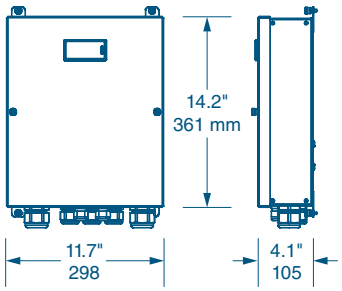


VARC72



All dimensions ± 0.25 in.

VARC72 Electrical Box



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Dealer

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