HPNW
HEALTH PHYSICS NORTHWEST

August 10, 2021

Jarrod Parasmo
President
Protech Medical
1360 North Killian Drive, Suite 2
Lake Park, Florida 33403

Dear Jarrod:

Enclosed are the attenuation and lead equivalency results for the lenses that were received by Health Physics Northwest on February 26, 2021. At your request, all tests were conducted in accordance with IEC 61331-1 Edition 2.0 2014-05, using an inverse broad beam geometry. All of this testing was performed at our office following the calibration of our ion-chamber and installation of a new X-ray generator.

If you have any questions or need any additional information, please contact our office.

Sincerely,

Matt Brien, BS
Medical Physicist

Encl.

7525 SE Lake Road, Milwaukie, Oregon 97267
Phone: 503-620-6617 Fax: 503-684-5548
www.hpnw.com

Test Report

1.) Name and address of laboratory (and location of performed tests):
Health Physics Northwest
7525 SE Lake Road
Milwaukie, Oregon 97267

2.) Unique identification of test report:
Report 101

3.) Name and address of customer:
Protech Medical
1360 North Killian Drive, Suite 2
Lake Park, Florida 33403

4.) Identification of the methods used:
- IEC 61331-1: Edition 2.0 2014-05
  - Inverse Broad Beam Condition

5.) Description of, condition of, and unambiguous identification of the tested items:
- Test 1
  - **4B Semi Finished Lens – Thin**
- Test 2
  - **4B Semi Finished Lens – Thick**
- Test 3
  - **6B Semi Finished Lens – Thin**
- Test 4
  - **6B Semi Finished Lens – Thick**
- Test 5
  - **4B 65 mm Lens** – Non-Prescription
- Test 6
  - **6B 73 mm Lens** – Non-Prescription

6.) Date of receipt of all test items:
February 26, 2021

7.) Date of testing:
August 10, 2021 (testing was performed following the calibration of our ion-chamber and installation of a new X-ray generator)

