



*Specialist*

*Electrical*

*Tooling*

[ Version 2 ]

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## SPECIALIST ELECTRICAL TOOLING

**Distributor of 3M, BOWTHORPE, GBZ, CEMBRE, MARTINDALE, PRYSMIAN, ALROC, RAYCHEM, CATU & SHEEN.**

**NW / UK / Export  
Tel 01978 340450**

**(Central) Ltd  
Tel 01785 825970**

**(Liverpool) Ltd  
Tel 0151 9339022**

**(Smith Electrical) Ltd  
Tel 0141 6212060**



RS 21752  
RS 26602



### About Cable Services

Founded in the early 1970's, Cable Services has been a specialist distributor of Cable and Cable Accessories since its inception. The involvement with the major manufacturers of jointing materials has meant that Cable Services has always been a recognised supplier of the specialised tooling associated with cable jointing and terminating. With this catalogue we are attempting for the first time to bring together under one cover all the essential tools required by the cable jointing community. All the key items featured in this catalogue will normally be available from stock. Where an item is out of stock, Cable Services would expect to deliver within a few days of receipt of an order.

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NOTE: If the item of tooling you are looking for is not included in this catalogue, please tell us - we are always looking for suitable items to add to our range, and can always source tools from alternative suppliers.





**One telephone call is all it takes to reserve a crimping tool for collection or despatch to site.**

***Competitive rates for daily, weekly or extended hire.***

### **Tools Available For Hire**

<b>Manual</b>	<i>Prysmian / Cembre BM120 Type Non Ratchet 10 - 120mm<sup>2</sup>.</i>
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<b>Small Hydraulic</b>	<i>Prysmian / Cembre G10TS Hand Hydraulic Type and FP10 Foot Operated Type. 10 - 400mm<sup>2</sup>.</i>
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<b>Medium Hydraulic</b>	<i>Cembre ECW-H3D up to 630mm<sup>2</sup>.</i>
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<b>Large Hydraulic</b>	<i>Prysmian / Cembre E22H Type with Foot Pump. Copper Conductors to 1000mm<sup>2</sup>.</i>
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<b>Hydraulic Cutter</b>	<i>Cembre TC120 Type. Maximum Cutting Diameter 120mm.</i>
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**Also Drum Jacks & Cable Rollers**

***Extensive Stocks of Prysmian and Cembre Tooling.***

***Contact one of our sales offices on the numbers below:***

 **01978 340450**

 **01785 825970**

 **0151 9339022**

 **0141 6212060**



**TOOL HIRE**



## Screen Scoring Tools

To strip non-bonded semi conductive screen off medium voltage cable.

Part Number - **LHM1R**

for diameters 14mm to 40mm  
leaves a semi-conductor strip length of 30 or 40mm

**LHML1R** spare blade for LHM 1R

Part Number - **LHM2R**

for diameters 38mm to 60mm leaves a semi-conductor strip length of 30, 40, 45, 55 or 60mm

**LHML2R** spare blade for LHM 2R



## Bonded Screen Removal Tools

To strip bonded semi conductive screen off medium voltage cable.

Part Number - **ASC25-R1** strip length 25mm,  
for diameters 14mm to 40mm  
leaves a semi-conductor strip length of 25mm

Part Number - **ASC40-R1** strip length 40mm,  
for diameters 14mm to 40mm  
leaves a semi-conductor strip length of 30 or 40mm

Part Number - **ASC25-R2** strip length 25mm,  
for diameters 38mm to 60mm

Part Number - **ASC40-R2** strip length 30mm or 40mm,  
for diameters 38mm to 60mm



## Outer Sheath Stripping Tools

Part Number - **PG1**  
for diameters 8mm to 21mm

Part Number - **PG2**  
for diameters 21mm to 35mm

Part Number - **PG3**  
for diameters 26mm to 52mm

Part Number - **PG4**  
for diameters 47mm to 75mm

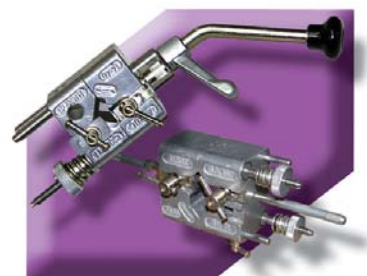


## Insulating Stripping Tools

To strip the insulation off medium voltage cable.

Part Number - **BRM-RD1**  
for diameters 14mm to 40mm

Part Number - **LH2**  
for diameters 38mm to 60mm



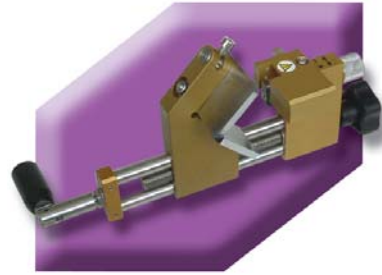
## Bonded Screen Removal Tools

Universal tool for shaving the bonded semiconductor layer of medium voltage cables 10-30 kV+. Working range between 10 and 50mm diameter. At the end of the shaving operation the stop can be made manual by switching off the sliding guide part. Adjustable cutting depth of blade - 0 - 1.2mm (steps of 0.1mm).

Part Number - **GB-P20**

Spare Blade *including screws*

Part Number - **GB-P20-S6**



## Sheath & Insulation Stripper

Dual function tool. This tool strips outer jackets with diameters between 15 and 50mm, and XLPE insulation up to a thickness of 8mm or 10mm. The automatic feed (2 steps) and the 0 position, for a radial cut, guarantees quick and accurate removal of the cable jacket and insulation.

Part Number - **GB-M20**

Part Number - **GB-M20-S5**

*replacement plastic rollers complete*

Part Number - **GB-M20-S8** *replacement blades (5pcs)*  
*(10mm thickness of cut)*

Part Number - **GB-M20-S9**

*insert to protect the insulation screen*



## Chamfering Tool

For removing the sharp edge of the insulation after using the insulation stripping tool where the jointing/terminating system requires a tapered finish. Diameters 15mm to 40mm.

Part Number - **GB-KG-05-3**



## Tool Set

Complete cable preparation tool kit consisting of GBM20 sheath stripper and plastic insert, GBP20 bonded screen peeling tool, GB-KG-05-3 universal chamfering tool and a transportation box.

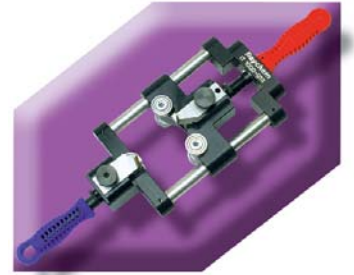
Part Number - **GB-PM20**



## Extra High Voltage Insulation & Bonded Screen Removal Tool

Part Number - **HVIA-STRIPPER-75/150**  
*cable diameters from 75mm to 150mm*

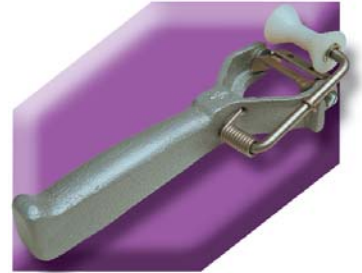
Part Number - **HVIA-STRIPPER-35/90**  
*cable diameters 35mm to 90mm*



## Bonded Screen Removal Tool

*For bonded screens on sector shaped conductors.*

Part Number - **EXRM 0305**



## Low Voltage Cable Preparation Tools

### Sheath Stripping Tool

*Cable cutting and stripping tool for diameters up to 8mm.*

Part Number - **UNI8**



### Sheath Removal Tool

Part Number - **UNI25+**  
*cables 25mm and above*

Part Number - **UNI29**  
*cables 4.5mm to 29mm*

Part Number - **UNI40**  
*cables 19mm to 40mm*

Part Number - **UNIB1**  
*spare blade for UNI29 & UNI40*

Part Number - **UNIB2**  
*spare blade for UNI25+*



## Electricians Scissors

Part Number - **SC1**





**GBZ**

## Cable Cutting Tools

A range of ratchet operated hand tools for cutting cables up to 75mm diameter.

