



EMC Protection Rack Cabinet

Width 600 or 800mm
Depth 680, 880, 1080mm

Product overview

Deckro EMC Cabinets are designed to meet the EU's electromagnetic compatibility (EMC) regulations. These regulations are in place to limit electromagnetic emissions from equipment, ensuring that they do not disturb radio and telecommunication, as well as other equipment. The regulations also govern the immunity of such equipment to interference, ensuring that they are not disturbed by radio emissions when used as intended.

The Deckro EMC Cabinets are designed to break the coupling path of electromagnetic interference (EMI), reducing both emissions and susceptibility. Techniques such as grounding or earthing schemes, and shielded cables, where the signal wires are surrounded by an outer conductive layer that is grounded at one or both ends, are used to achieve this.

Deckro EMC Cabinets are a robust solution for housing critical equipment, providing protection against both physical elements like water and dust, and electromagnetic interference. They are designed to meet the stringent EMC regulations set by the EU, ensuring that the equipment housed within them can function effectively without causing or being affected by electromagnetic interference.

Specifications

Dimension						
Height	U	26	36	42	45	47
Height	mm	1420	1865	2132	2265	2349
Width	mm	600/800	600/800	600/800	600/800	600/800
Depth	mm	680/880/1080	680/880/1080	680/880/1080	680/880/1080	680/880/1080

General		
Colour	All cabinets are available RAL9005 (Black) and RAL7035 (Light grey) and are also available RAL7032 (Pebble Grey)	
Load capacity	kg	1000kg / 2204lbs load capacity
IP Grade	Standard IP42 protection class according to IEC297-1 - EN60529 Alternative IP55 or IP66 when doors, bottom plate, top covers and roof applied	
Materials	Sheet Steel, DIN EN 10130-99 / DC-01 6112 / DC-7122	
Earthing	Fully earthed with central earthing point According to EN 61587-1 / EN 61010-1	
Construction	Monoblock frame design Solid welded construction 1.5, 1.2, 1.0 mm zinc-plated and sheet steel	

Performance	
Electrostatic Powder Paint	ISO 9001:2015 ASTM D523; ASTM D2794; DIN EN ISO 2811-1; ASTM D1186/D1400;
Climatic Performance	Cold (IEC 60068-2-1 :2007;Ab) Temperature of the exposure: -25°C +/-3°C Dry heat (IEC 60068-2-2 :2007;Bd) Temperature of the exposure: +70°C +/-2°C Damp heat cyclic (IEC 60068-2-30:2005;Db; (cyclic 2x), variant 2)
Industrial Atmosphere	Salt mist test IEC 60068-2-11 Salt Spray Test TS EN ISO 9227
Mechanical Impact Resistance	EN/IEC 62262 - IK07 Mechanical Impact Resistance
Protection Performance	EN/IEC 60529 - IP20 Ingress Protection performance

Mechanical Performance	EN 61587-1 5.2.1 / 5.2.3 Static mechanical load test (Performance level SL 12) Stiffness test (Performance level ST5) Shock test (IEC 60068-2-27:Ea; 1987) Performance level DL4S Impact test (IEC 60068-2-75:Eh; 2014) (Performance level IK07)
Standards	ISO9001 Management system ISO 14001 Environmental Management System ISO45001 The Occupational Health and Safety Management System
Compliance	RoHS compliancy %100 Recyclable Material CE conform to EN 60950-1 Information Technology Equipment, Safety, Part-1: General Requirement and EN IEC 62368-1 Audio/Video, Information and Communication Technology Equipment Part 1: Safety requirements
Mechanical Structures	According to EN 61587-1 Mechanical Structures for Electronic Equipment EN IEC 60297, 19" Mounting EN IEC 60917 Overall Cabinet Dimensions
Connection Elements (Bolt, Nuts, Washer)	DIN 7985, DIN 965, DIN 7981 , DIN 934 , DIN 985 , DIN 933 , RoHS

General Standards

ANSI/EIA-310-E	Electronic Industries Association standard for horizontal spacing, vertical hole spacing, rack opening and front panel width
DIN 41494 Part 1 & 7	Panel Mounting Racks for Electronics Equipment's; Racks and Panels, Dimensions; Dimensions of cabinets and suites of racks
BS EN 60297-3-100:2009	Mechanical structures for electronic equipment. Dimensions of mechanical structures of the 482,6 mm (19inc) series. Basic dimensions of front panels, sub racks, chassis, racks and cabinets
Industries Alliance	According to ETSI or EIA Standards EIA-310-D, EIA/ECA-310-D EIA/ECA-310-E 19" = 482,6 mm RU or U= 44,45 mm Height

