DIAGNOMATIC

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Other Test Devices

ISO 9001 ISO 13485 ISO 14001 ISO 45001 ISO 27001

Other Test Devices

Quality Control kits

Powered by:

DIAGNOMATIC ONLINE

We have prepared several QA / QC kits consisting of must-have phantoms, accessories and software that you can use in different situations depending on your requirements.
These can be your go-to selections when you are not sure what to choose for tests of a given modality.
We have introduced gradation of kits depending on the purpose and level of sophistication required:

BASIC: these sets are meant for constancy level testing purposes - tests that can be done practically by everyone who can use a diagnostic device
PRO: sets meant for acceptance and specialized testing - performed by specialized personnel, for example a medical physicist

Pro-FS kit

05-001

The Pro-FS kit is a set of tools allowing for an accurate measurement of the focal spot size according to IEC 60336:2020. Its main advantages are repeatability, accuracy and possibility to measure the size of any focal spot.

Technical data (can be modified to customer specifications):

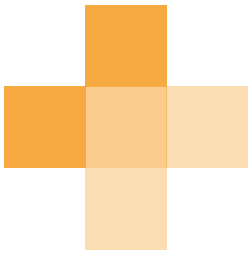
- Pro-Slit (05-101)
- Pro-Stand All (05-103)
- Pro-Stand ALIGN (05-104)
- Pro-Stand HVL (05-106)
- Diagnomatic BASIC annual subscription
- carrying cases with dedicated foam inlay

Product features:

- complies with:
  - IEC 60336:2020
  - IEC 61223-3-1, 2, 4
- CE certified
- the Manual provides detailed guidelines for carrying out each test, results assessment and registration

Other Test Devices

Phantoms



Pro-Slit

05-101

The Pro-Slit phantom is the so called **slit camera for accurate measurement of the focal spot size according to IEC 60336:2020**. Its main advantages are **repeatability, accuracy and possibility to measure the size of any focal spot**. Because of the small attenuation of the outer cover this tool can also be used with dental digital detectors - detector receives enough radiation to be triggered.

Technical data (can be modified to customer specifications):

- dimensions: 40 x 40 x 11.5 mm
- 0.01 mm wide and 10 mm long slit with 8° spread
- diaphragm made of tungsten
- embedded in PMMA with additional stainless steel shielding
- optional Pro-Stand in a heavy duty carrying case with two layer foam inlay

Product features:

- complies with:
  - IEC 60336:2020
  - IEC 61223-3-1, 2, 4
- CE certified
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Pro-Pinhole

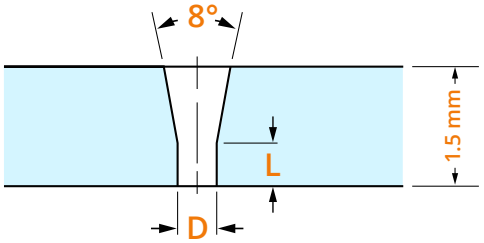
05-701 - 0.010 mm size
05-702 - 0.030 mm size
05-703 - 0.075 mm size
05-704 - 0.100 mm size

The Pro-Pinhole phantom is the so called **pinhole camera for accurate measurement of the focal spot size according to IEC 60336:2020**. Its main advantages are repeatability, accuracy and possibility to measure the size of different focal spots.

Technical data (can be modified to customer specifications):

- diaphragm dimensions: Ø 5 x 1.5 mm
- diaphragm made from a 90:10 gold-platinum alloy
- four different pinhole diameters:
- – 0.010 mm for focal spot sizes from 0.5 to 0.10 mm
- – 0.030 mm for focal spot sizes below 1.0 mm
- – 0.075 mm for focal spots from 1.0 to 2.5 mm
- – 0.100 mm for focal spot sizes above 2.5 mm
- mounting screw
- stainless steel mounting frame for Pro-Stand
- optional Pro-Stand in a heavy duty carrying case with two layer foam inlay