Part Number - **GB-MKS-300**  
cutting diameter up to 35mm

Part Number - **GB-MKS-500**  
cutting diameter up to 52mm

Part Number - **GB-MKS-300S**  
cutting diameter up to 35mm  
with needle roller bearings

Part Number - **GB-MKS-500S**  
cutting diameter up to 52mm  
with needle roller bearings

Part Number - **GB-MKS-600S**  
two handed tool for  
cutting diameter up to 62mm

Part Number - **GB-MKS-800S**  
two handed tool for  
cutting diameter up to 80mm

Cable cutter for multi-wire telephoneldata and instrument cables.

Part Number - **GB-MKS-750T**  
cutting diameter up to 75mm

**Cembre**

## Cable Cutting Tools

### Hand Operated

Hand operated hydraulic tool specifically designed to cut copper, aluminium-steel cables, steel ropes, copper, aluminium and steel rods. Maximum cutting diameter 24mm.

Part Number - **HT-TC-026**

Also available as a cutting head for use with a separate pump.



### Hand Operated

Hand operated hydraulic tool for cutting copper, aluminium-steel cables and steel ropes. Its has a two stage hydraulic system to reduce operator time and effort . Maximum cutting diameter 40mm.

Part Number - **HT-TC-041**

Also available as a cutting head for use with a separate pump.





## Cable Cutting Tools

### Hand Operated

Hand operated hydraulic tool specifically designed to cut copper & aluminium cables and telephone cables. Maximum cutting diameter 50mm.

Part Number - **HT-TC-051**

Also available as a cutting head for use with a separate pump.



### Hand Operated

Hand operated hydraulic tool specifically designed to cut copper & aluminium cables and telephone cables. It has a two stage hydraulic system to reduce operator time and effort. Maximum cutting diameter 85mm.

Part Number - **HT-TC-0851**

Also available as a cutting head for use with a separate pump.



### Hydraulic Cutting Head

Hydraulic cutting head for use with various pumps (see crimping tool section). Capable of cutting copper, aluminium and telephone cable up to 120mm in diameter.

Part Number - **TC-120**



## Miscellaneous Cable Jointing Tools

### Wooden Handle Cable Knife

Part Number - **EXRM0607**



### Holding Tool

Holding tool for mechanical connectors. Avoids damage to conductors during installation of mechanical shear bolt connectors.

Part Number - **IT-1000-019**



### Cordless Impact Wrench

For the installation of Tyco Shear Bolt Mechanical Connectors and Lugs.

Part Number - **IT-1000-023**





## Non-Ratchet Handtool

*Non-ratchet single stroke tool with a single adjustable indent die. 10 - 120mm<sup>2</sup>.*

Part Number - **BM120U**



## Hand Hydraulic Crimping Tool

*Two stage hydraulic tool delivers 11.5 tonnes with quick ram advance. Pre-set overload ensures crimp reliability. Accepts wide range of interchangeable die sets.*

Part Number - **G10TS**



## Hydraulic Foot Pump

*Two stage foot operated pump with operating pressure of 700 Bar (10,000 psi). An audible overload valve operates at the end of the crimping cycle.*

Part Number - **FP10**  
(pump)

Part Number - **FP10-2**  
(pump, hose, case)

Part Number - **FP10-4**  
(pump, hose, case, GT10 head)



## Hydraulic Compression Head

*The G shaped head enables easy engagement with the cable and connector. 11.5 tonnes compression force. Accepts a wide range of interchangeable die sets with range 10 - 400mm<sup>2</sup>.*

Part Number - **G10H**



## Large Compression Head

*The latch top arrangement allows easy access to connector particularly with cable joints. Compressive force of 22 tonnes enables installation of copper and aluminium up to 1000mm<sup>2</sup>.*

Part Number - **E22**





## Die Sets

A wide range of hexagon and indent die sets to fit G10 type tools.

### Copper Nest Die

Part Number - **UNX\*\*C** (\*\* denotes conductor size)  
10 to 300mm<sup>2</sup>

### Copper Indentor Dies

Part Number - **UP10-25C**  
10, 16 and 25mm<sup>2</sup>

Part Number - **UP35-50C**  
35 and 50mm<sup>2</sup>

Part Number - **UP70-300C**  
70, 95, 120, 150, 240 and 300mm<sup>2</sup>

### Copper Hexagonal Die Set

Part Number - **U\*\*CHEX** (\*\* denotes conductor size)  
10 to 400mm<sup>2</sup>

Recommendations for aluminium connectors available upon request.



## Die Sets

Nest and indent dies for the E22 head.

### Copper Nest Dies

Part Number - **EDNX\*\*\*C** (\*\*\*) denotes conductor size)  
150 to 630mm<sup>2</sup>

Part Number - **EDN\*\*\*C** (\*\*\*) denotes conductor size)  
800 and 1000mm<sup>2</sup>

### Copper Indentor Dies (Requires Adaptor)

Part Number - **EDP150-185C**  
150 and 185mm<sup>2</sup>

Part Number - **EDP240-500C**  
240, 300, 400 and 500mm<sup>2</sup>

Part Number - **EDP630C**  
630mm<sup>2</sup>

Part Number - **EDP800-1000C**  
800 and 1000mm<sup>2</sup>

### Adaptor To Hold Indentor Inside Head

Part Number - **ED22AD1**  
150 to 500mm<sup>2</sup>

Part Number - **ED22AD2**  
630, 800 and 1000mm<sup>2</sup>



## Crimping Tools

### **Ratchet Handtool**

Ratchet handtool for end sleeves 25, 35 and 50mm<sup>2</sup>.

Part Number - **HNKE50**



### **Ratchet Tool**

Ratchet tool for pre-insulated connectors.

Part Number - **HP1**

0.2 to 2.5mm<sup>2</sup>

Part Number - **HP3**

2.5 to 6mm<sup>2</sup>



### **Ratchet Tool**

Ratchet tool for end sleeves (boot lace ferrules).

Part Number - **ND4**

0.5 to 4mm<sup>2</sup>

Part Number - **ND3**

6 to 16mm<sup>2</sup>

Part Number - **ND2**

1 to 6mm<sup>2</sup>

Part Number - **ND1**

0.3 to 1.5mm<sup>2</sup>



### **Ratchet Tool**

Ratchet tool for un-insulated copper tube terminals.

Part Number - **HN1**

0.25 to 10mm<sup>2</sup>

Part Number - **HN5**

10 to 16mm<sup>2</sup>



### **Non-Ratchet Single Stroke Tool**

Non-ratchet single stroke tool with adjustable indent die for non-insulated copper tube terminals.

