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Réalisation : ComST 2009

Live Working TOOLS



# Live Working TOOLS





**The world  
of Electrical Safety**



## **First and largest european specialist in electrical safety equipment**

CATU was created in 1919 and, since the beginning, it has dedicated its activity to the manufacture of material and equipment for electricity networks and installations.

Since 1936, CATU's activity has been concentrated on equipment for personal protection against electrical hazards and accordingly, has now more than 60 years experience in this field.

After the end of World War II, many French companies involved in Production, Transmission and Distribution of Electrical Energy were amalgamated into one National Company, called "Electricité de France" (EDF). A short time later, a central department for Safety and Prevention of Accidents was created within EDF.

Because of the experience that CATU already had in this field, a very close cooperation was forged between EDF and CATU which resulted in joint development and improvement of all the important Safety Material and Equipment now used in France.

The international recognition gained by EDF in this field has contributed to giving CATU a foremost position at the World Wide level.

At the present time, CATU Safety Equipment, including all the range of short-circuiting and earthing systems, the DETEX<sup>TM</sup> voltage detectors and testers, the live working tools and the individual equipment for linemen, is used by the Main Power Utilities, Electrical Contractors, Large Industries and Railways in about 100 countries spread over the 5 continents.

CATU's experience and level of investment and research is unmatched. As a member of the main national and international technical committees (such as UTE, CENELEC, IEC and ASTM), CATU is contributing to the development and application of the latest technologies. This quest for continuous improvement is now reinforced with the ISO 9001 Quality Insurance Certification.

Our endeavours to be the Specialist in Electrical Safety Equipment are made with genuine dedication to all aspects of Safety Engineering Principles. Together with our network of distributors, we acknowledge our commitment and obligations to our customers.

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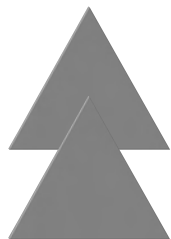
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**CATU** Live Working Tools meet the precise mechanical requirements and insulation properties specified in the I.E.C. standards. The IEC is a worldwide organisation for standardization including national electrotechnical committees and takes into account the technical and social concerns of the end users worldwide. Our level of quality is reinforced by our certification for ISO 9001 Quality Insurance System.

As an international leader in the manufacturing of Live Working Tools, CATU is a member of the I.E.C. (International Electrotechnical Committee) Live Line Technical Committee 78 and therefore contributes to the standardization of the methods and equipments involved. CATU offers more than 500 equipments for contact (Rubber Gloves), distance (Live Line Poles) and potential (Bare Hand) Live line Working methods. Together with the internationally increasing recognition of EDF-Serect in the Live Line training field, CATU has become a major supplier and partner of Live Working Tools worldwide.

As far as poles are concerned, the IEC 60855 defines the preservation of the properties of the insulating materials and, especially for dismountable poles, requires a suitable protection device (ends and caps) with appropriate designs and performances. It is in fact essential to be able to dismantle the poles for maintenance purposes and in particular to test the insulation quality of the tubes.

On the other hand the IEC 60832 describes type tests depending on the type of pole. Each pole type is subject to a specific test and the IEC 60832 proposes for the conventional tools, a typological presentation making a distinction between:

- 'hand poles': tie pole ; hook pole ; universal hand pole ; wire holding pole ; cotter key plier pole ; insulated oiler pole



- 'conductor support': wire support pole ; tension pole, tension puller  
As per the IEC 60832 all the poles must withstand the die penetration test.

All the other CATU Live Working Tools comply with the following standards: IEC 60855 ; IEC 60900 ; IEC 60903 ; IEC 61057 ; IEC 61111 ; IEC 61112 ; IEC 61219 ; IEC 61230 ; IEC 61229 ; IEC 61236 ; IEC 61243 ; IEC 61243-1 ; IEC 61243-2 ; IEC 61243-3.



INCH	0	1	2	3	4	5	6	7	8	9	10
		25,40	50,70	76,19	101,60	127,00	152,40	177,80	203,20	228,60	254,00
1/16	1,5874	26,987	52,387	77,786	103,19	128,59	153,98	179,38	204,78	230,18	255,58
1/8	3,1749	28,574	53,974	79,374	104,77	130,17	155,57	180,97	206,37	231,77	257,17
3/16	4,7628	30,162	55,561	80,961	100,36	131,73	157,16	182,56	207,96	233,38	258,76
1/4	6,3499	31,749	57,149	82,549	107,95	133,35	158,75	184,15	209,55	234,95	260,35
5/16	7,9373	33,337	58,736	84,136	109,54	134,94	186,33	185,73	211,13	236,53	2861,93
3/8	9,5246	34,924	60,324	85,723	111,12	136,52	161,92	187,32	212,72	238,12	263,52
7/16	11,112	38,512	61,911	87,311	112,71	138,11	163,51	188,91	214,31	239,71	265,11
1/2	12,700	38,099	63,499	88,898	114,30	139,70	165,10	190,50	215,90	241,36	266,70
9/16	14,287	39,687	65,086	90,486	115,89	141,28	166,68	192,08	217,48	242,88	268,28
5/8	15,874	41,274	68,674	92,073	117,47	142,87	168,27	193,67	219,07	244,47	269,87
11/16	17,482	42,862	68,261	93,661	119,06	144,46	169,88	195,26	220,66	246,06	271,46
3/4	19,049	44,449	69,849	95,248	120,65	146,05	171,45	196,85	222,25	247,85	273,05
13/16	20,637	46,037	71,436	96,836	122,24	147,63	173,03	198,43	223,83	249,23	274,83
7/8	22,224	47,624	73,024	98,423	123,82	149,22	174,62	200,02	225,42	250,82	276,22
15/16	23,812	49,212	74,611	100,01	125,41	150,81	176,21	201,61	227,61	252,41	277,81

# Personnel Protective Equipment

Head and eyes protection	14
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Insulating rubber gloves	16
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Body and feet protection	19
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Insulating mats	20
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## Polyethylene Safety Helmet for general use

### Characteristics

- Polyethylene material shell with adjustable side ventilation
- Flat frontal area for possible head lamp attachment

- Leather trim 32 cm along inside front for added comfort.
- Approx. weight 330 grs.
- Complies with EN 397 standard

MO-181/1-B	White	Weight: 0.330 kg
MO-181/1-R	Red	Weight: 0.330 kg



MO-181

## ABS Safety Helmet for electricians

### Characteristics

- Shell in ABS head rim adjustable in 5 mm increment. Electrical insulation 1000 V. Protection against ejection of molten metal.

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

- For industrial and electric energy applications complies with EN 397 standard.
- EN 50365  $\Delta$  1000 V
- ANSI Z89.1/1986 20000 V

MO-182/1-B	White	Weight: 0.300 kg
MO-182/1-R	Red	Weight: 0.300 kg
MO-182/1-J	Yellow	Weight: 0.300 kg



MO-182

## Polycarbonate Safety Helmet for linesmen

### Characteristics

- Shell in Polycarbonate
- Protection against the vertical and side impacts
- Electrical insulation 440 V
- One single size: adjustment of the head size by turning a milled nut from 53 to 63 cm.
- Neck band to adjust the position of the chin strap
- Chin strap with quick adjustable

- buckel

- Weight: 0.500 kg.

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

- For transmission and distribution use. Work on pylons complies with EN 397 standard.

MO-183/BL	White	Weight: 0.5 kg
MO-183/RL	Red	Weight: 0.5 kg



MO-183

## Face shield

### Characteristics

- Visor material: Acetate, level of optical quality: 1
- Protection against short-circuit electrical arc, UV radiation as well as ejections of solid particles during electrical operations

- Compatible with our MO-182/1 serie
- Complies with EN 166 EN 170 standard

MO-184	Adjustable by Rubber band
--------	---------------------------



MO-184

## PERSONNEL PROTECTIVE EQUIPMENT

### Helmet with built-in face shield

#### Characteristics

Safety helmet with built-in face shield.  
Panoramic face shield in non-scratch and anti-mist polycarbonate.

Chinstrap (with Velcro fastening)  
Head fit adjustment by milled wheel  
Complies with EN 397 440 V  
EN 50365 1000 V  
EN 166/EN 170

<b>MO-185-BL</b>	White
<b>M-881622</b>	Spare face shield



MO-185-BL

### Face shield

#### Characteristics

Polycarbonate face shield adjustable  
On the head by miller wheel.  
To protect against electric arcs of short-circuits.  
Complies with EN 166/EN 170.

<b>MO-186</b>	Single size, adjustable
<b>M-881635</b>	Spare face shield



MO-186

### Goggles

#### Characteristics

- Grilamid frame in orange with "softflex"
- Colourless polycarbonate front with anti-radiation treatment 99,5%
- UV filtering up to 370 nanometres
- Weight : 35 gr
- Delivered in a case with a belt strap
- Complies with the standard EN 166:
- Optic class: 1
- Impact resistance level: F (steel ball 6 mm at 45 m/second)
- Treatment anti-impact and anti-chemical product

#### Function use

The GOGGLES are used for eyes protection during electrical and mechanical handling. They protect against U.V. radiation and ejections of solid particles. And they attenuate natural or electrical visible light.  
MO-11001 Tinted lenses, delivered in pouch.

⚠ Do not use for welding operations

<b>MO-11000</b>	Clear lenses, delivered in pouch
<b>MO-11001</b>	Tinted lenses, delivered in pouch



MO-11000



MO-11001

### Over-goggles

#### Characteristics

- Polycarbonate frame and face
- 100% UV filtering from 180 to 380 nanometres
- Weight: 45 gr
- Delivered in a case with a belt strap
- Complies with the standard EN 166:
- Optic class: 1
- Impact resistance level: F (steel ball 6 mm at 45 m/ second)

#### Function use

These over-goggles are intended to provide eye protection against UV radiation as well as ejections of solid particles during electrical operations. They can be worn over normal corrective glasses.

⚠ Do not use for welding operations

<b>MO-11010</b>	Clear lenses
<b>MO-11011</b>	Green tinted lenses



MO-11010



MO-11011



## Headlamp with adjustable focus

### Characteristics

Can be carried either on the head or any type of helmet.

Lighting control and beam by switches.

Range: 30 m

Adjustable lamp height angle.

Sealed against rain.

Powered by 4 batteries LR 6.

Autonomy: 6 hours

Standard bulb 4.8 V/0.3 A.



MS-118

MS-118	Headlamp, weight: 0.145 kg
M-95-865	Halogen bulb (sold by set of 5 units)
M-95-864	Hooks set for helmet

## Headlamp with light-emitting diodes LED

### Characteristics

Can be carried either on the head or any type of helmet. Lighting control by button with 3 different light intensities and one flash mode.

Adjustable beam of 3 white LED's.

Ultralight.

Range : 15 meters.

Waterproof IP65.

Powered by 3 batteries LR03.

Autonomy : 80 hours.



MS-121

MS-121	Headlamp, delivered with batteries and pouch weight: 90 g
M-95-864	Hooks set for helmet

## LEDs Headlamp

### Characteristics

Lighting by 5 white new generation LED's

5 light modes: Red on, power save, medium, bright, blinking.

Can be carried either on the head or

any type of helmet.

Powered by 4 batteries included LR06 (AA)

Autonomy: 100 hours.

Range: 30 meters

Waterproof IPX6



MS-127

MS-127	Headlamp, delivered with batteries and pouch weight: 226 g
M-95-864	Hooks set for helmet

## Leather Work Gloves

### Characteristics

All-grain leather, welt sewn, shirred elastic wrist back

### Field of use

- Overhead network

### Working method.

- Distance method

### Function use

The LEATHER WORK GLOVES are used for mechanical protection of hands during handling of tools (ex: sticks).

(complies with EN 388).



CG-96

CG-96*	* Add size A-B-C-D	Weight: 0.115 kg
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## Working gloves

### Characteristics

Handling leather and cotton gloves.

Docker type

complies with EN 388



CG-97-C

CG-97-C	Size C = 10	Weight: 0.115 kg
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## Over-Gloves

### Characteristics

- Silicon grain leather
- Very Flexible
- Large protection cuff in chrome toned hide
- Supplied with on adhesive strap

### Field of use

- Overhead network

- Indoor network

### Working method.

- Contact/potential methods

### Function use

The PROTECTIVE GLOVES are used to cover insulating gloves, thus ensuring mechanical protection [complies with EN 388]

<b>CG-98*</b>	For L.V. insulating Gloves
<b>CG-99**</b>	For H.V. insulating Gloves

A=8, B=9, C=10, D=11

\* Add size A-B-C-D

\*\* Add size C-D



CG-98

## Undergloves

### Characteristics

- Cotton undergloves
- To be used with insulating rubber gloves

### Function use

Limit perspiration and absorb humidity.

<b>CG-80*</b>	** : H: men / F: women
---------------	------------------------



CG-80

## Long insulating gloves

### Characteristics

Our insulating latex and elastomer gloves are conform to international IEC-60903 (ed 2) standard.

To satisfy the requirements of this standard they are subjected to di-electrical tests, mechanical

resistance, rain resistance and fatigue tests. Our gloves enter the category RC of the standard : high mechanical resistance gloves. The long insulating glove can be cut (as shown below) to suit the user arm. They are individually tested.



Reference	Class	Voltage	Thickness	Weight
<b>CGL-20(*)</b>	2	17000 V	3.4 mm	2.1 kg
<b>CGL-30(*)</b>	3	26500 V	4.0 mm	2.4 kg

(\*) references to be completed by size B, C.

Correspondence with standard sizes : B=9, C=10

## Insulating rubber gloves

### IEC-60903

Our insulating rubber gloves conform to international IEC-60903 standard. To satisfy the requirements of this standard they are subjected, to di-electrical, mechanical resistance and ageing tests.

For this category, the acceptance levels for mechanical tests are stricter. The tests are especially aimed at

checking the tensile strength and elongation at break, the mechanical puncture resistance and tension test. Our gloves are made of latex especially treated to obtain high dielectric characteristics ; they are individually tested and delivered in sealed plastic bags.



CE

Reference	Class	Voltage	Thickness	Designation	Weight
CG-02(*)	00	500 V	0.9 mm	multi-layered black elastomer cotton tised inner layer	220 g
CG-05(*)	00	500 V	0.5 mm	latex	90 g
CG-10(*)	0	1000 V	1.0 mm	latex	200 g
CG-15(*)	1	7500 V	1.5 mm	latex	270 g
CG-20(*)	2	17000 V	2.3 mm	latex	450 g
CG-30(*)	3	26500 V	2.9 mm	latex	560 g
CG-40(**)	4	36000 V	3.6 mm	latex	800 g

(\*) references to be completed by size A, B, C, D

Correspondence with standard sizes: A = 8, B = 9, C = 10, D = 11

(\*\*) References to be completed by size C or D

## Pneumatic glove tester

### Characteristics

Thermoset material  
Weight: 0.600 kg  
Checking is done by inflating.  
A simple air-pump, especially calibrated to the insulating glove sleeve.  
4 or 5 hand-pressure are enough to inflate the glove properly.  
Main dimensions:  
140 x 150 x 160 mm  
Approximate weight: 0.6 kg

### Function use

For mandatory control of gloves before utilisation.



CG-117

CG-117	140 x 150 x 160 mm - 0.600 kg
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## PERSONNEL PROTECTIVE EQUIPMENT

### Rubber gloves storage box with window

#### To be placed in high voltage stations.

- Insulating material, shock resistant, yellow colour.
- Transparent window (enables to

- check gloves presence).
- Flask of talc included.
- Attachment: 4 holes 3.5 mm dia., centre distances 155 x 345 mm.
- UV resistant window

CG-35/1

60 x 210 x 460 mm - 0.730 kg

### Rubber gloves Carrying bag

made from reinforced waterproof fabric for transport of rubber gloves

in vehicles and tool boxes.  
Rear loop belt and snaps.

CG-36

60 x 180 x 400 mm - 0.120 kg



CG-35/1

CG-36

### Insulating boots

#### Characteristics

Rubber boots.

#### Field of use

- Overhead network

#### Working method.

- Distance method

#### Function use

The RUBBER BOOTS should be worn by the lineman throughout the duration of execution of the work. They protect the lineman against the

electrical risks of voltage when stepping on the ground or differences in potential that may develop on the support during the work (withstand voltage 13kV).

The wearing of boots is compulsory in the other cases when it rains or when the ground is covered with dew and generally speaking whenever the shoes leather risks being impregnated with damp. (complies with EN 345)

MV-135 /...\*

\* Add size: 39 - 40/41 - 42 - 43/44 - 45 - 46/47



CE



MV-135

### Insulating shoes

#### EDF FT 110 TST HTA

#### Characteristics

Shoes with high leather upper - elastomer sole.

#### Field of use

- Overhead network

#### Working method.

- Distance method

#### Function use

The INSULATING SHOES must be worn by the lineman throughout the duration of the job-site.

They protect the lineman against the electrical risks of voltage when stepping on the ground or differences in potential that may develop on the support during the work (withstand voltage 5kV). (complies with EN 345)

MV-132 /...\*

\* Add size: 39 - 40 - 41 - 42 - 43 - 44



CE

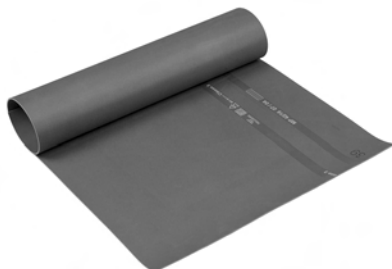
MV-132

## Insulating mats

The matting is manufactured of elastomeric compounds with slip-resistant surface. High quality dielectrical rubber.

Available either in specific shapes or in rolls.

IEC 61111



	Thickness (mm)	Class	Maximum Use Voltage (kV)	Dimensions (m)
<b>Individual models</b>				
MP-42/11	3	3	≤ 26.5	1 x 1
MP-42/16	3	3	≤ 26.5	0.6 x 1
MP-42/66	3	3	≤ 26.5	0.6 x 0.6

### Standard models

For placing in front of panels.

	Thickness (mm)	Class	Maximum Use Voltage (kV)	Dimensions (m)
MP-60/03-5	3	3	≤ 26.5	0.6 x 5
MP-60/03-10	3	3	≤ 26.5	0.6 x 10
MP-100/03-5	3	3	≤ 26.5	1 x 5
MP-100/03-10	3	3	≤ 26.5	1 x 10

### Standard models

For placing in front of panels.

	Thickness (mm)	Class	Maximum Use Voltage (kV)	Dimensions (m)
MP-60/05-5	5	4	≤ 36	0.6 x 5
MP-60/05-10	5	4	≤ 36	0.6 x 10
MP-100/05-5	5	4	≤ 36	1 x 5
MP-100/05-10	5	4	≤ 36	1 x 10

### No IEC agreement

	Thickness (mm)	Dimensions (m)
MP-60/10-5	10	0.6 x 5
MP-60/10-10	10	0.6 x 10
MP-100/10-5	10	1 x 5
MP-100/10-10	10	1 x 10

Warning: for an high voltage insulation, other protection are requested. Risk of flash-over the mat widthwise.

## Bags for insulating mats

### Characteristics

Specially designed for carrying and protecting insulating mats. Equipped

with a shoulder strap and a plastic window for instructions and storage identification.

MP-01	For MP-42/16 and MP-42/66 Length: 70cm
MP-02	For MP-42/11 Length: 110cm



MP-01



# Low Voltage

Hand held sticks (poles) for live working	22
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Cover-up equipment	46
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Hoisting equipment	50
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Equipment for working on pole	55
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Voltage tester	65
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## Wire-cutter stick

### Characteristics

Insulating tube and manipulation control rod made of synthetic material reinforced with fibre glass.  
 Colour: white.  
 Cutting head made of special steel:  
 - Maximum cutting capacity:  
 - copper: 48 mm<sup>2</sup>  
 - Steel/Al alloy: 55 mm<sup>2</sup>.  
 - Aluminium: 38 mm<sup>2</sup>.  
 - Steel at 60 daN/mm<sup>2</sup>: 12mm<sup>2</sup>.

### Field of use

Overhead network.

### Working method

Distance method.

### Function use

The WIRE CUTTER stick is used to cut wires or metallic cables. It is generally used associated with:  
 - a retaining cord.  
 - or a hook pole (stick).

	Total length (m)	Diameter tube (mm)	rod (mm)	Weight (kg)
MG-130	2.6	35	10	3.8
MG-131	1.8	35	10	3.3

## Universal hand stick

### Characteristics

Insulating tube made of synthetic material reinforced with fibre glass.  
 Colour: white.  
 Universal endpieces made of light aluminium and bronze wing screws.  
 Removable suspension hooks made of light alloy, bronze or steel covered with a synthetic material.

### Field of use

Overhead network.

### Working method

Distance method.

### Function use

The UNIVERSAL HAND stick is used to be attached to approved tools with a universal fitting, these tools are attached to either end of the pole.  
 The UNIVERSAL HAND POLE (stick) is particularly well-suited for work on the poles or from an elevator platform.

	Total length (m)	Tube diameter (mm)	Weight (kg)
MG-125-K	2.60	32	1.30

## Hook stick (hook pole)

### Characteristics

Insulating tube and manipulation control rod made of synthetic material reinforced with fibre glass.  
 Colour: white.  
 The control rod of the pole can slide either in its guide or in a groove along the tube.  
 Metallic pole head covered with a synthetic insulating material.  
 Hook and mechanism made of bronze and light alloy.

### Field of use

Overhead network.

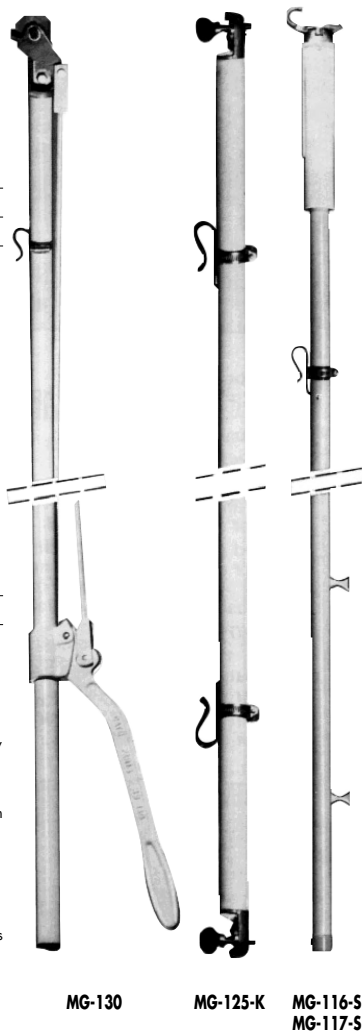
### Working method

Distance method.

### Function use

The HOOK-STICK is used to hold or set in place remove, screw-in or screw out any device fitted with a ring (connector, service rope block, etc). It can also be used to hold in place, move or guide a conductor on which there is no mechanical tension or any element which may be hooked on this tool even though it may not have a ring specially designed for this purpose, such as certain anchoring hooks for connections.  
 The 2 meter long hook-pole model is particularly well-suited to work on roofs or from an elevator platform.

	Total length (m)	Diameter tube (mm)	rod (mm)	Weight (kg)
MG-116-S	2	26	10	2.10
MG-117-S	2.60	26	10	2.30



## HAND HELD STICKS FOR LIVE WORKING

### Measuring stick (pole)

#### Characteristics

Insulating rods ( IEC 60855 ) with 0.10 m strips of alternating colour, orange and black.

Universal fitting and gripping ring screw in metal protected against corrosion.

#### Field of use

. Overhead network.

#### Working method

. Distance method.

#### Function use

The MEASURING STICK is used to measure intervals and lengths located

in relation to live parts at a distance less than the minimum approach distance. Its flexibility enables it to measure lengths that are even curvilinear.

It can

. either be held in the hand.

. or be fixed to the universal fitting of a stick.

. or be grasped with a hook stick.

MG-208-K



### Conductor gauge

#### Characteristics

All parts in synthetic material

Direct reading graduation for conductor diameters from 3 mm to 16 mm.

A table joined to the tool indicates the cross section corresponding to the diameter.

Overall dimensions:

270 mm x 55 mm x 17 mm.

Approximative weight: 0.8 kg.

Delivered in a bag.

#### Field of use

. Overhead Network.

#### Working method

. Distance method-contact method.

#### Function use

Attached to the end-piece of a universal hand pole, the CONDUCTOR GAUGE is used to measure the diameter of conductor.

MD-535-K



MD-535-K	Weight: 0.8 kg
----------	----------------

### Universal adaptor

#### Characteristics

Scribed universal ends and fixing bolts in metal protected against corrosion.

Overall dimensions:

270 mm x 55 mm x 33 mm.

#### Field of use

. Overhead network.

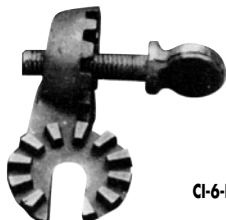
#### Working method

. Distance method.

#### Function use

Secured to the universal end-piece of a pole, the UNIVERSAL ADAPTOR is used in order to have a tool in a different place to the one it should occupy if it were fixed directly to the universal fitting of the stick (pole).

CI-6-K



CI-6-K	Weight: 0.14 kg
--------	-----------------

## Hookpole adaptor (clampstick adaptor)

### Characteristics

Universal fitting fixing bolt and gripping loop in metal protected against corrosion.

Overall dimensions:

120 mm x 48 mm x 45 mm.

Approximate weight: 0.15 kg.

### Field of use

. Overhead network.

### Working method

. Distance method.

### Function use

Integrate to a hook pole, the HOOK POLE ADAPTOR is used in the same way as the universal end-piece of the clampstick.



CI-5-K

CI-5-K

Weight: 0.15 kg

## Locating pin

### Characteristics

End-piece and pin in metal protected against corrosion.

Overall dimensions:

140 mm x 105 mm x 20 mm.

Maximum diameter D: 19 mm.

Minimum diameter d: 6 mm.

Approximate weight: 0.3 kg.

### Field of use

. Overhead network.

### Working method

. Distance method.

### Function use

Secured to the universal end-piece of a pole, the LOCATING PIN is used to line up the axis of the holes of two parts in order to install a pin or a bolt.



MG-275-K

MG-275-K

Weight: 0.3 kg

## Pig tail hook

### Characteristics

Universal end-piece made of bronze.

Spiral rod of corrosion-proof steel.

Diameter: 10 mm.

Dimensions:

Length: 120 mm.

Width: 60 mm.

Thickness: 50 mm.

Approximate weight: 0.19 kg.

### Field of use

. Overhead line.

. Substation.

### Working method

. Distance method.



MG-207-K

MG-207-K

Weight: 0.19 kg

## Prunning saw

### Characteristics

Universal end piece in metal protected against corrosion.

Steel blade.

Overall dimensions:

485 mm x 70 mm x 36 mm.

Approximate weight: 0.23 kg.

### Field of use

. Overhead network.

### Working method

. Distance method.

### Function use

Secured to the universal end-piece of a pole (stick), the PRUNNING SAW is used to saw branches located in the vicinity of live parts.



MG-292/2-K

MG-292/2-K

Weight: 0.23 kg

## UNIVERSAL ACCESSORIES

### Conductor cleaning brush

#### Characteristics

Universal end-piece in light alloy, insulating open cylindrical body in synthetic material green or red colour fitted to rotating support in light alloy.

Metallic brush stuck inside the removable body.

#### Field of use

. Overhead network.

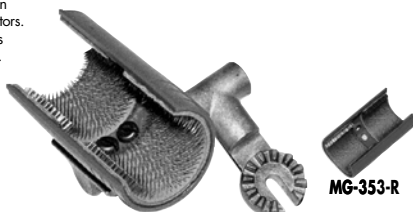
#### Working method

. Distance method.

#### Function use

Secured to the end of a universal hand pole (stick), the CONDUCTOR

CLEANING BRUSH is used to clean conductors before securing connectors. To perform a good brushing, it is obligatory to turn the brush over. Replacement brush (per unit). Ref MG - 353 R.



MG-352-K

MG-353-R

	Length (mm)	Diameter (mm)	Height (mm)	Length (mm)	Weight (kg)
MG-352-K	135	55	100	80	0.37

### V-Shape brush

#### Characteristics

Universal end-fitting in light alloy. Removable parts in metal protected against corrosion.

Dimensions:

40 mm x 200 mm x 100 mm.

Approximate weight: 0.16 kg.

#### Field of use

. Overhead network and sub-stations.

#### Working method

. Distance method, potential method.

#### Function use

Secured to the end of a universal hand pole (stick), the V-SHAPE BRUSH is used to clean conductors before screwing connectors. One brush must be used for copper; a separate one for aluminium.

Use of colour coding is recommended to differentiate them.

Replacement brush (per unit): MG 355.



MG-354-K

MG-354-K	Weight: 0.16 kg
----------	-----------------

### Turk's head brush

#### Characteristics

Universal end-piece of corrosion-proof metal.

Handle and hard bristles made of synthetic material.

#### Dimensions:

overall length: 0.44 m.

handle diameter: 45 mm.

brush length: 0.18 m.

brush diameter: 0.16 m.

Approximate weight: 0.8 kg.

#### Field of use

. Overhead network.

. Indoor installation.

#### Working method

. Distance method.



MG-358-K

**For other universal accessories, please see page 72 (Medium voltage section)**

## Insulating hanger

### Characteristics

Insulating body made of synthetic material or insulated by a synthetic material coating.

Eye-screw made of bronze.

"hanger" made in steel protected against corrosion diameter 6 mm.

Size:

. Length: 95 mm.

. Width: 90 mm.

. Thickness: 55 mm.

Tightening capacity: 3 to 9.8 mm, this corresponding to bare conductor cross-sections between 7 and 75 mm<sup>2</sup>.

Approximate weight: 0.22 kg.

### Field of use

. Overhead network.

### Working method

. Distance method

. Contact method.

### Function use

To temporary immobilize and insulate from the network a cable equipped with a connector.

The rear stirrup allows to hold 2 connectors at the same potential.



MG-210-S

MG-210-S

Weight: 0.22 kg

## Connector spanner

### Characteristics

Hexagonal handle in synthetic material, white colour.

Thickness: 30 mm.

Length: 120 mm.

Light alloy socket to receive gripping rings of 30 mm external diameter.

Approximate weight: 0.16 kg.

