ANECHOIC CHAMBERS
TURNKEY SOLUTIONS
The Frankonia Group was founded in 1987 as a solution provider for EMC laboratories, meeting the increasing demand for highly specialized testing environments for the electronic and automotive industry.

Without limitations in its capabilities, Frankonia develops future-oriented concepts for our complete product range, which guarantee the optimal use of resources, as well as the best possible customized solutions. Frankonia offers complete solutions for the electronic, military and automotive industry, which meet customers' individual requirements.

Frankonia at a Glance
> Frankonia demonstrates a global presence in cooperation, with a well-structured network of productions, representations and service units.
> Frankonia provides fundamental knowledge to operate as a complete solution provider.
> Frankonia implements innovative technologies to enhance efficiency and improve the outcomes and quality along with customers’ needs.
> Frankonia strives to be the preferred partner for customized and state-of-the-art solutions.

The EMC testing industry is a highly technical, innovative and fast-changing niche industry. With more than 30 years of experience to date, Frankonia maintains its leading position in EMC solutions worldwide.

www.frankoniagroup.com
Within our **Anechoic Chamber** business, that includes a wide range of standardized chambers from pre-compliance up to full compliance and customized chambers, we offer a variety of innovative positioning devices and accessories required in modern testing facilities. This comprises monitoring equipment, antenna masts, turntables, doors and gates, and our unique absorber technology Frankosorb®.

**Frankonia trusted solutions**
- Unique nano-thin-film absorber technology (Frankosorb®)
- Modular and prefabricated standards
- Completely dismountable chambers as everything is screwed
- Stable quality and technology through our own manufacturing and engineering
- Complete range of products
- Customized turnkey solutions

Frankonia's Anechoic Chambers are part of testing laboratories in different industries all over the world. Customers from commercial test institutes, manufacturers of electronic devices, as well as customers from the automotive or military industry trust Frankonia's solutions for now more than 30 years.

Within our **Test System** business, we offer a variety of EME test systems that encompass testing equipment for a broad range of emission and immunity tests. Beside complete test systems Frankonia offers also single components like a wide range of antennas, pre-amplifiers, broadband RF-power amplifiers, software, GTEM cells, strip-lines, open TEM cells, signal generators, RF-power meters, and EMI receivers.

**Frankonia Group**

Frankonia is recognized as a highly specialized technology corporation for EMC anechoic chambers and test systems within the automotive and industrial sector for testing the electromagnetic compatibility. With our expertise, flexibility, quality and a high degree of technology, we generate future-proof solutions on a global scale.

Frankonia is the preferred supplier for complete solutions when it comes to the implementation of EMC test facilities. Passionate employees, many of them with longtime affiliation and experience, plan, coordinate, and define customized solutions with and for our customers that meet today's and future standards. Due to our commitment to provide holistic EMC lab solutions, we offer outstanding expertise in every phase of a project.

Frankonia's project business convinces with its in-house project management, engineering and production, a trend-setting research, as well as its own installation and service team. Like this, we make sure to provide a high level of technology and quality.
**Commercial Solutions**

- **Shielded Room**
  - Modular and Prefabricated PAM Type Standard
  - Page 10

- **CHC**
  - Pre-compliant 3m Compact Hybrid Chamber
  - Page 12

- **CHC Plus**
  - Semi-compliant 3m Compact Hybrid Chamber
  - Page 12

- **FAC-3**
  - 3m Fully Anechoic Chamber for Table-top EUT’s
  - Page 16

- **SAC-3 Square**
  - 3m Semi Anechoic Chamber Square Design
  - Page 24

- **SAC-10 Plus Triton**
  - Multi Test Axes 10m Semi Anechoic Chamber
  - Page 30

- **SAC-10/H**
  - 10m Semi Anechoic Chamber with Hybrid Absorbers
  - Page 32

- **SAC-10/P**
  - 10m Semi Anechoic Chamber with Long-pyramid Absorbers
  - Page 34

**FAC-3 L**
- 3m Fully Anechoic Chamber for Floor-standing EUT’s
- Page 16

**SAC-3 Plus**
- 3m Semi Anechoic Chamber Dome Design
- Page 18

**SAC-5 Plus**
- 5m Semi Anechoic Chamber Dome Design
- Page 20

**SAC-3/FAC-3 Transformer**
- Semi & Fully Anechoic Chamber
- Page 26

**SAC-10 Plus**
- Compact 10m Semi Anechoic Chamber
- Page 30

- **SAC-10/V**
  - 10m Semi Anechoic Chamber for Vehicle Testing
  - Page 32

- **EMC-BlueBox**
  - E-Drive Solution Mobile Load Machine
  - Page 46

- **EDTC**
  - E-Drive Solution External Load Machine
  - Page 46

- **MEDET**
  - E-Drive Solution Hydraulic Load Machine
  - Page 48

**Automotive Solutions**

- **UCC**
  - Pre-compliant Automotive Component Testing Chamber
  - Page 38

- **ACTC**
  - CISPR 25 Automotive Component Testing Chamber
  - Page 40

- **AVTC**
  - 3m Automotive Vehicle Testing Chamber
  - Page 42

- **SAC-10V**
  - 10m Semi Anechoic Chamber for Vehicle Testing
  - Page 44

**Battery Charge**

- **MEDET**
  - E-Drive Solution Hydraulic Load Machine
  - Page 48

- **Battery Testing and Charging Solutions**
  - Page 49

**Military Solutions**

- **MIL CHC**
  - Military Component Testing Chamber
  - Page 52

- **MIL STD**
  - Military Standard Anechoic Chamber for large EUT’s 80 MHz to 40 GHz
  - Page 54

- **MIL STD Advanced**
  - Military Standard Anechoic Chamber for large EUT’s 30 MHz to 40 GHz
  - Page 54

**Frankosorb®**
- Unique Nano Thin-film Absorbers
- Page 58

**Shielding Accessories**
- Shielding, Doors, Gates, and Accessories
- Page 62

**Automation**
- Turntables and Antenna Masts
- Page 64
Shielded Room
Modular and Prefabricated PAN Type Shielding

Frankonia shielded rooms and anechoic chambers are designed based on a modular construction system. Prefabricated high quality shielding panels guarantee a maximum of flexibility regarding possible dimensions. All PAN type modules allow for easy handling and entry via standard building doors. The standard modules are bolted from inside every 75,0 mm with high conductivity mesh gasket inserted for sealing the joints of the panels. This facilitates an installation close to the walls of the parent building. The small screwing distance and the precise tightening of the screws with predefined torque guarantee long life shielding attenuation characteristics.