Section view



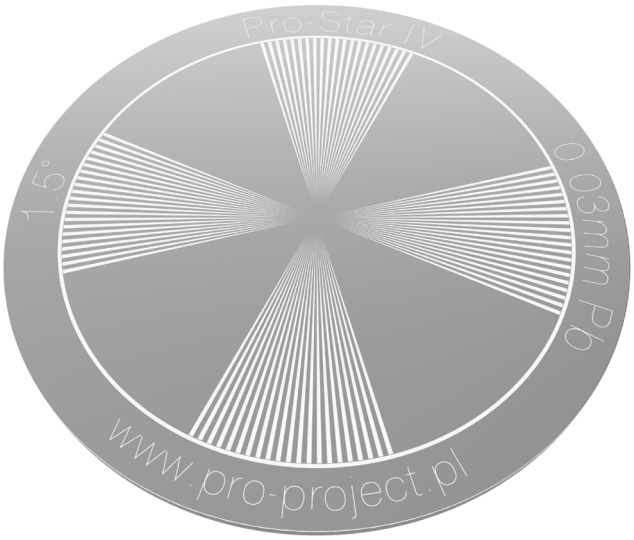
Pro-Pinhole aperture sizes (Millimeters)		**Nominal diameter** (Millimeters)
D	L	
0.010 ± 0.005	0.020 ± 0.010	0.010
0.030 ± 0.005	0.075 ± 0.010	0.030
0.075 ± 0.005	0.350 ± 0.010	0.075
0.100 ± 0.005	0.500 ± 0.010	0.100

Product features:

- complies with:
  - – IEC 60336:2020
  - – IEC 61223-3-1, 2, 4
  - – EN 12543-2:2008
- CE certified
- the Manual provides detailed guidelines for carrying out each test, results assessment and registration

Pro-Star

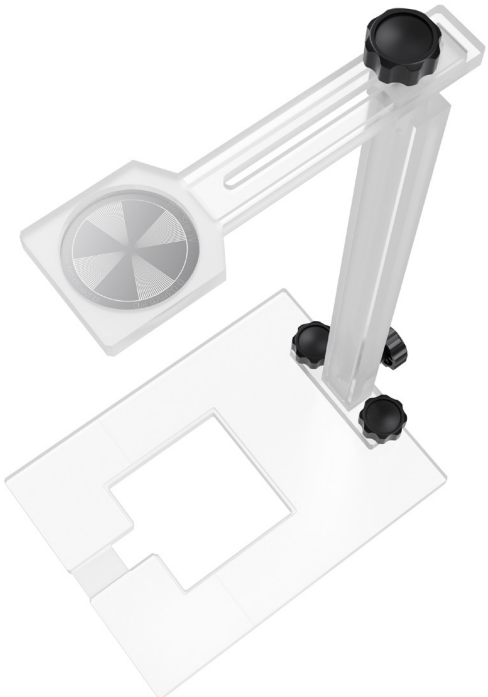
05-601 - Pro-Star version I
05-602 - Pro-Star version II
05-603 - Pro-Star version III
05-604 - Pro-Star version IV
05-605 - Pro-Star version V
05-606 - Pro-Star version VI
05-607 - Pro-Star version VII



With Pro-Star test Patterns **focal spot size can be determined by observing the regions of blurring which occur when the pattern is radiographed by an x-ray source of finite dimensions**. Radiation from different areas of the focal spot will cause a periodic blurring of the pattern due to penumbra effects. Knowledge of the geometric factors, and the distance from the center of the pattern to the region where blurring occurs, will permit the calculation of the focal spot size with the same accuracy as measurements made with a pinhole camera.

