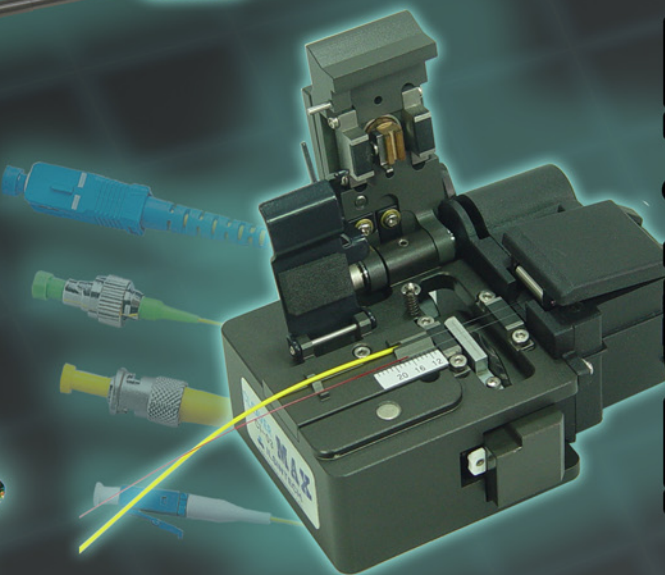




# TOOLS FOR TELECOM & ELECTRONIC ASSEMBLY



## WIRE WRAPPING TOOLS & ACCESSORIES

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## STAT<sup>⚡</sup>BUSTER STATIC ELIMINATORS

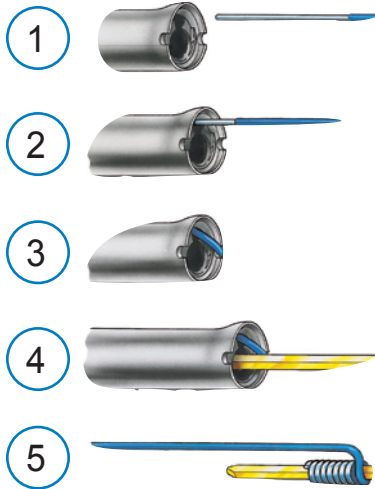
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# The Technology of Wire Wrapping

A wire wrapped connection is made by coiling the wire around the sharp corners of a terminal under mechanical tension. This method of connection was developed by Bell Telephone Laboratories, Western Electric Company.

## Five Steps To Make A Wire Wrap Connection



## Regular



## Modified



A "Regular" bit wraps the bare wire around the terminal. A "Modified" bit wraps a portion of insulation around the terminal in addition to the bare wire. This greatly increases the ability to withstand vibration.

A distinct advantage of wire wrapping is the ease with which a wire may be removed from a terminal to correct errors or modify wiring. An unwrap tool is slipped over the terminal, engaging the first turn of the connection. Rotating the tool, the connection is removed in seconds, without damage to the terminal.

## Wire Size Chart

| Bare Wire Dia. |       | AWG (USA) | SWG (GB) |
|----------------|-------|-----------|----------|
| In.            | mm    |           |          |
| .0403          | 1.022 | 18        |          |
| .040           | 1.016 |           | 19       |
| .036           | 0.914 | 19        | 20       |
| .032           | 0.813 | 20        | 21       |
| .028           | 0.711 | 21        | 22       |
| .0253          | 0.643 | 22        |          |
| .024           | 0.61  |           | 23       |
| .0226          | 0.574 | 23        |          |
| .022           | 0.559 |           | 24       |
| .0201          | 0.51  | 24        |          |
| .020           | 0.508 |           | 25       |
| .018           | 0.457 |           | 26       |
| .0179          | 0.455 | 25        |          |
| .0164          | 0.417 |           | 27       |
| .0159          | 0.404 | 26        |          |
| .0148          | 0.376 |           | 28       |
| .0142          | 0.361 | 27        |          |
| .0136          | 0.345 |           | 29       |
| .0126          | 0.320 | 28        |          |
| .0124          | 0.315 |           | 30       |
| .0116          | 0.295 |           | 31       |
| .0113          | 0.287 | 29        |          |
| .0108          | 0.274 |           | 32       |
| .0100          | 0.254 | 30        | 33       |
| .0092          | 0.234 |           | 34       |
| .0089          | 0.225 | 31        |          |
| .0084          | 0.213 |           | 35       |
| 0.008          | 0.203 | 32        |          |

## "Strip" Force Chart\*

| Wire Size |          |           | Min. Number of Turns (Bare Wire) | Min. Strip Force |      |
|-----------|----------|-----------|----------------------------------|------------------|------|
| AWG       | Dia (in) | Dia. (mm) |                                  | lbs.             | g    |
| 16        | .0510    | 1.30      | 4                                | 15               | 6800 |
| 18        | .0403    | 1.00      | 4                                | 15               | 6800 |
| 20        | .0320    | 0.80      | 5                                | 8                | 3600 |
| 22        | .0253    | 0.65      | 5                                | 8                | 3600 |
| 24        | .0201    | 0.50      | 6                                | 7                | 3200 |
| 26        | .0159    | 0.40      | 7                                | 6                | 2700 |
| 28        | .0126    | 0.32      | 7                                | 5                | 2200 |
| 30        | .0100    | 0.25      | 7                                | 3.3              | 1500 |

\* Conforms to MIL-STD-1130B

There is a constant surveillance of manufacturing dimensions. Each wrapping bit is subjected to a series of "Qualification Tests". These consist of wrapping groups of wire on various types of terminals. The wrapped wires are then subjected to a "strip" test to determine adequate tightness. "Unwrap" tests are also performed to ensure against an "Over Tight" wrap.

Solid wire is used for wire wrapped connections. Copper is the most commonly used wire. Minimum elongation of 15% is required for 24 through 32 AWG; 20% for larger wire.

## Terminal Diagonal Chart

| In.  | .010 | .015 | .020 | .025 | .030 | .035 | .040 | .045 | .050 | .055 | .060 | .065 | .070 | .075 | .080 | .085 | .090 | .095 | .100 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| mm   | 0.25 | 0.38 | 0.51 | 0.64 | 0.76 | 0.89 | 1.02 | 1.14 | 1.27 | 1.40 | 1.52 | 1.65 | 1.78 | 1.91 | 2.03 | 2.16 | 2.29 | 2.41 | 2.54 |
| .010 | .014 | .018 | .022 | .027 | .032 | .036 | .041 | .046 | .051 | .056 | .061 | .066 | .071 | .076 | .081 | .086 | .091 | .096 | .101 |
| 0.25 | 0.36 | 0.46 | 0.56 | 0.69 | 0.81 | 0.91 | 1.04 | 1.17 | 1.30 | 1.42 | 1.55 | 1.68 | 1.80 | 1.93 | 2.06 | 2.18 | 2.31 | 2.44 | 2.57 |
| .015 | .018 | .021 | .025 | .029 | .033 | .038 | .043 | .047 | .052 | .057 | .062 | .067 | .072 | .077 | .082 | .087 | .092 | .097 | .102 |
| 0.38 | 0.46 | 0.53 | 0.64 | 0.74 | 0.84 | 0.97 | 1.09 | 1.19 | 1.32 | 1.45 | 1.58 | 1.70 | 1.83 | 1.96 | 2.08 | 2.21 | 2.34 | 2.46 | 2.59 |
| .020 | .022 | .025 | .028 | .032 | .036 | .040 | .045 | .049 | .053 | .058 | .063 | .068 | .073 | .078 | .083 | .088 | .093 | .098 | .103 |
| 0.51 | 0.56 | 0.64 | 0.71 | 0.81 | 0.91 | 1.02 | 1.14 | 1.25 | 1.35 | 1.47 | 1.60 | 1.73 | 1.85 | 1.98 | 2.11 | 2.24 | 2.36 | 2.49 | 2.62 |
| .025 | .027 | .029 | .032 | .035 | .039 | .043 | .047 | .050 | .056 | .060 | .065 | .069 | .074 | .079 | .084 | .089 | .094 | .099 | .104 |
| 0.64 | 0.69 | 0.74 | 0.81 | 0.89 | 0.99 | 1.09 | 1.19 | 1.27 | 1.42 | 1.52 | 1.65 | 1.75 | 1.88 | 2.01 | 2.13 | 2.26 | 2.39 | 2.52 | 2.64 |
| .030 | .032 | .033 | .036 | .039 | .042 | .046 | .050 | .054 | .058 | .062 | .067 | .071 | .076 | .080 | .085 | .090 | .095 | .100 | .105 |
| 0.76 | 0.81 | 0.84 | 0.91 | 0.99 | 1.07 | 1.17 | 1.27 | 1.37 | 1.47 | 1.58 | 1.67 | 1.70 | 1.80 | 1.93 | 2.03 | 2.16 | 2.29 | 2.41 | 2.54 |
| .035 | .036 | .038 | .040 | .043 | .046 | .049 | .052 | .056 | .060 | .064 | .069 | .073 | .078 | .082 | .087 | .091 | .096 | .101 | .106 |
| 0.89 | 0.91 | 0.97 | 1.02 | 1.09 | 1.17 | 1.25 | 1.32 | 1.42 | 1.52 | 1.63 | 1.75 | 1.85 | 1.98 | 2.08 | 2.21 | 2.31 | 2.44 | 2.57 | 2.69 |
| .040 | .041 | .043 | .045 | .047 | .050 | .052 | .056 | .060 | .064 | .068 | .072 | .076 | .080 | .084 | .089 | .092 | .097 | .102 | .107 |
| 1.02 | 1.04 | 1.09 | 1.14 | 1.19 | 1.27 | 1.32 | 1.42 | 1.52 | 1.63 | 1.73 | 1.83 | 1.93 | 2.03 | 2.13 | 2.26 | 2.34 | 2.46 | 2.59 | 2.72 |
| .045 | .046 | .047 | .049 | .050 | .054 | .056 | .060 | .063 | .067 | .071 | .074 | .078 | .083 | .087 | .091 | .096 | .101 | .105 | .109 |
| 1.14 | 1.17 | 1.19 | 1.25 | 1.27 | 1.37 | 1.42 | 1.52 | 1.60 | 1.70 | 1.80 | 1.88 | 1.98 | 2.11 | 2.21 | 2.31 | 2.44 | 2.57 | 2.67 | 2.77 |
| .050 | .051 | .052 | .053 | .056 | .058 | .060 | .064 | .067 | .071 | .074 | .078 | .082 | .086 | .090 | .094 | .098 | .103 | .107 | .111 |
| 1.27 | 1.30 | 1.32 | 1.35 | 1.42 | 1.47 | 1.52 | 1.63 | 1.70 | 1.80 | 1.88 | 1.98 | 2.08 | 2.18 | 2.29 | 2.39 | 2.49 | 2.62 | 2.72 | 2.82 |



## Manual Wire Wrapping Guns

## GETTING SHOCKED?



**WG200-R3278**  
(Lexan®)

**WG100R3278INS-S**  
(Aluminum)

The WG200-R3278 wrapping gun is lightweight and is used for both regular and modified wraps, and is made of high quality Lexan®. The all-metal gear drive system ensures reliability and longevity providing high quality wire wrapped connections. These tools can accommodate a full line of bits and sleeves ranging from 22-32 AWG (0.64 - 0.20mm). The WG200-R3278 manual wrapping guns are ideal for jobs without a convenient power source.

The WG100R3278INS-S is an ergonomic tool that is designed with a Chuck style nose-piece to accommodate JDV's full line of bits and sleeves ranging from 22-32 AWG (0.64 - 0.20mm). It is equipped with a special housing which helps to protect operators while working with dangerous voltage. This wrapping gun is made of high quality aluminum and the gear train is more reliable and far exceeds other manufacturers.

| Part No                | Insulation  | Housing Type                  | Nose Piece |
|------------------------|-------------|-------------------------------|------------|
| <b>WG800</b>           | <b>FULL</b> | Aluminum w/Dielectric Coating | Chuck      |
| <b>WG100R3278INS-S</b> | Partial     | Aluminum w/Dielectric Coating | Chuck      |
| <b>WG200-R3278</b>     | Partial     | Lexan®                        | Chuck      |

See Pages 8-9 for Bits & Sleeves Selection



Then try  
**JDV's INSULATED**  
**Wire Wrapping Tool!**

JDV Products developed a **FULLY INSULATED** Manual Wire Wrap Tool (model WG800) that stops electrical currents right at the source!

By insulating the barrel of the wrap gun, electrical current cannot enter the tool, which helps to protect telephone technicians from getting shocked or injured through the wrapping gun while making wire wrap connections on hot circuits.

The WG800 is designed with a rugged aluminum housing with orange dielectric coating, a solid Chuck-style nose-piece, and accommodates JDV's full line of wrap bits and sleeves ranging from 22-32 AWG (0.64-0.20mm).

JDV's WG800 has been found to meet UL Safety Requirement. The test was provided by Third Party Laboratory and Certified to 1000V A/C under Dielectric testing condition IAW UL Standard.

## NEED LIGHT?



Don't forget JDV's FL100 LED Light Bracket  
See page 15 for details

## Manual Wire Unwrapping Gun

JDV's WG100-R3394INS wire unwrapping gun is made of high quality aluminum housing and has a coating that ensures safety for the operator when doing unwrapping applications in high voltage environments. Like JDV's other manual guns, this tool comes in a Chuck style model and can be used with JDV's unwrap bits and sleeves from 22-32 AWG (0.64-0.20 mm).

| Part No               | Insulation | Housing Type                   | Nose Piece |
|-----------------------|------------|--------------------------------|------------|
| <b>WG100-R3394INS</b> | Partial    | Aluminum w/ Dielectric Coating | Chuck      |

| Kit Part No | Sleeve P/N | Unwrap Bit P/N | Collet Style | Wire Size |           | Terminal Hole |      |
|-------------|------------|----------------|--------------|-----------|-----------|---------------|------|
|             |            |                |              | Inch      | mm        | Inch          | mm   |
| <b>UP70</b> | SP171      | BU70           | Chuck        | 22-26     | 0.65-0.40 | 0.07          | 1.77 |
| <b>UP36</b> | SP171      | BU36           | Chuck        | 24-32     | 0.50-0.20 | 0.036         | 0.96 |



**JDV Products, Inc • 22-01 Raphael Street • Fair Lawn, NJ 07410 USA**  
**201-796-1720 • Fax 201-796-9399 • www.jdvproducts.com**



# Electric and Battery Operated Wire Wrapping Guns

## WG500 Series Battery Wire Wrap/Unwrap Guns

The WG500 series lightweight portable Wire Wrapping/Unwrapping Tool can be used on the bench or in remote Central Office locations.

