



CERTIFICATE OF COMPLIANCE

SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS



Certification No.

VMA-47951-01C (Revision 7)

Expiration Date: 10/31/2022

Certification Parameters:

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED¹ FOR SEISMIC APPLICATIONS in accordance with the following building code² releases.

IBC 2009, 2012, 2015, 2018

The following model designations, options, and accessories are included in this certification. Reference report number VMA-47951-01 as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

**Data Aire; Chilled Water CRAC Units
GFCD/U Models; 20,700 - 1,500,000 Btu/hr**

The above referenced equipment is APPROVED for seismic application when properly installed³, used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance⁴. As limited by the tabulated values, below grade, grade, and roof-level installations, installations in essential facilities, for life safety applications, and/or of equipment containing hazardous contents are permitted and included in this certification with an Equipment Importance Factor assigned as $I_p=1.5$. The equipment is qualified by successful seismic shake table testing at the nationally recognized University of California Berkeley Pacific Earthquake Engineering Research Center under the witness of the ISO Accredited Product Certification Agency, The VMC Group.

| Certified Seismic Design Levels | | | |
|---------------------------------|---|-------------------------------|-------------------------------|
| Certified IBC | Importance $I_p \leq 1.5$ Soil Classes A-E Risk Categories I-IV Design Categories A-F | $z/h \leq 1.0$ | $z/h = 0.0$ |
| | | $S_{DS} \leq 1.650 \text{ g}$ | $S_{DS} \leq 1.650 \text{ g}$ |

| Certified Seismic Installation Methods |
|--|
| Directly To Stand with Isolation |

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Certified Product Table:

| Model | Capacity [Btu/hr] | Length [in.] | Width [in.] | Height [in.] | Weight [lbs.] | |
|------------|---------------------|--------------|-------------|--------------|---------------|------|
| GFCD/U-007 | 20,700 - 37,500 | 36.0 | | | 530 | |
| GFCD/U-011 | 28,000 - 51,500 | | | | 545 | |
| GFCD/U-014 | 39,500 - 71,500 | | | | 570 | |
| GFCD/U-018 | 48,500 - 84,900 | | | | 760 | |
| GFCD/U-025 | 64,800 - 108,400 | 48.0 | | 78.0 | 785 | |
| GFCD/U-032 | 81,300 - 137,200 | | | | 845 | |
| GFCD/U-039 | 95,400 - 170,800 | | | | 890 | |
| GFCD/U-046 | 108,600 - 201,200 | | | | 1005 | |
| GFCD/U-053 | 151,200 - 259,700 | 83.0 | 40.5 | | 1120 | |
| GFCD/U-063 | 190,800 - 337,000 | | | | 1275 | |
| GFCD/U-077 | 230,700 - 412,100 | | | | 1485 | |
| GFCD/U-091 | 251,900 - 450,400 | | | | 1960 | |
| GFCD/U-106 | 314,500 - 553,300 | 106.0 | | | 2610 | |
| GFCD/U-141 | 361,330 - 641,620 | 120.0 | | | 84.0 | 2820 |
| GFCD/U-158 | 434,104 - 773,486 | | | | | 3020 |
| GFCD/U-176 | 491,600 - 874,038 | | | | | 3213 |
| GFCD-211 | 546,700 - 1,043,700 | 46.0 | | 99.0 | 3500 | |
| GFCD-260 | 667,000 - 1,500,000 | | | | 138.0 | |

All models are approved for mounting attachment to gForce seismic base on VMC MBX3-350 isolators.

| Group | Type | S _{DS} (z/h=0) | S _{DS} (z/h=1) | A _{Flex-H} | A _{Rig-H} | A _{Flex-V} | A _{Rig-V} | F _p /W _p |
|---------|-------|-------------------------|-------------------------|---------------------|--------------------|---------------------|--------------------|--------------------------------|
| Seismic | AC156 | 1.65 | 1.65 | 2.64 | 1.98 | 1.10 | 0.44 | 2.97 |

This certification includes the chilled water units installed with the isolated floor stand. The chilled water units and included options shall be a catalogue design and factory supplied. This certification excludes factory supplied upflow discharge plenum, no water flow alarm, hot water reheat and steam reheat. This certification excludes all non-factory supplied accessories, including but not limited to isolation/restraint devices, remote control panels, pumps and other electrical/mechanical components.



VMA-47951-01C (Revision 7)
Issue Date: Friday, August 31, 2012
Revision Date: Wednesday, November 13, 2019
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Notes & Comments:

1. All equipment listed herein successfully passed the seismic acceptance criteria for shake testing non-structural components and systems as set forth in the ICC AC-156. The Test Response Spectrum (TRS) enveloped the Required Response Spectrum (RRS) for all units tested. The units cited in this certification were representative sample(s) of a contingent of models and all remained captive and structurally sound after the seismic shake simulation. The units also remained functionally operational after the simulation testing as functional testing was completed by the equipment manufacturer before and after the seismic simulations. Although a seismic qualified unit inherently contains some wind resisting capacity, that capacity is undetermined and is excluded from this certification. Snow/Ice loads have been neglected and thus limit the unit to be installed both indoors (covered by an independent protective structure) and out of doors (exposed to accumulating snow/ice) for ground snow loads no greater than 30 psf for all applications.
2. The following building codes are addressed under this certification:
 - IBC 2018 referencing ASCE7-16 and ICC-ES AC-156
 - IBC 2015 referencing ASCE7-10 and ICC-ES AC-156
 - IBC 2012 referencing ASCE7-10 and ICC-ES AC-156
 - IBC 2009 referencing ASCE7-05 and ICC-ES AC-156
3. Refer to the manufacturer supplied installation drawings for anchor requirements and mounting considerations for seismic applications. Required anchor locations, size, style, and load capacities (tension and shear) may be specified on the installation drawings or specified by a 3rd party. Mounting requirement details such as anchor brand, type, embedment depth, edge spacing, anchor-to-anchor spacing, concrete strength, special inspection, wall design, and attachment to non-building structures must be outlined and approved by the Engineer of Record for the project or building. Structural walls, structural floors, and housekeeping pads must also be seismically designed and approved by the project or building Structural Engineer of Record to withstand the seismic anchor loads as defined on the installation drawings. The installing contractor is responsible for observing the installation detailed in the seismic installation drawings and the proper installation of all anchors and mounting hardware.
4. For this certificate and certification to remain valid, this certificate must correspond to the "Seismic Certification Label" found affixed to the unit by the factory. The label ensures the manufacturer built the unit in conformance to the IBC seismic design criteria set forth by the Certified Seismic Qualification Agency, The VMC Group, and meets the seismic design levels claimed by this certificate.
5. Mechanical, Electrical, and Plumbing connections to the equipment must be flexibly attached as to not transfer load through the connection. The structural integrity of any conduit, cable trays, piping, ductwork and/or flexible connections is the responsibility of others. This certification does not guarantee the equipment will remain compliant to NEMA, IP, UL, or CSA standards after a seismic event.
6. This certificate applies to units manufactured at:
 - 230 West Blueridge Avenue, Orange, CA 92865-4225
 - Fabricas Elena, S. de R.L. de C.V., Carr. Presa La Amistad, Km. 7.5, Parque Industrial La Paz, Ciudad Acuña, Coahuila, Mexico
7. This certification follows The VMC Group's ISO-17065 Scheme.

John P. Giuliano, PE
President, The VMC Group



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