

QUART didoEASY M / R / MR

Multimeter for X-Ray Service and QA



QUART didoEASY Series

Precision Dosimeters for R+F, Dental and Mammography



| | |
|----------------------|---|
| Dose | 0.2 µGy – 999 mGy |
| | Uncertainty: +/- 5 % |
| | Application Range: 50 to 150 kV (<i>didoEASY R</i>) 25 to 35 kV (<i>didoEASY M</i>) 25 to 150 kV (<i>didoEASY MR</i>) |
| | Auto-Compensation for all Dental, R+F (<i>didoEASY R / MR</i>) and Mo/Mo Mammo radiation qualities (<i>didoEASY M / MR</i>) |
| | Correction factors provided for additional mammo radiation qualities Attenuated and open radiation beam measurements |
| | Mammo radiation qualities: Mo/Mo, Mo/Rh, Rh/Rh, W/Rh, W/Ag (<i>didoEASY M / MR</i>) |
| DLP* | 0.2 µGy*cm – 999 µGycm |
| | Uncertainty: +/- 5 % |
| | Dynamic Range: 50 – 150 kV |
| | Auto-compensation for all radiation qualities Attenuated and open radiation beam measurements |
| Exposure Time | 0.5 ms – 300 s |
| | Mode: Time for full exposure |
| | Uncertainty: ± 0.5 ms or 0.1 % |
| Dose Rate | 0.25 µGy/s – 999 mGy/s |
| | Mode: Average rate per exposure |
| | Uncertainty: ± 5 % |
| Pulses | 1 – 9999 |
| | Uncertainty: ± 1 pulse |
| Pulse Rate | 0.1 Pulses/s – 250 Pulses/s |
| | Uncertainty: ± 0.05 pulses/s |



Optional Features: kV and Direct-HVL Measurement

As an *optional* feature, the QUART *didoEASY* can be equipped with the ability to measure kVp and effective kV, also called practical peak voltage or PPV, as well as direct-HVL. These features are included in the *didoEASY+* or *didoEASY++* versions.



| | |
|-------------------|--|
| didoEASY+ | Added kV Measurement |
| kV | 25 – 35 kV (<i>M / MR</i>) 50 – 130 kV (<i>R / MR</i>) |
| | Exposure Conditions: Mammo: Mo/Mo; HVL 0.6 – 2.2 mm Al eq. R&F: HVL 1.4 – 7.0 mm Al eq. |
| | Uncertainty: +/- 3% at calibrated reference points |
| Other Specs | Same as above |
| didoEASY++ | Added kV and Direct-HVL Measurement |
| Direct-HVL | 0.1 - 11 mm Al (<i>M / R / MR</i>) |
| | Exposure Conditions: Internal filtration of 0.1 – 12.5 mm Al eq. |
| | Uncertainty: +/- 8% |
| Other Specs | Same as above |

* **REFERENCE:** S A Mitchell and C J Martin, *Comparison of ionisation chamber and semiconductor detector devices for measurement of the dose-width product for panoramic dental units*, J. Radiol. Prot. 33 321 (2013).

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Precision Dosimeters for R+F, Dental and Mammography



The QUART *didoEASY* meters can be used for simple but very precise dose measurements. Since the meters do not require any pre-setting procedure, measurement results are acquired quickly:

1. Position the detector and switch on the *didoEASY* meter ...
2. Set the x-ray equipment to the desired parameters ...
3. Expose ...
 >>> and quickly read all relevant data from the meter's display.

The detector of the QUART *didoEASY* meter series automatically measures the integrated dose-length product (DLP) at dental panoramic equipment.* A feature that provides extra value to our users.

Technical Specifications

| | |
|---------------|--|
| Appl. Temp. | 15–35°C (recomm.) |
| Storage Temp. | 0–50°C (recomm.) |
| Environmental | Humidity 20–75% non-condensing / Air Pressure 20g/m ³ |
| Weight | Base Unit: 180g including Battery Detector: negligible |
| Size | Base Unit 17 x 7 x 4.5 cm (L x W x H) Detector 6.0 x 1.8 x 0.5 cm (L x W x H) |
| Units | Gy or R (to be specified on order) Date and time on display |

QUART *didoEASY R*

The QUART *didoEASY R* is designed for precision measurement in radiography x-ray QA/QC. Dose and exposure time are measured for all Rad, Fluoro and Dental applications at equipment using digital or screen-film image acquisition technology. The meter automatically compensates all radiation qualities, no extra corrections are required.

QUART *didoEASY M*

The QUART *didoEASY M* is designed for precision measurement in mammography x-ray QA/QC. Dose and exposure time are measured for all mammography applications at equipment using digital or screen-film image acquisition technology.

The technical approach of the *didoEASY M* enables measurement of all mammography radiation qualities currently in use: Mo/Mo, Mo/Rh, Rh/Rh, W/Rh, W/Ag - with or without compression paddle in the beam. It automatically compensates open and attenuated Mo/Mo measurements, a correction table for other target/filters is provided.

QUART *didoEASY MR*

The QUART *didoEASY MR* is a special configuration in the EASY series. The MR version features two detectors (M+R) for Mammo and RAD/Fluoro/Dental applications.





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