



henchman  
p r o d u c t s



Electronics

# Serving your business with quality service and tools for over 20 years

## Our story...

Henchman Products Pty Ltd is an established supplier and manufacturer of professional Tools & Equipment for Technicians and Engineers.

Established in 1999 in Newcastle NSW as a one man business, Henchman was the first in Australia to distribute a dedicated catalogue to the electronics industry which included a range of brands and products specific to PCB assembly and repair.

Since then, we have grown steadily as reputable and reliable solution provider. We aim to be known as a consultant, sourcing and specifying tools & equipment that increase our customers bottom line – by reducing rework, improving methods and processes, error proofing and advanced quality control.

Our range of expertise includes soldering, static control, fume extraction, test and measurement, mechanical assembly and precision hand tools.

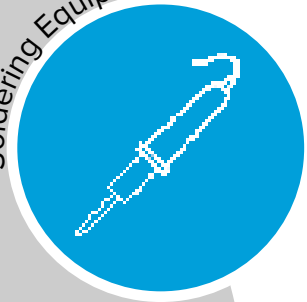
We stock brands carefully sourced from the world's leading manufacturers from Germany, UK, Italy, Sweden, Poland, USA, Taiwan and many more.

In case the extensive range of products in this 6th edition of our famous catalogue doesn't meet your specific requirements, please get in touch with our experienced sales staff and we will strive to continue to help you work, professionally!

## Our vision...

- Commitment to impeccable customer service
- Positivity, honesty and integrity
- To be recognised as a leading supplier of tooling solutions, toolkits and tools across all industries

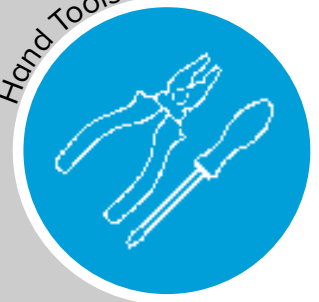
Soldering Equipment



Static Control



Hand Tools



Torque Control



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Contents ..... 1-3

## Soldering Equipment..... 4



ATTEN ..... 6

- GT Series Soldering Stations ..... 6
- GT Series Tips ..... 9
- ST Series Soldering Stations..... 10
- ST Series Tips ..... 11



JBC ..... 12

- Compact Line Soldering Stations ..... 13
- Modular Line Soldering Stations..... 14
- Handpieces / Accessories ..... 16
- Premium Line Soldering Stations..... 18
- Cartridges / Tips ..... 20



Hakko ..... 24

- Soldering Stations ..... 24
- Handpieces ..... 27
- Tips / Nozzles..... 28



- OKI / Metcal Tips ..... 36
- Weller Mains Irons & Tips..... 36
- Pace Handpieces & Tips ..... 37
- Thermaltronic Tips ..... 38
- Solder Pots / Accessories ..... 39
- Solder Wicks & Wires ..... 40
- Fluxes & Pastes..... 42

## Production / Laboratory Equipment..... 44



- Fume Extraction ..... 46
- Dispensing Equipment..... 50
- Dispensing Automation ..... 53
- Bench Inspection..... 54
- Bending Machines ..... 56
- Ultrasonic Cleaners ..... 57



## Static Control..... 58

Static Control.....	60
ESD Clothing .....	62
Ionizers / Vacuums.....	63
ESD Maintenance Products .....	64
ESD Storage .....	65
ESD Test Equipment.....	66
ESD Brushes.....	68
ESD Bags.....	69



## Toolcases & Toolkits..... 70

Explorer Cases.....	72
Toolcases .....	74
Toolkits.....	76



## Hand Tools..... 78

Screwdrivers .....	80
Screwdrivers, Blade System.....	90
Hex Keys & Torx Keys .....	92
Pliers .....	94
Cutters.....	98
Service Aids.....	103
Tweezers.....	104
Crimping Tools .....	106
Wirestrippers .....	114
Tie Guns.....	117
Scissors, Cable Shears & Knives .....	118
Measuring & Marking.....	120
Spanners .....	123
Sockets .....	126



## Torque Equipment ..... 128

Andilog.....	130
Atlas Copco .....	133
Desoutter.....	136
Wiha .....	138
Other Torque Drivers.....	140
Torque Wrenches .....	141

**Fluke Test Equipment.....142**



Digital Multimeters .....144

Clamp Meters .....152

Battery Testers.....153

Thermometers.....154

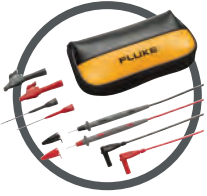
Infrared Cameras .....160

Insulation Testers .....166

Oscilloscopes .....168

Test Leads, Probes and Clips .....170

Other Test Equipment.....173



**Specialist Tools, Power Tools & Other .....174**



Toner Vacuum Cleaners.....176

Glue Guns.....178

Heat Guns .....179

Power Tools .....180

Drill Bits .....182

Panavise .....183

**Consumables.....184**



Screwdriver Bits.....186

Aerosols & Cleaners, various.....188

Gloves .....191

Glasses .....191

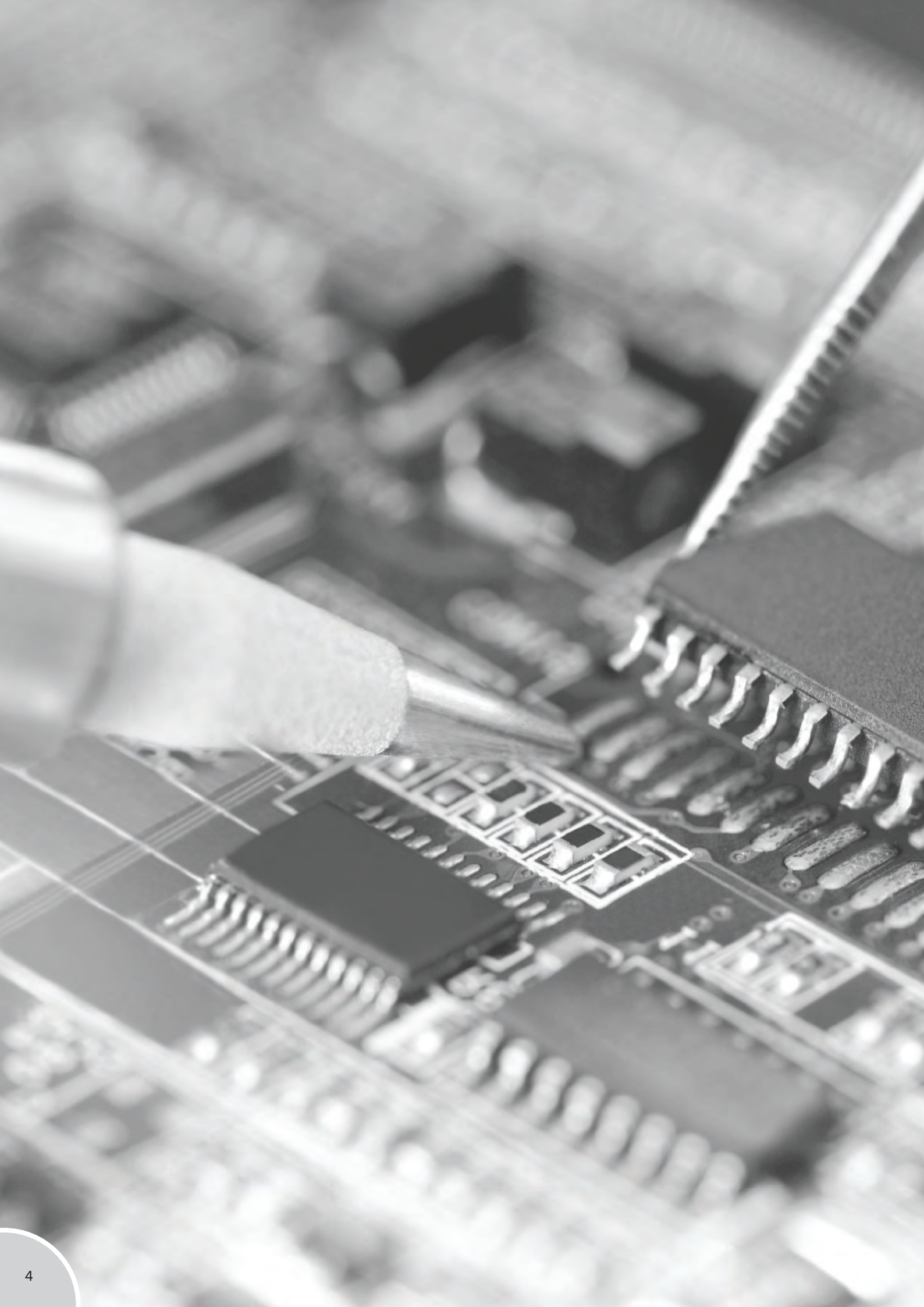
Wipes.....192

Other Consumables .....193

Index .....194

Notes .....199

Conversion Charts .....200



# Soldering Equipment

<b>ATTEN</b> .....	6
GT Series Soldering Stations.....	6
GT Series Tips .....	9
ST Series Soldering Stations .....	10
ST Series Tips.....	11
<b>JBC</b> .....	12
Compact Line Soldering Stations.....	13
Modular Line Soldering Stations .....	14
Handpieces / Accessories.....	16
Premium Line Soldering Stations .....	18
Cartridges / Tips .....	20
<b>Hakko</b> .....	24
Soldering Stations .....	24
Handpieces .....	27
Tips / Nozzles.....	28
<b>OKI / Metcal Tips</b> .....	36
<b>Weller Irons &amp; Tips</b> .....	36
<b>Pace Handpieces &amp; Tips</b> .....	37
<b>Thermaltronic Tips</b> .....	38
<b>Solder Pots / Accessories</b> .....	39
<b>Solder Wicks &amp; Wires</b> .....	40
<b>Fluxes &amp; Pastes</b> .....	42

# ATTEN Soldering Equipment

## High-End, for Smart Unleaded Soldering Applications

ATTEN GT Series Soldering Equipment is the smart choice for today's demanding requirements working with lead-free solder. The GT Series is clearly top end equipment, high performance, intelligently controlled and easy to use. Interchangeable handpieces of various power levels are plugged in and recognized by the station. You cannot go past this range.

### ATTEN GT-6150 SOLDERING STATION

#### Features:

- Supplied standard with 130W soldering handpiece GT-Y130
- Accepts various multiple function handpieces
- Maximum output power 150W (dependent on handpiece)
- Temperature readout in °C and °F
- All kinds of parameter/data and information on the large graphic display
- Automatically recognizes connected handpiece, uploading corresponding parameters
- User-friendly menu with big silicon buttons for reliable operation
- Separate iron stand to save space and provide more versatility
- Large LCD display for easy control
- Provides quick three group preset temperature parameters

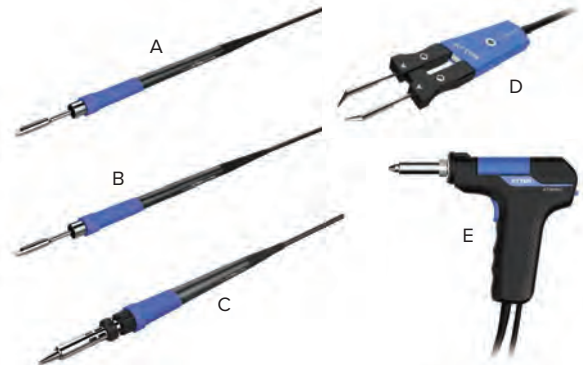
#### Specifications:

Voltage:	AC 110V ±10%; 230V ±10%
Frequency:	50Hz 230V / 60Hz 110V
Power:	150W (Max)
Temperature Range:	150-480°C / 302-896°F



Part No.	Description
GT-6150	Soldering Station

### ATTEN SOLDERING HANDPIECES



#### Selection Guide:

Handle Model	GT-Y050	GT-Y130	GT-Y150	GT-N100	GT-X150
GT-6150	●	●	●	●	
GT-6200	●	●	●	●	
GT-5150	●	●	●	●	●

Part No.	Description	Power	Fig.
GT-Y050	Mini Soldering Handpiece (Tip not included)	50W	A
GT-Y130	Standard Soldering Handpiece (Tip not included)	130W	B
GT-Y150	High-Powered Soldering Handpiece (Tip not included)	150W	C
GT-N100	Tweezer Handpiece (Tips not included)	100W	D
GT-X150	Desolder Gun (Tip not included)	150W	E



## ATTEN GT-6200 DUAL CHANNEL SOLDERING STATION WITH SMD TWEEZER

### Features:

- Supplied with 130W soldering handpiece GT-Y130 and GT-N100 Tweezer
- Accepts various multiple function handpieces
- Temperature readout in °C and °F
- All kinds of parameter/data and information on the large graphic display
- Automatically recognizes connected handpiece, uploading corresponding parameters
- User-friendly menu with big silicon buttons for reliable operation
- Large LCD display for easy control
- Provides quick three group preset temperature parameters

### Specifications:

Voltage: AC 110V ±10%; 230V ±10%  
 Frequency: 50Hz 230V / 60Hz 110V  
 Power: 200W (Max)  
 Temperature Range: 150-480°C / 302-896°F



Part No.	Description
GT-6200	Dual Channel Soldering Station with 130W Handpiece & Tweezer

## ATTEN GT-8102 INTELLIGENT HIGH POWER REWORK STATION

### Features:

- Equipped with vacuum suction pick up and 1000W hot air pencil
- Brushless fan incorporated to deliver up to 120l/min airflow
- PID algorithm controlled temperature, accurate and stable
- Support timing/manual heating mode
- Password protected parameter settings
- Three sets of air volume/temperatures for convenient working
- Automatic standby/air delay after power off making work safer

### Specifications:

Voltage: AC 110V ±10%; 230V ±10%  
 Frequency: 50Hz 230V / 60Hz 110V  
 Power: 1000W (Max)  
 Temperature Range: 100-480°C / 212-896°F



Part No.	Description
GT-8102	High Power Rework Station with Pick-up and Hot Air Pencil

## ATTEN MS-900 4-IN-1 REWORK STATION

### Features:

- Complete rework station, hot air, vacuum pick up, tweezers, soldering iron, desoldering gun
- All kinds of parameter/data and information on the large graphic display
- Automatically recognizes connected handpiece, uploading corresponding parameters
- Fault display & alarm functions
- User-friendly menu with big silicon buttons for reliable operation
- Large LCD display for easy control
- Provides quick three group preset temperature parameters

### Specifications:

Voltage:	AC 110V $\pm$ 10%; 230V $\pm$ 10%
Frequency:	50Hz 230V / 60Hz 110V
Power:	900W (Max)
Temperature Range:	150-500°C (Hot Air) 150-500°C (Solder Iron) 300-500°C (Desolder Iron) 150-500°C (Tweezers)



Part No.  
MS-900

Description  
4-in-1 Rework Station

## ATTEN GT-5150 DESOLDERING STATION

### Features:

- Temperature readout in °C and °F
- All kinds of parameter/data and information on the large graphic display
- User-friendly menu with big silicon buttons for reliable operation
- Separate iron stand to save space and provide more versatility
- Large LCD display for easy control
- Provides quick three group preset temperature parameters

### Specifications:

Voltage:	AC 110V $\pm$ 10%; 230V $\pm$ 10%
Frequency:	50Hz 230V / 60Hz 110V
Power:	150W (Max)
Temperature Range:	250-480°C / 482-896°F
Vacuum Pressure:	-600mmHg



Part No.  
GT-5150

Description  
High Powered Desoldering Station

TIP FOR GT-Y130



Part No.	Description
T130-0.5I	Soldering Tip 0.5mm

TIP FOR GT-Y130



Part No.	Description
T130-3.2C	Soldering Tip 3.2mm

TIP FOR GT-Y130



Part No.	Description
T130-1.0L	Soldering Tip 1.0mm

TIP FOR GT-Y130



Part No.	Description
T130-3.2D	Soldering Tip 3.2mm

TIP FOR GT-Y130



Part No.	Description
T130-1.2C	Soldering Tip 1.2mm

TIP FOR GT-Y130



Part No.	Description
T130-4.6C	Soldering Tip 4.6mm

TIP FOR GT-Y130



Part No.	Description
T130-1.6D	Soldering Tip 1.6mm

TIP FOR GT-Y130



Part No.	Description
T130-4.6D	Soldering Tip 4.6mm

TIP FOR GT-Y130



Part No.	Description
T130-2.4C	Soldering Tip 2.4mm

TIP FOR GT-Y130



Part No.	Description
T130-K	Soldering Tip Knife

TIP FOR GT-Y130



Part No.	Description
T130-2.4D	Soldering Tip 2.4mm

DESOLDERING NOZZLE FOR GT-X150



Part No.	Description
T151-0.8	Desolder Nozzle 0.8 mm

DESOLDERING NOZZLE FOR GT-X150



Part No.	Description
T151-1.0	Desolder Nozzle 1.0 mm

DESOLDERING NOZZLE FOR GT-X150



Part No.	Description
T151-1.3	Desolder Nozzle 1.3 mm

DESOLDERING NOZZLE FOR GT-X150



Part No.	Description
T151-1.6	Desolder Nozzle 1.6mm

# ATTEN ST-SERIES

Premium quality at affordable pricing

## Features:

- Smart recognition of working or non-working status
- Automatic standby, shutdown with smart time setting
- Temperature locking
- Beep alarm function available
- Temperature readout in °C and °F
- MCU controlled temperature calibration
- Simulate bar indicating heating up status
- User-friendly menu for easier system settings
- Separate iron stand to save space and provide more versatility
- Large LCD display for easy control
- Buttons (1, 2, 3) for pre-setting frequently used temperatures

### ATTEN ST-60 SOLDERING STATION

#### Specifications:

- Voltage: AC 100V / 110V / 120V; 220V / 230V / 240V
- Frequency: 50 / 60Hz (Optional)
- Power: 60W
- Heater Voltage: 26VAC
- Temperature Range: 150-450°C / 302-842°F
- Temperature Offset Range: ±50°C / ±39°F
- Temperature Stability: ±2°C (in still air no load)
- Automatic Standby Time: 1-120 Minutes
- Automatic Shutdown Time: 1-120 Minutes
- Temperature Adjustment: 5 Digits (Default) / 1 Digit (Fine Tuning)
- Heater: High quality four-core wire heater
- Tip-to-Ground Impedance: <2Ω
- Tip-to-Ground Voltage: <2mV
- Dimensions: 175 x 115 x 95mm (L x W x H)



Part No.	Description
ST-60	60W Soldering Station

### ATTEN ST-80 SOLDERING STATION

#### Specifications:

- Voltage: AC 100V / 110V / 120V; 220V / 230V / 240V
- Frequency: 50 / 60Hz (Optional)
- Power: 60W
- Heater Voltage: 26VAC
- Temperature Range: 150-480°C / 302-896°F
- Temperature Offset Range: ±50°C / ±39°F
- Temperature Stability: ±2°C (in still air no load)
- Automatic Standby Time: 1-120 Minutes
- Automatic Shutdown Time: 1-120 Minutes
- Temperature Adjustment: 5 Digits (Default) / 1 Digit (Fine Tuning)
- Heater: High quality four-core wire heater
- Tip-to-Ground Impedance: <2Ω
- Tip-to-Ground Voltage: <2mV
- Dimensions: 175 x 115 x 95mm (L x W x H)



Part No.	Description
ST-80	80W Soldering Station

### ATTEN ST-100 SOLDERING STATION

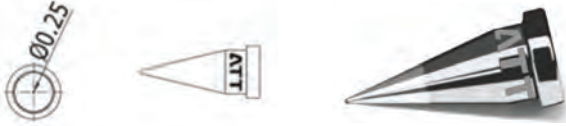
#### Specifications:

- Voltage: AC 100V / 110V / 120V; 220V / 230V / 240V
- Frequency: 50/60Hz (Optional)
- Power: 100W
- Heater Voltage: 26VAC
- Temperature Range: 150-480°C / 302-896°F
- Temperature Offset Range: ±50°C / ±39°F
- Temperature Stability: ±2°C (in still air no load)
- Automatic Standby Time: 1-120 Minutes
- Automatic Shutdown Time: 1-120 Minutes
- Temperature Adjustment: 5 Digits (Default) / 1 Digit (Fine Tuning)
- Heater: Silver Alloy Heater (Quicker Heat Up Time)
- Tip-to-Ground Impedance: <2Ω
- Tip-to-Ground Voltage: <2mV
- Dimensions: 175 x 115 x 95mm (L x W x H)



Part No.	Description
ST-100	100W Soldering Station

TIP FOR ST-100



Part No.	Description
T800-0.25I	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-2.4C	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-0.25ILF	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-3.2D	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-0.5I	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-3.2C	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-1.6D	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-4.6C	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-1.0I	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-4.6D	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-1.2C	Soldering Tip

TIP FOR ST-100



Part No.	Description
T800-K	Soldering Tip Knife

# JBC Soldering Equipment

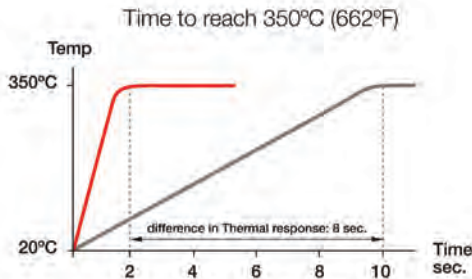
## Top 10 reasons for buying a JBC Soldering Station

The key to successful hand soldering in a lead free era

### 1. Fast temperature recovery

Time to reach the best temperature

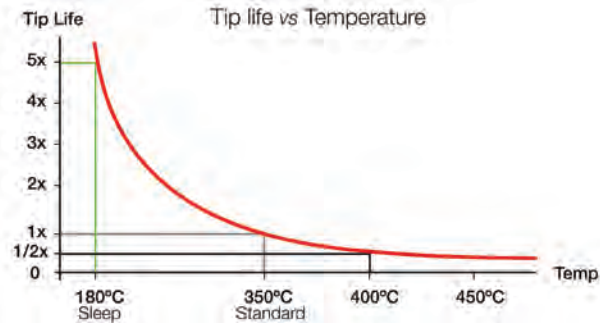
JBC stations can reach 350°C (662°F) in only two seconds, while others need between 10 and 90 seconds.



### 2. Tip life x 5 times

Tip life vs. temperature

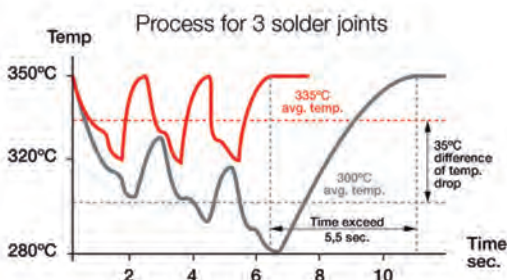
By using lower temperatures and sleep & hibernation features, tip life increases exponentially as shown in the graph.



### 3. Soldering at lower temperatures

Process for three solder joints

JBC stations can reach 350°C (662°F) in only two seconds, while others need between 10 and 90 seconds.



### 4. Increase your productivity

Easy cartridge extraction saves time

### 5. Six different tools

Control unit accepts six tool changes

### 6. Ergonomic tools

Comfortable and light

### 7. Friendly menu

Over 20 parameters to personalize your station

### 8. 400 cartridge shapes

To suit all your needs

### 9. Constant product innovation

Is our commitment

### 10. Communication station – PC

The freedom to manage your work remotely

## JBC Compact Line Stations

The JBC Compact Line incorporates six stations. These all use the JBC exclusive heating system and can satisfy all your soldering and desoldering requirements in a minimum footprint.

### Features:

- Cartridge Extractor: An easily accessible location of the extractor for rapid cartridge change
- Adjustable Stand: Fast and simple adjustment of the angle of the stand without requiring additional tools
- Cable Collector: Maintains working area free of cable
- Brass Wool Housing: Contains metal wool and minimises splashing of solder particles
- Tip Wiper: Tapping and wiping – very soft and temperature resistant receptacle allows tapping and wiping of the tip to eliminate excess solder
- Sponge: For final cleaning

#### JBC CD-2BQE SOLDERING STATION 230V

- For general electronics jobs
- Features a large back-lit graphic display. Any changes to the original setting can be easily made via menu on the display.
- Incorporates a USB Connector (Type B) to update station software and create graphs
- All settings can be locked by PIN
- Peak Power: 130W / 23.5V
- Temperature Range: 90-450°C
- Included: Control Unit CD and Handpiece T245-A
- Cartridges C245-903 & C245-741 not included



Part No.	Description
CD-2BQE	Digital Soldering Station – STD Handpiece

#### JBC CD-2SQE SOLDERING STATION 230V

- For high precision solder joints
- Features a large back-lit graphic display. Any changes to the original setting can be easily made via menu on the display.
- Incorporates a USB Connector (Type B) to update station software and create graphs
- All settings can be locked by PIN
- Peak Power: 40W / 23.5V
- Temperature Range: 90-450°C
- Included: Control Unit CD and Handpiece T210-A
- Cartridges C210-001 & C210-008 not included



Part No.	Description
CD-2SQE	Digital Soldering Station – Micro Handpiece

#### JBC CA-2QE SOLDER FEED STATION 230V

- For repetitive soldering or when a free hand is needed
- Equipped with solder feed iron of 1mm diameter
- Incorporates a USB Connector (Type B) to update station software and create graphs
- Peak Power: 130W / 23.5V
- Temperature Range: 90-450°C
- Included: Control Unit CA and AP250-A Solder Feed Iron
- Cartridges C250 not included



Part No.	Description
CA-2QE	Solder Feed Station

#### JBC CP-2QE MICRO TWEEZER STATION 230V

- For soldering and rework SMT components with Micro Tweezers
- Incorporates a USB Connector (Type B) to update station software and create graphs
- Peak Power: 80W / 23.5V
- Temperature Range: 90-450°C
- Included: Control Unit CP and AM120-A adjustable Micro Tweezers
- Cartridges C120 not included



Part No.	Description
CP-2QE	Micro Tweezer Station

#### JBC CS-2E ELECTRIC DESOLDERING STATION 230V

- Desoldering station with electric suction system
- Incorporates a USB Connector (Type B) to update station software and create graphs
- Flow Rate: 9 SLPM
- Peak Power: 40 W / 23.5V
- Temperature Range: 180°-450°C
- Included: Control Unit CSV, MS-A Electric Desoldering Module, DS360-A Micro Desoldering Iron with Tips C360-002 and C360-004



Part No.	Description
CS-2E	Electric Desoldering Station

#### JBC CV-2E PNEUMATIC DESOLDERING STATION 230V

- Desoldering station with pneumatic suction system
- Fed by compressed air, max. 6 bar
- Incorporates a USB Connector (Type B) to update station software and create graphs
- Flow Rate: 15 SLPM
- Peak Power: 40 W / 23.5V
- Temperature Range: 180°-450°C
- Included: Control Unit CSV, MV-A Pneumatic Desoldering Module, DS360-A Micro Desoldering Iron with Tips C360-002 and C360-004



Part No.	Description
CV-2E	Pneumatic Desoldering Station

## JBC Modular Line Stations

The JBC Modular Line features four control units, six stands, eight tools and more than 300 cartridges and tips adaptable for the tools. All components can be freely combined for a completely personalised set-up.

You can choose different control units according to the number of tools you need and every unit accepts any JBC tool.

All the units incorporate the JBC exclusive heating system that increases work efficiency thanks to quick temperature recovery.

For a basic working system, you need 1 control unit, 1 stand, 1 tool and 1 cartridge.



### JBC DI-2D 1 TOOL CONTROL UNIT

- Features a digital read-out display for accurate temperature and tool control
- Adjustable sleep and hibernation modes, as well as adjustable temperature settings. All values can be locked by PIN.
- Nominal Power: 75W
- Peak Power: 140W
- Sleep Power: 10W
- Hibernation Power: 4WP
- Temperature: 90-450°C
- Weight: 2kg

For a complete soldering station the following is needed:

- Control unit
- One tool with corresponding stand and cartridge



Part No.	Description
DI-2D	1 Tool Control Unit

### JBC DDE-2C 2 TOOLS CONTROL UNIT

- Offers connectivity for working with two tools simultaneously
- Adjustable sleep and hibernation modes, as well as adjustable temperature settings. All values can be locked by PIN.
- Nominal Power: 2 x 75W
- Peak Power: 2 x 140W
- Sleep Power: 2 x 10W
- Hibernation Power: 2 x 4W
- Temperature: 90-450°C
- Weight: 3.5kg

For a complete soldering station the following is needed:

- Control unit
- From one to four tools with corresponding stand and cartridge



Part No.	Description
DDE-2C	2 Tools Control Unit

### JBC DME-2A 4 TOOLS CONTROL UNIT

- Offers connectivity for working with four tools simultaneously
- Nominal Power: 4 x 75W
- Peak Power: 4 x 140W
- Sleep Power: 4 x 10W
- Hibernation Power: 4 x 4W
- Temperature: 90-450°C
- Adjustable sleep and hibernation modes, as well as adjustable temperature settings. All values can be locked by PIN.
- Weight: 4.5kg

For a complete soldering station the following is needed:

- Control unit
- From one to four tools with corresponding stand and cartridge



Part No.	Description
DME-2A	4 Tools Control Unit

### JBC MS-A / MV-A DESOLDERING SUCTION MODULES FOR DI

MS-A Electric Suction Module:

- With overdrive start up function
- Regulated by the control unit
- Power: 12W
- Supply: 24V

MV-A Pneumatic Suction Module:

- Uses compressed air and a venturi valve
- Recommended air pressure: 5 bar
- Power: 3W
- Supply: 24V
- Weight: 1.4kg



Part No.	Description
MS-A	Electric Desoldering Suction Module
MV-A	Pneumatic Desoldering Suction Module



## JBC MSE-A / MVE-A ELECTRIC DESOLDERING MODULES FOR DDE & DME

### MSE-A Electric Desoldering Module:

- With overdrive start up function
- Regulated by the control unit
- Flow Rate: 9SLPM
- Temperature: 10-40°C
- Weight: 1.22kg

### MVE-A Pneumatic Desoldering Module:

- Uses compressed air and a venturi valve
- Powered by compressed unit
- Supply: 24V
- Recommended air pressure: 5 bar
- Weight: 1.22kg



Part No.	Description
MSE-A	Electric Desoldering Module
MVE-A	Pneumatic Desoldering Module

## JBC CL9885 TIP CLEANING STAND

- Can be used right next to the point of work
- Hood contains brass wool and minimises splashing of solder particles
- Tapping and wiping: Very soft and temperature resistant receptacle allows tapping and wiping of the tip to eliminate the excess of solder.
- Brass wool: Very effective cleaning method – leaves a small layer of solder on the tip preventing oxidation between cleaning and reflowing.
- Sponge: To help the final cleaning



Part No.	Description
CL9885	Tip Cleaning Stand

## JBC AP-SD MODULAR LINE STAND

- For AP130-A Solder Feed Iron
- Sleep mode
- All stands can be connected to all modular stations
- Cable collector allows you to work efficiently without any cable confuse



Part No.	Description
AP-SD	Stand for AP130-A Solder Feed Iron

## JBC AD-SD MODULAR LINE STAND

- For T210-A and T245-A Handpiece
- 3 cartridges extractor magazine for C210 or C245
- Quick cartridge change
- Sleep mode
- All stands can be connected to all modular stations
- Cable collector allows you to work efficiently without any cable confuse



Part No.	Description
AD-SD	Stand for T210-A and T245-A Handpiece

## JBC HT-SD MODULAR LINE STAND

- For HT420-A Hot Tweezers
- Sleep mode
- All stands can be connected to all modular stations
- Cable collector allows you to work efficiently without any cable confuse
- Quick cartridge change



Part No.	Description
HT-SD	Stand for HT420-A Hot Tweezers

## JBC PA-SD MODULAR LINE STAND

- For PA120-A Micro Hot Tweezers
- Sleep mode
- All stands can be connected to all modular stations
- Cable collector allows you to work efficiently without any cable confuse



Part No.	Description
PA-SD	Stand for PA120-A Micro Hot Tweezers

## JBC DR-SD MODULAR LINE STAND

- For DR560-A Desoldering Iron
- Sleep mode
- All stands can be connected to all modular stations
- Cable collector allows you to work efficiently without any cable confuse



Part No.	Description
DR-SD	Stand for DR560-A Desoldering Iron

## JBC DS-SD MODULAR LINE STAND

- For DS360-A Micro Desoldering Iron
- Sleep mode
- All stands can be connected to all modular stations
- Cable collector allows you to work efficiently without any cable confuse



Part No.	Description
DS-SD	Stand for DS360-A Micro Desoldering Iron

### JBC T470 COMFORT HANDPIECE

- Designed for intensive soldering jobs with high power requirements
- The screw incorporated in the handpiece is used to fix the cartridge to prevent rotation
- This soft touch tool can provide up to 250W when used with a C470 cartridge and a HD station, but it can also work with C245 cartridges



Part No.	Description
T470-A	Comfort Handpiece (with screw)

### JBC T210-A MICRO HANDPIECE

- Specially designed for accurate soldering jobs with medium power requirements. It is able to provide up to 40W, if necessary.
- Perfect for working with SMD electronic components, under a microscope, or with conventional components
- Works with the C210 family of cartridges ranging from round tips of 0.1mm diameter to chisel tips of 2,3 mm diameter
- Coloured grip for differentiation of leaded or lead-free jobs



Part No.	Description
T210-A	Micro Handpiece – Green
T210-PA	Micro Handpiece – Blue

### JBC HT420-A TWEezer HANDPIECE

- Designed specifically for soldering and desoldering small and medium sized SMD components
- Each cartridge is individually controlled by the control unit
- Connects to station DI, DD, DM, AM and Single Line AP
- Uses C420 cartridges
- Weight: 102g



Part No.	Description
HT420-A	Tweezer Handpiece

### JBC DR560-A DESOLDERING IRON

- For thin desoldering jobs of SMD or conventional components
- Provides up to 160W
- Very easy cleaning and maintenance
- Two different types of solder residue chambers are available: metal and glass
- Tips are easily placed by thread
- Supplied with tip C560-003
- Weight: 254g



Part No.	Description
DR560-A	Desoldering Iron

### JBC T245 ADVANCED HANDPIECE

- For general soldering purposes
- Able to provide up to 160W, if necessary
- With the suitable cartridge, it is perfect for both SMD components and for jobs with high power requirements (eg. ground plane soldering)
- It works with C245 family of cartridges, the largest one with more than 120 different tips



Part No.	Description
T245-A	Advanced Handpiece – Green
T245-PA	Advanced Handpiece – Blue

### JBC AP130-A SOLDER WIRE FEEDING IRON

- Offers a 'third hand' by feeding solder wire from diameters 0.8 to 1.0mm
- Specifically helpful for high-volume soldering jobs and whenever an extra hand is needed
- Connects to stations DI, DD, DM, AM and Single Line AP
- Supplied with cartridge C130-403
- Weight: 234g



Part No.	Description
AP130-A	Solder Wire Feeding Iron

### JBC PA120-A MICRO TWEezer HANDPIECE

- Designed for soldering and desoldering SMD micro components
- Each cartridge is individually controlled by the control unit
- The available range of cartridges (C120) is made for desoldering a wide range of components.
- Connects to stations DI, DD, DM, AM and Single Line AP and CP
- Supplied without cartridges
- Weight: 102g



Part No.	Description
PA120-A	Micro Tweezer Handpiece

### JBC DS360-A MICRO DESOLDERING IRON

- Adapts to the ever decreasing size of new components
- Very easy cleaning and maintenance
- Tips are easily inserted by gentle pushing
- Connects to stations DS, DV, CS, CV, DI, DD, DM, AM and Single Line AP
- Supplied with tip C360-004
- Weight: 176g



Part No.	Description
DS360-A	Micro Desoldering Iron

## JBC NT105-A NANO SOLDERING IRON

- Designed for intensive soldering jobs with high power requirements
- For the smallest SMD components like chips 0201 and smaller
- For high-precision soldering jobs
- Perfect for work with magnifying system thanks to easy handling and low weight
- Capable of delivering 15W of power
- Uses cartridges C105



Part No.	Description
NT105-A	Nano Soldering Iron

## JBC AL250-B AUTO-FEED IRON

- The most appropriate tool for extensive soldering applications that require one free hand.
- Supplies the tin wire automatically provided by the AL Auto-Feed Station.
- This comfortable tool incorporates an anti-rotation screw to best align the cartridge.
- Works with C250 cartridges



Part No.	Description
AL250-B	Auto-Feed Iron

## JBC METAL BRUSHES

For more in depth cleaning of the tips and cartridges



Part No.	Description
CL6217	Metal Brush narrow
CL8973	Metal Brush for NAST station
CL6220	Metal Brush

## JBC CLEANING SPONGES

- Softest cleaning method to eliminate excess in any soldering or rework job
- Allows to maintain tips continuously clean by reducing wear
- Designed to be placed into the tip wiper. This way you just need one hand to use it.
- S0354 is also supplied with the tip cleaning stand



Part No.	Description
S7751	Sponge 46 x 37mm
S0354	Sponge 36 x 69mm
S6169	Sponge 58 x 58mm

## JBC PROTECTORS / TRIPODS

### Protectors:

- Protectors are the perfect accessory to ensure the best result in any desoldering job
- They concentrate the heat in the desired area and protect adjacent components
- The protector must fit the size of the component
- The JBC range features different shapes and sizes



### Tripods:

- The JBC Hot Air Stations use jointly protectors and tripods for a faster and more comfortable desoldering job
- Tripods allow the user to remove the component easily



Part No.	Size mm	Part No.	Size mm	Part No.	Size mm
P3353	4.3 x 3	P2220	10 x 10	P4005	18 x 29
P3786	5.2 x 5.2	P4045	10.5 x 21	P4030	18.5 x 18.5
P3352	5.2 x 7.5	P4090	11 x 16	P1068	18.5 x 24
P3355	5.2 x 9.5	P2235	12 x 17	P2685	28.5 x 28.5
P3356	6.2 x 4.2	P1249	12 x 23	P4085	31.5 x 31.5
P3785	7.2 x 7.2	P4000	12.5 x 12.5	P2672	33 x 46
P3784	8.2 x 8.2	P3354	13.2 x 13.2	P4002	50 x 50
P4035	9 x 13	P4025	13.5 x 21.5	P3357	52.5 x 14
P4040	9.5 x 19	P2230	15 x 15	T2050	Tripod 39mm
P4080	9.5 x 21	P4010	17 x 17	T2250	Tripod 85mm

## JBC NP105-A NANO TWEEZERS

- Designed for the smallest SMD components like chips 0201 and smaller
- Perfect for work with magnifying system thanks to easy handling and low weight
- Capable of delivering 15W of power
- Uses cartridges C105



Part No.	Description
NP105-A	Nano Tweezers

## JBC CL6210 BRASS WOOL

- Very effective cleaning method.
- Leaves a small layer of solder on the tip preventing oxidation between cleaning and reworking.



Part No.	Description
CL6210	Brass Cleaning Wool

## JBC EXTRACTORS

- JBC's Hot Air Stations use jointly extractors and hot air for fast and quick desoldering
- Extractors protect surrounding components by concentrating heat on the component



Part No.	Size mm	Part No.	Size mm
E4020	28.5 x 28.5	E4015	31.5 x 31.5
E2052	20 x 20	E2084	33 x 33
E2064	20 x 26	E2100	38 x 38
E2184	24 x 24	E2124	45 x 45
E2068	27 x 27	E2190	7mm dia

## JBC Premium Line Stations

Premium Line Stations are designed for industrial and extensive use, with extraordinary thermal performance. They are easy to use and built to last.

The Premium Line offers 10 different models, each of them designed for specific soldering applications. All stations are ready for immediate use and feature Plug & Play connectivity. All components of Premium Line Stations are stackable for occupying little work-bench space. All JBC tools are fully compatible to all control stations – there are no limits to putting together a station that covers all your personal requirements.

### JBC DDPE PRECISION SOLDERING STATION 230V

- For fast and precise SMD rework
- Incorporates two USB Connectors (Type A and B) to update station software and create graphs
- Robot RS-232 remote control or Smart Fume extractor
- Peak Power: 150W per tool / 23.5V
- Temperature: 90-450°C
- Weight: 3.82kg

#### Included:

- Control Unit DDE
- Tweezer AM120-A
- Handle T210-A
- Stands AD-SE and AM-SA
- Tip Cleaner CL8499



#### Part No.

#### Description

DDPE-2QB

Precision Soldering Station

### JBC DDSE / DDVE DESOLDERING STATION 230V

- Complete solution to rework circuits, manages two tools simultaneously, compatible with ten different tools
- Peak Power: 150W per tool
- Temperature: 90-450°C
- Flow Rate: 9 SLPM / 15SLPM

#### Included:

- Control Unit DDE
- Desoldering Module MSE-A
- Handles T245-A and DR560-A
- Stands AS-SE and DR-SE
- Tip Cleaner CL8499



#### Part No.

#### Description

DDSE-2QC

2 Tools Electric DDE Station

DDVE-2QC

2 Tools Pneumatic DDE Station

### JBC RMSE / RMVE REWORK STATION 230V

- Quickest and safest complete solution to repair and rework electronic circuits
- Can also be used for cleaning pads in SMD circuits
- It is composed by stackable modules and all the necessary accessories to make your job easier

#### Included:

- Control Units DDE and JTSE
- Stands AD-SE, JT-SE and DR-SE
- Desoldering Iron DR560-A
- Handpiece T245-A
- MSE-A Suction Module
- CL9885 Tip Cleaning Stand
- Nozzles JN2015, JN2012, JN2020, C560-005 and C560-013
- Extractor Desk with 3 Extractors, 5 Protectors and 2 Tripods
- Cartridge Holder SCH-A, Thermocouple PH218, Hose Set, Kapton Tape PH217, Pick & Place T260-A



#### Part No.

#### Description

RMSE-2QE

Digital Electric Rework Station

RMVE-2QE

Digital Pneumatic Rework Station

### JBC DMPSE / DMPVE SOLDERING STATION 230V

- Complete solution to rework circuits
- Incorporates two USB Connectors (Type A and B) to update station software and create graphs
- Robot RS-232 remote control or Smart Fume extractor
- Peak Power: 160W per tool
- Temperature: 90-450°C
- Weight: 4.57kg

#### Included:

- Control Unit DME
- Desoldering Module MSE-A
- Stands 2 x AD-SE, AM-SA, DR-SE
- Tweezer AM120-A, Handles T210-A, T245-A, DR560-A
- Cartridge Holder SCH-A
- Tip Cleaner CL8499



#### Part No.

#### Description

DMPSE-2QA

4 Tools Electric DME Station

DMPVE-2QA

4 Tools Pneumatic DME Station

### JBC HDE HEAVY DUTY STATION 230V

- The most powerful soldering unit of the JBC range
- Incorporates two USB Connectors (Type A and B) to update station software and create graphs
- With efficient Soldering System and Sleep & Hibernation modes
- Temperature: 90-500°C
- Peak Power: 250W / 42V

#### Included:

- Control Unit HDE-U
- Thermal Insulator HD Handle T470-FA
- Stand HD-SE
- Tip Cleaner CL8499



#### Part No.

#### Description

HDE-2D

Heavy Duty Rework Station

### JBC SRWS REWORK SYSTEM 230V

- Provides full control over SMD components rework processes
- Hot Air Station controls the task using temperature and air flow profiles
- Hands-free operation with Rework Arm RWS
- Comes with Infrared Heater and PCB Support
- Temperature: 150-450°C
- Peak Power Preheater: 500W
- Peak Power Hot Air Station: 700W

#### Included:

- Hot Air Station Set JTSE with Hot Air Control Unit JTSE-UA, Extractor Desk with 3 Extractors, 5 Protectors and 2 Tripods, 3 Nozzles, Stand and Thermocouple
- Rework Arm RWS
- Infrared Preheater Set PHSE-K



#### Part No.

#### Description

SRWS-S

Rework System

### JBC JTSE HIGH POWER HOT AIR STATION WITH EXTRACTOR DESK 230V

- Used for reworking SMDs
- Powerful heater desolders even the biggest QFPs and PLCCs quickly and safely
- Digital readout of temperature and airflow offers maximum accuracy and control

**Included:**

- Control Unit JTSE-UA
- Heater 1000W with hose
- Extractor Desk with 3 Extractors, 5 Protectors and 2 Tripods
- 3 Nozzles
- Heater Stand JT-SE and Thermocouple



Part No.	Description
JTSE-2A	High Power Hot Air Station w/ Extractor Desk

### JBC TESE PRECISION HOT AIR STATION WITH EXTRACTOR DESK 230V

- Ideal for soldering and desoldering small and medium-sized SMD components.
- In combination with JBC's unique system of extractors, this hot air station is the safest hot air desoldering system available in the market.

**Included:**

- Control Unit JTSE-UA
- Heater 300W with hose
- Heater Stand JE-SE
- Extractor Stand with 3 Extractors, 5 Protectors and 2 Tripods
- 3 Nozzles and Thermocouple



Part No.	Description
TESE-2A	Digital Precision Hot Air Station w/ Extractor Desk

### JBC JTSE HIGH POWER HOT AIR STATION 230V

- Used for desoldering SMDs
- Powerful heater desolders even the biggest QFPs and PLCCs quickly and safely
- Works with the JT Heater and incorporates a USB connector (type B)
- Comes with a heater stand with quick nozzle changer

**Included:**

- Control Unit JTE-2A
- Stand JT-SB
- JT-T2A Heater



Part No.	Description
JTSE-2QA	High Power Hot Air Station without Extractor Desk

### JBC TESE PRECISION HOT AIR STATION 230V

- Ideal for soldering and desoldering small and medium-sized SMD components
- Using the menu you can personalize over 20 parameters to help manage the soldering process
- Works with the TE Heater and incorporates a USB connector (type B)
- Comes with the heater stand with quick nozzle changer

**Included:**

- Control Unit JTE-2A
- Stand TE-SE
- TE-TB Heater



Part No.	Description
TESE-2QA	Precision Hot Air Station without Extractor Desk

### JBC NASE NANO REWORK STATION 230V

- Designed for micro soldering and desoldering of small-size components
- Works simultaneously with NT115-A Nano Soldering Iron and AN115-A Nano Tweezers
- Nominal Power: 15W
- Peak Power: 30W
- Temperature Range: 90-400°C
- Weight: 2.6kg

**Included:**

- Control Unit NAE
- Pedal P-405
- Nano Soldering Iron NT115-A
- Nano Tweezers AN115-A
- Tips C115-101, C115-103, 2 x C115-105, C115-107, C115-112, C115-113



Part No.	Description
NASE-2C	Nano Rework Station

### JBC NANE NANO SOLDERING STATION 230V

- The ideal solution for soldering very small-sized components at high precision.
- Works simultaneously with two NT115 Nano Soldering Irons
- The short distance from the tip to the handle offers maximum control even when using a microscope.

**Included:**

- Control Unit NAE
- Pedal P-405
- 2 x Nano Soldering Iron NT115-A
- Tips C115-101, C115-103, 2 x C115-105, C115-107, C115-112, C115-113



Part No.	Description
NANE-2C	Nano Soldering Station

### JBC SF AUTOMATIC SOLDER FEEDER 230V

- Feeds solder wire automatically from any position
- Configure parameters such as speed and length, monitor consumption with integrated counter
- 3 Working Modes: Continuous, discontinuous and program with up to 35 programs
- Perforates the solder wire while feeding for better flux flow, outgassing and reduced splashing

**Included:**

- Control Unit SF
- Solder Feed Handle SF280-A
- Guide Set GSF10V



Part No.	Description
SF-210VB	Automatic Solder Feeder

### JBC AL AUTO-FEED SOLDERING STATION 230V

- The ideal solution for extensive soldering application and any soldering application that requires one or two free hands
- Automates the soldering process by feeding soldering wire, using all advantages of JBC soldering stations

**Included:**

- Control Unit AL-2A
- Handle AL250-B
- Stand AL-SE
- Conical Bent Tip C250-403
- Tip Cleaner CL8499
- Tubes set and guides, for wires ø 0.9-1mm



Part No.	Description
AL-2A	Auto-Feed Soldering Station

# JBC Cartridges with extended tip life

## Largest tip range in the world

Up to 400 cartridges and tips that last 5 times longer.

## Excellent heat transfer

The compact element reduces thermal barriers.

## Instantaneous heating up

A fully integrated thermal sensor to the heater ensures a quick temp recovery.

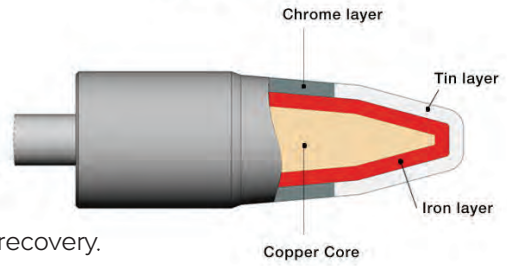
## Great durability

The intelligent algorithm control program increases life.

## Custom tips

Complete customised tips available with low MOQ's.

## Tip's structure



Call us now with your unique requirement!

### JBC C245 SERIES TIPS FOR T245 STANDARD HANDPIECE

The C245 cartridge range is the widest one of JBC with many shapes, sizes and special models.

They are appropriate for general soldering purposes and they are perfect for both SMD components or for applications with high power requirements such as ground plane soldering.







	<b>Part No.</b> C245-029	<b>Description</b> 0.4mm Bent Conical		<b>Part No.</b> C245-030	<b>Description</b> 0.3mm Conical		<b>Part No.</b> C245-032	<b>Description</b> 0.4mm Conical		<b>Part No.</b> C245-126	<b>Description</b> 0.4mm Bent Conical
	<b>Part No.</b> C245-259	<b>Description</b> 1.5mm Bent Conical		<b>Part No.</b> C245-260	<b>Description</b> 2mm Bent Conical		<b>Part No.</b> C245-444	<b>Description</b> 1.2mm Chisel		<b>Part No.</b> C245-731	<b>Description</b> 0.3mm Chisel
	<b>Part No.</b> C245-741	<b>Description</b> 2.4mm Chisel		<b>Part No.</b> C245-742	<b>Description</b> 0.8mm Chisel		<b>Part No.</b> C245-903	<b>Description</b> 1mm Conical		<b>Part No.</b> C245-906	<b>Description</b> 0.7mm Chisel
	<b>Part No.</b> C245-907	<b>Description</b> 1mm Chisel		<b>Part No.</b> C245-908	<b>Description</b> 1.5mm Chisel		<b>Part No.</b> C245-930	<b>Description</b> 0.5mm Conical		<b>Part No.</b> C245-931	<b>Description</b> 2.7mm Mini Spoon
	<b>Part No.</b> C245-938	<b>Description</b> 3.8mm Mini Spoon		<b>Part No.</b> C245-939	<b>Description</b> 6mm Knife		<b>Part No.</b> C245-965	<b>Description</b> 1.9mm Mini Spoon		<b>Part No.</b> C245-966	<b>Description</b> 6.6mm Chisel




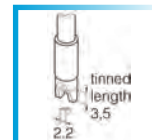
## JBC C245 SERIES SPECIAL TIPS FOR T245 STANDARD HANDPIECE

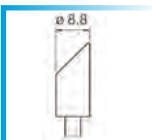

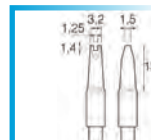
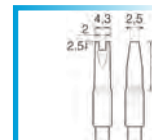
The C245 cartridge range is the widest one of JBC with many shapes, sizes and special models.

Customised Tips available:



							
<b>Part No.</b> C245-041	<b>Description</b> 1mm Conical	<b>Part No.</b> C245-052	<b>Description</b> 4.9mm Dome	<b>Part No.</b> C245-053	<b>Description</b> 3.8mm Dome	<b>Part No.</b> C245-054	<b>Description</b> 6.5mm Dome

							
<b>Part No.</b> C245-119	<b>Description</b> 1mm Teflon Conical	<b>Part No.</b> C245-121	<b>Description</b> 13mm Scraper	<b>Part No.</b> C245-138	<b>Description</b> 12mm Knife	<b>Part No.</b> C245-150	<b>Description</b> Chip Removal

							
<b>Part No.</b> C245-301	<b>Description</b> 8.8mm Chamfered	<b>Part No.</b> C245-753	<b>Description</b> Chisel Nickel	<b>Part No.</b> C245-757	<b>Description</b> Chip Removal	<b>Part No.</b> C245-758	<b>Description</b> Chip Removal


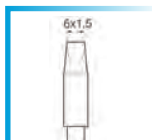
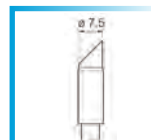
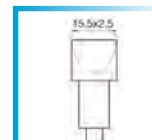
## JBC C470 SERIES TIPS FOR T470 COMFORT HANDPIECE


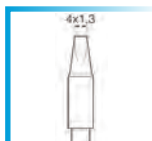

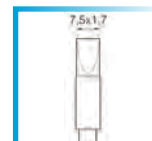
C470 cartridges are the largest ones of the JBC range.

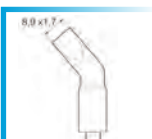



This range features many shapes, sizes and special models.

Due to their size, these cartridges are appropriate for intensive soldering purposes and they are perfect for both SMD and applications with high power requirements.



							
<b>Part No.</b> C470-001	<b>Description</b> 1.7mm Chisel	<b>Part No.</b> C470-002	<b>Description</b> 6mm Chisel	<b>Part No.</b> C470-003	<b>Description</b> 7.5mm Chamfered	<b>Part No.</b> C470-007	<b>Description</b> 15.5mm Chisel

							
<b>Part No.</b> C470-013	<b>Description</b> 2mm Chisel	<b>Part No.</b> C470-014	<b>Description</b> 4mm Chisel	<b>Part No.</b> C470-015	<b>Description</b> 6mm Chisel	<b>Part No.</b> C470-016	<b>Description</b> 7.5mm Chisel

							
<b>Part No.</b> C470-018	<b>Description</b> 8.9mm Bent Chisel	<b>Part No.</b> C470-034	<b>Description</b> 3.5mm Bent Chisel	<b>Part No.</b> C470-035	<b>Description</b> 4mm Chisel	<b>Part No.</b> C470-040	<b>Description</b> 4mm Chisel

## JBC C115 SERIES TIPS FOR NT115 & NP115 HANDPIECES

C115 cartridges are the smallest of the JBC range.

They are appropriate for soldering and repairing very small-sized components at high precision, even under a microscope.



NOTE: Tips are sold individually, QTY 2 are required for a Tweezer Handpiece.

<b>Part No.</b> C115-101	<b>Description</b> 0.1mm Conical	<b>Part No.</b> C115-103	<b>Description</b> 0.3mm Conical
<b>Part No.</b> C115-105	<b>Description</b> 0.3mm Bent Conical	<b>Part No.</b> C115-106	<b>Description</b> 0.5mm Conical
<b>Part No.</b> C115-107	<b>Description</b> 0.8mm Conical	<b>Part No.</b> C115-108	<b>Description</b> Chisel
<b>Part No.</b> C115-109	<b>Description</b> 0.6mm Chamfered	<b>Part No.</b> C115-110	<b>Description</b> 0.5mm Bent Conical
<b>Part No.</b> C115-111	<b>Description</b> 3.5mm Knife	<b>Part No.</b> C115-112	<b>Description</b> 2.5mm Knife
<b>Part No.</b> C115-113	<b>Description</b> Chisel	<b>Part No.</b> C115-114	<b>Description</b> Chisel

## JBC C120 SERIES TIPS FOR PA120 MICRO TWEEZERS

C120 cartridges are appropriate for soldering and desoldering chip components or dual in line easily, reducing handling time.

They work with PA120 Micro Tweezers which enables to align the cartridges according to the user needs.



NOTE: Tips are sold individually, QTY 2 are required for a Tweezer Handpiece.

<b>Part No.</b> C120-001	<b>Description</b> Inline Tweezer	<b>Part No.</b> C120-002	<b>Description</b> Chip Component
<b>Part No.</b> C120-003	<b>Description</b> Inline Tweezer	<b>Part No.</b> C120-004	<b>Description</b> Chip Component
<b>Part No.</b> C120-005	<b>Description</b> 5mm Inline	<b>Part No.</b> C120-006	<b>Description</b> Chisel Tip
<b>Part No.</b> C120-007	<b>Description</b> 3.5mm Right Inline	<b>Part No.</b> C120-009	<b>Description</b> 6mm Right Inline
<b>Part No.</b> C120-008	<b>Description</b> 3.5mm Left Inline	<b>Part No.</b> C120-010	<b>Description</b> 6mm Left Inline
<b>Part No.</b> C120-011	<b>Description</b> Chip Component	<b>Part No.</b> C120-012	<b>Description</b> Chip Component
<b>Part No.</b> C120-902	<b>Description</b> Chip Component		



## JBC C560 SERIES TIPS FOR DR560 DESOLDERING HANDPIECE

JBC Long Life Tips offer instant heat up, excellent heat transfer and great durability.

They last 5 times longer than other brands thanks to the Exclusive Heating System and the Sleep & Hibernation features.



Part No.	Description	Part No.	Description	Part No.	Description	Part No.	Description
C560-001	Desolder 0.6mm	C560-002	Desolder 0.8mm	C560-003	Desolder 1mm	C560-004	Desolder 1.3mm



Part No.	Description	Part No.	Description	Part No.	Description	Part No.	Description
C560-005	Desolder 1.5mm	C560-006	Desolder 1.9mm	C560-007	Desolder 2.4mm	C560-009	Desolder 1.3mm



Part No.	Description	Part No.	Description
C560-014	Desolder 0.8mm	C560-015	Desolder 3mm

## C420 SERIES TIPS FOR HT420 THERMAL TWEEZERS

C420 cartridges are appropriate for soldering and desoldering SMD components, reducing handling time.

This range works with HT420 Thermal Tweezers which enables to align the cartridges according to user needs.

NOTE: Tips are sold individually, QTY 2 are required for a Tweezer Handpiece.



Part No.	Description	Part No.	Description	Part No.	Description	Part No.	Description
C420-273	4mm Dual In Line	C420-274	6mm Dual In Line	C420-275	8mm Dual In Line	C420-276	10mm Dual In Line



Part No.	Description	Part No.	Description	Part No.	Description
C420-277	15mm Dual In Line	C420-278	20mm D. In Line	C420-285	22mm D. In Line

# Hakko Soldering Equipment

## HAKKO FX888D DIGITAL SOLDERING STATION WITH IRON ESD SAFE

- Digital model in an analog-model price bracket
- Small footprint only 100mm (W) x 120mm (D)
- Simple and easy operation with only two operation buttons of UP and ENTER in the center
- Digital Display – Makes it easy to check the set temperature at a glance
- Password Function – Settings can be locked using a password to prevent them from being changed unexpectedly. Of course, it is possible to restrict all setting changes or prevent users from switching to particular modes.
- Preset Mode – Convenient feature to change the set temperature. Simply select the desired temperature from a selection of preset temperatures registered in advance. Up to five preset temperatures can be registered.
- Adjustment Mode – Temperature adjustment is an essential part of any strict quality control system. With the adjustment mode you can adjust the tip temperature to match the set temperature in case that there is a difference between those temperatures due to tip shape, heater replacement or other factors.



Part No.	Description
FX888D	Digital Soldering Station & Iron excl. Tip

## HAKKO FX951 DIGITAL SOLDERING STATION WITH IRON ESD SAFE

- The new standard for lead-free soldering utilizing a 70W composite tip
- Rapid thermal response accurately maintains tip temperature
- 84 different tip profiles available
- Vertical, small foot print ESD safe design
- "Supervisor" card control of parameter settings
- Selectable shut-down and sleep modes to extend tip life and reduce oxidation
- Optional anti-bacterial coloured sleeves for quick tip selection
- Additional Nitrogen systems available for low flux soldering



Part No.	Description
FX951	Digital Soldering Station & Iron excl. Tip

## HAKKO FX838 DIGITAL HEAVY DUTY SOLDERING STATION WITH IRON ESD SAFE

- The new standard for lead-free soldering utilizing a 70W composite tip
- Rapid thermal response accurately maintains tip temperature
- 84 different tip profiles available
- Vertical, small foot print ESD safe design
- "Supervisor" card control of parameter settings
- Selectable shut-down and sleep modes to extend tip life and reduce oxidation
- Optional anti-bacterial coloured sleeves for quick tip selection
- Additional Nitrogen systems available for low flux soldering



Part No.	Description
FX838	Digital Heavy Duty Soldering Station & Iron excl. Tip

## HAKKO FX950 ANALOGUE SOLDERING STATION WITH IRON ESD SAFE

- The excellent thermal recovery allows setting lower preset temperatures
- It is also useful for lead-free soldering which requires higher melting temperatures
- The composite tip is a soldering tip integrated with heating element and sensor. Despite its highly compact design, the tip offers superior thermal responsivity and greatly improved thermal recovery.
- 85 variations of HAKKO tips are available for various types of soldering from IC modifications to soldering of power sections.
- The lock key can lock the present temperature
- Digital offset makes temperature correction easy



Part No.	Description
FX950	Analogue Soldering Station & Iron excl. Tip

## HAKKO FM206 3 PORT DE-/SOLDERING STATION ESD SAFE

- Multi-station enabling soldering, desoldering and SMD rework
- Single-nozzle hot air handpiece comes as standard equipment
- Graphic LCD display enables easy viewing and operation
- Features expandability in which the handpiece can be switched as needed for added functions
- Comes with hot air-type rework functions which expands the range of repair of SMD parts with hot air handpiece

### Included:








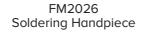



- FM2024 Desoldering Tool
- FM2029 Hot Air Tool
- FM2027 Soldering Handpiece

Optional additional handpieces available.

\*FM2024 can be connected to FM206 to all 3 receptacles, but it can only be used with one receptacle at a time

\*\*FM2029 can only be used with FM206 receptacle 3



Receptacle 1	Receptacle 2	Receptacle 3
	 FM2022 Tweezer Handpiece	**  FM2029 Hot Air Tool
*  FM2024 Desoldering Tool	*  FM2024 Desoldering Tool	*  FM2024 Desoldering Tool
 FM2026 Soldering Handpiece	 FM2026 Soldering Handpiece	 FM2026 Soldering Handpiece
 FM2027 Soldering Handpiece	 FM2027 Soldering Handpiece	 FM2027 Soldering Handpiece

### Part No.

FM206

### Description

3 Port Soldering/Desoldering Station

## HAKKO FM204 DESOLDERING STATION ESD SAFE

- New design with reduced distance between the nozzle end and filter pipe prevents clogging of sucked solder
- Easy maintenance
- Detachable handle allows two-ways use – Gun or Straight
- Equipped with a nozzle lock function
- With sleep function
- Auto power shut-off function
- Excellent thermal recovery with nozzle integrated with heater and sensor



### Part No.

FM204

### Description

Lead-Free Desoldering Station

## HAKKO FM203 DUAL PORT DE-/SOLDERING STATION ESD SAFE

A single station plays multiple roles: Soldering, desoldering, and SMD rework

- Two handpieces can be selected in various combinations
- Supplied with one FM2027 soldering handpiece as standard
- A wide range of handpieces available
- Power save function
- Auto power shut-off function
- Two connection ports for simultaneous use of two handpieces
- N2 system can be incorporated with an optional handpiece (FM2026)
- Selectable buzzer and alert ON/OFF setting
- Excellent thermal recovery with the use of composite tip

### Compatible Handpieces:

FM2022                      FM2026\*\*  
FM2023                      FM2027  
FM2024\*

\*FM2024: Each handpiece needs a desoldering control box and compressor

\*\*FM2026: Each handpiece needs an N2 generator (FX780), flowmeter (FX791), compressor, regulator etc.



### Part No.

FM203

### Description

Dual Port De-/Soldering Station

## HAKKO FR400 HEAVY-DUTY DESOLDERING STATION ESD SAFE

- Heavy-duty desoldering station with built-in vacuum pump
- Quick and secure desoldering even on high heat capacity and high heat dissipation PWB with super power
- Secure desoldering with valve function
- Reduced solder clogging through anti clogging function



### Part No.

FR400

### Description

Heavy-Duty Desoldering Station

### HAKKO FR810B SMD REWORK STATION ESD SAFE

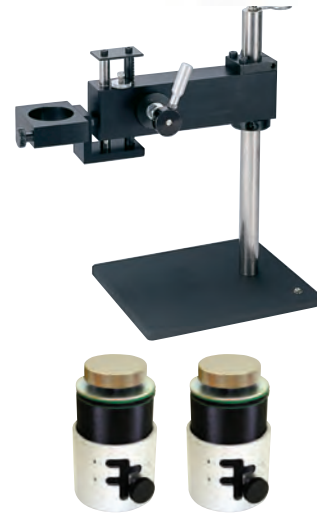
- High volume airflow and high output for all various kinds of rework
- Full digital control of temperature, airflow and time
- Simple nozzle removal and easy maintenance
- 670W high power and large volume hot air improves work efficiency
- Vacuum pick up function with an indicator for easy and safe removal of components
- Possible to make a simple thermal profile by chain presets function



Part No.	Description
FR810B	SMD Rework Station

### HAKKO HOT AIR REWORK KIT ESD SAFE

- Included:
- 1 x FR810B SMD Rework Station
  - 1 x FR830 Preheater
  - 2 x Omnivise
  - 1 x Rework Fixture



Part No.	Description
FR810-KIT	Hot Air Rework Kit

### HAKKO FR830 PREHEATER ESD SAFE

- Compact pre-heater best suited for heat processing on localized areas
- Featuring quick heatup and less variations in temperature
- Best suited for pre-heating of multi-layer PWBs



Part No.	Description
FR830	Preheater

### HAKKO OMNIVISE ESD SAFE

- Holds boards easily, safely and securely. Unique design allows 360° use.
- Five (5) adjustable heights
- Can accommodate any board size



Part No.	Description
C1390C	Omnivise

### HAKKO REWORK FIXTURE ESD SAFE

- Compact and stable
- Allows the handpiece to be mounted securely
- Great for accurate and repetitive work
- Smooth vertical motion makes operation easy



Part No.	Description
C1392B	Rework Fixture

### HAKKO SOLDERING HANDPIECE ESD SAFE

FM2027 compatible with:

- FM202 (discontinued)
- FM203
- FM204
- FM206

FM2028 compatible with:

- FX951
- FX950
- FX952



Part No.	Description
FM2027	Soldering Handpiece
FM2028	Soldering Handpiece

### HAKKO SOLDERING HANDPIECE ESD SAFE

- Compatible with: FX888D



Part No.	Description
FX8801	Soldering Handpiece

### HAKKO DESOLDERING TOOL ESD SAFE

- Compatible with:
  - FM204
  - FM206
  - FM203
- Small ergonomic style grip with light weight provides fatigueless work
- New design with reduced distance between the nozzle end and filter pipe prevents clogging by sucked solder
- Easy Maintenance: Uses disposable paper filter pipes
- One-touch nozzle replacement
- Detachable handle allows two-way use: Gun or Straight
- Safe Design: Equipped with a nozzle lock function. Nozzles can be safely replaced with the nozzle remover.
- Requires compressed air



Part No.	Description
FM2024-17	Desoldering Control Box and Tool w/out Nozzle
A1511	Disposable Filter Pipe Assembly, Pack of 10

### HAKKO PARALLEL REMOVER ESD SAFE

- Compatible with:
  - FM203
  - FM206
- Unique parallel movement of tips allows easy removal
- Direct heating prevents damage to neighbouring sensitive components with hot air
- Can be used for chips and flat packages up to 25mm in size



Part No.	Description
FM2022	Parallel Remover excl. Tip Set

### HAKKO MINI PARALLEL REMOVER ESD SAFE

- Compatible with:
  - FM203
  - FM206
- Standard or reverse tweezers action can be selected with a small lever
- Equipped with a small ergonomic grip



Part No.	Description
FM2023	Mini Parallel Remover excl. Tip Set

### HAKKO LOW PROFILE HOT AIR HANDPIECE ESD SAFE

- Designed exclusively for HAKKO FM206
- Slim grip is ideal for work in narrow spaces
- Hand switch enables easy ON/OFF operation
- Securely and easily remove 10 x 10mm chips
- Hand switch for air control



Part No.	Description
FM2029	Low Profile Hot Air Handpiece excl. Nozzle

# HAKKO T12 SERIES TIPS FOR FX951, FX952 SOLDERING IRONS

For use in conjunction with the FM2027 Handpiece.



<b>Part No.</b> T12-B	<b>Description</b> Shape B	<b>Part No.</b> T12-B2	<b>Description</b> Shape 0.5B
<b>Part No.</b> T12-B3	<b>Description</b> Shape 0.7B	<b>Part No.</b> T12-B4	<b>Description</b> Shape 0.4B
<b>Part No.</b> T12-BL	<b>Description</b> Shape B	<b>Part No.</b> T12-BC1	<b>Description</b> Shape 1BC
<b>Part No.</b> T12-BC2	<b>Description</b> Shape 2BC	<b>Part No.</b> T12-BC3	<b>Description</b> Shape 3BC
<b>Part No.</b> T12-BCF2*	<b>Description</b> Shape 2BC	<b>Part No.</b> T12-BCF3*	<b>Description</b> Shape 3BC
<b>Part No.</b> T12-BCM2	<b>Description</b> Mini Wave Tip	<b>Part No.</b> T12-BCM3	<b>Description</b> Wave Tip
<b>Part No.</b> T12-C1	<b>Description</b> Shape 1C	<b>Part No.</b> T12-C4	<b>Description</b> Shape 4C
<b>Part No.</b> T12-CF4*	<b>Description</b> Shape 4C	<b>Part No.</b> T12-D08	<b>Description</b> Shape 0.8D
<b>Part No.</b> T12-D12	<b>Description</b> Shape 1.2D		
<b>Part No.</b> T12-D16	<b>Description</b> Shape 1.6D	<b>Part No.</b> T12-D24	<b>Description</b> Shape 2.4D
<b>Part No.</b> T12-D4	<b>Description</b> Shape 4D	<b>Part No.</b> T12-D52	<b>Description</b> Shape 5.2D
<b>Part No.</b> T12-DL08	<b>Description</b> Shape 0.8DL	<b>Part No.</b> T12-DL12	<b>Description</b> Shape 1.2D
<b>Part No.</b> T12-DL32	<b>Description</b> Shape 3.2DL	<b>Part No.</b> T12-DL52	<b>Description</b> Shape 5.2DL
<b>Part No.</b> T12-I	<b>Description</b> Shape I	<b>Part No.</b> T12-IL	<b>Description</b> Shape IL
<b>Part No.</b> T12-ILS	<b>Description</b> Shape ILS	<b>Part No.</b> T12-J02	<b>Description</b> Shape 0.2J
<b>Part No.</b> T12-JL02	<b>Description</b> Shape 0.2JL	<b>Part No.</b> T12-JS02	<b>Description</b> Shape 0.2JS
<b>Part No.</b> T12-K	<b>Description</b> Shape K	<b>Part No.</b> T12-KF	<b>Description</b> Shape KF
<b>Part No.</b> T12-KL	<b>Description</b> Shape KL	<b>Part No.</b> T12-KR	<b>Description</b> Shape KR
<b>Part No.</b> T12-KU	<b>Description</b> Shape KU		

\*These tips are tinned on the soldering surface only

## HAKKO T12 SERIES SMD TYPE TIPS FOR FX951, FX952 SOLDERING IRONS

For use in conjunction with the FM2027 Handpiece.

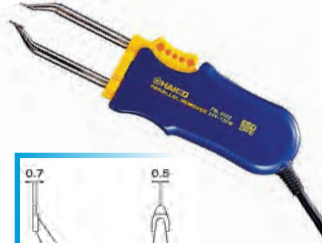


<b>Part No.</b> T12-1402	<b>Description</b> Spatula 15.7	<b>Part No.</b> T12-1403	<b>Description</b> Spatula 21.2
<b>Part No.</b> T12-1404	<b>Description</b> Spatula 25	<b>Part No.</b> T12-1405	<b>Description</b> Spatula 32
<b>Part No.</b> T12-1406	<b>Description</b> Spatula 40	<b>Part No.</b> T12-WB2	<b>Description</b> Shape 2WB
<b>Part No.</b> T12-WD08	<b>Description</b> Shape 0.8WD	<b>Part No.</b> T12-WD12	<b>Description</b> Shape 1.2WD
<b>Part No.</b> T12-WB16	<b>Description</b> Shape 1.6WB	<b>Part No.</b> T12-WD52	<b>Description</b> Shape 5.2WD
<b>Part No.</b> T12-WI	<b>Description</b> Shape WI		

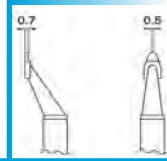
## HAKKO T12 SERIES SMD TYPE TIPS FOR FX951, FX952 SOLDERING IRONS

<b>Part No.</b> T12-1201	<b>Description</b> Quad 13.6 x 8.5	<b>Part No.</b> T12-1202	<b>Description</b> Quad 10.3 x 10.3
<b>Part No.</b> T12-1203	<b>Description</b> Quad 12.8 x 12.8	<b>Part No.</b> T12-1204	<b>Description</b> Quad 17.9 x 17.9
<b>Part No.</b> T12-1205	<b>Description</b> Quad 23.4 x 17.3	<b>Part No.</b> T12-1206	<b>Description</b> Quad 22.5 x 16.5
<b>Part No.</b> T12-1207	<b>Description</b> Quad 15.5 x 15.5	<b>Part No.</b> T12-1208	<b>Description</b> Quad 15.8 x 15.8
<b>Part No.</b> T12-1209	<b>Description</b> Quad 8.4 x 8.4	<b>Part No.</b> T12-1001	<b>Description</b> Tunnel 5.1 x 4.6
<b>Part No.</b> T12-1002	<b>Description</b> Tunnel 5.1 x 10.4	<b>Part No.</b> T12-1003	<b>Description</b> Tunnel 9.5 x 18.3
<b>Part No.</b> T12-1004	<b>Description</b> Tunnel 9.5 x 15.6	<b>Part No.</b> T12-1005	<b>Description</b> Tunnel 9.5 x 13.2
<b>Part No.</b> T12-1006	<b>Description</b> Tunnel 6.9 x 11.4	<b>Part No.</b> T12-1007	<b>Description</b> Tunnel 7.9 x 18.8
<b>Part No.</b> T12-1008	<b>Description</b> Tunnel 19.5 x 10.2	<b>Part No.</b> T12-1009	<b>Description</b> Tunnel 13.4 x 20.5
<b>Part No.</b> T12-1010	<b>Description</b> Tunnel 19.5 x 12	<b>Part No.</b> T12-1401	<b>Description</b> Spatula 10.4

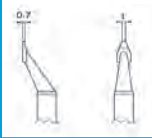
**HAKKO 8 SERIES TIP SETS FOR FM2022 PARALLEL REMOVER (1 SET = 2PCS)**



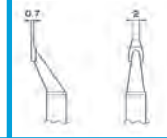
**Part No.** T8-1001  
**Description** Chip 0.51



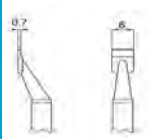
**Part No.** T8-1002  
**Description** Chip 0.5C



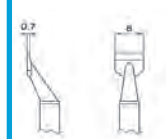
**Part No.** T8-1003  
**Description** Chip 1L



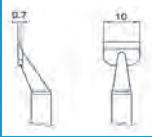
**Part No.** T8-1004  
**Description** Chip 2L



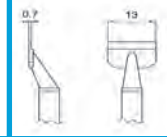
**Part No.** T8-1005  
**Description** SOP 6L



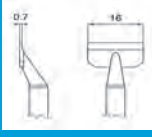
**Part No.** T8-1006  
**Description** SOP 8L



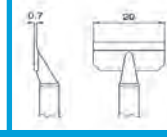
**Part No.** T8-1007  
**Description** SOP 10L



**Part No.** T8-1008  
**Description** SOP 13L



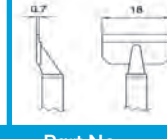
**Part No.** T8-1009  
**Description** SOP 16L



**Part No.** T8-1010  
**Description** SOP 20L

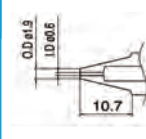
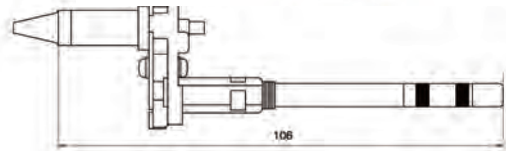


**Part No.** T8-1011  
**Description** SOP 25L

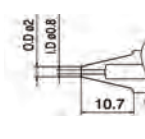


**Part No.** T8-1012  
**Description** SOP 18L

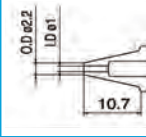
**HAKKO N1 SERIES TIPS FOR FM-2024**



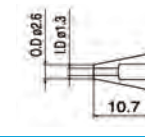
**Part No.** N1-06  
**Description** Nozzle 0.6mm



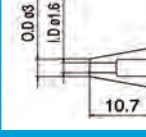
**Part No.** N1-08  
**Description** Nozzle 0.8mm



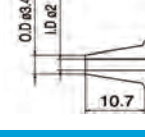
**Part No.** N1-10  
**Description** Nozzle 1.0mm



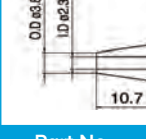
**Part No.** N1-13  
**Description** Nozzle 1.3mm



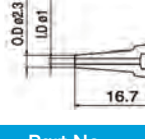
**Part No.** N1-16  
**Description** Nozzle 1.6mm



**Part No.** N1-20  
**Description** Nozzle 2mm

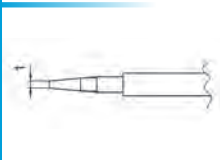


**Part No.** N1-23  
**Description** Nozzle 2.3mm

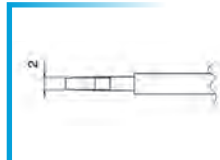


**Part No.** N1-10L  
**Description** Nozzle 1mm Long

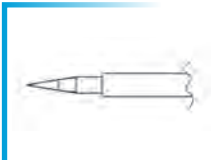
**HAKKO T9 SERIES TIP SETS FOR HAKKO FM2023 MINI PARALLEL REMOVER (1 SET = 2PCS)**



**Part No.** T9-L1  
**Description** Chip 1L



**Part No.** T9-L2  
**Description** Chip 2L



**Part No.** T9-I  
**Description** Chip 1





# HAKKO T18 SERIES TIP SETS FOR HAKKO FX888, FX888D SOLDERING IRONS

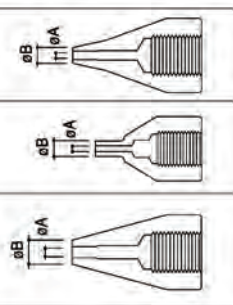


<b>T18-B</b>		<b>T18-C05</b>		<b>T18-C1</b>		<b>T18-C2</b>	
<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>
T18-B	Shape B	T18-C05	Shape 0.5C	T18-C1	Shape 1C	T18-C2	Shape 2C
<b>T18-C3</b>		<b>T18-C4</b>		<b>T18-CF1</b>		<b>T18-CF15</b>	
<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>
T18-C3	Shape 3C	T18-C4	Shape 4C	T18-CF1	Shape 1CF	T18-CF15	Shape 1.5CF
<b>T18-CF2</b>		<b>T18-CSF25</b>		<b>T18-CF3</b>		<b>T18-CF4</b>	
<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>
T18-CF2	Shape 2CF	T18-CSF25	Shape 2.5CF	T18-CF3	Shape 3CF	T18-CF4	Shape 4CF
<b>T18-D08</b>		<b>T18-D12</b>		<b>T18-D16</b>		<b>T18-D24</b>	
<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>
T18-D08	Shape 0.8D	T18-D12	Shape 1.2D	T18-D16	Shape 1.6D	T18-D24	Shape 2.4D
<b>T18-D32</b>		<b>T18-I</b>		<b>T18-K</b>		<b>T18-SB</b>	
<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>	<b>Part No.</b>	<b>Description</b>
T18-D32	Shape 3.2D	T18-I	Shape I	T18-K	Shape K	T18-SB	Shape SB

## HAKKO NOZZLES FOR 815 GUN

For 815, 816

Part No.	A	B
A1496	0.8	1.8
A1499	1.0	2.0
A1497	0.8	2.2
A1498	0.8	2.3
A1500	1.0	2.5
A1501	1.3	3.0
A1502	1.6	3.0
A1503	2.0	3.6

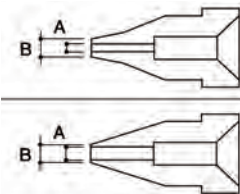


Part No.	A	B
A1496	0.8	1.8
A1499	1.0	2.0
A1497	0.8	2.3
A1498	0.8	2.3
A1500	1.0	2.5
A1501	1.3	3.0
A1502	1.6	3.0
A1503	2.0	3.6

## HAKKO SPARE FILTERS FOR 809/815

Part No.	Description
A1030	Pack of 10 Spring Filters
A1033	Pack of 10 Paper Filters Large
A1009	Pack of 10 Paper Filters Small
B2073	Filter Pipe with Filters

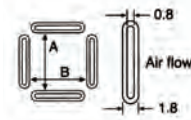
## HAKKO NOZZLES FOR 809 GUN

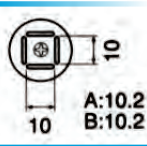
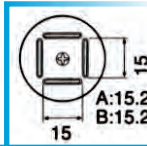

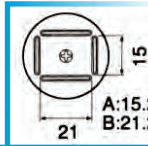


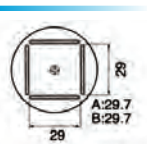
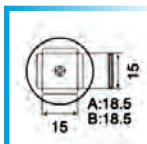
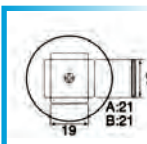
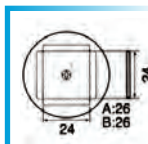
Part No.	A	B	Style
A1002	0.8	1.8	Slim
A1003	1.0	2.0	Slim
A1004	0.8	2.3	Standard
A1005	1.0	2.5	Standard
A1006	1.3	3.0	Standard
A1007	1.6	3.0	Standard

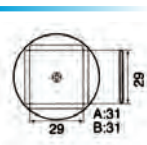
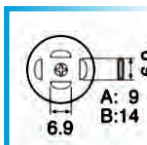
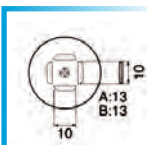
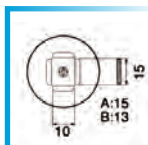
# HAKKO VACUUM FUNCTION TYPE NOZZLES FOR FR801/802/803


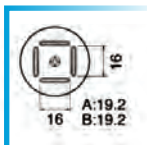
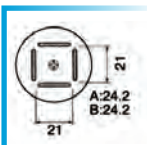
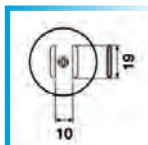
The size in Specifications indicates the size of IC package.