### Field of use

. Overhead network.

### Working method

. Contact method.

### Function use

Connector spanner is used to screw or unscrew eyes type connectors.



MG-380-D

MG-380-D

Weight: 0.16 kg

## Phase separator

### Characteristics

Two insulating cams with back meshes so as to fasten the phase to be manipulated with two handles for its working.

### Field of use

. Overhead network.

### Working method

. Contact method.



MG-222-D

MG-222-D

Weight: 0.25 kg

## JUMPERING EQUIPMENT

### Insulated connector spanner

#### Characteristics

Insulating tube made of synthetic material.

Notched metallic head insulated with synthetic material covering.

Plunger made of insulating material with a retractable hook.

Length: 250 mm.

Diameter: 23 mm.

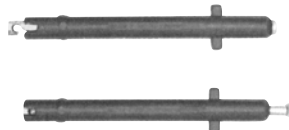
Approximate weight: 0.25 kg.

#### Field of use

Overhead network.

#### Working method

Contact method.



MG-203-D

MG-203-D	Weight: 0.25 kg
----------	-----------------

### Insulated jumper clamp

This clamp is safe to use when jumping energized conductors in LV installations. Contact is assured by the spring action in the jaws. Insulated housing and handle make it safe to apply; insulating nominally rated at 1500 V.

Short circuit rating: 5000 amps for 1 sec.

Continuous current rating: 75 A

Clamp capacity: round or flat; 12 mm max.

Provision for attachment of jumper cable up to 8 mm diameter at the base of the clamp by a screw.

Access to this connection is gained by sliding back a protective plastic window on the side of the handle.



MC-120

MC-120	Weight: 0.190 kg
--------	------------------

### Jumper cable with clamps

Complete jumper cable consisting of two MC-120 clamps interconnected by a H07RNF 25 mm<sup>2</sup> insulated

cable. Completely safe for use on energized conductors. Continuous current rating: 75 A.

	Cable length (m)	Weight (kg)
MC-120/15	1.50	0.850
MC-120/50	5.00	1.950
MC-120/100	10.00	4.000



MC-120/15



## Jumper cables with threaded ferrules

To be used in conjunction with any of the clamps described above to make jumper equipment suiting most any need both quickly and easily. Cable is IEC 60245 type, either 35 mm<sup>2</sup> current rating: 200 A or 50 mm<sup>2</sup> current rating: 250 A, depending on the models.

Delivered with screwing ISO M8

**Field of use**  
over head network underground network indoor installations.

**Working method**  
Contact method.



MC-153/...

	Length (m)	Section (mm <sup>2</sup> )	Weight (kg)
MC-153/05	0.50	35	0.270
MC-153/10	1.00	35	0.570
MC-153/30	3.00	35	1.720
MC-153/60	6.00	35	3.460
MC-155/05	0.50	50	0.450
MC-155/10	1.00	50	0.900
MC-155/20	2.00	50	1.800
MC-155/30	3.00	50	2.700
MC-155/60	6.00	50	5.400
MC-155/80	8.00	50	7.200

## JUMPERING EQUIPMENT

### Mini jumper clamps Fully insulated for switchboard use

These clamps are specially designed for use on energized parts in LV installations (switchboards, etc.) to make temporary connections when limited space is available. Models with jaws designed to axially grip conductors can be used on threaded bolts or shanks and nuts.

The MC-142 model, whose size has been reduced to the strict minimum, is designed to be tightened with a nut wrench. All other models in this series tighten with T-handle screw. All clamps receive cable terminals with ISO 8 mm pitch threading as in the MC-153 series (described below). Current rating: 200 A.

	Size	Weight (kg)	Clamp capacity	Orientation with respect to main conductor
<b>MC-142</b>	58x38x33	0.130	round 6-10 flat 0-5 (mm)	Adjustable clamp. Axial (at cable end) + transversal. Jumper cable Terminal rotates 180°
<b>MC-144</b>	150x75x23	0.280	Diam. 8-12 Square 9-10 (mm)	axial (at cable end)
<b>MC-145</b>	110x70x23	0.220	16-70 mm <sup>2</sup>	transversal for bare cables
<b>MC-146</b>	110x70x23	0.230	35-240 mm <sup>2</sup>	transversal for bare cables

	Size	Weight (kg)	Clamp capacity
<b>MC-141</b>	71x150x24	0.26	Six-sided 17-19 mm
<b>MC-143</b>	67x145x26	0.23	Flat bar, thickness 2-25 mm
<b>MC-147</b>	66x98x25	0.18	Threaded rod M8
<b>MC-147/1</b>	66x98x25	0.195	Threaded rod M10

	Size	Weight (kg)	Clamp capacity
<b>MC-148</b>	66x80x25	0.175	Clamp with tapped revolving rod end M8, 200 A shunt. To be used with an insulated six-sided male hex key 5 mm
<b>MC-148/1</b>	66x82x25	0.175	Clamp with tapped revolving rod end M8 for 10 to 50 mm cable
<b>MC-149</b>	56x165x58	0.486	Bar 20-30 mm width



MC-142



MC-144



MC-145



MC-146



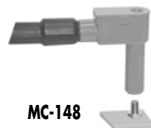
MC-141



MC-143



MC-147



MC-148



MC-148/1



MC-149

## Shunts complementary products

	Size (mm)	Weight (kg)	
<b>MC-121</b>		0.055	Junction for shunt M8
<b>MC-122</b>	Ø35 L125	0.130	Fuse holder for shunt
<b>MC-123</b>	Ø35 L125	0.140	Fuse holder for shunt
<b>MC-124</b>	Ø35 L125	0.140	Fuse holder for clamps
<b>MC-126</b>	65x185x29	0.130	Connector with insulated probe 1.5 to 16 mm - In 60 A
<b>MC-126/1</b>	65x185x29	0.166	Connector with insulated probe 10 to 70 mm - In 100 A



**MC-126**



**MC-121**



**MC-122**



**MC-123**



**MC-124**

## Threaded adapter

Cylindrical body diameter 10 mm to    Total length 50 mm  
fits on panel network thread.



**MC-181**

<b>MC-181</b>	4 adapters for short-circuit - M 12 - 0.05 kg
<b>MC-182</b>	4 adapters for short-circuit - M 8 - 0.027 kg 50 x 10 mm
<b>MC-183</b>	4 adapters for short-circuit - M 12 - 0.048 kg 50 x 17 mm

## JUMPERING EQUIPMENT

### Tap off box

#### Characteristics

Bronze conductors insulated with a synthetic material covering.

#### Function use:

The tap off box allows on each side to connect 3 by pass jumpers type MC-153/... Is delivery equipped with six removable fittings type MC 156/1 and an insulating wrench.

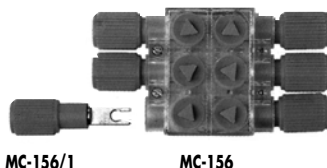
This item in conjunction with by pass jumpers allows to shunt a tap off box by means of a second tap off box. Current rating 200 A.

#### Field of use

. Overhead network, indoor installation.

#### Working method

. Contact method.



MC-156	Dimension 40 x 80 x 158 mm
MC-156/1	Removable fitting

### Shunt Telescopic probe

#### Characteristics

This probe is completely insulated through the end, and includes a retractable shroud containing a 10-mm diameter copper braided

stem that connects to device terminals and network connector boards.

- The female screw socket allows attachment to shunt cables.
- Nominal current: up to 250 A.



MC-150	Ø 33 mm L 180 mm - Weight: 0.160 kg
--------	-------------------------------------

### Voltage take-off punch

#### Characteristics

Voltage take off punch made of insulating material, and having the following parts:

- a cable hook
- a needle screw

The needle screw has, at the center of its control knob, a contact point and an indent for a banana pin with 4 mm diameter. the end of its threaded rod is fitted with a corrosion-proofed steel needle.

Size (needle screw completely screwed down):

#### Field of use

. Overhead network.

. Indoor installation.

#### Working method

. Contact.



**MS-63 Fixed on a conductor and connected to a safety test probe (not included in the reference)**



	Capacity (Ø mm)	Capacity (mm <sup>2</sup> )	Weight (kg)
MS-62	5.6-14.4	10-75	0.015
MS-63	12-31	50-300	0.05

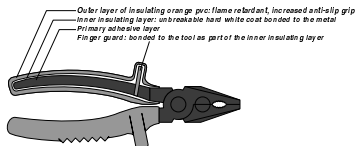
MS-62

## Insulated tools ISOMIL™

IEC-60900

Range of insulated tools for live working up to 1000 Volts according to IEC 60900.

Each ISOMIL™ tool is controlled and tested to 10000 Volts. This ensured by strict quality control procedures.



## Phase indicator insulated screwdriver 1000V

### Characteristics

Flat blade 4 x 85 mm,  
black phosphated finishing  
Total length (blade + handle)  
175 mm.

Approximate weight 50 g

### Field of use:

1000 V insulated screwdriver.

### Working method

Contact method.

### Function of use

This insulated screwdriver enables to identify the phase from the neutral, signaling by flashing through ultra high intensity led (on the top of the handle).

Phase detection from 127 VAC  
Works with an unremovable lithium battery.



	Characteristics	Weight (g)
MO-65222	Flat blade 4 x 85 mm	65

## Flat blade screwdrivers

Chrome - molybdenum vanadium steel blade.

	Characteristics	Weight (g)
MO-65203	Blade 3 x 100 mm	40
MO-65204	Blade 3.5 x 100 mm	45
MO-65205	Blade 4 x 100 mm	50
MO-65206	Blade 5.5 x 125 mm	70
MO-65207	Blade 6.5 x 150 mm	100
MO-65209	Blade 8 x 175 mm	120
MO-65211	Blade 10 x 200 mm	150
MO-650-D	Set of 3 screwdrivers 4 x 100 - 6.5 x 150 - 8 x 175	300
MO-652-D	Set of 4 screwdrivers 3 x 100 - 4 x 100 - 6.5 x 150 - 8 x 175	310



## INSULATED TOOLS

### Flat blade screwdrivers

Molybdenum vanadium steel blade.  
Total length: 93 mm.  
Maximum operating voltage: 1000 V.

	Characteristics	Weight (g)
MO-65202	Blade 6.5 x 40 mm	35



### PHILLIPS screwdrivers

Chrome - molybdenum vanadium steel blade.

	Characteristics	Weight (g)
MO-65230	n°0 head 3 x 60 mm	25
MO-65232	n°1 head 4.5 x 80 mm	50
MO-65234	n°2 head 6 x 100 mm	75
MO-65236	n°3 head 8 x 150 mm	150
MO-65238	n°4 head 10 x 200 mm	230
MO-653-D	Set of 3 screwdrivers n°0, n°2, n°3	250



### POZIDRIV screwdrivers

Chrome - molybdenum vanadium steel blade.

	Characteristics	Weight (g)
MO-65240	n°0 head 3 x 60 mm	25
MO-65242	n°1 head 4.5 x 80 mm	50
MO-65244	n°2 head 6 x 100 mm	75
MO-65246	n°3 head 8 x 150 mm	150
MO-65248	n°4 head 10 x 200 mm	230



### Insulating flat nose pliers

#### Characteristics

Synthetic material insulating flat nose and legs.  
dimensions (pliers closed):  
- length: 190 mm.  
- width: 50 mm.  
- thickness: 20 mm.  
Bending capacity: 1.5 to 6 mm<sup>2</sup>.  
Approximate weight: 0.05 kg.

#### Field of use:

Overhead network.  
Indoor installation.

#### Working method

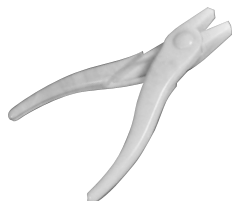
Contact method.

#### Function of use

The insulating flat nose pliers are used:

To hold and move a conductor  
To put an elbow bend on aluminium or copper conductors only

To handle small parts such as washers and wire-type or blade-type fuses in the vicinity of live elements or elements which might be live.



	Characteristics	Weight (g)
MO-214D	Overall length: 190 mm	50

## Flat nose pliers

Special tool steel, oil-hardened. Burnished head.

	Characteristics	Weight (g)
MO-66300	Overall length: 145 mm	115
MO-66302	Overall length: 160 mm	160

## Round nose pliers

Special tool steel, oil-hardened. Burnished head.

	Characteristics	Weight (g)
MO-66202	Overall length: 160 mm	150

## Bent snipe nose pliers

Chrome-vanadium steel. Burnished head.

	Characteristics	Weight (g)
MO-66402	Overall length: 160 mm	160
MO-66404	Overall length: 200 mm	185

## Long nose pliers with side cutter

Special tool steel, oil-hardened. Burnished head.

	Characteristics	Weight (g)
MO-66102	Overall length: 160 mm	145

## Water pump pliers

Chrome-vanadium steel. Burnished head.

	Characteristics	Weight (g)
MO-66502	Overall length: 250 mm	410
MO-66505*	Overall length: 250 mm	405

\*: box joint pliers

## Plier for plug-in preinsulated terminals 2.8/6.35 mm

Chrome vanadium steel.

	Overall length (mm)	Weight (g)
MO-66105	200	200



## INSULATED TOOLS

### Universal pliers

Chrome-vanadium steel. Burnished head.

	Characteristics	Weight (g)
MO-66001	Overall length: 160 mm	210
MO-66002	Overall length: 180 mm	260
MO-66003	Overall length: 200 mm	300
MO-66005*	Overall length: 250 mm	510

\* New England style



### Side cutters

Special carbon steel, oil-hardened. Burnished head.

	Overall length (mm)	Cutting capacity (mm)		Weight (g)
		Soft 80 kg/mm <sup>2</sup>	Hard 140 kg/mm <sup>2</sup>	
MO-67101	140	Ø 2.5	Ø 1	150
MO-67102	160	Ø 2.5	Ø 1.5	180
MO-67103	180	Ø 3.5	Ø 2.5	210



### End cutting pliers

Special carbon steel.

	Overall length (mm)	Cutting capacity (mm)		Weight (g)
		Soft 80 kg/mm <sup>2</sup>	Hard 140 kg/mm <sup>2</sup>	
MO-67401	140	Ø 2	Ø 1	165
MO-67402	160	Ø 3	Ø 2	210
MO-67404	200	Ø 4	Ø 3	450



### Cable cutter

Chrome-vanadium forged steel oil-hardened for copper and aluminium.

	Overall length (mm)	Cutting capacity (mm)	Weight (g)
MO-67501	170	Ø 15 max.	285
MO-67502	230	Ø 20 max	520



### Cable cutter

Chrome-vanadium forged steel oil-hardened for copper and aluminium.

	Characteristics	Weight (g)
MO-67500	Overall length: 170 mm Ø 4 mm	420





## Ratchet cable cutter treated forged steel blade

Hardened steel for copper and aluminium.

	Cutting capacity	Weight (g)
MO-67599	Ø 32 mm 250 mm <sup>2</sup> Al/ 180 mm <sup>2</sup> Cu	900
MO-67600	Ø 38 mm 300 mm <sup>2</sup> Al/ 240 mm <sup>2</sup> Cu	800
MO-67601	Ø 55 mm 450 mm <sup>2</sup> Al/ 300 mm <sup>2</sup> Cu	975



## Frontal ratchet cable cutter

Hardened steel for copper and aluminium.

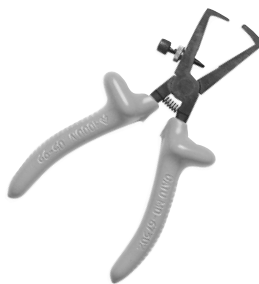
	Cutting capacity	Weight (g)
MO-67611	Ø 32 mm 180 mm <sup>2</sup> Al/ 150 mm <sup>2</sup> Cu	900



## Stripping pliers

Chrome vanadium steel.

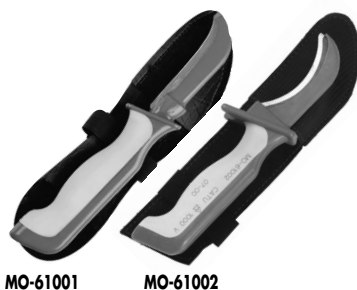
	Characteristics	Weight (g)
MO-67302	Overall length: 160 mm Cutting capacity: 0.6 to 10 mm <sup>2</sup>	170



## INSULATED TOOLS

### Stripping knives

	Characteristics	Weight (g)
MO-61001	Blade length: 62 mm Overall length: 180 mm delivered with bag	110
MO-61002	Curve Blade length: 50 mm Overall length: 180 mm delivered with bag	110



MO-61001

MO-61002

### Stripping pliers for L.V. cables

Aluminium casting plier. To strip L.V. twisted cables from 16 to 150 mm<sup>2</sup>.

	Overall length (mm)	Weight (g)
MO-67304	220	470



### Stripping pliers for L.V. cables

Aluminium casting plier. To strip L.V. cables.

	Overall length (mm)	Cutting capacity (mm <sup>2</sup> )	Weight (g)
MO-67305	265	from 16 to 150	650
MO-67306	270	from 50 to 240	670



### Hacksaw

Protected hard forged steel.

	Characteristics	Weight (g)
MO-64502	Blade length: 300 mm Overall length: 450 mm Two blade positions Flush and 90° cutting supplied delivered with two blades	780



## Adjustable spanner

Special tool steel, oil-hardened.

	Characteristics	Weight (g)
MO-69002	Maximum capacity: 24 mm Overall length: 210 mm	295
MO-69003	Maximum capacity: 28 mm Overall length: 250 mm	450
MO-69004	Maximum capacity: 34 mm Overall length: 310 mm	550
MO-69005	Maximum capacity: 43 mm Overall length: 385 mm	1 350



## Combination wrench

Special steel sockets.

	Characteristics	Weight (g)
MO-68702	4 hexagonal sockets 8-10-12-14 mm - 150 x 150 mm	260
MO-68703	4 hexagonal sockets 7-9-11-13 mm - 150 x 150 mm	250
MO-68704	4 hexagonal sockets 8-10-13-17 mm - 150 x 150 mm	260



## Adjustable Spanner

Special tool steel, oil-hardened.

	Characteristics	Weight (g)
MO-69210	10	160
MO-69213	13	190
MO-69216	16	350
MO-69217	17	370
MO-69218	18	380
MO-69219	19	390



## Hexagonal spanner with T handle length 130 mm

Chrome steel.

	Characteristics	Weight (g)
MO-68610	10 mm	145
MO-68613	13 mm	185
MO-68614	14 mm	220

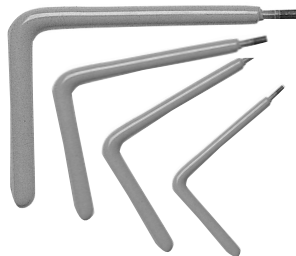


## INSULATED TOOLS

### Right angle hexagonal key wrench

Chrome-vanadium steel.

	Characteristics	Weight (g)
MO-69903	hexagonal head 3 mm - 83 x 123 mm	30
MO-69904	hexagonal head 4 mm - 84 x 124 mm	40
MO-69905	hexagonal head 5 mm - 85 x 125 mm	50
MO-69906	hexagonal head 6 mm - 85 x 126 mm	70
MO-69908	hexagonal head 8 mm - 87 x 128 mm	110
MO-69910	hexagonal head 10 mm - 87 x 130 mm	150
MO-69912	hexagonal head 12 mm - 90 x 132 mm	240



### Open end spanners

Chrome-vanadium steel.

	Characteristics	Weight (g)
MO-68008	Size 8 mm	40
MO-68009	Size 9 mm	40
MO-68010	Size 10 mm	45
MO-68011	Size 11 mm	50
MO-68012	Size 12 mm	60
MO-68013	Size 13 mm	80
MO-68014	Size 14 mm	100
MO-68015	Size 15 mm	110
MO-68016	Size 16 mm	120
MO-68017	Size 17 mm	140
MO-68018	Size 18 mm	160
MO-68019	Size 19 mm	170
MO-68020	Size 20 mm	180
MO-68021	Size 21 mm	200
MO-68022	Size 22 mm	220
MO-68023	Size 23 mm	250
MO-68024	Size 24 mm	260
MO-68025	Size 25 mm	280
MO-68026	Size 26 mm	300
MO-68027	Size 27 mm	340

MO-68028	Size 28 mm	360
MO-68029	Size 29 mm	400
MO-68030	Size 30 mm	500
MO-68032	Size 32 mm	570
MO-68008/19	8 open end spanners set 8/10/11/12/13/14/ 17/19 mm	



## Cranked ring wrench

Chrome-vanadium steel.

	Characteristics	Weight (g)
<b>MO-68107</b>	Size 7	35
<b>MO-68108</b>	Size 8	40
<b>MO-68110</b>	Size 10	50
<b>MO-68111</b>	Size 11	65
<b>MO-68112</b>	Size 12	80
<b>MO-68113</b>	Size 13	100
<b>MO-68114</b>	Size 14	120
<b>MO-68115</b>	Size 15	140
<b>MO-68116</b>	Size 16	180
<b>MO-68117</b>	Size 17	190
<b>MO-68118</b>	Size 18	195
<b>MO-68119</b>	Size 19	200
<b>MO-68120</b>	Size 20	240
<b>MO-68121</b>	Size 21	260
<b>MO-68122</b>	Size 22	260
<b>MO-68123</b>	Size 23	270
<b>MO-68124</b>	Size 24	280

<b>MO-68125</b>	Size 25	280
<b>MO-68126</b>	Size 26	300
<b>MO-68127</b>	Size 27	340
<b>MO-68128</b>	Size 28	360
<b>MO-68129</b>	Size 29	400
<b>MO-68130</b>	Size 30	500
<b>MO-68132</b>	Size 32	570



## INSULATED TOOLS

### Sockets 3/8" (9.53 mm) Wrench set

	Characteristics	Weight (g)
MO-69306	Socket 6	30
MO-69307	Socket 7	30
MO-69308*	Socket 8	30
MO-69309	Socket 9	30
MO-69310*	Socket 10	35
MO-69311	Socket 11	35
MO-69312*	Socket 12	35
MO-69313*	Socket 13	45
MO-69314*	Socket 14	45
MO-69315	Socket 15	50
MO-69316	Socket 16	55
MO-69317*	Socket 17	60
MO-69318	Socket 18	65
MO-69319*	Socket 19	70
MO-69321*	Socket 21	85
MO-69322*	Socket 22	90
MO-69323*	Socket 23	100
MO-69513*	Reversible ratchet	250
MO-69523*	Extension 130 mm	124
MO-69533	Extension 250 mm	270
MO-69542	T wrench 130 mm	220
MO-69543	T wrench 200 mm square drive	380
MO-69308/23	complete sockets set in plastic box 410 x 120 x 75 mm	2200

\*Sockets composing the set MO-69308/23

### Sockets 1/2" (12.7 mm) Wrench set

	Characteristics	Weight (g)
MO-69408*	Socket 8	60
MO-69410*	Socket 10	60
MO-69411	Socket 11	60
MO-69412*	Socket 12	70
MO-69413*	Socket 13	70

MO-69414*	Socket 14	70
MO-69415	Socket 15	75
MO-69416	Socket 16	75
MO-69417	Socket 17	80
MO-69418	Socket 18	80
MO-69419*	Socket 19	85
MO-69420	Socket 20	90
MO-69421*	Socket 21	100
MO-69422*	Socket 22	100
MO-69423*	Socket 23	115
MO-69424	Socket 24	130
MO-69430	Socket 30	160
MO-69514	Reversible ratchet	600
MO-69524	Extension 130 mm	124
MO-69534	Extension 250 mm	435
MO-69544	T wrench 300 mm square drive	520
MO-69408/23	complete sockets set in plastic box 410 x 120 x 75 mm	1500

\*Sockets composing the set MO-69408/23



### Socket 3/8" Long series

Chrome Stel - 65 mm Length.

	Characteristics	Weight (g)
MO-69610	Socket 10 mm	75
MO-69613	Socket 13 mm	80
MO-69614	Socket 14 mm	100
MO-69616	Socket 16 mm	115
MO-69617	Socket 17 mm	125
MO-69618	Socket 18 mm	140
MO-69619	Socket 19 mm	160
MO-69621	Socket 21 mm	190



### Socket 3/8" U.S. Standard

	Characteristics	Weight (g)
MO-69735	Socket 3/ 8"	25
MO-69736	Socket 7/16"	30
MO-69737	Socket 1/ 2"	35
MO-69738	Socket 9/16"	35
MO-69739	Socket 5/ 8"	42
MO-69740	Socket 11/16"	50
MO-69741	Socket 3/ 4"	55
MO-69742	Socket 13/16"	60



### 6 sided male hex Key Socket 3/8"

	Characteristics	Weight (g)
MO-69393	Socket 3 mm	45
MO-69394	Socket 4 mm	55
MO-69395	Socket 5 mm	60
MO-69396	Socket 6 mm	65
MO-69397	Socket 7 mm	70
MO-69398	Socket 8 mm	70
MO-693100	Socket 10 mm	80



### Insulated torque wrench 3/8"

Capacity: 8 to 54 Nm (ibF Ft: 5-40).

Linear graduation, english and french scales (ibF Ft and Nm).

Length: 325mm. Tolerance : 4%

	Characteristics	Weight (g)
MO-69050	8 to 54 Nm	790



## INSULATED TOOLS

### Insulated tool sets

For the most common operations, CATU proposes 4 sets of ISOMIL Handtools.

		KIT-03	KIT-04	KIT-05	KIT-07
Reference	COMPOSITION				
<b>MO-65242</b>	Pozidriv screwdriver* N°1 4.5 x 80 mm	●	●	●	
<b>MO-65244</b>	Pozidriv screwdriver N°2 6 x 100 mm	●	●	●	
<b>MO-65204</b>	Flat blade screwdriver 3.5 x 100 mm	●	●	●	
<b>MO-65206</b>	Flat blade screwdriver 5.5 x 125 mm	●	●	●	
<b>MO-65209</b>	Flat blade screwdriver 8 x 175 mm	●	●	●	
<b>MO-66002</b>	Universal pliers overall length: 180 mm			●	●
<b>MO-66502</b>	Water pump pliers overall length: 250 mm			●	●
<b>MO-67302</b>	End stripping pliers overall length: 160 mm		●	●	●
<b>MO-66402</b>	Bend snipe nose pliers overall length: 160 mm		●	●	●
<b>MO-67500</b>	Cable cutter overall length: 170 mm		●	●	●



### Tool bags

#### Characteristics

Stitched leather with outside flap pocket

MO-32 : . length: 250 mm.

. width: 230 mm.

. height: 50 mm.

MO-32/2 : . length: 300 mm.

. width: 220 mm.

. height: 120 mm.

MO-32/3 : . length: 250 mm.

. width: 230 mm.

. height: 100 mm.

#### Field of use

. Overhead Network.

#### Working method

. Contact method.

#### Function use

The TOOL BAG is used to carry on the safety belt all the necessary L.V. insulated tools.

<b>MO-32</b>	Weight: 0.8Kg
<b>MO-32/2</b>	Weight: 1.2 kg
<b>MO-32/3</b>	Weight: 0,835 kg

#### Characteristics

Black grained leather with handle.

The interior includes: an all-purpose pocket, a separation which forms a tool tray and a fold-down tool tray.

. length: 410 mm.

. width: 280 mm.

. height: 150 mm.

. weight: 3.2 kg.

<b>MO-34</b>	Weight: 3.2 kg
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MO-32



MO-34



## Complete set



MO-510/03

### Protective equipment

MO-186	1 face shield
CG-98-C	1 working gloves
CG-05-B	1 rubber gloves size B
CG-36	1 carrying bag for rubber gloves
MP-42/16	1 insulating mat
MP-26-A	10 insulating caps
MP-35/12	1 insulating blanket
MP-39	10 wood clamp for insulating blanket
MP-32/15	6 line protectors
MP-19	5 insulated adhesive tapes

### Voltage detector

MS-911	1 voltage multimeter
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### Insulated tools

MO-61001	1 stripping knife
MO-67502	1 cable cutter 230 mm
MO-68008/19	1 open end spanners set with 8, 10, 11, 12, 13, 14, 17, 19 mm open end spanners

MO-69903	1 right angle hexagonal key wrench 3 mm
MO-69904	1 right angle hexagonal key wrench 6 mm
MO-69906	1 right angle hexagonal key wrench 6 mm
MO-751	1 insulating folding rule
MO-69003	1 adjustable spanner 250 mm
MO-66002	1 universal pliers 180 mm
MO-66202	1 round nose pliers 160 mm
MO-66502	1 water pump pliers 250 mm
MO-67102	1 side cutter 160 mm
MO-69308/23	1 sockets 3/8" wrench set with 10 sockets: 8-10-12-13-14-17-19-21-22-23
MO-65205	1 flat blade screwdriver 4 x 100
MO-65207	1 flat blade screwdriver 6.5 x 150
MO-65209	1 flat blade screwdriver 8 x 175
MO-65232	1 Phillips screwdriver n°1
MO-65234	1 Phillips screwdriver n°2
MO-65236	1 Phillips screwdriver n°3

Tool bag not included.

## INSULATED TOOLS

### "Low Voltage set"



**MO-38510**

#### Composition

<b>M-87370</b>	1 tool bag	<b>MO-65242</b>	1 Pozidriv screwdriver n°1
<b>CG-02-C</b>	1 rubber gloves size	<b>MO-65244</b>	1 Pozidriv screwdriver n°2
<b>MO-11001</b>	1 safety glasses	<b>MO-66002</b>	1 universal plier 180mm
<b>AL-230</b>	1 padlock	<b>MO-66402</b>	1 bent snipe nose plier 160mm
<b>MO-65204</b>	1 flat blade screwdriver 3.5 x 100mm	<b>MO-67302</b>	1 flat nose plier 160mm
<b>MO-65206</b>	1 flat blade screwdriver 5.5 x 125mm	<b>MO-67500</b>	1 cable cutter 180mm
<b>MO-65209</b>	1 flat blade screwdriver 8 x 175mm	<b>MO-66502</b>	1 waterpump plier 250mm

### Insulating flexible cover

#### Characteristics

Translucent vinyl cover, thickness

0.3 mm.

Supplied in rolls,

- approximate width: 1.30 m.

#### Field of use

. Overhead Network indoor installation.

#### Working method

. Contact method.