Features
› PAN Type shielding modules made of 2,0 mm thick galvanized steel
› Modular and prefabricated standard
› Self-supporting stability or with static steel structure for any seismic condition
› Mounted from the inside
› Reverse installation possible
› Interior finishing (walls and ceiling) and raised floor systems
› Long life shielding attenuation characteristics
› No glue, no welding
› Dismountable without any damage
› Easy modifications and maintenance
› Possibility of complete transfer in future
› Turnkey solution

Shielding standards
› Frequency range from 10 kHz to 18 GHz (option 40 GHz)
› Acc. to EN 50147-1 or IEEE-299
› Equal performance for any kind of feed-through components, honeycombs, doors and gates, filters, etc.
› Perfectly adapted for Frankosorb® Absorbers
› Any size of shielding is possible
› Adapted to seismic conditions

Guaranteed Performance

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Attenuation</th>
<th>Field</th>
</tr>
</thead>
<tbody>
<tr>
<td>10 kHz</td>
<td>≥ 80 dB</td>
<td>Magnetic Field</td>
</tr>
<tr>
<td>100 kHz</td>
<td>≥ 100 dB</td>
<td>Magnetic Field</td>
</tr>
<tr>
<td>1 MHz</td>
<td>≥ 100 dB</td>
<td>Magnetic Field</td>
</tr>
<tr>
<td>100 MHz</td>
<td>≥ 110 dB</td>
<td>Plane Wave</td>
</tr>
<tr>
<td>400 MHz</td>
<td>≥ 110 dB</td>
<td>Plane Wave</td>
</tr>
<tr>
<td>1 GHz</td>
<td>≥ 110 dB</td>
<td>Plane Wave</td>
</tr>
<tr>
<td>18 GHz</td>
<td>≥ 90 dB</td>
<td>Microwave</td>
</tr>
<tr>
<td>40 GHz</td>
<td>≥ 90 dB</td>
<td>Microwave</td>
</tr>
</tbody>
</table>
The **CHC** is Frankonia’s compact hybrid chamber solution at 3,0 m measuring distance with a Quiet Zone (QZ) of ø1,2 m. The CHC is an upgradable solution and can be transformed from a semi anechoic chamber configuration with ground plane to a fully anechoic chamber configuration with floor absorbers. It is an optimal solution for both pre-compliance emission tests and full compliance immunity tests at 3,0 m measuring distance.

The extended version of the CHC, called CHC-L, includes an absorber-lined partition wall that offers the feature to house and store RF power amplifiers, antennas, or floor absorbers inside the chamber.

The **CHC Plus** is Frankonia’s upgrade of the CHC at 3,0 m test distance with a Quiet Zone (QZ) of ø1,2 m for compliant emission measurements from 1 GHz to 18 GHz, pre-compliant emission measurements from 30 MHz to 1 GHz, and compliant immunity tests.

### Features
- **CHC**: Pre-compliant EMI from 30 MHz to 1 GHz acc. to CISPR 16-1-4
- **CHC Plus**: Full compliant EMI from 1 GHz to 18 GHz, pre-compliant from 30 MHz to 1 GHz acc. to CISPR 16-1-4
- Full compliant and cost saving solution for EMS measurements acc. to IEC/EN 61000-4-3
- Compact chamber design with advanced absorber lining with long-lasting Frankosorb® absorbers (Frankonia technology)

### Dimensions
- **CHC**: 7,355 x 3,755 x 3,300 m (L x W x H)  
  QZ ø1,2 m at 3,0 m test distance
- **CHC Plus**: 7,355 x 3,755 x 3,300 m (L x W x H)  
  QZ ø1,2 m at 3,0 m test distance
- **CHC Plus L**: 7,580 x 4,655 x 4,350 m (L x W x H)  
  QZ ø1,2 m at 3,0 m test distance  
  Feature: Turntable ø2,0
- **CHC L**: 8,255 x 3,755 x 3,300 m (L x W x H)  
  QZ ø1,2 m at 3,0 m test distance  
  Feature: e.g., amplifier can be stored in the chamber

### Frequency Range
- **CHC**: 9 kHz/ 30 MHz to 18 GHz (option 40 GHz)
- **CHC Plus**: 9 kHz/ 30 MHz to 18 GHz

### Absorbers
- Frankosorb® optimized hybrid absorber lining with FO06 Ferrite, H450 or H600
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

### Performance & Compliance
- **CHC**: Pre-compliant emission (EMI) according to CISPR 16-1-4 from 30 MHz–1 GHz (limited height scan)
- **CHC Plus**: Full compliant emission (EMI) according to CISPR 16-1-4 from 1 GHz–18 GHz, pre-compliant emission (EMI) from 30 MHz–1 GHz (limited height scan)
- Full compliant immunity (EMS) according to IEC/EN 61000-4-3
- Deviation FU 0 dB/+6 dB at 75 % of 16 measuring points (26/ 80 MHz to 18 GHz)
Experienced
The FAC-3 is Frankonia’s compact fully anechoic chamber solution at 3,0 m measuring distance for EMC tests on table-top positioned EUT’s with a Quiet Zone (QZ) of ø1,5 m (H= 1,5 m). The FAC-3 L is the extended version of Frankonia’s fully anechoic chamber solution at 3,0m measuring distance with a Quiet Zone (QZ) of ø1,5 m (H= 2,0 m) for EMC tests on table-top positioned as well as on floor-standing EUT’s.

Both are designed as full compliant chamber for measurements under free-space conditions and are based on CISPR 16–1–4 as a test site without ground plane. Without the reflections from the floor, a height scan is no longer necessary. With its specific requirements for the test site, Frankonia’s FAC-3 and FAC-3 L are supremely prepared to meet our customers’ demands.

Features
› FAC-3: Test site for table-top EUT’s
› FAC-3 L: Test site for table-top and floor-standing EUT’s
› Full compliant EMI acc. to CISPR 16–1–4, IEC/EN 61000-4–22, and ETSI (ANSI adaptation is possible)
› Full compliant EMS acc. to IEC/EN 61000-4–3
› Cost-effective solution for free-space measurements
› Compact chamber design with advanced absorber lining with long-lasting Frankosorb® absorbers (Frankonia technology)
› Double test axis option

Absorbers
› Frankosorb® optimized hybrid absorber lining with F006 Ferrite, H1000 and H600
› High–performance nano thin–film technology with proven long-term stability
› Non–combustible acc. to DIN EN 13501–1 class A2 – s1 d0
› Hardly inflammable acc. to DIN EN 13501–1 class B (alternative)

Performance & Compliance
› Full compliant emission (EMI) according to CISPR 16–1–4
Deviations F5 N5 ± 1,5 dB (30 MHz to 1 GHz)
Deviations SWVR ± 5,5 dB (1 GHz to 18 GHz)
› Full compliant immunity (EMS) according to IEC/EN 61000–4–3
Deviations F1 0 dB, F6 dB at 75% of 16 measuring points (26/80 MHz to 18 GHz)
Deviations SdB c ≤ 1,8 dB

FAC-3 8,705 x 4,655 x 3,750 m (L x W x H)
QZ ø1,5 m (H= 1,5 m) at 3,0 m test distance
Table-top EUT’s

FAC-3 L 9,380 x 5,780 x 5,550 m (L x W x H)
QZ ø1,5 m (H= 2,0 m) at 3,0 m test distance
Floor-standing & table-top EUT’s

Frequency range 9 kHz/30 MHz to 18 GHz (option 40 GHz)
The SAC-3 Plus is Frankonia’s most versatile full compliant EMC testing solution at 3,0 m measuring distance with a Quiet Zone (QZ) up to ø2,0 m. It is adapted for full compliant emission and immunity testing. The innovatively shaped roof, called dome design, with its optimized absorber layout leads to minimized reflections and offers outstanding performance for NSA, SWR and FI.

