

VersaBridge® AC 3R

Medium Voltage Variable Frequency Drive

Patented, Compact, High Performance Medium Voltage Drive



VersaBridge®



TECO   **Westinghouse**

together, we empower the **Future** 

VersaBridge® Air Cooled 3R Custom Drives

With over 100 years of experience in motor design and application, TECO-Westinghouse Motor Company is a premier supplier of AC and DC motors and generators. Ranging from fractional HP ratings to 100,000 HP, these high-quality machines are used in a variety of rugged applications across several industries throughout the world.

TECO-Westinghouse comprises the experience of Westinghouse, a leader in the motor industry since 1888, and TECO Electric & Machinery Co, Ltd., a multinational conglomerate with over 50 years of manufacturing experience. Together, TECO-Westinghouse embodies the capabilities and proud traditions of excellence from both companies and carries them forward.

VersaBridge® MVDs provide reliable motor control for a variety of industry specific and general purpose applications including Oil & Gas, Utility/ Power Generation, Metals and Mines. These patented MVDs are designed utilizing a multilevel H-Bridge topology that reduces the harmonic levels to extremely low levels. The modular design facilitates ease of installation, commissioning and maintenance. The VersaBridge® is an innovative product that combines reliable, simple, and compact solutions with the latest power electronics and cooling technologies.

Customer Advantages

Serviceability: Fully conditioned enclosure with bay doors allows service during all weather. VBAC makes use of modular componentry allowing fast swapping of critical components.

Filterless Design: With a 54 pulse design, the package easily meet IEEE 519 requirements, meaning no input filter is required. A 7 level L-N output waveform means no output filter is needed.

Reduced Permitting: No building permitting is required for installation, and this pre-engineered solution meets all applicable nec requirements.

Ease of Use: A sophisticated hmi and multiple control options paired with a fully integrated package make this offering both intuitive and simple to operate.

Package Solutions: The VBAC 3R can be paired with one or more of twmc's mv motors for a complete solution.

Reduced Install Cost: Pre-engineered solution eliminates the cost of building, additional cabling, HVAC and more.

Flying Start into a Spinning Load: The VersaBridge® MVD offers the ability to catch a spinning load without any torque, voltage, or current having a negative impact on the equipment.

Power Dip Ride-Through: The VersaBridge® MVD design provides a five cycle power loss ride-through to keep the process running without the need for auxiliary UPS.

One Drive for Multiple Motors: The VersaBridge® MVD can start multiple motors and transfer them synchronously to utility lines and back to the drive



Applications



Petrochemical, Oil & Gas Industries	Pulp & Paper
Reciprocating Compressors	Pumps
Pumps/ H-Pumps	Fans
Fans	Refiners
Mixers	Vacuum pumps
Agitators	Chipper
Metals & Mining	Cement
Pumps	Pumps
Fans	Fans
Conveyors	Conveyors
	Kilns
Water/ Wastewater	Utilities
Pumps	Pumps
Fans	Fans



Specifications



Specifications

Electrical

Nominal Motor Capacity	1500 – 2000 HP
Output Current	260 A
Output Voltage	0 – 4.16 kV
Output Frequency	0 – 120 Hz Standard, Higher Available with Derating
Overload	VT: 110% for 1 min Every 10 min CT: 150%*
Regulatory Compliance	UL, cUL, IEEE, ANSI, NEMA
Auxiliary Supply	460 V, 60 Hz, 3-Ph
Mains Supply Voltage	4.16 kV \pm 10%
Mains Supply Frequency	60 Hz \pm 5%
Input Protection	Integral, Fused Vacuum Starter with Isolation Switch
Input Power Factor	\geq 0.95 at Rated Power
Efficiency	\geq 0.96
Input Harmonics	IEEE 519, IEC 61000-2-4 Compliant
Output Harmonics	< 1% THD (Current)
Transformer Topology	54 Pulse, Integral
Inverter Topology	Multilevel, Cascaded H-Bridge
DC Capacitor Type	Film, Self-healing, 20-Year Life
Ride-Through Capability	IEEE 1566 Compliant

* Consult factory for additional options.