- Ergonomically designed to reduce operator strain and fatigue.
- Operator Adjustable indexing position of the bit to suit individual preference
- Self-aligning gearing system reduces part breakage and repairs.
- Reduced electrical interference.
- Compact charger unit (included) recharges batteries in one hour.
- 1100 connections with one charge.
- Standard rechargeable and non-rechargeable C batteries may be used in an emergency basis.
- High impact-resistant plastic housing.
- Overcharge protection.
- Easily fits into JDV's tool pouch (model TH251)
- Weight: 14oz



WG500 Series includes: Tool, One Battery, and Charger

| Part No | Type      | Charger Voltage | Hz | Speed/RPM | Wire Size |
|---------|-----------|-----------------|----|-----------|-----------|
| WG500   | Standard  | 120             | 60 | 3000      | 22-32 AWG |
| WG500BF | Backforce | 120             |    |           |           |
| WG502   | Standard  | 220             |    |           |           |
| WG502BF | Backforce | 220             |    |           |           |

## WG601 Series Electric Wire Wrap Guns

The WG601 series AC-Powered Electric Tools are heavy-duty rugged design for all of your Wire Wrapping needs.

- Operator Adjustable indexing position of the bit to suit individual preference.
- High quality electric motor provides steady performance for light to heavy production.
- High impact-resistant plastic housing
- Ergonomically designed to reduce operator strain and fatigue
- Planetary gear reduction drive, insulated collet and collet nut, light trigger action and two-wire cord.
- Double insulated.
- Easily fits into JDV's tool pouch (model TH251)
- Weight: 18oz



| Part No  | Type      | Voltage | Hz | Speed/RPM | Production  | Wire Size |
|----------|-----------|---------|----|-----------|-------------|-----------|
| WG601    | Standard  | 120     | 60 | 4500      | Light-Heavy | 18-32 AWG |
| WG601-BF | Backforce | 120     | 60 | 4500      | Light-Heavy | 18-32 AWG |



# Pneumatic Wire Wrapping Guns

## WG300 Series

### Pneumatic Wire Wrap Guns

The WG300 is not only perfectly balanced, but it is also the lightest pneumatic wire wrap tool available. The WG300 is rated for heavy duty application wrapping 18 AWG wire, yet it is the ideal tool for delicate 32 AWG work.



| Part No | Type      | Speed/ RPM | Weight |     | Wire Size |          |
|---------|-----------|------------|--------|-----|-----------|----------|
|         |           |            | Oz     | g   | AWG       | mm       |
| WG300   | Standard  | 4500       | 110    | 300 | 18-32     | 1.0-0.20 |
| WG300BF | Backforce | 4500       |        |     |           |          |

These tools are designed to operate at 80-110psi (6-7 BAR)

## WG400 Series

### Triggerless Wire Wrap Guns

The triggerless WG400 air wire wrap tool is designed for high production environments. It's ergonomic design helps reduce wire wrapping muscle fatigue. When combined with the WAC400 air logic controller, this triggerless tool uses a 3 psi back-pressure signal to activate the tool. The slightest movement of the thumb over a small air sensor hole signals the WAC400 to activate the WG400.



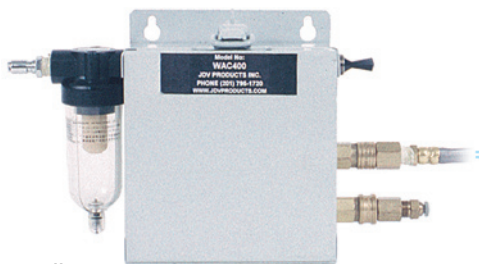
| Part No | Type      | Speed/ RPM | Weight |     | Wire Size |          |
|---------|-----------|------------|--------|-----|-----------|----------|
|         |           |            | Oz     | g   | AWG       | mm       |
| WG400   | Standard  | 4500       | 110    | 300 | 18-32     | 1.0-0.20 |
| WG400BF | Backforce | 4500       |        |     |           |          |

## Repair Program

Do you need a good repair center for your JDV pneumatic wrapping guns? If so, then we can help! JDV offers an excellent repair program on all of our pneumatic wire wrapping tools. Simply call JDV, ask for a RMA# (Return Materials Authority) and write this on the outside of the box, and send the unit back to JDV with attention to Repair Dept.

## Accessories

Cut/Strip/Wrap Bits on Page 7  
Bits & Sleeves on Pages 8-9



### WAC400

Air Logic Controller

(For use with WG400 Pneumatic Wire Wrap Gun)



### A-10738

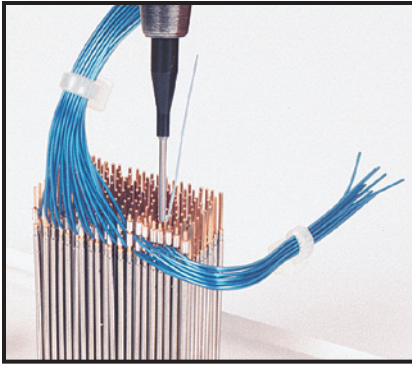
6' Nylon Braided Hose

For use with both WG300 & WG400 wire wrapping guns



**JDV Products, Inc • 22-01 Raphael Street • Fair Lawn, NJ 07410 USA**  
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## MICRO BIT WIRE WRAPPING TOOL - 7500 SERIES

JDV Products Inc. introduces the series 5000 and series 7500 Micro-Bit wire wrapping and unwrapping tools. These tools are designed for wrapping wire on .016 in. (0.4mm) square terminals in high-density connectors with pin center distances of .050 in. and .075 in. (1.27mm and 1.9mm).

The 7500 series is designed to work with .075 in. (1.9mm) pin spacing and are conventional wire wrap tools.

Both series are very small tools and require extra care when wire wrapping these applications.



BMH7530  
w/ S75

| Part No | Pin Distance |      | Pin Size<br>Inch | Wire Diameter |           | Retaining Sleeve<br>Part No | Wrap Type |
|---------|--------------|------|------------------|---------------|-----------|-----------------------------|-----------|
|         | Inch         | mm   |                  | AWG           | mm        |                             |           |
| BMH7528 | 0.075        | 1.90 | 0.016 SQ         | 28            | 0.032     | S75                         | MODIFIED  |
| BMH7530 | 0.075        | 1.9  | 0.016 SQ         | 30-32         | 0.20-0.25 | S75                         | MODIFIED  |

## MICRO WIRE WRAPPING HAND TOOL



| Part No | Pin Distance |      | Pin Size<br>Inch | Wire Diameter |           | Wrap Type |
|---------|--------------|------|------------------|---------------|-----------|-----------|
|         | Inch         | mm   |                  | AWG           | mm        |           |
| HR5030  | 0.050        | 1.27 | 0.016 SQ         | 30-32         | 0.20-0.25 | REGULAR   |
| HM7528  | 0.075        | 1.9  | 0.016 SQ         | 28            | 0.32      | MODIFIED  |
| HM7530  | 0.075        | 1.9  | 0.016 SQ         | 30-32         | 0.20-0.25 | MODIFIED  |

## UNWRAP TOOL



| Part No | Terminal Hole Diameter |      | Terminal Hole Depth |       |
|---------|------------------------|------|---------------------|-------|
|         | Inch                   | mm   | Inch                | mm    |
| UHD5075 | 0.022                  | 0.56 | 0.50                | 12.70 |

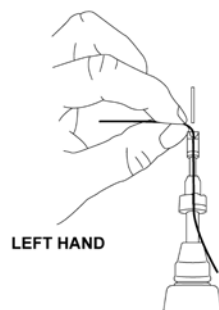
## CSW (Cut/Strip/Wrap) Bits

JDV's NEW open-faced CSW bit is fast and easy to use. It cuts, strips, and wraps the wire in one simple operation. There is no need for wire preparation since this tool can wrap wire directly from a reel or harness.

\* For a demonstration video, please visit our website



| Head Part No | Power Tool Holder | Wire Size |     |      | Term. Hole Diameter |      | Term. Hole Depth |       | Strip Length |       | Head Diameter |      | Min. Spacing Terminal |      |
|--------------|-------------------|-----------|-----|------|---------------------|------|------------------|-------|--------------|-------|---------------|------|-----------------------|------|
|              |                   | AWG       | SWG | mm   | In.                 | mm   | In.              | mm    | In.          | mm    | In.           | mm   | In.                   | mm   |
| CSWB24       | CSWH-1            | 24        | 25  | 0.50 | 0.07                | 1.78 | 1.000            | 25.40 | 1.62         | 41.10 | 0.24          | 6.10 | 0.16                  | 3.90 |
| CSWB24-4C    | CSWH-1            | 24        | 25  | 0.50 | 0.07                | 1.78 | 0.354            | 9.02  | -            | -     | 0.305         | 7.75 | -                     | -    |
| CSWB26       | CSWH-1            | 26        | 23  | 0.40 | 0.07                | 1.78 | 1.000            | 25.40 | 1.62         | 41.10 | 0.24          | 6.10 | 0.16                  | 3.90 |
| CSWB26-4B    | CSWH-1            | 26        | 25  | 0.50 | 0.07                | 1.78 | 0.354            | 9.02  | -            | -     | 0.305         | 7.75 | -                     | -    |



METHOD 1  
WIRING LEFT TO RIGHT



METHOD 2  
WIRING RIGHT TO LEFT



# Modified Wire Wrapping Bits and Sleeves



All Bits & Sleeves are Fully Compatible with any Make or Model Wire Wrapping Tool

| AWG (inches)     |                         |                           |                     |                  |                        | BIT PART No. | SLEEVE PART No. | METRIC (mm)            |                  |                     |                           |                         |                 |
|------------------|-------------------------|---------------------------|---------------------|------------------|------------------------|--------------|-----------------|------------------------|------------------|---------------------|---------------------------|-------------------------|-----------------|
| Wire Gauge (AWG) | Max Insulation Diameter | Min/Max Terminal Diagonal | Terminal Hole Depth | Effective Radius | Terminal Hole Diameter |              |                 | Terminal Hole Diameter | Effective Radius | Terminal Hole Depth | Min/Max Terminal Diagonal | Max Insulation Diameter | Wire Gauge (mm) |
| 20               | .058                    | .042/.073                 | 1.000               | .150             | .075                   | BM20         | S194LN          | 1.90                   | 3.81             | 25.40               | 1.07/1.85                 | 1.47                    | 0.80            |
| 22               | .054                    | .049/.074                 | 1.000               | .132             | .075                   | BM22         | S171            | 1.90                   | 3.35             | 25.40               | 1.24/1.87                 | 1.37                    | 0.65            |
| 22-24            | .050                    | .049/.074                 | 1.250               | .121             | .075                   | BM224        | S171            | 1.90                   | 3.07             | 31.75               | 1.24/1.87                 | 1.27                    | .50-.65         |
| 24               | .046                    | .054/.073                 | 1.750               | .117             | .075                   | BM24DD       | S171            | 1.90                   | 2.97             | 44.50               | 1.37/1.87                 | 1.17                    | 0.50            |
| 24               | .044                    | .024/.043                 | 0.750               | .098             | .044                   | BM2444*      | S125LN*         | 1.11                   | 2.48             | 19.05               | 0.60/1.09                 | 1.11                    | 0.50            |
| 24               | .046                    | .054/.073                 | 0.750               | .118             | .075                   | BM24         | S171            | 1.90                   | 2.99             | 19.05               | 1.07/1.85                 | 1.17                    | 0.50            |
| 24-26            | .046                    | .054/.073                 | 0.750               | .118             | .075                   | BM2426       | S171            | 1.90                   | 2.99             | 19.05               | 1.37/1.85                 | 1.17                    | .40-.50         |
| 26               | .031                    | .023/.038                 | 0.750               | .075             | .040                   | BM2640*      | S93*            | 1.02                   | 1.90             | 19.05               | 0.58/0.96                 | 0.79                    | 0.40            |
| 26               | .046                    | .054/.073                 | 1.000               | .118             | .075                   | BM26         | S171            | 1.90                   | 2.99             | 25.40               | 1.37/1.85                 | 1.17                    | 0.40            |
| 26               | .044                    | .028/.044                 | 0.750               | .098             | .044                   | BM2644*      | S125LN*         | 1.11                   | 2.48             | 19.05               | 0.71/1.12                 | 1.11                    | 0.40            |
| 26               | .042                    | .053/.068                 | 1.000               | .109             | .069                   | BM2669       | S159            | 1.75                   | 2.77             | 25.40               | 1.34/1.72                 | 1.04                    | 0.40            |
| 26               | .050                    | .053/.068                 | 1.125               | .118             | .069                   | BM26D        | S171            | 1.75                   | 2.99             | 28.50               | 1.34/1.72                 | 1.27                    | 0.40            |
| 28               | .030                    | .031/.035                 | 0.750               | .066             | .036                   | BM28*        | S93*            | 0.91                   | 1.67             | 19.05               | 0.79/0.89                 | 0.76                    | 0.32            |
| 28               | .030                    | .031/.035                 | 1.125               | .066             | .036                   | BM28-1125*   | S93*            | 0.91                   | 1.67             | 28.57               | 0.79/0.89                 | 0.76                    | 0.32            |
| 28               | .030                    | .031/.035                 | 1.250               | .066             | .036                   | BM28-1250*   | S93*            | 0.91                   | 1.67             | 31.75               | 0.79/0.89                 | 0.76                    | 0.32            |
| 28               | .034                    | .053/.068                 | 1.000               | .103             | .070                   | BM2870       | S159            | 1.78                   | 2.61             | 25.40               | 1.35/1.72                 | 0.86                    | 0.32            |
| 28-29            | .036                    | .033/.038                 | 0.750               | .091             | .040                   | BM2840*      | S125*           | 1.02                   | 2.31             | 19.05               | 0.83/0.96                 | 0.91                    | .29-.32         |
| 30               | .023                    | .030/.035                 | 0.750               | .061             | .036                   | BM30SW*      | S93*            | .091                   | 1.54             | 19.05               | .099/1.06                 | 0.58                    | 0.25            |
| 30               | .027                    | .031/.035                 | 0.750               | .064             | .043                   | BM3043*      | S93*            | 1.09                   | 1.62             | 19.05               | 0.79/0.89                 | 0.69                    | 0.25            |
| 30               | .027                    | .031/.035                 | 0.750               | .064             | .036                   | BM30*        | S93*            | 0.91                   | 1.62             | 19.05               | 0.79/0.89                 | 0.68                    | 0.25            |
| 30               | .027                    | .031/.035                 | 1.125               | .064             | .036                   | BM30-1125*   | S93*            | 0.91                   | 1.62             | 28.57               | 0.79/0.89                 | 0.68                    | 0.25            |
| 30               | .023                    | .030/.035                 | 0.750               | .064             | .036                   | BM30SI*      | S93*            | 0.91                   | 1.62             | 19.05               | 0.76/0.89                 | 0.58                    | 0.25            |
| 30               | .027                    | .060/.064                 | 1.000               | .106             | .066                   | BM3066       | S159            | 1.67                   | 2.70             | 25.40               | 1.52/1.62                 | 0.69                    | 0.25            |
| 30               | .027                    | .027/.030                 | 0.750               | .066             | .031                   | BM3031*      | S93*            | 0.79                   | 1.67             | 19.05               | 0.69/0.76                 | 0.69                    | 0.25            |
| 30-32            | .027                    | .034/.038                 | 0.750               | .064             | .040                   | BM3040*      | S93*            | 1.02                   | 1.62             | 19.05               | 0.86/0.96                 | 0.69                    | .20-.25         |
| 30-32            | .029                    | .062/.065                 | 1.000               | .100             | .067                   | BM3068       | S125LD          | 1.70                   | 2.54             | 25.40               | 1.57/1.65                 | 0.74                    | .20-.25         |

\* These tools are recommended for .025" square terminals on 0.100 centers / 0.63 mm on 2.54 mm centers.