Features
› Cost-effective high-performance solution for a 3,0 m measuring distance and QZ from ø1,2 m of up to ø2,0 m
› Full compliant EMI acc. to CISPR 16–1–4 and ANSI C63.4 (ETSI upgradable)
› Full compliant EMS acc. to IEC/EN 61000-4-3
› Adapted lightweight steel structure and optimized RF-shielding
› Innovative dome-shaped roof design
› Upgradeable for E-Drive (load machine, BlueBox, battery test system)
› Ingenious hybrid absorber lining with Frankosorb®
› Outstanding performance with long-lasting Frankosorb® non-combustible absorbers
› Useable for automotive and military standard tests
› Turnkey solution

Since its introduction, the SAC-3 Plus has been the undisputed most selected chamber in its class. Through the innovative concept, customization and the excellent performance, it represents an efficient and economical solution that fully satisfies our customers.

| SAC-3 Plus S | 8,480 x 6,530 x 6,000 m (L x W x H) |
| QZ ø1,2 m at 3,0 m test distance |
| SAC-3 Plus M | 8,780 x 6,530 x 6,000 m (L x W x H) |
| QZ ø1,5 m at 3,0 m test distance |
| SAC-3 Plus L | 9,230 x 6,530 x 6,000 m (L x W x H) |
| QZ ø2,0 m at 3,0 m test distance |
| SAC-3 Plus | 9,680 x 6,530 x 6,000 m (L x W x H) |
| QZ ø2,0 m at 3,0 m test distance |
| Frequency range | 9 kHz/ 30 MHz to 18 GHz (option 40 GHz) |

Absorbers
› Frankosorb® optimized hybrid absorber lining with F006 Ferrite, H1000 and H600
› High-performance nano thin film technology with proven long-term stability
› Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
› Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

Performance & Compliance
› Full compliant emission (EMI) according to CISPR 16–1–4 and ANSI C63.4
Deviation NSA ±3,5 dB (10 MHz to 3 GHz)
Deviation SWR +5,5 dB (1 GHz to 18 GHz)
› Full compliant immunity (EMS) according to IEC/EN 61000-4-3
Deviation FI 0 dB ±6 dB at 75 % of 16 measuring points (26/80 MHz to 18 GHz)
The SAC-5 Plus is Frankonia’s full compliant EMC testing solution at 3,0 m and 5,0 m measuring distance with a Quiet Zone (QZ) up to ø3,0 m. The SAC-5 Plus offers an innovative concept with its dome shaped roof, customization and performance, and therefore represents an efficient and economical solution that fully satisfies our customers.

**Features**

› Efficient high-performance solution for a 3,0 m and 5,0 m measuring distance and QZ from ø2,0 m of up to ø3,0 m
› Full compliant EMI acc. to CISPR 16-1-4 and ANSI C63.4 (ETSI upgradeable)
› Full compliant EMS acc. to IEC/EN 61000-4-3
› Adapted lightweight steel structure and optimized RF-shielding
› Innovative dome-shaped roof design
› Upgradeable for E-Drive (load machine, BlueBox, battery test system)
› Ingenious hybrid absorber lining with Frankosorb®
› Outstanding performance with long-lasting Frankosorb® non-combustible absorbers
› Useable for automotive and military standard tests
› Turnkey solution
› Double test axis option

Following the success of the SAC-3 Plus, the SAC-5 Plus with its 5,0 m measuring distance is based on the same innovative concept. Herewith, it represents as well an efficient and economical solution that fully satisfies our customers’ needs.
SAC-3 Square & SAC-5 Square
3m & 5m Semi Anechoic Chamber in Square Design

The SAC-3 Square is Frankonia’s versatile full compliant EMC testing solution at 3,0 m measuring distance with a Quiet Zone (QZ) from ø2,0 m up to ø3,0 m. The SAC-5 Square offers a 5,0 m measuring distance with a Quiet Zone (QZ) up to ø3,0 m. Both models come with a traditional square design.

The SAC-3 and the SAC-5 in square design offer an innovative concept with its usability, customization and performance, and therefore represent efficient and economical solutions.

Features
- Traditional square design and high-performance solution for a 3,0 m or 5,0 m measuring distance and QZ from ø2,0 m up to ø3,0 m
- Full compliant EMI acc. to CISPR 16-1-4 and ANSI C63.4 (ETSI upgradeable)
- Full compliant EMS acc. to IEC/EN 61000-4-3
- Immunity floor absorber storage in the chamber on trolley’s
- Upgradeable for E-Drive (load machine, BlueBox, battery test system)
- Ingenious hybrid absorber lining with Frankosorb®
- Outstanding performance with long-lasting Frankosorb® non-combustible absorbers
- Useable for automotive and military standard tests
- Turnkey solution

Absorbers
- Frankosorb® optimized hybrid absorber lining with FO06 Ferrite, H1000 and H600
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

Performance & Compliance
- Full compliant emission (EMI) according to CISPR 16-1-4 and ANSI C63.4
  Deviation NSA ±3,5 dB (30 MHz to 1 GHz)
  Deviation SWSR +5,5 dB (1 GHz to 18 GHz)
- Full compliant immunity (EMS) according to IEC/EN 61000-4-3
  Deviation Fü 0 dB/±6 dB at 75 % of 16 measuring points (20/80 MHz to 18 GHz)

SAC-3 Square
- 9,680 x 6,530 x 6,000 m (L x W x H)
- øQZ ø2,0 m at 3,0 m test distance

SAC-3 Square L
- 10,880 x 6,980 x 6,000 m (L x W x H)
- øQZ ø3,0 m at 5,0 m test distance

SAC-5 Square
- 12,680 x 8,180 x 6,000 m (L x W x H)
- øQZ ø3,0 m at 3,0 m & 5,0 m test distance

Frequency range
- 9 kHz/ 30 MHz to 18 GHz (option 40 GHz)
The SAC-3/FAC-3 Transformer is Frankonia’s full compliant EMC testing solution at 3.0 m measuring distance offering semi as well as fully conditions. The SAC configuration provides a Quiet Zone (QZ) of ø2.0 m and is compliant with CISPR 16-1-4 as well as ANSI C63.4. The FAC configuration provides a Quiet Zone (QZ) of ø1.5 m and is compliant with CISPR 16-1-4 as well as IEC/EN 61000-4-22. The SAC-3/FAC-3 Transformer chamber is adapted for full compliant emission and immunity testing with a traditional square design.