Controls

Control Method	V/Hz, Vector*
User Interface/ Display	10" PC, Capacitive Touch Screen
Communication Interface	Modbus TCP/IP (Ethernet), RS-232 , and RS-485, PLC I/O
User I/O	(8) Digital Inputs – (8) Digital Outputs (2) Analog Inputs – (2) Analog Outputs
Indicators	Fault (Red) – Alarm (Amber) Run Status (Green) – Main/Aux Power Status (White)
Isolation Type	Optical Fiber
Speed Regulation	±1%
Spinning Load	Auto/Manual Restart, Catch a Spinning Load
Synchronous Transfer	Automatically Transfer the Motor to and from the Utility Line, Closed-Transition Operation
Protective Functions	Overcurrent, Overload, Current Limit, Over/Under Voltage, Ground Fault, Unbalance, Over Temperature, Overspeed

Mechanical

Enclosure Rating	NEMA 3R, Gasketed
Enclosure Access	Padlockable Access Doors
Cable Entry	Bottom
Rear Access	Not Required
Cabinet Dimensions	L: 253" x W: 118" x H: 135"
Color	Light Gray, RAL 7035
Total Weight	26,600 lbs

Environmental Condition

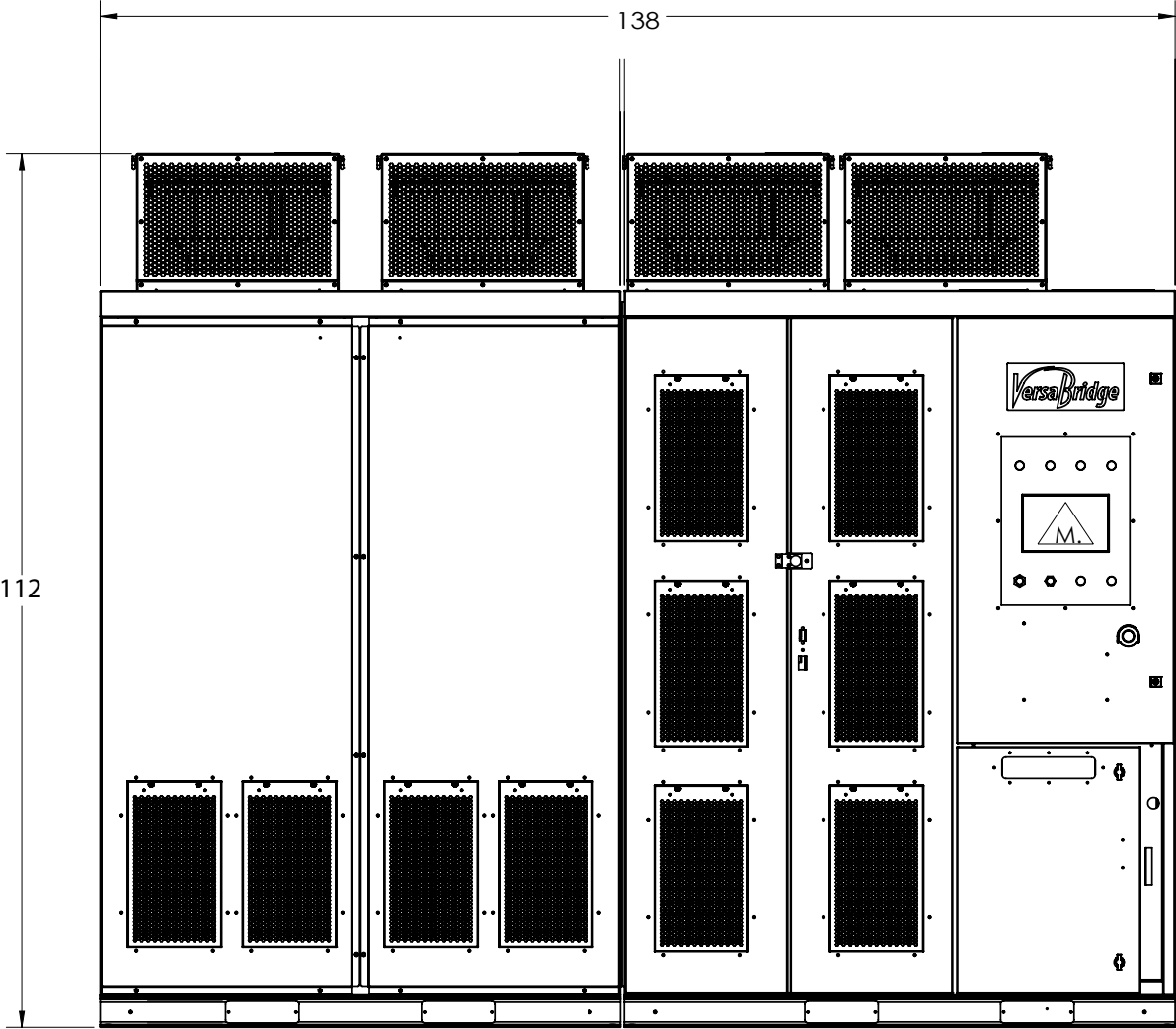
Ambient Temperature	- 20°C to 50°C
Altitude	0 – 1000m, Up to 2000m with Derating
Humidity	95%, Non-Condensing
Noise Level	≤ 85 dBA