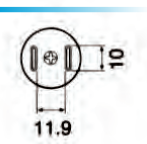
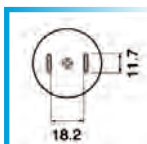
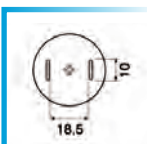
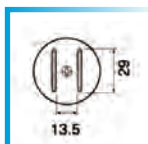


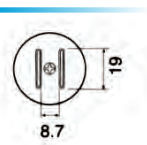
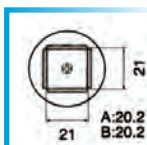
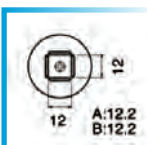
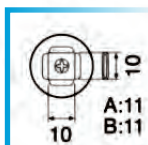
			
<b>Part No.</b> A1125B	<b>Description</b> QFP 10 x 10	<b>Part No.</b> A1126B	<b>Description</b> QFP 14 x 14
<b>Part No.</b> A1127B	<b>Description</b> QFP 17.5 x 17.5	<b>Part No.</b> A1128B	<b>Description</b> QFP 14 x 20

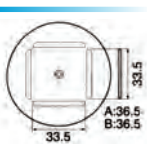
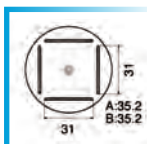
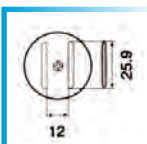
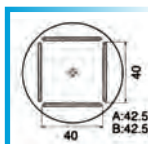
			
<b>Part No.</b> A1129B	<b>Description</b> QFP 28 x 28	<b>Part No.</b> A1135B	<b>Description</b> PLCC 17.5 x 17.5
<b>Part No.</b> A1136B	<b>Description</b> PLCC 20 x 20	<b>Part No.</b> A1137B	<b>Description</b> PLCC 25 x 25

			
<b>Part No.</b> A1138B	<b>Description</b> PLCC 30 x 30	<b>Part No.</b> A1139B	<b>Description</b> PLCC 12.5 x 7.3
<b>Part No.</b> A1140B	<b>Description</b> PLCC 11.5 x 11.5	<b>Part No.</b> A1141B	<b>Description</b> PLCC 11.5 x 14

			
<b>Part No.</b> A1180B	<b>Description</b> BQFP 17 x 17	<b>Part No.</b> A1181B	<b>Description</b> BQFP 19 x 19
<b>Part No.</b> A1182B	<b>Description</b> BQFP 24 x 24	<b>Part No.</b> A1184B	<b>Description</b> SOJ 18 x 8

			
<b>Part No.</b> A1185B	<b>Description</b> TSOL 13 x 10	<b>Part No.</b> A1186B	<b>Description</b> TSOL 18 x 10
<b>Part No.</b> A1187B	<b>Description</b> TSOL 18.5 x 8	<b>Part No.</b> A1259B	<b>Description</b> SOP 13 x 28

			
<b>Part No.</b> A1260B	<b>Description</b> SOP 8.6 x 18	<b>Part No.</b> A1261B	<b>Description</b> QFP 20 x 20
<b>Part No.</b> A1262B	<b>Description</b> QFP 12 x 12	<b>Part No.</b> A1188B	<b>Description</b> PLCC 9 x 9

			
<b>Part No.</b> A1189B	<b>Description</b> PLCC 34 x 34	<b>Part No.</b> A1203B	<b>Description</b> QFP 35 x 35
<b>Part No.</b> A1214B	<b>Description</b> SOJ 10 x 26	<b>Part No.</b> A1215B	<b>Description</b> QFP 42.5 x 42.5

<b>Part No.</b> A1257B	<b>Description</b> SOP 11 x 21	<b>Part No.</b> A1258B	<b>Description</b> SOP 7.6 x 12.7	<b>Part No.</b> A1263B	<b>Description</b> QFP 28 x 40	<b>Part No.</b> A1264B	<b>Description</b> QFB 40 x 40

<b>Part No.</b> A1265B	<b>Description</b> QFP 32 x 32	<b>Part No.</b> A1407	<b>Description</b> BGA 8 x 8	<b>Part No.</b> A1471	<b>Description</b> BGA 12 x 12	<b>Part No.</b> A1472	<b>Description</b> BGA 13 x 13

<b>Part No.</b> A1473	<b>Description</b> BGA 15 x 15	<b>Part No.</b> A1474	<b>Description</b> BGA 18 x 18	<b>Part No.</b> A1475	<b>Description</b> BGA 27 x 27	<b>Part No.</b> A1476	<b>Description</b> BGA 35 x 35

<b>Part No.</b> A1477	<b>Description</b> BGA 38 x 38	<b>Part No.</b> A1478	<b>Description</b> BGA 40 x 40

If you did not find what you were looking for, please call our sales team!

HAKKO STANDARD NON VACUUM FUNCTION TYPE NOZZLES FOR FR801/802/803

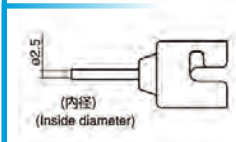
<b>Part No.</b> A1124B	<b>Description</b> Single Ø2.5	<b>Part No.</b> A1130	<b>Description</b> Single Ø4.4	<b>Part No.</b> A1131	<b>Description</b> SOP 4.4 x 10	<b>Part No.</b> A1132	<b>Description</b> SOP 5.6 x 13

<b>Part No.</b> A1133	<b>Description</b> SOP 7.5 x 15	<b>Part No.</b> A1134	<b>Description</b> SOP 7.5 x 18	<b>Part No.</b> A1142B	<b>Description</b> Bent Single 1.5 x 3	<b>Part No.</b> A1183	<b>Description</b> SOJ 15 x 8

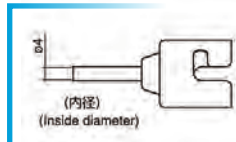
<b>Part No.</b> A1190	<b>Description</b> Dual Single 2.5 x 9.5	<b>Part No.</b> A1191	<b>Description</b> SIP 25L	<b>Part No.</b> A1192	<b>Description</b> SIP 50L	<b>Part No.</b> A1325	<b>Description</b> Dual Single Ø 1.5 x 5-10 Adjustable Pitch

# HAKKO NOZZLES FOR FR-810B

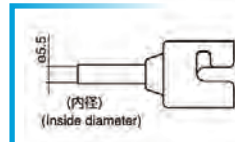
N51 Series: Quick-Change Type  
 QFP/BGA Hot Air Series: Conventional Type



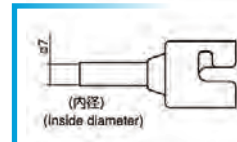
**Part No.** N51-01  
**Description** Single



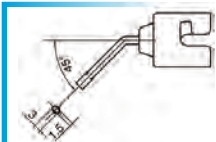
**Part No.** N51-02  
**Description** Single



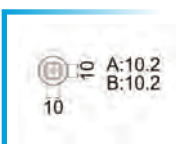
**Part No.** N51-03  
**Description** Single



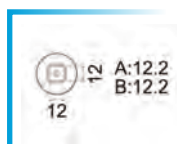
**Part No.** N51-0  
**Description** Single



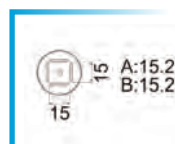
**Part No.** N51-05  
**Description** Bent Single



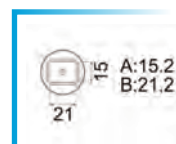
**Part No.** A1125B  
**Description** QFP 10 x 10



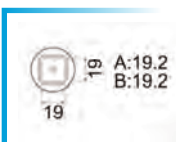
**Part No.** A1262B  
**Description** QFP 12 x 12



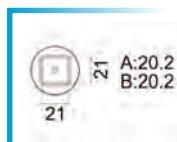
**Part No.** A1126B  
**Description** QFP 14 x 14



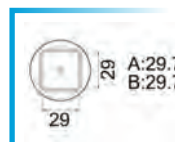
**Part No.** A1128B  
**Description** QFP 14 x 20



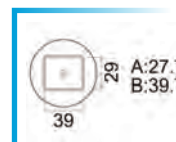
**Part No.** A1127B  
**Description** QFP 17.5 x 17.5



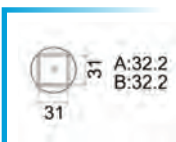
**Part No.** A1261B  
**Description** QFP 20 x 20



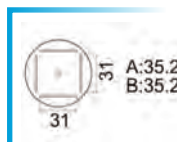
**Part No.** A1129B  
**Description** QFP 28 x 28



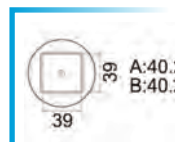
**Part No.** A1263B  
**Description** QFP 28 x 40



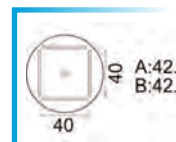
**Part No.** A1265B  
**Description** QFP 32 x 32



**Part No.** A1203B  
**Description** QFP 35 x 35



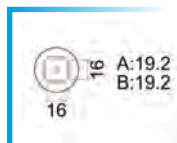
**Part No.** A1264B  
**Description** QFP 40 x 40



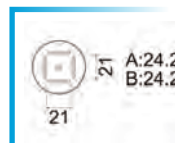
**Part No.** A1215B  
**Description** QFP 42.5 x 42.5



**Part No.** A1180B  
**Description** QFP 17 x 17



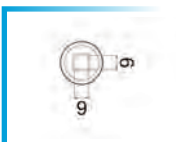
**Part No.** A1181B  
**Description** QFP 19 x 19



**Part No.** A1182B  
**Description** QFP 24 x 24



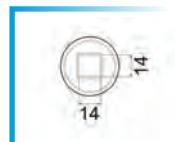
**Part No.** A1478  
**Description** BGA 40 x 40



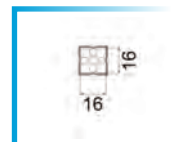
**Part No.** A1470  
**Description** BGA 8 x 8



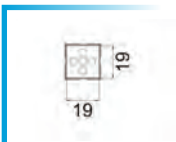
**Part No.** A1471  
**Description** BGA 12 x 12



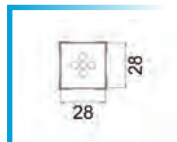
**Part No.** A1472  
**Description** BGA 13 x 13



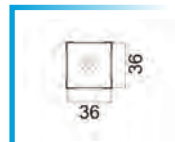
**Part No.** A1473  
**Description** BGA 15 x 15



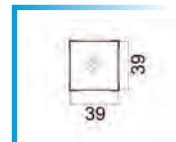
**Part No.** A1474  
**Description** BGA 18 x 18



**Part No.** A1475  
**Description** BGA 27 x 27



**Part No.** A1476  
**Description** BGA 35 x 35



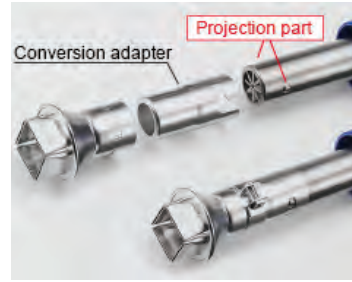
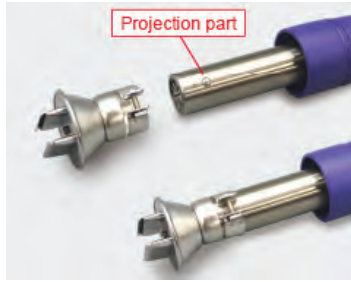
**Part No.** A1477  
**Description** BGA 38 x 38

## NOTICE TO THE CUSTOMERS WHO ARE USING HAKKO FR-810B OR HAKKO FR-810 (DISCONTINUED)

The previous nozzles are also attachable to the new model.

The new heater pipe has one projection part. Align the nozzle screwing position with the projection part of the pipe to use the conventional nozzle.

The previous heater pipe has two projection parts. In order to use the conventional nozzle, put the conversion adaptor on the heater pipe that was included in your purchased FR-810 as a standard accessory.



## HAKKO SPARE TIPS FOR 936-48 SOLDERING STATION

<b>Part No.</b> 900M-T-1.2LD	<b>Description</b> Shape 1.2LD	<b>Part No.</b> 900M-T-2LD	<b>Description</b> Shape 2LD
<b>Part No.</b> 900M-T-0.8C	<b>Description</b> Shape 0.8C	<b>Part No.</b> 900M-T-1C	<b>Description</b> Shape 1C
		<b>Part No.</b> 900M-T-1CF*	<b>Description</b> Shape 1C
<b>Part No.</b> 900M-T-S3	<b>Description</b> Shape S3	<b>Part No.</b> 900M-T-S4	<b>Description</b> Shape S4
		<b>Part No.</b> 900M-T-3C	<b>Description</b> Shape 3C
		<b>Part No.</b> 900M-T-3CF*	<b>Description</b> Shape 3C
		<b>Part No.</b> 900M-T-4C	<b>Description</b> Shape 4C
		<b>Part No.</b> 900M-T-4CF*	<b>Description</b> Shape 4C
<b>Part No.</b> 900M-T-B	<b>Description</b> Shape B	<b>Part No.</b> 900M-T-0.5C	<b>Description</b> Shape 0.5C
		<b>Part No.</b> 900M-T-1.6D	<b>Description</b> Shape 1.6D
		<b>Part No.</b> 900M-T-2.4D	<b>Description</b> Shape 2.4D
<b>Part No.</b> 900M-T-1.5CF*	<b>Description</b> Shape 1.5C	<b>Part No.</b> 900M-T-2C	<b>Description</b> Shape 2C
		<b>Part No.</b> 900M-T-2CF*	<b>Description</b> Shape 2C
		<b>Part No.</b> 900M-T-1.8H	<b>Description</b> Shape 1.8H
		<b>Part No.</b> 900M-T-I	<b>Description</b> Shape I
<b>Part No.</b> 900M-T-0.8D	<b>Description</b> Shape 0.8D	<b>Part No.</b> 900M-T-1.2D	<b>Description</b> Shape 1.2D
		<b>Part No.</b> 900M-T-3.2D	<b>Description</b> Shape 3.2D
		<b>Part No.</b> 900M-T-H	<b>Description</b> Shape H
<b>Part No.</b> 900M-T-K	<b>Description</b> Shape K	<b>Part No.</b> 900M-T-LB	<b>Description</b> Shape LB
		<b>Part No.</b> 900M-T-R	<b>Description</b> Shape R
		<b>Part No.</b> 900M-T-RT	<b>Description</b> Shape RT
<b>Part No.</b> 900M-T-SB	<b>Description</b> Shape SB	<b>Part No.</b> 900M-T-SI	<b>Description</b> Shape SI

\*These tips are tinned on the soldering surface only

## OKI/METCAL HANDPIECES



Part No.	Description	Style
407-825	SP200 Handpiece	SP-HC1
406-022	MX520 Handpiece	MX-RM3E

## OKI/METCAL TIPS FOR MX500 HANDPIECE



Part No.	Size and Shape	Temp F
STTC-017		600
STTC-117		700
STTC-036		600
STTC-136		700
STTC-037		600
STTC-137		700
STTC-038		600
STTC-138		700
STTC-025		600
STTC-125		700
STTC-022		600
STTC-122		700
STTC-043		600
STTC-143		700
STTC-047		600
STTC-147		700
STTC-045		600
STTC-145		700
STTC-041		600
STTC-141		700
STTC-044		600
STTC-144		700
STTC-040		600
STTC-140		700
STTC-026		600
STTC-126		700

## OKI/METCAL TIPS FOR SP200 HANDPIECE



Part No.	Size and Shape	Temp F
SSC-613A		600
SSC-713A		700
SSC-636A		600
SSC-736A		700
SSC-637A		600
SSC-737A		700
SSC-638A		600
SSC-738A		700
SSC-625A		600
SSC-725A		700
SSC-601A		600
SSC701A		700
SSC-642A		600
SSC-742A		700
SSC-622A		600
SSC-722A		700
SSC-626A		600
SSC-726A		700
SSC-645A		600
SSC-745A		700
SSC-639A		600
SSC-739A		700

## WELLER ET & PT SERIES TIPS

PT Series suit WTCPS/T Stations and TCP Series Soldering Pencils + ET Series to suit WES51D Soldering Stations.

WES51	WTCP	Description	Tip	Reach	
ETA	PTA7	Screwdriver		1.6	15.9
ETAA	PTAA7	Single Flat		1.6	15.9
EB	PTB7	Screwdriver		2.4	15.9
ETBB	PTBB7	Single Flat		2.4	15.9
ETC	PTC7	Screwdriver		3.2	15.9
ETCC	PTCC7	Single Flat		3.2	15.9
ETD	PTD7	Screwdriver		4.7	15.9
ETDD	PTDD7	Single Flat		4.7	15.9
ETH	PTH7	Screwdriver		0.8	15.9
ETK	PTK7	Long Screwdriver		1.2	25.4
ETL	PTL7	Long Screwdriver		2.0	25.4
ETM	PTM7	Long Screwdriver		3.2	25.4
ETO	PTO7	Long Conical		0.8	25.4
ETP	PTP7	Conical		0.8	15.9
ETR	PTR7	Narrow Screwdriver		1.6	15.9
ETS	PTS7	Long Conical		0.4	25.4
ETT	PTT7	Conical		0.6	15.9
ETGW	-	Mini Wave Tip		-	-

NOTE: Type 7 Solder Tips for WTCPT Soldering Stations are 700°F (370°C). For higher temperature requirement use Type 8, which is 800°F (427°C). For Type 8, change to PT...8, eg. PTA8.

## WELLER MAINS MAGNASTAT IRONS



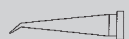




















Temperature controlled mains soldering irons for all day use on production lines where static sensitive components are not involved.



Part No.	Description
W 60D	60W Magnastat Iron
W 100D	100W Magnastat Iron

## WELLER LT SERIES TIPS

LT Tip Chart for WP & O

Blue Part No.	Description	Tip	Reach
LT1	Round	 0.25	12.5
LT1L	Round	 0.2	25
LT1LX	Bent Round	 0.2	25
LT1S	Round	 0.2	15
LT1SLX	Bent Round	 0.4	20.5
LT1X	Bent Round	 0.4	20.5
LT4	Single Flat	 1.2	15
LT4X	Bent Chisel	 1.2	16.5
LTA	Chisel	 1.6	12.5
LTAS	Round	 1.6	12.5
LTAX	Bent Chisel	 1.6	14
LTB	Chisel	 2.4	12.5
LTC	Chisel	 3.2	12.5
LTD	Chisel	 4.6	12.5
LTGW	Gull Wing	 3.2	17.8
LTF	Single Flat	 1.2	12.5
LTH	Chisel	 0.8	12.5
LTHX	Bent Chisel	 0.6	20
LTK	Chisel	 1.2	20
LTKN	Knife (J-Lead)	 1.5	20
LTL	Chisel	 2.0	20
LTM	Chisel	 3.2	20
LTS	Round	 0.4	20


## PACE PS90 HANDPIECE




Part No.	Description
420-190	Replacement PS90 Handpiece

## PACE TIPS FOR PS90, PS80, SP2A & IR70




Part No.	Model	Shape	
130-209	1121-0358-P5	3/16" Chisel	5
112-187	1121-0337-P5	1/8" Chisel	5
112-185	1121-0335-P5	1/16" Chisel	5
113-691	1121-0349-P5	1/16" Taper Micro	5
112-216	1121-0499-P5	1/16" Long Chisel	5
130-217	1121-0500-P5	1/16" Long Bent	5
112-205	1121-0414-P5	1/16" Hi Capacity	5
112-191	1121-0359-P5	1/32" Chisel	5
130-210	1121-0361-P5	1/32" Bent Chisel	5




Part No.	Model	Shape	
112-186	1121-0336-P5	1/32" Conical	5
112-190	1121-0357-P5	1/64" Conical	5




Part No.	Model	Shape	
401-533	1121-0528-P5	1/64" Conical	5
401-532	1121-0527-P5	1/32" Conical	5



Part No.	Model	Shape	
401-531	1121-0533-P5	1/16" Chisel	5
401-530	1121-0529-P5	1/8" Chisel	5




Part No.	Model	Shape	
401-294	1121-0510-P5	1/16" Chisel	5
401-292	1121-0518-P5	1/8" Chisel	5




Part No.	Model	Shape	
112-204	1121-0406-P5	0.13" Chamfered	5

## PACE DESOLDERING TIPS FOR SX80 & SX70



Part No.	Model	I.D. (mm)	O.D. (mm)	
412-830	1121-0625-P5	0.76	2.03	5
412-831	1121-0624-P5	1.02	2.29	5
412-832	1121-0626-P5	1.52	3.05	5
412-833	1121-0627-P5	2.29	5.10	5



Part No.	Model	I.D. (mm)	O.D. (mm)	
412-834	1121-0628-P5	0.76	2.29	5
412-835	1121-0629-P5	1.02	2.54	5
412-836	1121-0630-P5	1.52	3.05	5

## THERMALTRONIC M SERIES STANDARD TIPS FOR TMT-9000S



600	700	800	Description
M6B325	M7B325	M8B325	Bent Sharp 30° 0.4mm (0.016")
M6BS602	M7BS602	M8BS602	Bevel 60° 1.8mm (0.07")
M6BV010	M7BV010	M8BV010	Bevel 60° 1.00mm (0.04")
M6BV030	M7BV030	M8BV030	Bevel 45° 3.00mm (0.12")
M6BV350	M7BV350	M8BV350	Bevel 60° 1.78mm (0.07")
M6C300	M7C300	M8C300	Conical 0.40mm (0.016")
M6C301	M7C301	M8C301	Conical 0.5mm (0.02")
M6CB225	M7CB225	M8CB225	Chisel Bent 30° 1.78mm (0.07")
M6CB226	M7CB226	M8CB226	Chisel Bent 30° 1.5mm (0.06")
M6CH175	M7CH175	M8CH175	Chisel 30° 2.5mm (0.10")
M6CH176	M7CH176	M8CH176	Chisel 30° 1.78mm (0.07")
M6CH177	M7CH177	M8CH177	Chisel 30° 1.5mm (0.06")
M6CH178	M7CH178	M8CH178	Chisel 30° 1.0mm (0.04")
M6CH179	M7CH179	M8CH179	Chisel 30° 1.0mm (0.04")
M6CH180	M7CH180	M8CH180	Chisel 90° 3.0mm (0.12")
M6CH181	M7CH181	M8CH181	Chisel 90° 3.0mm (0.12")
M6CH250	M7CH250	M8CH250	Chisel Extra Large 5.0mm (0.20")
M6CP200	M7CP200	M8CP200	Chisel 30° 2.5mm (0.10")
M6CP201	M7CP201	M8CP201	Chisel 30° 1.80mm (0.07")
M6CP302	M7CP302	M8CP302	Conical 0.40mm (0.016")
M6CP303	M7CP303	M8CP303	Conical Sharp 1.0mm (0.04")
M6CS150	M7CS150	M8CS150	Conical Sharp 0.4mm (0.016")
M6CS151	M7CS151	M8CS151	Conical Sharp 1.0mm (0.04")
M6CS152	M7CS152	M8CS152	Conical Sharp 0.4mm (0.016")
M6CS154	M7CS154	M8CS154	Conical Sharp 1.0mm (0.04")
M6CS155	M7CS155	M8CS155	Conical Sharp 0.5mm (0.02")
M6DS525	M7DS525	M8DS525	Hoof 60° 3.3mm (0.13")
M6DS526	M7DS526	M8DS526	Knife 4.83mm (0.19), increased Tin Area 5.84mm (0.23")
M6DS529	M7DS529	M8DS529	Hoof 60° 1.52mm (0.06")
M6K100	M7K100	M8K100	Knife 4.83mm (0.19), Tin Area 2.03mm (0.08")
M6LB125	M7LB125	M8LB125	Blade Tip 10.41mm (0.41")
M6LB126	M7LB126	M8LB126	Blade Tip 15.75mm (0.62")
M6LB127	M7LB127	M8LB127	Blade Tip 22.1 mm (0.87")
M6LB128	M7LB128	N/A	Blade Tip 30.00 mm (1.18")
M6LC650	M7LC650	M8LC650	Chisel Extra Large 5.0mm (0.20")
M6LR400	M7LR400	M8LR400	Bevel Long Reach 60° 1.0mm (0.04")
M6LR401	M7LR401	M8LR401	Hoof Long Reach 60° 3.05mm (0.12")
M6LR403	M7LR403	M8LR403	Chisel Long Reach 60° 1.78mm (0.07")
M6MD575	M7MD575	M8MD575	Conical Bent 30° Fine 0.51mm (.02")
M6MF375	M7MF375	M8MF375	Micro Fine 0.25mm (0.01")
M6SB275	M7SB275	M8SB275	Bent Sharp 30° 0.4mm (0.016")
M6SB276	M7SB276	M8SB276	Bent Sharp 30° 0.5mm (0.02")
M6WV020	M7WV020	M8WV020	Hoof w/Dent 45° 2.00mm (0.08")
M6WV031	M7WV031	M8WV031	Hoof w/Dent 60° 3.10mm (0.122")
M6WV300	M7WV300	M8WV300	Hoof w/Dent 45° 2.40mm (0.09")

## THERMALTRONIC M SERIES POWER PLUS TIPS



600	700	800	Description
M6C300H	M7C300H	M8C300H	Conical 0.40mm (0.016")
M6CH175H	M7CH175H	M8CH175H	Chisel 30° 2.5mm (0.10")
M6CH176H	M7CH176H	M8CH176H	Chisel 30° 1.78mm (0.07")
M6CH177H	M7CH177H	M8CH177H	Chisel 30° 1.5mm (0.06")
M6CH178H	M7CH178H	M8CH178H	Chisel 30° 1.0mm (0.04")
M6CH250HM	M7CH250HM	M8CH250H	Chisel Extra Large 5.0mm (0.20")
M6CP303H	M7CP303H	M8CP303H	Conical Sharp 1.0mm (0.04")
M6CS014H	M7CS014H	M8CS014H	Conical Sharp 1.4mm (0.055")
M6CS151H	M7CS151H	M8CS151H	Conical Sharp 1.0mm (0.04")
M6CS152H	M7CS152H	M8CS152H	Conical Sharp 0.5mm (0.02")
M6DS023H	M7DS023H	M8DS023H	Hoof 60° 3.10mm (0.122)
M6DS526H	M7DS526H	M8DS526H	Knife 4.50mm (0.177"), Increased Tin Area 6.1mm (0.24")
M6K100H	M7K100H	M8K100H	Knife 4.50mm (0.177")
M6MF375H	M7MF375H	M8MF375H	Micro Fine 0.25mm (0.01")
M6SB275H	M7SB275H	M8SB275H	Bent Sharp 30° 0.5mm (0.02")

## THERMALTRONIC K SERIES STANDARD TIPS FOR TMT-2000S



60	75	80	Description
K60BV004	K75BV004	K80BV004	Conical Sharp 0.4mm (0.016")
K60BV011	K75BV011	K80BV011	Bevel 1.10mm (0.04")
K60CH010	K75CH010	K80CH010	Chisel 30° 1.0mm (0.04")
K60CH015	K75CH015	K80CH015	Chisel 30° 1.50mm (0.06")
K60CH016	K75CH016	K80CH016	Chisel 30° 1.60mm (0.06")
K60CH018	K75CH018	K80CH018	Chisel 30° 1.80mm (0.07")
K60CH025	K75CH025	K80CH025	Chisel 30° 2.5mm (0.10")
K60CH032	K75CH032	K80CH032	Chisel 30° 3.20mm (0.13")
K60CH050	K75CH050	K80CH050	Chisel 30° 5.0mm (0.20")
K60CP010	K75CP010	K80CP010	Conical Sharp 1.0mm (0.04")
K60CS005	K75CS005	K80CS005	Conical Sharp 0.5mm (0.02")
K60CS010	K75CS010	K80CS010	Conical Sharp 1.00mm (0.04")
K60CS014	K75CS014	K80CS014	Conical Sharp 1.4mm (0.055")
K60DS023	K75DS023	K80DS023	Hoof 60° 3.10mm (0.122")
K60DS045	K75DS045	K80DS045	Knife 4.50mm (0.177")
K60DS061	K75DS061	K80DS061	Knife 4.50mm (0.177"), Increased Tin Area 6.1mm (0.24")
K60MF003	K75MF003	K80MF003	Micro Fine 0.25mm (0.01")
K60SB005	K75SB005	K80SB005	Bent Sharp 30° 0.51mm (0.02")
K60WV031	K75WV031	K80WV031	Hoof w/Dent 60° 3.10mm (0.122")
K60WV080	K75WV080	N/A	Hoof w/Dent 45° 8.00mm (0.31")



## HAKKO CHEMICAL TIP TINNER CLEANING PASTE

- Does not contain any diammonium phosphate, so it is safe to tip, P.W.B., operator and environment
- 10g



Part No.	Description
FS100	Tip Tinner

## HAKKO TIP CLEANER STEEL WOOL

- Great for lead free solder
- Replaces sponges in the FX951 stand
- Does not cause thermal shock to tip like a wet sponge



Part No.	Description
599B	Tip Cleaner
599-029	Spare Steel Wool

## HAKKO TIP POLISHER

- For users who have a problem with tip oxidation due to lead-free and high temperature solder
- Removes and oxides without damaging the tip
- Energy saving design, consumes only 4.5W
- Dimensions: 70 x 54 x 101mm



Part No.	Description
FT700	Tip Polisher

## HAKKO TIP TRAY SELECTOR

Convenient tip tray for easy selection of Hakko T12 and T7 tips.



Part No.	Description
B2756	Tip Tray

## HAKKO TIP THERMOMETER

- Enables to perform temperature control surely and easily, which is essential in lead-free soldering
- Suitable for lead-free solder – quick and accurate tip temperature measurement using fine CA wire sensor
- Disposable sensor always maintains accurate temperature measurement
- MAX hold function
- Auto shut-off function
- Compact size



Part No.	Description
FG100	Tip Thermometer

## HAKKO SOLDERING POT ESD SAFE

- Large capacity solder pot holds a larger amount of solder, the solder temperature remains high even during continuous soldering operations
- The stainless steel solder pot and other heavy duty components offer greater durability, while the solder overflow prevention rim around the pot provides greater safety
- The raised rim around the pot enhances soldering and desoldering efficiency
- A waste collector adds a final touch of operating ease and efficiency
- Temperature range 100-450°C



Part No.	Description
96W	Soldering Pot 50mm x 50mm
96-1	Soldering Pot 70mm x 70mm

## HAKKO DIGITAL SOLDERING POT

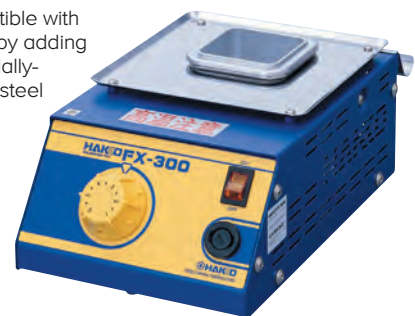
- Selectable heating programs allows to get optimum temperature quickly: Sn-Pb (Tin/Lead), Sn-Ag-Cu (Tin/Silver/Copper), Sn-Cu (Tin/Copper), and Sn (Tin)
- Precise temperature control by digital temperature display & offset function
- Use different pots for different composition solder, or different post sizes (50mm square and 75mm square) with the same unit
- A timer function helps you keep tabs on how long the soldering pot has been in use, making it easy to judge the time for pot replacement



Part No.	Description
FX301	Soldering Pot Complete with 50mm Square Pot
A1517	Spare Pot 50mm x 50mm
A1518	Spare Pot 75mm x 75mm

## HAKKO ANALOGUE SOLDERING POT

- Analog-type low-cost model
- Temperature can be adjusted just by turning a knob during the operation
- Becomes compatible with lead-free solder by adding an optional specially-coated stainless-steel pot



Part No.	Description
FX300	Soldering Pot complete with 50mm Square Pot
A1517	Spare Pot 50mm x 50mm
A1518	Spare Pot 75mm x 75mm

# Easy Braid Desolder Wick

## QUICK BRAID DESOLDER WICK – GENERAL PURPOSE

- Cleaner, faster, more consistent
- Oxide-free clean copper
- More strands of copper (more surface area) per square inch
- Designed to leave residue which is environmentally safe
- Uses pure type 'R' resin flux conforming to all the requirements of Mil-F-14256F, Type 'R' and ANSI/J-STD-004
- Packaged in 5, 25 and 100 foot lengths



Part No.	Width	Length	Colour
Q-A-5	0.63mm	1.5m / 5ft	Silver
Q-B-5	1.27mm	1.5m / 5ft	Gold
Q-C-5	1.90mm	1.5m / 5ft	Green
Q-D-5	2.54mm	1.5m / 5ft	Blue
Q-E-5	3.17mm	1.5m / 5ft	Brown
Q-A-25	0.63mm	7.6m / 25ft	Silver
Q-B-25	1.27mm	7.6m / 25ft	Gold
Q-C-25	1.90mm	7.6m / 25ft	Green
Q-D-25	2.54mm	7.6m / 25ft	Blue
Q-E-25	3.17mm	7.6m / 25ft	Brown
Q-A-100	0.63mm	30.5m / 100ft	Silver
Q-B-100	1.27mm	30.5m / 100ft	Gold
Q-C-100	1.90mm	30.5m / 100ft	Green
Q-D-100	2.54mm	30.5m / 100ft	Blue
Q-E-100	3.17mm	30.5m / 100ft	Brown

## SEA BRAID DESOLDER WICK – FLUX FREE

- Ready to use with the flux of your choice
- Oxide-free clean copper
- More strands of copper (more surface area) per square inch
- Can be used in conjunction with any flux to fit your process
- Stocked in 5 foot length
- 25 and 100 foot lengths available to order



Part No.	Width	Length	Colour
S-A-5	0.63mm	1.5m / 5ft	Silver
S-B-5	1.27mm	1.5m / 5ft	Gold
S-C-5	1.90mm	1.5m / 5ft	Green
S-D-5	2.54mm	1.5m / 5ft	Blue
S-E-5	3.17mm	1.5m / 5ft	Brown

## SOLDAPULT PLASTIC DESOLDERING PUMP

- Plastic Barrel Desoldering Pump
- For one-handed, high-vacuum solder suction



Part No.	Description
CE 114-202	Desoldering Pump Plastic 330mm OAL
CE 407-294	Desoldering Pump Conductive 330mm OAL

## ONE STEP BRAID DESOLDER WICK – NO CLEAN

- Clean, fast, reliable
- Oxide-free clean copper
- More strands of copper (more surface area) per square inch
- Flux residue remaining on board does not need to be cleaned
- To be used in conjunction with processes using RMA type no-clean fluxes; conforms to the requirements of ANSI/J-STD-004, Type LO
- Uses pure type 'R' resin flux conforming to all the requirements of Mil-F-14256F, Type 'R' and ANSI/J-STD-004
- Packaged in 5, 25 and 100 foot lengths



Part No.	Width	Length	Colour
OS-A-5	0.63mm	1.5m / 5ft	Silver
OS-B-5	1.27mm	1.5m / 5ft	Gold
OS-C-5	1.90mm	1.5m / 5ft	Green
OS-D-5	2.54mm	1.5m / 5ft	Blue
OS-E-5	3.17mm	1.5m / 5ft	Brown
OS-A-25	0.63mm	7.6m / 25ft	Silver
OS-B-25	1.27mm	7.6m / 25ft	Gold
OS-C-25	1.90mm	7.6m / 25ft	Green
OS-D-25	2.54mm	7.6m / 25ft	Blue
OS-E-25	3.17mm	7.6m / 25ft	Brown
OS-A-100	0.63mm	30.5m / 100ft	Silver
OS-B-100	1.27mm	30.5m / 100ft	Gold
OS-C-100	1.90mm	30.5m / 100ft	Green
OS-D-100	2.54mm	30.5m / 100ft	Blue
OS-E-100	3.17mm	30.5m / 100ft	Brown

## ONE STEP DESOLDER WICK – LEAD FREE

- No clean
- RoHS compliant
- Oxide-free clean copper
- On static, dissipative spoils
- Flux residue remaining on board does not need to be cleaned
- To be used in conjunction with processes using RMA type no-clean fluxes; conforms to the requirements of ANSI/J-STD-004, Type LO
- Stocked in 5 foot length



Part No.	Width	Length	Colour
LF-A-5AS	0.63mm	1.5m / 5ft	Silver
LF-B-5AS	1.27mm	1.5m / 5ft	Gold
LF-C-5AS	1.90mm	1.5m / 5ft	Green
LF-D-5AS	2.54mm	1.5m / 5ft	Blue
LF-E-5AS	3.17mm	1.5m / 5ft	Brown

## PIERGIACOMI ALUMINIUM DESOLDERING PUMP

Standard aluminium solder sucker, ideal for the toolkit



Part No.	Description
PD	Desoldering Pump Aluminium 215mm OAL

# Kester Solder

## KESTER LEADED SOLDER WIRE – NO CLEAN

Kester SN63 PB37 in 1lb (450g) spools in "275" no-clean cored flux, 50 core size (1.1%)



Part No.	Description	Diameter
24-6337-7604	Solder Wire, No Clean	0.38mm
24-6337-7602	Solder Wire, No Clean	0.51mm
24-6337-7616	Solder Wire, No Clean	0.64mm
24-6337-7600	Solder Wire, No Clean	0.78mm
24-6337-7624	Solder Wire, No Clean	1.01mm
24-6337-7612	Solder Wire, No Clean	1.27mm

## KESTER LEADED SOLDER WIRE – ROSIN

Kester SN60 PB40 in 1lb (450g) spools in "44" rosin cored flux, 66 core size (3.3%)



Part No.	Description	Diameter
24-6040-0007	Solder Wire, Rosin	0.38mm
24-6040-0010	Solder Wire, Rosin	0.51mm
24-6040-0018	Solder Wire, Rosin	0.64mm
24-6040-0027	Solder Wire, Rosin	0.78mm
24-6040-0039	Solder Wire, Rosin	1.01mm
24-6040-0053	Solder Wire, Rosin	1.27mm
24-6040-0069	Solder Wire, Rosin	3.17mm

## KESTER LEAD FREE SOLDER BAR

- The industry standard bar solder for use in high tech electronic applications where lower surface tension and hole filling ability are essential
- Eutectic Tin/Copper alloy with controlled metallic dopants to control the grain structure within the solder joint and to minimize the dissolution of copper into the solder pot
- Virtually eliminates the occurrence of common defects such as icicling and bridging

Supplied in 750g bars, please order in multiples of 3kg.



Part No.	Description
K100LD	1kg Ultrapure Lead Free Solder Bar

## KESTER LEAD FREE SOLDER WIRE – NO CLEAN

- Kester SN96.5 AG3 CU0.5 in 1lb (450g) spools in "275" no-clean cored flux, 58 core size (2.2%)
- RoHS Ready



Part No.	Description	Diameter
24-7068-7608	LF Solder Wire, No Clean	0.38mm
24-7068-7603	LF Solder Wire, No Clean	0.51mm
24-7068-7617	LF Solder Wire, No Clean	0.64mm
24-7068-7601	LF Solder Wire, No Clean	0.78mm

## KESTER LEAD FREE SOLDER WIRE – ROSIN

- Kester SN96.5 AG3 CU0.5 in 1lb (450g) spools in "48" activated, rosin cored flux, 66 core size (3.3%)
- RoHS Ready



Part No.	Description	Diameter
24-7068-1401	LF Solder Wire, Rosin	0.38mm
24-7068-1406	LF Solder Wire, Rosin	0.64mm
24-7068-1402	LF Solder Wire, Rosin	0.78mm
24-7068-1404	LF Solder Wire, Rosin	1.27mm

## KESTER LEAD FREE SOLDER WIRE – WATER SOLUBLE

- Kester SN96.5 AG3 CU0.5 in 1lb (450g) spools in "331" water soluble core flux, 66 core size (3.3%)
- RoHS Ready



Part No.	Description	Diameter
24-7068-6422	LF Solder Wire, Water Soluble	0.38mm
24-7068-6417	LF Solder Wire, Water Soluble	0.64mm
24-7068-6403	LF Solder Wire, Water Soluble	0.78mm

## KESTER K100LD – LEAD FREE SOLDER WIRE

- SN100 Alternative
- Kester K100LD 1lb (450g) spools in "275" no-clean flux, 66 core size (3.3%)
- RoHS Ready



Part No.	Description	Diameter
24-9574-7610	K100LD Solder Wire	0.38mm
24-9574-7619	K100LD Solder Wire	0.64mm
24-9574-7618	K100LD Solder Wire	0.78mm

**KESTER 958 NO-CLEAN FLUX**

A no-clean, non-corrosive halogen free flux for wave soldering of conventional and SMD circuit board assemblies.

Improved wetting and excellent soldering performance on printed circuit boards, with corrosion-inhibiting properties.

Provides a non-tacky residue which does not require cleaning.



Classified as ORL0 per J-STD-004.

Part No.	Description	Size	Solid %
958-1G	No-clean Flux	1 gal	2.7
958-5G	No-clean Flux	5 gal	2.7

**KESTER 2220-VF WATER-SOLUBLE FLUX**

A high activity organic flux designed for lead-free automated wave soldering applications. Provides maximum capillary wetting action up plated through-holes in multi-layer boards. Produces bright shiny solder joints. Residue is effectively removed in standard water cleaning systems.

VOC-free, eliminating the use of ozone depleting chemicals.



Classified as ORL0 per J-STD-004.

Part No.	Description	Size	Solid %
2220VF-1G	Water-soluble Flux	1 gal	7
2220VF-5G	Water-soluble Flux	5 gal	7

**KESTER 959T NO-CLEAN FLUX (WEE COMPLIANT) ROHS READY**

A no-clean, non-corrosive halogen free flux for wave soldering conventional and SMD circuit board assemblies. Contains a small percentage of rosin (0.5%) for improved solderability, heat stability and surface insulation resistance. Provides the best wetting and shiniest solder joints of any no-clean solvent based chemistry. Minimises the formation of micro-solderballs during wave soldering.



Classified as ORL0 per J-STD-004.

Part No.	Description	Size	Solid %
959T-1G	No-clean Flux	1 gal	2.7
959T-5G	No-clean Flux	5 gal	2.7

**KESTER 979 WATER-SOLUBLE FLUX VOC FREE ROHS READY**

A no-clean, active VOC-free flux for optimal topside wetting and solderball reduction. May only be applied by spray fluxer.



Classified as ORL0 per J-STD-004.

Part No.	Description	Size	Solid %
979-1G	Water-soluble Flux, NC	1 gal	4.5
979-5G	Water-soluble Flux, NC	5 gal	4.5

**KESTER 959 NO-CLEAN FLUX ROHS READY**

Formulated for wave soldering of conventional and surface mount circuit board assemblies. Suited to both lead free and leaded soldering. Designed for spray or foam applications



Classified as ORL0 per J-STD-004.

Part No.	Description	Size	Solid %
959-1G	No-clean Flux LF	1 gal	3.9
959-5G	No-clean Flux LF	5 gal	3.9

**KESTER 4662-SM FLUX THINNER**

Is used to replace evaporative losses for the Kester 958 and 959T (DI water can be used for the Kester 2220-VF). The Kester PS22 test kit provides an effective means to determine the flux concentration.



Part No.	Description	Size
4622-SM	Flux Thinner	1 gal

**KESTER 186 RMA FLUX ROHS READY**

High thermal stability and superior solderability with non-corrosive residue. Stocked in 18% solids formulation. Cleaning not necessary.



Classified as ORL0 per J-STD-004.

Part No.	Description	Size	Solid %
186-1G	RMA Flux	1 gal	36
186-5G	RMA Flux	5 gal	36

**KESTER FLUX PENS**

No-clean, low solids flux pens for rework applications.



Part No.	Description	Size
952-D6	Flux Pen (ROHS compliant)	10ml
951	Flux Pen (leaded applications)	10ml

## KESTER RF741 FLUX GEL

A high-viscosity, no-clean flux gel for easy syringe type dispensing. Can be precisely dispensed, staying in place until solder occurs due to its gel-like consistency.

Ideal for QFP or BGA rework applications.



Classified as ROL0 per J-STD-004.

Part No.	Description	Size
RF 741-30	Flux Gel	1 gal

## KESTER SOLDER PASTES

- Kester offers a complete line of solder pastes to fit the needs of the electronic assembly market.
- The products cover the complete range of application types including no-clean, water-soluble, halogen-free and lead-free.
- Please enquire with your application and we will help you find the right Kester solder paste.



Part No.	Description
—	Please enquire

## EASY PROFILE® 256 KESTER 63/37 SOLDERING PASTE

- A SN63/PB37 no-clean, air or nitrogen reflowable, soldering paste specifically designed for maximum robustness in reflow profiling and stencil printing.
- Widest possible reflow processing window.
- Capable of stencil printing downtimes of up to 90 minutes with an effective first print down to 20ml
- Solderpaste formula that maintains its activity and printing characteristics for up to 8 hours without any shear thinning
- Type 4 Powder Mesh



Part No.	Description	Size
EP256	256 Easy Profile Solder Paste	500g jar



Please see Page 192 for Lead Free labels, tape, etc.

## MULTICORE SPOT-ON SOLDER RESISTANCE

- A temporary solder resistance designed to be used on printed circuit boards prior to soldering and will withstand fluxing and wave soldering operations.
- Withstands high temperatures
- Thixotropic – holds position
- Suitable for hand, robotic, pneumatic or template screening applications and is simply removed after soldering by peeling off
- Opaque white liquid
- 2mm application thickness
- Dries in 2 hours at ambient temperature or 40 minutes at 80°C
- Not recommended for use on PCBs that require washing after soldering



Part No.	Description
MC463	Multicore Spot-On Solder Resistance 250ml

## KAPTON® MASKING TAPE

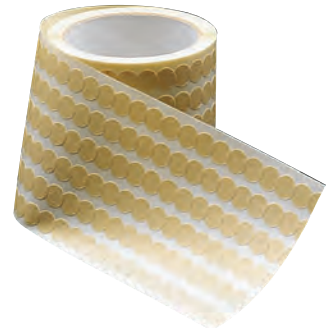
- Masks solder from edge connectors, holes and other areas on circuit boards during wave soldering
- High temperature resistance (250°) and removes easily without leaving residue



Part No.	Description	Size
K250006	KAPTON® Tape	1/4"
K250009	KAPTON® Tape	3/8"
K250012	KAPTON® Tape	1/2"
K250016	KAPTON® Tape	5/8"
K250020	KAPTON® Tape	3/4"
K250025	KAPTON® Tape	1"
K250034	KAPTON® Tape	1 1/4"

## SHERCON PAPERMASKING DISCS

- Creped-back paper discs withstand 5-8 seconds of wave solder exposure and up to 256°C without adhesive transfer
- 5,000 discs per roll



Part No.	Description	Size	Quantity
CE 113-497	Paper Disc	1/4"	5,000
CE 191-802	Paper Disc	3/8"	5,000
CE 113-495	Paper Disc	1/2"	5,000





## **Production & Laboratory Equipment**

Fume Extraction .....	46
Dispensing Equipment .....	50
Dispensing Automation .....	53
Bench Inspection.....	54
Bending Machines .....	56
Ultrasonic Cleaners .....	57

# Fume Extraction

## Applications:

- Wave Soldering
- Selective Wave Soldering
- Reflow Ovens
- Component Underfill
- Selective Soldering
- Hand Soldering
- Point to Point Soldering
- Tip Extraction
- Arm Extraction
- Extraction Cabinets
- Laser Soldering
- Printing

## Features:

- Protects the health of personnel
- Static-safe fume extraction arms
- Real time airflow measurement
- Long life filters
- Fully mobile
- Compact and quiet
- Ensures compliance with international health and safety regulations
- Removes solvent odours
- Airflow is adjustable meet different requirement
- Prevents medical conditions caused by solvent fumes such as nausea, fatigue and headaches
- Submicron HEPA filter technology
- Fully mobile stainless steel cabinets
- Extra long life filters
- Very easy to install and remove

For more help and information please contact us.

## PUREX FUME EXTRACTION GUIDE – WHICH FUME EXTRACTOR DO YOU NEED?

IMPORTANT: This is a guide only, many factors influence the choice of fume extraction system. Contact us for further advice.

### Notes:

1. The selection is based on the use of a standard connection kit.
2. Longer pipe runs may require a larger extraction machine.
3. \* Point-to-point soldering machines only, not suitable for hand-held tip extraction.
4. Continuous use may require a machine with larger filtration capacity.
5. IMPORTANT: Choose a vacuum control machine for Arm and Tip extraction and a volume control machine for other applications.

Machine	Capture Arms				Tip Extraction		Reflows	Wave	
Model	Arms 38mm Max No.	Arms 50mm Max No.	Arms 75mm Max No.	Arms 100mm Max No.	Cleancabs Max No.	Cowls Max No.	Number of Soldering Iron Tips	Extract Volume Required M3/hr	Extract Volume Required M3/hr
FumeCube Lite	1 or 2	–	–	–	–	–	1	–	–
FumeCube	1 or 2	–	–	–	–	–	1	–	–
FumeCube MAX	1 or 2	–	–	–	–	–	1	–	–
FumeBuster	–	–	–	–	1	1 or 2	–	–	–
200	3	2	–	–	1	2	Up to 30	–	–
400	6	4	1	1	1 to 2	4	–	–	–
200i	3	2	–	–	1	2	Up to 30	–	–
200i-HP	–	–	–	–	–	–	Up to 50	–	–
400i	6	4	1	1	1 to 2	4	–	–	–
800i	9	8	4	2	2 to 4	6	–	–	–
1500i	12	12	–	5	4 to 8	8	–	Below 900	–
2000i	15	15	–	5	6 to 12	10	–	Below 1500	Below 1500
5000i	36	36	–	10	12 to 24	20	–	Over 1500	Over 1500

## Solder Fumes

When heated, rosin-based solder fluxes form fumes containing a range of resin acid particulates and other components as gases.

When inhaled, rosin based solder flux fume can lead to occupational asthma or make existing asthmatic conditions worse. The fume can also cause irritation to the eyes and upper respiratory tract and can also cause dermatitis.

Rosin-based solder flux fume is now regarded as one of the most important causes of occupational asthma and the effects can be permanent and irreversible.

Continued exposure, even to very small amounts of fume, may cause asthma attacks and the person affected may be unable to do any soldering with rosin-based fluxes again.

Solder fume is classed as a hazardous substance and should be controlled according to any appropriate legislation.

## Hand & Machine Soldering

Electronic components can be soldered by hand using a soldering iron or by using automated machines such as reflow ovens.

In both cases a fume extraction system is vital to protect the health of employees and to keep the process and products clean.

The correct fume extraction system can also benefit production speeds and reduce downtime.



### UNIVERSAL TIP FUME EXTRACTION KIT

- 1 x 1.5m x 5.5mm ID x 1.5mm wall clear silicone hose
- 1 x screw in adaptor (8mm hose, M10)
- 5 x 8mm Ø hose clips
- 1 x universal iron stand
- 1 x soldering iron stand
- 1 x cup standard iron
- 1 x cup metal iron
- 1 x extraction tube clip weller
- 1 x extraction tube clip metal/mini weller
- 1 x extraction tube strap universal
- 1 x 6mm Ø x 100mm extraction tube weller
- 1 x 6mm Ø x 135mm extraction tube metal
- 1 x 6mm Ø x 225 extraction tube universal



Part No.	Description
300001	Universal Tip Fume Extraction Kit

### CONNECTION KIT

- 2m x 50mm flexible hose with 2 connecting cuffs



This Set is also included in all the other Connection Kits.

Part No.	Description
120117	Connection Kit

### CONNECTION KIT

- 38mm flexible stainless steel arm with fixed pen nib and screwed bench bracket



Part No.	Description
100294	Connection Kit

### CONNECTION KIT

- 38mm flexible stainless steel arm with conical cowl, pen nib and clamped bench bracket



Part No.	Description
100295	Connection Kit

### CONNECTION KIT

- 50mm flexible stainless steel arm with fixed large clear hood and clamped bench bracket



Part No.	Description
100292	Connection Kit

### CONNECTION KIT

- 50mm flexible stainless steel arm with fixed clear hood cowl and clamped bench bracket



Part No.	Description
100299	Connection Kit

### REPLACEMENT FILTER MATRIX – PART NUMBER GUIDE

**IMPORTANT:** Each System requires a pre-filter and main filter, Not all filters are stocked as some filters listed below are for special applications and aren't standard, should you require any help finding the correct filter for your needs please contact us now

	FILTER	2TIP	3-15TIP	FUME-CUBE LITE	FUME-CUBE	FUME-CUBE MAX	FUME-CUBE PRO	200	400	200i	200i HP	400i	800i Tier2	800i Tier3	1500i	2000i	5000i	
Pre-Filters	Pad F5	200225	200314	200225	200225	-	-	202260	202260	-	-	-	-	-	-	-	-	200310 <sup>3</sup>
	Pad F6	200226	-	-	200226	-	-	-	-	-	-	-	-	-	-	-	-	-
	Pad F8/F9	-	-	-	200316	-	-	200223	200223	-	-	-	-	-	-	-	-	-
	Pleated Bag	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11144 <sup>3</sup>
	Labyrinth F6	-	-	-	-	-	-	-	-	202268	202268	202268	202280	-	111037	111037	-	-
	Labyrinth F8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	111072 <sup>4,5</sup>
Labyrinth F8/F9	-	200098	-	-	111124	111197 <sup>1</sup> 111195 <sup>2</sup>	113831	-	-	202271	-	202271	202272	202273	111099	111099	111006 <sup>4</sup>	
Main Filters	HEPA Chemical	110507	110531	110507	110536	110507	113831	113505	113505	113505	113505	113505	113652	113652	110615	110615	-	-
	HEPA Twin Chemical	-	-	-	-	-	-	113579	113579	113579	-	113579	113660	113660	110614	110614	-	-
	HEPA/Chem Cleanroom	-	110533	-	110538	-	-	113512	113512	113512	-	113512	113658	113658	110632	110632	-	-
	Chemical Std Filter	-	110532	110504	110537	110504	-	113508	113508	113508	-	113508	113651	113651	110610	110610	110627	-
	HEPA	-	-	-	-	-	-	113809	113809	113809	-	113809	113650	113650	-	-	110633	-
	Chemical Special	-	110542	-	110544	-	-	113662	113662	113662	-	113662	-	-	-	-	-	-
	Pleated Bag	-	-	-	-	-	-	113531	113531	113531	-	113531	-	-	-	-	110645	-
	Solvent Lock	-	110541	-	110543	-	-	113513	113513	113513	-	113513	113667	113667	-	-	-	-

<sup>1</sup> Single Arm

<sup>2</sup> Dual Arm

<sup>3</sup> Rear Inlet

<sup>4</sup> Side Inlet

<sup>5</sup> Only available as spare filter for existing units

### EDSYN SMOKE EXTRACTOR

- Desktop solder smoke absorber that can be mounted horizontally or vertically
- A third mounting position is also available with an optional arm stand



Part No.	Description
CE 174-350	Benchtop Fume Extractor
CE 174-905	Filter Front Rotating (Pack of 5)
CE 174-906	Filter Rear Stationery (Pack of 5)

### HAKKO SMOKE ABSORBER

- Desktop solder smoke absorber that can be mounted horizontally or vertically
- A third mounting position is also available with an optional arm stand



Part No.	Description
FA400	Hakko Smoke Absorber
A1001	Filters Set (Pack of 5)

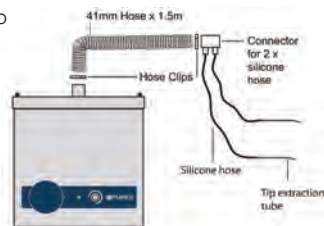
# ANALOGUE CONTROL FUME EXTRACTION SYSTEMS



## 2TIP 230V / 170m<sup>3</sup>/h

- Run LED – signals when machine is on
- Highest grade HEPA and carbon technology
- Quiet in operation
- Simple to install and easy to relocate
- Ideal for 2 soldering tips

- Included:
- Unit
  - Main and Pre-Filter
  - Connection Kit

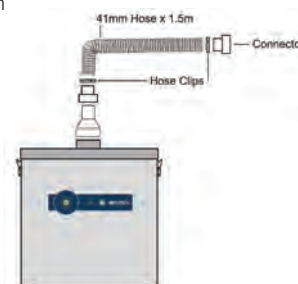


Part No.	Description
072120	2TIP Analogue Tip Extraction System

## 3-15TIP 230V / 200m<sup>3</sup>/h

- Filter blocked warning system
- Highest grade HEPA and carbon technology
- Quiet in operation
- Simple to install and easy to relocate
- Up to 15 soldering tips

- Included:
- Unit
  - 1 Main and 2 Pre-Filters
  - Connection Kit 072300

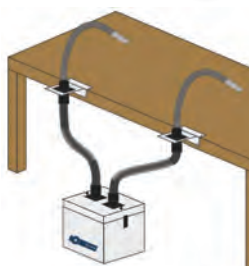


Part No.	Description
072300	3-15TIP Analogue Tip Extraction System

## FUMECUBE LITE 230V / 170m<sup>3</sup>/h

- Run LED & speed control
- Highest grade HEPA and carbon technology
- Adjustable airflow
- Quiet in operation
- Simple to install / easy to relocate

- Included:
- Unit
  - Main and Pre-Filter
  - Connection Kit(s) 100294



Part No.	Description
072082	Fumecube Lite Single Arm
072083	Fumecube Lite Dual Arm

## FUMECUBE 230V / 170m<sup>3</sup>/h

- VariColour filter blocked warning system
- Highest grade HEPA and carbon technology
- Automatic electronic flow control – maintains a constant extraction rate even as the filter blocks
- Quiet in operation
- Simple to install and easy to relocate

- Included:
- Unit
  - Main and Pre-Filter
  - Connection Kit 100295

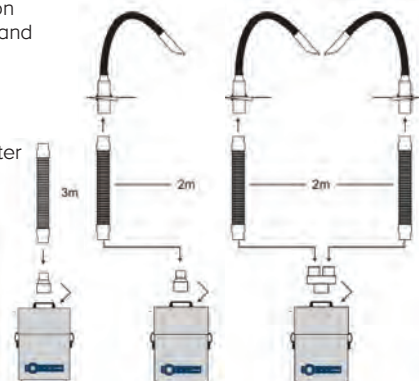


Part No.	Description
072066	Fumecube Single Arm
072065	Fumecube Dual Arm

## FUMECUBE MAX 230V / 170m<sup>3</sup>/h

- VariColour filter blocked warning system
- Highest grade HEPA and carbon technology
- Automatic electronic flow control – maintains a constant extraction rate even as the filter blocks
- Quiet in operation
- Simple to install and easy to relocate

- Included:
- Unit
  - Main and Pre-Filter
  - 1 Connection Kit (various options)

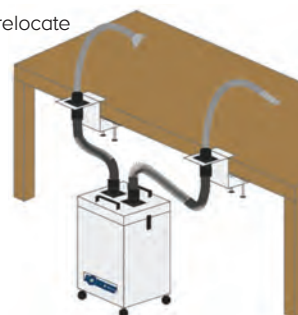


Part No.	Description
072142	Fumecube Max Single Arm
072144	Fumecube Max Dual Arm
072140	Fumecube Max Hose

## FUMECUBE PRO 230V / 170m<sup>3</sup>/h

- VariColour filter blocked warning system
- Highest grade HEPA and carbon technology
- Automatic electronic flow control – maintains a constant extraction rate even as the filter blocks
- Quiet in operation
- Simple to install and easy to relocate

- Included:
- Unit
  - Main and Pre-Filter
  - Connection Kit 100295



Part No.	Description
072650	Fumecube Pro Single Arm
072600	Fumecube Pro Dual Arm

## DIGITAL CONTROL FUME EXTRACTION SYSTEMS

- Clear and informative graphic display
- Highest grade HEPA and carbon technology
- Automatic electronic flow control – maintains a constant extraction rate even as the filter blocks
- Gas and particle sensors to warn the operator
- Adjustable airflow



### 200 230V / 200m<sup>3</sup>/h

1

- For soldering; light inkjet coding and marking
- For up to 30 Tips
- Size: 710mm H x 465mm W x 528mm D
- Sound Level: <60dBa

#### Included:

- Unit, Main and Pre-Filter, 1 Connection Kit (various options)

Part No.	Description
0LX2100D	200 Rear Inlet Volume Control
080026D	200 Rear Inlet Vacuum Control

### 400 230V / 400m<sup>3</sup>/h

2

- For soldering; medium inkjet coding and marking; wide format printing
- Size: 710mm H x 465mm W x 528mm D
- Sound Level: <60dBa

#### Included:

- Unit, Main and Pre-Filter, 1 Connection Kit (various options)

Part No.	Description
0LX4000D	400 Rear Inlet Volume Control
080410D	400 Rear Inlet Vacuum Control

### 200i / 200i HP 230V / 200m<sup>3</sup>/h

3

- For soldering tip systems; light laser engraving; laser coding and marking
- 200i for up to 30 Tips, 200i HP for up to 50 Tips
- Size: 1070mm H x 465mm W x 528mm D
- Sound Level: <60dBa

#### Included:

- Unit, Main and Pre-Filter, 1 Connection Kit (various options)

Part No.	Description
0LX2110D	200i Side Inlet Volume Control
080026iD	200i Side Inlet Vacuum Control
080050iD	200i HP Side Inlet Vacuum Control

### 400i 230V / 400m<sup>3</sup>/h

4

- For medium laser engraving, laser coding & marking; soldering & electronics manufacturing
- Size: 1070mm H x 465mm W x 528mm D
- Sound Level: <60dBa

#### Included:

- Unit, Main and Pre-Filter, 1 Connection Kit (various options)

Part No.	Description
0LX4010D	400i Side Inlet Volume Control
080410iD	400i Side Inlet Vacuum Control

### 800i 230V / 800m<sup>3</sup>/h

5

- For heavy laser engraving, laser coding & marking; soldering & electronics manufacturing; 3 Tier for acrylic applications
- Size: 1155mm H x 571mm W x 675mm D
- Sound Level: <60dBa
- Various Connection Kits available
- With 2-Tier or 3-Tier Unit

#### Included:

- Unit, 1 or 2 Main and 1 Pre-Filter

Part No.	Description
080502D	800i Tier2 Side Inlet Volume Control
080505D	800i Tier2 Side Inlet Vacuum Control
080501D	800i Tier3 Side Inlet Volume Control
080504D	800i Tier3 Side Inlet Vacuum Control

### 1500i 230V / 1500m<sup>3</sup>/h

6

- For heavy laser engraving; laser coding & marking; soldering & electronics manufacturing; wide format printing
- Size: 1400mm H x 725mm W x 726mm D
- Sound Level: 60dBa
- Various Connection Kits available

#### Included:

- Unit, Main and Pre-Filter

Part No.	Description
0LX1510D	1500i Side Inlet Volume Control
021820iD	1500i Side Inlet Vacuum Control

### 2000i 220 OR 400V / 2000m<sup>3</sup>/h

7

- For large laser engraving; laser coding & marking; soldering & electronics manufacturing
- Size: 1400mm H x 725mm W x 726mm D
- Sound Level: 60dBa
- Various Connection Kits available
- Requires 3ph power

#### Included:

- Unit, Main and Pre-Filter

Part No.	Description
0LX2011D	2000i 220V Side Inlet Volume Control
022121iD	2000i 220V Side Inlet Vacuum Control
0LX2010D	2000i 400V Side Inlet Volume Control
022120iD	2000i 400V Side Inlet Vacuum Control

### 5000i – SIDE OR REAR INLET 220 OR 400V / 5000m<sup>3</sup>/h

8

- For large laser engravers, laser coding & marking; soldering & electronics manufacturing
- Size: 1804mm H x 1250mm W x 892mm D
- Sound Level: 65dBa
- Connection Kit available
- Requires 3ph power

#### Included:

- Unit, 2 Main and 1 or 2 Pre-Filters

Part No.	Description
0LX5551D	5000i 220V Side Inlet Volume Control
0LX5565D	5000i 220V Rear Inlet Volume Control
044251D	5000i 220V Side Inlet Vacuum Control
044265D	5000i 220V Rear Inlet Vacuum Control
0LX5550D	5000i 400V Side Inlet Volume Control
0LX5549D	5000i 400V Rear Inlet Volume Control
044250D	5000i 400V Side Inlet Vacuum Control
044261D	5000i 400V Rear Inlet Vacuum Control

# Fisnar Dispensing

## A World Leader in Industrial Robots and Automation Solutions for Fluid Dispensing

FISNAR offer the largest selection of products including a valve for every type of material and a wide range of economic industrial robots suitable for automating a bench assembly operation or for integration in a larger in-line process. Fisnar is dedicated to providing all industries with a cost-effective solution for the needs to dispense liquids and paste in a controlled manner.

### Fluid Dispensers

Dispensers provide precise control during application, contributing to a variety of cost and time-saving benefits. An air-powered dispenser operates via time and air pressure, whereas a peristaltic pump is a mechanical or volumetric dispenser and positively displaces fluid. Available with a variety of features, from manual controlled to automatic for adhesive dispensing, cyanoacrylate, UV resin, silicone, RTV, and anaerobic dispensing.

### Robotics

Fisnar industrial robots are an economic solution to automation, offering a wide range suitable for low, medium, and high production environments. Robotic systems are available in a variety of sizes to fit the needs of your application, in addition to a full line of accessories for customization.

### FISNAR DISPENSING VALVES

By determining your desired fluid viscosity, fluid content, and application type, Fisnar can identify the best dispensing valve for the job. Dispensing valves are selected by fluid viscosity, fluid content and the purpose that the valve will be used for.



Material	Dots	Micro Dots	Beads/Lines	Potting/Filling	Spray
Acid/Solvent	VD510-SS, 710PT-LF	VD510-SS, MV-0180SS	VD510-SS, 710PT-LF	VD510-SS, 790HPSS-LF	SV1000SS
Anaerobic	VD510, 710PT-LF	VD510, 710PT-LF	VD510, 710PT-LF	VD510, 710PT-LF	–
Cyanoacrylate	VD510, 710PT-LF	VD510	VD510, 710PT-LF	VD510, 710PT-LF	–
1-Part Epoxy	VP300, 790HP-LF, PDV-1000, VMS400	PDV-1000	VP300, 790HP-LF, PDV-1000, VMS400	VP300, 790HP-LF, VMS400	–
2-Part Epoxy	710PT-LF	–	710PT-LF	710PT-LF	–
Grease/Gel	790HP-LF, VMS400	MV-0180LF	790HP-LF, VMS400	790HP-LF	–
Ink/Paint	VD510, VMP30H	MV-0180LF	VD510, VMP30H	VP300	SV2000N, SV1000SS
Liquid Flux	VD510, 710PT-LF	MV-0180SS	VD510, 710PT-LF	VMS400	SV2000N, SV1000SS
Lubricant/Oil	VD510	MV-0180LF	VD510, MV-0180LF	VP300, 790HP-LF	SV2000N, SV1000SS
Paste	VP300, 790HP-LF, PDV-1000	PDV-1000	VP300, 790HP-LF, PDV-1000	VP300, 790HP-LF	–
Reagent	VD510, MV-0180SS	VD510, MV-0180SS	VD510, MV-0180SS	VD510, 790HP-LF	–
RTV/Sealant	VP300, 790HP-LF	VMS400	VP300, 790HP-LF	VP300, 790HP-LF	–
Solder Mask	CV629, VMS400	MV-0180LF	CV629, VMS400	CV629, VP300	–
Solder Paste	PDV-1000	PDV-1000	PDV-1000	–	–
UV Adhesive	VD510-UV	VD510-UV, MV-0180SS	VD510-UV, VMS400	VD510-UV, 790HPSS-LF	SV2000N, SV1000SS

## FISNAR DC100 PRECISION DIGITAL DISPENSER

A versatile precision dispenser designed to suit a wide variety of dispensing applications: from microdot deposits and lines, to large potting and filling. Integral and intelligent dispense software allows the user more control over dispensing applications.

Programmable alarms can be set to notify the user when material life has ended or fluctuations in dispensing pressure have occurred. The user-friendly programming allows for up to 10 programs saved and 5 different dispense modes.

### Features:

- High precision regulator with exceptional dispense accuracy and repeatability
- Digital display readout of air output and vacuum pressure
- Air input alarm can be set for monitoring consistent air input pressure
- Dispense control lockout function to prevent programs from being modified
- Auto-purge cycle to prevent premature curing of material
- Dispense counter for tracking dispense cycles



Part No.	Description
DC100	Precision Digital Dispenser

## FISNAR DC200 DIGITAL VALVE CONTROLLER

A multi-purpose digital controller, recommended for use with Fisnar pneumatically-actuated valves. This system uses a highly responsive air pressure management system, coupled with a digital display to provide consistent repeatable control.

### Features:

- Air input tolerance can be set for consistent pressure
- Can be locked to keep programs from being modified
- Auto-purge and glue alarm to prevent premature curing of materials
- Dispense counter for tracking completed dispense cycles
- Multiple dispensing modes for easy use in many applications
- I/O circuit for external control and robot integration



Part No.	Description
DC200	Digital Valve Controller

## FISNAR DB815 FOOT VALVE DISPENSER

Controlled by an air-actuated valve using a foot-pedal. Suitable for hazardous environments since the units do not require electricity to operate.



Part No.	Description
DB815	Foot Valve Dispenser
DB815-SB	Foot Valve Dispenser with Suck-Back

## FISNAR PPD-130 PERISTALTIC PUMP DISPENSER

Peristaltic pump dispenser transferring low viscosity liquids by pressure displacement applied to a turning rotor against a tube carrying material.



Part No.	Description
PPD-130	Peristaltic Pump Dispenser

## FISNAR SL101N DIGITAL DISPENSER

Digital controller dispensing timed micro shots from 0.01 to 9999 seconds. It has three modes of operation: manual, timed and cycling.



Part No.	Description
SL101N	Digital Dispenser

## FISNAR JD927 MANUAL SYRINGE BARREL DISPENSER

Lightweight and comfortable with an easy twist-on barrel mounted design. Each squeeze of the trigger advances the plunger by 0.24" (6mm) dispensing a precise amount of material every time.

These dispensers are capable of dispensing most fluids by using a finger-tip control and push button plunger release.



Part No.	Description
JD927	Manual Syringe Barrel Dispenser

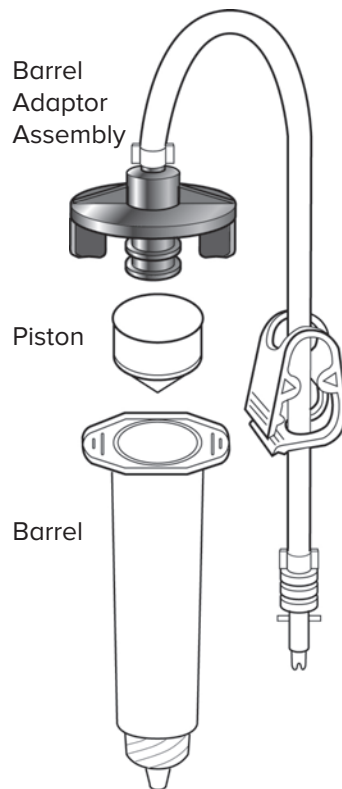
# Fisnar Dispensing Consumables

## EVENPRESS™ SMOOTH FLOW PISTONS

Low-friction pistons are recommended for most dispensing applications. The double-wipe design prevents air entrapment and material waste by wiping the syringe barrel wall clean.



Part No.	Size	Base	Pack Qty.
8001006-50	3cc	Round	50
8001007-40	5cc	Round	40
8001008-30	10cc	Round	30
8001009-20	30/50cc	Round	20



## QuantX™ SYRINGE BARRELS – NATURAL (NON-UV)

Combines minimal resistance and ultra parallel uniformity over the length of the syringe barrel. The first choice for packaging high-value fluids and for accurate dot and line dispensing. Premium grade silicone-free polypropylene.



Part No.	Size	Base	Pack Qty.	I.D. (inch)	O.D. (inch)	Length (inch)
8001001-50	3cc	Round	50	0.379	0.453	2.941
8001002-40	5cc	Round	40	0.500	0.567	2.756
8001003-30	10cc	Round	30	0.622	0.733	3.567
8001004-20	30cc	Round	20	0.891	1	4.634
8001005-20	55cc	Round	20	0.891	1.020	6.898

## QuantX™ BLUNT END DISPENSE TIPS

For dispensing low to high viscosity fluids in general purpose dispense applications. UV epoxy-sealed dispense tips with polypropylene hubs and stainless steel cannulas. A double helix luer lock design and polished burr-free finish ensure precision fluid dispensing.



Color	Gauge	I.D. (inch)	I.D. (mm)	1/4" (6.35mm)	1/2" (12.7mm)	1" (25.4mm)	1 1/2" (38.1mm)	1/2" 45°	1/2" 90°
Olive	14	0.063	1.60	8001115	8001084	8001095	8001105	8001156	8001166
Amber	15	0.054	1.37	8001073	8001085	8001096	8001106	8001157	8001167
Black	16	0.047	1.20	8001074	8001086	8006031	8001495	8001802	–
Green	18	0.033	0.84	8001075	8001087	8001097	8001107	8001158	8001168
Pink	20	0.024	0.60	8001076	8001088	8001098	8001108	8001159	8001169
Purple	21	0.020	0.51	8001077	8001089	8001099	8001109	8001160	8001170
Blue	22	0.016	0.41	8001078	8001090	8001100	8001110	8001161	8001171
Orange	23	0.013	0.33	8001079	8001091	8001101	8001111	8001162	8001172
Red	25	0.010	0.25	8001080	8001092	8001102	8001112	8001163	8001173
Beige	26	0.009	0.23	–	8001463	–	–	–	–
Clear	27	0.008	0.20	8001081	8001093	8001103	8001113	8001164	8001174
Lavender	30	0.006	0.15	8001082	8001094	8001104	8001114	8001165	8001175
Yellow	32	0.004	0.10	8001083	8001117	–	–	–	–
Light Green	33	0.003	0.08	8001116	–	–	–	–	–

## QuantX™ TAPERED DISPENSE TIPS

Tapered smooth flow dispensing tips are designed to reduce back pressure of high-viscosity fluids resulting in an increased fluid flow rate. A uniform polypropylene luer lock design with a flash-free outlet ensures consistent fluid dispensing. Double tapered tips feature a unique fluid outlet design to reduce fluid wicking and dripping on low viscosity materials.

Color	Gauge	I.D. (inch)	I.D. (mm)	Length (inch/mm)	Single Tapered	Double Tapered
Olive	14	0.063	1.60	1.25/32	8001269	–
Orange	14	0.063	1.60	1.25/32	–	8001263
Gray	16	0.047	1.20	1.25/32	8001270	8001264
Green	18	0.033	0.84	1.25/32	8001271	8001265
Pink	20	0.024	0.60	1.25/32	8001272	8001266
Blue	22	0.016	0.41	1.25/32	8001273	8001267
Red	24	0.014	0.37	1.25/32	–	8001268
Red	25	0.010	0.25	1.25/32	8001274	–
Clear	27	0.008	0.20	1.25/32	8001277	–
Lavender	30	0.006	0.15	1.25/32	8001276	–



## Fisnar Dispensing Automation

Fisnar industrial robots are an economic solution to automation. A wide range of desktop, gantry-cartesian and SCARA dispensing robots are available. Suitable for low, medium and high production environments, automating with a Fisnar robot will help in saving costs in material waste, rejects, time and labour. Fisnar has a wide range of 3 and 4 axes robots for automatic dispensing of adhesives, liquid gaskets, resins and UV materials.

### COMPACT 3-AXIS BENCHTOP ROBOT

A compact and ergonomically designed benchtop robot created to support most general dispensing applications requiring a high performance standard and consistent repeatable results. Programming the F4200N.1 is simple with the included teach pendant and optional tip alignment. Using the industry's market-leading software, the teach pendant provides users with step-by-step instructions resulting in a sophisticated dispensing operation in minutes.

#### Features:

- Repeatability of 0.02mm
- Small footprint for bench space reduction
- Step and repeat functionality
- USB port for data transfer and back up
- Optional PC programming



Part No.	Description	Work Area
F4200N.1	Compact 3-Axis Benchtop Robot	200 x 200 x 50mm

### ADVANCE SERIES 3-AXIS BENCHTOP ROBOT

Designed to ensure precise fluid placement and positioning, a high level of accuracy and repeatability. Specifically built for fluid dispensing processes, user friendly and enables the creation of complex dispensing routines (dots, lines, circles, arcs, and fills) that can be set up and operational in just minutes using the teach pendant (included). Software allows for DXF files to be imported into the software to dramatically reduce programming time for complex dispense patterns.

#### Features:

- Modular connectivity for easy installation of accessories at any time such as the CCD vision kit, tip-alignment, or height sensor
- USB Port for data transfer and back-up
- Program selector switch and fluid purge button
- True 3D interpolation and simultaneous motion control
- Teach pendant included for easy programming
- Aux-Axis
- I/O expansion
- Remote start/stop box



Part No.	Description	Work Area
F4303	Advance 3-Axis Benchtop Robot	300 x 300 x 100mm
F4403	Advance 3-Axis Benchtop Robot	400 x 400 x 100mm
F4503	Advance 3-Axis Benchtop Robot	500 x 500 x 150mm
F4603	Advance 3-Axis Benchtop Robot	600 x 500 x 150mm

### ADVANCE SERIES 4-AXIS BENCHTOP ROBOT

Designed to ensure precise fluid placement and positioning. Specifically made for fluid dispensing processes, user friendly and enables the creation of complex dispensing routines (dots, lines, circles, arcs, and fills) that can be set up and operational in just minutes using the teach pendant (included).

The additional 4th rotational (R) axis allows for dispensing at a user-specified, fixed angle around the 360° rotational plane, allowing it to access hard-to-reach areas and vertical surfaces.

#### Features:

- Integral tip position adjustment routine
- USB port for data transfer and back-up
- Program selector switch and fluid purge button
- True 3D interpolation and simultaneous motion control
- Modular connectivity for easy installation of accessories at any time such as the CCD vision kit, tip-alignment, or height sensor
- Aux-Axis
- I/O expansion
- Remote start/stop box



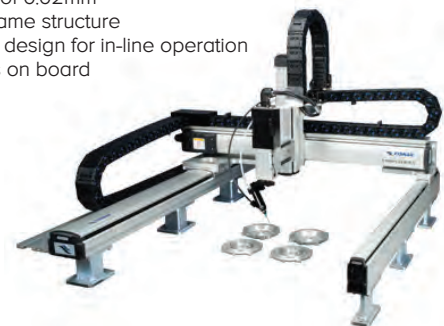
Part No.	Description	Work Area
F4304	Advance 4-Axis Benchtop Robot	300 x 300 x 150mm
F4404	Advance 4-Axis Benchtop Robot	400 x 400 x 150mm
F4504	Advance 4-Axis Benchtop Robot	500 x 500 x 150mm
F4604	Advance 4-Axis Benchtop Robot	600 x 500 x 150mm

### GANTRY INDUSTRIAL ROBOT

Gantry-cartesian robotic system, can be easily integrated with in-line industrial automation. All axes above the work area making it ideal for large dispensing applications and jobs requiring a fourth axis, such as when using a spray valve.

#### Features:

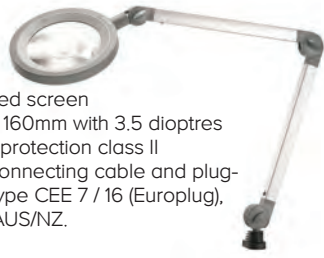
- AC servo motors
- Available in three and four axis models
- Repeatability of 0.02mm
- Highly rigid frame structure
- Open access design for in-line operation
- 100 programs on board



Part No.	Description	Work Area
F9300N	Gantry Industrial 3-Axis Robot	300 x 300 x 200mm
F9304N	Gantry Industrial 4-Axis Robot	300 x 300 x 200mm
F9600N	Gantry Industrial 3-Axis Robot	600 x 600 x 200mm
F9604N	Gantry Industrial 4-Axis Robot	600 x 600 x 200mm
F9800N	Gantry Industrial 3-Axis Robot	800 x 600 x 200mm
F9804N	Gantry Industrial 4-Axis Robot	800 x 600 x 200mm

### MAGNIFYING LAMP

- LED technology
- Colour temperature neutral white 5 000K
- Colour rendering Ra > 80
- Glare-free thanks to satinised screen
- Hard-coated plastic lens Ø 160mm with 3.5 dioptres
- Degree of protection IP20; protection class II
- Supplied with approx. 3m connecting cable and plug-in power supply with plug type CEE 7 / 16 (Europlug), BS 1363 , NEMA 1-15P and AUS/NZ.
- Incl. table clamp (0-70mm)



Part No.	Description
ML152	Magnifying Lamp

### MAGNIFYING LAMP

- Economy version, LED illumination
- 130mm lens diameter
- 3 dioptre



Part No.	Description
ML610	Economy LED Magnifying Lamp

### MAGNIFYING LAMP

- 48 premium SMD LEDs
- 40% energy savings
- Continuous dimming to 10%
- 6,000 lux output using only 14 watts
- 2x magnification, 3x can be obtained with ML162 add on lens
- LED life up to 50,000+ hours
- Wide-angle lens Ø 153mm for distortion-free vision
- Table Mount Clamp included, 3.5 meter lead
- Arm length 784mm



Part No.	Description
ML160	Magnifying Lamp

### MAGNIFYING LAMP

- Robust desk model
- New LED design – only 10 watts
- 127mm Ø dia glass lens, 2x magnification
- No tube or starter replacement needed
- LED life 30,000 hours
- Instant on – no flicker
- 2 meter lead with AUS/NZ plug
- 240VAC input



Part No.	Description
ML201-LED	Magglamp Magnifying Lamp

### ILLUMINATED MAGNIFYING GLASS



Part No.	Illumination	Lens Diameter	Magnification
151024	LED	60 mm	x3
151054	LED	58 mm	x5
151074	LED	35 mm	x7

### INSPEX HD 1080P DIGITAL MICROSCOPE

Accurate & detailed inspection with dynamic range of magnification levels and integrated LED illumination. Its versatile design makes it compatible with a wide range of mounting options. Real-time on-screen dimensioning is provided by integrated XY grids and cursors. The Inspex HD 1080p is suited for repair & rework, quality control & failure diagnosis processes in a wide range of industries such as: Medical Device Manufacturing, Electronics, Automotive, Aerospace, Engineering, Forensics and Watch and Jewellery manufacturing. Less operator fatigue & improved production efficiencies due to ergonomic design enabling user to sit or stand in a comfortable and safe posture providing relief from back, neck and eye strain typically associated with traditional microscopes.