The SAC-3/FAC-3 Transformer focuses on conditions with ground plane. With added floor absorber modification kit, it considers FAC conditions for table-top EUT tests and is hence compliant with ETSI for the complete frequency range.

Features
- Cost-effective and high-performance solution for a 3.0 m measuring distance and a QZ of ø2.0 m in semi setup (SAC), and a QZ of ø1.5 m in fully setup (FAC)
- Full compliant EMI acc. to CISPR 16-1-4, ANSI C63.4, IEC/EN 61000-4-22, and ETSI
- Full compliant EMS acc. to IEC/EN 61000-4-3
- Upgradeable for E-Drive (load machine, BlueBox, battery test system)
- Compact chamber design with advanced absorber lining
- Outstanding performance with long-lasting Frankosorb® non-combustible absorbers
- Usable for automotive and military standard tests
- Turnkey solution

Absorbers
- Frankosorb® optimized hybrid absorber lining with F006 Ferrite, H1000 and H600
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

Performance & Compliance SAC Semi Configuration
- Full compliant emission (EMI) according to CISPR 16-1-4 and ANSI C63.4
  Deviation NSA ±3.5 dB (30 MHz to 1 GHz)
  Deviation SWVR +5.5 dB (1 GHz to 18 GHz)
- Full compliant immunity (EMS) according to IEC/EN 61000-4-3
  Deviation FU 0 dB/+6 dB at 75 % of 16 measuring points (26/80 MHz to 18 GHz)

Performance & Compliance FAC Fully Configuration
- Full compliant emission (EMI) according to CISPR 16-1-4
  Deviation F5 NSA ±3.5 dB (30 MHz to 1 GHz)
  Deviation SWVR +5.5 dB (1 GHz to 18 GHz)
- Full compliant immunity (EMS) according to IEC/EN 61000-4-3
  Deviation FU 0 dB/+6 dB at 75 % of 16 measuring points (26/80 MHz to 18 GHz)
- Full compliant immunity (EMS) and emission (EMI) according to IEC/EN 61000-4-22
  Deviation SdB c = 1.8 dB

SAC-3/FAC-3 Transformer

Semi & Fully Anechoic Chamber

SAC-3 Transformed to a semi chamber with ground plane

FAC-3 Transformed to a fully chamber with floor absorbers

Specifications
- SAC-3/FAC-3 Transformer: 9,680 x 6,530 x 6,000 mm (L x W x H)
- SAC: QZ ø2.0 m (H= 2.0 m) at 3.0 m test distance
- FAC: QZ ø1.5 m (H= 1.5 m) at 3.0 m test distance (table-top)
- Frequency range: 9 kHz/30 MHz to 18 GHz (option 40 GHz)

Automation             Accessories            Frankosorb®
Military           Powertrain & Battery            Automotive           Commercial
Innovative
The SAC-10 Plus Triton is Frankonia’s full compliant state-of-the-art EMC testing solution with multiple test axes at 10,0 m, 5,0 m & 3,0 m measuring distances with a Quiet Zone (QZ) of ø3,0 m. The innovative polygonal shape along with its optimized absorber layout is a space-saving, cost-saving and efficient solution with either a single test axis (SAC-10 Plus) or multiple test axes (SAC-10 Plus Triton).

Both, the SAC-10 Plus and SAC-10 Plus Triton are the most compact 10 m chamber and are full compliant for emission tests validated according to CISPR 16-1-4 and ANSI C63.4, as well as full compliant for immunity tests according to IEC/EN 61000-4-3.

**Features**
- SAC-10 Plus: Single test axis up to 10,0 m with a Quiet Zone of ø3,0 m
- SAC-10 Plus Triton: Multiple test axes up to 10,0 m with a Quiet Zone of ø3,0 m
- Full compliant EMI acc. to CISPR 16-1-4 and ANSI C63.4
- Full compliant EMS acc. to IEC/EN 61000-4-3
- Space-saving and compact chamber design with polygonal shape
- Floor absorbers and antennas remain connected in the chamber
- Reproducibility and stable performance
- Time-saving test setup with improved workflow and efficiency
- Ingenious absorber lining with long-lasting Frankosorb® non-combustible absorbers
- Cost-saving and future-proof investment
- Useable for automotive and military standard tests

**Absorbers**
- Frankosorb® optimized hybrid absorber lining with F006 Ferrite, H1000 and H600 on the walls, and long-pyramid P2400 absorbers mixed with hybrids on the ceiling
- High-performance nano thin-film technology with proven long-term stability
- Non–combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

**Performance & Compliance**
- Full compliant emission (EMI) according to CISPR 16-1-4 and ANSI C63.4
  - Deviation NSA ±3,5 dB (30 MHz to 1 GHz)
  - Deviation SWWR +5,5 dB (1 GHz to 18 GHz)
- Full compliant immunity (EMS) according to IEC 61000-4-3
  - Deviation FU 0 dB/+6 dB at 75 % of 16 measuring points (26/80 MHz to 18 GHz)

**SAC-10 Plus Triton Features**
- With the use of three independent test axes dedicated to each EMI and EMS test, all antennas and floor absorbers will remain connected in the chamber
- The Triton works like a regular 10m SAC chamber without any limitations
- Thanks to the guided floor absorber arrangement, the test setup preparation time reduces enormously, while reproducibility and quality of each testing remain stable
**SAC-10/H**

10m Semi Anechoic Chamber with Hybrid Absorbers

The SAC-10/H is Frankonia’s full compliant and customizable EMC testing solution at 10,0 m measuring distance with a Quiet Zone (QZ) of ø3,0 m up to ø6,0 m with hybrid absorber layout. Due to the high grade of customization reflecting the demands of our customers, this semi anechoic chamber is adaptable in size and offers several configuration possibilities. The impressive hybrid absorber layout achieves exceptional performance for emission measurements and immunity testing.