Cooling System

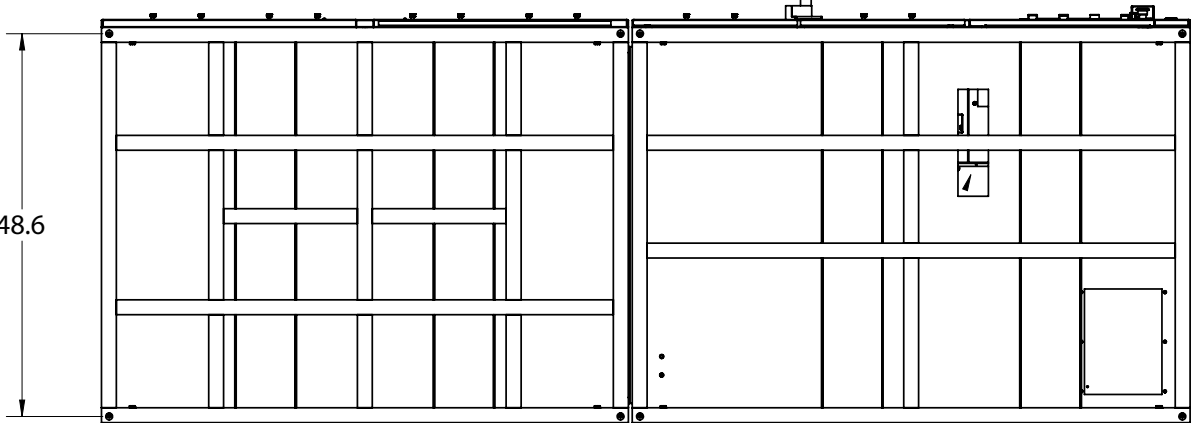
Transformer	Forced-Air Cooling, Redundant Fans
Electronic s	Forced-Air Cooling, Redundant Fans

* Consult factory for additional options.