## Insulated Sleeves

To order insulated sleeves, please specify insulation color on the end of the standard sleeve part number. (i.e. S171R: R=red, B=blue, Y=yellow, G=green, W=white).



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# Regular Wire Wrapping Bits and Sleeves



All Bits & Sleeves are Fully Compatible with any Make or Model Wire Wrapping Tool

| AWG (inches)     |                         |                           |                     |                  |                        | BIT PART No. | SLEEVE PART No. | METRIC (mm)            |                  |                     |                           |                         |                 |
|------------------|-------------------------|---------------------------|---------------------|------------------|------------------------|--------------|-----------------|------------------------|------------------|---------------------|---------------------------|-------------------------|-----------------|
| Wire Gauge (AWG) | Max Insulation Diameter | Min/Max Terminal Diagonal | Terminal Hole Depth | Effective Radius | Terminal Hole Diameter |              |                 | Terminal Hole Diameter | Effective Radius | Terminal Hole Depth | Min/Max Terminal Diagonal | Max Insulation Diameter | Wire Gauge (mm) |
| 18               | N/A                     | .060/.073                 | 1.000               | .150             | .075                   | BR18         | S194            | 1.90                   | 3.81             | 25.40               | 1.52/1.85                 | N/A                     | 1.00            |
| 19               | N/A                     | .042/.073                 | 1.000               | .123             | .075                   | BR19         | S171            | 1.90                   | 3.12             | 25.40               | 1.07/1.85                 | N/A                     | 0.91            |
| 19-20            | N/A                     | .091/1.122                | 1.000               | .150             | .125                   | BR1920L      | S212            | 3.17                   | 3.81             | 25.40               | 2.31/3.09                 | N/A                     | .80-.91         |
| 20               | N/A                     | .091/1.122                | 1.000               | .150             | .125                   | BR20L        | S212            | 3.17                   | 3.81             | 25.40               | 2.31/3.09                 | N/A                     | .80-.91         |
| 20-22            | N/A                     | .042/0.73                 | 1.000               | .123             | .075                   | BR20         | S171            | 1.90                   | 3.12             | 25.40               | 1.07/1.85                 | N/A                     | .65-.80         |
| 22               | N/A                     | .061/.085                 | 1.000               | .125             | .086                   | BR22T        | S171            | 2.18                   | 3.17             | 25.40               | 1.54/2.15                 | N/A                     | 0.65            |
| 22               | N/A                     | .054/.073                 | 0.750               | .117             | .075                   | BR22         | S171            | 1.90                   | 2.97             | 19.05               | 1.37/1.85                 | N/A                     | 0.65            |
| 22-24            | N/A                     | .054/.073                 | 1.000               | .111             | .075                   | BR224-1      | S171            | 1.90                   | 2.82             | 25.40               | 1.37/1.85                 | N/A                     | .50-.65         |
| 22-24            | N/A                     | .054/.073                 | 0.807               | .111             | .075                   | BR224        | S171            | 1.90                   | 2.82             | 20.50               | 1.37/1.85                 | N/A                     | .50-.65         |
| 24               | N/A                     | .024/.043                 | 1.000               | .083             | .044                   | BR2444*      | S125LN*         | 1.11                   | 2.10             | 25.40               | 0.60/1.09                 | N/A                     | 0.50            |
| 24               | N/A                     | .055/.074                 | 1.500               | .100             | .075                   | BR24D        | S159            | 1.90                   | 2.54             | 38.10               | 1.39/1.87                 | N/A                     | 0.50            |
| 24               | N/A                     | .055/.074                 | 0.750               | .100             | .075                   | BR24         | S159            | 1.90                   | 2.54             | 19.05               | 1.39/1.87                 | N/A                     | 0.50            |
| 24-26            | N/A                     | .058/.073                 | 0.750               | .100             | .075                   | BR2426       | S159            | 1.90                   | 2.54             | 19.05               | 1.47/1.85                 | N/A                     | .40-.50         |
| 24-26            | N/A                     | .054/.065                 | 1.000               | .098             | .066                   | BR2466       | S125LD          | 1.67                   | 2.48             | 25.40               | 1.37/1.65                 | N/A                     | .40-.50         |
| 26               | N/A                     | .054/.073                 | 1.000               | .112             | .075                   | BR16903      | S159            | 1.90                   | 2.84             | 25.40               | 1.37/1.85                 | N/A                     | 0.40            |
| 26               | N/A                     | .023/.038                 | 0.750               | .068             | .040                   | BR2639*      | S93LN*          | 1.02                   | 1.72             | 19.05               | 0.58/0.96                 | N/A                     | 0.40            |
| 26               | N/A                     | .058/.073                 | 1.000               | .100             | .075                   | BR26         | S159            | 1.90                   | 2.54             | 25.40               | 1.47/1.85                 | N/A                     | 0.40            |
| 30-32            | N/A                     | .034/.038                 | 0.750               | .064             | .040                   | BR30*        | S93*            | 1.02                   | 1.62             | 19.05               | 0.86/0.96                 | N/A                     | .20-.25         |

## Extended (5" Long) Bits and Sleeves Regular and Modified

|       |      |           |       |      |      |           |          |      |      |       |           |      |         |
|-------|------|-----------|-------|------|------|-----------|----------|------|------|-------|-----------|------|---------|
| 22    | N/A  | .054/.073 | 0.750 | .117 | .075 | BR22-5    | S171-5   | 1.90 | 2.97 | 19.05 | 1.37/1.85 | N/A  | 0.65    |
| 22-24 | N/A  | .054/.073 | 0.807 | .111 | .075 | BR224-5   | S171-5   | 1.90 | 2.82 | 20.50 | 1.37/1.85 | N/A  | .50-.65 |
| 24    | N/A  | .055/.073 | 0.750 | .100 | .075 | BR24-5    | S159-5   | 1.90 | 2.54 | 19.05 | 1.39/1.87 | N/A  | 0.50    |
| 26    | N/A  | .058/.073 | 1.000 | .100 | .075 | BR26-5    | S159-5   | 1.90 | 2.54 | 25.40 | 1.47/1.85 | N/A  | 0.40    |
| 26    | .031 | .023/.038 | 0.750 | .075 | .040 | BM2640-5* | S93LN-5* | 1.02 | 1.90 | 19.05 | 0.58/0.96 | 0.79 | 0.40    |
| 30    | .027 | .031/.035 | 0.750 | .064 | .036 | BM30-5*   | S93-5*   | 0.91 | 1.62 | 19.05 | 0.79/0.89 | 0.69 | 0.25    |

\* These tools are recommended for .025" square terminals on 0.100 centers / 0.63 mm on 2.54 mm centers.

### Insulated Sleeves

To order insulated sleeves, please specify insulation color on the end of the standard sleeve part number. (i.e. S171R: R=red, B=blue, Y=yellow, G=green, W=white).



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# Hand Wrapping / Unwrapping Tools

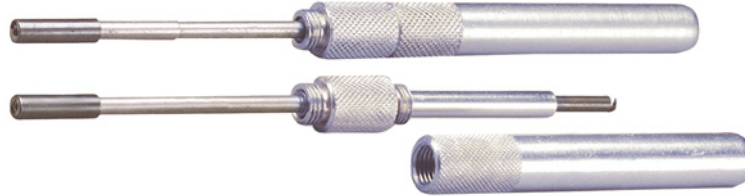
**NEW!**



HWUR224

## New 22-24 AWG Hand Wrap/Unwrap Tool

The improved handle is made of high quality aluminum and is equipped with a longer 1.2 inch knurl throughout the grip area for ease of use. It's only 5.5 inches long when assembled and resists loosening during unwrap operation. See below for specifications.



### Wrap Side

## Regular Wrap Tools

### Unwrapping Side



Regular Wrap

**NEW!**

| Part No        | Wire Size |           | Max. Insulation Diameter |    | Terminal Hole Diameter |      | Terminal Hole Depth |       | Outside Diameter |      |
|----------------|-----------|-----------|--------------------------|----|------------------------|------|---------------------|-------|------------------|------|
|                | AWG       | mm        | In.                      | mm | In.                    | mm   | In.                 | mm    | In.              | mm   |
| HWR18          | 18-19     | 1.00-0.91 | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .250             | 6.35 |
| HWR20          | 20        | 0.80      | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HWR22          | 22        | 0.65      | -                        | -  | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HWR224         | 22-24     | 0.50-0.65 | -                        | -  | .075                   | 1.90 | .807                | 20.50 | .218             | 5.53 |
| <b>HWUR224</b> | 22-24     | 0.50-0.65 | -                        | -  | .075                   | 1.90 | .807                | 20.50 | .218             | 5.53 |
| HWR224-1       | 22-24     | 0.50-0.65 | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HWR224L        | 22-24     | 0.50-0.65 | -                        | -  | .086                   | 2.18 | 1.000               | 25.40 | .218             | 5.53 |
| HWR24          | 24        | 0.50      | -                        | -  | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HWR24D         | 24        | 0.50      | -                        | -  | .075                   | 1.90 | 1.50                | 38.10 | .218             | 5.53 |
| HWR2426        | 24-26     | 0.40-0.50 | -                        | -  | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HWR2444*       | 24        | 0.50      | -                        | -  | .044                   | 1.11 | 1.000               | 25.40 | .156             | 3.96 |
| HWR26          | 26        | 0.40      | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |

| Terminal Hole Diameter |      | Terminal Hole Depth |       | Outside Diameter |      |
|------------------------|------|---------------------|-------|------------------|------|
| In.                    | mm   | In.                 | mm    | In.              | mm   |
| .075                   | 1.90 | 1.000               | 25.40 | .187             | 4.74 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .086                   | 2.18 | 1.000               | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |
| .038                   | 0.96 | 1.000               | 25.40 | .093             | 2.36 |
| .070                   | 1.77 | 1.000               | 25.40 | .156             | 3.96 |

### Wrap Side

## Modified Wrap Tools

### Unwrapping Side



Modified Wrap

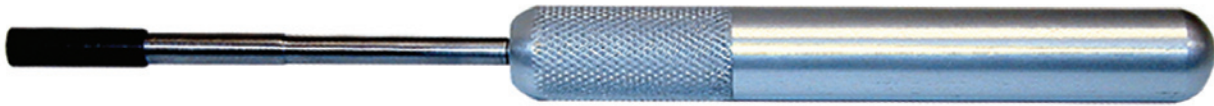
| Part No  | Wire Size |           | Max. Insulation Diameter |      | Terminal Hole Diameter |      | Terminal Hole Depth |       | Outside Diameter |      |
|----------|-----------|-----------|--------------------------|------|------------------------|------|---------------------|-------|------------------|------|
|          | AWG       | mm        | In.                      | mm   | In.                    | mm   | In.                 | mm    | In.              | mm   |
| HWM22    | 22        | 0.65      | .052                     | 1.32 | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HWM24    | 24        | 0.50      | .046                     | 1.17 | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HWM24D   | 24        | 0.50      | .050                     | 1.27 | .069                   | 1.75 | 1.125               | 28.50 | .218             | 5.53 |
| HWM2444* | 24        | 0.50      | .044                     | 1.11 | .044                   | 1.11 | .750                | 19.05 | .156             | 3.96 |
| HWM26    | 26        | 0.40      | .046                     | 1.17 | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HWM2640* | 26        | 0.40      | .031                     | 0.79 | .040                   | 1.02 | .750                | 19.05 | .125             | 3.17 |
| HWM28    | 28        | 0.32      | .030                     | 0.76 | .036                   | 0.91 | .750                | 19.05 | .125             | 3.17 |
| HWM2840* | 28-29     | 0.29-0.32 | .036                     | 0.91 | .040                   | 1.02 | .750                | 19.05 | .156             | 3.96 |
| HWM30*   | 30        | 0.25      | .027                     | 0.69 | .036                   | 0.91 | .750                | 19.05 | .125             | 3.17 |
| HWM3066  | 30        | 0.25      | .027                     | 0.69 | .066                   | 1.67 | 1.000               | 25.40 | .218             | 5.53 |

| Terminal Hole Diameter |      | Terminal Hole Depth |       | Outside Diameter |      |
|------------------------|------|---------------------|-------|------------------|------|
| In.                    | mm   | In.                 | mm    | In.              | mm   |
| .070                   | 1.77 | 1.00                | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.00                | 25.40 | .156             | 3.96 |
| .070                   | 1.77 | 1.00                | 25.40 | .156             | 3.96 |
| .038                   | 0.96 | 1.00                | 25.40 | .093             | 2.36 |
| .070                   | 1.77 | 1.00                | 25.40 | .156             | 3.96 |
| .038                   | 0.96 | 1.00                | 25.40 | .093             | 2.36 |
| .038                   | .096 | 1.00                | 25.40 | .093             | 2.36 |
| .038                   | 0.96 | 1.00                | 25.40 | .093             | 2.36 |
| .038                   | 0.96 | 1.00                | 25.40 | .093             | 2.36 |
| .070                   | 1.77 | 1.00                | 25.40 | .156             | 3.96 |

\* These tools are recommended for .025" square terminals on 0.100 centers / 0.63 mm on 2.54 mm centers.







