

# TOLSEN

V21.5

**VDELINE**



1000V



MAINTENANCE OF  
ELECTRIC  
VEHICLES ,  
POWER



**TELECOM**  
TOOLS



# PROFESSIONAL PERFORMANCE WHY CHOOSE **TOLSEN** *VDELINE* ?



**TOLSEN VDELINE**, founded in 2004, is a leading influencer in industries such as electrical insulation, new energy vehicle maintenance and telecom tool manufacture.

Through continuous research, development and quality management system, we have become one of the few manufacturers capable of supplying full series of VDE certificates in the world.

Our full range of diverse tools meet the needs of different workplaces. We can also manufacture according to your samples and drawings of any customization.



# TOLSEN

## VDELINE

## What is VDE?



The VDE Testing and Certification Institute is a nationally and internationally accredited institution in the field of testing and certification of electrical engineering devices, components and systems. These electrical products are tested for safety, electromagnetic compatibility and other product properties.



### VDE-GS Mark

Technical working equipment and consumable materials subject to the applicable device and product safety laws bear the VDE-GS mark, which stands for the safety of the product with regard to electrical, mechanical, thermal, toxicological, radiological and other dangers. In addition, tools with the VDE-GS mark conform to the VDE regulations or European or internationally harmonised standards, i.e. they confirm the compliance with the safety requirements of the respective guidelines.



### Double triangle and voltage range

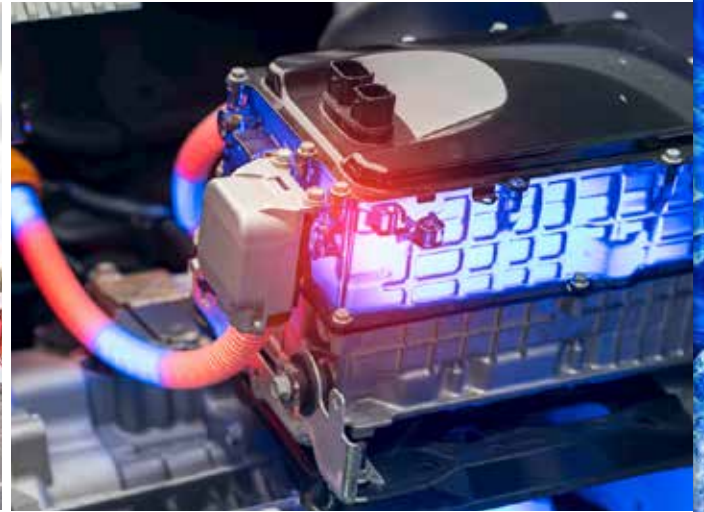
If insulated tools or aids are marked with the symbol of the double triangle and the assigned voltage or voltage range specification or the class, they are suitable for working on energised parts at the stated voltage.

## IEC 60900

### IEC 60900

An international standard which, among other things, describes the design of insulated tools in detail. For example, the thickness of the protective insulation is specified. In addition, the standard defines individual tests (piece tests) as well as series and random sample tests for checking the electrical safety of the protective insulation.

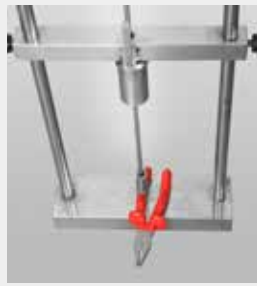






WE PROVIDE  
FULL RANGE OF  
**PROFESSIONAL**  
TOOLS





## IMPACT TEST

There are two tests carried out: The first test is performed at an ambient of  $-25\pm 3^{\circ}\text{C}$  (the tools lay in a cold chamber for 2 hours), if with C marked test need to be done by  $-40\pm 3^{\circ}\text{C}$  and is carried out 120 seconds after the tools have been removed from the chamber. The second test is carried out at ambient temperature of  $23\pm 5^{\circ}\text{C}$ . The hammer is allowed to fall freely on three different places of the insulated material. The test piece is acceptable if the handle is not cracked, broken or does not show signs of flaking. This test can be compared to a fall of the tool from a height of 0.6m at a temperature of  $-25^{\circ}\text{C}$  and a fall from a height of 2m at room temperature.



## ELECTRICAL TEST

Before testing, the tools are immersed in a bath of water at room temperature of 24 hours ( $\pm 0.5$  hours). The test pieces are acceptable if there is no electrical discharge, spark over or flashover, during the 3 minutes of testing at a voltage of 10 KV.



## STAMP TEST

The indenter, loaded with a weight of 20N and a voltage of 5 KV, is applied to the centre of the handle. The test is successful if the test piece subsequently passes the electrical test.



## DRAWING-FORCE TEST

Before testing the test piece is heated to  $70^{\circ}\text{C} \pm 3^{\circ}\text{C}$  for 168 hours. The hanger is loaded with weights (500N), wrenches and sockets sets with weights (100N). The duration of test is 3 minutes after the test piece has been removed from heat. The test piece is acceptable if the handle remains firmly attached to the conducting part after 3 minutes of testing.



## FLAME RETARDANCY TEST

The flame is applied to the test piece for 10 seconds. The test piece is acceptable if the height of the flame on the burning handle does not exceed 120mm in an observation period of 20 seconds after the burner has been removed.

## SALT-SPRAYER TEST



## TORQUE LIFE TEST



## HARDNESS TEST





## INSULATED TOOLS SET 8-17

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## TELECOM TOOLS 54-67



## INSULATED TOOL SET

Metal part made in CRV steel, chrome plated surface

Well heat treated to meet DIN standard

Bi-color injection grip and dipped grip manufactured according to IEC60900 standard



1000V

### 6 DRAWER ROLLER CABINET

Overall size: 840x460x890mm

PP material work table with stainless steel handle

Fitted with two fixed & two braked swiveling castors

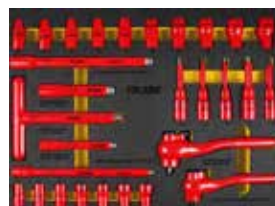
Drawers are fitted with XPE foam liner and ball bearing runners

secure integral locking system supplied with two keys



### 68PCS DIPPED INSULATED TOOL SET

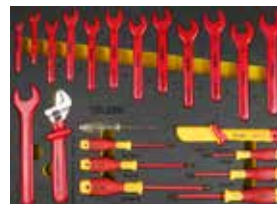
V80168



V80168-01 Tray 01



V80168-02 Tray 02



V80168-03 Tray 03

### 68PCS INJECTION INSULATED TOOL SET

V80169



V80169-01 Tray 01

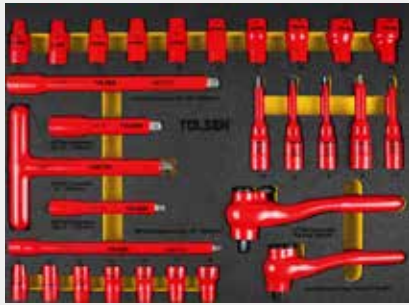


V80169-02 Tray 02



V80169-03 Tray 03





**V80168-01 Tray 01**

10 pcs DR 1/2" Socket: 10, 11, 12, 13, 14, 16, 17, 19, 22, 24 mm  
 2 pcs DR 1/2" Extension Bar: 5"([125mm]) & 10"([250mm])  
 1 pc DR 1/2" T-handle: 8"([200mm])  
 5 pcs DR 1/2" Hexagonal Socket: 4, 5, 6, 8, 10 mm  
 1 pc DR 1/2" Reversible Ratchaet Handle  
 7 pcs DR 3/8" Socket: 10, 12, 13, 14, 16, 17, 18 mm  
 2 pcs DR 3/8" Extension Bar: 5"([125mm]) & 10"([250mm])  
 1 pc DR 3/8" Reversible Ratchaet Handle



**V80169-01 Tray 01**

10 pcs 1/2" Socket: 10, 11, 12, 13, 14, 16, 17, 19, 22, 24 mm  
 2 pcs 1/2" Extension Bar: 5"([125mm]) & 10"([250mm])  
 1 pc 1/2" T-handle: 6"([160mm])  
 5 pcs 1/2" Hexagonal Socket: 4, 5, 6, 8, 10 mm  
 1 pc 1/2" Reversible Ratchaet Handle  
 7 pcs 3/8" Socket: 10, 12, 13, 14, 16, 17, 18 mm  
 2 pcs 3/8" Extension Bar: 5"([125mm]) & 10"([250mm])  
 1 pc 3/8" Reversible Ratchaet Handle



**V80168-02 Tray 02**

13 pcs Ring Wrench:  
 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 4 pcs Pliers:  
 Combination Plier, 8"([200mm])  
 Longnose Plier, 8"([200mm])  
 Diagonal Cutting Plier, 7"([180mm])  
 Wire Stripping Plier, 6"([160mm])



**V80169-02 Tray 02**

13 pcs, Ring Wrench:  
 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 4 pcs, Pliers:  
 Combination Plier, 8"([200mm])  
 Longnose Plier, 8"([200mm])  
 Diagonal Cutting Plier, 7"([180mm])  
 Wire Stripping Plier, 6"([160mm])



**V80168-03 Tray 03**

13 pcs, Open End Wrench:  
 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 1 pc Adjustable Wrench, 8"([200mm])  
 6 pcs Screwdrivers:  
 SL 2.5x75mm, 4.0x100mm, 5.5x125mm,  
 PH0x60mm, PH1x80mm, PH2x100mm  
 1 pc Voltage Tester: SL 3.0x70mm  
 1 pc Knife: 7"([180mm])



**V80169-03 Tray 03**

13 pcs, Open End Wrench:  
 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 1 pc Adjustable Wrench: 8"([200mm])  
 6 pcs Screwdrivers:  
 SL 2.5x75mm, 4.0x100mm, 5.5x125mm,  
 PH0x60mm, PH1x80mm, PH2x100mm  
 1 pc Voltage Tester: SL 3.0x70mm  
 1 pc Knife: 7"([180mm])

## 7 DRAWER ROLLER CABINET

Overall size: 765x465x976mm  
 PP material work table with TPR handle  
 Fitted with two fixed & two braked swiveling castors  
 Drawers are fitted with XPE foam liner and ball bearing runners  
 secure integral locking system supplied with two keys



## 82PCS **DIPPED INSULATED** TOOL SET

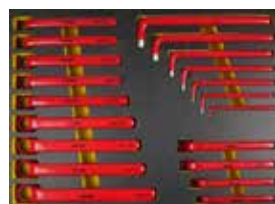
V80183



V80183-01 Tray 01



V80183-02 Tray 02



V80183-03 Tray 03



V80183-04 Tray 04

## 82PCS **INJECTION INSULATED** TOOL SET

V80184



V80184-01 Tray 01



V80184-02 Tray 02

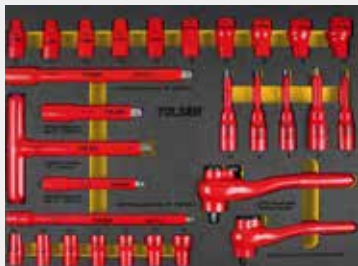


V80184-03 Tray 03



V80184-04 Tray 04





**V80183-01 Tray 01**

10 pcs DR 1/2" Socket: 10, 11, 12, 13, 14, 16, 17, 19, 22, 24 mm  
 2 pcs DR 1/2" Extension Bar: 5" (125mm) & 10" (250mm)  
 1 pc DR 1/2" T-handle: 8" (200mm)  
 5 pcs DR 1/2" Hexagonal Socket: 4, 5, 6, 8, 10 mm  
 1 pc DR 1/2" Reversible Ratchaet Handle  
 7 pcs DR 3/8" Socket: 10, 12, 13, 14, 16, 17, 18 mm  
 2 pcs DR 3/8" Extension Bar: 5" (125mm) & 10" (250mm)  
 1 pc DR 3/8" Reversible Ratchaet Handle



**V80183-02 Tray 02**

9 pcs Screwdrivers:  
 SL 2.5x75mm, 4.0x100mm, 5.5x125mm,  
 PH #0x60mm, #1x80mm, #2x100mm, PZ #0x60mm, #1x80mm, #2x100mm  
 6 pcs Pliers & Clamps: Combination Plier, 8" (200mm),  
 Longnose Plier, 8" (200mm) Diagonal Cutting Plier, 7" (180mm),  
 Wire Stripping Plier, 6" (160mm),  
 Plastic Clamp/Plier, 6" (150mm) & 8" (200mm)  
 1 pc Scissor: 6" (160mm)  
 1 pc Knife: 7" (180mm)  
 1 pc Electrical Tape, black



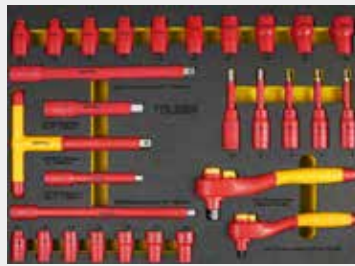
**V80183-03 Tray 03**

13 pcs, Ring Wrench: 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 7 pcs, Hexagon Key L-Wrench: 3, 4, 5, 6, 8, 10, 12 mm



**V80183-04 Tray 04**

13 pcs Open End Wrench: 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 1 pc Adjustable Wrench: 8" (200mm)  
 1 pc DR 1/2" Torque Wrench: 10-50 N.M  
 1 pc DR 3/8" Torque Wrench: 5-25 N.M



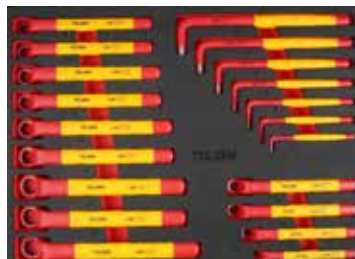
**V80184-01 Tray 01**

10 pcs 1/2" Socket: 10, 11, 12, 13, 14, 16, 17, 19, 22, 24 mm  
 2 pcs 1/2" Extension Bar: 5" (125mm) & 10" (250mm)  
 1 pc 1/2" T-handle: 6" (160mm)  
 5 pcs 1/2" Hexagonal Socket: 4, 5, 6, 8, 10 mm  
 1 pc 1/2" Reversible Ratchaet Handle  
 7 pcs 3/8" Socket: 10, 12, 13, 14, 16, 17, 18 mm  
 2 pcs 3/8" Extension Bar: 5" (125mm) & 10" (250mm)  
 1 pc 3/8" Reversible Ratchaet Handle



**V80184-02 Tray 02**

9 pcs Screwdrivers:  
 SL 2.5x75mm, 4.0x100mm, 5.5x125mm,  
 PH #0x60mm, #1x80mm, #2x100mm, PZ #0x60mm, #1x80mm, #2x100mm  
 6 pcs Pliers & Clamps: Combination Plier, 8" (200mm),  
 Longnose Plier, 8" (200mm) Diagonal Cutting Plier, 7" (180mm),  
 Wire Stripping Plier, 6" (160mm),  
 Plastic Clamp/Plier, 6" (150mm) & 8" (200mm)  
 1 pc Scissor: 6" (160mm)  
 1 pc Knife: 7" (180mm)  
 1 pc Electrical Tape, black



**V80184-03 Tray 03**

13 pcs, Ring Wrench: 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 7 pcs, Hexagon Key L-Wrench: 3, 4, 5, 6, 8, 10, 12 mm



**V80184-04 Tray 04**

13 pcs Open End Wrench: 8, 10, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24 mm  
 1 pc Adjustable Wrench: 8" (200mm)  
 1 pc 1/2" Torque Wrench: 10-50 N.M  
 1 pc 3/8" Torque Wrench: 5-25 N.M



**22"**  
**WATER PROOF**  
**CASE**  
**IP67 CLASS**



**V81700**  
22" WATER PROOF CASE  
IP67 CLASS

**V81852**  
A+B+C+D  
52PCS INSULATED TOOLS SET  
WITH WATER PROOF CASE

**V81945**  
A+B+D+F  
45PCS INSULATED TOOLS SET  
WITH WATER PROOF CASE



**A TRAY** **V81946**  
**6PCS INSULATED PLIERS**

7" COMBINATION PLIERS  
8" LONG NOSE PLIERS  
6" DIAGONAL CUTTER  
6" STRIPPING PLIERS  
10" WATER PUMP PLIERS  
6" CABLE CUTTER



**B TRAY** **V81947**  
**11PCS SCREWDRIVER, KNIFE  
AND TESTER**

PH0X60, PH1X80, PH2X100, PH3X150  
2.5x75mm, 3x100mm, 4x100mm,  
5.5x125mm, 6.5x150mm.  
STRAIGHT KNIFE  
VOLTAGE TESTER



**C TRAY** **V81948**  
**21PCS 1/2" SOCKETS AND  
ACCESSORY**

SOCKETS: 10/11/12/13/14/16/  
17/18/19/21/22/24/27  
SOCKET BITS: 4, 5, 6, 8MM  
EXTENSION BAR 5" & 10"  
T HANDLE  
RATCHET HANDLE