Part Number - **TN70SE**

6 to 70mm<sup>2</sup>

Part Number - **TN120SE**

10 to 120mm<sup>2</sup>







## Battery Operated Hydraulic Crimping Tools

### Battery Hydraulic Crimping Tool

*Self contained hand tool. Lightweight and balanced for single handed use, 50KN crimping force. Accepts dies from CEMBRE 50KN die set range. 10 to 240mm<sup>2</sup>.*

Part Number - **B51**



### Battery Hydraulic Crimping Tool

*Self contained hand tool. Lightweight and balanced for single handed use, 130KN crimping force. Accepts all semi-circular slotted dies common to most 130KN tools.*

Part Number - **B131-C**



## Hand Hydraulic Crimping Tools

### Compact Hand Hydraulic

*Lightweight, compact hand hydraulic crimper. Pre-set overload when maximum pressure is reached. Accepts CEMBRE 50KN dies. 10 t 240mm<sup>2</sup>.*

Part Number - **HT51**



### Hand Hydraulic

*Hand hydraulic crimping tool. Two stage action consisting of fast advance of ram to engage connector then slower high pressure stage to complete the process. Accepts standard slotted semi circular dies.*

Part Number - **HT120**





## Crimping Tools

### Hydraulic Foot Pump

Two speed foot operated pump developing a maximum pressure of 700 Bar (10,000 psi). Supplied with standard 3m hose complete with female self-lock quick coupler.

Part Number - **PO7000**



### Electric Pump

Portable electro-hydraulic pump, operating at 24V dc by battery for independent use, developing 700 Bar pressure. Supplied with 3m flexible hose complete with male + female self-lock quick couplers, remote control, external battery charger, canvas holdall for carrying accessories.

Part Number - **B70M-P24**



### Hydraulic Compression Head

Standard G-shaped head complete with quick automatic coupler for connection to hydraulic pump. Accepts standard interchangeable die sets.

Part Number - **RHC131**



### Wide Jaw G Tool

Wide jaw G tool, particularly suitable for cable jointing applications on large cables. Complete with quick automatic coupler for connection to hydraulic pump. Accepts standard interchangeable die sets.

Part Number - **RHC131L**





## Die Sets

### Hexagonal Die Sets

A range of hexagon die sets for use with CEMBRE 5KN tools (HT50 and B50).

Part Number - <b>ME2-50</b>	- 10mm <sup>2</sup>
Part Number - <b>ME3-50</b>	- 16mm <sup>2</sup>
Part Number - <b>ME5-50</b>	- 25mm <sup>2</sup>
Part Number - <b>ME7-50</b>	- 35mm <sup>2</sup>
Part Number - <b>ME10-50</b>	- 50mm <sup>2</sup>
Part Number - <b>ME14-50</b>	- 70mm <sup>2</sup>
Part Number - <b>ME19-50</b>	- 95mm <sup>2</sup>
Part Number - <b>ME24-50</b>	- 120mm <sup>2</sup>
Part Number - <b>ME30-50</b>	- 150mm <sup>2</sup>
Part Number - <b>ME37-50</b>	- 185mm <sup>2</sup>

For information on selecting die sets for flexible and aluminium conductors, please contact our sales office.



### Hexagonal Die Sets

A range of semi-circular grooved dies to fit HT120 crimping heads.

Part Number - <b>ME2-C</b>	- 10mm <sup>2</sup>
Part Number - <b>ME3-C</b>	- 16mm <sup>2</sup>
Part Number - <b>ME5-C</b>	- 25mm <sup>2</sup>
Part Number - <b>ME7-C</b>	- 35mm <sup>2</sup>
Part Number - <b>ME10-C</b>	- 50mm <sup>2</sup>
Part Number - <b>ME14-C</b>	- 70mm <sup>2</sup>
Part Number - <b>ME19-C</b>	- 95mm <sup>2</sup>
Part Number - <b>ME24-C</b>	- 120mm <sup>2</sup>
Part Number - <b>ME30-C</b>	- 150mm <sup>2</sup>
Part Number - <b>ME37-C</b>	- 185mm <sup>2</sup>
Part Number - <b>ME48-C</b>	- 240mm <sup>2</sup>
Part Number - <b>ME60-C</b>	- 300mm <sup>2</sup>
Part Number - <b>ME80-C</b>	- 400mm <sup>2</sup>





## Die Sets

### **Copper Nests & Indentor Die**

Part Number - <b>MA2-C</b>	- 10mm <sup>2</sup>
Part Number - <b>MA3-C</b>	- 16mm <sup>2</sup>
Part Number - <b>MA5-C</b>	- 25mm <sup>2</sup>
Part Number - <b>MA7-C</b>	- 35mm <sup>2</sup>
Part Number - <b>MA10-C</b>	- 50mm <sup>2</sup>
Part Number - <b>MA14-C</b>	- 70mm <sup>2</sup>
Part Number - <b>MA19-C</b>	- 95mm <sup>2</sup>
Part Number - <b>MA24-C</b>	- 120mm <sup>2</sup>
Part Number - <b>MA30-C</b>	- 150mm <sup>2</sup>
Part Number - <b>MA37-C</b>	- 185mm <sup>2</sup>
Part Number - <b>MA48-C</b>	- 240mm <sup>2</sup>
Part Number - <b>MA60-C</b>	- 300mm <sup>2</sup>



### **Copper Indentor Die**

Part Number - <b>PA10-C</b>	- 10, 16, 25, 35 and 50mm <sup>2</sup>
Part Number - <b>PA24-C</b>	- 70, 95 and 120mm <sup>2</sup>
Part Number - <b>PA48-C</b>	- 150, 185 and 240mm <sup>2</sup>
Part Number - <b>PA60-C</b>	- 300mm <sup>2</sup>

*For information on selecting die sets for flexible and aluminium conductors, please contact our sales office.*

### **Crimping Gauges for Hydraulic Tools**

*MPC 2 device complete with test die set to measure the maximum force developed by Cembre Tools reference: HT131C, HT131L-C, HT120, RHC131, B131-C, B131C-L.*

Part Number - **MPC 2**

*MPC 3 device complete with test die set to measure the maximum force developed by Cembre Tools reference: HT43, HT51, RH50, RHM50, HT61, RH61, B46, B51, B62.*

Part Number - **MPC 3**




**Tyco Electronics Bowthorpe EMP**

## Operating Poles

*Bowthorpe operating poles are manufactured from high quality glass reinforced epoxy resin, suitably assembled and finished to comply with relevant design requirements. The present range reflects more than 30 years experience of supplying the World's Power Authorities.*

*The standard range falls into three groups:*

### Standard Series

*Normally supplied in 1.2m lengths (0.69m lengths available to order). 40mm diameter, fitted with copper alloy interlocking clips where appropriate. Foam filled versions available (suffix FF).*

#### Bottom Section

*Bottom section complete with rain shield.*

Part Number - **P4B**

*Intermediate section.*

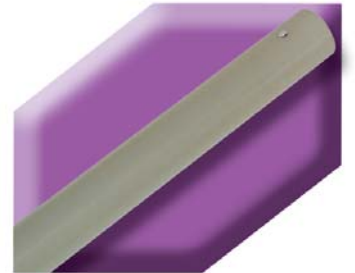
Part Number - **P4I**



#### Top Section

*Top section with riveted termination.*

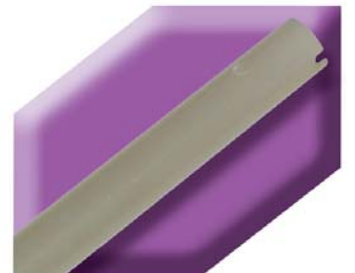
Part Number - **P4TR**



#### Top Section

*Top section with concealed joint termination.*

Part Number - **P4TCJ**



#### Top Section

*Top section with spring clip termination.*

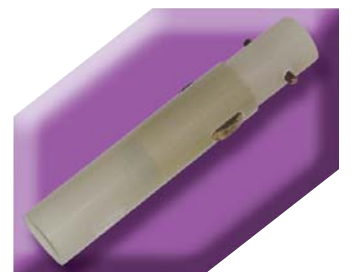
Part Number - **P4TS**



#### Top Section Adaptor

*Top section adaptor to convert intermediate section to top section spring clip termination specification.*

