

Radcal Corporation

426 W. Duarte Rd.
Monrovia, CA 91016
Tel: (626) 357-7921
Fax: (626) 357-8863

Report No: S77586

Certificate of Calibration

Issued To: R-Tech Dental of Minnesota
1653 Bear Meadow Ln SE
Rochester, MN 55904

Equipment Description	Model	S/N	Asset No.
Dent 50-100 kVp Test-O-Meter	4075D	80685	N/A

Condition of Equipment as Received

In Calibration as Received: No

Remarks:

Upon receipt, the equipment was found to be in good condition and performed in accordance with the manufacturer's specifications with the exceptions listed below:

1. The 9V Battery measured less than 9V and was replaced in accordance with Radcal procedures.
2. The maximum error was found to be 3%. This exceeds the combined manufacturer's error ($\pm 2\%$) and Radcal's statement of measurement accuracy ($\pm 1\%$).
3. During kVp calibration the instrument displayed "Sh.E" at 99 kVp.

The equipment identified above has been calibrated and tested using standard Radcal calibration and acceptance procedures in accordance with Radcal Quality Manual PP1007 and technical requirements contained in the customer's order. These procedures are designed to ensure that the tested equipment meets or exceeds the stated specifications and the requirements of ANSI/NCLS Z540-1-1994.

All measurements performed during the testing employ equipment traceable to NIST or another recognized National Laboratory such as Physikalisch-Technische Bundesanstalt (PTB). All calibration results included with this certificate were recorded at the time of measurement and shall not imply anything about the instrument's future stability. This must be determined from previous historical data.

The calibration results, any special limitations of use, environmental conditions during calibration, details of any maintenance such as service, adjustments, repairs or modifications are documented and found in the CALIBRATION REPORT.

Certificate Issue Date: September 30, 2004

By: 

P. Sunde / T. Harrington
Authorized Reviewers

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Calibration Report

Measurement Test Conditions

An Electromed EDEC-80 X-ray generator equipped with an Eimac Model A192 tungsten target x-ray tube was used as the source of the required x-ray beam. The generator ripple is less than 0.5 kV. The inherent filtration was adjusted by the addition of aluminum to produce a total filtration of 2.5 mmAl in accordance with IPSM Report No, 64 "Data for Estimating X-ray Tube Total Filtration". The output of the generator was measured by a Radcal Dynalyzer IIIU. The Dynalyzer were monitored simultaneously by an analog to digital converter with an accuracy of $\pm 0.1\%$. All reported measurement results have an accuracy of better than $\pm 1\%$ at the 95% confidence level.

Measurement Results**Conditions of Measurement**

Temperature: 23 °C

Pressure: 99.3 kPa

Humidity: 39%

Note: Corrections for environmental conditions are not required for this equipment.

Battery Check

	Nom. (V)	Meas.(V)
As Received	9	8.85
As Left	9	9.49

kVp Calibration Calibration

2.5 mmAl total filtration, 22 inches target to detector

Dynalyzer				Test-O-Meter		
				Read	Error	
ms	mA	mAs	kVp	kVp	kVp	%
254.1	192.1	48.8	51.6	51.5	-0.1	-0.2%
254.8	191.7	48.8	54.6	54.3	-0.3	-0.6%
253.8	192.7	48.9	59.8	60.2	0.4	0.6%
257.2	190.0	48.9	70.1	70.6	0.5	0.7%
258.5	188.9	48.8	80.4	82.9	2.5	3.0%
256.3	190.6	48.9	89.7	91.4	1.7	1.9%
254.2	192.5	48.9	94.8	96.6	1.8	1.9%
253.9	192.4	48.9	99.0	Sh.E	0.0	0.0%

Maximum Deviation: 3.0%
Pass/Fail (limit $\pm 3\%$): Pass

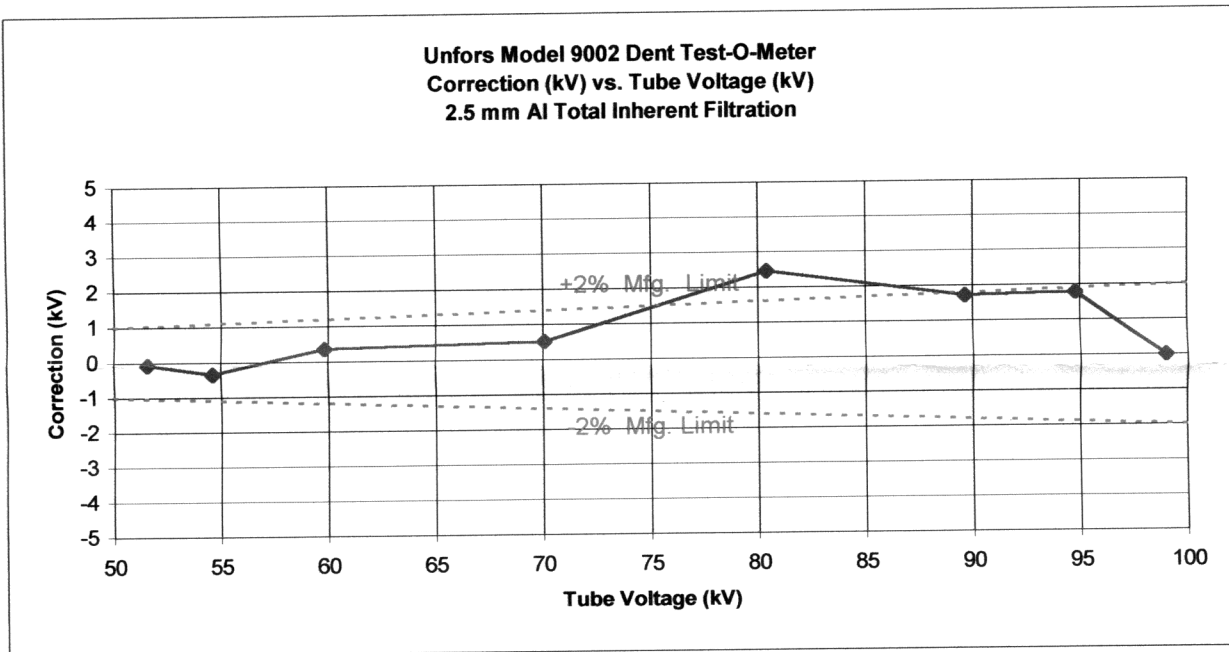
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