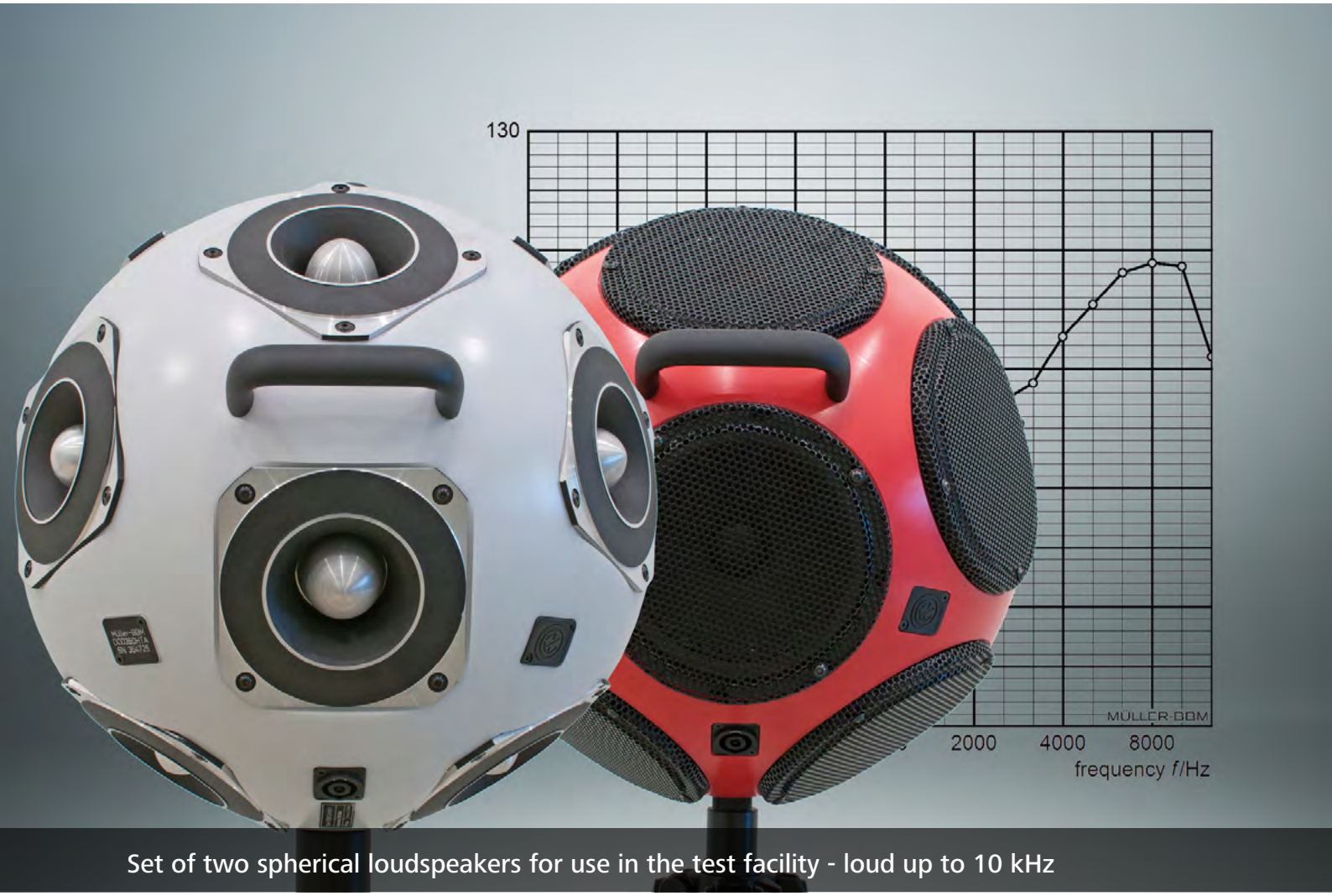
MÜLLER-BBM
ACOUSTIC SOLUTIONS



Set of two spherical loudspeakers for use in the test facility - loud up to 10 kHz

m|dod 360HTA & 360A

Set of dodecahedron m|dod 360HTA and m|dod 360A

www.mbbm-aso.com

m|dod

Dodecahedron for acoustic measurements

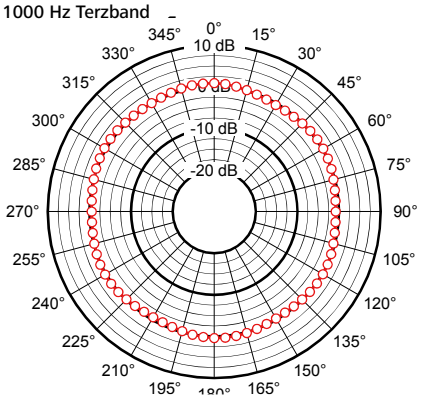
The set consisting of the spherical loudspeakers m|dod 360A and m|dod 360HTA was specially developed for measurements in the test rig where high sound power is required at frequencies of up to 10 kHz. The broadband radiating dodecahedron m|dod 360A is supplemented above 4 kHz by the high-frequency dodecahedron m|dod 360HTA.