Part Number - **PI/PTS**



## Operating Poles

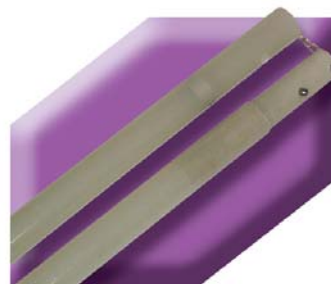
### GR Series

*Specially developed for tower and sub-station applications. Fully tested and approved to ESI standard 41-21 (draft). Supplied with non-slip hand grip and stainless steel interlocking clips where appropriate. Available with rivited and concealed joint top section terminations.*

#### **Type II Rivited Termination**

*Two sections each 1.2m long x 40mm diameter retained together with chain, with rivited top section termination.*

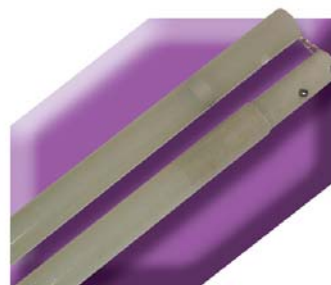
Part Number - **GR2R**



#### **Type II Concealed Joint Termination**

*Two sections each 1.2m long x 40mm diameter retained together with chain, with concealed joint top section termination.*

Part Number - **GR2CJ**



#### **Type III**

*Sections each 1.2m long x 40mm diameter. Suitable for fitting into bottom of Type I and Type II to extend length.*

Part Number - **GR3**






**Tyco Electronics Bowthorpe EMP**

## Operating Sockets

### Ring Type

Operating socket for ring type clamps, suitable for riveted top section poles (for use with clamps 420R, 204R, S9BR).

Part Number - **PHS4S** (Window)



## Pole Heads

Pole heads for use with spring clip top section poles (P4TS and Adaptor PI/PTS).

### For Bowthorpe Earth Clamps

Part Number - **PH031**



### Temporary Earthing Hook

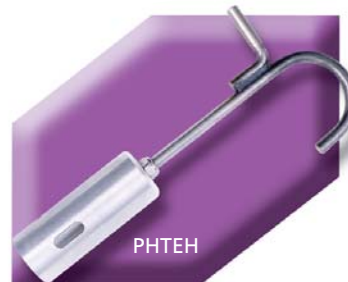
Part Number - **PHTEH**

### Universal Adaptor

Part Number - **PHUA**

### Splash Plate

Part Number - **PHSP**



### For Universal Fuse Cut-Outs

Part Number - **PH437**

### For J&P Fuse Cut-Outs

Part Number - **PH380**

### For LEL Fuse Cut-Outs

Part Number - **PH458**



## Tree Pruning Applications

### Poles

Heavy duty section where additional rigidity is required. 1.3m long x 49mm diameter fitted with stainless steel interlocking clip.

Part Number - **HP4I**

### Pole Adaptor

Adaptor to enable standard series intermediate and top section poles to be connected to the HP4I section.

Part Number - **HP/PI**

*NOTE: To fit the tree pruner and pruning saw to the HP4I section, an adaptor HP/PI and a standard range top section (P4TS) or top section adaptor (PIPTS) are required.*



### Tree Pruner

Part Number - **PH712C**



### Pruning Saw Complete With Sheath

Part Number - **PH440S**





## Gas Torches & Accessories

The Tyco FH1630 torch assembly for installation of heat shrink accessories offers maximum burning efficiency and best balance of surface pre-heat.

### Torch Handle

Torch handle with shut off valve for use with a FH1630-S nozzles, PIE regulators and hoses.

Nozzle connection thread  $R^{3/8}$ " right.

Hose connection thread  $R^{3/8}$ " left.

Part Number - **FH-1630-S-HNZ**



### Torch Handle

Torch handle with holder and shut off valve and pilot/full flame lever for all FH1630-S nozzles, PIE regulators and hoses.

Nozzle connection thread  $R^{3/8}$ " right.

Hose connection thread  $R^{3/8}$ " left.

Part Number - **FH-1630-S-HSZ**



### Nozzles

Nozzles for FH-1630-S handles.

Part Number - **FH-1630-S-BN28**

28mm diameter

Part Number - **FH-1630-S-BN38**

38mm diameter

Part Number - **FH-1630-S-BN50**

50mm diameter

Part Number - **FH-1630-S-PN17**

17mm diameter



### Torch Kit

Red enamel steel box containing BN28, BN38 and PN17 nozzles, torch handle HSZ, constant pressure regulator R1, automatic cut off valve CV and 5m high pressure hose.

Part Number - **FH-1630-S-MC10**



### Simple Torch Assembly

Simple torch assembly consisting of nozzle BN38, torch handle HSZ and 5m hose SW5.

Part Number - **FH-1630-S-TS1**





### **Torch Handle**

*Torch handle with piezo automatic ignition. Gas flow when trigger pressed only.*

*Nozzle connection bayonet socket.*

*Hose connection thread R<sup>3</sup>/<sub>8</sub>" left.*

Part Number - **FH-1630-PIE**



### **Nozzles**

*Nozzles for Piezo handles.*

Part Number - **FH-1630-PIE-BN28**

*28mm diameter*

Part Number - **FH-1630-PIE-BN38**

*38mm diameter*

Part Number - **FH-1630-PIE-BN50**

*50mm diameter*

Part Number - **FH-1630-PIE-PN18**

*18mm diameter*



### **Constant Pressure Regulator**

*Constant pressure regulator for all FH-1630 hoses. Suitable for propane gas bottles from 5kg to 11kg. 2 bar constant gas pressure.*

Part Number - **FH-1630-PIE-R1**

*Gas bottle connection*

*W21.8 x 1/4" LH DIN/COMBI*

Part Number - **FH-1630-PIE-R2**

*Gas bottle connection*

*W20 x 1/4" LH POL*

Part Number - **FH-1630-PIE-R3**

*Gas bottle connection*

*W20 x 1/4" LH SHELL*



### **High Pressure Hoses**

*High pressure hoses for all FH-1630 handles. Fitted with screw connections for FH1630 constant pressure regulator and handles.*

Part Number - **FH-1630-PIE-SW4**

*4m long*

Part Number - **FH-1630-PIE-SW5**

*5m long*

Part Number - **FH-1630-PIE-SW10**

*10m long*





### Automatic Cut Off Valve

Automatic cut off valve. Fitted between the hose and the constant pressure regulator - cuts off the gas supply in the event of damage to the hose or handle.

Part Number - **FH-1630-PIE-CV**



### Safety Valve

Safety Valve - combining the constant pressure regulator (FH-1630-PIE-R1) and the automatic cut off valve.

Part Number - **FH-1630-PIE-LGS**



### Torch Holder

Torch holder - snap fitted on the gas bottle providing a convenient parking place for the gas torch in on site conditions.

Part Number - **FH-1630-TH229**

Nominal bottle diameter - 229mm

Part Number - **FH-1630-TH300**

Nominal bottle diameter - 300mm



## Cable Spiking Kit

The Bowthorpe cable spiking kit is designed to prove a selected cable is dead before site work begins. The kit consists of a hand operated hydraulic pump connected to the spiker head by a 6m long fully insulated hose (longer lengths can be supplied). All parts are supplied in a stout wooden case. Cables up to 102mm in diameter can be pierced by the diamond shaped chisel.



Part Number - **BOW-F-CSTE**

**WARNING:** An independent earth lead **MUST** be fitted to the cable spiker body before the equipment is used. **Failure to do so could have serious consequences for the operator in the event of a live cable being pierced.**



## Lucy Cabinet Keys

### Lucy 'T' Key

Lucy 'T' key for pillar shell doors

Part Number - **T-KEY**

### Lucy Triangular Key

Lucy triangular headed pillar steel door key

Part Number - **TRI-KEY**



## Cable Drum Jacks & Spindles

Screw type fabricated steel.

