

EVIDENT™

Vanta Family X-Ray Fluorescence Analyzer Getting Started Guide

Intended Use

Vanta X-ray fluorescence analyzers are handheld energy dispersive X-ray fluorescence spectrometers, generally referred to as XRF analyzers. Do not use the Vanta for any purpose other than its intended use.

Instruction Manual

Before use, thoroughly review the *Vanta Family User's Manual*. Use the product as instructed. The *User's Manual* contains essential information on how to use this product safely and effectively. Keep the *User's Manual* in a safe, accessible location.

Safety Signal Word



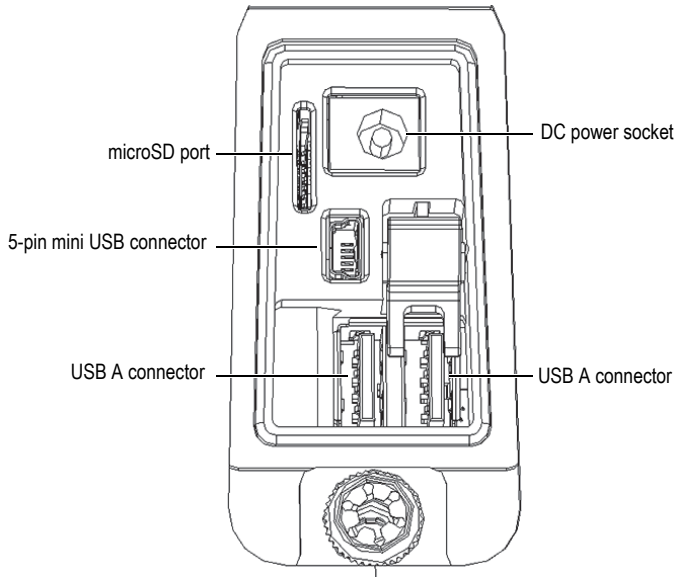
CAUTION

Indicates a potentially hazardous situation and calls attention to a procedure, practice, or the like, which, if not correctly performed or adhered to, may result in minor or moderate personal injury, material damage, particularly to the product, destruction of part or all of the product, or loss of data.

Contents of the Case

Item	Vanta L, C, M Series	Vanta Element Series
Vanta analyzer	✓	✓
AC power adaptor	✓	✓
Docking station	✓	✗
Li-ion battery	✓(2)	✓(1)
microSD card (installed in microSD port)	✓	✓
USB drive with product documentation	✓	✓
USB cable (USB A to USB mini B)	✓	Optional
Extra windows	✓(10)	✓(3)
Check samples (dependent on method)	✓	✗
Wrist strap	✓	Optional

Connections

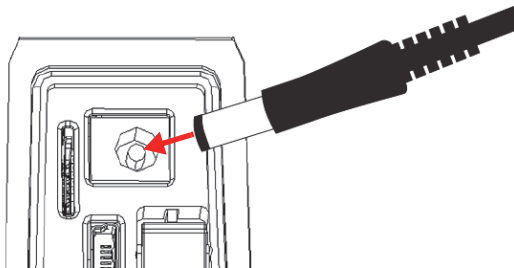


AC Power Adaptor

An AC power adaptor is provided with every Vanta XRF analyzer. This adaptor is used to power the Vanta with or without a battery installed and to charge the rechargeable lithium-ion battery while installed in the analyzer. It is also used to power the docking station.

To Charge the Battery

- ◆ Plug the DC power plug of the AC power adaptor into the DC power socket of the Vanta analyzer.
The Vanta charges the internal battery while it is connected to the AC adaptor.

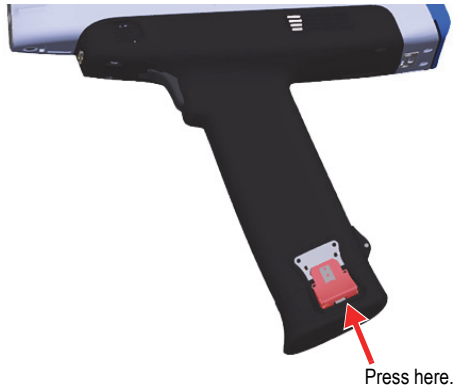


OR

Plug the DC power plug into the back of the docking station, and then place the battery in the spare battery dock.

To Replace the Battery

1. Grasp the Vanta handle and press the two hinged battery release buttons. The buttons are located on opposite sides of the handle.



2. Pull the handle end out to remove the current battery.




3. Align the contacts of a fully charged battery with the contacts in the Vanta handle, and then insert the battery into the handle.
The handle is keyed so that the battery can only be inserted one way.
4. Push the battery into the handle until the battery release buttons engage and lock into place.

