



Brüel & Kjær Vibro

A member of the NSK Group



Product specifications and ordering information

VC-8000

VC-8000/WPH Weatherproof Housing

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Product specifications and ordering information **VC-8000/WPH Weatherproof Housing**,
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Overview

Weatherproof housings provide robust protection from the elements for the VC-8000 Machinery Protection System. The housings have been specifically engineered to fit the dimensions of VC-8000 racks and power supplies while providing sufficient clearance for heat dissipation and routing of wiring bundles.

- VC-8000/WPH**
 Designed to accommodate the VC-8000 rack and its power supplies. Available with or without a viewing door and in various widths (see table below). For 4-slot and 8-slot racks, the VC-8000/WPH in the appropriate width can be used to house both the rack and its associated power supply(ies).

Model	Width	Fits
VC-8000/WPH	24"	<ul style="list-style-type: none"> One 16-slot rack OR One 8-slot rack and two power supplies



Enclosures may be ordered with several options:

- NEMA 4-12 / IP66 rating**
 Powder-coated mild steel construction for water- and dust-tight protection.
- NEMA 4X / IP66 rating**
 Type 304 stainless steel construction for corrosion resistance in addition to water-tight and dust-tight protection.
- With or without viewing window**
 Enclosure door can be ordered as solid metal or with a polycarbonate viewing window. NEMA 4X / IP66 rating.

Features and Benefits

- **Removable door** simplifies access to internals when installing the system or performing maintenance. No tools required – simply remove the hinge pins. Hinge pins are concealed inside door to prevent tampering while providing an attractive fit and finish to the exterior.
- **Curled lip around all sides** adds rigidity and prevents dripping water or other liquids from entering the enclosure when the door is open.
- **Robotically poured-in-place seamless gasket** ensures a complete and durable water-tight seal.
- **Highly-quality construction** utilizes premium materials and continuously welded corner seams that are ground smooth.
- **Quarter-turn “T” handle with key lock** ensures positive closing and restricts access to authorized personnel only. NEMA 4X versions use stainless steel materials for handle and lock.
- **Self-extinguishing polycarbonate window** provides easy viewing of rack and optional touchscreen while enhancing enclosure durability and personnel safety.
- **Pre-drilled hole patterns** on inner panel simplify bulkhead mounting of rack and DIN-rail mounting of power supplies.
- **Double-bent 12 GA inner panel** assures extra rigidity when installing or removing DIN-rail components, sliding rack modules in or out, or performing other tasks. Inner panel mounted on M8 studs.
- **Heat-fused polyester powder** applied electrostatically on a pretreated base to all enclosure surfaces. Helps assure maximum coating adhesion to protect base materials.
- **Heavy-duty die-cast hinges** allow door to swing a full 180 degrees for ease of access. Door can also be fully removed without use of tools.
- **Ground strap with anti-vibration hardware** is included between door and housing body to ensure all parts of the enclosure remain tied to earth ground for safety.
- **Anti-vibration flange nuts** assure inner mounting plate will not vibrate loose, even when enclosure is mounted on a machine deck or other surface subject to vibration.
- **CSA certified and UL listed** to assure an enclosure that is constructed to globally recognized safety standards.



Specifications

All specifications are at +25 °C (+77° F) unless otherwise noted.