Part Number - **J3CS** 3 Tonne

Part Number - **J6CS** 6 Tonne

Part Number - **J8CS** 8 Tonne

Various weights of spindles available. Please contact our sales office. A complete range of cable rollers is also available. Please contact our sales office with your requirements.

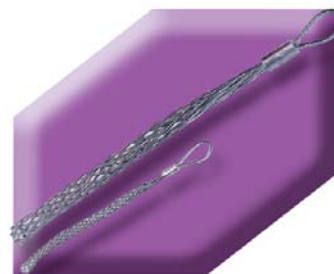


## Cable Pulling Stockings

High tensile galvanised steel stockings.

Part Number Overall Length Cable Diameter

<b>CS 11*</b>	305mm	6 - 13mm
<b>CS 12*</b>	430mm	13 - 19mm
<b>CS 13*</b>	510mm	19 - 25mm
<b>CS 14*</b>	610mm	25 - 38mm
<b>CS 15*</b>	735mm	38 - 50mm
<b>CS 16*</b>	865mm	50 - 63mm
<b>CS 17*</b>	990mm	63 - 89mm
<b>CS 18*</b>	990mm	89 - 115mm



Also available in stainless steel or kevlar

\*Suffix - S = Single Eye D = Double Eye L = Lace Up

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## Martindale Test Equipment

**WARNING:** Test equipment is designed for use only by competent persons with appropriate qualifications and experience.

### 110V CT Industrial Plug

Invaluable for checking sockets in factory or on site installations. Design for use on 110V centre tapped circuits.

Part Number - **CP301**

#### Specification

Operating Voltage: 110V AC  
(55-0-55V centre tapped only)

Operating Current: 30mA

Weight: 180g

Overvoltage Category: 2 110V



### Professional Check Plug

The professional Buzz It check plug has an IEC socket with an interchangeable 3 pin adaptor and TL 88 3 way fused lead with croc clips allowing testing at light fittings, distribution boards and terminals.

Part Number - **BZ600**

#### Specification

Main Supply: 200 - 250V (30-70Hz)

Power Consumption: <1.5W

Temperature Range: -10°C to 40°C  
at 60%RH (max)

Earth Leakage: <5mA

Dimensions: 65 x 65 x 47mm

Housing: Flame retardant ABS

Supplied with: EX-332 13A mains lead and TL88 3 way fused leads



### Classic Check Plug

Classic check plug is a fast and easy way to ensure that 13A sockets are wired correctly.

Part Number - **CP501**

#### Specification

Main Supply: 200 - 250V (30-70Hz)

Power Consumption: <1.2W

Temperature Range: -10°C to 40°C  
at 60%RH (max)

Earth Leakage: <5mA

Dimensions: 65 x 65 x 47mm

Housing: Flame retardant ABS



### Thermometer

Dual input digital thermometer with temperature difference capability. It is able to measure input / output temperatures through boilers, radiators etc. Hold and maximum buttons allow the current value to be frozen or the maximum reading to be stored.

Part Number - **DT75**

#### Specification

Display: 3 1/2 digit LCD

Measurement: -50°C to 1300°C  
or -58 to 2000°F

Resolution: 1°C or 1°F  
switchable to 0.1°C or 0.1°F

Input connector: Twin standard,  
miniature flat thermocouple con-  
nector inputs

Dimensions: 147 x 70 x 39mm

Weight: 215g

Includes: 2 K-type bead  
thermocouples, protective holster,  
battery and user manual.





## Non Trip Earth Loop Impedance Indicator

No trip earth loop impedance indicator gives safe earth loop impedance checking within carefully selected bands without tripping the RCDs.

Part Number - **EZ150**

Like all other indicators this unit cannot detect common earth and neutral or earth neutral reverse.

### Specification

Nominal Supply: 230V 50Hz
Earth loop impedance span: 0to1.7 $\Omega$ , 1.7to5 $\Omega$ , 5-10 $\Omega$ , 10to100 $\Omega$ , 100to200 $\Omega$ , 200to500 $\Omega$
Earth loop threshold accuracy: $\pm$ (10% + 0.3 $\Omega$ )
Voltage low indication: <195V
Voltage high indication: <270V
Open earth indication >500 $\Omega$
Dimensions: 65 x 65 x 50mm
Power Consumption: <1.6W
Over voltage: Cat II / 300V
Pollution degree: 2



## Professional Version of EZ150

Professional version of EX150 with IEC socket and interchangeable 3 pin adaptor and fused leads allowing for testing at light fittings, distribution boards and terminals.

Part Number - **EZ650**

### Specification

As Above
Spec for TL88 leads: 3 wire, two probes with removable croc clips and 1 fixed crocodile clip, supplied with X (IEC) connector - 10A fused.



## Non Trip Earth Loop Impedance Tester

Non trip earth loop impedance tester, carries out loop impedance checks from any 13A socket without using probes, operating switches or pressing buttons. Simply plug in.

Part Number - **EZ2100**

### Specification

Operation Voltage: 230V 50Hz	Open earth indication: 2k to 70k >2k $\Omega$ >70k "open earth" (current less than 3.5mA)
Non trip Earth loop impedance range: 0.1to8.99 $\Omega$ (0.01 $\Omega$ res.), 9to89.9 $\Omega$ (0.1 $\Omega$ res.), 90to2k $\Omega$ (1 $\Omega$ res.)	Power Consumption: Typical 4.5mA, max 7mA, <2VA
Earth loop accuracy: $\pm$ (3% + 0.1 $\Omega$ +2 digits)	Over voltage: Cat II / 300V
Voltage indication: low <195V, high >270V	Pollution degree: 2
EN threshold: 30W	Dimensions: 140 x 80 x 55mm
Weight: 230g	Supplied with: 13A plug top test lead and carry case. No batteries required.



## Insulation Tester

Economy 16th edition tester. With automatic zero adjust feature to remove the resistance of the leads, fast accurate continuity testing at 200mA.

Part Number - **IN2001**

### Specification

Insulation: 10k $\Omega$ to 100M $\Omega$ at 500V
Continuity: 0to200 $\Omega$ , 0.01 $\Omega$ resolution (audible tone <1 $\Omega$ )
Voltage range: 500V AC
Complies with: BS EN 61557 and 16th edition
Dimensions: 190 x 90 x 54mm
Includes: quality soft protective carry case, test lead, battery & user manual.



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### Insulation Tester

Insulation and continuity tester gives 250, 500 and 1000V tests. Automatic zero adjust feature to remove the resistance of the leads, the three test voltages enables the widest range of testing.

Part Number - **IN2003**

#### Specification

**Insulation:** 10k $\Omega$  to 50M $\Omega$  at 250V, 10k $\Omega$  to 100M $\Omega$  at 500V, 10k $\Omega$  to 200M $\Omega$  at 1000V

**Continuity:** 0 to 200 $\Omega$ , 0.01 $\Omega$  resolution (audible tone <1 $\Omega$ )

**Voltage range:** 500V AC

**Complies with:** BS EN 61557 and 16th edition

**Dimensions:** 190 x 90 x 54mm

**Includes:** quality soft protective carry case, test lead, battery & user manual.



### Insulation Tester

With clear 4000 count, backlit digital display with analogue bargraph. Comes complete with test leads, auto zero, auto hold and battery condition indicator. Output test voltage automatically displayed during testing. 250, 500 and 1000V test, user setable limits with pass/fail indication.