#### Function use

The 0.3 mm Flexible cover is used for insulation wrapping during the work period of:

- either one or several bare conductive elements of large size.

- or a group of bare conductors of an overhead network.

- or an element or a group of elements or conductors whose insulation is defective, doubtful or insufficient.

It is cut as needed based on the group of conductors or the element or elements to be insulated and may be reused as long as there is no puncture or sign of tears.

It can be attached:

- either by jamming it in place.

- or by means of attachment clamp or adhesive tape.



MP-35

MP-35	Approximate size: 1.3 x 25 m
MP-35/12	Approximate size: 1.3 x 12.5 m
MP-40	Approximate size: 1.3 x 20 m

### Blanket clamp

#### Characteristics

The two clamping parts are made of hard wood.

It is fitted with a steel spring protected against corrosion.

Size:

length: 165 mm.

width: 40 mm.

thickness: 20 mm.

Approximate weight: 0.05 kg.

#### Field of use

. Overhead Network, underground Network.

. Indoor installations.

#### Working method

. Contact method.

#### Function use

The BLANKET CLAMP is used to hold in place insulating flexible cover wraps and covers.



MP-39

MP-39	
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### Insulating blanket clamp

#### Characteristics

Wooden clamp - Steel spring.

#### Field of use

. Overhead Network.

#### Working method

. Distance method contact potential method.

#### Function use

The INSULATING BLANKET CLAMP is used to hold the insulating flexible covers in position.



MP-41

MP-41	Approximate weight: 0.05 kg
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### Insulating blanket clamp

#### Characteristics

Plastic Clamp-Steel Spring protected against corrosion.

Size:

Length: 160 mm.

Width: 40 mm.

Weight: 0.06Kg.

#### Field of use

. Overhead Network, underground Network.

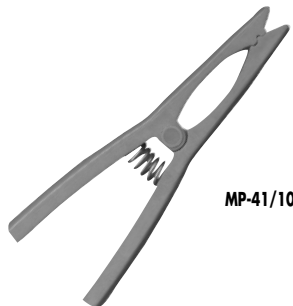
. Indoor installations.

#### Working method

. Contact method.

#### Function use

The BLANKET CLAMP is used to hold in place insulating flexible cover wraps and covers.



MP-41/10

MP-41/10	
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## COVER-UP EQUIPMENT

### Insulating tape

#### Characteristics

Translucid insulating polyvinyl tape delivered in rolls of 25 m.

Width: 90 mm.

Thickness: 0.3 mm.

#### Field of use

- Overhead network.
- Indoor installation.

#### Working method

- Contact method.

#### Function use

The INSULATING TAPE is used during the work execution period, to wrap small bare conductive elements and those elements whose insulation is defective, doubtful or insufficient.



MP-37

### Insulating flexible cover with adhesive tape

#### Characteristics

The flexible cover made of translucid polyvinyl with a "Velcro" adhesive tape around its perimeter. This model is reinforced by a grid of synthetic fibres.

· Length: 0.66 m.

· Width: 0.36 m.

· Thickness: 0.5 mm.

#### Field of use

- Overhead network.
- Indoor installation underground network.

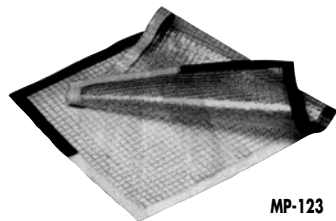
#### Working method

- Contact.

#### Function use

The FLEXIBLE COVER WITH ADHESIVE TAPE is used for insulation wrapping for the duration of the work on bare conductive elements and those whose insulation is defective, doubtful or insufficient.

The "Velcro" tape allows the flexible covers to be closed by pressing the edges together. Several flexible covers can also be connected in this manner.



MP-123

	Length (m)	Width (m)	Weight (kg)
MP-123	0.66	0.36	0.150
MP-123/1	0.90	0.5	0.290
MP-123/2	1.2	0.8	0.600

### Conductor insulating end - cap

#### Characteristics

Cylindrical cap made of flexible insulating material with cross-shaped opening.

#### Field of use

- Overhead network.
- Indoor installation.
- Underground network.

#### Working method

- Contact.

#### Function use

The caps are used to cover the bare end of an insulated conductor.



MP-26...

	CAP		For conductors	Weight
	Length (mm)	ext. diam (mm)	ø mm	(g)
MP-26-A	60	10	4 to 6.5	6
MP-26-B	100	15	5 to 11	16
MP-26-C	120	20	7.5 to 15	23
MP-26-D	120	25	10 to 20	35

### Insulating wedge

#### Characteristics

Hard wood or synthetic insulating wedge.

#### Size

- Length: 180 mm.
- Width: 35 mm.
- Thickness: 20 mm.

#### Field of use

- Underground network.

#### Working method

- Contact method.

#### Function use

The INSULATING WEDGE is used to temporarily hold apart, during the duration of the work, the conductors of an underground cable and, for example, to allow the installation of INSULATING WRAPS.



MG-221-D

MG-221-D

### Flexible - type conductor cover

#### Characteristics

Cylindrical, flexible rubber insulating tube, black colour.

There is a lipped slit along the length of the tube (Ø 13 mm).

Thickness: 3.3 mm.

Approximate weight: 0.27 kg/m.

#### Field of use

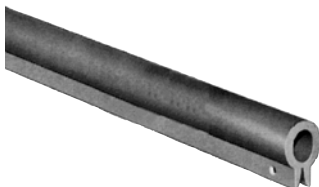
- Overhead network.

#### Working method

- Contact method.

#### Function use

The FLEXIBLE TYPE CONDUCTOR COVER is used in order to insulate by wrapping during the duration of work operations, bare conductors whose insulation is defective, doubtful or insufficient.



MP-32/..

Length (m)

MP-32/10	1	Ω Shape Type
MP-32/15	1.5	" " "
MP-33	3	" " "

Spiral shape  
Thickness: 1mm

Overall length: 5m  
Approximate weight: 0.1 kg/m

MP-31	5	Spiral Shape Type
MP-59	Indent TOOL for MP-31	



MP-31

### Conductor cover bag

#### Characteristics

- very strong waterproof canvas bag.
- reinforced bottom and rope handle.
- steel suspension hook.
- dimensions:

0.185 x 1.20 m - weight: 0.90 kg.

#### Field of use

outdoor network.

#### Working method

- contact method.

#### Function use

The conductor cover bag is used to hoist all conductor covers in good position on the post.

It also enables to preserve the conductor covers from dust and dirt.



MP-52

MP-52 Weight: 0.90 kg

## COVER-UP EQUIPMENT

### Insulator cover

#### Characteristics

Insulator covers are made of synthetic rubber black or orange color. Sleeves allow the conductors passage.

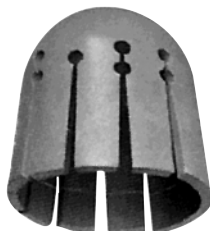
#### Field of use

. Overhead network.

#### Working method

. Contact method.

	Height (m)	External (mm <sup>2</sup> )	Approximate weight (kg)
MP-22	150	110	0.5
MP-23	200	180	1



MP-22/23

### Insulating bag for connectors

#### Characteristics

Translucid polyvinyl insulating bag whose elastic closing parts may be fitted with a "Velcro" type strip. The dimensions of different models depend on the size of the connector to be insulated.

#### Field of use

. Overhead network.  
. Inside installations.

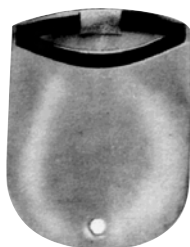
#### Working method

. Distance method.  
. Contact method.

#### Function use

Placed on a connector fixed on the free end of an insulated conductor. The INSULATED BAG FOR CONNECTORS is used to avoid the possibility of untimely contact between this connector and a connector element at different potential.

	Outer height (mm)	Height (mm)
MP-29/2-5	136	215
MP-29/3-5	225	305



MP-29/2-5



### Bag for insulator covers

#### Characteristics

Nylon basket with reinforced bottom and rope handle. Strong water-proof. Steel suspension hook.

#### Size:

Diameter: 30 cm (12").

Height: 40 cm (15").

MP-50
-------



MP-50

### Insulating hoist

Insulating hoist including:

- 2 blocks in insulating moulded material with:
- pivoting cupro aluminium hook with eyelet ring,
- hook opening capacity: 22 mm.

- block diameter at throat bottom: 60 mm.

- 25 m. of 10 mm.  $\phi$  polyester rope.
- Maximum rated load on the hook: 240 daN.
- Approximate weight: 2.890 kg.

<b>MO-346-S</b>	Weight: 2.890 kg
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<b>MO-345-S</b>	Block unit alone
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MO-346-S

### Rope block

#### Characteristics

Rope block generally rigged with a 35 or 70 m rope threaded or braided in synthetic fibres ( $\phi$  14 mm). Blocks and sheaves in synthetic material.

Swivel hook with gripping ring in steel protected against corrosion.

#### Function use

The ROPE BLOCK is used to transmit the effort of pulling, for example when fixing conductors, lifting weights or moving triangulation assemblies.

Number of active sheaves	3+2
Overall dimensions of a block (mm)	255 x 100 x 80
Internal diameter of the sheaves (mm)	70
Maximum working load (daN)	550
Approximative weight without rope (kg)	3.2

<b>MO-348/35</b>	With 35 m rope
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<b>MO-348/70</b>	With 70 m rope
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MO-348/..

### Insulating running-block

#### Characteristics

Insulating block wheel and shell with cable retaining flap.

Made of synthetic material or insulated by a covering of synthetic material.

Swivel hook with locking pawl made of steel with anti-corrosion protection.

Size

• Length: 390 mm.

• Width: 190 mm.

• Thickness: 90 mm.

Minimum diameter of the block wheel at the bottom of the groove: 130 mm.

Maximum diameter of the cable

which can sit in the groove of the pulley wheel: 23.5 mm which corresponds to an insulated aluminium 4- conductor hanger -laid cable (4 x 25 mm<sup>2</sup>), for example.

Maximum utilization load on the Hook: 100 daN.

Approximate weight: 1.8 kg.

#### Field of use

• Overhead network.

#### Function use

The INSULATING RUNNING BLOCK is used in order to pull or adjust a bare or insulated conductor or a twisted cable of insulated conductors.



MO-371

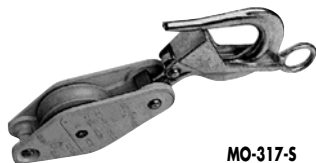
<b>MO-371</b>	Weight: 1.8 kg
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## HOISTING EQUIPMENT

### Single block

**Characteristics**  
 Insulating block: reel and side plates made of synthetic material.  
 Swivel hook, locking paw with gripping and assembling bolts made of steel with anti-corrosion treatment.  
 Hot stick eye on the hook.  
 Size [with pawl in closed position]:  
 - Length: 225 mm.  
 - Width: 100 mm.  
 - Thickness: 50 mm.  
 Minimum diameter of the pulley

wheel at the bottom of the groove:  
 45 mm.  
 Diameter of the rope to be used:  
 10 mm.  
 Maximum utilization load on the hook: 120 daN.  
 Approximate weight: 0.4 kg.  
**Field of use**  
 . Overhead network.  
**Working method**  
 . Distance method.  
 . Contact method.



MO-317-S

**MO-317-S** Weight: 0.4 kg

### Opening block

**Characteristics**  
 Light alloy pulley.  
 Hook made of corrosion-proof metal, equipped with a safety catch.  
 Maximum useable rope diameter:  
 16 mm.

Maximum load capacity 250 daN  
 [500 daN on the hook].  
 Approximate weight: 3 kg.



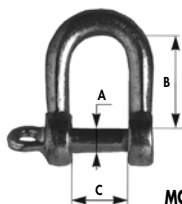
MO-308

**MO-308** Weight: 3 kg

### Steel shackles

**Characteristics**  
 Steel shackles with lock.

	Working load	A	B	C
MO-55/1000	400 daN	10	35	20
MO-55/1001	630 daN	12	42	24



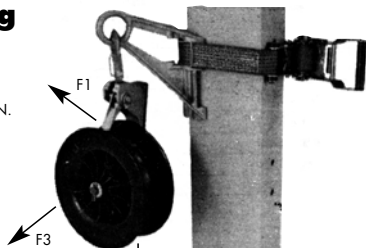
MO-55/1000

### Bracket with strap for stringing block with hook

**Characteristics**  
 Universal bracket allowing hanging the hook block. This bracket allows the fitting on all shape of pole available on the market. Single piece body made of aluminium alloy. Nylon strap (length 1.5 m) firmly attached to the body equipped with automatic ratchet tightener.

Maximum load of use: F1: 800 daN, F2: 400 daN, F3: 120 daN.

MO-371/100



MO-371/01

**MO-371/01** Weight: 2.2 kg

**MO-371/100** Weight: 6.4 kg



## Braided polyamide rope EN 696

### Characteristics

Multi-strand, braided with a polyamide rope, generally delivered in 100 m coils.

Approximate diameter: 12 mm.

Weight per metre: 80g/m.

Maximum utilization load:

120 daN.

### Field of use

Overhead network.

### Working method

Distance method.

Contact method.

### Function use

The BRAIDED 12 mm POLYAMIDE ROPE is generally used to rig the 550 daN rope block.



MO-492/100

	Ø (mm)	Weight m (g)	Length (m)	Breaking load (daN)
MO-492/100L	12	80	100	2940

## Stranded polypropylene rope EN 696

Four stand made

Light weight and resistant to moisture

	Ø (mm)	Weight m (g)	Length (m)	Breaking load (daN)
MO-470/20	10	66	20	1530
MO-470/100	10	66	100	1530
MO-472/20	12	97	20	1950
MO-472/100	12	97	100	1950
MO-474/20	14	135	20	2690
MO-474/100	14	135	100	2690
MO-476/100	16	180	100	3330
MO-476/200	16	360	200	3330



MO-47X/...

## Adjustable sling

### Characteristics

Adjustable strap with preadjusting ring, seizing loop and fixed strap in synthetic textile.

Ratchet stretcher, preadjusting ring and lifting ring in metal protected against corrosion.

Length of the sling:

- maxi: 1.25 mm.

- mini: 0.65 mm.

Width of the straps: 35 mm.

Maximum working load: 200 daN.

Approximate weight: 1.5 kg.

### Field of use

Overhead network.

### Working method

Distance method.

### Function use

The ADJUSTABLE SLING is used to seize a load to be handled. In the case of line switch, four adjustable slings should be secured to one or more shackles to facilitate their hooking to the lifting hook.



MG-798

MG-798	Weight: 1.5 kg
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## HOISTING EQUIPMENT

### Slings

#### Characteristics

Endless type in synthetic fibre braid.

#### Field of use

· Overhead network.

#### Working method

· Distance method.

#### Function use

The SLINGS are used as anchoring points to exert tractive forces, for

example securing rope blocks or snatch blocks.

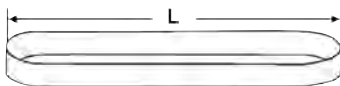
They can also be used to handle an overhead switch.

The maximum working load should never be surpassed, whatever the form of the fixing point and that given to the sling.

	Max load service (daN)	L (m)	Width (mm)
MG-795	550	0.9	30
MG-797	1100	1.20	50
MG-797/1	1600	1.20	50
MG-797/2	2200	1.00	55



MG-797/...



### Tools holder strap

#### Characteristics

Adjustable belt made of synthetic

material. Length: 1 m.

Fitted with sliding rings made of bronze and a buckle made of steel protected against corrosion.

Maximum utilization made on a free

or sliding ring: 200 daN.

Approximate weight: 0.67 kg.

#### Field of use

Overhead network.

#### Working method

Distance method.

Contact method.

#### Function use

The tool holder strap is used to:

· Hang tools such as safety hook poles, universal hand poles.....

· Attachment of a service rope universal hand (with the exception of tackles of rope blocks) or to hang heavy tools such as containers or bags of covers.



MG-792

MG-792	Weight: 0.67 kg
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### Service rope gin

#### Characteristics

Tool in metal protected against corrosion.

Overall dimensions: 450 mm x 170 mm 130 mm.

Maximum working load: 120 daN.

Approximate weight: 1.5 kg.

#### Field of use

· Overhead network.

#### Working method

· Distance method.

#### Function use

The SERVICE ROPE GIN is used as an anchorage point for the service rope.



MG-738

MG-738	Weight: 1.5 kg
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## Hook for service rope

### Characteristics

Body in alloy protected against corrosion.

Tongue with release spring in steel protected against corrosion.

### Field of use

. Overhead Network.

### Working method

. Distance method.

### Function use

Associated with the service rope and the snatch block, the "SERVICE ROPE HOOK" is used:

- to hoist up to the lineman and

return to the ground the equipment and tooling required to perform the work

- in case of need, to bring back to the ground a lineman victim of an indisposition or an accident.

Overall dimensions.

height (mm) 140.

width (mm) 110.

thickness (mm) 10.

Maximum working load to supply materials (daN) 50.

Approximative weight (kg) 0.15.



MO-303

MO-303

Weight: 0.15 kg

## Hand line hook

### Characteristics

All parts in metal protected against corrosion.

### Operation

Operated with the service rope this hook enables lineman to lift any part tools to the tops of the pole and bring it down.

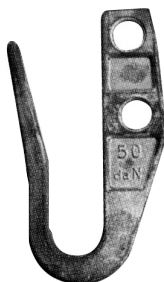
Overall dimensions

height: 140 mm.

width: 80 mm.

thickness: 10 mm.

Maximum working load: 50 daN.



MO-301

MO-301

Weight: 0.800 kg

## EQUIPMENT FOR WORKING ON POLE

### Leather safety belt

#### Characteristics

- Polyester lined chrome leather double thickness strap belt; dimensions: 1280 x 50 mm
- Leather belt, dimensions : 680 x 120 mm
- 2 cambered wrought rings for lanyard
- 2 tools-holder half-rounded D
- 7 copper rivets
- Delivered with a carabiner

CE EN 362

- Markings following EN 358
- "Instructions of use" sheet

#### Field of use

Safety belt for work positioning. Other equipments needed (carabiners,...) must be in compliance with the current standards. Refer to the instructions of use for the maintenance of the belt.

CE



MO-057

<b>MO-057</b>	Leather safety belt to use with an EN354 lanyard
<b>MO-57L</b>	Leather safety belt with lever stretcher and rope in compliance with EN358

Rope with stretcher:  
- Lanyard with a 4 m Ø14/15 mm rope

- Lever stretcher
- Weight: 1 kg

### Standard belt

- Strap belt 40 mm NYLON with polyamide strap on 130 mm backing.
- Two rings for towing straps and lanyard.
  - Two rings for tool bag.
  - Self locking karabiners.
  - Rope strap and lever.
- (complies with EN 358)

CE



MO-057-EX

<b>MO-057-EX</b>	Weight: 2.0 kg
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### Anti-fall harness CE

#### Characteristics

- 1 belt for holding in the work position, rotating
- 2 lateral holding rings

- Strengthen shorts
- Adjustable straps, shorts and belt
- Tools holder

CE



MO-563



MO-564

<b>MO-563</b>	1 dorsal and 1 sternal attachment points Automatic belt and shorts buckles Elastic straps EN 361 / EN 358
<b>MO-564</b>	1 dorsal and 3 sternal attachment points 1 ventral hook Automatic shorts buckles EN 361 / EN 358 / EN 813

### Harness

#### Characteristics:

Harness for overhead work  
 - Polyamide strap 40 mm wide.  
 - Foam reinforced and sheepskin patch or black.  
 - Dorsal and sternal attachment point. Double lateral hooking.

- Front suspenders.  
 - Die steel buckles.  
 - Load break 2000 daN minimum.  
 Complies with the EN 361/EN 358 standard.

**MO-71**

With front suspenders



CE

**MO-71**

### Lanyard

Synthetic fibre ropes - 10 mm.  
 Loops spliced at both ends.

Delivered without SNAP HOOK.  
 (complies with EN 354)

**MO-53**

Length: 1.50 m - Weight: 0.125 kg



CE

**MO-53**

### Constraint tie

#### Description:

The constraint ties are intended to tie the support heads when fittings are not reliable. They are equipped with a braid for a crab with a tubular protection strap.  
 These ties are to be used for the mooring of lifelines or the anti-fall tether rope.

#### Characteristics:

Tie in polyester strap  
 Length: MO-52033: 1.20 metres;  
 MO-52034: 1.50 metres.  
 Width: 23mm.  
 Colour: yellow.  
 Equipped with a braid with tubular protection.  
 EN795 Standard.

**MO-52031**

Length: 0.80 m

**MO-52033**

Length: 1.20 m

**MO-52034**

Length: 1.50 m



CE

**MO-52034**

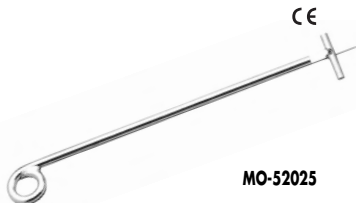
### Anchorage bar

#### Description:

Fitted with automatic end stop anchorage bar constitutes a reliable anchorage point to be used with fall arrest lanyards, minimum diameter 16 mm and length 200 mm.

#### Characteristics:

Weight: 1.084 kg.  
 Dimensions: Length 0.655m.  
 Breaking strength > 1000 daN.  
 Raw material: Galvanized steel A60, diameter 15mm.  
 Standards EN795 and CE.



CE

**MO-52025**

**MO-52025**

## EQUIPMENT FOR WORKING ON POLE

### Carabiners

#### Characteristics

Complies with the EN 362 standard.  
Closing guaranteed by the supply of a return spring.  
Bolt operated by a knurled screwed ring

#### Dimensions:

Length: 100 mm.  
Height: 65 mm.  
Diameter of the ring: 15 mm.  
Maximum working load: 120 daN.  
Approximate weight: 0.15 kg.

#### Field of use

. Overhead network.

#### Working method

. Distance method.

#### Function use

The CARABINERS is used:  
- as an anchor point for the snatch block or the service rope.  
- To ensure the joining of the two ends of the service rope, and quickly hook different tools and unsteady materials.  
- To ensure guidance of handling ropes.

#### ATTENTION

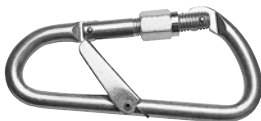
Before using, the carabiners has to be locked.

CE



MO-54

CE



MO-55/1

<b>MO-54</b>	Locks with threaded ring - 105 x 65 mm 0.150 kg - Steel
<b>MO-55/1</b>	Locking by screwing ring on a spring loaded mobile catch; an additional catch is provided to prevent the rope from slipping in the carabiners 155 x 70 mm - 0.270 kg - Zircal

### Oval screw crab carabiner

#### Characteristics:

Oval screw crab with safety bar.  
Complies with the EN 362 and EN 12275 standard.  
Individually tested.  
"Closed finger" resistance of 18kN.  
"Open finger" resistance of 5kN.

Opening: 15mm.  
Mass: 80 grams.

#### Use:

This carabiners is intended to be associated with a tether rope, a tether tension device or a protection harness against falls from a height.

CE



MO-54000

<b>MO-54000</b>	Weight 0.08 kg
-----------------	----------------

### D- shaped crab with automatic locking carabiner

#### Characteristics:

Crab with D-shaped automatic locking.  
Complies with the EN 362 and EN 12275 standard.  
Individually tested.  
"Closed finger" resistance of 28kN.  
"Open finger" resistance of 8kN.  
Opening: 23mm.

Weight: 84 grams.  
Locking system with pushbutton control.

#### Use:

This crab is intended to be associated with a tether rope, a tether tension device or a protection harness against falls from a height.

CE



MO-54004

<b>MO-54004</b>	Weight 0.084 kg
-----------------	-----------------

### Snap with double safety latch

#### Characteristics:

Crab with double safety catch.  
Complies with EN362 standard.  
Individually tested.  
Opening: 60mm.  
Weight: 450 grams.  
Material: - body in aluminium.  
- fingers in stainless steel  
Resistance: 20kN.

#### Use:

This crab is intended to be associated with a tether rope, a tether tension device or a protection harness against falls from a height. (complies with EN 362)



MO-54002

CE

MO-54002	Weight: 0.450 kg
----------	------------------

### Double safety descender

Articulated stainless steel cam.  
Aluminum housing. High-resistance handle. Operates with 9-12mm

diameter lanyard. Ideal for evacuation. Lets you regulate descent. Complies with the EN 361 standard.



MD-02

CE

MD-02	Weight: 0.32 kg
-------	-----------------

### Tool pouch for safety harness

2-pocket leather pouch.



MO-32/3

MO-32/3	Weight: 0.835 kg
---------	------------------

### Working on pole kits

#### Composition:

1 harness belt ref/ MO-56001 or MO-56002.  
1 anti full grip with 15 meters of rope ref: MO-68/15.

2 Snap hooks ref/ MO-55/1.  
1 carrying bag ref: M-87295.

KIT-56/1	Complete kit harness belt size 1 (S-L)
KIT-56/2	Complete kit with harness belt size 2 (L-XXL)



KIT-56/1

## EQUIPMENT FOR WORKING ON POLE

### Tether rope equipped with a tension device

#### General:

The tether rope MO-56010 is intended to ensure that operators are held in position when working at a height. This tether rope must be associated with a harness belt.

Recommended harness:

**MO-56001** Harness belt, size 1.

**MO-56002** Harness belt, size 2.

**MO-56003** Harness-belt and saddle, size 1.

**MO-56004** Harness-belt and saddle, size 2.

#### Characteristics:

Ends sewn to form an attachment and protected with a plastic girdle. Static resistance: 15kN.

Complies with EN197 standard.

#### Use:

Tether rope for holding in work position. Length adjustment thanks to a blocking system with lever control.

<b>MO-56009</b>	Weight: 0.310 kg	Length: 3 m
<b>MO-56010</b>	Weight: 0.420 kg	Length: 5 m



CE

MO-56010

### Multistrand safety lanyard

Polyamide lanyard, 12 mm diameter with 2 climbing strands, equipped with double-clip snap links, 50 mm opening.

Can be connected to harness for steel snap link with locking screw. Complies with the EN 354 standard.

<b>MO-53010</b>	Weight: 1.4 kg	Length: 1 m
-----------------	----------------	-------------



CE

MO-53010

### Tether rope with energy absorber

#### General:

The tether ropes MO-52020 and MO-52021 are intended for the anti-fall protection of operators working at a height. These tether ropes must be associated with harnesses.

#### Description:

Anti-fall tether rope equipped with an energy absorber (must be worn together, cannot be separated). The energy absorber system consists of girths woven together.

#### Composition:

Tether rope equipped with an energy absorber. Delivered with: One steel crab, screw opening 18 mm.

One crab in light alloy, wide opening, opening 65 mm.

#### Characteristics:

Length of the tether rope:

- **MO-52020** = 1.50 metres.

- **MO-52021** = 2.00 metres.

Colour of the tether rope:

black/white.

Material of the tether rope: polyamide.

Diameter of the tether rope: 14 mm.

Crabs in steel with screw opening 18 mm.

Super Rapidex crab in light alloy, wide opening, opening 65 mm. EN365 Standard.

<b>MO-52020</b>	Length: 1.5 m
<b>MO-52021</b>	Length: 2 m



CE

MO-52020

CE

MO-52-L

### Equipped rope straps with lever stretcher

Equipped with adjuster. Hooks to belt with rapid link. (complies with EN 358).

<b>MO-52-L</b>	Length: 4 m - 1 kg
----------------	--------------------



### Anti-fall grip

The safety block runs freely on its rope but can be automatically locked in case of a sudden downward drop. Must be used only with special

15 mm Ø rope delivered with the device. Complies with the EN 358 standard.

<b>MO-68/10</b>	With 10 m of rope - 2.300 kg
<b>MO-68/15</b>	With 15 m of rope - 3.250 K

### Fall arrester - retractable type

Designed for lineman safety. Quick acceleration causes instant locking.

#### Characteristics:

- Corrosion protected steel shell.
- Integrated braking mechanism and dissipating element.

- Self locking mechanism and automatic tensioning and return facility.
- Galvanized cable Ø 4 mm.
- Strength: 1200 daN.
- Delivered with a screw crab.
- Comply with EN 360.

<b>MO-591002</b>	Weight: 7.00 kg
------------------	-----------------

### Anti-fall device with automatic release strap

Winder with self-locking strap. Length: 2 m. Equipped with shock absorber.

Allows 2m of movement autonomy around anchoring point. Complies with the EN 360 standard.

<b>MO-591000</b>	Weight: 1.60 kg
------------------	-----------------

### Mechanical climbers

- For rectangular shaped concrete poles.
- Automatic locking of jaws by elastic cord.
- Sole in aluminium alloy, high resistance, with leather belts and steel buckle.

- Wear plate placed on sole arm.
- Mobile drum on axis can be removed; processed steel rollers.
- High resistance aluminium alloy rack, used for clamping onto poles 14 to 42 cm wide.

<b>MO-17-A</b>	Pair of climbers - 9 kg
<b>MO-17-01</b>	Pair of elastic cords
<b>MO-17-02</b>	Pair of wear plates

### Forged steel climbers for wooden poles

Hard forged steel - Leather belts with cast buckles.

Delivered by the pair.

<b>MO-24</b>	Ø 20 cm - 2.6 kg
<b>MO-25</b>	Ø 25 cm - 2.8 kg
<b>MO-26</b>	Ø 26 cm - 3.0 kg
<b>MO-35</b>	Ø 35 cm - 3.2 kg



MO-68/10



MO-591002



MO-591000



MO-17..

<b>MO-17-03</b>	Blade roller
<b>MO-17-04</b>	Pair of runne



MO-24

## EQUIPMENT FOR WORKING ON POLE

### Mechanical climbers for round and hexagonal concrete poles

- Manual locking.
- Adaptable to the pole diameter.
- For poles Ø 140 to 300 mm.

**MO-16-A** Pair of climbers 6.5 kg



**MO-16-A**

### Insulating ladders

A complete range with top quality features:

- Insulation between two steps: 58000 V (test performed after immersion in water for 24 hours).
- High mechanical resistance to bending and twisting.
- Good resistance/weight ratio.
- High fire resistance.
- High resistance against bad weather and corrosive elements.
- Lateral risers in polyester/glass fiber rectangular section 70 x 25 mm.
- Aluminium alloy rungs with square 29 x 29 mm section and anti-slip coating.