## Regular Wrap Tools

| Part No | Wire Size |           | Max. Insulation Diameter |    | Terminal Hole Diameter |      | Terminal Hole Depth |       | Outside Diameter |      |
|---------|-----------|-----------|--------------------------|----|------------------------|------|---------------------|-------|------------------|------|
|         | AWG       | mm        | In.                      | mm | In.                    | mm   | In.                 | mm    | In.              | mm   |
| HR18    | 18-19     | 1.00-0.91 | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .250             | 6.35 |
| HR1920L | 20        | 0.80      | -                        | -  | .125                   | 3.17 | 1.000               | 25.40 | .250             | 6.35 |
| HR1920  | 20        | 0.80      | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HR22    | 22        | 0.65      | -                        | -  | .075                   | 1.90 | .750                | 25.40 | .218             | 5.53 |
| HR224   | 22-24     | 0.65-0.50 | -                        | -  | .075                   | 1.90 | .807                | 20.50 | .218             | 5.53 |
| HR224-1 | 22-24     | 0.65-0.50 | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HR224L  | 22-24     | 0.65-0.50 | -                        | -  | .086                   | 2.18 | 1.000               | 25.40 | .218             | 5.53 |
| HR24    | 24        | 0.50      | -                        | -  | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HR24D   | 24        | 0.50      | -                        | -  | .075                   | 1.90 | 1.500               | 38.10 | .218             | 5.53 |
| HR2444  | 24        | 0.50      | -                        | -  | .044                   | 1.11 | 1.000               | 25.40 | .156             | 3.96 |
| HR2426  | 24-26     | 0.50-0.40 | -                        | -  | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HR26    | 26        | 0.40      | -                        | -  | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |



## Modified Wrap Tools

| Part No | Wire Size |           | Max. Insulation Diameter |      | Terminal Hole Diameter |      | Terminal Hole Depth |       | Outside Diameter |      |
|---------|-----------|-----------|--------------------------|------|------------------------|------|---------------------|-------|------------------|------|
|         | AWG       | mm        | In.                      | mm   | In.                    | mm   | In.                 | mm    | In.              | mm   |
| HM20    | 20        | 0.80      | .058                     | 1.47 | .075                   | 1.90 | 1.000               | 25.40 | .250             | 6.35 |
| HM22    | 22        | 0.65      | .052                     | 1.32 | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HM24    | 24        | 0.50      | .046                     | 1.17 | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HM24D*  | 24        | 0.50      | .050                     | 1.27 | .069                   | 1.75 | 1.125               | 28.50 | .218             | 5.53 |
| HM2444* | 24        | 0.50      | .044                     | 1.11 | .044                   | 1.11 | .750                | 19.05 | .156             | 3.96 |
| HM2426  | 24-26     | 0.50-0.40 | .046                     | 1.17 | .075                   | 1.90 | .750                | 19.05 | .218             | 5.53 |
| HM26    | 26        | 0.40      | .046                     | 1.17 | .075                   | 1.90 | 1.000               | 25.40 | .218             | 5.53 |
| HM2640* | 26        | 0.40      | .031                     | 0.79 | .040                   | 1.02 | .750                | 19.05 | .125             | 3.17 |
| HM2669  | 26        | 0.40      | .041                     | 1.04 | .069                   | 1.75 | 1.000               | 25.40 | .218             | 5.53 |
| HM2840* | 28-29     | 0.32-0.29 | .036                     | 0.91 | .040                   | 1.02 | .750                | 19.05 | .156             | 3.96 |
| HM30    | 30        | 0.25      | .027                     | 0.69 | .036                   | 0.91 | .750                | 19.05 | .125             | 3.17 |
| HM30SP* | 30        | 0.25      | .027                     | 0.69 | .036                   | 0.91 | .750                | 19.05 | .125             | 3.17 |
| HM3066  | 30        | 0.25      | .027                     | 0.69 | .066                   | 1.67 | 1.000               | 25.40 | .218             | 5.53 |
| HM3040* | 30        | 0.25      | .027                     | 0.69 | .040                   | 1.02 | .750                | 19.05 | .125             | 3.17 |
| HM3043* | 30        | 0.25      | .027                     | 0.69 | .043                   | 1.09 | .750                | 19.05 | .125             | 3.17 |



\* These tools are recommended for .025" square terminals on 0.100 centers / 0.63 mm on 2.54 mm centers.



# Wrap/Strip/Unwrap Tools

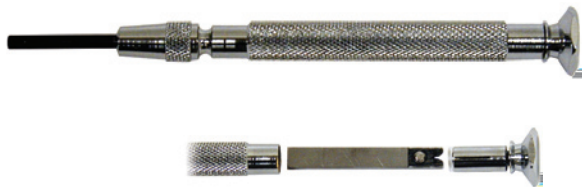
**Three tools in one!** With a compact design, these economic tools can wrap, strip, and unwrap wire with ease! Perfect for small repair, service work, and for any hobbyist.



| Part No. | Wire Size |           | Terminal Hole Dia. |      | Terminal Hole Depth |      | Outside Diameter |      | Wrap Type |
|----------|-----------|-----------|--------------------|------|---------------------|------|------------------|------|-----------|
|          | AWG       | mm        | In.                | mm   | In.                 | mm   | In.              | mm   |           |
| HSR224   | 22-24     | 0.65-0.50 | 0.075              | 1.90 | 1.50                | 38.1 | 0.213            | 5.40 | Reg       |
| HSR30    | 30        | 0.25      | 0.036              | 0.91 | 1.50                | 38.1 | 0.125            | 3.18 | Reg       |
| HSM30    | 30        | 0.25      | 0.075              | 0.91 | 1.50                | 38.1 | 0.125            | 3.18 | Mod       |

## Micro Hand Wrap/Strip Tool

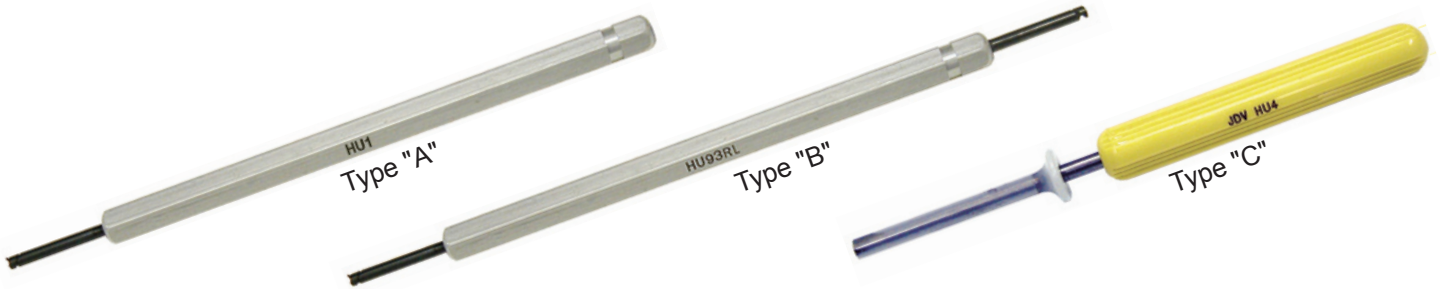
This unique tool is designed for regular or modified 30 AWG wire wraps, respectively on .025 in square terminals. Features a nickel-plated brass knurled handle with a storage cavity for the wire stripper, manually tightened collet for easy bit replacement and swivel end cap for effortless turning.



Wire Stripper in Handle

| Part No. | Wire Size |       | Terminal Hole Dia. |      | Terminal Hole Depth |       | Wrap Type |
|----------|-----------|-------|--------------------|------|---------------------|-------|-----------|
|          | AWG       | mm    | In.                | mm   | In.                 | mm    |           |
| MT30R    | 30        | 0.025 | 0.040              | 1.02 | 0.75                | 19.05 | Reg       |
| MT30M    | 30        | 0.025 | 0.036              | 0.91 | 0.75                | 19.05 | Mod       |

## Hand Unwrapping Tools



| Part No. | Type | Wire Size |           | Direction of Wrap |             | Terminal Hole Diameter |      | Terminal Hole Depth |       | Outside Diameter |      |
|----------|------|-----------|-----------|-------------------|-------------|------------------------|------|---------------------|-------|------------------|------|
|          |      | AWG       | mm        | CCW<br>↺ (L)      | CW<br>↻ (R) | In.                    | mm   | In.                 | mm    | In.              | mm   |
|          |      |           |           |                   |             |                        |      |                     |       |                  |      |
| HU75     | A    | 18-19     | 1.00-0.91 | *                 |             | .075                   | 1.90 | 1.000               | 25.40 | 0.187            | 4.74 |
| HU1      | A    | 20-26     | 0.80-0.40 | *                 |             | .070                   | 1.77 | 1.000               | 25.40 | 0.156            | 3.96 |
| HU2      | B    | 20-26     | 0.80-0.40 | *                 | *           | .070                   | 1.77 | 1.000               | 25.40 | 0.156            | 3.96 |
| HU4      | C    | 20-26     | 0.80-0.40 | *                 |             | .070                   | 1.77 | 2.360               | 60.00 | 0.187            | 4.74 |
| HU5      | C    | 20-26     | 0.80-0.40 | *                 | *           | .070                   | 1.77 | 2.360               | 60.00 | 0.187            | 4.74 |
| HU7      | A    | 20-26     | 0.80-0.40 | *                 |             | .086                   | 2.18 | 0.750               | 19.05 | 0.156            | 3.96 |
| HU8      | A    | 20-26     | 0.80-0.40 | *                 |             | .070                   | 1.77 | 1.500               | 38.10 | 0.120            | 3.04 |
| HU120    | A    | 20-26     | 0.80-0.40 | *                 |             | .070                   | 1.77 | 1.000               | 25.40 | 0.120            | 3.04 |
| HU120RL  | B    | 20-26     | 0.80-0.40 | *                 | *           | .070                   | 1.77 | 1.000               | 25.40 | 1.120            | 3.04 |
| HU93120  | B    | 24-32     | 0.50-0.20 | *                 |             | .038                   | 0.96 | 1.000               | 25.40 | 0.093            | 2.36 |
|          |      | 20-26     | 0.80-0.40 |                   |             | .070                   | 1.77 | 1.000               | 25.40 | 0.120            | 3.04 |
| HU93     | A    | 24-32     | 0.50-0.20 | *                 |             | .038                   | 0.96 | 1.000               | 25.40 | 0.093            | 2.36 |
| HU93L    | A    | 24-32     | 0.50-0.20 |                   | *           | .038                   | 0.96 | 1.000               | 25.40 | 0.093            | 2.36 |
| HU93RL   | B    | 24-32     | 0.50-0.20 | *                 | *           | .038                   | 0.96 | 1.000               | 25.40 | 0.093            | 2.36 |
| HU3      | C    | 28-32     | 0.32-0.20 | *                 | *           | .038                   | 0.96 | 0.750               | 19.05 | 0.156            | 3.96 |
| HU45     | A    | 20-26     | 0.80-0.40 | *                 |             | .045                   | 1.14 | 1.000               | 25.40 | 0.120            | 3.04 |



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# Semi-Automatic Wire Wrapping Systems

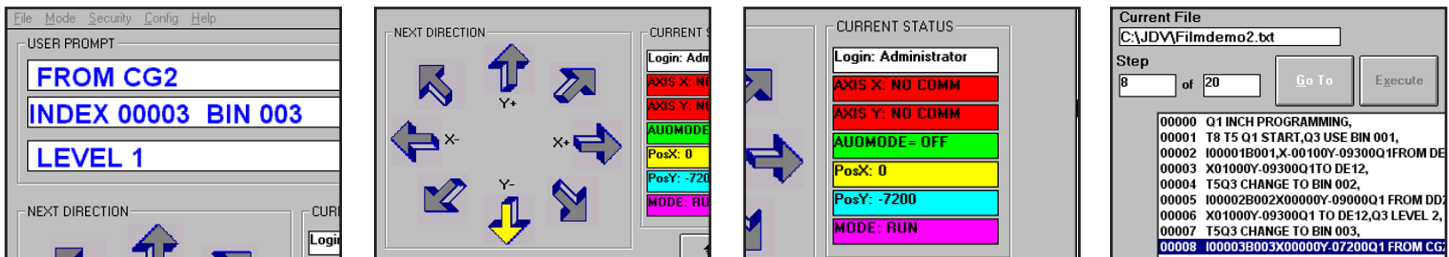


## Complete System Consists of:

- 1.) X-Y Wiring Table (see chart)
- 2.) Controller System, consisting of:
  - Controller
  - Manual
  - Software
  - Power Cable
  - Interface Cable
  - "Y" Connector
- 3.) Computer System
  - PC
  - Monitor
  - Keyboard & Mouse
- 4.) 40 Tube Wire Storage Bin
- 5.) Lift Base (Models SW3100 and SWT-3100 ONLY)

\* For a demonstration video, please visit our website

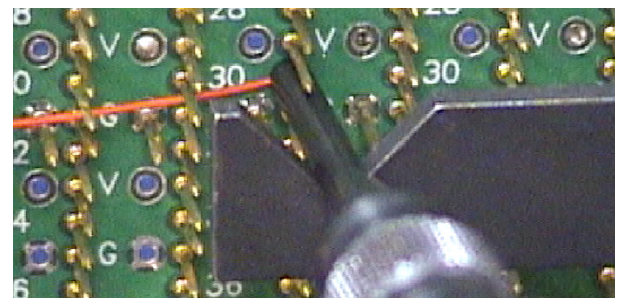
The SW-1100, SW-2100, and SW-3100 Semi-Automatic Wire Wrapping Systems are designed to significantly speed up the wire wrapping process by pointing the operator's wire wrap tool to the correct pins. This gives the operator step-by-step instruction through on-screen prompts, thus guiding the operator through the entire wire wrapping process.



The result is a ten-fold increase in production rate and the potential for significant reduction in technician error over manual wire wrapping. The systems are designed for ease-of-use, and are significantly more cost-effective than fully-automatic systems.

The newly designed Rapid Wrap System Controller incorporates many new features/benefits including:

- Parts programming in industry-proven ASCII format.
- User selectable units of measure
- Very simple WIN95/98 user interface.
- Maintains a time-stamped text log file of activities such as:
  - Starting and finishing a job
  - Last position (in case of power failures)
  - User and supervisor logins/logouts
- Easily networkable through WIN95/98 networking
- Prompts the operator with wire bin numbers
- Reduces potential for human error



| Complete Systems |  |  |  |  |  |
|------------------|--|--|--|--|--|
| <b>SW1100</b>    | Complete System with 20" x 20" X-Y Table               |  |  |  |  |
| <b>SW2100</b>    | Complete System with 40" x 30" X-Y Table               |  |  |  |  |
| <b>SW3100</b>    | Complete System with 40" x 30" X-Y Table and Lift Base |  |  |  |  |

| Part No. | Tables  |         |         | Computer System<br>SWS-2000 | Controller w/ Software<br>SWC-2000 | Wire Bin<br>SWB-40 |
|----------|---------|---------|---------|-----------------------------|------------------------------------|--------------------|
|          | SWT1100 | SWT2100 | SWT3100 |                             |                                    |                    |
| SW1100   | •       |         |         | •                           | •                                  | •                  |
| SW2100   |         | •       |         | •                           | •                                  | •                  |
| SW3100   |         |         | •       | •                           | •                                  | •                  |

| System Components |   |
|-------------------|---|
| <b>SWB40</b>      | 40 Tube Wire Storage Bin                    |
| <b>SWC2000</b>    | Controller System with Software             |
| <b>SWS2000</b>    | Computer System                             |
| <b>SWT1100</b>    | X-Y Table 20" x 20" Wire Area               |
| <b>SWT2100</b>    | X-Y Table 40" x 30" Wire Area               |
| <b>SWT3100</b>    | X-Y Table 40" x 30" with Electric Lift Base |
| <b>SWRCC</b>      | Retrofit Connector Cable Assembly           |
| <b>SWLB115</b>    | Electric Lift Base, 115 Volts               |
| <b>SWLB230</b>    | Electric Lift Base, 230 Volts               |

# Wire

## Wire Rolls

- Kynar™ insulated wire
- Silver plated copper wire conductor
- UL listed
- Additional colors, gauges, and larger roll sizes up to 20,000 feet are special order only. Call for details.