- Integrated, real time, on screen patented measuring grids and cursors provide a simple and effective way to measure without a PC.
- Removable USB Storage Image Capture. Easy documentation & traceability for accurate quality control records using image capture to USB key. Now you can store images directly to your USB Storage Device. Simply plug your device into the Inspex HD 1080p USB port.
- White Balance refers to the process of making sure whites appear as white in your images. This will help eliminate colour casts that come from various light sources such as the sun, incandescent bulbs and fluorescent bulbs.
- Wide Dynamic Range uses overlapping multiple exposures depending on the saturation level of each pixel
- Zoom Range: HD 1080P, 1920 x 1080 at 50/60 Hz
- Lens (Dioptre) (mm): 4, 5, 10
- Monitor Connections: HDMI / DVI
- Power: 8 Watts
- Image Capture: USB 2.0 highspeed



Part No.	Description	Fig
F1801-018	HD Camera Inspection System VESA	1
F1801-017	HD Camera Inspection System Table	2

### PRECISION MAGNIFIER

The Ion 4.3 is an award winning inspection magnifier designed with unique display technology and liquid lens technology which delivers bright, sharp and highly contrasted images (480 x 272 pixels). Its ergonomic design provides comfortable use in awkward to access areas and its LED illumination modes are ideal for use in poor lighting conditions. Its unique patent applied for dimensioning grids and image capture capability for upload to PC make it an ideal tool for inspection operators and technicians in a wide variety of industries. Ask Us for more details.



Part No.	Description
F1800-102	ASH ION Precision Magnifier with Measuring Grids



## VIEWING SYSTEM

- Provides three-dimensional stereo imaging without the need for eyepieces
- Magnification of x4-x20 options (2 in quick change turret)
- Shadow-free LED cold illumination



Part No.	Description
441-437	Viewing System on Bench Stand

## MICROSCOPES STERIO ZOOM

- Compact stereo zoom microscope with integrated base
- Magnification range of x7-x45 plus optional auxiliary lenses on request
- Ring illuminator sold separately



Part No.	Description
WLZ-03	Stereo Zoom Microscope
WLZ-10	Fluorescent Ring Illuminator

## MICROSCOPE STERIO ZOOM ON BOOM STAND

- Stereo zoom microscope on boom stand with magnification range of x7-x45 plus optional auxiliary lenses on request
- C-mount camera option available
- Ring illuminator sold separately



Part No.	Description
WLZ-06	SZM with Boom Stand
WLZ-08	Stereo Trinocular Microscope with C-Mount Camera
WLZ-10	Fluorescent Ring Illuminator
701-417	Supplementary Lens For Microscope x 0.5 Mag

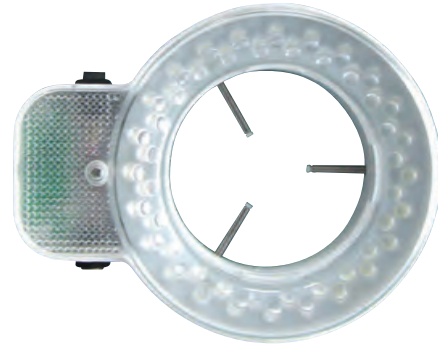
## MAGNIFYING GLASS



Part No.	Description
CE 119-529	Precision Magnifier

## LED RING ILLUMINATOR

- Adjustable brightness
- 98mm Diameter with a 61mm Diameter Interface
- Brightness max 12000 LUX
- Supplied with 12V Power Adaptor



Part No.	Description
YK-S48	Ring Illuminator – 48 LED's

## PRECISION MAGNIFIER

- Adjustable focus
- Comes with precision 0.1mm scale (0.005")
- Provides sharp image
- Magnification x100



Part No.	Description
CE 119-529	Precision Magnifier

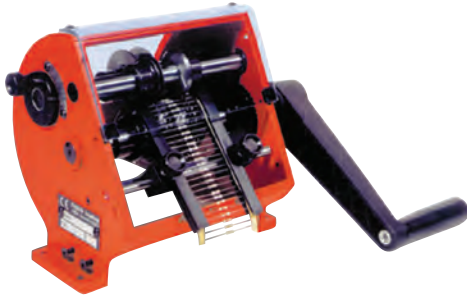
## WATCHMAKERS EYELOUPE



Part No.	Description	Magnification
11243	Eyeloupe	x3
11245	Eyeloupe	x5
11247	Eyeloupe	x7
112410	Eyeloupe	x10

### AXIAL BENDING MACHINE

- Superform/A is a machine made for cutting and bending axial taped component.
- Compact and sturdy – its main characteristic is to form components with rheophore up to 1.4mm. Its tracking wheels are adjustable independently to allow rapid setup at different forms.
- Production rate up to 40,000pcs/hr



Part No.	Description
7915 100A	Axial Lead Bending Machine

### HAKKO AXIAL BENDING MACHINE

- Cutting and forming for tape-type axial components
- Easy to use: Simply set the taped components in place and turn the handle
- Improved longer-life cutting blade for a clean, smooth cut
- Sealed bearings for longer service life and greater durability and efficiency
- Can be used for forming and cutting, forming only, or cutting only
- Forming size 5.6mm pitch
- Max lead diameter 0.8mm



Part No.	Description
153-01	Axial Lead Bending Machine

### LOOSE RADIAL COMPONENT FORMING MACHINE

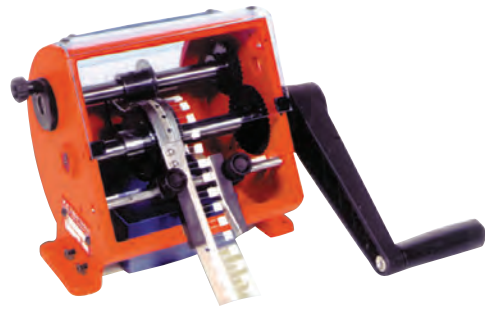
- The 2000S is a pneumatic machine for the preforming and cutting of loose radial components.
- A wide variety of preforming dies are available for different versions of preforming
- Electric model also available



Part No.	Description
2000S	Loose Radial Component Forming Machine

### RADIAL LEAD CROPPER

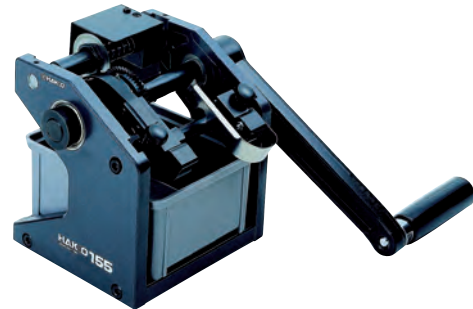
- Superform/R is a machine made for cutting radial taped components such as capacitors, transistors and stand-off resistors
- Production rate: up to 20,000pcs/hr



Part No.	Description
7915 113A	Radial Lead Cropper

### HAKKO RADIAL LEAD CUTTER

- Cutting and forming for tape-type radial components
- Easy to use: Simply set the taped components in place and turn the handle. The super sharp, high quality blade allows you to cut all types of tape-type radial parts, including resistors, capacitors and transistors cleanly and smoothly. Continuous operation ensures faster more efficient processing.
- Sealed bearings make it long-lasting, durable and efficient
- The compact design allows you to place it virtually anywhere



Part No.	Description
155-1	Radial Lead Cutter

### COMPONENT COUNTER

- With maximum counting value of 999,999
- Counts radial and axial components
- SMD reel to reel adaptor is an optional accessory which can be fitted to the county by snap action. A bandolier handle then draws the components through the counter.



Part No.	Description
8301.051	County 220V Machine
8301.018	SMD Adaptor
8301.028	Reel Support (2 required.)
8301.030	Bandolier Handle

# Ultrasonic Cleaners

Ultrasonics are like soundwaves but have frequencies above our range of hearing. Ultrasound energy is transmitted to the liquid in the cleaning bath by transducers underneath. This energy causes cavitation – which is the rapid implosion and explosion of the tiny bubbles of air within the liquid. The cavitation causes turbulence in the liquid that gently scrubs all surfaces of the items being cleaned.

Pulse Swept power technology ensures printed circuit boards, instruments and delicate items are cleaned to your exacting requirements without damage. Enables cleaning without manual scrubbing. All models fitted with a timer and touch control keypad. Heating offered as an option.



Models with  
TD = Timer,  
no heater;  
Models with  
HD = Timer and  
heater

Part No.	Bath L x W x D (mm)	Size L x W x D (mm)	Capacity (L)	Heating (Peak)	Power
80TD	235 x 138 x 65	279 x 219 x 170	1.6	–	60W
120TD	153 x 138 x 100	180 x 219 x 179	2	–	60W
160TD	235 x 138 x 100	279 x 219 x 170	3	–	70W
160HD	235 x 138 x 100	279 x 219 x 170	3	100W	70W
250TD	295 x 150 x 150	338 x 234 x 232	6	–	120W
250HD	295 x 150 x 150	338 x 234 x 232	6	200W	120W
500TD	298 x 238 x 150	338 x 323 x 237	10	–	130W
500HD	298 x 238 x 150	338 x 323 x 237	10	200W	130W
800TD	300 x 330 x 150	340 x 323 x 285	15	–	250W
800HD	300 x 330 x 150	340 x 323 x 285	15	200W	250W
1000TD	495 x 295 x 150	545 x 380 x 240	20	–	250W
1000HD	495 x 295 x 150	545 x 380 x 240	20	400W	250W
2000TD	495 x 295 x 200	545 x 382 x 290	30	–	350W
2000HD	495 x 295 x 200	545 x 382 x 290	30	400W	350W
3000TD	620 x 495 x 200	545 x 382 x 290	60	–	600W
3000HD	620 x 495 x 200	545 x 382 x 290	60	1600W	600W
3800TD	600 x 450 x 300	712 x 591 x 419	80	–	650W
3800HD	600 x 450 x 300	712 x 591 x 419	80	1600W	650W

## ISOPROPANOL

Mild cleaning of circuit boards, for removal of fluxes and other contaminants



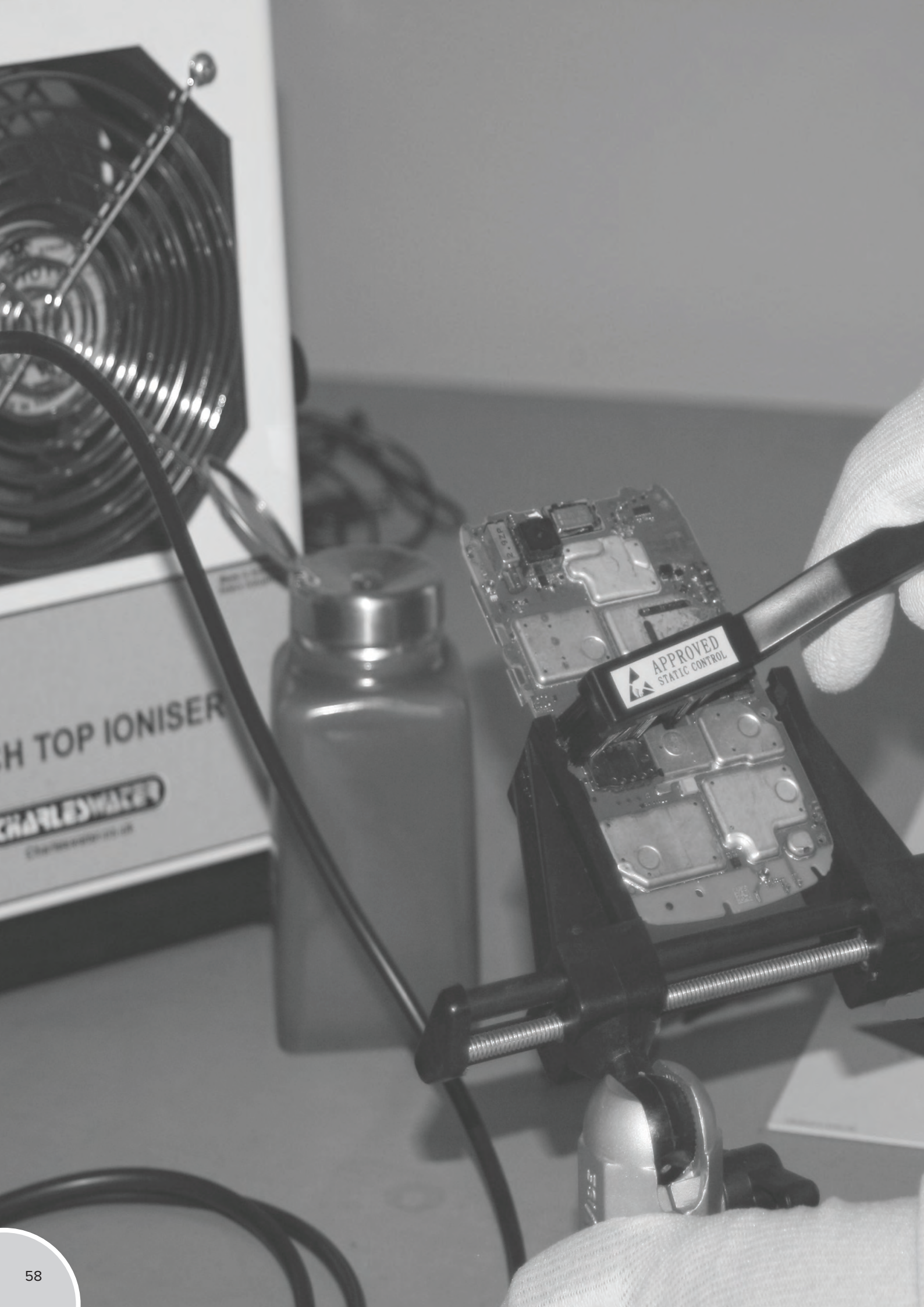
Part No.	Description	Size
ISO-20L	Isopropanol	20L
ISO-5L	Isopropanol	5L
ISO-1L	Isopropanol	1L

## SAFESHASH SUPER

Electrolube Safewash is the most effective aqueous cleaning product available. It is currently in use by major manufacturers in a wide variety of cleaning machines. Safewash is effective in all equipment types including batch ultrasonics, in-line spray, dishwasher and also by hand. Removes fluxes, solder paste and other contaminants.



Part No.	Description	Size
ISO-20L	Safewash Super	5L
ISO-5L	Safewash Super	25L



H TOP IONISER  
CHARLESWATER  
CHARLESWATER.CO.UK

APPROVED  
STATIC CONTROL

## Static Control

Static Control.....	60
ESD Clothing .....	62
Ionizers / Vacuums .....	63
ESD Maintenance Products .....	64
ESD Storage .....	65
ESD Test Equipment.....	66
ESD Brushes.....	68
ESD Bags.....	69

# Static Control

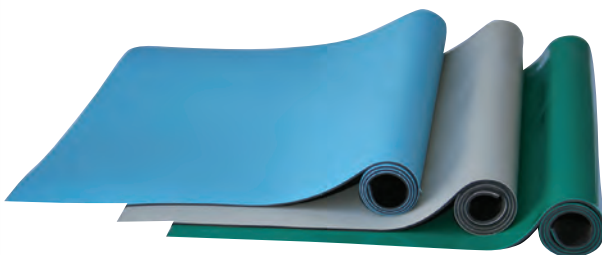
## BENCH & TABLE MATTING

### Dual Layer Rubber Mat

- The ultimate dual-layer rubber bench mat provides an easy to clean dissipative surface in either grey or blue. The black conductive layer beneath forms a good non-slip layer on the bench. Chemical and heat resistant. Green version is ideal to designate a lead-free work area.
- NOTE: continuous runs of static dissipative materials should be grounded at 1.8m intervals to ensure proper dissipation rates. Grounding hardware is to be ordered separately.

### Electrical Properties

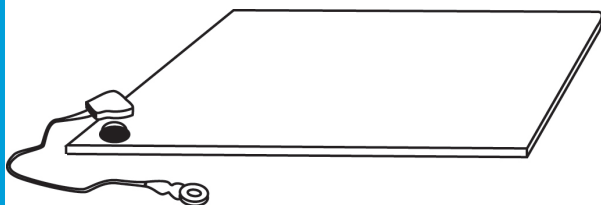
- Upper Layer (dissipative):  $10E7 \sim 10E9$  ohms,
- Bottom Layer (conductive):  $10E3 \sim 10E5$  ohms,
- Volume Resistance:  $10E7 \sim 10E10$  ohms
- Abrasion Rate: 0.02g/c



Part No.	Description	Colour
HRM 060/10B	10m Roll 600mm wide	blue
HRM 060/10G	10m Roll 600mm wide	grey
HRM 090/10B	10m Roll 900mm wide	blue
HRM 090/10G	10m Roll 900mm wide	grey
HRM 090/10GR	10m Roll 900mm wide	green
HRM 120/10B	10m Roll 1200mm wide	blue
HRM 120/10G	10m Roll 1200mm wide	grey

## TABLE MAT KITS

Convenient table mat kits, supplied with one fitted stud and one common point ground cord (HGC 8431).



Part No.	Description	Colour
HTM 060/09B	0.6m x 0.9m	blue
HTM 060/09G	0.6m x 0.9m	grey
HTM 060/09GR	0.6m x 0.9m	green
HTM 060/12B	0.6m x 1.2m	blue
HTM 060/12G	0.6m x 1.2m	grey
HTM 060/12GR	0.6m x 1.2m	green

## UNIVERSAL SNAP KIT

Can be installed with a screwdriver.



Part No.	Description
80014	Universal Snap Kit

## SNAP STUDS

Cost saving snap studs for where larger quantities are required. A riveting tool is required to install these studs.



Part No.	Description
03-DUR-550	Female 10mm Socket
03-DUR-550A	Fixing Post

## SNAP STUD ADAPTORS



Converts 10mm stud to 10mm socket



Converts 10mm socket to 10mm stud.

Part No.	Description
80010	Stud to Socket Adaptor
80012	Socket to Stud Adaptor

## FIELD SERVICE KIT

This mat is ideal for field service work, providing a temporary ESD work surface and also can be used to protect a PCB if wrapped around it.



Part No.	Description	Colour
HSK-1	600 x 600mm	Red

## ESD CHAIRS

A variety of models and colours available on request



Part No.	Description
-	Available on request

## BENCH GROUND PLATE WRIST STRAP GROUND

An under-bench wrist strap ground for two wrist straps. Fitted with a 3.0m cord, terminated with a ring terminal. Two 10mm park studs



Part No.	Description
HWSG 01	Wrist Strap Ground, metal plate

## BENCH GROUND BOX WRIST STRAP GROUND

An under-bench wrist strap ground for two wrist straps. Fitted with a 3.0m cord, terminated with a ring terminal. One 10mm park stud.



Part No.	Description
HWSG 02	Wrist Strap Ground Box

## DOME GROUND CORD

For grounding of mats. Fitted with a dome shaped, low profile top. 3.0m cord terminated with ring terminal. Normally used in conjunction with the HWSG 02 for bench mats.



Part No.	Description
HGC 8430	Dome Ground Cord

## COMMON POINT GROUND CORD

A popular method of grounding mats in a simple manner. Plugs onto the stud on a mat and provides two sockets for wrist straps.



Part No.	Description
HGC 8431	Common Point Ground Cord

## MAINS GROUNDING PLUG

A convenient plug for earthing to mains ground. With earth screw to accept ring terminals.



Part No.	Description
463 SAS	Mains Ground Plug

## WRIST STRAP

Metal wrist band for superior skin contact and durability. Adjustable system leaves no extra link loose. Fitted with 10mm snap.



Part No.	Description
60106	Metal Wrist Band (Band only)
CORD 6PL	Coil Cord 1meg (see image at bottom of page)

## PREMIUM QUALITY WRIST STRAP

Premium quality soft elastic fabric with silver coated filament. Easily adjusted for size. The standard choice for production lines. Includes cord (3m extended).



Part No.	Description
HWRS 8001	Premium Wrist Strap

## CAM-LOCK WRIST STRAP

Cam-lock adjustable economy wrist strap of high quality. Strap interior with stainless steel/nylon filament for increased skin contact. Includes cord (2.1m extended).



Part No.	Description
HWRS ASS	Economy Wrist Strap

## REPLACEMENT COIL CORDS

Various options of coil cords fitted with 1meg resistors in cord.



Part No.	Description	Length
CORD-6FT-P1	10mm snap-banana Plug	1.8m
CORD-6FT-P2	10mm snap-snap	1.8m
60332	4mm snap-banana Plug	3.6m
60316	10m snap-banana Plug	3.6m

# ESD Clothing

## ESD DUST POLYCOTTON COAT

A range of ESD polycotton coats with carbon fibre thread available for production facilities.



Blue Part No.	White Part No.	Description	Size
HCPC-S	HCPC-W-S	Polycotton Coat	S
HCPC-M	HCPC-W-M	Polycotton Coat	M
HCPC-L	HCPC-W-L	Polycotton Coat	L
HCPC-XL	HCPC-W-XL	Polycotton Coat	XL
HCPC-2XL	HCPC-W-2XL	Polycotton Coat	2XL
HCPC-3XL	HCPC-W-3XL	Polycotton Coat	3XL
HCPC-4XL	HCPC-W-4XL	Polycotton Coat	4XL
HCPC-5XL	HCPC-W-5XL	Polycotton Coat	5XL
HCPC-6XL	HCPC-W-6XL	Polycotton Coat	6XL
HCPC-7XL	HCPC-W-7XL	Polycotton Coat	7XL

## DOCUMENT STORAGE

Static safe ring binders and document holders with surface resistance  $\pm 1011$  ohm.



Part No.	Description
7804.414	A4 Document Pouch
7804.400	A4 Ring Binder 35mm

## ESD WORKER SHOE

"Metal free", comfortable and light with Airnet upper in soft suede leather with external side aerator, inserts in breathable mesh, tip AirToe Composite, anti-perforation, anti-slip and PU / PU sole. Protection Class S1 SRC ESD



Part No.	Description	EU Size
8913.137	Sprint Shoe	37
8913.138	Sprint Shoe	38
8913.139	Sprint Shoe	39
8913.140	Sprint Shoe	40
8913.141	Sprint Shoe	41
8913.142	Sprint Shoe	42
8913.143	Sprint Shoe	43
8913.144	Sprint Shoe	44
8913.145	Sprint Shoe	45

## ESD T-SHIRTS AND POLO SHIRTS

An alternative to coats particularly during the warm season. Fabric has carbon fibre thread. Made in Italy. Light grey polo shirt with ESD symbol. Woven with 96% cotton and 4% carbon fibre.



Part No.	Description	Size
7807.700	ESD T-shirt	M
7807.702	ESD T-shirt	L
7807.704	ESD T-shirt	XL
7807.705	ESD T-shirt	2XL
7807.710	ESD Poloshirt	M
7807.712	ESD Poloshirt	L
7807.714	ESD Poloshirt	XL
7807.716	ESD Poloshirt	2XL

## ESD PU COATED GLOVES

Polyurethane coating on palm and fingers for delicate handling of components.



NOTE: glove on left is top fit, glove on right is palm fit.

Part No.	Description	Size
HPFG-900S	Small palm fit Glove	M
HPFG-900M	Medium palm fit Glove	L
HPFG-900L	Large palm fit Glove	XL
HPFG-900XL	Extra large palm fit Glove	S
HTFG-900S	Small top fit Glove	M
HTFG-900M	Medium top fit Glove	L
HTFG-900L	Large top fit Glove	XL
HTFG-900XL	Extra large top fit Glove	2XL

## ESD WORKER SHOE

Supplied in european sizes. (Sizes given are cross referenced)



Part No.	Description	Size
8908 041	Worker Shoe	7
8908 042	Worker Shoe	8
8908 043	Worker Shoe	9
8908 044	Worker Shoe	9.5
8908 045	Worker Shoe	10.5
8908 046	Worker Shoe	11



### PREMIUM VELCRO HEELSTRAP

American heel strap with non-marking interior. Fastening system with velcro for quick fitting. Double heel cup offers two wear surfaces. 1 meg resistor. RG 106 to 107



Part No.	Description
70030	Premium Velcro Heelstrap

### HI-VIS PREMIUM HEELSTRAP

Hi-Vis, three layer, American premium quality heel strap. Hook and stretch loop fastening system for maximum comfort. RG 106 to 107



Part No.	Description
70007	Hi-Vis Premium Heelstrap

### ECONOMY HEELSTRAP

Lower cost heel strap of remarkable durable rubber. Well suited to production facilities. Snug fitting ensured by elastic strap around back of heel. 1meg resistor.



Part No.	Description
HHS 8501	Economy Heelstrap

### DISPOSABLE HEELSTRAP

Disposable heel straps with self adhesive section adhering to the underside of heel.

Comes in pack of 100.



Part No.	Description
70001	Disposable Heelstrap
249220	Wall-mounted Dispenser

### LADIES SHOE TOESTRAP

Toe strap with an adjustable elastic strap around back of heel and adjustable velcro strap over top of foot. Suits all shoe sizes. 1meg resistor.



Part No.	Description
70030	Toestrap

### CRITICAL ENVIRONMENT IONISER

- Minimal contamination ioniser – rapid static discharge neutralisation of insulators. Designed for use in clean rooms.
- Emitter cassettes (US Patent 6137670) slide out for easy cleaning and replacement.
- Multiple high output fans – provides more consistent and wider coverage
- Overhead mounting no waste of valuable work surface space.
- Flashing front panel display signals when cleaning is needed
- Balance  $\pm 10$  voltage offset



Part No.	Description
50682	Overhead Ioniser (CE approved)

### BENCHTOP ZERO VOLT IONISER

- Voltage offset controlled to  $\pm 3$  Volts typical
- Features steady state DC ionization and Desco EMIT's patented (US Patent #4,974,115) Sense Feedback balancing
- Rapid Access Maintenance
- Provides automatic balancing of the ionization system
- Sealed "Thru-Tunnel" air flow design



Part No.	Description
50670	Benchtop Zero Volt Ioniser

### ION VECTOR SYSTEMS

- Eliminate ElectroStatic Attraction by blowing particles off products
- Balance adjustable – flexibility in uses
- Optional pin-point nozzle tip – directs air stream to a localised area
- Replaceable air filter – keeps air free of contaminants
- Adjustable 5 to 100 PSI air pressure



Part No.	Description
50621	Ion Vector Controller with Foot Pedal
19588	Ion Python Controller with Hand Gun and Hose

### CLEANROOM VACUUM – HEPA TYPE

ESD Safe Cleanroom vacuum which exceeds Cleanroom Class 100,000 standards. The Omega cleanroom vacuum comes standard with a true HEPA cartridge filter, 10' ESD safe hose, shoulder strap, 16" ESD safe rubber flexible gooseneck, and power cord.

See also page 176.



Part No.	Description
VACOMEGAS2ECRH	Cleanroom Vacuum

## STICKY FLOOR MATS

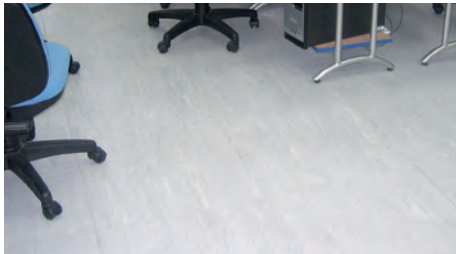
Sixty-layer sticky mats for entrances to controlled work areas. Removes contamination from heels and soles of shoes, wheels of trolleys, etc.



Part No.	Description	Size
HSM 3645	Large Sticky Mat	36" x 45"
HSM 2436	Small Sticky Mat	24" x 36"

## ESD VINYL FLOORING

- Polyflor static dissipative floor covering is a homogenous, vinyl material available in a 2m wide roll
- Resistance is <109
- Applied to floor with conductive glue, copper tape in grid and welded joints
- Inspection and measurement of area is required prior to quotation
- Various colours available to order



Part No.	Description
—	Please contact our sales team for a quote

## ESD STATGUARD FLOOR FINISH

- Static dissipative (Rp 107-108 ohms)
- Can be applied on many hard surfaces or sealed floors including vinyl, VCT, linoleum, rubber, asphalt, and concrete
- Easy to apply: improves productivity
- Produces beautiful, long lasting, durable finish, but easier to strip
- UL classified for slip resistance only



Part No.	Description	Size
71046	Floor Finish	10L

## CONDUCTIVE FLOOR PAINT

- Grey conductive floor paint in accordance with MIL-HDBK-263-B for manufacturing and test areas.
- 105 Ohms RTG
- Coverage: 7.2-9.6m<sup>2</sup> per liter per coat. Two coats recommended.
- Minimum order quantity may be required, please enquire.



Part No.	Description	Size
71017	Floor Paint	19L

## ESD SPRAYS



Part No.	Description	Size
70995	Carpet/Fabric Protector	1.1L
71029	Topical Antistat	1.1L
71021	Mat Cleaner, dissipative	1.1L

## ESD LABELS (SENSITIVITY LABELS) – LONG

Superior quality paper label for closing ESD bags and other packaging applications. 500 labels per roll



Part No.	Description	Size
CE421-301	ESD Label	15 x 50 mm

## ESD LABELS (SENSITIVITY LABELS) – SQUARE

Superior quality paper label for closing ESD bags and other packaging applications. 500 labels per roll.



Part No.	Description	Size
91302	ESD Label	2" x 2"

## BRIGHT AISLE MARKING TAPE

Durable aisle marking tape to designate ESD controlled work areas.



Part No.	Description	Size
91350	Aisle Marking Tape	76mm x 33m

## ESD SIGNAGE

**Attention Sign**  
Plastic sign ideal for over sorting areas and production areas



**Warning Poster**  
A low cost, stiff paper poster used at entrances to production facilities.



Part No.	Description	Size
HSP 1722	Warning Poster, paper	430 x 560mm
91315	Attention Sign, plastic	100 x 250mm

# ESD Storage

## PCB RACK

Conductive rack with 25 slots for easy handling of PCBs.  
Size: 150mm x 450mm  
Made in the USA



Part No.	Description
RA 18C	PCB Rack

## LADDER PCB RACK

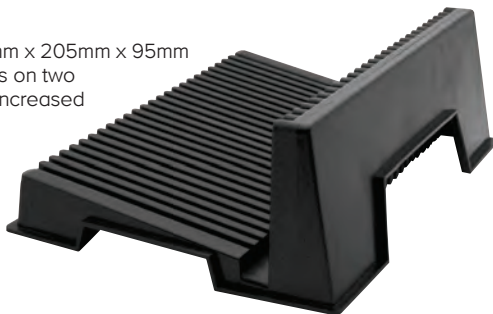
Economical, reversible rack with 25 slots or grooves.  
Size: 140mm x 480mm



Part No.	Description	Resistance
SM06D02	Ladder Rack	104-106W

## ANGLE PCB RACK

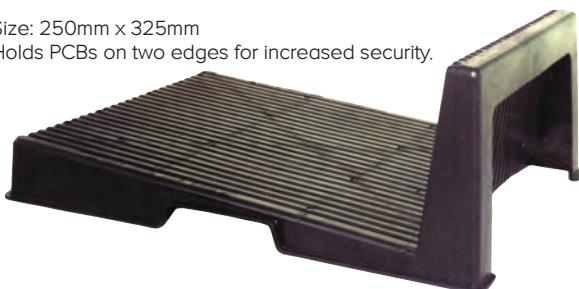
Size: 265mm x 205mm x 95mm  
Holds PCBs on two edges for increased security.



Part No.	Description
SMO6D03	Angle Rack

## ANGLE PCB RACKS

Size: 250mm x 325mm  
Holds PCBs on two edges for increased security.



Part No.	Description
PCBH 2L C	Angle Rack

## CONDUCTIVE STORAGE BINS

With rear clip for wall rail, fitting most rail systems.



Part No.	Description	L	W	H
7804.715	Conductive Bin	96mm	100mm	50mm
7804.719	Conductive Bin	175mm	100mm	75mm
7804.721	Conductive Bin	235mm	145mm	125mm
7804.725	Conductive Bin	350mm	200mm	200mm
7804.727	Conductive Bin	500mm	300mm	200mm

## TOTE BOX

A range of conductive Tote Boxes are available to order for electronic production line applications.

Please enquire for more sizes and availability.



Part No.	Description	Size L x W x D (mm)
7804-690	Newbox 10 ESD Tote Box	400 x 300 x 120
7804-687	Newbox 14 ESD Tote Box	400 x 300 x 170
7804-688	Newbox 20 ESD Tote Box	400 x 300 x 220
7804-689	Newbox 31 ESD Tote Box	400 x 300 x 320
7804-694	Newbox 24 ESD Tote Box	600 x 400 x 120
7804-699	Newbox 42 ESD Tote Box	600 x 400 x 220
7804-691	Newbox Lid	400 x 300
7804-700	Newbox Lid	600 x 400

## CONDUCTIVE TOOLBOX

Convenient toolbox for electronic production line applications with tote tray.



Part No.	Description	Size
116-632	Toolbox	368 x 184 x 134mm

## DIMPLE TRAY PCB RACK



Part No.	Description	Size
3-884-EL	Dimple Tray	352 x 252mm

# ESD Test Equipment

## COMBINATION TESTER

A 3-state touch tester designed for fast, frequent testing of ESD personnel grounding devices. The Combo Tester incorporates a unique dual test circuit design which improves accuracy of testing and eliminates the need for separate wrist strap and foot grounder test units. The 99000 is equipped with a 750 Kiloohm - 35 Megohm circuit, ideal for testing of wrist straps and footwear.

Test parameters are factory set but can be adjusted to match your own specifications. The Combo Tester is very simple to operate. A green light signals the user that everything is OK. A red light and an audible indicator means that the circuit resistance is either too low or too high.



Part No.	Description
99000	Combo Tester
99004	Combo Tester with Stand

## WRIST STRAP AND FOOTWEAR TESTERS

- Operates off 9V battery
- Range: 900K – 35meg ohm
- A wall plate/sign is available to mount the tester at a central point. For heelstraps, a stainless steel footplate and ground cord is available as shown below.



Part No.	Description
HWT8401	Wrist Strap and Heel Strap Tester

## WALL AND FOOT PLATE

Convenient wall plate holds HWT8401 tester and a ground cord connects the tester to the stainless steel floorplate for footwear testing. Ground cord supplied with the footplate.



Part No.	Description
HWP 8401	Wall Plate for Wrist Tester
HWP 8404	Foot Plate with Ground Cord

## DUAL OPERATOR CONTINUOUS MONITOR FOR 2 OPERATORS AND 2 WORK SURFACES

Continuously monitors the integrity of both operators and ESD workstations, eliminating the need for periodic testing and recording. Ideal for adjacent workstations for assembly, test, packaging, or other applications.



- NEW Improved Banana Jack
- Wave Distortion Technology provides Real-Time continuous monitoring for operator path to ground and presence of 1meg resistor
- Ready to use unit includes Control Unit and two Satellite Remote Monitors.
- Park Snap feature for each operator on Satellite Remote
- Full Time Status LEDs and audible alarm for operator and Workstation monitoring.
- Easy to install housing with screws or adhesive backed Velcro® strips
- NIST calibrated
- Made in the USA

Part No.	Description
99093	Dual Operator Monitor, with Split Remotes & Adaptor

## MULTI-MOUNT MONITOR WITH UNIVERSAL POWER ADAPTOR

- Continuously monitors the path-to-ground integrity of one operator and one ESD worksurface
- Operator alarm when the operator unintentionally disconnects from the monitor or the connection between the banana plug and monitor's jack is intermittent
- Mat Monitor Switch disables the worksurface monitor circuit when used in areas where there is no ESD worksurface
- Audible alarm adjustment
- Desco Wave Distortion technology
- Park Snap
- Single-Wire impedance design
- 1.2 Volt operator Test Voltage
- <50 Millisecond Alarm Response Time
- Continuous Visual and Audible Alarms



Part No.	Description
19652	Multi-Mount Monitor with Universal Power Adaptor

## MINI-MONITOR, UNIVERSAL POWER ADAPTOR

- Continuously monitors the path-to-ground integrity of one operator and one ESD worksurface
- Operator alarm when the operator unintentionally disconnects from the monitor or the connection between the banana plug and monitor's jack is intermittent
- Park Snap allows the operator to disconnect (and park) a wrist strap when leaving the workstation without creating a false alarm
- <50 Millisecond Alarm Response Time
- Continuous Visual and Audible Alarms illuminates green to indicate proper grounding; illuminates red and sounds audible alarm when intermittent or failed connection occurs



Part No.	Description
19243	Continuous Wrist Strap Monitor

## DIGITAL SURFACE RESISTANCE METER KIT

- Measures resistance point-to-point (Rtt) and resistance-to-ground (Rtg) of worksurfaces, flooring systems, garments, packaging, and other materials in accordance with IEC 61340-2-3 and IEC 61340-5-1
- Determines if a surface is conductive, dissipative or insulative for ESD control applications in electronics manufacturing or handling environments
- Large OLED display shows resistance mantissa and exponent, temperature, relative humidity and test voltage
- Internal memory stores and recalls up to 100 measurements. Captures resistance, temperature, humidity and test voltage
- Measurement stability modes set the 15-second electrification period for test requirements
- Electrode spacers spaces the 2.27kg electrodes to 25cm and 91cm for resistance point-to-point (Rtt) measurement requirements of IEC 61340-2-3 and IEC 61340-4-1
- Measurement location labels (pack of 25) labels and tracks areas and materials measured for surface resistance
- Resistance range of <math><1.0 \times 10^3</math> to <math>>1.0 \times 10^{12}</math> Ohms
- Under load voltages of (10V or 100V  $\pm 5\%$ )

Analogue  
Surface  
Resistance  
Meter Kit:  
222635



192090 Kit Includes:  
1x Digital Surface Resistance Meter;  
2x Test Leads, 1.5m Length;  
2x 2.27 kg Electrodes;  
1x Electrode Spacer, 25cm; 1x Electrode Spacer, 91cm;  
4x AA Alkaline Batteries; 1x Ground Plug Adaptor; 1x Gator Clip;  
25x Measurement Location Labels; 1x Plastic Carrying Case;  
1x Certificate of Calibration

Part No.	Description
19290	Digital Surface Resistance Meter Kit
19291	Digital Surface Resistance Meter
222002	Concentric Ring Probe
222003	Concentric Ring Probe Kit
222633	Shielded Test Leads, 1 Pair
222634	2.27 kg Electrodes, 1 Pair

## SURFACE RESISTANCE CHECKER

- Automatically selected 10V and 100V test voltage
- Fitted with a built in 15-second timer to help user to comply with EN guidelines
- Range: 103 to 1012ohms
- Built-in parallel electrodes



Part No.	Description
225717	Surface Resistance Checker

## SURFACE RESISTANCE CHECKER KIT

- Automatically selected 10V and 100V test voltage
- Fitted with a built in 15-second timer to help user to comply with EN guidelines
- Range: 103 to 1012 ohms
- Built-in parallel electrodes



Part No.	Description
225718	Surface Resistance Checker Kit

## DIGITAL STATIC FIELD METER

- Portable Kit for Testing of Electrostatic Fields and Offset Voltage and Discharge Times of Air Ionisers
- Measures surface voltage and polarity on objects up to  $\pm 19.99kV$  at a distance of 2.5cm.
- Stainless Steel Conductive Plate for Static Field Meter used to measure offset voltage and discharge times for the periodic verification of ionizers per ANSI/ESD SP3.3 and ESD TR53.
- LED Range Finder help operator to place the meter at the correct distance from the object being measured
- Hold Button allows the measurements to be retained for easy reading



Part No.	Description
19492	Digital Static Field Meter
19493	Digital Static Field Meter/Ion Test Kit

## ESD SURVEY KIT – 220V

Used to measure, verify and qualify products for use in the ESD Protected Area in accordance with EN 61340-5-1 test procedures including IEC 61340-2-3, IEC 61340-4-1, ANSI/ESD STM2.1, and ANSI/ESD STM3.1.



- Included:
- Digital Surface Resistance Meter Kit (99026)
  - Low Resistance Tester (99036)
  - Digital Static Field Meter/Ionisation Test Kit (50598)
  - Human Body Model Test Fixture (50553)
  - Training Paddles Set (91420)
  - Jewel® Wristband and Coil Cord (60000 & 60260)
  - Wescorp® Heel Grounder, Medium (70030)
  - Pelican Case 1510 with Wheels, Retractable Handle, and Custom Foam

Part No.	Description
222686-AU	ESD Survey Kit

## VERIFICATION TESTER, FOR WAVE DISTORTION MONITORS

- Calibration Verification checks the test limits of Desco Europe Wave Distortion Monitors without removing them from their workstations
- NEW Extruded Aluminium Enclosure
- Shields the tester from electrical interference when in use



Part No.	Description
98221	Verification Tester

# ESD Brushes

## DOUBLE ENDED ESD BRUSHES

ESD safe. Hog bristle is clamped either end of 125mm tube. One end is chisel shaped for difficult access areas.



Part No.	Description	Bristle Length
1005CK	Double End Brush	13 and 6mm
1010CK	Double End Brush	6 and 4.5mm

## APPLICATOR STYLE ESD BRUSHES

ESD Safe. Available in stiff hog bristle or soft horsehair.



Part No.	Description	Width
403-239	Applicator Brush, soft	19mm
403-240	Applicator Brush, stiff	19mm

## LARGE SCRATCH ESD BRUSH

ESD safe. Stiff hog bristle is perfect for board rework.



Part No.	Description	Brush Face
36CK	Large Scratch Brush	22 x 57mm

## SMALL SCRATCH ESD BRUSH

ESD safe. Stiff hog bristle is ideal for cleaning applications.



Part No.	Description	Brush Face
30CK	Small Scratch Brush	9 x 35mm

## FLUX ESD BRUSH

ESD safe. Hog Bristle.



Part No.	Description	Bristle Length
WA12CK	Flux Brush	9 x 22mm

## CONDUCTIVE PLASTIC BRUSHES

For general PCB cleaning. Plastic handle and Nylon bristles.



Part No.	Brush Face	Bristle Length
SRB0851	4 x 15mm	18mm
SRB0852	10mm Diameter	18mm

## CONDUCTIVE PLASTIC BRUSH

Conductive plastic brush for general PCB cleaning.



Part No.	Description	Bristle Length
HCB-B	Conductive Brush	9 x 35mm

## CONDUCTIVE PLASTIC BRUSHES

For general PCB cleaning. Plastic handle with Nylon Bristles.



Part No.	Description	Brush Face
STB0813	18mm Hair, 2 Rows, 20 Clusters	8 x 57mm
STB0814	20mm Hair, 3 Rows, 34 Clusters	15 x 90mm

## WIDE CONDUCTIVE PLASTIC BRUSHES

Can be used for cleaning or safe discharging of a surface/PCB.



Part No.	Brush Face	Bristle Length
SHB0831	220 x 8mm	48mm
SHB0832	128 x 5mm	33mm

## CONDUCTIVE PLASTIC BRUSHES

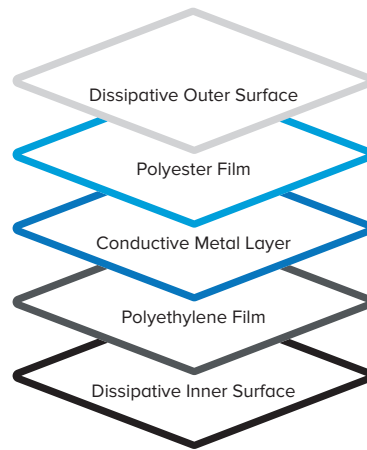
For general PCB cleaning. Plastic U shaped handle with Nylon bristles.



Part No.	Description	Brush Face
SUB0821	U-Shaped Brush Large	45 x 90mm
SUB0822	U-Shaped Brush Small	30 x 65mm

# Charleswater ESD Bags

Metalised shielding bags are designed to protect against static induced damage. The metalised layer is close to the surface for low resistance readings. The bags will dissipate a 5,000V static charge to zero in less than 100 microseconds. Light transmission of better than 30% allows for easy identification, so that PC boards can be seen without removal. Metalised bags have a unique abrasion resistance outer layer to prevent scratching the metallic layer.



## APEX METALISED SHIELDING BAGS

### 1. CONSTRUCTION, METAL-IN

ESD Coat/PET (AL Shield)/PE Film/ESD Coat


### 2. PHYSICAL CHARACTERISTICS

Thickness: 0.08mm +10%  
 Tensile Strength: (kg/cm<sup>2</sup>) MD: 290I TD: 270I (LNS10591Z6075)  
 WVTR: (g/m<sup>2</sup> – 24H) 4 below (40C – 90% RH) (JIS-Z-2020)  
 Light Transmission: (%) 40+5 (ASTMD-1003-77)  
 Tear Strength: (kg) MD: 1.2I TD: 1.0I (ASTMD-1004-66)  
 Puncture Resistance: (kg) 0.8 I (CNS11247N6198)  
 Bursting Resistance: (kg/cm<sup>2</sup>) 5.0 above (ASTMD774-87)  
 Heat Seal Strength: (kg/15mm) 3 above (155OC x 3kg x 1sec)

### 3. ELECTRICAL CHARACTERISTICS

Surface Resistivity: ( / ) outer 10<sup>8</sup> ~ 10<sup>10</sup> (ASTMD-257)  
 Metal 10<sup>2</sup> inner 10<sup>8</sup> ~ 10<sup>10</sup> (5000V -0)  
 Static Decay < 0.03sec 30V below (EIA 541)  
 EMI Shielding 45dB between 1 ~ 10.0 GHZ (MIL-B-71805C)




Part No.	Size	
HSB 0204	51 x 102 mm	100
HSB 0305	76 x 127 mm	100
HSB 0406	102 x 152 mm	100
HSB 0412	108 x 305 mm	100
HSB 0508	127 x 203 mm	100
HSB 0608	152 x 203 mm	100
HSB 0610	152 x 254 mm	100
HSB 0810	203 x 254 mm	100
HSB 0812	203 x 305 mm	100
HSB 1012	254 x 305 mm	100
HSB 1014	254 x 356 mm	100
HSB 1115	279 x 381 mm	100
HSB 1212	305 x 305 mm	100
HSB 1216	305 x 406 mm	100
HSB 1218	305 x 457 mm	100
HSB 1518	381 x 457 mm	100
HSB 1818	457 x 457 mm	100
HSB 1824	457 x 610 mm	100

## ZIP-LOCK BAGS

### Specifications:

Material: Laminated metalised film  
 Thickness: 3.0mls (0.003in > 40%)  
 Surface Resistivity:  
 Outer Surface: <1012 ohms/sq.  
 Metalised Layer: <100 ohms/sq.  
 Inner Surface: <1012 ohms/sq.  
 Charge Decay: <100 microseconds (FTMS 101C, M-4046)



Part No.	Size	
PS 30100	76 x 127mm	100
PS 30105	102 x 152mm	100
PS 30110	127 x 203mm	100
PS 30115	152 x 254mm	100
PS 30120	203 x 254mm	100
PS 30130	254 x 306mm	100
PS 30135	254 x 356mm	100







## Toolcases & Toolkits

Explorer Cases.....	72
Toolcases .....	74
Toolkits.....	76

# Explorer Cases

## The extreme case

The Explorer range of virtually indestructible durable water- and dust-proof cases covers a wide range of cases from small to very large. The smaller versions are ideally suited to the storage of instruments or cameras and can be used as a rugged housing for building test equipment into the case. Larger versions suit computer and even heavier equipment where cases are required to have wheels.

If you did not find what you were looking for, please call our sales team now!



TOOLCASES & TOOLKITS

## Henchman ToolKitting Capability – Complete Turnkey Solution

### CNC Cut Tool Trays

Manufactured from high density Polyethylene (PE) foam and faced with a hard layer of chemical resistant Polypropylene (PP), your individual products are digitised into our CAD software to individual case layouts.

- In-house design and manufacture of foam inserts
- Comprehensive range of aviation tooling
- Wide range of storage solutions
- Laser marking in-house
- Custom made to any configuration
- Kits assembled and supplied complete

### Laser Marking

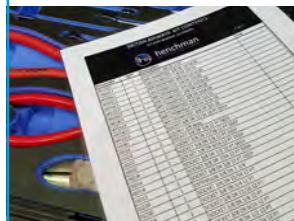
Toolkit numbers can be laser marked onto every tool in the kit as an almost permanent marking. These markings can be simply read to identify which toolkit it has come from. Laser etching combined with henchmanTRAK provides a perfectly effective alternative to barcodes or RFID tags on individual tools.



### Inventory Lists

Inventory lists can be provided on laminated cards showing the layout and listing of tool contents for easy reference.

List provides relevant information, part number, clear description, quantity.



### HiViz

Colour coding with HiViz labelling can be offered on request.



### Design and Layout of two-coloured "shadow" Inlays for the Toolboxes/Toolsets



- Protective Polyethylene layer thermally bonded with small rebate to allow tools in and out easily.
- 5mm layer black high density foam to maximise the visual tool control contrast comparing tools in against tools out
- 45 density contrasting Polyethylene foam
- 1mm Polypropylene layer on underside of lift-out tray to provide some rigidity



Combination Padlock or Standard Padlock with key to suit the Explorer cases.

EXPL. COMBI LOCK  
EXPL. PADLOCK



Panel supports are available in metal or plastic to avoid drilling through the case if panel mounting is required – which would defeat the object of a sealed case.  
They fit virtually every size of Explorer case and are sold in a set of six pieces.

KIT SUPP.PLAST (Plastic, Set of 6)  
KIT SUPP.EXPL (Metal, Set of 6)



Black



Orange



Military Green



Desert Sand

	Part No.	Colours				Internal Configuration	Remov. Lid	Wheels	Weight kg	Buoyancy* kg max	Volume liters	Internal Dim.**					External Dim.		
		Black	Orange	Green	Sand							L	W	D	Lid	Base	L	W	D
Small	1908.	BE B	OE O	GE G		Empty w/Foam			0.7 0.8	1.4	2	190	125	85	20	65	216	180	102
	1903.	BE B	OE O	GE G		Empty w/Foam			0.85 0.92	2.4	3.2	190	125	135	20	115	216	180	152
	2209.	BE B	OE O	GE G		Empty w/Foam			0.88 0.99	2.3	3.3	220	160	95	20	75	246	215	112
	2214.	BE B	OE O	GE G		Empty w/Foam			1.16 1.29	3.9	5.1	220	160	145	20	125	246	215	162
	2712.	BE B	OE O	GE G		Empty w/Foam	•		1.62 1.83	4.2	6.6	276	200	120	35	85	305	270	144
	2717.	BE B	OE O	GE G		Empty w/Foam	•		1.93 2.12	6.7	9.3	276	200	170	35	135	305	270	194
Medium	3005.	BE B	OE O	GE G	DE D	Empty w/Foam			1.1 1.2	2.1	4	300	210	58	20	38	326	269	75
	3317.	BE B	OE O	GE G		Empty w/Foam	•		2.29 2.51	7	13.1	330	234	170	68	102	360	304	194
	3317W.	BE B				Empty w/Foam	•		2.92 3.3	10.6	19.6	330	350	170	68	102	360	420	194
	3818.	BE B	OE O	GE G		Empty w/Foam			3.14 3.58	12.4	18.4	380	270	180	47	133	410	340	205
	4412.	BE B BC	OE O	GE G GC		Empty w/Foam PC Bag	•		3.4 3.9 4.2	10.7	19.2	445	345	125	47	78	474	415	149
	4419.	BE B	OE O	GE G		Empty w/Foam	•		4 4.7	19.7	29.2	445	345	190	47	143	474	415	214
	4820.	BE B	OE O	GE G		Empty w/Foam			4.64 5.4	24.7	35.5	480	370	205	50	155	520	435	230
	5117.	BE B	OE O	GE G		Empty w/Foam	•		3.8 4.5	15.8	24.7	517	277	173	50	123	546	347	197
	5122.	BE B	OE O	GE G		Empty w/Foam	•	•	6 7	21.5	31	517	277	217	50	167	546	347	247
	5218.	BE B		GE G	DE D	Empty w/Foam	•	•	3.75 4.3	20	26.6	520	285	180	30	150	550	350	200
	5221.	BE B		GE G	DE D	Empty w/Foam	•	•	3.9 4.5	20	30.3	520	285	205	55	150	550	350	225
	5140.		BKT01AH BKT02AH BKTEAH X.B BE.AH			w/Foam-filled drawers w/empty drawers iDraw – Drawers ready iBox – Boxes ready completely empty	•	•	13.8 13 9.75 9.75 7.52								581	381	455
	5325.	BE B	OE O	GE G		Empty w/Foam	•		7 8.25	37.2	53	538	405	250	60	190	607	475	275
	5326.	BE B	OE O	GE G		Empty w/Foam	•	•	10 11.25	37.2	53	538	405	250	60	190	627	475	292
	5822.	BE B	OE O	GE G		Empty w/Foam			7.16 8.39	36.7	56.1	580	440	220	60	160	650	510	245
	5823.	BE B	OE O	GE G		Empty w/Foam	•		9.17 10.4	36.7	56.1	580	440	220	60	160	670	510	262
5833.	BE B	OE O	GE G		Empty w/Foam	•		10.54 12.65	62	84.2	580	440	330	60	270	670	510	372	
7630.	BE B	OE O	GE G		Empty w/Foam	•		13.56 16.39	81.8	113.1	765	485	305	60	245	860	560	355	
7641.	BE B	OE O	GE G		Empty w/Foam	•		15.02 18.87	118.5	153.9	765	485	415	60	355	860	560	460	
7726.	BE B	OE O	GE G		Empty w/Foam	•		10.3 12.6	70	118	770	580	365	90	175	836	641	304	
7745.	BE B	OE O	GE G		Empty w/Foam	•		15.5 19.8	144	200	770	580	450	90	360	836	641	489	
7814.	BE B		GE G	DE D	Empty w/Foam			5.5 6.4	25.3	39.6	780	350	145	42	103	846	427	167	
9413.	BE B		GE G	DE D	Empty w/Foam	•		6.7 7.7	27.9	45.3	939	352	137	43	94	989	415	157	
11413.	BE B		GE G	DE D	Empty w/Foam	•		7.8 8.8	33.3	53.7	1136	350	135	42	93	1189	415	159	
13513.	BE B		GE G	DE D	Empty w/Foam	•		8.7 9.95	39.5	63.7	1350	350	135	42	93	1430	415	159	
13527.	BE B		GE G	DE D	Empty w/Foam	•		11.7 14.9	97.5	128.5	1350	350	272	42	230	1430	415	296	
15416.	BE B		GE G	DE D	Empty w/Foam	•		11.3 13.4	61.6	92.9	1540	377	160	42	118	1629	456	183	
10826.	BE B				Empty w/Foam	•		17 20.4	120.6	174	1080	620	260	60	200	1178	725	287	
10840.	BE B		GE G		Empty w/Foam	•	•	19.8 26.3	120.6	260	1080	620	400	200	200	1178	718	427	

\* Maximum weight capacity when contents are evenly distributed that maintains buoyancy level just below the closure line

\*\* For models 5122, 5822, 5823 and 5833 the internal dimensions given are calculated on the deepest bottom area. However, the depth is shallower in places where allowance is made for the wheel wells and the telescopic handle well.



# Toolcases

## ROCK TURTLE TOOLCASE – EMPTY CASE

Indestructible tool case made entirely of HDPE resin, a real shield against accidental shocks. Special extra thick aluminium trim for tight closure. High capacity case with reinforced corners, ideal for air travelling engineers that carry both tools, spare parts and components. Airport handling resistant.

### Features:

- 1 handle with ergonomically designed grip and extreme load capacity
- Telescopic handle and large wheels with ball bearings for easy transport
- Large base for tools, power tools, accessories and spare parts
- 2 metal TSA locks with keys
- Steel piano hinge riveted in several points
- 2 metal lid safety support stays
- Document wallet
- 2 small component boxes
- Stackability



Part No.	Pallet Type	Size
ROCK350-PTS	Pouches	470 x 390 x 347mm
ROCK350-PEL	Elastics	470 x 390 x 347mm

## ATOMIK TOOLCASE – EMPTY CASE

New, technologically advanced, injection moulded, high thickness Polypropylene tool case. This type of material makes the case extremely resistant against chemical corrosion, shock, high and low temperature. The injection technique ensures constant material thickness, even in the corners. Large and thick aluminium trim, makes the case ideal for daily, heavy duty use. The case can accommodate up to 3 tool pallets.

### Features:

- 2 metal lid safety support stays
- 3 metal hinges for maximum strength
- Ergonomic handle, rubber coated grip
- 1 lid tool pallet with elastics on one side
- 1 bottom tool pallet with elastics on one side
- Bottom area with removable dividers
- 2 metal locks with keys
- Address label
- Document area



Part No.	Pallet Type	Size
ATOMIK-PTS	Pouches	465 x 352 x 215mm
ATOMIK-PEL	Elastics	465 x 352 x 215mm

## MEGAWHEELS TOOLCASE – EMPTY CASE

The double wall construction technique features shock-proof high density polyethylene, with great resistance to high and low temperatures and to most of the corrosive chemical substances, grant to this case the highest level of reliability on the market. Air transportation handling resistant.

### Features:

- Blow moulded polyethylene shell with incorporated feet
- Bottom area with adjustable dividers
- Ergonomic handle, rubber coated grip
- 2 metal lid safety support stays
- Wheels and telescopic handle
- 2 locks with keys



Part No.	Pallet Type	Size
TMW-PTS	Pouches	453 x 345 x 218mm
TMW-PEL	Elastics	453 x 345 x 218mm

## ATOMIK TOOLCASE WITH WHEELS – EMPTY CASE

New, technologically advanced, injection moulded, high thickness Polypropylene tool case on wheels, fitted so that the travelling position is with horizontal case. This type of material, makes the case extremely resistant against chemical corrosion, shock, high and low temperature. The injection technique, ensures constant material thickness, even in the corners. Large and thick aluminium trim, makes the case ideal for daily, heavy duty use. The case can accommodate up to 3 tool pallets.

### Features:

- 1 lid tool pallet with FLEXI POUCHES PLUS™ on two sides
- 1 bottom tool pallet with FLEXI POUCHES PLUS™ on one side
- Document area
- Bottom area with removable dividers
- 2 metal lid safety support stays
- 2 metal locks with keys
- 3 metal hinges for maximum strength
- Ergonomic handle, rubber coated grip
- Address label
- Telescopic handle



Part No.	Pallet Type	Size
ATOMIK WH PTS	Pouches	465 x 352 x 255mm

### BOXER TOOLCASE – EMPTY CASE

Polypropylene case realized with the injection moulding technique, unique in Europe which has been studied specifically for the transport of tools, with an unbeatable quality/price ratio. It has a modern design, with compact dimensions, high capacity and lightweight. The aluminium profile grants a further strength to this product.

**Features:**

- Useful chromed handle
- Central lock with key
- Document wallet
- 2 Tool pallets with pouches
- Vacuum formed bottom tray
- 2 small component boxes
- Metal lid support stay



Part No.	Pallet Type	Size
BOXER-PTS	Pouches	430 x 340 x 156mm

### MINITECH ZIPPER CASE – EMPTY CASE

- Minitech case with an external pocket
- Ideal for a technician on the move
- Size: 300 x 175 x 95mm



Part No.	Description
TZK302	Minitech Zipper Toolcase

### DOUBLE PROTECH CASE WITH LAPTOP BAG – EMPTY CASE

- Double zipper toolcase with internal laptop bag
- Size: 450 x 360 x 170mm



Part No.	Description
TZK804	Protech Case with Laptop Bag

### DOUBLE MINITECH ZIPPER CASE – EMPTY CASE

- Double zipper Minitech case
- Size: 380 x 240 x 70mm



Part No.	Description
TZK304	Double Minitech Case

## UTILITY ELECTRONICS KIT – WITH TOOL SELECTION AB

Our most basic yet essential selection of tools for almost any electronic maintenance work. Set out in our popular Minitech 302 Case which also provides a place for multimeter storage.

### Selection A:

- PXM9006 150mm Shifting Spanner
- Z360-14504 145mm Long Nose Pliers – Electronic
- Z441-11504 115mm Side Cutters – Electronic
- 1425 140mm Straight Tweezers
- 302030 3 x 80 Slotted Screwdriver
- 302040 4 x 100 Slotted Screwdriver
- 302055 5.5 x 125 Slotted Screwdriver
- 3110060 0 x 60 Phillips Screwdriver
- 3111080 1 x 80 Phillips Screwdriver

### Selection B:

- Z010 16005 160mm Combination Pliers
- Z120 16005 160mm Side Cutters
- HH14LED Torch with Batteries
- SB115-1Y Trimming Knife
- 2553L Neon Tester Screwdriver
- 302065-6 6.5 x 150 Slotted Screwdriver
- 3112100 2 x 100 Phillips Screwdriver



Part No.	Description	Size
TZK 302 AB	Utility Electronics Toolkit	300 x 170 x 95mm
TZK 302	Empty Minitech Toolcase	300 x 170 x 95mm

## COMPREHENSIVE ELECTRONICS KIT – WITH TOOL SELECTION ABCD

This Kit in the Protech double zipper case provides quick and convenient access for all tools. Every design feature has been thoroughly tested in extensive field trials over years of proven use.

### Selection A:

- PXM9006 150mm Shifting Spanner
- Z360-14504 145mm Long Nose Pliers – Electronic
- Z441-11504 115mm Side Cutters – Electronic
- 1425 140mm Straight Tweezers
- 302030 3 x 80 Slotted Screwdriver
- 302040 4 x 100 Slotted Screwdriver
- 302055 5.5 x 125 Slotted Screwdriver
- 3110060 0 x 60 Phillips Screwdriver
- 3111080 1 x 80 Phillips Screwdriver

### Selection D:

- 330105 0.7mm Solder Dispenser
- USG 056 Plastic Inspection Mirror
- KPX 90 03 125 125mm Water Pump Pliers
- LPM 58 Magnifying Glass
- 1449 140mm Bent Tweezers
- PIER PD Solder Sucker
- 341055 5.5mm Nutdriver
- 341070 7.0mm Nutdriver
- 341100 10.0mm Nutdriver

### Selection B:

- Z010 16005 160mm Combination Pliers
- Z120 16005 160mm Side Cutters
- HH14LED Torch With Batteries
- SB115-1Y Trimming Knife
- 2553L Neon Tester Screwdriver
- 302065-6 6.5 x 150 Slotted Screwdriver
- 3112100 2 x 100 Phillips Screwdriver

### Selection C:

- HT108 Adjustable Wire Stripper
- 1-603 3.2 x 0.6 Trimming Tool
- 1-605 3.2 x 0.4 Trimming Tool
- 1-181 Hex Trimming Tool
- P0369 100g Hammer
- 1005 SS 145mm Straight Scissor
- 7-425 25mm Brush
- 302065-1 6.5 x 25mm Slotted Stubby Screwdriver
- 3111025 1 x 25mm Phillips Stubby Screwdriver
- TBCM8025 8m Tape Measure

### Suggested Additions:

- SKC 70 Gas Iron
- Fluke 179 DMM



Part No.	Description	Size
TZK 803 ABCD	Comp. Electronics Toolkit in Protech Case	430 x 330 x 150mm
TZK 901 ABCD	Comp. Electronics Toolkit in Zipper Brief Case	–
INNOVA ABCD	Comp. Electronics Toolkit in Innova Case	–

## ELECTRONIC FIELD SERVICE KIT – WITH TOOL SELECTION ABC

A useful combination of tools for the electronic service technician or student technician. Add a multimeter and soldering iron of your choice to complete this kit.

### Selection A:

- PXM9006 150mm Shifting Spanner
- Z360-14504 145mm Long Nose Pliers – Electronic
- Z441-11504 115mm Side Cutters – Electronic
- 1425 140mm Straight Tweezers
- 302030 3 x 80 Slotted Screwdriver
- 302040 4 x 100 Slotted Screwdriver
- 302055 5.5 x 125 Slotted Screwdriver
- 3110060 0 x 60 Phillips Screwdriver
- 3111080 1 x 80 Phillips Screwdriver

### Selection B:

- Z010 16005 160mm Combination Pliers
- Z120 16005 160mm Side Cutters
- HH14LED Torch With Batteries
- SB115-1Y Trimming Knife
- 2553L Neon Tester Screwdriver
- 302065-6 6.5 x 150 Slotted Screwdriver
- 3112100 2 x 100 Phillips Screwdriver

### Selection C:

- HT108 Adjustable Wire Stripper
- 1-603 3.2 x 0.6 Trimming Tool
- 1-605 3.2 x 0.4 Trimming Tool
- 1-181 Hex Trimming Tool
- P0369 100g Hammer
- 1005 SS 145mm Straight Scissor
- 7-425 25mm Brush
- 302065-1 6.5 x 25mm Slotted Stubby Screwdriver
- 3111025 1 x 25mm Phillips Stubby Screwdriver
- TBCM8025 8m Tape Measure



Part No.	Description	Size
TZK 802 ABC	Electronic Service Toolkit in Protech Case	430 x 330 x 105mm
TZK 802	Empty Protech Zipper Case	430 x 330 x 105mm

## FIELD SERVICE KIT – WITH TOOL SELECTION ABF

Selected as a more general purpose electronic toolkit with a few larger type tools than the Electronic Service Kit above. By adding a multimeter and soldering iron, you will have a very useful and versatile kit.

### Selection A:

- PXM9006 150mm Shifting Spanner
- Z360-14504 145mm Long Nose Pliers – Electronic
- Z441-11504 115mm Side Cutters – Electronic
- 1425 140mm Straight Tweezers
- 302030 3 x 80 Slotted Screwdriver
- 302040 4 x 100 Slotted Screwdriver
- 302055 5.5 x 125 Slotted Screwdriver
- 3110060 0 x 60 Phillips Screwdriver
- 3111080 1 x 80 Phillips Screwdriver

### Selection B:

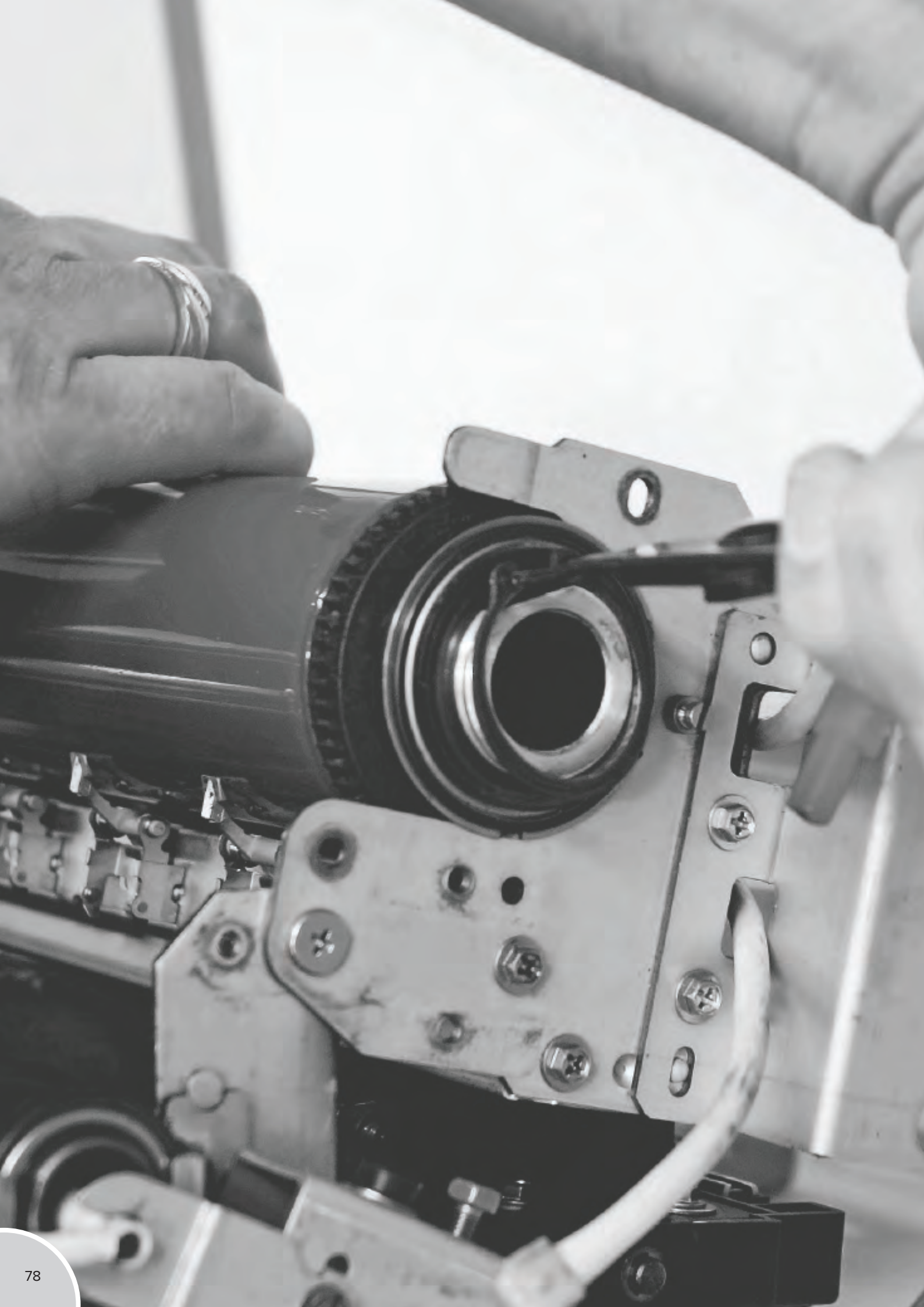
- Z010 16005 160mm Combination Pliers
- Z120 16005 160mm Side Cutters
- HH14LED Torch with Batteries
- SB115-1Y Trimming Knife
- 2553L Neon Tester Screwdriver
- 302065-6 6.5 x 150 Slotted Screwdriver
- 3112100 2 x 100 Phillips Screwdriver

### Selection F:

- 330105 0.7mm Solder Dispenser – 100g
- USG 056 Plastic Inspection Mirror
- Z050 20005 200mm Long Nose Plier
- Z210 25004 250mm Water Pump Pliers
- LPSH01 175mm Spring Hook
- PIER PD Solder Sucker
- 302 080 8.0 x 150 Slotted Screwdriver



Part No.	Description	Size
TZK 802 ABF	Field Service Toolkit in Protech Case	430 x 330 x 105mm
TZK 802	Empty Protech Zipper Case	430 x 330 x 105mm





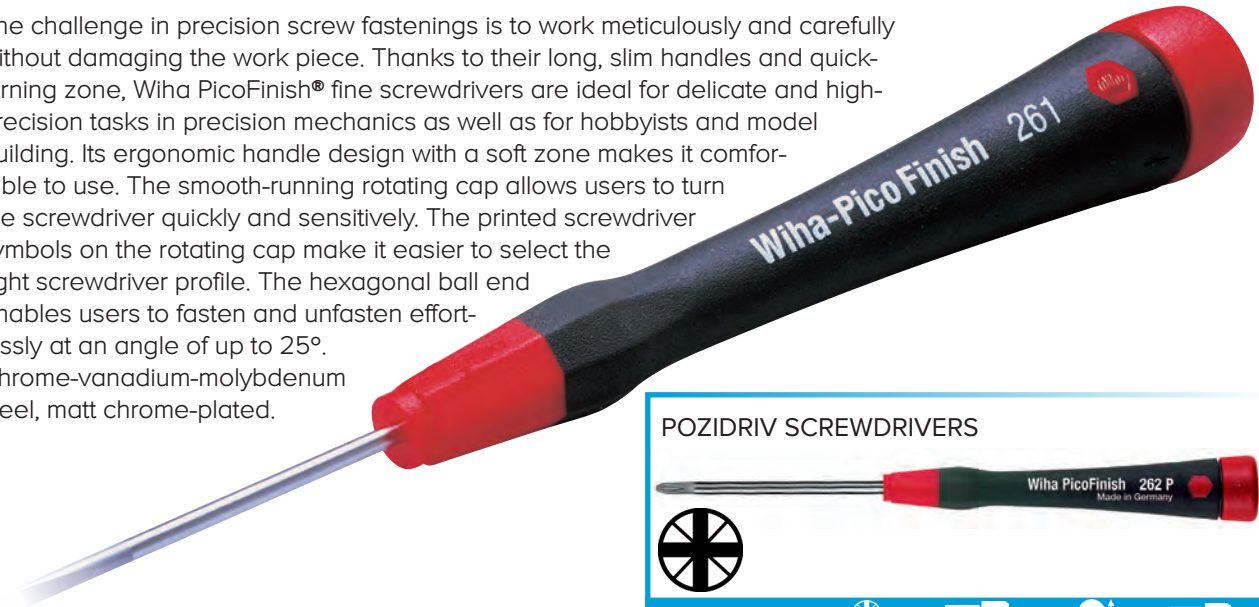
## Hand Tools

Screwdrivers .....	80
Screwdrivers, Blade System .....	90
Hex Keys & Torx Keys .....	92
Pliers .....	94
Cutters.....	98
Service Aids .....	103
Tweezers.....	104
Crimping Tools .....	106
Wirestrippers .....	114
Tie Guns.....	117
Scissors, Cable Shears & Knives.....	118
Measuring & Marking .....	120
Spanners .....	123
Sockets .....	126

# Wiha Screwdrivers

## PicoFinish®

The challenge in precision screw fastenings is to work meticulously and carefully without damaging the work piece. Thanks to their long, slim handles and quick-turning zone, Wiha PicoFinish® fine screwdrivers are ideal for delicate and high-precision tasks in precision mechanics as well as for hobbyists and model building. Its ergonomic handle design with a soft zone makes it comfortable to use. The smooth-running rotating cap allows users to turn the screwdriver quickly and sensitively. The printed screwdriver symbols on the rotating cap make it easier to select the right screwdriver profile. The hexagonal ball end enables users to fasten and unfasten effortlessly at an angle of up to 25°. Chrome-vanadium-molybdenum steel, matt chrome-plated.



### POZIDRIV SCREWDRIVERS



Part No.				
262 P0	PZ0	50	3.0	150
262 P1	PZ1	60	4.0	160

### SLOTTED SCREWDRIVERS



Part No.					
260 P08040	0.8	40	0.16	2.0	134
260 P10040	1.0	40	0.18	2.0	134
260 P12040	1.2	40	0.2	2.0	134
260 P15040	1.5	40	0.25	2.0	134
260 P18040	1.8	40	0.3	2.0	134
260 P20040	2.0	40	0.4	2.0	140
260 P25050	2.5	50	0.4	2.5	150
260 P25100	2.5	100	0.4	2.5	200
260 P30050	3.0	50	0.5	3.0	150
260 P30100	3.0	100	0.5	3.0	200
260 P30150	3.0	150	0.5	3.0	250
260 P35060	3.5	60	0.6	3.5	160
260 P40060	4.0	60	0.8	4.0	160
260 P40100	4.0	100	0.8	4.0	200
260 P40150	4.0	150	0.8	4.0	250

### TORX® SCREWDRIVERS



Part No.										
267 P03	T3	40	2.5	134						
267 P04	T4	40	2.5	134						
267 P05	T5	40	2.5	134						
267 P06	T6	40	2.5	140						
267 P07	T7	40	2.5	140						
267 P08	T8	40	2.5	140						
267 P09	T9	50	3.0	150						
267 P10	T10	50	3.0	150						
267 P15	T15	60	3.5	160						
267 P20	T20	60	4.0	160						

### HEX SCREWDRIVERS



Part No.											
263 P07	0.7	40	0.028	134							
263 P09	0.9	40	0.035	134							
263 P13	1.3	40	0.050	134							
263 P15	1.5	50	–	144							
263 P20	2.0	50	5/64	150							
263 P25	2.5	60	–	160							
263 P30	3.0	60	–	160							
263 PZ116	1/16	50	–	144							
263 PZ332	3/32	60	–	160							
263 PZ764	7/64	60	–	160							
263 PZ180	1/8	60	–	160							

### PHILLIPS SCREWDRIVERS



Part No.					
261 P000	PH000	40	2.0	134	9
261 P00	PH00	40	2.0	134	9
261 P0	PH0	50	3.0	150	18
261 P1	PH1	60	4.0	160	18
261 P1080	PH1	80	4.0	180	18
261 P1150	PH1	150	4.0	250	18

## HEX BALLPOINT SCREWDRIVERS



Part No.				
264 P13	1.3	40	0.050	134
264 P15	1.5	50	–	150
264 P20	2.0	50	–	150
264 P25	2.5	60	–	160
264 P30	3.0	60	–	160
264P Z116	1/16	50	–	150
264P Z564	5/64	50	–	150
264P Z332	3/32	50	–	150
264P Z764	7/64	60	–	160
264P Z180	1/8	60	–	160
264P Z964	9/64	60	–	160
264P Z532	5/32	60	–	160

## NUTDRIVERS



Part No.			
265 P015	1.5	60	160
265 P018	1.8	60	160
265 P020	2	60	160
265 P025	2.5	60	160
265 P030	3	60	160
265 P032	3.2	60	160
265 P035	3.5	60	160
265 P040	4	60	160
265 P045	4.5	60	160
265 P050	5	60	160
265 P055	5.5	60	160
265 P060	6	60	160
265 P070	7	60	160
265P Z332	3/32	60	160
265P Z764	7/64	60	160
265P Z180	1/8	60	160
265P Z964	9/64	60	160
265P Z532	5/32	60	160
265P Z316	3/16	60	160
265P Z732	7/32	60	160
265P Z140	1/4	60	160

## SLOTTED & PHILLIPS SET

Contains:  
260P

1.5 x 40  
2.0 x 40  
2.5 x 50  
3.0 x 50



261P

PH00 x 40  
PH0 x 50



Part No.	Description
260PK6	PicoFinish Screwdriver Set

## BALLPOINT HEX SET

Contains:

263P 0.9 x 40



264P 1.3 x 40  
1.5 x 50  
2.0 x 50  
2.5 x 60  
3.0 x 60



Part No.	Description
264PK6	PicoFinish Hexdriver Set

## TORX® SET

Contains:

267P T7 x 40  
T8 x 40  
T9 x 50  
T10 x 50  
T15 x 60  
T20 x 60



Part No.	Description
267PK6	PicoFinish Torx® Set

## NUTDRIVER SET

Contains:

265P 2.5 x 60  
3.0 x 60  
3.5 x 60  
4 x 60  
5 x 60  
5.5 x 60



Part No.	Description
265PK6	PicoFinish Nutdriver Set

## SLOTTED & PHILLIPS SET

Contains:

260 1.5 x 40  
2.0 x 40  
2.5 x 50  
3.0 x 50



261P PH00 x 40  
PH0 x 50  
PH1 x 60



Part No.	Description
260PK7	PicoFinish Screwdriver Set

## SoftFinish®

- The Wiha SoftFinish® zone features a solid moulded core with soft outer grip. This requires less force, yet achieves 40% more torque than conventional handles.
- The handle is shaped to fit comfortably in the hand, providing maximum torque forces in dry and general working conditions.