Powerful on the test facility

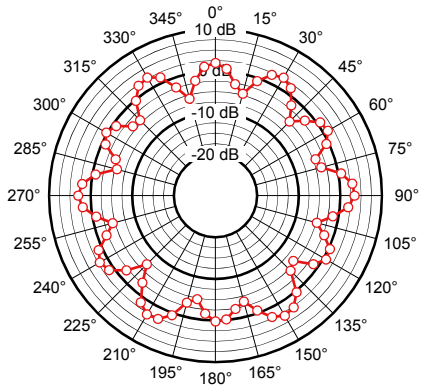
The dodecahedron m|dod 360A and m|dod 360HTA are made of sturdy plastic spheres. While the dodecahedron m|dod 360A speaker is equipped with lightweight neodymium magnets, the dodecahedron m|dod 360HTA contains heavy and extremely powerful tweeter ring radiators for the high frequency range. The tweeter ring radiators are actively cooled during operation via an integrated ventilation system. The extension of the radiated frequency range up to 10 kHz is of particular interest for test benches in the automotive and rail vehicle sectors, but also in other industries. For sound attenuation measurements in the test rig, very high sound power levels are required in the high-frequency range, since the sound attenuation of the components and the air attenuation increase with increasing frequency.

Directional diagram m|dod 360A

1000 Hz Terzband

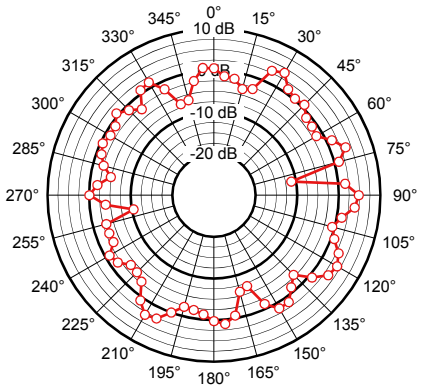


2000 Hz Terzband

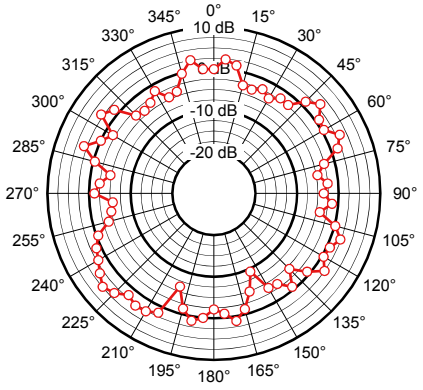


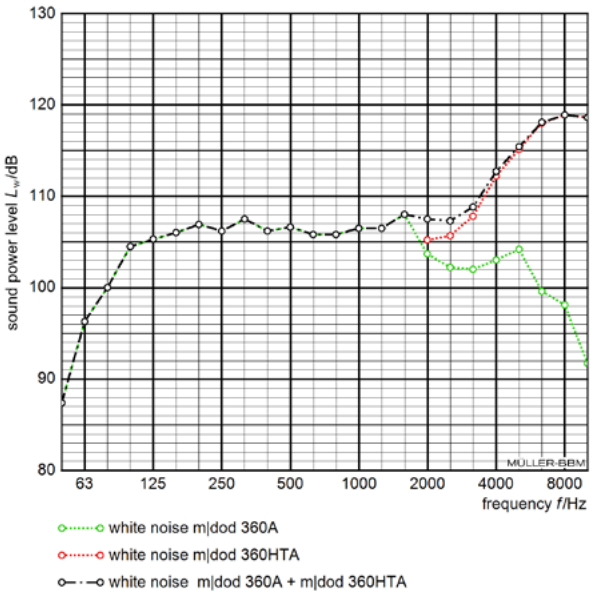
Directional diagram m|dod 360HTA

4000 Hz Terzband

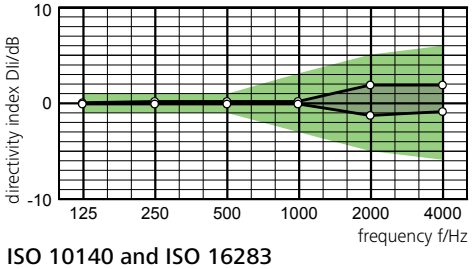


8000 Hz Terzband

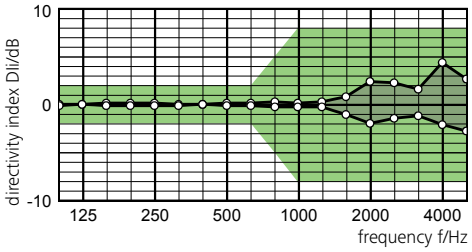




ISO 3382



ISO 10140 and ISO 16283



Uniform: the directivity

With its ball shape, all normative requirements on the source directivity are met.

- Building acoustical measurements according to ISO 10140 and ISO 16283
- Room acoustical measurements according to ISO 3382

Loud and especially high frequency: the sound power and frequency response

Operation of the dodecahedron set requires a power amplifier with integrated DSP and adjustable crossover. With the m|dod 360A dodecahedron alone, a sound power level of L_w = 125 dB is achieved when excited with pink noise and of L_w = 117 dB with white noise. Together with the high-frequency dodecahedron m|dod 360HTA, the sound power level of the dodecahedron set increases steadily above 2500 Hz. The design of the loudspeakers is optimized for sound power.

Technical specifications

- Shape: colored plastic ball with 12 loudspeakers with neodymium magnets (m|dod 360A) or tweeter ring radiators (m|dod 360HTA)
- Diameter: 360 mm
- Mass: 10,2 kg (m|dod 360A)
  35,5 kg (m|dod 360HTA)
- Impedance: 5 Ω
- Electrical power: 600 W each
- Sound power level:
  with pink noise: L_w = 125 dB
  with white noise: L_w = 117 dB
- Connector: Speakon NL4FC

The order includes

- Dodecahedral set m|dod 360A and m|dod 360HTA
- Certificate of directivity

Optional accessories

- Loudspeaker stand, height up to the middle of the dodecahedral loudspeaker 77 cm to 160 cm
- Loudspeaker cable (length as ordered)

MÜLLER-BBM