**D TRAY** **V81949**  
**14PCS OPEN WRENCHES AND  
ADJUSTABLE WRENCHES**

OPEN WRENCH 8/10/11/12/13/14/15/  
16/17/18/19/22/24  
8" ADJUSTABLE WRENCH



**E TRAY** **V81950**  
**20PCS 3/8" SOCKETS AND  
ACCESSORY**

SOCKETS : 8/10/11/12/13/14/  
16/17/18/19/21/22  
SOCKET BITS: 4, 5, 6, 8MM  
EXTENSION BAR 5" & 10"  
T HANDLE  
RATCHET HANDLE



**F TRAY** **V81951**  
**14PCS NUTS AND PRECISION  
SCREWDRIVERS**

NUT: 5/5.5/6/7/8/10/13  
PRECISION:  
3/PH0/T6/T8/T10/T15/T20



**G TRAY** **V81952**  
**14PCS RING WRENCHES AND HEX  
KEYS**

RING WRENCH:  
10/11/12/13/14/15/17/19  
HEX KEY: 3/4/5/6/8/10



**H TRAY** **V81953**  
**4PCS SPECIAL TOOLS**

240MM RATCHET CABLE CUTTER  
HACK SAW  
PLASTIC CLAMP\*2



## 18PCS INSULATED TOOL SET



Item No.	Content	mm
V83718	Insulated dipped combination pliers	200
	Insulated dipped long nose pliers	160
	Insulated dipped diagonal cutting pliers	160
	Insulated dipped wire stripping pliers	160
	3Pcs insulated slotted screwdrivers	0.4x2.5x75, 0.8x4.0x100, 1.0x5.5x125
	3Pcs insulated phillips screwdrivers	PH0x60, PH1x80, PH2x100
	5Pcs insulated open end spanners	10, 12, 14, 17, 19
	Voltage tester	3.0x70
	Cable knife	50x180
	Insulated adjustable wrench	250

## 25PCS INSULATED TOOL SET



Item No.	Content	mm
V83825	Insulated dipped combination pliers	180
	Insulated dipped long nose pliers	160
	Insulated dipped diagonal cutting pliers	160
	2pcs insulated slotted screwdrivers	0.8x4.0x100, 1.0x5.5x125
	2Pcs insulated phillips screwdrivers	PH1x80, PH2x100
	14pcs 1/2" insulated dipped sockets	10, 11, 12, 13, 14, 16, 17, 18, 19, 22, 24, 27, 30, 32
	insulated adjustable wrench	200
	2pcs insulated extension bars	1/2"x125, 1/2"x250
	insulated dipped reversible ratchet	1/2"x250

## 15PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V82115	Insulated Combination Plier	200
	Insulated Diagonal Plier	160
	Insulated Snipe Nose SideCutting Plier	200
	Insulated Wire Stripper	160
	Insulated Cable Knife Straight	50x180
	Voltage Tester	3.0x70
	Insulated Screwdriver Slotted	2.5x75, 3.0x100, 4.0x100, 5.5x125, 6.5x150
	Phillips	PH0x60, PH1x80, PH2x100, PH3x150

## 20PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V80320	12 PCS 3/8" Insulated Socket	8, 10, 11, 12, 13, 14, 16, 17, 18, 19, 21, 22
	4PCS 3/8" Insulated Hexagon Socket	4*75, 5*75, 6*75, 8*75
	2PCS 3/8" Insulated Extension Bar	125, 250
	3/8" Insulated T-handle Wrench	200
	3/8" Insulated Reversible Ratchet	200

## 29PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V80231	13PCS 1/2" Insulated Socket	10, 11, 12, 13, 14, 16, 17, 18, 19, 21, 22, 24, 27
	4PCS 1/2" Insulated Hexagon Socket	4x120, 5x120, 6x120, 8x120
	2PCS 1/2" Insulated Extension Bar	125, 250
	1/2" Insulated T-handle Wrench	200
	1/2" Insulated Reversible Ratchet	250
	Insulated combination Plier	180
	Insulated Diagonal Plier	160
	Insulated Snipe Nose Side Cutting Plier	160
	Insulated Adjustable Wrench	200
	2PCS Insulated Screwdriver Slotted	4.0x100, 5.5x125
	2PCS Phillips	PH1x80, PH2x100

## 20PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V80421	19 PCS Injection Insulated Open End Wrenches	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 24, 27, 30, 32
	Insulated Adjustable Wrench	250

## 22PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V81022	3/8" Insulated Reversible Ratchet Wrench	200
	3/8" Insulated Extension Bar	125
	3/8" Insulated Socket	8, 10, 12, 13, 14, 17, 19
	Insulated Screwdriver Slotted	3.5X100, 4.0X100, 5.5X125
	Insulated Screwdriver Phillips	PH1X80, PH2X100, PH3X150
	Insulated Open End Wrench	8, 10, 12, 13, 14, 17, 19

## 25PCS INSULATED TOOL SET



Item No.	Content	mm
V80825	Dipped Insulated Combination Plier	200
	Dipped Insulated Diagonal Plier	160
	6PCS Insulated Screwdriver	PH: PH0x60, PH1x80, PH2x100 SL: 0.6X3.5X100, 0.8X4.0X100, 1.0X5.5X125
	Insulated Cable Knife(Straight)	50x180
	Insulated Cable Knife(Semicircle)	28x155
	7PCS 1/2" Dipped Insulated Sockets	10, 11, 12, 13, 14, 17, 19
	7PCS Dipped Insulated Open End Wrench	10, 11, 12, 13, 14, 17, 19
	1/2" Dipped Insulated T-Handle	200



## 20PCS DIPPED INSULATED TOOL SET



Item No.	Content	mm
V80920	Dipped Insulated Open End Wrench	6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 21, 22, 24, 27, 30, 32

## 21PCS INSULATED TOOL SET



Item No.	Content	mm
V80721	Dipped Insulated Combination Plier	200
	Dipped Insulated Diagonal Plier	160
	4PCS Insulated Screwdriver	PH: PH0x60 SL: 0.6x3.5x100, 0.8x4.0x100, 1.0x5.5x125
	Insulated Cable Knife(Straight)	50x180
	7PCS 1/2" Dipped Insulated Sockets	10, 11, 12, 13, 14, 17, 19
	4PCS 1/2" Dipped Insulated Hexagon Socket	4x120, 5x120, 6x120, 8x120
	2PCS 1/2" Dipped Insulated Extension Bar	125, 250
	1/2" Dipped Insulated Reversible Ratchet	250

## 11PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V80110	5PCS Insulated Screwdriver	PH: PH1, PH2 3.0x100, 4.0x100, 5.5x125
	Insulated Combination Plier	200
V80110	Insulated long nose pliers	200
	Insulated diagonal Cutting pliers	180
	Insulated cable Cutting pliers	160
	Water pump pliers	250
V80110	Cable knife (straight)	180

## 30PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V80130	Insulated Combination Plier	200
	Insulated long nose pliers	200
	Insulated diagonal Cutting pliers	160
	Insulated Wire Stripper	160
	7PCS Insulated Open End Wrench	10, 11, 12, 13, 14, 17, 19
	8PCS 1/2" Insulated Socket	10, 11, 12, 13, 14, 16, 17, 19
	1/2" Insulated Extension Bar	125
	1/2" Insulated Reversible Ratchet	250
	9PCS Insulated Screwdriver	PH: PH1, PH2 H: H5, H6, H8, 2.5x75, 4.0x100, 5.5x125, 6.5x150

## 7 PCS INJECTION INSULATED TOOL SET



Item No.	Content	mm
V80107	4pcs Insulated screwdriver	PH: PH1x80, PH2x10 0.5x3.0x100, 0.8x4.0x100
	Insulated combination plier	200
	Insulated long nose pliers	160
	Insulated diagonal Cutting pliers	160

## 3PCS INSULATED PLIER SET



Item No.	Content	mm
V83103	insulated combination pliers	180
	insulated long nose pliers	160
	insulated diagonal cutting pliers	160

## 4PCS INSULATED PLIER SET



Item No.	Content	mm
V83204	insulated combination pliers	180
	insulated long nose pliers	200
	insulated diagonal cutting pliers	160
	insulated wire stripping pliers	160

## 6PCS INSULATED TOOL SET



Item No.	Content	mm
V83306	insulated combination pliers	180
	insulated diagonal cutting pliers	160
	2pcs insulated slotted screwdriver	0.4x2.5x75, 0.8x4.0x100
	insulated phillips screwdriver	PH2x100
	voltage tester	3.0x70

## 11PCS INSULATED TOOL SET



Item No.	Content	mm
V83411	insulated combination pliers	180
	insulated long nose pliers	200
	insulated diagonal cutting pliers	160
	insulated wire stripping pliers	160
	3pcs insulated slotted screwdriver	0.4x2.5x75, 0.8x4.0x100, 1.0x5.5x125
	2pcs insulated phillips screwdriver	PH1x80, PH2x100
	voltage tester	3.0x70
	cable knife	50x180

## 3 PCS INSULATED PLIER SET



Item No.	Content	mm
V81103	Insulated Injection Combination Plier	180
	Insulated Injection Snip Nose Plier	200
	Insulated Injection Diagonal Plier	160



## 5 PCS INSULATED SCREWDRIVER SET



Item No.	Content	mm
V81205	Insulated Screwdriver Slotted	3.5X100, 4.0X100, 5.5X125
	Insulated Screwdriver Phillips	PH1x80, PH2x100

## 11 PCS INSULATED SOCKET SET



Item No.	Content	mm
V81611	3/8" Insulated T-Handle Wrench	200
	3/8" Insulated Socket	8, 10, 11, 12, 13, 14
	3/8" Insulated Hexagon Socket	4x75, 5X75, 6X75, 8X75

## 7 PCS INSULATED WRENCH SET



Item No.	Content	mm
V81307	Insulated Injection Open End Wrench	8, 10, 12, 13, 14, 17, 19

## 11 PCS INSULATED SOCKET SET



Item No.	Content	mm
V81511	3/8" Insulated T-Handle Wrench	200
	3/8" Insulated Socket	8, 10, 11, 12, 13, 14, 16, 17, 18, 19

## 9 PCS INSULATED SOCKET SET



Item No.	Content	mm
V81409	3/8" Insulated Reversible Ratchet Handle	200
	3/8" Insulated Extension Bar	125
	3/8" Insulated Socket	8, 10, 12, 13, 14, 17, 19

## 5PCS INSULATED RING GEAR WRENCH SET



Item No.	Content	mm
V82005	Insulated Ring Gear Wrench	10, 12, 13, 14, 17

⚡ 1000V

# INSULATED PLIERS

- Soft wire
- Medium hard wire
- Hard wires
- ⊕ Cu+Al multi-conductor cable, strand and multi-stranded



Metal part made in CRV steel  
 Pearl nickel plated surface  
 Precision machined body  
 with strictly heat treatment  
 Manufactured according to  
 IEC60900 standard

**BI-COLOR  
INJECTION  
GRIP**



## INJECTION INSULATED COMBINATION PLIERS

Item No.	mm	●	●
V16006	160	2.0	1.6
V16007	180	2.4	2.0
V16008	200	2.5	2.2

## INJECTION INSULATED SNIPE NOSE PLIERS



Item No.	mm	●	●
V16096	160	2	1.6
V16098	200	2.4	2

## INJECTION INSULATED CURVED NOSE PLIERS



Item No.	mm	●	●
V16026	160	2	1.6
V16028	200	2.4	2



## INJECTION INSULATED DIAGONAL PLIERS



Item No.	mm			
V16036	160	2.6	2.4	2

## INJECTION INSULATED WIRE STRIPPERS



Item No.	mm		mm	mm <sup>2</sup>
V16066	160		5.0	10.0

## INJECTION INSULATED DIAGONAL PLIERS



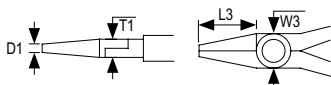
Item No.	mm			
V16037	180	4	2.7	2.2

## INJECTION INSULATED WATER PUMP PLIERS



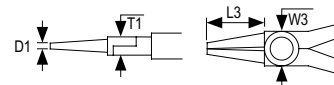
Item No.	mm	mm (Max)
V16070	250	28

## INJECTION INSULATED FLAT NOSE PLIERS



Item No.	mm	L3	W3	D1	T1
V16046	160	48	16	6.5	9

## INJECTION INSULATED ROUND NOSE PLIERS



Item No.	mm	L3	W3	D1	T1
V16056	160	46	16	2.6	9

## INJECTION INSULATED CABLE SHEARS



Item No.	mm	mm <sup>2</sup>
V11815	160	22

## INJECTION INSULATED CABLE SHEARS



Item No.	mm	mm (Max)	mm <sup>2</sup> (Max)
V16082	250	22	150

## INJECTION INSULATED CABLE SHEARS



Item No.	mm	mm (Max)	mm <sup>2</sup> (Max)
V16080	160	8	16

## INJECTION INSULATED RATCHE CABLE CUTTERS PLIERS

For and on multi strand copper and aluminium cable.  
Not suitable for steel wire and wire ropes.  
Clean and smooth cut without crushing and deformation.  
One-hand operation using ratchet principle.  
Little handforce required due to very high transmission ratio.



Item No.	mm	mm (Max)
V12024	240	32
V12038	380	52

## INJECTION INSULATED RATCHE CABLE CUTTERS PLIERS



For and on multi strand copper and aluminium cable.  
Not suitable for steel wire and wire ropes.  
Clean and smooth cut without crushing and deformation.  
One-hand operation using ratchet principle.  
Little handforce required due to very high transmission ratio.



Item No.	mm	mm (Max)
V16086	240	32



## INJECTION INSULATED CABLE CUTTER

For bruise free cutting of copper and aluminium cables.  
Clean and smooth cut without crushing and deformation.

⚡ 1000V



Item No.	mm	mm <sup>2</sup>
V11961	610	250
V11982	820	500

## INJECTION INSULATED BOLT CUTTER

Cutter head made of high quality special steel.





Precision ground, hardened blades.

Clean and smooth cut without crushing and deformation.

⚡ 1000V



Item No.	mm	mm (Max)
V12224	24"	Cu +Al Φ20mm Fe Φ6mm

-  Soft wire
-  Medium hard wire
-  Hard wires
-  Cu+Al multi-conductor cable, strand and multi-stranded



**1000V**

Metal part made in CRV steel

Pearl nickel plated surface



Precision machined body with strictly heat treatment

Manufactured according to IEC60900 standard

**DIPPED GRIP**




## DIPPED INSULATED COMBINATION PLIERS

Item No.	mm		
V10116	160	2	1.6
V10118	180	2.4	2
V10120	200	2.5	2.2



## DIPPED INSULATED SNIPE NOSE PLIERS



Item No.	mm		
V10316	160	2	1.6
V10320	200	2.4	2




## DIPPED INSULATED CURVED NOSE PLIERS



Item No.	mm		
V10516	160	2	1.6
V10520	200	2.4	2

## DIPPED INSULATED DIAGONAL PLIERS



Item No.	mm			
V10716	160	2.6	2.4	2

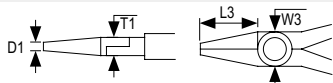
## DIPPED INSULATED DIAGONAL PLIERS



Item No.	mm			
V10718	180	4	2.7	2.2

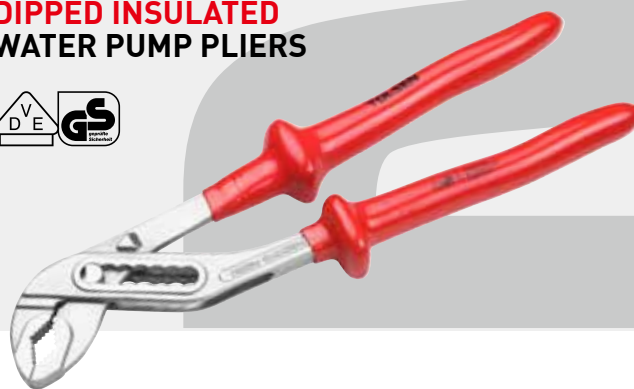


## DIPPED INSULATED FLAT NOSE PLIERS



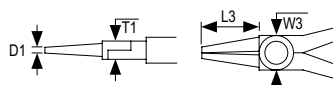
Item No.	mm	L3	W3	D1	T1
V10920	160	48	16	6.5	9

## DIPPED INSULATED WATER PUMP PLIERS



Item No.	mm	mm (Max)
V11525	250	28
V11530	300	35

## DIPPED INSULATED ROUND NOSE PLIERS



Item No.	mm	L3	W3	D1	T1
V11116	160	46	16	2.6	9

## DIPPED INSULATED CABLE SHEARS



Item No.	mm	mm (Max)	mm <sup>2</sup> (Max)
V11715	160	8	16

## DIPPED INSULATED WIRE STRIPPERS



Item No.	mm	mm	mm <sup>2</sup>
V11316	160	5.0	10.0

## DIPPED INSULATED CABLE SHEARS



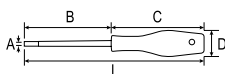
Item No.	mm	mm (Max)	mm <sup>2</sup> (Max)
V11725	250	22	150

△ 1000V

# INSULATED SCREWDRIVERS



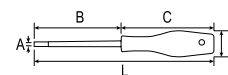
Manufactured acc. to EN/IEC 60900. Each tool individually tested at 10,000 V AC and approved for 1,000 V AC. 3-component ergonomic handle design enables precise and fatigue-free working. S2-Chrome vanadium molybdenum steel.