Technical data (can be modified to customer specifications):

- Dimension: 55 mm diameter
- The following versions are available
  - **I**: For measuring focal spots from 0.1 to 0.3 mm.
    It has four 15° patterned sectors with a 0.5° angle of a single line within a sector.
    Lead-foil thickness: 0.03 mm.
  - **II**: For measuring focal spots from 1 mm and up.
    It has four 45° sectors with a 2° angle of a single line within a sector.
    Lead-foil thickness: 0.05 mm.
  - **III**: For measuring focal spots from 0.3 to 0.6 mm.
    It has four 28° patterned sectors with a 1° angle of a single line within a sector.
    Lead-foil thickness: 0.03 mm.
  - **IV**: For measuring focal spots from 0.8 to 1.5 mm.
    It has four 35° patterned sections with a 1.5° angle of a single line within a sector.
    Lead-foil thickness: 0.03 mm.
  - **V**: For measuring focal spots from 0.1 to 0.3 mm.
    It has four 45° patterned sectors with a 0.5° angle of a single line within a sector.
    Lead-foil thickness: 0.03 mm.
  - **VI**: For measuring focal spots from 0.1 to 0.3 mm.
    It has four 15° patterned sectors with a 25° angle of a single line within a sector.
    Lead-foil thickness: 0.03 mm.
  - **VII**: For measuring focal spots from 1 mm and up.
    It has one 360° patterned sector with a 2° angle of a single line within a sector.
    Lead-foil thickness 0.05 mm.



Product features:

- complies with:
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  - IEC 61223-3-1, 2, 4
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Pro-Stand

05-102 - R/F applications
05-103 - All applications including mammography

Adjustable stand, designed to make focal spot measuring procedures **easy to perform**, as well as **ensuring accurate results**. It can also be used for the HVL measurements.

Technical data (can be modified to customer specifications):

- adjustable height from 350 mm to over 600 mm (wide range of magnification)
- adjustable horizontal position and vertical angle (optional - for testing mammography systems) of the table top
- place in the base for the Pro-Dent positioning stand for accurate positioning of dental RVG detectors
- optional add-ons for stand alignment verification – especially useful for measurements on mammography units
- optional wider arm for Pro-HVL filters
- optional heavy duty carrying case with two layer foam inlay

Product features:

- complies with:
  - IEC 60336:2020
  - IEC 61223-3-1, 2, 4
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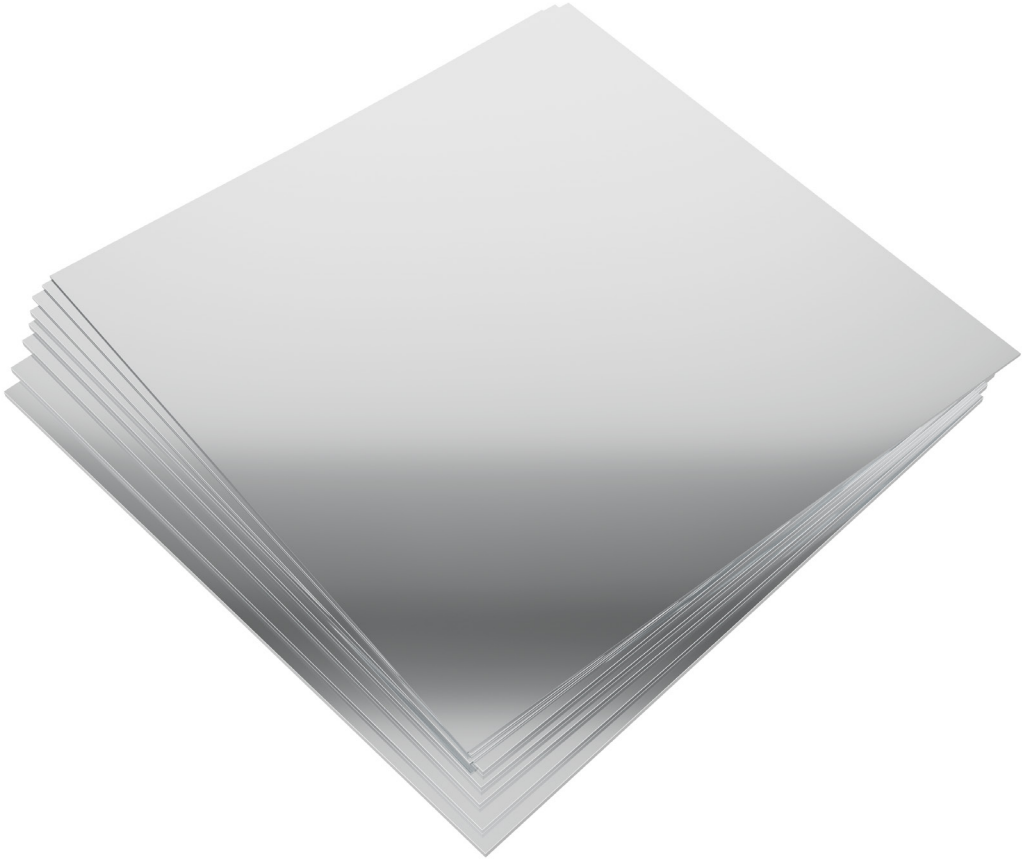
Pro-HVL

