

## Clamps

Above 52 kV

Clamps

Insulating sticks and earth clamps

Fixed points and cables

Accessories

## HV and EHV clamps manoeuvrable by insulating stick

Body in aluminium alloy with trapezoidal threaded screw. Interposed elastic washers in the clamping system improve efficiency and insure a higher withstand in case of electrodynamic shock. Manoeuvring by CM-6 insulated stick of appropriate length and characteristics.



MT-731



MT-732



MT-734  
IEC-61230 ⚡



MT-735  
IEC-61230 ⚡



MT-737-H  
IEC-61230 ⚡



MT-732-A MT-732-B MT-732-E MT-732-H  
MT-731-A MT-731-B MT-731-E MT-731-H



MT-734 MT-734-A MT-734-B MT-734-E MT-734-H  
MT-735 MT-735-A MT-735-B MT-735-E MT-735-H

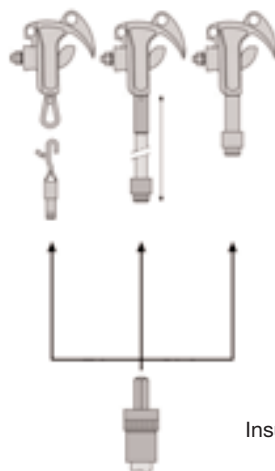
Reference	Clamping capacity (Ø mm)	Test current (kA/1s)	Copper connection			Weight (Kg)	Dimensions (mm) h x L x thickness
			Copper cables (mm <sup>2</sup> max.)	Contact range width (mm)	Stud or hole		
<b>MT-731*</b>	5-60	40	150	45	M 12	1.45	200 x 200 x 50
<b>MT-732*</b>	40-120	40	150	45	M 12	1.45	200 x 200 x 50
<b>MT-734*</b>	5-40	40	150	40	M 12	0.8	145 x 125 x 52
<b>MT-735*</b>	15-60	40	150	40	M 12	0.8	195 x 135 x 45
<b>MT-737*</b>	20-120	40	150	40	M 12	1.35	340 x 200 x 55

\* Add type of connection A - B - E - H.

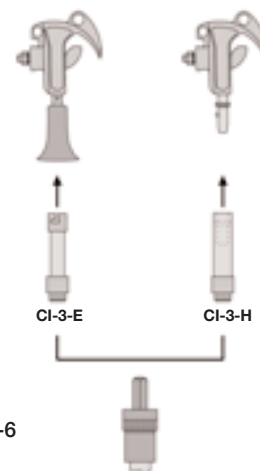
Attachment of MT-734/MT-735 clamps with MT-717-3-B hook.



Direct connection



Connection adaptor



Insulated sticks CM-6 see page 126.

## Insulating sticks for short circuiting and earthing systems

- 46 mm dia. single type elements, yellow colour, with superior characteristics, they are connected between them without any prior order of assembly.
- These elements allow "long length" assemblies which can support short-circuit systems with large cross-section cables.
- Shockproof guard and pole end cap.

Reference	Length (mm)	Weight (Kg)
<b>CM-6-15</b>	1.5	2.40
<b>CM-6-20</b>	2.0	3.20
<b>CM-6-25</b>	2.5	4.00
<b>CM-6-30</b>	3.0	4.80



*For cables  $\geq 95 \text{ mm}^2$  CM-6 series is recommended.*

## Earth clamps

Copper aluminium bronze earth clamps.



Reference	Test current	Dimension (mm) Weight (kg)	Connection	Clamping capacity (mm)
<b>MT-843</b>	40 kA/1 s	45 x 106 x 165 0.95	hole: Ø 13 mm	● Ø 6-35 ■ 0-35
<b>MT-847</b>	30 kA/0.5 s	45 x 106 x 170 1.00	hole: Ø 13 mm	■ 0-25
<b>MT-852</b>	40 kA/1 s	70 x 125 x 155 1.40	hole: Ø 13 mm	Fixed points
<b>MT-853</b>	40 kA/1 s	65 x 130 x 135 1.00	hole: Ø 13 mm	Fixed points

# Short-circuiting and earthing systems

Above 52 kV



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## Adjustable fixed points

For large vertical or oblique heavy duty conductors.