## INSULATED SCREWDRIVER WITH SLIM BLADE FOR SLOTTED SCREWS

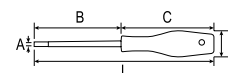
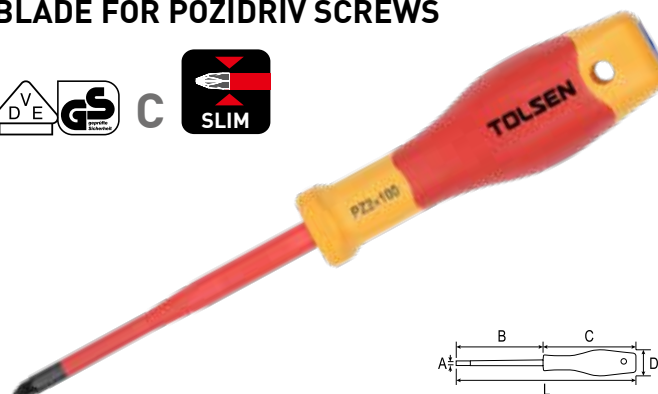
Item No.	△	□	A	B	CxD	L
V30305	0.5	3.0	3.0	100	95x25	195
V30306	0.6	3.5	3.5	100	95x25	195
V30308	0.8	4.0	4.0	100	105x30	205
V30310	1.0	5.5	5.5	125	115x35	240
V30312	1.2	6.5	6.5	150	115x35	265

## INSULATED SCREWDRIVER WITH SLIM BLADE FOR PHILLIPS SCREWS



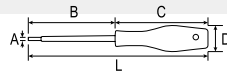
Item No.	⊕	A	B	CxD	L
V30501	PH1	5	80	105X30	185
V30502	PH2	6	100	115X35	215
V30503	PH3	8	150	118X41	268

## INSULATED SCREWDRIVER WITH SLIM BLADE FOR POZIDRIV SCREWS



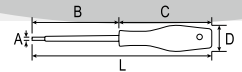
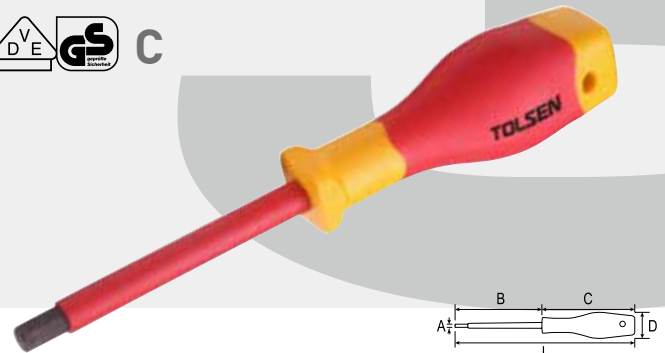
Item No.	⊕*	A	B	CxD	L
V30701	PZ1	5	80	105X30	185
V30702	PZ2	6	100	115X35	215
V30703	PZ3	8	150	118X41	268

## VDE SLOTTED SCREWDRIVER



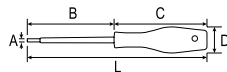
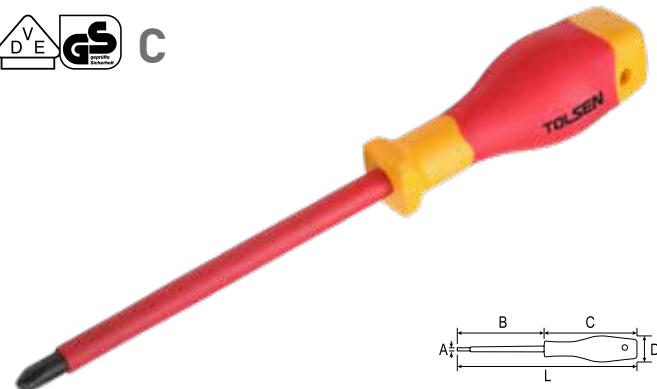
Item No.	Tip	Shaft	A	B	CxD	L
V30204	0.4	2.5	2.5	75	95x25	170
V30205	0.5	3	3	100	95x25	195
V30206	0.6	3.5	3.5	100	95x25	195
V30208	0.8	4	4	100	105x30	205
V30210	1	5.5	5.5	125	115x35	240
V30212	1.2	6.5	6.5	150	115x35	265

## VDE HEX SCREWDRIVER



Item No.	Tip	A	B	CxD	L
V31025	2.5	2.5	75	95x25	170
V31003	3	3	75	95x25	170
V31004	4	4	75	105x30	180
V31005	5	5	75	105x30	180
V31006	6	6	100	115x35	215
V31008	8	8	100	118x41	218

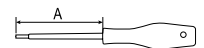
## VDE PHILLIPS SCREWDRIVER



Item No.	Tip	A	B	CxD	L
V30400	PH0	3	60	95x25	155
V30401	PH1	5	80	105x30	185
V30402	PH2	6	100	115x35	215
V30403	PH3	8	150	118x41	268

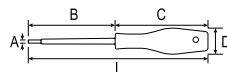
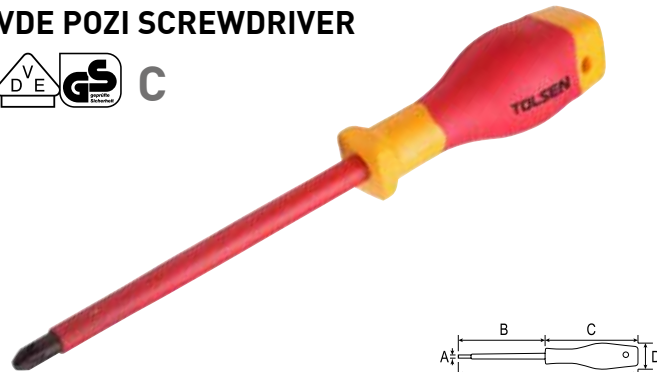
## INSULATED ADAPTER FOR 1/4" SOCKET

For use with 1/4" Sockets.  
Chrome Vanadium steel.



Item No.	Tip	A
V33414	1/4"	75

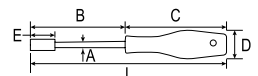
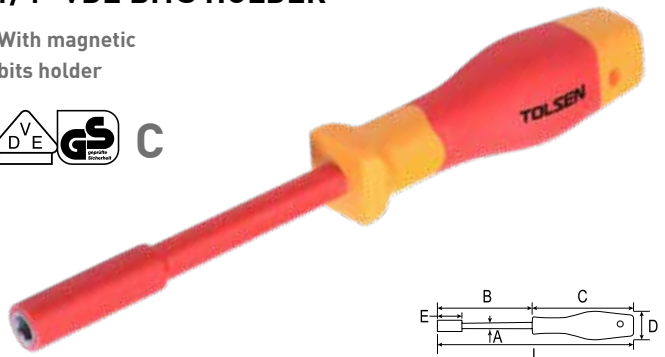
## VDE POZI SCREWDRIVER



Item No.	Tip	A	B	CxD	L
V30600	PZ0	3	60	95x25	155
V30601	PZ1	5	80	105x30	185
V30602	PZ2	6	100	115x35	215
V30603	PZ3	8	150	118x41	268

## 1/4" VDE BITS HOLDER

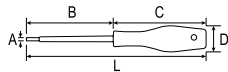
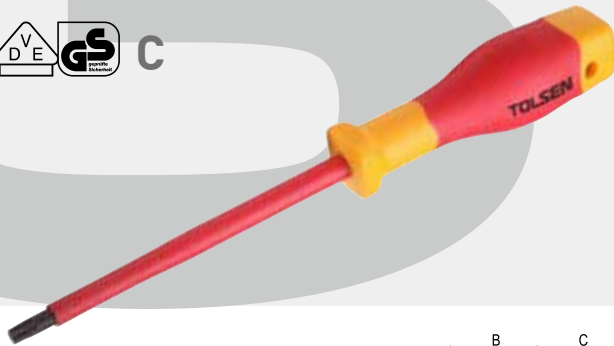
With magnetic bits holder



Item No.	Tip	A	B	E	CxD	L
V33614	1/4"	10	100	40	105x30	207

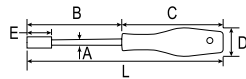


## VDE TORX SCREWDRIVER



Item No.		A	B	CxD	L
V30810	T10	3	70	95X25	165
V30815	T15	4	80	105X30	185
V30820	T20	4	100	105X30	205
V30825	T25	5	125	115X35	230
V30830	T30	6	130	115X35	245

## VDE NUT SCREWDRIVER

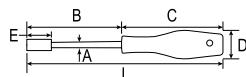
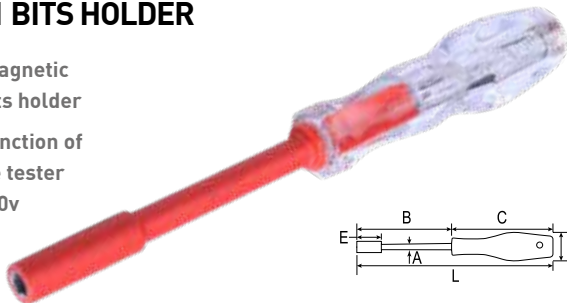


Item No.		A	B	E	CxD	L
V31204	4	7.2	125	31	105x30	230
V31205	5	7.2	125	31	105x30	230
V31255	5.5	7.2	125	31	105x30	230
V31206	6	7.2	125	31	105x30	230
V31207	7	7.2	125	31	105x30	230
V31208	8	7.2	125	31	105x30	230
V31209	9	7.2	125	31	105x30	230
V31210	10	7.2	125	31	105x30	230
V31211	11	8.1	125	31	118x41	240
V31212	12	8.1	125	31	118x41	243
V31213	13	8.1	125	31	118x41	243
V31214	14	8.1	125	31	118x41	243

## 2 IN 1 BITS HOLDER

With magnetic  
1/4" bits holder

With function of  
voltage tester  
100-500v

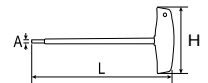
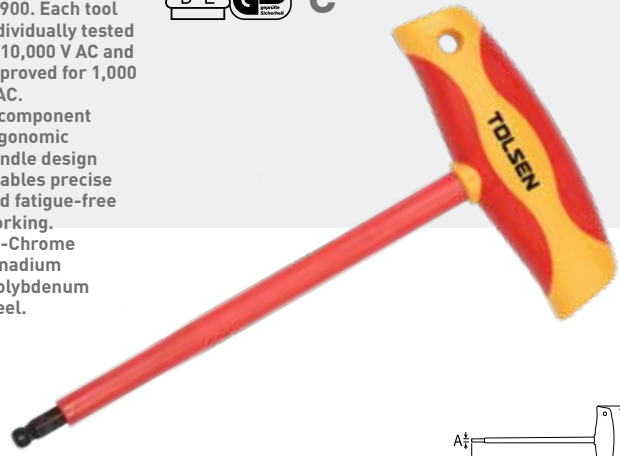


Item No.		A	B	E	CxD	L
V33814	1/4"	10	105	40	110x30	210

## INSULATED SCREWDRIVER FOR HEXAGON SOCKET SCREWS WITH T-HANDLE

Manufactured acc. to EN/IEC 60900. Each tool individually tested at 10,000 V AC and approved for 1,000 V AC.

3-component ergonomic handle design enables precise and fatigue-free working.  
S2-Chrome vanadium molybdenum steel.

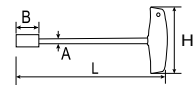


Item No.		A	H	L
V40825	2.5	5	80x26	150
V40803	3	5.5	80x26	150
V40804	4	7	80x26	150
V40805	5	8	100x34	150
V40806	6	9	100x34	150
V40808	8	11	115x40	150

## INSULATED NUT DRIVER WITH T-HANDLE

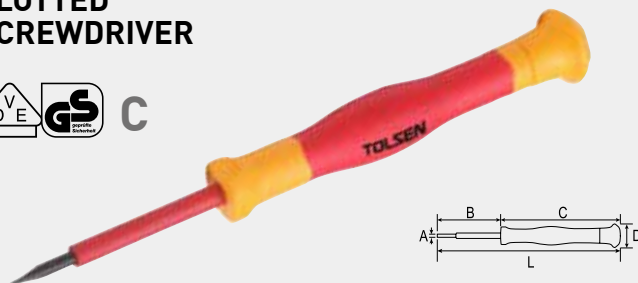
Manufactured acc. to EN/IEC 60900. Each tool individually tested at 10,000 V AC and approved for 1,000 V AC.

3-component ergonomic handle design enables precise and fatigue-free working.



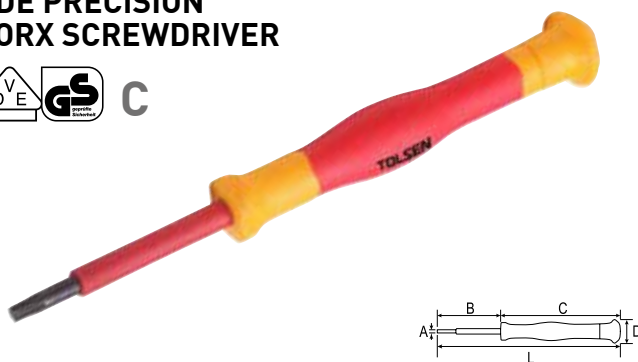
Item No.		A	B	H	L
V31904	4	7.1	25	100x34	130
V31905	5	7.1	25	100x34	130
V31955	5.5	7.1	25	100x34	130
V31906	6	7.1	25	100x34	130
V31907	7	7.1	25	100x34	130
V31908	8	7.1	25	100x34	130
V31909	9	7.1	25	100x34	130
V31910	10	7.1	25	100x34	130
V31911	11	8.1	25	100x34	130
V31912	12	8.1	25	100x34	130
V31913	13	8.1	25	100x34	130
V31914	14	8.1	25	100x34	130

## VDE PRECISION SLOTTED SCREWDRIVER



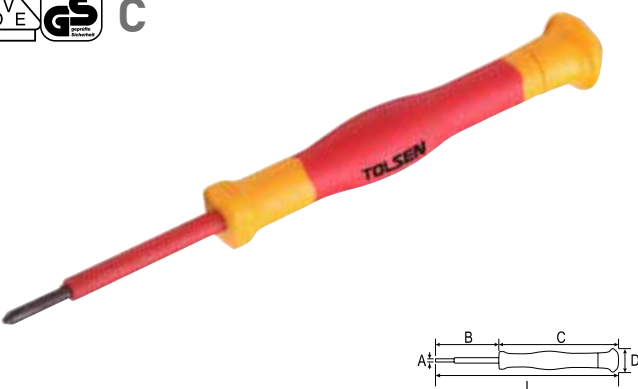
Item No.			A	B	CxD	L
V31415	0.23	1.5	1.5	50	95x18	145
V31418	0.3	1.8	2	50	95x18	145
V31420	0.4	2	2	50	95x18	145
V31425	0.4	2.5	2.5	50	95x18	145
V31430	0.5	3	3	50	95x18	145

## VDE PRECISION TORX SCREWDRIVER



Item No.		A	B	CxD	L
V31806	T6	2.5	50	95x18	145
V31808	T8	2.5	50	95x18	145
V31810	T10	3	50	95x18	145
V31815	T15	4	50	95x18	145
V31820	T20	4	50	95x18	145

## VDE PRECISION PHILLIPS SCREWDRIVER



Item No.		A	B	CxD	L
V31600	PH00	2.5	50	95x18	145
V31601	PH0	3	50	95x18	145
V31602	PH1	3	50	95x18	145

## 7PCS INSULATED PRECISION SCREWDRIVER SET



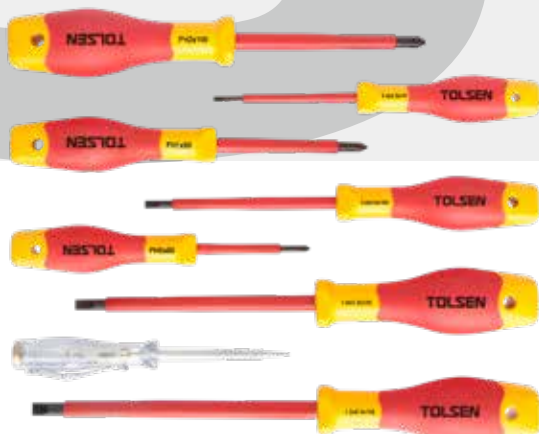
Item No.	Content
V32207	Slotted: 0.5x3.0x50 Phillips: PH0x50 TX: T6x50 T8x50 T10x50 T15x50 T20x50

## 7PCS INSULATED PRECISION SCREWDRIVER SET



Item No.	Content
V32007	Slotted: 0.23x1.5x50 0.3x1.8x50 0.4x2.0x50 0.4x2.5x50 0.5x3.0x50 Phillips: PH00x50 PH0x50