05-201 - standard set
05-202 - mammography set



Different **sets of high (99.9%)** and **standard (99.5%) purity aluminium plates** for testing **Half Value Layer**.

Technical data (can be modified to customer specifications):

- dimensions: 89 x 89 mm
- mammography set: 6 x 0.1 mm, aluminium purity 99.9%
- standard set: 5 x 1.0 mm, 2 x 0.5 mm, 4 x 0.1 mm, aluminium purity 99.5%
- other sizes upon request

Product features:

- complies with:
  – IEC 61223-3-2, 3, 4
- CE certified
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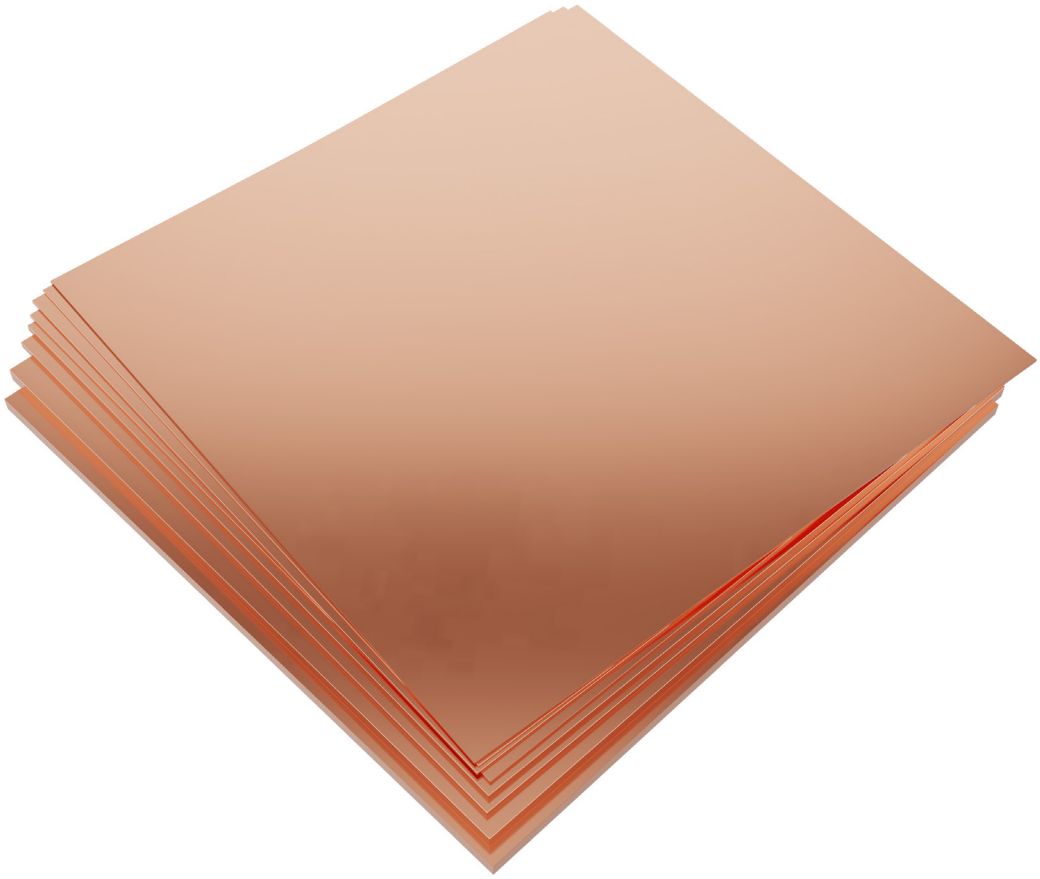
Pro-HVL Cu