Reference	Rating insulation (kA/1s)	Weight (kg)	Dimensions L x W x T (mm)	Conductors		Description
				Type	Ø (mm)	
<b>MT-790</b>	30	1.400	255 x 105 x 50	copper	12-60	arm Ø 18 mm
<b>MT-792</b>	30	0.855	270 x 105 x 60	aluminium	12-60	arm Ø 20 mm
<b>MT-797</b>	20	1.200	240 x 170 x 60	aluminium	60-120	arm Ø 20 mm



## Copper and aluminium cables

### Copper cables

Extra flexible braided multi-strand cables.

- A** Transparent PVC sheath, with cable section identification.
- B** Transparent silicon sheath according to IEC-61481 resistant to temperature variations (-40 °C to +70 °C) with double IEC triangle marked on cable section.



### Aluminium cables

Extra flexible braided multi-strand cables. Transparent PVC sheath, with cable section identification.

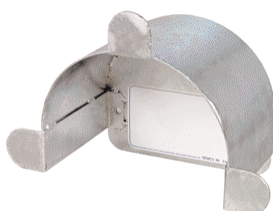


<b>A</b>	<b>B</b> IEC-61481	Rating (kA/1s)	Cable		Section (mm <sup>2</sup> )
			Weight (kg/m)	Ø (mm)	
<b>M-24-70</b>	<b>M-24-70-S</b>	16	0.768	12	70
<b>M-24-75</b>		20	0.800	12	75
<b>M-24-95</b>	<b>M-24-95-S</b>	20	1.000	14	95
<b>M-24-120</b>	<b>M-24-120-S</b>	30	1.280	17	120
<b>M-24-150</b>	<b>M-24-150-S</b>	36	1.630	19	150

Reference	Rating (kA/1s)	Cable		Section (mm <sup>2</sup> )
		Weight (kg/m)	Ø (mm)	
<b>M-28-70</b>	10.0	0.240	13.4	70
<b>M-28-120</b>	17.5	0.430	19.00	120
<b>M-28-150</b>	20.0	0.510	21.00	150

## Earthing kit support

Welded steel assembly with galvanization surface treatment. Writing zone available.



**MT-895** 230 x 230 x 150 mm - Weight: 0.9 kg

## Jumper cables realisation specially manufactured items



Quotations in accordance with faisability.  
For all details:  
Tel.: 33 1 42 31 46 24 / [www.catuelec.com](http://www.catuelec.com)

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## Rope operated clamp

### Description

V-shaped aluminium body.  
Spring operated swinging jaw with pre-set.

### Operation

Attachment and removal is carried out from the ground or from the cross-arm, using a rope passed previously over the conductor to be earthed.

- Attachment: the clamp is pulled up by the rope. Pulling on the rope triggers the spring and closes the jaw.
- Removal: pulling on the rope attached to the hinged saddles causes the clamp to pivot and free the jaw.

### For conductors reached from the ground:

- up to 10 m: by using **MT-709-B** reel launcher placed on a **CM-6 SERIE** Stick (see page 96) that passes the rope over the conductor;
- up to 20 m: by using a **MF-60** wire projector. This projector fires an arrow carrying a braided nylon wire which sets the rope. The clamp is then fixed to the rope and attached onto the conductor.
- Earthing cable with ranger (mm<sup>2</sup>): 2 x 120.
- Cable connection crimped log hole: M 12.



Reference	Clamping capacity (Ø mm)	Rating insulation (kA/1s)	I asymmetrical (A)	Dimensions (mm) h x L x thickness	Weight (Kg)
<b>MT-701/1</b>	12-48	30	72	195 x 120 x 175	2.00

## Cable-launcher projector

Used to fire the insulating rope for setting the **MT-701/1** clamp, this wire-projector may also be used for checking the absence of voltage from the ground by throwing a very light fuse wire over the conductor (in case of voltage, arcing will occur to warn the operator).



