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JRT Associates

800-221-0111

**UNMATCHED
SOLUTIONS
FOR QUALITY
CONTROL**

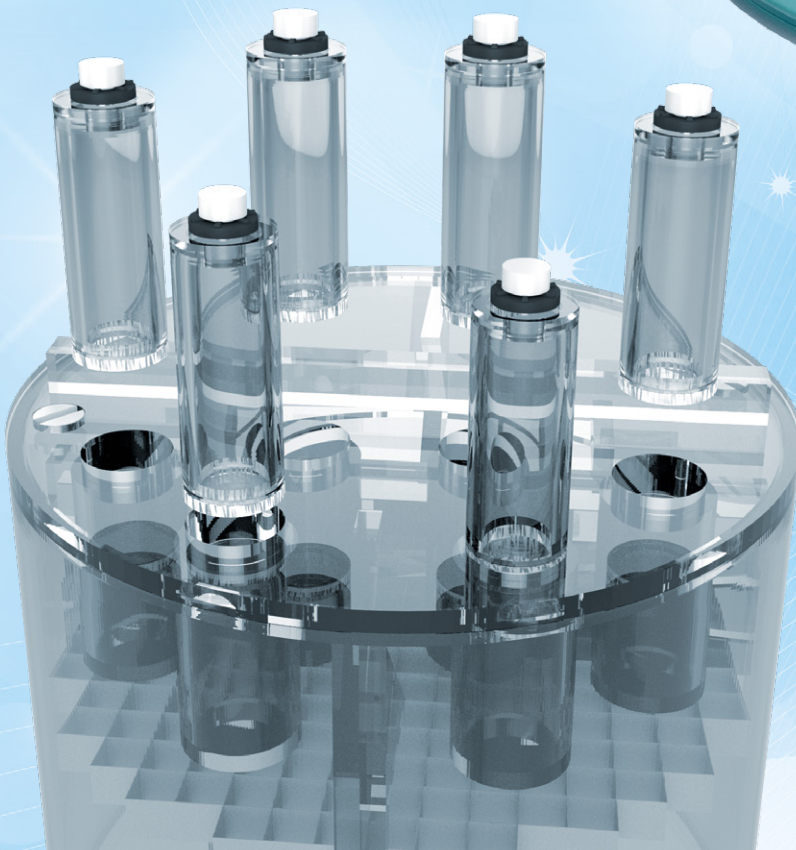
Pro-MRI

Phantom for **comprehensive evaluation of critical imaging parameters of magnetic resonance imaging (MRI)** in a time efficient manner. The phantom can be used for the **measurement of absolute values for calibration purposes**. However, its design is optimized for time efficient daily quality assurance too.

**exchangeable
vials option**



**available
in two sizes:
220 and
180mm**



It can be used to measure:

- Geometric Distortion
- Spatial Resolution
- Slice thickness and position
- Interslice Gap
- T_1 and T_2 values
- Estimate of Image Bandwidth
- Low Contrast Detectability
- Image Uniformity
- Signal-to-Noise Ratio (SNR)
- Physical and Electronic Slice Offset
- Point of reference
- Bandwidth: water-fat shift