## 8PCS INSULATED SCREWDRIVER SET



Item No.	Content
V32408	Slotted: 0.4x2.5x75, 0.8x4.0x100, 1.0x5.5x125, 1.2x6.5x150 Phillips: PH0x60, PH1x80, PH2x100 Voltage Tester: 3.0x70

## 6PCS INSULATED SCREWDRIVER SET



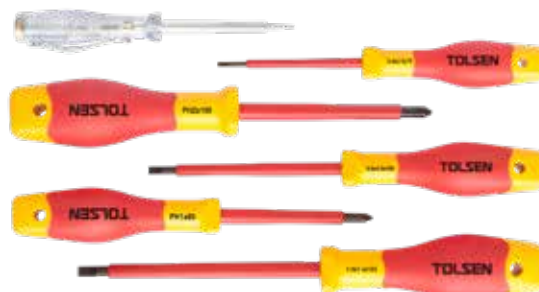
Item No.	Content
V33006	Nut: 5.5x125 6.0x125 8.0x125 10.0x125 11.0x125 12.0x125

## 7PCS INSULATED SCREWDRIVER SET



Item No.	Content
V32607	Slotted: 0.5x3.0x100, 0.8x4.0x100, 1.0x5.5x125, 1.2x6.5x150 Phillips: PH1x80, PH2x100 Voltage Tester: 3.0x70

## 6PCS INSULATED SCREWDRIVER SET



Item No.	Content
V33506	Slotted: 0.4x2.5x75, 0.8x4.0x100, 1.0x5.5x125 Phillips: PH1x80, PH2x100 Voltage Tester: 3.0x70



## 50PCS INSULATED CHANGABLE SCREWDRIVER SET



## 12PCS INSULATED CHANGABLE SCREWDRIVER SET



Item No.	Content
V33450	0.4x2.0x100 0.4x2.5x100 0.5x3.0x100 0.6x3.5x100
	0.8x4.0x100 1.0x5.5x100 1.2x6.5x100
	PH0x100 PH1x100 PH2x100
	PZ0x100 PZ1x100 PZ2x100
	T6x100 T8x100 T9x100 T10x100 T15x100 T20x100
	T25x100 T27x100 T30x100
	H2.5x100 H3.0x100 H4.0x100 H5.0x100 H6.0x100
	R1x100 R2x100
	TRI 1x100 TRI 2x100 TRI 3x100 TRI 4x100
	TORO 4x100 TORO 6x100 TORO 8x100 TORO 10x100
	M4x4.0x100 M5x5.0x100 M6x5.0x100
	4x100 6x100 8x100 10x100
	6.3x89 8.1x89
	89
	89
	Voltage Tester: 3.0x70
	Handle: 31x105

Item No.	Content
V33212	Slotted: 0.4x2.0x100 0.4x2.5x100 0.5x3.0x100
	0.6x3.5x100 0.8x4.0x100 1.0x5.5x100 1.2x6.5x100
	Phillips: PH0x100 PH1x100 PH2x100
	Voltage Tester: 3.0x70
	Handle: 31x105

△ 1000V

# INSULATED WRENCHES & SOCKETS

Metal part made in crv steel  
Chrome plated surface

Well heat treated to meet DIN  
standard

Manufactured according to  
IEC60900 standard

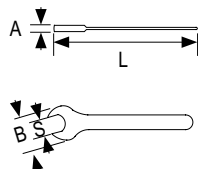
## DIPPED INSULATED OPEN END WRENCH



**MULTILAYER  
DIPPED**



**DIPPED**



Multilayer dipped Item No.	Dipped Item No.	S	A	B	L
V40106	V40106S	6	7.5	18	90
V40107	V40107S	7	7.5	20	90
V40108	V40108S	8	8	22	100
V40109	V40109S	9	9	24	100
V40110	V40110S	10	9	26	105
V40111	V40111S	11	9.5	29	110
V40112	V40112S	12	10	32	125
V40113	V40113S	13	10	33	135
V40114	V40114S	14	11	35	140
V40115	V40115S	15	11	38	150
V40116	V40116S	16	12	40	160
V40117	V40117S	17	12	42	160
V40118	V40118S	18	12	44	165
V40119	V40119S	19	13	45	170
V40120	V40120S	20	12	45	185
V40121	V40121S	21	14	48	188
V40122	V40122S	22	14	52	200
V40124	V40124S	24	15	55	225
V40127	V40127S	27	16	62	255
V40130	V40130S	30	16	62	295
V40132	V40132S	32	17	70	315

## DIPPED INSULATED RING GEAR WRENCH

72 teeth

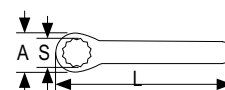
△ 1000V



**MULTILAYER  
DIPPED**



**DIPPED**



Multilayer dipped Item No.	Dipped Item No.	S	A	L
V42707	V42707S	7	25	135
V42708	V42708S	8	26.5	140
V42709	V42709S	9	27.5	145
V42710	V42710S	10	29.5	150
V42711	V42711S	11	32	160
V42712	V42712S	12	34.5	165
V42713	V42713S	13	34.5	170
V42714	V42714S	14	37.5	180
V42715	V42715S	15	38	190
V42716	V42716S	16	38.5	220
V42717	V42717S	17	38	180
V42718	V42718S	18	39	190
V42719	V42719S	19	40	200
V42722	V42722S	22	47	230
V42724	V42724S	24	52.5	260

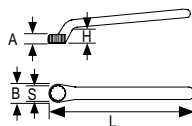
## DIPPED INSULATED RING WRENCH



**MULTILAYER DIPPED**



**DIPPED**



Multilayer dipped Item No.	Dipped Item No.	S	A	B	L
V40306	V40306S	6	8	17	140
V40307	V40307S	7	10.5	17	150
V40308	V40308S	8	12	19	155
V40309	V40309S	9	12	20.5	160
V40310	V40310S	10	12	20.5	165
V40311	V40311S	11	12	23	175
V40312	V40312S	12	12	24	185
V40313	V40313S	13	13	26	190
V40314	V40314S	14	13	27	200
V40315	V40315S	15	13	29	205
V40316	V40316S	16	14	30	205
V40317	V40317S	17	14.5	32	210
V40318	V40318S	18	14.5	33	220
V40319	V40319S	19	14.5	35	230
V40320	V40320S	20	16	36	228
V40321	V40321S	21	16	38	240
V40322	V40322S	22	16	40	250
V40324	V40324S	24	16	42	270
V40327	V40327S	27	16.5	46.5	285
V40330	V40330S	30	17	50	310
V40332	V40332S	32	18	52	310

## DIPPED INSULATED GEAR SOCKET WRENCH

GEAR REVERSIBLE  
TWO SIZES IN ONE

**1000V**



**MULTILAYER DIPPED**



**DIPPED**

Multilayer dipped Item No.	Dipped Item No.	Size / mm
V42501	V42501S	13 X 17
V42502	V42502S	17 X 19
V42519	V42519S	19 X 24

## DIPPED INSULATED ADJUSTABLE WRENCH

PRECISION MACHINED BODY  
WITH STRICTLY HEAT TREATMENT



**MULTILAYER DIPPED**



**DIPPED**

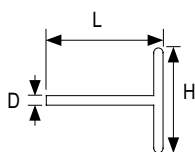



Multilayer dipped Item No.	Dipped Item No.	mm	S (Max)
V40520	V40520S	200	30
V40525	V40525S	250	36
V40530	V40530S	300	40



## DIPPED INSULATED SOCKET WRENCH

 1000V




Item No.		D	L	H
V40908	8	15	200	145
V40910	10	19	200	145
V40912	12	22.5	200	145
V40913	13	23.5	200	145
V40914	14	24.5	200	145
V40916	16	26.5	200	145
V40917	17	28.5	200	145
V40918	18	30.5	200	145
V40919	19	31.5	200	145
V40920	10	19.5	300	145
V40922	12	22	300	145
V40923	13	23.5	300	145
V40924	14	24.5	300	145
V40926	16	27	300	145
V40927	17	28.5	300	145
V40928	18	29.5	300	145
V40929	19	31	300	145

## DIPPED INSULATED WRENCH FOR TORX SCREWS

 1000V




Item No.		mm
V42530	T10	130
V42531	T15	140
V42532	T20	140
V42533	T25	160
V42534	T27	160
V42535	T30	180
V42536	T40	200
V42537	T45	200
V42538	T50	210
V42539	T55	235

## DIPPED INSULATED HEXAGON KEY L-WRENCH

FOR HEXAGON SCREWS

 1000V



Item No.		mm
V42503	3	130
V42504	4	140
V42505	5	160
V42506	6	180
V42508	8	210
V42510	10	240
V42512	12	250

## DIPPED INSULATED HEXAGON KEY L-WRENCH FOR HEXAGON SCREWS

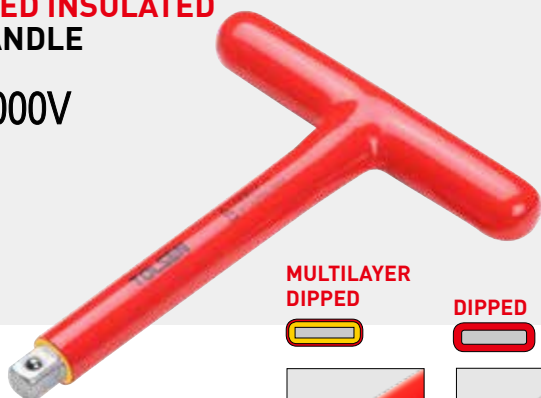
 1000V



Item No.		mm
V42812	1/2"	270

## DIPPED INSULATED T-HANDLE

⚡ 1000V



MULTILAYER  
DIPPED

DIPPED



Multilayer dipped Item No.	Dipped Item No.	□	H	L
V41112	V41112S	1/2"	155	205
V41138	V41138S	3/8"	155	205

## DIPPED INSULATED REVERSIBLE RATCHET HANDLE 1/2" 3/8"

VDE GS  
PENDING

⚡ 1000V



MULTILAYER  
DIPPED



DIPPED

Multilayer dipped Item No.	Dipped Item No.	□	mm
V42112	V42112S	1/2"	250
V42138	V42138S	3/8"	200

## DIPPED INSULATED EXTENSION BAR 1/2" 3/8" 1/4"

⚡ 1000V



MULTILAYER  
DIPPED

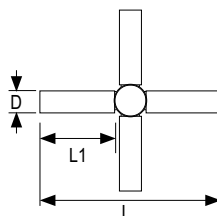
DIPPED



Multilayer dipped Item No.	Dipped Item No.	□	mm
V42301	V42301S	1/2"	125
V42302	V42302S	1/2"	250
V42303	V42303S	3/8"	125
V42304	V42304S	3/8"	250
V42305	V42305S	1/4"	75
V42306	V42306S	1/4"	150

## DIPPED INSULATED CROSS RIM WRENCH

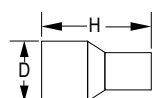
⚡ 1000V



Multilayer dipped Item No.	Dipped Item No.	⦿	D	L1	L
		13	24.3	94	230
		14	27.3	94	230
V42904	V42904S	17	29.4	94	230
		19	31	94	230

## DIPPED INSULATED SOCKET 1/2"

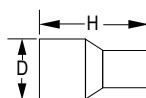
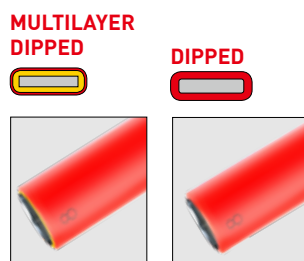
⚡ 1000V



Multilayer dipped Item No.	Dipped Item No.		D	H
V41310	V41310S	10	19.7	54
V41311	V41311S	11	21.0	54
V41312	V41312S	12	22.1	54
V41313	V41313S	13	23.3	54
V41314	V41314S	14	24.7	54
V41316	V41316S	16	27.4	54
V41317	V41317S	17	28.1	54
V41318	V41318S	18	29.7	54
V41319	V41319S	19	30.0	54
V41321	V41321S	21	32.0	54
V41322	V41322S	22	34.0	54
V41324	V41324S	24	36.3	54
V41327	V41327S	27	41.0	58
V41330	V41330S	30	44.1	59
V41332	V41332S	32	46.1	59

## DIPPED INSULATED DEEP SOCKET 1/2"

⚡ 1000V



Multilayer dipped Item No.	Dipped Item No.		D	H
V41340	V41340S	8	18	94
V41341	V41341S	9	19	94
V41342	V41342S	10	21	94
V41343	V41343S	11	22	94
V41344	V41344S	12	23	94
V41345	V41345S	13	24	94
V41346	V41346S	14	26	94
V41347	V41347S	15	27	94
V41348	V41348S	16	27	94
V41349	V41349S	17	29	94
V41350	V41350S	18	30.5	94
V41351	V41351S	19	31	94
V41352	V41352S	20	33	94
V41353	V41353S	21	33	94
V41354	V41354S	22	35	94
V41355	V41355S	23		94
V41356	V41356S	24	37	94
V41359	V41359S	27	41	94
V41362	V41362S	30	45	94
V41364	V41364S	32	47	94



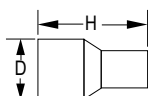
## DIPPED INSULATED HEXAGON SOCKET WITH DOUBLE-HEX 1/2"

△ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.		D	H
V41371	V41371S	8	18	59
V41372	V41372S	9	19	59
V41373	V41373S	10	21	59
V41374	V41374S	11	22	59
V41375	V41375S	12	23	59
V41376	V41376S	13	24	59
V41377	V41377S	14	26	59
V41378	V41378S	15	27	59
V41379	V41379S	16	27	59
V41380	V41380S	17	29	59
V41381	V41381S	18	30.5	59
V41382	V41382S	19	31	59
V41383	V41383S	20	33	59
V41384	V41384S	21	33	59
V41385	V41385S	22	35	59
V41386	V41386S	24	37	59
V41387	V41387S	27	41	59
V41388	V41388S	30	45	59
V41389	V41389S	32	47	59

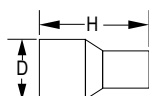
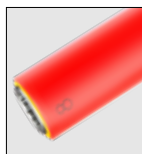
## DIPPED INSULATED HEXAGON SOCKET WITH DOUBLE-HEX, LONG VERSION 1/2"

△ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.		D	H
V41391	V41391S	10	21	94
V41392	V41392S	12	23	94
V41393	V41393S	13	24	94
V41394	V41394S	14	26	94
V41395	V41395S	17	29	94
V41396	V41396S	19	31	94

## DIPPED INSULATED HEXAGONAL SOCKET 1/2"

△ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.		mm
V41704	V41704S	4	120
V41705	V41705S	5	120
V41706	V41706S	6	120
V41708	V41708S	8	120
V41710	V41710S	10	120

## DIPPED INSULATED BIT SOCKET FOR TORX SCREWS 1/2"

△ 1000V

MULTILAYER  
DIPPED



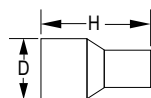
DIPPED



Multilayer dipped Item No.	Dipped Item No.		mm
V41731	V41731S	T10	120
V41732	V41732S	T15	120
V41733	V41733S	T20	120
V41734	V41734S	T25	120
V41735	V41735S	T27	120
V41736	V41736S	T30	120
V41737	V41737S	T40	120
V41738	V41738S	T45	120
V41739	V41739S	T50	120
V41740	V41740S	T55	120

## DIPPED INSULATED SOCKET 3/8"

⚡ 1000V



Multilayer dipped Item No.	Dipped Item No.	⌀	D	H
V41508	V41508S	8	16.3	44
V41510	V41510S	10	18.9	44
V41511	V41511S	11	20.1	44
V41512	V41512S	12	23.0	44
V41513	V41513S	13	23.1	44
V41514	V41514S	14	23.9	44
V41516	V41516S	16	26.3	44
V41517	V41517S	17	27.7	44
V41518	V41518S	18	29.0	46
V41519	V41519S	19	30.3	46
V41521	V41521S	21	32.0	46
V41522	V41522S	22	34.0	46

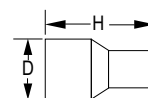
## DIPPED INSULATED DEEP SOCKET 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	⌀	D	H
V41525	V41525S	8	16.3	80
V41526	V41526S	9	18.9	80
V41527	V41527S	10	20.1	80
V41528	V41528S	11	23.0	80
V41529	V41529S	12	23.1	80
V41530	V41530S	13	23.9	80
V41531	V41531S	14	26.3	80
V41532	V41532S	15	27.7	80
V41533	V41533S	16	29.0	80
V41534	V41534S	17	30.3	80
V41535	V41535S	18	32.0	80
V41536	V41536S	19	34.0	80

## DIPPED INSULATED HEXAGONAL SOCKET 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	⌀	mm
V41904	V41904S	4	75
V41905	V41905S	5	75
V41906	V41906S	6	75
V41908	V41908S	8	75

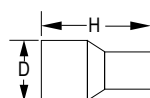
## DIPPED INSULATED SOCKET 1/4"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.		D	H
V41570	V41570S	4	9.8	42
V41571	V41571S	5	11.2	42
V41572	V41572S	5.5	11.7	42
V41573	V41573S	6	12.2	42
V41574	V41574S	7	14	42
V41575	V41575S	8	15	42
V41576	V41576S	9	16	42
V41577	V41577S	10	17.5	42
V41578	V41578S	11	19	42
V41579	V41579S	12	19.5	42
V41580	V41580S	13	20.8	42
V41581	V41581S	14	22.8	42