(complies with EN 131)



### Insulated 2 section extension ladders, hand operated

	Folded length	Extended length	Number of rungs	Weight (kg)
<b>MP-514/2</b>	2.41 (m)	4.09 (m)	2 x 8	12.6
<b>MP-515/2</b>	2.97 (m)	5.21 (m)	2 x 10	15.5
<b>MP-515/2R</b>	2.97 (m)	5.21 (m)	10 x 9	16.2

### Insulated 2 section extension ladders, rope and pulley operated

	Folded length	Extended length	Number of rungs	Weight (kg)
<b>MP-506/2</b>	3.53 (m)	6.05 (m)	2 x 12	20
<b>MP-508/2</b>	4.66 (m)	8.30 (m)	2 x 16	31
<b>MP-509/2</b>	4.94 (m)	8.86 (m)	2 x 17	38.6
<b>MP-510/2</b>	5.78 (m)	10.26 (m)	2 x 20	38



**MP-514/2**

### Spliced ladders

#### Characteristics

Base with adjustable feet and sections with fixed cradles in metal protected against corrosion.

Sections in synthetic material reinforced with fibre glass coloured cradles fixed or removable.

Straps of synthetic textile.

#### Field of use

Overhead network

#### Working method

Distance method.

#### In service care

Ladders should not be stored or exposed to heat or light or allowed to come in contact with oil, grease, turpentine, whitspint or strong acid.

When ladders become soiled they should be washed with soap and water.

#### Accessories

MP 400 set of 2 straps, length 1.95 m.

**MP 400/2** Removable cradle.

#### Periodic inspection

Within maximum period of 12 months ladders should be submitted:

- To visual inspection.
- To dielectric test.

#### Function use

The SPLICED LADDERS are used to climb to supports (poles, concrete or wood, metal tower etc...), to allow

the positioning of the lineman on his work place.

Fibre glass section are to be used:

- When during their installation they can be closer to a live part than the minimal approach distance.

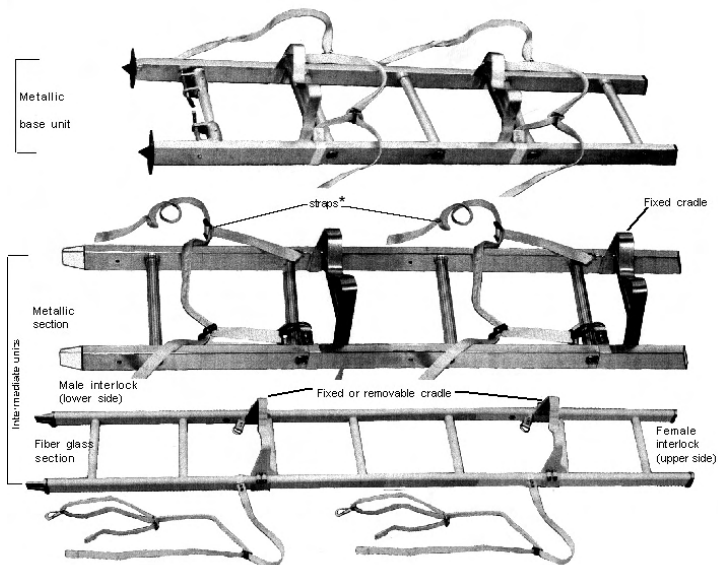
#### Classification

(complies with NFC 18-430)

CEI 61478 cat. 1

Spec. EDF HTA 73 A.

REF.	Bases		Sections				
	MP 402 MB	MP 403 MB	MP 402 MI	MP 403 MI	MP 501 D	MP 502 D	MP 503 D
Length (m)	2.10	3.00	2.10	3.00	1.20	2.10	3.00
Number of rungs	7	10	7	10	4	7	10
Metal (kg)	6.50	7.80	5.20	6.80			
Weight of section							
Fibre glass (kg)					3.60	6.30	9.00



**MP-402-MB**  
**MP-403-MB**

**MP-402-MI**  
**MP-403-MI**

**MP-501-D**  
**MP-502-D**  
**MP-503-D**

## EQUIPMENT FOR WORKING ON POLE

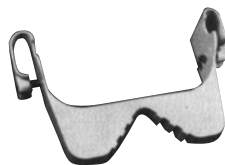
### Removable cradle for spliced ladders

#### Characteristics

For fixing spliced ladders on gawged poles, there exists an extension comprising:

- 1 super polyamid "Nylon" strap.
- 1 snap-hook.
- 1 safety buckle.

- 1 ring.
- Useful tightening length: 1 meter.
- Overall dimensions.
- Length: 190 mm.
- Width: 280 mm.
- Thickness: 90 mm.



MP-400/2

MP-400/2

### Spliced ladders support

#### Characteristics

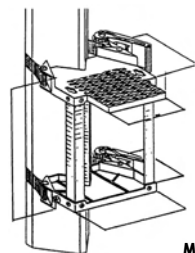
Platform: metal protected against corrosion.

Straps of synthetic textile.

Overall dimensions.

- Length: 0.40 m.
- Width: 0.40 m.

- Height: 0.53 m.
- Approximate weight: 8.2 kg.



MP-404

MP-404

Weight: 8.2 kg

### 1.80 m platform

#### Characteristics

Platform and tubes in reinforced plastic.

Securing system in light alloy and bronze.

Upper face of the platform skid-proof.

Length: 1.80 m.

Width: 0.26 m.

Weight: 47 kg.

Maximum load at the free end of the platform: 165 daN.

#### Field of use

- Overhead network.

#### Working method

- Distance method.

#### Function use

Secured to a support other than a metal lattice tower, the 1.80 m PLAT-FORM is used to offer to the linemen a suitable work post notably in view of facilitating their work and respecting the minimum approach distance.

The platform should in no event be considered as an insulation in relation to the ground, of the lineman at his work post.



MP-393

MP-393

Weight: 47 kg

### Ladders stabilizers

#### Technical sheet

##### Characteristics:

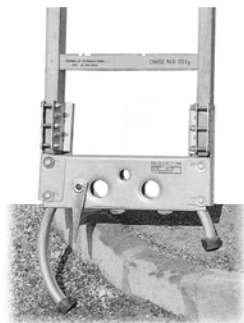
Body an feet in Aluminium alloy.

##### Use:

To be installed at the feet of the ladders.

#### FOR LADDERS

<b>MP-46500</b>	MP-506/2, MP-514/2, MP-515/2, MP-512/2R
<b>MP-46501</b>	MP-508/2, MP-510/2



**MP-46500**

### Ladder stabilizer

#### Description:

This device mounted on the top of the rails allows to secure the ladder on a fix point. It is suitable on all of type of ladder (made of wood, polyester or aluminium). Can be handle

by means of a rope Ø min 235 mm, Ø max 770 mm.

**MP-46700**



**MP-46700**

## VOLTAGE TESTER

### Voltage - detector (with phase rotation)

#### Description:

The DETEX 911/2 has been designed in compliance with IEC/CENELEC standard 61243-3. The device is a voltage detector which checks the absence of voltage (AC and DC) and a multi tester (voltage levels, the continuity of disconnected electric circuit, phase or neutral, phase rotation, polarities).

#### Characteristics:

Field of use : from 12 to 400V.  
Frequency : 50-60 Hz  $\pm 10\%$ .  
Operating temperature:  
-10°C/+55°C.  
Protection level: IP54/IK06.  
Double insulation Class II.  
Power supply by 9 volt 6LR61 type alkaline battery.

<b>MS-911/2</b>	Weight approximate: 0.215 kg
<b>M-87369</b>	Storage bag



**MS-911/2**



**M-87369**

### Contact probes for L.V tester

To be used only with MS-911/2 tester.

#### Characteristics:

Contact antennas serve as suspension hooks.

Marked with standards colours:

black and red.

Total length: 1.25 m.

#### Field of use:

For overhead lines.

<b>MS-8014</b>	2 probes, in bag 50 x 130 x 1.300 mm - 0.40 kg
----------------	--



**MS-8014**

To be used only with MS-911/2 tester.

#### Characteristics:

Round tip contact.

Total length: 0.50 m.

#### Field of use:

For installations.

<b>MS-8013</b>	2 probes, in bag 50 x 150 x 470 mm - 0.750 kg
----------------	---



**MS-8013**

### Cable identifier

The MX 400 is an identifier of electrical cables, especially adapted to quickly identify either underground cables or overhead insulated conductors. It was also designed to identify the phases.

This identifier is to be used on any type of electrical networks with nominal voltages of 230 or 400 Volts.

#### Principle of use:

The MX 400 is composed of a modulator unit and a receiver.

The modulator unit is an electronic power system, which draws off 10 millisecond current pulses at a frequency of 1 Hertz. It is connected to the electrical network with connection cables at a lower point of the working site. The connection will be realized between phases for a cable identification or between a phase and the neutral for a phase identification.

Once connected, the unit is immediately under voltage, indicated by 2 diodes 230 and 400 Volts. By pressing the push button "ON", the drawing off pulses starts. The good functioning is indicated by a diode emitting a signal at the same rhythm as the drawing off.

In case of defect or overheating, the modulator unit, equipped with a self control system, will stop immediately the drawing off pulses.

The receiver is equipped with 2 captors, which detect the pulses drawn off by the modulator unit. At reception of the pulses, the device emits a visual signal, confirmed 3 seconds later by an audible signal.

An adjustment of the level of sensitivity (15 levels) of the captors



allows easily to adjust the accuracy of the detection and by then the precision of the identification. The modulator unit is compact, with small dimensions and has a supply with a battery.

#### Phase identification

The phase identification is realized with a clamp-on ammeter **MX-400/7** connected to the receiver **MX-400/6** and clamped around the phase to be identified.

When the clamp detects the pulses drawn off by the modulator, the receiver emits a visual signal, confirmed 3 seconds later by an audible signal.



<b>MX-400</b>	Cable identifier complete with clamp on meter
<b>MX-400/1</b>	Cable identifier without clamp-on meter

**MX400/7**

# Medium Voltage

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Controllers	130
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## Hook stick

### Characteristics

Made of IEC 60855 orange reinforced synthetic tube (Ø 32 mm) and operating rod.  
End piece and mechanism in light alloy and bronze.

### Field of use

Overhead network

### Function use

HOOK STICKS are used to hold, install, remove, screw, and unscrew

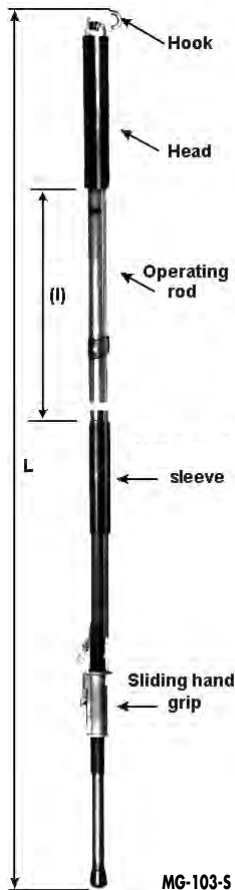
by the distance working method all systems comprising a ring (connector, cover, etc.).

They can also be used to guide and separate a low cross-section part bridges.

The hook stick adaptor ref. CI5K, allows to fix all adaptable tools with a universal end-piece, thus providing this stick with the same use as a universal stick.

	Total length (L) (m)	Insulating length (l) between the head and the hand sleeve (m)	Approximate weight (kg)
MG-099-S*	1.60	0.40	2.20
MG-100-S*	2.00	0.70	2.80
MG-101-S*	2.60	1.15	3
MG-102-S*	3.20	1.70	3.40
MG-103-S*	3.80	2.35	3.70
MG-101-S/1S	2.60	1.15	3
MG-102-S/1S	3.20	1.70	3.40
MG-103-S/1S	3.80	2.35	3.70

(\*) torque fitting element at the bottom.



## Hook stick extension

### Characteristics

Made of IEC 60855 orange reinforced synthetic tube (Ø 32 mm) and operating rod.  
End piece and mechanism in light alloy and bronze.  
Nominal length L: 1.22 m

### Field of use

Overhead network

### Working method

Distance method

### Function use

Simply secured on the head of a HOOK STICK, the HOOK STICK EXTENSION adds 1.22 m of reach



MG-106-S	Weight: 1.8 kg
----------	----------------

MG-106-S

## HAND-HELD STICKS FOR LIVE WORKING

### Switch and disconnect Telescopic stick (short)

#### Function:

- For opening and closing disconnecting switches
- Replacing fuse in porcelain type cut-outs
- Pruning tree limbs.

#### Characteristics:

- Sections made of reinforced high density electrical grade fiber glass
- Top sections insulated with fire retardant polyurethane foam core
- Tip section: triply reinforced to eliminate brakage

- Universal head adaptable to standard fit or accessories
- Disconnect hook: standard equipment
- Stick can be disassembled for cleaning
- Equipped with lock pins: stick may be locked in lengths
- To engage locking pins, extend section to its limit and turn for hole alignment

Extended Length	Retracted Length	Diameter	Tip diameter	Weight
5.18m-6.5m-7.9m-9.1m	1.55 m	60.3 mm	22.22 mm	3.94 kg

CE-5-90K

Weight: 3.94 kg

### Switch and disconnect Telescopic stick (long)

#### Function:

- For opening and closing disconnective switches
- Replacing fuse in porcelain type cut-outs
- Pruning tree limbs.

#### Characteristics:

- Sections made of reinforced high density electrical grade fiber glass
- Top sections insulated with fire retardant polyurethane foam core
- Tip section: triply reinforced to eliminate brakage

- Universal head adaptable to standard fit or accessories
- Disconnect hook: standard equipment
- Stick can be disassembled for cleaning
- Equipped with lock pins: stick may be locked in lengths
- To engage locking pins, extend section to its limit and turn for hole alignment

Extended Length	Retracted Length	Diameter	Tip diameter	Weight
5.18m-6.5m-7.9m-9.1m-10.6m	1.60 m	68.2 mm	22.22 mm	4.95 kg

CE-5-105K

Weight: 4.95 kg



CE-5-105K

## Wire holding stick

### Characteristics

Made of IEC 60855 orange reinforced synthetic tube (Ø 32 mm) and operating rod.

Head and locking lever in metal protected against corrosion.

### Field of use

. Overhead network

### Working method

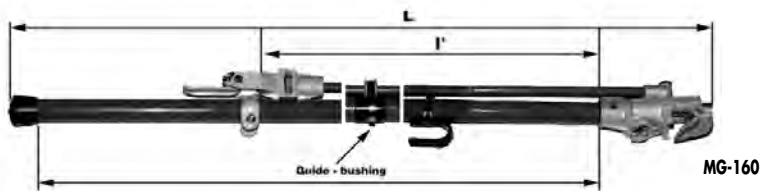
. Distance method

### Function use

WIRE HOLDING STICKS are used to firmly grasp a given part, generally cylindrical such as a conductor, arcing horn, guard horn, etc... in view of holding it in a given position without moving it.

	Total length (L) (m)	Length of the tube (l) (m)	Distance l' (m)	Ø tube (mm)	Ø rod (mm)	Tightening capacity (mm)	Weight (kg)
MG-160/1	1.80*	1.60	1.35	32	15	" "	2.7
MG-161/1	2.60*	2.40	2.15	32	15	" "	3.5
MG-162/1	3.00*	2.80	2.55	32	15	" "	3.7
MG-163/1	3.60	3.40	3.15	32	15	" "	4.5

\* Models without intermediate guide - bushing



## All angle cog spanner stick

### Characteristics

Made of IEC 60855 orange reinforced synthetic tube (Ø 38 mm) and operating rod.

Steel and bronze head.

Admits sockets of standard series 12.7 mm (1/2 inch)

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

The ALL ANGLE COG SPANNER STICKS are used to lock in position, screw and unscrew, by means of detachable adaptors, nuts and bolts whose axis make an angle of between 0° and 140° with that of the pole.

	Nominal length (m)	Weight kg
MG-180	2.40	3
MG-181	3	3.3



MG-180

## HAND-HELD STICKS FOR LIVE WORKING

### Measuring rod

#### Characteristics

Insulating solid rods (IEC 60855) with 0.10 m strips of alternating colour, orange and black.  
Universal end-pieces and gripping ring screw in metal protected against corrosion

#### Field of use

• Overhead network

#### Working method

• Distance method

#### Function use

The MEASURING ROD is used to measure intervals and lengths located in relation to live parts at a distance less than the minimum approach distance. Its flexibility enables it to measure lengths that are even curvilinear. It can:  
• either be held in the hand  
• or be fixed to the universal end-piece of a pole  
• or be grasped with a safety hook pole.

	Total length (mm)	Rod diameter (mm)	Approximate weight (kg)
MG-248-K	3	10	0.74
MG-248/5-K	5	10	1

### Telescopic measuring stick

- 8 telescopic sections of insulated polyester glass, graduated and operated by a push-button mechanism.  
- Upper portion Made of IEC 60855 orange reinforced synthetic material.

- Direct reading at the top of the 1st section of the stick.  
- Max. length: 12 m. Folded length: 1.50 m - 3.3 kg.

MO-832	Max. length: 12 m
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### Universal handle

#### Characteristics

Made of IEC 60855 orange reinforced synthetic material.  
Universal end in light alloy.  
Total length: 0.51 m  
Tube diameter: 32 mm

#### Field of use

• Overhead network

#### Function use

The UNIVERSAL HANDLE allows to use some splined-end tools by hands.

	Total length (mm)	Rod diameter (mm)	Approximate weight (kg)
MG-129-K	0.51	32	0.4
MG-129/1-K	1.25	32	1.1
MG-139-K	1.25	39	1.3



## Spliced stick elements

### Characteristics

Made of IEC 60855 orange reinforced synthetic material.  
These elements are assembled using hexagonal connectors.  
Each stick includes a female connection which can be attached on to an extension having a male end-piece

Maximum torque value:  
. 3 m.daN for dia 32 sticks  
. 6 m.daN for dia 39 sticks

### Field of use

. Overhead network

### Working method

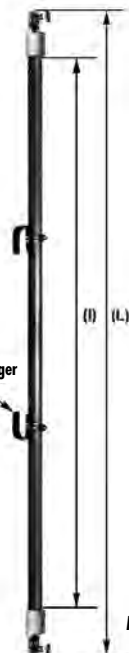
. Distance method

	Total length: L (m)	Length of the insulating Part: l (m)	Ø tube (mm)	Approximate weight (kg)
CM-8-20-B	2.08	1.81	32	1.3
CM-8-30-B	3.08	2.81	32	2
CM-9-20-B	2.08	1.73	39	1.6
CM-9-30-B	3.08	2.73	39	2.4
CM-9-30-K	3.08	2.81	39	2.4
CM-9-42-K	4.20	4.00	39	3.2



CM-8

Stick hanger



MG-127-K

## Universal hand stick

### Characteristics

Made of (ø 32-39mm) IEC 60855 orange reinforced synthetic tube.

### Field of use

Overhead network

### Working method

Distance method

### Function use

The UNIVERSAL HAND STICK allows the use of approved tools with a universal end piece fitted to either of this stick.

### Stick hanger:

Ref.: **M88759** for ø 32 mm

Ref.: **M881302** for ø 39 mm

	Total length (m)	Insulating Part length "l" (m)	Ø of the rod (mm)	Approximate weight (kg)	Pole hanger(s)
MG-126-K	2.55	2.35	32	1.7	2
MG-126/1K	1.35	1.15	32	1.1	1
MG-126/2K	3.75	3.55	32	2.5	1
MG-126/3K	3.15	2.95	32	2.2	1
MG-126/4K	4.35	4.15	32	2.9	1
MG-126/18K	1.80	1.60	32	1.2	1
MG-127-K	3.10	2.90	39	2.2	2
MG-127/1K	2.40	2.20	39	1.8	2
MG-127/2K	1.35	1.15	39	1.3	1
MG-127/18K	1.80	1.60	39	1.7	1
MG-128-K	3.75	3.55	39	3.0	2

## HAND-HELD STICKS FOR LIVE WORKING

### Tie stick (rotaring prong/rotaring blade)

#### Characteristics

Made of IEC 60855 orange reinforced synthetic tube.  
Ends, rotary blade and rotary prong in metal protected against corrosion.  
Total length L: 2.49 m  
Length of insulating part I: 2.3 m  
Diameter of the tube: 32 mm

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

The ROTARY PRONG of the TIE STICK POLE is notably used to:

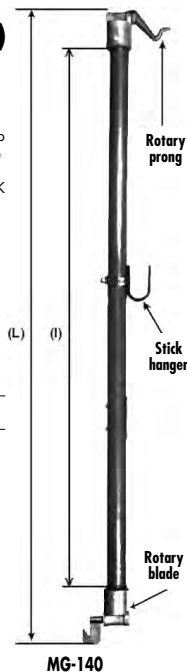
. make up and remove a tie with a

binding wire fitted with rings at its ends.

. install, move and remove light accessories fitted with a ring, a loop or a hook such as: automatic come along clamp, sling, pulley.

The ROTARY BLADE of the TIE STICK is notably used to:

. make up a tie  
. unwind a tie  
. distort and if necessary break a binding wire in the groove of an insulator  
. remove a jumper-strip  
. open a lock-strip.



**MG-140**

Weight: 1.79 kg

### Tie stick (rotaring blade/universal)

#### Characteristics:

Made of IEC 60855 orange reinforced synthetic tube.  
Ends, universal fitting and rotary prong in metal protected against corrosion.  
Total length "L": 2.49 m  
Length of insulating parts: 2.3 m  
Diameter of the tube: 32 mm

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

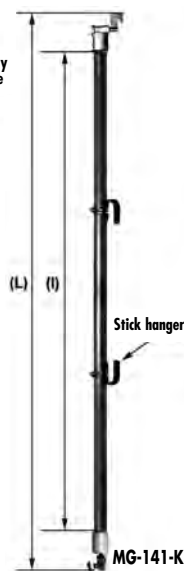
The ROTARY BLADE of the TIE STICK is notably used to:

. make up a tie  
. unwind a tie  
. distort and if necessary break a

binding wire in the groove of an insulator

. remove a jumper-strip  
. open a lock-strip.

The UNIVERSAL HAND of the TIE STICK is used to attack different accessories having a universal end.



**MG-141-K**

Weight: 1.79 kg

#### OTHER MODEL:

**MG-142-K** ; same size End fittings: rotary blade / Universal.

## Wire cutter stick

### Characteristics:

Made of IEC 60855 orange reinforced synthetic tube and operating rod.

Cutting head made of special steel:

- Maximum cutting capacity:
- copper: 48 mm<sup>2</sup>
- almelec: 54 mm<sup>2</sup>
- aluminium/steel: 37 mm<sup>2</sup>

### Field of use

Overhead network.

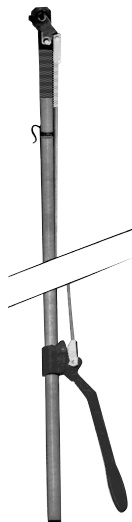
### Working method

Distance method.

### Function use

The wire cutter stick is used to cut wires or metallic cables.

	Total length (m)	Ø tube (mm)	Ø rod (mm)	Approximate weight (kg)
MG-134	2.60	39	10	3.80
MG-135	3.60	39	10	4.20



MG-134

## Binding wire cutter stick

### Characteristics

Made of IEC 60855 orange reinforced synthetic tube and operating rod.

Removable side cutter in steel protected against corrosion.

Total length "L": 2.70 m

Length of the tube "l": 2.50 m

Distance "l'": 1.60 m

diameter of the tube: 32 mm

Diameter of the rod: 10 mm

Cutting capacity:

- Annealed copper - 5 mm diameter
- Semi-hard aluminium - 5.8 mm diameter

### Field of use

Overhead network

### Working method

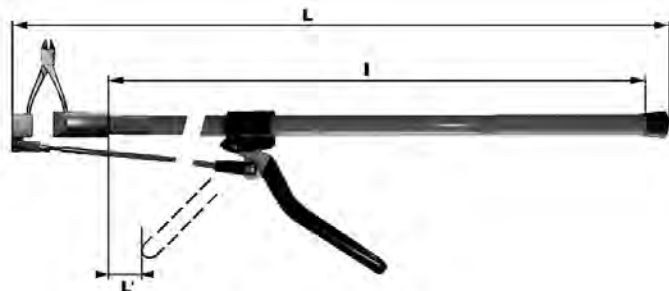
Distance method

### Function use

The BINDING WIRE CUTTER is used to cut a binding wire:

- a) in the groove of a rigid insulator, if necessary after having slightly released it from the groove with a binding wire breaker, for example.
- b) When unwinding coils.

MG-137	Weight: 3.7 kg
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MG-137

## HAND-HELD STICKS FOR LIVE WORKING

### Rack wire cutter stick

#### Characteristics

Made of IEC 60855 orange reinforced synthetic tube and operating rod.

Cutting head, lever and rack in metal protected against corrosion.

Total length "L": 3.70 m

Length of insulating tube: 3.40 m

Distance "l": 2.40 m

Diameter of the tube: 39 mm

Diameter of the control rod: 10 mm

Cutting capacity

- All cables copper, aluminium alloy, steel aluminium with a cross section < 228 mm<sup>2</sup>.

#### Field of use

- Overhead network

#### Working method

- Distance method

#### Function use

- The RACK WIRE CUTTER is used to cut metallic wires and cables.



MG-132

MG-132

Weight: 7 kg

### Rack wire cutter stick

#### Characteristics:

Made of IEC 60855 orange reinforced synthetic tube and operating rod.

Cutting head, lever and rack in metal protected against corrosion.

Total length "L": 2.60 m

Length of insulating tube: 2.30 m

Distance "l": 1.30 m

Diameter of the tube: 39 mm

Diameter of the control rod: 10 mm

Cutting capacity

- all cables cooper, aluminium alloy, steel aluminium with a cross section 228 mm<sup>2</sup>

#### Field of use

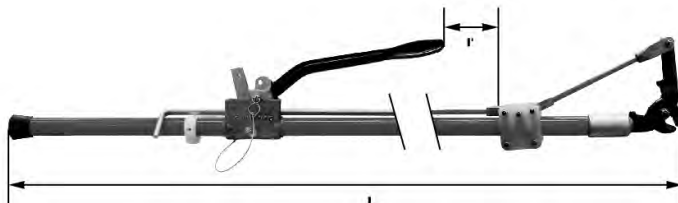
- Overhead network

#### Working method

- Distance method

#### Function use

- The RACK WIRE CUTTER is used to cut metallic wires and cables



MG-132/1

MG-132/1

Weight: 5 kg



## Rotary prong

### Characteristics

Universal end-piece and rotary prong in metal protected against corrosion.

Overall dimensions:  
115 mm x 105 mm x 20 mm

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

Secured to the universal end-piece of a pole, the ROTARY PRONG is notably used to:

- . make up and remove a tie with a binding wire fitted with rings at its ends.
- . install, move and remove light accessories fitted with a ring, a loop or a hook such as: automatic come along clamp, cling, pulley.
- . hook the locks of the rigid covers.



MG-240-K

MG-240-K

Weight: 0.18 kg

## Rotary blade

### Characteristics

All parts in metal protected against corrosion.

Overall dimensions: 115 mm x 75 mm x 20 mm

### Field of use

. Overhead network

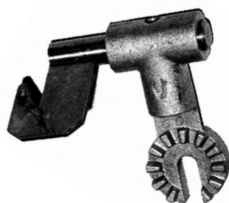
### Working method

. Distance method

### Function use

Secured to the universal end-piece of a pole the ROTARY BLADE is notably used to:

- make up a tie
- unwind a tie
- distort and if necessary break a binding wire in the groove of an insulator
- remove a jumper-strip
- open a lock-strip



MG-241-K

MG-241-K

Weight: 0.15 kg

## Spiral disconnect (pig tail)

### Characteristics

Universal end-piece made of bronze.

Spiral rod of corrosion-proof steel

Diameter: 10 mm

Dimensions:

Length: 120 mm

Width: 60 mm

Thickness: 50 mm

### Field of use

- . Overhead line
- . Substation

### Working method

- . distance method

### Function use

. In conjunction with universal hand pole or universal handle (MG-129-K), can be used as spiral link pole.



MG-207-K

MG-207-K

Weight: 0.19 kg

## Locating pin

### Characteristics

End-piece and pin in metal protected against corrosion.

Overall dimensions:

140 mm x 105 mm x 20 mm

Maximum diameter D: 19 mm

Minimum diameter d: 6 mm

### Field of use

. Overhead network

### Working method

- . Distance method

### Function use

Secured to the universal end-piece of a pole, the LOCATING PIN is used to line up the axis of the holes of two parts in order to install a pin or a bolt.



MG-275-K

MG-275-K

Weight: 0.3 kg

## UNIVERSAL ACCESSORIES

### Split pin remover

#### Characteristics

All parts in metal protected against corrosion.

Overall dimensions: 130 mm x 60 mm x 35 mm

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole, it is used to extract the cotter pins blocking ball-joint and ball socket hinges, resting on a fixed part close to the cotter pin.

<b>MG-257-K</b>	Bent type - Weight: 0.17 kg
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<b>MG-265-K</b>	Spiral type - Weight: 0.17 kg
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MG-257-K



MG-265-K

### Fine point type split pin remover

#### Characteristics

End-piece and pin in metal protected against corrosion.

Diameter: 10 mm.

Overall dimensions: 130 mm x 70 mm x 20 mm.

#### Field of use

. Overhead network.

#### Working method

. Distance method.

#### Function use

Secured to the universal end-piece of a pole, the FINE POINT TYPE SPLIT PIN REMOVER is used to extract the cotter pin.

<b>MG-266-K</b>	Weight: 0.15 kg
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MG-266-K

### Snap-out split pin remover

#### Characteristics

All parts in metal protected against corrosion.

Overall dimensions: 210 mm x 33 mm x 20 mm

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole, the SNAP OUT TYPE PIN REMOVER is used to extract the cotter pin locking ball-joint assemblies.

<b>MG-262-K</b>	Weight: 0.30 kg
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MG-262-K

### Double hook

#### Characteristics

All parts in metal protected against corrosion.