Dimensions*: Drive

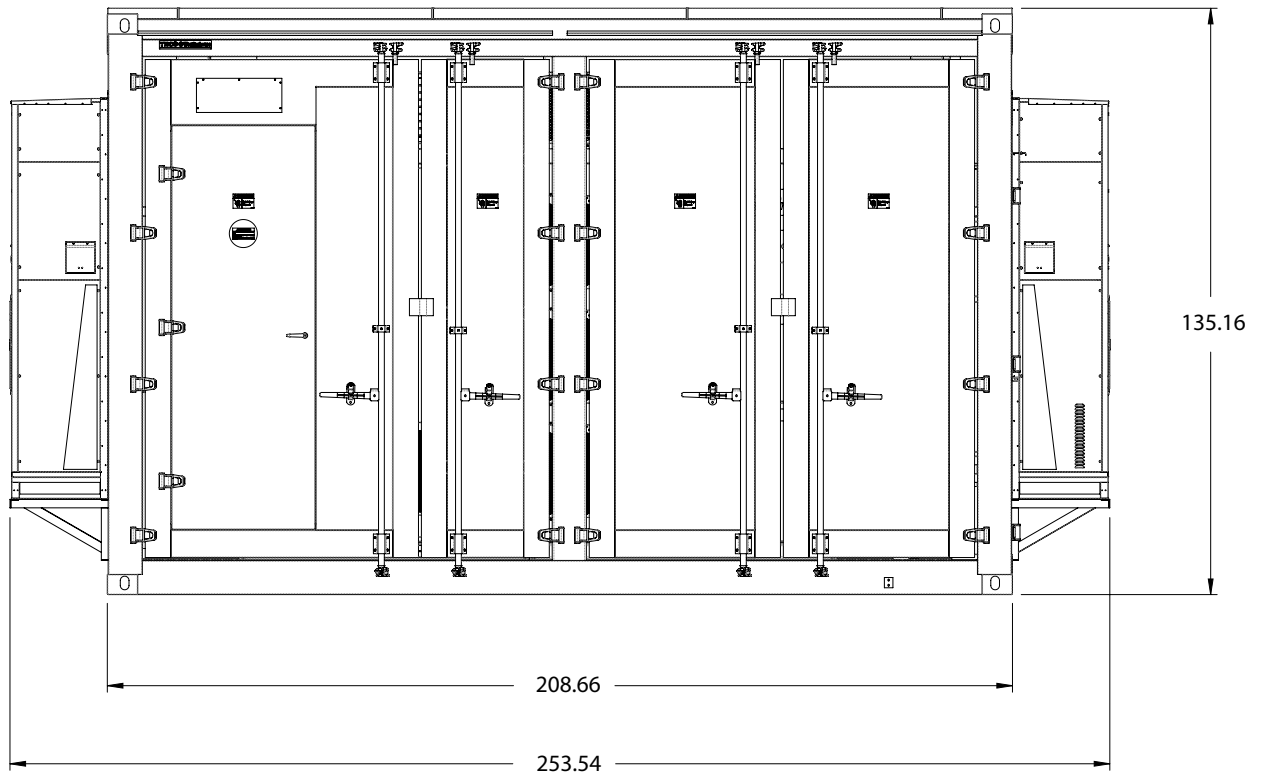


Front View

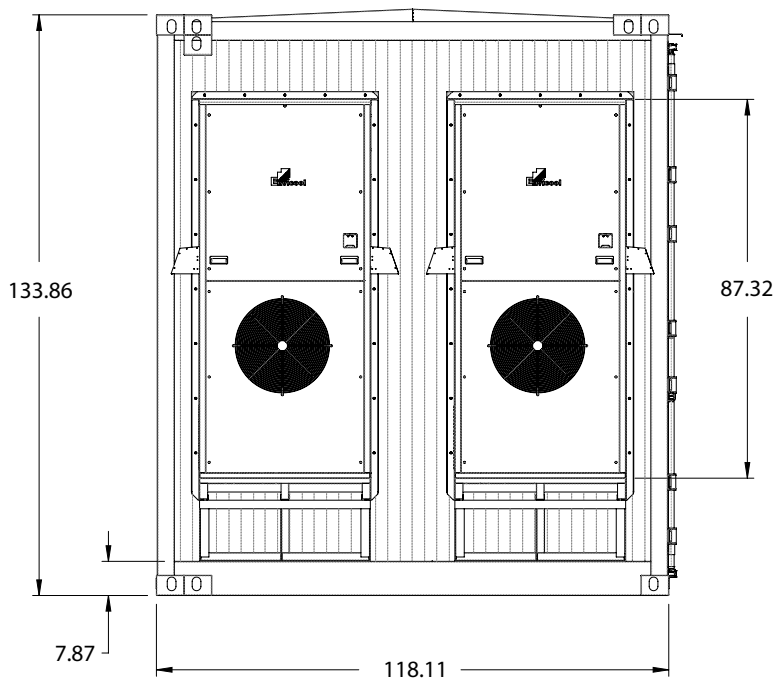


Bottom View

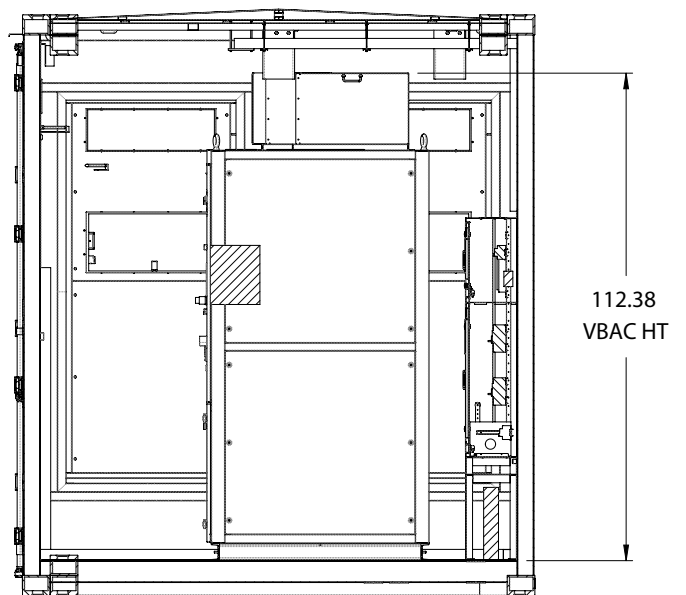
Dimensions*: Outer Container