**Features**

› Frankosorb® hybrid absorber lining
› Full compliant EMI acc. to CISPR 16-1-4 and ANSI C63.4
› Full compliant EMS acc. to IEC/EN 61000-4-3
› Highly customizable solution for any kind of EMC testing and limitless integration of individual applications; as single or double test axis option
› Notably adjustable anechoic chamber size, characteristics and configuration due to different EUT requirements
› Advanced lining with long-lasing and non-combustible Frankosorb® absorbers (Frankonia technology)
› Specialized for ‘out-of-the-range’ EMC test environments
› Useable for automotive and military standard tests

**Performance & Compliance**

› Full compliant emission (EMI) according to CISPR 16-1-4 and ANSI C63.4
  Deviation NSA ±3,5 dB (30 MHz to 1 GHz)
  Deviation SVSWR +5,5 dB (1 GHz to 18 GHz)
› Full compliant immunity (EMS) according to IEC/EN 61000-4-3
  Deviation FU 0 dB/±3 dB at >5 % of 16 measuring points (26/80 MHz to 18 GHz)
The SAC-10/P is Frankonia’s full compliant and customizable EMC testing solution at 10.0 m measuring distance with a Quiet Zone (QZ) of ø3.0 m up to ø6.0 m and the unique Frankonia long-pyramid absorber layout. Due to the high grade of customization reflecting the demands of our customers, this semi-anechoic chamber is adaptable in size and offers several configuration possibilities.

Features
- Frankosorb® long-pyramid absorber lining
- Cost-efficient alternative to hybrid absorber lining without limitations
- Full compliant EMI acc. to CISPR 16-1-4 and ANSI C63.4
- Full compliant EMS acc. to IEC/EN 61000-4-3
- Highly customizable solution for any kind of EMC testing and limitless integration of individual applications; as single or double test axis option
- Notably adjustable anechoic chamber size, characteristics and configuration due to different EUT requirements
- Advanced lining with long-lasting and non-combustible Frankosorb® absorbers (Frankonia technology)
- Specialized for ‘out-of-the-range’ EMC test environments
- Useable for automotive and military standard tests

The innovative long-pyramid absorber technology achieves exceptional performance for emissions and immunity testing and offers highest homogeneity and impedance accuracy for the complete frequency range.

Absorbers
- Frankosorb® optimized long-pyramid absorber lining with PZ400
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

Performance & Compliance
- Full compliant emission (EMI) according to CISPR 16-1-4 and ANSI C63.4
  Deviation NSA ±3.5 dB (30 MHz to 1 GHz)
  Deviation SWVR +5.5 dB (1 GHz to 18 GHz)
- Full compliant immunity (EMS) according to IEC/EN 61000-4-3
  Deviation FU 0 dB/±6 dB at 75 % of 16 measuring points (20/80 MHz to 18 GHz)
ACTC & UCC

Automotive Component Testing Chamber

The **ACTC** is Frankonia’s automotive component testing chamber solution at 1.0 m measuring distance. This chamber solution is adapted to full compliant tests of automotive components according to CISPR 25 and ISO 11452. A permanent plug-in contact strip is installed between the absorbers to ensure the electrical connection of the test table to the shielding, and includes the test table as required per CISPR 25. The typical chamber is lined with ferrite absorbers and partially lined with Frankosorb® hybrid absorbers.

The **UCC** is Frankonia’s ultra-compact hybrid chamber solution at 1.0 m measuring distance. The ultra-compact chamber solution is designed for pre-compliance radiated emission and immunity tests, conducted tests, and pre-compliance tests for automotive components as per the CISPR 25 method. It is an alternative solution for the GTEM cell for pre-compliance testing as well as for research and scientific purposes in all sectors.

**Features**
- Compact chamber solution for automotive component testing according to CISPR 25
- **ACTC:** Full compliant EMI/EMS
- **UCC:** Pre-compliant EMI/EMS (alternative to GTEM cell)
- Upgradeable for E-Drive (load machine, BlueBox, battery test system)
- Advanced lining with long-lasting and non-combustible Frankosorb® absorbers (Frankonia technology)

**ACTC L**
- 11,480 x 6,580 x 4,500 m (L x W x H)
- Component level with vehicle at 1.0 m test distance

**UCC**
- 4,580 x 3,080 x 2,550 m (L x W x H)
- Component level at 1.0 m test distance

**ACTC**
- 6,380 x 5,480 x 3,750 m (L x W x H)
- Component level at 1.0 m test distance

**Performance & Compliance**

**ACTC**
- Full compliant emission (EMI) according to CISPR 25 Ed.4
- Full compliant immunity (EMS) according to ISO 11452

**UCC**
- Pre-compliant emission (EMI) according to CISPR 25 Ed.4
- Pre-compliant immunity (EMS) according to ISO 11452

**Absorbers**
- Frankosorb® optimized hybrid absorber lining with FD06 Ferrite and HA50
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

**Frequency range**
- 150 kHz/ 26 MHz to 18 GHz (option 40 GHz)
AVTC
3m Automotive Vehicle Testing Chamber

The AVTC is Frankonia’s automotive anechoic chamber solution at 3,0 m or 5,0 m measuring distance offering a Quiet Zone (QZ) of ø3,0 m up to ø5,0 m for commercial testing combined with a focus on automotive component and vehicle tests.

It is adapted for radiated emissions on vehicles acc. to CISPR 12 and components acc. to CISPR 25 as well as for commercial product tests acc. to CISPR 16-1-4 and ANSI C63.4. Furthermore, it is adapted to radiated immunity acc. to IECEN 61000-4-3, ISO 11451 and ISO 11452.

Features
- Frankosorb® hybrid absorber lining
- Automotive component tests, vehicle tests, and commercial tests in a single solution
- Full compliant EMI acc. to CISPR 16-1-4 and ANSI C63.4
- Full compliant EMS acc. to IECEN 61000-4-3
- Full compliant with CISPR 25, CISPR 12, ISO 11452, ISO 11451 and ECE R10.5 with integrated or dynamometer on turntable up to 3,0 m test distance
- Cost-effective and high-performance solution for 3,0 m or 5,0 m measuring distance
- Floor-absorberboard for an efficient and fast modification of the test setup
- Upgradeable with EDT components (load machine, BlueBox, battery test system)
- Highly customizable solution for any kind of EMC testing and limitless integration of individual applications
- Useable for commercial and military standard tests
The **SAC-10V** chamber is Frankonia’s full compliant and customizable EMC testing solution at 10,0 m measuring distance offering various sizes of Quiet Zone (QZ) and are dedicated to automotive full vehicle testing with integrated dynamometer.

Due to the high grade of customization reflecting the demands of our customers, this semi anechoic chamber is adaptable in size and offers several configuration possibilities. The innovative concept with its impressionable absorber layout achieves exceptional performance for emission and immunity testing.