Overall dimensions: 135mm x 45mm x 33mm

#### Field of use

. Overhead network.

#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole, the DOUBLE HOOK is used to help moving away and closer conductors to start connection's unrolling.

<b>MG-282-K</b>	Approximate weight: 0.25 kg
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MG-282-K

## Split pin installer

### Characteristics

All parts in metal protected against corrosion.

Used for standard 11 pins

Dimensions:

Length: 151 mm

Width: 26 mm

Height: 20 mm

### Field of use

Overhead network

### Working method

Distance method

### Function use

Secured to the universal end-piece of a pole, the SPLIT PIN INSTALLER is used to install cotter pins locking ball-joint hinges of insulator strings and accessories.

The face opposite that of the universal end-piece is used as hammer to complete installing the cotter pin.



MG-261-K

MG-261-K

Weight: 0.3 kg

## Split pin installer

### Characteristics

All parts in metal protected against corrosion.

Used for standard 16 pins.

Dimensions:

Length: 145 mm

Width: 38 mm

Height: 20 mm

### Field of use

Overhead network

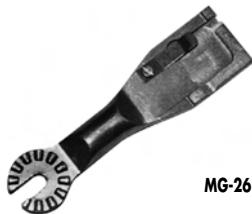
### Working method

Distance method

### Function use

Secured to the universal end-piece of a pole, the SPLIT PIN INSTALLER is used to install cotter pins locking ball-joint hinges of insulator strings and accessories.

The face opposite that of the universal end-piece is used as hammer to complete installing the cotter pin.



MG-261/1-K

MG-261/1-K

Weight: 0.35 kg

## Split pin installer

### Characteristics

Universal end-piece, rectilinear blade body whose first end is concave and at the second end a pad where you may hit with a hammer, in rustproof metal.

Dimensions: 250 mm x 30 mm x 100 mm.



MG-264-K

MG-264-K

Weight: 0.3 kg

MG-264/1-K

Weight: 0.58 kg



MG-264/1-K

## Split pin installer remover

### Characteristics

All parts in metal protected against corrosion.

Overall dimensions: 235 mm x 120 mm x 25 mm

### Field of use

Overhead network

### Working method

Distance method

### Function use

Fixed to the end-piece of a universal pole, the SPLIT-PIN INSTALLER - REMOVER is used to:

- push out using the flat, without extracting, split-pins, the heads being away from the operator.
- press in, using the curved section, these split-pins to their initial position.



MG-258-K

MG-258-K

Weight: 0.45 kg

## UNIVERSAL ACCESSORIES

### Cam type split pin remover

#### Characteristics

All parts in metal protected against corrosion.

#### Field of use

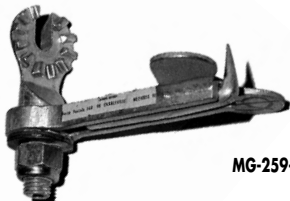
· Overhead network

#### Working method

· Distance method.

#### Function use

Fixed on one of the end-piece of a universal pole, the CAM TYPE SPLIT PIN REMOVER is used to extract the SPLIT-PINS from the hinges of insulator strings and their accessories resting on the bail-socket housing.



MG-259-K

	Dimensions (mm)	Weight (kg)
MG-259-K	120 x 70 x 85	0.35
MG-259/1-K	165 x 70 x 85	0.45

### Spanner holder

#### Characteristics

All parts in metal protected against corrosion.

Groove capacity: spanner body 20 mm width and 7 mm in thickness.

Length: 85 mm

Width: 30 mm

Thickness: 80 mm

#### Field of use

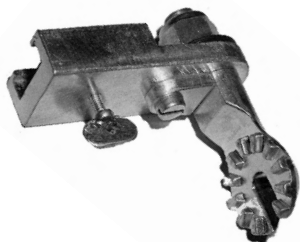
· Overhead network

#### Working method

· Distance method

#### Function use

Secured to the universal end-piece of a pole, the SPANNER HOLDER allows to use, at distance, single head spanner in view to hold, screw up, unscrew bolts and nuts.



MG-277-K

MG-277-K	Weight: 0.3 kg
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### Spanner holder

#### Characteristics

All parts in metal protected against corrosion.

Groove capacity: spanner body 20 mm width and 7 mm in thickness.

Length: 155 mm

Width: 30 mm

Thickness: 80 mm

#### Field of use

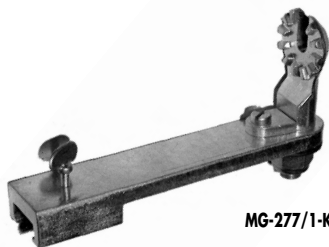
· Overhead network

#### Working method

· Distance method

#### Function use

Secured to the universal end-piece of a pole, the SPANNER HOLDER allows to use, at distance, single head spanner in view to hold, screw up, unscrew bolts and nuts.



MG-277/1-K

MG-277/1-K	Weight: 0.45 kg
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### Pin holder

#### Characteristics

All parts in metal protected against corrosion.

Dimension:

160 x 50 x 30 mm

Weight: 0.25 kg

#### Field of use

· Overhead network

#### Working method

· Distance method

#### Function use

Secured to the universal end-piece of a pole, the PIN HOLDER remove pin and bolt.



MG-267-K

MG-267-K	For pin Ø 11 to 13 mm
MG-267/1-K	For pin Ø 14 to 17 mm

## Jumper-strip holder

### Characteristics

- Universal end piece blade and stub in metal protected against corrosion.
- Overall dimensions:  
160 mm x 33 mm x 15 mm.

### Field of use

- Overhead network

### Working method

- Distance method
- Potential method
- Contact method

### Function use

- Secured to an universal end-piece or handy held the JUMPER-STRIP HOLDER is used to install a jumper-strip in the groove of a pin and then close it for locking.



MG-260-K

MG-260-K

Weight: 0.2 kg

## Insulated holding fork

### Characteristics

- Body made of steel insulated with a synthetic material. Sweep-sawed bronze end-piece. V-shaped fork
- Dimensions: Length: 140 mm
- Width: 55 mm - Thickness: 33 mm
- Separation of the legs of the fork: 14 to 33 mm.

### Field of use

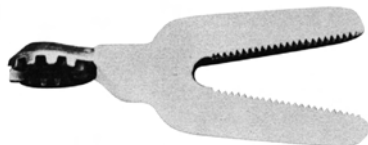
- Overhead network

### Working method

- Distance

### Function use

- Attached to one of the end-piece of a universal hand pole, the HOLDING-FORK is used to immobilize ring connector and to compensate for the twisting torque exerted at the time of tightening or untightening. It allows any deformation of the conductor to be presented. Its use is indispensable for conductors with a small cross-section.



MG-204-AK

MG-204-AK

Weight: 0.2 kg

## Holding fork

### Characteristics

- All parts in metal protected against corrosion
- Overall dimensions:  
220 mm x 60 mm x 33 mm
- Opening of the branches: 45 mm

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

- Secured to the universal end-piece of a pole, the HOLDING FORK is used to lock in a given position an accessory such as connector while its screwing up on a small cross section conductor.



MG-284-K

MG-284-K

Weight: 0.3 kg

## Ball-socket adjuster

### Characteristics

- All parts in metal protected against corrosion
- Dimensions: Length: 160 mm
- Width: 90 mm - Thickness: 20 mm

### Field of use

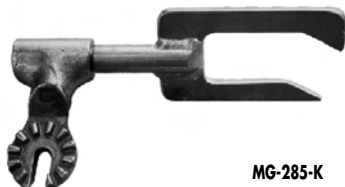
- Overhead network

### Working method

- Distance method

### Function use

- Fixed on one of the end of a universal hand pole, the ball-socket adjuster is used to hold a ball-socket and direct its removal. The adjuster guides the ball-socket and holds it in a horizontal position.



MG-285-K

MG-285-K

Weight: 0.35 kg

## UNIVERSAL ACCESSORIES

### Ratchet spanner

#### Characteristics

End-piece, spring and ratchet spanner in metal protected against corrosion.

Takes sockets of standard series

12.7 mm

Overall dimensions:

270 mm x 95 mm x 45mm

#### Field of use

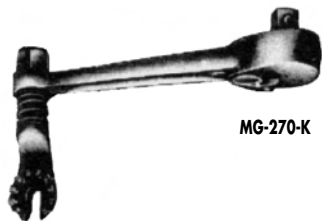
Overhead network

#### Working method

Distance method

#### Function use

Secured to the universal end-piece of a pole, the RATCHET SPANNER is used to screw and unscrew nuts by means of removable sockets.



MG-270-K

MG-270-K

Weight: 0.5 kg

### Screwdriver

#### Characteristics

All parts in metal protected against corrosion.

Steel blade.

Overall dimensions:

180 mm x 33 mm x 10 mm.

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

Secured to the universal end-piece of a pole, the SCREWDRIVER is used to:

- screw and unscrew slot head screws. Whose axis in the extension of the pole.

- lock in position slot head screws accessible via the possible inclination of the screwdriver on the pole.

- act as a lever as with the normal screwdriver with a view for example for:

- opening or distorting a jumper-strip

- folding or straightening a nut lock plate



MG-273-K

MG-273-K

Weight: 0.2 kg

### Flexible spanner head

#### Characteristics

All parts in metal protected against corrosion.

Takes bushes of standard series

12.7 mm (1/2").

Overall dimensions:

140 mm x 38 mm x 38 mm.

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

Secured to the universal end-piece of a pole, the FLEXIBLE SPANNER HEAD is used:

to install or lock in position, by means of removable bushes, nuts or screws whose axis makes some angle with that of the pole



MG-272-K

MG-272-K

Weight: 0.4 kg

### Binding wire cutter blade

#### Characteristics

All parts in metal protected against corrosion.

Overall dimensions:

150 mm x 35 mm x 15 mm

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

Secured to the universal end-piece of a pole, the BINDING WIRE CUTTER BLADE is used to locally separate a binding wire in position in the groove of a rigid insulator, then to cut it with a binding wire cutter pole.



MG-268-K

MG-268-K

Weight: 0.2 kg

## Hack saw

### Characteristics

Frame with universal end-piece and stretcher in metal protected against corrosion.

Steel blade 300 mm length.

Overall dimensions: 390 mm x 120 mm x 20 mm.

### Field of use

Overhead network

### Working method

Distance method

### Function use

Secured to the universal end-piece of a pole, the HACK SAW is used to cut metal parts.



MG-292/1-K

MG-292/1-K

Weight: 0.5 kg

## All angle pliers

### Characteristics

Universal end-piece and jaws.

Opening-closing mechanism of jaws.

Directioning mechanism of jaws, three positions, lockable by notched nut, made of corrosion-proof metal.

Dimensions (jaws closed):

Length: 200 mm

Width: 105 mm

Thickness: 30 mm

### Field of use

Overhead line

Substations

### Working method

Distance method

### Function use

Secured to the universal end piece of the pole all angle pliers is used to grasp, secure and move various parts.



MG-298-K

MG-298-K

Weight: 0.8 kg

## Adjustable pliers

### Characteristics

All parts in metal protected against corrosion.

Overall dimensions:

250 mm x 90 mm x 80 mm

### Fields of use

Overhead network

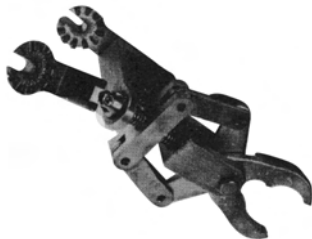
### Working method

Distance

### Function use

Secured to the universal end-piece of a pole, the ADJUSTABLE PLIER is used to grasp, lock in position, install and remove small parts such as cotter pin, elastic, yoke etc...

It is especially used to assemble and disassemble a suspension clamp.



MG-276-K

MG-276-K

Weight: 1.0 kg

## Self aligning fuse puller

### Characteristics

all parts in metal protected against corrosion.

Jaws sheathed with plastic

Overall dimensions:

210 mm x 105 mm x 80 mm

Gripping capacity: 26 to 64 mm

### Field of use

Overhead network

### Working method

Distance method

### Function use

Secured to the universal end-piece of a pole, the SELF ALIGNING FUSE PULLER is used to grasp the cap of an insulating element.



MG-290-K

MG-290-K

Weight: 1.1 kg

## UNIVERSAL ACCESSORIES

### Adjustable insulator fork

#### Characteristics

Universal end-piece and jaws mechanism in metal protected against corrosion.  
Directional jaws in synthetic material.

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Fixed on the end-piece of a universal pole, the ADJUSTABLE INSULATOR FORK is used to place, remove

or hold one or more elements of an insulator string.

Opening or closing of the jaws is done by rotating, on its axis of the universal pole.

The adjustable insulator fork should be placed:

- at the base of the hood in the case of replacing or holding a single insulator element
- in contact with the upper element in the case of replacing more elements of an insulator.



MG-279-K

	Dimensions (mm)			Tightening capacity (mm)	Weight (kg)
	Length	Height	Thickness		
MG-279-K	290	135	30	30 to 60	1.15
MG-279/1-K	290	135	30	64 to 115	1.15

### Universal adaptor

#### Characteristics

Scribed universal ends and fixing bolts in metal protected against corrosion.

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole, the UNIVERSAL ADAPTOR is used in order to have a tool in a different plane to the one it should occupy if it were fixed directly to the end-piece of the pole.



CI-6-K

### Hook pole adaptor

#### Characteristics

Universal end; fixing bolt and gripping tool in metal protected against corrosion.

Overall dimensions:  
120 mm x 48 mm x 45 mm

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Integrated to a hook pole, the HOOK POLE ADAPTOR is used in the same way as the universal end piece of the pole.



CI-5-K

CI-6-K	Weight: 0.14 kg
--------	-----------------

### Hammer

#### Characteristics

Universal end-piece and body in metal protected against corrosion with double head, one of them is bare, the other is rubber covered.

Overall dimensions:  
140 mm x 100 mm x 60 mm

#### Field of use

. Overhead network

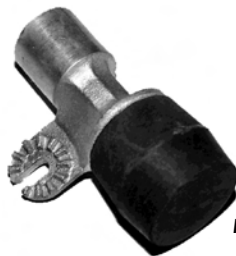
#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole the HAMMER is used, by percussion on small parts, to provide small scale movements and distortions, for example:

- Move a line clamp along a conductor
- Strike on the heel of a locating pin to pry out a pin
- Strike on the head of a pin to insert it in its housing.



MG-274-K

MG-274-K	Weight: 1.1 kg
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## Pruning saw

### Characteristics

Universal end-piece in metal protected against corrosion.

Steel blade.

Overall dimensions: 485 mm x 70 mm x 36 mm.

### Field of use

Overhead network

### Working method

Distance method

### Function use

Secured to the universal end-piece of a pole, the PRUNING SAW is used to saw branches located in the vicinity of live parts.



MG-292/2-K

MG-292/2-K

Weight: 0.23 kg

## Turk's head brush

### Characteristics

Universal end-piece of corrosion-proof metal.

Handle and hard bristles made of synthetic material.

Dimensions:

overall length: 0.44 m

handle diameter: 45 mm

brush length: 0.18 m

brush diameter: 0.16 m.

Approximate weight: 0.8 kg

### Field of use

. Overhead network

. Indoor installation

### Working method

. Distance method



MG-358-K

MG-358-K

Weight: 0.8 kg

## V-shape brush

### Characteristics

Universal end-fitting in light alloy.

Removable parts in metal protected against corrosion.

Dimensions:

40 mm x 200 mm x 100 mm

### Field of use

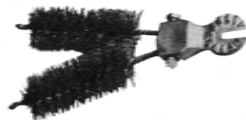
. Overhead network and substations.

### Working method

. Distance method, potential method

### Function use

Secured to the end of a universal hand pole, the V-SHAPE BRUSH is used to clean conductors before securing connectors.



MG-354-K

MG-354-K

Weight: 0.16 kg

## Conductor cleaning brush

### Characteristics

Universal end-piece in light alloy, insulating open cylindrical body in synthetic material green or red colour fitted to rotating support in light alloy.

Metallic brush stucked inside the removable body.

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

Secured to the end of a universal hand pole, the CONDUCTOR CLEANING

BRUSH is used to clean conductors before securing connectors.

The red colour brushes should be used on copper.

The green one's should be coated with neutral grease and used on aluminium and it's alloys.

To perform a good brushing, it is obligatory to turn the brush over. Replacement brush (per unit) Ref

MG - 353.



MG-352-K

MG-352-K

Weight: 0.37 kg

## UNIVERSAL ACCESSORIES

### Mirror

#### Characteristics

Universal end-piece in metal protected against corrosion.

Frame in synthetic material, directional and magnifying mirror shock-proof by rubber protection.

Overall dimensions:  
210 mm x 120 mm x 36 mm

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole, the MIRROR is used to inspect parts not directly visible of a part or gear (insulator, ties, pole of A.B.S. etc...).



MG-293-K

MG-293-K

Weight: 0.3 kg

### Insulator ball guide

#### Characteristics

All parts in metal protected against corrosion.

Overall dimensions: 170 mm x 65 mm x 35 mm

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole, the INSULATOR BALL GUIDE is used to insert a ball-joint in a ball-socket or remove it.



MG-283-K

MG-283-K

Weight: 0.15 kg

### Ring for formed wire tool

#### Characteristics

RING for formed wire sleeves in metal protected against corrosion.

Length: 20 mm

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

Secured to the universal end-piece of a pole, the FORMED WIRE TOOL is used to install preformed reinforcement and repair sleeves.



MG-288-K

MG-288-K

Weight: 0.25 kg

### Needles for formed wire tool

#### Characteristics

NEEDLE FOR FORMED WIRE

SLEEVES in light alloy.

Length: 240 mm.

Diameter adjusted to the inner diameter of formed sleeves with cross section (mm<sup>2</sup>).

34<sup>2</sup> (MG-288/01)

54<sup>2</sup> (MG-288/02)

75<sup>2</sup> (MG-288/03)

94<sup>2</sup> (MG-288/035)

116<sup>2</sup> (MG-288/04)

147<sup>2</sup> (MG-288/05)

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

The needle serves to prevent the crushing of the sleeve element grasped by the wire holding pole.



MG-288/01

MG-288/...

## Sherphe hook

### Characteristics

Made of aluminium alloy, this hook fits around caps of suspension insulators for aid in controlling strain or suspension strings behind removed.

### Field of use

Overhead line.

### Working method

Distance.

MG-280-K



MG-280-K

## Oil can

### Characteristics

Universal end-piece with fixing collar, operating ring, flexible and rigid spouts in metal protected against corrosion.

Length:

- flexible spout: 200 mm

- rigid spout: 150 mm

Can in synthetic material capacity: 200 or 250 cm<sup>3</sup>

### Field of use

Overhead network

### Working method

Distance method

### Function use

Secured to the universal end-piece of a pole, and actuated by means of a tie pole, the OIL CANS are used with oil for distance greasing of gears such as line switches (for example)



MG-295-K

MG-295-K

Weight: 0.35 kg

## Mechanical tester

### Characteristics

Universal end-piece made of synthetic material.

Spheric piece made of corrosion-proof metal.

Insulating flexible rod made of synthetic fibers.

Dimensions:

Total length: 200 mm

Mass diameter: 20 mm

### Field of use

Overhead network

Inside installation

### Working method

Distance method

### Function use

Secured to the universal end piece of a pole the Mechanical Tester allows to check the conditions of insulators in a string by "TUNING" them.



MG-299-K

MG-299-K

Weight: 0.1 kg

## Conductor gauge

### Characteristics

All parts in synthetic material

Direct reading graduation for conductor diameters from 3 mm to 16 mm.

A table joined to the tool indicates the cross section corresponding to the diameter.

Overall dimensions:

270 mm x 35 mm x 17 mm

Delivered in a bag

### Field of use

Overhead Network

### Working method

Distance method

### Function use

Attached to the end-piece of a universal hand pole, the CONDUCTOR GAUGE is used to measure the diameter of conductor.



MD-535-K

MD-535-K

Weight: 0.8 kg

## UNIVERSAL ACCESSORIES

### Open clamp ammeter

#### Characteristics

- Completely insulated the MD-521 K eliminates any possible shorts circuits and allows a quick and comfortable measurement.
- Maximum nominal voltage : 36 kV
- Maximum measuring current : 400 A
- Maximum conductor diameter : 25 mm
- Accuracy : +/- 2%
- Frequency : 50 Hz

- Protection level : IP 50

- Batteries : 9 V, 6F22

#### Field of use

. This open clamp ammeter is used to determine currents in cables, conductors and cross bars.  
An universal fitting makes easy its coupling to Catu's universal hand sticks (MG-126/127) series.



MD-521K

MD-521K

Approximate weight : 290 g

### Ammeter

#### Characteristics

- Holder:
  - Universal end-fitting in metal protected against corrosion
  - body, bridge and nose in synthetic material
- Measurement range:  
0 to 2000 A  
Delivered in pouch

#### Field of use

. Overhead Network.

#### Working method

. Distance method

#### Function use

The AMMETER HOLDER secured to the universal end-piece of a pole (stick), enables an ammeter clamp to be used for distance method



MD-521/100-K

MD-521/100-K

Weight: 1.2 kg

### Hydraulic compression tools head

#### Characteristics

- Universal end piece in alloy, hooks, blades in metal protected against corrosion.
  - Length: 305 mm
  - Compression force: 120 kN
- Field of use**  
. Overhead network

#### Working method

. Distance method

#### Function use

Used to fixe connectors or lugs on wires (compression tools specified and ordered separately).



MG-4012

MG-4012

Weight: 5.6 kg

### Hydraulic cutter head

#### Characteristics

- Universal end-piece in alloy, protected against corrosion.
  - Hook, blades and jaw in metal, protected against corrosion
  - Length : 295 mm
  - Cut capacity : 228 mm<sup>2</sup>
  - Operating pressure : 700 bar
- The hydraulic cutter head is to be used with a pump reservoir fitted with insulated oil recommended by the manufacturer.

#### Field of use

Overhead network

#### Working method

Distance method

#### Function of use

The hydraulic cutter head is used to cut all types of conductors. It is to be used with a hydraulic foot pump, or an electric hydraulic pump, or thermic pump.



MG-4006

MG-4006

Weight: 2.9 kg

## Insulating hydraulic hose

### Characteristics

Insulated conduit in synthetic material, orange colour.  
Rapid ball connections groove and tan (male-female) in metal protected against corrosion.  
Outer diameter (mm): 15  
Maximum service pressure (bar): 700.  
This tool can only be used if the reservoir is filled with an approved insulating oil.  
Only the conduit which bears, on a mark at one of the extremities

the reception test indication at 75 kV/30 cm can be used.

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

The FLEXIBLE HYDRAULIC HOSE is used to connect a hydraulic pump actuated by foot or electrical motor or engine to an hydraulic tool such as for example.



MG-402

MG-402	Length: 2 m
MG-415	Length: 15 m

## Double cap gauge

### Characteristics

All part in synthetic material.  
- Length: 200 mm  
- Nominal voltage: 10 kV  
- Thickness: 15 mm (e)

### Field of use

. Overhead network

### Function use

Verify the spacing of double gap arcing horns and shin during their adjusting.



MD-533-K

MD-533-K	Weight: 0.29 kg
----------	-----------------

## Double cap gauge

### Characteristics

All part in synthetic material.  
- Length: 200 mm  
- Width: 170 mm  
- Nominal voltage: 33 kV  
- Thickness: 60 mm (e)

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

Verify the spacing of double gap arcing horns and shin during their adjusting.



MD-534/3-K

MD-534/3-K	Weight: 0.80 kg
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## Simple cap gauge

### Characteristics

All parts in synthetic material  
- Diameter: 10 mm  
- Length: 300 mm  
Delivered in a bag

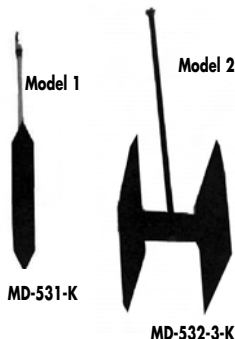
### Field of use

. Overhead Network

### Working method

. Distance method

Model 1	Nominal voltage (kV)	Thickness (mm)	Weight (kg)
MD-531-K	10	25	0.4
MD-532-K	15 & 20	40	0.6
MD-536-K	5.5	15	0.3
Model 2			
MD-532/3-K	33	120	0.5



## JUMPERING EQUIPMENT

### Live line connector

#### Characteristics

Main line - Nature: Al  
Cross section : 17 to 60 mm<sup>2</sup>  
Tightening torque: 1.8 m.daN  
Shunt - Nature: Al  
Cross section: 34 to 60 mm<sup>2</sup>  
Tightening torque: 1.5 m.daN

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

The CONNECTOR is a network accessory used to connect, on a taut main conductor, a branch conductor, without mechanical tension. Clamp flap eases its installation on conductor and locks frame (reliable use and increased safety). Eye type tightening screw on main is fitted with a torque limiter (3 mdaN). If eye broken connector can always be removed. Tap conductor can indistinctly be made up or downwards.



RG-110-S1

RG-110-S1 Weight: 0.20 kg

### Live line connector

#### Characteristics

Main line - Nature: Al  
Cross section: 60 to 240 mm<sup>2</sup>  
Tightening torque: 1.8 m.daN  
Shunt - Nature: Al  
Cross section: 34 to 150 mm<sup>2</sup>  
Tightening torque: 1.5 m.daN

#### Field of use

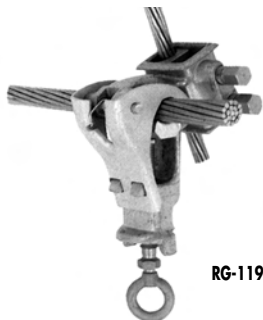
. Overhead network

#### Working method

. Distance method

#### Function use

The CONNECTOR is a network accessory used to connect, on a taut main conductor, a branch conductor, without mechanical tension. Clamp flap eases its installation on conductor and locks frame (reliable use and increased safety). Eye type tightening screw on main is fitted with a torque limiter (3 mdaN). If eye broken connector can always be removed. Tap conductor can indistinctly be made up or downwards.



RG-119-S1

RG-119-S1 Weight: 0.40 kg

### Live line connector

#### Characteristics

Main line - Nature : Cu  
Cross section : 12 to 50 mm<sup>2</sup>  
Tightening torque : 1.8 m.daN  
Shunt - Nature : Al  
Cross section : 34 to 60 mm<sup>2</sup>  
Tightening torque : 1.5 m.daN

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

The CONNECTOR is a network accessory used to connect, on a taut main conductor, a branch conductor, without mechanical tension. Clamp flap eases its installation on conductor and locks frame (reliable use and increased safety). Eye type tightening screw on main is fitted with a torque limiter (3 mdaN). If eye broken connector can always be removed. Tap conductor can indistinctly be made up or downwards.



RG-210-S1

RG-210-S1 Weight: 0.50Kg

## Live line connector

### Characteristics

Main line - Nature : Cu  
 Cross section : 25 to 120 mm<sup>2</sup>  
 Tightening torque : 1.8 m. daN  
 Shunt - Nature : Cu  
 Cross section : 16 to 120 mm<sup>2</sup>  
 Tightening torque : 1.5 m.daN  
 Nature : Al  
 Cross section : 16 to 200 mm<sup>2</sup>  
 Tightening torque : 1.5 m.daN

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

The CONNECTOR is a network accessory used to connect, on a taut main conductor, a branch conductor, without mechanical tension.

Clamp flap eases its installation on conductor and locks frame (reliable use and increased safety).

Eye type tightening screw on main is fitted with a torque limiter (3 mdaN). If eye broken connector can always be removed. Tap conductor can indistinctly be made up or downwards.



RG-219-S1

RG-219-S1

Weight: 0.80Kg

## Tie-back connector

### Characteristics

Body, mobile jaws, and gripping ring in bronze.  
 Clamping capacity of the jaws: from 12 mm<sup>2</sup> to 228 mm<sup>2</sup>. Tightening torque: 1.5 m daN. Overall dimensions: 180 mm x 10 mm x 40 mm.

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

The TIE-BACK CONNECTOR is used as an auxiliary part to temporarily secure a conductor without mechanical tension.

It is used for example:

- To prepare the connection of the bridge by means of a coupling other than a ringed connector.
- To hold flapped down on the conductor a bridge whose end is not equipped with a ringed connector.

It is used either on copper or aluminium based conductors.

It is not to be used to assume an electrical connection: its use is temporary only.



MG-296-S

MG-296-S

Weight: 0.90 kg

## By-pass jumper connector

### Characteristics

Body, gripping ring screw, mobile spring jaws, shunt eyelet and retaining collar in metal protected against corrosion.

Overall dimensions:

- 190 mm x 160 mm x 60 mm  
 Tightening capacity of jaws: 12 mm<sup>2</sup> to 250 mm<sup>2</sup> corresponding to wires or cables with diameter between 4 mm and 20 mm  
 Maximum tightening capacity of the shunt eyelet: 18 mm

Tightening torque:

- on the gripping ring screw: 1.8 mdaN
- on the eyelet: 3.3 mdaN

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

The BY PASS JUMPER connector is used at each end of the by-pass jumper.

It can also, during temporary shuntings of important installations, like switching substations, be fitted on the ends of dry insulated network cables.



MC-414

MC-414

Weight: 0.90 kg

## JUMPERING EQUIPMENT

### By-pass jumper connector

#### Characteristics

Body, swivel head ring, adjustable lockable jaw, derivation eye and collar rustproof metal.  
Dimension:  
220 mm x 175 mm x 80 mm.

Capacity when tightening the jaws:  
12 mm<sup>2</sup> to 490 mm<sup>2</sup> which corresponds to wires, cables or pins whose diameters are between 4 and 25 mm.

Maximum capacity when tightening the derivation eye: 18 mm.  
Tightening couple:  
- swivel head ring: 18 daN  
- on derivation eye: 3.3 daN

MC-415	Weight: 0.86 kg
MC-415/1	Weight: 0.70 kg
MC-415/2	Weight: 0.160 kg



### By-pass jumper

#### Characteristics

Cable: core in aluminium strands covered by an orange elastomer.  
- External diameter: 24 mm  
- Minimal radius: 0.080 m  
- Section 75 mm<sup>2</sup> - maximal load current: 250A

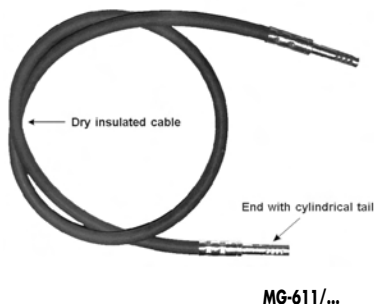
#### Field of use

- Overhead network

#### Function use

The BY PASS JUMPER is used to perform the continuity of current flowing.