Part Number - **IN2103**

#### Specification

**Insulation:** 200k $\Omega$  to 2,000M $\Omega$  at 250, 500 or 1000V in 4 ranges, with automatic discharge

**Continuity:** 0.01 to 40 $\Omega$ , 0.01 $\Omega$  resolution at 200mA DC (buzz <1 $\Omega$ )

**Resistance:** 0.1 $\Omega$  to 2,000 M $\Omega$  (buzz <1 $\Omega$ )

**Voltage range:** 600V AC/DC, warning for voltage presence.

**Complies with:** BS EN 61557 and BS 7671:2001 (16th edition)

**Over voltage:** 300V Category III

**Dimensions:** 190 x 190 x 54mm

**Includes:** batteries, test leads, instructions and carry case.



### RCD Tester

For fast and easy to use testing of all common RCDs rated up to 500mA.

Part Number - **RC2000**

#### Specification

**RCD rating (I $\Delta$ N):** 6mA, 10mA, 30mA, 100mA, 300mA and 500mA

**Half trip setting (1/2 x I $\Delta$ N):** 3mA, 5mA, 15mA, 50mA, 150mA and 250mA

**Fast trip setting:** 150mA (for I $\Delta$ N=6, 10 and 30mA only)

**Test polarity:** 0° and 180°

**Timing range:** 0 - 1999mSec (resolution of 1mSec)

**Timing accuracy:**  $\pm$ 2% of reading  $\pm$ 1 digit

**Dimensions:** 190 x 90 x 54mm

**Includes:** quality soft protective carry case, mains test lead & user manual.



## Loop Tester

A fast accurate auto ranging 16th Edition earth loop impedance tester. It can carry out phase earth and phase neutral testing and it automatically displays prospective short circuit current readings.

Part Number - **LP2000**

### Specification

**Phase earth loop:** (auto ranging)  
0to15 $\Omega$ , resolution 0.01 $\Omega$ ,  
15to199.9 $\Omega$ , resolution 0.1 $\Omega$

**Prospective short circuit current:**  
9A to 19.99kA, resolution 10A

**Dimensions:** 190 x 90 x 59mm

**Includes:** quality soft protective carry case, mains test lead, green wander lead & user manual.



## General Purpose Multimeter

11 functions including 10amp range, basic accuracy of 0.8% suitable for most applications. The meter has ceramic fuse protection and a wrong connection bleep to prevent misuse. It has audible continuity check and also measures capacitance and frequency

Part Number - **MM44**

### Specification

**AC V:** 100mV to 600V (5 ranges)  
(50Hz to 500Hz)

**AC A:** 10 $\mu$ A to 10A (3 ranges)  
(50Hz to 500Hz)

**DC V:** 100 $\mu$ V to 600V (5 ranges)

**DC A:** 10 $\mu$ A to 10A (3 ranges)

**Ohms:** 100m $\Omega$  to 2000M $\Omega$  (7 ranges)

**Continuity:** Buzz at <100 $\Omega$

**Frequency:** 1Hz to 15MHz  
(5 ranges, auto ranging)

**Capacitance:** 1pF to 20 $\mu$ F (5 ranges)

**Logic test:** Hi 2.8V  $\pm$  0.8V  
Lo 0.8V  $\pm$  0.5V

**Diode and transistor test**

**Battery test:** 1.5V, 9V

**Overvoltage:** 600V, Cat 3

**Dimensions:** 147 x 70 x 39mm

**Supplied with:** protective holster, test leads, installed battery, spare fuse and user manual.



## Electricians Multimeter

Electrician multimeter with phase rotation and temperature measurement. Designed to meet the needs of the professional electrician by including audible continuity, phase rotation, frequency and temperature as well as the basic electrical functions.

Part Number - **MM47**

### Specification

**3 1/2 digit LCD display with automatic polarity and zero.**

**AC V:** 10 $\mu$ V to 600V (3 ranges) (1mV)

**Capacitance:** 0.01 $\mu$ F to 2mF  
(4 ranges)

**DC V:** 100 $\mu$ V to 600V (4 ranges)

**Temperature:** -20 to 750 $^{\circ}$ C  
-4 to 1400 $^{\circ}$ F (K-type probes)

**Ohms:** 100m $\Omega$  to 2000M $\Omega$  (7 ranges)

**Phase rotation indicator:**  
80 to 480V, 45 to 450Hz

**Diode test**

**Frequency:** 10Hz to 40kHz  
autoranging 1Hz resolution

**Overvoltage:** 600V, Cat 3

**Dimensions:** 147 x 70 x 39mm

**Supplied with:** test leads, battery, K-type probe, user manual and rubberised protective holster.



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## Fuse Finder

The Elite professional fuse finder brings microprocessor controlled multi level sensitivity to fuse and breaker identification. Capable of operating from either 13A plug top lead for sockets or TL83 lead for light fittings or other points in a circuit.

Part Number - **FD650**

### Specification

#### Transmitter

Voltage range: 230V
Frequency range: 50 - 60Hz
Switching frequency: Approx. 5Hz
Transmission pulse width: Approx. 1.7 $\mu$ S
Transmission pulse amplitude: 20A max
Dimensions: Approx 65 x 65 x 46mm
Weight: 65g
Earth leakage: Nil
Power supply: From mains
Overvoltage: Cat III / 300V
Pollution degree: 2
Protection class: IP20

#### Receiver

Trace depth for fuse assignment: Approx. 0 - 10cm, depending on local conditions
Dimensions: 202 x 32 x 22mm
Weight: 150g (excl. battery)
Protection class: IP20
Power supply: 9V battery, MN1604/PP3, IEC 6LA61 (alkaline only) - not included.
Units are EMC compliant



## 1000A AC Clamp Meter

For general purpose use with large jaw size, voltage and resistance ranges. The ideal basic clamp for AC current use with the functions of a standard multimeter.

Part Number - **CM54**

### Specification

3 1/2 digit LCD display with large 21mm digits
AC V: 1V to 750V (50Hz to 500Hz)
AC A: 100mA to 1000A (2 ranges) (50 / 60Hz)
DC V: 1V to 1000V
Ohms: 100m $\Omega$ to 2000M $\Omega$ (4 ranges)
Continuity: Buzz at <75 $\Omega$
Max conductor: 57mm $\varnothing$ or 70 x 18mm bar
Dimensions: 277 x 102 x 49mm
Weight: 540g
Includes: test leads, soft carry case and user manual.







## Catu Isomil Insulated Tools

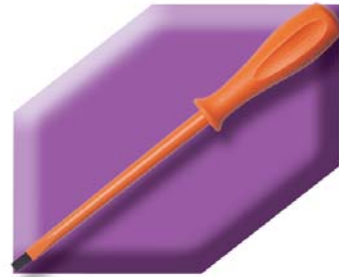
A complete range of insulated tools for live working up to 1000V according to IEC 60900 standard. Individually tested to 10,000 volts.

Imperial sizes of sockets and spanners also available.

### Flat Bladed Screwdrivers

Chrome-molybdenum vanadium steel blade.

- Part Number - **MO-65203** - Blade 3x100mm
- Part Number - **MO-65204** - Blade 3.5x100mm
- Part Number - **MO-65205** - Blade 4x100mm
- Part Number - **MO-65206** - Blade 5.5x125mm
- Part Number - **MO-65207** - Blade 6.5x150mm
- Part Number - **MO-65209** - Blade 8x175mm
- Part Number - **MO-65211** - Blade 10x200mm



### PoziDriv Screwdrivers

Chrome-molybdenum vanadium steel blade.