05-203



Different sets of **high purity copper plates** for testing **Half Value Layer**.

Technical data (can be modified to customer specifications):

- dimensions: 100 x 100 mm
- standard set: 1x 2.0 mm, 2x 1.0 mm, 1x 0.5 mm, 1x 0.25 mm, 4x 0.1 mm
- other sizes upon request

Product features:

- complies with:
  - IEC 61223-3-2, 3, 4
- CE certified
- the Manual provides detailed guidelines for carrying out each test, results assessment and registration

Resolution patterns

We offer **a wide range of test patterns** for **two and three dimensional** resolution evaluation. As we do not depend on other companies and each pattern is developed and manufactured in-house, **we can prepare all combination of shapes, layouts, templates and materials for you**. Our cutting-edge technology allows us to obtain **unmatched precision** and **resolution range** in **many types of materials**.

We present here only our standard test patterns. If you need something else, please contact us.

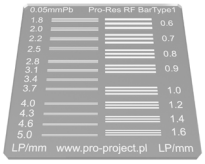
Dental resolution patterns

Pro-Res Dent Intra (05-301)
lead thickness: 0.05 mm
resolution range: 4.0 - 8.0 LP/mm
number of groups: 7
bars per group: 3
size: 16 x 32 mm

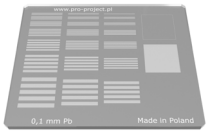
Pro-Res Dent OPG (05-302)
lead thickness: 0.05 mm
resolution range: 1.6 - 3.0 LP/mm
number of groups: 7
bars per group: 3
size: 17 x 31 mm

Radiography resolution pattern

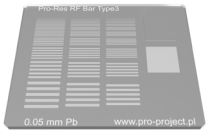
Pro-Res RF BarType 1 (05-401)
lead thickness: 0.05 mm
resolution range: 0.6 - 5.0 LP/mm
number of groups: 20
bars per group: 3
size: 50 x 50 mm



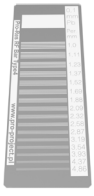
Pro-Res RF BarType 2 (05-402)
lead thickness: 0.1 mm
resolution range: 0.5 - 5.0 LP/mm
number of groups: 21
bars per group: 5
size: 57 x 47 mm



Pro-Res RF BarType 3 (05-403)
lead thickness: 0.05 mm
resolution range: 0.5 - 14.3 LP/mm
number of groups: 30
bars per group: 5
size: 57 x 47 mm

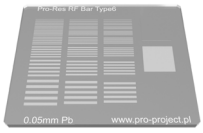


Pro-Res RF BarType 4 (05-404)
lead thickness: 0.1 mm
resolution range: 1.0 - 4.86 LP/mm
number of groups: 16
bars per group: 5
size: 110 x 40 mm

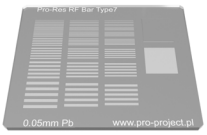


Pro-Res RF BarType5 (05-408)
lead thickness: 0.01 mm
resolution range: 0.6 - 5.0 LP/mm
number of groups: 20
bars per group: 3
size: 50 x 50 mm

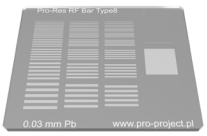
Pro-Res RF BarType 6 (05-410)
lead thickness: 0.05 mm
resolution range: 0.5 - 5.0 LP/mm
number of groups: 21
bars per group: 5
size: 57 x 47 mm



