



## CERTIFICATE OF COMPLIANCE

### SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS



Certification No.

# VMA-50957-01C (Revision 15)

Expiration Date: 6/30/2026

**Certification Parameters:**

The nonstructural products (mechanical and/or electrical components) listed on this certificate are CERTIFIED<sup>1</sup> FOR SEISMIC APPLICATIONS in accordance with the following building code<sup>2</sup> releases.

**IBC 2021, 2018, 2015, 2012**

The following model designations, options, and accessories are included in this certification. Reference report number VMA-50957-01 as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

**Cummins Power Generation, Inc.; Diesel Gensets**  
**DSHAD, DQDAA-C, DFEJ-K, DQCA-C, DQFA-H; 230kW - 1000kW**

The above referenced equipment is APPROVED for seismic application when properly installed<sup>3</sup>, used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance<sup>4</sup>. 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, University of Nevada at Reno, and Dynamic Certification Laboratories under the review of the ISO Accredited Product Certification Agency, the VMC Group.

Certified Seismic Design Levels <sup>8</sup>			
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
		$S_{DS} \leq 0.650 \text{ g}$	$S_{DS} \leq 1.940 \text{ g}$

The qualified seismic design level stated is the lowest for all series this certificate covers. For more information, see the certified product tables on page 2.

Certified Seismic Installation Methods <sup>9</sup>	
External Isolation Mounting From Unit Base To Fuel Tank	External Isolation Mounting From Unit Base To Rigid Structure
Rigid Mounting From Unit Base To Fuel Tank	Rigid Mounting From Unit Base To Rigid Structure

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**Certified Product Table:**

Series	Model	Max Rating [kW]	Length [in]	Width [in]	Height [in]	Max Weight [lb]	S <sub>DS</sub> z/h=0	S <sub>DS</sub> z/h=1	Mounting	Configuration
DSHax (QSL9-G2)	D	230	143	42	78	4,466	2.28	2.00	Rigid/Isolated	Off Tank
DQDAx (QSL9-G7)	A, B, C	250, 275, 300	246	90	106	13,039	2.48			
Open DFEx (QSX15)	J, K	450, 500	152	60	77	10,125	1.94	1.94		
Enclosed DFEx (QSX15)			233	86	100	16,077		0.65		
Open DQCx (QSK23)	A, B, C	600, 750, 800	173	73	81	15,247	1.94	1.94	Isolated	
Enclosed DQCx (QSK23)			315	102	119	29,291				
Open DQFx (QST30)	A, B, C, D, H	750, 800, 900, 1000	338	97	115	18,535	1.94	1.94		
Enclosed DQFx (QST30)			315	102	119	29,794				
DSHax (QSL9-G2)	D	230	143	42	110	8,002	2.28	2.00	Rigid/Isolated	On Tank
DQDAx (QSL9-G7)	A, B, C	250, 275, 300	232	90	128	29,504	2.48			
DFEx (QSX15)	J, K	450, 500	366	86		39,245	1.94	0.65		
DQCx (QSK23)	A, B, C	600, 750, 800	338	102	142	52,082				
DQFx (QST30)	A, B, C, D, H	750, 800, 900, 1000			138	53,425				

Group	Type	S <sub>DS</sub> (z/h=0)	S <sub>DS</sub> (z/h=1)	A <sub>Flex-H</sub>	A <sub>Rig-H</sub>	A <sub>Flex-V</sub>	A <sub>Rig-V</sub>	Rigid Mounting F <sub>p</sub> /W <sub>p</sub>	Isolated Mounting F <sub>p</sub> /W <sub>p</sub>
Seismic	AC156	1.940	0.65	1.94	0.78	1.29	0.52	0.87	1.46

This certification includes the open generator set and the enclosed generator set when installed with or without the sub-base tank. The generator set and included options shall be a catalogue design and factory supplied. The generator set and applicable options shall be installed and attached to the building structure per the manufacturer supplied seismic installation instructions. This certification excludes After Treatment Units (ATUs), all non-factory supplied accessories, including but not limited to mufflers, isolation/restraint devices, remote control panels, remote radiators, pumps and other electrical/mechanical components.



**VMA-50957-01C (Revision 15)**  
Issue Date: Thursday, March 2, 2017  
Revision Date: Friday, November 1, 2024  
Expiration Date: Tuesday, June 30, 2026



**VMC GROUP**  
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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 tested units 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 2021 referencing ASCE7-16 and ICC-ES AC-156
  - 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
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 ensuring 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 makes no statements of compliance in regards to NEMA, IP, UL, CSA, or other relevant standards after a seismic event. For compliance to other relevant standards, please contact the manufacturer.
6. This certificate applies to units manufactured at:
  - Cummins Power Generation, Inc., 1400 73rd Ave NE, Minneapolis, MN 55432
7. This certification follows the VMC Group's ISO-17065 Scheme.
8. The qualified seismic design level stated is the lowest for all series this certificate covers. For more information, see the certified product tables on page 2.
9. The certified seismic installation methods stated are a summary for all product lines this certificate covers. For individual certified seismic installation methods, see the certified product tables.

John P. Giuliano, PE  
President, VMC Group



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