	Length (m)
MG-611/1	2.50
MG-611/2	3.50



### By-pass jumper

#### Characteristics

Cable: core in aluminium strands covered by an orange elastomer  
- External diameter: 24 mm  
- Minimal radius: 0.080 m  
- Section 75 mm<sup>2</sup> - maximal load current: 250A

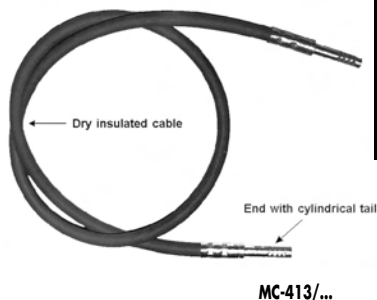
#### Field of use

- Overhead network

#### Function use

The BY PASS JUMPER is used to perform the continuity of current flowing.

	Length (m)
MC-413/1	8
MC-413/2	10
MC-413/3	4
MC-413/4	15
MC-413/5	6.50
MC-413/6	12
MC-413/7	4.5
MC-413/8	6





## Mechanical protective tube

### Characteristics

- Tube of synthetic material reinforced with fiber glass
- diameter: 50 mm

- length: 2.50 m
- linear density: 1.5 kg / m

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

The MECHANICAL PROTECTI-

VE TUBE is used in conjunction with the by-pass jumper in serie MC-413/... for network rated between 20 and 35 kV

MC-412



Mechanical protective tube

## Stress holding device

### Characteristics

Rods and connectors for "securing hand" type with ringed bolt: metal protected against corrosion.

### Working method

- Distance method
- Potential method
- Contract method

### Field of use

- Overhead network.

### Function use

The S.H.D. allows to mechani-

cally by-pass a dowbful or a weak point on overhead network.

		Overall dimensions (m)	Ø of the rod (mm)	Useful length (m)	Securing capacity (mm <sup>2</sup> )	Weight (kg)
MG-6121S	Large model	1.25x0.18x0.07	14	0.83	12 to 148	2.7
MG-6122S	Small model	0.7x0.18x0.07	14	0.24	12 to 148	2.4
MG-613*	Modular stress holding device	1.45/2x0.22x0.07	16	0.73/1.28	12 to 148	3.8/4.1

\* rigid rod replaced by soft rod.



## Temporary opening device in mid span

### Characteristics

Fits on 30-228 mm<sup>2</sup> conductors according the set of anchoring clamps. Mechanical cutting stroke: 200 mm.

Composite insulator > 126 kV.

### Working method

- Distance method

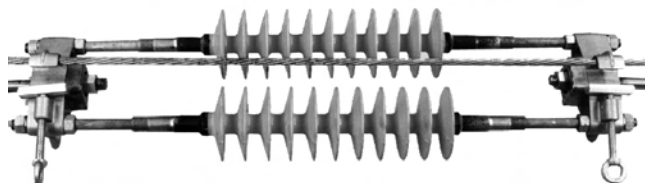
### Field of use

- Overhead lines.

### Function use

In mid span on M.V overhead network MG-620. Allows to open the circuit (Un ≤ 33 kV) and relieve mechanically the conductor. After opening

MG-620 allows the running of sleeves before recommissioning the line.



MG-620

MG-620

## JUMPERING EQUIPMENT

### Temporary load disconnect tool (make switch)

#### Characteristics

Made of IEC 60855 orange reinforced synthetic tube.

Removable arc chute

Connector, knife, quick breaking device and jumper hanger in metal protected against corrosion.

Clamping capacity of the connector: from 12.6 mm<sup>2</sup> to 228 mm<sup>2</sup>

Cross section of the jumper hanger: 112 mm<sup>2</sup>

Overall dimensions: 0.6m x 0.35m x 0.3m

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

Assembled either to by-pass jumper fitted with by-pass connectors or, eventually to a jumper fitted with ringed connector, the MAKE SWITCH is used to open or close a loader circuit.

It is only used on networks where the rated voltage is equal to, or below 35 kV the short-circuit current equal to, or below 12500 A.

It allows opening and closing of a circuit on load, within the

limites, shown below:

- opening or closing a circuit supplying no loaded transformers or no loader autotransformers when the total installed capacity not exceed:
  - . 3300 kVA on 33 kV network
  - . 3000 kVA on 30 kV
  - . 2000 kVA on 20 kV
  - . 1500 kVA on 15 kV
  - . 1000 kVA on 10 kV
- Closing or opening unloaded aerial circuit (no transformer)
  - 80 km for U < 20 kV
  - 50 km for 20 kV < U < 36 kV
- Closing of a circuit on load:
  - 200 A for U < 35 kV

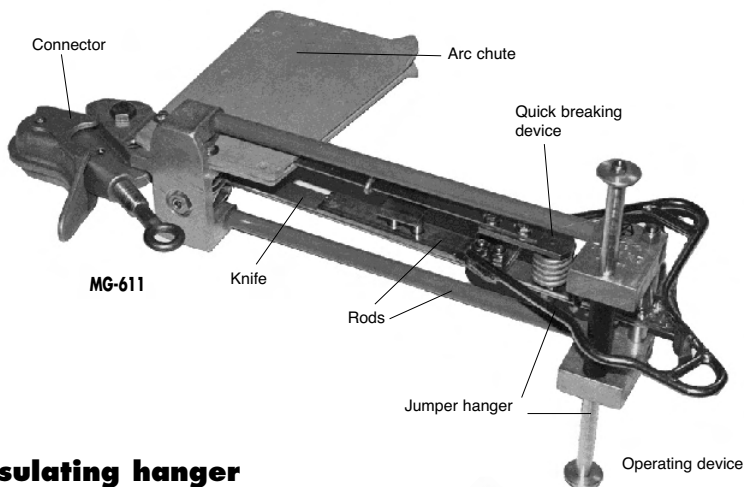
- Opening of a circuit on load:

- . 90 A for U < 20 kV
- . 50 A for 20 kV < U < 35 kV
- Putting live or dead, no loaded insulated cable where the total length does not exceed:
  - . 5 km for U < 20 kV
  - . 3 km for 20 kV < U < 35 kV

MG-611

Weight: 4.2 kg

Overall dimensions: 0.6 x 0.35 x 0.3 m



### Insulating hanger

#### Characteristics

Foam field tube, epoxy core (IEC 60855). Connectors, end-piece with two hangers in metal protected against corrosion.

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

Secured to a conductor, the INSULATING HANGER is used to prepare

a jumper connection so as to:

- hold the jumpers isolated from the live line, during the preparatory connection phase
  - only entail a very limited movement of the end of the jumpers during the final connection phase.
- It procures the similar advantages when disconnecting.
- It cannot be used as opening for dead line work.



MG-615

Weight: 1.1 kg

MG-615

## Insulating flexible cover

### Characteristics

Translucent vinyl cover, thickness

0.8 mm

Supplied in rolls,

- approximate length: 20 m

- approximate width: 1.30 m

### Field of use

- Overhead Network

### Working method

- Contact

### Function use

Placed on an earth or on a conductor

the 0.8 mm INSULATING

FLEXIBLE COVER reduces the risk:

- of arcing between a "Live" part

(binding wire for example) and the earth potential parts .

- of electric shock of a linesman in case of an accidental potential rise of these earth parts .

It can be also used to insulate the low voltage conductors by covering them.

It should not be used to insulate a linesman from a live part.

It can be, on request, cut or drilled along the sides.

It can be placed:

- either directly with hand

- or by distance method, by drilling on the side one or several handling holes.



MP-40

MP-40

Length: 20 m

## Insulating blanket clamp

### Characteristics

Wooden clamp - Steel spring

### Field of use

- Overhead Network

### Working method

- Distance method / contact poten-

tial method

### Function use

The INSULATING BLANKET CLAMP

is used to hold the insulating flexible

covers in position. Can be applied

and removed with a hook-pole.



MP-41

MP-41

Approximate weight 0.05 kg

## Insulating blanket clamp

### Characteristics

Plastic Clamp-Steel Spring

protected against corrosion.

Size:

Length: 160 mm

Width: 40 mm

Weight: 0.06Kg

### Field of use

- Overhead Network, underground Network

- Indoor installations

### Working method

- Contact method

### Function use

The BLANKET CLAMP is used to

hold in place insulating flexible

cover wraps and covers.



MP-41/10

MP-41/10

## COVER-UP EQUIPMENT

### Insulating bag for connectors

#### Characteristics

Translucid polyvinyl insulating bag whose elastic closing parts may be fitted with a "Velcro" type strip. The dimensions of different models depend on the size of the connector to be insulated.

#### Field of use

- Overhead network
- Indoor installation

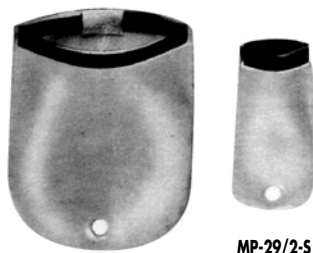
#### Working method

- Distance method

- Contact method

#### Function use

Placed on a connector fixed on the free end of an insulated conductor. The INSULATING BAG FOR CONNECTORS is used to avoid the possibility of untimely contact between this connector and a connector element at different potential.



MP-29/2-S

	Outer height (mm)	Height (mm)
MP-29/2-S	136	215
MP-29/3-S	225	305

### Conductor insulating end - cap

#### Characteristics

Cylindrical cap made of flexible insulating material with cross-shaped opening.

#### Field of use

- Overhead network
- Indoor installation

- Underground network

#### Working method

- Contact method

#### Function use

The caps are used for cover the base end of an insulated conductor.



MP-26...

	Length (mm)	ext. diam (mm)	For conductors ø mm	Weight (g)
MP-26-A	60	10	4 to 6.5	6
MP-26-B	100	15	5 to 11	16
MP-26-C	120	20	7.5 to 15	23
MP-26-D	120	25	10 to 20	35

### Dead end clamp cover

#### Characteristics

Orange colour, synthetic body.

Overall dimensions:

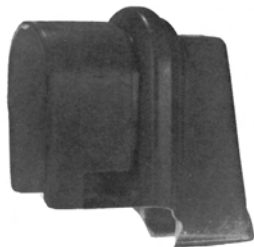
430 mm x 430 mm x 230 mm

#### Field of use

- Overhead network

#### Working method

- Distance method



MP-12

MP-12	Weight: 1.5 kg
-------	----------------

## Tension string cover

### Characteristics

Orange colour, synthetic body  
Metal gripping rings protected  
against corrosion  
Overall dimensions:  
700 mm x 670 mm x 270 mm

### Field of use

· Overhead network

### Working method

· Distance method

MP-14

Weight: 5.3 kg



MP-14

## Conductor cover

### Characteristics

High dielectric polyethylene  
Bright orange colour  
Gripping ring and locks in metal  
protected against corrosion (synthetic body)

Overall dimensions: 900 mm  
x 360 mm x 200 mm

### Field of use

· Overhead network

### Working method

· Distance method  
· Contact method  
(depending on the field configuration)

### Function use

Placed on a conductor the  
CONDUCTOR COVER is used to

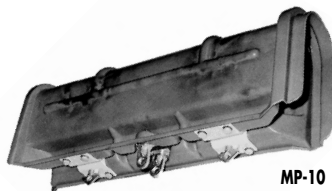
permit the linesman to reduce the  
distance between his evolution zone  
and the conductor part covered by  
the cover.

The bright orange colour warns the  
user when working close to the  
equipment.

It can also be used to avoid the possibility  
of contact between two parts  
of different potentials.

This cover can be used or assembled with:

- conductor cover
- pin type insulator covers
- tension string cover joined to a tension clamp cover



MP-10

MP-10

Weight: 3.4 kg

## Pin type insulator cover

### Characteristics

Red colour, dual sliding synthetic  
half shell Door and bolts in synthetic  
material, white colour  
Black gripping ring  
Height: 450 mm  
Width: 420 mm  
Minimum length: 560 mm  
Maximum length: 810 cm  
Approximate weight: body 4.5 kg -  
door: 0.7 kg

### Field of use

· Overhead network

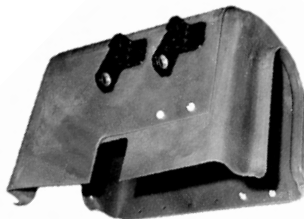
### Working method

· Distance method

### Function use

Joined to two CONDUCTOR  
COVERS on which it rests, and placed  
above a rigid type insulator, the  
PIN TYPE INSULATOR COVER is  
used to permit the linesman to reduce  
the distance between his evolution  
zone and the covered parts.

It can also be used to prevent eventual  
contacts between two different  
potential parts.



MP-03

MP-03

Weight: 4.5 kg

## COVER-UP EQUIPMENT

### Insulating line hose and cover

#### Characteristics

Voltage up to 34.5 kV (class a type II)

Made of high insulating elastomer; these cover ups allow extremely versatile assembly by means of self locking arrangements.

Available in straight line stile or with connector end; they always can be interlocked by connector to ozone and U.V. effects.

Complies with ASTM D 1050 & ASTM 1049 specifications.

#### Field of use

Overhead network

#### Function use

Placed on the conductor the line hose is used to permit the lineman to reduce the distance between his evolution zone and the conductor part covered by the cover.

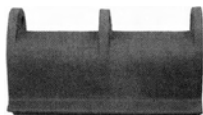
	Style	I.D (mm)	Length (mm)	Approximate Weight (kg)
<b>MP-5114</b>	straight	51	1400	4.5
<b>MP-3814C</b>	connector end	38	1400	4.1
<b>MP-51UC</b>	connector system	suitable with MP-5114	263	1.4
<b>MP-38UC</b>	connector system	suitable with MP-3814	263	0.9



**MP-3814C**



**MP-5114**



**MP-XXUC**

## Insulating flexible cover (3.5mm)

### Characteristics

Black, 3.5 mm thick, elastomeric flexible cover.

Dimensions: 92 cm x 92 cm

For handling purpose. Row of holes have been drilled along the sides.

Two versions are available, one of which is manufactured with an opening between the middle of the flexible cover and the center of one side.

Weight: 3.5 kg approx.

### Field of use

Overhead network

### Working method

Distance method

### Function use

Placed on the ground or on a conductor, the 3.5 mm INSULATING FLEXIBLE COVER reduces the risk of arcing between a "live" part (binding wire for example) and parts with earth potential.

- electric shock of a lineman, should the potential of the earth parts rise accidentally.

It should not be used to insulate agent from a part normally live.

It should only be used on networks of rated voltage not 20 kV above.

It must not be cut or drilled.

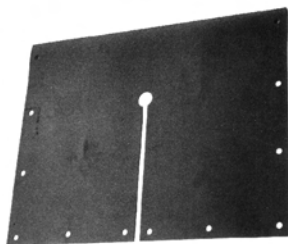
It can be put into place, either at a distance, or directly by hand.

Those with opening are specially foreseen to cover crossarms supporting one or several pin type insulators.

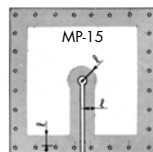
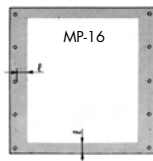
On each flexible cover, a strip of  $l = 6$  cm width, as shown on the sketches, do not provide the necessary protection.

Two or more flexible covers can be only assembled by overlapping.

The overlapping should be at least 12 cm. The flexible covers must be attached together, other than by insulating blanket clamps (MP41).



MP-15



MP-15	With opening
MP-16	Without opening

## Barrier for substation

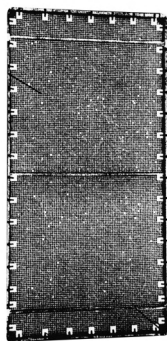
### Characteristics

Safety barrier has bars made of insulating colored orange tube and a synthetic wire netting.

Size: 2 x 1 m

Possibility to connect several safety barriers to each other.

MP-9336	Weight: 5 kg
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MP-9336

# CONDUCTOR SUPPORT AND TENSION TOOLS

## Barrier for overhead network

### Characteristics

A set consists of:

- 12 synthetic resin plate dimension 1 m. by 1 m.
- 12 insulating sustaining rods

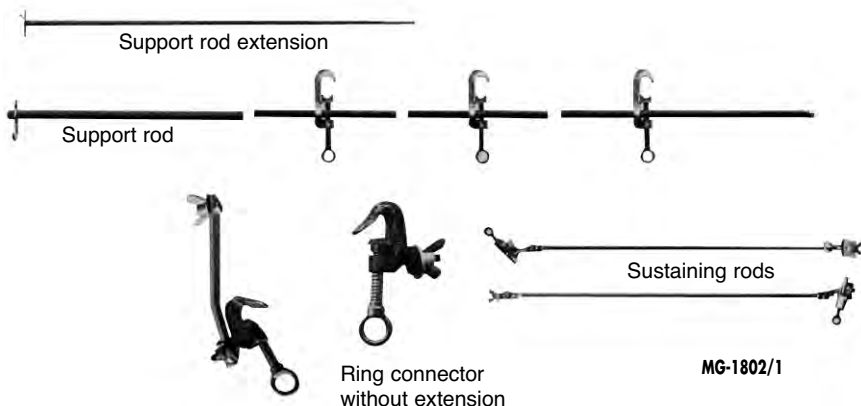
dia. 10 mm including at one end a cardan and a ring connector, and, at the other, a cardan and securing device to the plate with or without gripping ring.

- 12 ring connectors with wing nut for securing to the plate directly and 12 other ring connectors with extension.
- 2 x 3 insulating support

rods dia. 15 mm including each one 3 lights alloy connectors one of which fixed.

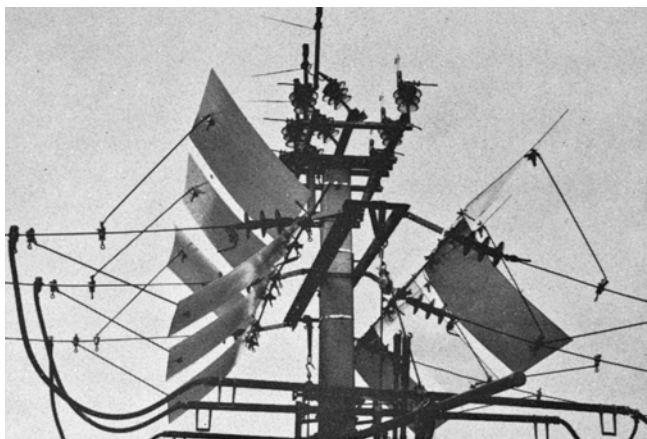
- 2 supports rod extensions of 1m, diam. 15 mm.

MG-1802/1



Ring connector  
with extension

Ring connector  
without extension





## Conductor support stick

### Field of use

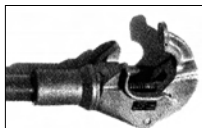
Overhead network  
Moving and holding live conductors  
clear of the working area/various  
maintenance tasks

### Working method

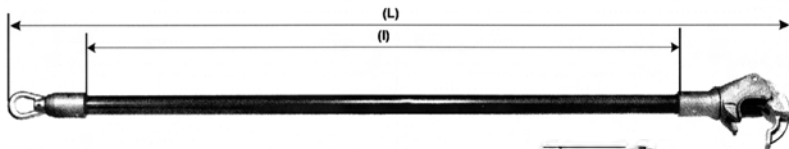
. Distance method

### Characteristics

Made of (Ø 39/63 mm)  
IEC 60855 orange reinforced  
synthetic tube.  
Holding vice and swivel ring in  
metal protected against corrosion.



	Total length "L" (m)	Insulating length "l" (m)	Diameter of the tube (mm)	Holding vice capacity (mm)	Maximum working load Compression (daN)	Maximum working load Traction (daN)	Approx. weight (kg)
<b>MG-505</b>	2.70	2.40	38	4 to 50	100	900	3.5
<b>MG-506</b>	3.30	3.00	38	4 to 50	65	900	4.3
<b>MG-507</b>	3.45	3.15	63	4 to 50	300	800	8.2
<b>MG-507/1</b>	3.30	3.00	63	4 to 50	310	800	8.3
<b>MG-507/2</b>	2.00	1.70	63	4 to 50	390	800	5.0
<b>MG-508</b>	3.90	3.47	63	4 to 50	265	800	9.3
<b>MG-508/1</b>	4.65	4.35	63	4 to 50	222	800	11



MG-505

## Conductor support stick

### Characteristics

Made of (Ø 63 mm) IEC 60855  
orange reinforced synthetic tube.  
Holding vice and swivel ring in  
metal protected against corrosion.  
Total length (L): 5.10 m  
The total length is made in two section  
Insulating length (l): 4.50 m  
Length of the joint being deducted.  
Diameter of the tube: 63 mm  
Holding vice capacity: 4 to 50 mm  
Maximum working load:  
compression: 175 daN  
traction: This stick is not used in  
traction

### Field of use

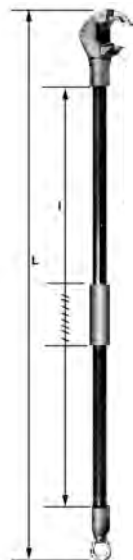
. Overhead network

### Working method

. Distance method  
. Potential method

### Function use

The CONDUCTOR SUPPORT STICK  
is used to grasp a conductor or  
other parts in view of holding them  
in a given position or moving them.  
It is currently used in combined uses  
such as triangulation assembly, mast  
assembly. According to its function it  
is then called: support stick or sepa-  
rating stick.



MG-510

**MG-510**

Weight: 13.5 kg

# CONDUCTOR SUPPORT AND TENSION TOOLS

## Auxiliary arm

### Characteristics

Made of (Ø 63 mm)  
IEC 60855 orange reinforced synthetic tube.  
Saddle, end, double-stick

clamp, chain, in metal protected against corrosion.

### Field of use

Overhead network

### Working method

Distance method

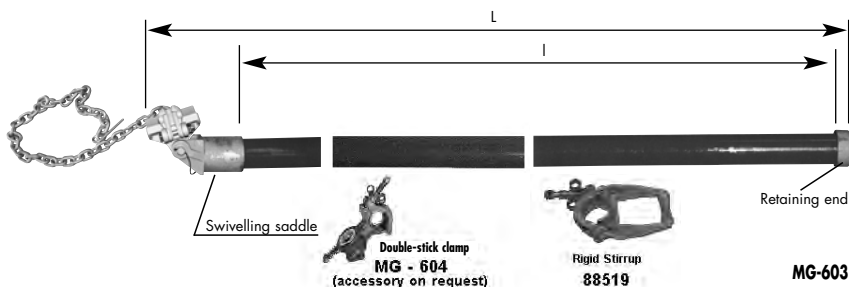
### Function use

Secured on a stick by means of a chain saddle

the AUXILIARY ARM is used:

- either for supporting the by pass jumper
- or for supporting a conductor.

	Total length "L" (m)	Length of insulating section "l" (m)	Tube diameter (mm)	Clamps capacity (mm)	Approximative weight (kg)
MG-603	1.15	0.90	63	51 and 63	6
MG-603/1	2.60	2.35	63	51 and 63	9



## Auxiliary arm

### Characteristics

Made of (Ø 63 mm)  
IEC 60855 orange reinforced synthetic tube.  
Saddle and chain: metal protected against corrosion.

ected against corrosion.

### Field of use

Overhead network

### Working method

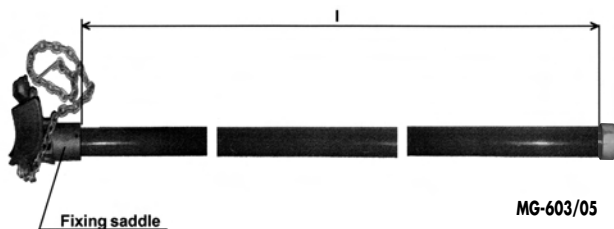
Distance method

### Function use

Secured on a stick by means of a chain saddle the AUXILIARY ARM is used:

- either for supporting the by pass jumper
- or for supporting a conductor

	Total length (m)	Length of insulating section "l" (m)	Tube diameter (mm)	Maximum working load (daN)	Approximative weight (kg)
MG-603/05	0.90	0.70	63	120	3.5



## Roller link stick

### Characteristics

Made of IEC 60855 orange reinforced synthetic material. End - pieces in light alloy, steel and bronze.

### Field of use

Overhead network

### Working method

Distance method

### Function use

The ROLLER LINK STICK is used as intermediate insulating part to measure the vertical distance of a conductor in relation to: the ground, another conductor, or any other obstacle.

	Length opened (m)	Length closed (m)	Weight (kg)	Diameter of the tube (mm)
MG-500	1.50	1.44	2.03	32
MG-500/1	1.80	1.80	2.71	32
MG-500/15	2.44	2.40	3.23	32
MG-500/2	3.80	3.80	2.94	32
MG-501/1	2.13	2.10	2.50	32
MG-511*	1.5	1.44	2.03	15

\* Solid rod, orange colour (IEC 60855)

## Tension link stick

### Characteristics

Made of IEC 60855 orange reinforced synthetic material. Light alloy, steel and bronze mechanism. Clamping capacity: 6 to 19 mm

### Field of use

Overhead network

### Working method

Distance method

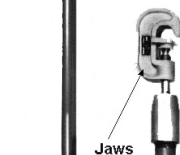
### Function use

TENSION LINK STICK are used as intermediate insulating parts to impart traction strain to conductors either by clamping directly in the jaws or by clamping the swivel of a swivel stirrup secured to a conductor stick.

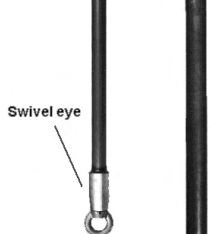
	Nominal length (m)	Weight (kg)	Maximum traction load (daN)	diameter of the tube (mm)
MG-502	1.00	1.60	1400	32
MG-503	1.50	1.95	1400	32
MG-503/1	1.55	3.00	2500	39
MG-503/15	2.62	3.85	3000	39
MG-503/2	2.10	3.30	2500	39
MG-503/25	2.75	3.95	3000	39
MG-503/3	3.35	4.50	3000	39
MG-513	1.50	1.70	1400	15



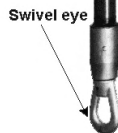
MG-500



MG-502



Swivel eye



Swivel eye



MG-809

## Tension puller coupler

### Characteristics

Made of IEC 60855 orange reinforced synthetic material. Each end: a metallic shackle protected against corrosion.

### Protective elements

In the insulating part, 10 cm of insulating. Tube insert 1, P.E.

### Working method

Distance method  
Potential method  
Contact method  
(Possible mixing these 3 methods on one working site).

### Field of use

Aerial networks function. The "TENSION PULLER COUPLER" is used to couple two "TENSION PULLER" and move away, if needed, this equipment from the support, it is the case, for example, when replacing a double anchoring by an alignment.

	Metallic insert at the extremity "a" (m)	Insulated length "l" (m)	Total length "L" (m)	Diameter of tube (mm)	Maximum working load Traction (daN)	Maximum working load Bending (daN)	Approx. weight (kg)
MG-809	0.10	0.40	0.60	39	1300	200 per shackle	1.6

# CONDUCTOR SUPPORT AND TENSION TOOLS

## Clevis / tenon stick

### Characteristics

Made of IEC 60855 orange reinforced synthetic tube.  
Clevis and tenon in bronze alloy.  
Shaft and bolt in steel protected against corrosion.

### Field of use

- Overhead network
- Indoor installation

### Working method

- Distance method
- Contact method

### Function use

The CLEVIS/TENON is used  
- either alone or by pair for replacing a tension (dead end) string of insulators  
- or equipped with appropriate attachments\* for performing various operation (tension link stick function...)

te attachments\* for performing various operation (tension link stick function...)

\* see: Clevis and tenon stick tools

	Length "L" (mm)	Length of the "l" (mm)	Tube diameter (mm)	Maximum traction load (daN)	Weight
MG-815	520	300	39	6000	3.0
MG-818	820	600	39	6000	3.225
MG-820	1020	800	39	6000	3.370
MG-823	1220	1000	39	6000	3.520
MG-826	1520	1300	39	6000	3.740
MG-828	1760	1540	39	6000	3.920
MG-829	1820	1600	39	6000	3.965
MG-830	1920	1700	39	6000	4.035
MG-831	2020	1800	39	6000	4.210
MG-832	2220	2000	39	6000	4.255
MG-833	2520	2300	39	6000	4.480
MG-837	2680	2455	39	6000	4.60
MG-834	2760	2540	39	6000	4.660
MG-835	2920	2700	39	6000	4.775
MG-836	3220	3000	39	6000	5.0
MG-816	4000	3690	63	15000	13.50



MG-815

### Attachments:

- Clevis-tenon extension **MG-865**
- Clevis eye attachment **MG-845** (2500 daN),  
**MG-846** (6000 daN)
- Roller tenon attachment **MG-875**
- Tension link tons attachment **MG-840** (2600 daN)



MG-865



MG-845



MG-875



MG-840

## Strain jack

### Characteristics

In conjunction with a "clevis/tenon" pole the strain jack allows to make up an adjustable strain stick.  
Screwing part, cross pin, bolt protected against corrosion.

Dimensions:

Width: 75 mm.

Clevis thickness: 45 mm.

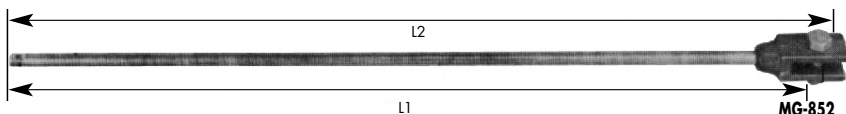
**Field of use**

Overhead network.

**Working method**

Distance potential.

	Overall length L2 (m)	Length L1 (m)	Diameter the screwing part (mm)	Maximum working part (daN)
MG-852	0.785	0.75	19.4	2500
MG-853	1.035	1.00	19.4	2500



## Take up trunnions

### Characteristics

Metallic alloy: bronze designed to fit our strain jacks. The ball-thrust bearing construction are designed

for use on adjustable strain stick.