| Wire |      | Insulation DIA |      | Roll Size |     | Part No. |         |         |         |          |
|------|------|----------------|------|-----------|-----|----------|---------|---------|---------|----------|
| AWG  | mm   | Inch           | mm   | ft.       | m   | White    | Yellow  | Blue    | Red     | Black    |
| 24   | 0.50 | 0.030          | 0.76 | 500       | 152 | WR24W-D  | WR24Y-D | WR24B-D | WR24R-D | WR24BL-D |
|      |      |                |      | 1000      | 304 | WR24W-M  | WR24Y-M | WR24B-M | WR24R-M | WR24BL-M |
| 26   | 0.40 | .027           | 0.69 | 500       | 152 | WR26W-D  | WR26Y-D | WR26B-D | WR26R-D | WR26BL-D |
|      |      |                |      | 1000      | 304 | WR26W-M  | WR26Y-M | WR26B-M | WR26R-M | WR26BL-M |
| 28   | 0.32 | .024           | 0.60 | 500       | 152 | WR28W-D  | WR28Y-D | WR28B-D | WR28R-D | WR28BL-D |
|      |      |                |      | 1000      | 304 | WR28W-M  | WR28Y-M | WR28B-M | WR28R-M | WR28BL-M |
| 30   | 0.25 | .0195          | 0.50 | 500       | 152 | WR30W-D  | WR30Y-D | WR30B-D | WR30R-D | WR30BL-D |
|      |      |                |      | 1000      | 304 | WR30W-M  | WR30Y-M | WR30B-M | WR30R-M | WR30BL-M |

## Pre-Cut & Stripped Wire

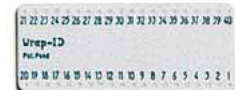
- 1" (25.4mm) strip-off length (both ends)
- Kynar™ insulated
- Silver plated copper conductor
- 0.0195" (0.50mm) Insulation diameter
- UL listed



| Insulation Length |     | Part No. (500 Piece Pack) |         |         |         |          |
|-------------------|-----|---------------------------|---------|---------|---------|----------|
| In                | mm  | White                     | Yellow  | Blue    | Red     | Black    |
| 1                 | 25  | W30W010                   | W30Y010 | W30B010 | W30R010 | W30BL010 |
| 1.5               | 38  | W30W015                   | W30Y015 | W30B015 | W30R015 | W30BL015 |
| 2                 | 51  | W30W020                   | W30Y020 | W30B020 | W30R020 | W30BL020 |
| 2.5               | 63  | W30W025                   | W30Y025 | W30B025 | W30R025 | W30BL025 |
| 3                 | 76  | W30W030                   | W30Y030 | W30B030 | W30R030 | W30BL030 |
| 3.5               | 89  | W30W035                   | W30Y035 | W30B035 | W30R035 | W30BL035 |
| 4                 | 101 | W30W040                   | W30Y040 | W30B040 | W30R040 | W30BL040 |
| 4.5               | 114 | W30W045                   | W30Y045 | W30B045 | W30R045 | W30BL045 |
| 5                 | 127 | W30W050                   | W30Y050 | W30B050 | W30R050 | W30BL050 |
| 6                 | 152 | W30W060                   | W30Y060 | W30B060 | W30R060 | W30BL060 |
| 7                 | 178 | W30W070                   | W30Y070 | W30B070 | W30R070 | W30BL070 |
| 8                 | 203 | W30W080                   | W30Y080 | W30B080 | W30R080 | W30BL080 |
| 9                 | 228 | W30W090                   | W30Y090 | W30B090 | W30R090 | W30BL090 |
| 10                | 254 | W30W100                   | W30Y100 | W30B100 | W30R100 | W30BL100 |

## Wrap ID Tags

These tags are used to identify pin numbers on wrapping sockets. Consisting of a socket-sized plastic panel with numbered holes in the pin location, the ID tag is slipped onto the socket before wrapping. They can also be written on for easy identification of location, IC part number, function, etc. These unique items greatly simplify both initial wire wrapping and subsequent troubleshooting or repair. A great help to technicians and production facilities alike.



| Part No. | Pins | Row Spacing |     | Qty/ Pkg. | Part No. | Pins | Row Spacing |     | Qty/ Pkg. |
|----------|------|-------------|-----|-----------|----------|------|-------------|-----|-----------|
|          |      | Inch        | mm  |           |          |      | Inch        | mm  |           |
| ID8      | 8    | 0.3         | 7.5 | 100       | ID24-3   | 24   | 0.3         | 7.5 | 50        |
| ID14     | 14   | 0.3         | 7.5 | 100       | ID24-4   | 24   | 0.4         | 10  | 50        |
| ID16     | 16   | 0.3         | 7.5 | 100       | ID24     | 24   | 0.6         | 15  | 50        |
| ID18     | 18   | 0.3         | 7.5 | 50        | ID28     | 28   | 0.6         | 15  | 25        |
| ID20     | 20   | 0.3         | 7.5 | 50        | ID40     | 40   | 0.6         | 15  | 25        |
| ID22     | 22   | 0.4         | 10  | 50        | ID96     | 96   | 0.3         | 7.5 | 25        |





## LED Flashlight Bracket Assy.

The New FL100 is the perfect tool to illuminate the working area while making wire wrap connections. It's equipped with a high-density LED light providing operators with 15 hours of consecutive illumination when needed. With a simple flick of a switch, the beam of the light can be easily adjusted to intersect with the tips of 3" and 5" wrapping bits. Easily mounts on top of JDV's aluminum or Lexan® manual wire wrap tools as well as most competitor's models.

| Part No | Description                        |
|---------|------------------------------------|
| FL100   | LED Flashlight Bracket Assy        |
| FL-LED  | Replacement LED Light              |
| FL-BKT  | Replacement Bracket w/Hardware     |
| FL-BT   | Replacement Batteries, Set of 2pcs |



Shown with NEW Insulated WG800 model wrap tool

\* For more information on manual wire wrapping tools, please see page 4

**NEW & IMPROVED DESIGN**



TH251R

**Left-Handed Now Available!**



TH251L

## Deep Cavity Tool Pouch

The New TH251's deeper cavity gives the room needed for storing the wrapping gun with the bit/sleeve still attached to the tool.

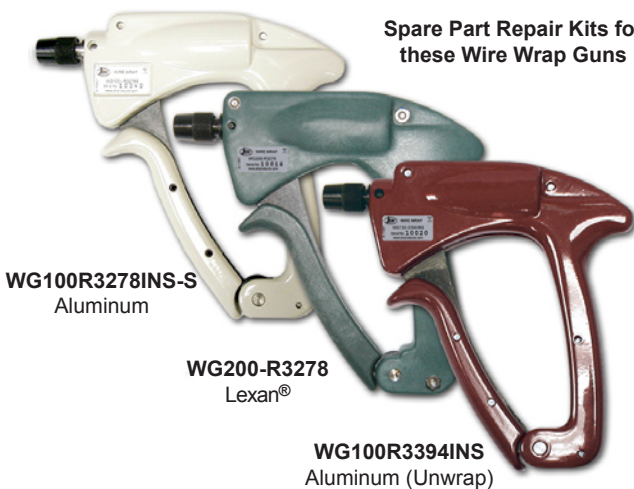
Great for carrying any JDV manual, battery, or electric operated wrapping guns along with accessory tools such as wrapping bits/sleeves, hand wrap/unwrap tools, and cut/strip tools.

| Part No | Type         | Description             |
|---------|--------------|-------------------------|
| TH251R  | Right-Handed | Nylon Wire Wrap Holster |
| TH251L  | Left-Handed  | Nylon Wire Wrap Holster |

\* For Wire Wrap Tool Kits, please see page 16

## Spare Part Kits for Manual Wire Wrap & Unwrap Tools

Spare Part Repair Kits for these Wire Wrap Guns



WG100R3278INS-S  
Aluminum

WG200-R3278  
Lexan®

WG100R3394INS  
Aluminum (Unwrap)



### KIT-A

For Aluminum and Lexan® models

**Includes**

- Spindle (Barrel Assembly)
- Large Gear Assembly
- Small Packet of Grease



### KIT-B - For Aluminum models

**KIT-C - For Lexan® models**

**Includes**

- Spindle (Barrel Assembly)
- Large Gear Assembly
- Small Packet of Grease
- 2 Coil Springs
- Screws
- Rubber Stops



# Wire Wrap Tool Kits

These telecom wire wrap tool kits are designed to provide field service with a complete line of tools to perform regular wraps, unwrap, and strip wires in two wire gauge sets: 22 and 24 AWG or 24 and 26 AWG.

Follow the three easy steps to customize your preferred kit:

## STEP 1



## STEP 2



## WIRE WRAP KIT

Begin with a Starter kit

Select a Wire Wrap Tool of your choice

Now that you know which wrap gun you prefer, the last step is to choose the kit part number for your application: 22-24 AWG or 24-26 AWG?



Starter Kit includes all of the essential tools you need for making wire wrap connections for 22-24 AWG or 24-26 AWG applications.

- |                        |                        |
|------------------------|------------------------|
| <b>22-24 AWG Kits:</b> | <b>24-26 AWG Kits:</b> |
| • TH251R               | • TH251R               |
| • BR224 / S171R        | • BR2426 / S159Y       |
| • HR224                | • HR2426               |
| • HU4                  | • HU4                  |
| • WS100-224            | • WS100-2426           |



**WG800**  
**INSULATED**  
**Manual Wrap Tool**

| Part No.           | Description  |
|--------------------|--|
| <b>KTW800-224</b>  | Kit w/ Manually Operated <b>INSULATED</b> Wrap Tool<br>22-24 AWG |
| <b>KTW800-2426</b> | Kit w/ Manually Operated <b>INSULATED</b> Wrap Tool<br>24-26 AWG |



**WG200**  
**Manual Wrap Tool**

| Part No.           | Description  |
|--------------------|--|
| <b>KTW200-224</b>  | Kit w/ Manually Operated Lexan® Wrap Tool<br>22-24 AWG |
| <b>KTW200-2426</b> | Manually Operated Lexan® Wrap Tool<br>24-26 AWG        |



**WG601**  
**Electric Wrap Tool**

| Part No.           | Description                                    |
|--------------------|--|
| <b>KTW601-224</b>  | Kit w/ 120V AC Operated Wrap Tool<br>22-24 AWG |
| <b>KTW601-2426</b> | Kit w/ 120V AC Operated Wrap Tool<br>24-26 AWG |



**WG500**  
**Battery**  
**Wrap/Unwrap Tool**  
(Tool, Charger, 1 Battery)

| Part No.           | Description   |
|--------------------|---|
| <b>KTW500-224</b>  | Kit w/ Battery Operated Wrap/Unwrap Tool<br>22-24 AWG |
| <b>KTW500-2426</b> | Kit w/ Battery Operated Wrap/Unwrap Tool<br>24-26 AWG |



# Punch Down Tool, Wrenches, Accessories

## Punch Down Tool

JDV's PD207 punch down tool inserts and cuts cable terminations effortlessly. The impact absorbing cushioned grip reduces operator stress for high volume installers. The adjustable high/low actuation setting accommodates termination requirements as well as operator preference. It's equipped with a storage compartment for spare blades for preventing blade loss.

(Replacement blades sold separately)

| Part No. | Description  |
|----------|--|
| PD207    | Punch Down Tool (no blade)                           |
| PD207-A  | Replacement Blade, Use on 66 Type Terminal Block     |
| PD207-B  | Replacement Blade, Use on 110/88 Type Terminal Block |



Blades are conveniently stored in the handle



## Double-End Hex Can Wrench

JDV's CW737 can wrench features a 3/8" black finish and 7/16" silver finish hex end for opening telecommunication cabinets, pedestals, placing fuses in cable terminals, connecting wires to fuses, and for tightening nuts on binding post terminals. The walls on both sockets are thin enough so it can be used to work locking devices on most terminals and cabinets. Handle is made of high quality plastic and has a 7 inch overall length.

## JDV "C" Regulator Wrench

The YC1116 "C" Regulator Wrench is used for cylinder and hose connection nuts on pressure testing regulators and for the hex nuts on gas manifolds and cylinder connectors.

The openings accommodate nut widths of 11/16", 1-1/8", and 1-3/16".



## Wire Cutter / Stripper

JDV's WS208 strips and cuts wire from 10-20 AWG (4-0.5 mm). Designed with PVC handle grips for comfort, a spring return mechanism to open position, and is only 5 inches in length.



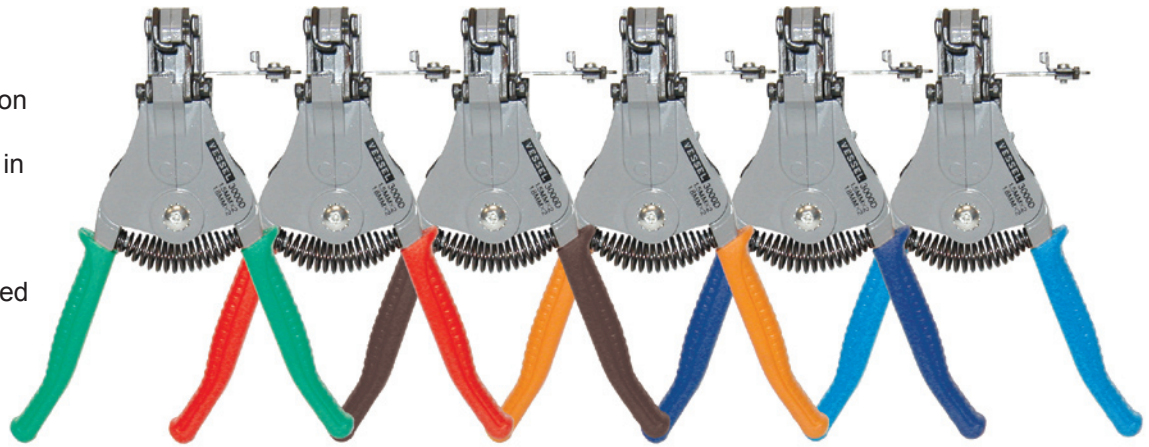


# Wire Strippers

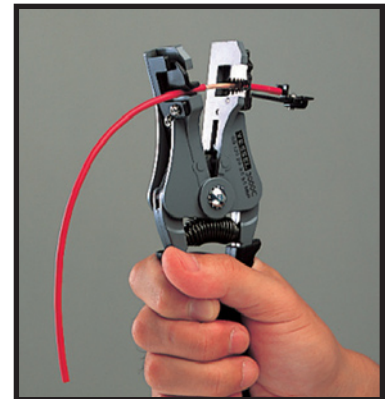


## 3000 Series

- Excellent tool for stripping vinyl insulation
- Perfect and quick stripping of insulation in one operation
- Provides the Ideal Cleaning Surface
- Ergonomically designed plastic grip
- 6 styles according to wire diameter



| Part No. | Length (mm) | Weight (g) | Wire Core Diameters/Square  | Handle Color |
|----------|-------------|------------|---|--------------|
| 3000A    | 170         | 350        | 0.5/1.2/1.6/2.0mm (solid wire)  | Green        |
| 3000B    | 170         | 350        | 1.0/1.6/2.0/2.6/3.2mm (solid wire)  | Red          |
| 3000C    | 170         | 350        | 0.9/1.25/2.0/3.5/5.5mm <sup>2</sup> (for strand wire)                                       | Black        |
| 3000D    | 170         | 350        | 0.75mm <sup>2</sup> x2 cores/1.25mm <sup>2</sup> x <sup>2</sup> cores (for flat vinyl wire) | Orange       |
| 3000G    | 170         | 350        | 3.8mm/5.6mm/core line (coaxial cable wire 3C2V, 5C2V)                                       | Dk. Blue     |
| 3000VA   | 170         | 350        | 1.6mm x2 cores/2.0mm x <sup>2</sup> (VAIV wire)   | Blue         |