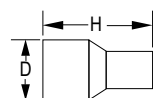
## DIPPED INSULATED HEXAGON SOCKET, LONG VERSION 1/4"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.		D	H
V41582	V41582S	4	12	67
V41583	V41583S	5	13	67
V41584	V41584S	6	14	67
V41585	V41585S	7	16	67
V41586	V41586S	8	18	67
V41587	V41587S	9	18	67
V41588	V41588S	10	19	67
V41589	V41589S	11	21	67
V41590	V41590S	12	22	67
V41591	V41591S	13	23	67

## DIPPED INSULATED BIT SOCKET FOR HEXAGON SCREWS 1/4"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.		mm
V41961	V41961S	3	66
V41962	V41962S	4	66
V41963	V41963S	5	66
V41964	V41964S	6	66
V41965	V41965S	8	66

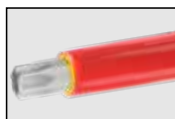
## DIPPED INSULATED BIT SOCKET FOR TORX SCREWS 1/4"

⚡ 1000V

MULTILAYER  
DIPPED



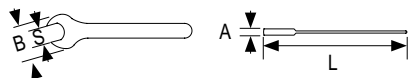
DIPPED



Multilayer dipped Item No.	Dipped Item No.		mm
V41966	V41966S	T10	66
V41967	V41967S	T15	66
V41968	V41968S	T20	66
V41969	V41969S	T25	66
V41970	V41970S	T27	66
V41971	V41971S	T30	66
V41972	V41972S	T40	66

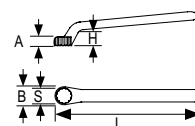


## INJECTION INSULATED OPEN END WRENCH



Item No.	S	A	B	L
V40206	6	7	22	90
V40207	7	7	24	90
V40208	8	7.5	25.5	100
V40209	9	7.5	27.5	100
V40210	10	8	29	110
V40211	11	8.5	31	110
V40212	12	8.5	33	130
V40213	13	10.5	34	135
V40214	14	10.5	37	145
V40215	15	11.5	40	150
V40216	16	11.5	42	160
V40217	17	12	44	160
V40218	18	12	44.5	175
V40219	19	12.5	48	175
V40221	21	12.5	51	195
V40222	22	13	54	195
V40224	24	13.5	56	225
V40227	27	14.5	61	250
V40230	30	14.8	66	290
V40232	32	15.8	70	310

## INJECTION INSULATED RING WRENCH



Item No.	S	A	B	L
V40406	6	7	16	150
V40407	7	7	17	150
V40408	8	7.5	18	155
V40409	9	8.5	19	155
V40410	10	8.5	21	165
V40411	11	8.5	22.5	170
V40412	12	9.5	22.5	185
V40413	13	10	26	190
V40414	14	11	26	205
V40415	15	11	27	205
V40416	16	12	30	215
V40417	17	12	30.5	215
V40418	18	13	32	230
V40419	19	13	33.5	230
V40421	21	14	37.5	245
V40422	22	14	37.5	245
V40424	24	16	39	265
V40427	27	16	44	285
V40430	30	16.5	48	300
V40432	32	17.5	51	305

## INJECTION INSULATED ADJUSTABLE WRENCH

PRECISION MACHINED BODY  
WITH STRICTLY HEAT TREATMENT



Item No.	mm	S (Max)
V40616	160	19
V40620	200	30
V40625	250	36
V40630	300	40

## INJECTION INSULATED RATCHET RING SPANNER

72 teeth



Item No.	S	A	L
V42807	7	22	120
V42808	8	22	120
V42809	9	24	125
V42810	10	26	135
V42811	11	28	140
V42812	12	29	145
V42813	13	31	150
V42814	14	33	160
V42815	15	34	165
V42816	16	36	170
V42817	17	38	180
V42818	18	39	190
V42819	19	40	200
V42822	22	47	230
V42824	24	52.5	260

## INJECTION INSULATED L WRENCH FOR TORX SCREWS



Item No.		mm
V42620	T10	130
V42621	T15	140
V42622	T20	140
V42623	T25	160
V42624	T27	160
V42625	T30	180
V42626	T40	200
V42627	T45	200
V42628	T50	210
V42629	T55	235

## INJECTION INSULATED HEXAGON KEY L-WRENCH

FOR HEXAGON SCREWS



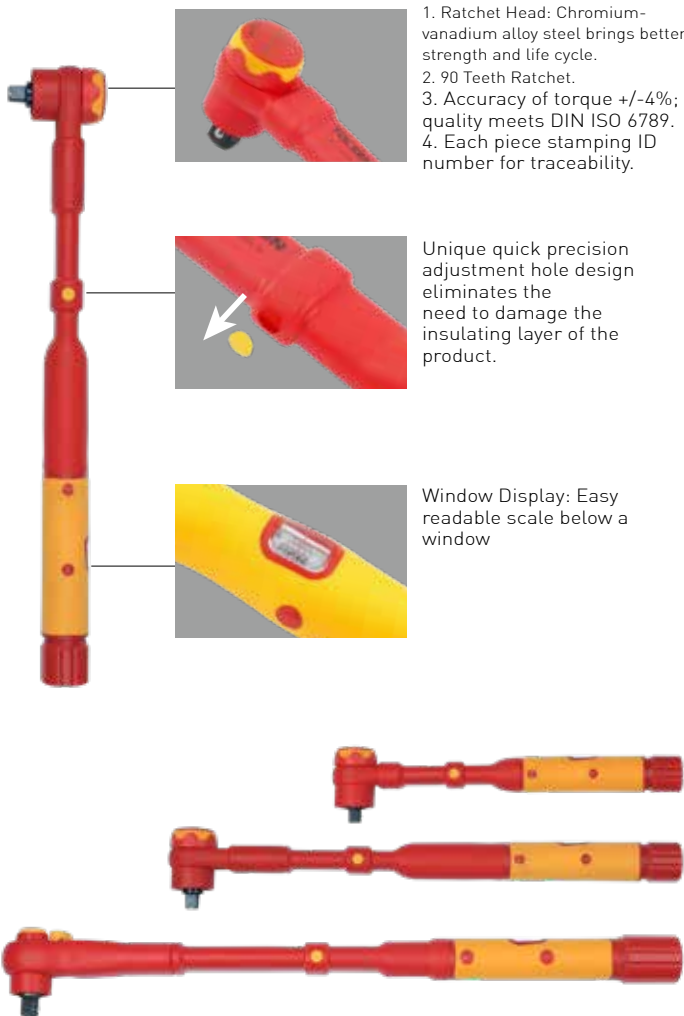
Item No.		mm
V42603	3	130
V42604	4	140
V42605	5	160
V42606	6	180
V42608	8	200
V42610	10	235
V42612	12	250

## INJECTION INSULATED T-HANDLE



Item No.		H	L
V41212	1/2"	160	205
V41238	3/8"	160	205

## INJECTION INSULATED TORQUE WRENCH



1. Ratchet Head: Chromium-vanadium alloy steel brings better strength and life cycle.
2. 90 Teeth Ratchet.
3. Accuracy of torque  $\pm 4\%$ ; quality meets DIN ISO 6789.
4. Each piece stamping ID number for traceability.

Unique quick precision adjustment hole design eliminates the need to damage the insulating layer of the product.

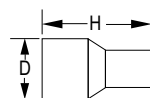
Window Display: Easy readable scale below a window

## INJECTION INSULATED REVERSIBLE RATCHET WRENCH 3/8"



Item No.		$\kappa$ mm
V42212	1/2"	250
V42238	3/8"	200
V42214	1/4"	145

## INJECTION INSULATED 2-COMPONENT HEXAGON SOCKET 1/2"



Item No.		D	H
V41408	8	18	59
V41409	9	19	59
V41410	10	21	59
V41411	11	22	59
V41412	12	23	59
V41413	13	24	59
V41414	14	26	59
V41415	15	27	59
V41416	16	27	59
V41417	17	29	59
V41418	18	30.5	59
V41419	19	31	59
V41420	20	33	59
V41421	21	33	59
V41422	22	35	59
V41424	24	37	59
V41427	27	41	59
V41430	30	45	59
V41432	32	47	59



## INJECTION INSULATED INSULATED 2-COMPONENT HEXAGON SOCKET WITH DOUBLE-HEX, LONG VERSION 1/2"



Item No.		D	H
V41470	10	21	94
V41472	12	23	94
V41473	13m	24	94
V41474	14	26	94
V41477	17	29	94
V41479	19	31	94

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR HEXAGON SCREWS 1/2"



Item No.		mm
V41804	4	120
V41805	5	120
V41806	6	120
V41808	8	120
V41810	10	120

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR TORX SCREWS, 1/2"



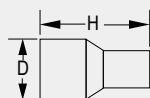
Item No.		mm
V41821	T10	120
V41822	T15	120
V41823	T20	120
V41824	T25	120
V41825	T27	120
V41826	T30	120
V41827	T40	120
V41828	T45	120
V41829	T50	120
V41830	T55	120

## INJECTION INSULATED EXTENSION BAR 1/2"



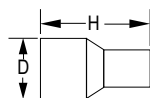
Item No.		mm
V42401	1/2"	125
V42402	1/2"	250

## INJECTION INSULATED 2-COMPONENT HEXAGON SOCKET 3/8"



Item No.		D	H
V41606	6	14.5	45
V41607	7	16	45
V41608	8	17	45
V41609	9	18	45
V41610	10	20	45
V41611	11	21	45
V41612	12	23	45
V41613	13	23.5	45
V41614	14	25	45
V41615	15	26	45
V41616	16	27	45
V41617	17	28.5	45
V41618	18	30	45
V41619	19	31	47
V41620	20	33	47
V41621	21	33	47
V41622	22	35	47

## INJECTION INSULATED 2-COMPONENT HEXAGON SOCKET WITH DOUBLE-HEX, LONG VERSION 3/8"



Item No.		D	H
V41638	8	17	80
V41640	10	20	80
V41642	12	22	80
V41644	14	25	80
V41645	15	26	80
V41647	17	28.5	80
V41649	19	31	80
V41652	22	35	80

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR HEXAGON SCREWS 3/8"



Item No.		mm
V42004	4	75
V42005	5	75
V42006	6	75
V42008	8	75
V42010	10	75

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR TORX SCREWS 3/8"



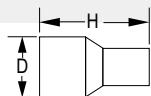
Item No.		mm
V42041	T10	75
V42042	T15	75
V42043	T20	75
V42044	T25	75
V42045	T27	75
V42046	T30	75
V42047	T40	75
V42048	T45	75
V42049	T50	75
V42050	T55	75

## INJECTION INSULATED 2-COMPONENT EXTENSION BAR 3/8"



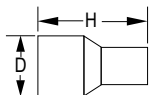
Item No.		mm
V42403	3/8"	125
V42404	3/8"	250

## INJECTION INSULATED 2-COMPONENT HEXAGON SOCKET 1/4"



Item No.	Hexagon	D	H
V41004	4	12	42
V41005	5	13	42
V41055	5.5	13.5	42
V41006	6	14	42
V41007	7	16	42
V41008	8	18	42
V41009	9	18	42
V41010	10	19	42
V41011	11	21	42
V41012	12	21.5	42
V41013	13	23	42
V41014	14	24.5	42

## INJECTION INSULATED 2-COMPONENT HEXAGON SOCKET, LONG VERSION 1/4"



Item No.	Hexagon	D	H
V41024	4	12	67
V41025	5	13	67
V41026	6	14	67
V41027	7	16	67
V41028	8	18	67
V41029	9	18	67
V41030	10	19	67
V41031	11	21	67
V41032	12	22	67
V41033	13	23	67

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR HEXAGON SCREWS 1/4"



Item No.	Hexagon	mm
V42061	3	66
V42062	4	66
V42063	5	66
V42064	6	66
V42065	8	66

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR TORX SCREWS 1/4"



Item No.	Torx	mm
V42071	T10	66
V42072	T15	66
V42073	T20	66
V42074	T25	66
V42075	T27	66
V42076	T30	66
V42077	T40	66

## INJECTION INSULATED 2-COMPONENT EXTENSION BAR 1/4"



Item No.	Hexagon	mm
V42405	1/4"	75
V42406	1/4"	150



1000V

# SPECIAL SPECIFICATIONS



## DIPPED INSULATED BIT SOCKET FOR HEXAGON SCREWS, LONG VERSION 1/2"

1000V

MULTILAYER DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	mm	mm
V41721	V41721S	4	157
V41722	V41722S	5	157
V41723	V41723S	6	157
V41724	V41724S	8	157
V41725	V41725S	10	157

## DIPPED INSULATED BIT SOCKET FOR TORX SCREWS LONG VERSION 1/2"

1000V

MULTILAYER DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	mm	mm
V41741	V41741S	T10	157
V41742	V41742S	T15	157
V41743	V41743S	T20	157
V41744	V41744S	T25	157
V41745	V41745S	T27	157
V41746	V41746S	T30	157
V41747	V41747S	T40	157
V41748	V41748S	T45	157
V41749	V41749S	T50	157
V41750	V41750S	T55	157

## DIPPED INSULATED BIT SOCKET WITH DOUBLE-HEX 1/2"

1000V

MULTILAYER DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	mm	mm
V41751	V41751S	M6	120
V41752	V41752S	M8	120
V41753	V41753S	M10	120
V41761	V41761S	M12	120

## DIPPED INSULATED BIT SOCKET WITH DOUBLE-HEX, LONG VERSION 1/2"

1000V

MULTILAYER DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	mm	mm
V41762	V41762S	M6	157
V41763	V41763S	M8	157
V41764	V41764S	M10	157

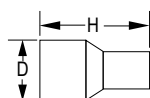
## DIPPED INSULATED HEXAGON SOCKET WITH DOUBLE-HEX 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.		D	H
V41540	V41540S	6	14.5	45
V41541	V41541S	7	16	45
V41542	V41542S	8	17	45
V41543	V41543S	9	18	45
V41544	V41544S	10	20	45
V41545	V41545S	11	21	45
V41546	V41546S	12	23	45
V41547	V41547S	13	23.5	45
V41548	V41548S	14	25	45
V41549	V41549S	15	26	45
V41550	V41550S	16	27	45
V41551	V41551S	17	28.5	45
V41552	V41552S	18	30	45
V41553	V41553S	19	31	47
V41554	V41554S	20	33	47
V41555	V41555S	21	33	47
V41556	V41556S	22	35	47

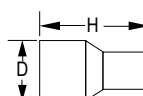
## DIPPED INSULATED E TYPE SOCKET 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED

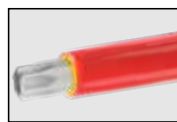


Multilayer dipped Item No.	Dipped Item No.		D	H
V41560	V41560S	E8	16	45
V41561	V41561S	E10	18	45
V41562	V41562S	E11	19	45
V41563	V41563S	E12	20	45
V41564	V41564S	E14	22	45
V41565	V41565S	E16	25	45
V41566	V41566S	E18	27	45
V41567	V41567S	E20	29	45

## DIPPED INSULATED BIT SOCKET FOR TORX SCREWS, LONG VERSION 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED

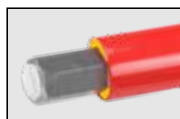


Multilayer dipped Item No.	Dipped Item No.		mm
V41921	V41921S	T10	157
V41922	V41922S	T15	157
V41923	V41923S	T20	157
V41924	V41924S	T25	157
V41925	V41925S	T27	157
V41926	V41926S	T30	157
V41927	V41927S	T40	157
V41928	V41928S	T45	157
V41929	V41929S	T50	157
V41930	V41930S	T55	157

## DIPPED INSULATED BIT SOCKET FOR HEXAGON SCREWS, LONG VERSION 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	⬡	mm
V41911	V41911S	4	157
V41912	V41912S	5	157
V41913	V41913S	6	157
V41914	V41914S	8	157
V41915	V41915S	10	157

## DIPPED INSULATED BIT SOCKET WITH DOUBLE-HEX 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	⬡	mm
V41931	V41931S	M6	75
V41932	V41932S	M8	75
V41933	V41933S	M10	75
V41934	V41934S	M12	75

## DIPPED INSULATED BIT SOCKET WITH DOUBLE-HEX, LONG VERSION 3/8"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	⬡	mm
V41941	V41941S	M6	157
V41942	V41942S	M8	157
V41943	V41943S	M10	157

## DIPPED INSULATED BIT ADAPTER 1/4"

⚡ 1000V

MULTILAYER  
DIPPED



DIPPED



Multilayer dipped Item No.	Dipped Item No.	⬡	mm
		1/4"	75

## DIPPED INSULATED ADAPTER

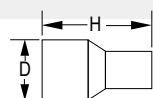
⚡ 1000V



Item No.	⬡	⬡
V42321	1/2"	3/8"
V42322	3/8"	1/2"
V42323	3/8"	1/4"
V42324	1/4"	3/8"