### SLOTTED SCREWDRIVERS



Part No.	⌀	↔	⌀	⌀	↔
302020	2.0	65	0.4	2.0	169
302025	2.5	75	0.4	2.5	179
302030	3.0	80	0.5	3.0	184
302030100	3.0	100	0.5	3.0	204
302030150	3.0	150	0.5	3.0	254
302030200	3.0	200	0.5	3.0	304
302035	3.5	100	0.6	3.5	204
302035200	3.5	200	0.5	3.5	304
302040	4.0	100	0.8	4.0	211
302040150	4.0	150	0.8	4.0	261
302040200	4.0	200	0.8	4.0	311
302040300	4.0	300	0.8	4.0	411
302045080	4.5	80	0.8	4.5	191
302045	4.5	125	0.8	4.5	236
302055	5.5	125	1.0	5.5	236
302055150	5.5	150	1.0	5.5	261
302055200	5.5	200	1.0	5.5	311
302055300	5.5	300	1.0	5.5	411
302060100	6.0	100	1.2	6.0	218
302060150	6.0	150	1.2	6.0	268
302065100	6.5	100	1.2	6.0	218
302065	6.5	150	1.2	6.0	268
302065200	6.5	200	1.2	6.0	318
302080150	8.0	150	1.2	7.0	274
302080	8.0	175	1.2	7.0	299
302100	10.0	200	1.6	8.0	324
302120	12.0	250	2.0	8.0	374
302140	14.0	250	2.5	11.0	374

### STUBBY SLOTTED SCREWDRIVERS



Part No.	⌀	↔	⌀	⌀	↔
302040025	4.0	25	0.8	4.0	81
302055025	5.5	25	1.0	5.5	81
302065025	6.5	25	1.2	6.5	81
302080025	8.0	25	1.2	8.0	81

### PHILLIPS SCREWDRIVERS



Part No.	⊕	↔	⌀	↔	↔
3110060	PH0	60	3.0	164	23
3110100	PH0	100	3.0	204	23
3111080	PH1	80	4.5	191	30
3111100	PH1	100	4.5	211	30
3111200	PH1	200	4.5	311	30
3111300	PH1	300	4.5	411	30
3112100	PH2	100	6.0	218	36
3112150	PH2	150	6.0	268	36
3112200	PH2	200	6.0	318	36
3112300	PH2	300	6.0	418	36
3113150	PH3	150	8.0	274	41
3114200	PH4	200	10.0	324	41

### STUBBY PHILLIPS SCREWDRIVERS



Part No.	⊕	↔	⌀	↔	↔
3111025	PH1	25	4.5	81	34
3112025	PH2	25	6.0	81	34
3113025	PH3	25	8.0	81	34

## POZIDRIV SCREWDRIVERS



Part No.				
3130060	PZ0	60	3.0	164
3131080	PZ1	80	4.5	191
3131300	PZ1	300	4.5	411
3132100	PZ2	100	6.0	218
3132300	PZ2	300	6.0	418
3133150	PZ3	150	8.0	274

## STUBBY POZIDRIV SCREWDRIVERS



Part No.				
3131025	PZ1	25	4.5	81
3132025	PZ2	25	6.0	81
3133025	PZ3	25	8.0	81

## TORX® SCREWDRIVERS



Part No.				
362 T3	T3	60	2.5	164
362 T4	T4	60	2.5	164
362 T5	T5	60	2.5	164
362 T6	T6	60	3.5	164
362 T7	T7	60	3.5	164
362 T8	T8	60	3.5	164
362 T9	T9	60	4.0	171
362 T10	T10	80	4.0	191
362 T15	T15	80	4.0	191
362 T20	T20	100	4.0	211
362 T25	T25	100	4.5	211
362 T27	T27	115	5.5	233
362 T30	T30	115	6.0	233
362 T40	T40	130	7.0	254
362 T45	T45	130	8.0	254

## SECURITY TORX® SCREWDRIVERS



Part No.				
362 TR07	T7H	60	3.5	164
362 TR08	T8H	60	3.5	164
362 TR09	T9H	60	4.0	171
362 TR10	T10H	80	4.0	191
362 TR15	T15H	80	4.0	191
362 TR20	T20H	100	4.0	211
362 TR25	T25H	100	4.5	211
362 TR27	T27H	115	5.5	233
362 TR30	T30H	115	6.0	233
362 TR40	T40H	130	7.0	254

## NUTDRIVERS



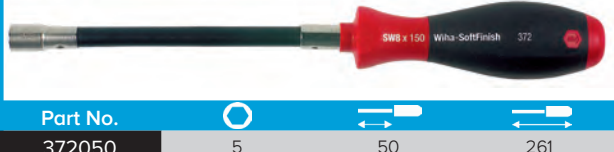
Part No.			
341040	4	125	236
341050	5	125	236
341055	5.5	125	236
341060	6	125	236
341070	7	125	243
341080	8	125	243
341090	9	125	243
341100	10	125	243
341110	11	125	243
341120	12	125	249
341130	13	125	249
341140	14	125	249
341150	15	125	249
341160	16	125	249
341170	17	125	249
347316	3/16	125	231
347140	1/4	125	238
347516	5/16	125	238
347380	3/8	125	238
347716	7/16	125	246
347120	1/2	125	246

## NUTDRIVERS WITH MAGNETS



Part No.			
341 MAG55	5.5	125	236
341 MAG55-10	5.5	250	367
341 MAG70	7.0	125	243

## FOR HEX NUTS – FLEXIBLE SHAFT



Part No.			
372050	5	50	261
372055	5.5	150	261
372060	6	150	261
372070	7	150	268
372080	8	150	268
372100	10	175	293
372130	13	175	293
38614	1/4	150	268

## BIT HOLDER 1/4" – MAGNETIC



Part No.			
38414125	1/4	125	225
38414300	1/4	300	400

FOR HEX SCREWS



Part No.	⊕	↔	↔
356025	2.5	75	179
356030	3	75	179
356040	4	75	186
356050	5	75	186
356060	6	100	218
356080	8	100	218

FOR HEX SCREWS – BALL POINT



Part No.	⊕	↔	↔
36701501	1.5	75	179
36702001	2	100	204
36702501	2.5	100	204
36703001	3	100	204
36704001	4	100	211
36705001	5	100	211
36706001	6	125	243
36708001	8	150	268
36710001	10	150	271
36712001	12	150	271

NEON MAINS TEST SCREWDRIVER

- Acier chrome-vanadium, through-hardened, nickel-coated.
- Transparent, with push-on clip
- 220-250V



Part No.	⊕	↔	↔	↕
2553L	3.0	60	140	15

BIT HOLDER SET WITH BITS

The alternative to a screwdriver set.  
Eight drive shapes in one screwdriver.

- High grade chrome-vanadium steel, through hardened
- Ergonomic Wiha SoftFinish® multi-component handle with roll-off protection
- Stainless steel bit holder with strong magnet
- Suitable for DIN 3126, ISO 1173, style D 6.3
- 5 mm Standard bits



Part No.	⊕	⊕	⊕	⊕
3809-8-STD	6.5	PH1, PH2, PH3	T15, T20, T25	PZ2
3809-8-TORX	-	-	T6, T8, T10, T15, T20, T25, T30, T40	-
3809-8-PPS	5.5, 6.5	PH1, 3x PH2, 2x PH3	-	-

SCREWDRIVER SET

- Contains:  
302 3.5 x 100  
4.5 x 125  
5.5 x 150  
6.5 x 150

- 311 PH1 x 80  
PH2 x 100



Part No.	Description
302 HK6 SO	Screwdriver Set

TORX® SET

- Contains:  
362 T10 x 80  
T15 x 80  
T20 x 100  
T25 x 100  
T30 x 115  
T40 x 130



Part No.	Description
362 K6 SO	TORX® Screwdriver Set

NUTDRIVER SET

- Contains:  
341 5.5 x 125  
7 x 125  
8 x 125  
10 x 125  
13 x 125



Part No.	Description
341 K5	Nutdriver Set

STUBBY BIT HOLDER SET WITH BITS



Part No.	⊕	⊕	⊕	⊕
3801-6-STD	4.5, 6.5, 8.0mm	PH1, PH2, PH3	-	-
3801-6-TORX	-	-	T10, T15, T20, T25, T30, T40	-
3801-6-PPS	4.5, 6.5, 8.0mm	-	-	PZ1, PZ2, PZ3

### PHILLIPS SCREW-HOLDING DRIVER



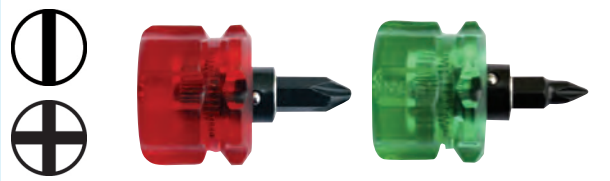
Part No.	⊕	↔	↔	↕
397-0	PH0	100	211	30
397-1	PH1	125	236	36
397-2	PH2	175	286	36

### SLOTTED SCREW-HOLDING DRIVER



Part No.	⊖	↔	↔	↕
398-25	2.5	75	186	30
398-30	3.0	100	211	30
398-40	4.0	125	243	36
398-50	5.0	150	268	36
398-60	6.0	175	293	36

### STUBBY BIT-HOLDING DRIVER



Part No.	⊕	⊖	↔	↔	⬡
DST-06	PH1	4.5	15	41	1/4"
DST-07	PH2	6.0	16	42	1/4"

### MAGNETISER / DEMAGNETISER

Magnetises screwdriver tips quickly and effortlessly, so that screws and small parts can be mounted much more easily. Demagnetise the screwdriver again by pushing it through the steps several times until it is demagnetised. The tool's strong permanent magnet has an extremely long service life.



Part No.	Description
400 10	Magnetiser/Demagnetiser

### RATCHET DRIVE BITS SET

Contains Ratchet Driver, handle, extension and 17 bits:

- 0.050" 9/64"
- 1/16" 5/32"
- 5/64" 3/16"
- 3/32" 7/32"
- 7/64" 1/4"
- 1/8" 5/16"
- 1/4" x 25
- 3/8" x 25
- PH1 x 25
- PH2 x 25
- 1/4" square drive Adaptor



Part No.	Description
90-200	Ratchet Set, 20 Pcs



## ESD SoftFinish®

- The Wiha SoftFinish® ESD screwdrivers correspond to the internationally specified ESD standards DIN EN 61340-5-1/61340-5-2.
- The electrostatic energy is discharged in a controlled manner, the surface resistance of the handle is in the range of 10<sup>6</sup>-10<sup>9</sup> Ohms.



If you did not find what you were looking for, please call our sales team now!

### ESD SLOTTED SCREWDRIVERS



Part No.	⌀	↔	⌀	⌀	↔
302 ESD025	2.5	75	0.4	2.5	179
302 ESD030	3.0	100	0.4	3.0	204
302 ESD040	4.0	100	0.8	4.0	211
302 ESD055	5.5	125	1.0	5.5	236
302 ESD065	6.5	150	1.2	6	268

### ESD SCREWDRIVER SET

Contains:  
302ESD 3.0 x 100  
4.0 x 125

311ESD PH0 x 60  
PH1 x 80  
PH2 x 100



Part No.	Description
302ESDHK501	ESD Screwdriver Set

### ESD PHILLIPS SCREWDRIVERS

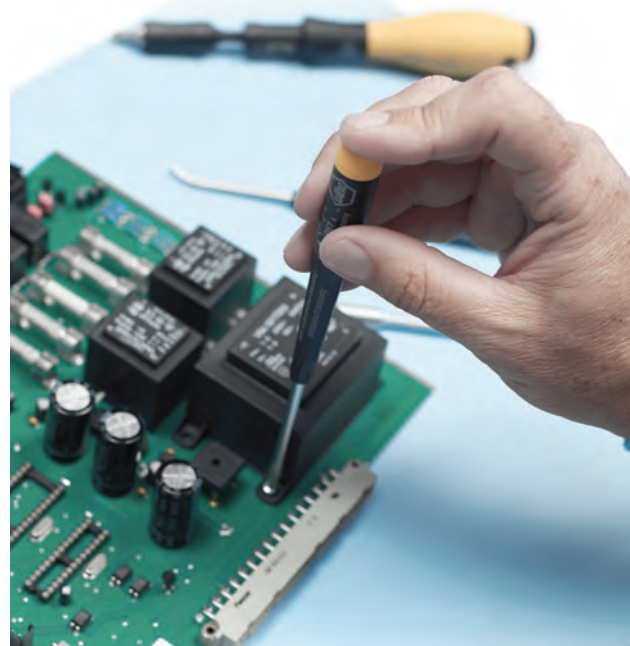


Part No.	⊕	↔	⌀	↔	↔
3110060	PH0	60	3.0	164	23
3110100	PH1	80	4.5	191	30
3111080	PH2	100	6.0	218	36

### ESD TORX® SCREWDRIVERS



Part No.	⊕	↔	⌀	↔	↔
362 ESD-T4	T4	60	2.5	164	23
362 ESD-T5	T5	60	3.5	164	23
362 ESD-T6	T6	60	3.5	164	23
362 ESD-T8	T8	60	3.5	164	23
362 ESD-T9	T9	60	4.0	171	30
362 ESD-T10	T10	80	4.0	191	30





## ESD Precision

- For working on electrostatically sensitive components.
- The Wiha Precision ESD Screwdrivers correspond to Standard IEC 61340-5-1.
- Made of chrome-vanadium steel, matt chrome-plated



### SLOTTED SCREWDRIVERS



Part No.	⌀	↔	⌀	⊙	↔
272P15	1.5	40	0.25	2.0	120
272P20	2.0	40	0.40	2.0	120
272P25	2.5	50	0.40	2.5	145
272P30	3.0	50	0.50	3.0	145
272P35	3.5	60	0.60	3.5	170
272P40	4.0	60	0.80	4.0	170

### PHILLIPS SCREWDRIVERS



Part No.	⊕	↔	⊙	↔	↔
273P000	PH000	40	2.0	120	12.5
273P00	PH00	40	2.0	120	12.5
273P0	PH0	50	3.0	145	13
273P1	PH1	60	4.0	170	14

### POZIDRIV SCREWDRIVERS



Part No.	⊕	↔	⊙	↔
274PZ1	PZ1	60	4.0	170

### SCREWDRIVER SET PRECISION ESD



Part No.	⌀	⊕	⊗	⊙	⊖
08463	1.5, 2.0, 2.5, 3.0	PH00, PH0	—	—	—
26919	—	—	T5, T6, T7, T8, T10, T15	—	—
32278	—	—	—	0.9, 1.3, 1.5, 2, 2.5, 3	—
32279	—	—	—	—	2.5, 3, 3.5, 4, 5, 5.5

### TORX® SCREWDRIVERS



Part No.	⊗	↔	⊙	↔
278P01	T1	40	2.5	120
278P02	T2	40	2.5	120
278P03	T3	40	2.5	120
278P04	T4	40	2.5	120
278P05	T5	40	2.5	120
278P06	T6	40	2.5	120
278P07	T7	40	2.5	120
278P08	T8	40	2.5	120
278P09	T9	50	3.0	145
278P10	T10	50	3.0	145
278P15	T15	60	3.5	170
278P20	T20	60	4.0	170

### HEX SCREWDRIVERS



Part No.	⊙	↔	↔	↔
275P07	0.7	40	120	12.5
275P09	0.9	40	120	12.5
275P13	1.3	40	120	12.5
275P15	1.5	50	145	12.5
275P20	2	50	145	13.0
275P25	2.5	60	170	14.0
275P30	3	60	170	14.0
275P40	4	60	170	14.0

### HEXNUT SCREWDRIVERS



Part No.	⊙	↔	⊙	↔
277P15	1.5	60	2.5	155
277P20	2.0	60	2.9	155
277P25	2.5	60	4.0	155
277P30	3	60	5.0	155
277P35	3.5	60	5.3	155
277P40	4	60	5.5	155
277P45	4.5	60	6.2	155
277P50	5	60	6.8	155
277P55	5.5	60	7.6	170

## SoftFinish® Electric

- The high quality blade insulation is moulded directly onto the blade and therefore guarantees safety when working on live equipment up to 1500V DC or 1000V AC.
- To maintain this safety, each screwdriver of the SoftFinish® Electric series is individually tested in a water bath at 10,000 Volts, according to DIN EN 60900.



### SLOTTED SCREWDRIVERS – INSULATED



Part No.	⌀	↔	⌀	↔	↔
320N0200060	2.0	60	0.4	164	23
320N025075	2.5	75	0.4	179	23
320N030100	3.0	100	0.5	204	23
320N035100	3.5	100	0.6	204	23
320N040100	4.0	100	0.8	211	30
320N045125	4.5	125	1.0	236	30
320N045175	4.5	175	1.0	286	30
320N055125	5.5	125	1.0	243	36
320N055175	5.5	175	1.0	293	36
320N060150	6.0	150	1.2	268	36
320N065150	6.5	150	1.2	268	36
320N080175	8.0	175	1.2	299	41

### PHILLIPS SCREWDRIVERS – INSULATED



Part No.	⊕	↔	↔	↔
321N0	PH0	60	164	23
321N1	PH1	80	191	30
321N2	PH2	100	218	36
321N3	PH3	150	268	41

### SLOTTED & PHILLIPS SCREWDRIVER SET – INSULATED

Contains:

320N  
3.0 x 100  
4.0 x 100  
5.5 x 100  
6.5 x 150

321 N  
PH1 X 180  
PH2 X 100



Part No.	Description
320NK6	VDE Screwdriver Set

### NUTDRIVER – INSULATED



Part No.	⊙	↔	↔	↔
322055	5.5	125	236	30
322060	6	125	236	30
322070	7	125	243	36
322080	8	125	243	36
322090	9	125	243	36
322100	10	125	243	36
322110	11	125	243	41
322120	12	125	243	41
322130	13	125	243	41

### LIFTUP SCREWDRIVER SLIM – INSULATED

38611 contains:

⊙ 3.0 x 75  
⊙ 4.0 x 75  
⊙ 5.5 x 75

⊕ PH1 x 75  
⊕ PH2 x 75

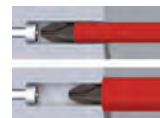
⊗ SL/PZ2 x 75

41234 contains:

⊙ 2.5 x 75  
⊙ 3.5 x 75  
⊙ 5.5 x 75

⊗ PZ1 x 75  
⊗ PZ2 x 75

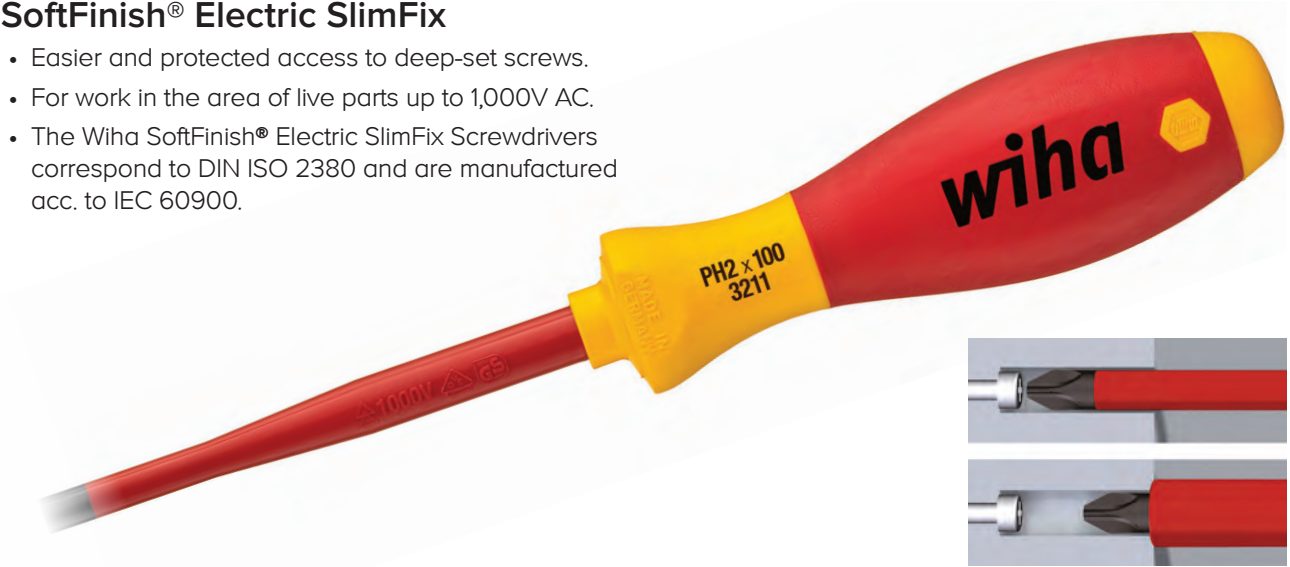
⊗ SL/PZ2 x 75



Part No.	Description
38611	Liftup Screwdriver Slim Insulated
41234	Liftup Screwdriver Slim Insulated

## SoftFinish® Electric SlimFix

- Easier and protected access to deep-set screws.
- For work in the area of live parts up to 1,000V AC.
- The Wiha SoftFinish® Electric SlimFix Screwdrivers correspond to DIN ISO 2380 and are manufactured acc. to IEC 60900.



### SLOTTED SCREWDRIVERS – SLIMFIX



Part No.	⌀	↔	⌀	↔	↕
3201035	3.5	100	0.6	204	23
3201040	4.0	100	0.8	211	30
3201045	4.5	125	1.0	236	30
3201055	5.5	125	1.0	243	36
3201065	6.5	150	1.2	268	36

### TORX® SCREWDRIVERS – SLIMFIX



Part No.	⌀	↔	↔	↕
3251T10	T10	100	204	23
3251T15	T15	100	211	30
3251T20	T20	100	211	30
3251T25	T25	125	243	36
3251T27	T27	125	243	36
3251T30	T30	125	243	36
3251T40	T40	150	268	36

### PHILLIPS SCREWDRIVERS – SLIMFIX



Part No.	⊕	↔	↔	↕
32111080	PH1	80	191	30
32112100	PH2	100	218	36

### PHILLIPS SCREWDRIVERS – SLIMFIX



Part No.	⊕	↔	↔	↕
32711080	SL/PH1	80	191	30
32712100	SL/PH2	100	218	36

### POZIDRIV SCREWDRIVERS – SLIMFIX



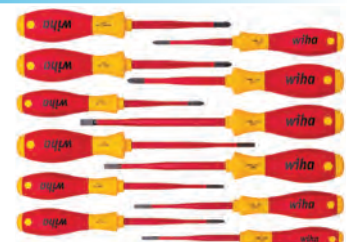
Part No.	⊕	↔	↔	↕
32411080	PZ1	80	191	30
32412100	PZ2	100	218	36

### SCREWDRIVER SET OF 6 – SLIMFIX



Part No.	⌀	⊕	⊕	⊕	⊕
3201NK6	3.5, 4.0, 5.5, 6.5	PH1, PH2	–	–	–
3201ZK6	3.5, 4.0, 5.5, 6.5	–	–	–	PZ1, PZ2
38362	3.5, 4.0, 5.5	PH1, PH2	–	SL/PZ2	–
36558	–	–	T8, T9, T10, T15, T20, T25	–	–

### SCREWDRIVER SET OF 12 – SLIMFIX



Part No.	⌀	⊕	⊕	⊕
41003	3.5, 4.0, 5.5, 6.5	PH1, PH2	PZ1, PZ2, SL/PZ2	T15, T20, T25

## Wiha Reversible Blade Systems

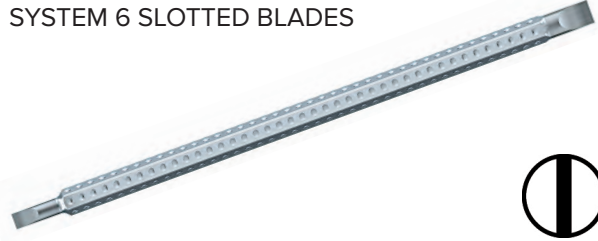
- The Wiha SYSTEM 6 and SYSTEM 4 reversible blade systems are high- quality, industrial quality products, made with state of the art materials and finished to the highest standard of workmanship.
- The 150mm long reversible blades are made of high quality chrome-vanadium-molybdenum steel, are through hardened and chrome plated.
- The various handles are especially ergonomically designed and guarantee optimal force transmission.
- The Wiha reversible blade systems provide the right tool for every application – ideal for industry, trade and the ambitious handyman

### SYSTEM 6 HANDLES



Part No.	Description	⊙	↔	⬆
284 SF	System 6 Handle	6.0	115	36
284 ESD	ESD Safe Handle	6.0	115	36

### SYSTEM 6 SLOTTED BLADES



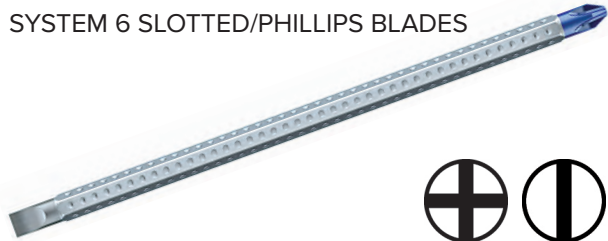
Part No.	⊙	⊙	↔	⬆
276270	3.5	4.5	150	6.0
006297	4.0	6.0	150	6.0
302080025	5.5	6.5	150	6.0

### SYSTEM 6 STARTER SET 6 PIECES



Part No.	⊙	⊕	⊙
281 T6	3.5-4.5, 4.0-6.0, 5.5-6.5	PH1-PH2	5.0-5.0

### SYSTEM 6 SLOTTED/PHILLIPS BLADES



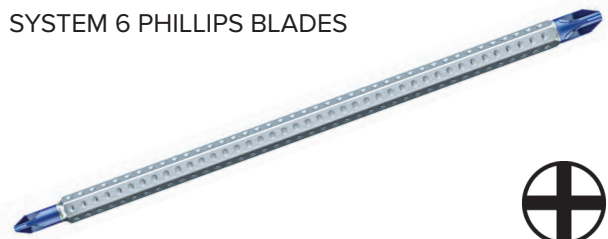
Part No.	⊙	⊕	↔	⬆
006655	4.0	PH1	150	6.0
006662	6.0	PH2	150	6.0
006679	6.5	PH3	150	6.0

### SYSTEM 6 NUTDRIVER SET 6 PIECES



Part No.	⊙
U106 T8	5.0, 5.5, 6.0, 7.0, 8.0, 10.0, 13.0

### SYSTEM 6 PHILLIPS BLADES



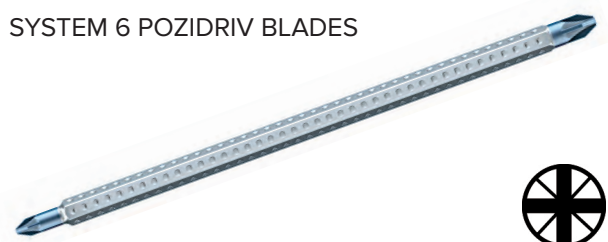
Part No.	⊕	⊕	↔	⬆
006310	PH1	PH2	150	6.0
276287	PH2	PH3	150	6.0

### SYSTEM 6 NUTDRIVER SET 12 PIECES

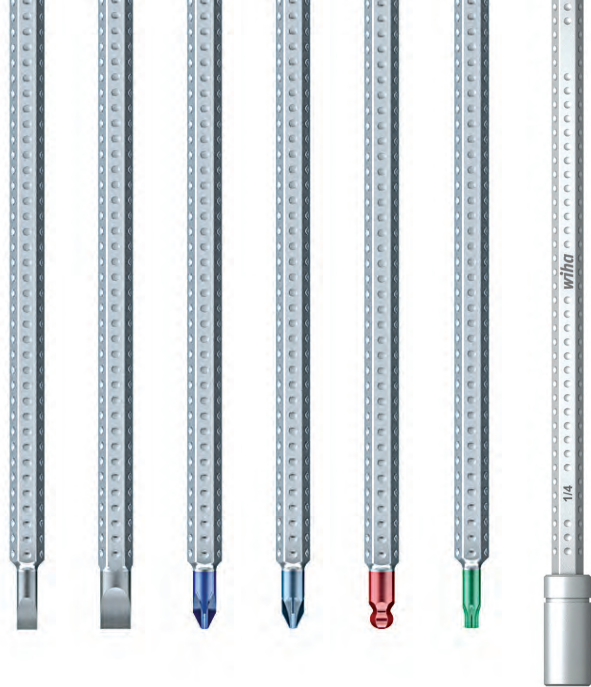


Part No.	⊙
U106 T12	4.0, 4.5, 5.0, 5.5, 6.0, 7.0, 8.0, 9.0, 10.0, 11.0, 13.0mm

### SYSTEM 6 POZIDRIV BLADES



Part No.	⊕	⊕	↔	⬆
006327	PZ1	PZ2	150	6.0
276294	PZ2	PZ3	150	6.0



Many more interchangeable blades and sets available to order, please enquire.

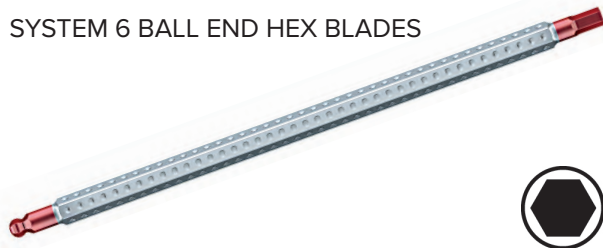
### SYSTEM 4 HANDLE

System 4 Handle for telescopic, reversible blades (adjustable 18-90mm length)



Part No.	Description			
2691	System 4 Handle	4.0	105	23

### SYSTEM 6 BALL END HEX BLADES



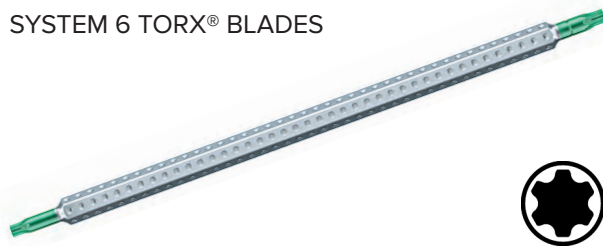
Part No.				
006358	2.5	2.5	150	6.0
006365	3	3	150	6.0
006372	4	4	150	6.1
006389	5	5	150	6.0
006396	6	6	150	6.0

### SYSTEM 4 BLADES SET 4 PIECES



Part No.			
269 T4	2.0-PH00, 3.0-PH0, 4.0-PH1		

### SYSTEM 6 TORX® BLADES



Part No.				
006549	T6	T8	150	6.0
006556	T7	T9	150	6.0
006563	T10	T15	150	6.1
006570	T20	T25	150	6.0
006587	T30	T40	150	6.0

### SYSTEM 4 BLADES SET 6 PIECES



Part No.					
269 T6	1.5-3.0, 2.0-3.5, 2.5-4.0		PH000-PH00, PH0-PH1		

### SYSTEM 6 BIT HOLDER BLADE



Part No.				
03882	1/4	150	6.0	

### SYSTEM 4 BLADES SET 11 PIECES



Part No.									
269 T11	1.5-3.0, 2.0-3.5, 2.5-4.0		PH000-PH00, PH0-PH1		1.3, 1.5, 2.0, 2.5, 3.0, 8, 9, 10, 11, 13mm				

## Wiha Hex & Torx L-Keys

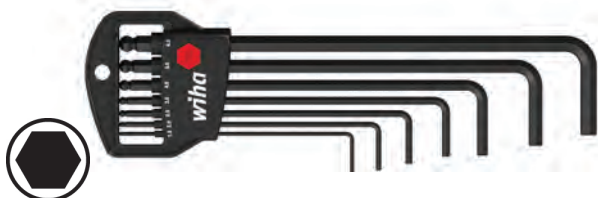
Wiha L-keys are essential for all users who are faced with a screw fastening task in difficult work conditions. The shortened L-key arm for difficult-to-access screws significantly reduces the risk of an injury, as the hand-working space is increased by over 30%.

Wiha ball-end tools enable fastening at angles of up to 25° per side. The risk of an accident is reduced since the tool does not slip out of the screw. Screws made of steel and non-magnetic materials are securely held in any position with the Wiha MagicRing and MagicSpring.



### BALLPOINT HEX L-KEYS – STANDARD

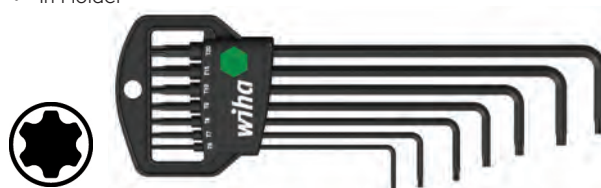
- Bronzed
- In Holder



Part No.	Set Contents
369H7B	1.5, 2, 2.5, 3, 4, 5, 6
369HZ8	5/64, 3/32, 1/8, 5/32, 3/16, 7/32, 1/4, 5/16
369H9B	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10

### TORX® L-KEYS – STANDARD

- Bronzed
- In Holder



Part No.	Set Contents
366H7	T6, T7, T8, T9, T10, T15, T20
366RH8	T9, T10, T15, T20, T25, T27, T30, T40

### HEX L-KEYS – SHORT

- Nickel-plated
- In Holder



Part No.	Set Contents
351H7	1.5, 2, 2.5, 3, 4, 5, 6
351H9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10
351H11	1.5, 2, 2.5, 3, 4, 5, 6, 7, 8, 9, 10
351SZ13	0.05, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8

### TORX® L-KEYS – SHORT

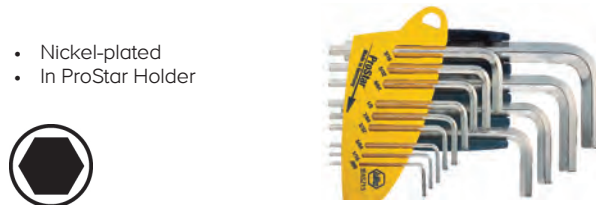
- Bronzed
- In Holder



Part No.	Set Contents
363H7	T6, T7, T8, T9, T10, T15, T20
363H8	T9, T10, T15, T20, T25, T27, T30, T40

### HEX L-KEYS – IMPERIAL SHORT

- Nickel-plated
- In ProStar Holder



Part No.	Set Contents
351SZ13	0.05, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8

### BALLPOINT HEX L-KEYS – IMPERIAL

- Bronzed
- In ProStar Holder



Part No.	Set Contents
369ZB	0.05, 1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 3/16, 7/32, 1/4, 5/16, 3/8

### BALLPOINT HEX L-KEYS – PREMIUM

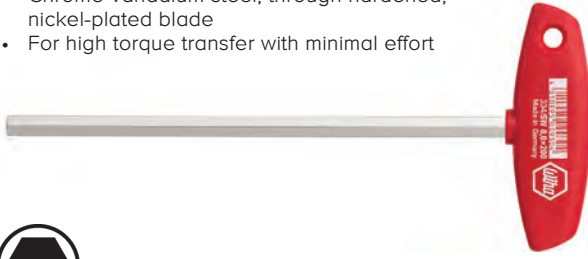
- Matt chrome-plated
- In ProStar Holder



Part No.	Set Contents
369S9	1.5, 2, 2.5, 3, 4, 5, 6, 8, 10

## HEX L-KEYS WITH T-HANDLE

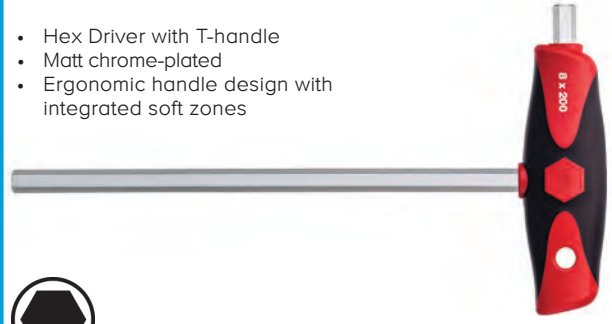
- Hex Driver with T-handle
- Chrome-vanadium steel, through hardened, nickel-plated blade
- For high torque transfer with minimal effort



Part No.	Hex Size	Shaft Length	Bit Length	Total Length
33420	2	100	–	126
33420200	2	200	–	226
33425	2.5	100	–	126
33425200	2.5	200	–	226
33430	3	100	–	126
33430150	3	150	–	176
33430200	3	200	–	226
33440	4	100	–	126
33440150	4	150	–	176
33440200	4	200	–	226
33440350	4	350	5+	382
33450	5	100	–	132
33450150	5	150	–	182
33450200	5	200	–	232
33450350	5	350	–	382
33460	6	100	–	132
33460150	6	150	–	182
33460200	6	200	–	232
33460350	6	350	–	382
33470	7	200	–	232
33480	8	100	–	132
33480150	8	150	–	182
33480200	8	200	–	232
33480350	8	350	–	382
334100	10	100	–	138
334100200	10	200	–	238
334120	12	200	–	238

## HEX L-KEYS WITH T-HANDLE COMFORT

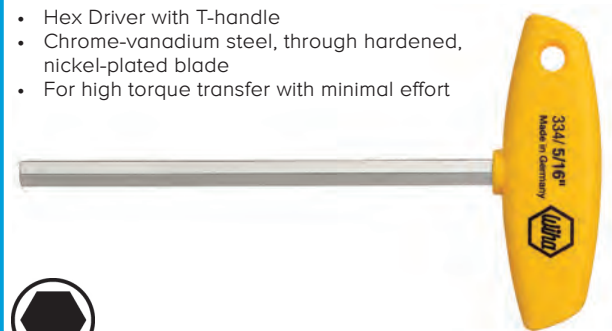
- Hex Driver with T-handle
- Matt chrome-plated
- Ergonomic handle design with integrated soft zones



Part No.	Hex Size	Shaft Length	Total Length
26164	2	100	80
26165	2.5	100	80
26166	3	100	80
26167	4	150	80
26168	5	150	100
26169	6	150	100
26170	8	200	100
26171	10	200	120

## HEX L-KEYS WITH T-HANDLE – IMPERIAL

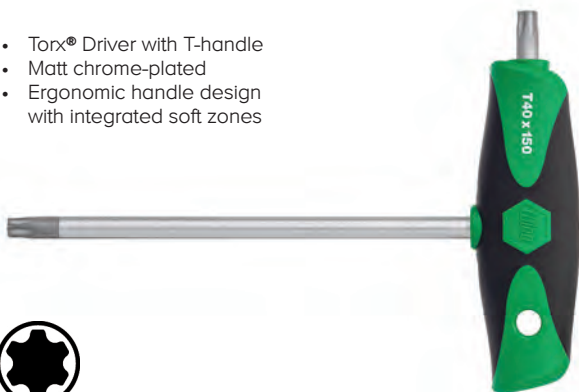
- Hex Driver with T-handle
- Chrome-vanadium steel, through hardened, nickel-plated blade
- For high torque transfer with minimal effort



Part No.	Hex Size	Shaft Length	Bit Length	Total Length
334 Z332	3/32	150	176	80
334 Z764	7/64	150	176	80
334 Z180	1/8	150	176	80
334 Z964	9/64	150	176	80
334 Z532	5/32	150	176	80
334 Z316	3/16	150	182	100
334 Z732	7/32	150	182	100
334 Z140	1/4	150	182	100
334 Z516	5/16	150	182	100
334 Z380	3/8	150	182	100

## TORX® L-KEYS WITH T-HANDLE COMFORT

- Torx® Driver with T-handle
- Matt chrome-plated
- Ergonomic handle design with integrated soft zones



Part No.	Bit Size	Shaft Length	Total Length
26172	T10	100	80
26173	T15	100	80
26174	T20	100	100
26175	T25	150	100
26176	T27	150	100
26177	T30	150	100
26178	T40	150	100

Not all sizes are in stock, minimum order quantities may apply. Please contact us.

# Wiha Professional Pliers

## German precision in your hand

- Drop forged from the best selected, suitable carbon or chrome-vanadium steels for the best technical properties
- Individually hardened and tempered with a high frequency induction procedure for optimum hardness
- Cutting edges are additionally induction hardened to 64 HRC for maximum service life and cutting results. Gripping teeth are also additionally hardened.



Soft, shock absorbent handle end

## Dynamic Joint

- New joint construction for long-term cutting efficiency
- The dynamic joint provides effective low loss of force – up to 40% less force required for cutting

Chrome plating for long lasting corrosion protection



## COMBINATION PLIERS

- Extra long cutting edge for flat and round cables
- Serrated gripper jaws
- Cutting edges additionally inductively hardened to approx. 60 HRC



Part No.	mm	inches	○	○	○
Z010 16005	2.5	75	0.4	2.5	179
Z010 18005	3.0	100	0.4	3.0	204
Z010 20005	4.0	100	0.8	4.0	211
Z010 22505	5.5	125	1.0	5.5	236

## HEAVY DUTY DIAGONAL CUTTERS

- Semi-circular, Swedish style head
- Low wear lap joint, riveted and able to withstand high loads



Part No.	mm	inches	○	○	○
Z120 14005	140	5 1/2	4.0	2.5	1.8
Z120 16005	160	6 1/2	4.0	2.8	2.0
Z120 18005	180	7	4.0	3.0	2.5
Z120 20005	200	8	4.2	3.0	2.5

## SNIPE NOSE PLIERS

- Straight head shape
- Extra long cutting edge for flat and round cables



Part No.	mm	inches	○	○
Z050 16005	160	6 1/2	2.5	1.6
Z050 20005	200	8	2.8	1.8

## BENT SNIPE NOSE PLIERS

- Angled head, approx. 40°
- Extra long cutting edge for flat and round cables



Part No.	mm	inches	○	○
Z051 16005	160	6 1/2	2.5	1.6
Z051 20005	200	8	2.8	1.8

### Details of cutting results of cutting pliers.

Symbol	Types of wire	Example	Tensile strength ca. N/mm <sup>2</sup>
○	Soft wire	Copper, aluminium	220 - 250
◐	Medium hard wire	Iron nail	750 - 800
◑	Hard wire	Spring wire, steel nails	1.600 - 1.800
●	Piano wire	Hardened spring steel	2.200 - 2.300

Test wires standardised in DIN ISO 5744



## FLAT NOSE PLIERS

- Extra long head
- Gripping surfaces serrated and inductively hardened



Part No.	mm	inches
Z070 16005	160	6 1/2

## ROUND NOSE PLIERS

- Extra long head
- Gripping surfaces serrated and inductively hardened



Part No.	mm	inches
Z090 16005	160	6 1/2

## WIRE STRIPPER

- Precision cutting edge prism for even cutting of cable insulation
- An easy to use adjusting screw allows the stripping diameter to be set



Part No.	mm	inches
Z550 16005	160	6 1/2

## MULTIGRIPS – BOX JOINT

- Narrow head, appropriate for work in small spaces
- Precision adjustment joint providing optimum adaptation to object to be gripped



Part No.	mm	inches	Style
Z210 25005	250	10	Box Joint
Z220 25005	250	10	Push Button

## MULTIGRIPS – QUICK FIX

- Narrow head, appropriate for work in small spaces
- Automatic precision adjustment joint providing optimum adaptation to object to be gripped



Part No.	mm	inches	Style
Z230 25005	250	10	Quick Fix

## CIRCLIP PLIERS, INTERNAL/STRAIGHT

- Straight shape head
- Drop forged, cylindrical precision tips



Part No.	mm	inches	⌚
Z330 J00	140	5	8-13
Z330 J10	140	5	12-25
Z330 J20	180	7	19-60

## CIRCLIP PLIERS, INTERNAL/BENT

- Head shape D: 90° angle shape
- Drop forged, cylindrical precision tips



Part No.	mm	inches	⌚
Z331 J01	140	5	8-13
Z331 J11	140	5	12-25
Z331 J21	180	7	19-60

## CIRCLIP PLIERS, EXTERNAL/STRAIGHT

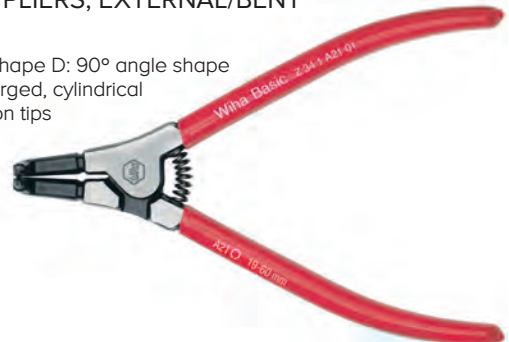
- Straight shape head
- Drop forged, cylindrical precision tips



Part No.	mm	inches	⌚
Z340 A00	140	5	3-10
Z340 A10	140	5	10-25
Z340 A20	180	7	19-60

## CIRCLIP PLIERS, EXTERNAL/BENT

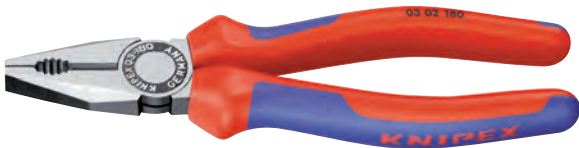
- Head shape D: 90° angle shape
- Drop forged, cylindrical precision tips



Part No.	mm	inches	⌚
Z341 A01	140	5	3-10
Z341 A11	140	5	10-25
Z341 A21	180	7	19-60

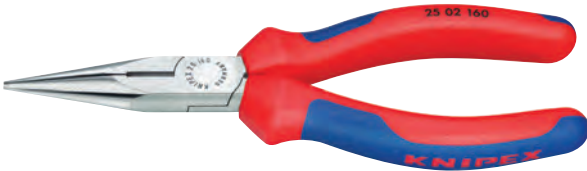
# Knipex Pliers

## COMBINATION PLIERS



Part No.	mm	○	○
03 02 160	160	3.1	2.0
03 02 180	180	3.4	2.2
03 02 200	200	3.8	2.5

## LONG NOSE PLIERS



Part No.	mm	○	○
25 02 140	140	2.5	1.6
25 02 160	160	2.5	1.6
26 12 200	200	3.2	2.2

## SIDE CUTTERS



Part No.	mm	○	○	○	○
70 02 125	125	3.0	2.3	1.5	–
70 02 140	140	4.0	2.5	1.8	–
70 02 160	160	4.0	2.8	2.0	–
70 02 180	180	4.0	3.0	2.5	–
74 02 200	200	–	4.2	3.0	2.5

## MULTIGRIPS



Part No.	mm	Grip Range
88 02 250	250	6-36mm

## PARALLEL WRENCH



Part No.	mm	Grip Range
86 03 180	180	0-35mm
86 03 250	250	0-46mm

## PRECISION ELECTRONIC CUTTERS

Knipex premium electronics cutters made of ball bearing steel precisely machined with locking screw in lap joint



Part No.	mm	○	○	○
79 02 125	125	1.5	0.8	0.5

## PRECISION ELECTRONIC CUTTERS

Knipex premium electronics cutters made of ball bearing steel precisely machined with locking screw in lap joint



Part No.	mm	○	○	○
79 32 125	125	1.3	0.7	0.4

## PRECISION ELECTRONIC SNIPE NOSE PLIERS

Knipex premium electronics cutters made of ball bearing steel precisely machined with locking screw in lap joint



Part No.	mm	Description
34 22 130	130	Electronic Snipe Nose Plier

○	Soft wire	Copper, aluminium	220 - 250
○	Medium hard wire	Iron nail	750 - 800
●	Hard wire	Spring wire, steel nails	1.600 - 1.800
●	Piano wire	Hardened spring steel	2.200 - 2.300

Test wires standardised in DIN ISO 5744.

# Lindstrom Cutters & Pliers

For many people, the brand name Lindstrom (established in 1856) represents the standard by which advanced electronic cutters are judged. When developments in the electronics industry took off at the end of the 1970s, Lindstrom already had a more than 100 year long history to fall back on. In Silicone Valley, where the world's leading electronic industries gathered, Lindstrom developments included the famous 80 series of classic, yellow electronic cutters.

## 800 SERIES CUTTERS



Part No.	Description	Capacity	Bevel/Jaw	OAL
8140	Diagonal Cutter	1.25	Micro	110mm
8141	Diagonal Cutter	1.25	Flush	110mm
8150	Diagonal Cutter	1.6	Micro	112mm
8151	Diagonal Cutter	1.6	Flush	112mm
8160	Diagonal Cutter	2.0	Micro	125mm
8161	Diagonal Cutter	2.0	Flush	125mm
8163	Diagonal Cutter	2.0	Micro	125mm
8247	Oblique Cutter	1.0	Flush	118mm

## RX SERIES PLIER



Part No.	Style	Capacity	Bevel/Jaw	OAL
RX 7890	Snipe Nose Plier	–	Smooth	158mm
RX 7891	Snipe Nose Plier	–	Serrated	158mm
RX 8140	Diagonal Cutter	1.25	Micro	110mm
RX 8141	Diagonal Cutter	1.25	Flush	110mm
RX 8142	Diagonal Cutter	1.0	Ultra Ultra	110mm
RX 8148	Diagonal Cutter	0.8	Ultra Flush	110mm
RX 8150	Diagonal Cutter	1.6	Micro	112mm
RX 8151	Diagonal Cutter	1.6	Flush	112mm
RX 01	5 Spare Springs	–	–	–

# Tsunoda Cutters & Pliers

Precision Japanese made pliers offering incredible performance at a really affordable level. Made of top grade steel. Comfortable small handles. Suits high volume production level work. Fitted with leaf springs.



## SIDE CUTTER

- Micro bevel jaw
- Offering almost flush cut
- Perfect high volume cutter



Part No.	Description	Capacity	OAL
TM 01	Side Cutter	1.2mm	119mm

## LONG NOSE PLIER

- With serrated jaws and cutter
- Ideal for production work



Part No.	Description	Capacity	OAL
TM 03	Long Nose Plier	1.2mm	136mm

## OBLIQUE TIP CUTTER

- Micro bevel jaw
- Ideal for snipping IC legs



Part No.	Description	Capacity	OAL
TM 10	Oblique Tip Cutter	1.2mm	122mm

## LONG NOSE PLIER

- With serrated jaws and cutter
- Ideal toolkit plier



Part No.	Description	Capacity	OAL
TM 04	Long Nose Plier	1.2mm	154mm

# Wiha Professional ESD Cutters

## Precision for electronic professionals

- Drop forged from the best selected, suitable carbon steels for the best technical properties
- Cutting edges are additionally induction hardened up to 64 HRC for maximum service life and cutting results
- Finely mirror polished heads provide safety as there are no flaking chrome particles preventing damage to electronic components
- Precision Box Joint: Close fit prevents distortion, low-wear for clearance and jolt-free movement
- Dual leaf springs and extremely ergonomic multi-component handle provide for comfortable, controlled and sensitive work
- Surface resistance of 106-109 Ohms is appropriate for electronic work in ESD-controlled areas as defined in DIN EN 61340-5-1 / DIN EN 61340-5-2 standards

**Safety Notice:**  
Non-insulated,  
therefore not  
suitable for  
working on live  
parts.

Low glare mirror  
polished finish

Double leaf spring  
for sensitive working

Anti-static, ergonomically  
designed multi-component  
handle appropriate for  
ESD works

Durable precision  
box joint



### SIDE CUTTER MINI, POINTED SHAPE

- Narrow, pointed head
- Cutting edge with semi-flush cutting, individually tested



Part No.	mm	inches	Wire Size	Wire Size	Wire Size
Z401-11504	115	4 1/2	1.0	0.6	0.3

### SIDE CUTTER MINI RELIEVED, POINTED SHAPE

- Extra narrow, short head for working in particularly restricted spaces
- Cutting edge almost without bevel for virtually flush cutting



Part No.	mm	inches	Wire Size
Z404-11504	115	4 1/2	1.0

### FULL-FLUSH CUTTER

- Wide, pointed head
- Cutting edge without bevel for absolute flush cutting



Part No.	mm	inches	Wire Size
Z413-11504	115	4 1/2	1.0

### SIDE CUTTER WITH SAFETY WIRE CATCHER

- Wide, pointed head
- With safety wire catcher



Part No.	mm	inches	Wire Size
Z414-11504	115	4 1/2	1.2

If you did not  
find what you  
were looking for,  
please call our  
sales team!

#### Details of cutting results of cutting pliers.

Symbol	Types of wire	Example	Tensile strength ca. N/mm <sup>2</sup>
○	Soft wire	Copper, aluminium	220 - 250
◐	Medium hard wire	Iron nail	750 - 800
◑	Hard wire	Spring wire, steel nails	1.600 - 1.800
●	Piano wire	Hardened spring steel	2.200 - 2.300

Test wires standardised in DIN ISO 5744

### OVAL SHAPE SIDE CUTTER

- Wide, semi-circular head
- Bevelled cutting edges, even appropriate for thin, hard wires



Part No.	mm	inches	⊙	○	⦶
Z441-11504	115	4 1/2	1.4	1.0	0.4

### OBLIQUE END CUTTER – WIDE

- Wide head, angled at 29°
- Cutting edge with full flush cutter function for virtually flush cutting



Part No.	mm	inches	⊙
Z461-11504	115	4 1/2	1.2

### OBLIQUE END CUTTER – FLUSH

- Cutting edge with full flush cutter function for virtually flush cutting
- Extra small head
- Cutting edges at 40°



Part No.	mm	inches	⊙
Z464-11004	110	4 3/8	0.6

### OBLIQUE END CUTTERS – NARROW

- Extra narrow, slim shape
- Cutting edge for virtually flush cutting



Part No.	mm	inches	⊙
Z471-11004	110	4 3/8	0.6

### SNIPE NOSE PLIERS

- Straight head
- Fine semi-circular tips
- Model Z362-120LJ with lap joint (NWS)



Part No.	mm	A	B	D	F	Jaws
Z360-12004	120	9.5	23	6.5	1.4	Serrated
Z362-120LJ	120	9.5	23	6.5	1.4	Smooth
Z360-14504	145	12.0	40	7.5	2.0	Serrated

### BENT NOSE PLIERS

- Angled at 45°
- Fine, semi-circular tips



Part No.	mm	inches	Jaws
Z361-12004	120	4 3/4	Serrated

### FLAT NOSE PLIERS

- Flat, short jaws
- Smooth gripping surfaces



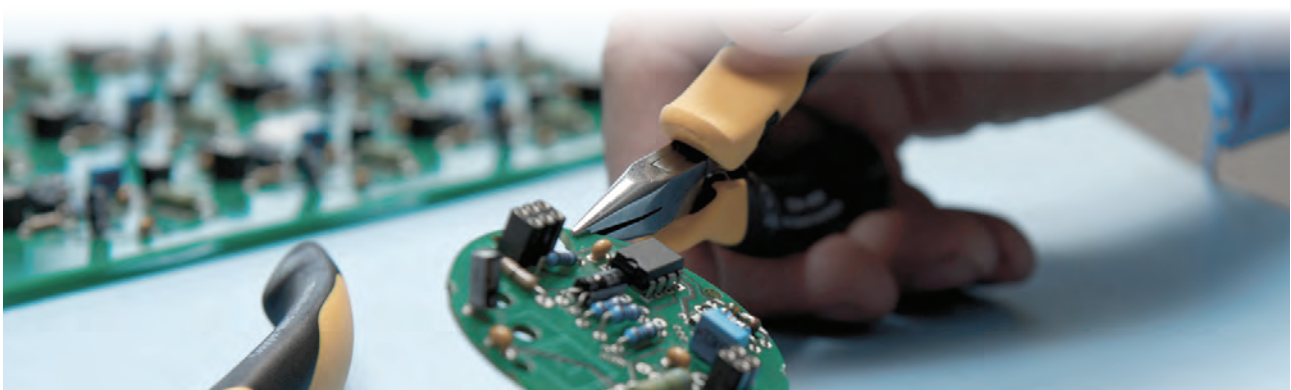
Part No.	mm	inches	Jaws
Z380-12004	120	4 3/4	Serrated

### ROUND NOSE PLIERS

- Round, short jaws
- Smooth gripping surfaces



Part No.	mm	inches
Z370-12004	120	4 3/4



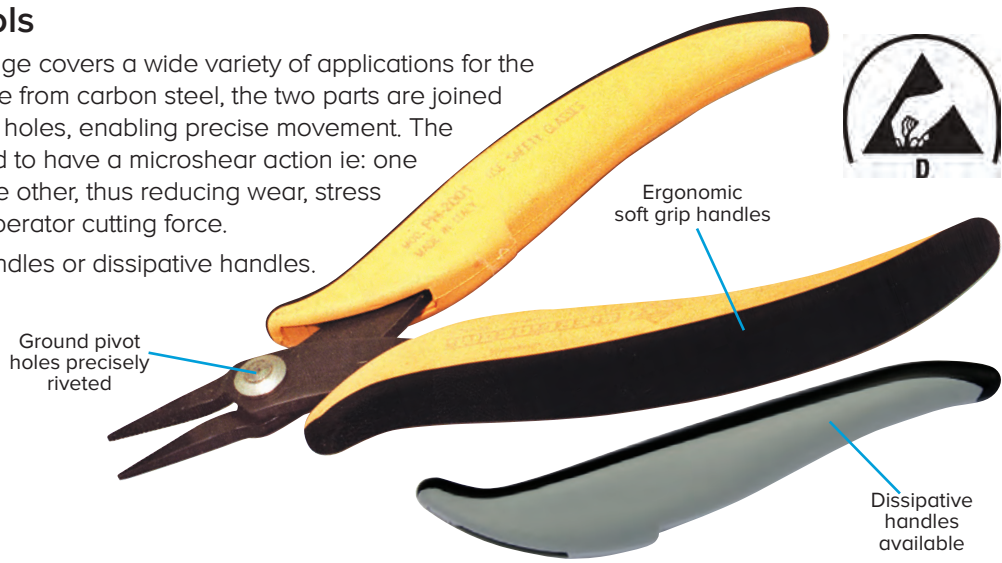
# Piergiacomini Pliers & Cutters

## Quality Hand Tools

The Piergiacomini plier range covers a wide variety of applications for the electronics industry. Made from carbon steel, the two parts are joined by carefully ground pivot holes, enabling precise movement. The side cutters are designed to have a microshear action ie: one jaw passes just below the other, thus reducing wear, stress to the component and operator cutting force.

Available in standard handles or dissipative handles.

For dissipative handles add 'D' to the end of the part number, eg. PN 2001D



### FINE LONG NOSE PLIERS – SHORT SERIES

With smooth or serrated jaw and square external edges

Part No.	Description	OAL
PN 2001	Snipe Nose Pliers, serrated	146mm
PN 2002	Snipe Nose Pliers, smooth	146mm

### HEAVY DUTY LONG NOSE PLIERS – SHORT SERIES

With smooth or serrated jaws

Part No.	Description	OAL
PN 5001	HD Snipe Nose Pliers, serrated	146mm
PN 5002	HD Snipe Nose Pliers, smooth	146mm

### FINE LONG NOSE PLIERS – LONG SERIES

With smooth or serrated jaw and rounded external edges

Part No.	Description	OAL
PN 2015	Snipe Nose Pliers, serrated	160mm
PN 2016	Snipe Nose Pliers, smooth	160mm
PN 2017	Flat Nose Pliers, serrated	160mm
PN 2018	Flat Nose Pliers, smooth	160mm

### HEAVY DUTY LONG NOSE PLIERS – LONG SERIES

With smooth or serrated jaws

Part No.	Description	OAL
PN 5005	HD Snipe Nose Pliers, serrated	154mm
PN 5006	HD Snipe Nose Pliers, smooth	154mm

### FINE LONG NOSE PLIERS – LONG SERIES

With smooth or serrated jaws and square external edges for added strength

Part No.	Description	OAL
PN 2005	Snipe Nose Pliers, serrated	160mm
PN 2006	Snipe Nose Pliers, smooth	160mm

### ROUND NOSE PLIERS

With smooth jaws

Part No.	Description	OAL
PN 5025	Round Nose Pliers	154mm

HAND TOOLS

### SIDE CUTTERS, 2MM JAW

- Very fine side cutters
- For delicate work, flush cutting



Part No.	Description	Capacity	OAL
TR 20SM	Fine Cutter	0.8mm	136mm
TR 25P	Fine Cutter	1.0mm	136mm

### SIDE CUTTERS, 2MM JAW – ANGLED

- Very fine angled side cutter
- For delicate work, flush cutting



Part No.	Description	Capacity	OAL
TR 2050M	Fine Angle Cutter	0.64mm	134mm

### SIDE CUTTERS, 2.5MM JAW

- Side cutters for general use
- Flush cutting with minimal shock to component leg



Part No.	Description	Capacity	OAL
TRE 03NB	Cutter, lowcost	1.3mm	138mm
TR 25	Cutter, premium	1.3mm	138mm
TR 25A	Cutter, with Safety Clip	1.3mm	138mm
TR 25L	Cutter, long handle	1.3mm	160mm

### SIDE CUTTERS, 3MM JAW

- Side cutters for production use
- Flush cutting with minimal shock to component leg



Part No.	Description	Capacity	OAL
TR 30	Cutter, flush	1.3mm	138mm
TR 30A	Cutter, with safety clip	1.3mm	138mm
TR 3058	Cutter, bevelled	1.6mm	138mm

### SIDE CUTTERS, 3MM JAW – REVERSE

Angled for easy snipping of IC legs



Part No.	Description	Capacity	OAL
TR 30T	Reverse Cutter	1.0mm	137mm

### SIDE CUTTERS, 3MM JAW – OBLIQUE

- Oblique top cutter
- 30° angle



Part No.	Description	Capacity	OAL
TR 30V	Oblique Side Cutter	1.0mm	144mm

### SIDE CUTTERS, 3MM JAW – COMPONENT LEAD

- For cutting component legs to a specific height above the PCB
- TR3010 shown with dissipative handles



Part No.	Description	Capacity	OAL
TR 3010	Side Cutter, 1mm Crop	1.0mm	138mm
TR 3015	Side Cutter, 1.5mm Crop	1.0mm	138mm

### SIDE CUTTERS, 3MM JAW – LARGE

- With higher cutting capacity
- Oval shape



Part No.	Description	Capacity	OAL
TRR 58G	HD Cutter, flush	2.0mm	155mm
TRR 58	HD Cutter, bevelled	2.6mm	155mm

### SIDE CUTTERS, 5MM JAW

- General purpose side cutter
- Even for toolkit applications or heavy duty PCB work
- Pointed shape



Part No.	Description	Capacity	OAL
TR 5000R	Cutter, Heavy Duty	2.0mm	140mm

### PNEUMATIC SIDE CUTTERS

- For rapid leg cropping
- Reduces hand fatigue



Part No.	Description	Capacity
TPP TR6000R	Flush Cutter	1.6mm
TPP TR6000	Bevelled Cutter	1.6mm

### SPECIAL FORMING PLIERS – CUT AND BEND

- End cutting cutter suitable for densely populated PCBs
- Cuts and bends legs to 30° and 2.0mm long



Part No.	Description	Capacity	OAL
TR 5000/15	Cut and Bend Plier	1.0mm	147mm

### SPECIAL FORMING PLIERS – CUT AND SQUEEZE

Cuts and squeezes component legs to 1.0mm above PCB level



Part No.	Description	Capacity	OAL
TS 30	Cut and Squeeze Plier	1.0mm	138mm

### SPECIAL FORMING PLIERS – CUT AND FORM – C

Forms the component wire in a C shape and cuts off the residual part



Part No.	Description	Capacity	OAL
PTR 30C	Cut and Form Plier (C)	1.0mm	150mm

### SPECIAL FORMING PLIERS – CUT AND FORM – L

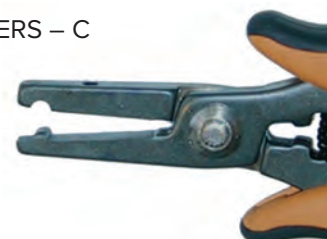
Forms the component wire in a L shape and cuts off the residual part



Part No.	Description	Capacity	OAL
PTR 30L	Cut and Form Plier (L)	1.0mm	150mm

### SPECIAL FORMING PLIERS – C

Forms the component wire in a C shape



Part No.	Description	Capacity	OAL
PNG 5000	Forming Plier (C)	1.0mm	150mm

### SPECIAL FORMING PLIERS – IC LEG

Preforming and cutting of IC legs in one operation



Part No.	Description	Capacity	OAL
PNI 5000	Forming Plier (IC Leg)	0.8mm	150mm

### SPECIAL FORMING PLIERS – T0220

Forming of T0220 package to provide an offset to centre leg



Part No.	Description	Pitch	OAL
PN 5050	Forming Plier (T0220)	3.81	155mm
PN 5050/14	Forming Plier (T0220)	3.0	155mm
PN 5050/15	Forming Plier (T0220)	2.5	155mm

### SPECIAL FORMING PLIERS – U

- Forming into U shape of axial components
- 1mm capacity



Part No.	Description	Pitch A	OAL
PPR 5001	Forming Plier (U)	10.16	150mm
PPR 5002	Forming Plier (U)	12.70	150mm
PPR 5003	Forming Plier (U)	15.24	150mm

### LEAD BENDING TOOL

- For axial components
- Pitch adjustment from 10.0-47.0mm



Part No.	Description
PR 2	Lead Bending Tool

### HAND DEPANNELLING TOOL

- Hand cutting tool for cutting of PCBs
- Maximum length of isthmus is 2.5mm



Part No.	Description	Capacity
DP 20N	Hand Depanelling Tool	2.0mm
DP 23N	Hand Depanelling Tool	2.3mm

### PNEUMATIC DEPANNELLING TOOL

For quick depanelling



Part No.	Description	Capacity
DPP 20N	Pneumatic Depanelling Tool	2.0mm
DPP 23N	Pneumatic Depanelling Tool	3.0mm



# Service Aids

## DENTAL PROBES

Hex handled, stainless steel dental probes, Desco brand



Part No.	Description
51007	Straight Probe
51008	Hooked Probe
51009	Angled Probe
51010	Curved Probe
51011	Dental Probe 4 Piece Set

## DENTAL PROBES

Economical, hex handled, stainless steel dental probes



Part No.	Description
51007-E	Straight Probe
51008-E	Hooked Probe
51009-E	Angled Probe
51010-E	Curved Probe
51011-E	Dental Probe 4 Piece Set

## SPRING HOOK – PREMIUM QUALITY

Made in Germany



Part No.	Description	OAL
2-132	Spring Hook, Germany	183mm

## SPRING HOOK



Part No.	Description	OAL
LPSH01	Spring Hook	208mm

## SPRING HOOK – SLOT END



Part No.	Description	OAL
LPSH02	Spring Hook	209mm

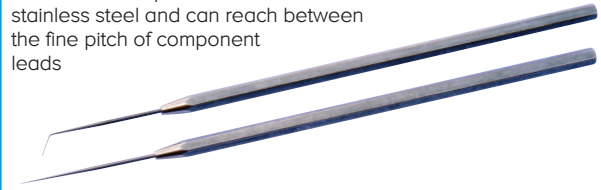
## SPRING HOOK – CAPTIVE



Part No.	Description	OAL
759-145	Spring Hook, captive	178mm

## MILPROBE

Beautech 10 milprobes are made of a hardened stainless steel and can reach between the fine pitch of component leads



Part No.	Description	OAL
CE 130-620	Straight Milprobe	142mm
CE 130-619	Angled Milprobe	142mm
CE 170-147	Milprobe 2 Piece Set	–

## SPUDGER TOOL

Features pointed tip for holding components whilst soldering, flat end for spudging leads and notch to assist in hooking wires.

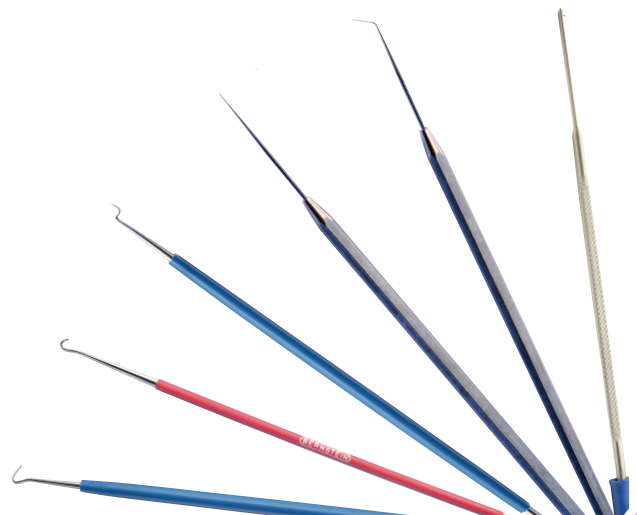


Part No.	Description	OAL
CE 151-168	Spudger Tool	150mm

## PLCC EXTRACTOR TOOL



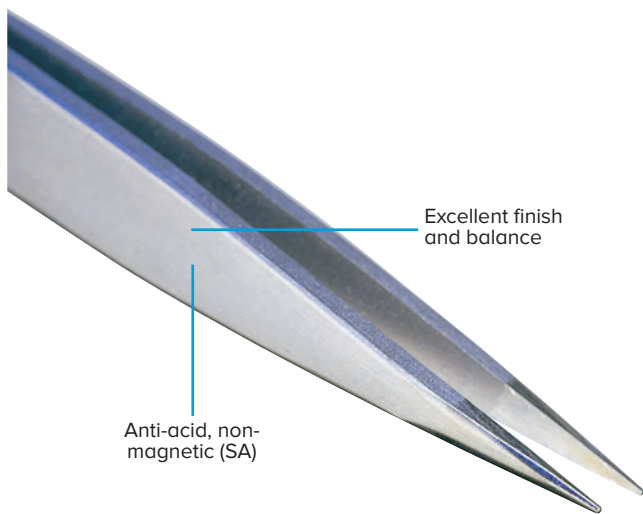
Part No.	Description	OAL
HT 103B	PLCC Extractor	100mm



# Piergiacomini Tweezers

## Premium Quality, Italian Brand

Piergiacomini tweezers are not to be confused with inferior quality tweezers. This Italian range of tweezers have strong points, excellent finish and offer optimum value for money.



### GENERAL TWEEZERS



Flat large tips for general use.  
OAL 125mm

Part No.	Description
PSF	Large flat Tips



Flat strong tips for general use.  
OAL 115mm

Part No.	Description
00SA	Strong flat Tips



Same as 00SA version but shorter.  
OAL 105mm

Part No.	Description
00CSA	Strong flat Tips



Fine serrated tips for general use.  
OAL 120mm

Part No.	Description
231SA	Serrated Tips



Strong gripping action. Popular production-level choice.  
OAL 125mm

Part No.	Description
AASA	Gripping Tips



Fine tweezers with medium handles.  
OAL 120mm

Part No.	Description
2SA	Fine Tips



Rounded flat tips for general purpose use.  
OAL 120mm


Part No.	Description
2ASA	Rounded flat Tips



Rounded tips like 2ASA version but curved tips.  
OAL 115mm


Part No.	Description
2ABSA	Curved, rounded flat Tips

### SURFACE MOUNT TWEEZERS



Curved tips with square flat tips for SMD handling.  
OAL 120mm

Part No.	Description
SMD 109SA	SMD curved, square Tips



SMD handling tweezers with curved tips.  
OAL 120mm

Part No.	Description
SMD 105SA	SMD curved Tips



Vertical SMD handling.  
OAL 120mm

Part No.	Description
SMD 104SA	SMD vertical Tips



Reverse action SMD handling tweezers with angled grips.  
OAL 120mm

Part No.	Description
SMD 102RSA	Reverse SMD Tips



SMD handling tweezers angled grip.  
OAL 120mm

Part No.	Description
SMD 111SA	SMD angled Tips



Fine tips for microelectronic use.  
OAL 120mm

Part No.	Description
3SA	Microelectronic use




Long, thin tweezers with very fine straight tips.  
OAL 135mm

Part No.	Description
SSSA	Very fine, thin handles



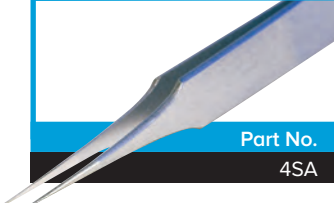
Same as 3SA version but shorter.  
OAL 110mm

Part No.	Description
3CSA	Microelectronic use



General purpose strong stainless steel tweezers with serrated tip and guide pin.  
Henchman brand OAL 145mm

Part No.	Description
1425	Serrated Tips




Tweezers with very fine and sharp tips.  
OAL 110mm

Part No.	Description
4SA	Fine sharp Tips



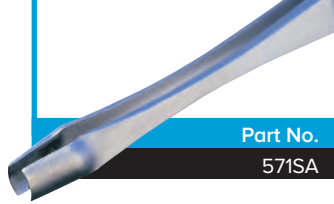
Same as 1425 tweezers above but with bent tips.  
OAL 145mm  
Henchman brand

Part No.	Description
1449	Fine sharp Tips



Curved fine tips for easier grip in high density areas.  
OAL 110mm

Part No.	Description
7ASA	Curved fine Tips



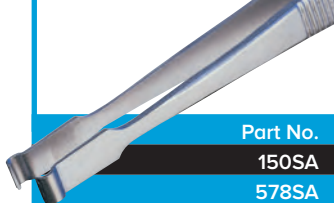
Vertical handling of cylindrical components.  
OAL 120mm

Part No.	Description
571SA	Vertical cylindrical Tips



Cutting tweezers, carbon version.  
OAL 115mm

Part No.	Description
15A	Cutting Tweezer




Axial component gripping tweezers.  
OAL 120mm  
572SA: OAL 145mm

Part No.	Description
150SA	1.5mm axial Tips
578SA	2mm axial Tips
572SA	2.5-5mm axial Tips



Tweezers with reverse action, ideal for soldering operations.  
OAL 150mm

Part No.	Description
33SA	Reverse Action



Tweezers for wafer handling.  
OAL 125mm

Part No.	Description
3DSA	Wafer, three Teeth
4DSA	Wafer, four Teeth
5DSA	Wafer, five Teeth
6DSA	Wafer, six Teeth



Tip with 1.0mm OD hole for handling of wires or cylindrical components.  
OAL 110mm

Part No.	Description
38SA	Cylindrical Tips



Long thin tweezers with very fine bent tips for gripping of microchips.  
OAL 135mm

Part No.	Description
65ASA	Very fine bent Tips

### HEMOSTATS/FORCEPS

Straight version, locking hemostats made of stainless steel



Part No.	Description	OAL
AI 11.000.160	Forceps	160mm

# Astro Crimping Technology

## ASTRO STANDARD STEP ADJUSTABLE CRIMP TOOL 615708 (M22520/1-01)

- 8 indent Crimp
- Dial selectable
- Uses turret and single position heads
- Cycle controlled Ratchet

The Astro 615708 is qualified to MIL-DTL-22520/1. This dial selectable 8-step tool has extensive applications within the wire barrel sizes 12-22 and wire sizes 12-26 AWG. This tool produces an eight indent crimp configuration which provides maximum tensile strength for both MS and proprietary contacts when used with wire of various compositions.

The beauty of this tool is in the ease of its use. The operator simply has to attach the appropriate turret head, or universal positioner, to the tool and then set the selector to the desired step for the wire being used. The ratchet is designed to ensure a complete cycle of the tool. A complete and accurate crimp is obtained each and every time, with no partial crimps.

The 615708 tool is designed to be used with a turret head, a positioner or a universal head. These heads are easily attached with the use of built in hex socket screws. A data plate is permanently attached to each head. The data plate lists the contacts, for which the head was designed, along with selector settings that correspond to the wire being used.

Astro recommends that all of its tools be gaged periodically, to assure accurate calibration. A gage 615716 (M22520/3-1) is available for this purpose.

The 615708 tool is 9¼ inches long and weighs approximately 20 ounces.

The 615708 is available in a pneumatic version, P/N APC708,

An adjustable positioner is available, P/N 615712 and 615712-1.

A wide variety of Turret Heads and Positioners are available, in addition to those listed. Please contact factory for additional information.

Turret and Positioner Selection Charts for MIL-C-39029/AS39029 Contacts on page 109.



Part No.	Mill-Spec No.	DMC Ref	USAGE/DESCRIPTION	NSN
615716	M22520/3-1	G125	Gage for M22520/1-01; /2-01	5220-00-165-7604
615708	M22520/1-01	AF8	Tool Frame	5120-00-165-3912
615709	M22520/1-02	TH1A	Turret	5120-00-016-6382
615710	M22520/1-03	TH4	Turret	5120-00-016-6554
615711	M22520/1-04	TH163	Turret	5120-00-016-7582
615712	M22520/1-05	UH2-5	Universal Positioner	5120-00-165-3911
615713	M22520/1-06	TP45	Positioner	5120-00-016-7647
615714	M22520/1-07	TP85	Positioner	5120-00-016-7651
615715	M22520/1-08	TH199	Turret	5120-00-016-7654
615821	M22520/1-09	TP360	Positioner	5120-00-132-5039
615822	M22520/1-10	TP365	Positioner	5120-00-132-5095
616406	M22520/1-11	TP465	Positioner	5120-01-127-5231
616407	M22520/1-12	TH270	Turret	5120-01-036-9220
616408	M22520/1-13	TH285	Turret	5120-01-036-9221
616409	M22520/1-14	TH286	Turret	5120-01-036-9222
616410	M22520/1-15	TP485	Positioner	5120-01-036-9223
620172	M22520/1-16	TP513	Positioner	5120-01-075-8138
620537	M22520/1-17	TP651	Positioner	-

DMC Tooling® -owned by Daniels Manufacturing Corporation

## MINIATURE STEP ADJUSTABLE CRIMP TOOL 615717 (M22520/2-01)

- 8 indent Crimp
- Dial selectable
- Uses bayonet positioners
- Cycle controlled Ratchet

The MIL-DTL-22520/2 qualified Astro 615717 miniature 8-step adjustable hand crimping tool's 8-indent crimp configuration provides excellent results on contacts sizes 20-28 and wire sizes 20-32 AWG.

A wide variety of MS and proprietary contacts and wire compositions can be crimped by simply attaching a positioner in the bayonet-type socket and adjusting the selector to one of the eight preselected settings. The tool is equipped with a positive ratchet that requires the completion of the crimp cycle to ensure the integrity of each crimp.

Astro offers a wide variety of positioners to accommodate various mil-spec and proprietary contacts. Each positioner has a data plate which provides the correct crimp depth setting for the contact and wire combination. Astro also offers two adjustable positioners (615179 & 615179-1) that allow you to adjust the crimp location according to your specific needs.

Astro recommends the periodic gaging of all its tools. A gage (615716, M22520/3-1) is available for this purpose.

The 615717 is 7-1/2 inches long and weighs 11 ounces. The 615717 is available in a pneumatic version, P/N 621100, on page 26.

For ultra precise crimps on miniature and subminiature contacts with very thin wire barrel dimensions, Astro offers the 620613, built from the same tool frame as the 615717 (M22520/2-01) and utilizes the same positioners.



Part No.	Mill-Spec No.	DMC Ref	USAGE/DESCRIPTION	NSN
615717	M22520/2-01	AFM8	Tool Frame	5120-00-165-3910
615718	M22520/2-02	K1S	Positioner	5120-00-165-3913
615719	M22520/2-03	K60S	Positioner	5120-00-016-7657
615720	M22520/2-04	K151	Positioner	5120-00-017-3640
615721	M22520/2-05	K3	Positioner	5120-00-017-3742
615722	M22520/2-06	K41	Positioner	5120-00-017-3809
615723	M22520/2-07	K40	Positioner	5120-00-017-3827
615724	M22520/2-08	K13-1	Positioner	5120-00-017-3921
615725	M22520/2-09	K42	Positioner	5120-00-017-3927
615726	M22520/2-10	K43	Positioner	5120-00-017-3932
615727	M22520/2-11	K287	Positioner	5120-00-017-3934
615729	M22520/2-12	K286	Positioner	5120-00-017-3935
616031	M22520/2-13	K338	Positioner	5120-00-132-6939
616032	M22520/2-14	K340	Positioner	5120-00-132-6962
616033	M22520/2-15	K341	Positioner	5120-00-132-6978
616034	M22520/2-16	K339	Positioner	5120-00-132-7868
616035	M22520/2-17	K342	Positioner	5120-00-132-7893
616036	M22520/2-18	K343	Positioner	5120-00-132-7894
616037	M22520/2-19	K330-2	Positioner	5120-00-132-7872
616038	M22520/2-20	K331-2	Positioner	5120-00-132-9004
616039	M22520/2-21	K332-2	Positioner	5120-00-133-0029
615448	M22520/2-22	K212	Positioner	5120-01-106-3737
616191	M22520/2-23	K267	Positioner	5120-01-117-3905
616260	M22520/2-24	K7S-1	Positioner	5120-00-348-7531
616411	M22520/2-25	K261-1	Positioner	5120-00-132-6932
616412	M22520/2-26	K262-1	Positioner	5120-00-133-3263
616413	M22520/2-27	K269-1	Positioner	-
616414	M22520/2-28	K373-1	Positioner	5120-00-124-3678
616415	M22520/2-29	K372-1	Positioner	5120-00-124-3682
616416	M22520/2-30	K404	Positioner	5120-01-117-3905
616417	M22520/2-31	K406	Positioner	-
620261	M22520/2-32	K496	Positioner	-
615257	M22520/2-33	K47S	Positioner	-
620499	M22520/2-34	K323	Positioner	-
620517	M22520/2-35	K532-1	Positioner	-
616429	M22520/2-36	K475	Positioner	-

## INTERMEDIATE STEP ADJUSTABLE TOOL 616336 (M22520/7-01)

- 8 indent Crimp
- Dial selectable
- Cycle controlled Ratchet
- Lightweight and easy to use
- Uses bayonet positioners

The Astro 616336 is qualified to MIL-DTL-22520/7.

This tool is an 8-Step Selectable with varying applications within the wire barrel sizes 16-22 and wire sizes 16-28 AWG.

The 616336 produces an 8 indent crimp configuration, which provides excellent results on MS and proprietary contacts and wire of various compositions.

The 616336 tool is designed to be used with a positioner that features easy attachment with a bayonet socket mount.

A data plate is permanently attached to each positioner. This data plate provides the correct selector setting to be used for each contact and wire combinations. This helps to eliminate error in choosing the proper crimp depth.

Astro recommends that all of its tools be gaged periodically to assure accurate calibration. A gage 616337 (M22520/3-3) is available for this purpose.

The 616336 tool is 7 1/4 inches long and weighs approximately 11 ounces.

The 616336 is available in a pneumatic version, P/N 621101.

An adjustable positioner is available P/N 642020.

A wide variety of Positioners are available, in addition to those listed. Please contact factory for additional information.

Turret and Positioner Selection Charts for MIL-C-39029/AS39029 Contacts on page 109.