## Replacement Blades



## 3500E-1

- Lightweight (100g)
- Diamond polished blade for precision stripping
- AWG-mm-mm2 conversion table on grip
- Locking lever
- Wire core sizes:
  - 24 AWG
  - 22 AWG
  - 20 AWG
  - 18 AWG
  - 16 AWG
  - 14 AWG
  - 12 AWG



## 3500E-2

- Lightweight (100g)
- Diamond polished blade for precision stripping
- AWG-mm-mm2 conversion table on grip
- Locking lever
- Wire core sizes:
  - 30 AWG
  - 28 AWG
  - 26 AWG
  - 24 AWG
  - 22 AWG
  - 20 AWG
  - 18 AWG



# Wire Cut and Strip Tools

## WS100 Series

| Part No.   | Wire Size |           | Adjustable Strip-off Length |                |
|------------|-----------|-----------|-----------------------------|----------------|
|            | AWG       | mm        | In.                         | mm             |
| WS100-22   | 22        | 0.65      | 1-5/16" to 1-9/16"          | 33.33 to 39.68 |
| WS100-224  | 22-24     | 0.65-0.50 | 1-5/16" to 1-9/16"          | 33.33 to 39.68 |
| WS100-24   | 24        | 0.50      | 1-5/16" to 1-9/16"          | 33.33 to 39.68 |
| WS100-2426 | 24-26     | 0.50-0.40 | 1-5/16" to 1-11/16"         | 33.33 to 42.86 |
| WS100-26   | 26        | 0.40      | 1-5/16" to 1-11/16"         | 33.33 to 42.86 |
| WS100-28   | 28        | 0.32      | 7/8" to 1-1/8"              | 22.22 to 28.57 |
| WS100-30   | 30        | 0.25      | 7/8" to 1-1/8"              | 22.22 to 28.57 |



A compact and simple tool for easy and clean stripping of wires for wire wrapping, as well as electronic and appliance applications. This tool is designed for maximum efficiency. Easy to operate... place wire (up to 4) in stripping slot with ends extending beyond cutter blades... press tool and pull... wire is cut and stripped to proper "wire wrapping" length. The hardened steel cutting blades and sturdy construction of the tool ensure long life. Strip length is easily adjustable for your application.

## WS3907 Series

| Part No.    | Wire Size |           | Adjustable Strip-off Length |                |
|-------------|-----------|-----------|-----------------------------|----------------|
|             | AWG       | mm        | In.                         | mm             |
| WS3907-22   | 22        | 0.65      | 1-1/2" to 1-3/4"            | 38.10 to 44.45 |
| WS3907-224  | 22-24     | 0.65-0.50 | 1-1/2" to 1-3/4"            | 38.10 to 44.45 |
| WS3907-24   | 24        | 0.50      | 1-1/2" to 1-3/4"            | 38.10 to 44.45 |
| WS3907-2426 | 24-26     | 0.50-0.40 | 1-1/2" to 1-3/4"            | 38.10 to 44.45 |
| WS3907-26   | 26        | 0.40      | 1-1/2" to 1-3/4"            | 38.10 to 44.45 |
| WS3907-28   | 28        | 0.32      | 7/8" to 1-1/8"              | 22.22 to 28.57 |
| WS3907-30   | 30        | 0.25      | 7/8" to 1-1/8"              | 22.22 to 28.57 |



For applications requiring multiple cuts and strips of the same gauge wire, the WS3907 is the most effective tool. Easy to operate... place the wires in stripping slot with ends extending beyond cutter blades... press tool and pull... wire is cut and stripped to proper "wire wrapping" length. The plastic grips and soft rubber sleeve assures maximum handling comfort and slip-free gripping.

## WS4473 Series

| Part No. | Wire Size |           | Adjustable Strip-off Length |      |
|----------|-----------|-----------|-----------------------------|------|
|          | AWG       | mm        | In.                         | mm   |
| WS4473   | 2-24      | 0.65-0.50 | 7/8"                        | 22.2 |
|          | 24-26     | 0.50-0.40 |                             |      |
| WS4473C  | 22-24     | 0.65-0.50 | to                          | to   |
|          | 24-26     | 0.50-0.40 |                             |      |
|          | 28        | 0.32      | 2"                          | 55.8 |
|          | 30        | 0.25      |                             |      |



When combinations of wire gauges and longer strip-off lengths are required, the WS4473 should be selected. Two models are available: the WS4473 is furnished with combination blades for 22-26 AWG wire, and the WS4473C is furnished with combination blades for 22-30 AWG wire. Blades are easily interchangeable on the blade post. This tool is furnished with rust-resistant, oiled, black oxide coating and soft sponge-like grips.

## WS200 Series "The Gatling"

| Part No. | Wire Size |      | Adjustable Strip-off Length |      |
|----------|-----------|------|-----------------------------|------|
|          | AWG       | mm   | In.                         | mm   |
| WS201    | 22        | 0.65 | 1-1/8"                      | 28.6 |
|          | 24        | 0.50 | to                          | to   |
|          | 26        | 0.40 | 2"                          | 50.8 |
| WS202    | 26        | 0.40 | 7/8"                        | 22.2 |
|          | 28        | 0.32 | to                          | to   |
|          | 30        | 0.25 | 1-7/8"                      | 28.6 |



The "Gatling" hits all the targets! This is the latest innovative tool from JDV Products. Two models are available, each with a tripple stripper (3 wire gaps) in one tool. The WS201 will cut and strip 22, 24, and 26 AWG wire with no blade change required. The WS202 will cut and strip 26, 28, and 30 AWG wire with no blade change. Each tool is equipped with an easy to use dial mechanism that will move the blade along the blade post to vary the shiner (strip-off) length.

Replacement blades are available for each model. Please call JDV for details

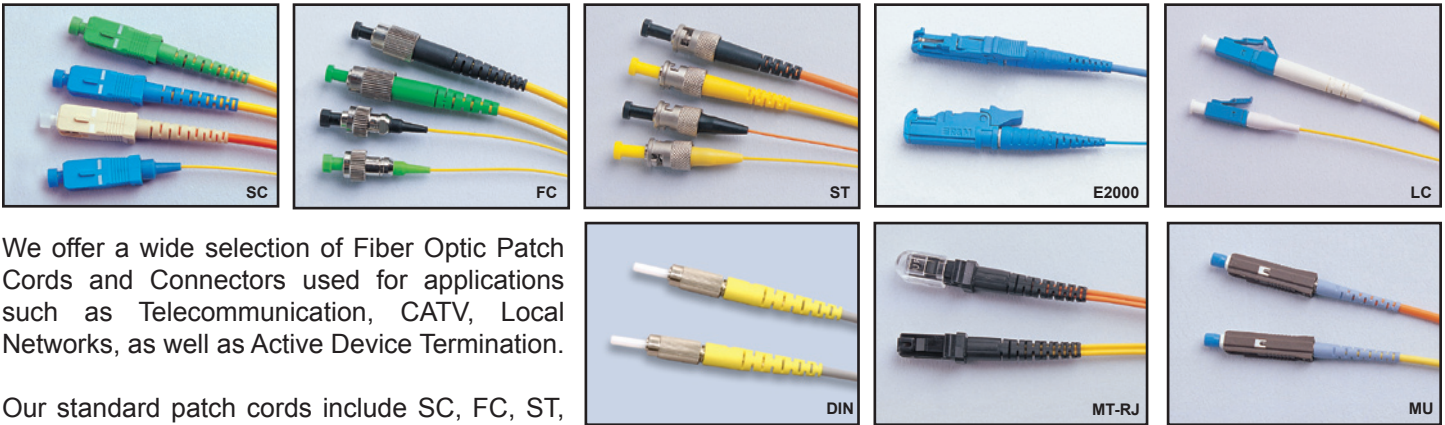


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# Fiber Optic Patchcords

## **OPTICAL FIBER** PATCH CORDS & CONNECTORS



We offer a wide selection of Fiber Optic Patch Cords and Connectors used for applications such as Telecommunication, CATV, Local Networks, as well as Active Device Termination.

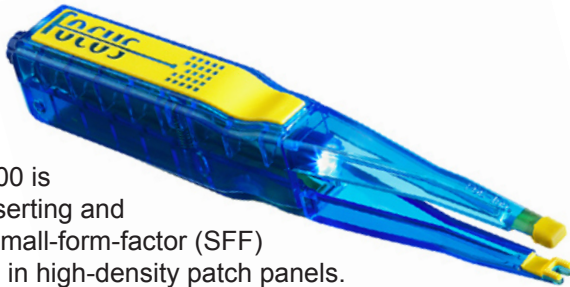
Our standard patch cords include SC, FC, ST, and LC type connectors with factory tested 100% optical performance. These items have precision ceramic ferrules with endface and are compliant with JIS C-5973, IEC, and Bellcore.

If needed, JDV can supply special models including E2000, DIN, MU, MT-RJ, and MPO. Customized assemblies are available which include lengths, connector style, and performance.

For specifications or ordering information, please contact JDV.

| Characteristics            | Conditions                                | Values         |
|----------------------------|---|----------------|
| <b>Insertion Loss</b>      | Against Reference Connector               | <0.1dB, <0.2dB |
| <b>Return Loss</b>         | UPC                                       | >55dB          |
| <b>Durability</b>          | APC                                       | >65dB          |
| <b>Temperature Cycling</b> | 5000 Times                                | <0.2dB         |
| <b>Humidity Cycling</b>    | -40~+80°C (21 Cycles), 168hr              | <0.2dB         |
| <b>Vibration</b>           | -10~+65°C, 95%RH, 168hr                   | <0.2dB         |
| <b>Flex Test</b>           | 20G, 20~2000Hz, 4min/Cy, axis, 6 axis     | <0.2dB         |
| <b>Twist Test</b>          | 0° ->90° ->0° -> 90°, 5Kgf (100 cycles)   | <0.2dB         |
| <b>Straight Pull Test</b>  | 100N Load, 5 sec at least                 | <0.2dB         |
| <b>Impact</b>              | 5 Times/Direction, 6 Direction, 500G, 1ms | <0.2dB         |

### Fiber Connector Insertion & Removal Tool



The PCR100 is ideal for inserting and removing small-form-factor (SFF) connectors in high-density patch panels. Works with SC, SC2, MU, LC, and MTRJ connectors and different cables, including 2mm, 3mm, 1.6mm, jacketed, and 900um buffered cables.

This ergonomically designed tool is equipped with a spring-loaded handle, non-conducting material, and can be used inside or outside environments with an operating temperature of -40°C to +95°C.

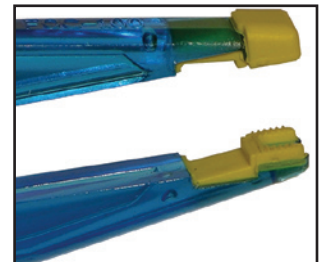
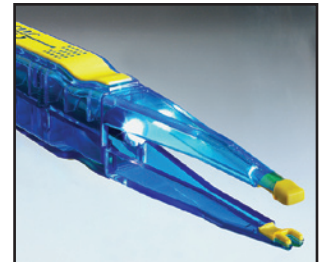
| Specifications:                        |                     |
|--|---------------------|
| <b>Tool Weight *</b>                   | 5.9 oz/ 167 grams   |
| <b>Tool Length</b>                     | 8.436 in / 214.2 mm |
| <b>Tool Width</b>                      | 1.170 in / 28.7 mm  |
| <b>Tip Width</b>                       | 0.309 in / 7.8 mm   |
| * Weight includes installed flashlight |                     |

Equipped with a removable flashlight for illuminating ports and connectors in low-light environments.

Replaceable flashlight Part No. PCRL100

Long, narrow jaws reach back of patch panel enclosures with ease. Jaws are spring-loaded and will not lock onto the connector; which prevents damage to connector and cable.

Universal tips are made of special material in order to provide firm grasp on small form-factor connectors.





## How to Clean Fiber Optic Connections using the Combination Cleaning Method



1. Spray a minimal amount of Electro-Wash on wipe
2. Press fiber optic surface to wipe, and pull across the surface
3. Check your work with a fiber scope or other equipment
4. Each section of wipe can be used a multiple of times without using the same surface twice.

## Fiber Optic Cleaning

### Specifications:

- A complete Fiber Optic Cleaning System with no costly refills or investments in expensive mechanisms to maintain
- The combination cleaning method by choice! Delivers effective "wet" and "dry" connector cleaning
- Provides the Ideal Cleaning Surface
- Portable cleaning system easily fits in tool cases or stores on work benches
- A Heavy-Duty Lint-Free Wiping Material tough enough to remove buffer-gel, yet soft enough for all end-face cleaning
- Won't shred or tear

### Applications:

- End-face connector cleaning
- Splice preparation
- Buffer gel removal



ES1210



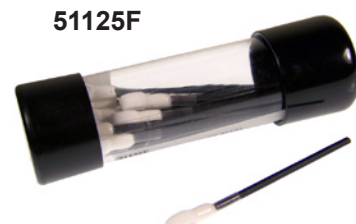
48042F



38542F



51125F



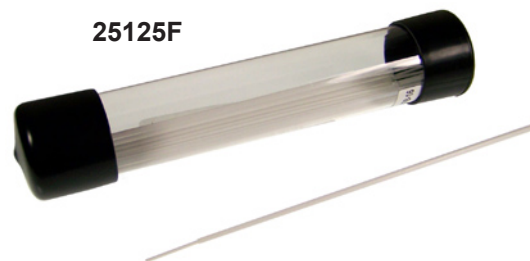
| Part No. | Description   |
|----------|---|
| QbE      | Wipes for Open End Faces, 200 per box                 |
| QbE-R    | Wipes for Recessed Faces, 200 per box                 |
| 25125F   | 1.25mm Open End Face Cleaning Swab, 15 per tube       |
| 48042F   | 2.5mm Fiber Optic Foam Swab, 50 Swabs per tube        |
| 38542F   | V-Groove & Ceramic Ferrule Cleaning Swab, 50 per tube |
| 51125F   | Fusion Splice Mirror Cleaning Swab, 15 per tube       |
| ES1210   | Electro Wash, 5 oz can                                |

Complete Cleaning Kits also available. Please call JDV for details.



Precision cleaning swabs specifically designed to clean micro-contamination encountered in fiber optic telecommunications. From removing end-face contamination on a fiber optic connector, to cleaning contamination from your fusion splicer, these ultra-clean swabs will make clear, clean and safe connections, fast and easy. These swabs keep contamination out of your processes, and perform consistently.