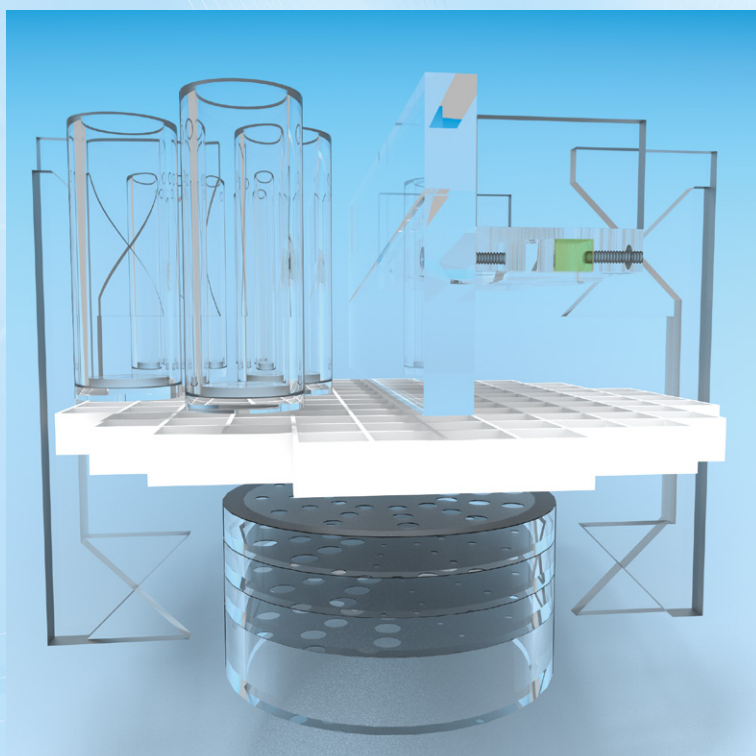
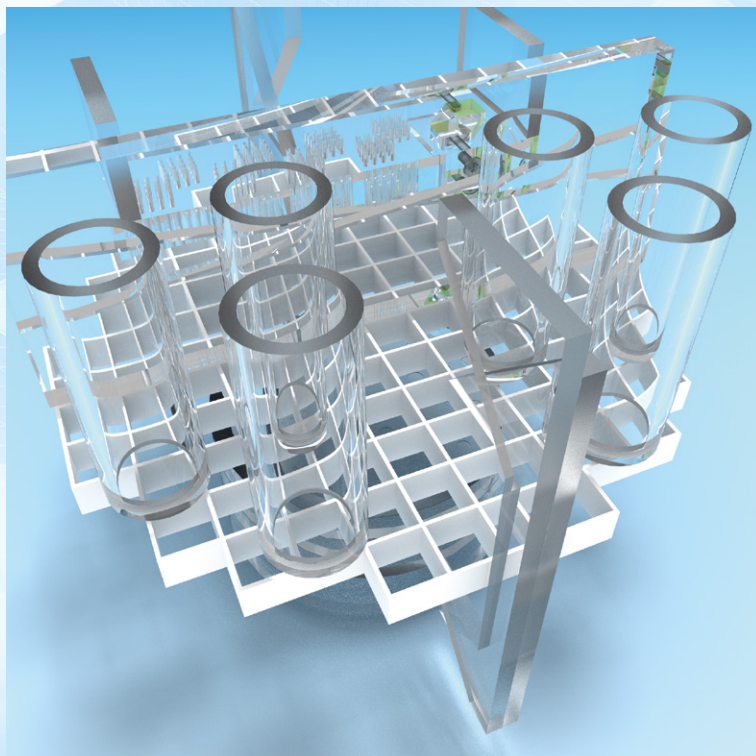


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Technical data

(can be modified to customer specifications):

- outside cylinder diameter: 220 mm (180 mm)
- outside cylinder height: 150 mm
- inside cylinder diameter: 204 mm (173 mm)
- inside cylinder height: 130 mm
- filled with 10 mmol nickel chloride solution containing sodium chloride 75 mmol
- T_1 and T_2 sample vials
 - 6 cylindrical vials $\varnothing 19 \times 41$ mm
 - refillable from outside
 - by default filled with 20 mmol nickel chloride and 15 mmol sodium chloride solution
- resolution insert:
 - four matrices of holes, diameters: 0.8, 0.9, 1.0 and 1.1 mm
 - spaces between the holes are equal to hole diameters
 - two small containers with water and fat for water-fat shift evaluation
- slice thickness insert:
 - 180 x 46 x 10 mm PMMA plate
 - 1 mm wide and 5 mm deep counter-descending slits on both sides
 - slits form two ramps descending at 1:10
- geometric distortion insert:
 - 10 x 10 array of squares
 - 148 mm on a side
 - 10 mm thick
- low contrast insert:
 - 4 polycarbonate discs 0.05, 0.1, 0.15 and 0.2 mm in thickness
 - partial volume contribution of these sheets and filling solution produce contrasts: 1.4, 2.5, 3.6 and 5.1%
 - each disc contains 12 groups of 3 holes arranged in spokes
 - each spoke has the same diameter
 - diameters range from 7.0 to 1.5 mm (0.5 mm step)
- four sets of paired 45° wedges are located on both sides of the phantom. The lower pairs are 30 x 30 mm and the upper ones are 40 x 40 mm. The distance between intersection points of the lower and upper pairs is 90 mm
- optional 6 removable vials for test samples – replacing the „ T_1 and T_2 sample vials”, includes 6 additional vials (12 total)
- optional heavy duty carrying case

Product features:

- Complies with:
 - ACR MRI Accreditation Program
 - IPEM Report 80 “Quality Control in MRI”, 1998
 - AAPM Rep. 28 “Quality Assurance methods & phantoms for MRI”, 1990
 - AAPM Rep. 34 “Acceptance testing of MRI systems”, 1992
 - AAPM Rep. 100 “Acceptance & Quality Assurance procedures for MRI facilities”, 2010
- CE certified
- the Manual provides detailed guidelines for carrying out each test, results assessment and registration