Part No.	Mill-Spec No.	DMC Ref	USAGE/DESCRIPTION	NSN
616336	M22520/7-01	-	Tool Frame	5120-00-133-1747
616327	M22520/7-02	-	Positioner	5120-00-133-1769
616328	M22520/7-03	-	Positioner	5120-00-133-1770
616329	M22520/7-04	-	Positioner	5120-00-133-1772
616330	M22520/7-05	-	Positioner	5120-00-133-1778
616331	M22520/7-06	-	Positioner	5120-00-133-1781
616332	M22520/7-07	-	Positioner	5120-00-133-1782
616333	M22520/7-08	-	Positioner	5120-00-133-1785
616334	M22520/7-09	-	Positioner	5120-00-133-1790
616335	M22520/7-10	-	Positioner	5120-00-133-1792
620083	M22520/7-11	-	Positioner	5120-01-122-1201
620084	M22520/7-12	-	Positioner	5120-01-112-2925
620085	M22520/7-13	-	Positioner	5120-01-110-4472
616337	M22520/3-3	G145	Gage for M22520/7-01	5220-00-338-0378

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## TURRET AND POSITIONER SELECTION CHARTS FOR MIL-C-39029 / AS39029 CONTACTS

For M22520/1-01, M22520/2-01, M22520/7-01 Crimp Tools

### Contacts for Connector Families: MIL-C-5015 (MS 3450 Series/rear-release Type) and MIL-C-83723 Series II

Military Part #	BIN Code	Supersedes Military Part #	Positioner/Turret Part #	Astro Tool #	Style	Mating End Size	Wire Barrel Size	Type/Class
M39029/30-16-16	217	MS3163-16S-16 M83723-30T17	M22520/1-02	615709	SKT	16S	16	A/B
M39029/29-16-16	212	MS3162-16-16 M83723-29T16	M22520/1-02	615709	PIN	16	16	A/B
M39029/30-16-16	218	MS3163-16-16 M83723-30T16	M22520/1-02	615709	SKT	16	16	A/B
M39029/29-12-12	213	MS3162-12-12 M83723-29T12	M22520/1-02	615709	PIN	12	12	A/B
M39029/30-12-12	219	MS3163-12-12 M83723-30T12	M22520/1-02	615709	SKT	12	12	A/B

### Contacts for Connector Families: MIL-C-26482 Series II, MIL-C-81703 Series III, MIL-C-83723 Series III, MIL-C-83733

Military Part #	BIN Code	Supersedes Military Part #	Positioner/Turret Part #	Astro Tool #	Style	Mating End Size	Wire Barrel Size	Type/Class
M39029/4-20-20	110	M83723-33B20	M22520/2-02 M22520/1-02	615718 615709	PIN	20	20	A/B
M39029/5-20-20	115	M83723-34B20	M22520/2-02 M22520/1-02	615718 615709	SKT	20	20	A/B
M39029/4-16-16	111	M83723-33B16	M22520/1-02	615709	PIN	16	16	A/B
M39029/5-16-16	116	M83723-34B16	M22520/1-02	615709	SKT	16	16	A/B
M39029/4-16-20	112	–	M22520/1-02	615709	PIN	16	20	A/B
M39029/5-16-20	117	–	M22520/1-02	615709	SKT	16	20	A/B
M39029/4-12-12	113	M83723-34B12	M22520/1-02	615709	PIN	12	12	A/B
M39029/5-12-12	118	–	M22520/1-02	615709	SKT	12	16	A/B
M39029/4-12-16	111	–	M22520/1-02	615709	PIN	12	16	A/B
M39029/5-12-16	119	M83723-34B16	M22520/1-02	615709	SKT	12	16	A/B

### Contacts for Connector Family: MIL-C-26500

Military Part #	BIN Code	Supersedes Military Part #	Positioner/Turret Part #	Astro Tool #	Style	Mating End Size	Wire Barrel Size	Type/Class
M39029/31-241	241	MS24254-20P	M22520/2-02 M22520/1-02	615718 615709	PIN	20	20	A/B
M39029/32-260	260	MS24255-20S	M22520/2-02 M22520/1-02	615718 615709	SKT	20	20	A/B
M39029/31-229	229	MS24253-16P	M22520/1-02	615709	PIN	16	16	A/B
M39029/32-248	248	MS24255-16S	M22520/1-02	615709	SKT	16	16	A/B
M39029/31-235	235	MS24254-12P	M22520/1-02	615709	PIN	12	12	A/B
M39029/32-254	254	MS24255-12S	M22520/1-02	615709	SKT	12	12	A/B

## C-FRAME CRIMPING TOOLS 620175 (M22520/5-01), 620215 (M22520/10-01)

Utilizing an extensive variety of interchangeable single, double, and triple hexagonal dies these MIL-DTL-22520 qualified tools can be used to crimp a wide range of MS and proprietary coaxial and triaxial connectors and contacts. Astro also manufactures dies for many other crimping purposes. These include, but are not limited to, insulated and uninsulated terminal lugs, end caps and wire splicing. Astro can design and manufacture die sets for many other applications. The interchangeable dies facilitate a large cost savings over single purpose crimpers. Instead of buying a different tool for each application, only separate dies are needed.

The **620175** and **620215** C-frame crimping tools, like other Astro crimpers, are simple to use.

1. Select the proper die.
2. Insert it into the crimp tool (the die will be firmly held in place by the internal spring clips built into each tool).

The positive ratchet in these tools will not allow the handles to retract until the tool has been fully cycled. This eliminates incomplete or partial crimps.

The **620175** is 11 inches long and weighs 22 ounces, the **620215** is 9 inches long and weighs 11 ounces, the **620175** (5-01) tool is also available in a pneumatic version, P/N 621200.



Big selection of dies as well as blank dies and calibration gauges on offer – contact us.

### M22520/10-01 DIES

Part No.	Mill-Spec No.	NSN	A Hex.	Length	B Hex.	Length
620285	M22520/10-02	5120-00-116-3275	.091	.270	–	–
620288	M22520/10-03	5120-00-116-3283	.255	.325	–	–
620286	M22520/10-04	5120-00-116-3003	.138	.090	.118	.270
620289	M22520/10-05	5120-00-116-3276	.128	.325	.105	.325
620216	M22520/10-06	5120-00-116-4807	.160	.400	–	–
620290	M22520/10-07	5120-00-116-3278	.213	.325	.178	.325

Part No.	Mill-Spec No.	NSN	A Hex.	Length	B Hex.	Length
620560	M22520/5-02	–	.091	.090	.068	.270
620291	M22520/5-03	5120-00-133-0534	.128	.325	.105	.325
620292	M22520/5-04	5120-00-133-0537	.138	.090	.118	.270
620293	M22520/5-05	5120-00-133-0577	.213	.325	.178	.325
620294	M22520/5-06	5120-00-133-0579	.128	.094	–	–
620295	M22520/5-07	5120-00-133-0580	.255	.325	–	–
620296	M22520/5-08	5120-00-133-0581	.128	.375	–	–
620365	M22520/5-09	5120-00-133-0582	.178	.400	.068	.093
620297	M22520/5-10	5120-00-133-0583	.160	.400	–	–
620366	M22520/5-11	5120-00-133-0584	.213	.400	.068	.093
620367	M22520/5-13	5120-00-133-0585	.255	.400	.068	.093
620528	M22520/5-15	5120-00-133-0586	.263	.400	.068	.093
620298	M22520/5-17	5120-00-133-0597	.118	.375	–	–
620299	M22520/5-19	5120-00-116-3159	.255	.400	.213	.400
620300	M22520/5-21	5120-00-116-3284	.475	.400	–	–
620301	M22520/5-23	5120-00-133-0618	.384	.400	–	–
620368	M22520/5-25	5120-00-133-0622	.429	.400	.100	.120
620302	M22520/5-27	5120-00-133-0640	.532	.400	–	–
620371	M22520/5-29	5120-00-116-3285	.324	.400	.100	.120
620303	M22520/5-31	5120-00-133-0642	.501	.400	–	–
620304	M22520/5-33	5120-00-116-3158	.343	.400	.105	.400
620305	M22520/5-35	5120-00-116-3156	.324	.400	.128	.400
620306	M22520/5-37	5120-00-116-3136	.314	.400	.151	.400
620307	M22520/5-39	5120-00-116-3134	.309	.400	.160	.400
620308	M22520/5-41	5120-00-116-3135	.290	.400	.178	.400
620309	M22520/5-43	5120-00-116-3106	.268	.400	.197	.400
620310	M22520/5-45	5120-00-116-3088	.231	.400	.218	.400
620311	M22520/5-47	5120-00-133-0643	.359	.400	–	–
620312	M22520/5-49	5120-00-133-0644	.401	.400	–	–
620313	M22520/5-51	5120-00-116-3040	.431	.400	–	–
620314	M22520/5-53	5120-00-116-3160	.454	.400	–	–
620315	M22520/5-55	5120-00-133-0653	.324	.400	–	–
620369	M22520/5-57	5120-00-133-0676	.213	.400	.100	.120
620370	M22520/5-59	5120-00-133-0683	.255	.400	.100	.120
620316	M22520/5-61	5120-00-116-3004	.429	.400	–	–
620317	M22520/5-63	5120-00-133-0533	.263	.400	.091	.270
620617	M22520/5-100	5120-00-126-0860	–	Special	–	–
620618	M22520/5-101	5120-01-081-4213	–	–	–	–
630000	M22520/5-102	5120-01-081-4212	–	–	–	–
630001	M22520/5-103	5120-01-082-8985	–	–	–	–
630003	M22520/5-104	–	–	–	–	–

NOTE: Also available Die #620836 Combination of M22520/5-102 and M22520/5-103. We have listed above military dies available. This is only a partial listing of dies available from Astro. Please consult factory with your specific application requirement.



## HEAVY DUTY PNEUMATIC CRIMP TOOL AMT23B (M22520/23-01)

- 8 indent crimp configuration
- Designed with safety in mind
- Meets all MIL-DTL-22520/23 requirements
- No extra booster required for large contacts
- Interchangeable dies and locators



The AMT23B takes all the work out of crimping those large contacts. Using interchangeable dies and locators, this tool crimps contact sizes 8 through 0000. The steady, uniform crimp force, provided by the air logic function delay, crimps even the largest of these contacts without cracking them. Unlike similar tools, Astro's AMT23B crimps its full range without using a booster Adaptor.

The AMT23B is designed with operator safety in mind. The air logic function delay allows adequate time to remove fingers from the crimp area before crimping begins.

This tool is easily portable and weighs less than 19 pounds. It operates on 80-120 P.S.I. and requires a regulated, filtered and lubricated air supply for optimal function. Astro offers the 11413 air regulator for this purpose. The tool comes with a 1/2 inch diameter air coupler for convenient quick disconnect.

Part No.	Mill-Spec No.	Description
AM328	M22520/23-01	Heavy Duty Pneumatic Crimp Tool

### AMT23B (M22520/23-01) DIE & LOCATOR SELECTION CHART

#### M22520/23-01 INTERCHANGEABLE DIES AND LOCATORS

Part No.	Mill-Spec No.	Description
AMT23B	M22520/23-01	Crimp Tool
AMT23002DA	M22520/23-02	Die Assy. #8
AMT23003DA	M22520/23-03	Die Assy. #6
AMT23004DA	M22520/23-04	Die Assy. #4
AMT23005DA	M22520/23-05	Die Assy. #1/0
AMT23006DA	M22520/23-06	Die Assy. #2/0
AMT23007DA	M22520/23-07	Die Assy. #4/0
AMT23009L	M22520/23-09	Locator #8
AMT23010L	M22520/23-10	Locator #6
AMT23011L	M22520/23-11	Locator #4
AMT23012L	M22520/23-12	Locator #4,4N,4G
AMT23013L	M22520/23-13	Locator #1/0
AMT23014L	M22520/23-14	Locator #1/0,1/0N
AMT23015L	M22520/23-15	Locator #2/0,2/0N
AMT23016L	M22520/23-16	Locator #4/0,4/0N

#### DIE ASSEMBLY GAGING LIMITS

Part No.	Contact Size	Go	No Go
AMT23002DA	M22520/23-01	.130	.136
AMT23003DA	M22520/23-02	.171	.178
AMT23004DA	M22520/23-03	.195	.202
AMT23005DA	M22520/23-04	.325	.332
AMT23006DA	M22520/23-05	.351	.358
AMT23007DA	M22520/23-06	.425	.432

#### GAGES

Gage No.	Die Assembly
AMTG2302	AMT23002DA
AMTG2303	AMT23003DA
AMTG2304	AMT23004DA
AMTG2305	AMT23005DA
AMTG2306	AMT23006DA
AMTG2307	AMT23007DA

#### M22520/23-01 INTERCHANGEABLE DIES AND LOCATORS

Part No.	Contact Size	MS Contact No.		
AMT23009L	8	M39029/29-8-8	M30929/29-214	
		M39029/30-8-8	M39029/30-220	
		MS90453-8-8	M39029/44-291	
		MS90454-8-8	M39029/45-298	
AMT23010L	6	MS90559-11	M39029/48-317	
		6N	MS90559-12	M39029/48-318
		6G	MS90559-14	M39029/49-319
		6	MS90560-7	M39029/49-329
AMT23011L	4	6G	MS90560-8	M39029/49-330
		M39029/29-4-4	M39029/29-215	
		M39029/30-4-4	M39029/30-221	
		MS90453-4-4	M39029/44-292	
AMT23012L	4	MS90454-4-4	M39029/45-299	
		4	MS90559-8	M39029/48-320
		4N	MS90559-9	M39029/48-321
		4G	MS90559-13	M39029/48-322
AMT23013L	1/0	4	MS90560-5	M39029/49-331
		4G	MS90560-9	M39029/49-332
		M39029/29-0-0	M39029/29-216	
		M39029/30-0-0	M39029/30-222	
AMT23014L	1/0	MS90453-0-0	M39029/44-293	
		MS90454-0-0	M39029/45-300	
		1/0	MS90559-5	M39029/48-323
		1/0N	MS90559-6	M39029/48-324
AMT23015L	2/0	1/0	MS90560-3	M39029/49-333
		2/0	MS90559-3	M39029/48-325
		2/0N	MS90559-4	M39029/48-326
		2/0	MS90560-2	M39029/49-334
AMT23016L	4/0	4/0	MS90559-1	M39029/48-327
		4/0N	MS90559-2	M39029/48-328
		4/0	MS90560-1	M39029/49-335

## CONTACT INSTALLATION/REMOVAL TOOLING – METAL



Part No.	DMC Ref	Type	Contact Size	Colour
M81969/2-01	DAK126-23A	Insertion	22	Yel
M81969/2-02	DAK126-20A	Insertion	20	Red
M81969/2-03	DAK126-16A	Insertion	16	Blu
M81969/2-04	DAK126-12A	Insertion	12	Yel
M81969/3-01	DRK129-23A	Removal	23	Yel
M81969/3-02	DRK129-20A	Removal	20	Red
M81969/3-03	DRK129-16A	Removal	16	Blu
M81969/3-04	DRK129-12A	Removal	12	Yel
M81969/3-05	DRK125-23A	Removal	23	Yel/Blk
M81969/3-06	DRK125-20A	Removal	20	Red/Blk
M81969/3-07	DRK125-16A	Removal	16	Blu/Blk
M81969/3-08	DRK125-12A	Removal	12	Yel/Blk
M81969/8-01	DAK95-22B	Removal	22D	Grn
M81969/8-02	DRK95-22B	Removal	22M	Grn/Wht
M81969/8-03	DAK95-22B	Insertion	22	Brn
M81969/8-04	DRK95-22B	Removal	22	Brn/Wht
M81969/8-05	DAK95-20B	Insertion	20	Red
M81969/8-06	DRK95-20B	Removal	20	Red/Wht
M81969/8-07	DAK95-16B	Insertion	16	Blu
M81969/8-08	DRK95-16B	Removal	16	Blu/Wht
M81969/8-09	DAK95-12B	Insertion	12	Yel
M81969/8-10	DRK95-12B	Removal	12	Yel/Wht
M81969/8-205B	DAK83-20B	Insertion	20	Red/Blk
M81969/8-206B	DRK83-20B	Removal	20	Red/Wht/Blk
M81969/8-207	DAK83-16B	Insertion	16	Blu/Blk
M81969/8-208	DRK83-16B	Removal	16	Blu/Wht/Blk
M81969/8-209	DAK83-12B	Insertion	12	Yel/Blk
M81969/8-210	DRK83-12B	Removal	12	Yel/Wht/Blk
M81969/15-01	DRK250-8	Removal	8	–
M81969/15-02	DRK250-4	Removal	4	–
M81969/15-03	DRK250-0	Removal	1/0	–
M81969/17-01	DAK55-16A	Insertion	16	Blu
M81969/17-02	DAK55-12A	Insertion	12	Yel
M81969/17-03	DAK20B	Insertion	20	Red
M81969/17-04	DAK16B	Insertion	16	Blu
M81969/17-05	DAK12B	Insertion	12	Yel
M81969/17-06	DAK55-8B	Insertion	8	Red
M81969/17-07	DAK55-4B	Insertion	4	Blu
M81969/17-08	DAK55-0B	Insertion	0	Yel
M81969/17-09	DAK83S-20	Insertion	20	Red
M81969/18-01	DAK123A	Insertion	16/20	Grn
M81969/18-02	DAK123-22A	Insertion	22	Gold
M81969/19-01	DRK16B	Removal	16	Blu
M81969/19-02	DRK12B	Removal	12	Yel
M81969/19-03	DRK56-8B	Removal	8	Red
M81969/19-04	DRK56-4B	Removal	4	Blu
M81969/19-05	DRK56-0B	Removal	0	Yel
M81969/19-06	DRK20B	Removal	20	Yel
M81969/19-07	DRK20A	Removal	20	Red
M81969/19-08	DRK16A	Removal	16	Blu
M81969/19-09	DRK12A	Removal	12	Grn
M81969/19-10	DHK20A	Removal	20	–
M81969/19-11	DHK16A	Removal	16	–
M81969/20-01	DRK124A	Removal	16	–

MilSpec No	DMC Ref	Type	Contact Size	Colour
M81969/20-02	DRK124-22A	Removal	22	–
M81969/21-01	DHK368	Insert/Remov	16	–
M81969/22-01	DRK222	Removal	16	–
M81969/23-01	DAK1-16P-S	Insertion	16	–
M81969/23-02	DAK1-16S-S	Insertion	16	–
M81969/27-01	DRK178-1A	Removal	4/0	–
M81969/27-02	DRK178-2A	Removal	2/0	–
M81969/27-03	DRK178-3A	Removal	1/0	–
M81969/27-04	DRK178-4A	Removal	2	–
M81969/27-05	DRK178-5A	Removal	4	–
M81969/27-06	DRK178-6A	Removal	6	–
M81969/28-01	DRK310	Removal	COAX	–
M81969/28-02	DRK337	Removal	COAX	–
M81969/29-01	CIET16-9	Removal	16	Blu
M81969/30A-01	DRK130-22A	Removal	22	Yel
M81969/30A-02	DRK130-20A	Removal	20	Red
M81969/30A-03	DRK130-16A	Removal	16	Blu
M81969/30A-04	DRK130-12A	Removal	12	Yel
M81969/30A-05	DRK110-20-2	Removal	20	Red
M81969/30A-06	DRK110-16-2	Removal	16	Blu
M81969/30A-07	DRK110-12-2	Removal	12	Yel
M81969/30B-01	DRK501B	Removal	22	Blk/Yel
M81969/30B-02	DRK502B	Removal	20	Blk/Red
M81969/30B-03	DRK503B	Removal	16	Blk/Blu
M81969/30B-04	DRK504B	Removal	12	Blk/Yel
M81969/30B-05	DRK505B	Removal	20	Silv/Red
M81969/30B-06	DRK506B	Removal	16	Silv/Blu
M81969/30B-07	DRK507B	Removal	12	Silv/Yel
M81969/30B-08	DRK508B	Removal	22D	Brn/Brn
M81969/30B-09	DRK509B	Removal	22M	Brn/Yel
M81969/30B-10	DRK510B	Removal	22	Brn/Grn
M81969/30B-11	DRK511B	Removal	20	Brn/Red
M81969/30B-12	DRK512B	Removal	16	Brn/Blu
M81969/30B-13	DRK513B	Removal	12	Brn/Yel
M81969/30B-19	DRK519B	Removal Tool Set		
M81969/30B-20	DRK520B	Removal	Handle	Handle
M81969/30B-21	DRK521B	Removal	22	Yel
M81969/30B-22	DRK522B	Removal	20	Red
M81969/30B-23	DRK523B	Removal	16	Blu
M81969/30B-24	DRK524B	Removal	12	Yel
M81969/30B-25	DRK525B	Removal	20	Red
M81969/30B-26	DRK526B	Removal	16	Blu
M81969/30B-27	DRK527B	Removal	12	Yel
M81969/30B-28	DRK528B	Removal	22D	Brn
M81969/30B-29	DRK529B	Removal	22M	Yel
M81969/30B-30	DRK530B	Removal	22	Grn
M81969/30B-31	DRK531B	Removal	20	Red
M81969/30B-32	DRK532B	Removal	16	Blu
M81969/30B-33	DRK533B	Removal	12	Yel
M81969/30B-34	DRK534B	Removal Tool Set		
M81969/30B-35	DRK535B	Removal Tool Set		
M81969/30B-36	DRK536B	Removal Tool Set		
M81969/33-01	DAK55-225A	Insert/Remov	22	Red
M81969/33-02	DAK55-22JA	Insert/Remov	22	Red
M81969/34-01	DRK56-22A	Removal	22	Red

DMC Tooling® - owned by Daniels Manufacturing Corporation

## CONTACT INSTALLATION / REMOVAL TOOLING – PLASTIC



Part No.	MilSpec No	Type	Contact Size	Colour
M81969/1-01	M81969/1-01	Insert/Remov	22	Grn/Wht
M81969/1-02	M81969/1-02	Insert/Remov	20	Red/Wht
M81969/1-03	M81969/1-03	Insert/Remov	16	Blu/Wht
M81969/1-04	M81969/1-04	Insert/Remov	12	Grn/Wht
M81969/14-01	M81969/14-01	Insert/Remov	22D	Grn/Wht
M81969/14-02	M81969/14-02	Insert/Remov	20	Red/Wht
M81969/14-03	M81969/14-03	Insert/Remov	16	Blu/Wht
M81969/14-04	M81969/14-04	Insert/Remov	12	Yel/Wht
M81969/14-05	M81969/14-05	Insert/Remov	10	Gra/Wht
M81969/14-10	M81969/14-10	Insert/Remov	20	Red/Ora
M81969/14-11	M81969/14-11	Insert/Remov	20	Red/Wht
81515-20	M81969/16-01	Insert/Remov	20	Red/Wht
81515-16	M81969/16-02	Insert/Remov	16	Blu/Wht
81515-12	M81969/16-03	Insert/Remov	12	Yel/Wht
81515-23	M81969/16-04	Insert/Remov	23	Grn/Wht
M81969/14-06	M81969/29-02	Removal	8	Red
M81969/14-07	M81969/29-03	Removal	4	Blu
M81969/14-08	M81969/29-04	Removal	0	Yel
M81969/39-01	M81969/39-01	Insert/Remov	20	Grn/Wht

## SOFT JAW CONNECTOR WRENCH

- Adjustable – Box joint style.
- To avoid damage when working with military style connectors. (Replaceable jaws available)



Part No.

AT508K

Description

Soft Jaw Wrench

## GO-NO-GO GAUGE

Periodic gauging is recommended to ensure accurate calibration of mil-spec crimp tools.



Part No.

M22520/3-1

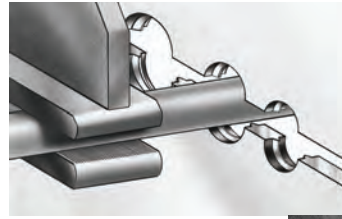
Description

Go-No-Go Gauge



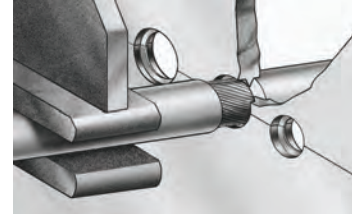
# Ideal Wirestrippers

- Milspec die type blades allow precision stripping
- Strips 30 through 10 AWG solid or stranded wire
- Inner cutting hole sized to conductor and counter-bored holes sized to insulation
- Replaceable grippers
- Optional short stop latch and transparent wire stop
- Cushioned, comfort grip handles
- Custom Stripmaster® Lite is 75% of the size of Custom Stripmaster® Wire Stripper and strips 16 through 30 AWG solid or stranded wire
- Custom Stripmaster® Lite requires one-third less hand pressure for each strip actuation



Gripper pads hold the wire securely in a centerline relationship with the blade

Die-type blades incorporate a counter-bored hole sized to the conductor. This varies depending on insulation type and thickness.



## CUSTOM STRIPMASTER® WIRESTRIPPERS – MILSPEC APPLICATIONS

The 45-170 Series is a Custom Stripmaster Wirestripper frame without the short stop latch and wire stop.

45-169 through 45-188 include grit-type pads (standard). 45-369 through 45-388 include file-type pads. 45-469 through 45-488 include parallel-type pads.



Wire Size AWG	30	28	26	24	22	20	18	16	14	12	10	Blade Part No.
MM2 Nominal	0.05	0.08	0.13	0.2	0.22	0.5	1.0	1.5	2.5	4.0	6.0	
For type E Teflon® (600V)												
45-176									.076/.0935	.096/.113	.119/.136	L-5559
45-177			.023/.039	.028/.043	.034/.052	.042/.0595	.052/.070	.061/.081				L-5560
45-178	.016/.032	.019/.035	.023/.039									L-5561
For type EE Teflon® (600V)												
45-173									.076/.104	.096/.125	.119/.144	L-5562
45-174			.023/.0465	.028/.055	.034/.0595	.042/.067	.052/.0785	.061/.089				L-5563
45-175	.016/.042	.019/.043	.023/.0465									L-5564
For other misc. insulations												
45-170									.076/.113	.0937/.138	.116/.154	L-5210
45-171			.022/.052	.0292/.0595	.035/.0635	.042/.073	.052/.086	.062/.096				L-5211
45-172	.016/.037	.020/.040	.024/.043									L-5436
For wire wrap and other thin insulated wire												
45-179	.012/.020											----- Three identical holes ----- L-7625
45-169	.012/.019	.014/.023	.018/.025	.024/.033								----- Solid wires ----- L-9300

## CUSTOM STRIPMASTER® LITE WIRESTRIPPERS – MILSPEC APPLICATIONS

Specifications: Cutting Hole Diameter/Counterbore Diameter (in inches)

Tolerances: Cutter Diameter: +/- 0.001; Counterbore Diameter: +/- 0.002

Teflon and Kapton are registered trademarks of E.I. du Pont de Nemours and Company.



Wire Size AWG	30	28	26	24	22	20	18	16	Blade Part No.	
MM2 Nominal	0.05	0.08	0.13	0.2	0.22	0.5	1.0	1.5		
MIL-W-16878 Type E 600V Teflon® Wire										
45-638						.034/.052	.042/.0595	.052/.070	.061/.081	LB-918
45-639			.023/.039	.028/.043	.034/.052	.042/.0595				LB-919
45-640	.016/.032	.019/.035	.023/.039	.028/.043						LB-920
MIL-W-16878 Type EE 1000V Teflon® Wire										
45-635					.034/.0595	.042/.067	.052/.0785	.061/.089	LB-915	
45-636			.023/.0465	.028/.055	.034/.0595	.042/.067			LB-916	
45-637	.016/.042	.019/.043	.023/.0465	.028/.055					LB-917	
General Purpose										
45-632					.035/.0635	.042/.073	.052/.086	.062/.096	LB-912	
45-633			.022/.052	.0292/.0595	.035/.0635	.042/.073			LB-913	
45-634	.016/.037	.020/.040	.024/.043	.0292/.0595					LB-914	
Wire Wrapping (thin insulation solid wire)										
45-641	.012/.020								----- Three identical holes ----- LB-921	
45-631	.012/.019	.014/.023	.018/.025	.024/.033					----- Solid wires ----- LB-911	

## REPLACEMENT FRAME ASSEMBLIES



Frame for Custom Stripmaster® Wirestrippers – no blade included

Part No.	Description
L-5616	Frame only, 10-14 AWG
L-5617	Frame only, 16-30 AWG
L-5618	Frame only, 10-14 AWG, Wire stop and latch
L-5619	Frame only, 16-30 AWG, Wire stop and latch

Frame for Custom Stripmaster® Lite Wirestrippers – no blade included

Part No.	Description
LB-895	Frame only
LB-896	Frame only, Wire stop and latch

## STOP LATCHES



Transparent wire stop provides uniform stripping strength



Short-stop latch protects wire strands by limiting the stripping stroke to 5/32" and retains the slug until the wire is ready for terminating

For Custom Stripmaster® Wirestrippers

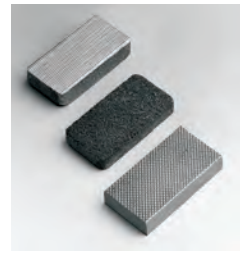
Part No.	Description
L-5269	Short
L-5270	Transparent

For Custom Stripmaster® Lite Wirestrippers

Part No.	Description
LB-1194	Short
LB-1195	Transparent

## REPLACEMENT GRIPPER PADS

Gripper Pads are available in your choice of either parallel, file or grit-type. File-type pads may be used on hard-to-grip insulators such as Kapton® and some Teflon®



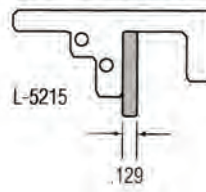
Moveable Grippers for Custom Stripmaster® Wire

Part No.	Surface Type
L-5212	Grit
LB-718	File
LB-727	Parallel

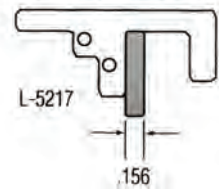
Moveable Grippers for Custom Stripmaster® Lite Wire

Part No.	Surface Type
L-5616	Grit
L-5617	File
L-5618	Parallel

Stationary Gripper for Red Handle Units  
For 10, 12 & 14 AWG Wire



Stationary Gripper for Black Handle Units  
For 16 thru 30 AWG wire.



Stationary Grippers Custom Stripmaster® Wirestrippers

Part No.	Description
L-5215	.129" thick, 10-14 AWG
L-5217	.156" thick, 16-30 AWG

## STRIPMASTER® WIRESTRIPPERS – ELECTRICAL/INDUSTRIAL APPLICATIONS

- One-step stripping enhances productivity
- Spring-action motion increases leverage and reduces operator fatigue
- Precision-ground, knife-type blades provide clean, accurate stripping
- Sturdy diecast frame provides long-term durability
- Wire gripper holds wire securely in position



Wire Size AWG	30	28	26	24	22	20	18	16	14	12	10	8	Blade Part No.
MM2 Nominal	0.05	0.08	0.13	0.2	0.22	0.5	1.0	1.5	2.5	4.0	6.0	8.0	
45-090										.106	.141	.159	L-4419
45-091							.073	.073	.085	.105	.144		L-4420
45-092					.048	.048	.061	.072	.090	.113	.144		L-4421
45-097			.026	.032	.039	.048	.061	.072					L-4994
45-098	.016	.021	.026	.032	.039	.048							L-5361

### MINI WIRESTRIPPERS

A small wire stripper ideal for stripping fine wires like wire-wrap wire. Part SF 30 has one spring jaw to prevent damage to conductor.



Part No.	Description	OAL
SF 30	Mini Wire Stripper	22-32AWG
SFF 30	Mini Wire Stripper	24-28AWG

### WIRE WRAP STRIPPER



Part No.	Description	Wire Range
CK 3757-2	Wire Wrap Stripper	20-30AWG

### V-BLADE STRIPPER

Basic wire stripper with V shape jaws and adjustment screw control for repetitive stripping.



Part No.	Description	Wire Range
HT 108	V Blade Stripper	0.5-4.0mm <sup>2</sup>

### MULTITOOL WIRESTRIPPERS

Two models of wire stripper available with plier function at tip and cutting section near pivot point.



Part No.	Description	Wire Range
CSP 30/1	Wire Stripper	0.25-0.81 mm
CSP 30/2	Wire Stripper	0.81-2.59 mm

### T®-STRIPPER WIRESTRIPPERS

- Form-ground, knife-type blades for accurate, easy stripping without nicking the insulation
- Built-in wire cutter and looping holes
- Convenient plier nose for extra gripping strength
- Laser-etched wire gauge for easy-to-read visibility
- Spring-loaded automatic opening
- Corrosion-resistant, black oxide finish
- Tough steel construction
- Locking tabs keep spring in place



Part No.	Description	Wire Range
45-120	T®-5 T®-Stripper	138mm
45-121	T®-6 T®-Stripper	138mm
45-125	T®-7 T®-Stripper	138mm
45-124	T®-8 T®-Stripper	160mm

### GRIP-N-STRIP™ END STRIPPER

- Self-adjusting stripping blades automatically select proper position
- Strips 12 AWG solid to 20 AWG stranded PVC insulated wire
- Dual strip-length gauge marks at 3/16" and 5/16"
- Cuts up to 12 AWG solid wire
- Lightweight, ergonomic design reduces user fatigue
- Reinforced fibreglass construction
- Hardened steel blades for extra strength and longer life



Part No.	Description
45-227	Grip-N-Strip™ End Stripper

### STRIPAX WIRESTRIPPER

- Uses 33 blades within each jaw to self-adjust and conform to the profile of different wire sizes and insulation densities
- Self-adjusting blades strip solid or stranded wire
- Built-in wire cutter
- Strip length adjusts from 1/8" to 3/4"
- Reinforced fibreglass construction



Part No.	Description	Wire Range
9005	Stripax Wire Stripper	10-26 AWG

## OUTER SHEATH REMOVAL TOOLS

Cable stripper for removal of outer PVC sheaths. With removable swivel blade.



Part No.	Description	Range
SC-2S	Sheath Stripper	8-28mm

Cable stripper with finger action swivel blade.



Part No.	Description	Range
HT 325B	Sheath Stripper	4.5-25.0mm

## MULTI-PAIR RINGER

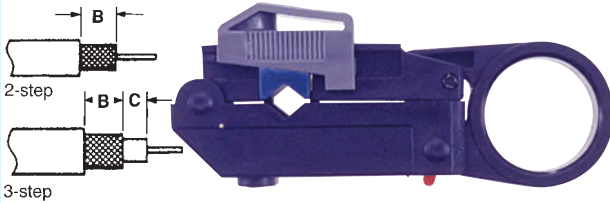
Low cost, disposable pair stripper for 2, 3 and 4 pair cable



Part No.	Description
118-681	Multi-Pair Ringer

## COAXIAL WIRESTRIPPERS

The Swedish Corex wire stripper is available in two or three step versions for various strip lengths to suit a wide variety of cables. The standard CX strippers to be selected for cables from 2.5-7.6mm diameter and the Maxicorex is for cables of 7-15.0mm diameter.



Part No.	Dimension C	Dimension B
CX-202	-	6.0mm
CX-203	-	9.2mm
CX-204	-	12.0mm
CX-207	-	6.8mm
CX-300	5.5mm	5.5mm
CX-305	6.0mm	6.0mm
CX-309	6.8mm	2.5mm
CX-399	7.5mm	3.5mm
MAXI COREX 2	-	12.7mm
MAXI COREX 3	9.5mm	3.2mm

Low cost versions of coaxial strippers in 2 step and 3 step models-



Part No.	Description	Cable
HT 312B	Coaxial Stripper	RG58/59 (3 step)
HT 332D	Coaxial Stripper	RG58/59/62/2/174 (2 step)
HT 322S	Coaxial Stripper	12.0mm

## BASIC CABLE TIE GUN

- For cable ties from 2.2 to 4.8mm wide
- Fastens and automatically cuts ties with adjustable bundling pressure
- Maximum thickness 1.6mm



Part No.	Description	OAL
HT 218	Cable Tie Gun	160mm

## HEAVY DUTY CABLE TIE GUN

- For cable ties up to 4.66mm wide
- Suited to repeated use in production
- Fastens and automatically cuts ties with adjustable bundle pressure
- Maximum thickness 1.3mm



Part No.	Description	OAL
HT 328	Cable Tie Gun	168mm

## STAINLESS STEEL CABLE TIE GUN

- For cable ties up to 7.9mm wide
- Fastens and automatically cuts cable ties with adjustable bundling pressure
- Maximum thickness 0.3mm



Part No.	Description	OAL
HT 338	Stainless Steel Tie Gun	180mm

## CABLE TIES

Quality cable ties in black or natural. Contract pricing available for high quantity users.



Part No.	Size	Colour	Box
FCT 10201	2.5 x 100mm	Black	100
FCT 10202	3.2 x 150mm	Black	100
FCT 10203	4.8 x 200mm	Black	100
FCT 10204	4.8 x 300mm	Black	100
FCT 10205	4.8 x 370mm	Black	100
FCT 10225	2.5 x 100mm	Natural	100
FCT 10226	3.2 x 150mm	Natural	100
FCT 10227	4.8 x 200mm	Natural	100

### UNIVERSAL CABLE SHEAR FOR COPPER & ALUMINIUM



Part No.	Description	Capacity Diameter	OAL
95 05 165	Universal Cable Shear	24mm <sup>2</sup>	165mm

### 1000V VDE CABLE SHEAR FOR COPPER & ALUMINIUM



Part No.	Description	Capacity Diameter	OAL
95 16 165	VDE Cable Shear	50mm <sup>2</sup>	165mm

### TWO STAGE CABLE SHEAR



Part No.	Description	Capacity Diameter	OAL
95 11 200	Cable Shear	20mm <sup>2</sup>	200mm

### RATCHET CABLE SHEAR



Part No.	Description	Capacity Diameter	OAL
95 31 250	Ratchet Cable Shear	32mm <sup>2</sup>	250mm
95 31 280	Ratchet Cable Shear	52mm <sup>2</sup>	280mm

### MINI BOLT CUTTER



Part No.	Description	Capacity Diameter	OAL
71 01 200	Mini Bolt Cutter	6.0 Copper/3.6 Plano	200mm

### STAINLESS STEEL SCISSORS

With optional two sharp points, or one sharp and one rounded point, so that in the closed position the scissors are safer. Suited to general purpose and toolkit use.



Part No.	Description	OAL
RCT1005	Sharp/Sharp Scissors	145mm
RCT1005BS	Blunt/Sharp Scissors	145mm

### STATIONERY SCISSORS

Super deluxe scissors with finely serrated stainless steel blades.



Part No.	Description	OAL
SB 29-501	Stationery Scissors	170mm
SB 29-603	Stationery Scissors	230mm

### INDUSTRIAL SCISSORS

Ambidextrous, comfort grip, industrial grade scissors. One blade finely serrated and one knife edge.



Part No.	Description	OAL
SB 29-800	Industrial Scissors	210mm
SB 29-900	Industrial Scissors	235mm
SB 29-915	Industrial Scissors	280mm
SB 29-916	Industrial Scissors	300mm

### ELECTRICAL SCISSORS

Manufactured with hi-tensile, finely serrated stainless steel blades and cushion grip handles. Ideal for cutting fine electrical wires and Kevlar® strands.



Part No.	Description	OAL
SB 29-503	Electrical Scissors	140mm

### GENERAL PURPOSE SHEARS

With finely serrated blades of high quality, for industrial applications.



Part No.	Description	OAL
SB 29-701	Shear, standard (black)	185mm
SB 29-702	Shear, hi-tensile (red)	185mm
SB 29-700	Shear, long blades (black)	200mm



## RUBBER GRIP AUTOLOADING UTILITY KNIFE

Blades can be reloaded without opening knife body. Supplied with 5 blades.



Part No.	Description
SB 112-1	Autoloading Utility Knife

## ULTRA GRIP UTILITY KNIFE



Part No.	Description
SB 115-2G	Ultra-Grip Grey Knife
SB 115-2Y	Ultra-Grip Yellow Hi-Viz Knife
SB 115-2YRS	Ultra-Grip Retracting Safety Knife
SB 921-4D	Replacement Blades (10)

## SNAP-OFF KNIFE – 18MM

With metal sleeve and strong auto-lock mechanism.



Part No.	Description
SB 902	Snap-Off Knife, 18mm
SB 201-4	Replacement blades (10)

## HEAVY DUTY LARGE CUTTER – 18MM

Magazine holds eight blades. Auto-feeder, locking mechanism for heavy duty work.



Part No.	Description
L-17RE	Snap-Off Knife, 18mm
SB 201-4	Replacement Blades (10)

## SNAP-OFF KNIFE – 9MM

With enamelled, all-steel body in the original shape.



Part No.	Description
SB 220	Snap-Off Knife, 9mm
SB 1403-S	Replacement Blades (10)

## SIDE-SLIDE SAFETY SELF-RETRACTING KNIFE



Part No.	Description
SB 412-1	Side-Slide Safety self-retracting Knife
SB 412B	Replacement Blades (10)

## ART KNIFE

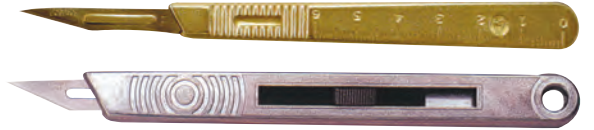
The most popular light duty graphic art knife for precision cutting.



Part No.	Description	
SB 50001	Art Knife	1
SB 01-111-2	No. 11 Blade, Pointed	100
SB 01-101-2	No. 10 Blade, Rounded	100

## SCALPEL

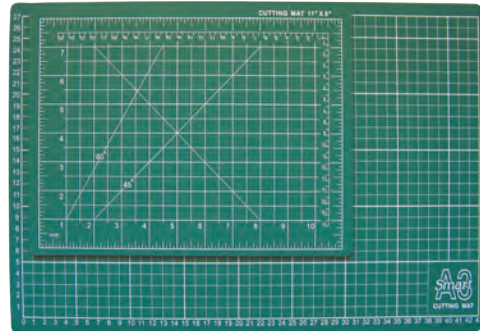
Standard scalpel handles and a retractable handle is available for safety purposes. The standard type comes in either nickel alloy or in the economy version – stainless steel.



Part No.	Description	
SB SH 3NA	Nickel Alloy Scalpel Handle	1
SB SH 3SS	Stainless Steel Scalpel Handle	1
SB 2800	Retractable Handle	1
SM11	No. 11 Blade, pointed	100
SM10	No. 10 Blade, rounded	100

## SELF-HEALING CUTTING MAT

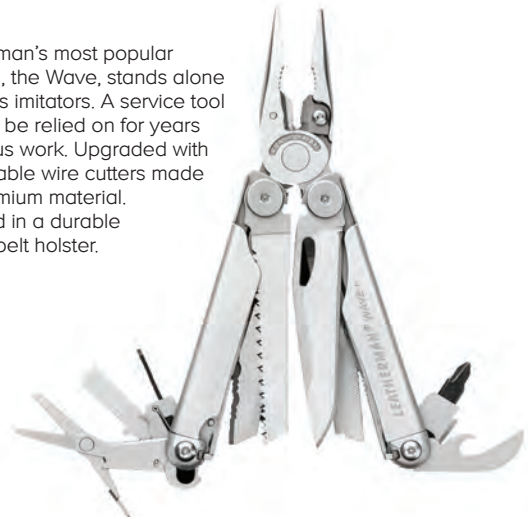
Green cutting mat with metric grid marking.



Part No.	Description	Size
SB A4G3	A4 Cutting Mat	300 x 220
SB A3G3	A3 Cutting Mat	450 x 300

## LEATHERMAN WAVE®+ STAINLESS

Leatherman's most popular multitool, the Wave, stands alone above its imitators. A service tool that can be relied on for years of serious work. Upgraded with replaceable wire cutters made in a premium material. Supplied in a durable leather belt holster.



Part No.	Description
YL832524	Leatherman Wave+

# Measuring & Marking

## COMPACT TAPE MEASURE – METRIC

Compact tape with premium rubber grip and convenient key chain.



Part No.	Description	Length
TMX 2013	Ultimax Tape	2m

## TAPE MEASURE – METRIC

- Double sided blade printing
- 19mm wide blade for super stand out
- Reinforced 4 rivet end hook
- High impact resistant ABS casing with non-slip grip
- Superior internal mechanism for smooth operation



Part No.	Description	Length
TMXE 5019	Easyread Tape	5m

## TAPE MEASURE – METRIC/IMPERIAL

- Premium rubber grip
- Double sided blade printing
- High impact resistant ABS casing with non-slip grip
- Reinforced 4 rivet dual-hook
- 25mm wide blade for super stand out
- Superior internal mechanism for smooth operation
- Layered nylon blade for maximum durability



Part No.	Description	Length
TMX 8025	Ultimax Tape Metric	8m
TMX 8025I	Ultimax Tape Met/Imp	8m/26ft
TMX 1025	Ultimax Tape Metric	10m

## CLOSED REEL TAPE MEASURE – 30M

Impact resistant, rubber grip, steel tape measure with 10mm abrasion resistant blade.



Part No.	Description	Length
TLR 3095	Closed Reel Tape	30m
TLR 3095I	Closed Reel Tape	30m / 100ft

## FEELER GAUGE

20 leaves:  
0.05mm-100mm



Part No.	Description
P54-20S	Feeler Gauge

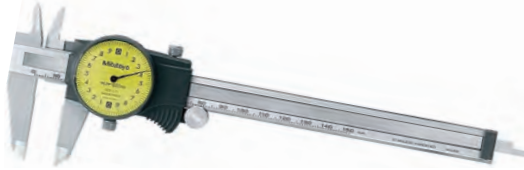
## SCALE VERNIER CALIPER

Extensive range available, please enquire for more details.



Part No.	Description
530 312	150mm Scale Vernier Caliper, 0,02mm

## DIAL VERNIER CALIPER



Part No.	Description
505 671	150mm Dial Vernier Caliper, 0,02mm

## DIGITAL VERNIER CALIPER



Part No.	Description
500 196	150mm Digital Vernier Caliper, 0,01mm
500 197	200mm Digital Vernier Caliper, 0,01mm

## STEEL RULES

Hardened stainless steel rules with etched markings for durability.

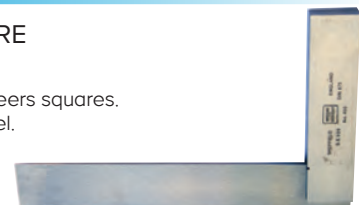


\*Graduations 32nds, 64ths, 10ths and 100ths

Part No.	Description	Length
1521	Steel Rule Metric/Imperial	150mm
1866	Steel Rule Imperial*	150mm
3021	Steel Rule Metric/Imperial	300mm
4521	Steel Rule Metric/Imperial	450mm
6021	Steel Rule Metric/Imperial	600mm
10021	Steel Rule Metric/Imperial	1000mm
15021	Steel Rule Metric/Imperial	1500mm
20021	Steel Rule Metric/Imperial	2000mm

## ENGINEERS SQUARE

Precision A grade engineers squares. Made of high quality steel.



Part No.	Description
G2SS A100	Engineers Square
G2SS A150	Engineers Square
G2SS A200	Engineers Square
G2SS A250	Engineers Square

## COMBINATION SQUARES

Fisco combination square of reliable quality



Part No.	Description	OAL
RFF 485 ME	Combination Square	300mm

## DIVIDERS AND CALIPERS



Part No.	Description	OAL
01452	Inside Caliper	150mm
01442	Outside Caliper	150mm
01432	Spring Divider	150mm

## MAGNETIC TORPEDO LEVEL

- High-impact plastic
- Top-reading feature allows visibility from above
- Tinted 360° vials make reading easy on the eyes



Part No.	Description
42-264	Magnetic Torpedo Level

## POP RIVETER



Part No.	Description
EG 2060	Pop Riveter

## SCRIBER



Part No.	Description	OAL
433ASB	Scriber	218mm

## FILES

- Ergonomic files available in many shapes and lengths
- Stocked in 2nd cut as a standard. Others available to order.



Part No.	Shape	Length
1100 0623	Flat	150mm
1100 1023	Flat	250mm
1230 0623	Round	150mm
1210 0623	Half-round	150mm

## FILE SET

5 x 200mm files, Softgrip Handle

- 8" Hand File (Bastard)
- 8" Hand File (Second)
- 8" Half-Round File
- 8" Round File
- 8" Square File



Part No.	Description
J72-0851A	5 Piece File Set

## HACKSAW



Part No.	Description
HF-40T	Professional Quality Hacksaw

## NEEDLE FILE SET

10 x needle files



Part No.	Description
NF10	10 Piece Needle File Set

### RACODON PIN-PUNCH – MADE IN FRANCE



Part No.	Description	Size
408-2	Pin Punch	2mm
408-2.5	Pin Punch	2.5mm
408-3	Pin Punch	3mm
408-4	Pin Punch	4mm
408-5	Pin Punch	5mm
408-6	Pin Punch	6mm
408-7	Pin Punch	7mm
408-8	Pin Punch	8mm
408-10	Pin Punch	10mm

### LONG RACODON PIN-PUNCH



Part No.	Description	Size
408L-2	Long Pin Punch	2mm
408L-2.5	Long Pin Punch	2.5mm
408L-3	Long Pin Punch	3mm
408L-4	Long Pin Punch	4mm
408L-5	Long Pin Punch	5mm
408L-6	Long Pin Punch	6mm
408L-7	Long Pin Punch	7mm
408L-8	Long Pin Punch	8mm
408L-10	Long Pin Punch	10mm

### RACODON PIN PUNCH SET – 5 PCS IN WALLET

Consists of:  
2, 3, 4, 5, 6mm



Part No.	Description
408-P1	5pcs Pin Punch Set

### RACODON LONG PIN PUNCH SET – 8 PCS

Consists of:  
2, 3, 4, 5, 6, 8, 9, 10mm



Part No.	Description
408-LP8	8pcs Long Pin Punch Set

### RACODON CENTRE PUNCH



Part No.	Description	Size
406-2.5	Centre Punch	2.5mm
406-3	Centre Punch	3mm
406-4	Centre Punch	4mm
406-6	Centre Punch	6mm

### RACODON AUTOMATIC CENTRE PUNCH

12mm Body Diameter



Part No.	Description	OAL
306	Automatic Centre Punch	125mm

### RACODON HOLLOW PUNCH SET – 9PCS

Consists of:  
2, 3, 4, 5, 7, 8, 9, 10mm



Part No.	Description
621	Hollow Punch Set

### HAMMER – BALL PEIN



More sizes available to order

Part No.	Description	Size
P0369	Ball Pein Hammer	100g
P0371	Ball Pein Hammer	200g

### ADJUSTABLE WRENCH



Part No.	Length	Jaw Opening
PXM 9004	100mm	15mm
PXM 9006	150mm	21mm
PXM 9008	200mm	24mm
PXM 9010	250mm	31mm
PXM 9012	300mm	36mm

### WISEGRIP – LONG NOSE



Part No.	Description	Size
6LN	ViseGrip	220mm
9LN	ViseGrip	225mm

### WISEGRIP – CURVED JAW



Part No.	Description	OAL
4WR	ViseGrip	110mm
5WR	ViseGrip	125mm
7WR	ViseGrip	175mm
10WR	ViseGrip	250mm

# Spanners



- Surface Drive Plus
  - provides stronger grip on fasteners
  - reduces fastener rounding
  - delivers up to 25% more torque
- Long pattern length or stubby pattern length
- Offset box end
- Size stamped on both sides and head

## COMBINATION SPANNERS – LONG

Part No.	Size	Description
KD 81650	1/4"	Combination Spanner Imperial
KD 81651	9/32"	Combination Spanner Imperial
KD 81652	5/16"	Combination Spanner Imperial
KD 81653	11/32"	Combination Spanner Imperial
KD 81654	3/8"	Combination Spanner Imperial
KD 81655	7/16"	Combination Spanner Imperial
KD 81656	1/2"	Combination Spanner Imperial
KD 81657	9/16"	Combination Spanner Imperial
KD 81658	5/8"	Combination Spanner Imperial
KD 81659	11/16"	Combination Spanner Imperial
KD 81660	3/4"	Combination Spanner Imperial
KD 81661	13/16"	Combination Spanner Imperial
KD 81662	7/8"	Combination Spanner Imperial
KD 81663	15/16"	Combination Spanner Imperial
KD 81664	1"	Combination Spanner Imperial
KD 81665	8mm	Combination Spanner Metric
KD 81666	9mm	Combination Spanner Metric
KD 81667	10mm	Combination Spanner Metric
KD 81668	11mm	Combination Spanner Metric
KD 81669	12mm	Combination Spanner Metric
KD 81670	13mm	Combination Spanner Metric
KD 81671	14mm	Combination Spanner Metric
KD 81672	15mm	Combination Spanner Metric
KD 81673	16mm	Combination Spanner Metric
KD 81674	17mm	Combination Spanner Metric
KD 81675	18mm	Combination Spanner Metric
KD 81676	19mm	Combination Spanner Metric
KD 81677	20mm	Combination Spanner Metric
KD 81678	21mm	Combination Spanner Metric
KD 81679	22mm	Combination Spanner Metric

## COMBINATION SPANNER SETS – LONG



Part No.	Description
KD 81900	24 Pcs Imp/Met Spanner Set, 1/2"-1" and 8-22mm
KD 81901	15 Pcs Imperial Spanner Set, 1/4"-1"
KD 81902	15 Pcs Metric Spanner Set, 8-22mm

## COMBINATION SPANNERS – STUBBY

Part No.	Size	Description
KD 81624	3/8"	Combination Spanner Imperial
KD 81625	7/16"	Combination Spanner Imperial
KD 81626	1/2"	Combination Spanner Imperial
KD 81627	9/16"	Combination Spanner Imperial
KD 81628	5/8"	Combination Spanner Imperial
KD 81629	11/16"	Combination Spanner Imperial
KD 81630	3/4"	Combination Spanner Imperial
KD 81631	13/16"	Combination Spanner Imperial
KD 81632	7/8"	Combination Spanner Imperial
KD 81633	15/16"	Combination Spanner Imperial
KD 81634	10mm	Combination Spanner Metric
KD 81635	11mm	Combination Spanner Metric
KD 81636	12mm	Combination Spanner Metric
KD 81637	13mm	Combination Spanner Metric
KD 81638	14mm	Combination Spanner Metric
KD 81639	15mm	Combination Spanner Metric
KD 81640	16mm	Combination Spanner Metric
KD 81641	17mm	Combination Spanner Metric
KD 81642	18mm	Combination Spanner Metric
KD 81643	19mm	Combination Spanner Metric

## COMBINATION SPANNER SETS – STUBBY



Part No.	Description
KD 81903	20 Pc Imp/Met Set, 3/8"-15/16" and 10-19mm
KD 81904	10 Pc Metric Set, 10-19mm
KD 81905	10 Pc Imperial Set, 3/8"-15/16"

## FLARE NUT SPANNER SETS – STUBBY

Imperial 6 Piece Set:  
 1/4" x 5/16" 3/8" x 7/16",  
 1/2" x 9/16" 5/8" x 11/16",  
 5/8" x 3/4" 3/4" x 7/8"

Metric 6 Piece Set:  
 9 x 11mm 10 x 12mm  
 13 x 14mm 15 x 17mm  
 16 x 18mm 19 x 21mm



Part No.	Description
KD 81906	Metric Flare Nut Spanner Set
KD 81907	Imperial Flare Nut Spanner Set

## RATCHETING COMBI SPANNERS

- Productivity: Ratcheting Box-End needs as little as 5° to move fastener vs. 30° for standard box end wrenches
- Access: Sleek head design enables access to tight spots where a ratchet will not fit
- Strength: Surface Drive® reduces fastener rounding



Part No.	Size	A	B	C	D	E
GW 9008	1/4"	4.921	0.494	0.181	0.610	0.256
GW 9010	5/16"	5.508	0.658	0.193	0.625	0.256
GW 9011	11/32"	5.882	0.741	0.205	0.689	0.272
GW 9012	3/8"	6.256	0.882	0.220	0.750	0.287
GW 9014	7/16"	6.508	0.905	0.236	0.811	0.303
GW 9016	1/2"	7.008	1.069	0.264	0.930	0.339
GW 9018	9/16"	7.504	1.152	0.280	1.020	0.354
GW 9020	5/8"	8.201	1.316	0.303	1.130	0.390
GW 9022	11/16"	8.878	1.399	0.319	1.201	0.406
GW 9024	3/4"	9.764	1.563	0.358	1.278	0.441
GW 9026	13/16"	11.476	1.810	0.378	1.536	0.512
GW 9028	7/8"	11.476	1.810	0.378	1.536	0.512
GW 9030	15/16"	13.116	2.057	0.417	1.791	0.571
GW 9032	1"	13.116	2.057	0.417	1.791	0.571
GW 9034	1-1/16"	14.142	2.221	0.441	1.929	0.610
GW 9036	1-1/8"	15.846	2.468	0.480	2.152	0.669
GW 9038	1-1/4"	16.764	2.583	0.496	2.283	0.689
GW 9105	5.5mm	4.921	0.450	0.181	0.610	0.235
GW 9106	6mm	4.921	0.494	0.181	0.610	0.256
GW 9107	7mm	5.236	0.575	0.181	0.610	0.256
GW 9108	8mm	5.508	0.658	0.193	0.625	0.256
GW 9109	9mm	5.882	0.741	0.205	0.689	0.272
GW 9110	10mm	6.256	0.882	0.220	0.750	0.287
GW 9111	11mm	6.508	0.905	0.236	0.811	0.303
GW 9112	12mm	6.756	0.988	0.240	0.855	0.323
GW 9113	13mm	7.008	1.069	0.264	0.930	0.339
GW 9114	14mm	7.504	1.152	0.280	1.020	0.354
GW 9115	15mm	7.854	1.233	0.291	1.070	0.370
GW 9116	16mm	8.201	1.316	0.303	1.130	0.390
GW 9117	17mm	8.878	1.399	0.319	1.201	0.406
GW 9118	18mm	9.315	1.480	0.335	1.239	0.421
GW 9119	19mm	9.764	1.563	0.358	1.278	0.441
GW 9120	20mm	11.476	1.810	0.378	1.536	0.512
GW 9121	21mm	11.476	1.810	0.378	1.536	0.512
GW 9122	22mm	11.476	1.810	0.378	1.536	0.512
GW 9124	24mm	13.116	2.057	0.417	1.791	0.571
GW 9125	25mm	13.116	2.057	0.417	1.791	0.571
GW 9127	27mm	14.142	2.221	0.441	1.929	0.610
GW 9130	30mm	15.846	2.468	0.480	2.152	0.669
GW 9132	32mm	16.764	2.583	0.496	2.283	0.689
GW 9134	34mm	18.110	2.743	0.528	2.362	0.689

## REVERSIBLE COMBI SPANNERS

- Productivity: Ratcheting Box-End needs as little as 5° to move fastener vs. 30° for standard box end wrenches.
- Compact reversing lever: No need to remove from fastener to change direction
- Access: 15° offset provides additional knuckle clearance
- Strength: Surface Drive® reduces fastener rounding



Part No.	Size	A	B	C	D	E
GW 9525	5/16"	5.508	0.709	0.197	0.667	0.256
GW 9521	11/32"	5.882	0.787	0.205	0.689	0.283
GW 9526	3/8"	6.256	0.906	0.224	0.778	0.303
GW 9527	7/16"	6.508	0.984	0.248	0.850	0.323
GW 9528	1/2"	7.008	1.102	0.276	0.970	0.339
GW 9529	9/16"	7.504	1.260	0.295	1.035	0.370
GW 9530	5/8"	8.201	1.387	0.315	1.183	0.406
GW 9531	11/16"	8.878	1.496	0.354	1.252	0.421
GW 9532	3/4"	9.764	1.654	0.374	1.341	0.441
GW 9534	13/16"	11.476	1.810	0.378	1.536	0.512
GW 9538	7/8"	11.476	1.810	0.378	1.536	0.512
GW 9539	15/16"	13.116	2.057	0.417	1.791	0.571
GW 9540	1"	13.116	2.057	0.417	1.791	0.571
GW 9608	8mm	5.508	0.709	0.197	0.667	0.256
GW 9609	9mm	5.882	0.787	0.205	0.689	0.283
GW 9610	10mm	6.256	0.906	0.224	0.778	0.303
GW 9611	11mm	6.508	0.984	0.248	0.850	0.323
GW 9612	12mm	6.756	1.063	0.264	0.906	0.339
GW 9613	13mm	7.008	1.102	0.276	0.970	0.339
GW 9614	14mm	7.504	1.260	0.295	1.035	0.370
GW 9615	15mm	7.854	1.299	0.315	1.118	0.390
GW 9616	16mm	8.201	1.378	0.315	1.183	0.406
GW 9617	17mm	8.878	1.496	0.354	1.252	0.421
GW 9618	18mm	9.315	1.535	0.354	1.307	0.441
GW 9619	19mm	9.764	1.654	0.374	1.341	0.441
GW 9621	21mm	11.476	1.810	0.378	1.536	0.512
GW 9622	22mm	11.476	1.810	0.378	1.536	0.512
GW 9624	24mm	13.116	2.057	0.417	1.791	0.571
GW 9625	25mm	13.116	2.057	0.417	1.791	0.571

## RING/RING RATCHETING SPANNERS

- Productivity: Ratcheting Box-End needs as little as 5° to move fastener vs. 30° for standard box end wrenches.
- Access: Sleek head design enables access to tight spots where a ratchet will not fit
- Strength: Surface Drive® reduces fastener rounding



Part No.	Size	A	B	C	D	E
GW 9201	5/16" x 3/8"	5.039	0.625	0.256	0.750	0.287
GW 9202	7/16" x 1/2"	6.299	0.811	0.303	0.930	0.339
GW 9203	9/16" x 5/8"	7.480	1.020	0.354	1.130	0.390
GW 9204	11/16" x 3/4"	9.055	1.201	0.406	1.278	0.422
GW 9210	8 x 9mm	5.118	0.625	0.256	0.689	0.272
GW 9211	10 x 11mm	5.906	0.750	0.287	0.811	0.303
GW 9212	12 x 13mm	6.693	0.885	0.323	0.930	0.339
GW 9213	14 x 15mm	7.480	1.020	0.354	1.070	0.370
GW 9214	16 x 18mm	8.268	1.130	0.390	1.239	0.421
GW 9215	17 x 19mm	9.055	1.201	0.406	1.278	0.441

**COMBINATION RATCHETING SPANNER SET  
IMPERIAL, 4 PIECES**

Consists of:  
3/8" 7/16"  
1/2" 9/16"



**Part No.** Description  
GW 9304 Imperial Combination Spanner Set, 4 Pcs

**COMBINATION RATCHETING SPANNER SET  
METRIC, 4 PIECES**

Consists of:  
10mm 12mm  
13mm 14mm



**Part No.** Description  
GW 9404 Metric Combination Spanner Set, 4 Pcs

**COMBINATION RATCHETING SPANNER SET  
IMPERIAL, 8 PIECES**

Consists of:  
5/16" 3/8"  
7/16" 1/2"  
9/16" 5/8"  
11/16" 3/4"



**Part No.** Description  
GW 9308 Imperial Combination Spanner Set, 8 Pcs

**COMBINATION RATCHETING SPANNER SET  
METRIC, 12 PIECES**

Consists of:  
8mm 9mm  
10mm 11mm  
12mm 13mm  
14mm 15mm  
16mm 17mm  
18mm 19mm



**Part No.** Description  
GW 9412 Metric Combination Spanner Set, 12 Pcs

**REVERSIBLE COMBINATION SPANNER SET  
IMPERIAL, 8 PIECES**

Consists of:  
5/16" 3/8"  
7/16" 1/2"  
9/16" 5/8"  
11/16" 3/4"



**Part No.** Description  
GW 9533 Imperial Reversible Combination Spanner Set, 8 Pcs

**REVERSIBLE COMBINATION SPANNER SET  
IMPERIAL, 8 PIECES**

Consists of:  
8mm 9mm  
10mm 11mm  
12mm 13mm  
14mm 15mm  
16mm 17mm  
18mm 19mm



**Part No.** Description  
GW 9620 Metric Reversible Combination Spanner Set, 8 Pcs

**RING/RING RATCHETING COMBI. SPANNER SET  
IMPERIAL REVERSIBLE, 13 PIECES**

Consists of:  
5/16" 11/32"  
3/8" 7/16"  
1/2" 9/16"  
11/16" 5/8"  
13/16" 3/4"  
7/8" 15/16"  
1"



**Part No.** Description  
GW 9509 Imperial Ring/Ring Rev. Combi. Spanner Set, 13 Pcs

**RING/RING RATCHETING COMBI. SPANNER SET  
METRIC REVERSIBLE, 16 PIECES**

Consists of:  
8mm 9mm  
10mm 11mm  
12mm 13mm  
14mm 15mm  
16mm 17mm  
18mm 19mm  
21mm 22mm  
24mm 25mm



**Part No.** Description  
GW 9602 Metric Reversible Combination Spanner Set, 8 Pcs

**RING/RING RATCHETING COMBI. SPANNER SET  
IMPERIAL DOUBLE BOX, 4 PIECES**

Consists of:  
(5/16" x 3/8")  
(7/16" x 1/2")  
(9/16" x 5/8")  
(11/16" x 3/4")



**Part No.** Description  
GW 9240 Imp Ring/Ring Double Box Combi. Spanner Set, 4 Pcs

**RING/RING RATCHETING COMBI. SPANNER SET  
METRIC DOUBLE BOX, 6 PIECES**

Consists of:  
(8 x 9mm) (10 x 11mm)  
(12 x 13mm) (14 x 15mm)  
(16 x 18mm) (17 x 19mm)



**Part No.** Description  
GW 9260 Met Ring/Ring Double Box Combi. Spanner Set, 6 Pcs

# Sockets

## 1/4" SOCKETS

- Metric / Imperial Sizes
- HPQ® High Performance Steel, chrome plated



Part No.	Size (mm)	Description
01 03 00 05	5	1/4" Dr 12pt Shallow Socket
01 03 00 55	5.5	1/4" Dr 12pt Shallow Socket
01 03 00 06	6	1/4" Dr 12pt Shallow Socket
01 03 00 07	7	1/4" Dr 12pt Shallow Socket
01 03 00 08	8	1/4" Dr 12pt Shallow Socket
01 03 00 09	9	1/4" Dr 12pt Shallow Socket
01 03 00 10	10	1/4" Dr 12pt Shallow Socket
01 03 00 11	11	1/4" Dr 12pt Shallow Socket
01 03 00 12	12	1/4" Dr 12pt Shallow Socket
01 03 00 13	13	1/4" Dr 12pt Shallow Socket
01 03 00 14	14	1/4" Dr 12pt Shallow Socket
Size (inch)	Description	
01 53 00 10	5/32	1/4" Dr 12pt Shallow Socket
01 53 00 12	3/16	1/4" Dr 12pt Shallow Socket
01 53 00 14	7/32	1/4" Dr 12pt Shallow Socket
01 53 00 16	1/4	1/4" Dr 12pt Shallow Socket
01 53 00 18	9/32	1/4" Dr 12pt Shallow Socket
01 53 00 20	5/16	1/4" Dr 12pt Shallow Socket
01 53 00 22	11/32	1/4" Dr 12pt Shallow Socket
01 53 00 24	3/8	1/4" Dr 12pt Shallow Socket
01 53 00 28	7/16	1/4" Dr 12pt Shallow Socket
01 53 00 32	1/2	1/4" Dr 12pt Shallow Socket
01 53 00 34	9/16	1/4" Dr 12pt Shallow Socket
Size (mm)	Description	
01 24 00 25	5	1/4" Dr 12pt Deep Socket
01 24 00 55	5.5	1/4" Dr 12pt Deep Socket
01 24 00 06	6	1/4" Dr 12pt Deep Socket
01 24 00 07	7	1/4" Dr 12pt Deep Socket
01 24 00 08	8	8 1/4" Dr 12pt Deep Socket
01 24 00 09	9	1/4" Dr 12pt Deep Socket
01 24 00 10	10	1/4" Dr 12pt Deep Socket
01 24 00 11	11	1/4" Dr 12pt Deep Socket
01 24 00 12	12	1/4" Dr 12pt Deep Socket
01 24 00 13	13	1/4" Dr 12pt Deep Socket
01 24 00 14	14	1/4" Dr 12pt Deep Socket
Size (inch)	Description	
01 64 00 10	5/32	1/4" Dr 12pt Deep Socket
01 64 00 12	3/16	1/4" Dr 12pt Deep Socket
01 64 00 14	7/32	1/4" Dr 12pt Deep Socket
01 64 00 16	1/4	1/4" Dr 12pt Deep Socket
01 64 00 18	9/32	1/4" Dr 12pt Deep Socket
01 64 00 20	5/16	1/4" Dr 12pt Deep Socket
01 64 00 22	11/32	1/4" Dr 12pt Deep Socket
01 64 00 24	3/8	1/4" Dr 12pt Deep Socket
01 64 00 28	7/16	1/4" Dr 12pt Deep Socket
01 64 00 32	1/2	1/4" Dr 12pt Deep Socket
01 64 00 34	9/16	1/4" Dr 12pt Deep Socket

## 1/4" HANDLE DRIVER



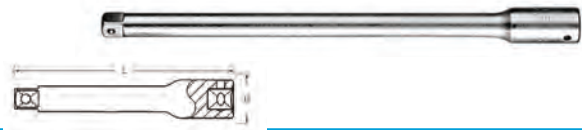
Part No.	Description
11 05 00 11	Drive Handle, 150mm

## SLIDING T-HANDLE



Part No.	Description
11 07 00 00	Sliding T-Handle, 116mm

## EXTENSIONS



Part No.	Size	Length
11 01 00 01	2	54
11 01 00 06	4	100
11 01 00 02	6	150
11 01 00 10	10	254
11 01 00 14	14	356

## UNIVERSAL JOINT



Part No.	Description
11 02 00 00	Universal Joint, 37mm

## ADAPTOR



Part No.	Description
11 03 00 02	1/4" Female to 3/8 Male Adaptor
11 03 00 03	1/4" Female to 1/2" Male Adaptor

## SOCKET SET 1/4"

- In sturdy stackable ABS plastic case
- 19 Pieces:
  - 13 Sockets Hex 40: 3.5, 4, 4.5, 5, 5.5, 6, 7, 8, 9, 10, 11, 12, 13
  - 1 Ratchet 415QR N
  - 2 Extensions 405QR/2 (54mm) and 405QR/6 (150mm)
  - 1 Universal Joint
  - 1 Drive Handle
  - 1 T-Handle



Part No.	Description
96 01 11 80	Socket Set



### 3/8" SOCKETS

- Metric / Imperial Sizes
- HPQ® High Performance Steel, chrome plated



Part No.	Size (mm)	Description
02 01 00 07	7	3/8" Dr 12pt Shallow Socket
02 01 00 08	8	3/8" Dr 12pt Shallow Socket
02 01 00 09	9	3/8" Dr 12pt Shallow Socket
02 01 00 10	10	3/8" Dr 12pt Shallow Socket
02 01 00 11	11	3/8" Dr 12pt Shallow Socket
02 01 00 12	12	3/8" Dr 12pt Shallow Socket
02 01 00 13	13	3/8" Dr 12pt Shallow Socket
02 01 00 14	14	3/8" Dr 12pt Shallow Socket
02 01 00 15	15	3/8" Dr 12pt Shallow Socket
02 01 00 16	16	3/8" Dr 12pt Shallow Socket
02 01 00 17	17	3/8" Dr 12pt Shallow Socket
02 01 00 18	18	3/8" Dr 12pt Shallow Socket
02 01 00 19	19	3/8" Dr 12pt Shallow Socket
02 01 00 20	20	3/8" Dr 12pt Shallow Socket
02 01 00 21	21	3/8" Dr 12pt Shallow Socket
02 01 00 22	22	3/8" Dr 12pt Shallow Socket
02 01 00 24	24	3/8" Dr 12pt Shallow Socket
Size (inch)	Description	
02 41 00 16	1/4	3/8" Dr 12pt Shallow Socket
02 41 00 20	5/16	3/8" Dr 12pt Shallow Socket
02 41 00 22	11/32	3/8" Dr 12pt Shallow Socket
02 41 00 24	3/8	3/8" Dr 12pt Shallow Socket
02 41 00 28	7/16	3/8" Dr 12pt Shallow Socket
02 41 00 32	1/2	3/8" Dr 12pt Shallow Socket
02 41 00 34	9/16	3/8" Dr 12pt Shallow Socket
02 41 00 35	19/32	3/8" Dr 12pt Shallow Socket
02 41 00 36	5/8	3/8" Dr 12pt Shallow Socket
02 41 00 38	11/16	3/8" Dr 12pt Shallow Socket
02 41 00 40	3/4	3/8" Dr 12pt Shallow Socket
02 41 00 42	13/16	3/8" Dr 12pt Shallow Socket
02 41 00 44	7/8	3/8" Dr 12pt Shallow Socket
02 41 00 46	15/16	3/8" Dr 12pt Shallow Socket
02 41 00 48	1	3/8" Dr 12pt Shallow Socket

### 3/8" SOCKETS

- Metric / Imperial Sizes
- HPQ® High Performance Steel, chrome plated



Part No.	Size (mm)	Description
02 02 00 08	8	3/8" Dr 12pt Deep Socket
02 02 00 10	10	3/8" Dr 12pt Deep Socket
02 02 00 11	11	3/8" Dr 12pt Deep Socket
02 02 00 12	12	3/8" Dr 12pt Deep Socket
02 02 00 13	13	3/8" Dr 12pt Deep Socket
02 02 00 14	14	3/8" Dr 12pt Deep Socket
02 02 00 15	15	3/8" Dr 12pt Deep Socket
02 02 00 16	16	3/8" Dr 12pt Deep Socket
02 02 00 17	17	3/8" Dr 12pt Deep Socket
02 02 00 18	18	3/8" Dr 12pt Deep Socket
02 02 00 19	19	3/8" Dr 12pt Deep Socket
02 02 02 08	20.8	3/8" Dr 12pt Deep Socket
02 02 00 21	21	3/8" Dr 12pt Deep Socket
02 02 00 22	22	3/8" Dr 12pt Deep Socket
Size (inch)	Description	
02 42 00 16	1/4	3/8" Dr 12pt Deep Socket
02 42 00 20	5/16	3/8" Dr 12pt Deep Socket
02 42 00 22	11/32	3/8" Dr 12pt Deep Socket
02 42 00 24	3/8	3/8" Dr 12pt Deep Socket
02 42 00 28	7/16	3/8" Dr 12pt Deep Socket
02 42 00 32	1/2	3/8" Dr 12pt Deep Socket
02 42 00 34	9/16	3/8" Dr 12pt Deep Socket
02 42 00 35	19/32	3/8" Dr 12pt Deep Socket
02 42 00 36	5/8	3/8" Dr 12pt Deep Socket
02 42 00 38	11/16	3/8" Dr 12pt Deep Socket
02 42 00 40	3/4	3/8" Dr 12pt Deep Socket
02 42 00 42	13/16	3/8" Dr 12pt Deep Socket
02 42 00 44	7/8	3/8" Dr 12pt Deep Socket
02 42 00 46	15/16	3/8" Dr 12pt Deep Socket
02 42 00 48	1	3/8" Dr 12pt Deep Socket

### 1/4" RATCHET

- Reversible
- 22 Teeth
- 2 component handle



Part No.	Description
11 11 10 10	Ratchet 415

### 1/4" QUICKRELEASE RATCHET FINE TOOTH

- Reversible
- 80 Teeth
- QuickRelease safety lock
- 2 component handle
- For use in confined spaces



Part No.	Description
11 11 10 20	QuickRelease Ratchet 415QR

### 3/8" RATCHET

- Reversible
- 30 Teeth
- 2 component handle



Part No.	Description
12 11 10 10	Ratchet 435

### 3/8" QUICKRELEASE RATCHET FINE TOOTH

- Reversible
- 80 Teeth
- QuickRelease safety lock
- 2 component handle
- For use in confined spaces



Part No.	Description
12 11 10 20	QuickRelease Ratchet 435QR N



EBL12 SS  
0.2-1.2 Nm  
1000 rpm  
Max 30V DC

VIEW  
EXPENSES  
February 2013  
\$3763.55  
12/02/2013  
11:45 AM  
INCOME  
CREDIT  
64 GB  
net

## Torque Equipment

Andilog .....	130
Atlas Copco .....	133
Desoutter .....	136
Wiha .....	138
Other Torque Drivers.....	140
Torque Wrenches .....	141



# Andilog Torque Testing Solutions

## ANDILOG CENTORMETER

The Andilog Centormeter range allows you to calibrate and check all of your measuring instruments: torque wrenches, torque screwdriver, screw gun, compression and tension system, force gauges, etc.

The new version of the Centormeter equipment verifies the regulating torque value of screw guns. This includes electric, pneumatic and hydraulic screw guns where rotation speed can be regulated up to 3,000 RPM.

The Centormeter traces the curve, enabling immediate visualization of the increase in the torque.

The range of sensors allows for precise measurements from 0-6Nm up to 0-1,400Nm.

Each base is equipped with a main sensor and can support additional sensors, which will be recognized without the user doing a thing.

### System includes:

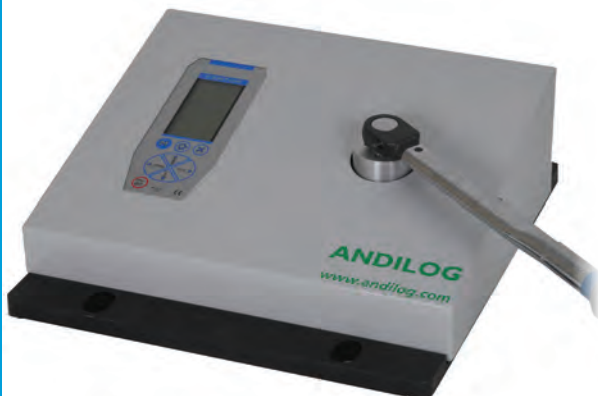
- A Centormeter with one torque sensor
- Power plug
- A support base with fixing holes
- One square drive on the torque sensor
- Certificate of calibration traceable to COFRAC

### Software Options:

- RSIC software compatible: Download your data to Microsoft Excel
- Datastick compatible : Save all your data directly on a SD memory card and read your results on a computer.

### Features:

- Accuracy: 0,5% FS
- Resolution: 1/10,000 PFS
- Display current value and peak: ✓
- Units: N.m, kg.cm, lb.in, mN.m, lb.ft
- Sampling Rate: 1 000 Hertz
- Tare: ✓
- Auto-off: ✓
- Average and standard Deviation: ✓
- Low Battery Indicator: ✓
- RS232 Output: ✓
- Backlight Display: ✓
- Rechargeable Battery: ✓
- Operating Time: 8h
- Power Supply: 110V / 220V



Part No.	Capacity	Accuracy	Resolution	Square
CTRMTR-H3	3Nm	0.015Nm	1.5mNm	3/8" Female
CTRMTR-H6	6Nm	0.03Nm	1.5mNm	3/8" Female
CTRMTR-W15	15Nm	0.075Nm	1.5mNm	3/8" Female
CTRMTR-W60	60Nm	0.3Nm	6mNm	3/8" Female
CTRMTR-W150	150Nm	0.75Nm	15mNm	1/2" Female
CTRMTR-W300	300Nm	1.5Nm	30mNm	1/2" Female
CTRMTR-W650	650Nm	3.25Nm	65mNm	3/4" male
CTRMTR-W1400	1400Nm	7Nm	1.4Nm	1" male

## ADDITIONAL TORQUE SENSORS

All ANDILOG additional torque sensors can be used with the same display screen in order to measure different capacities with great precision. Each sensor is provided with a support stand, a SPIP connector to connect to the instrument and its certificate of calibration traceable to COFRAC. Mounted with a SPIP connector, the Centor meter can read and recognize automatically the sensor and load all the parameters.



Part No.	Capacity	Accuracy	Resolution	Square	Axis
CMV/TH 3	3Nm	0.015Nm	1.5mNm	3/8" F/M	Vertical
CMV/TH 6	6Nm	0.03Nm	1.5mNm	3/8" F/M	Vertical
CMV/TH 15	15Nm	0.075Nm	1.5mNm	3/8" F/M	Vertical
CMV/TH 60	60Nm	0.3Nm	6mNm	3/8" F/M	Vertical
CMV/TH 150	150Nm	0.75Nm	15mNm	1/2" F/M	Vertical
CMV/TH 300	300Nm	1.5Nm	30mNm	1/2" F/M	Vertical
CMV/TH 650	650Nm	3.25Nm	65mNm	3/4" male	Vertical
CMV/TH 1400	1400Nm	7Nm	1.4Nm	1" male	Vertical
CMH/TH 3	3Nm	0.015Nm	1.5mNm	3/8" F/M	Horizontal
CMH/TH 6	6Nm	0.03Nm	1.5mNm	3/8" F/M	Horizontal
CMH/TH 15	15Nm	0.075Nm	1.5mNm	3/8" F/M	Horizontal
CMH/TH 60	60Nm	0.3Nm	6mNm	3/8" F/M	Horizontal
CMH/TH 150	150Nm	0.75Nm	15mNm	1/2" F/M	Horizontal
CMH/TH 300	300Nm	1.5Nm	30mNm	1/2" F/M	Horizontal
CMH/TH 650	650Nm	3.25Nm	65mNm	3/4" male	Horizontal
CMH/TH 1400	1400Nm	7Nm	1.4Nm	1" male	Horizontal

## ADDITIONAL DYNAMIC TORQUE SENSORS

The dynamic torque sensors are used to check torque on assembled parts. It is placed between the screwdriver and the screw and measure directly the torque applied on the screw.



Part No.	Capacity	Accuracy	Resolution	Square
SPIP DT 6	6Nm	0.03Nm	0.6mNm	1/4"
SPIP DT 12	12Nm	0.06Nm	1.2mNm	1/4"
SPIP DT 24	24Nm	0.1Nm	2.4mNm	3/8"
SPIP DT 60	60Nm	0.3Nm	6mNm	3/8"
SPIP DT 150	150Nm	0.75Nm	15mNm	1/2"
SPIP DT 600	600Nm	1.5Nm	60mNm	3/4"

## RUN DOWN ADAPTORS

Designed to provide consistent and reliable torque readings for use with power driven torque control tools. Reduces the impact and irregular peaks that cause poor repeatability. Each RDA has an effective Torque Range and will supply repeatable torque data within that range if used correctly. It's mounted in-line between the tool drive and transducer. These run down Adaptors are designed to provide consistent and reliable torque readings for use with power driven torque control tools.



Part No.	Accuracy	Resolution	Square
RDA 10i	0.1 - 1Nm	1/4"	63mm
RDA 25i	0.3 - 3Nm	1/4 "	63mm
RDA 50i	0.6 - 6Nm	1/4 "	63mm
RDA 100i	1 - 12Nm	1/4 "	63mm
RDA 250i	2.8 - 28Nm	1/4 "	60mm
RDA 50F	6 - 60Nm	3/8"	83mm
RDA 100F	13 - 135Nm	1/2"	83mm
RDA 250F	30 - 300Nm	1/2"	83mm
RDA 500F	65 - 650Nm	3/4"	111mm
RDA 1000F	140 - 1400Nm	1"	182mm

## WIRETEST 1 – CABLE TESTING

Ideal for test on small cross-sections, the WIRETEST 1 instrument measures the pullout forces or crimp forces for terminals up to 500N. With its two lines display, the operator can see the current value and the peak force in the same time. The high accuracy force gauge can be set to beep as soon as the necessary force has been reached. The operator then stops the wire pull test without reaching the pull-out force. It can also be connected to a computer using RS232 to download the tensile test results.