**Features**

- **SAC-10V-6/P**: Frankosorb® long-pyramid P2400 lining
- **SAC-10V-6/H**: Frankosorb® hybrid absorber lining
- **SAC-10Vx**: Frankosorb® hybrid absorber lining
- Full compliant EMI acc. to CISPR 16-1-4 and ANSI C63.4
- Full compliant EMS acc. to IEC 61000-4-3
- Full compliant with CISPR 25, CISPR 12, IEC 611452, ISO 11451 and ECE R10.5 with integrated dynamometer at 10,0 m test distance
- Highly customizable solution for any kind of EMC testing and limitless integration of individual applications
- Advanced lining with long-lasting and non-combustible Frankosorb® absorbers (Frankonia technology)
- Specialized for ‘out-of-the-range’ EMC test environments
- Useable for commercial and military standard tests

**Absorbers**

- Frankosorb® optimized hybrid absorber lining with F006 Ferrite, H1000 and H600
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

**Performance & Compliance**

- Full compliant emission (EMI) according to CISPR 16-1-4 and ANSI C63.4
- Deviation NSA ±3,5 dB (30 MHz to 1 GHz)
- Deviation SVSWR +5,5 dB (1 GHz to 18 GHz)
- Full compliant emission (EMI) according to CISPR 25 Ed 6
- ALSE verification acc. to the long-wire method recommended
- Full compliant immunity (EMS) according to IEC 61000-4-3
- Deviation F0 0 dB+6 dB at 75 % of 16 measuring points (260 MHz to 18 GHz)
- Full compliant immunity (EMS) according to ISO 11451 and ISO 11452
- ECE R10.5 at 10,0 m test distance
EMC-BlueBox & EDTC
E-Drive Test Solution with Mobile Load Machine BlueBox or External Load Machine

**EMC-BlueBox**
Mobile Load Machine

**E-Drive Solutions** are Frankonia's dedicated test sites for powertrain components and facilities related to hybrid, electric, fuel cell and battery drive systems. They offer superior conditions for radiation testing according to CISPR 25 Ed.4 and ISO 11452. The typical chamber is lined with ferrite absorbers and partially lined with Frankosorb® non-combustible hybrid absorbers.

The **EDTC-BB** is the adapted chamber solution that includes the EMC-BlueBox mobile load machine for dynamic EMC tests of electrical powertrain units in a shielded enclosure. The BlueBox works in a four-quadrant operation; any EUT stress situation can be simulated. Similar to the external load machine with a fixed shaft, it includes braking, driving, direction of rotation (right/left), speed regulation, torque control and a mix out of this range.

**Features**
- Fully compliant with CISPR 25 Ed.4
- Component or system test level
- Mobile, flexible and adjustable to any kind of EUT
- 360° view when placed on a turntable (extended testing range)
- Combination with battery tests
- Integration kit for existing chambers
- Incl. EUT e-motor power source and water cooling system

<table>
<thead>
<tr>
<th>Type</th>
<th>BlueBox-30</th>
<th>BlueBox-40</th>
<th>BlueBox-65</th>
<th>BlueBox-120</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>30 kW</td>
<td>44 kW</td>
<td>63 kW</td>
<td>120 kW</td>
</tr>
<tr>
<td>Revolution speed</td>
<td>up to 11,000 RPM</td>
<td>up to 9,000 RPM</td>
<td>up to 6,500 RPM</td>
<td>up to 6,000 RPM</td>
</tr>
</tbody>
</table>

**The EDTC** is the chamber solution that is specifically prepared for an external load machine with fixed shaft. Similar to the EMC-BlueBox, the system can be used for dynamic EMC tests of electrical powertrain units in a shielded enclosure. It includes, for instance, braking, driving, direction of rotation (right/left), speed regulation, torque control and a mix out of this range.

**Features**
- Fully compliant with CISPR 25 Ed.4
- Motor adapter and connection to a CISPR 25 test table
- Combination with battery tests
- Vibration-free and non-interacting solid basement (floating slab)
- Incl. e-motor source and water cooling system

<table>
<thead>
<tr>
<th>Type</th>
<th>EDTC-125</th>
<th>EDTC-160</th>
<th>EDTC-250</th>
<th>EDTC-350</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power</td>
<td>125 kW</td>
<td>160 kW</td>
<td>250 kW</td>
<td>350 kW</td>
</tr>
<tr>
<td>Revolution speed</td>
<td>up to 12,000 RPM</td>
<td>up to 12,000 RPM</td>
<td>up to 12,000 RPM</td>
<td>up to 8,000 RPM</td>
</tr>
</tbody>
</table>

**Automation**

**Accessories**

**Frankosorb®**

**Military**

**Powertrain & Battery**

**Automotive**

**Commercial**

---

**EDTC**
External Load Machine

**EDTC-125** 7,880 x 5,480 x 3,750 m (L x W x H)
for fixed-shaft version with external load machine

**EDTC-BB** 7,880 x 6,380 x 3,750 m (L x W x H)
for mobile load machine EMC-BlueBox

**Frequency range**
150 kHz to 18 GHz (option 40 GHz)
The **Battery Testing Solution** enables the simulation and testing of batteries in several configurations, as well as in combination with a load machine, like the EMC-BlueBox. It allows a maximum of flexibility in testing e-drive components and, moreover, ensures a correct implementation into an EMC environment.

**Systems:**  
FSL-100 ... FSL-600  
Power ranges: 100 kW up to 600 kW, 300 A to 600 A, 50 to 1,000 V DC  
Functions: Battery monitoring, testing and charging  
Compliance: Real charging infrastructure and monitoring PLC, GB/T, and CHAdeMO charging protocol, DC and AC emulation

**Features**  
› Integration in any kind of EMC chamber  
› Real-time monitoring and testing using PLC, GB/T or CHAdeMO charging protocols  
› Shielded interface station useable within an EMC chamber  
› Integration kit for existing chambers

The **High-Power Charging Solution** consists of a charging station, which is placed in the immediate range of the vehicle to be charged, and of a power unit, which provides the necessary charging voltage and current. The charging station is modular equipped with four international charging standards CCS1, CCS2, CHAdeMO and GB/T. Both combined charging systems (CCS1&2) can be implemented with uncooled or cooled charging cables, depending on the maximum charging power.