Physical	
Weight	VC-8000/WPH (Enclosure & Door) <ul style="list-style-type: none"> • 24" Width: 31.8 kg (70 lbs)
Material	NEMA 4 Housings Body/Door: 16GA carbon steel Hinges: Diecast carbon steel Inner Mtg Plate: 12GA carbon steel (powder coated) Mtg Plate Studs: Carbon steel Mtg Plate Nuts: Carbon steel Mtg Plate Standoffs: Plastic Keylock: Carbon steel Window*: Polycarbonate <hr/> NEMA 4X Housings Body/Door: 16GA Type 304 SS Hinges: Diecast stainless steel Inner Mtg Plate: 12GA carbon steel (powder coated) Mtg Plate Studs: Stainless steel Mtg Plate Nuts: Stainless steel Mtg Plate Standoffs: Plastic Keylock: Stainless steel Window*: Polycarbonate <small>* Window optional on VC-8000/WPH.</small>
Coating	NEMA 4 Housings Heat-fused polyester powder, electrostatically applied on a pretreated base. Color: <ul style="list-style-type: none"> • Inside: White • Outside: ANSI/ASA 61 Gray <hr/> NEMA 4X Housings Outside: None (bare stainless steel, brushed finish) Inside: Heat-fused polyester powder, electrostatically applied on a pretreated base. Color: white.
Dimensions	See Figures 1-3
Approvals	
Environmental	NEMA 4-12 / IP66 (painted models)
Electrical	NEMA 4X / IP66 (stainless models)
Hazardous Area	CSA certified – Canada and USA
Certifications	<ul style="list-style-type: none"> • UL Listed – Canada and USA Not Available

Ordering Information

Weatherproof Housing (WPH)

Painted (NEMA 4) or stainless steel (NEMA 4X) housings with lockable doors and viewing windows are available for all VC-8000 rack sizes.



The housings provide protection from dust, moisture, and corrosion¹ when racks are mounted at the machine deck or in other industrial environments not suited for unprotected instrumentation. A complete housing accommodates a rack and its power supplies on an included DIN rail.

NOTES:

1. Specify NEMA 4X (stainless steel) housing when corrosion resistance required.

C106718.001
VC-8000/WPH-24" wide enclosure with solid door,
NEMA 4

C106721.001
VC-8000/WPH-24" wide enclosure with window door,
NEMA 4

C106724.001
VC-8000/WPH-24" wide enclosure with solid door,
NEMA 4X

C106727.001
VC-8000/WPH-24" wide enclosure with window door,
NEMA 4X

Manuals and Software

A complete set of VC-8000 manuals and configuration software on USB memory stick is supplied at no extra charge with each order, but must be specified at time of ordering. If you need the instructions in other languages than available on the website please contact us.

NOTE: Manuals are published electronically in Adobe® PDF* format and may be printed and freely distributed. Adobe Reader is required and can be downloaded free-of-charge from www.adobe.com.

C106547.001
VC-8000 Manual and Configuration Software



Temperature De-rating

Electronic components mounted in a weatherproof enclosure will elevate the temperature inside the enclosure relative to the temperature outside the enclosure. This rise must be accounted for to ensure the electronics do not exceed their maximum rated operating temperature. Use the information in this section to determine the maximum allowable ambient temperature external to the enclosure for a given enclosure* size, rack size, and module population. First, use Table 1 on this page to compute the total power dissipation in Watts for the components that will be placed in the enclosure. Finally, use the graph to determine the maximum allowable ambient temperature.

Example: Determine the maximum allowable temperature external to an VC-8000/WPH 24" enclosure housing an 8-slot rack with the following components:

- 1 Rack Connection Module
- 1 eSAM with Touchscreen Display
- 4 Universal Monitoring Modules (UMMs)
- 1 Temperature Monitoring Module (TMM)
- 1 power supply, 180W 110/220 VAC

From Table 1 for the modules above, the total power dissipation inside the enclosure is 58.2 W. Using Graph A (VC-8000/WPH 24" enclosure) this power dissipation corresponds a maximum ambient temperature of 54° C (129° F). Thus, the enclosure should not be mounted in an area where the ambient temperature will exceed 54° C (129° F).

* **NOTE:**

Door Kits do not require temperature de-rating.

