

## Cable Clamping Device

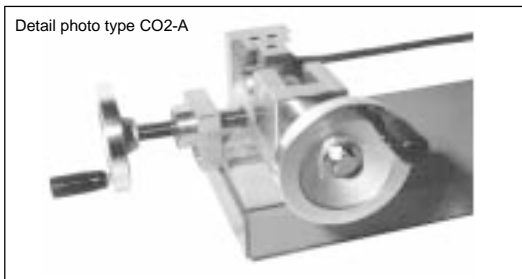
Type CO2

Type CO2-A

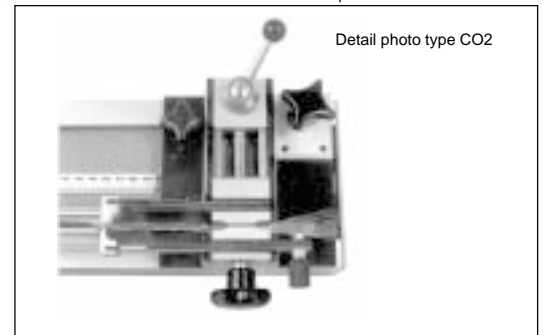
Type CO3



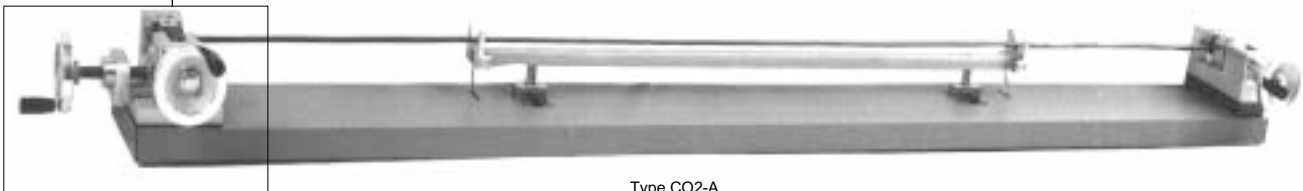
Type CO2



Detail photo type CO2-A



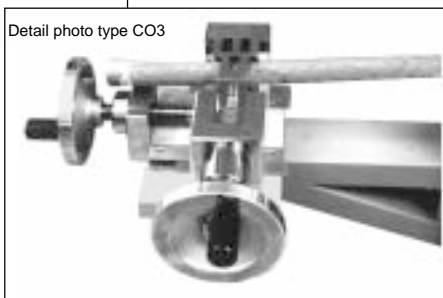
Detail photo type CO2



Type CO2-A



Type CO3



Detail photo type CO3

During the manufacture of wires, rails, cables and sector conductors, the electrical conductivity respectively the resistance must be checked for compliance with specified values.

In conjunction with one of our range of digital ohmmeters, the clamping devices are used in the cable industry for production monitoring and quality assurance.

As most of the materials used have a very high temperature coefficient, e.g. copper 3,93 %/K, brass 1,5 %/K, a precise recording of the test unit's temperature during measurement is of particular importance.

Needless to say, the clamping devices described are equipped with 4-conductor technology, thus eliminating lead and contact resistances.

## Clamping Device Type CO2

With the help of the clamping device type CO2 and a milliohm or microohmmeter, the ohmic resistances of cable samples and materials such as cords and strip can be measured.

Fields of application include production monitoring, quality assurance and general test measurements.

The type CO2 consists of a robust, warp-resistant, light-metal rail with one movable and one rigid clamping device. It allows the measurement of samples 50 mm to 1000 mm long. The clamping device is designed to accommodate cable cross-sections of 0.1 mm<sup>2</sup> to approx. 100 mm<sup>2</sup>. For larger cross-sections, the distances between the current feed and the potential tap must be increased in order to ensure a uniform current distribution.

Adaptation to the diameter of the test unit is carried out through a coarse adjustment of the clamping jaws. The quick-action clamping device allows the test unit to be clamped rapidly and securely in one single movement.