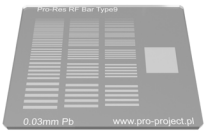
Pro-Res RF BarType 7 (05-411)
lead thickness: 0.05 mm
resolution range: 0.5 - 10.0 LP/mm
number of groups: 27
bars per group: 5
size: 57 x 47 mm



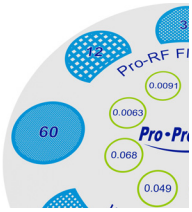
Pro-Res RF BarType 8 (05-412)
lead thickness: 0.03 mm
resolution range: 0.5 - 14.3 LP/mm
number of groups: 30
bars per group: 5
size: 57 x 47 mm



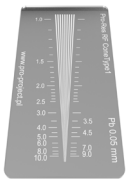
Pro-Res RF BarType 9 (05-413)
lead thickness: 0.03 mm
resolution range: 0.5 - 20.0 LP/mm
number of groups: 33
bars per group: 5
size: 57 x 47 mm



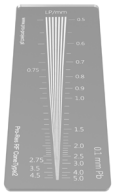
Pro-Res RF MeshType
standard wire meshes from 16 to 150
different sizes
different graduations
diamater: 20 mm



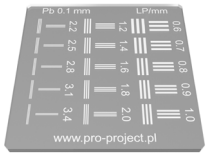
Pro-Res RF ConeType 1 (05-406)
resolution range: 1.0 - 10.0 LP/mm
lead thickness: Pb 0.05 mm
number of groups: 1
size: 80 x 40 mm



Pro-Res RF ConeType 2 (05-407)
resolution range: 0.5 - 5.0 LP/mm
lead thickness: Pb 0.1 mm
number of groups: 1
size: 150 x 50 mm



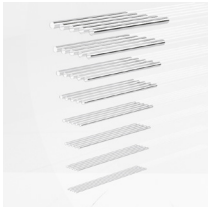
Pro-Res RF MultiBarType 1 (05-409)
resolution range: 0.6 - 3.4 LP/mm
lead thickness: Pb 0.1 mm
number of groups: 2 x 15 groups
size: 50 x 50 mm



Computed tomography resolution pattern

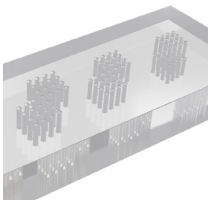
Pro-Res CT SandwichType
aluminium bars
different sheet sizes
standard resolution range:
1.0 - 30.0 LP/cm

Pro-Res CT HolesType
air thru holes
different hole diameters
standard diameters range:
0.4 - 1.75 mm



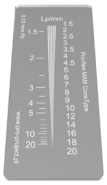
MRI resolution pattern

Pro-Res MRI HolesType
thru holes
different hole diameters
standard diameters range:
0.8 - 1.1 mm

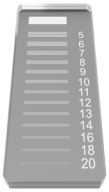


Mammography resolution pattern

Pro-Res MAM ConeType (05-501)
lead thickness: 0.03 mm
resolution range: 1.5 - 20.0 LP/mm
size: 26 x 60 mm

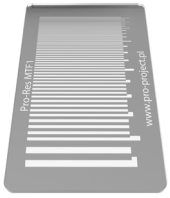


Pro-Res MAM BarType 1 (05-502)
lead thickness: 0.02 mm
resolution range: 5.0 - 20.0 LP/mm
number of groups: 13
bars per group: 5
size: 10 x 25 mm



Modulation Transfer Function measurement pattern

Pro-Res MTF 1 (05-405)
lead thickness: 0.05 mm
resolution range: 0.25 - 10.0 LP/mm
number of groups: 22
resolutions: 0.25, 0.5, 0.6, 0.7, 0.85, 1.0, 1.2, 1.4, 1.7, 2.0, 2.4, 2.9, 3.5, 4.2, 5.0, 6.0, 7.0, 8.5, 10.0, 8.5, 7.0, 6.0 LP/mm
size: 71 x 44 mm



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