ACOUSTIC SOLUTIONS

OUR PASSION

We offer you sophisticated and practice-approved measurement systems for special measurement tasks. Discover our products and become another happy customer.

OUR PROMISE

We do our best for you
We want you to be happy with us and come back to us at any time – that's why you are our focus.

OUR EXPERIENCE

Experience for more than five decades
Our acoustic measurement systems are a major factor in this success. Due to the constant development of the testing methods and measuring systems, we can offer our customers sophisticated measuring systems optimized for the testing task.

Comprehensive solutions from a single source

Consulting • Planning • Measuring • Expert Opinions • Research

Müller-BBM Acoustic Solutions GmbH is a subsidiary of Müller-BBM Holding AG headquartered in Planegg near Munich. Since 1962, Müller-BBM has provided consulting services to clients worldwide and has become one of the globally leading engineering firms in Germany. More than 400 highly qualified employees form an interdisciplinary team of engineers, architects and physicists in the most diverse specialist areas.

Müller-BBM Acoustic Solutions GmbH develops and produces measurement systems for acoustic test facilities. All products have been developed on the basis of daily use in our testing laboratories and therefore notably correspond to the needs of their users. The systems are optimized for special measurement tasks and enable an efficient and intuitive operation after a short training period. Plausibility-checking criteria are integrated into the measurement software in order to quickly evaluate the quality of the results, even in routine operation.

From the knowledge gained from participation in standardization committees, cooperation with colleges and universities and, last but not least, our own consulting activities, further developments of the test procedures and innovations are continuously integrated into the measurement systems. Due to constant further development in daily test stand operation, we can offer our customers optimized measurement systems for decades.

You may also be interested in the following measuring systems:

- **m|ars** Specific airflow resistance ISO 9053-1
- **m|abstube** Sound absorption in the impedance tube ISO 10534-2
- **m|abshall** Sound absorption in the reverberation chamber ISO 354
- **m|abssitu** In-situ sound absorption CEN/TS 1793-5 and 1793-6

Do you have any questions? We will be happy to assist you!

Müller-BBM Acoustic Solutions GmbH
Helmut-A.-Müller-Str. 1 - 5
82152 Planegg/München
Telefon+49 89 85602-700

Kontakt: info@mbbm-aso.com

www.mbbm-aso.com

A MEMBER OF MBBM MÜLLER-BBM GROUP