25125F



# Fiber Optic Cleavers

## **NEW!** SMART CLEAVER

### Single Action Cleavers

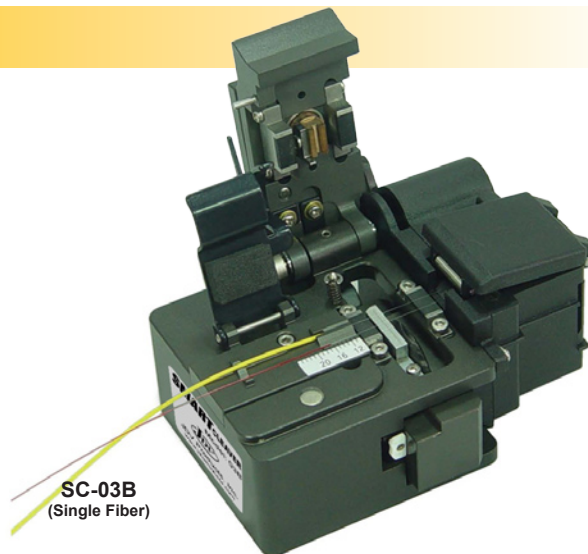
These units are small and compact and are perfect for making high precision preparation of single and ribbon fiber cables.

Most conventional fiber cleavers in the marketplaces are manual type cleavers, which require multiple steps in order to cleave the fibers, until now. The JDV *SMART Cleavers* (models SC-03 & SC-02) only require **ONE single action** to cleave the fibers after loading.

Our model SC-03B is a single fiber cleaver, and model SC-03M is a ribbon fiber cleaver for up to 12-ribbon fiber counts. Both models include a waste fiber collector for safe disposal of scrap fibers as well as a built-in maintenance tool attachment.

### Multi Action Cleavers

Manual (multi-action) cleavers available and are fully applicable for high preparation for single fibers and 12-ribbon fiber counts. Model SC-01B equipped with fiber collector and SC-01A is normal version without fiber collector. Equipped with compact design, scratch-free anodized body surface, and a built-in maintenance tool attachment.



SC-03B  
(Single Fiber)

**SINGLE-ACTION CLEAVE!**

**Fiber Loading**

SC-03M  
(Ribbon Fiber)

↓

**Operation Complete!**

| Part No.    | Description   |
|-------------|---|
| SC-03B      | Single-Action Cleaver for Single Fiber, w/Fiber Collector             |
| SC-03M      | Single-Action Cleaver for Ribbon Fiber, w/Fiber Collector             |
| SC-02       | Single-Action Cleaver for Single and Ribbon Fiber, No Fiber Collector |
| SC-01A      | Multi-Action Cleaver for Single and Ribbon Fiber, No Fiber Collector  |
| SC-01B      | Multi-Action Cleaver for Single and Ribbon Fiber, w/Fiber Collector   |
| Accessories |   |
| SCB-05      | Replacement Cleave Blade (SC-01 & SC-02)                              |
| SCG-01      | Gauge for SC-01 & SC-02 Series Cleavers                               |

### TECHNICAL PARAMETERS & SPECIFICATIONS

|                         | Cleave Series      |                    |                      |
|-------------------------|--------------------|--------------------|----------------------|
|                         | SC-03              | SC-02              | SC-01                |
| <b>Fiber Diameter</b>   | 125 μm             | 125 μm             | 125 μm               |
| <b>Coating Diameter</b> | 250~900 μm         | 250~900 μm         | 250~900 μm           |
| <b>Cleave Angle</b>     | 90° +/- 0.5°       | 0.5°               | 90° +/- 0.5°         |
| <b>Cleave Length</b>    | B: 5~20mm, M: 10mm | B: 5~20mm, M: 10mm | A/B: 5~20mm, M: 10mm |
| <b>Blade Lifetime</b>   | 48,000 Fibers      | 48,000 Fibers      | 48,000 Fibers        |
| <b>Outfit Dimension</b> | 88 x 55 x 48 (mm)  | 84 x 65 x 54 (mm)  | 58 x 55 x 48 (mm)    |
| <b>Weight</b>           | 360 (g)            | 470 (g)            | 360 (g)              |

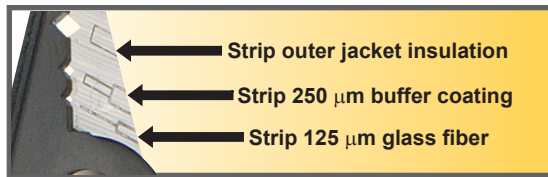


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# Fiber Optic Strippers & Cutting Shears

## Shears for Fiber Optics

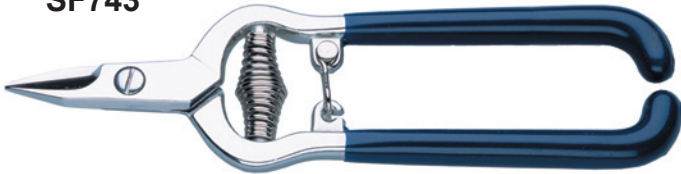
Three tools in one! The FS216 strips 125 micron glass fibers with 250 micron buffer coating without scratching or nicking the glass fiber. Equipped with a lock, stopper, spring-loaded handle, and is 5.9" (150mm) in length.



**A Hi-Leverage Kevlar snip** with 6 1/2" of ergonomic cutting action! Featuring an automatic return spring, special design blades, cushion grip handles, and a top blade with precision serrated cutting edges. This is the ideal snip for trimming back the Dupont Kevlar® that serves as the shield in optical fiber.

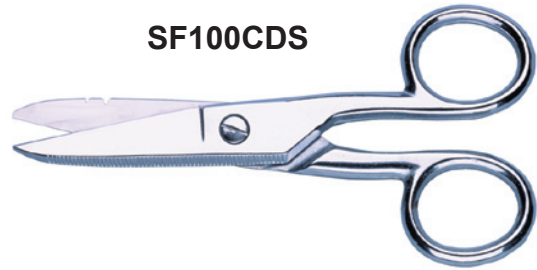
*Kevlar is a registered trademark of Dupont*

**SF743**



The most widely used tool in the communication market. The SF100CDS has a chrome over nickel plating and wire stripping notches for 19 and 23 AWG wire. The bottom blade has deep serrations the full length of the cutting edge. A file and scraper are featured on the back of the blades, making this tool also excellent for cleaning wire.

**SF100CDS**



## Shears for Copper Cable

**SC152S**



### Stainless Cable Splicer Snip

**Tired of rusty tools?** Do your hands get irritated from plating issues? This hot-forged ice-tempered stainless Electrician Snip resolves both these issues. The SC152S is made from 420 Stainless steel with a Rockwell of 57 for long-lasting cutting edges.

Perfect for Telecom! This Free-Running style snip is ergonomically designed for a cleaner, quicker, and effortless cut; minimizing fatigue and strain on the wrist. The large ring has a soft blue coated handle that nests in the palm of your hand and stripping notches for 19 & 23 AWG wire. One blade is fully serrated for Sure-Grip cutting action. High-carbon steel, nickel plated.

**SC149**



**SC100J**



The unique protruding tip allows crews to cut open jackets on telecom cables in a safe and efficient manner. The knife doubles in function as an installation and repair crew wire splicing and skinning knife. Hot-forged nickel-plated, Rockwell 57 on the "C" scale. Handle is coated with blue non-slip surface. Industrial finish.





# Cable Preparation Tools

## Cable Stripper

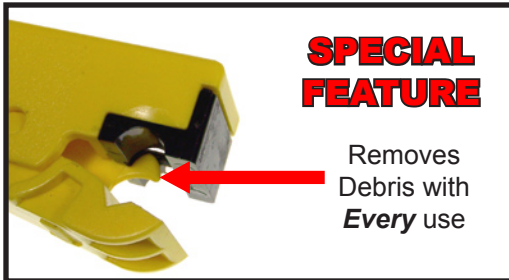
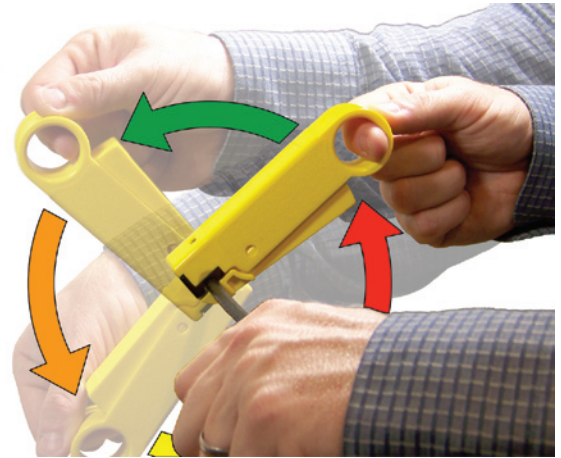


JDV's CSDT-6590 drop stripping tool ensures quality connections and satisfied customers every time. Lightweight and yet rugged enough for the toughest jobs, these tools are virtually indestructible.

Works on 6-, 59-, 7-, and 11- series cables with both standard and quad shields and is equipped with high quality tool-steel blades for long life, clean-out feature for removing debris with each use, and replacement cartridges that snap into place.

With ease, the CSDT-6590 removes the right amount of cable jacket, cut the braid and dielectric to the proper length and expose the center conductor. Quality steel blades ensure 2500~5000\* preparations with each cartridge.

(\* Number of preparations depends on braid coverage.)



### SPECIAL FEATURE





Removes Debris with **Every** use

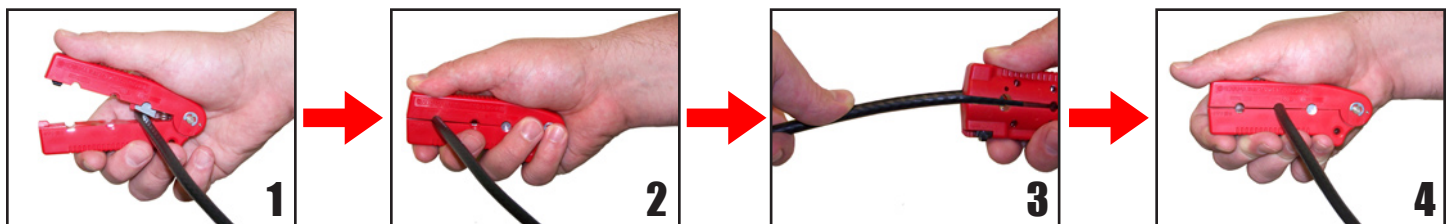
## Cable Stripper

The CSTS3 and CSTS5 coax cable strippers are perfect economy tools for stripping 3C-2V and 5C-2V/5C-FB applications.

Features include a compact and lightweight body, high quality cutting blades, spring loaded, locking mechanism for safety when not in use, and only weighs 50 grams.

### Easy Operation!

-  Step #1: Cut coaxial cable end
-  Step #2: Remove outside cable jacket
-  Step #3: Strip braided shield
-  Step #4: Cut dielectric material



# Cable Preparation Tools

## Cable Stripper

The CSMK02 is designed for stripping outer jackets and PE, PVC, or rubber insulations on cables from 3/16" to 1-1/8" (4.5mm to 28.5mm) O.D. with an insulation depth of up to 1/8" (3mm) maximum. It's wide stripping range is applicable with most cables.

- Circumferential and longitudinal stripping action
- Adjustable cutting depth up to 1/8" (3mm)
- Durable construction for rugged applications
- Lightweight and compact

Dimensions:

Length: 5.26 in (135mm)

Height: 1.56 in (40mm)

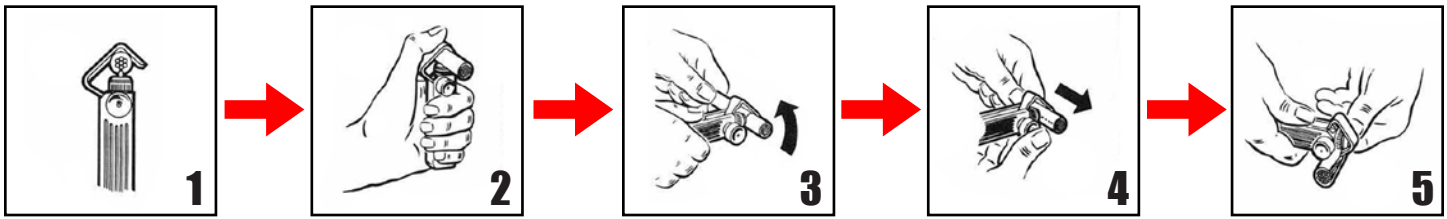
Width: 0.585 in (15mm)

Weight: 4.2 ounces (120g)

Replacement blades sold separately:

Spherical Cutting Blade: Part No. RBMK02S

Chisel Point Blade: Part No. RBMK02C



## Compression Tool



### **Reliability. Durability. Versatility.**

The JDV-UNV-659 is a high quality termination tool for use with compression-type connectors. Each tool is ergonomically designed and features a spring-loaded connector support that guarantees proper positioning and provides a consistent termination time after time.

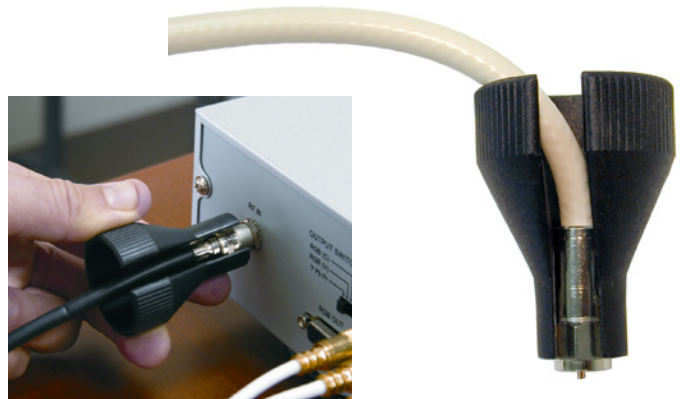
With its lightweight and compact design, the JDV-UNV-659 can easily fit into your pocket.

- Unique jaw design enables cable to be inserted or removed with one hand.
- Factory-calibrated activators and gauges ensure accuracy.
- Spring-loaded 360° support guarantees proper positioning and consistent, reliable terminations.
- Small enough to fit into your pocket with ease.