Component	Power Dissipation
Rack Connection Module (RCM)	1.2 W
Basic SAM (bSAM)	13 W
Enhanced SAM (eSAM), no Touchscreen	13.9 W
eSAM with 8.4" Touchscreen Display	19 W
Universal Monitoring Module (UMM)	5.5 W
Temperature Monitoring Module (TMM)	5 W
480W 400/500 VAC Power Supply	12 W

360W 110/220 VAC Power Supply	21 W
240W 90-250 VDC Power Supply	21 W
180W 110/220 VAC Power Supply	11 W
120W 90-250 VDC Power Supply	11 W
90W 110/220 VAC Power Supply	6.2 W

TABLE 1 – POWER DISSIPATION FOR VC-8000 COMPONENTS



CAUTION

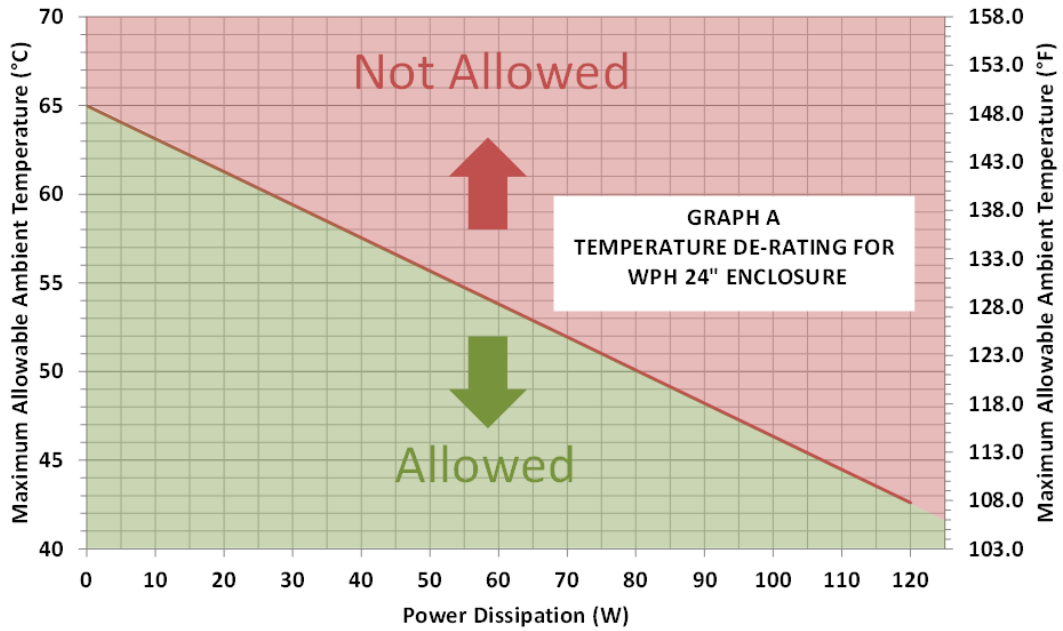
Do not operate the VC-8000 system in conditions that exceed its maximum rated operating temperature of 65 °C. Operation above 65 °C can compromise system reliability by shortening component life and /or by preventing the power supply from delivering sufficient current.

Brüel & Kjaer Vibro can assist with custom enclosures that provide additional thermal management (such as cooling or heating) when required.



CAUTION

Do not locate the enclosure where it will be exposed to direct sunlight. Radiant solar energy will produce higher surface temperatures on the enclosure than imparted by external ambient temperature alone. This may result in conditions inside the enclosure that exceed the VC-8000 system's maximum rated operating temperature, compromising its reliability.



