VMC GROUP
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A Rolls-Royce solution

CERTIFICATE OF COMPLIANCE
SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

Certification No.

VMA-49667-01C (Revision 10)

Expiration Date: 11/30/2024

Certification Parameters:

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

IBC 2021, 2018, 2015, 2012

The following model designations, options, and accessories are included in this certification. Reference report number VMA-49667-01 as issued by The VMC Group for a complete list of certified models, included accessories/options, and certified installation methods.

Rolls-Royce Solutions America Inc.; Natural Gas Generator Sets
Rating; 20-500 kW

The above referenced equipment is **APPROVED** for seismic application when properly installed[3], used as intended, and contains a Seismic Certification Label referencing this Certificate of Compliance[4]. 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 and Dynamic Certification Laboratories 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 ≤ 1.0	z/h = 0.0
		$S_{DS} \leq 2.000$ g	$S_{DS} \leq 2.500$ g

Certified Seismic Installation Methods	
Rigid Mounting From Unit Base To Rigid Structure	External Isolation Mounting From Unit Base To Rigid Structure

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Certified Product Table:

Models	Max. Rating (kW)	Max Length (in)	Max Width (in)	Max Height (in)	Max Weight (lbs)
mtu 4R0063 GS20	20	92	38	63	2175
mtu 4R0063 GS30	30				2200
mtu 4R0063 GS40	40				2500
mtu 4R0075 GS30	30	120	42	71	2300
mtu 4R0090 GS50	50	113	40	65	3750
mtu 4R0090 GS60	60				
mtu 4R0090 GS80	80				
mtu 8V0071 GS50	60		42	75	3000
mtu 8V0071 GS60					
mtu 8V0078 GS100	100	132	48	72	5100
mtu 8V0110 GS130	130	133	51	80	5000
mtu 8V0110 GS150	150			86	5500
mtu 8V0129 GS180	180	161	48	87	6000
mtu 8V0129 GS200	200				
mtu 10V0068 GS75, ***mtu*** 10V0068 GS100, ***mtu*** 10V0068 GS125	125	133	50	83	3940
mtu 12V1600 GS250, ***mtu*** 12V1600 GS300, ***mtu*** 12V1600 GS350	350	240	92	102	16130
mtu 12V1600 GS400, ***mtu*** 12V1600 GS450, ***mtu*** 12V1600 GS500	500				

Note: All Genset Dimensional and Weight Data includes Largest/Heaviest Enclosure. Contact maufacturer for dimensions of all certified configuratons.

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	2.50	2.00	3.20	2.40	1.67	0.67	4.50

This certification includes the open generator set and the enclosed generator set. 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. For a list of certified configurations and options please directly contact the manufacturer. This certification excludes 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.

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SEISMIC DESIGN OF NONSTRUCTURAL COMPONENTS AND SYSTEMS

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:
   100 Power Drive, Mankato, MN 56001
   304 Lundin Boulevard, Mankato, MN 56001

7. This certification follows the VMC Group's ISO-17065 Scheme.

John P. Giuliano, PE
President, VMC Group

IAS ACCREDITED Product Certification Agency

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