

(Note: Dimensions written in red must be modified according to the customer's project requirements.)

FREE-STANDING TYPE CABINETS

TECHNICAL SPECIFICATION (Applicable to All Manufacturers)

1. DOCUMENTS AND CERTIFICATION

- **Quality Certificate:** The manufacturer shall hold an ISO 9001:2015 quality management system certificate for the production of 19" Free-Standing Type Rack Cabinets, as well as a TSE certificate encompassing EN IEC 61587-1:2022, IEC 60917, and IEC 60297 standards.
- **UL Certificate:** Cabinets shall hold a UL certificate under the UL 2416 standard.
- **CE Certificate:** The cabinets shall hold a CE certificate under the 2014/35/EU Low Voltage Directive and the 2014/30/EU Electromagnetic Compatibility Directive.
- **RoHS:** All materials used in production shall comply with RoHS 2011/65/EU and its latest amendments.

2. DIMENSIONS AND CAPACITY

- **IEC 60297 Compliance:** The internal usable U capacity of the cabinets shall be (12U / 16U / 20U / 22U / 26U / 32U / 36U / 39U / 42U / 45U / 47U).
- **External Dimensions:** The external width shall be a net 600 mm or 800 mm; the depth shall be a net 600 mm, 800 mm, or 1000 mm.

3. STRUCTURAL FEATURES

- **Main Frame and Profile Structures:** The cabinet shall be manufactured and tested to provide axial (x, y, z) strength in accordance with EN IEC 61587-1:2022 / Clause 5.2.1 and 5.2.2, and resistance to external impacts in accordance with EN IEC 61587-1:2022 / Clause 5.3.3. Dynamic load, vibration, and mechanical shock test results (IEC 60068-2-6, IEC 60068-2-27) shall be certified by TSE or an accredited organization.
- **Main Profile Structure:** It shall have a closed-profile structure with a 45-degree angled front bend and a total of 6 bends, providing enhanced mechanical strength and an aesthetic appearance. It shall have a minimum load-bearing capacity of 600 kg.
- **Bottom and Top Chassis:** The chassis shall enhance cabinet rigidity and strength; it shall incorporate multi-bend technology and shall have a minimum load-bearing capacity of 600 kg.
- **19-Inch Mounting Rails:** A total of 4 mounting rails shall be provided — 2 at the front and 2 at the rear — adjustable along the full cabinet depth without removal, supported by a total of 6 horizontal profiles on the right and left sides. "U" positions shall be marked by screen printing; the rails shall be at least 1.5 mm thick and shall feature double-U numbering characteristics (countable both from bottom and top).

4. DOORS AND ACCESS PANELS

- **Front Door:** The front door shall use tempered, antistatic, secure, smoked, polished glass, 4 mm (±5%) thick, compliant with EN 12150-1:2015. Cabinets with 600 mm width shall have a single front door; the front glass door shall open to the right or left on the vertical axis, and reinforced aluminium frames shall



be provided on both sides of the glass and bonded with polyurethane gasket. Cabinets with 800 mm width shall have double-section front glass doors. A fully metal-framed perforated door option with 63% or 70% perforation ratio may also be offered.

- **Rear Door and Side Panels:** They shall be openable, removable, and lockable.

5. LOCKS AND SECURITY

- **Locks:** All cabinet doors shall be lockable; the front door shall have a handle lock, and the side and rear doors shall have "O" locks, all operated with the same keyed cylinder. The cabinet shall comply with EN IEC 61587-6:2021 security standard.
- **Joining:** All cabinets shall be capable of being joined side by side, upon request, by removing the side joining panels.

6. CABLE MANAGEMENT

- **Cable Entries:** The cabinet shall include a dust-proof sliding cable entry section measuring 350×250 mm; thanks to its sliding structure, it shall include a thick gasket that secures the cables and enables cable entry into the cabinet without damage.
- **Vertical Cable Organizers:** In 800 mm wide cabinets, covered metal vertical cable organizers shall be provided in the right and left side void sections of the cabinets.

7. GROUNDING AND ELECTRICAL CONTINUITY

- **Grounding:** All metallic components inside the cabinet shall be electrically bonded to each other; grounding resistance shall not exceed 0.1 ohm in compliance with IEC 61010-1 / 6.5.1.3.

8. SURFACE TREATMENT AND COATING

- **Paint:** Cabinets shall be coated with electrostatic RAL 9005 Texture Black powder coat or RAL 7035 White powder coat to ensure high resistance against impact. The manufacturer's powder coating application shall have achieved a salt spray test performance of minimum 1000 hours or above from accredited laboratories. The powder coating to be used shall be non-ignitable and flame-retardant in accordance with TS EN 13501-1+A1 standard.

Paint test standards: TS EN ISO 9227 and ASTM B117 (Salt Spray) | TS EN ISO 2409 and ASTM D3359 (Cross-Cut) | TS 2311 EN ISO 2178 and ASTM B499 (Coating Thickness Measurement)

MATERIALS USED IN CABINET MANUFACTURING

- **Sheet Steel:** DKP – DIN EN 10130-99, Ereğli DC-01 6112/7122, RoHS compliant
- **Powder Coating:** ISO 9001:2015, ISO 2178, ISO 2813, ISO 6272, ISO 8130-5, ISO 8130-3, RoHS – RAL 9005 Texture Black or RAL 7035 Wrinkle White
- **Glass (if applicable):** ISO 9001:2015, EN 12150-1:2015 Tempered, Secure
- **Fasteners (bolt, nut, washer, etc.):** DIN 7985, DIN 965, DIN 7981, DIN 934, DIN 985, DIN 933, RoHS
- **Lock:** DIN 1743, DIN 53571, RoHS



10. ACCESSORIES

- **Fan Unit:** A ball-bearing fan unit with 2 or 4 fans shall be used. It shall incorporate a thermostat controlling the temperature inside the cabinet. Fan system units shall be CE certified. Each fan shall provide a minimum airflow of 2.3 m³/min and a maximum noise level of 47 dBA. A CE declaration shall have been issued within the scope of ISO 9001:2015 and CE requirements (2006/42/EC Machinery Directive, 2014/35/EU Low Voltage Directive, 2014/30/EU EMC Directive, EN ISO 12100:2010, EN 55032:2015/A1:2020, EN IEC 62368-1:2023, EN 60204-1:2018, EN IEC 61000-6-1:2019, EN IEC 61000-6-3:2021), and test reports shall have been obtained from accredited organizations. CE declaration alone shall not be accepted.
- **PDU Group:** It shall have an aluminium profile body with a safety enclosure structure; it shall be 6-outlet (1U) or 9-outlet (2U) with 1×16 A fuse protection and CE certified.
- **Caster Wheel Set:** 4 pieces, directly connected to the cabinet chassis. Front castors shall be braked and swivel type, and rear castors shall be swivel type. Load-bearing capacity shall be minimum 150 kg per castor. TS EN 12530, TS EN 12532, RoHS.
- **Levelling Feet:** (Used when castors are not used.) They shall be suitable for height level adjustment, each having a minimum load-bearing capacity of 250 kg per piece.

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