

Heuresis' HBI-120 Backscatter Imager lets you quickly, cost-effectively find concealed explosives, narcotics and other contraband behind up to 2.5 mm (12-gauge) of steel — in motor vehicle fenders, doors, bumpers, exhaust manifolds, dashboards, seats and tires; in ships, aircraft, steel drums, trash receptacles, mailboxes and other locations.

The HBI-120 images objects with a miniaturized 120 keV, 42 microAmp, x-ray generator that makes a raster-scanning pencil beam of x-rays to scan objects of interest. As the handheld HBI-120 is moved over the object, a two-dimensional backscatter x-ray image of the object is displayed in real-time on HBI-120's high-resolution transreflective LCD touchscreen and saved in the instrument's memory.

With the HBI-120 you can scan up to a square foot (30 by 30 cm) per second and see high-contrast backscatter x-ray images of concealed threats immediately. The HBI-120 has safety interlocks, a built-in video camera and flashlight, and laser guides that show where you're scanning. The unit can also be mounted on a robot and operated remotely via USB cable, Wi-Fi or Bluetooth radio control. The Wi-Fi and Bluetooth radios can be disabled for safety purposes.

The HBI-120's built-in x-ray generator is shielded except where the pencil beam of x-rays is emitted at the front of the unit when the instrument is in use. Potential exposure to radiation from the HBI-120 comes mainly from the primary beam of x-rays emitted when the unit is in use. Proper operator radiation safety training is essential to help ensure that you do not accidentally expose yourself or others to radiation from the primary beam of x-rays from the HBI-120 when you are operating the instrument.

As the HBI-120 scans objects, x-rays are scattered backwards in the direction of the instrument and its operator; these backscattered x-rays comprise a very small fraction of the primary beam of x-rays emitted by the instrument, and most of the backscattered x-rays are absorbed in the x-ray detection module at the front of the unit. A small fraction of the backscattered x-rays that scatter outside the front area of the instrument will expose you to radiation. Your radiation dose from backscattered x-rays will go down as a function of the inverse square of the distance from the object(s) you are scanning: if you scan an object from twice as far away, you will be exposed to one-fourth the backscattered radiation.

If you operate the HBI-120 typically, using both hands, your hands will be exposed to slightly elevated radiation from backscattered x-rays. Behind your hands, your exposure to radiation will decrease to close to background levels at your body.

What is a Safe Exclusion Zone for the HBI-120?

At a 1 meter (3.2 ft.) distance from the face of the HBI-120, the maximum in-beam dose produced by the instrument *without an object front of the instrument* is 855 μ Sv/hour (85.5 mREM/hour).

A member of the general public could be exposed to *more than a thousand* typical 10-second HBI-120 scans each year at a distance of 1 meter from the instrument before that person approached the safe dose limit for a member of the general public.



HBI-120 and battery pack

Size and weight:	24 cm (9.4") x 22 cm (8.7") x 17 cm (6.7"). 3.0 kg (6.6 lbs.)
X-Ray Generator:	5 W (120 keV x 42 μ A) generator with Heuresis x-ray optics
Display:	Transflective 720 x 1,280 pixel color touchscreen LCD
Scan Speed:	Up to 30 cm (12") per second. 15 cm (6") per second for best image quality
Batteries:	Rechargeable Li-ion battery. 4-hour life with typical duty cycle
Data Storage:	More than 10,000 x-ray scans
Data Management:	Image comparison; histogram stretch; image colorization; automated and manual histogram enhancement. Heuresis Data Management Software (HDMS) for PC
Standard Accessories:	Lockable waterproof carry case with wheels. Adjustable carrying strap. 110/220 V AC battery charger; two batteries Quick Start Guide; User's Guide; electronic training materials
Operating Conditions:	At start up: -20 °C (-4 °F) to 60 °C (140 °F); after warm up: -40 °C (-40 °F) to 60 °C (140 °F). Non-condensing atmospheric conditions. Unit is splash and dust proof. IP54 rated
Storage Conditions:	-20 °C (-4 °F) to 60 °C (140 °F)

Heuresis HBI-120 Brochure rev. J
© 2017 Heuresis Corp. All rights reserved. All specifications, terms and pricing are subject to change without notice. Not all products are available in every country. Please consult Heuresis Corp. or your local representative for details.