Ready to use, supplied with a basic excentric fixture for wire and a carousel suitable for all standard terminals.

### Features:

- Accuracy: 0,1% PE
- Resolution: 1/10,000 PE
- Units: N, Lb, Kg, g, Oz
- Sampling Rate: 1,000 Hertz
- Tare: ✓
- Force Limit: ✓
- Avg./std. Deviation: ✓
- Peak Tension/Comp: ✓
- Memory for Setup: ✓
- Digimatic Output: ✓
- Backlit Display: ✓
- Rechargeable Batteries: ✓
- Battery Life: 8 hours



### Wire Terminal Carousel:

Our accessory carousel is designed for maintaining crimp terminals during quality tensile tests to determine the break force of crimps, stands up to a crimping force of 500N. It can be used with all types of crimp terminals but also for crimp pins or crimp sleeves fitted to the beams and electrical harnesses.

With its 8 slots with various openings, the operator may test the cable with a size between AWG24 to AWG14 without changing the holding accessory.



Part No.	Capacity	Accuracy	Resolution	Travel
WIRETEST 1	0-500N	0,5N	0,05N	200mm

## WIRETEST T1 – CABLE TESTING

Ideal for testing pull force on terminals, the WIRETEST T1 system measures the break forces for terminals up to 1,000N. The test stand TEX 555 features a reversible arm to pull on the terminal, small footprint, durable design and portable.

The force gauge can be set to beep as soon as the necessary force has been reached. The operator then stops the wire pull test without reaching the pullout force.

Mounted with a carousel, the WIRETEST T1 can be used to test cables from AWG24 to AWG3 (with no insulation) without changing the holding fixture. The operator saves time and the tester is always operational. Ready to use, supplied with a self-closing wedge clamp and a carousel for all standard terminals.

### Features:

- Accuracy: 0,1% FS
- Resolution: 1/10,000 FS
- Units: N, Lb, Kg, g, Oz
- Sampling Rate: 1,000 Hertz
- Tare: ✓
- Force Limit: ✓
- Low Battery Indicator: ✓
- Peak Tension/Comp: ✓
- Memory for Setup: ✓
- Reversible Display: ✓
- Backlit Display: ✓
- RS232 Output: Send current reading, peak or minimum
- Digimatic Output: ✓
- Op. w/o charging: ✓
- Battery Life: 8 hours
- Power Supply: 110V / 220V
- Sensor protected from overloads up to 200% capacity: ✓

### System includes:

- Force gauge centor Easy with internal sensor capacity 500N or 1,000N
- Test stand TEX555
- Carousel for terminal
- Self-closing wedge clamp
- Certificate of calibration traceable to COFRAC



Part No.	Capacity	Accuracy	Resolution	Travel
WRTST T1-500	0-500N	0,5N	0,05N	150mm
WRTST T1-1000	0-1000N	1,0N	0,1N	150mm

## WIRETEST 2 – MOTORIZED WIRE TESTING

The WIRETEST 2 test bench is designed to test the quality of connections in place. The success of a connection is related to the quality of the setting tools and the proper adjustment of the setting machines. Because these settings tend to evolve over the course of production, it is essential to check them regularly.

Measuring the force needed to pull out the connections is a quick and easy step that very clearly shows the condition of the setting. Several aeronautic, automotive or railway standards define the test conditions: minimum acceptable forces depending on the diameter of the cable, tension rates, etc. WIRETEST 2 meets all those conditions. Thanks to its control console, the operator selects the settings for the tension rates, the return speed and the automatic return to the starting position. The force gauge displays the current values and the pull-out force. These results can either be stored in the memory (up to 1000 values) or even transferred to a computer.

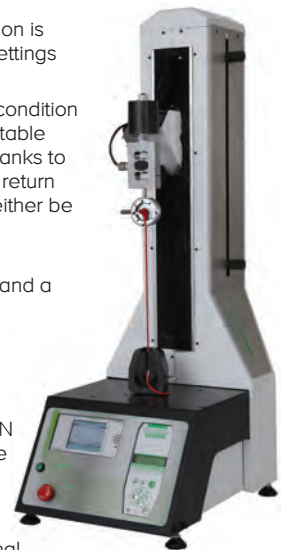
Designed for use in the production workshop, the WIRETEST 2 guarantees a faultless wiring. Maximum force 2,000n, displacement length 300mm, maximum length of samples 400mm, sold with a carousel for terminals and a self-closing wedge clamp.

### Features:

- Accuracy: 0,5% fS
- Resolution: 1/10,000 fS
- Data Rate: 1,000 Hertz
- Units: N, Lb, Kg, g, Oz
- Bargraph: ✓
- Peak Tension/Comp: ✓
- Disp. Curve Force/Deflection: ✓
- Avg./std. Deviation: ✓
- Automatic Calc.: ✓
- Emergency Stop: ✓
- Manual High Speed: ✓
- Automatic Return: ✓
- Man./Auto. Tare: ✓
- USB Output: current reading
- Data Rate on USB: 500 values/sec
- Data Rate on RS232: 50 values/sec
- Stop on Force: ✓

### System includes:

- One Load Cell Capacity 2,000N
- Motorized Force Tester Tentor II 2500
- One carousel fixture for terminal
- One self-closing wedge clamp
- Certificate of calibration traceable to COFRAC



Part No.	Capacity	Max Travel	Travel Resolution	Travel Accuracy	Table Dim	External Dim	Weight
WIRETEST 2	2KN	300mm	0,01mm	0,05mm	200 x 300mm	947 x 345 x 500mm	50kg

## CENTOR FIRST – DIGITAL FORCE GAUGE

The force gauge Centor First is a simple and yet complete digital force gauge which uses efficient technology to simplify force measurements. A big display shows the force measured in tension or compression in the unit selected by the operator: newtons, kilograms or pounds. The bar graph completes the measurement. It can be used on a test stand (manual or motorized) or as a manual force gauge.

The three keys make it very easy to use this force gauge and access the essential functions: measurement of the peak tension or compression value, resetting to zero and changing the measuring units. It is an ideal tool for basic tests during production. Its metal casing, protected by an elastomer hull, gives it exceptional strength.

The internal sensor stands up to an overload of 200% of its maximum capacity. Simple, accurate, robust, supplied with its own carrying case, mains adaptor and certificate of calibration, ready for use, it is the basic force gauge for force measurement.

### Specifications:

- Accuracy: 0.25% FS
- Resolution: 1 / 1,000
- Sampling Rate: 1,000Hz
- Auto-off: 15min
- Bargraph: ✓
- Units: N, lb, kg
- Battery Life: 8 hours



Part No.	Capacity	Model	RS232 Port
CNR-FT-100	100N	Centor First	No
CNR-FT-250	250N	Centor First	No
CNR-FT-500	500N	Centor First	No
CNR-FTXZ-100	100N	Centor First XZ	Yes
CNR-FTXZ-250	250N	Centor First XZ	Yes
CNR-FTXZ-500	500N	Centor First XZ	Yes

## CENTOR STAR TOUCH – ADVANCED TOUCH SCREEN FORCE GAUGE

Centor Touch is designed for manufacturing environments, providing performance and easy operations to use and understand with the addition of the new, colored touch screen technology. Icons guide the operator in the selection of the appropriate measurement technique and method for their application. Setup menus, prompts and results are available in multiple languages.

### Specifications:

- Tension and Comp.: ✓
- Accuracy: 0.1% FS
- Resolution: 1 / 10,000
- Sampling Rate: 1,000Hz
- Auto-off: Adj – 5 to 15min
- Overload Protection: 200%
- Calib. Certificate incl: ✓
- Bargraph: ✓
- Units: N, lb, kg, g, oz
- Tare Function: ✓
- Use of a Foot Pedal: ✓
- Internal Memory: ✓
- Statistics on 100 Tests: ✓
- Backlight Display: ✓
- Display Curve (force/time): ✓
- Automatic Calculations: ✓
- Memory Card Comp.: ✓
- Simultaneous Reading of two Channels: ✓
- Recognition of Displacement Sensors: ✓
- Battery Life: 8 hours



Part No.	Capacity	Model	RS232 Port
CNR-CT-5	5N	Centor Star Touch	Yes
CNR-CT-10	10N	Centor Star Touch	Yes
CNR-CT-25	25N	Centor Star Touch	Yes
CNR-CT-50	50N	Centor Star Touch	Yes
CNR-CT-100	100N	Centor Star Touch	Yes
CNR-CT-250	250N	Centor Star Touch	Yes
CNR-CT-500	500N	Centor Star Touch	Yes
CNR-CT-1000	1000N	Centor Star Touch	Yes

## CENTOR EASY – GRAPHICAL FORCE GAUGE

The Centor Easy force gauges are designed to meet the production needs of its users. This group offers several features which are indispensable today for quality control, for example ease of reading with its large backlit graphical display, RS232 output, memory of the last 100 values and ability to set thresholds with visual and sound alarms.

A new STATISTICS feature is available on the new Centor Easy models: the average and standard deviation of the current batch are calculated and displayed after each measurement. All the values of the production batch are kept in the memory and can be sent to a computer by RS232. The operator is spared any data entry, knows his results in real time and saves everything at the end of the tests.

The entirely configurable RS232 output sends the data to a PC

### Specifications:

- Accuracy: 0.1% FS
- Resolution: 1 / 10,000
- Sampling Rate: 1,000 Hz
- Auto-off: Adj 5 to 15min
- Overload Protection: 200%
- Calibration Cert incl.: ✓
- Bargraph: ✓
- Units: N, lb, kg, g, oz
- Tare Function: ✓
- Use of a Foot Pedal: ✓
- Battery Life: 8 hours



Part No.	Capacity	Model	RS232 Port
CNR-EA-10	10N	Centor Easy	Yes
CNR-EA-25	25N	Centor Easy	Yes
CNR-EA-50	50N	Centor Easy	Yes
CNR-EA-100	100N	Centor Easy	Yes
CNR-EA-250	250N	Centor Easy	Yes
CNR-EA-500	500N	Centor Easy	Yes
CNR-EA-1000	1000N	Centor Easy	Yes

## CENTOR DUAL – 2 CHANNEL FORCE GAUGE

Thanks to its ability to read two sensors simultaneously with a 500 Hertz sampling rate per channel, the Centor Dual is a true test console designed for advanced force testing. It offers all of the functionality of an efficient force gauge and its calculating power enables it to save values from two different sensors simultaneously and perform calculations on each channel.

It also traces an F1/F2 graphs on its display or even a force / displacement graph, as well as read potentiometric rules and incremental encoders.

### Specifications:

- Tension / Comp.: ✓
- Accuracy: 0.1% FS
- Resolution: 1 / 10,000
- Sampling Rate: 1000 Hz
- Auto-off: Adj - 5 to 15 min
- Bargraph: min
- Units: ✓
- Use of a Foot Pedal: N, lb, kg, g, oz
- Internal Memory: ✓
- Statistics on 100 Tests: ✓
- Display Curve (force/time): ✓
- Automatic calc.: ✓
- Memory Card comp.: ✓



Part No.	Capacity	Model	RS232 Port
CNR-DL-5	5N	Centor Dual	Yes
CNR-DL-10	10N	Centor Dual	Yes
CNR-DL-25	25N	Centor Dual	Yes
CNR-DL-50	50N	Centor Dual	Yes
CNR-DL-100	100N	Centor Dual	Yes
CNR-DL-250	250N	Centor Dual	Yes
CNR-DL-500	500N	Centor Dual	Yes
CNR-DL-1000	1000N	Centor Dual	Yes

## EBL HANDHELD DRIVERS – CLUTCH CONTROLLED

Easy to use and made for low torque applications. The brushless motor offers a long tool working lifetime and the patented ergonomics provide a high level of operator comfort. This ensures increased productivity making the EBL a great choice for demanding low torque operations. All EBL screwdrivers are designed to be used in applications with electronic components, with ESD (electrostatic discharge) certification. ESD certification means a guarantee against damage of electronic components by an uncontrolled electrostatic discharge (ESD) from the tools.

Standard models listed, some also available in Q, Q-RE, SS, SS-RE, 1500 and 1500-RE versions.

### Features:

- Robust driveline
- Low tool weight
- Batch count on reporting models
- Soft-stop feature on selected models
- Configurable push or lever start

### Benefits:

- High durability and low maintenance need
- Superior life span
- Maximum operator comfort
- Reduced noise levels
- Limit damage on sensitive components



Big Range available – Please contact us to discuss your specific needs.

Part No.	Description	Torque Range		Speed rpm	Length	Bit Drive
		cNm	in lb			
8431017002	EBL03	0.05-0.3	0.4-2.7	870	185	Wing 433
8431017004	EBL12	0.2-1.2	1.8-10.6	910	215	1/4" Hex
8431017016	EBL20	0.5-2	4.5-18	750	215	1/4" Hex
8431017023	EBL25	1-2.5	8.8-22.1	930	235	1/4" Hex
8431017033	EBL35	1-3.5	8.8-31	700	235	1/4" Hex
8431017040	EBL45	1-4.5	8.8-40	700	235	1/4" Hex
8431017044	EBL55	1-5.5	8.8-48	600	235	1/4" Hex

## PISTOL GRIP FOR DRIVER

- ESD approved
- Screwdriver not included



Part No.	Description	for Model
4220 0051 04	Pistol Grip	EBL 12, 20
4220 0051 05	Pistol Grip	EBL 21, 25, 35, 45, 55

## ANGLE HEAD FOR DRIVER

Both angle head and Adaptor needs to be ordered for mounting on EBL.



Part No.	Description	Drive
4210 4033 90	Angle Head	Front Part Square 1/4"
4210 4033 81	Angle Head	1/4" Hex Bit
4210 4033 82	Angle Head	1/4" Hex Quick Change
4210 4609 85	Adaptor EBL 12, 20	
4210 4609 81	Adaptor EBL 21/25/35/34/55	

## EBL DRIVE

For standard models and soft-stop models



Part No.	Description
8431 0170 70	EBL Drive

## EBL RE-DRIVE

For reporting models and soft-stop + reporting models



Part No.	Description
8431 0170 75	EBL RE-Drive

## EBL DRIVE PLUS

- For all standard models and soft-stop models
- Required for EBL25-1500, EBL25-1500-RE, EBL45, EBL45-RE, EBL55 and EBL55-RE



Part No.	Description
8431 0170 85	EBL Drive Plus

## EBL RE MODULE

To be connected between EBL Drive or EBL Drive Plus and RE tool.



Part No.	Description
8431 0170 76	EBL RE Module

## VACUUM PICK-UP SYSTEM

Not ESD approved



Part No.	Description
4220 0062 00	Vacuum Pump – 220V
4220 0062 05	Vacuum Pump – 115V

## VACUUM PICK-UP ADAPTOR

To pick up screws



Part No.	Description
4220 0080 30	Vacuum Pick-up Adaptor for EBL 03
4220 0080 31	Vacuum Pick-up Adaptor for EBL 12, 20
4220 0080 33	Vacuum Pick-up Adaptor for EBL 21, 25, 35

## Smart Tools for the Smart Factory

The digitalization of manufacturing and assembly means a shift in production optimization and automation. Having smart tools on your line means specific tightening information fed into the production system and information concerning critical details of your components, materials and tightening processes communicated to you. This provides a valuable opportunity to increase efficiency and results with pro-active problem solving, alongside with considerable energy savings from efficiency improvements.

Big Range available – Please contact us to discuss your specific needs.

### The Microtorque Tightening Range:

- Accurate low torque DC tightening
- Industry 4.0 ready tools for electronics assembly
- Error proofing with batch sequence, multi steps & seating control
- Get full connectivity and control through remote programming
- Maximize quality and productivity with most advanced tightening strategy available & vacuum screw pick-up
- Improve your traceability, process control and reduce your costs with advanced controllers and software
- Torque ranges from 1.2-250cNm (0.11-22.13inlb)

### HANDHELD DRIVERS – CURRENT CONTROLLED

Extremely ergonomic, very compact and full of functionalities, it is the most advanced tightening solution for any low torque application. Boost productivity and quality, resulting in high efficiency and cost reduction.

- Operator-friendly: Multiple torque programs to adapt the tightening to any needs, batch sequence guiding through complex operations, operator feedback guides and supports the user.
- Error-proof: Angle monitoring and control to customize the tightening strategy, detecting wrong screws, missing components and misaligned screws, bit slip detection, damaged thread detection, torque and angle limits or automatic workflow sequences.
- Cost reduction: Minimize scrap and rework costs, extensive data reporting and graph analysis.
- Screwdriver only, tool cable, controller and PSU need to be ordered separately



Part No.	Description	Torque Range		Speed rpm	Length	Bit Drive
		cNm	in lb			
8432 0815 18	ETD M08 ABL V2	2-8	0.18-0.7	1350	185	HM4
8432 0815 21	ETD M20 ABL V2	5-20	0.44-1.77	900	185	HM4
8432 0815 27	ETD M27 ABL V2	7.5-27	0.66-2.4	900	185	HM4
With configurable Push-to-start						
8432 0815 50	ETD M50 ABL V2	15-50	1.33-4.4	1000	238	HM4
8432 0815 80	ETD M80 ABL V2	20-80	1.77-7.1	1100	238	HM4
8432 0815 82	ETD M120 ABL V2	30-120	2.7-10.6	900	240	1/4" Hex
8432 0815 84	ETD M200 ABL V2	50-200	4.42-17.7	700	240	1/4" Hex
8432 0815 86	ETD M250 ABL V2	75-250	6.64-22.13	700	240	1/4" Hex

### CONTROLLER

Whether manufacturing high value consumer goods or sensitive electronics – MTF6000 is, together with ToolsTalk MT and the wide range of screwdrivers, designed to bring productivity and quality to your production.

- Smart System: Full process control, improved quality and optimized tightening process. Torque Seating Monitoring and Seating Control Strategy reveal and eliminate tightening issues such as floating screws, stripped joints or insufficient torque. Saving and graphically displaying tightening data assures detection and reporting of process abnormalities, providing invaluable information on the tightening and the complete assembly process.
- Connectivity: Remote access and Ethernet reduce down and setup times, assure full traceability. Connect a Barcode scanner and RFID reader for traceability, control operators access level and rejection management. Full visualization with software ToolsNet 8.
- Efficiency: Programs minimize and eliminate setups, Multistep Tightening helps to reduce cycle time maintaining high quality. Batch sequence creating work flow sequences combining multiple customized strategies – sometimes eliminating the need of a PLC.



Part No.	Description
8432 0851 00	MTF6000
8432 0852 10	IAM MT Workstation
8432 0852 20	IAM MT Process



## FIXTURED DRIVERS – CURRENT CONTROLLED

Boosting productivity, improving quality and reducing costs – it is extremely light, compact and full of functionalities. The MicroTorque QMC Series fixtured screwdrivers, combined with the powerful MTF6000 controller, is the most advanced tightening solution for any low torque application.

- Automation-friendly: Easy to install on any robot or torque arm and the many communication ports allow communication with, and integration in, any production process.
- Error-proof: Angle monitoring and control to customize the tightening strategy, detecting wrong screws, missing components and misaligned screws, bit slip detection, damaged thread detection, torque and angle limits or automatic workflow sequences.
- Cost Reduction: Minimize scrap and rework costs, extensive data reporting and graph analysis.



Part No.	Description	Torque Range		Speed rpm	Length	Bit Drive
		cNm	in lb			
8432 0844 05	QMC 21-05-HM4	1.2-5	0.11-0.44	1500	124	HM4
8432 0844 10	QMC 21-10-HM4	3.0-10	0.27-0.89	1500	178	HM4
8432 0844 25	QMC 21-25-HM4	5.5-25	0.49-2.21	1000	178	HM4
8432 0844 52	QMC 41-50-HM4	12.5-50	1.11-4.42	2000	200	HM4
8432 0844 53	QMC 41-100-HM4	25.0-100	2.21-8.85	2000	200	HM4
8432 0844 61	QMC 41-50-I06	12.5-50	1.11-4.42	2000	205	1/4" Hex
8432 0844 62	QMC 41-100-I06	25.0-100	2.21-8.85	2000	2.5	1/4" Hex
8432 0844 63	QMC 41-150-I06	37.5-150	3.32-13.27	1000	213	1/4" Hex
8432 0844 64	QMC 41-250-I06	62.5-250	5.53-22.13	850	224	1/4" Hex

## POWER SUPPLY UNITS



Part No.	Description	Compatible with
8432 0840 01	Power Supply Unit 36V/72W	ETD M08/20/27 ABL V2 & QMC21-05/10/25
8432 0840 02	Power Supply Unit 36V/180W	ETD M ABL V2 & QMC, all tools

## SCREW DISPENSER



Part No.	Description
8432 0830 00	SDS Screw Dispenser



# Desoutter Fastening Systems

## SLBN – LOW VOLTAGE DRIVERS

- With clutch shut-off
- Flexibility: Installation by clamping in the top or in the front by a torque fixing ring
- Productivity: Speed up to 2000rpm, maintenance-free due to brushless motor
- Ergonomy: Soft rubber grip, low noise level <70dB(A)
- Energy Efficiency: Low energy consumption, no CO<sub>2</sub> emissions
- ESD Safe



Big Range available – Please contact us to discuss your specific needs.

Description	Torque Range		Speed rpm	Drive
	Nm	in lb		
Low Voltage Screwdrivers Lever Start	0.02-12	0.18-106.2	230-410	Hex 1/4"
Low Voltage Screwdrivers Push Start	0.2-12	1.76-106.2	550-1500	Hex 1/4"

## SLBN – DRIVER CONTROLLERS

- Excluding Power cable and plug



Part No.	Description	Dimensions (L x W x H)	Voltage	Compatible with
615 932 635 0	ESPI	160 x 75 x 55	100-240	SLBN003/010/012/020
615 932 637 0	ESPI-HT	213 x 131 x 65	100-240	SLBN030/050
615 932 707 0	ESPI-HT Plus	213 x 131 x 65	100-240	SLBN90/120
615 932 708 0	ESP2-A	135 x 235 x 105	100-240	SLBN003 < 120
615 917 206 0	Power Plug Australia	–	–	–

## ELECTRIC TRANSDUCERIZED DRIVERS

- Transducerized tool for Extreme Precision:
  - 4mm wing shank and half moon bits for the smallest screws
  - Safety Critical Repeatability
  - Traceability using internal transducer
- Ergonomic Design:
  - Streamlined & contoured non-slip Tool Housing
  - Push / Lever start
  - M20 output thread for easy integration and automatization
- Programmable Vacuum System Activation Options:
  - Built in Accelerometer and dedicated connector for 24V vacuum pump



Part No.	Description	Torque Range		Speed rpm	Drive
		Nm	in lb		
615 165 874 0	ERXS 20	6-20	0.53-1.77	1000	WS-HM
615 165 875 0	ERXS 50	15-50	1.32-4.43	1000	WS-HM
615 165 876 0	ERXS 80	24-80	2.12-7.08	1000	WS-HM

## ELECTRIC TRANSDUCERIZED DRIVER CONTROLLERS

- Excluding Power cable and plug



Part No.	Description	Dimensions (L x W x H)	Voltage	Compatible with
615 932 635 0	CVIXS Controller	54.6 x 171.6 x 171	36 VDC	ERXS
615 932 637 0	CVIXS Power Supply	50 x 65 x 50	100-240 VDC	CVIXS
615 917 206 0	Power Plug Australia	–	–	–

## SPRING BALANCER

Potential benefits of using ergonomic accessories together with tools:

- Reduce repetitive stress injuries (RSI)
- Reduced operator fatigue
- Greater productivity
- Improved quality
- Reduced handling time
- Greater operator satisfaction
- Lower recruitment costs

Features:

- Steel housing
- Nylon cable
- Additional support chain included
- 10S / 15S / 22S with drum lock
- Operates only on spring failure



Models with up to 2.4kg/5.3lb capacity available – Please contact us.

Part No.	Description	Load Range		Cable Travel	
		kg	lb	m	ft
52542	1DU Balancer	0-0.5	0-1.1	1.5	4.9
50522	2DU Balancer	0.5-1.0	1.1-2.2	1.5	4.9
54532	2DUS Balancer	0.5-1.0	1.1-2.2	3.0	9.8
52862	3DU Balancer	1.0-1.5	2.2-3.3	1.5	4.9
50532	4DU Balancer	1.0-2.0	2.2-4.4	1.5	4.9
50542	5DU Balancer	1.4-2.4	3.1-5.3	4.5	4.9

## LINEAR ARM

Potential benefits of using ergonomic accessories together with tools:

- Reduce repetitive stress injuries (RSI)
- Reduced operator fatigue
- Greater productivity
- Improved quality
- Reduced handling time
- Greater operator satisfaction
- Lower recruitment costs

Features:

- Takes away the tool torque & weight from the operator wrist
- Improves quality of work and torque accuracy



Part No.	Description	Maximum Torque		Maximum Tool Weight		Arm equipped with	incl. D53 Tool Clamp
		Nm	ft lb	kg	lb		
615 810 700 0	Linear Arm D53-5	5	3.7	0.8	1.8	1 x 5DU	•
615 810 701 0	Linear Arm D53-12	12	8.8	1.5	3.3	2 x 5DU	•
615 810 702 0	Linear Arm D53-25	25	18.4	2.5	5.5	2 x 5DU	•
615 810 703 0	Linear Arm D53-25X	25	18.4	2.2	4.8	2 x 5DU	•
615 810 704 0	Linear Arm D53-50	50	36.8	5.0	11.0	2 x 15D	–
615 810 705 0	Linear Arm D53-100	100	73.7	6.0	13.2	2 x 22D	–

## AUTOMATIC SCREW DISPENSER

- Widest range of screw sizes: Between 1.0 (0.04") and 5.0mm (0.197") thread diameters (about 11 different screw sizes) including screws with captive washers and up to 19mm (3/4") screw length (under head)
- Complete: Supplied with universal feeding rail to avoid buying additional and expensive spare rails
- Fully adjustable: Vibration time, vibration intensity, and drum rotation time adjustments allow the user to optimize the screw feed rate
- Quiet operation & easy to service
- Included: Rail adjustment kit, AC Adaptor and ground wire
- Power: AC 100-240V



Part No.	Description	Screw Size
615 810 472 0	Automatic Screw Dispenser UK	M1.0-5.0
615 810 473 0	Automatic Screw Dispenser EUR	M1.0-5.0
615 810 474 0	Automatic Screw Dispenser US	0.04"-0.197"



# Wiha Torque Screwdrivers

## A convincing Concept – The exact Torque!

Made to EN ISO 6798, BS EN 26789, ASME B107.14M standards for repeated fastening of sensitive and expensive components in assembly, or in final inspections and quality assurance applications.

Also available in ESD safe and 1000V insulated versions!



### TORQUEFIX® FACTORY PRESET

- TorqueFix® Torque Screwdriver with a Fixed Torque Value pre-set by Wiha.
- ±6%, Traceable to national standards
- Special requirement torque settings on request.



Part No.	Nm	⊙	↔	↑↓
28501040	0.4	4	112	23
28501050	0.5	4	112	23
28501060	0.6	4	112	23
28501080	0.8	4	112	23
28501090	0.9	4	112	23
28501110	1.1	4	119	30
28501120	1.2	4	119	30
28501150	1.5	4	119	30
28501200	2.0	4	119	30
28501250	2.5	4	119	30
28501300	3.0	4	126	36
28501380	3.8	4	126	36
28501500	5.0	4	132	41
28501550	5.5	4	132	41
28501600	6.0	4	132	41
28501720	7.2	4	132	41

### TORQUEVARIO®-S: ADJUSTABLE WITH SCALE

- TorqueVario®-S Torque Screwdriver with Torque Value can be set via Window Scale
- Supplied with torque setter
- ±6%, traceable to national standards (\*Model 0.1-0.6Nm = ±10%)



Part No.	Nm	⊙	↔	↑↓
28521060	0.1-0.6*	4	127	23
28521100	0.4-1.0	4	127	23
28521200	0.8-2.0	4	131	30
28521500	1.0-5.0	4	138	36
28521800	2.0-8.0	4	142	41

### TORQUEVARIO® SET

Set of 13 pieces:  
Universal bit holder,  
10 bits (PH1, PH2, PZ1,  
PZ2, T10, T15, T20,  
T25, 2.5 flat, 3.0 flat),  
Torque Vario 1.0 - 5.0  
Nm and torque setter



Part No.	Description
268 930	Torque Vario Set 1.0 - 5.0Nm

### TORQUEVARIO® SET

Set of 13 pieces:  
Universal bit holder,  
10 bits (T7, T8, T9,  
T10, T15, 7IP, 8IP, 9IP,  
10IP, 15IP)  
Torque Vario 1.0 - 5.0  
Nm and torque setter



Part No.	Description
346 140	Torque Vario Set 1.0 - 5.0Nm

### EASYTORQUE PRESET TORQUE SCREWDRIVER

- Multi-component handle designed for the hand enables optimal power transmission
- Audible and perceptible click when the pre-set torque has been attained
- Rapid identification with imprint on handle end
- Use with a Wiha torque interchangeable blade



Part No.	Nm	⊙	↔	↑↓
36229	0.5	4	130	34
36230	0.6	4	130	34
36240	0.9	4	130	34
36231	1.1	4	130	34
36233	1.2	4	130	34
36234	1.4	4	130	34
36235	1.4	4	130	34
36236	2.5	4	130	34
36237	3.0	4	130	34
36238	3.8	4	130	34
36320	4.0	4	130	34
36321	4.5	4	130	34
36239	5.0	4	130	34

## Digital iTorque mechatronic Torque Screwdrivers

- Torque value can be set via a digital scale. Automatic release with calibration alert.
- Torque can be conveniently set directly via push button integrated in handle. Ergonomic plastic/metal compound handle of quality, robust materials. Handle sizes proportioned to optimise torque setting. Distinctly audible and perceptible click signal when set torque is reached. [%s]
- According to EN ISO 6798, BS EN 26789, ASME B107.14M standards
- ±6% accuracy, traceable to national standards.
- Torque bit universal holder exchange blade for accommodating (1/4") bits (included in delivery).
- For applications where recommended torque settings are important. Use in combination with a Wiha torque interchangeable blade.
- Click Control – integrated counter records all applications. Calibration alert following 5,000 applications (normative reference value/resettable) Large digital display for simple stepless setting of torque value. Units can be simply switched – Nm ↔ in.lbs / Ncm ↔ in.oz. A high service life: Can be recalibrated by Wiha Services Can be individualised in the order process – information available at mytorque.wiha.com.
- Products can be designed individually using the configurator at mytorque.wiha.com. (Can be chosen freely: two text fields, graphics field, calibration alarm, torque unit)

Many more interchangeable blades available to order!

Ergonomic plastic/metal compound handle of quality, robust materials. Handle sizes proportioned to optimise torque setting.

Distinctly audible and perceptible click signal when set torque is reached.

Torque can be conveniently set directly via push button integrated in handle.



### TORQUE 1/4" UNIVERSAL BIT HOLDER



Part No.	1/4"	4	155
27526	1/4"	4	155

### 1/4" SQUARE DRIVE ADAPTOR BLADE



Part No.	1/4"	4	155
26229	1/4"	4	155

### SLOTTED INTERCHANGEABLE BLADE



Part No.	1.5	2.0	2.5	3.0	3.5	4.0	max. Nm
26227	1.5	2.0	2.5	3.0	3.5	4.0	0.15
26228	2.0	2.5	3.0	3.5	4.0		0.4
26151	2.5	3.0	3.5	4.0			0.4
26277	3.0	3.5	4.0				0.6
26278	3.5	4.0					1.1
26279	4.0						2.5

### PHILLIPS INTERCHANGEABLE BLADE



Part No.	PH0	PH1	PH2	max. Nm
26197	PH0	PH1	PH2	0.4
26058	PH1	PH2		3.8
27079	PH2			5.5

### iTORQUE DIGITAL TORQUE SCREWDRIVER

- Digital Wiha iTorque variable Torque Screwdriver
- Supplied with universal bit holder (Suits 1/4 insert bits)



Part No.	Nm	lbs	4	134	34
36886	0.4-1.5	60-210 in.oz	4	134	34
36887	0.8-3.0	7-26 in.lbs	4	134	34
36888	1.0-5.0	9-50 in.ilbs	4	134	40

### HEX INTERCHANGEABLE BLADE



Part No.	1.3	1.5	2.0	2.5	3.0	4.0	max. Nm
26544	1.3	1.5	2.0	2.5	3.0	4.0	0.4
26200	1.5	2.0	2.5	3.0	4.0		0.9
26060	2.0	2.5	3.0	4.0			1.8
26061	2.5	3.0	4.0				3.8
26062	3.0	4.0					5.5
26063	4.0						8.0

### TORX® INTERCHANGEABLE BLADE



Part No.	T6	T7	T8	T9	T10	T15	T20	T25	max. Nm
27818	T6	T7	T8	T9	T10	T15	T20	T25	0.6
27812	T7	T8	T9	T10	T15	T20	T25		0.9
27813	T8	T9	T10	T15	T20	T25			1.3
27814	T9	T10	T15	T20	T25				2.5
27816	T10	T15	T20	T25					5.5
27816	T15	T20	T25						5.5
27817	T20	T25							8.0
29467	T25								8.0

# Other Torque Drivers

- Soft-grip T-handle for extreme comfort and optimal torque transmission. Audible and perceptible click when the pre-set torque has been attained. [%s]
- According to EN ISO 6798, BS EN 26789, ASME B107.14M standards
- $\pm 6\%$ , traceable to national standards.
- For applications where recommended torque settings are important. Use in combination with an interchangeable 6 mm blade for Wiha T-handle torque tools.
- Delivered in plastic case, incl. factory calibration certificate.



## T-HANDLE TORQUEFIX® FACTORY PRESET



Part No.	Nm	⌀	↕	↔
29228	6	6	120	56
29229	8	6	120	56
29230	10	6	120	56
29231	12	6	120	56
29236	12.5	6	120	56
29232	14	6	120	56

## T-HANDLE TORQUEVARIO® ADJUSTABLE WITH SCALE



Part No.	Nm	⌀	↕	↔
2893514	5-14	6	120	56

## 1/4" UNIVERSAL BIT HOLDER FOR T-HANDLE TORQUE TOOLS



Part No.	⌀	⊕	↔
28758	1/4"	6	125

## TORQUEVARIO® SET

Set of 11 pieces: TorqueVario 5-14Nm, torque setter, 1/4 Adaptor and 3/8 Adaptor

- 4.0, 5.0, 6.0
- T25, T30, T40



Part No.	Description
292 348	Torque Vario Set 5-14Nm

## TORQUE SCREWDRIVER TYPE FS – PRESET

- Adjustable torque screwdriver without scale
- Working Accuracy: +/- 6% tolerance of the set torque
- Acc. to DIN EN ISO 6789, traceable to national standards
- Precision radial ball clutch and cam design for controlled bi-directional tightening
- Precision mechanism slips very noticeably through when the set torque is reached
- Automatic resetting to the starting position
- Anodised aluminium handgrips
- Model 755-05 with additional removable T-bar



Part No.	⊕	⊞	Torque Range		Length
			cN m	N m	
755-01	–	1/4 / 6.3	4.4-22	0.04-0.22	76
755-02	1/4 / 6.3	–	4.4-22	0.04-0.22	104
755-03	1/4 / 6.3	1/4 / 6.3	27-135	0.27-1.35	111
755-04	1/4 / 6.3	1/4 / 6.3	80-400	0.8-4.0	127
755-05	1/4 / 6.3	–	–	2.8-13.6	137

## TORQUE SCREWDRIVER TYPE S – VARIABLE

- Adjustable torque screwdriver with scale
- Locking of the value by means of an adjustable knob
- Working Accuracy: +/- 6% tolerance of the set torque
- Acc. to DIN EN ISO 6789, traceable to national standards
- Precision radial ball clutch and cam design for controlled bi-directional tightening
- Precision mechanism slips very noticeably through when the set torque is reached
- Automatic resetting to the starting position
- Anodised aluminium handgrips



Part No.	⊕	⊞	Torque Range		Length
			cN m	N m	
757-01	1/4 / 6.3	1/4 / 6.3	24-120	0.24-1.2	169
757-06	1/4 / 6.3	1/4 / 6.3	120-600	1.2-6	184
757-09	1/4 / 6.3	1/4 / 6.3	400-900	4-9	184

# Torque Wrenches

If you find yourself second guessing your torque wrench, find a new torque wrench

You simple can't hope that a bolt holding a rotor blade on a helicopter is properly tightened, or that a nut keeping a conveyor running smoothly is secured, you have to know they are.

Proto wrench parts are manufactured from high-grade steel. Key working components are heat-treated to resist wear. Springs are manufactured to keep their shape for thousands of cycles. And assembly is done on a work bench, by hand!! All this ensures durable, dependable accuracy.

Anything less is intolerable.

## PROTO RATCHETING HEAD TORQUE WRENCH – NM

- Meets ASME Standard.
- Made in the USA.
- Calibrated to +/- 3% clockwise direction and +/- 6% counter clockwise direction at 20% to 100% of full scale
- Calibration is accomplished by manually loading the torque wrench.



Part No.	Drive Size	Range	Increments	OAL
J6006NMC	3/8"	16-80	0.5Nm	394mm
J6016NMC	1/2"	40-200	1Nm	546mm
J6014NMC	1/2"	70-350	1Nm	689mm
J6020NM	3/4"	160-800	4Nm	1056mm

## PROTO RATCHETING HEAD TORQUE WRENCH – IN-LBS

- Meets ASME Standard
- Made in the USA
- Calibrated to +/- 3% clockwise direction (For J6060A)
- Calibrated to +/- 4% clockwise direction and +/- 6% counter clockwise direction at 20% to 100% of full scale
- Calibration is accomplished by manually loading the torque wrench



Part No.	Drive Size	Range	Increments	OAL
J6060A	1/4"	10-50	1 in-lbs	241mm
J6062C	1/4"	40-200	1 in-lbs	302mm
J6064C	3/8"	40-200	1 in-lbs	302mm
J6066C	3/8"	200-1000	5 in-lbs	394mm
J6068C	1/2"	360-1800	10 in-lbs	546mm
J6072C	1/2"	600-3000	10 in-lbs	689mm

## COAXIAL TORQUE SPANNER

Torque spanner for 8mm AF nuts preset to 1N.m, specifically for use with coaxial connectors.



Part No.	Description	OAL
CHD 0801	Coax Torque Spanner	131mm

## TTI ADJUSTABLE RATCHET

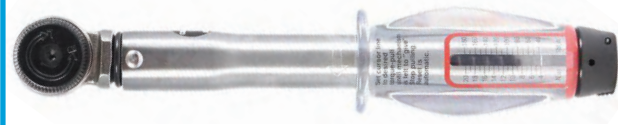
- Finished in an attractive durable satin chrome plate
- Accurate, easy to set and comfortable to use



Part No.	Description	Nm	lbf in	Increment
13830	TTi20 1/4	4-20	35-180	1.00
13831	TTi20 3/8	4-20	35-180	0.50
13841	ITTi50 3/8	10-50	8-35	–
13842	TTi50 1/2	10-50	8-35	–
13832	TTi20 Nm 1/4	20	–	–
13833	TTi20 Nm 3/8	4-20	–	–
13843	TTi50 Nm 3/8	10-50	–	–
13844	TTi50 Nm 1/2	10-50	–	–
13834	TTi15 ft lb 1/4	–	35-180	1.00
13835	TTi15 ft lb 3/8	–	35-180	1.00
13845	TTi35 ft lb 3/8	–	8-35	–
13846	TTi35 ft lb 1/2	–	8-35	–

## SLO ADJUSTABLE RATCHET AND FIXED HEAD

- Unmistakable signal when set torque is reached
- Supplied with a Declaration of Conformance, which meets the requirements of ISO 6789-1:2017
- High quality 72 tooth ratchet allows use in confined spaces.
- Fixed head version has a push through square for left and right handed torque tightening
- Moulded grip aids correct hand location and operator comfort



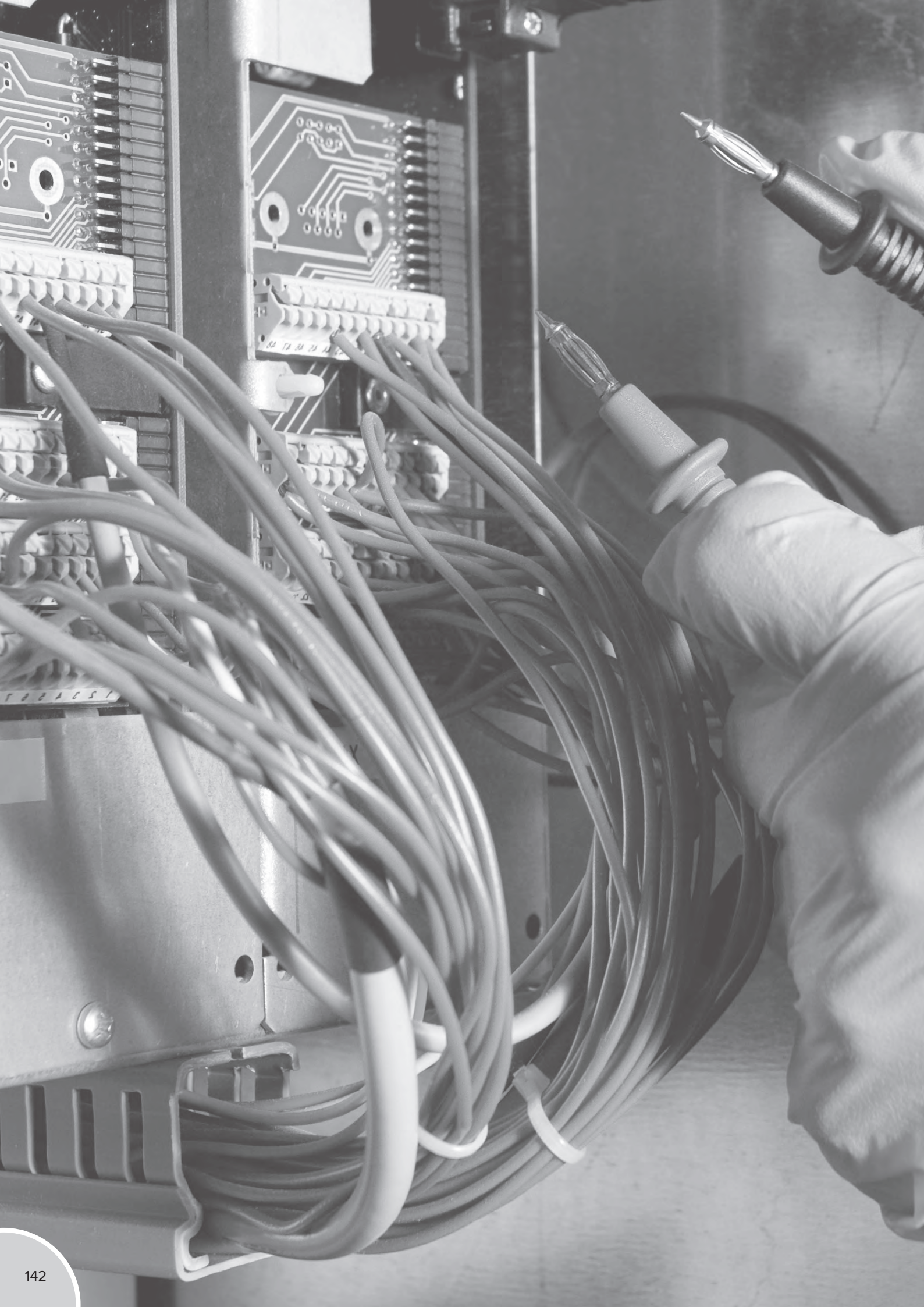
Part No.	Description	Nm	lbf in	Increment
11125	3/8 fixed	4.0-20.00	40.00-180.00	10.00
11123	1/4	4.00-20.00	40.00-180.00	1.00/10.00
11087	3.8	4.00-20.00	40.00-180.00	1.00/10.00

## MICROMETER TORQUE WRENCHES

- Torque accuracy of +/- 3% CW between 20% and 100% of wrench capability
- Thin profile, sealed, teardrop head design offers improved access and durability for highly effective application
- Pull adjustment collar feature allows quick and easy torque setting changes
- Scale markings are highly visible and easy to read
- Knurled anodized aluminum handle



Part No.	Description	ft/lbs	in/lbs	Increment
85062	3/8	10-100	–	1
85066	1/2	30-250	–	2
85060	1/4	–	30-200	1
85061	3/8	–	30-250	1
85063	1/2	20-150	–	1
85065	3/4	100-600	–	2.5







## Fluke Test Equipment

Digital Multimeters .....	144
Clamp Meters .....	152
Battery Testers .....	153
Thermometers .....	154
Infrared Cameras .....	160
Insulation Testers .....	166
Oscilloscopes .....	168
Test Leads, Probes and Clips.....	170
Other Test Equipment .....	173

# Digital Multimeters

Models	Advanced Meters			Wireless Meters			Industrial Maintenance and Field Service Meters			Compact Meter			Insulation Testers		Specialty Meters	
	87 V	287	289	233	3000 FC	175	177	179	113	114	115	116	117	1577	1587 FC	279 FC
<b>Basic Features</b>	20000	50000	50000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000	6000
<b>Counts/Counts</b>	AC	AC+DC	AC+DC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC	AC
<b>True-RMS Readings</b>	0.05%	0.025%	0.025%	0.25%	0.09%	0.15%	0.09%	0.09%	0.5%	0.5%	0.5%	0.5%	0.5%	0.2%	0.09%	0.09%
<b>Basic DC Accuracy</b>	20kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz
<b>Wide Bandwidth</b>	Auto/Manual Ranging			•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•
<b>Auto/Manual Ranging</b>	ATEX II 2G Ex ia IIC T4 Safety Rating Z1/Z2															
<b>Measurements</b>	Measurements															
<b>Voltage AC/DC</b>	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	600V	600V	600V	600V	600V	1000V	1000V	1000V
<b>Current AC/DC</b>	10A	10A	10A	10A	400mA	10A	10A	10A	10A	10A	10A	10A	10A	400mA	400mA	400mA
<b>Resistance</b>	50MΩ	500MΩ	500MΩ	40MΩ	50MΩ	50MΩ	50MΩ	50MΩ	40MΩ	40MΩ	40MΩ	40MΩ	40MΩ	50MΩ	50MΩ	50MΩ
<b>Frequency</b>	200kHz	1MHz	1MHz	50kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz	100kHz
<b>Capacitance</b>	10,000µF	50,000µF	50,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF	10,000µF
<b>Temperature</b>	+1090°C	+1350°C	+1350°C	+400°C	+400°C	+400°C	+400°C	+400°C	+400°C	+400°C	+400°C	+400°C	+400°C	+500°C	+500°C	Infrared -10°C to +200°C
<b>dB</b>	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB	60dB
<b>Conductance</b>	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS	50nS
<b>Duty Cycle/Pulse Width</b>	•/–	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•
<b>Continuity/Diode Test</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Motor Drive (ASD) Measurements</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>VoltAlert™ non-contact Voltage Detection</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>VCHEK™</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Microamps</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Insulation Test</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Number of Insulation Test Ranges</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Display</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Removable Wireless Display</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Dot Matrix Display</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Dual Display</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Analog Bargraph</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Backlight</b>	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level	Two level
<b>Graphical Trend Display</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Diagnostics and Data</b>	•/–	•/•	•/•	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–	•/–
<b>Min/Max Recording with Time Stamp</b>	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs	250µs
<b>Fast Min/Max</b>	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•
<b>Display Hold/Auto (Touch) Hold</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Relative Reference</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Stand-alone Logging</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Trend Capture</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Readings Memories</b>	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
<b>USB Interface</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Other Features</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Real Time Clock</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Automatic Selection, AC/DC Volts</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Closed Case Calibration</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>Separate Battery/Fuse Access</b>	•/–	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•	•/•
<b>Operating Temperature Range</b>	-20°C	-20°C	-20°C	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-10°C	-15°C
<b>Warranty and Electrical Safety</b>	+55°C	+55°C	+55°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C	+50°C
<b>Input Alert</b>	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>IP Rating</b>	IP30	IP30	IP30	IP54	IP54	IP54	IP54	IP54	IP42	IP42	IP42	IP42	IP42	IP42	IP42	IP40
<b>Safety Rating (EN 61010) CAT III</b>	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V	1000V
<b>Safety Rating (EN 61010) CAT IV</b>	600V	600V	600V	600V	600V	600V	600V	600V	600V	600V	600V	600V	600V	600V	600V	600V

# FLUKE 279 FC TRUE-RMS THERMAL MULTIMETER



Fluke 279



## Find. Repair. Validate. Report.

The industry first Fluke 279 FC is a full-featured digital multimeter with integrated thermal imaging and is designed to increase your productivity and confidence. The thermal multimeter helps you find, repair, validate, and report many electrical issues quickly so that you are confident problems are solved.

- Full-featured multimeter with built-in thermal imager
- 15 measurement functions including: AC voltage with low-pass filter, DC voltage, Resistance, Continuity, Capacitance, Diode test, Min/Max/Avg, AC current (with iFlex), Frequency
- Thermal imaging reveals many electrical issues quickly and safely, eliminating the need for time-consuming testing and validation
- Two-in-one tool is designed to increase productivity – no need to go back to the truck or office to retrieve a shared camera or wait for the thermographer – do more in less time
- iFlex expands your measurement capabilities – get into tight, hard to reach spaces for current measurement (up to 2500A AC)
- Save measurements and images while communicating wirelessly with a smart phone up to 6.1 metres away (no obstructions)
- Rechargeable lithium ion battery allows for a for a full work day (10+ hours) under normal conditions
- Image resolution: 80 x 60
- 3.5in / 8.89cm colour LCD screen
- CAT III 1000V, CAT IV 600V measurement category
- Three year warranty

## Recommended Accessories



i2500-10  
10 inch iFlex® Flexible  
Current Probe



i2500-18  
18 inch iFlex®  
Flexible Current  
Probe



BC500  
AC Power Charger



BP500  
Lithium-Ion Battery  
3000 mAh Battery



C280  
Carrying Case



MC6  
Fluke MeterCleaner™  
Wipes

## Recommended Kits

Buy more, Save more



Fluke 279FC I/B TRMS Combo Kit

## Specifications

DMM	
Basic DC Accuracy	0.09%
Bandwidth	1% 45Hz to 65Hz, full Time low pass Filter
Voltage	AC/DC 1000V
Current AC	iFlex Flexible Current Probe (included with the 279 FC/iFlex)
Resistance	50MΩ
Frequency	100kHz
Capacitance	9,999μF
Continuity with Beeper	Yes
Diode Test	Yes
Min/Max recording	Yes
Display Hold	Yes
Infrared Camera	
Infrared Resolution	80 x 60
Image capture Frequency	8 Hz
Field of View	36° (w) x 27° (h)
NETD	≤200mK
Infrared Spectral Band	7.5 to 14 microns
Center Point	Yes (with center point Temp)
Focus Mechanism	Fixed focus
Temperature Range	-10°C to 200°C Accuracy: ±5°C or (±5% as tested)
Emissivity	0.95 fixed
Background Compensation	20°C fixed
Memory Storage	Approximately 100 Images (internal)
File Format	Non-radiometric .is2
Other	
Battery Type	Rechargeable Lithium-ion Battery (Charge Time: 4.5 Hours)
Operating Temperature	-10°C to 50°C
Storage Temperature	-20°C to 60°C
Relative humidity	0% to 90% (0°C to 35°C) 0% to 75% (35°C to 40°C) 0% to 45% (40°C to 50°C)
Altitude	2,000 meters (6,561 feet)
Temperature Coefficient	Add 0.1 x specified Accuracy for each °C above 28°C or below 18°C
Ingress Protection	(IP) IP40 (non-operating)
Certifications	CE, CSA, FCC
Safety Compliance	IEC 61010-1: Pollution Degree 2; IEC 61010-2-033: CAT III 1000V/CAT IV 600V
EMC	EN 61326-1:2012
Size	215.9mm x 93.9mm x 57.1mm
Weight	0.793kg



## Included Accessories

TL75 Test Leads, Rechargeable Lithium-ion Battery, Charger, 18-inch (45.72 cm) iFlex Flexible Current Probe, Hanging Strap, Soft Carrying Case. 279 FC I/B Kit also includes: Additional Lithium-ion Battery.

## Ordering Information

Fluke 279 FC/  
iFlex TRMS Thermal  
Multimeter with  
iFlex

Fluke 279 FC  
I/B Kit TRMS Thermal  
Multimeter with  
iFlex and Extra  
Battery Kit

# FLUKE 280 SERIES TRUE-RMS LOGGING MULTIMETERS



Fluke 287



## Find little Problems before they become big

The Fluke 287/FC and 289/FC are the next generation in high performance industrial logging multimeters. These high performance industrial logging multimeters are designed to solve complex problems faster in many applications. Log data and review it graphically on-screen to help minimise downtime.

Communicate wirelessly with your smart phone directly from the field with the Fluke Connect® app and get quick answers or next step authorisations faster than ever before. It's as simple as adding the Fluke ir3000 FC Connector to the standard Fluke 287 and 289 (connector sold separately).

## Full-featured multimeter with built-in thermal imager

- Large 50,000 count, 1/4 VGA dot matrix display with white backlight
- Logging function with expanded memory for unattended monitoring of signals over time. Using on-board TrendCapture, users can graphically review logged readings without needing a PC. Store up to 10,000 recorded events
- Save, name, and recall multiple logging sessions before PC download is necessary
- Field upgradeable and expandable meter lets you stay current as new capabilities are added.
- Two terminal 50 ohm range with 1 milliohm resolution, 10 mA source current. Useful for measuring and comparing differences in motor winding resistance or contact resistance (289/FC)
- Low-pass filter for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment (289/FC)
- Limited lifetime manufacturer's warranty

## Recommended Accessories



TLK287 Electronic Test Lead Set



TLK289 Industrial Test Lead Set



FVF-SC2 Flukeview Forms Software with Cable



C280 Soft Case



I410 AC/DC Current Clamp



IR3000 FC Fluke Connect® ir3000 Connector

## Recommended Kits

Buy more, Save more

Fluke 287 FlukeView® Forms Combo Kit

Fluke 287 FlukeView® Forms Combo Kit with ir3000FC Connector

Fluke 289 FlukeView® Forms Combo Kit

Fluke 289 FlukeView® Forms Combo Kit with ir3000FC Connector

## Features

	287	289
Multiple on-screen Displays	•	•
True-RMS AC Bandwidth	100kHz	100kHz
dBV/dBm	•	•
DC mV Resolution	1µV	1µV
Megohm Range up to	500MΩ	500MΩ
Conductance	50.00nS	50.00nS
Continuity Beeper	•	•
Elapse Time Clock/ Time of Day Clock	•	•
Min/Max/Avg/Duty Cycle/ Pulse Width	•	•
Isolated optical DMM Interface with USB PC Connection	•	•
Auto/Touch Hold	•	•
Over 200 Hours logging Capacity with new Power saving Function	•	•
Lo Ohm Capability	—	•
LoZ Volts	—	•
Low Pass Filter	—	•

## Specifications

Functions	Range	Basic Accuracy
AC Volts or DC Volts	50.000mV, 500.00mV, 5.0000V, 50.000V, 500.00V, 1000.0V	0.025% 0.4% (True-RMS) (AC)
AC Current DC Current	500.00µA, 5000.0µA, 50.000mA, 400.00mA, 5.0000A, 10.000A	0.15% 0.7% (True-RMS)
Temperature (excluding Probe)	-200.0°C to 1350.0°C	1.0%
Resistance	50.000Ω, 500.00Ω, 5.0000kΩ, 50.000kΩ, 500.00kΩ, 5.0000MΩ, 50.00MΩ, 500.0MΩ	0.05%
Capacitance	1.000nF, 10.00nF, 100.0nF, 1.000µF, 10.00µF, 100.0µF, 1000µF, 10.00mF, 100mF	1.0%
Frequency	99.999Hz, 999.99Hz, 9.9999kHz, 99.999kHz, 999.99kHz	.005%

## Included Accessories

TL175 Test Leads, AC175 Alligator Clips, Probe Holder, six AA Batteries (installed), Calibration Certificate Sheet.

## Ordering Information

FLK-287	True-RMS Industrial Logging Multimeter with TrendCapture
FLK-289	True-RMS Electronics Logging Multimeter with TrendCapture
FLK-287/FVF Kit	FlukeView Forms Combo Kit
FLK-289/FVF Kit	FlukeView Forms Combo Kit
FLK-287/FVF/IR3000 Kit	Industrial Logging Multimeter and Software Combo Kit
FLK-289/FVF/IR3000 Kit	Industrial Logging Multimeter and Software Combo Kit
FLK-IR3000 FC	Fluke Connect® ir3000 Connector

## FLUKE 83V AND 87V DIGITAL MULTIMETERS



Fluke 87V

Fluke 83V



### Performance and Accuracy for maximum Industrial Productivity

The Fluke 80 Series V have improved measurement functions, troubleshooting features, resolution and accuracy to solve more problems on motor drives, in plant automation, power distribution, and electromechanical equipment.

The Fluke 87V has a unique function for accurate voltage and frequency measurements on adjustable speed motor drives and other electrically noisy equipment. A built-in thermometer conveniently allows you to take temperature readings without having to carry a separate instrument.

### Electrical Safety

All inputs are protected to CAT III 1000 V and CAT IV 600 V. They can withstand impulses in excess of 8,000 V to help protect you from arc blast resulting from surges and spikes.

Limited lifetime manufacturer's warranty.

### Recommended Accessories



TPAK  
Magnetic  
Meter Hanger



TL220  
SureGrip® Industrial  
Test Lead Set



TL175  
TwistGuard™  
Test Leads



TL224  
SureGrip™ Silicone  
Insulated Test Leads



AC285  
SureGrip™  
Alligator Clips



I400  
AC Current Clamp



C43  
Soft Carry Case



CXT80  
Extreme Case

### Recommended Kits

Buy more, Save more



Fluke 87V/E2 Industrial Electrician's  
Combo Kit

### Features

	87V	83V
True-RMS AC Voltage and Current for accurate Measurements on non linear Signals	•	—
Selectable Filter for accurate Voltage and Frequency Measurements on Motor Drives	•	—
0.05% DC Accuracy	•	—
6000 Counts, 3-3/4 Digits	•	•
4-1/2 Digit Mode for precise Measurements (20,000 Counts)	•	—
Measure up to 1000V AC and DC	•	•
Measure up to 10A, 20A for up to 30 Seconds	•	•
Built in Thermometer lets you carry one less Tool (TC Probe included)	•	—
Frequency to 200kHz and % Duty Cycle	•	•
Resistance, Continuity and Diode Test	•	•
10,000µF Capacitance Range for Components and Motor Caps	•	•
Min/Max-Average Recording with Min/Max Alert to capture Variations automatically	•	•
Battery Life	400 Hours with Backlight off	
Size	201mm x 98mm x 52mm	
Weight	355g	

### Specifications

Functions	Range	Basic Accuracy	
		87V	83V
DC Volts	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	0.05%	0.1%
AC Volts	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	0.7% (True-RMS)	0.5%
DC Current	600.0µA, 6000µA, 60.00µA, 600.0mA, 6.000A, 10.00A	0.2%	0.4%
AC Current	600.0µA, 6000µA, 60.00µA, 600.0mA, 6.000A, 10.00A	1.0% (True-RMS)	1.2%
Temperature (excl. Probe)	-200°C to 1090°C	1.0%	—
Temperature Probe	-40°C to 260°C	2.2°C or 2%	—
Resistance	600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ, 6.000MΩ, 50.00MΩ	0.2%	0.4%
Capacitance	10.00nF, 100.0nF, 1.000µF, 10.00µF, 100.0µF, 9.999µF	1.0%	1.0%
Frequency	199.99Hz, 1.9999kHz, 19.999kHz, 199.99kHz	0.005%	0.005%

### Included Accessories

TL175 Test Leads, AC175 Alligator Clips, Yellow Holster (H80M excl. TPAK), 80BK Temperature Probe (87V only), 9 V Battery (installed), User Manual and Technical Notes.

### Ordering Information

FLUKE-83V	Industrial Multimeter
FLUKE-87V	True-RMS Industrial Multimeter
FLUKE-87V /E2	Industrial Electrician Combo Kit

# FLUKE 170 SERIES DIGITAL MULTIMETERS



Fluke 179



## Versatile Meters for Field Service or Bench Repair

The three models of the Fluke 170 Series True-RMS Digital Multimeters (179,177,175) have the features needed to find most electrical, electro-mechanical and heating and ventilation problems. They are simple to use and have significant improvements over Fluke's standards, and a much larger display that's easier to view.

- True RMS voltage and current measurements
- 0.09% basic accuracy (177, 179)
- 6000 count resolution
- Digital display with analog bargraph and backlight (177, 179)
- Manual and automatic ranging
- Display Hold and Auto Hold
- Frequency and capacitance measurements
- Resistance, continuity and diode measurements
- Temperature measurements (179)
- Min-max-average recording
- Smoothing mode allows filtering of rapidly changing inputs
- Easy battery exchange without opening the case
- Closed case calibration through front panel
- Ergonomic case with integrated protective holster
- EN61010-1 CAT III 1000V / CAT IV 600V
- Measures twice as fast as other multimeters
- Battery life: 200 hours typical for alkaline.
- Size (HxWxL): 4.3cm x 9.0cm x 18.5cm
- Limited lifetime manufacturer's warranty



Fluke 177



Fluke 175

## Electrical Safety

All inputs are protected to measurement CAT III 1000 V and CAT IV 600 V. These meters can withstand transient impulses in excess of 8000 V to help protect you from arc blasts resulting from surges and spikes.

## Features

	179	177	175
Max Voltage AC/DC	1000	1000	1000
True-RMS	•	•	•
Temperature	•	–	–
Basic DC Accuracy	0.09%	0.09%	0.15%
Backlight	•	•	–
Min/Max/Avg	•	•	•
Compatible with ToolPak™ Meter hanging Kit with Magnet	•	•	•
Limited Lifetime Warranty	•	•	•

## Specifications

Functions	Range	Best Accuracy
DC Voltage	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	± 0.09% (177 and 179) ± 0.15% (175)
AC Voltage <sup>1</sup>	600.0mV, 6.000V, 60.00V, 600.0V, 1000V	± 1.0% of reading
DC Current	60.00mA, 400.0mA, 6.000A, 10.00A2	± 1.0% of reading
AC Current <sup>2</sup>	60.00mA, 400.0mA, 6.000A, 10.00A2	± 1.5% of reading
Resistance	600.0Ω, 6.000kΩ, 60.00kΩ, 600.0kΩ, 6.000MΩ, 50.00MΩ	± 0.9% of reading
Capacitance	1000nF, 10.00μF, 100.0μF, 9999μF	± 1.2% of reading
Frequency <sup>3</sup>	99.99Hz, 999.9Hz, 9.999Hz, 99.99kHz	± 0.1% of reading
Temperature (Model 179)	-40°C to +400°C	1.0% of reading

<sup>1</sup> All AC voltage and AC current ranges are specified from 5% of range to 100% of range.  
<sup>2</sup> 10A continuous, 20A for up to 30 seconds.  
<sup>3</sup> Voltage frequency is specified from 2Hz to 100kHz. Current frequency is specified from 2Hz to 30kHz.

## Recommended Accessories



## Recommended Kits

Buy more, Save more



Fluke 179/EDA2 Industrial Digital Multimeter Combo Kit

## Included Accessories

Test Leads with 4mm Lantern Tips, 9V Battery (installed) and User Manual, 80BK Temperature Probe (179 only).

## Ordering Information

FLUKE-175	True RMS Digital Multimeter
FLUKE-177	True RMS Digital Multimeter
FLUKE-179	True RMS Digital Multimeter
FLUKE-179/EDA2	Electronics Combo Kit

# FLUKE 110 SERIES TRUE-RMS DIGITAL MULTIMETERS



Fluke 116

Fluke 117



## Dependable Digital Multimeters for Electrical and HVAC Purposes

All the models in the Fluke 110 Series (117, 116, 115, 114, and 113) are True-RMS Multimeters with a large 3-1/2 digit / 6,000 count display.

The Fluke 117 includes integrated VoltAlert™ non-contact voltage detector and LoZ ghost voltage detector features to get the job done faster. The Fluke 116 is the HVAC/R Multimeter with temperature, microamps, and LoZ to quickly troubleshoot problems with HVAC/R equipment. The Fluke 115 is a compact meter for a wide variety of electrical/electronic testing applications, while the Fluke 114 and Fluke 113 are basic electrical troubleshooting meters designed for "go/no-go" testing.

- VoltAlert™ technology for integrated non-contact voltage detection (117)
- AutoVolt feature for automatic ac/dc voltage selection (117, 116, 114)
- Built in thermometer for HVAC applications (116)
- Microamps to test flame sensors (116)
- VCHEK™ LoZ low impedance measurement function to simultaneously test for voltage/continuity (113)
- LoZ: Low input impedance prevents false readings due to "ghost voltage" (117, 116, 114)
- Large display and white LED backlight to work in poorly lit areas more effectively
- Three year warranty

## Recommended Accessories



C115 Soft Carrying Case

TPAK Magnetic Meter Hanger

TL175 TwistGuard™ Test Leads

80PK-27 SureGrip™ Industrial Surface Probe (Fluke 116)

## Recommended Kits

Buy more, Save more



Fluke 116/323 HVAC Combo Kit



Fluke 117/323 Electricians' Multimeter Combo Kit

## Specifications

Functions	117	116	115	114	113
AC/DC Voltage	600V	600V	600V	600V	600V
AC/DC Current	10A	600.0µA	10A	—	—
Resistance	40MΩ	40MΩ	40MΩ	40MΩ	60MΩ
Capacitance	1nF to 9,999µF	1nF to 9,999µF	1nF to 9,999µF	—	1nF to 9,999µF
Diode Test	•	—	•	—	•
Frequency	5Hz to 99.99kHz	5Hz to 99.99kHz	5Hz to 99.99kHz	—	—
Temperature	—	+400°C	—	—	—
Safety Rating	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V	CAT III 600 V

## Features

	117	115	113
VoltAlert™ Detector	•	—	—
AutoVolt/LoZ	•	—	LoZ
Analogue Bargraph	•	•	•
True-RMS for accurate Measurements on non-linear Loads	•	•	•
Min/Max Recording	•	•	•
Display Hold	•	•	•
3-1/2 Digits	•	•	•
6000 Counts	•	•	•
CAT III 600V Safety rated	•	•	•
		116	114
Temperature		•	—
Microamps		•	—
Frequency		•	—
Capacitance		•	—
Diode Test		•	—
AutoVolt/LoZ		•	•
Analogue Bargraph		•	•
True-RMS for accurate Measurements on non-linear Loads		•	•
Min/Max Recording		•	•
Display Hold		•	•
3-1/2 Digits		•	•
6000 Counts		•	•

## Included Accessories

TL75 Test Leads, Holster, 80BK Integrated Temperature Probe (116), User's Manual and 9V Battery (installed).

## Ordering Information

FLUKE-113	Utility True RMS Digital Multimeter
FLUKE-114	Electrical True RMS Digital Multimeter
FLUKE-115	True RMS Digital Multimeter
FLUKE-116	HVAC True RMS Digital Multimeter
FLUKE-117	Adv. Electrical True RMS Multimeter
FLUKE-116/323	HVAC and Clamp Meter Combo Kit
FLUKE-116/62 MAX +	HVAC Multimeter and Infrared Thermometer Kit
FLUKE-117/323	Electrical Combo Kit

# FLUKE 77IV DIGITAL MULTIMETER



Fluke 77IV



## Versatile Multimeter for Field Service or Bench Repair

The Fluke 77IV Digital Multimeter has the features needed to repair most electrical and electronic problems. This meter is simple to use and has significant improvements over Fluke's original 70 Series with more measurement functions, conformance to the latest safety standards, and a much larger display that is easier to view.

- Wide 1000V measurement range
- Average responding AC measurements
- 0.3% accuracy
- 10 amps continuous
- Frequency and capacitance
- Resistance and continuity
- Large display
- Backlight for work in dim areas
- Min/Max to record signal fluctuations
- Integral holster with probe holders
- Free your hands with the optional TPAK magnetic hanger
- Auto and manual ranging
- Battery Life: 400 hours typical
- Weight: 0.42kg
- Size (HxWxD): 185mm x 90mm x 43mm
- Limited lifetime manufacturer's warranty

## Recommended Accessories



i400 AC Current Clamp



C35 Soft Carrying Case



TPAK Magnetic Meter Hanger



TL225 SureGrip™ Stray Voltage Adaptor Test Lead Kit



i2000 FLEX AC Current Clamp



TLK-225 SureGrip™ Master Accessory Kit

## Specifications

Functions	Maximum	Max. Resolution	Accuracy
Voltage DC	1000V	1mV	±(0.3%+1)
Voltage AC	1000V	1mV	±(2.0%+2)
Current DC	10A	0.01mA	±(1.5%+2)
Current AC	10A	0.01mA	±(2.5%+2)
Resistance	50MΩ	0.1Ω	±(0.5%+1)
Capacitance	9,999μF	1nF	±(1.2%+2)
Frequency	99.99kHz	0.01Hz	±(0.1%+1)

Accuracies are best accuracies for each function.

## General Specifications

Accuracy is specified for 1 year after calibration, at operating temperatures of 18°C to 28°C, with relative humidity at 0 % to 90 %. Accuracy specifications take the form of ±[ % of Reading ] + [ Counts ].

V Maximum Voltage between any Terminal and Earth Ground	1000V
Surge Protection	8kV Peak per IEC 61010
W Fuse for mA Input	440mA, 1000V FAST Fuse
W Fuse for A Input	11A, 1000V FAST Fuse
Display	Digital: 6,000 Counts, updates 4/sec
Bar Graph	33 Segments, updates 32/sec
Frequency	10,000 Counts
Capacitance	1,000 Counts
Operating Altitude	2,000 Metres
Storage Altitude	12,000 Metres
Operating Temperature	-10°C to + 50°C
Storage Temperature	-40°C to + 60°C
Temperature Coefficient	0.1 X (specified Accuracy/°C (< 18°C or > 28°C))
Electromagnetic Compatibility (EN 61326-1:1997)	In an RF Field of 3V/M, Accuracy = specified Accuracy except in Temperature: specified Accuracy ± 5°C
Relative Humidity (maximum non-condensing)	90% to 35°C; 75% to 40°C; 45% to 50°C
Battery Life	400 Hours
Size (HxWxL) and Weight	185mm x 90mm x 43mm; 420 Grams
Safety Compliance	ANSI/ISA S82.02.01, CSA C22.2-1010.1, IEC 61010 to 1000V Measurement Category III, 600V Measurement Category IV
Certifications	CSA, TÜV (EN61010), UL, II, (N10140), VDE

## Included Accessories

Test Leads with 4mm Lantern Tips, 9V Battery (installed), Manual Information Pack.

## Ordering Information

FLUKE-77-4 Digital Multimeter



# FLUKE 8846A, 8845A AND 8808A PRECISION BENCH MULTIMETERS



Fluke 8846A



Fluke 8845A



Fluke 8808A



## Fluke 8846A/8845A 6.5 Digit Precision Multimeters

These digital multimeters perform the functions you would expect to see in a multifunction DMM, including measuring volts, ohms and amps. Basic V DC accuracy of up to 0.0024 %, 10 A current range, and a wide ohms range give you an unbeatable combination of measurement capability.

Extend the meters' utility even more with their graphical display modes, including Trendplot™ paperless recorder mode, statistics and histograms – features you won't find on other multimeters.

- 6.5 digit resolution
- Up to 0.0024 % accuracy
- Graphical analysis modes: TrendPlot, Histogram and Statistics
- Dual measurement inputs: front/rear
- Dual measurement display
- Wide measurement range
- IEEE, LAN, RS-232 interfaces
- USB memory device port (8846A)
- TL2X4 wire measurement technique
- 17025 accredited report of calibration included
- Three year warranty

## Fluke 8808A 5.5 Digit Multimeter

The Fluke 8808A multimeter has a broad range of functions, measuring volts, ohms and amps with a basic V DC accuracy of 0.015 %. The meter is easy to use and include innovative functions to simplify routine testing and precision 4 wire resistance measurements.

- Up to 0.015 % accuracy
- Dual measurement display
- Sensitive DC leakage current ranges
- Front panel setup keys
- TL2X4 wire measurement technique
- Three year warranty

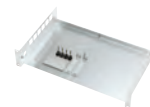
## Recommended Accessories



TL2X4W-TWZ  
2x4-Wire Ohms  
Tweezers Test Leads



TL2X4W-PTII  
2x4-Wire Ohms  
Test Lead



Y8846D  
Rack Mount Kit, Dual



884X-CASE  
Molded Plastic Case

## Sample Screens

### Fluke 8846A/8845A



Built-in TrendPlot graphically plots extent of drift and intermittent events.



Critical measurement statistics are conveniently displayed together.

## Specifications

	8808A	8845A	8846A
Display	Dual	Dual, graphical	
Resolution (Digits)	5.5	6.5	
Measurements	V AC, V DC, I DC, I AC, Ω, Cont, Diode	V AC, V DC, I DC, I AC, Ω, Cont, Diode	
Basic V DC Accuracy (% Reading + % Range)	0.015 + 0.003	0.0035 + 0.0005	0.0024 + 0.0005
Advanced Measurements/Functions	2x4 Wire Ohms, freq, I-Leakage dedicated Setup Keys	2x4 Wire Ohms, freq, period	2x4 Wire Ohms, freq, Period, Capacitance, Temp (RTD)
Math	Null, dBm, dB, Min, Max	Null, dBm, dB, Min, Max, Ave, Std Deviation, MX+B	
Analysis	Limit Compare	Limit Compare, TrendPlot, Histogram, Statistics	
USB Memory Device Port	–	–	•
Interfaces	RS-232, USB via optional Adaptor	RS-232, IEEE-488.2, LAN, USB via optional Adaptor	
Safety Rating	CAT I 1000V, CAT II 600V	CAT I 1000V, CAT II 600V	

## Included Accessories

LCI Line Power Cord, Test Lead Set, Spare Line Power Fuse, Programmers Manual / User Manual on CD-ROM, 884X-USB USB to RS232 Cable Adaptor, FVF-BASIC FlukeView® Forms Software Basic Version.

## Ordering Information

- FLUKE 8808A 5,5 Digit Multimeter
- FLUKE 8808A/SU 5,5 Digit Multi-meter (Software + Cable)
- FLUKE 8845A 6,5 Digit Precision Multimeter
- FLUKE 8845A/SU 6,5 Digit Precision Multimeter (Software + Cable)
- FLUKE 8846A 6,5 Digit Precision Multimeter
- FLUKE 8846A/SU 6,5 Digit Precision Multimeter (Software + Cable)

Calibration & Service Agreement units also available.

# Clamp Meters

## FLUKE 320 SERIES TRUE-RMS CLAMP METERS



Fluke 324

Fluke 323

Fluke 325



### Go to Work with the Best

True-RMS measurements and optimised ergonomics make the Fluke 320 Series True-RMS Clamp Meters the best general troubleshooting tools for commercial and residential electricians. The 323, 324 and 325 are designed to verify the presence of load current, AC voltage and continuity of circuits, switches, fuses and contacts. These small and rugged clamp meters are ideally suited for current measurements up to 400 A in tight cable compartments. The Fluke 325 also offers DC current and frequency measurements.

- 400A AC current measurement (AC and DC current; 325 only)
- 600V AC and DC voltage measurement
- True-RMS AC voltage and current for accurate measurements on non-linear signals
- Resistance measurement to up to 40kΩ with continuity detection
- Temperature and capacitance measurement (324 and 325 only)
- Frequency measurement (325 only)
- Slim, ergonomic design
- Large, easy to read backlight display (324 and 325 only)
- CAT IV 300V/CAT III 600V safety rating
- Hold button
- Two year warranty

### Recommended Accessories



C43  
Small Soft Case



C37  
Camouflage  
Carrying Case



TL175  
TwistGuard™  
Test Leads



TL225  
SureGrip™  
Electrical  
Test Lead Set



L210  
Probe Light  
and Extender



MC6  
MeterCleaner™  
Wipes

### Specifications

	Residential/Commercial Electrical		Light Industrial
Measurements	323	324	325
AC Current	•	•	•
AC Voltage	•	•	•
Resistance	•	•	•
Continuity	•	•	•
DC Volts	•	•	•
DC Current	–	–	•
True-RMS	•	•	•
Frequency	–	–	•
Min/Max/Avg	–	–	•
Temperature	–	•	•
Capacitance	–	•	•
Display			
Display Hold	•	•	•
Backlight	–	–	•
Specifications			
Jaw Opening		30mm	
Max Wire Size		600MCM	
Current Range AC RMS		0 to 400.0A	
Accuracy AC Current (50/60Hz)	2.0% ± 5 Digits	1.5% ± 5 Digits	2.0% ± 5 Digits
AC Response		True-RMS	
Current Range DC	–	–	0 to 400A
Accuracy DC Current	–	–	2.0% ± 5 Digits
Voltage Range AC		0 to 600.0V	
Accuracy AC Voltage		1.5% ± 5 Digits	
Voltage Range DC		0 to 600.0V	
Accuracy DC Voltage		1% ± 5 Digits	
Resistance Range		0 to 4000Ω	0 to 40kΩ
Frequency Measurement Range	–	–	500Hz



### Included Accessories

Test Leads, Soft Case, User Manual

### Ordering Information

FLUKE-323 True RMS Clamp Meter  
 FLUKE-324 True RMS Clamp Meter  
 FLUKE-325 True RMS Clamp Meter

# Battery Testers

## FLUKE BT500 SERIES BATTERY ANALYSERS



Fluke BT521

Fluke BT510



### More Battery Tests. Less Time.

Fluke's BT500 Series Battery Analysers cover a broad range of battery test functions ranging from DC voltage and resistance tests to full condition testing using an automated string function testing and the test probe integrated infrared temperature measurement system. 500 Series Battery Analysers are designed for measurements on stationary batteries of all types.

- **The world's fastest Battery Measurements:** Reduce time of a typical battery measurement with 50% from 8 seconds to 4 seconds.
- Unique CATIII 600V Safety Rating
- **Key Measurements:** Battery resistance, DC and AC voltage, DC and AC current, ripple voltage, frequency and battery temp.
- **Sequence Measurement Mode:** Automatic or manual sequence testing of battery strings with automatic measurement storage including voltage, resistance and temperature (with BTL21 intelligent test probe).
- **Optimised User Interface:** Quick, guided setup ensures you're capturing the right data every time.
- **Intelligent Test Probe Set (BT520 and BT521):** Integrated LCD display, infrared temperature measurement (BT521 only), verbal audio feedback and captures voltage readings and temperature logging automatically or via integrated save button.
- Three year warranty

### Recommended Accessories



BP500  
Lithium-ion Battery  
3000mAh



i410  
AC/DC  
Current Clamp



BT500-PROBE-TIP  
10 Count Probe Tips  
Covers



BTL10  
Basic Battery Analyser  
Test Leads



BTL20  
Interactive Battery  
Analyser Test Probe



BTL21  
Intelligent  
Test Probe



### Specifications

Functions	Range	Resolution	Accuracy	BT510	BT520	BT521
Battery Resistance <sup>1</sup>	3mΩ	0.001mΩ	1% + 8	•	•	•
	30mΩ	0.01mΩ	0.8% + 6	•	•	•
	300mΩ	0.1mΩ	0.8% + 6	•	•	•
	3000mΩ	1mΩ	0.8% + 6	•	•	•
V DC	6V	0.001V	0.09% + 5	•	•	•
	60V	0.01V	0.09% + 5	•	•	•
	600V	0.1V	0.09% + 5	•	•	•
	1000V	1V	0.09% + 5	–	–	•
V AC (45Hz to 500Hz with 800Hz Filter)	600V	0.1V	2% + 10	•	•	•
Frequency (displayed with V AC and A AC) <sup>2</sup>	500Hz	0.1Hz	0.5% + 8	•	•	•
AC Voltage Ripple (20kHz Max)	600mV	0.1mV	3% + 20	•	•	•
	6000mV	1mV	3% + 10	•	•	•
A DC/A AC (with Accessory Fluke i410)	400A	1A	3.5% + 2	–	–	•
Temperature	0°C to 60°C	1°C	2°C	–	–	•
Meter Mode	999 Records for each Measurement Position with Time Stamp					
Sequence Mode	Up to 100 Profiles and 100 Profile Templates (Each Profile stores up to 450 Batteries) with Time Stamp					
<b>General Specifications</b>						
Size (HxWxD) and Weight	220 x 103 x 58mm, 850g					
Screen Dimensions	77 x 56mm					
Interface	USB mini					
Operating Temperature	0°C to 40°C					
Lithium-ion Battery Charging Temperature	0°C to 40°C					
Operating Humidity	Non-condensing (10°C), <=80% RH (at 10°C to 30°C), <=75% RH (at 30°C to 40°C)					
IP Rating	IP40					
Radio	FCC Class A					
Vibration Requirements	MIL-PRF-28800F: Class 2					
Drop Test Requirements	1 metre					
Temperature Coefficients	Add 0.1 x specified Accuracy for each Degree C above 28°C or below 18°C					
Safety Compliance	600V CAT III					

### Included Accessories

4-Wire Test Pin (set), BTL10 Basic Test Lead (set), TL175 TwistGuard™ Test Leads with Adaptor, L300 Attachable LED Flashlight (2) (BT520 and BT521 only), BTL20 Intelligent Test Probe Set with extender (no temperature sensor) (BT520 only), BTL21 Intelligent Test Probe Set with extender and temperature sensor (BT521 only), i410 AC/DC Current Clamp (BT521 only), BP500 Lithium-ion Battery, BC500 AC Charger, Mini-USB Cable, Shoulder Strap, Belt Strap, Magnetic Hanging Strap, FlukeView® Battery Management Software, Soft Carrying Case, Spare Fuses (2), Battery Tags (BT520 and BT521 only).

