



Pro-MRI

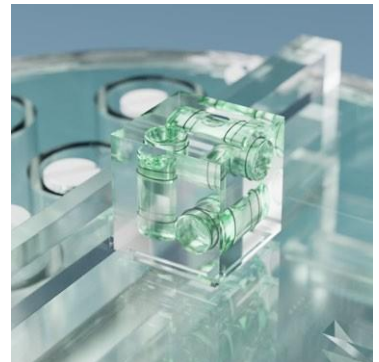
- 09-103 optional 6 removable vials for test samples - replacing the "T1 and T2 sample vials", includes 6 additional vials (12 in total)
- 09-104 optional detachable 3-axis spirit level
- 09-102 optional heavy duty carrying case
- 09-101

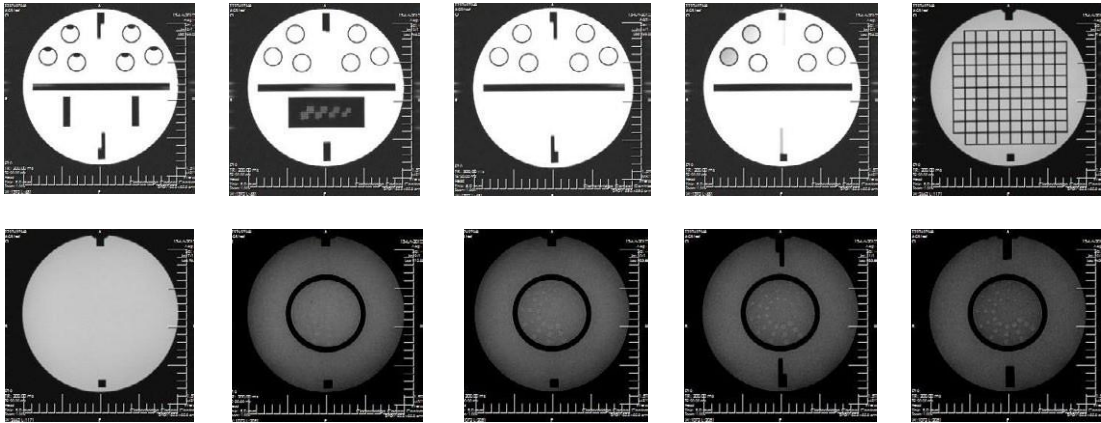


Phantom for comprehensive evaluation of critical imaging parameters of magnetic resonance imaging (MRI) in a time efficient manner. The phantom can be used for the measurement of absolute values for calibration purposes. However, its design is optimized for time efficient daily quality assurance too.

It can be used to measure:

- geometric distortion
- spatial resolution
- slice thickness and position
- interslice Gap
- T1 and T2 values
- image bandwidth
- low contrast detectability
- image uniformity
- signal-to-noise ratio (SNR)
- physical and electronic slice offset
- point of reference
- bandwidth: water-fat shift





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
- T1 and T2 sample vials
 - 6 cylindrical vials Ø19 x 41 mm
 - refillable from outside
 - filled with different configurations of nickel chloride and sodium chloride solution, precise information to be found in the manual
- 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
 - 1mm wide and 5mm 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 "T1 and T2 sample vials", includes 6 additional vials (in 12 total) (09-103)
- optional detachable 3-axis spirit level (09-104)
- optional heavy duty carrying case (09-102)

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
- the Manual provides detailed guidelines for carrying out each test, results assessment and registration