# CP4050-10 UL

SA63840099





Series of insulators suitable for use as supports or spacers for electrically active parts such as busbars used in the construction of electrical panels. Made of polyamide with added glass fibres, they ensure long-term mechanical and electrical resistance. The material is anti-hygroscopic, highly self-extinguishing, halogen-free and UL V0 approved. The insulators feature a female threaded insert in brass or white galvanised steel on both support sides, allowing coupling with the relevant parts via special headless screws. The lower part includes a hexagonal band for fastening.

## Technical specifications

| | |
|---|---|
| **Functional characteristics** | |
| Arc resistance | > 180 s - ASTM D-495 |
| Tracking resistance | 3 W/min - ASTM D-2302 |
| Operating voltage | 1500 AC / DC (V) |
| Minimum internal discharge voltage | 40 AC (kV) |
| Rated withstand voltage at 50 Hz for 1 min | 10 kV |
| **Operating conditions** | |
| Operating temperature range | -40 ÷ 130 °C |
| **Approvals and certifications** | |
| UL approval | ✓ |
| **Mechanical features** | |
| Water absorption | < 0,2% - ASTM D-570 |
| Tensile stress | 1000 daN |
| Bending stress | 500 daN |
| **Physical features** | |
| Color | Black |
| Material class | Self-extinguishing, class V0 (1.6 mm) according to UL-94 standard |
| Halogen free | ✓ |
| Material | Polyamide |
| **Overall dimensions** | |
| Height (A) | 50 mm |
| **Other dimensions** | |
| Dimension - D | 15 mm |

Vemer S.p.A. declines all responsibility for the use of the products for purposes other than those for which they are intended, as indicated in the technical documentation. Vemer S.p.A. reserves the right to make, without prior notice, such changes as may, in its sole discretion, improve the technical and functional characteristics of the products and the related production logic. The technical characteristics and images of the products indicated are given for information only and are not binding in any way, since they may be modified without prior notice.

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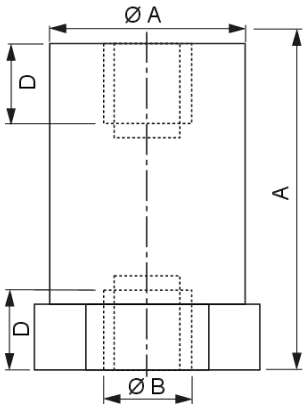
| Diameter dimension | |
|---|---|
| Dimension Ø - A | 40 mm |
| Dimension Ø - B | M10 mm |

## Dimensions

Total View




## Product variants

**CP4030-10 UL**
SA62850099

**CP4035-10 UL**
SA63010099

**CP4040-10 UL**
SA63270099

**CP4045-10 UL**
SA63500099

**CP4055-10 UL**
SA64260099

**CP4060-10 UL**
SA64750099

## Reference standards

Compliance with Community Directives:

**• 2014/35/UE (LVD) • 2011/65/UE e 2015/863/UE (ROHS)**
is declared with reference to the following Standards:

**• EN IEC 61439-1 • EN IEC 63000**

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# TECHNICAL GUIDE

## ELECTRODYNAMIC FORCES BETWEEN CONDUCTORS

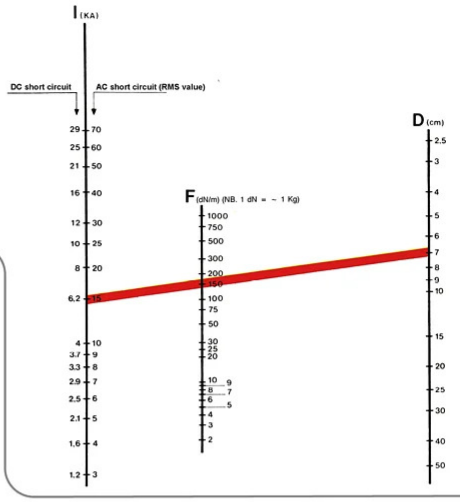
### Nomogram 1

Determination of force **F** per unit length

Required data: I = short-circuit current
D = distance between phases

Example: Isc = 15 kA (AC) D = 7 cm

**result obtained from the nomogram: F ≅ 150 daN/m**



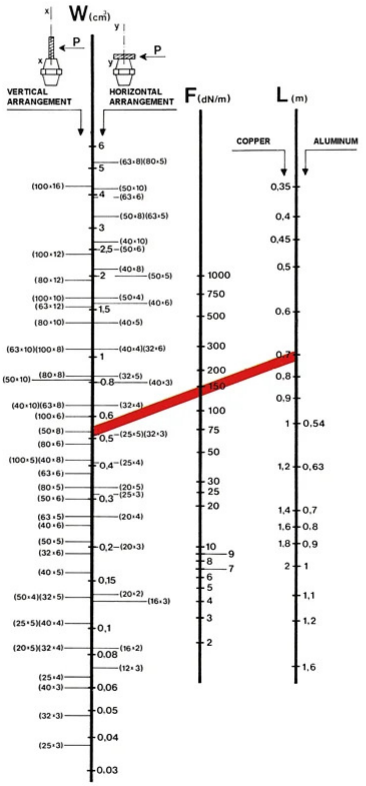

### Nomogram 2

Determinaton of distance **L** between supports

Required data: F = force per unit length
(obtained from the previous nomogram)
W = longitudinal and transverse section modulus of the busbars according to X-X oppure Y-Y respectively
(obtainable based on the dimensions and arrangement of the busbar, whether horizontal or vertical)

Example: F ≅ 150 daN/m W = 0,5 cm³
(50 x 8 vertical arrangement)

**result obtained deducibile dal nomogramma: L ≅ 0,7 m**



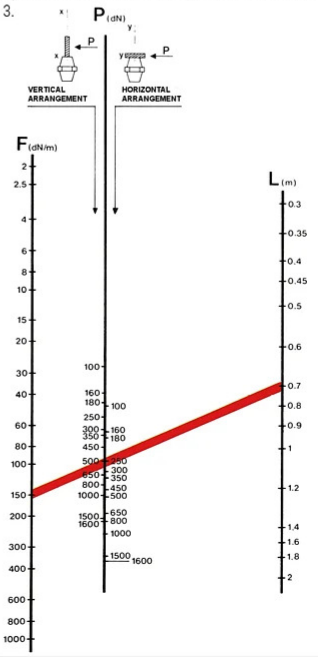

### Nomogram 3

Determination of the minimum cantilever breaking load **P**

Required data: F = force per unit length
L = distance between supports (obtained from the previous nomogram)

Esempio: F ≅ 150 daN/m L ≅ 0,7 m (vertical arrangement)
**result obtained from the nomogram:**
**P ≅ 500 daN**
**(for vertically arranged busbar system)**

Once the value of load P is determined, the suitable insulator can be identified by checking the specific tables for each item (cantilever breaking load columns) for a value greater than or equal to the one obtained from Nomogram 3.





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