To Power On the Analyzer

NOTE


The power button DOES NOT turn on the X-ray tube. Tube power cannot be supplied until the analyzer software is launched.

1. Press the power button () to turn on the analyzer.
The Vanta user interface starts up with the **Welcome** screen displayed.



2. Read the radiation safety notice. For the full text of the radiation safety notice, refer to the *Vanta Family User's Manual*.
3. In the password area (four blank boxes), tap the leftmost box to display the keypad.
4. Enter the password to confirm that you are a certified user.

To Power Off the Analyzer

1. Press and hold the power button () for one second.
2. In the **Welcome** screen, tap **SHUT DOWN**.
OR
Press and hold the power button until the touch screen turns off.

Battery Precautions



CAUTION

- Before disposing of a battery, check your local laws, rules, and regulations, and follow them accordingly.
- Transportation of lithium-ion batteries is regulated by the United Nations under the United Nations Recommendations on the Transport of Dangerous Goods. It is expected that governments, intergovernmental organizations, and other international organizations shall conform to the principles laid down in these regulations, thus contributing to worldwide harmonization in this field. These international organizations include the International Civil Aviation organization (ICAO), the International Air Transport Association (IATA), the International Maritime Organization (IMO), the US Department of Transportation (USDOT), Transport Canada (TC), and others. Please contact the transporter and confirm current regulations before transportation of lithium-ion batteries.
- For California (USA) only:
The CR battery contains perchlorate material, and special handling may be required. Refer to <http://www.dtsc.ca.gov/hazardouswaste/perchlorate>.
- Do not open, crush, or perforate batteries; doing so could cause injury.
- Do not incinerate batteries. Keep batteries away from fire and other sources of extreme heat. Exposing batteries to extreme heat (over 80 °C) could result in an explosion or personal injury.
- Do not drop, hit, or otherwise abuse a battery, as doing so could expose the cell contents, which are corrosive and explosive.
- Do not short-circuit the battery terminals. A short circuit could cause injury and severe damage to a battery making it unusable.
- Do not expose a battery to moisture or rain; doing so could cause an electric shock.
- Only use the Vanta analyzer or an external charger approved by Evident to charge the batteries.
- Only use batteries supplied by Evident.
- Do not store batteries that have less than 40 % remaining charge. Recharge batteries to between 40 % and 80 % capacity before storing them.
- During storage, keep the battery charge between 40 % and 80 %
- Do not leave batteries in the Vanta analyzer during instrument storage.

Electrical Warnings

The instrument must only be connected to a power source corresponding to the type indicated on the rating label.



CAUTION

If an unauthorized power supply cord is used to power the instrument or charge the batteries, Evident cannot guarantee the electrical safety of the equipment.



CAUTION

- X-ray tubes and detectors in this instrument contain beryllium metal in the form of coated foil. In its as-supplied state, the beryllium poses no harm to the user. However, if a detector or tube is damaged, contact with small particles is possible if the instrument is breached (for example, a window is broken or during window replacement). Intact skin is sufficient protection against this situation and washing with soap and water will effectively remove any beryllium contamination. If granulated beryllium embeds in an open wound, seek medical attention.

- Instruments with a damaged detector or tube must be returned to your local distributor or the manufacturer. Care should be taken to limit the release of beryllium from the instrument.

Equipment Disposal

Before disposing of the Vanta analyzer, check your local laws, rules, and regulations, and follow them accordingly.

Trademarks

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Radiation Profiles

The table below represents the upper bounds on the worst case (maximum power and minimum beam filtration) using a 316 stainless steel target. Note that these beam conditions do not represent typical use values or a combination of settings typically available from the factory. To convert from $\mu\text{Sv/h}$ to mR/h , divide the value by 10.

Model	Beam conditions	Trigger	5 cm	10 cm	30 cm
VLW, Element	35 kV, 50 μA , Al filter	BK ^a	4 $\mu\text{Sv/h}$	2 $\mu\text{Sv/h}$	BK
VCR, VCW	40 kV, 100 μA , open filter	BK	25 $\mu\text{Sv/h}$	10 $\mu\text{Sv/h}$	BK
VMR, VMW, VCA, Element-S	50 kV, 80 μA , open filter	BK	40 $\mu\text{Sv/h}$	25 $\mu\text{Sv/h}$	2 $\mu\text{Sv/h}$
Survey updated: January 29 2020					

a. BK = background reading ($< 1 \mu\text{Sv/h}$)

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Printed on Rolland Hitech50,
which contains 50 % post-
consumer fiber.