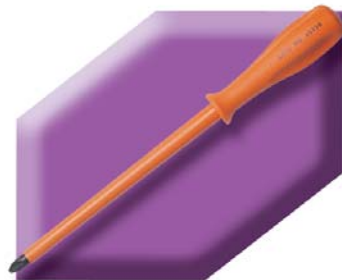
- Part Number - **MO-65240** - No.0 Head 3x60mm
- Part Number - **MO-65242** - No.1 Head 4.5x80mm
- Part Number - **MO-65244** - No.2 Head 6x100mm
- Part Number - **MO-65246** - No.3 Head 8x150mm
- Part Number - **MO-65248** - No.4 Head 10x200mm



### Phillips Screwdrivers

Chrome-molybdenum vanadium steel blade.

- Part Number - **MO-65230** - No.0 Head 3x60mm
- Part Number - **MO-65232** - No.1 Head 4.5x80mm
- Part Number - **MO-65234** - No.2 Head 6x100mm
- Part Number - **MO-65266** - No.3 Head 8x150mm



The full range of CATU Electrical Safety Equipment is also available. Contact our sales office for information.



## Universal Pliers

*Special tool steel, oil hardened, burnished head.*

Part Number - **MO-66001** - Overall Length 160mm

Part Number - **MO-66002** - Overall Length 180mm

Part Number - **MO-66003** - Overall Length 200mm

Part Number - **MO-66005** - Overall Length 250mm



## Flat Nosed Pliers

*Special tool steel, oil hardened, burnished head.*

Part Number - **MO-66300** - Overall Length 145mm

Part Number - **MO-66302** - Overall Length 160mm



## Round Nosed Pliers

*Special tool steel, oil hardened, burnished head.*

Part Number - **MO-66202** - Overall Length 160mm



## Bent Snipe Nosed Pliers

*Chrome-vanadium steel, burnished head.*

Part Number - **MO-66402** - Overall Length 160mm

Part Number - **MO-66404** - Overall Length 200mm



## Long Nosed Pliers with Side Cutter

*Special tool steel, oil hardened, burnished head.*

Part Number - **MO-66102** - Overall Length 160mm



## Water Pump Pliers

*Chrome-vanadium steel, burnished head.*

### **Standard**

Part Number - **MO-66502** - Overall Length 250mm

### **Box Joint**

Part Number - **MO-66505** - Overall Length 250mm



## Side Cutters

Special carbon steel, oil hardened, burnished head.

Part Number	Overall Length	Cutting Capacity (mm)	
		(soft 80kg/mm <sup>2</sup> )	(hard 140kg/mm <sup>2</sup> )
<b>MO-67101</b>	140mm	Diam 2	Diam 1
<b>MO-67102</b>	160mm	Diam 2.5	Diam 1.5
<b>MO-67103</b>	180mm	Diam 3	Diam 2.5



## End Cutters

Special carbon steel, oil hardened, burnished head.

Part Number	Overall Length	Cutting Capacity (mm)	
		(soft 80kg/mm <sup>2</sup> )	(hard 140kg/mm <sup>2</sup> )
<b>MO-67401</b>	140mm	Diam 2	Diam 1
<b>MO-67402</b>	160mm	Diam 3	Diam 2
<b>MO-67404</b>	180mm	Diam 4	Diam 3



## Cable Cutters

Chrome-vanadium forged steel, oil hardened.

Part Number	Overall Length	Cutting Capacity
<b>MO-67500</b>	170mm	4mm Diam
<b>MO-67501</b>	170mm	15mm Diam
<b>MO-67502</b>	230mm	20mm Diam



## Ratchet Cable Cutters

Copper and aluminium cable only. Treated forge steel blade.

Part Number	Cutting Capacity
<b>MO-67599</b>	32mm <sup>2</sup> / 180mm <sup>2</sup> CU / 250mm <sup>2</sup> Alum
<b>MO-67600</b>	38mm <sup>2</sup> / 240mm <sup>2</sup> CU / 300mm <sup>2</sup> Alum
<b>MO-67601</b>	55mm <sup>2</sup> / 300mm <sup>2</sup> CU / 450mm <sup>2</sup> Alum
<b>MO-67611</b>	24mm <sup>2</sup> / 150mm <sup>2</sup> CU / 180mm <sup>2</sup> Alum



## Hacksaw

Protected hard forge steel. two blade positions, flush and 90° cutting options. Supplied with 2 blades.

Part Number - **MO-64502** - Overall Length 450mm





## Adjustable Spanner

*Special tooled steel, oil hardened.*

Part Number Overall Length Maximum Capacity

**MO-69002** 210mm 24mm

**MO-69003** 250mm 28mm

**MO-69004** 310mm 34mm

**MO-69005** 385mm 43mm



## Reversible Hexagonal Ratchet Spanner

*Special tool steel, oil hardened.*

Part Number - **MO-69210** - Size 10mm

Part Number - **MO-69213** - Size 13mm

Part Number - **MO-69216** - Size 16mm

Part Number - **MO-69217** - Size 17mm

Part Number - **MO-69218** - Size 18mm

Part Number - **MO-69219** - Size 19mm



## Combination Wrench

*Special steel sockets.*

Part Number - **MO-68702**  
4 Hexagonal Sockets 8 / 10 / 12 / 14mm

Part Number - **MO-68703**  
4 Hexagonal Sockets 7 / 9 / 11 / 13mm

Part Number - **MO-68704**  
4 Hexagonal Sockets 8 / 10 / 13 / 17mm



## Right Angle Hexagonal Key Wrench

*Chrome vanadium steel.*

Part Number - **MO-69903**  
Hexagonal Head - 3mm / 83x123mm

Part Number - **MO-69904**  
Hexagonal Head - 4mm / 84x124mm

Part Number - **MO-69905**  
Hexagonal Head - 5mm / 84x126mm

Part Number - **MO-69906**  
Hexagonal Head - 6mm / 85x126mm

Part Number - **MO-69908**  
Hexagonal Head - 8mm / 87x128mm

Part Number - **MO-69910**  
Hexagonal Head - 10mm / 87x130mm

Part Number - **MO-69912**  
Hexagonal Head - 12mm / 90x132mm





## Open Ended Spanners

Chrome vanadium steel.

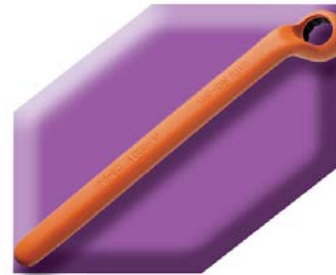
Part Number	Size	Part Number	Size
<b>MO-68008</b>	8mm	<b>MO-68020</b>	20mm
<b>MO-68009</b>	9mm	<b>MO-68021</b>	21mm
<b>MO-68010</b>	10mm	<b>MO-68022</b>	22mm
<b>MO-68011</b>	11mm	<b>MO-68023</b>	23mm
<b>MO-68012</b>	12mm	<b>MO-68024</b>	24mm
<b>MO-68013</b>	13mm	<b>MO-68025</b>	25mm
<b>MO-68014</b>	14mm	<b>MO-68026</b>	26mm
<b>MO-68015</b>	15mm	<b>MO-68027</b>	27mm
<b>MO-68016</b>	16mm	<b>MO-68028</b>	28mm
<b>MO-68017</b>	17mm	<b>MO-68029</b>	29mm
<b>MO-68018</b>	18mm	<b>MO-68030</b>	30mm
<b>MO-68019</b>	19mm	<b>MO-68032</b>	32mm



## Cranked Ring Spanners

Chrome vanadium steel.