Dimensions: 81 x 66 mm Ø 54 mm.

**Field of use**

Overhead network.

MG-880	
MG-881	



MG-881



MG-880

## Wire tong band

### Characteristics

Metallic alloy.

Dimensions: Ø 63 mm.

Secured on the tube of a conductor support stick (MG-50 serie), rope

blocks can be used for raising or lowering conductors by means of the hinge ring.

**Field of use**

Overhead network.



MG-588	
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MG-588

## CONDUCTOR SUPPORT AND TENSION TOOLS

### Wire tong swivel

#### Characteristics

Stirrup, lining, bushing, pin and shackle in metal protected against corrosion

Dimensions:

Length: 300 mm

Width: 130 mm

Thickness: 50 mm

Maximum working load: 200 daN

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

Secured, either with the lining, on a 63 mm diameter tube or, without the lining, on the sleeve of the head of a 63 mm diameter conductor support stick, the SWIVEL STIRRUP is used to transfer efforts to this tube or this stick.

These efforts are applied on the shackle during traction, through, either an other conductor support pole or a tension link stick.



MG-582

MG-582

Weight: 0.9 kg

### Rigid stirrup

#### Characteristics

Universal end-fitting in light alloy. Sleeve, stirrup, pin and spacing-tube in metal protected against corrosion.

Sleeve capacity: 63 mm.

Overall dimensions: 200 mm x 110 mm x 80 mm.

Maximum working load: 100 daN

#### Field of use

Overhead network

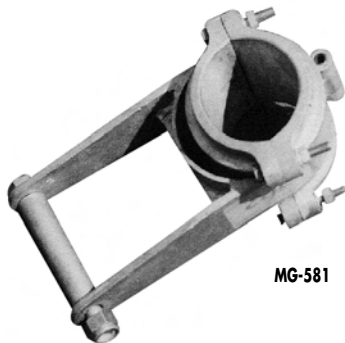
#### Working method

Distance method

#### Function use

When in a triangulation assembly, there is any fear that the jaws of the support pole and separating pole, secured side by side on the conductor, may damage the latter during its movement through unstranding or shearing, the RIGID STIRRUP is used to secure the separating stick to the support stick which is thus the only one to grasp the conductor.

It is then fixed to the tube of the support stick and the stirrup is grasped by the jaw of the separating stick.



MG-581

MG-581

Weight: 1.2 kg

### Stick clamp

#### Characteristics

Light alloy body with steel slip bushing.

#### Field of use

Overhead network.

#### Working method

Distance method.

#### Function use

The STICK CLAMP is used:

- Secured on a saddle, receiving a stick for secure it to the saddle.
- Fastened on a stick for receiving a rope block helping the stick to move.



MG-717

	Ø (mm)	Clamping capacity (mm)	Weight (kg)
MG-717	63	63	1.1
MG-714	38	38	0.7
MG-712	32	32	1.0

## Conductor stick block clamp

### Characteristics

Light alloy body with steel slip bushing.

### Field of use

Overhead network

### Function use

Fastened on a stick for receiving a rope block.

	Pole size Ø	Weight (kg)
MG-583	38 mm	1.1
MG-584	63 mm	1.5



MG-583

## Adjustable clamp

### Characteristics

Body made of light alloy, with a steel slip liner ; assembly bolt and washer made of corrosion-proof metal.

### Accessories:

Assembly pin with spacer and washer, clevis, tenon and shackle, made of corrosion-proof metal.

### Field of use

- . Overhead line
- . Substation

### Working method

- . Distance method
- . Potential method



MG-714/100



MG-714/103



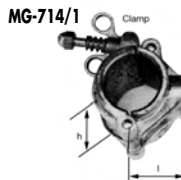
MG-714/101



MG-777/1



MG-714/102



MG-714/1

	Dimensions		Tightening diameter (mm)	Maximum operating load in the pole axis, without slipping (daN)	Approximate weight (kg)
	Length (l) (mm)	Center to center (h) (mm)			
MG-714/1	40	100	39 ± 1	130	0.9
MG-717/1	55	100	64 ± 1	220	1.105
MG-777/1	70	100	77 ± 1	220	1.20

## Locking stick clamp

### Characteristics

Articulated set in metal protected against corrosion.

Sleeve: diameter 32 mm

Dimensions:

380 mm x 170 mm x 80 mm

### Field of use

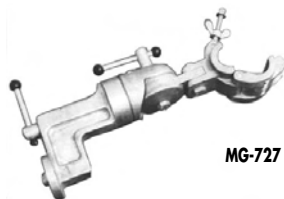
. Overhead network

### Working method

. Distance, potential and contact method

### Function use

Fixed on a tower type saddle, the LOCKING STICK CLAMP is used to stop (in a determined position and with the help of sticks having a diameter of 32 mm) accessories like shunts or links, when these are not submitted to any other constraint than their weight.



MG-727

MG-727	Weight: 2.2 kg
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# CONDUCTOR SUPPORT AND TENSION TOOLS

## Stick hanger

### Characteristics

Ringed arms and mounting bolt for ring saddle in metal protected against corrosion.

Overall dimensions:

350 mm x 165 mm x 80 mm

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

Secured to a ring saddle for post, the STICK HANGER is used to hang poles equipped with a hanging hook awaiting their use.



MG-736

MG-736

Weight: 0.7 kg

## Hanger for by pass jumper connectors

### Characteristics

- body in light alloy

- for tube dia. 50 mm

- Dimensions: length: 199 mm max.

height: 100 mm

thickness: 62 mm max.

### Field of use

. Overhead network (Securable on MC - 412 protective tube)



MC-411

MC-411

Weight: 0.4 kg

## Saddle extension

### Characteristics

Light alloy body

Steel bolt

L: 0.085 m

Maximum working load:

see T.S. 1125

and T.S. 1129

### Field of use

. Overhead network

### Working method

. Distance method

### Function use

Secured to the revolving head of a pole type saddle, the SADDLE EXTENSION is used to support a pole clamp when it is necessary to separate it from the support .



MG-718

MG-718

Weight: 0.6 kg

## Stick type saddle

### Characteristics

Light alloy base

Steel chain

Bronze sprocket

Maximum working load on swivel

pin: no extension: 450 daN

With extension: 320 daN

### Field of use

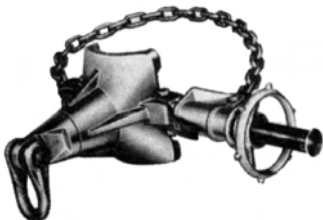
. Overhead network

### Working method

. Distance method

### Function use

Secured to a support other than a lattice tower the STICK TYPE SADDLE is used to guide or lock a stick in position.



MG-710

MG-710

Weight: 4.5 kg

MG-709

Weight: 3.6 kg (without MG-731 chain tightener)



## Ring saddle Stick-type bracket

### Characteristics

Chains, chain extensions, rings and setting block in metal protected against corrosion.

Includes 3 fixed rings.

Maximum working load (daN):

- on one ring: 300

- shared on several rings: 400

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

Secured to a support other than a lattice tower, the RING SADDLE STICK TYPE BRACKETS are used to:

- obtain a fixed secured point for a rope block, a pulley or a rope,  
- secure tools awaiting use

A pole support can be fitted to the fixed ring saddle. The chain extension allows to increase the length or the chain binder.



MG-734

MG-734

Weight: 3.7 kg

## Chain extension

### Characteristics

Bronze sprocket

Steel of chain

Length chain: 0.62 m approx

Maximum longitudinal traction load: 1900 daN

### Field of use

Overhead network

### Working method

Distance method

### Function use

The CHAIN EXTENSION is used to extend chain binders and chain securing stick type saddles for post, and with rings for post.



MG-737

MG-737

Weight: 0.65 kg

## Lever lift type saddle

### Characteristics

Light alloy base and lever, steel chain protected against corrosion.

Distance "L" between the lever axis: 0.29 m.

Ordinary or eyed swivel in bronze.

Swivel axis in bronze and corrosion protected steel.

Maximum working load on the swivel axis: 600 daN.

A swivel pin adaptor allows to convert the single type lever lift to a double type when needed.

### Field of use

Overhead network

### Working method

Distance method (when working space on the stick is limited)

### Function use

Secured to a support other than a lattice tower, the LIFT TYPE SADDLE is used to guide the movement and to secure the position of the foot of one or two conductor poles in a triangulation assembly.

The vertical movement of the pole foot is limited to 0.4 m, the use of the eye swivel, instead of the ordinary swivel, makes the rope block crawling easier.



MG-729

MG-729

Weight: 3.9 kg

## Chain tightener

### Characteristics

Bronze and steel

Length of chain: 0.90 m

Weight: without chain: 1.6 kg

with chain: 2.6 kg

Maximum working load with longitudinal traction on the chain: 1900 daN

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

The CHAIN TIGHTENER is used to secure certain parts to support such as:

- pole type saddles for post  
- auxiliary arm  
- platforms  
- saddles levers in case of leaving the job-site



MG-731

MG-731

Weight: 1.6 kg

# CONDUCTOR SUPPORT AND TENSION TOOLS

## Tie saddle

### Characteristics

Attachment device with wheel, setting block and chain connection head made of light alloy and bronze. Size of the attachment device in transport position:  
Length: 0.30 m  
Diameter of the wheel: 100 mm  
Chain with free rings made of corrosion-proof steel:  
Length: 0.90 m

Maximum utilization load:

One ring: 450 daN  
Distributed over several rings: 550 daN

### Field of use

Overhead network

### Working method

Distance  
Contact.



MG-733

MG-733

Weight: 3.5 kg

## Cross arm type saddle

### Characteristics

Light alloy, bronze and steel  
Maximum spacing of threaded clamping rods: 0.20 m  
Maximum clamping capacity: 110 mm  
Maximum working load on the swivel pin:

without extension:

without extension: 400 daN

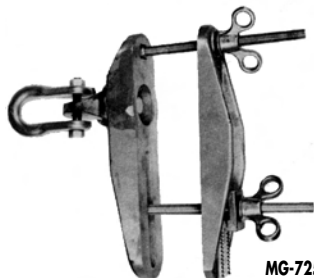
with extension: 300 daN

### Field of use

Overhead network

### Working method

Distance method



MG-725

MG-725

Weight: 3 kg

## Tower type saddle

### Characteristics

Base, swivel head, removable attachment rods, hooks and wing nuts, made of corrosion-proof metal.  
Dimensions:  
450 mm x 25 mm x 170 mm  
Dimensions of the angle bars receiving the saddle:  
- 40 mm to 120 mm (normal attachment rods)  
- 40 mm to 190 mm (long attachment rods)  
Maximum operating load on shackle pin:  
with saddle extension: 320 daN

without saddle extension:

450 daN

### Accessories

Hooks for flats made of corrosion-proof metal

Dimensions:

75 mm x 55 mm x 28 mm

Approximate weight: 0.25 kg

### Field of use

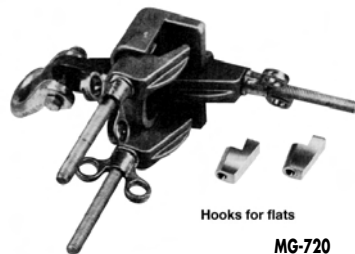
Overhead network

Inside installation

### Working method

Distance method

Potential method



Hooks for flats

MG-720

MG-720

Weight: 3 kg

## Ring saddle tower type bracket

### Characteristics

Steel made.  
Maximum working load: on one ring 450 daN.

### Field of use

Overhead network

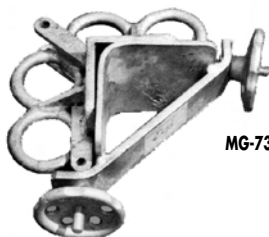
### Working method

Distance method

### Function use

Secured to the frame of a lattice tower, dimensions at most 90 x 90 the RING SADDLE FOR TOWER is used to:

- obtain a fixed securing point for a rope block or guide block.  
- secure tools awaiting use.  
- support the service rope booms.



MG-735

MG-735

Weight: 4.4 kg

## Anchor clamp bracket

### Characteristics

Body in metal protected against corrosion including:

- one base
- one loop with two gripping rings

Overall dimensions:

Length: 334 mm

Width: 133 mm

Height: 120 mm

Maximum working load:

1300 daN

**Field of use**

Overhead network

**Working method**

Distance method



M-951887



MG-806/1

MG-806/1	Weight: 2 kg
M-951887	Flexible shaft

## Offset eye

### Characteristics

Ring bolt and centering washer in metal protected against corrosion.

Dimension between flats of centering washer: 36 mm.

Overall dimensions:

145 mm x 110 mm x 42 mm.

Maximum working load: 300 daN

**Field of use**

Overhead network

**Working method**

Distance method



MG-580

MG-580	Weight: 0.6 kg
--------	----------------

## Symmetrical tension puller

### Characteristics

- Made of IEC 60855 orange reinforced synthetic sticks.

- Flanges, gears and screw jack operated with an opened 24 x 27 ratchet wrench, in metal protected against corrosion.

Dimensions:

Length L: maximum = 1.35 m ;

minimum = 1.15 m

Overall width: 0.42 m ; between

tube axis = 0.30 m

Diameter of the tubes: 32 mm

Maximum working load: 1700 daN

- Ratchet wrench for symmetrical

tension puller: MG-807

- Removable holding device in insu-

lating synthetic material, locking pin and assembling bolts in metal protected against corrosion.

**Field of use**

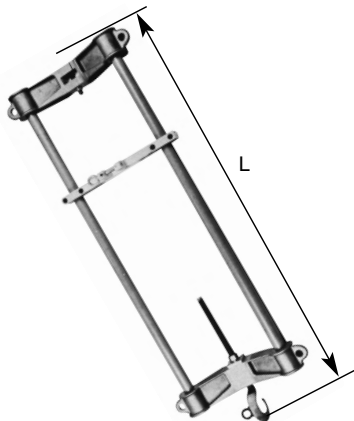
Overhead network

**Working method**

Distance method

**Function use**

Fitted with a hook, the SYMMETRICAL TENSION PULLER is used to take off the mechanical tension of a conductor, notably if this latter is above 1000 daN ; in particular, it is used to replace a tension string with insulators less or equal to 254 mm in their diameter.



MG-808

MG-808	Weight: 7.2 kg
--------	----------------

## Adjustable lifting yoke

### Characteristics

Body in light alloy, laminated, folded.

Folding:

Stainless steel stirrup 12 - 40

Load suspension: clevis in stainless steel, swivelling and sliding.

Equally spaced by screws and left and right helocoidal nuts.

Spacing: Minimum:

0.280 mm

Maximum: 0.850 mm

Pin support and safety pins, in

stainless steel

Load guiding: 22 mm diam.

holes at the ends of yoke.

Overall dimensions:

Length: 0.90 m

Height: 0.09 m

Thickness: 0.06 m

Maximum working load:

550 daN

### Field of use

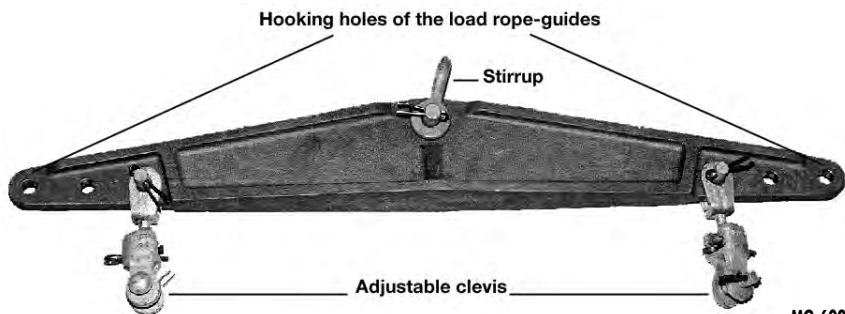
Overhead network

### Working method

Distance method

### Function use

The LIFTING YOKE is used to handle equipment, such as transformers on posts, circuit-breakers on posts, etc...



MG-602

MG-602

Weight: 5 kg

## Suspension puller

### Characteristics

Made of (Ø 63 mm) IEC 60855 orange reinforced synthetic insulating tube with three positioning holes.

Fixed flange glued, with its hook housing and mobile flange in synthetic material.

Pin, bolts, adjusting system and gripping rings in metal protected against corrosion.

Adjusting dimensions D between the hooking points, depending on the position of the pin in:

1st positioning hole: 330 mm to 450 mm

2nd positioning hole: 430 mm to 550 mm

3rd positioning hole: 490 mm to 610 mm

Overall dimensions:

- 0.70 m x 0.40 m x 0.18 m

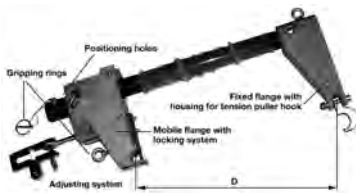
Maximum working load: 200 daN

### Field of use

Overhead network

### Function use

Fitted with a hook, the SUSPENSION PULLER permits to take off the mechanical tension of a suspension string in view, for example, to replace it, without using triangulation assemblies.



MG-844

MG-844

Weight: 4.5 kg

## Tension puller

### Characteristics

Puller made in IEC 60855 diam.  
39 mm foam filled tube, orange colour.

Screw jack handle by means of a

ratcheted wrench **MG-807\***

Metal protected against corrosion.

Cover part can be installed on earthside made of insulating material **MG-801/1\***

Dimensions :

Length L : Maximum : 1.30 m ;  
minimum : 1.10 m.

Maximum working load 1100 daN.

A holding device **MG-802\*** can be

provided as accessory MG-801 is basically equipped with a thin hook ; other type of hook can be delivered separately.

**Field of use**

Overhead network

**Working methods**

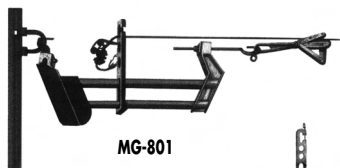
Distance

Contact

**Function of use**

Allows to release the strain of a conductor for the replacement of the insulator string.

\* Available as accessories.



MG-801

MG-802

**MG-801**

Weight: 8 Kg

## Tension puller hooks

### Characteristics

Set in metal protected against corrosion. (for use with MG-844)

Maximum working load:  
1700 daN.

Approximate weight:

- plate extension and standard hook  
0.6 kg

- fine point hook: 0.25 kg.

(for all the hooks, the direction of the traction effort is parallel to the axis of the fixing hole)

**Field of use**

Overhead network

**Working method**

Distance method

Contact method

Plate extension  
hook

MG-803

Fine point hook

MG-805

**MG-803**

Weight: 0.6 kg

**MG-805**

Weight: 0.25 kg

**MG-808/1**

Weight: 0.55 kg Set of the two above looks

## Gin type A

### Characteristics

Fixing bracket in metal, protected against corrosion, supplied with 2 chains.

Clearance: 0.70 m

Height: 0.85 m

Approximate weight: 28 kg

Pivoting mast and inclinable gib, in metal protected against corrosion, equipped with synthetic fibre rope with an approximate diameter of

15 mm and normally, 50 m long.

Mast height: 2.05 m

Total length of gib: 1.95 m

Maximum arm clearance: 1.30 m

Approximate weight: 21 kg

Chain block: 1000 daN

Maximum working load: 200 daN

**Field of use**

Overhead network

**Working method**

Distance method

**MG-600**

Weight: 21 kg

On request : MO-78/50 polyamid hoisting white rope (Ø15 mm, L = 50 m) equipped with an egg-shaped thimble and hook.



MG-600

## Gin type D

### Characteristics

L Shaped body and removable clamps of light moulded alloy. model is equipped with two removable stirrup anchors in steel protected against corrosion.

With a profile fitting in the iron support of the type H 61 transformer.

Dimension:

Length: 0.44 m

Height: 0.32 m

Thickness: 0.17 m

Maximum working load: 550 daN

### Field of use

. Overhead network

### Working method

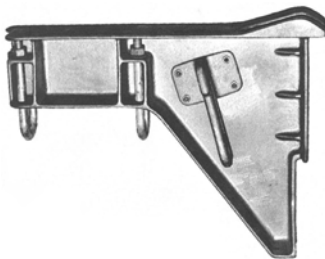
. Distance method

### Function use

Obligatory used with rope blocks of 5 or 6 ropes and a lifting yoke, the GIN TYPE D is used to handle transformers on posts.

For unfastening and moving a transformer from its iron support, the rope block is hooked to the stirrup of the GIN TYPE D at its furthest point.

To lift and fasten a transformer to its iron support, the rope block is to be hooked to the stirrup of the GIN TYPE D at its nearest point.



MG-601

MG-601

Weight: 3.4 kg

## Rope block

### Characteristics

Rope block generally rigged with a 25 m rope threaded or braided in synthetic fibres.

Blocks and sheaves in synthetic material.

Swivel hook with or without gripping ring in steel protected against corrosion.

Model 1: Hooks are filled a remote locking pawls

Model 2: Hook of the upper pulley-block is filled with a ring.

### Function use

The ROPE BLOCK is used to transmit the effort of pulling, for example when fixing conductors, lifting weights or moving triangulation assemblies.

The blocks and the rope are not to be considered as insulating. Then, a tension link pole should be interposed in the fall of the rope when the block is connected to a part with a potential different than the operator's one.

Number of active sheaves	3+3
Overall dimensions of a block (mm)	225 x 120 x 105
Internal diameter of the sheaves (mm)	77
Maximum working load (daN)	1300
Approximative weight without rope (kg)	4.5

MO-349

Weight: 4.5 kg



MO-349

## Snatch block

### Characteristics

All parts in metal protected against corrosion.

The hook of the model 2 is fitted with a safety catch.

Hinged cotter-lock yoke.

Overall dimensions:

280 mm x 90 mm x 60 mm

Sheaves capacity (rope diameters):

from 12.2 mm to 14 mm

Maximum working load: 120 daN (240 daN on the hook)

### Field of use

Overhead network

### Working method

Distance method.

### Function use

Equipped with an approved rope, the SNATCH BLOCK is used as guide block or tackle block.



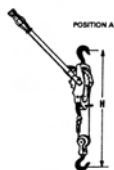
MO-304-EDF

MO-304-EDF

Weight: 1 kg

## Ratchet hoist

	Position A		Position B		Position C	
	Loading Capacity (kg)	Lifting Height (m)	Loading Capacity (kg)	Lifting Height (m)	Loading Capacity (kg)	Lifting Height (m)
MO-432-00	1000	1.55	500	3.10	500	3.10
MO-432-01	1000	2.00	500	4.00	500	4.00
MO-432-02	1000	4.60	500	9.20	500	9.20
MO-432-03	1600	3.30	800	6.60	800	6.60



## HOISTING EQUIPMENT

### Single - block

#### Characteristics

Insulating block: reel and side plates made of synthetic material. Swivel hook, locking pawl with gripping and assembling bolts made of steel with anti-corrosion treatment. Hot stick eye on the hook.

Size (with pawl in closed position):

- Length: 225 mm
- Width: 100 mm
- Thickness: 50 mm

Minimum diameter of the pulley

wheel at the bottom of the groove:  
45 mm

Diameter of the rope to be used: 10 mm

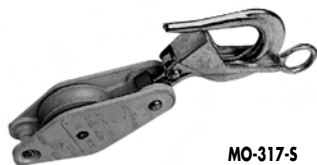
Maximum utilization load on the hook: 120 daN.

#### Field of use

. Overhead network

#### Working method

- . Distance method
- . Contact method



MO-317-5

MO-317-5

Weight: 0.4 kg

### Opening block

#### Characteristics

Light alloy pulley

Hook made of corrosion-proof metal, equipped with a safety catch.

Maximum useable rope diameter:

16 mm

Maximum load capacity 250 daN  
(500 daN on the hook)



MO-308

MO-308

Weight: 3 kg

### Engine powered winch

#### Characteristics

Winch of thin anodised alloy:

- automatic lubrication by grease in an oil tight housing

- stop and slow running locked - energized

. Engine, two strokes, petrol powered - cylinder: 93 cm<sup>3</sup>

- rating: 2.7 kW at 5000 R.P.M.

- maximum rope speed: 8 m/min

- maximum working load: 350 daN

- flexible throttle foot control -

Length: 4.50 m

. A geared speed reducer

Base of thin alloy with:

- one or two tighteners in metal protected against corrosion

- two angle-iron fixing bolts, in metal protected against corrosion, with wheelhook assembly in alloy - with a clamping dimension:

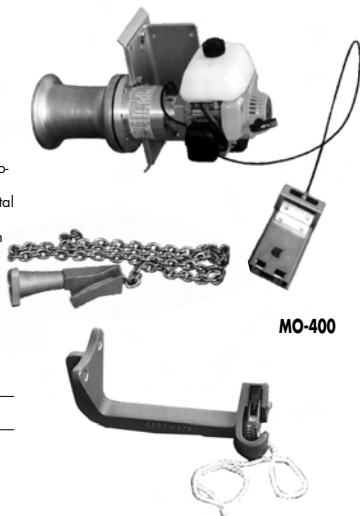
80 to 120 mm.

Dimensions:

Length: 580 mm

Width: 360 mm

Height: 420 mm



MO-400

MO-400

Weight: 26 kg



## Braided polyester rope

### Characteristics

Multi stand, braided, delivered in coils

Approximate diameter: Ø 10 mm

Maximum use load: 80 daN

### Field of use

Overhead network

### Working method

Distance method

Contact method

	Ø (mm)	Weight m (g)	Length (m)	Breaking load (daN)
MO-480/25	10	75	25	1580
MO-480/100	10	75	100	1580



MO-480/...

## Stranded polyamide rope EN 696

### Characteristics

Polyamide rope made up of 8 strands.

Approximate diameter: 12 mm.

Weight per metre: 80g/m.

Maximum utilization load:

120 daN.

### Field of use

Overhead network.

### Working method

Distance method.

Contact method.

### Function use

The BRAIDED 12 mm POLYAMIDE

ROPE is generally used to rig the

550 daN rope block.

	Ø (mm)	Weight m (g)	Length (m)	Breaking load (daN)
MO-492/100L	12	80	100	2940



MO-492/100

## Stranded polypropylene rope EN 696

Three stand made

Light weight and resistant to moisture

	Ø (mm)	Weight m (g)	Length (m)	Breaking load (daN)
MO-470/20	10	66	20	1530
MO-470/100	10	66	100	1530
MO-472/20	12	97	20	1950
MO-472/100	12	97	100	1950
MO-474/20	14	135	20	2690
MO-474/100	14	135	100	2690
MO-476/100	16	180	100	3330
MO-476/200	16	180	200	3330



MO-47X/...

## Tie

### Characteristics

Synthetic fibers with steel rings.

Length: 0.9 m

Width: 44 mm

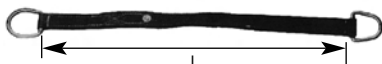
Maximum load: 400 daN

### Field of use

Overhead network

### Working method

Distance method



MG-794

MG-794

## HOISTING EQUIPMENT

### Service rope set

#### Characteristics

Synthetic fiber rope (Ø 14 mm) 20 m length equipped with 2 stretchers "rop chuck" type, looped at one end on a screw-crab.

#### Field of use

Overhead network

#### Working method

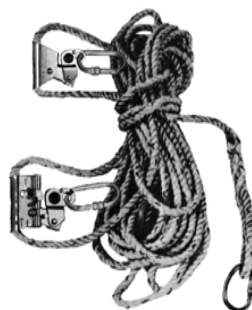
Distance method

#### Function use

The service rope is used to hoist up to the linesman and return to the ground the equipment and tooling required to perform the work.

MG-791

Weight: 4 kg



MG-791

### Adjustable sling

#### Characteristics

Adjustable strap with preadjusting ring, seizing loop and fixed strap in synthetic textile.

Ratchet stretcher, preadjusting ring and lifting ring in metal protected against corrosion.

Length of the sling:

- maxi: 1.25 mm

- mini: 0.65 mm

Width of the straps: 35 mm

Maximum working load: 200 daN

#### Field of use

Overhead network

#### Working method

Distance method

#### Function use

The ADJUSTABLE SLING is used to seize a load to be handled.

In the case of line switch, four adjustable slings should be secured to one or more shackles to facilitate their hooking to the lifting hook.

MG-798

Weight: 1.5 kg



MG-798

### Slings

#### Characteristics

Endless type in synthetic fibre braid

#### Field of use

. Overhead network

#### Working method

. Distance method

#### Function use

The SLINGS are used as anchoring points to exert tractive forces, for

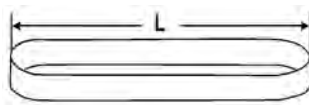
example securing rope blocks or snatch blocks.

They can also be used to handle an overhead switch.

The maximum working load should never be surpassed, whatever the form of the fixing point and that given to the sling.



	Length (m)	Max. load service (daN)
MG-797/1002	1.0	1100
MG-797	1.2	1100
MG-797/1	1.2	1600
MG-797/2	1.0	2200



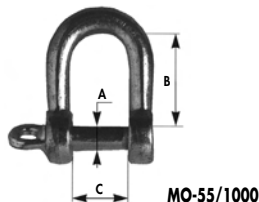
\* Other models, please consult us.

## Steel shackles

### Characteristics

Steel shackles with lock

	Working load	A	B	C
MO-55/1000	400 daN	10	35	20
MO-55/1001	630 daN	12	42	24



MO-55/1000

## Automatic come along clamp

### Characteristics

- Steel body - mild bronze jaws.

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

The AUTOMATIC COME ALONG

CLAMPS are used to produce an

anchoring on a line conductor in

view of:

- moving it lengthwise

- locking it in position

- alternating its mechanical tension



MO-339/...

	Model	Ø (mm)		Weight (kg)	Max. working load (daN)
		Min.	Max		
MO-339/02	Medium	5.54	13.97	2.84	2000
MO-339/03	Large	13.46	18.8	3.52	3000

## Service rope gin

### Characteristics

Tool in metal protected against corrosion.

Overall dimensions: 450 mm x 170 mm 130 mm

Maximum working load: 120 daN

### Field of use

- Overhead network

### Working method

- Distance method

### Function use

The SERVICE ROPE GIN is used as an anchorage point for the service rope.