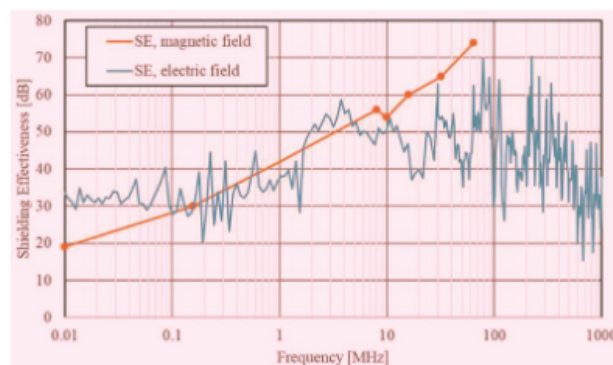
Product Specifications	
Frame	Monobloc Frame Design Solid Welded Construction 1.5, 1.2, 1.0mm Zinc-Plated and Sheet Steel
Finishing	High resistance against external impacts. Electrostatic RAL9005 black powder coating or RAL7035 light grey powder coating or RAL7032 grey powder coating (ISO 9001:2015)
Front door	- Standard single-opening front door installation - Locking Mechanism: Equipped with a swivel arm lock for enhanced security
Rear Door	Standard solid metal rear panel installation
19" Mounting Rail	4 pieces and adjustable along the entire depth of the cabinet and thickness 1.5mm, silk screened. - There are "U Marks" from top to bottom and from bottom to top for easy device installation, the structure of the mounting rails is manufactured as 1U=44.45 with 9.5x9.5mm square holes with +/- 0.01 precision on CNC punch machines
Grounding	All metal components in the cabin shall be electrically connected and grounded in accordance with IEC 61010-1 / 6.5.1.3. The maximum grounding resistance is 0.1 ohm.
Side Panels	Steel, power coated side panels
Top panel	- Ventilation Compatibility: Dedicated opening for a ventilation unit - Efficient Cooling: Supports 2 or 4-fan modules with a thermostat controller - Optimized Cable Management
Bottom Panel	Cable Management: Integrated cable entrance for organized routing

Characteristic	
Cooling Capacity	4 Fans up to 1,5kW
Air flow rate	400 cfm Max
EMC Seal	Neoprene with Nickel-Copper fabric
Surface Resistance	0.09Ohms / Max average 0.05Ohms

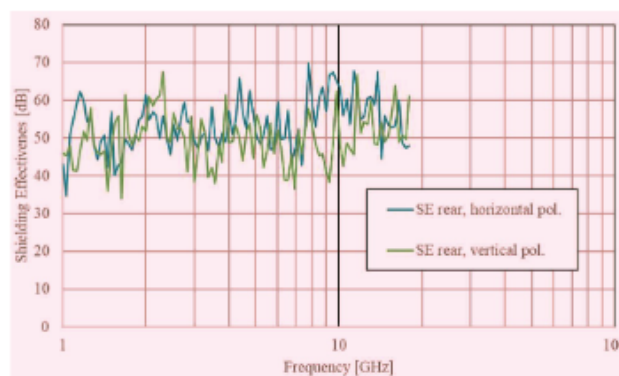
Shielding Effectiveness	Average 80dB at 100MHz and 40dB at 1GHz
Test Standard to be Applied	IEEE 299-2006: IEEE Standard Method for Measuring the Effectiveness of Electromagnetic Compliance Enclosures
	MIL-STD-285 - Measuring the Electromagnetic Shielding Attenuation

Shielding Effectiveness

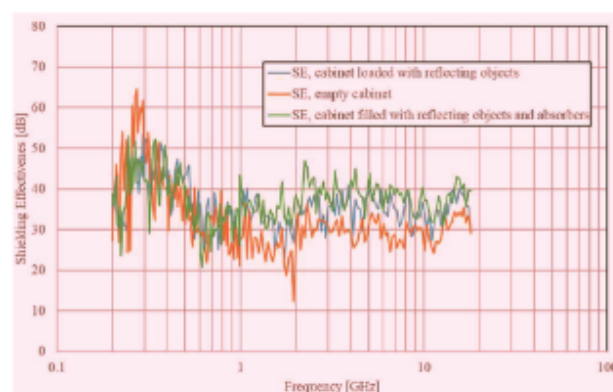
- A.** Magnetic Field: DC – 3 MHz (potentially up to 30 MHz)