### Ordering Information

FLK-BT510	Basic Battery Analyser
FLK-BT520	Battery Analyser
FLK-BT521	Advanced Battery Analyser

<sup>1</sup> The measurement is based on AC injection method. The injected source signal is <100 mA, 1 kHz.

<sup>2</sup> Trigger level V AC: 10mV, A AC: 10A

# Thermometers



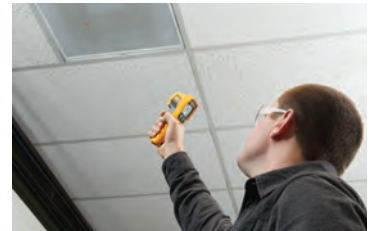
	Fluke 61	Fluke 62 MAX	Fluke 62 MAX+	Fluke 63	Fluke 64 MAX	Fluke 561	560 Series Fluke 566	Fluke 568/568Exx	570 Series Fluke 572-2
Temperature Range	-18 to 275°C	-30 to 500°C	-30 to 650°C	-32 to 535°C	-30 to 600°C	-40 to 550°C	-40 to 650°C	-40 to 800°C	-30 to 900°C
Distance to Spot	8:01	10:01	12:01	12:01	20:01	12:01	30:01:00	50:01:00	60:01:00
Laser Sighting	Single-Point Laser	Single Laser	Dual Laser	Single-Point Laser	Single Laser	Single-Point Laser	Single-Point Laser	Single-point Laser	Offset Dual Laser, Output <1 mW
Accuracy	2.00%	1.50%	1.00%	1.00%	1.00%	100%	1.00%	1.00%	1.00%
Response Time	< 500mSec	< 500mSec	< 300mSec	< 500mSec	< 500mSec	< 500mSec	< 500mSec	< 500mSec	< 500 mSec
Recommended Distance to Spot	Up to 2m	Up to 2m	Up to 2m	Up to 2.5m	Up to 2m	Up to 2.5m	Up to 4.5m	Up to 7.5m	Up to 9 m
Adjustable Emissivity		•	•	•	•	•	•	•	•
MIN/MAX Readings		•	•	- / -	•	•	•	•	•
AVG Readings		•	•	•	•	•	•	•	•
DIF Readings		•	•	•	•	•	•	•	•
Backlit LCD Display		•	•	•	•	•	•	•	•
Audible Hi/Lo Alarm		•	•	•	•	•	•	•	•
Visible Hi/Lo Alarm		•	•	•	•	•	•	•	•
Includes Contact Probe									
Probe Input (types)						Thermocouple K	Thermocouple K	Thermocouple K	Thermocouple K
Data Logging									
(number of measurements)					99 Points		20 Points	99 Points	99 Points
PC Interface								USB	USB 2.0

## Recommended Applications



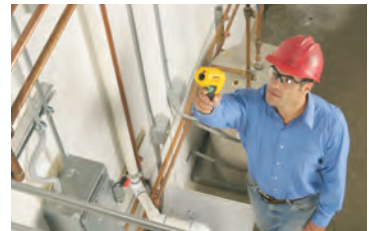
### Plant/Facilities Maintenance

- Preventive and Predictive Maintenance
- Energy Audits
- Vehicle and Fleet Maintenance Programs
- Faulty Electrical/Circuit Connections
- Petrochemical/Hazardous Locations
- Motors, Pumps and Bearings



### Heating/Ventilation/Air Conditioning/Refrigeration

- Leaky Ductwork
- Thermostats
- Temperature Balancing
- Steam Distribution Systems
- Compressor Lines



### Manufacturing Processes

- Molding Temperature Measurement
- Printing, Paper and Converting
- Thermoforming Plastics
- Electronics Paint Curing/Drying
- Food Chemical and Pharmaceutical



### Safety and Protection

- Fire Localisation
- Hazardous Materials
- Faulty Ballasts
- Search and Rescue
- Smoldering Embers
- Equipment Maintenance

# FLUKE 560 SERIES INFRARED THERMOMETERS

## Fluke 561, 566 and 568 Infrared and Contact Thermometers

With a straight-forward user interface and soft-key menus, the Fluke 561, 566 and 568 make even complex measurements easy. With just a few pushes of a button you can easily adjust emissivity, start data logging, or turn on and off alarms. With a rugged, easy-to-use design, the Fluke 561, 566 and 568 can stand up to tough industrial, electrical, and mechanical environments.

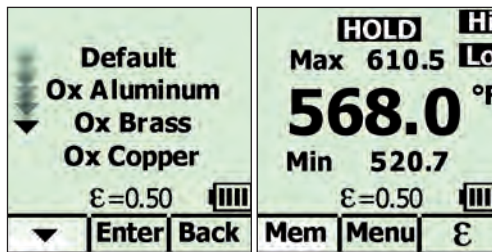


Fluke 568

Fluke 561



- Measure up to 800°C
- Easily access advanced features with the soft-key buttons and graphical display
- Measure smaller objects from further away
- Compatibility with most type K thermocouples
- Confidently measure more surfaces, with adjustable emissivity and built-in materials table
- Log and download measurements for reporting (568)
- Two levels of backlight (566, 568)
- Audible and visual alarms alert you to measurements outside of set limits
- Min/Max/Dif functions
- Includes KTC bead probe
- 1% measurement accuracy
- Two year warranty



Select the measurement surface

See complete measurement details in seconds

### Speciality Model

Fluke 568Ex Intrinsicly Safe Infrared Thermometer



- Measure -40°C to 800°C
- 50:1 distance to spot ratio with dual laser sighting for fast, accurate targeting
- Display resolution 0.1°C of reading
- Adjustable emissivity and predefined emissivity table
- Safety Certification ATEX/IECEx for Class1, Div 1 and Div 2 or Zone 1 and 2 hazardous environments

### Recommended Accessories



80PK-22 SureGrip™ Immersion Probe



80PK-27 SureGrip™ Surface Temperature Probe



80PK-8 Pipe Clamp Probe



80PK-11 Pipe Clamp Probe



80PK-18 Pipe Clamp Probe Kit



C1600 Gear Tool Box

### Specifications

	561	566	568/568 Ex
Infrared Temperature Range	-40°C to 535°C	-40°C to 650°C	-40°C to 800°C
Accuracy	Greater of ± 1% or ± 1°C		
Distance to Spot (D:S)	12:1	30:1	50:1
Sighting	Laser Point		
Typical Distance to Target	Up to 2.5 m	Up to 4.5 m	Up to 7.5 m
Probe Type	Thermocouple K		
Contact Temperature Range	-40°C to 550°C	-270°C to 1372°C	
Number of on-board Memory Locations	—	20	99
PC Download and Software	—	—	FlukeView® Forms
Soft-key Feature Menu Navigaton	—	•	
Min/Max/Avg/Dif	Min/Max/Dif	Min/Max/Avg/Dif	
Material Type Adjustment (Emissivity)	Hi/Med/Lo	Material Table or 0.1 to 1.00 by 0.01	
Two Levels of Backlight	—	•	
High and low Alarms	—	High and low Alarms	
Hands-free Logging	—	—	•
Battery	2 AA		
Included Case	Hard Case (except 561/R and 561/P)	Hard Case	

### Included Accessories

Thermocouple K-type Velcro Pipe Probe (561 only), K-type Thermocouple Bead Probe (566 & 568 only), FlukeView® Forms Software (568 only), USB Cable (568 only), Hard Carrying Case, two AA Batteries and User Manual with Measurement Guide.

### Ordering Information

FLUKE-561	HVACPro Infrared Thermometer
FLUKE-566	IR Thermometer
FLUKE-568	IR Thermometer
FLUKE-568 Ex	Intrinsicly Safe IR Thermometer

# FLUKE 572-2 HIGH TEMPERATURE INFRARED THERMOMETER



Fluke 572-2



## The best Choice when Things are really hot

The Fluke 572-2 Infrared Thermometer is the one product you can use in high temperature industrial environments all around the world. This is the best choice for when you need accurate results for high temperature readings from a long distance. Combined with ease of use and Fluke's ruggedness and reliability you can't go wrong.

- Measure -30°C to 900°C
- 60:1 distance to spot ratio with dual laser sighting for fast, accurate targeting
- 12 or 24 hour clock
- Last reading Hold (20 seconds)
- High and low temperature alarm
- Data storage and review (99 data sets)
- Compatible with standard mini-connector K-type thermocouples, including ones you already own and have installed
- Current Temperature plus MAX, MIN, DIF, AVG temperature displays
- Adjustable emissivity and predefined emissivity table
- Infrared and thermocouple temperature on backlit display
- FlukeView® Forms documenting software
- Two year warranty

## Recommended Accessories



80PK-1 Bead Probe



80PK-8 Pipe Clamp Temperature Probe



80PK-9 General Purpose Probe



80PK-11 Type-K Flexible Cuff Thermocouple Temperature Probe



80PK-25 SureGrip® Piercing Temperature Probe



80PK-26 SureGrip® Tapered Temperature Probe



80PK27 SureGrip® Piercing Temperature Probe

## Specifications

Infrared Temperature Range	-30°C to 900°C
Infrared Accuracy (Calibration Geometry with ambient Temperature 23°C ± 2°C)	≥ 0°C: ± 1°C or ± 1% of the Reading, whichever is greater ≥ 10°C to <0°C: ± 2°C < -10°C: ± 3°C
Infrared Repeatability	± 0.5% of the Reading or ± 0.5°C, whichever is greater
Display Resolution	0.1°C
Distance to Spot (D:S)	60:1 (calculated at 90% Energy)
Minimum Spot Size	19mm
Laser Sighting	Offset Dual Laser, Output <1mW
Spectral Response	8µm to 14µm
Response Time (95%)	<500ms
Emissivity	Digitally adjustable from 0.10 to 1.00 by 0.01 or via built-in Table of common Materials
Hi/Low Alarms	Audible and two-colour visual
Min/Max/Avg/Dif	•
Switchable Celsius and Fahrenheit	•
Backlight	Two Levels, normal and extra bright for darker Environments
Trigger Lock	•
Data Storage	99 points
Display	Dot Matrix 98 x 96 Pixels with Function Menus
Communication	USB 2.0
K-type Thermocouple Input Temperature Range	-270°C to 1372°C
K-type Thermocouple Input Accuracy (with ambient Temperature 23°C ± 2°C)	< -40°C: ± (1°C + 0.2%/1°C) ≥ -40°C: ± 1% or 1°C, whichever is greater
Operating Temperature	0°C to 50°C
Storage Temperature	-20°C to 60°C
Size (H x W x D)	177 x 164 x 52mm
Weight	0.322kg
Power	2 AA Batteries
Battery Life	8 Hours with Laser and Backlight on; 100 Hours with Laser and Backlight off, at 100% Duty Cycle (Thermometer continuously on)



## Included Accessories

K-type Thermocouple Bead Probe, USB 2.0 Computer Interface Cable, FlukeView® Forms Documenting Software, Hard Carrying Case, Getting Started Guide and User Manual (CD).

## Ordering Information

FLK-572-2 Infrared Thermometer

## FLUKE 60 SERIES INFRARED THERMOMETERS



Fluke 64 MAX

Fluke 62 MAX



Fluke 62 MAX

### Fluke 62 MAX, 62 MAX+ and New 64 MAX IR Thermometers

The Fluke 62 MAX, 62 MAX+ and new 64 MAX IR Thermometers have the precision you need to do your job accurately and will not break the budget. Designed and tested to survive a 3 metre drop, you can count on these lightweight, compact infrared thermometers to work when you need them to work—even in the harshest environments and when you're not able to be there.

- Precise laser technology for more accurate and repeatable measurements
- Temperature accuracy of up to  $\geq 0^{\circ}\text{C}$ :  $\pm 1^{\circ}\text{C}$  or  $\pm 1\%$  of reading whichever is greater with 20:1 distance to spot ratio (64 MAX)
- Flashlight (64 MAX) and large, easy-to-read backlit LCD display for easy viewing even in dark environment
- IP54 rated for extra protection against airborne contaminants
- Get your tool to work when you can't—set time and desired interval between measurements and Auto Capture will capture spot temperatures unattended (64 MAX)
- 99 data point logging (64 MAX)
- Displays the minimum, maximum or average temperature, or the difference between two measurements
- Hi & Lo alarms for rapid display of measurements outside set limits
- Dual rotating lasers to help you identify area to be measured (62 MAX+)
- Small and lightweight, fits easily into your tool box
- Three year warranty

### Recommended Accessories



H6  
Electrical Tester  
Holster



FLK-TI-TRIPOD  
Tripod Mounting  
Accessory for 64 MAX

### Recommended Kits

Buy more, Save more

Fluke T5-600/62 MAX+/1AC-II Infrared Thermometer and Electrical Tester Kit

Fluke T6-600/62 MAX+/1AC-II Infrared Thermometer and Electrical Tester Kit

Fluke 116/62 MAX+ Technician's Combo Kit

Fluke 414D/62 MAX and Laser Distance Meter/Infrared Thermometer Combo Kit

### Specifications

	62 MAX	62 MAX+	64 MAX
Temperature Range	-30°C to 500°C	-30°C to 650°C	-30°C to 600°C
Accuracy	$\pm 1.5^{\circ}\text{C}$ or $\pm 1.5\%$ of reading, whichever is greater -10°C to 0°C: $\pm 2.0$ -30°C to -10°C: $\pm 3.0$	$\pm 1.0^{\circ}\text{C}$ or $\pm 1.0\%$ of reading, whichever is greater -10°C to 0°C: $\pm 2.0$ -30°C to -10°C: $\pm 3.0$	$\pm 1.0^{\circ}\text{C}$ or $\pm 1.0\%$ of reading, whichever is greater $\pm 2.0^{\circ}\text{C}$ at -10°C to 0°C $\pm 3.0^{\circ}\text{C}$ at -30°C to -10°C
Emissivity	0.10 to 1.00		
Optical Resolution	10:1 (calculated at 90% energy)	12:1 (calculated at 90% energy)	20:1 (calculated at 90% energy)
Compliance	EN/IEC 61010-1: 2001		
Laser Safety	FDA and EN 60825-1 Class II		



Fluke 61

Fluke 63



### Fluke 61 and 63 IR Thermometers

Reach for a rugged Fluke 61 or 63 IR Thermometer for measuring surface temperatures of rotating, hard-to-reach, electricity live or dangerously hot targets like electrical motors, panels and heating and ventilation systems.

- Laser guided sighting system with 1% accuracy
- Up to 12:1 optical resolution
- Backlit display for easy reading in the dark
- Temperatures up to 535°C
- Warranty: Fluke 61 - One year, Fluke 63 - Two years

### Specifications

	61	63
Measurement Accuracy	-18°C to -1°C $\pm 3^{\circ}\text{C}$ above -1°C to 275°C	-32 to -26°C $\pm 3^{\circ}\text{C}$ -26 to -18°C $\pm 2.5^{\circ}\text{C}$ -18 to 23°C $\pm 2^{\circ}\text{C}$ For Targets above 23°C: $\pm 1\%$ of Reading or $\pm 1^{\circ}\text{C}$ , whichever is greater
Holds Temperature Readings	•	•
Range	-18 to 275°C	-32 to 535°C
Min/Max/Avg	-	Max
Distance to Spot Ratio	8:1	12:1
Hi-Lo Alarm	-	•
Emissivity	Fixed at 0.95	Fixed at 0.95

### Included Accessories

Fluke 64 MAX, 62 MAX and 62 MAX+: Two AA Batteries and Instruction Sheet.

Fluke 61 and 63 IR Thermometers: 9V Battery and Hard Carrying Case.

### Ordering Information

FLUKE-61	IR Thermometer
FLUKE-62 MAX	Single Laser IR Thermometer, 10:1 Spot
FLUKE-62 MAX PLUS (+)	Dual Laser IR Thermometer, 12:1 Spot
FLUKE 62 MAX+ /323/1AC	IR Thermometer Clamp Meter and Voltage Detector Kit
FLUKE-63	IR Thermometer
FLUKE-64 MAX	IR Thermometer
FLUKE-414D/62 MAX+ KIT	Laser Distance Meter/Infrared Thermometer Combo Kit
FLUKE-T5-600/62 MAX+/1AC	Electrical Tester IR Thermometer, Voltage Detector Kit
FLUKE-T6-600/62MAX+/1AC	T6-600 Tester, 62MAX+ & 1AC-II Combo Kit
1587KIT/62 MAX+	2-in-1 ADV Elec Kit with 62MAX+ i400 AC Current Clamp

## FLUKE 50 SERIES II THERMOMETERS



Fluke 54 II B

Fluke 53 II B



### Lab Accuracy in a Field Thermometer

The Fluke 50 Series II Contact Thermometers offer fast response and laboratory accuracy in a rugged handheld test tool.

- Laboratory accuracy:  $\pm (0.05\% + 0.3^\circ\text{C})$
- Large backlit dual display
- Min/Max/Avg
- Electronic offset function maximises overall accuracy
- Supports a wide range of thermocouple types
- Temperatures displayed in  $^\circ\text{C}$ ,  $^\circ\text{F}$ , or Kelvin (K)
- Three year warranty

### Powerful Data-logging Capabilities

The Fluke 53 II B and 54 II B can log up to 500 points of data to internal memory.

- User-adjustable recording intervals
- Real-time clock captures the exact event time
- Recall function lets logged data be easily reviewed
- Download data to optional FlukeView<sup>®</sup> PC software



Fluke 51 II

Fluke 52 II

### Speciality Model

FlukeFoodPro<sup>™</sup> and FoodPro Plus Food Safety Thermometers



The Fluke FoodPro Thermometer Series provides a complete temperature measurement and monitoring solution for food service professionals. It includes two useful temperature inspection tools, which are designed to enable foodservice professionals to quickly and accurately measure food product temperatures and to help detect potential food safety problems.

The Fluke FoodPro non-contact thermometer is the first line of defense against improper receiving, storage and holding temperatures. Using an infrared measurement technique, the highly accurate FoodPro quickly reads surface temperatures, allowing workers to make rapid and frequent temperature measurements – faster than contact units and without fear of cross contamination. The easy-to-see illumination light shows you the measurement area.

### Specifications

	51 II	52 II	53 II B	54 II B
Thermocouple Types	J,K,T,E	J,K,T,E	J,K,T,E,N,R,S	J,K,T,E,N,R,S
Number of Inputs	Single	Dual	Single	Dual
Time Stamp	Relative Time	Relative Time	Time of Day	Time of Day
Splash/Dust Resistant	•	•	•	•
Dual Display with Backlight	•	•	•	•
Min/Max/Avg Recording	•	•	•	•
(T <sub>1</sub> -T <sub>2</sub> ) True Differential	–	•	–	•
Data Logging up to 500 Points	–	–	•	•
IR Data Port for Interface to PC	–	–	•	•
Compatible with FlukeView <sup>®</sup> Software	–	–	•	•
Battery Life	1000 Hours typical, AA			
Size (H x W x D)	173 x 86 x 38mm			
Weight	0.4g			

### Temperature Range and Accuracy

J-type Thermocouples	-210°C to 1200°C
K-type Thermocouples	-200°C to 1372°C
T-type Thermocouples	-250°C to 400°C
E-type Thermocouples	-150°C to 1000°C
N-type Thermocouples	-200°C to 1300°C
R- and S-type Thermocouples	0°C to 1767°C
Temperature Accuracy above -100°C:	
J, K, T, E, and N-type	$\pm [0.05\% + 0.3^\circ\text{C}]$
R and S-type	$\pm [0.05\% + 0.4^\circ\text{C}]$
Temperature Accuracy below -100°C:	
J, K, E, and N-types	$\pm [0.20\% + 0.3^\circ\text{C}]$
T-type	$\pm [0.50\% + 0.3^\circ\text{C}]$

### Included Accessories

Fluke 50 Series Thermometers: Impact Absorbing Holster, Two Bead Probe Thermocouples 80PK-1 (54 and 52 only), One Bead Probe Thermocouple, 80PK-1 (51 and 53 only).

Fluke FoodPro (FP): AA Battery and Quick Start Guide.

FoodPro Plus (FPP): Built in Contact Probe, 9V Alkaline Battery, Quick Start Guide, Operator's Guide, Soft Carry Pouch.

### Ordering Information

FLUKE-51 II	Single Input Digital Thermometer
FLUKE-52 II	Dual Input Digital Thermometer
FLUKE 53 II B	Single Input Digital Thermometer w/ Data Logging
FLUKE 54 II B	Dual Input Digital Thermometer
FLUKE FP	FoodPro <sup>™</sup> Food Safety Thermometer
FLUKE FP PLUS	FoodPro <sup>™</sup> Plus Food Safety Thermometer



# FLUKE VT04 AND VT04A VISUAL INFRARED THERMOMETERS



Fluke VT04



## Detect Issues instantly

Fluke Visual Infrared Thermometers combine the convenience of a spot thermometer with the visual advantage of an infrared camera creating a brand new tool category.

Compact and intuitive, the Fluke VT04A and VT04 Visual Infrared Thermometers blend a visual image with a heat map overlay, to help quickly identify the location of issues.

Two year warranty.

- **Breakthrough Affordability:** Half the cost of infrared cameras that require training and software.
- **Built-in digital Camera:** Every Fluke Visual Infrared thermometer has a built-in digital camera.
- **Exclusive thermal Heat Map blending Overlay:** Blend digital and thermal images to instantly show the exact location of the issue. Blend between 0%, 25%, 50%, 75%, and full thermal with one button.
- **NEAR and FAR Mode:** Align the visual and thermal lenses to correctly identify the location of the issue
- **Centre Measurement Box:** See the exact area of temperature measurement right on the screen
- **Temperature Alarms and automated monitoring Features:** Identify intermittent problems by monitoring equipment over time or get alerts when a temperature is outside the expected range
- **SmartView® Reporting Software:** Store up to 10,000 images per GB on included SD card and make professional reports on included professional software.
- **No Training required:** Fully automatic with built-in intelligence.
- **True Pocket-size Design:** Forty percent smaller than entry-level infrared cameras.
- **Hot and cold Spot Trackers:** Automatically identifies hottest and coldest spots within field of view.

## Recommended Accessories



FLK-VT04-Charger  
VT04 Battery Charger



FLK-VT04-Battery  
Additional Battery



C90  
Soft Case for  
Visual IR  
Thermometers

Image  
Not Available

FLK-VT-Holster  
Holster for VT04/A

## Recommended Kits

Buy more, Save more

Fluke VT04 Visual Infrared Thermometer Maintenance Combo Kit

- VT04 Visual IR Thermometer
- 1507 Insulation Multimeter

Fluke VT04 Visual Infrared Thermometer Electrical Combo Kit

- VT04 Visual IR Thermometer
- 117 Digital Multimeter
- 376 AC/DC True-RMS Clamp Meter

Fluke VT04 Visual Infrared Thermometer HVAC Combo Kit

- VT04 Visual IR Thermometer
- 116 Digital Multimeter
- 902 FC True-RMS HVAC Clamp Meter

## Specifications

Key Features	VT04A	VT04
Built-in Digital Camera		•
Thermal Heat Map Overlay	Yes, five blending Modes	
Image Optics System	PyroBlend™ Plus Optic	
Field of View	28° x 28°	
Hi-Lo Temperature Alarms		•
Time-Lapse Image Capture		•
Auto-Monitor Alarm		•
Battery Type	4 AA Batteries	Li-Ion rechargeable
Training	No Training required	
Ergonomics	Slim pocket-sized Design	
Hot and cold Markers		•
Case	Soft Case	Hard Case

## General Features

Battery Life	8 hours
Temperature Measurement Range	-10°C to +250°C
Temperature Measurement Accuracy	+/- 2°C or +/- 2%
Temperature Measurement	Yes, centrepoint
Storage Medium (Micro SD Card)	Stores up to 10,000 Images per GB (4GB Card included)
Infrared Spectral Band	6.5µm to 14µm
Level and Span	Auto
Focus Mechanism	Focus-free, no Training required with built-in Intelligence
Focus Options - exclusive User selectable NEAR/FAR Options	NEAR > 23cm; FAR < 23cm
Size	21cm x 7.5cm x 5.5cm

## Included Accessories

Hard Case (VT04), Soft Case (VT04A), Hand Strap, Mini SD Card and Adaptor, SmartView® Software on CD, Lithium-ion Battery and Micro USB Charger/Power Supply (including mains Adaptors) (VT04) or four AA Batteries (VT04A), Quick Start Guide, User Manual.

## Ordering Information

FLK-VT04A	Visual Infrared Thermometer
FLK-VT04	Visual Infrared Thermometer
FLK-VT04-MAINT-KIT	Visual Infrared Thermometer Maintenance Combo Kit
FLK-VT04-HVAC-KIT	Visual Infrared Thermometer HVAC Combo Kit
FLK-VT04-ELEC-KIT	Visual Infrared Thermometer HVAC Combo Kit

# Infrared Cameras

## FLUKE EXPERT SERIES INFRARED CAMERAS TIX580, TIX560, TIX520 AND TIX500



Fluke TiX580



Fluke TiX560



Fluke TiX520



### Tablet-sized Screen, more Details, faster Decisions

You need maximum flexibility with an ergonomic design that allows you to easily navigate over, under and around hard-to-reach objects. With a lens that rotates a full 240 degrees and a tablet-sized 5.7 inch touchscreen LCD, you can aim and focus from a comfortable angle and easily capture the target that was once impossible to see.

- **Resolution:** TiX580, TiX560, TiX520 and TiX500 640 x 480 (307,200 pixels) and 1280 x 960 (1,228,800 pixels) with SuperResolution Mode
- **Temperature Range:**  
TiX580 -20°C to +800°C  
TiX560 -20°C to +1200°C  
TiX520 -20°C to +850°C  
TiX500 -20°C to +650°C
- Premium in-field viewing experience with the only 5.7 inch responsive touchscreen LCD in its class 1-150% more viewing area<sup>3</sup>
- Get an in-focus image with the touch of a button.
- LaserSharp® Auto Focus, exclusive to Fluke, uses a built-in laser distance meter that calculates and displays the distance to your designated target with pinpoint accuracy<sup>2</sup>
- See the details you need with smart lenses – 2x and 4x telephoto, wide angle, and 25 micron macro – no calibration required, interchangeable between compatible cameras
- See, save and share from the field and connect to the largest selection of wireless test and measurement tools with the Fluke Connect® App
- Two year warranty

<sup>1</sup> Compared to industrial handheld infrared cameras with 320x240 detector resolution as of September 1, 2015.

<sup>2</sup> Up to 30 metres.

<sup>3</sup> Compared to a 3.5 inch screen.

### LaserSharp® Auto Focus

Get an in-focus image like never before with just a touch of a button. LaserSharp® Auto Focus, exclusive to Fluke, uses its built-in laser distance meter to calculate the distance to your designated target with pinpoint accuracy. On target and in-focus. Every. Single. Time.

### Brilliant Image Quality

Enhanced image quality and temperature measurement accuracy – turn your 320 x 240 images into 640 x 480 images. That's 4x the resolution and pixels with SuperResolution.

## FLUKE TIX1000 & TIX600 EXPERT SERIES INFRARED CAMERAS

### The Future of Infrared is here in STUNNING HD Resolution

Your work as an expert thermographer is defined by the quality of the infrared images you take and your ability to analyse what's before you. The most pressing challenge lies not in analysing what you see, but the fear of missing something you can't.



FlukeTiX1000



- 10 times the on-camera pixels than standard 320 x 240 cameras (1024 x 768 resolutions, 786,432 pixels)
- Capture tough shots with a large 5.6 inch rotating LCD display
- Optimised for outdoor inspections with viewfinder that reduces outdoor glare
- High temperature option up to 2000°C
- Capture spectacular images close up or from a distance with your choice of seven optional lenses including 2x telephoto, 4x telephoto, wide angle, super wide angle and 3 macro lenses
- Identify rapid changes in temperature with the optional Sub-windowing feature (up to 240 Hz)

### Recommended Accessories



FLK-LENS/TELE2  
Telephoto infrared lens (2x magnification)

FLK-LENS/WIDE2  
Wide-angle infrared lens

FLK-LENS/4XTELE2  
Telephoto Infrared Lens (4x magnification)

FLK-LENS/25MAC2  
Infrared 25 Micron Macro Lens

TI-CAR-CHARGER  
Car Charger

FLK-TI-BLUETOOTH  
Bluetooth Headset

FLK-TIX5XX-NECK  
Neck Strap

FLK-TIX5XX-HAND  
Hand Strap

### Included Accessories

AC Power Supply and Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable, HDMI Video Cable, Hard Carrying Case, Adjustable Neck and Hand Strap, Bluetooth Headset (where available), Warranty Registration Card and Calibration Certificate. Flash Drive includes Product Manuals and SmartView® Software.

### Ordering Information

FLK-TIX580	Infrared Camera 60Hz
FLK-TIX580	Infrared Camera 9Hz
FLK-TIX560	Infrared Camera 60Hz
FLK-TIX560	Infrared Camera 9Hz
FLK-TIX520	Infrared Camera 60Hz
FLK-TIX520	Infrared Camera 9Hz
FLK-TIX500	Infrared Camera 60Hz
FLK-TIX500	Infrared Camera 9Hz

# Fluke Expert Series Infrared Cameras

## Selection Guide



Performance Series Infrared Cameras									
	TiX1000	TiX660	TiX640	TiX620	TiX580	TiX560	TiX520	TiX500	
Detector Resolution	1024 x 768 (786,432 pixels) SuperResolution Mode: 2048 x 1536 (3,145,728 pixels)		640x x480 (307,200 pixels) SuperResolution Mode: 1280 x 960 (1,228,800 pixels)			320 x 240 (76,800 pixels) SuperResolution Mode: 640 x 480 (307,200 pixels)			
IFOV (Spatial Resolution)	0.6mRad	0.8mRad	0.8mRad	0.85mRad	0.93mRad	1.31mRad			
Field of View	32.4° H x 24.7° V		30.9° H x 23.1° V		32.7° H x 24.0° V	34° H x 24° V		24° H x 17° V	
Distance to Spot	1765:1	1200:1	1100:1	1065:1	753:1				
Thermal Sensitivity	≤ 0.05°C at 30°C Target Temp (50mk)	≤ 0.03°C at 30°C Target Temp (30mk)		≤ 0.04°C at 30°C Target Temp (40mk)	≤ 0.05°C at 30°C Target Temp (50mk)	≤ 0.03°C at 30°C Target Temp (30mk)	≤ 0.04°C at 30°C Target Temp (40mk)	≤ 0.05°C at 30°C Target Temp (50mk)	
Temperature Range	-40°C to +1200°C High Temperature Option – Request at Time of Order: Up to 2000°C			-40°C to +600°C High Temperature Option – Request at Time of Order: Up to 2000°C	-20°C to +800°C	-20°C to +1200°C	-20°C to +850°C	-20°C to +650°C	
Focus Systems	LaserSharp® Auto Focus, Auto Focus, Manual Focus and EverSharp Multifocal Recording		Auto Focus, Manual Focus and EverSharp Multifocal Recording		MultiSharp™ Focus, LaserSharp® Auto Focus with built-in Laser Distance Meter and advanced Manual Focus				
Laser Distance Meter	•		–		•				
Optional Lenses	2 wide Angle, 2 Telephoto, 3 Macro and 1 Standard			1 wide Angle and 1 Telephoto	Pre-calibrated smart optional Lenses: Wide Angle, 2x Telephoto	Pre-calibrated smart optional Lenses: Wide Angle, 2x and 4x Telephoto, 25 micron Macro			
Wireless Connectivity	–		Fluke Connect® App compatible. Wireless Connectivity to PC, iPhone® and iPad® (iOS 4s and later), Android™ 4.3 and up, and WiFi to LAN!						
IR-Fusion®	AutoBlend™ Mode, continuous Blending						AutoBlend™ Mode		
Picture-In-Picture (PIP)	–				•				
Display	Extra-large 5.6 inch color TFT Display, 1280 x 800 pixel Resolution, suitable for Daylight Operation				5.7 inch Touchscreen LCD, 640 x 480 pixel Resolution				
Design	Camcorder with Handle, tiltable LCoS colour viewfinder Display, 800 x 600 pixel Resolution		Camcorder		Ergonomic FlexCam Design with a 240 degree rotating Lens				
Frame Rate	30Hz or 9Hz Versions	60Hz or 9Hz Versions		30Hz or 9Hz Versions	60Hz or 9Hz Versions				
Software	SmartView® and Fluke Connect® (Web, Mobile and Desktop)								
Video Recording	Standard and Radiometric								
Streaming Video (Remote Display)	Via HDMI; GigE Ethernet available in SmartView® Software				Yes, see the Live Stream of the Camera Display on your PC, Smartphone, or TV Monitor. Via USB, WiFi Hotspot, or WiFi Network to Fluke Connect® SmartView Software on a PC; via WiFi Hotspot to the Fluke Connect® App on a Smartphone; or via HDMI to a TV Monitor				
Remote Control Operation	•		Yes, through SmartView® Software or Fluke Connect® Mobile App				–		
Alarms	High Temperature, low Temperature and Isotherms (within Range)								

## FLUKE PROFESSIONAL SERIES INFRARED CAMERAS FLUKE TI480/PRO, TI450/PRO, TI400 AND TI300



Fluke Ti450 PRO



Fluke Ti400

Get clear, accurate focus on objects near and far with MultiSharp™ focus, or focus with laser speed and accuracy on your designated target with LaserSharp® Auto Focus. Easily navigate the menu and view images on a 3.5 inch, 640 x 480 touchscreen. Get more from your camera with an optional 2x or 4x telephoto or wide angle smart lens – no calibration required.

New models to the Professional Series family are the Ti480 PRO & Ti450 PRO Infrared Cameras, capturing smaller temperature difference with increased thermal sensitivity with a intuitive touch screen.

- Get 4x the pixel data with SuperResolution, which captures multiple images and combine them to create a 1280 x 960 image (Ti480/PRO) or a 640 x 480 image (Ti450/PRO)
- Save time—wirelessly sync images directly from your camera to the Fluke Connect® system, and attach to an asset record or work order.
- Reduce the need to take notes in the field with two helpful features:
  - IR-PhotoNotes™ annotation system captures digital images of the surrounding area to reference conditions or actual location
  - Any additional details can also be saved to the file with voice annotation
- Field of View (Ti480/PRO 34°H x 24°V, Ti450/PRO, Ti400, Ti300 24°H x 17°V)
- User testers, touch screen interface leverages current style (Ti480 PRO, Ti450 PRO)
- Two year warranty



Fluke Ti450 SF6



Increase efficiency and save money with a top performing infrared camera that delivers state-of-the-art SF6 detection - conduct two critical functions with a single tool. With its pistol grip comfort and point-and-shoot convenience, even the tough spots become easy to diagnose. Best of all, it's affordable enough to own, so you can conduct infrared and gas inspections whenever and wherever you want without having to pay heavy rental charges or hire expensive contractors.

- Detects the location of an SF6 leak—without shutting down equipment
- 320 x 240 resolution for gas and infrared images; SuperResolution increases to 640 x 480, only in infrared mode
- Get in-focus images in both infrared and gas modes with a touch of a button with LaserSharp® Auto Focus
- Capture clear, accurate infrared images focused throughout the entire field of view with MultiSharp™ Focus
- Compatible with smart lenses that require no calibration when swapping them between cameras – 2x telephoto lens included in kit
- Two year warranty

### Recommended Accessories



FLK-LENS/TELE2  
Telephoto infrared lens (2x magnification)

FLK-LENS/WIDE2  
Wide-angle infrared lens

FLK-TI-VISOR3  
Thermal Imager Visor

TI-TRIPOD3  
Tripod Mounting Base Accessory

FLK-TI-BLUETOOTH  
Bluetooth Headset

TI SBP3  
Additional Smart Battery

FLK-TI-SBC3B  
Additional Smart Battery Charger

BOOK-ITP  
Introduction to Thermography Principles Book

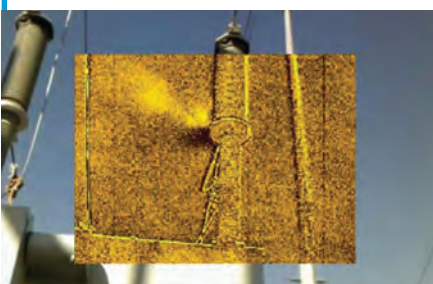
### Included Accessories

AC Power Supply and Battery Pack Charger, Two Lithium-ion Smart Battery Packs, USB Cable; HDMI Video Cable, 4 GB Micro SD Card, Hard Carrying Case, Soft Transport Bag and Adjustable Hand Strap, Fluke Connect® Desktop Software, User and Manual available via free download.

Fluke Ti450 SF6: Also includes 2x Infrared Telephoto Lens, HDMI Eye Piece, Tripod Holder and Hard Case.

### Ordering Information

FLK-Ti480PRO	Infrared Camera 60Hz
FLK-Ti480PRO	Infrared Camera 9Hz
FLK-Ti480	Infrared Camera 60Hz
FLK-Ti480	Infrared Camera 9Hz
FLK-Ti450PRO	Infrared Camera 60Hz
FLK-Ti450PRO	Infrared Camera 9Hz
FLK-Ti450	Infrared Camera 60Hz
FLK-Ti450 SF6	Gas Detector and 60Hz Infrared Camera
FLK-Ti450 9Hz	Infrared Camera
FLK-Ti400 60Hz	Infrared Camera
FLK-Ti400 9Hz	Infrared Camera
FLK-Ti300 60Hz	Infrared Camera
FLK-Ti300 9Hz	Infrared Camera



# Fluke Professional Series Infrared Cameras

## Selection Guide



Professional Series Infrared Cameras							
	Ti480 PRO	Ti450 PRO	Ti450 SF6	Ti480	Ti450	Ti400	Ti300
Detector Resolution	640 x 480 (307,200) SuperResolution Mode: 1280 x 960 (1,228,800 pixels)	320 x 240 (76,800 pixels) SuperResolution Mode: 640 x 480 (307,200 pixels)	320 x 240 (76,800 pixels) SuperResolution Mode: 640 x 480 (307,200 pixels)	640 x 480 (307,200 pixels) SuperResolution Mode: 1280 x 960 (1,228,800 pixels)	320 x 240 (76,800 pixels) SuperResolution Mode: 640 x 480 (307,200 pixels)	320 x 240 (76,800 pixels)	240 x 180 (43,200 pixels)
IFOV (Spatial Resolution)	0.93mRad	1.31mRad	1.31 mRad	0.93mRad	1.31mRad		1.75mRad
Field of View	34° H x 24° V	24° H x 17° V	24° H x 17° V	34° H x 24° V		24° H x 17° V	
Distance to Spot	1065:1	753:1		1065:1	753:1		565:1
Thermal Sensitivity	≤ 0.05°C at 30°C Target Temp (50mk)	≤ 0.025°C at 30°C Target Temp (25mk)		≤ 0.05°C at 30°C Target Temp (50mk)	≤ 0.03°C at 30°C Target Temp (30mk)	≤ 0.05°C at 30°C Target Temp (50mk)	≤ 0.05°C at 30°C Target Temp (50mk)
Temperature Range	≤ -10°C to +1000°C	-10°C to 1500°C	-20°C to +1200°C	-20°C to +800°C	-20°C to +1200°C		-20°C to +650°C
Gas Detection		–	• SF <sup>6</sup>			–	
Focus Systems		MultiSharp™ Focus		MultiSharp™ Focus, LaserSharp® Auto Focus with built-in Laser Distance Meter and advanced manual Focus	LaserSharp® Auto Focus with built-in Laser Distance Meter and advanced manual Focus		
Laser Distance Meter				•			
Optional Lenses	Pre-calibrated smart optional Lenses: wide Angle, 2x and 4x Telephoto, 25 micron Macro		Pre-calibrated smart optional Lenses: 4x Telephoto and wide Angle	Pre-calibrated smart optional Lenses: 2x Telephoto, wide Angle	Pre-calibrated smart optional Lenses: 2x and 4x Telephoto, wide Angle	Pre-calibrated smart optional Lenses: 2x and 4x Telephoto, wide Angle	Pre-calibrated smart optional Lenses: 2x and 4x Telephoto, wide Angle
Wireless Connectivity	Fluke Connect® App compatible. Wireless Connectivity to PC, iPhone® and iPad® (iOS 4s and later), Android™ 4.3 and up, and WiFi to LAN <sup>1</sup>						
IR-Fusion®				AutoBlend™ Mode			
Picture-in-Picture (PIP)				Picture-in-Picture			
Display	3.5 inch Touchscreen LCD, 640 x 480 pixel Resolution						
Design	Rugged, ergonomic Design for one-handed Use						
Frame Rate	60Hz or 9Hz Versions						
Software	SmartView® and Fluke Connect®						
Voice Annotation	60 seconds maximum Recording Time per Image, reviewable Playback on Camera; Bluetooth Headset provided (where available)						
Text Annotation				•			
Video Recording	Standard and radiometric						
Streaming Video (Remote Display)	Yes, see the Live Stream of the Camera Display on your PC, Smartphone, or TV Monitor. Via USB, WiFi Hotspot, or WiFi Network to SmartView® Software on a PC; via WiFi Hotspot to the Fluke Connect® App on a Smartphone; or via HDMI to a TV monitor						
Remote Control Operation	Yes, through SmartView® Software or Fluke Connect® Mobile App <sup>1</sup>						
Alarms	High Temperature, low Temperature, and Isotherms (within Range)						

# FLUKE RSE300 AND RSE600 INFRARED CAMERAS



Fluke RSE600



Fluke RSE300 with Stand



## Stationary Infrared Cameras for Research, Science and Engineering

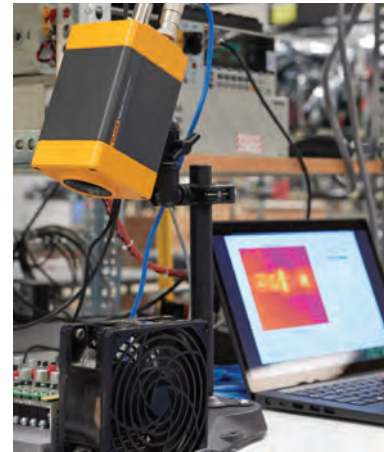
For precise research, science, and engineering applications, just seeing heat is not enough – it needs to be measured and analysed as well. The new Fluke® RSE300 and RSE600 Infrared Cameras are the first fully-radiometric, fixed-mount cameras from Fluke with advanced features including MATLAB® and LabVIEW® software plug-ins to easily analyse thermal data.

The RSE300 and RSE600 cameras continuously stream up-to-60 frames of data per second, allowing for detailed monitoring of temperature patterns and variances. With the included SmartView® desktop software, users can remotely focus the camera, auto-capture images, adjust level and span, and analyse infrared videos frame-by-frame. The software also makes it easy to edit images, generate customised reports, and export images to multiple formats to share thermal data quickly.

- 320x240 and 640x480 resolution options  
Temperature range: -10°C to + 12000°C
- MATLAB® and LabVIEW® software compatibility allows users to integrate infrared data, images and videos to support R&D analysis
- See the details you need with optional smart lenses: 2x and 4x telephoto, wide angle and macro lenses
- Optimise images, generate customisable reports and export images to the format of your choice with SmartView® desktop software
- Wirelessly connect your camera to the Fluke Connect® system to make faster decisions
- Two year warranty

## Recommended Accessories

FLK-LENS/TELE2 Telephoto Infrared Lens (2x magnification)	FLK 0.75X WIDE LENS Wide-angle Infrared Lens
FLK-LENS/4XTELE2 Telephoto Infrared Lens (4x magnification)	FLK-LENS/25MAC2 Infrared 25 Micron Macro Lens
BOOK-ITP Introduction to Thermography	FLK-RSE-MB Mounting bracket



## Specifications

Key Features	RSE300	RSE600
Detector Resolution	320x240 (76,800 Pixels)	640x480 (307,200 Pixels)**
IFOV with Standard Lens (Spatial Resolution)	1.85mRad	0.93mRad
Field of View	34°H x 25.5°V	34°H x 25.5°V
Minimum Focus Distance	15cm	
Camera Focus Options	Focus is adjusted in SmartView® Desktop Software	
MultiSharp™ Focus	Yes, focused near and far, throughout the field of view	
IR-Fusion® Technology	Yes, in SmartView® Desktop Software. Five modes of image blending (AutoBlend™ mode, Picture-in-Picture (PIP), IR/Visible alarm, Full IR, Full visible light) add the context of the visible details to your infrared image	
Interfaces for Image/Data Transfer	Supported in Camera Data Ports: GigE Vision	
Thermal Sensitivity (NETD)	≤ 0.030°C at 30°C Target Temp (30mK)*	≤ 0.040°C at 30°C Target Temp (40mK)*
Temperature Measurement Range	-10°C to + 1200°C	
Level and Span	Smooth auto and manual Scaling, in SmartView® Desktop Software	
Built-in Digital Camera (visible Light)	5 megapixel Industrial Performance	
Digital Zoom	Variable up to 16x in SmartView® Desktop Software	
Color Alarms (Temperature Alarms)	Yes, in SmartView® Desktop Software – high temperature, low temperature, and isotherms (within range)	
Spot Temperature	Yes, in SmartView® Desktop Software – hot and cold Spot Markers	
User-definable Spot Markers	Unlimited user-definable Spot Markers, in SmartView® Desktop Software	
Centre Box	Expandable-contractible Measurement Box with MIN-MAX-AVG Temp Display, in SmartView® Desktop Software	
Size (H x W x L)	8.3cm x 8.3cm x 16.5cm	
Weight	1kg	
Enclosure Rating	IEC 60529: IP67 (protected against Dust, limited Ingress; protection against Water Spray from all directions)	

\* Best possible

\*\* Option to output 320x240 Infrared Data through GigE Vision

## Included Accessories

Standard Infrared Lens, AC Power Supply, Ethernet Cable, Antenna, SmartView® desktop software and user manual, (available by free download).

## Ordering Information

FLK-RSE300	Infrared Camera 320x240 60Hz
FLK-RSE300	Infrared Camera 20x240 9Hz
FLK-RSE600	Infrared Camera 640x480 60Hz
FLK-RSE600	Infrared Camera 640x480 9Hz

# PTI120 POCKET THERMAL IMAGER



Fluke PTi120



## The power of a professionalgrade thermal imager that fits in your pocket

In the right place. At the right time. With the right tool.

The bigger the problem, the faster you need to solve it. The Fluke Pocket Thermal Camera puts the power to minimize downtime in everyone's hands. The first line of defense for easy troubleshooting. Stop fighting fires on the job, start preventing them.

### On the Job, because it does the Job

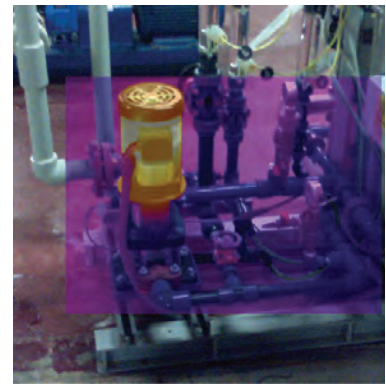
A camera small enough to carry every day without worry. Always at hand. Stands up to dirt and water. Can survive a 1-meter drop. Now enhanced infrared inspections are right in your pocket for quick temperature scans of electrical equipment, machinery and other assets.

### Automatically save your thermal Images to the right Folders

With Fluke Connect Asset Tagging you eliminate the tedium of sorting and organizing your infrared images. By simply scanning your asset's QR code or barcode, your infrared image and all of your date and time stamped information will be stored to your predefined folders. Send via WiFi or automatically upload once you connect to the network or computer via USB. It's about time. Now you can more efficiently save, find and report on issues before they become problems.

### Get your preferred Level of Infrared every Time

The 3.5" LCD touchscreen offers IR-Fusion™ to blend a visible light image with an infrared image to more easily locate problems. Simply slide your finger across the screen to adjust the setting.



## Specifications

Key Features	PTI120
Touchscreen Display	3.5" (Landscape), 320 x 240 LCD
Frame Rate	9Hz
IFOV (Spatial Resolution)	7.6mRad
Infrared Resolution	120 x 90 (10,800pixels)
Infrared Spectral Band	8µm to 14µm (Long Wave)
Field of View	50°H x 38°V
Distance to Spot	130:1
Temperature Measurement Range (not calibrated below -10 °C)	-20°C to 150°C
Thermal Sensitivity (NETD)	60 mK
Accuracy	Accuracy Target Temp at or over 0°C: Accuracy: ± 2°C or ± 2%
Color Alarms (Temperature Alarms)	High Temperature, low Temperature and Isotherms (within Range)
Center-Point Temperature	•
Spot Temperature	Hot and Cold Spot Markers
Focus System	Fixed focus, minimum Focus Distance 22.8cm
USB	Mini USB used to transfer Image to PC
Wifi	•
Fluke Connect® Instant Upload	Yes, connect your Camera to your building's WiFi network, and Images taken automatically upload to the Fluke Connect® system or your local Server for Storage and Viewing on your PC (802.11 bgn (2.4 GHz))
Safety	EN 61010-1: CAT none, pollution degree 2, EN 60825-1: Class 2, EN 60529, EN 62133 (Lithium Battery)
Electromagnetic Compatibility	EN301 489-1 V2.1.1 EN301489-17 V3.1.1
Size (H x W x L)	8.9cm x 12.7cm x 2.5cm (3.5 in x 5.0 in x 1.0 in)
Enclosure Rating	IP54 / 1 Meter Drop resistant
Battery Life	≥ 2 hours continuous (without WiFi)
Battery Charging Time	≤ 1.5 hours
Operating Temperature	-10°C to +50°C (14°F to 122°F)
Storage Temperature	-40°C to +70°C (-40°F to 158°F)
Relative Humidity	95% non-condensing

### Included Accessories

Infrared camera; USB cable; soft transport bag; adjustable lanyard. Available by free download: Fluke Connect software and user manual.

### Ordering Information

FLK-PTI120 Thermal Imager  
120x90 9Hz

# Insulation Testers

## FLUKE 1587 FC AND 1577 INSULATION MULTIMETERS



Fluke 1587 FC

Fluke 1577



The Fluke 1587 FC Insulation Multimeter adds four powerful diagnostic functions through the Fluke Connect® Measurements app:

- PI/DAR timed ratio tests with TrendIt™ graphs identifies moisture and contaminated insulation problems faster
- Memory storage through Fluke Connect eliminates writing down results, reduces errors and saves data for historical tracking over time
- Temperature Compensation through app for establishing accurate baselines and relevant historical comparisons

### Two powerful Tools in one

The Fluke 1587 FC and 1577 Insulation Multimeters combine a digital 1 kV insulation tester with a full-featured, true-RMS digital multimeter in a single compact, handheld unit, which provides maximum versatility for both troubleshooting and preventive maintenance.

- Insulation test (1587 FC: 0.01MΩ to 2GΩ) (1577: 0.1MΩ to 600MΩ)
- Insulation test voltages (1587 FC: 50V, 100V, 250V, 500V, 1000V), (1577: 500V, 1000V) for many applications
- Live circuit detection prevents insulation test if voltage > 30V is detected for added user protection
- Auto-discharge of capacitive voltage for added user protection
- Filter for motor drive measurements (1587 FC only)
- AC/DC voltage, DC millivolts, AC/DC milliamps, resistance (Ω), and continuity
- Capacitance, diode test, temperature, Min/Max, and frequency (Hz) (1587 FC only)
- Auto power off to save battery power
- Large display with backlight and large digits
- Included accessories: Remote probe, test leads and probes, alligator clips, (Type K thermocouple, 1587 FC only)
- Accepts optional Fluke TPAK magnetic hanging system to free your hands for other work
- Rugged, utility hard case allows you to bring everything you need for the job
- Three year warranty

### Recommended Accessories



i400 AC Current Clamp



TPAK Magnetic Meter Hanger



C100 Universal Carrying Case



TL27 Heavy Duty Test Leads

### Recommended Kits

Buy more, Save more



Fluke 1587/i400 Current Clamp FC Kit



Fluke 1587 FC Advanced Electrical Troubleshooting Kit



Fluke 1587 FC/MDT Advanced Motor and Drive Troubleshooting Kit

### Specifications

	1587 FC	1577
Insulation Test Voltages 50V, 100V, 250V, 500V, 1000V	•	–
Insulation Test Voltages 500V, 1000V	–	•
Insulation Resistance	0.01MΩ to 2.0GΩ	0.1MΩ to 600MΩ
Auto-Discharge of capacitive Voltage	•	•
Insulation Test Smoothing Reading	•	–
Frequency	•	–
Capacitance	•	–
Diode Test	•	–
Temperature	•	–
Min/Max	•	–
Low-pass Filter (for Work on VSDs)	•	–
AC/DC Voltage	•	•
DC Millivolts	•	•
AC/DC Milliamps	•	•
Resistance	0.1Ω to 50MΩ	0.1Ω to 50MΩ
Continuity	•	•
Remote Probe, Test Leads, Alligator Clips	•	•
Type K Thermocouple	•	–
Rugged, Utility Hardcase	•	•
Auto Power-off	•	•

### Included Accessories

Remote Probe, Test Leads, Alligator Clips, K-type Thermocouple (1587 FC only), Hard Case, User Documentation.

### Ordering Information

FLUKE-1577	Utility True RMS Digital Multimeter
FLUKE-1587T	Insulation Multimeter for Telecommunications
FLUKE-1587FC	Insulation Multimeter with Fluke Connect
FLUKE-1587/MDT FC Kit	FC 2-in-1 Adv Motor & Drive Kit w/9040, i400
FLUKE-1587/i400 FC KIT	FC 2-in-1 Insulation Multimeter with i400
1587KIT/62MAX+FC	FC 2-in-1 Adv Elec Kit w/ 62MAX+ i400



# FLUKE 1507 AND 1503 INSULATION RESISTANCE TESTERS



Fluke 1507

Fluke 1503

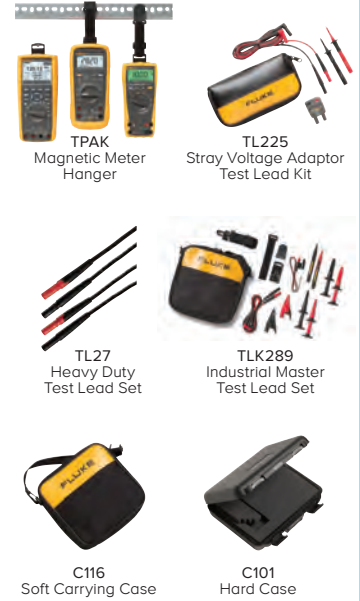


## Two powerful Tools in one

These lightweight, affordable insulation testers are perfect for troubleshooting, commissioning and preventive maintenance applications.

- These lightweight, affordable insulation testers are perfect for troubleshooting, commissioning and preventive maintenance applications.
- Automatic calculation of polarisation index and dielectric absorption ratio (1507 only)
- Multiple test voltages: 50V, 100V, 250V, 500V, 1000V (1507 only)
- Remote test probe for rapid testing
- Insulation test range 0.01MΩ to 10GΩ (1507), 0.1 MΩ to 2000MΩ (1503)
- Compare (Pass/Fail) function for repetitive tests (1507 only)
- Live circuit detection prevents insulation test if voltage > 30V is detected
- Auto-discharge of capacitive voltage
- AC/DC voltage: 0.1V to 600V
- Lo ohms/Earth-bond continuity (200mA) for checking connections and motor windings
- Resistance: 0.01Ω to 20.00Ω
- One year warranty

## Recommended Accessories



TPAK Magnetic Meter Hanger

TL225 Stray Voltage Adaptor Test Lead Kit

TL27 Heavy Duty Test Lead Set

TLK289 Industrial Master Test Lead Set

C116 Soft Carrying Case

C101 Hard Case

## Specifications

	1503	1507
User-selectable Test Voltages for many Applications	•	•
Additional Test Voltages 50V, 100V, 250V	–	•
Special Remote Control Probe for easy and safe Measurements	•	•
Auto-Discharge of Capacitive Voltage for added User Protection	•	•
Live Circuit Detection prevents Insulation Test if Voltage > 30V is detected for added User Protection	•	•
Save both Time and Money with automatic Calculation of Polarisation Index and dielectric Absorption Ratio	–	•
Auto Power-off to save Batteries	•	•
Large Display with Backlight	•	•
Continuity Function (200mA)	•	•
Compare Function (pass/fail) for fast repetitive Tests	–	•

## Specifications

Insulation	1503	1507
Insulation Test Range	0.1MΩ to 2000MΩ	0.01MΩ to 10GΩ
Test Voltages	500V, 1000V	50V, 100V, 250V, 500V, 1000V
Test Voltage Accuracy	+ 20%, - 0%	+ 20%, - 0%
Insulation Test Current	1mA nominal	1mA nominal
AC/DC Voltage Measurement	600V (0.1V resolution)	600V (0.1V resolution)
Resistance Measurement Range	0.01Ω to 20kΩ	0.01Ω to 20kΩ
Auto Discharge	Discharge time < 0.5 second for C = 1μF or less	Discharge time < 0.5 second for C = 1μF or less
Maximum Capacitive Load	Up to 1μF	Up to 1μF
Open Circuit Test Voltage	> 4V, < 8V	> 4V, < 8V
Short Circuit Current	> 200mA	> 200mA
<b>General</b>		
Battery Life	Meter: 1000 hours Insulation Test: >1000 tests	
Size (H x W x D)	203mm x 100mm x 50mm	
Weight	0.55kg	



Insulation Test at a distribution Panel



Wiring Test in a small Distribution Box – all in one Spot

## Included Accessories

TL224 Test Leads, TP74 Test Probes, Clips PN 1958654 (red) and PN 1958646 (black), Holster, Remote Probe and User Manual.

## Ordering Information

FLUKE-1507 Insulation Tester  
FLUKE-1503 Insulation Tester

# ScopeMeter® Portable Oscilloscopes

## FLUKE SCOPEMETER® PORTABLE OSCILLOSCOPES 190 SERIES II



Fluke 190-504

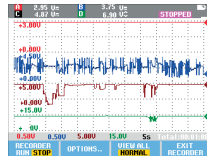
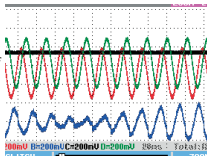


Fluke 190-204

Fluke 190-202



Use the 27,000 points memory of ScopeRecord and zoom in for maximum detail.



Cursors and zoom features of the Fluke 190 Series II help you to analyse the captured TrendPlot.

Fluke 190 Series II ScopeMeter Portable Oscilloscopes are high-performance scopes built for harsh industrial environments. Introducing the first high-performance portable oscilloscopes with 2 or 4 independently insulated input channels, an IP51 dust- and drip waterproof rating and a CAT III 1000V /CAT IV 600V safety rating.

Choose from 500MHz, 200MHz, 100MHz or 60MHz bandwidth models. Now plant maintenance engineers can take a 2- or 4-channel scope into the harsh world of industrial electronics.

- Up to four independent floating isolated inputs, up to 1000V
- Up to 5GS/s real time sampling (depending on model and channels used)
- Deep Memory: 10,000 points per trace waveform capture
- CAT III 1000 V/CAT IV 600V safety rated instrument for industrial environments
- Up to eight hours of battery operation using BP291
- Isolated USB host port for direct data storage to a USB memory device
- Security Slot: Lock down oscilloscope with Kensington® lock while unattended
- IP51 Rating, dust- and drip-proof
- Connect-and-View™ triggering for intelligent, automatic triggering on fast, slow and even complex signals
- Automatic Capture and REPLAY of 100 screens
- ScopeRecord™ Roll Mode gives 30,000 points per input channel for low frequency signal analysis
- Three year warranty

### Included Accessories

Fluke 190 4-Channel Models: VPS410-x (1 red, 1 grey, 1 blue, 1 green), Double Capacity BP291 Li-ion Battery, BC190 Battery Charger, Hanging Strap, Adjustable Hand Strap, User Manual on CD-ROM, FlukeView® Demo Package, and USB Interface Cable for PC connectivity.

Fluke 190 2-Channel Models: VPS410-X (1 red, 1 blue), Single Capacity BP290 Li-ion Battery, TL175 Test Leads.

Fluke /S (SCC-290 Kit) Models: FlukeView ScopeMeter Software and C290 Hard Carrying Case.

### Ordering Information

FLUKE-190-504/AU/S	Colour ScopeMeter 500MHz, 4 Channel with SCC-290 Kit
FLUKE-190-504/AU	Colour ScopeMeter 500MHz, 4 Channel
FLUKE-190-502/AU/S	Colour ScopeMeter 500MHz, 2 Channel with SCC-290 Kit
FLUKE-190-502/AU	Colour ScopeMeter 500MHz, 2 Channel
FLUKE-190-204/AU/S	Colour ScopeMeter 200MHz, 4 Channel with SCC-290 Kit
FLUKE-190-204/AU	Colour ScopeMeter 200MHz, 4 Channel
FLUKE-190-202/AU/S	Colour ScopeMeter 200MHz, 2 Channel with SCC-290 Kit
FLUKE-190-202/AU	Colour ScopeMeter 200MHz, 2 Channel
FLUKE-190-104/AU/S	Colour ScopeMeter 100MHz, 4 Channel with SCC-290 Kit
FLUKE-190-104/AU	Colour ScopeMeter 100MHz, 4 Channel
FLUKE-190-102/AU/S	Colour ScopeMeter 100MHz, 2 Channel with SCC-290 Kit
FLUKE-190-102/AU	Colour ScopeMeter 100MHz, 2 Channel
FLUKE-190-062/AU/S	Colour ScopeMeter 60MHz, 2 Channel with SCC-290 Kit
FLUKE-190-062/AU	Colour ScopeMeter 60MHz, 2 Channel

### Specifications

	190-062	190-102	190-202	190-502	190-104	190-204	190-504
Bandwidth (MHz)	60	100	200	500	100	200	500
Scope Inputs	2	2	2	2	4	4	4
Dedicated DMM	1	1	1	1	—	—	—
Dual Input Trendplot™	•	•	•	•	—	—	—
Four Input Trendplot™	—	—	—	—	•	•	•
ScopeRecord Mode	•	•	•	•	•	•	•
Automatic Capture & Replay Mode	•	•	•	•	•	•	•
Cursors	•	•	•	•	•	•	•
Zoom	•	•	•	•	•	•	•
Bus Health Test Mode	—	—	—	—	—	—	—
Advanced Power Measurements	•	•	•	•	•	•	•
EN61010-1 CAT III Safety Rating	1000V	1000V	1000V	1000V	1000V	1000V	1000V
EN61010-1 CAT IV Safety Rating	600V	600V	600V	600V	600V	600V	600V
Battery	4hr Li-ion (8hr Opt)	4hr Li-ion (8hr Opt)	7hr Li-ion	7hr Li-ion	7hr Li-ion	7hr Li-ion	7hr Li-ion
Optical RS-232	—	—	—	—	—	—	—
Isolated USB	•	•	•	•	•	•	•
Isolated USB Memory	•	•	•	•	•	•	•



Fluke 125B



**Simplified Testing, more Insight and faster electro-mechanical Troubleshooting**

The compact ScopeMeter® 120B Series, is the rugged oscilloscope solution for industrial electrical and electro-mechanical equipment troubleshooting and maintenance applications. It's a truly integrated test tool, with oscilloscope, multimeter and high-speed recorder in one easy-to-use instrument. The ScopeMeter 120B Series also integrates with Fluke Connect® mobile app and FlukeView® for ScopeMeter software to enable further collaboration, data analysis and archiving of critical test information.

The 120B Series Industrial ScopeMeter Test Tools include innovative functions designed to help technicians troubleshoot faster and get the answers they need to keep their systems up and running. Colour Display Waveforms with Connect and View™ trigger and setup technology and automatically view related numerical measurements using Fluke IntellaSet™ technology, all without making manual measurement adjustments.

- Dual input digital oscilloscope and multimeter
- 40MHz or 20MHz oscilloscope bandwidth
- Two 5,000-count true-RMS digital multimeters
- Connect-and-View™ trigger simplicity for hands-off operation
- IntellaSet™ technology automatically and intelligently adjusts numerical readout based on the measured signal
- Dual-input waveform and meter reading recorder for trending data over extended periods
- With Recorder Event Detect capabilities and expandable micro SD memory, recording sessions can be done for up to 14 days
- The ScopeMeter 125B Bus Health Test analyses the electrical signals on the Industrial Network Bus and gives a clear "Good", "Weak" or "Bad" indication mark for each of the relevant parameters used in CAN-bus, Profi-bus, Foundation Field, RS2-232 and more.
- Three year warranty

**Connect-and-View™ triggering for an instant, stable Display**

Fluke's unique Connect-and-View™ triggering technology recognises signal patterns, and automatically sets up the correct triggering to provide a stable, reliable and repeatable display. Connect-and-View™ triggering is designed to work with virtually any signal, including motor drives and control signals—without adjusting parameters, or even touching a button.



Fluke Connect-and-View™ triggering with Auto Reading function using Fluke IntellaSet™ technology.

**IntellaSet™/AutoReading**

The Auto Readings function with Fluke IntellaSet™ technology uses proprietary algorithms to intelligently analyse the measured waveform and automatically displays the most appropriate numerical measurements on screen, so you can get the data you need easier than ever before.

**Dual Input to obtain key Power Measurements**

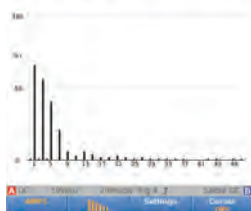
For single phase or 3-phase balanced systems, the dual inputs of the Industrial ScopeMeter® 120B Series can measure AC+DC RMS voltage on channel A and AC+DC RMS current on channel B. The Fluke 125B can then calculate; frequency, phase angle, active power (kW), reactive power (VA or var), power factor (PF) or displacement power factor (DPF) and can also calculate the power values for a 3-phase system where all phases have equal voltage and currents.

Easily obtain key power characteristics to validate a system power.



**Harmonics Measurements**

In the Harmonics function, the Test Tool measures harmonics to the 51st. Related data such as DC components, THD (Total Harmonic Distortion), and K factor are measured to provide a complete insight into the electrical state of health of your loads.



Harmonic spectrum overview with cursors to measure the distortion as a percentage of the fundamental.

**One Test Lead to measure multiple electrical Parameters**

High frequency waveform, meter, capacitance and resistance measurements as well as continuity checks are all covered by single set of shielded test leads. No time is wasted finding or swapping leads.

**Recommended Accessories**



STL120-IV  
Shielded Test Lead  
Set 600V CAT IV



HC120-II  
Set of 2 Hook Clips



BB120-II  
Set of 2 Banana to  
BNC Adaptor



VPS41  
Voltage Probe Set  
40MHz 600V CAT IV



80i-110s  
AC/DC Current Clamp



i1010  
AC/DC Current Clamp



I1000S  
Large AC  
Current Probe



I3000S  
Very High  
AC Current Clamp



i3000s Flex  
Flexible Current Clamp  
3000A AC, 24 and 36in.



i200s  
Small Sized  
AC Current Clamp



I30S  
AC/DC  
Current Clamp



I310S  
AC/DC  
Current Clamp



i400s  
AC Current Clamp



i410  
AC/DC Current Clamp



FLUKE I5S  
AC Current Clamp



C120B  
Soft Carrying Case



SP120B  
Screen Protector



SCC120B  
Accessory Kit

## FLUKE TEST LEADS, PROBES AND CLIPS – The best leads for all your measurement needs

### For Electronic Applications

#### BASIC ELECTRONIC TEST LEAD SET

- Six piece set with zippered case
- Probes, alligator clips and tip extenders for electronic applications
- CAT II 300V
- CAT III 1000V, CAT IV 600V with protective cap



Part No.	Description
TL80A	Basic Electronic Test Lead Set

#### ELECTRONIC TEST PROBES WITH REPLACEMENT TIPS

- Small profile provides accessibility
- Comes with five sets of replaceable tips
- Replacement tips: TP912
- CAT II 1000V, 3A



Part No.	Description
TL910	Electronic Test Probes

#### ELECTRONIC TEST PROBES

- Tapered tip ideal for probing electronic components or boards
- Removable guard for IC probing
- CAT III 1000V, 10A



Part No.	Description
TP80	Electronic Test Probes

#### TEST PROBE ADAPTOR KIT

- Fit over TL71 and TL75 test lead sets
- IC Test Tip Adaptor, 3A
- Extended Probe Tip, 3A
- Med. Alligator Clip, 5A
- CAT II 300V



Part No.	Description
TP920	Test Probe Adaptor Kit

#### RETRACTABLE PROBE ASSEMBLY

- Retractable, insulated sharp probe tip
- CAT III 300V, 3A



Part No.	Description
TL40	Retractable Probe Assembly

#### TELECOM TEST LEAD SET

- Five-way multipoint test clips for telecommunications applications
- Flexible silicone insulated leads are heat and cold resistant
- CAT I 30V, 8A



Part No.	Description
TL26A	Telecom Test Lead Set

#### HIGH VOLTAGE PROBES

- Allows a Digital Multimeter to measure up to 6,000V peak, 15,000V peak and 40,000V peak respectively
- 1000:1 division ratio output when connected to 10MΩ Multimeter
- Ground Clip included
- For low energy applications that are referenced to ground only



Part No.	Description
80K-6	High Voltage Probes 6,000V
80K-15	High Voltage Probes 15,000V
80K-40	High Voltage Probe 40,000V

### For Automotive Applications

#### INSULATION-PIERCING CLIP SET

- Stainless steel probe pierces insulation on 14, 16 and 18 gauge wire
- Design provides complete insulation while working on fuel injectors or sensors
- TP81 for use with modular test leads (Fluke TL224)
- TP82 slips over probe tips (Fluke TL71)
- Rated to 60V dc



Part No.	Description
TP81	Insulation-piercing Clip Set
TP82	Insulation-piercing Clip Set

#### RIGID BACKPROBE PIN SET

- Two inch long Pins pass between the weather pack seal and wire
- Use with Fluke TL71 or TL75 Test Lead Sets
- Rated to 60V dc



Part No.	Description
TP88	Rigid Backprobe Pin Set

#### AUTOMOTIVE BACK PROBE PIN SET

- Set of five 1.5 inch Pins
- Rated to 60V dc
- Easy connection past weather pack seals to connector conductors
- Use with Fluke TL71 or TL75 Test Lead Sets



Part No.	Description
TP40	Automotive Back Probe Pin Set

#### AUTOMOTIVE PIN & SOCKET ADAPTOR SET

- Rated to 60V dc
- Collection of male and female Adaptors allows you to make firm connection to pin and socket connectors
- Adaptors with flexible tips come in the following sizes: 22, 20, 16 and 12



Part No.	Description
TL82	Automotive Pin & Socket Adaptor Set

#### AUTOMOTIVE TEST LEAD KIT

- Insulation-piercing Probes
- SureGrip™ Silicone Test Leads
- SureGrip™ Test Probes
- SureGrip™ plunger style Alligator Clips
- SureGrip™ Alligator Clips
- Carrying Case



Part No.	Description
TLK281	Automotive Test Lead Kit

#### DELUXE AUTOMOTIVE TEST LEAD KIT

- Set of five Automotive Back Probe Pins
- SureGrip™ Silicone Test Leads
- SureGrip™ Test Probes
- SureGrip™ Plunger Style Alligator Clips
- Alligator Clips
- SureGrip™ Alligator Clips
- SureGrip™ Hook Clips
- Carrying Case



Part No.	Description
TLK282	Deluxe Automotive Test Lead Kit

## FLUKE SUREGRIP™ ACCESSORIES – As tough as your meter

### Modular Test Leads and Test Probes (use Test Probes with Test Leads)

#### TWISTGUARD™ TEST PROBES

- Converts Probe Tip length between 4mm, a CAT III 1000V, CAT IV 600V measurement, and 19mm, a CAT II 1000V measurement
- Fits standard modular test leads



Part No.	Description
TP175	TwistGuard™ Test Probe

#### SUREGRIP™ FUSED TEST PROBES WITH LEADS

- FTP-1 Fused Test Probes with built-in fuses for added protection
- TL224 Silicone Insulated Test Leads
- CAT III 1000V, CAT IV 600V, 10A



Part No.	Description
FTPL-1	SureGrip™ Fused Test Probes with Leads

#### SUREGRIP™ SILICONE TEST LEAD EXTENSION KIT

- Superior strain relief
- Includes two Adaptors to extend leads 1.5m
- CAT III 1000V, CAT IV 600V, 10A



Part No.	Description
TL221	SureGrip™ Silicone Test Lead Extension Kit

#### SUREGRIP™ SILICONE INSULATED TEST LEADS

- Fit over TL71 and TL75 test lead sets
- IC Test Tip Adaptor, 3A
- Extended Probe Tip, 3A
- Med. Alligator Clip, 5A
- CAT II 300V



Part No.	Description
TL222	SureGrip™ Silicone Insulated Test Lead

### Modular Clips (use with test leads, includes one red, one black)

#### SUREGRIP™ ALLIGATOR CLIPS

- Insulated, nickel plated jaws grip objects up to .375 inch
- Blunt tip grabs round screw heads
- CAT III 1000V, CAT IV 600V, 10A



Part No.	Description
AC220	SureGrip™ Alligator Clip

#### SUREGRIP™ HOOK CLIPS

- Profile narrows to .22 inch at tip
- Hook opening .20 inch front, .08 inch base
- CAT III 1000V, CAT IV 600V, 3A



Part No.	Description
AC280	SureGrip™ Hook Clip

#### SUREGRIP™ PINCER CLIPS

- 4.5 inch flexible, insulated shaft
- Nickel plated pincers open to .20 inch
- CAT III 1000V, CAT IV 600V, 1A



Part No.	Description
AC283	SureGrip™ Pincer Clip

#### SUREGRIP™ SILICONE INSULATED TEST LEADS

- Superior strain relief
- 1.5m silicone-insulated wire resists heat and cold
- CAT III 1000V, CAT IV 600V, 10A



Part No.	Description
TL224	SureGrip™ Silicone Insulated Test Lead

#### SUREGRIP™ FUSED TEST PROBES

- Built-in fuses for added protection
- 2mm threaded probe tips include removable 4mm lantern-style spring contacts
- Removable GS38 insulated caps
- CAT III 1000V, CAT IV 600V, 10A



Part No.	Description
FTP-1	SureGrip™ Fused Test Probe

#### SLIM REACH™ TEST PROBES

- Slender probe bodies for probing closely spaced or recessed points
- CAT II 1000V, 10A
- TP38: CAT III 1000V, CAT IV 600V



Part No.	Description	Style
TP1	Slim Reach™ Test Probe	Flat Blade
TP2	Slim Reach™ Test Probe	2mm Tip
TP4	Slim Reach™ Test Probe	4mm Tip
TP38	Slim Reach™ Test Probe	SS; insulated

#### SUREGRIP™ INDUSTRIAL TEST PROBES

- Sharp, .5 inch stainless steel tip provides reliable contact
- Flexible finger barrier improves grip
- CAT II 1000V, 10A



Part No.	Description
TP220	SureGrip™ Industrial Test Probe

#### SUREGRIP™ ALLIGATOR CLIPS

- Multi-purpose tooth pattern grips anything from fine gauge wire to a .75 inch nut
- Nickel-plated steel jaws
- Accepts standard modular 4mm test leads
- CAT III 1000V, CAT IV 600V, 10A



Part No.	Description
AC285	SureGrip™ Alligator Clip

#### THREADED ALLIGATOR CLIPS

- Threads securely onto TL175 or TP175 probes
- Insulated alligator clips with flexible boots
- Jaw opening: 7mm (0.275in)
- Jaw contact material: nickel-plated steel
- CAT III 1000V, CAT IV 600V



Part No.	Description
AC175	Threaded Alligator Clips

#### EXTENDED TOOTH ALLIGATOR CLIPS

- Extended tooth jaw with front placement for attaching to screw heads
- Accepts standard 4mm modular test leads
- Jaw opening: 8mm (0.31in)
- Jaw contact material: nickel-plated steel
- CAT III 1000V, CAT IV 600V



Part No.	Description
AC285	SureGrip™ Alligator Clip

### TWISTGUARD™ TEST LEADS

The new standard for safety

- Probes meet new IEC 61010-031 requirements for safety
- Patented extendable tip guard meets new CAT III 1000V, CAT IV 600V requirements while providing the flexibility you need for CAT II measurements
- New WearGuard™ Test Lead wear indicator that changes colour when leads are damaged and in need of replacement
- Always show correct category rating for tip being used
- Advanced strain relief exceeds 5,000 bend life
- TP175 probes fit modular test leads



Part No.	Description
TL175	TwistGuard™ Test Leads

### SUREGRIP™ TEST LEAD SET

For high energy environments

- Insulated tip probes help lessen risk of arc flash explosion
- Probe extenders keep hands away from live current
- Includes one pair each, insulated test tip probes, probe extenders and TL224 Test Leads
- Probes and leads CAT III 1000V, CAT IV 600V, 10A, extenders CAT III 1000V 10A



Part No.	Description
TL238	SureGrip™ Test Leads

### PREMIUM DMM TEST LEAD SET

- Flexible silicone insulated leads are heat and cold resistant
- Distinctive comfort grip probes
- Recommended for  $\mu$ V measurements
- CAT II 1000V, 10A
- CAT III 1000V, CAT IV 600V with protective cap



Part No.	Description
TL71	Premium DMM Test Lead Set

### HARD POINT TEST LEAD SET

- Extremely hard alloy tips resist wear
- Distinctive comfort grip probes
- 1.5m PVC leads
- CAT II 1000V, 10A
- CAT III 1000V, CAT IV 600V with protective cap



Part No.	Description
TL75	Hard Point Test Lead Set

### TEST LEAD SETS

- One pair (red, black) comfort grip probes with PVC insulated, test leads with right-angle shrouded banana plugs
- Recommended for general purpose measurements
- CAT IV 600V, CAT III 1000V, 10A rating. UL listed



Part No.	Description
TL71	Premium Test Lead Set
TL75	Standard Test Lead Set

### INDUSTRIAL TEST LEAD SET

Handy all-in-one kit includes:

- AC220 SureGrip™ Alligator Clip Set
- TP220 SureGrip™ Test Probe Set
- TL222 SureGrip™ Silicone Test Lead Set (right to right)



Part No.	Description
TL220	Industrial Test Lead Set

### LOGIC PROBE



- Detects 30ns Pulses
- Pulse memory
- TTL/CMOS switchable
- Unique tone beeper varies sound output with frequency/pulses

Part No.	Description
LP25A	Logic Probe

### OSCILLOSCOPE PROBES

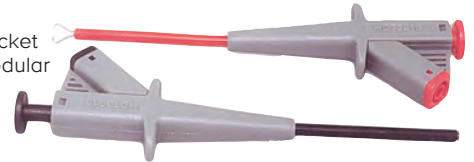
- General purpose, switchable x1x10 scope probes
- Maximum 600V input



Part No.	Description	Bandwidth
Q 0174	Scope Probes x1x10	60mHz
Q 0176	Scope Probes x1x10	100mHz
PMT 221	Scope Probes x1x10 (German)	250mHz

### FLEXIBLE GRABBERS

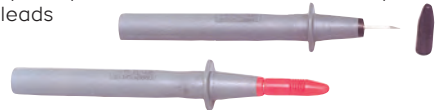
With 4mm socket to accept modular test leads



Part No.	Description
HDT 3916	Flexible Grabbers (Pair)

### TEST PROBES

Standard sharp test probes with 4mm socket to accept modular test leads



Part No.	Description
HDT 3907	Test Probes (Pair)

### CROC CLIPS

Standard croc clips with 4mm socket to accept modular test leads



Part No.	Description
HDT 3909	Croc Clips (pair)

### LARGE CROC CLIPS

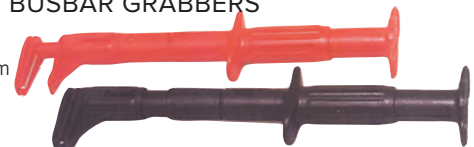
Large croc clips with 4mm socket to accept modular test leads



Part No.	Description
HDT 3917	Large Croc Clips (Pair)

### PARALLEL BUSBAR GRABBERS

For up to 30m conductors



Part No.	Description
HDT 3915	Busbar Grabbers

### PVC TEST LEADS

- With shrouded 4mm plugs at both ends
- 1m long
- Right angle plug suits most multimeters



Part No.	Description
HDT 3081	PVC Test Leads 1m (Pair)

### SILICONE TEST LEAD SET

Silicone rubber with lantern shaped test probes, which fit modular test lead accessories but also work as a sharp probe



Part No.	Description
HDT 1288	Silicone Test Lead Set

### LIGHT METER

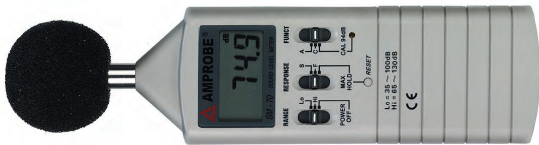
- Measurement ranges of 20/200/2,000/20,000 Foot-Candles or Lux
- Data and Peak Hold features
- Analogue DC voltage output to operate with Chart Recorder or Data Logger
- Accuracy: <10,000 lux/fc range  $\pm 3\%$  of reading  $\pm 0.5\%$  full scale
- Accuracy: >10,000 lux/fc range  $\pm 4\%$  of reading  $\pm 10$  digits



Part No.	Description
LM-80	Light Meter

### SOUND LEVEL METER AND CALIBRATOR

- Range of 35dB to 130dB
- A and C weightings for checking compliance with safety regulations or making acoustic analysis
- Frequency range of 31.5Hz to 8kHz
- Sound level calibrator with two output levels of 94dB and 114dB with output frequency of 100Hz to set audio levels



Part No.	Description
SM-70	Sound Level Meter
CAL-SM	Calibrator

### LABORATORY POWER SUPPLY

- Regulated variable voltage output bench power supply with variable current limiting
- Auxillary SV + 12V outputs at 500MA
- Overload protected



Part No.	Description	Variable V	Variable A
SM-70	Bench PSU	0-30	0-3
CAL-SM	Bench PSU	0-30	0-5

### LOW COST MULTIMETER

- CAT IV 600V, CAT III 1000V
- IP67 dust and waterproof
- Large LCD display
- Auto ranging
- Auto power off
- DCV, ACV, DCA, ACA
- OHM, frequency
- Diode check
- Continuity test
- Supplied with a soft case



If you did not find what you were looking for, please call us!

