



Bladder Volume Instruments

Noninvasive, Accurate, Reliable & Easy to Use

BVM 9500

The BladderScan® BVM 9500 is designed to assist Urologists in the diagnosis of bladder dysfunction, including benign prostatic hyperplasia (BPH) and bladder outlet obstruction (BOO). The BladderScan® BVM 9500, with patent-pending NeuralHarmonics™ technology, is a portable, noninvasive 3D ultrasound instrument that quickly and accurately measures:

- Urinary bladder volume (post-void residual or PVR)
- Ultrasound-estimated bladder weight (UEBW)

NeuralHarmonics™ technology

NeuralHarmonics™ technology (from “neural network harmonics”), found exclusively in BladderScan® BVI 9000 series instruments, accelerates speed and sharpens accuracy in important measures of bladder function.



NeuralHarmonics™

About Ultrasound-Estimated Bladder Weight (UEBW)

Bladder Outlet Obstruction (BOO) is reported to be one of the most common urologic problems among elderly male patients.¹ To date, definitive diagnosis of BOO has been achieved through invasive, time-consuming urodynamics testing.² Clinical studies indicate that the mass of the bladder wall may correlate with BOO.³ The BladderScan® BVM 9500 provides Ultrasound-Estimated Bladder Weight (UEBW), a noninvasive measurement of bladder wall mass.



BladderScan® BVM 9500 Benefits

- Measures bladder volume and UEBW noninvasively
- Helps diagnose urinary retention and evaluate common urological problems
- Helps differentiate between types of incontinence to determine appropriate care
- Prevents unnecessary catheterization
- Helps reduce rates of urinary tract infection
- Helps monitor post-operative recovery
- Fast and easy to use
- Improves staff efficiency and reduces costs

1. Kelly, Christopher E. "The Relationship Between Pressure Flow Studies and Ultrasound-Estimated Bladder Wall Mass." *Rev Urol.* 2005; 7 (suppl 6): S29-S34.

2. Nitti, Victor W. "Introduction: Measurement of Bladder Mass Using Ultrasonography: A New Tool for Measuring Bladder Outlet Obstruction." *Rev Urol.* 2005; 7 (suppl 6): S1-S2; Nitti, Victor W. "Pressure Flow Urodynamic Studies: The Gold Standard for Diagnosing Bladder Outlet Obstruction." *Rev Urol.* 2005; 7 (suppl 6): S14-S21.

3. Tubaro, A., C. Manieri, et al. "The Effect of Bladder Outlet Obstruction Treatment on Ultrasound-Determined Bladder Wall Thickness." *Rev Urol.* 2005; 7 (suppl 6): S35-S42.



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The BladderScan® BVM 9500 is quick and easy to use. When the user releases the scan button, within seconds the BVM 9500 measures ultrasonic reflections in multiple planes inside the body and produces a three-dimensional image. Based on this image, the BVM 9500 calculates and displays bladder volume and UEBW. No sonographer is required.

BladderScan® BVM 9500 measurement information can be printed via an onboard printer or transmitted to your office or facility computer for viewing, printing or archiving using HIPAA-compliant ScanPoint® technology.

BladderScan® BVM 9500 system includes:

- Easy to read Color Display Console with brightness control
- Easy to use, hand held Probe
- Battery charger/wireless hub
- 2 Lithium ion batteries
- Onboard video tutorials
- User's Manual and Quick Reference Cards
- ScanPoint® with QuickPrint install CD and User's Manual
- Optional mobile cart with locking wheel



BladderScan® BVM 9500 Features:

- Noninvasively measures urinary bladder volume and post-void residual (PVR), and ultrasound-estimated bladder weight (UEBW)
- Precision aiming ability via console or probe
- Distinct bladder volume scan modes for men and women
- Voice annotation for exams to ensure valuable patient/exam data is retained
- Onboard printer for patient records or reimbursement procedures
- View and save exams easily, creating EMRs for your patients
- Calibration and software upgrades may be performed online

Specifications - BVM 9500

BladderScan® Bladder Volume Instruments are CE marked in accordance with the Medical Device Directive, and the Verathon Inc. quality system is Quality System Certified to ISO 13485:2003 standards. US 6,884,217 and other patents pending.

Bladder volume range: 0 to 999 ml

Bladder volume range for UEBW: 150 to 400 ml

UEBW range: 20 to 100 g

Accuracy: The following accuracy specification assumes usage per instructions, scanning a Verathon Tissue Equivalent Phantom:

Bladder volume accuracy: $\pm 15\%$, ± 15 ml

UEBW accuracy: $\pm 10\%$, ± 3 g

Wall Thickness accuracy: $\pm 10\%$, ± 0.1 mm

Power: 11.1V Li-Ion Battery Pack (2 supplied). 3.5

hours continuous use on one charge; Battery indicator

Ultrasound Output Parameters:

Maximum ultrasound Isptad during a scan: ≤ 5.0 mW/cm²

Maximum ultrasound Isppad during a scan: ≤ 60.0 W/cm²

Maximum MI (Mechanical Index): 0.75 max

Transducer diameter: 13 mm (0.512 inches) and 5 mm (0.197 in)

Transducer resonant frequency: 3.0 MHz, 1.74 MHz and 7.37 MHz

Transducer bandwidth: 80% at 10 dB

Time from 3D scan initiation to result display: < 10 seconds

Display: Color LCD