Part Number	Size	Part Number	Size
<b>MO-68107</b>	7mm	<b>MO-68120</b>	20mm
<b>MO-68108</b>	8mm	<b>MO-68121</b>	21mm
<b>MO-68109</b>	9mm	<b>MO-68122</b>	22mm
<b>MO-68110</b>	10mm	<b>MO-68123</b>	23mm
<b>MO-68111</b>	11mm	<b>MO-68124</b>	24mm
<b>MO-68112</b>	12mm	<b>MO-68125</b>	25mm
<b>MO-68113</b>	13mm	<b>MO-68126</b>	26mm
<b>MO-68114</b>	14mm	<b>MO-68127</b>	27mm
<b>MO-68115</b>	15mm	<b>MO-68128</b>	28mm
<b>MO-68116</b>	16mm	<b>MO-68129</b>	29mm
<b>MO-68117</b>	17mm	<b>MO-68130</b>	30mm
<b>MO-68118</b>	18mm	<b>MO-68132</b>	32mm
<b>MO-68119</b>	19mm		



## Hexagonal Spanners with T Handle

Chrome steel. Length 139mm.

Part Number - **MO-68610** - Size 10mm

Part Number - **MO-68613** - Size 13mm

Part Number - **MO-68614** - Size 14mm

Imperial sizes available. Contact our sales office for information.





## Socket Wrenches

Chrome steel.

### $\frac{3}{8}$ " Drive

Part Number	Size
<b>MO-69306</b>	6mm
<b>MO-69307</b>	7mm
<b>MO-69308*</b>	8mm
<b>MO-69309</b>	9mm
<b>MO-69310*</b>	10mm
<b>MO-69311</b>	11mm
<b>MO-69312*</b>	12mm
<b>MO-69313*</b>	13mm
<b>MO-69314*</b>	14mm
<b>MO-69315</b>	15mm
<b>MO-69316</b>	16mm
<b>MO-69317*</b>	17mm
<b>MO-69318</b>	18mm
<b>MO-69319*</b>	19mm
<b>MO-69321*</b>	21mm
<b>MO-69322*</b>	22mm
<b>MO-69323*</b>	23mm

### $\frac{1}{2}$ " Drive

Part Number	Size
<b>MO-69408*</b>	8mm
<b>MO-69410*</b>	10mm
<b>MO-69411</b>	11mm
<b>MO-69412*</b>	12mm
<b>MO-69413*</b>	13mm
<b>MO-69414*</b>	14mm
<b>MO-69415</b>	15mm
<b>MO-69416</b>	16mm
<b>MO-69417</b>	17mm
<b>MO-69418</b>	18mm
<b>MO-69419*</b>	19mm
<b>MO-69420</b>	20mm
<b>MO-69421*</b>	21mm
<b>MO-69422*</b>	22mm
<b>MO-69423*</b>	23mm
<b>MO-69424</b>	24mm
<b>MO-69430</b>	30mm



## Socket Tools

### $\frac{3}{8}$ " Drive

- Part Number - **MO-69513\*** - Reversible Ratchet
- Part Number - **MO-69523\*** - Extension Bar 130mm
- Part Number - **MO-69533** - Extension Bar 250mm
- Part Number - **MO-69542** - T-Wrench 130mm
- Part Number - **MO-69543** - T-Wrench 200mm

### $\frac{1}{2}$ " Drive

- Part Number - **MO-69514\*** - Reversible Ratchet
- Part Number - **MO-69524\*** - Extension Bar 125mm
- Part Number - **MO-69534** - Extension Bar 250mm
- Part Number - **MO-69544** - T-Wrench 300mm

## Socket Sets

- Part Number - **MO-69308/23** -  $\frac{3}{8}$ " Socket Set
- Part Number - **MO-69408/23** -  $\frac{1}{2}$ " Socket Set

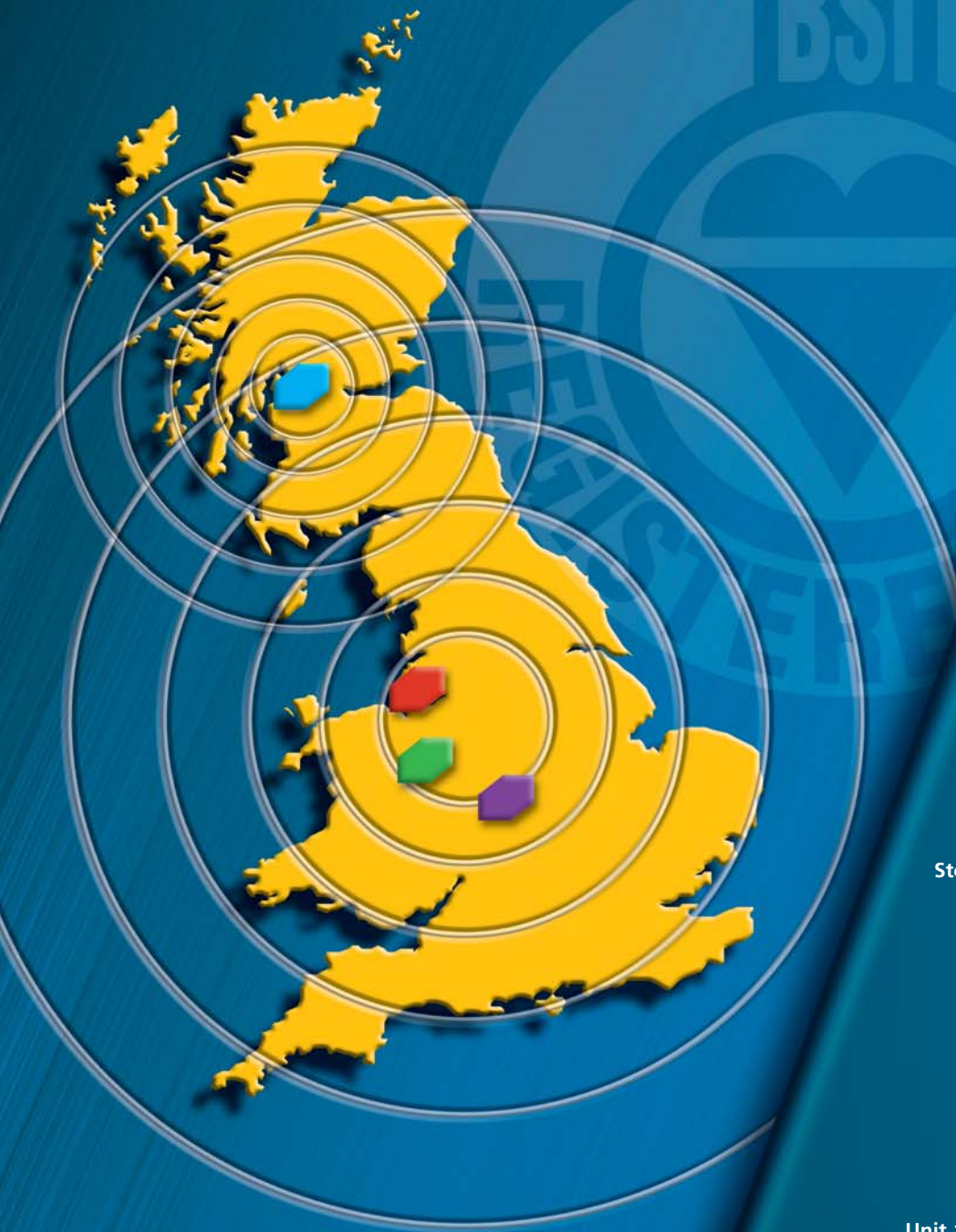
Socket sets comprise items marked \*.  
Supplied in plastic box 410 x 120 x 75mm.



Handwriting practice area consisting of 25 horizontal dotted lines.



# CABLE SERVICES



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