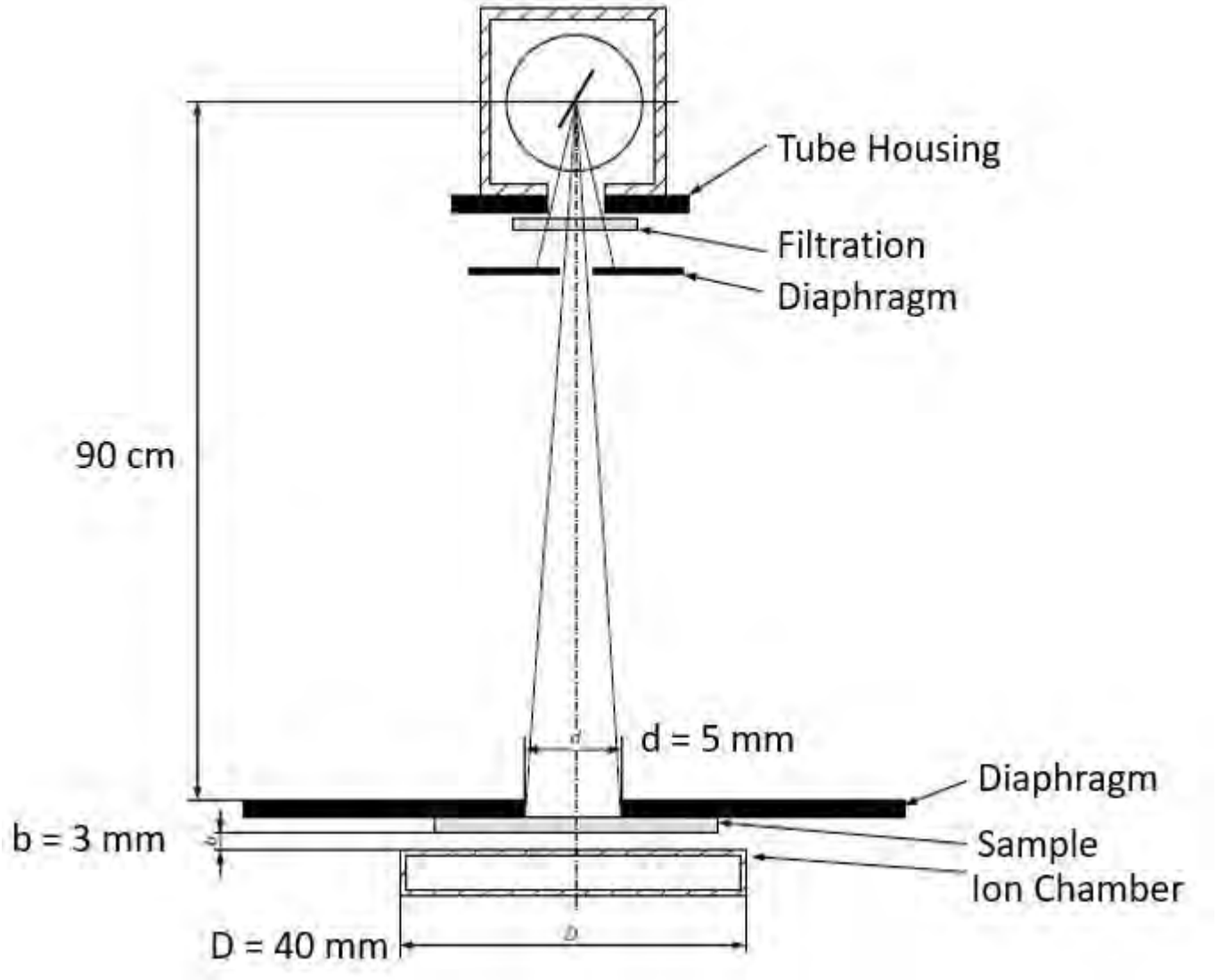
Test Report

8.) Dates of calibration of equipment used for this testing:
- March 5, 2021 – Unfors RaySafe X2 R/F Sensor (used to measure and kV and half-value layer)
- April 26, 2021 – Fluke ion-chamber (used to measure exposure)

9.) Identification of person authorizing the test report:
Jarrod Parasmo, Protech Medical

Test Report

Measuring arrangement with an inverse broad beam condition (IEC 61331-1: 2014-05)
Not Drawn to Scale



Test Report

Radiation Qualities and Signal to Noise Condition (IEC 61331-1: 2014-05)

X-ray Tube Voltage	Measured X-ray Tube Voltage	First Half-Value Layer	Signal to Noise Condition
100 kV	100.3 kV	3.48 mm Al	Pass
150 kV	148.4 kV	5.14 mm Al	Pass

Test 1: 4B Semi Finished Lens - Thin:

Attenuation Ratio	72.47:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.73:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	30.70:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.70:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05

Test 2: 4B Semi Finished Lens - Thick:

Attenuation Ratio	159.15:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.98:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	66.58:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.94:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05

Test 3: 6B Semi Finished Lens - Thin:

Attenuation Ratio	193.77:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	1.04:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	87.90:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	1.04:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05

Test 4: 6B Semi Finished Lens - Thick:

Attenuation Ratio	493.87:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	1.34*:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	145.82:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	1.21:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05

*****This sample attenuates 99.5% of X-rays produced at this tube potential. This approaches the limits for accurately determining lead equivalency. The percent error for determining lead equivalency under these conditions is significantly higher than the percent error for samples with lower attenuation.

Test Report

Test 5: 4B 65 mm Lens (Non-Prescription):

Attenuation Ratio	109.11:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.85:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	44.24:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.81:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05

Test 6: 6B 73 mm Lens (Non-Prescription):

Attenuation Ratio	103.30:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.83:	inverse broad beam	100 kV	HVL = 3.48 mm Al	IEC 61331-1: 2014-05
Attenuation Ratio	41.38:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05
Lead Equivalent	0.79:	inverse broad beam	148 kV	HVL = 5.14 mm Al	IEC 61331-1: 2014-05