## INJECTION INSULATED 2-COMPONENT HEXAGON SOCKET WITH DOUBLE-HEX 1/2"



Item No.		D	H
V41438	8	18	59
V41439	9	19	59
V41440	10	21	59
V41441	11	22	59
V41442	12	23	59
V41443	13	24	59
V41444	14	26	59
V41445	15	27	59
V41446	16	27	59
V41447	17	29	59
V41448	18	30.5	59
V41449	19	31	59
V41450	20	33	59
V41451	21	33	59
V41452	22	35	59
V41454	24	37	59
V41457	27	41	59
V41460	30	45	59
V41462	32	47	59

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR HEXAGON SCREWS, LONG VERSION 1/2"



Item No.		mm
V41814	4	157
V41815	5	157
V41816	6	157
V41818	8	157
V41820	10	157

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR TORX SCREWS, LONG VERSION 1/2"



Item No.		mm
V41831	T10	157
V41832	T15	157
V41833	T20	157
V41834	T25	157
V41835	T27	157
V41836	T30	157
V41837	T40	157
V41838	T45	157
V41839	T50	157
V41840	T55	157

## INJECTION INSULATED 2-COMPONENT BIT SOCKET WITH DOUBLE-HEX 1/2"

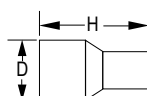


Item No.		mm
V41851	M6	120
V41852	M8	120
V41853	M10	120
V41854	M12	120

## INJECTION INSULATED 2-COMPONENT BIT SOCKET WITH DOUBLE-HEX, LONG VERSION 1/2"

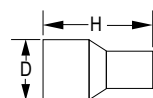


## INJECTION INSULATED 2-COMPONENT E TYPE SOCKET 3/8"



Item No.		mm
V41861	M6	157
V41862	M8	157
V41863	M10	157

## INJECTION INSULATED 2-COMPONENT HEXAGON SOCKET WITH DOUBLE-HEX 3/8"



Item No.		D	H
V41656	6	14.5	45
V41657	7	16	45
V41658	8	17	45
V41659	9	18	45
V41660	10	20	45
V41661	11	21	45
V41662	12	23	45
V41663	13	23.5	45
V41664	14	25	45
V41665	15	26	45
V41666	16	27	45
V41667	17	28.5	45
V41668	18	30	45
V41669	19	31	45
V41670	20	33	45
V41671	21	33	45
V41672	22	35	45

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR HEXAGON SCREWS, LONG VERSION 3/8"



Item No.		mm
V42014	4	157
V42015	5	157
V42016	6	157
V42017	8	157
V42018	10	157

## INJECTION INSULATED 2-COMPONENT BIT SOCKET FOR TORX SCREWS, LONG VERSION 3/8"



Item No.		mm
V42021	T10	157
V42022	T15	157
V42023	T20	157
V42024	T25	157
V42025	T27	157
V42026	T30	157
V42027	T40	157
V42028	T45	157
V42029	T50	157
V42030	T55	157

## INJECTION INSULATED 2-COMPONENT BIT SOCKET WITH DOUBLE- HEX 3/8"



Item No.		mm
V42031	M6	75
V42032	M8	75
V42033	M10	75
V42034	M12	75

## INJECTION INSULATED 2-COMPONENT BIT SOCKET WITH DOUBLE-HEX, LONG VERSION 3/8"



Item No.		mm
V42035	M6	157
V42036	M8	157
V42037	M10	157

## INJECTION INSULATED BIT ADAPTER 1/4"



Item No.		mm
V42415	1/4"	75

## INJECTION INSULATED 2-COMPONENT ADAPTER



Item No.		
V42421	1/2"	3/8"
V42422	3/8"	1/2"
V42423	3/8"	1/4"
V42424	1/4"	3/8"

## INJECTION INSULATED Z TYPE ADAPTER 3/8"

△ 1000V



Item No.		
V42430	3/8"	10



1000V

# ACCESSORIES

## DIPPED INSULATED PLASTIC SLIP-ON CAPS

1000V



Item No.	Size
V70201	1#
V70202	2#
V70203	3#

## DIPPED INSULATED SELF-CLAMPING SLIP-ON CAPS

1000V



Item No.	Size	mm
V70410	10	80
V70420	20	100
V70430	30	110
V70440	40	120
V70445	45	120
V70450	50	130
V70460	60	130

## DIPPED INSULATED SINGLE-EAR PROTECTIVE COVER

1000V



Item No.	Size	H
V70510	110	180

## DIPPED INSULATED DOUBLE-EARS PROTECTIVE COVER

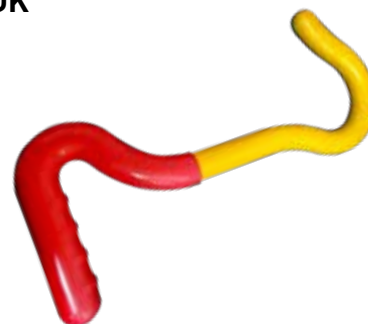
1000V



Item No.	Size	H
V70520	110	180

## DIPPED INSULATED LIFE-SAVING HOOK

1000V



Item No.	Size
V70550	φ 25mm

## DIPPED INSULATED JUNIOR HACKSAW

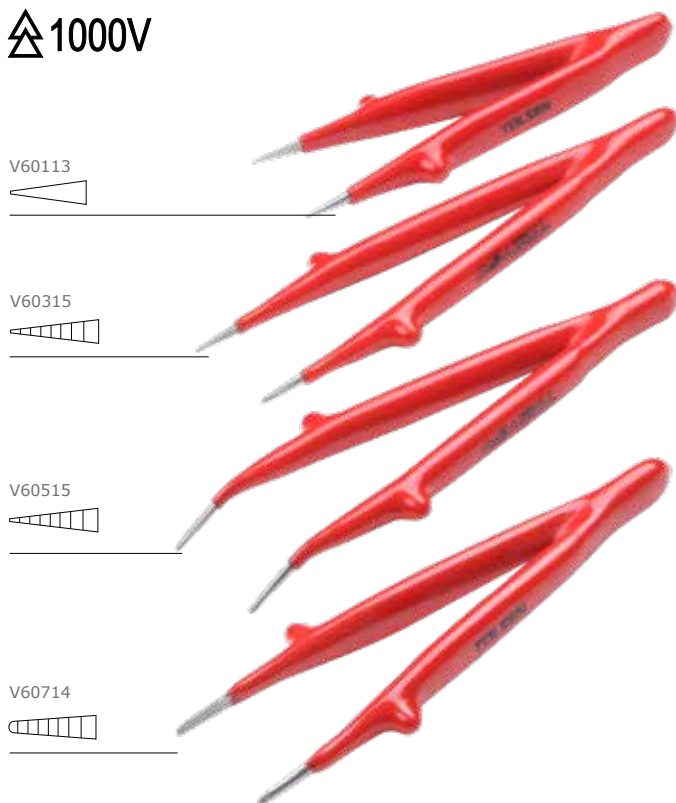
⚡ 1000V



Item No.	D	L
V50112	300	460

## DIPPED INSULATED PRECISION TWEEZERS

⚡ 1000V



Item No.	mm
V60113	130
V60315	158
V60515	155
V60714	145

## INJECTION INSULATED Mallet

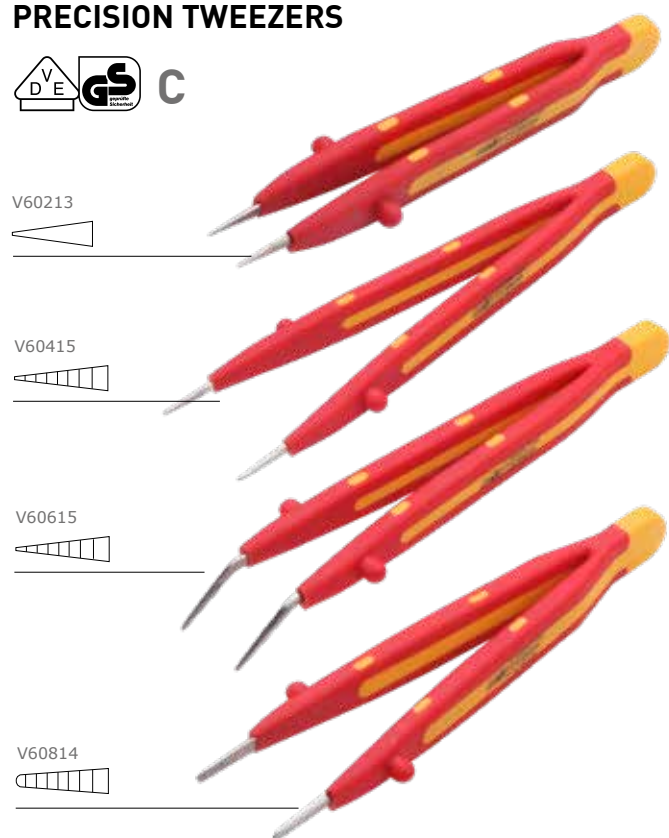
⚡ 1000V



Item No.	Φ mm	mm	Weight/kg
V71030	30	315	0.6

## INJECTION INSULATED PRECISION TWEEZERS

VDE GS C



Item No.	mm
V60213	135
V60415	158
V60615	155
V60814	145

## INJECTION INSULATED KNIVES



V50418  
CABLE KNIFE (STRAIGHT)



V50616  
DISMANTLING KNIFE (SEMICIRCLE)



V51018  
DISMANTLING KNIFE (LONG HOOK)



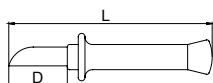
V51218  
CABLE KNIFE (GUARD)



V51416  
DISMANTLING KNIFE



V50819  
CABLE KNIFE (CHANGABLE)



V51501  
KNIFE BLADE

Item No.	D	mm
V50418	50	180
V50616	28	155
V51018	50	180
V51218	50	180
V51416	38	155
V50819	48	185

## INJECTION INSULATED SCISSORS



Item No.	mm
V90047	160

## INJECTION INSULATED PLASTIC CLAMP



Item No.	mm
V61020	200

## INJECTION INSULATED PLASTIC CLAMP



Item No.	mm
V61205	75
V61215	150



## INJECTION INSULATED JUNIOR HACKSAW

⚡ 1000V



Item No.	D	L
V50230	150	300

## INJECTION INSULATED JUNIOR HACKSAW

⚡ 1000V



Item No.	D	L
V50231	300	483

## VINYL ELECTRICAL TAPE

Pressure Sensitive Vinyl Tape  
Cold And Sunlight Resistant  
Flame Retardant  
Primary Insulation 600V  
UL 510, CSA, VDE Approved

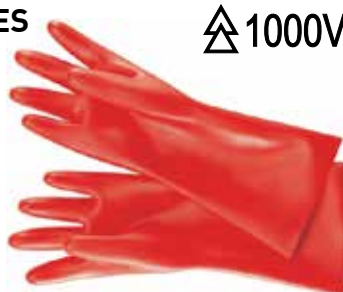


Item No.	Size
V90052	19mm x 0.18mm x 10m

## ELECTRICIANS' GLOVES

For Protection When Working  
Live or Close to Live Parts

Tested According to  
EN60903 Standard



⚡ 1000V

Item No.	Size
V90048	12KV
V90049	20KV

## NON-CONTACT AC VOLTAGE DETECTOR



**3 KINDS OF SENSITIVITY**  
high, medium and low

**AUTOMATIC SELECTION**



**LED WHITE LIGHT**  
for enhanced visibility



Item No.	mm
38110	156

## VOLTAGE TESTER



VDE GS/CE  
125~250V

V70670

V70710

V70860

V70960

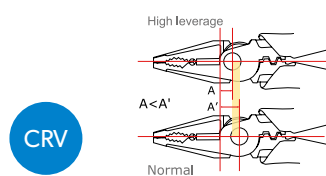
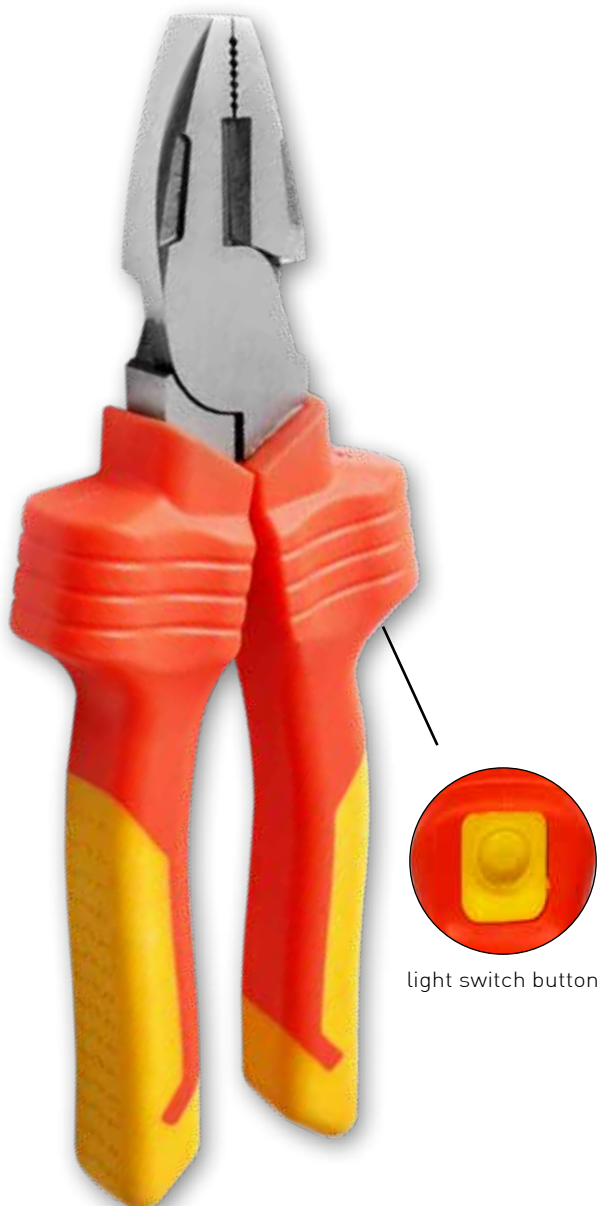
Item No.	mm
V70670	70
V70710	105
V70860	60
V70960	60

# TOLSEN TELECOM TOOLS



## COMBINATION PLIERS

In the event of electricity, the flash will alarm the alarm, bringing safety and security to the work  
High leverage design. Rivet is closer to the cutting edge for greater cutting and gripping power than other normal plier design.  
There is a light switch button on the grip of the pliers it's very convenient to switch back and forth



Item No.