<b>MF-60</b>	Wire-projector
<b>MF-61</b>	Spare arrow
<b>MF-62</b>	Spool of 30 m of fuse wire
<b>MF-63</b>	Spool of 100 m of fuse wire
<b>MF-66</b>	Spool of 30 m of nylon lead

## Reel launcher and insulated rope reel

This device contains a shaft on which the rope reel is engaged, and a spring system which triggers ejection of the reel when it comes in contact with the conductor. To be fixed on a **MAJOR SERIE** Stick, depending on the height of the conductor to be reached.



MT-709-B

MT-708-40

<b>MT-709-B</b>	Aluminium alloy launcher - Weight: 0.310 kg
<b>MT-708/40</b>	Special quality nylon on shock proof reels; equipped with 2 snaps. Rope Ø 6 mm - Length: 40 mm

## Short-circuiting and earthing systems carrying bags

Strong water proof canvas. Reinforced bottom.

<b>M-87-53</b>	380 x 250 - Height: 400 mm - Weight: 2 kg
<b>M-87-153</b>	380 x 250 - Height: 600 mm - Weight: 2.5 kg
<b>M-87-295</b>	550 x 300 x 300 mm - Weight: 2 kg



M-87-295

M-87-53

# Specification for short-circuiting and earthing systems



## A Network, electrical installation characteristics

Network voltage: \_\_\_\_\_ kV  
 Nature of the conductive materials: Basis Al  Basis Cu  Max. short-circuiting current (1s): \_\_\_\_\_ kA

### Overhead lines

- Dia. or section of the conductors: min. \_\_\_\_\_  
 max. \_\_\_\_\_

### Switchboard or substation

- Round bars dia. (mm): mini. \_\_\_\_\_ maxi. \_\_\_\_\_

Length = \_\_\_\_\_

- Flat bars 
 H type  Thickness = \_\_\_\_\_  
 V type  Length = \_\_\_\_\_  
 Thickness = \_\_\_\_\_

- Fitting on edge face  Fitting on side face

## B Characteristics of the earthing system

- Selected sketch (out of the three standard types shown below)
- Distance between live conductors (m): \_\_\_\_\_, between live conductors and grounding point (m) \_\_\_\_\_
- To place the clamps in position, the operator will stand: above the conductors  under the conductors   
 at the conductors level
- For cable sections, please indicate max.  $\Delta T$  or min. dia. of the conductor \_\_\_\_\_

## C Earthing connection point

- Earth rods: dia. or thickness on side face (mm): \_\_\_\_\_ Flat bar, angle-bar, thickness (mm): \_\_\_\_\_
- Round conductor dia. (mm): \_\_\_\_\_

## D Operating stick

- Insulating stick: total length \_\_\_\_\_ Fixed  Connectable stick  Telescopic

## Characteristics

- Selected connection type: Sketch n° \_\_\_\_\_
- Contact clamps (type MT- \_\_\_\_\_)
- Short-circuiting cable
  - Length (m) \_\_\_\_\_
  - Dia. or section (mm, mm<sup>2</sup>) \_\_\_\_\_
- Grounding cable
  - Length (m) \_\_\_\_\_
  - Dia. or section (mm, mm<sup>2</sup>) \_\_\_\_\_
- Connection of cables on clamps, earth clamps, trifurcation
  - Direct connection by screw and nut
  - Connection by means of crimped lugs
- Earth clamp, type \_\_\_\_\_
- Presence of a reel \_\_\_\_\_
- Insulating stick, type \_\_\_\_\_

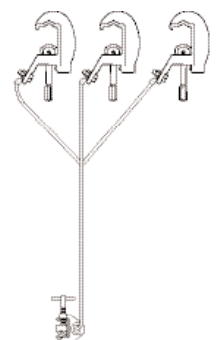
Sketch N°1



Sketch N°2



Sketch N°3



### Accessories

- Carrying bag for sticks
- Canvas bag for equipment
- Carrying case for equipment
- Cable reel