**Version**  
<table>
<thead>
<tr>
<th>Type</th>
<th>FA-CCS2c</th>
<th>FA-CCS2uc</th>
<th>FA-CC1c</th>
<th>FA-CCS1uc</th>
<th>FA-CHA</th>
<th>FA-GBT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cooling</td>
<td>cooled</td>
<td>uncooled</td>
<td>cooled</td>
<td>uncooled</td>
<td>CHAdeMO</td>
<td>GB/T</td>
</tr>
<tr>
<td>Voltage (DC)</td>
<td>50 ... 1,000 V</td>
<td>50 ... 500 V</td>
<td>200 A</td>
<td>50 ... 750 V</td>
<td>62 kW</td>
<td>250 A</td>
</tr>
<tr>
<td>Max. Current</td>
<td>500 A</td>
<td>200 A</td>
<td>500 A</td>
<td>200 A</td>
<td>125 A</td>
<td>250 A</td>
</tr>
<tr>
<td>Max. Power</td>
<td>400 kW</td>
<td>200 kW</td>
<td>400 kW</td>
<td>200 kW</td>
<td>62 kW</td>
<td>185 kW</td>
</tr>
</tbody>
</table>

**Features**  
› Integration in chassis dynamometer or into EMC chamber floor connection panel (CP)  
› Charging box CCS type 2 with cooled or uncooled cable (European standard complies with IEC 62196-3)  
› Charging box CCS type 1 with cooled or uncooled cable (American standard complies with SAE J1772 and IEC 62196-3)  
› Charging box CHAdeMO with uncooled cable (Japanese standard); Tesla adapter 50 kW  
› Charging box GB/T with uncooled cables (Chinese standard complies with GB/T 20134.3)  
› Turnkey solution (power electronic, charging box and standards, filters, chamber integration, control panel, European safety standards)
The MIL CHC is Frankonia’s compact hybrid chamber solution according to MIL-STD 461 and DO-160 for component tests. To meet DO-160, the chamber is slightly longer due to the absorber lining.

These chamber solutions are adapted for radiated emission and immunity tests at 1.0 m measuring distance.

Features
- Compact chamber design for military applications
- Full compliant EMI/EMS as per MIL-STD 461, or in combination with DO-160
- Advanced lining with long-lasting Frankosorb® absorbers (Frankonia technology)
- Optimized hybrid absorbers
- In accordance with the requirements of MIL-STD 461, we use a partial pyramid lining
- MIL test table
- Turnkey solution

Absorbers
- Frankosorb® optimized hybrid absorber lining with F006 Ferrite, H450 or H600
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)

Performance & Compliance
- Full compliant emission (EMI) according to MIL-STD 461 and DO-160
- Full compliant immunity (EMS) according to MIL-STD 461 and DO-160
- Absorption at normal incidence:
  - 80 MHz to 250 MHz ≥ 6 dB, as per standard requirements
  - above 250 MHz ≥ 10 dB, as per standard requirements

### Specifications

<table>
<thead>
<tr>
<th>MIL CHC</th>
<th>4,880 x 4,880 x 3,000 m (L x W x H)</th>
</tr>
</thead>
<tbody>
<tr>
<td>MIL CHC DO-160</td>
<td>5,330 x 4,880 x 3,000 m (L x W x H)</td>
</tr>
</tbody>
</table>

Frequency range: 9 kHz to 40 GHz

Automation
- Accessories
- Frankosorb®

Military
- Powertrain & Battery
- Automotive
- Commercial
The MIL STD Chamber is Frankonia’s large chamber solution at 1.0 m measuring distance according to MIL-STD 461 adapted for radiated emission and immunity tests for large EUT’s or vehicles.

The MIL STD Chamber Advanced is Frankonia’s military chamber solution acc. to MIL-STD 461 for large EUT’s, and is compliant with commercial or automotive test site requirements. Frankonia’s unique Frankosorb® long-pyramid or hybrid absorber technology offers the possibility to combine MIL-STD 461 test requirements with commercial test requirements as per CISPR 16-1-4 and ANSI C63.4, as well as vehicle and automotive component tests.

Both chamber solutions are designed based on MIL-STD 461 and are fully customized according to customers’ requirements for military testing of large and heavyweight EUT’s.

Features
- Various testing possibilities with focus to MIL-STD 461, or in combination with commercial or automotive requirements (advanced version)
- Full compliant acc. to MIL-STD 461
- Full compliant EMI/EMS for commercial standards (advanced)
- Advanced lining with long-lasting and non-combustible Frankosorb® absorbers (Frankonia technology)
- Adjustable chamber size, characteristics and configuration due to different EUT’s

Absorbers
- Frankosorb® short-pyramid, long-pyramid or hybrid absorber lining
- High-performance nano thin-film technology with proven long-term stability
- Non-combustible acc. to DIN EN 13501-1 class A2 – s1 d0
- Hardly inflammable acc. to DIN EN 13501-1 class B (alternative)
Frankosorb®
Unique Nano Thin-film Absorbers

Since Frankonia’s Frankosorb® nano thin-film absorber technology started to conquer the world market, more and more customers recognize and appreciate the stable performance characteristics and many more unique attributes offered by this technology. Frankosorb® convinces with more than 25 years of operation without having any malfunction, defect, quality or performance loss or the need to refurbish.

The unique method of Frankosorb® technology and its specific manufacturing process is available either as a hybrid solution in combination with Ferrite absorbers, or as a stand-alone pyramid solution with a length up to 2.4 m. The most important advantage of the Frankosorb® long pyramid absorbers is the coverage of the whole frequency range starting from 26 MHz up to 40 GHz, so that additional Ferrite absorbers are unnecessary.

P-Series Absorbers
› Short-pyramid absorbers P600 or P900 (80 MHz to 18/40 GHz)
› Long-pyramid absorbers P2400 (26 MHz to 18/40 GHz)

H-Series Absorbers
› Hybrid absorber lining in combination with Ferrite (30 MHz to 18/40 GHz)

The Frankonia Frankosorb® absorber technology combines a variety of high-performance standards in a single solution. Due to the stable performance characteristics and its unique non-combustible attribute, a safe environment for people and EUT can be assured, which also leads to a constant, reproducible and long-lasting testing quality.

Features
› Nano thin-film technology guarantees highest homogeneity and impedance accuracy
› **A2 - Non-combustible absorbers** according to DIN EN 13501-1 class A2 – ≤ 1.00 equivalent to DIN 4102 class A2 (Chinese GB8624-2006; Russia GOST 30244-94) evaluated according to NRL 8093 report for tests 1, 2, 3, 4 and 5 compliant with EN/ISO 5659-2 (smoke generation and opacity)
› **B – Hardly inflammable absorbers** according to DIN EN 13501-1 class B equivalent to DIN 4102 class B1 (Chinese GB8624-2006; Russia GOST 30244-94) evaluated according to NRL 8093 report for tests 1, 2 and 3
› Not carbon-based absorbers
› High-quality prefabrication
› Cost saving solution with Frankosorb® non-combustible absorbers as no sprinkler or fire extinguishing system is necessary
› High-performance characteristics
› Proven long-term stability for more than 25 years ensure reproducible test results
› Non-hygrosopic materials are used to meet any climatic conditions (humidity-proof and temperature-proof)
› No toxic gases emitted in case of absorber heating
› No dirt, solvent-free, and free of glue or other harmful substances ensure a healthy environment for people and EUT
› Recyclable at 99%
› Clean room classification according to ISO 14644-1 Class 5
› **White coloring** that improves the illumination level (no covers necessary)
› Space-saving and stackable floor absorbers
› Removable due to absorber fixation either by screw or hanging type

Aligned with customers’ requirements, the Frankosorb® absorbers are available in several configurations that achieve a cost-effective and high-performance solution. Thus, together with the Frankosorb® absorber technology, Frankonia’s chambers offer the best choice for a long-term investment.

