

# Dose Calibrator

## Model VDC 505

This state of the art dose-calibrator combines the best of two worlds. It has the extensive functionality of a software driven device like the Veenstra VDC-405. It has the robustness of firmware like the Veenstra VDC-404. So if you do not want to introduce another PC in your department or Hotlab, the VDC-505 is the best alternative.

Due to its special V-shaped design it offers a large touch-screen for easy read-out and operation. The graphical interface is very user-friendly with special coloured markings to guide its users through the most important routines. Another example of the ergonomic design are the inwards mounted connectors so that the device in spite of its size still requires a minimum of workspace. An optional special wall-mount stand is available.

In terms of connectivity the VDC-505 is state of the art. The dose calibrator can be integrated in a network (Ethernet base) and connected to a PC or extra display. Furthermore the system supports a range of label-printers. In terms of functionality the VDC-505 is well equipped for both vial and syringe measurements, including future dose calculations. Furthermore this model offers a complete set of calibrator quality control routines and protocols for daily and quarterly checks. These QC reports can then be downloaded to a PC by a standard RS-232 or even the optional Ethernet interface.

All VDC dose calibrators come as standard with one well liner and dipper. Optional extras available are:

- Extra lead shielding
- Mo-99 breakthrough set
- Copper dipper
- Extra well liner
- Extra dipper
- Label printer



**VEENSTRA**  
INSTRUMENTS

'A complete set of calibrator **quality control** routines and protocols for a daily and quarterly check'





# VEENSTRA

## INSTRUMENTS

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**ISO 9001: 2000 certified**

## Specifications controller / readout unit

<b>Readout:</b>	Curie/Becquerel (touch screen selectable)
<b>Measuring range:</b>	0.001 MBq – 200 GBq (Tc-99m) 0.01 $\mu$ Ci – 6000 mCi (Tc-99m)
<b>Display:</b>	8.4" TFT display, 800 x 600 resolution
<b>Control:</b>	8.4" touch screen
<b>Operating system:</b>	Microsoft <sup>®</sup> Windows XP Embedded
<b>Peripheral interfaces:</b>	1 x standard RS-232 for label printer 1 x standard RS-232 for PC Ethernet (optional) External monitor (optional) Footpedal switch (optional)
<b>Defined isotopes:</b>	> 50 touch screen selectable isotopes
<b>User definable isotopes:</b>	100 user definable isotopes (name, half life, calibration factor)
<b>Pre-set isotopes:</b>	15 pre-set isotopes
<b>Temperature range:</b>	0°C - 40°C / 35°F - 105°F
<b>Humidity:</b>	Max. 90% rel. humidity, non condensing
<b>Power:</b>	85 – 264V ~, 47 – 63 Hz. / 90 Watt
<b>Dimensions:</b>	280 x 370 x 240 mm
<b>Weight:</b>	4.5 kg

## Specifications detector unit

<b>Ionisation chamber:</b>	Pressurised (12 bar argon)
<b>Ionisation voltage:</b>	150 V lithium battery
<b>Well size:</b>	60 mm $\varnothing$ x 250 mm
<b>Saturation:</b>	> 200 GBq (Tc-99m) > 6 Ci (Tc-99m)
<b>Resolution:</b>	0.001 MBq 0.01 $\mu$ Ci
<b>Energy range:</b>	25 keV - 3 MeV
<b>Lead shielding:</b>	3 mm Pb
<b>Linearity:</b>	$\pm$ 1 % between 1 MBq and 200 GBq (Tc-99m)
<b>Electrometer accuracy:</b>	$\pm$ 1 %
<b>Battery test accuracy:</b>	$\pm$ 5 %
<b>Temperature coefficient:</b>	0.1%/°C between 10°C and 40°C at 5 MBq and up
<b>Reproducibility:</b>	$\pm$ 1% over 24 hours, stable conditions
<b>Overall accuracy:</b>	$\pm$ 3 % dependant of specific calibration source and geometric variations
<b>Response time:</b>	Maximum 2 seconds for 95% of the end value
<b>Ranges:</b>	Three ranges (auto ranging)
<b>Isotope factor:</b>	Digital adjustment (library over 50 isotopes available)
<b>Bias correction:</b>	Digital adjustment
<b>Calibration:</b>	Digital adjustment
<b>Zero adjustment:</b>	Digital control
<b>Background subtraction:</b>	Digital control
<b>Battery test:</b>	Digital control
<b>Interface:</b>	RS-232C
<b>Power supply:</b>	5 VDC, 250 mA
<b>Cable:</b>	2.5 meters
<b>Dimensions:</b>	150 mm $\varnothing$ x 420 mm
<b>Weight:</b>	15.5 kg

## Detector units for special purposes:

Extended measurement range model  
Drop-through (sluice) model  
Different sized models