Outline Diagrams

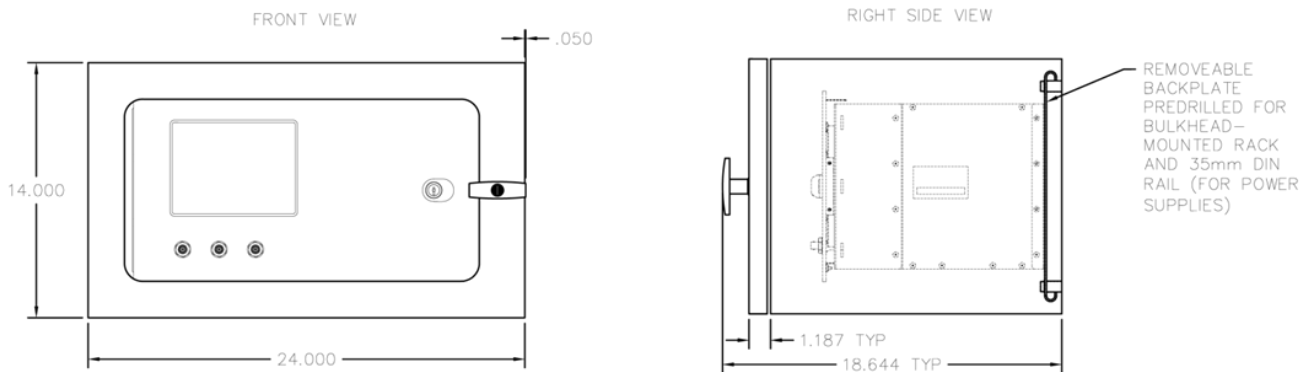


FIGURE 1 - VC-8000/WPH ENCLOSURE (FRONT AND SIDE VIEWS)



24" HOUSING W/HALF RACK & TWO 180W PWR SUPPLIES

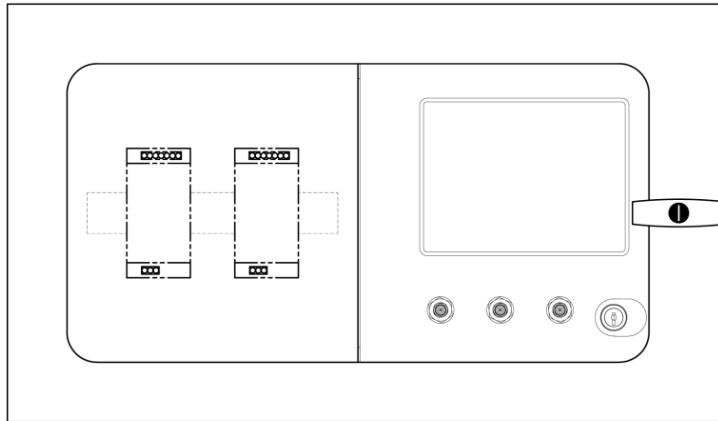


FIGURE 2 - VC-8000/WPH ENCLOSURE (HALF RACK MOUNTING W / POWER SUPPLIES)

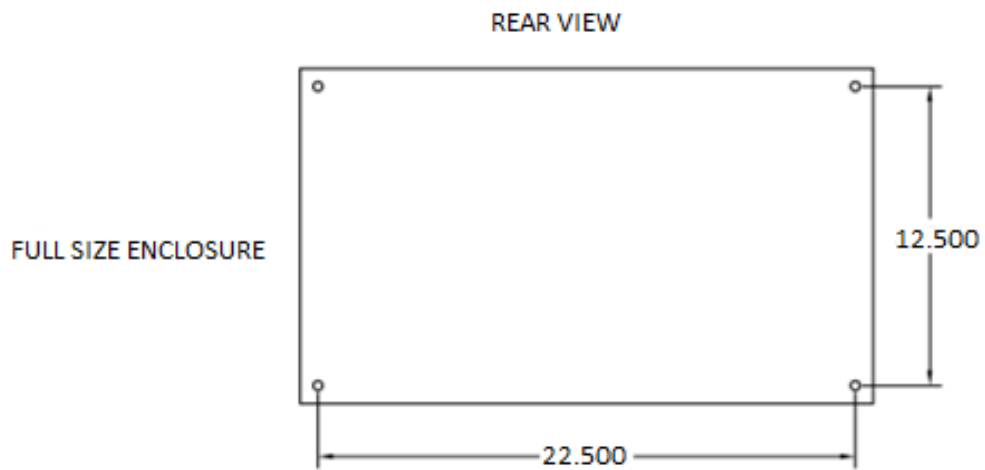


FIGURE 3 – VC-8000/WPH ENCLOSURE (REAR VIEW WITH MOUNTING HOLE DIMENSIONS)

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