Variable Frequency Drives (Standard)

Smooths Out Chilled Water Compressor Startup Power Demand

Key Benefits

- Eliminates compressor start-up in-rush current
- 208/230V three-phase output with one- or three-phase input
- Full 60Hz capacity even at 50Hz input (230V only)
- Low electronic noise
- CE approved
- 380/460V three-phase models available

A Variable Frequency Drive (VFD) completely eliminates the large starting inrush current of the compressor by ramping up voltage and frequency in a controlled time period. This allows running on limited dockside power, and also protects the generator from overload.

In addition to eliminating inrush, the VFD will also run a 60Hz rated compressor at 60Hz even when input power is 50Hz, which allows full BTU capacity performance (230V only). The drive also protects the compressor by monitoring input voltage and output current, and will shut down if a problem is detected. On 208/230V systems, the VFD can “convert” single-phase input power to 3-phase output; however, the VFD current capacity must be derated (see table on second page).

The VFD unit produces a modified sine wave output for smooth acceleration and running, with precise frequency resolution. It is designed to operate in extreme environments, such as an engine room. However, the enclosure is ventilated, and must be kept dry. Any direct water contact can damage the unit.

Built-in noise filters are standard and the VFD is CE approved. The Schneider Electric Altivar 312 VFDs incorporate a class A EMC filter into their design. This helps prevent high frequency noise from affecting the AC power supply to which the drives are connected. If you have an application or a power system that requires even lower noise emission, then we recommend you purchase the class B EMC filters specifically designed to fit with the entire family of Altivar 312 VFDs. To reduce the harmonic distortion caused by the VFD, we recommend you purchase a line reactor sized appropriately for the particular VFD.

An LED display allows the user to monitor operation and faults. The VFD is pre-programmed from the factory and no further setup is required. Power cables are available through special order.

How to choose the right size Variable Frequency Drive:

- Chiller compressor must be 3 phase and each compressor requires a dedicated VFD.
- Multiply the chiller’s reverse cycle amps by 1.10 (10% safety factor).
- Choose the VFD from the Comp Voltage and Max AMP Rating columns (in the table on the following page) depending on compressor voltage and the phase of the input power supply, respectively.

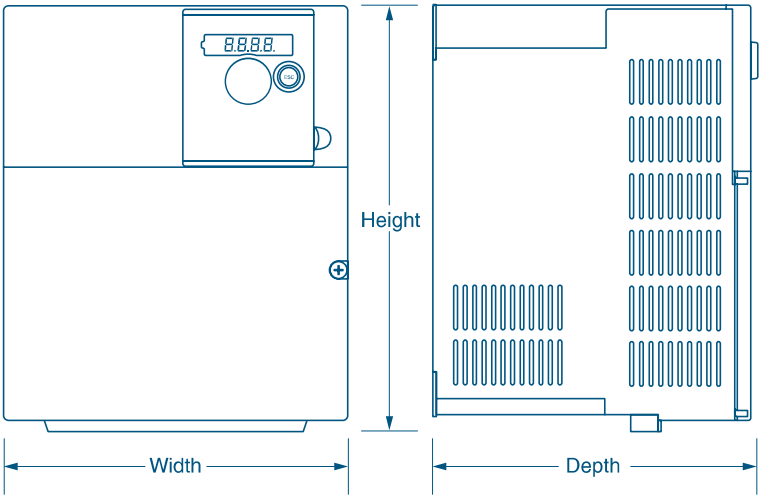
Dometic

Specifications for Variable Frequency Drives (Standard)

Model [1]	VFD SQD17.5A 230V	VFD SQD27.5A 230V	VFD SQD33A 230V	VFD SQD54A 230V	VFD SQD66A 230V	VFD SQD9.5A 460V	VFD SQD14.3A 460V	VFD SQD17A 460V	VFD SQD27.7A 460V	VFD SQD33A 460V
Reference Number	4251104	4251105	4251106	4251110	4251111	4251108	4251112	4251202	4251109	4251201
Compressor Voltage (V) [2]	208/230	208/230	208/230	208/230	208/230	380/460	380/460	380/460	380/460	380/460
Max. Amps @ 3-PH. Input (A)	17.5	27.5	33	54	66	9.5	14.3	17	27.7	33
Max. Amps @ 1-PH. Input (A)	10.1	15.9	19.1	31.2	38.1	N/A	N/A	N/A	N/A	N/A
Height (in/mm)	7.2/183	9.1/232	9.1/232	13/331	13/331	7.2/183	9.1/232	9.1/232	13/331	13/331
Width (in/mm)	5.5/140	7.1/181	7.1/181	9.7/247	9.7/247	5.5/140	7.1/181	7.1/181	9.7/247	9.7/247
Depth (in/mm)	5.9/150	6.7/171	6.7/171	7.5/191	7.5/191	5.9/150	6.7/171	6.7/171	7.5/191	7.5/191

[1] For programmed VFDs, please call your sales representative with the reference number and programming information (output voltage, input phase, and output frequency).
[2] 208-230V models will perform at 60Hz output even with 50Hz input, allowing 60Hz compressors to perform at full capacity in 50Hz systems. High-voltage 380-480V models can be used at 380-420V 50Hz or 440-480V 60Hz, and output frequency should match the input.

Dimensions



DOMETIC MARINE DIVISION
2000 N. Andrews Ave. Ext. I Pompano Beach, FL 33069 USA I Tel. 954-973-2477 I Fax: 954-979-4414
www.Dometic.com/Marine I MarineSales@DometicUSA.com

24/7 TECH SUPPORT FOR UNITED STATES & CANADA:
8:00 AM to 5:00 PM Eastern Time: 800-542-2477
After hours and weekends: 888-440-4494

INTERNATIONAL SALES & SERVICES
Europe & the Middle East: Call +44(0)870-330-6101
For all other areas visit our website to find your nearest distributor.

Dealer

L-2413 Rev. 20130920

Specifications and availability subject to change without notice.

Environmentally Responsible