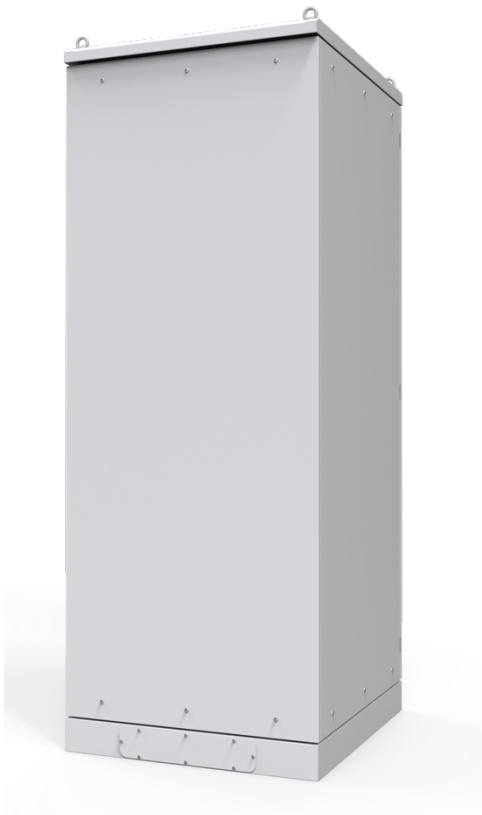
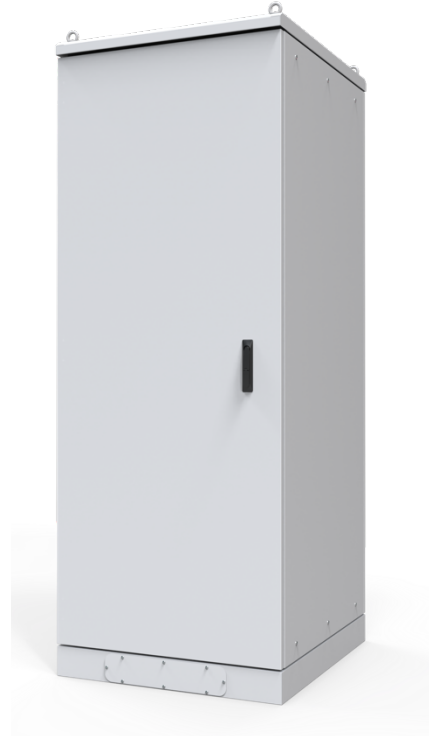
- B.** Electric Field: 10 kHz – 1 GHz



- C.** Reverberant Electromagnetic Field: 100 MHz – 40 GHz



Products Images



Part Number Table

IP42

Part Number	Descriptions
	600x680
EMCP42-60682651.1	Deckro EMC Cabinet IP42 19" 26U 600x680x1420mm Cabinet RAL7035 Light Grey
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EMCP42-60884751.1	Deckro EMC Cabinet IP42 19" 47U 600x880x2349mm Cabinet RAL7035 Light Grey
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EMCP42-60102651.1	Deckro EMC Cabinet IP42 19" 26U 600x1080x1420mm Cabinet RAL7035 Light Grey
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Product Design References

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- *IEEE Recommended Practice for Measurement of Shielding Effectiveness of High-Performance Shielding Enclosures, IEEE 299, 2006*
- *MIL-STD 285, Method of attenuation measurement for enclosures, electromagnetic shielding, for electronic test purposes*
- *IEEE Standard Method for Measuring the Shielding Effectiveness of Enclosures and Boxes Having all Dimensions between 0.1 m and 2 m, IEEE 299.1, 2013*
- *MIL-STD-188-125-1, High-altitude electromagnetic pulse (HEMP) protection for ground-based C41 facilities performing critical, time urgent missions, part 1 fixed facilities, App.A, Shielding effectiveness (SE) test procedures, 2005*
- *IEC 61000-4-23:2000, Testing and measurement techniques – Test methods for protective devices for HEMP and other radiated disturbances*
- *NSA 94-106, National Security Agency Specification for Shielded Enclosures, 1 kHz – 10 GHz*
- *ASTM E1851, Standard Test Method for Electromagnetic Shielding Effectiveness of Durable Rigid Wall Relocatable Structures, 2015*
- *EN 50147-1, Anechoic Chambers Part 1: Shield Attenuation Measurement*
- *VG 95373 Part 15 – Test Methods for Coupling and Shielding*
- *IEC 61587-3:2013, Mechanical structures for electronic equipment – Tests for IEC 60917 and IEC 60297 – Part 3: Electromagnetic shielding*
- *IEC 61000-4-21:2011, Testing and measurement techniques – Reverberation chamber test methods, app. H, screening effectiveness measurements of enclosures*
- *MIL-STD-1377, Measurement of effectiveness of cable, connector, and weapon enclosure shielding and filters in precluding hazards of electromagnetic radiation to ordnance (HERO), U. S. Department of Defence, 20 August 1971.*