Front View



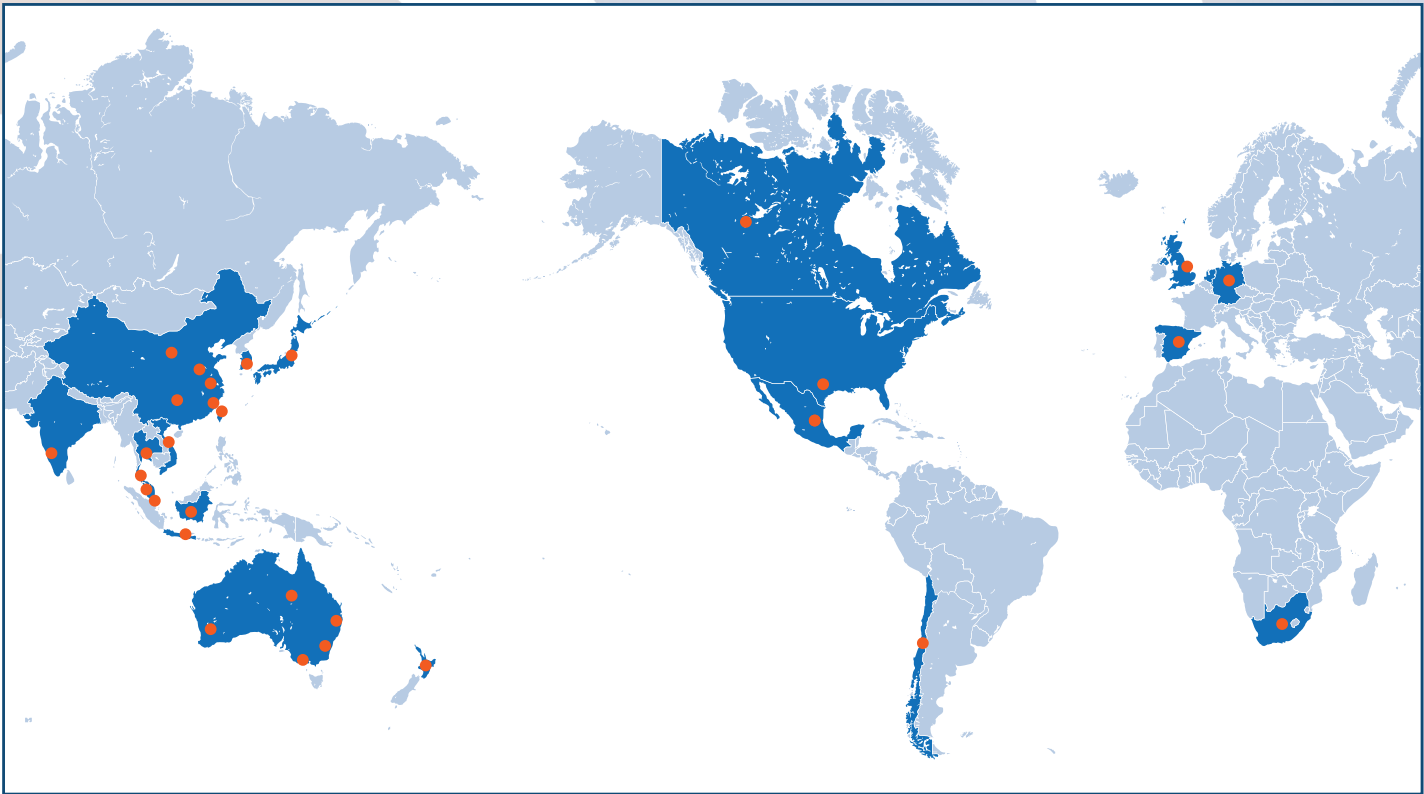
Side View



VersaBridge® AC Side View

* Approximate dimensions in inches

GLOBAL PRESENCE



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