### Optional Features

The clamping device can always be supplemented with the guide rail type CO2 shown in the illustration. This rail offers major advantages. It serves as a support and guide for the test units. In addition, it offers protection against draughts, thus preventing rapid changes in the temperature of the measurement object. These advantages are particularly noticeable in the case of small cross-sections which, due to their low heat capacity, react to the slightest draught. Although thin test units sag minimally even without a guide rail, the increase in length due to this sag is often sufficiently large to cause errors in the measurement results.

A sensor block is integrated into the guide rail. With the help of the temperature sensors type PT01, the temperature of the guide rail resp. the sample material can be recorded and compensated appropriately by the measurement device.

### Technical Data

Adjustable clamp support: measurement length of up to 1000 mm  
Test unit cross-sections: ranging from 0.1 mm<sup>2</sup> to approx. 100 mm<sup>2</sup>  
Current connections: designed for 100 A  
Potential tap:  
routed to 4 mm standard device terminals via material with low thermoelectric power.  
Dimensions (height x width x depth): 1300 x 120 x 150 [mm]  
Weight: approx. 8.5 kg

### Order Information

Clamping device **type CO2**  
Guide rail **type CO2-GR01**  
1 set interchangeable contacts for the potential tap **type CO2-01**

## Clamping Device Type CO2-A

The clamping device is designed for cross-sections of 1 ... 1000 mm<sup>2</sup>. The measurement length is 1000 mm. A uniform distribution of current has been ensured by the distance between current and voltage-clamp. The clamp support is laterally adjustable by means of a spindle so that the immersed test unit can be stretched. This is particularly advantageous in the case of large cross-sections.

### Technical Data

Measurement length: 1000 mm  
Clamping device: designed for cross-sections of 1 ... 1000 mm<sup>2</sup>  
Distance between voltage and current-clamp: 420 mm  
Dimensions (height x width x depth): approx. 170 x 2100 x 250 [mm]  
Weight: approx. 25 kg

### Order Information

Clamping device **type CO2-A**

## Clamping Device Type CO3

The clamping device type CO3 can be used to check the electrical conductivity resp. resistance of wires, rails cables or sector conductors for power cables during production and in the testing laboratory. The measurement length is 1000 mm. The clamping device is designed for cross-sections of 1 ... 1000 mm<sup>2</sup>.

Detailed investigations and long experience have shown that particularly in the case of large cross-sections, precise temperature measurement is only possible in a liquid medium.

The type CO3 is equipped with a water bath whose temperature is controlled with an integrated thermostat.

The integrated circulation pump ensures a uniform distribution of temperature in the water bath. The test unit's measurement length of 1000 mm is immersed entirely in a liquid medium (water). The digital ohmmeter type DO5000 corrects the measurement Value displayed to a reference temperature of 20 °C.

A uniform distribution of current has been ensured by fitting the quick action vices outside the bath.

The clamp support is laterally adjustable by means of a spindle so that the immersed test unit can be stretched. This is particularly advantageous in the case of large cross-sections.

### Technical Data

Measurement length: 1000 mm in a temperature-controlled water bath  
Clamping device: designed for cross-sections of 1 ... 1000 mm<sup>2</sup>  
Constant water temperature ensured by a two-position controller and an integrated circulation pump.  
Precise temperature measurement with an integrated sensor.  
Operating range: 25 °C ... 60 °C, tolerance ± 0,5 °C  
The distance between the potential tap and the current feed can be adjusted between 400 and 800 mm in accordance with the cross-section. This ensures an adequate current distribution even in the case of large cross-sections.  
Current connections: designed for 100 A  
Output of the integrated heating filaments: 2 kW  
Voltage supply: 230 V, + 6 % -10%  
Mains frequency: 50/60 Hz  
Power consumption: approx. 2,2 kVA  
Device protection: in accordance with VDE 0411  
Weight (without water): approx. 80 kg  
Dimensions (height x width x depth): 0,3 x 2,10 x 0,75 [m]  
without wire holder 0,3 x 1,33 x 0,5 [m]

### Order Information

Clamping device **type CO3**