The Frankosorb® absorber technology remains the number one choice when it comes to long-term performance paired with its unique non-combustibility characteristic.
Shielding Accessories
Shielding, Doors, Gates, and Accessories

Since 1987, Frankonia follows a prefabrication and modular standard at highest quality and efficiency. Nothing is welded, nothing is glued, everything remains modular to meet any future modification requirements.

Shielding and Structure
› Modular and prefabricated PAN type shielding system
› Highest shielding attenuation for all shielding accessories, honeycombs, doors and gates
› Static steel structure adapted to local seismic conditions

Doors and Gates
› Broad range of doors and gates in various sizes
› Modular and prefabricated
› Single-leaf door (SLD)
› Double-leaf door (DLD)
› Sliding door (SDL)
› Sliding gate (SG)

Ramps and Platforms
› Lifting ramps
› Lifting platforms
› Sliding platforms

As a specialist in RF-shielding and EMC testing chambers, Frankonia offers complementary, standardized and customized products to maintain its position as a turnkey provider.

Every chamber is designed as an autonomous room with its own full-integrative electrical system setup with additional accessories to meet our customers’ requirements.

Electrical Integration
› Electrical distribution unit, cabling, safety functions
› LED lighting, ExTox lighting option, emergency lighting
› AC and DC filters, signal and data filters, optic converters

Ventilation, Smoke and Gas
› Honeycombs, cooling and exhaust systems
› Smoke and gas sampling systems
› Autonomous smoke and gas analyzing systems
› Extinguishing systems

Video & Audio Systems
› HD camera systems, fixed or mobile version
› Audio systems
› Recording systems

Test Tables
› CISPR 25 test tables
› CISPR 22 transparent test tables (FTT)
Frankonia provides a broad range of positioning devices such as standardized and multi-use turntable systems and antenna masts, which are designed and developed by Frankonia’s own R&D department. Frankonia considers highest quality and technology standards respecting the latest EMC standard requirements.

**FTM – Turntable Systems**
Frankonia’s wide range of turntables is fully compliant with the EMC chamber environment. The turntables are available in different sizes and can be equipped with various options. They are integrated flush in the raised floor and are surrounded by a conductivity grounding ring to ensure the contact with the ground plane of the chamber. For the control of the turntable series FTM, the Frankonia controller FC06.1 is perfectly adapted using IEEE 488.2 (GPIB) commands.

**Range of Products**
- FTM mobile turntables from ø0,6 m up to ø2,0 m
- FTM integrated turntables from ø1,2 m up to ø11,0 m for SAC
- FTM integrated turntables from ø1,5 m up to ø2,0 m for FAC with transparent top
- Integration of energy chain, exhaust and cooling systems, and customer specific items
- Integrated dynamometers and rollers, turning or fixed position
- Mobile dynamometers on top of turntable or floor
- FC06.1 controller with independent software (SCPI commands)
- Controllable with common EMC software

**FAM – Frankonia Antenna Mast**
The FAM is Frankonia’s standard antenna mast solution compliant according to CISPR 16–1–4. For customers’ convenience, the Frankonia antenna mast is equipped with wheels and can be folded to enable easy transportation and handling. To reduce unintentional reflections, the masts are made of fiberglass and plastic materials. Any reflecting materials have been reduced to a minimum.

**FBM – Frankonia Boresight Antenna Mast**
Based on the FAM antenna mast, the FBM boresight antenna mast is compliant with ANSI C63.4 and CISPR 16–1–4 that includes an advanced tilt function. To offer full flexibility, the tilt function can be switched off, so that the FBM operates as a standard mast. Within the tilt function, the FBM software automatically calculates the tilt angle in accordance with the antenna specific reference point, as well as distance, position and size of the EUT and monitors the complete test procedure.

**Range of Products**
- FAM standard antenna mast (CISPR)
- FBM boresight antenna mast (FCC/ANSI & CISPR)
- FSM antenna stand with polarization unit
- FC06.1 controller with independent software (SCPI commands)
- Controllable with common EMC software
Frankonia Solutions
We realize your project with perfection

Frankonia starts from the very first moment with planning, technical drawings, coordination and definition that meets our customers’ individual demands. Due to the solution ambitiousness, Frankonia provides excellent expertise in every stage of a project. Frankonia’s project business convinces with its in-house project management, engineering and manufacturing, research and development, as well as installation and implementation and provides the latest technology at highest quality.

Consulting
› Frankonia provides precise knowledge of state-of-the-art Anechoic Chamber and Test System solutions with the latest technology and highest quality, while considering today’s and future standards. Together with our customers, we define customized projects, provide technical details, project timeline and complete drawings. Herewith, in every single phase of the project, we ensure a perfect solution.

Project Management
› From the first moment to the final handover, our project management takes care of the project and represents the central interface between Frankonia’s scope of delivery and building related parties. Thus, we meet our customers’ requirements without compromises.

Engineering
› Frankonia’s engineering ensures that our customers’ requirements will be implemented impeccably from a single product up to a complete solution. Having our own engineering guarantees the quality and technology level that our customers’ expect. Herewith, Frankonia claims to be a competent solution partner.

Research & Development
› Frankosorb® is Frankonia’s unique absorber innovation that defines the leading standard for absorber technologies. Our continuous research on materials, a proper adaptation to our customers’ requirements, as well as the respect of future standards put Frankonia’s R&D department to the core when it comes to providing long-term efficient and trustful chamber solutions.

Manufacturing
› Frankonia runs a stand-alone production network and constantly invests in innovative technologies and latest manufacturing equipment to meet our customers’ as well as our own expectations. Having our own manufacturing resources, which enable us to consequently provide the highest production quality and accuracy, distinguishes Frankonia from others. Moreover, it allows us to be independent and flexible in time.

Implementation
› Our own European installation team ensures a proper implementation and installation of single products up to complete solutions that are engineered, developed and manufactured according to Frankonia’s modular and prefabricated standards. Offering a complete scope of products and a broad range of international capabilities verifies Frankonia to be named as the trusted turnkey solution provider.

Solution
› With more than 30 years experience to date, Frankonia’s goal is to transform our customers’ individual requirements into reliable state-of-the-art solutions, always considering today’s and future standards and test related specifications. We offer our expertise and innovation to customers seeking for complete solutions with leading ambitions. Because we know, only a complete and comprehensive solution can create and maintain long-term satisfaction.