MG-738

MG-738	Weight: 1.5 kg
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## HOSTING EQUIPMENT

### Hook for service rope

#### Characteristics

Body in alloy protected against corrosion.

Tongue with release spring in steel protected against corrosion.

#### Field of use

. Overhead Network.

#### Working method

. Distance method.

#### Function use

Associated with the service rope and the snatch block, the "SERVICE ROPE HOOK" is used:

- to hoist up to the lineman and

return to the ground the equipment and tooling required to perform the work

- in case of need, to bring back to the ground a lineman victim of an indisposition or an accident.

Overall dimensions.

height (mm) 140.

width (mm) 110.

thickness (mm) 10.

Maximum working load to supply materials (daN) 50.

Approximative weight (kg) 0.15.



MO-303

MO-303

Weight: 0.15 kg

### Hand line hook

#### Characteristics

All parts in metal protected against corrosion.

#### Operation

Operated with the service rope this hook enables lineman to lift any part tools to the tops of the pole and bring it down.

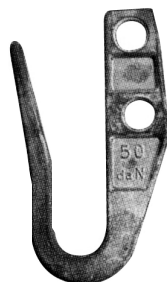
Overall dimensions

height: 140 mm.

width: 80 mm.

thickness: 10 mm.

Maximum working load: 50 daN.



MO-301

MO-301

Weight: 0.800 kg

## Leather safety belt

### Characteristics

- Polyester lined chrome leather double thickness strap belt ; dimensions : 1280 x 50 mm
- Leather belt, dimensions : 680 x 120 mm
- 2 cambered wrought rings for lanyard
- 2 tools-holder half-rounded D
- 7 copper rivets
- Delivered with a carabiner

CE EN 362

- Markings following EN 358

- "Instructions of use" sheet

### Field of use

Safety belt for work positioning. Other equipments needed (carabiners,...) must be in compliance with the current standards. Refer to the instructions of use for the maintenance of the belt.

CE



MO-057

MO-057	Leather safety belt to use with an EN354 lanyard
MO-57L	Leather safety belt with lever stretcher and rope in compliance with EN358

Rope with stretcher :

- Lanyard with a 4 m Ø14/15 mm rope

- Lever stretcher

- Weight: 1 kg

## Standard belt

Strap belt 40 mm NYLON with polyamide strap on 130 mm backing.

- Two rings for towing straps and lanyard.
- Two rings for tool bag.
- Self locking karabiners.
- Rope strap and lever.

(complies with EN 358)

CE



MO-057-EX

MO-057-EX	Weight: 2.0 kg
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## Anti-fall harness CE

### Characteristics

- 1 belt for holding in the work position, rotating
- 2 lateral holding rings

Strengthened shorts

Adjustable straps, shorts and belt

Tools holder

CE



MO-563



MO-564

MO-563	1 dorsal and 1 sternal attachment points Automatic belt and shorts buckles Elastic straps EN 361 / EN 358
MO-564	1 dorsal and 3 sternal attachment points 1 ventral hook Automatic shorts buckles EN 361 / EN 358 / EN 813

## EQUIPMENT FOR WORKING ON POLE

### Harness

#### Characteristics:

Harness for overhead work  
 - Polyamide strap 40 mm wide.  
 - Foam reinforced and sheepskin patch or black.  
 - Dorsal and sternal attachment point. Double lateral hooking.

- Front suspenders.  
 - Die steel buckles.  
 - Load break 2000 daN minimum.  
 Complies with the EN 361/EN 358 standard.

**MO-71**

With front suspenders

**MO-71**



### Lanyard

Synthetic fibre ropes - 10 mm.  
 Loops spliced at both ends.

Delivered without SNAP HOOK.  
 (complies with EN 354)

**MO-53**

Length: 1.50 m - Weight: 0.125 kg



**MO-53**

### Constraint tie

#### Description:

The constraint ties are intended to tie the support heads when fittings are not reliable. They are equipped with a braid for a crab with a tubular protection strap.  
 These ties are to be used for the mooring of lifelines or the anti-fall tether rope.

#### Characteristics:

Tie in polyester strap  
 Length: MO-52033: 1.20 metres;  
 MO-52034: 1.50 metres.  
 Width: 23mm.  
 Colour: yellow.  
 Equipped with a braid with tubular protection.  
 EN795 Standard.

**MO-52031**

Length: 0.80 m

**MO-52033**

Length: 1.20 m

**MO-52034**

Length: 1.50 m



**MO-52034**

### Anchorage bar

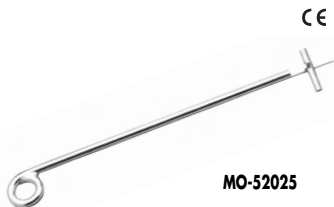
#### Description:

Fitted with automatic end stop anchorage bar constitutes a reliable anchorage point to be used with fall arrest lanyards, minimum diameter 16 mm and length 200 mm.

#### Characteristics:

Weight: 1.084 kg.  
 Dimensions: Length 0.655m.  
 Breaking strength > 1000 daN.  
 Raw material: Galvanized steel A60, diameter 15mm.  
 Standards EN795 and CE.

**MO-52025**



**MO-52025**

## Carabiners

### Characteristics

Complies with the EN 362 standard.  
Closing guaranteed by the supply of a return spring.  
Bolt operated by a knurled screwed ring

### Dimensions:

Length: 100 mm.  
Height: 65 mm.  
Diameter of the ring: 15 mm.  
Maximum working load: 120 daN.  
Approximate weight: 0.15 kg.

### Field of use

Overhead network.

### Working method

Distance method.

### Function use

The CARABINERS is used:  
- as an anchor point for the snatch block or the service rope.  
- To ensure the joining of the two ends of the service rope, and quickly hook different tools and unsteady materials.  
- To ensure guidance of handling ropes.

### ATTENTION

Before using, the carabiners has to be locked.

CE



MO-54

CE



MO-55/1

MO-54	Locks with threaded ring - 105 x 65 mm 0.150 kg - Steel
MO-55/1	Locking by screwing ring on a spring loaded mobile catch; an additional catch is provided to prevent the rope from slipping in the carabiners 155 x 70 mm - 0.270 kg - Zircal

## Oval screw crab carabiner

### Characteristics:

Oval screw crab with safety bar.  
Complies with the EN 362 and EN 12275 standard.  
Individually tested.  
"Closed finger" resistance of 18kN.  
"Open finger" resistance of 5kN.

Opening: 15mm.

Mass: 80 grams.

### Use:

This carabiners is intended to be associated with a tether rope, a tether tension device or a protection harness against falls from a height.

CE



MO-54000

MO-54000	Weight: 0.08 kg
----------	-----------------

## D- shaped crab with automatic locking carabiner

### Characteristics:

Crab with D-shaped automatic locking.  
Complies with the EN 362 and EN 12275 standard.  
Individually tested.  
"Closed finger" resistance of 28kN.  
"Open finger" resistance of 8kN.  
Opening: 23mm.

Weight: 84 grams.

Locking system with pushbutton control.

### Use:

This crab is intended to be associated with a tether rope, a tether tension device or a protection harness against falls from a height.

CE



MO-54004

MO-54004	Weight: 0.084 kg
----------	------------------

## EQUIPMENT FOR WORKING ON POLE

### Snap with double safety latch

#### Characteristics:

Crab with double safety catch.  
Complies with EN362 standard.  
Individually tested.  
Opening: 60mm.  
Weight: 450 grams.  
Material: - body in aluminium.  
- fingers in stainless steel  
Resistance: 20kN.

#### Use:

This crab is intended to be associated with a tether rope, a tether tension device or a protection harness against falls from a height.  
(complies with EN 362)



MO-54002

MO-54002	Weight: 0.450 kg
----------	------------------

### Double safety descender

Articulated stainless steel cam.  
Aluminum housing. High-resistance handle. Operates with 9-12mm

diameter lanyard. Ideal for evacuation. Lets you regulate descent. Complies with the EN 361 standard.



MD-02

MD-02	Weight: 0.32 kg
-------	-----------------

### Tool pouch for safety harness

2-pocket leather pouch.



MO-32/3

MO-32/3	Weight: 0.835 kg
---------	------------------

### Working on pole kits

#### Composition:

1 harness belt ref/ MO-56001 or MO-56002.  
1 anti full grip with 15 meters of rope ref: MO-68/15.

2 Snap hooks ref/ MO-55/1.  
1 carrying bag ref: M-87295.

KIT-56/1	Complete kit harness belt size 1 (S-L)
KIT-56/2	Complete kit with harness belt size 2 (L-XXL)





## Tether rope equipped with a tension device

### General:

The tether rope MO-56010 is intended to ensure that operators are held in position when working at a height. This tether rope must be associated with a harness belt.

Recommended harness:

**MO-56001** Harness belt, size 1.

**MO-56002** Harness belt, size 2.

**MO-56003** Harness-belt and saddle, size 1.

**MO-56004** Harness-belt and saddle, size 2.

### Characteristics:

Ends sewn to form an attachment and protected with a plastic girdle. Static resistance: 15kN.

Complies with EN197 standard.

### Use:

Tether rope for holding in work position.

Length adjustment thanks to a blocking system with lever control.



<b>MO-56009</b>	Weight: 0.310 kg	Length: 3 m
<b>MO-56010</b>	Weight: 0.420 kg	Length: 5 m

## Multistrand safety lanyard

Polyamide lanyard, 12 mm diameter with 2 climbing strands, equipped with double-clip snap links, 50 mm opening.

Can be connected to harness for steel snap link with locking screw. Complies with the EN 354 standard.



<b>MO-53010</b>	Weight: 1.4 kg	Length: 1 m
-----------------	----------------	-------------

## Tether rope with energy absorber

### General:

The tether ropes MO-52020 and MO-52021 are intended for the anti-fall protection of operators working at a height. These tether ropes must be associated with harnesses.

### Description:

Anti-fall tether rope equipped with an energy absorber (must be worn together, cannot be separated). The energy absorber system consists of girths woven together.

### Composition:

Tether rope equipped with an energy absorber.

Delivered with: One steel crab, screw opening 18 mm.

One crab in light alloy, wide opening, opening 65 mm.

### Characteristics:

Length of the tether rope:

- **MO-52020** = 1.50 metres.

- **MO-52021** = 2.00 metres.

Colour of the tether rope:

black/white.

Material of the tether rope: polyamide.

Diameter of the tether rope: 14 mm. Crabs in steel with screw opening 18 mm.

Super Rapidex crab in light alloy, wide opening, opening 65 mm. EN365 Standard.



<b>MO-52020</b>	Length: 1.5 m
<b>MO-52021</b>	Length: 2 m

## Equipped rope straps with lever stretcher

Equipped with adjuster. Hooks to belt with rapid link. (complies with EN 358).

<b>MO-52-L</b>	Length: 4 m - 1 kg
----------------	--------------------



## EQUIPMENT FOR WORKING ON POLE

### Anti-fall grip

The safety block runs freely on its rope but can be automatically locked in case of a sudden downward drop. Must be used only with special

15 mm Ø rope delivered with the device. Complies with the EN 358 standard.

<b>MO-68/10</b>	With 10 m of rope - 2.300 kg
<b>MO-68/15</b>	With 15 m of rope - 3.250 K



CE

MO-68/10

### Fall arrester - retractable type

Designed for lineman safety. Quick acceleration causes instant locking.

#### Characteristics:

- Corrosion protected steel shell.
- Integrated braking mechanism and dissipating element.

- Self locking mechanism and automatic tensioning and return facility.
- Galvanized cable Ø 4 mm.
- Strength: 1200 daN.
- Delivered with a screw crab.
- Comply with EN 360.

<b>MO-591002</b>	Weight: 7.00 kg
------------------	-----------------



CE

MO-591002

### Anti-fall device with automatic release strap

Winder with self-locking strap. Length: 2 m. Equipped with shock absorber.

Allows 2m of movement autonomy around anchoring point. Complies with the EN 360 standard.

<b>MO-591000</b>	Weight: 1.60 kg
------------------	-----------------



CE

MO-591000

### Mechanical climbers

- For rectangular shaped concrete poles.
- Automatic locking of jaws by elastic cord.
- Sole in aluminium alloy, high resistance, with leather belts and steel buckle.

- Wear plate placed on sole arm.
- Mobile drum on axis can be removed; processed steel rollers.
- High resistance aluminium alloy rack, used for clamping onto poles 14 to 42 cm wide.

<b>MO-17-A</b>	Pair of climbers - 9 kg
<b>MO-17-01</b>	Pair of elastic cords
<b>MO-17-02</b>	Pair of wear plates



MO-17-..

<b>MO-17-03</b>	Blade roller
<b>MO-17-04</b>	Pair of runne

### Forged steel climbers for wooden poles

Hard forged steel - Leather belts with cast buckles.

Delivered by the pair.

<b>MO-24</b>	Ø 20 cm - 2.6 kg
<b>MO-25</b>	Ø 25 cm - 2.8 kg
<b>MO-26</b>	Ø 26 cm - 3.0 kg
<b>MO-35</b>	Ø 35 cm - 3.2 kg



MO-24

## Mechanical climbers for round and hexagonal concrete poles

- Manual locking.
- Adaptable to the pole diameter.
- For poles Ø 140 to 300 mm.

**MO-16-A** Pair of climbers 6.5 kg



**MO-16-A**

## Insulating ladders

A complete range with top quality features:

- Insulation between two steps: 58000 V (test performed after immersion in water for 24 hours).
- High mechanical resistance to bending and twisting.
- Good resistance/weight ratio.
- High fire resistance.
- High resistance against bad weather and corrosive elements.
- Lateral risers in polyester/glass fiber rectangular section 70 x 25 mm.
- Aluminium alloy rungs with square 29 x 29 mm section and anti-slip coating.
- (complies with EN 131)

## Insulated 2 section extension ladders, hand operated

	Folded length	Extended length	Number of rungs	Weight (kg)
<b>MP-514/2</b>	2.41 (m)	4.09 (m)	8+7	12.6
<b>MP-515/2</b>	2.97 (m)	5.21 (m)	10+9	15.5
<b>MP-515/2R</b>	2.97 (m)	5.21 (m)	10+9	16.2

## Insulated 2 section extension ladders, rope and pulley operated

<b>MP-506/2</b>	3.53 (m)	6.05 (m)	2 x 12	20
<b>MP-508/2</b>	4.66 (m)	8.30 (m)	2 x 16	31
<b>MP-509/2</b>	4.94 (m)	8.86 (m)	2 x 17	38.6
<b>MP-510/2</b>	5.78 (m)	10.26 (m)	2 x 20	38



**MP-514/2**

## EQUIPMENT FOR WORKING ON POLE

### Spliced ladders

#### Characteristics

Base with adjustable feet and sections with fixed cradles in metal protected against corrosion.

Sections in synthetic material reinforced with fibre glass coloured cradles fixed or removable.

Straps of synthetic textile.

#### Field of use

Overhead network

#### Working method

Distance method.

#### In service care

Ladders should not be stored or exposed to heat or light or allowed to come in contact with oil, grease, turpentine, whitewash or strong acid.

When ladders become soiled they should be washed with soap and water.

#### Accessories

MP 400 set of 2 straps, length 1.95 m.

**MP 400/2** Removable cradle.

#### Periodic inspection

Within maximum period of 12 months ladders should be submitted:

- To visual inspection.

- To dielectric test.

#### Function use

The SPLICED LADDERS are used to climb to supports (poles, concrete or wood, metal tower etc...), to allow

the positioning of the lineman on his work place.

Fibre glass section are to be used:

- When during their installation they can be closer to a live part than the minimal approach distance.

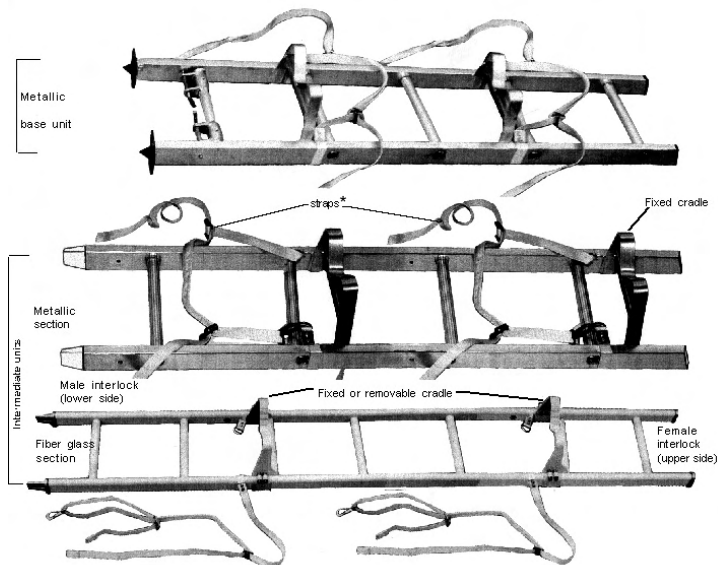
#### Classification

(complies with NFC 18-430)

CEI 61478 cat. 1

Spec. EDF HTA 73 A.

REF.	Bases		Sections				
	MP 402 MB	MP 403 MB	MP 402 MI	MP 403 MI	MP 501 D	MP 502 D	MP 503 D
Length (m)	2.10	3.00	2.10	3.00	1.20	2.10	3.00
Number of rungs	7	10	7	10	4	7	10
Metal (kg)	6.50	7.80	5.20	6.80			
Weight of section							
Fibre glass (kg)					3.60	6.30	9.00



MP-402-MB  
MP-403-MB

MP-402-MI  
MP-403-MI

MP-501-D  
MP-502-D  
MP-503-D

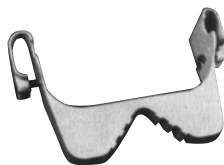
## Removable cradle for spliced ladders

### Characteristics

For fixing spliced ladders on gawged poles, there exists an extension comprising:

- 1 super polyamid "Nylon" strap.
- 1 snap-hook.
- 1 safety buckle.

- 1 ring.
- Useful tightening length: 1 meter.
- Overall dimensions.
- Length: 190 mm.
- Width: 280 mm.
- Thickness: 90 mm.



MP-400/2

MP-400/2

## Spliced ladders support

### Characteristics

Platform: metal protected against corrosion.

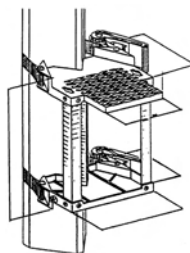
Straps of synthetic textile.

Overall dimensions.

- Length: 0.40 m.

- Width: 0.40 m.

- Height: 0.53 m.
- Approximate weight: 8.2 kg.



MP-404

MP-404

Weight: 8.2 kg

## 1.80 m platform

### Characteristics

Platform and tubes in reinforced plastic.

Securing system in light alloy and bronze.

Upper face of the platform skid-proof.

Length: 1.80 m.

Width: 0.26 m.

Weight: 47 kg.

Maximum load at the free end of the platform: 165 daN.

### Field of use

. Overhead network.

### Working method

. Distance method.

### Function use

Secured to a support other than a metal lattice tower, the 1.80 m PLATFORM is used to offer to the linemen a suitable work post notably in view of facilitating their work and respecting the minimum approach distance.

The platform should in no event be considered as an insulation in relation to the ground, of the lineman at his work post.



MP-393

MP-393

Weight: 47 kg

## EQUIPMENT FOR WORKING ON POLE

### Ladders stabilizers

#### Technical sheet

##### Characteristics:

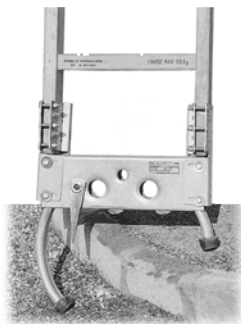
Body an feet in Aluminium alloy.

##### Use:

To be installed at the feet of the ladders.

#### FOR LADDERS

<b>MP-46500</b>	MP-506/2, MP-514/2, MP-515/2, MP-512/2R
<b>MP-46501</b>	MP-508/2, MP-510/2



**MP-46500**

### Ladder stabilizer

#### Description:

This device mounted on the top of the rails allows to secure the ladder on a fix point. It is suitable on all of type of ladder (made of wood, polyester or aluminium). Can be handle

by means of a rope  $\varnothing$  min 235 mm,  $\varnothing$  max 770 mm.



**MP-46700**

**MP-46700**

## No voltage detector

### Characteristics

Insulated box supplied with a grip link connector

Stop / Start switch

Operated by 4 dry batteries of 1.5 volts

Operational time: 40 hours on stand by mode 8 hours on audio alarm mode

Dimensions:

. Height: 0.210 m

. Length: 0.165 m

### Field of use

. Overhead network

### Working method

. Distance method / Suitable on universal hook pole (stick)

### Function use

Installed in the "on" mode, by its connector on one of the conductors of an overhead line the NO VOLTAGE DETECTOR, gives an audio signal when the voltage disappears.

IN ANY CASE, THIS DEVICE IS NOT TO BE USED AS A PRESENCE OF VOLTAGE DETECTOR.



CC-282-S

CC-282-S

Weight: 1.4 kg

## Phasing tester

### Characteristics

High - impedance probes

Fiber glass reinforced plastic short poles, grey colour

- total length: 0.64 m

- tube diameter: 28 mm

- meter range: 40 kV (ph/ph)

Light alloy universal end-pieces

Linkage cable

- length: 4.30 m

Reel with winding and unwinding guide of the link cable

### Field of use

. Overhead network / For determining phase relationships

### Working method

- Distance method

### Function use

Secured to the universal end-pieces of two poles, the phasing tester is used on installations with a rated voltage not over 33 kV.

- to identify that the phases on the two circuits are in harmony before connecting them together.

- to determine the order of magnitude of the voltage of an M.V. distribution network.

As soon as one of the short poles is located in a forbidden zone the linesmen should respect the minimum approach distance in relation to all the parts of the phasing tester: cable, other short pole adaptor etc.



CL-8-40-K

CL-8-40-K

Weight: 2.1 kg

## CONTROLLERS

### Single pole phase comparator

For indoor and outdoor use IEC 61481. Allows to detect on 3 phases voltage system, the phase relationship without cable link.

Integrated self checking device audible and visual indications power supply provided by a LF 22 9V battery.

**CL-7-10/30-K** Weight: 0.78 kg



**CL-7-10/30-K**

### Dynamometer

#### Characteristics

The device forms a triangle, comprising 2 arms and a cross-bar.

(IEC 606855)

Hook, vice an screw ring in light alloy.

Clamping vice tightening capacity: from 4 to 20 mm, corresponding to cables, from 12.6 to 228 mm<sup>2</sup>.

Device for the direct reading of the mechanical.

Tension: from 0 to 13 kN with an accuracy of 10%.

#### Dimensions:

- length: 0.50 m

- height: 0.39 m

- thickness: 0.12 m

Approximate weight : 2 kg

#### Field of use

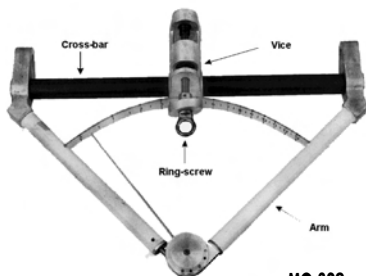
. Overhead network

#### Working method

. Distance method

#### Function use

The DYNAMOMETER is used to measure the mechanical tension of a wire or cable, watching for variations.



**MO-329**

**MO-329** Weight: 2.35 kg



# Our general catalogue



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**Short circuiting and earthing systems**  
**Insulated tools**

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# Storage and Maintenance Products

Maintenance products

134

Storage products

135

## Surface leakage tester

### Characteristics

220 V - 50 Hz power supply  
Secondary no loaded voltage:  
1.8 kV  
Secondary current limited to 120  
microamps.  
Approximate weight: 11 kg  
Overall dimensions:  
500 mm x 330 mm x 200 mm

### Field of use

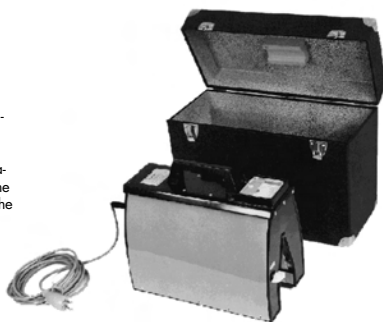
IEC 60855 tubes and rods

IEC 60855 standard

Detects surface contamination,  
internal moisture, internal conductive defect...

### Function use

MX-215 complies with IEC specification for testing live working tools. The tester is used to check and inspect the insulating qualities of the insulating tubes.



**MX-215**

	Size (L) (mm)	Diameter of Admissible tubes (mm)	Testing length approx. (mm)
<b>MX-215</b>	356	6 - 80	120

## Repair kit for live line poles

### Characteristics

The repair kit of the poles for live line work is composed of:  
- 1 bottle of repair varnish  
- 1 bottle of hardening product  
- 3 brushes size N°2  
All products are packed in wooden case.

### Storage

- Storage temperature:  
between 15°C and 25°C  
- Optimum temperature: 18°C



**MO-983**

<b>MO-983</b>	Packed in wooden case
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## Silicon grease

### Characteristics

Silicon grease in 5 kg can



**MO-981/5**

<b>MO-981/5</b>	Weight: 5 kg
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## STORAGE AND MAINTENANCE PRODUCTS

### Siliconed cloth

#### Characteristics

Teasled cotton impregnated with silicone. Minimum width: 0.30 m. Surface between 12 and 15 dm<sup>2</sup>.

#### Field of use

- Overhead network

#### Function use

1. USE: THE SILICONED CLOTH is used to silicone, before using the tools, then clean and dry insulating parts.

2. PRELIMINARY OPERATIONS:

- CLEAN AND DRY the surface to be siliconed.

3. USE OF THE CLOTH:

- COAT the surface to be siliconed, running the cloth over it.

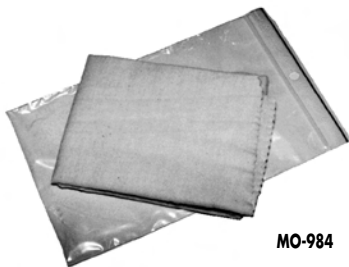
- Immediately after use, replace the cloth in its bag.

REMARKS: To avoid favouring the development of longitudinal dampness paths:

- In the case of tubes and rods, the cloth should be moved not following the generators but perpendicular to them.

- In the case of parts of other shapes, the cloth should be moved in small revolving movements.

Note: when washed, a siliconed cloth loses its properties: consequently the dirty cloths are disposed of or destroyed to avoid, if they are washed, being confused with silicone cloths in service.



MO-984

MO-984

Weight: 0.04 kg

### Neutral grease

#### Characteristics

The specification is as follows:

- neutral for aluminium and conductor insulation.
- consistent and water rejecting;
- high droplet point: 195°C approx.
- workable in cold temperatures: -40°C

#### Function use

Neutral grease is used for protecting the descaled surfaces of aluminium parts which are coated and prevents,

the natural formation of aluminium oxide in contact with the atmosphere.

- covering connector components and keeping them protected from contact with atmosphere and for protecting then against the penetration of humidity so avoiding any risk of humidity when connectors are placed in protecting gussets for insulated conductors on overhead lines. Supplied in plastic tubes containing 200 grams approx.



MO-980

MO-980

Weight: 0.23 kg

## Tarpaulin

### Characteristics

- Heavy duty canvas.

### Field of use

- Outdoor Work

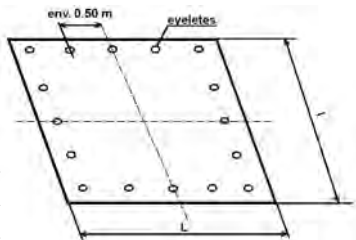
### Working method

- Contact Method

### Function use

- the TARPAULIN is designed specially for operators and intended to be placed on the ground, in order to efficiently spread all the tools and equipments necessary for working.

MO-813	3 X 3 m	Weight: 2.35 kg
MO-814	4 X 2 m	Weight: 6.4 kg



## Bag for caps

### Characteristics

Nylon basket with reinforced bottom and rope handle. Strong waterproof. Steel suspension hook.

Size:

Diameter: 30 cm (12")

Height: 40 cm (15")

MP-50	Weight: 0.71 kg
-------	-----------------



MP-50

## Container

### Characteristics

Rope plastic container with a cone inside to wind up the rope round it.

MO-47100	Weight: 3.0 kg
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MO-47100

## Tool bag

### Characteristics

Stitched leather with outside flap pocket

### Field of use

- Overhead Network

### Working method

- Contact Method

### Function use

The TOOL BAG is used to carry on the safety belt all the necessary L.V. insulated tools.

MO-32	
. length	: 250 mm
. width	: 230 mm
. height	: 50 mm

MO-32/2	
. length	: 300 mm
. width	: 220 mm
. height	: 120 mm

MO-32/3	
. length	: 250 mm
. width	: 230 mm
. height	: 100 mm

MO-32	Weight: 0.8 kg
MO-32/2	Weight: 1.2 kg
MO-32/3	Weight: 0.835 kg



MO-32

## STORAGE AND MAINTENANCE PRODUCTS

### Tool bag

#### Characteristics

Black grained leather with handle.  
The interior includes: an all-purpose pocket, a separation which forms a tool tray and a fold-down tool tray.

. length: 410 mm  
. width: 280 mm  
. height: 150 mm

**MO-34**

Weight: 2.71 kg



**MO-34**

### Tool bag

For intervention works, strong waterproof, canvas reinforced bottom, large capacity of storage, shoulder strap.

. length: 440 mm  
. width: 330 mm  
. height: 160 mm

**M-87370**

Weight: 1.2 kg



**M-87370**

### Tool rack

#### Characteristics

Steel body.  
Rubber supports.

#### Field of use

. Overhead Network

#### Working method

. Distance method

#### Function use

The TOOL RACK are used in pairs at the foot of the supports, to store the poles which are prepared to be used or which have just been used. Moreover, they facilitate the checking and maintenance operations on these tools before use.

**MG-911**

Approximate weight 7 kg



**MG-911**

## NOTES

# Aerial device with insulated boom



**FOR ALL DETAILS PLEASE  
CONSULT US.**



## **CAUTION :**

The equipment covered in our catalogue should be installed, used and serviced only by competent personnel familiar with and following good work and safety practices. This equipment is for use by such personnel and is not intended as a substitute for adequate training and experience in the safe procedures for this type of equipment.

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