Size

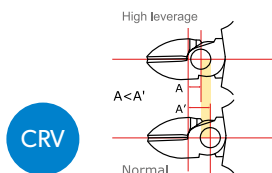
TL4010

8"

## DIAGONAL PLIERS

In the event of electricity, the flash will alarm the alarm, bringing safety and security to the work  
High leverage design. Rivet is closer to the cutting edge for greater cutting and gripping power than other normal plier design.  
There is a light switch button on the grip of the pliers it's very convenient to switch back and forth

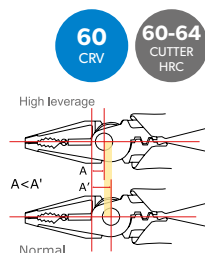
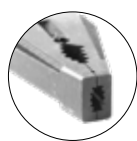
**LED WHITE LIGHT**  
for enhanced visibility



Item No.	Size
TL4020	6"

## PROFESSIONAL HIGH LEVERAGE COMBINATION PLIER

High leverage design. Rivet is closer to the cutting edge for greater cutting and gripping power than other normal plier design.  
Special hardened cutter and precision machined body make the work easy and comfortable.  
With crimper for 0.75, 1.25, 2.5 mm<sup>2</sup> terminals

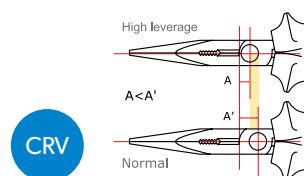
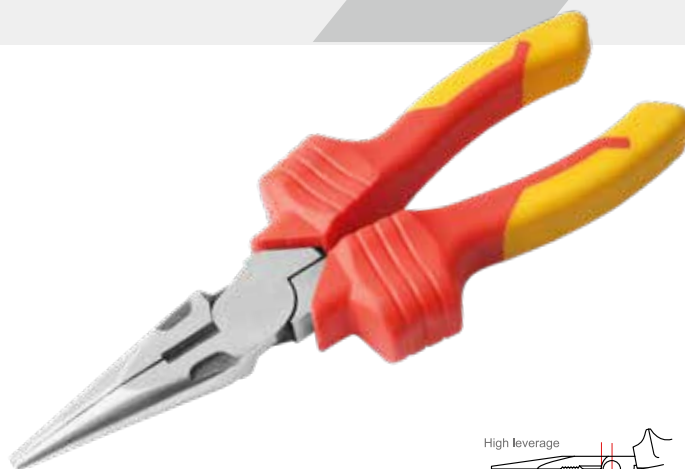


Item No.	Size
TL0180	8"

## SNIPE NOSE SIDE CUTTING PLIERS

In the event of electricity, the flash will alarm the alarm, bringing safety and security to the work  
High leverage design. Rivet is closer to the cutting edge for greater cutting and gripping power than other normal plier design.  
There is a light switch button on the grip of the pliers it's very convenient to switch back and forth

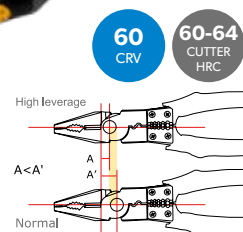
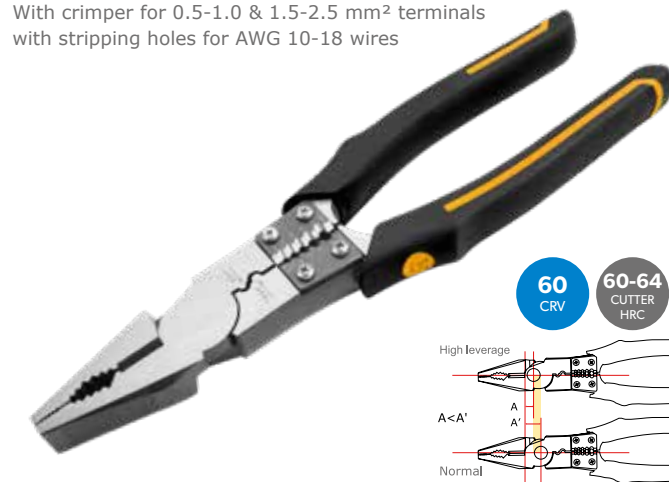
**LED WHITE LIGHT**  
for enhanced visibility



Item No.	Size
TL4030	8"

## PROFESSIONAL HIGH LEVERAGE COMBINATION PLIER

High leverage design. Rivet is closer to the cutting edge for greater cutting and gripping power than other normal plier design.  
Special hardened cutter and precision machined body make the work easy and comfortable.  
With crimper for 0.5-1.0 & 1.5-2.5 mm<sup>2</sup> terminals with stripping holes for AWG 10-18 wires



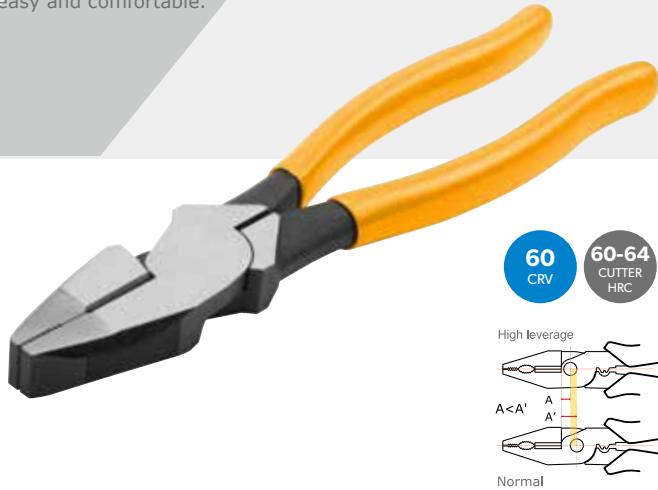
Item No.	Size
TL0190	8.5"



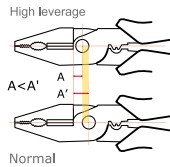
## HIGH LEVERAGE SIDE CUTTING PLIER

High leverage design. Rivet is closer to the cutting edge for greater cutting and gripping power than other normal plier design. Designed for heavy duty use of cutting bolts, nails and high-strength wire.

Special hardened cutter and precision machined body make the work easy and comfortable.



60 CRV 60-64 CUTTER HRC



Item No.	Size
TL0101-8	8"
TL0101-9	9-1/2"

## DIAGONAL CUTTING PLIER

Designed for heavy duty wire cutting.

Special hardened cutter and precision machined body make the work easy and comfortable.



60 CRV 60-64 CUTTER HRC

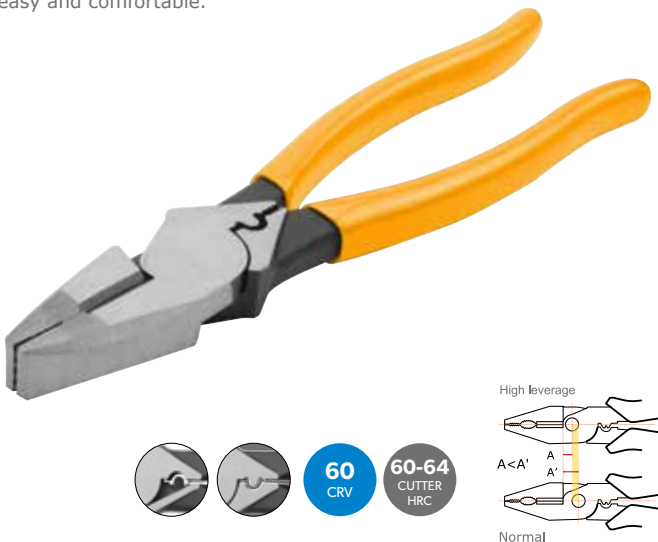
Item No.	Size
TL0102-7	7"
TL0102-8	8"

## HIGH LEVERAGE SIDE CUTTING PLIER W/ TAPE PULLER

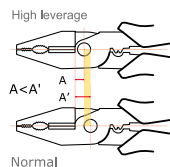
High leverage design. Rivet is closer to the cutting edge for greater cutting and gripping power than other normal plier design. Designed for heavy duty use of cutting bolts, nails and high-strength wire.

Crimping die behind hinge for superior leverage crimping of non-insulated connectors and terminals

Easily pull 1/8" or 1/4" flat steel fish tape without damaging the tape. Special hardened cutter and precision machined body make the work easy and comfortable.



60 CRV 60-64 CUTTER HRC



Item No.	Size
TL0101-9CP	9-1/2"

## DIAGONAL CUTTING PLIER, ANGLED HEAD

Angled head design for easy work in confined spaces

Designed for heavy duty wire cutting.

Special hardened cutter and precision machined body make the work easy and comfortable.



60 CRV 60-64 CUTTER HRC

Item No.	Size
TL0102-8A	8"

## DIAGONAL CUTTING PLIER, SKINNING & STRIPPING

Angled head design for easy work in confined spaces  
Designed for heavy duty wire cutting.  
Special hardened cutter and precision machined body make the work easy and comfortable.



Item No.	Size
TL0103-6B	6-1/2"

## CONNECTOR CRIMPING PLIERS

Crimp and seat UR, UY & UG insulation displacement connectors  
Precision machined crimping area



Item No.	Size
TL0112	6"

## LONG NOSE CRIMPING PLIERS

knurled jaws for wire wrapping, looping and twisting  
With a .030" stripping hole  
Crimp and seat UR, UY & UG insulation displacement connectors  
Precision machined crimping area  
Serrated behind the hinge to crush insulation



Item No.	Size
TL0116	6-1/2"

## LONG NOSE PLIER WITH SIDE CUTTER

For general use of wrapping, looping & cutting



Item No.	Size
TL0118	6-1/2"

## COPPER COAX CABLE CUTTER

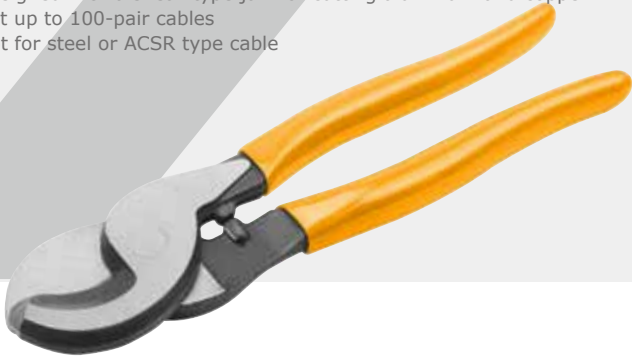
Designed to cut soft copper coax and network cable  
cut solid and stranded and flexible cable to 6 AWG  
precisely ground jaws for clean cut without fraying or crushing ends



Item No.	Size
TL0161	6"

## CABLE CUTTER

Designed with a shear-type jaw for cutting aluminum and copper  
Cut up to 100-pair cables  
Not for steel or ACSR type cable



Item No.	Size
TL0160	9-1/2"

## COAX CABLE CUTTER

Designed to cut 3/4" coaxial cable,  
Cable-gripping jaws easily cut through copper inner conductor  
Not for steel or ACSR type cable



Item No.	Size
TL0163	8-1/2"

## COAX CABLE CUTTER

Designed to cut 1" coaxial cable,  
Precisely machined cutter for clean and easy cut  
Not for steel or ACSR type cable



Item No.	Size
TL0165	8-1/2"

## PUMP PLIERS

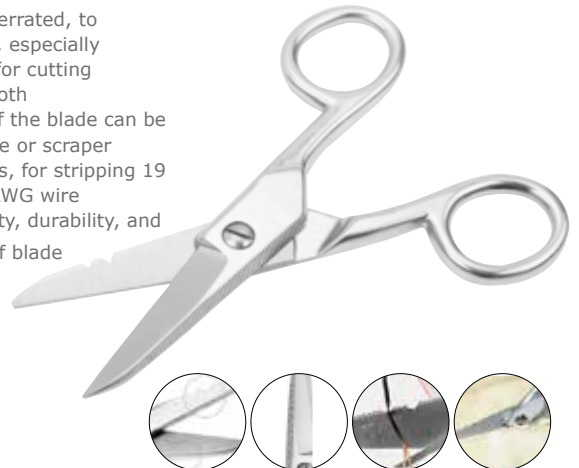
Secure tonque and groove for a  
non-slip grip, even under heavy pressure  
Wide range versatile jaw positions



Item No.	Size
TL0150-6	6"
TL0150-8	8"
TL0150-10	10"
TL0150-12	12"

## ELECTRICIAN SCISSOR

One blade serrated, to  
prevent slip, especially  
convenient for cutting  
fiberglass cloth  
Both back of the blade can be  
used as a file or scraper  
With notches, for stripping 19  
AWG & 23 AWG wire  
Good tenacity, durability, and  
sharpness of blade



Item No.	Size
TL0170	5-1/2"

## ELECTRICIAN SCISSOR

One blade serrated, to prevent slip, especially convenient for cutting  
fiberglass cloth  
Both back of the blade can be used as a file or scraper  
With notches, for stripping 19 AWG & 23 AWG wire  
Good tenacity, durability, and sharpness of blade  
Ergonomic design for easily cutting



Item No.	Size
TL0172	6"



## RATCHET CRIMPING PLIERS

For fast, reliable connector installations  
Quick change interchangeable die-sets  
Ratchet mechanism is designed to prevent the release of the connector prior to full compression  
More models of die-set are available



Item No.	Size
TL0201	8"

## RJ-11 & RJ-45 CRIMP TOOL

Crimp tool with built-in cutter & stripper for use on RJ-11 & RJ-45 connectors, including feedthrough type connectors  
Precisely ground crimping dies can be used for 2,4,6 & 8 position RJ-11 and RJ-45 connectors



Item No.	Size
TL0240	

## MODULAR CRIMPER

crimp 6 & 8 position modular connectors  
with wire cutter and stripper



Item No.	Size
TL0205	8"

## COMPRESSION TOOL

For crimping RG59, RG6 and RG11 connectors  
Also for long style F connectors



Item No.	Size
TL0210	7"

## COMPRESSION TOOL

Reliable F-connector installation tool  
Fixed plunger allow quick, easy insertion and removal of cable and connector  
Fixed plunger accepts many common F-connector compression fittings



Item No.	Size
TL0216	5-1/2"

## COAXIAL CABLE STRIPPER

Stripping the coaxial jacket and inner conductor in one operation  
by rotating the stripper in clockwise direction 2-6 times, easy and effective



Item No.	Size
TL0230	4"

## ARMORED CABLE SLITTING TOOL

Designed to gain mid span access by slitting open jacketed and armored fiber optic cable  
can change blade direction for longitudinal or radial cuts  
blade is available to replace



Item No.	Size
TL0231A	4-10 mm
TL0231B	8-28 mm

## BIX PUNCHDOWN TOOL

Designed to terminate cables, pigtails and jumper wires on GigaBIX, BIX and UMOXS cross-connect system connectors  
Can terminate 22-26 AWG plastic insulated solid copper conductors  
Can adjust the tool for seating only or for seating and cutting the conductors



Item No.	Size
TL0301	

## COAXIAL CABLE STRIPPER

Adjustable stripping blade for different thickness insulation, prevent damage of shield and conductor  
The cassette can be reversed to fit different coaxial cable  
Easy operation



Item No.	Size
TL0232	5"

## 3M IMPACT INSERTION TOOL

For terminating wires on 3M MS2 cross-connect panels



Item No.	Size
TL0330	6"

## PUNCHDOWN TOOL

Easy effective wire termination  
Hi/low impact setting  
With hook stored in the chassis  
Blade storage compartment



Item No.	Size
TL0303	6"

## PUNCHDOWN TOOL BLADE

Made by special metal powder injection technology, give extra long lifetime and precise sizes

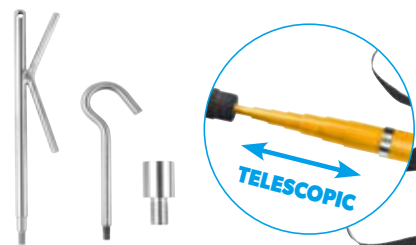


Item No.	Size
TL0305-66	66 blade with & without blade
TL0305-110	110 blade with & without blade
TL0305-116	combination 66 & 110 blade
TL0305-KRONE	krone blade with scissor

## TELESCOPIC POLE

Use to install or retrieve a cable in drop ceilings or other high place  
Made of insulated fiberglass tapered tube,  
Including 3 hook accessories

Item No.	Size
TL0420	18feet



## FISH TAPE

High strength fish tape are stiff for long runs and are great for heavy duty wire puller

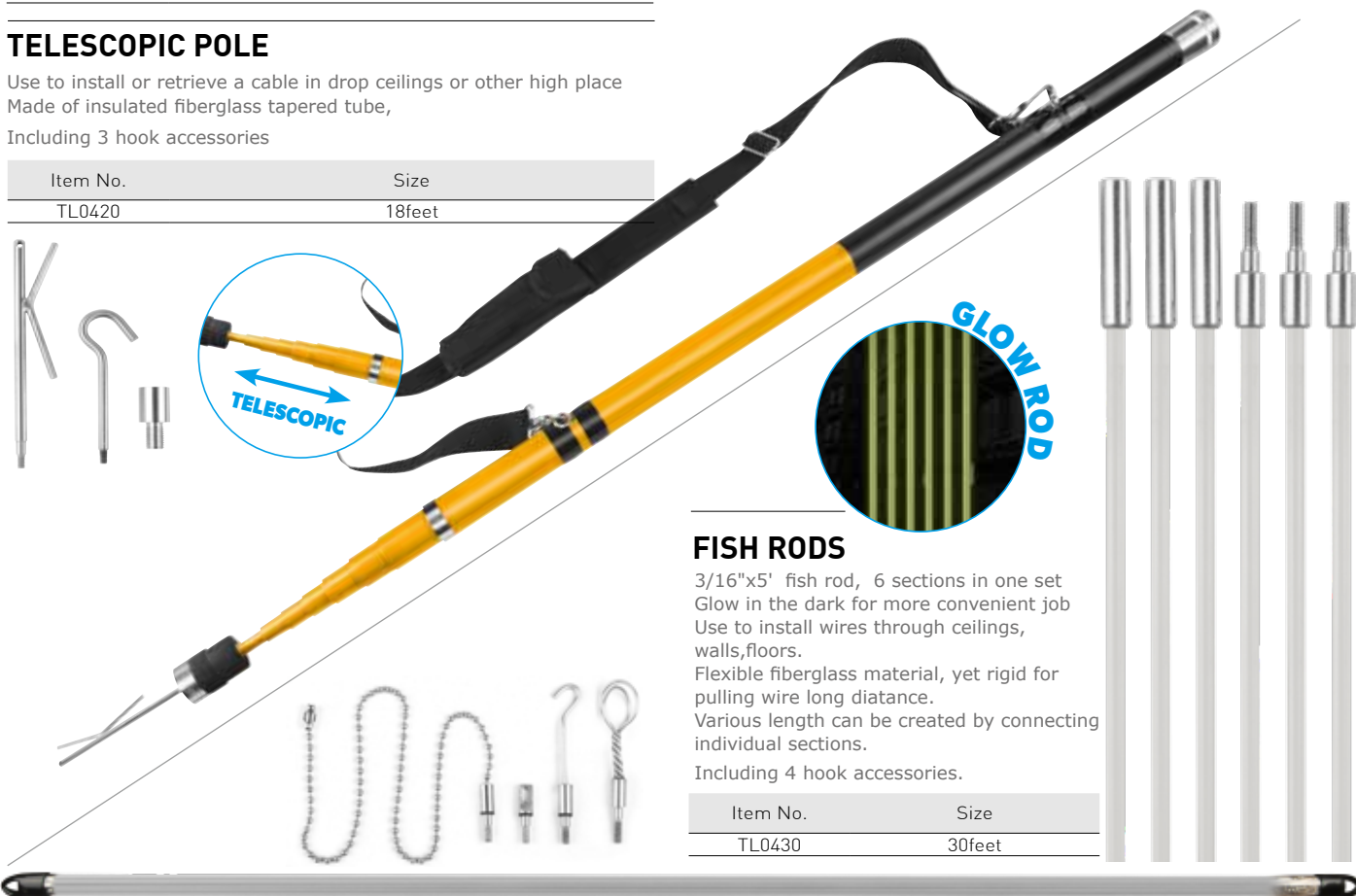


Item No.	Size
TL0405	50 feet, steel tape
TL0412	120 feet, steel tape
TL0424	240 feet, steel tape
TL0405S	50 feet, stainless steel tape
TL0405F	50 feet, fiberglass tape

## FISH RODS

3/16"x5' fish rod, 6 sections in one set  
Glow in the dark for more convenient job  
Use to install wires through ceilings, walls, floors.  
Flexible fiberglass material, yet rigid for pulling wire long distance.  
Various length can be created by connecting individual sections.  
Including 4 hook accessories.