Part No.	Description
DT9915	Digital Multimeter Autoranging

### LOW CURRENT AC/DC CLAMP METER

- Measure AC and DC current into the low milliamp range up to 40A
- Auto zero DC for correct measurement every time
- High 1mA current resolution for quick circuit comparison on sensor and control circuits
- Auto power off
- Jaw accepts cables up to 20mm diameter
- IEC/EN6010 safety rating CAT III 300V



Part No.	Description
LH41A	Low Current AC/DC Clamp

### NON-CONTACT VOLTAGE TESTER

- Tests for voltage from 40V to 600VAC
- Audible and visual indication
- Locates breaks along live insulated wires
- Tests for energised circuits



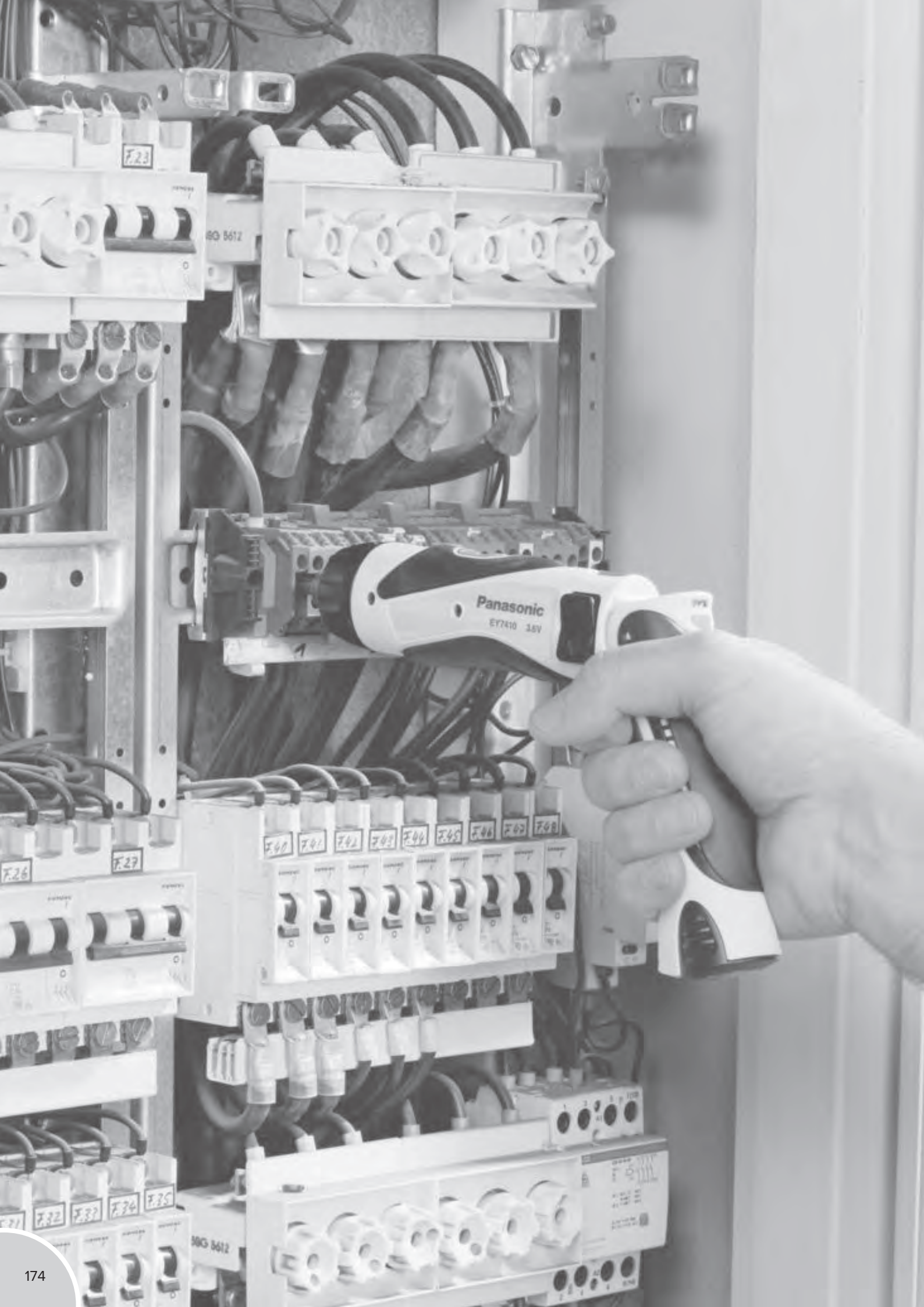
Part No.	Description
61-063	Volt-Sensor NCV Tester

### PORTABLE APPLIANCE TESTER

- For electrical safety checking of earthed appliances (Class 1), double insulated appliances (Class 2) and extension leads
- 4 Dual-colour LED's for indication of pass or fail (according to threshold values compliant with AS/NZS 3760)
- Selectable insulation test voltage of 250V and 500V
- Test results displayed on large LCD display
- IEC/EN6010-1 safety rating CAT III 300V



Part No.	Description
K6201A	PAT Portable Appliance Tester





## Specialist Tools, Power Tools & Other

Toner Vacuum Cleaners .....	176
Glue Guns.....	178
Heat Guns .....	179
Power Tools .....	180
Drill Bits .....	182
Panavise .....	183

# Vacuum Cleaners

## OMEGA SUPREME PLUS VACUUM CLEANER KIT – ESD SAFE

- Way quieter than any other Toner Service Vacuum at 69.6db
- Filter cartridges are compatible with the 3m vacuum
- Three year warranty!
- Kit contains: Vacuum, one standard filter cartridge, 1.5m ESD hose, power lead, crevice tool, crevice brush, goose neck and shoulder strap

Self Storage Compartment – all accessories store conveniently under the plastic cover insert

Standard Filter with 0.3 micron retention – ideal for soot, pollen, black toner and most colour toner

Shoulder strap – for portability!

Crevice Tool and Crevice Brush – to loosen dust and toner particles in tight areas

Flexible Goose-Neck – to get to those hard-to-reach places!

Toner-proof conductive 6' Hose – provides continual operation with no clogging

ESD Safe – conductive construction provides maximum static protection to safeguard the operator and sensitive electronic components



Part No.	Description
VACOMEGA220	Omega Supreme Plus Vacuum Kit
VACOMEGAS2ECRH	Omega CleanVac (Cleanroom)

## BACKPACK

Backpack for the Omega Supreme and Cleanroom Vacuums



Part No.	Description
AVAP-014	Backpack for Vacuums

## REPLACEMENT FILTER – OMEGA SUPREME

- Replacement filters for the Omega Supreme and Cleanroom Vacuums
- Fits the 3M and Katun Vacuums



Part No.	Description
31700C	Standard Filter (0.3 micron retention)
OF612HE-1P	Genuine HEPA Filter (0.3 micron retention)

## EXPRESS VACUUM

- Compact and lightweight version – nearly half the size of the Omega Supreme
- Suits technicians who have long distances to walk
- ESD (Static) Safe
- Vac Kit includes: hose, crevice tool, goose neck, brush and power lead
- 18 Month warranty
- Powerful 600 Watt Motor



Part No.	Description
75000-06	Express Vacuum Kit
HT4626006	Tote Bag for Express Vacuum

## OMEGA CORDLESS IMMEDIATE CONTAINMENT VACUUM – ESD SAFE – 90 WATTS

- Powerful cordless option for all applications where corded versions are inconvenient or simply not an option
- 1 gallon ULPA filter captures everything from hazardous particulate to lead dust/chips-RRP, silica dust, fiberglass, mold, etc.
- Self-storage and contained accessories
- Built-in full filter indicator light
- Brushless digital motor, quiet at only 67 decibels
- 30+ minute run time and 1 hour rechargeable battery
- Includes a permanent heavy duty retention plug



Part No.	Description
VACO22VDC	Cordless Immediate Containment Vacuum

## TONER-PROOF CONDUCTIVE HOSE

- For all Atrix Toner Vacuums
- Provides continual operation with no clogging



Part No.	Description	Length
31661	ESD Safe Vacuum Hose	1.5m
31671	ESD Safe Vacuum Hose	2.5m
31681	ESD Safe Vacuum Hose	4.8m

## MAINS POWER CORD



Part No.	Description
P 8410C	Power Cord

## WORKSHOP ESD SAFE HCTV VACUUM

- HCTV (High Capacity Vacuum) suited to workshop applications at copier repair centres and, being ESD safe, is also ideally suited to electronic production equipment maintenance
- 0.3 Micron filter capacity as standard
- Hepa Versions available to order



Part No.	Description
ATIHC5V5F	High Capacity 5 Gal Toner Vacuum

## REPLACEMENT FILTER CARTRIDGE – EXPRESS



Part No.	Description
710333	Express Vacuum Filter Cartridge (2 Pack)

## REPLACEMENT 5 GALLON FILTER CARTRIDGE



Part No.	Description
421-000-02	Replacement 5 Gal Filter Cartridge

## CREVICE TOOL & BRUSH

To loosen dust and toner particles in tight areas



Part No.	Description	FIG
31654	Crevice Tool	1
31652	Crevice Tool Brush	2

## FLEXIBLE NOZE ATTACHMENT

6" rubber flex neck attachment for the Omega, cleanroom and express vacuums



Part No.	Description
31657	16" Rubber Flex Neck Attachment

# Glue Guns

## HOT MELT GLUE GUN

- High melting capacity
- Nozzle can be changed
- Electronic temperature control through modern PTC heating technology
- Simple handling thanks to mechanical glue stick feeder
- Glued area is firm and capable of withstanding loads after approx. 2 minutes
- Glueing and craft set in attractive plastic case

### Specifications:

- Dimensions (L x W x H): 185 x 30 x 160mm
- Weight: 320g (without stand)
- Output (approx.):
  - Idle: 16W
  - In use: 45W
  - Warming-up: 200W
- Voltage: 100-240V
- Warm-up time: 7min.
- Glue sticks: Ø 11mm
- Melt temperature: 206°C
- Delivery Rate: approx. 16g/min



### Part No.

GLM 3002

### Description

Mains Glue Gun

## "CORDLESS" GLUE GUN

- Cordless thanks to heat storage capability.
- On placing the unit on the charging station it automatically connects to power and starts heating the adhesive.
- Electronic temperature control with PTC heating technology.
- Power cord simply plugs into unit for continuous operation.
- Energy-saving standby mode and electronically controlled dual heating system for short warm-up times. Mechanical glue stick feeder for a speedy, well-metred flow of glue

### Specifications:

- Dimensions (L x W x H): 185 x 32 x 180mm
- Warm-up time: 3-5min
- Melt temperature: 210°-220°C
- Glue sticks: Ø 11mm dia
- Output (approx.):
  - Idle: 20W
  - In use: 120W
  - Warming-up: 500W
- Voltage: 220-240V
- Warm-up time: 3-5min
- Glue sticks: Ø 11mm dia
- Melt temperature: 210°-220°C
- Delivery Rate: approx. 22g/min



### Part No.

GLM 5000

### Description

Cordless Glue Gun

## GLUE GUN NEO 3 CORDLESS LI-ION 7.2V

- Ready to glue in 15 seconds
- Switches off automatically after use
- Cordless operation with rechargeable lithium-ion battery
- Set and capable of withstanding loads after 2 minutes
- Electronic temperature control through modern PTC heating technology.

### Specifications:

- Dimensions (L x W x H): 140 x 50 x 180mm without charging station
- Weight: 260g
- Voltage: 7.2V rechargeable lithium-ion battery
- Battery run-time: approx. 45 minutes of continuous use
- Battery charge time: 90% in 1.5h
- Voltage: 230-240V, 50/60Hz
- Warm-up time: under 15sec
- Glue Sticks: Ultra power cristal sticks (150mm length x Ø 7mm, 60g); Melting temperature approx. 190°C; The clear craft glue for invisible bonds; Transparent and low-drip.



### Part No.

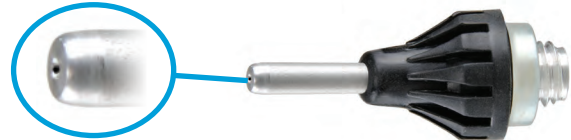
NEO 3

### Description

Rechargeable Glue Gun

## 1.0MM SILICONE HOT MELT GLUE GUN NOZZLE

Replacement fine nozzle, 1.0mm diameter



### Part No.

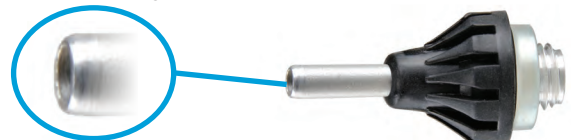
076160

### Description

Replacement Silicone 1.0mm Fine Nozzle

## 1.0MM SILICONE HOT MELT GLUE GUN NOZZLE

Replacement long nozzle, 2.8mm diameter



### Part No.

075965

### Description

Replacement Silicone 2.8mm Long Nozzle

# Heat Guns

## PISTOL HEAT GUN 1600W

- Ideal for drying plaster, shrinking cable sleeves and stripping paint
- Fatigue-free working due to optimised centre
- Prevents overheating with integrated thermal cut-out

### Specifications:

- Airflow Rate: 240 or 450l/min
- Heating Element: Micanite
- Temperature: 300 or 500°C
- Weight: 670g



Part No.	Description
HL1620S	Pistol Heat Gun 1600W

## DIGITAL PISTOL HEAT GUN 2000W

- Ideal for removing and welding sheetings, welding plastics, shrinking on cable sleeves, shaping, soldering, drying, stripping paint
- Electronically controlled, continuously adjustable
- Fatigue-free working due to optimised centre
- Prevents overheating with integrated thermal cut-out

### Specifications:

- Airflow Rate: 150, 150-300 or 300-500l/min
- Heating Element: Ceramic
- Temperature: 80-600°C
- Weight: 840g



Part No.	Description
HL1920E	Digital Pistol Heat Gun 2000W

## DIGITAL PISTOL HEAT GUN 2200W

- Ideal for shaping tiles, desoldering circuit boards, welding plastics, drying repair filler, shrinking cable sleeves, soldering pipes
- Electronically controlled
- Operated via toggle/joystick
- Convenient handling with LCD display
- Prevents burns due to residual heat indicator

### Specifications:

- Airflow Rate: 150, 150-300 or 300-500l/m
- Heating Element: Ceramic
- Temperature: 80-630°C (in steps of 10°C)
- Weight: 880g



Part No.	Description
HL2020E	Digital Pistol Heat Gun 2200W

## STRAIGHT HEAT GUN 350W

- Small and practical, hands-free
- Hand-held or self-resting
- For model making and heat shrinking
- Integrated LED work light for hard-to-reach places
- Precision nozzles included

### Specifications:

- Airflow Rate: 100l/min
- Heating Element: Ceramic
- Temperature: 400°C
- Weight: 600g



Part No.	Description
HLStick	Straight Heat Gun 350W

# Power Tools

## EY7410LA2S CORDLESS SCREWDRIVER 3.6V LI-ION

- Converts from straight to pistol shape
- Ease of use especially in tight areas or working overhead
- Compact size & light weight for overhead work
- Advanced ergonomic design, well balanced, easy to operate for extended periods of time without fatigue
- LED light to support work in dark areas
- Variable speed control/reversible
- With an extra battery pack as standard equipment

### Specifications:

- Battery: 1.5Ah Li-ion
- Charging Time: 30min
- 1/4" Hex quick connect chuck
- Torque: 1.5-4.4Nm
- Speed: 200-600rpm (no load)
- Auto shut-off clutch
- 21 stage clutch control



Part No.	Description
EY7410LA2S	Panasonic Screwdriver 3.6V
EY9L10B	Replacement Rechargeable Battery

## EY6220NQ57 CORDLESS SCREWDRIVER 2.4V NI-MH

- Converts from straight to pistol shape
- Ease of use especially in tight areas or working overhead
- Compact size & light weight
- Gear lock mechanism for manual tightening

### Specifications:

- Battery: 2.8Ah Ni-MH
- Charging Time: 45min
- 1/4" Hex drive
- Torque: 1.5-2.9Nm
- Speed: 200-400rpm (no load)
- Multi-stage clutch, 2-speed gear box



Part No.	Description
EY6220NQ57	Panasonic Screwdriver 2.4V

## EY75A7LJ2G57 CORDLESS IMPACT DRIVER 18V LI-ION DUAL VOLTAGE

- Advanced ergonomics
- Multiple Modes for all applications
- Robust build for heavy-duty use
- Ideal for working long periods and overhead work
- Variable speed control/reversible
- LED light to support work in dark areas
- Electric brake for added safety
- With an extra battery pack as standard equipment

### Specifications:

- Torque: 26-160Nm
- Speed: 950-2500rpm (no load)
- Impact: 1200-3100ipm
- Charging Time: Usable 45min / Full 80min
- Battery: 5.0Ah Li-ion
- 3 work modes (low/med/high) plus self-drilling screw mode



Part No.	Description
EY75A7LJ2G57	Panasonic Impact Driver 18V

## EY79A2LS2F57 CORDLESS HAMMER DRILL & DRIVER 14.4V LI-ION DUAL VOLTAGE

- High power drilling with extreme durability
- Hybrid switch
- Precision variable speed control/reversible
- Optimum rotation speed control
- LED light to support work in dark areas
- Electric brake for added safety
- With an extra battery pack as standard equipment

### Specifications:

- Torque: 12-50Nm
- Speed: 30-1580rpm (no load)
- Charging Time: Usable 45min / Full 80min
- Battery: 4.2Ah Li-ion
- 13mm heavy duty keyless chuck
- 18 stage clutch control
- 2 work modes (low/high)



Part No.	Description
EY79A2LS2F57	Panasonic Hammer Drill & Driver 14.4V

### EY79A2LJ2G57 CORDLESS HAMMER DRILL & DRIVER 18V LI-ION DUAL VOLTAGE

- High power drilling with extreme durability
- Hybrid switch
- Precision variable speed control/reversible
- Optimum rotation speed control
- LED light to support work in dark areas
- Electric brake for added safety
- With an extra battery pack as standard equipment

#### Specifications:

- Torque: 12-50Nm
- Speed: 30-1580rpm (no load)
- Charging Time: Usable 45min / Full 80min
- Battery: 5.0Ah Li-ion
- 2 work modes (low/high)
- 13mm heavy duty keyless chuck
- 18 stage clutch control



Part No.

Description

EY79A2LJ2G57

Panasonic Hammer Drill & Driver 18V

### DREMEL® 8220 KIT – RECHARGEABLE

- Detailed indoor and outdoor use
- Cordless, but as powerful as corded Multi-Tools
- Cutting, grinding, sanding and polishing with the greatest precision
- Motor brake stops the accessory from spinning right after switching off
- EZ Twist accessory quick change system
- 5,000-33,000rpm variable speed

#### Included:

- Multi-Tool and 28 accessories
- Cutting Guide
- 1 hour battery charger



Part No.

Description

DRM 8220-1/28

Dremel Kit

### DREMEL® 7750 KIT – RECHARGEABLE

- The easiest tool for mobile use
- Engraving, cutting, sanding, grinding, sharpening, polishing and cleaning
- Comfortably get into tight spaces both indoor and outdoor
- EZ Twist accessory quick change system
- 8,000-20,000rpm variable speed

#### Included:

- Multi-Tool and 10 accessories
- 1 hour battery charger



Part No.

Description

DRM 7750-10

Dremel Kit

### DREMEL® 3000 KIT – CORDED

- Detailed indoor and outdoor use
- Corded Multi-Tool
- From cutting to trimming to polishing
- Cool-running tool with low noise and vibration, even under high load
- Strong and fitted grip for high maneuverability and no fatigue
- 10,000-33,000rpm variable speed

#### Included:

- Multi-Tool and 30 accessories
- Flexshaft attachment (225)
- Instruction manual
- Sanding / Grinding Guide (A576)
- Storage Case



Part No.

Description

DRM 3000-2/30

Dremel Kit

# Alpha Bits

## HSS DRILL BITS

HSS Titanium Nitride coated



Part No.	Drill Diameter	OAL	FL
9LM003	0.3	19mm	4
9LM004	0.4	20mm	5
9LM005	0.5	22mm	6
9LM006	0.6	24mm	7
9LM007	0.7	28mm	9
9LM008	0.8	30mm	10
9LM009	0.9	32mm	11
9LM010	1.0	34mm	12
9LM011	1.1	36mm	14
9LM012	1.2	38mm	16
9LM013	1.3mm	38mm	16mm
9LM014	1.4mm	40mm	18mm
9LM015	1.5mm	40mm	18mm
9LM016	1.6mm	43mm	20mm
9LM017	1.7mm	43mm	20mm
9LM018	1.8mm	46mm	22mm
9LM019	1.9mm	46mm	22mm
9LM020	2.0mm	49mm	24mm
9LM025	2.5mm	57mm	30mm
9LM030	3.0mm	61mm	36mm
9LM035	3.5mm	70mm	39mm
9LM040	4.0mm	75mm	43mm
9LM045	4.5mm	80mm	47mm
9LM050	5.0mm	86mm	52mm
9LM055	5.5mm	93mm	57mm
9LM060	6.0mm	93mm	57mm
9LM065	6.5mm	101mm	63mm
9LM070	7.0mm	109mm	69mm
9LM075	7.5mm	109mm	69mm
9LM080	8.0mm	117mm	75mm
9LM085	8.5mm	117mm	75mm
9LM090	9.0mm	125mm	81mm
9LM095	9.5mm	125mm	81mm
9LM100	10.0mm	133mm	87mm
9LM105	10.5mm	133mm	87mm
9LM110	11.0mm	142mm	94mm
9LM115	11.5mm	142mm	94mm
9LM120	12.0mm	151mm	101mm
9LM125	12.5mm	151mm	101mm
9LM130	13.0mm	151mm	101mm

## STEP DRILLS – GOLD SERIES SET

- HSS Titanium Nitride coated
- Self-start points
- Automatically deburs holes
- Individual drills supplied in sealed plastic tube
- 3 Piece set supplied in robust metal case



Part No.	No. of Drills	Size Range
STPSET3	3 Piece Set	4-12, 4-20, 6-30mm

## METRIC DRILL SETS

- HSS Titanium Nitride coated with 135° split points
- Strong, rugged metal case



3pc Metric Drill Set



25pc Metric Drill Set

Part No.	No. of Drills	Size Range
SM13	13pcs	1.5-6.5mm
SM19	19pcs	1.0-10.0mm
SM25	25pcs	1.0-13.0mm Straight Shank
SM25R	25pcs	1.0-13.0mm Reduced Shank

## HOLESAWS – BI-METAL

4/6 variable tooth  
35mm (1-3/8") cutting depth



Part No.	Holesaw Diameter	Holesaw Diameter
HSV14	14mm	9/16"
HSV16	16mm	5/8"
HSV17	17mm	11/16"
HSV19	19mm	3/4"
HSV20	20mm	-
HSV21	21mm	13/16"
HSV22	22mm	7/8"
HSV24	24mm	15/16"
HSV25	25mm	1"
HSV27	27mm	1-1/16"
HSV29	29mm	1-1/8"
HSV30	30mm	1-3/16"

## ARBORS – UNIVERSAL SIZING

Arbors to suit all holesaws



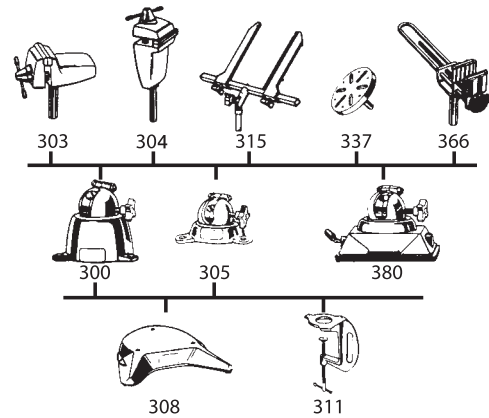
Part No.	Description	Suits holesaws
ARB-1	Hex Shank Arbor	14-30mm
PLD-1	3-1/4" Pilot Drill (ARB-1)	14-30mm



# PanaVise

## The world's most innovative work holding

- PanaVise tilts, turns and rotates requiring only one turn of the control knob to securely position your work exactly where you want it.
- Ideal for general work in electronics and instruments.



### PANAVISE SETS



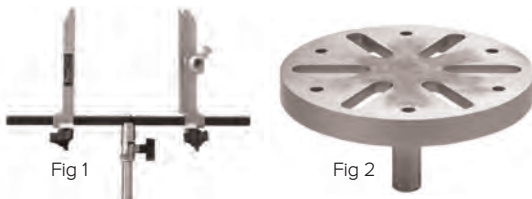
Part No.	Description	Fig
PAN 201	PanaVise Junior Set	1
PAN 301	PanaVise Standard Set	2

### PANAVISE INTERCHANGEABLE HEADS



Part No.	Description	Fig
PAN 303	Standard Head	1
PAN 304	Low Profile Head	2
PAN 366	Wide Opening Head	3

### PANAVISE SPECIALTY HEADS



Part No.	Description	Fig
PAN 315	Circuit Board Holder	1
PAN 337	Fixturing Head	2

### PANAVISE BENCH CLAMP MOUNT



Part No.	Description
PAN 311	Bench Clamp Mount

### PANAVISE BASE OPTIONS



Part No.	Description	Fig
PAN 300	Standard Base	1
PAN 305	Low Profile Base	2
PAN 380	Vacuum Base	3
PAN 308	Weighted Base 2-3kg	4

### ENGINEERS VICE

- Tough cast iron construction
- General purpose vice with provision for fixed mounting to workbench



Part No.	Jaw Width	Jaw Opening	Jaw Depth
REC-EV1	75mm	95mm	50mm
REC-EV3	100mm	120mm	70mm
REC-EV4	115mm	140mm	80mm
REC-EV5	125mm	165mm	85mm
REC-EV6	150mm	205mm	90mm
REC-EV8	205mm	235mm	100mm

### BALL JOINT VICE

- German constructed vice with ball and socket joint for easy rotation in any direction. With the flip of one lever, the head can be securely locked in any desired position.
- Ideal for heavy duty work in electronics or more precision industrial applications



Part No.	Description	Jaw Size
9-205	Ball Joint Vice	100mm



MicroCare®

**GB: Danger**  
H222 Extremely flammable aerosol.  
H400 Very toxic to aquatic life.  
P210 Keep away from heat/open flames/hot surfaces. Do not spray on an open flame or other ignition source.  
P231 Do not spray on an open flame or other ignition source.  
P251 Pressurized container. Do not puncture, burn, even after use.  
P261 Avoid breathing vapors.  
P273 Avoid release to the environment.  
RCH002 Restricted to professional users.  
RCH005a This product is not for use in conditions of poor ventilation.

**CZ: Nebezpečí**  
H222 Extrémně hořlavý aerosol.  
H400 Vysoce toxický pro vodní organismy.  
P210 Chraňte před teplem, otevřenými plameny/horkými povrchy. Neřezte, neohřívajte, nezapalujte, neohřívajte, nezapalujte, neohřívajte, nezapalujte.  
P231 Neřezte, neohřívajte, nezapalujte, neohřívajte, nezapalujte, neohřívajte, nezapalujte.  
P251 Tlakovaný obal. Po použití neohřívajte, nezapalujte, neohřívajte, nezapalujte, neohřívajte, nezapalujte.  
P261 Vyhněte se vdechnutí páry.  
P273 Vyhněte se uvolnění do životního prostředí.  
RCH002 Omezeno na profesionální uživatele.  
RCH005a Tento výrobek není určen k použití v podmínkách špatné ventilace.

Flux Remover  
Microclean®

PAGE, Inc. E020-0109 Rev. 1



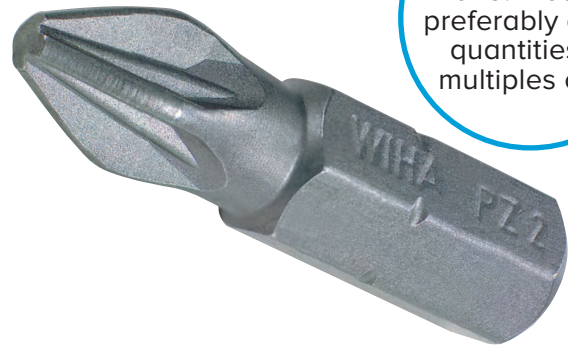
## Consumables

Screwdriver Bits .....	186
Aerosols & Cleaners, various .....	188
Gloves .....	191
Glasses .....	191
Wipes.....	192
Other Consumables.....	193

# Wiha Standard Bits



Imported in box of 5. Please preferably order quantities in multiples of 5.



## Impressive quality / versatile range

- The optimum cost/performance ratio is partly attributed to the process-controlled heat treatment and process supported production. Wiha thus guarantees a uniformly high product quality.
- Wiha Standard Bits are the ideal multi-purpose tool to meet high requirements in terms of both quality and performance.

### PHILLIPS INSERT BITS



Part No.	⊕	↔
7011 Z025	PH0	25
7011 Z125	PH1	25
7011 Z225	PH2	25
7011 Z325	PH3	25

### POZIDRIV INSERT BITS



Part No.	⊕	↔
7012 Z025	PZ0	25
7012 Z125	PZ1	25
7012 Z225	PZ2	25
7012 Z325	PZ3	25

### SLOTTED INSERT BITS



Part No.	⊖	↔	⊖
7010 Z4525	4.5	25	0.6
7010 Z5525	5.5	25	0.8
7010 Z6525	6.5	25	1.2
7010 Z8525	8.0	25	1.6

### TORX® INSERT BITS



Part No.	⊕	↔
7015 005	T5	25
7015 006	T6	25
7015 007	T7	25
7015 008	T8	25
7015 009	T9	25
7015 010	T10	25
7015 015	T15	25
7015 020	T20	25
7015 025	T25	25
7015 027	T27	25
7015 030	T30	25
7015 040	T40	25

### HEX INSERT BITS



Part No.	⊖	↔
7013 15	1.5	25
7013 20	2.0	25
7013 25	2.5	25
7013 30	3.0	25
7013 40	4.0	25
7013 50	5.0	25
7013 60	6.0	25
7013 80	8.0	25

### SECURITY TORX® INSERT BITS



Part No.	⊕	↔
7015 TR007	T7H	25
7015 TR008	T8H	25
7015 TR009	T9H	25
7015 TR010	T10H	25
7015 TR015	T15H	25
7015 TR020	T20H	25
7015 TR025	T25H	25
7015 TR027	T27H	25
7015 TR030	T30H	25
7015 TR040	T40H	25

### PHILLIPS POWERDRIVE BITS



Part No.	⊕	↔
7041 170	PH1	70
7041 190	PH1	90
7041 1127	PH1	127
7041 1150	PH1	150
7041 270	PH2	70
7041 290	PH2	90
7041 2127	PH2	127
7041 2150	PH2	150
7041 370	PH3	70
7041 390	PH3	90

### POZIDRIV POWERDRIVE BITS



Part No.	Icon	Length
7042 170	PZ1	70
7042 190	PZ1	90
7042 1127	PZ1	127
7042 1150	PZ1	150
7042 270	PZ2	70
7042 290	PZ2	90
7042 2127	PZ2	127
7042 2150	PZ2	150
7042 370	PZ3	70
7042 390	PZ3	90

### SLOTTED POWERDRIVE BITS



Part No.	Width	Length	Depth
7040 30	3.0	50	0.5
7040 35	3.5	50	0.6
7040 40	4.0	50	0.5
7040 45	4.5	50	0.6
7040 55	5.5	50	0.8
7040 65	6.5	50	1.2
7040 80	8.0	50	1.2

### TORX® POWERDRIVE BITS



Part No.	Icon	Length
7045 T5	T5	50
7045 T6	T6	50
7045 T7	T7	50
7045 T8	T8	50
7045 T9	T9	50
7045 T10	T10	50
7045 T15	T15	50
7045 T20	T20	50
7045 T25	T25	50
7045 T27	T27	50
7045 T30	T30	50
7045 T40	T40	50

### SECURITY TORX® POWERDRIVE BITS



Part No.	Icon	Length
7045 TR7	T7H	50
7045 TR8	T8H	50
7045 TR9	T9H	50
7045 TR10	T10H	50
7045 TR15	T15H	50
7045 TR20	T20H	50
7045 TR25	T25H	50
7045 TR30	T30H	50
7045 TR35	T35H	50
7045 TR40	T40H	50

### HEX POWERDRIVE BITS



Part No.	Icon	Length
7043 Z15	1.5	50
7043 Z20	2.0	50
7043 Z25	2.5	50
7043 Z30	3.0	50
7043 Z40	4.0	50
7043 Z50	5.0	50
7043 Z60	6.0	50
7043 Z80	8.0	50

### PHILLIPS POWERDRIVE BITS



Part No.	Icon	Length
7041 150	PH1	50
7041 250	PH2	50
7041 350	PH3	50

### POZIDRIV POWERDRIVE BITS



Part No.	Icon	Length
7042 150	PZ1	50
7042 250	PZ2	50
7042 350	PZ3	50

### NUTDRIVER POWERBITS



Part No.	Icon	Length
704450	5.0	55
704455	5.5	55
704460	6.0	55
704470	7.0	55
704480	8.0	55
704410	10.0	55
704413	13.0	55
7044140	1/4	55
7044516	5/16	55
7044380	3/8	55

### NUTDRIVER BITS WITH MAGNETS



Part No.	Icon	Length
7044 M50	5.0	55
7044 M55	5.5	55
7044 M60	6.0	55
7044 M70	7.0	55
7044 M80	8.0	55
7044 M10	10.0	55
7044 M13	13.0	55
7044 M140	1/4	55
7044 M516	5/16	55
7044 M380	3/8	55

# Electrolube Aerosols & Cleaners

With Electrolube's expansive product range of formulated chemical products, we supply leading manufacturers of electronic, industrial and domestic devices for a variety of industries, thus offering the 'complete solution' at all levels of production.

There is a vast array of products available including: Thermal management materials, conformal coatings, encapsulation resins, electronic cleaning solutions and general maintenance products.

All manufactured by Electrolube at their factories in the UK and China, and all available in a versatile range of packaging.

## PAPER LABEL REMOVER

- Suitable for EPROMS, also useful around the office
- Aerosol with brush enables mechanical scrubbing action to aid removal
- Handy pen version available
- Harmless to most plastics



Part No.

Description

LRM200DB

Label Remover Aerosol with Brush 200ml

## SCREEN & STENCIL WIPES

- Superb cleaning power that removes pastes and adhesives
- Leaves screens and stencils clean and dries with no staining
- Large size (20 x 28cm)
- Convenient 100 wipe tub dispenser
- Low odour



Part No.

Description

SSW100

Screen & Stencil Wipes Paste/Adhesive

## FREEZER

- Standard freezer for non-sensitive, electronic fault finding
- Can aid mechanical shrink fitting
- Non-flammable, cools down to -55°C
- Prevents damage to components during soldering



Part No.

Description

FRE400

Freezer Aerosol 400ml

## RUBBER ROLLER RESTORER

- Restores texture to rubber rollers in office equipment
- Prolongs the lifetime of rubber rollers, preventing costly replacement
- Supplied in pump spray
- Leaves no residue
- Dissolves ink, oil, grease and will remove general office dirt



Part No.

Description

RRR250

Rubber Roller Restorer 250ml

## MINIMAL CHARGING FREEZER

- Unique additive minimises static build up whilst still allowing frost formation
- Fast fault finding in electronics
- Suitable for static sensitive devices
- Protection from overheating
- Cools to -55°C



Part No.

Description

MCF400

Minimal Charging Freezer 400ml

## AIRDUSTER

- Inert, pure compressed gas for dust removal
- Available in standard and invertible versions
- Ideal for removing particulates from inaccessible areas on delicate equipment
- Non-flammable



Part No.

Description

EAD400D

Airduster Aerosol 400ml

EGDP400

High Power Aerosol 400ml

### CONTACT CLEANER LUBRICANT

- Cleans and lubricates switches and connectors
- Removes dirt and protects from further contamination
- Reduces contact resistance
- Improves conductivity
- Known as switch cleaner



Part No.	Description
EML200F	Contact Clean Lubricant 200ml

### ANTISTATIC SPRAY

- Powerful non-foaming cleaner which also prevents static build-up
- Long term effect
- Non-flammable
- Suitable for use on screens and bench tops
- Also suitable for use on fabrics



Part No.	Description
ASA250ML	Antistatic Spray 250ml

### SAFESHASH & SAFERINSET

- SWAJ in an aerosol formulation for bench cleaning of PCBs
- Removes fluxes from PCBs. May also be used to clean grease and general dirt
- Fast, effective foaming action
- Use SafeRinse (SRI) after cleaning to give final polish
- Biodegradable and 100% ozone friendly



Part No.	Description
SWA400H	Safewash Aerosol 400ml
SWAS05L	Safewash S (Higher Strength Cleaner) 5L Bulk
SWAS25L	Safewash S (Higher Strength Cleaner) 25L Bulk

### SCC3 CONFORMAL COATING

- High specification flexible modified silicone resin conformal coating
- Transparent version (DCA) is UL approved
- Red version (DCR) available for camouflage
- Red version high build (DCRT) available for extreme conditions
- Excellent chemical and solvent resistance
- May be soldered through for rework



Part No.	Description
DCA200H	SCC3 Conformal Coating 200ml
DCA05L	SCC3 Conformal Coating 5L Bulk
7012 Z225	SCC3 Conformal Coating Red 200ml
DCR200H	SCC3 Thinner 5L Bulk

### NICKEL SCREENING COMPOUND

- Efficient EMI/RFI screening coating with excellent attenuation levels
- Enhanced adhesion to wide variety of substrates
- Provides even coating with superior scratch resistance
- Fast drying at room temperature
- Prevents static build-up



Part No.	Description
NSC400H	Nickel Screening Compound 400ml

### HPA CONFORMAL COATING

- High performance flexible acrylic coating
- Approved to US MIL-1-46058C and meets requirements of IPC-CC-830B
- UV trace for inspection
- Excellent dielectric properties and with a wide temperature range
- Resistant to mould growth
- May be removed with solvents such as Ultrasolve (ULS)



Part No.	Description
HPA200H	HPA Conformal Coating 200ml

### SPECIAL PLASTICS GREASE

- Excellent plastics compatibility
- Offers outstanding low temperature performance
- Efficient mechanical lubricant for plastic/plastic or plastic/metal friction
- Ideal to reduce wear in timers, plastic cogs and gears etc.



Part No.	Description
SPG35SL	Special Plastics Grease 35ml

### NON-SILICONE HEAT TRANSFER COMPOUND

- Excellent non-creep characteristics
- Excellent thermal conductivity even at high temperatures: 0.9W/m.K
- Wide operating temperature range: -50°C to +130°C
- Low evaporation weight loss
- Easy to handle
- Low toxicity



Part No.	Description
HTC10S	Non Silicone Heat Trans Comp 10ml

### THERMALLY CONDUCTIVE RTV

- Silicone RTV with high thermal conductivity (2W/m.K)
- Operates from -50°C to +230°C
- Cures in 24 hours at room temperature
- For ease of use an optional trigger gun applicator is available



Part No.	Description
TCR700G	Gun Applicator
TCR75S	Thermally Conductive RTV 75ml

### ELECTRONIC CLEANING SOLVENT PLUS

- Fast evaporating cleaning solvent
- Removes grease, dirt and most fluxes
- Completely residue-free
- Highly flammable – not to be used on live equipment



Part No.	Description
ECSP200DB	Elect Clean Solvent Plus 400ml with Brush
ECSP400D	Elect Clean Solvent Plus 400ml

### CLEAR PROTECTIVE LACQUER

- General purpose coating for PCBs giving high quality glossy finish
- Ideal for protecting ferrous metals from corrosion
- Good resistance to humidity
- Resolderability through the lacquer



Part No.	Description
CPL200H	Clear Protective Lacquer 200ml
CPL05L	Clear Protective Lacquer 5L Bulk

### FLUXCLENE

- Fast drying solvent cleaner for efficient removal of flux residues after soldering
- Leaves a perfectly clean, dry surface
- Harmless to most plastics, rubbers and elastomers
- Aerosol versions available with or without a brush applicator



Part No.	Description
FLU400D	Fluxcylene 400ml Aerosol
FLU400DB	Fluxcylene 400ml Aerosol with Brush
FLU05L	Fluxcylene 5L Bulk

### ACRYLIC PROTECTIVE LACQUER

- Offers excellent adhesion to all substrates
- Good temperature range and dielectric properties
- May be soldered through, allowing easy repair
- UV trace for inspection
- May be removed with solvents such as Ultrasolve (ULS)



Part No.	Description
APL400H	Acrylic Conformal Coating 400ml
APL05L	Acrylic Conformal Coating 5L Bulk
UAT05L	Universal Acrylic Thinner

### ELECTRONIC CLEANING SOLVENT

- High quality, electronics grade IPA
- Suitable for all electronic and PCB cleaning
- Cleans thoroughly to a perfectly dry and residue-free surface
- Effective and economic in use



Part No.	Description
IPA400H	Iso Cleaning Solvent 400ml

### BLOC'LUBE

- Tamper evident seal for potentiometers etc
- Green or red
- Supplied with integral brush



Part No.	Description
BLR15BE	Block Lube Red 15ml
BLV15BE	Block Lube Green 15ml

### SCREEN & STENCIL SOLVENT

- Non-flammable solvent for cleaning of screens and stencils
- Excellent solder paste and adhesive removal
- Non-foaming and biodegradable
- Use with ECW025



Part No.	Description
SSS500ML	Screen & Stencil Solvent Paste/Glue 500ml
ESSS25L	Screen & Stencil Solvent Paste/Glue 25L Bulk



## ULTRASOLVE

- Fast drying solvent for quick and efficient cleaning of electrical equipment
- Excellent removal of grease, oil, flux residues and acrylic conformal coatings
- Leaves clean, dry surface
- Compatible with most plastics



Part No.	Description
ULS400D	Ultrasolve 400ml Aerosol
ULS400DB	Ultrasolve 400ml Aerosol with Brush
ULS05L	Ultrasolve 5L Bulk

## MAGNETIC CARD CLEANER

Cleaning cards for magnetic card reading equipment



Part No.	Description	
CCP 20	Card Cleaner	20
CCP 100 S	Card Cleaner	100

## CARTERCLENE

- Heavy duty anti-static foaming cleaner that removes ingrained dirt and grime
- Gives long lasting anti-static properties on glass, plastic and other synthetic materials
- Shake well before use, apply and wipe with ECW025



Part No.	Description
CTC400H	Carterclene 400ml Aerosol

## GLOVES, DISPOSABLE

Disposable gloves in packs of 100 pieces



Part No.	Description	Size
GLVLX 100S/SPF	Latex, Low Powder/Powder Free	S
GLVLX 100M/MPF	Latex, Low Powder/Powder Free	M
GLVLX 100L/LPF	Latex, Low Powder/Powder Free	L
GLVLX 100XL/XLPF	Latex, Low Powder/Powder Free	XL
GLVN TRPF 100S	Nitrile, Powder Free	S
GLVN TRPF 100M	Nitrile, Powder Free	M
GLVN TRPF 100L	Nitrile, Powder Free	L
GLVN TRPF 100X	Nitrile, Powder Free	XL

## SCREEN-CLENE

- Screen-Clene Pump Spray
- Screen-Clene Gel



Part No.	Description
SCS 250	Screen-Clene Pump Spray 250ml
SCG 000	Screen-Clene Gel

## COTTON GLOVES

White, soft cotton gloves with interlock hemmed cuff



Part No.	Description	Size	
SCS 250	Cotton Glove	Mens	12
SCG 000	Cotton Glove	Ladies	12

## HAND CLEANER

- Environmentally friendly hand cleaner for heavy and medium cleaning of industrial dirt – like grease and grime
- Contains Eucornol® to promote skin health



Part No.	Description
SHC 10002	Solopol® Hand Cleaner 250ml

## SAFETY GLASSES

- Wrap around UV400 protective polycarbonate lens with splash/spray guards
- Safety glasses with adjustable arms and soft, comfortable nose piece



Fig. 1



Fig. 2

Part No.	Description	Fig.
SCS 250	Clear Over Spec Safety Glasses	1
SCG 000	Clear Safety Glasses with adjustable Side Arms	2

WIPES

Lint free, single ply paper wipes ideal for screens and filters.



Part No.	Description	
KW 4103	Kimwipes	200

WIPES

Lint free, single ply paper wipes ideal for screens and filters.



Part No.	Description	
STI 200	Safetiss Wipes	200

LINT FREE WIPES

- Material: Non-woven blend of polyester and lyocell
- ESD Category: Static neutral when used with liquids
- Strength: Excellent, both wet and dry
- 350 x 350mm



Part No.	Description	
CT-2357-100	Lint Free Wipes	100

SAFECLOTHS

- High quality cloth with exceptional wet and dry tear strength
- Economical and re-useable
- Packed in a re-sealable gripper bag which protects against contamination
- 230mm x 230mm



Part No.	Description	
SCH 050	Safecloths	50

LEAD-FREE LABELS



Part No.	Description	
441-304	Label, 50mm x 50mm	500

LEAD-FREE SIGNS



Part No.	Description	
441-911	Sign, 100mm x 250mm	10

LEAD-FREE TAPE



Part No.	Description	
441-305	Aisle Marking Tape, 75mm x 16.5m	1

### SOLVENT PUMP BOTTLE

One touch pump with air tight check valve, preventing cross contamination of solvent returning into dispenser bottle. ESD safe, 109 to 1010.



Part No.	Description	Size
MA 618	Pump Bottle	6 fl.oz.

### CONFORMAL COATING PEN

Green conformal coating pen protects against moisture and abrasion damage. Supplied in simple to use, single component acrylic.



Part No.	Description
CE 119-555	Conformal Coating Pen

### LIQUID/FLUX DISPENSING BOTTLE

Polyethelene dispenser bottle with 0.51mm disposable needle for controlled, one drop dispensing.



Part No.	Description	Size
CE 121-723	Precise Dispensing Bottle	202mm

### BELT SOLVENT

Professionally formulated solvent blend for specialist cleaning of drive belts ideal in the photocopier industry.



Part No.	Description	Size
043L00150	Photoklene Belt Solvent	250ml

### REFILLABLE FLUX PEN

Convenient, refillable pen for brushing on flux.



Part No.	Description	Capacity
FRH-M	Refillable Flux Pen	7cc

### FLUX PEN

Kester no-clean, low solids flux pen for rework applications.



Part No.	Description	Size
952-D6	Flux Pen (RoHS compliant)	10ml

### SUPERLUBE OILER PEN

Multipurpose synthetic based oil with PTFE.



Part No.	Description	Size
CE 121-464	Superlube Oiler Pen	0.25oz / 0.25fl.oz

### ADHESIVE

General purpose instant adhesive for most plastics, rubber, ceramic, wood and metal. Type 401 for porous substrates.



Part No.	Description	Size
3G 401	Loctite Adhesive, 5-20sec	3g
3G 406	Loctite Adhesive, 10-20sec	3g

### HEATSINK COMPOUND



Part No.	Description	Size
DOW 340	Heatsink Compound	142g

# INDEX

A	Page
AC/DC Clamp Meters	173
Adaptor Blades, Torque	139
Adaptors and Kits, Test Equipment	170
Adaptors, Snap Stud, ESD	60
Adaptors, Sockets	126
Adhesives	193
Adjustable Wrenches	122
Aerosols	188
Airdusters	188
Aisle Marking Tapes, ESD	64
Allen Keys	92
Alligator Clips	171
Alpha Bits	182
Analogue Fume Extraction Systems	48
Analogue Soldering Pots	39
Analogue Soldering Stations, Hakko	24
Andilog Test Equipment	130
Angle Heads, Torque Driver	133
Angle Racks, ESD	65
Antistatic Sprays	189
Antistatic Wrist Straps	61
Appliance Testers	173
Arbors, Holesaws	182
Arms, Tool Balancers	137
Art Knives	119
ASA Electric Screwdrivers	136
Ash Camera Inspection	54
Astro Crimp Tools	106
Atlas Copco Torque Tools	133
Atomik Toolcases, empty	74
Atrix Vacuums	177
Attachments, Vacuums	177
Atten Soldering Equipment	6
Auto-Feed Irons, Soldering, JBC	17
Auto-Feed Stations, Soldering, JBC	19
Automatic Centre Punches	122
Axial Bending Machines	56
Axial Component Forming	102

B	Page
Bags, ESD	69
Balancers, Overhead	137
Ball Joint Vices	183
Ball Pein Hammers	122
Ball Point Hex Keys	92
Barrel Dispensers	51-52
Battery Screwdrivers	180
Battery Testers	153
Battery Tools	180/181
Beautech Milprobes	103
Belt Solvents	193
Bench Clamp Mounts	183
Bench Ground Points	60
Bench Matting, ESD	60
Bench Multimeters	151
Bench Power Supplies	173
Benchtop Robots, Dispensing	53
Bending Machines	56
Bent Snipe Nose Pliers	94
Bins Storage, Conductive	65
Bit Holder Sets	84

... B	Page
Bit Holders, Torque	139
Bit Holding Screwdrivers	83-85
Bits	186
Bits Sets	85
Blades, Torque	139
Bloc'lubes	190
Bottles, Dispensing	193
Boxer Toolcases, empty	75
Boxes, ESD	65
Brass Wool	17
Brushes, Conductive, ESD	68
Brushes, Hogs Bristle	68
Brushes, Metal	17
Brushes, Vacuum	177
Busbar Grabbers	172

C	Page
Cable Shears	118
Cable Strippers	114
Cable Testers	131
Cable Ties and Guns	117
Calipers	120/121
Camera Inspection	54
Captive Spring Hooks	103
Card Cleaners	191
Carrycases, Fluke	144-166
Carterclenes	191
Cartridges, Tips, Atten	9/11
Cartridges, Tips, Hakko	28-35
Cartridges, Tips, JBC	20-23
Cases, Fluke	144-166
Cases, Foam Filled	72
Cases, Transit	72
Cases, Waterproof	72
Cases, with Tools	75
Center Punches	122
Centormeters	130
Chairs, ESD	60
Charleswater ESD Bags	69
Chemical Tip Tanners	39
Circlip Pliers	95
Circuit Board Cleaners	191
Circuit Board Holders	183
Clamp Adaptors	146-153/ 166/169
Clamp Meters	152/173
Cleaners and Cleaning Sprays	190-191
Cleaners, Stencil	190
Cleaning Brushes, Wooden	68
Cleaning Pastes, Soldering, Hakko	39
Cleaning Stands, Soldering, JBC	15
Cleaning Wipes	192
Cleaning, Ultrasonic	57
Cleanroom Vacuums, ESD	63
Clothing, ESD	62
Coated Gloves, ESD	62
Coating Sprays	189
Coats, Polycotton, ESD	62
Coaxial Crimp Tools	110
Coaxial Torque Spanners	141
Coaxial Wire Strippers	117
Coil Cords, ESD	61
Combination Pliers	94/96
Combination Pliers, Insulated	98-100
Combination Spanners	123
Combination Squares	121
Combination Testers, ESD	66

... C	Page
Common Point Ground Cords	61
Compact Soldering Stations, JBC	13
Component Counters	56
Component Forming Machines	56
Component Forming Pliers	102
Compounds	189
Conductive Brushes, ESD	68
Conductive Floor Paints	64
Conductive PCB Racks	65
Conductive RTVs	190
Conductive Storage, ESD	65
Conformal Coating Pens	193
Connection Kits, Fume Extraction	47
Connector Tooling	106-113
Connector Torque Wrench	141
Connector Wrenches	113
Contact Cleaner Lubricants	189
Contact Installation/Removal Tools	112
Continuous Monitors, ESD	66
Controllers, Torque	134/136
Cordless Drills	180
Cordless Glue Guns	178
Cordless Screwdrivers	180
Corex Wire Strippers	117
Cotton Gloves	191
Counters for Components	56
County	56
Crevice Tools, Vacuum	177
Crimp Pull Testers	131
Crimping Tools	106-111
Crocodile Clips	172
Croppers, radial	56
Current Clamps	152/173
Custom Stripmaster Strippers	114/115
Custom Toolkits	72
Cut and Bend Pliers	102
Cutters	94-102
Cutters, ESD	98
Cutters, Lindstrom	97
Cutters, Tsunoda	97
Cutting Mats	119

D	Page
DC Torque Screwdrivers	136
Dental Probes	103
Depanelling Tools	102
Desoldering Braids	40
Desoldering Guns	6
Desoldering Modules and Irons, JBC	15-16
Desoldering Pumps	40
Desoldering Stations, Atten	8
Desoldering Stations, Hakko	25
Desoldering Stations, JBC	14
Desoldering Tips, Atten	9
Desoldering Tips, Hakko	27
Desoldering Tips, JBC	23
Desoldering Tips, Pace	39
Desoldering Wick	40
Desoutter Fastening Systems	136
Diagonal Cutters	94
Digital Dispensers	51
Digital Field Meter	67
Digital Fume Extraction Systems	49
Digital Microscopes	54
Digital Multimeters	144-151
Digital Soldering Pots	39

... D	Page
Digital Soldering Stations, Hakko	24
Digital Torque Screwdrivers	139
Digital Valve Controllers	51
Digital Vernier	120
Dimple Trays, ESD	65
Discs, Papermasking	43
Dispensers / Dispensing	50-51
Dispensing Automation	53
Dispensing Bottles	193
Dispensing Consumables	52
Dispensing Controllers	51
Dispensing Systems	51-52
Dispensing Tips	52
Dispensing Valves	50
Disposable Gloves	191
Disposable Heel Straps	63
Dissipative Flooring	64
Dissipative Matting	60
Dissipative Pliers	100
Dividers	121
DMC / Astro Tools	106-111
Document Storage, ESD	62
Dome Ground Cords, ESD	61
Dremel	181
Drill Bits	182
Driver Bits	186-187
Dual Layer Matting	60
Dust Coats, ESD	62

E	Page
Earth Ground Testers	66
Earth Plug Points, ESD	61
Easy Braid Desolder Wick	40
EBL (Re-)Drives and Modules	133
Edsyn Smoke Extraction	47
Electric Desoldering Modules, JBC	15
Electric Screwdrivers	88-89
Electric Soldering Stations	13
Electric Torque Drivers	136
Electrical Scissors	118
Electrical Wirestrippers	115
Electrolube	188
Electronic Series Screwdrivers	88-89
Electronic Side Cutters	99
Electronics Toolkits	76
Empty Hardcases	74
Empty Softcases	75
End Strippers	116
Engineers Squares	120
Engineers Vices	183
ESD Angle Racks	65
ESD Bags, Zip Lock	69
ESD Brushes (Wood, Plastic)	68
ESD Chairs	60
ESD Cleaning Brushes	68
ESD Clothing	62
ESD Combination Testers	66
ESD Cutters	98
ESD Dimple Trays	65
ESD Document Storage	62
ESD Dust Coats	62
ESD Electronic Pliers	99
ESD Equipment	58-67
ESD Field Service Kits	77
ESD Floor Marking Tape	64
ESD Floor Mats/Finishes/Paints	64

... E	Page
ESD Foot Plates	66
ESD Gloves	62
ESD Heel- and Toestraps	63
ESD Ionisers	63
ESD Labels	64
ESD Marking Tapes	64
ESD Matting	60
ESD Meters and Meter Kits	67
ESD Monitors	66
ESD Pliers	99
ESD Power Adaptors	66
ESD Precision Screwdrivers	87
ESD Racks	65
ESD Resistance Checkers	67
ESD Screwdrivers	86-87
ESD Shielding Bags	69
ESD Shirts	62
ESD Shoes	62
ESD Signage	64
ESD Snap Studs	60
ESD Sprays	64
ESD Storage Boxes	65
ESD Studs	60
ESD Surface Resistance Meter Kits	67
ESD Survey Kits	67
ESD Tester Calibration	67
ESD Tester Foot Plates	66
ESD Testers and Test Equipment	66/67
ESD Toolboxes	65
ESD Tote Boxes	65
ESD Vacuums	177
ESD Vacuums, Cleanroom Hepa	63
ESD Verification Testers	67
ESD Vinyl Flooring	64
ESD Wall Plates	66
ESD Wrist Straps	61
ESD, Aisle Marking Tapes	64
Explorer Cases	72/73
Express Vacuums	177
Extended Tooth Alligator Clips	171
Extractor Tools	103
Extractors	17
Eyeloupes	55

F	Page
Feeding Irons, Soldering, JBC	16
Feeler Gauges	120
Field Service Kits, ESD	60
Field Service Toolkits	77
Files	121
Filters, Fume Extraction	47
Filters, Soldering, Hakko	31
Filters, Vacuums	176
Fisnar Dispensing and Valves	50
Fixtures, Soldering Rework, Hakko	26
Flat Nose Pliers	95
Flexible Grabbers	172
Floor Mats/Finishes/Paints, ESD	64
Flooring, Vinyl, ESD	64
Fluid Dispensing	50
Fluke Test Equipment	144
Flux	42
Flux Cleaners	190
Flux Dispensing	50
Flux Gels	43
Flux Pens, Refillable	42 / 193

... F	Page
Flux Thinners	42
Flux, Liquid	42
Flux, Water Soluable	42
Foam Inlays	72
Foam Tool Trays	72
Foot Plates, ESD	66
Foot Valve Dispensers	51
Footwear Testers	66
Force Gauges	132
Forceps	105
Forming Machines	56
Forming Pliers	102
Freezer Sprays	188
Fume Extraction Filters	47
Fume Extraction Systems	46-49
Fused Test Probes	171

G	Page
Gantry Industrial Robots	53
Gauges	132
Gauges, Feeler	120
Gauges, Force	132
GearWrench Spanners	125
Gedore	140
Gels, Flux	43
Glasses, Safety	191
Gloves, Cotton	191
Gloves, Disposable	191
Gloves, PU coated, ESD	62
Glue Guns and Nozzles	178
Go-no-Go Gauges	113
Gordon Brushes	68
Grounding Points, ESD	61
Greases	189
Grinders, Dremel	181
Gripper Pads	115
Ground Cords, ESD	61
Grounding (Cords/Wriststraps/Plugs)	61
Grounding Snap Stud	60
GT Line Cases	74
Gun Cases	72-73

H	Page
Hakko Desoldering Stations	25
Hakko Desoldering Tips	31
Hakko Handpieces	27
Hakko Hot Air Nozzles	30
Hakko Hot Air Stations	26
Hakko Omnivises	26
Hakko Rework Stations	26
Hakko Smoke Absorbers	47
Hakko Soldering Equipment	24
Hakko Soldering Pots	39
Hakko Soldering Stations	24-26
Hakko Tips	28-35
Hakko Tweezer Tips	30
Hakko Tweezers	27
Hammer Drills	180
Hammers	122
Hand Cleaners	191
Hand Depaneling Tools	102
Handle Drivers	126
Handpieces, Hakko	27
Handpieces, JBC	16
Handpieces, Oki/Metcal	36
Handpieces, Pace	39

... H	Page
Hardcases, Explorer	72/73
Hardcases, other	74/75
Heat Guns	179
Heat Transfer Compounds	189
Heatsink Compounds	193
Heavy-Duty Soldering Stations, Hakko	24
Heelstraps, ESD	63
Hemostats	105
Hepa Fume Extraction	46-49
HEPA Vacuums	177
Hex Keys	92
Hex Keys, T Handle	93
Hex L-Keys	92
Hex Screwdrivers	80/84/ 87/91
High Temperature Tapes	43
High Voltage Probes	170
High-Powered Soldering Handpieces	6
High-vis Labelling, Toolcases	72
Hog Bristle Brushes	68
Holesaws, Arbors	182
Hollow Punches	122
Hook Clips	171
Hoses, Vacuums	177
Hot Air Guns	179
Hot Air Handpieces, Hakko	27
Hot Air Stations, JBC	19
HSS Drill Bits	182
HVAC Clamps	149/159

I	Page
Ideal Wire Strippers	114
Illuminated Magnifying Glasses	54
Illuminators	55
Impact Drivers	180
Imperial Sockets	126
Industrial Robots	53
Industrial Test Probes	171
Infrared Cameras	160-165
Infrared Thermometers	160-165
Inspection, Cameras	54/ 160-165
Insulated VDE Pliers	96/ 99-102
Insulated VDE Screwdrivers	88/89
Insulation Piercing Clips	170
Insulation Testers	166-167
Interchangeable Blades, Torque	139
Inventory Lists	72
Ion Vector Systems, ESD	63
Ionisers, Bench, ESD	63
Ionisers, Overhead, ESD	63
Ionisers, Zero Volt, ESD	63
Irons, Soldering, Weller	37
Isopropanol	57

J	Page
Jackets, ESD Safe	62
JBC Control Units	14
JBC Desoldering Stations	13/18
JBC Desoldering Tips	23
JBC Handpieces	16-17
JBC Hot Air Stations	19
JBC Rework Stations	18
JBC Soldering Equipment	12-23
JBC Soldering Stations	13/18
JBC Soldering Tips	20-23

... J	Page
JBC Stands	15
JBC Suction Modules	15
JBC Tweezer Tips	22
JBC Tweezers	16-17
Jewellers Screwdrivers	80

K	Page
Kapton Tapes	43
Kester Solder Wire	41
Kimwipes	192
Knipex Pliers	96
Knipex Shears	118
Knives, Various	119

L	Page
Label Remover	188
Labels, ESD	64
Labels, Lead-free	192
Laboratory Power Supply	173
Lamps	54
Laser Marking	72
Latex Gloves	191
Lead Bending Tools	102
Lead Croppers and Cutters	56
Lead Forming	56
Leaded Solder Wire	41
Lead-free Desolder Wick	40
Lead-free Labels/Signs/Tape	192
Lead-free Solder Pastes	43
Lead-free Solder Wire	41
Leatherman	119
LED Magnifying Lamps	54
LED Ring Illuminators	55
Levels	121
Liftup Screwdrivers	88
Light Meters	173
Lindstrom Pliers	97
Linear Arms, Torque	137
Lint Free Wipes	192
L-Keys	92
L-Keys, Torx	92
Locking Pliers	122
Logic Probes	172
Long Nose Pliers	96
Lubricants	188

M	Page
Magglamp	54
Magnetic Nutdriver Bits	187
Magnetiser/Demagnetiser	85
Magnifiers	54-55
Magnifying Glasses	54-55
Magnifying Lamps	54
Mains Grounding Plugs, ESD	61
Mains Testers	84
Mantis Viewing System	55
Manual Syringe Barrel Dispensers	51
Masking Discs	43
Masking Dots	43
Masking Tapes, Soldering	43
Mat Cleaner	64
Mats, Sticky	64
Matting, ESD	60
Mechatronic Screwdrivers, Torque	139
Megawheels Toolcases, empty	74
Menda Dispenser	193

... M	Page
Metal Brushes, JBC	17
Metalised Shielding Bags, ESD	69
Metalized Shielding Bags	69
Metcal/Oki Tips and Handpieces	36
Meters and Meter Kits, ESD	67
Meters, Sound Level	173
Metric Sockets	126
Microscopes	54-55
Mil Spec Crimp Tools	106-111
Mil Spec Wire Strippers	114
Milprobes	103
Mini Soldering Handpieces, Atten	6
Minitech Cases, empty	75
Monitor, Wrist Strap, Continuous	61
Monitors, ESD	66
Multicore Solder Resistance	43
Multigrips	95/96
Multimeters, Bench	151
Multimeters, Digital, Fluke	144-151
Multi-Pair Ringers	117
Multitools	119

N	Page
Needle Files	121
Needle Holding Pliers	105
Needles, Dispensing	52
Neon Screwdrivers	84
Nickel Screening Compounds	189
Nitrile Gloves	191
No-Clean Flux	42
Nozzles, Desoldering, Atten	9
Nozzles, Glue Gun	178
Nozzles, Hot Air, Hakko	30
Nozzles, Soldering, Hakko	31-35
Nutdriver Bits	187
Nutdriver Bits, Magnetic	187
Nutdriver Sets	81/84/ 87/90
Nutdrivers	81/83/ 87/88

O	Page
Oblique Tip Cutters	97
Oiler Pens	193
Oki/Metcal Tips and Handpieces	36
Omega Vacuums	176
Omnivises, Hakko	26
One Step Braid Desolder Wick	40
Oscilloscope Probes	172
Oscilloscopes	168-169
Outer Sheath Strippers	117

P	Page
Pace Tips and Handpieces, Soldering	39
Padlocks, Explorer Cases	73
Paint, Conductive	64
Panasonic Cordless Tools	180
Panavises/Bases/Heads	183
Papermasking Discs	43
Parallel Remover Tips, Hakko	30
Parallel Removers, Hakko	27
Parts Storage, Conductive	65
Pastes, Soldering	43
PCB Cleaners	191
PCB Racks (Angle/Ladder), ESD	65
Pens, Dispensing	193
Pens, Flux	42

... P	Page
Peristaltic Pump Dispensers	51
Phillips Bits	186/84/ 85/138
Phillips Screwdrivers	80-82/ 85-89
PicoFinish Screwdrivers	80-81
Piergiacomì Desoldering Pumps	40
Piergiacomì Pliers and Cutters	100-101
Piergiacomì Tweezers	104-105
Pin Punches	122
Pincer Clips	171
Pistol Grips, Torque Driver	133
Pistol Heat Guns	179
Pistons, Dispensing	52
Plastic Brushes, ESD	68
Plastics Greases	189
PLCC Extractors	103
Pliers	94-102
Pliers, Circlip	95
Pliers, Combination	94/96
Pliers, Component Forming	102
Pliers, Dissipative	100
Pliers, ESD	99
Pliers, Knipex	96
Pliers, Lindstrom	97
Pliers, Long Nose	96/97/ 100
Pliers, Oblique Tip Cutter	97/99/ 101
Pliers, Round Nose	95/ 99- 100
Pliers, Snipe Nose	94/96/ 97/99/ 100
Pliers, Tsunoda	97
Pliers, VDE	100
Pliers, Wiha	94
Pneumatic Component Forming	56
Pneumatic Depanelling Tools	102
Pneumatic Screwdrivers	136
Pneumatic Side Cutters	101
Pneumatic Soldering Stations	13
Polisher, Tips, Soldering	39
Poloshirts, ESD	62
Polycotton Coats, ESD	62
Pop Riveters	121
Positioners, Crimp Tool	109
Posters, ESD	64
Posters, Lead Free	192
Pots, Soldering	39
Power Adaptors, ESD	66
Power Cords, Vacuums	177
Power Supply Units, Torque	135
Power Supply, Benchtop	173
Power Tools	180/181
Powerdrive Bits	187
Pozidriv Bits	186/187
Pozidriv Screwdrivers	80/83/ 87-89
Precision Electronic Cutters	96
Precision Electronic Snipe Nose Pliers	96
Precision Magnifiers	54
Precision Screwdrivers	80
Precision Screwdrivers, ESD	87
Preheaters, Hakko	26
Pre-insulated Crimp Tools	79
Presenters, Screw	135/137
Probes	103/ 170-171
Probes, Dental	103
Probes, Oscilloscope	170-171

... P	Page
Probes, Thermocouple	170-171
Protech Zipper Cases	75
Protective Lacquers	190
Protectors, JBC	17
Pull Testers	131
Pump Bottles	193
Punches, Pin	122
Purex Fume Extraction	46

Q	Page
Quick Braid Desolder Wick	40
Quickrelease Ratchets	127

R	Page
Racodon	122
Radial Cropping Machines	56
Ratches, Torque	141
Ratchet Cable Shears	118
Ratchet Drive Bits Sets	85
Ratcheting Spanners	124/125
Ratcheting/Reversible Spanners	124
Ratchets	127
Rechargeable Drills	180
Resistance Checkers, ESD	67
Retractable Knives	119
Reversible Blades, Screwdrivers	90/91
Rework Stations, Atten	7/8
Rework Stations, Hakko	26
Rework Stations, JBC	18
Ring Illuminators	55
Ring/Ring Spanners	124
Ringers	117
RMA Flux	42
RMA Solder Wire	41
Robots, Dispensing	53
Rock Turtle Toolcases, empty	74
Rosin Flux Solder Wire	41
Round Nose Pliers	95
RTVs	190
Rubber Roller Restorers	188
Rules, Steel	120
Run Down Adaptors	130

S	Page
Safe Cloths	192
Saferinset Sprays	189
Safety Glasses	191
Safety Knives	119
Safewash Sprays	189
Safewash Super	57
Scalpels	119
Scissors	118
Scopemeters	168-169
Screen Solvents	190
Screen Wipes	188
Screen, Stencil Solvent	190
Screen-Clenes	191
Screw Dispensers, Torque	135/137
Screw Presenters	135/137
Screwdriver Bits	186-187/ 84-85
Screwdrivers, Battery-operated	180
Screwdrivers, Bit Holding	83-85
Screwdrivers, Cordless	180
Screwdrivers, Electronic	88/89
Screwdrivers, ESD	86/87

... S	Page
Screwdrivers, Handheld	80-89
Screwdrivers, Hex	80/84/ 87/91
Screwdrivers, Insulated	88-89
Screwdrivers, Insulated VDE	88-89
Screwdrivers, Interchangeable Blades	90-91
Screwdrivers, Phillips	80-82/ 85-89
Screwdrivers, PicoFinish	80-81
Screwdrivers, Pneumatic	136
Screwdrivers, Powered	180
Screwdrivers, Pozidriv	80/83/ 87-89
Screwdrivers, Precision	80
Screwdrivers, Reversible Blades	90/91
Screwdrivers, Slotted	80-82/ 84-89
Screwdrivers, Torque	138
Screwdrivers, Torx	80/81/ 83/84/ 86/87/ 89
Screwdrivers, Wiha	80-89
Screw-holding Drivers	85
Screwstarters	85
Scribers	121
Sea Braid Desolder Wick	40
Selectors, Tips, Soldering	39
Service Aids	103
Service Vacuums	177
Shadow Foam	72
Sharps Bin	65
Shears	118
Sheath Removers	117
Shercon Masking Discs	43
Shielding Bags, Metalized	69
Shifters	122
Shifting Spanners	122
Shirts, ESD Safe	62
Shoes, ESD	62
Side Cutters, Knipex	96
Side Cutters, Lindstrom	97
Side Cutters, Pneumatic	101
Side Cutters, Tsunoda	97
Signage, ESD	64
Signage, Lead-free	192
Silicone Test Leads	171/173
Slim Screwdrivers	89
Slotted Screwdrivers	80-82/ 84-89
SMD Counting Machines	56
SMD Rework Stations	7/18/ 26
SMD Tweezers	6/16/27
Smoke Absorbers	47
Smoke Extractors	47
Smooth Flow Pistons, Dispensing	52
Snap Kits and Studs, ESD	60
Snap Off Knives	119
Snap Studs, Grounding	60
Snap-Off Knives	119
Snipe Nose Pliers	94
Socket Adaptors	126
Socket Sets	126
Sockets 1/4" Drive	126
Sockets 3/8" Drive	127
Sodapult Desoldering Pumps	40
Softcases, empty	75
SoftFinish Screwdrivers	82/83
Solder Bars, Lead-free	41
Solder Braids	40

... S	Page
Solder Feed Stations	13
Solder Feeders, Automatic, JBC	19
Solder Paste Dispensing	50
Solder Pastes	43
Solder Pots	39
Solder Resistance	43
Solder Suckers	40
Solder Wick	40
Solder Wire	41
Solder Wire Feeding Irons, JBC	16
Solder Wire, Lead Free	41
Solder Wire, Un-/Leaded	41
Soldering Cartridges, JBC	20-23
Soldering Equipment, Atten	6
Soldering Equipment, Hakko	24
Soldering Equipment, JBC	12
Soldering Handpieces, Atten	6
Soldering Irons, Weller	37
Soldering Nozzles, Hakko	31-35
Soldering Pots	39
Soldering Stations, Atten	6-11
Soldering Stations, Hakko	24-26
Soldering Stations, JBC	12-19
Soldering Tips, Atten	9/11
Soldering Tips, Hakko	28-31/ 36
Soldering Tips, JBC	20-23
Soldering Tips, Metcal	36
Soldering Tips, Pace	37
Soldering Tips, Weller	37
Soldering Tips, Thermaltronic	38
Solvent Pump Bottles	193
Sound Level Meters	173
Spanners and Sets	123-125
Spanners, Torque	141
Spirit Levels	121
Sponges, Tip Cleaner	17
Sprays, ESD	64
Spring Balancers, Torque	137
Spring Hooks	103
Spudger Tools	103
Squares, Combination	121
Squares, Engineers	120
Standard Screwdrivers	80-89
Stands for Soldering Handpieces, JBC	15
Statguard Floor Finish	64
Static Control	58
Steel Rules	120
Steel Wool	39
Steel Wool Tip Cleaners	39
Steinel Glue Guns	178
Steinel Hot Air Guns	179
Stencil Cleaners	190
Stencil Solvents	190
Step Drills	182
Stereo Zoom Microscopes	55
Sticky Mats	64
Stop Latches	115
Storage Bins, Conductive	65
Storage, ESD	65
Straight Heat Guns	179
Stripmaster Wirestrippers	114/115
Strippers, Coaxial	117
Strippers, Ideal	114/115
Strippers, Outer Sheath	117
Strippers, Wire	114-117
Strippers, Wire Wrap	116

... S	Page
Studs and Adaptors, ESD	60
Superlube Oiler Pens	193
Surface Mount Tweezers	104
Surface Resistance Checker/Meter Kits, ESD	67
Syringe Barrel Dispensers	51-52
System 4 Blades, Handles and Sets	91
System 6 Blades, Handles and Sets	90

T	Page
Table Matting, ESD	60
Tacky Mats	64
Tape Measures	120
Tapes	192
Tapes, Masking, Soldering	43
Terminal Crimpers	110
Test Equipment	144
Test Equipment, ESD	66
Test Lead Clips, Alligator	171
Test Lead Croc Clips	171
Test Leads	170-173
Test Probes	170-171
Testers, Wrist Strap and Footwear, ESD	66
T-Handle Hex Keys	93
T-Handle Torque Screwdrivers	140
T-Handles, sliding	126
T-Handles, Torque	140
Thermaltronic Tips	39
Thermometers, Soldering	39
Thermometers, Test Equipment	154-159
Thinners, Flux	42
Threaded Alligator Clips	171
Tie Guns, Cable Ties	117
Tip Cleaner Steel Wool	39
Tip Cleaners	39
Tip Cleaning Pastes	39
Tip Cleaning Sponges	17
Tip Cleaning Stands, JBC	15
Tip Extraction, Fumes	46-49
Tip Polishers	39
Tip Thermometers, Soldering	39
Tip Tanners	39
Tip Tray Selectors	39
Tips, Desoldering, Atten	9
Tips, Desoldering, JBC	23
Tips, Desoldering, Pace	39
Tips, Dispensing	52
Tips, Soldering, Atten	9/11
Tips, Soldering, Hakko	28-31
Tips, Soldering, JBC	20-23
Tips, Soldering, Metcal/OKI	36
Tips, Soldering, Pace	37
Tips, Soldering, Weller	36/37
Tips, Thermaltronic	38
Toestraps ESD	63
Toner Vacuums	177
Tool Arms	137
Tool Balancers	137
Tool Cases	72-75
Tool Cases, Explorer	72
Tool Cases, Other	74
Tool Cases, Soft, Zipper	75
Tool Trays, CNC Cut	72
Toolboxes, ESD	65
Toolkits	76-77
Toolkits, Custom	72
Toolkitting	72

... T	Page
Tools, Vacuums	177
Torpedo Levels	121
Torque Bit Holders	139
Torque Controlled Tightening	130-141
Torque Driver Blades & Adaptors	139
Torque Drivers	138-139
Torque Ratchets	141
Torque Screwdrivers	138-139
Torque Screwdrivers, Wiha	138
Torque Sensors	130
Torque Spanners	141
Torque Spanners, Coaxial	141
Torque Testers	130
Torque Wrenches	141
Torque, Set Bits	186-187
Torx "L" Keys	92
Torx Bits	186-187
Torx Keys	92
Torx Screwdrivers	80/81/ 83/84/ 86/87/ 89
Tote Boxes, ESD, Conductive	65
Transducerized Drivers, Torque	136
Transit Cases	72-73
Tripods, JBC	17
T-Shirts, ESD	62
T-Strippers	116
Tsunoda Hand Tools	97
Turrets, Crimp Tool	106-109
Tweezer Handpieces, Soldering, Atten	6
Tweezer Handpieces, Soldering, Hakko	27
Tweezer Handpieces, Soldering, JBC	16
Tweezer Tips Hakko	30
Tweezer Tips JBC	22/23
Tweezers	104
Tweezers, Surface Mount	104

U	Page
Ultrasolve	191
Ultrasonic Cleaning Baths	57
Universal Joints	126
Unleaded Solder Wire	41
Utility Knives	119

V	Page
Vacuum Cleaners	176
Vacuum Pick-up Adaptors, Torque	133
Vacuums, Clean Room	176
Vacuums, Toner	176
Valves, Controllers and Dispensers	50-51
Variable Power Supply	173
V-Blade Strippers	116
VDE Screwdrivers	88-89
Verification Testers, ESD	67
Vernier Calipers	120/121
Verniers	120
Vices	183
Viewing Systems, Mantis	55
Visegrips	122
Voltage Testers	173

If you did not find what you were looking for, please contact us!





## CONVERSION CHARTS

### Torque Conversion Chart

Units to be Converted	Imperial		
	ozf-in	lbf-in	lbf-ft
1 OZF-IN.=	1	0.0625	0.005
1LBF-IN.=	16	1	0.083
1LPF-FT.	192	12	1
1MN-M+	0.142	0.009	0.0007
1CN-M=	1.416	0.088	0.007
1N-M.	141.6	8.851	0.738

Units to be Converted	INTERNATIONAL SYSTEM -S.I.		
	mN-m	cN-m	N-m
1 OZF-IN.=	7.062	0.706	0.007
1LBF-IN.=	113	11.3	0.113
1LPF-FT.	1356	135.6	1.356
1MN-M+	1	0.1	0.001
1CN-M=	10	1	0.01
1N-M.	1000	100	1

### Torque Conversion Chart

N.m		lbf. ft
1.2	1	0.7
2.7	2	1.5
4.0	3	2.2
5.4	4	3.0
6.8	5	3.7
8.1	6	4.4
9.5	7	5.1
10.9	8	5.9
12.2	9	6.6
13.6	10	7.4
15.0	11	8.1
16.3	12	8.9
17.6	13	9.6
19.0	14	10.3
20.3	15	11.0
21.7	16	11.8
23.0	17	12.5
24.0	18	13.2
25.8	19	14.0
27.1	20	14.8
28.5	21	15.5
29.5	22	16.2
31.5	23	17.0
32.5	24	17.7
33.9	25	18.4

### Wire Sizes

AWG	mm <sup>2</sup>	Ø mm
30	0.05	0.25
28	0.08	0.30
26	0.12	0.40
24	0.22	0.50
22	0.35	0.60
20	0.5	0.80
18	1.0	1.00
16	1.5	1.30
14	2.5	1.63
12	4.0	2.00
10	6.0	2.60

### Temperature Conversion

Celcius	Fahrenheit
$^{\circ}\text{C} = (^{\circ}\text{F} - 32) \div 1.8$	$^{\circ}\text{F} = (^{\circ}\text{C} \times 1.8) + 32$

### Hex Versus Thread Size

mm	Germany (FRG) metric as per DIN and ISO	France NFE 27-311(69) 27-411(69)	Sweden SMS 2164-1967 2175-1971	Metric for high-strength bolts as per DIN 6914- 6915
4	2		2u. 2.2	
4.5	2.3			
5	2.5		2.5	
5.5	3	3	3u. 4.5	
6	3.5	3.5		
7	4	4	4u. 3.5	
8	5	5	5	
9	5	5	5	
10	6	6	6	
11	7	7	7	
12				
13	8	8	8	
14				
15	10			
16	(garage)			
17	10	10	10	
18				
19	12	12	12	
20				
21				
22	14	14	14	12
23				
24	16	16	16	

### Men's Shoe Sizes

Australia	6	7	8	9	10	11	12
Continent	40	41	42	43	44 <sup>1/2</sup>	46	47

### Women's Shoe Sizes

Australia	5	5 <sup>1/2</sup>	6	6 <sup>1/2</sup>	7	7 <sup>1/2</sup>	8	8 <sup>1/2</sup>	9
Continent	35	36	36	37	37	38	38	39	39

### Area

To convert	Multiply by
square inches into square millimetres	645.16
square inches into square centimetres	6.4516
square feet into square centimetres	929.0304
square feet into square metres	0.092903
square yards into square metres	0.836127

### Volume and Capacity

To convert	Multiply by
cubic inches into cubic centimetres	16.387064
cubic inches into litres	0.016387
cubic feet into cubic metres	0.0283168
cubic feet into litres	28.316847
cubic yards into cubic metres	0.7645549

### Mass

To convert	Multiply by
ounces into grams	28.349523
ounces into kilograms	0.0283495
pounds into kilograms	0.4535924

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# henchman

/ˈhɛn(t)smən/

Noun: henchman; plural noun: henchmen

Similar: Follower, supporter, assistant, aide, helper, adjutant, right-hand man, minder, protector

Opposite: Leader

Origin: Middle English, from Old English hengest 'male horse' + man, the original sense being probably 'groom'

“A squire or page of honour to a person of rank.”



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