Item No.	Size
TL0430	30feet





## SCREWDRIVER

Special heat treated shank  
Premium chrome plated shank for corrosion resistance  
Precision machined tip for exact fit

S2



Item No.	Size
TL0501	SL: 1/4" x 1-1/2"
TL0502	SL: 3/16" x 3"
TL0503	SL: 3/16" x 4"
TL0504	SL: 3/16" x 6"
TL0505	SL: 1/4" x 4"
TL0506	SL: 1/4" x 6"
TL0507	SL: 5/16" x 6"
TL0508	SL: 3/8" x 10"
TL0511	PH 2 x 1-1/2"
TL0512	PH 1 x 3"
TL0513	PH 2 x 4"
TL0514	PH 2 x 6"
TL0515	PH 2 x 8"
TL0516	PH 3 x 6"
TL0522	S 2 x 4"
TL0523	S 3 x 4"

## MULTI-BIT SCREWDRIVER

Interchangeable shaft hold 4 universal tips  
and convert to 2 driver size



Item No.	Size
TL0550	

## NUT DRIVER

Special heat treated shank  
Premium chrome plated shank for corrosion resistance  
Full hollow shaft to fit long bolt and stud



Item No.	Size
TL0561	3/16" x 3"
TL0562	1/4" x 3"
TL0563	5/16" x 3"
TL0564	11/32" x 3"
TL0565	3/8" x 3"
TL0566	7/16" x 3"
TL0567	1/2" x 3"

## PRECISION SCREWDRIVER

Special heat treated shank  
Premium chrome plated shank for corrosion resistance  
Precision machined tip for exact fit



Item No.	Size
TL0531	SL 0.18 x 1.0 mm
TL0532	SL 0.25 x 1.4 mm
TL0533	SL 0.25 x 1.6 mm
TL0534	SL 0.40 x 2.0 mm
TL0535	SL 0.40 x 2.5 mm
TL0536	SL 0.50 x 3.0 mm
TL0537	PH #000
TL0538	PH #00
TL0539	PH #0
TL0540	PH #1

## FOLDING HEX KEY SET



Item No.	Size
TL0580-8S	8 piece folding hex key set, SAE 3/32", 7/64", 1/8", 9/64", 5/32", 3/16", 7/32", 1/4"
TL0580-8M	8 piece folding hex key set, METRIC 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 5.5, 6.0 mm
TL0580-5S	5 piece folding hex key set, SAE 3/16", 7/32", 1/4", 5/16", 3/8"
TL0580-5M	5 piece folding hex key set, METRIC 5.0, 5.5, 6.0, 8.0, 10.0 mm

## 30 PCS HEX KEY SET

CRV steel, black finish

Short Arm: MM-0.7-0.9-1.3-1.5-2-2.5-3-4-4.5-5

-5.5-6-7-8-10mm

Long Arm: SAE-0.028"-0.035"-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"



Item No.	Size
TL0585	30 pcs set

## WIRE STRIPPER, HEAVY DUTY

thickened zinc ally body  
precision machined stripping hole on high  
grade SK5 steel blade,  
for stripping 1.0/ 1.6/ 2.0/ 2.6/ 3.2 mm wire



Item No.	Size
TL0610	6"

## AUTOMATIC WIRE STRIPPER

jaws are made of special alloy Cr12MoV, for better working and longer  
lifetime

stripping wire range: 10-24 AWG / 0.2-6.0 mm<sup>2</sup>

with a wire cutter

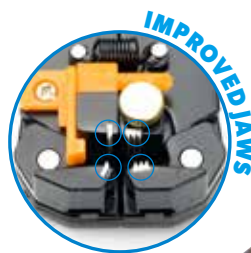
crimper:

insulated terminal: 10-22 AWG / 0.5 - 6.0 mm<sup>2</sup>

non insulated terminal: 10-12 AWG / 4.0 - 6.0 mm<sup>2</sup>

14-16 AWG / 1.5 - 2.5 mm<sup>2</sup>

18-22 AWG / 0.5 - 1.0 mm<sup>2</sup>



Item No.	Size
TL0620	8"

## FIBER INSPECTION MICROSCOPE

Designed to provide clear view of connector face and fiber  
The achromatic lens offers excellent imaging and integrated laser filters for safety (not intended for use with illuminated fibers)  
Coaxial illumination, from LED light.  
With 2.5mm and 1.25mm adapters for use on most fiber connectors



Item No.	TL3020	TL3040
Magnification	200	400

## FIBER SCRIBE

use to split the optic fiber  
tungsten steel blade, give greater sharpness and durability



Item No.	Size
TL1010	3/8"x18"

## MINI VISUAL FAULT LOCATOR (VFL)

Constant & stable output power  
Special laser driver circuit design, to make sure the laser output power remains a constant power level as long as in an available battery voltage.  
Low battery warning, reminds users to change the battery timely.  
Long battery life(up to 40 hours with MA batteries)  
Operates either in CW or Pulsed  
Pocket size and light weight, easy to use



Item No.	TL2001
Wavelength(nm)	650nm±10nm
Emitter type	FP-LD
Output power	1mw or 10mw
Optical connector	FC/2.5mm universal connector For 1.25mm connectors, FC (Male)-LC (Female) converter can be optional on customer requests
Operating Model	Both CW and Pulse(2Hz) available
Power Supply	Two AAA alkaline batteries
Battery Operating Time	40hours Test with Panasonic LR6 AAA ALKALINE battery
Operating	-10— +45 (°C )
Storage Temperature	-25°+70 (°C )

## OPTICAL POWER METER

User self calibration function  
Comfortable LCD display and optional backlight LCD display supports night operation  
Power measurements in dBm or mw and insertion loss in dB  
Low battery consumption, more than 240 hours continual operation time for three 1.5V alkaline batteries  
10 minutes Auto-off function can be activated or deactivated.



Item No.	TL2010A	TL2010C
Wavelength(nm)	800~1700nm	
Detector type	InGaAs	
Measurement Range (dBm)	-70~+6	-50~+26
Uncertainty (dB)	±0.25	
Calibrated Wavelength(nm)	850,980,1300,1310,1490,1550	
Resolution(dB)	0.01	
Optical Connector	FC(interchangeable SC,ST) / as well as 2.5mm universal	
Power Supply	Alkaline Battery(3 AA 1.5V batteries)	
Battery Operating Time	240 h with 1.5V Battery(3)	
Operating Temperature(°C)	-10~+60	
Storage Temperature(°C)	-25~+70	
Relative Humidity	0 to 95% (non-condensing)	
Dimension(mm)	152x74x26	
Weight(g)	160	



## PON OPTICAL POWER METER

Analyzes voice, data, and video signals in BPON/EPON/GPON FTTx systems

Concurrently measures 1310 nm, 1490 nm, and 1550 nm wavelengths anywhere in the network

Three Pass, Warning, and Fail LED indicators allow you to quickly assess your network's power level  
USB port allows quick transfer of data, and up to 1,000 measurement items can be saved at once

Optional 10-minute auto-off can be activated or deactivated

Shatter-resistant sleeve protects it from accidental falls or other damage



Item No.	TL2015
<b>1310 Upstream Measurement</b>	
Pass Zone (nm)	1260 nm ~ 1360 nm
Measurement Range (dBm)	-35 dBm ~+ 10 dBm
Output Power (max)	15 dBm
Isolation @ 1490/1550 (dB)	>40 dB
Burst Mode Measurement Error	< ± 0.5 dB
<b>1490 &amp; 1550 Downstream Measurement</b>	
Pass Zone (nm)	1470 nm ~ 1505 nm
Measurement Range (dBm)	-35 dBm ~+ 10 dBm
Output Power (max)	15 dBm
Isolation @ 1310/1550 (dB)	>40 dB
Pass Zone (nm)	1535 nm ~ 1570 nm
Measurement Range (dBm)	-35 dBm ~+ 20 dBm
Output Power (max)	15 dBm
Isolation @ (1310/1490 nm)	>40 dB
<b>Measurement Accuracy</b>	
Connatural Uncertainty (dB)	± 0.5 dB
Linearity (dB)	± 0.1 dB
Passing through Insertion Loss (dB)	<1.5 dB
<b>General Information</b>	
Detector Type	nGaAs
Optical Connector	FC/SC/ST Interchangeable/ 2.5 Universal Adapter
Fiber Type	SM 9/125 um
Measurement Unit	dB/dBm/xW
Resolution (dB)	0.01 dB
Operation Voltage (V)	DC 3.3 V ~ 5.5 V
Power Supply	3 pc 1.5 V Battery
Continuous Operation Time (h)	90 h
Operation Temperature (°C)	-10°C ~ 70°C
Storage Temperature (°C)	-25°C ~ 70°C

## OPTICAL LIGHT SOURCE

Providing 1~4 wavelengths output and wavelengths can be optional according to customers' needs

CW, 2Hz modulation output at 650nm, and CW, 270Hz,1KHz,2KHz modulation output at other wavelengths.

High stability of the output power

Stable output wavelength

Compact size and decent appearance

Large LCD, easy operation



Item No.	TL2020
Wavelengths(nm)	650 01310/1550850/1300850/1300/1550850/1300/1310/1550
Emitter Type	FP-LD,LED or others please specify
Typical Output Power (dBm)	0
Spectral Width(nm)	≤10
Output Stability	±0.05dB/15mins; ±0.1dB/ 8hours
Modulation Frequencies	CW,2Hz
Optical Connector	FC universal adaptor
Power Supply	Alkaline Battery(3 AA 1.5V batteries)
Battery Operating Time(hour)	45
Operating Temperature(°C )	-10~+60
Storage Temperature(°C )	-25~+70
Dimension(mm)	152X74X26
Weight	180g

## OTDR

Novel and beautiful appearance and structure design;  
Special protection design of shell, durable and able to work under bad environment;  
Simplest operating interface, shortcut key operation, easy to use;  
Dual operation of touch screen and keys;  
Short event blind zone, test 5 m fiber jumper easily: I have a multiple kinds of test modes such as automatic test, manual test and blind zone test, etc..  
Light detection and alarm are provided in the line, to avoid signal light from damage the instrument in the tested optical fiber;  
Built-in high-power visual red light fault positioning function;  
The USB interface functions can quickly realize the file transfer and report form preparation;  
The universal light output connector is easy to replace, which is able to realize a variety of interface tests;  
Smart battery electric quantity indication and low-voltage alarm function;  
10-hour long time of duration, particularly suitable for the field construction application for a long time;  
The multi-wavelength and dynamic range selection can satisfy customer's high higher cost performance demands to the greatest extent;  
The highly intelligent analysis software can accurately identify the fault splices, connectors and even macro-bending;



Item No.	TL2030
Type of optical fiber	Single-mode
Center wavelength	1310nm/1550nm (±20nm)
Maximum dynamic range (dB)	36/35 30/28
Event blind zone	1.5m
Attenuation blind zone	10m
Display type	3.5inch, color LCD, touch screen operation
Optical interface	FC/UPC (Interchangeable SC, ST)
Test range	500m, 1km, 2km, 4km, 8km, 16km, 32km, 64km, 128km
Pulse width	10, 30, 50, 100, 275, 500, 1000, 5000, 10000ns
Range accuracy	± (1m + sampling interval + 0.005% x distance)
Attenuation measurement	±0.05 dB/dB
Reflection measurement	±4dB
Data storage	1000 test curves
Communication interface	USB
Power supply mode	AC/DC adapter: AC: 100V — 240V (1.5A), 50/60Hz DC: 18V to 20V (2A) Internal lithium-ion battery pack: 7.4V, 4400mAh
Battery operation time	k. Whours
Operating temperature	-5 °C — 50 °C
Storage temperature	-20 °C — 70 °C
Relative humidity	0 — 95 %, no condensation
Weight	~ 1kg
Volume	220mm x 100mm x 65mm

## OPTICAL FUSION SPLICER

Precise fiber core alignment, ultra-low fiber fusion splicing consumption  
7s fast fusion splicing, 18s highly efficient heating.  
320 times image magnification, 5mm fusion splicing for fibers of ultra-short cutting length 300 groups of fusion splicing modes, 100 groups of heating modes  
10000 groups of fusion records, 64 images storage  
Ceramic presser foot, ceramic V-block, all-in-one fixture  
Dual-direction splicing, automatic splicing, intelligent pyrocondensation  
USB and SD card interfaces, U-disk automatic software upgrade  
Built-in modular lithium battery, supports 220 times of splicing and heating cycles.



Item No.	TL2040
Alignment method	Precise core alignment and cladding alignment
Applicable fibers	Any common optical fibers, rubber-insulated fibers and jumpers that meet requirements of ITU-TG.651-653, ITU-TG.655 and ITU-TG.657.
Optical fiber diameter	Cladding: 80-150µm, coating layer: 0.1 — 3mm
Cutting length	5-16mm (coated optical fiber diameter: — C.250µm); 10mm (coated optical fiber diameter: 0.25-3mm)
Fusion splicing consumption (typical value)	0.02dB (SMF); 0.01 dB (MMF); 0.04dB (DSF); 0.04dB
Return loss	(NZDSF) Better than 60dB
Fusion splicing time (typical value)	7s
Heating time (typical value)	18s
Pulling force test	1.96-2.25N
Thermal shrinkage tube	60mm, 40mm and a series of thermal shrinkage tubes
Graphical display	High-performance 4.3 inch LCD
Magnification time	320 times/88 times
Fusion splicing record	10000 groups
Battery capacity Battery service life	11.1V, 6400mAh, typical value of fusion splicing and thermal cycle is 220 times Cycle charging times reach 300-500, can be replaced by customers
Electrode service life	Typical value is 4000 times, can be replaced by customers
Construction lighting	Built-in lights with high-brightness and wide lighting area
Working environment	Temp: -10-50°C; hum: 0-95%RH, height above sea level: 0-6000m
Operation interfaces	GUI graphical operation interfaces
External power	AC: AC100-240V, 60Hz, 0-1.5A; DC: DC10-15V
External port	USB / SD
Dimensions Weight	120mm (W) x 130mm (H) x 154mm (D) (without rubber anti-vibration pad) 1.59kg (host engine), 0.37kg (battery)

## OPTICAL FIBER IDENTIFIER

Easy-to-use with "ONE KEY" operation.  
Efficiently identifies the traffic direction and frequency tone (270Hz, 1KHz, 2KHz) with audible warning.  
Displays the relative core power  
More accurate test with Sunshade  
Easy-to-replace adaptors  
Durable metal housing and quality construction  
Lower power indication



Item No.	TL2050	
Identified Wavelength Range	800-1700 nm	
Identified Signal Type	CW, 270Hz±5%, 1kHz±5%, 2kHz±5%	
Detector Type	Ø1mm InGaAs 2pcs	
Adapter Type	Ø0.25 [Applicable for Bare Fiber], Ø0.9 [Applicable for Ø0.9 Cable ]	
	Ø2.0 [Applicable for Ø2.0 Cable ], Ø3.0 [Applicable for Ø3.0 Cable ]	
Signal Direction	Left & Right LED	
Single Direction Test Range (dBm, CW/0.9mm bare fiber)	-46~10(1310nm)	
	-50~10(1550nm)	
Signal Power Test Range (dBm, CW/0.9mm bare fiber)	-50~+10	
Signal Frequency Display [Hz]	270, 1k, 2k	
Frequency Test Range (dBm, Average Value)	Ø0.9, Ø2.0,	-30~0 [270Hz,1KHz]
	Ø3.0	-25~0 [2KHz]
	Ø0.25	-25~0 [1KHz,2KHz]
Insertion Loss [dB, Typical Value]	0.8 (1310nm)	
	2.5 (1550nm)	
Alkaline Battery [V]	9	
Operating Temperature[°C]	-10 - +60	
Storage Temperature[°C]	-25 - +70	
Dimension (mm)	196X30.5X27	
Weight (g)	200	



# TOLSEN *VDELIN*<sup>E</sup>



## Authorized Channel Partners



### CHENNAI

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MSME:- UDYAM-TN-02-0054132

### PUNE

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