## F CONNECTOR TOOL

JDV's FC100 installs and removes F connectors in tight spaces

- Unscrews tight connections and removes F connectors in high density and hard to reach locations
- Provides 30 in/lb tightening and untightening torque using only your fingers
- Prevents signal leakage and service calls from loose connections
- Equipped with plastic body and steel hex





# Cable Storage Equipment

## **NEW!** Cable Reel with Unique A-Frame

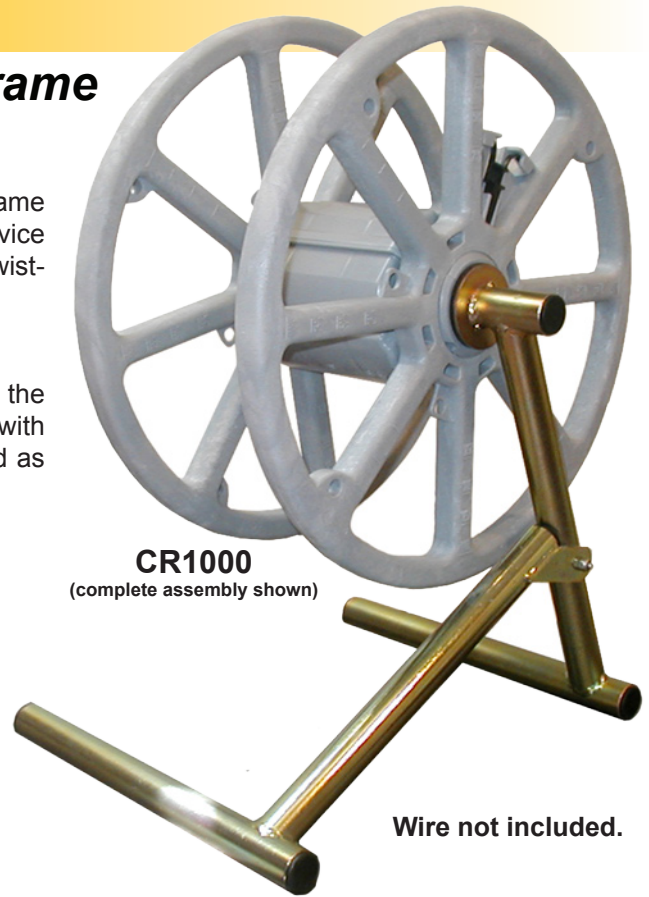
### LIGHTWEIGHT. DURABLE. WEATHER-RESISTANT.

JDV's new CR1000 is a reusable plastic cable reel with the same footprint as a standard 18-inch plywood reel that holds buried service wire. The CR1000 is a complete set, which consists of a hub, two twist-on flanges and a strong durable handle, and a high-quality A-frame stand.

Capacity indicators are imprinted on the flanges for estimating the amount of wire on the reel at all times. Since the reel is used with many different lengths and kinds of wire, the indicators are printed as percentages.

Both flanges can be adjusted out for a larger hub dimension in order to accommodate bigger wire rolls.

The CR1000 comes with an unique durable A-frame (p/n U2000) that can simply be converted into a handle within seconds. With this exceptional design, you can roll the wire reel around anywhere you go!



**CR1000**  
(complete assembly shown)

Wire not included.

| Part No. | Description                      | Weight (lbs) |
|----------|----------------------------------|--------------|
| CR1000   | Cable reel with stand (complete) | 20.0         |
| U1000    | Reel assembly                    | 9.5          |
| U2000    | "A" frame assembly               | 10.5         |

- Lightweight
- Stackable
- Reusable
- Cost-effective
- Improve safety
- User-friendly



Any wire can be used if it can be coiled to fit the ReelSaver!

Wire not included.

## **NEW!** ReelSaver

### COST-EFFECTIVE

The CR2000 is your economical solution! No more disposal fees and packaging waste. Minimize loss due to inaccurate measurement of remaining wire quantity. Save on storage and transportation cost by using a standard coiled wire, which maximizes cube efficiency.

### IMPROVE SAFETY

Eliminates twisted wires for on-site working technicians. The CR2000 is made of durable plastic, is compact, and lightweight.

### USER-FRIENDLY

Easy to operate, reload, and install a new wire coil in less than a minute.

### Capacity

| Wire Type               |                            | Length*                         | Weight*         |
|-------------------------|----------------------------|---------------------------------|-----------------|
| Aerial drop wire 2 pair |                            | 500ft. (150m)                   | 19.4lb (8.80kg) |
| Station wire (JKT)      |                            | 1000ft to 1600ft (300m to 500m) | 15.7lb (7.15kg) |
| Inside wire 3 pair      | All types including plenum | 1000ft (300m)                   | 15.4lb (7.00kg) |
| Inside wire 4 pair      |                            | 1000ft (300m)                   | 15.8lb (7.20kg) |

\* Length and Weight as approximate, and may vary depending on wire used.



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These high quality utility knives are designed to take the abuse that would destroy ordinary knives. Any Electrician, Telephone Technician, or person doing general cable prep work should have one. Perfect for cutting and stripping wire or cable, opening utility outlets in plywood and sheetrock, or any general cutting application. There are three different models available, and each one comes with a locking sheath and a ceramic sharpening stone.

*All VDK knives come with a ceramic sharpening stone and a locking sheath.*



### VDK-1

Equipped with a special high-grade steel blade, the VDK-1 is the perfect item to add to your toolbox. This knife is ideal for electrical, service work, or for any general cutting application.



### VDK-3

The unique DAMASCUS blade of the VDK-3 is made from a 33 layer sandwich construction of soft steel and carbon steel. This blade is easy to sharpen and guarantees excellent cutting performance.

### VDK-5

The VDK-5, with its high-grade steel blade and glow-in-the-dark handle, greatly aid Electricians since most electrical work is performed in dark locations. The fluorescent handle requires only 2-3 minutes of exposure to sunlight or lamplight to "charge". Now any user will know exactly where the knife is at all times, helping to prevent accidents from occurring.



# Ceramic Adjustment Tools



## Features:

- Made from high quality Zirconia ceramic
- Ideal for adjustment of electronic parts, wireless equipment, TV, VCR, video cameras, radio equipment, computers, or communications equipment
- Anti-static, non-magnetic, and acid resistant



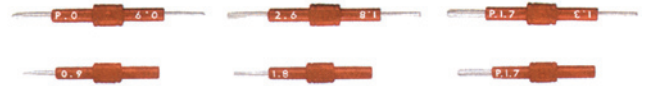
## 9000 Series

- Single tip screwdriver with free-turning knob

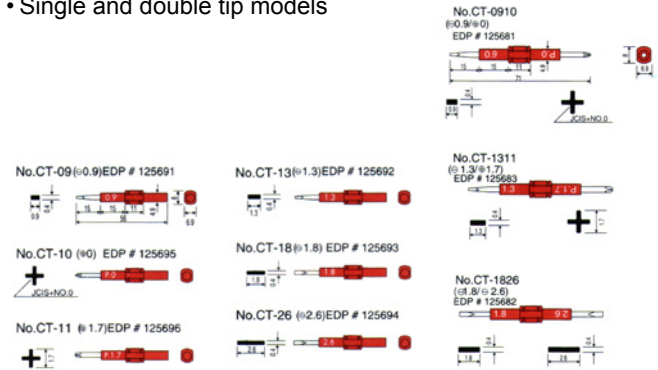


| Part No.     | EDP No. | mm        |           |            |              |            |              |
|--------------|---------|-----------|-----------|------------|--------------|------------|--------------|
|              |         | Tip Dia.  | Tip Width | Tip Length | Blade Length | Blade Dia. | Blade Length |
| 9000 0.9*30  | 125650  | 0.9       | 0.4       | 30         | 1.8          | 10         | 125          |
| 9000 1.3*30  | 125651  | 1.3       | 0.4       | 30         | 1.8          | 10         | 125          |
| 9000 1.8*30  | 125652  | 1.8       | 0.4       | 30         | 1.8          | 10         | 125          |
| 9000 2.6*30  | 125653  | 2.6       | 0.4       | 30         | 2.6          | 10         | 125          |
| 9000 3.4*15  | 125654  | 3.4       | 0.5       | 15         | 3.4          | 10         | 115          |
| 9000 P0*30   | 125655  | + No. 0   |           | 30         | 2.6          | 10         | 125          |
| 9000 P1.7*30 | 125656  | + No. 1.7 |           | 30         | 2.6          | 10         | 125          |

## Ceramic Adapters



- Replacement tips for: 9001, 9002, and 9003 Series
- Can be used with automatic regulators
- Single and double tip models



## 9001 Series

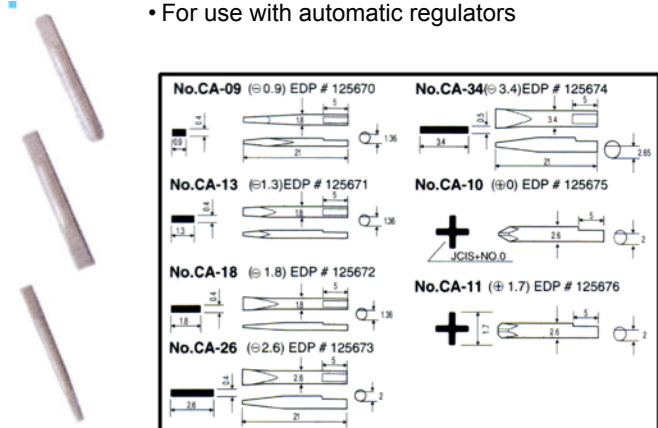
- Handle with four interchangeable ceramic tips



| Part No. | EDP No. | Handle Dia. | O.A.L. (w/blade) | Handle Details                 |        |
|----------|---------|-------------|------------------|--------------------------------|--------|
|          |         | mm          | mm               | Blades                         | Length |
| 9001     | 125661  | 11          | 145              | (-)0.9 / (+)0<br>(-)1.8 / (+)2 | 71     |

## Ceramic Blades

- For use with automatic regulators



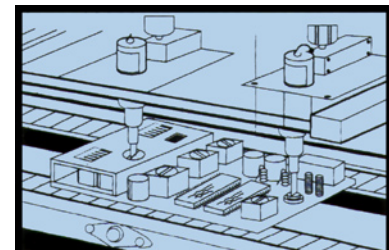
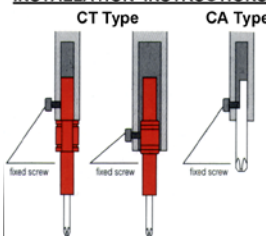
## 9002 & 9003 Series

- Handle with two interchangeable ceramic tips



| Part No. | EDP No. | Handle Dia. | O.A.L. (w/blade) | Handle Details  |        |
|----------|---------|-------------|------------------|-----------------|--------|
|          |         | mm          | mm               | Blades          | Length |
| 9002     | 125665  | 11          | 145              | (-)0.9 & (-)1.8 | 71     |
| 9003     | 125666  | 11          | 145              | (-)1.3 & (+)2.6 | 71     |

## INSTALLATION INSTRUCTIONS



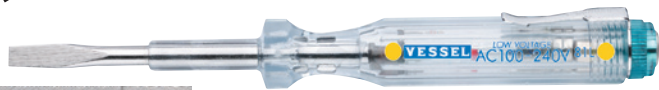
## 9900 Series Micro Screwdrivers

- Handle is fitted with revolving cap for fast turning
- Fully hardened chrome vanadium steel



| Part No.    | EDP No. | mm           |             |                 |              |                |        |
|-------------|---------|--------------|-------------|-----------------|--------------|----------------|--------|
|             |         | Blade Length | Blade Width | Blade Thickness | Shank Length | Shank Diameter | O.A.L. |
| 9900 1.8*50 | 125621  | 1.8          | 0.25        | 50              | 2.5          | 10             | 145    |
| 9900 2.5*75 | 125622  | 2.5          | 0.35        | 75              | 2.5          | 10             | 170    |
| 9900 3*100  | 125623  | 3            | 0.45        | 100             | 3            | 10             | 195    |
| 9900 3*150  | 125624  | 3            | 0.45        | 150             | 3            | 10             | 245    |
| 9900 P00*75 | 125625  | + No. 00     | 75          | 2.5             | 10           | 170            |        |
| 9900 P0*100 | 125626  | + No. 0      | 100         | 3               | 10           | 195            |        |
| 9900 P0*150 | 125627  | + No. 0      | 150         | 3               | 10           | 245            |        |

## NEW! 81L LED Current Detector



The NEW Model 81L is great for electricity testing of lighting, wiring, repair work on TV and radio, and oscillation test of wireless equipment. The bright, easy to view LED will illuminate when voltage is detected.

| Part No. | EDP No. | Range of Voltage Detection |
|----------|---------|----------------------------|
| 81L      | 125104  | A.C. 100V~240V             |
|          |         | D.C. 100V~350V             |

## 205 Series Precision Screwdrivers



| Part No. | EDP No. | Shank Length | Blade Width | Handle Diam. | O.A.L. |
|----------|---------|--------------|-------------|--------------|--------|
|          |         |              |             |              | mm     |
| 205 3.5  | 134002  | 33           | 3.5         | 8.0          | 126    |
| 205 3.0  | 134003  | 29           | 3.0         | 7.0          | 114    |
| 205 2.3  | 134004  | 26           | 2.3         | 6.0          | 104    |
| 205 1.8  | 134005  | 23           | 1.8         | 5.0          | 94     |
| 205 1.2  | 134006  | 20           | 1.2         | 4.5          | 85     |
| 205 0.9  | 134007  | 16           | 0.9         | 3.5          | 78     |
| 205 P0   | 134012  | 33           | + 0         | 8.0          | 126    |
| 205 P00  | 134013  | 29           | + 00        | 7.0          | 114    |

## 9900 Series Micro Screwdriver Sets

- For adjustment and repair of precision equipment, electronics, glasses, watches, etc.
- Set of frequently used sizes



| Part No. | EDP No. | Set Includes (mm)         |
|----------|---------|---------------------------|
| 9902     | 125610  | +00x75 / +0x100 / -1.8x50 |
| 9903     | 126611  | +00x75 / -2.5x75 / -3x100 |

## TD36 Microturn Screwdriver Set

- Ideal for screw tightening in precision fields
- Designed for both turning and tightening
- High strength precision tip



| Part No. | EDP No. | Set Includes (mm)                  |
|----------|---------|------------------------------------|
| TD-36    | 250036  | -1.4 / -1.8 / -2.3 / +00 / +0 / +1 |

## 205 Series Precision Screwdriver Sets

- Ideal for fastening and unfastening miniature screws.
- Metal handle can be freely turned from the butt end, therefore finger pressure is sufficient for maintaining the position while turning
- For repair and assembly of watches, cassettes, radios, glasses, precision equipment, plastic models, and much more.



| Part No. | EDP No. | Set Includes (mm)                  |
|----------|---------|------------------------------------|
| 206      | 134001  | -0.9 / 1.2 / 1.8 / 2.3 / 3.0 / 3.5 |
| 207      | 134011  | -0.9 / 1.21 / 1.8 / 2.3 / +00 / +0 |



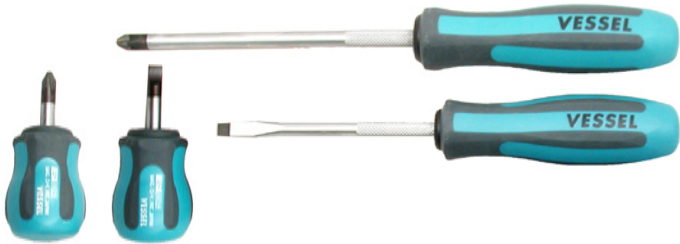
# Megadora Screwdrivers



The MEGADORA models are equipped with the most advanced triple-molded handle for comfort. The corners of the hexagonal cross-section are molded with elastomer for a soft fit and high torque transmission.



## 900 Standard & 920 Stubby Series



- Handle is fitted with revolving cap for fast turning
- Fully hardened chrome vanadium steel

| Part No.   | EDP #  | mm          |                 |              |                |               |              |
|------------|--------|-------------|-----------------|--------------|----------------|---------------|--------------|
|            |        | Blade Width | Blade Thickness | Blade Length | Shaft Diameter | Handle Length | Total Length |
| 900 5.5*75 | 125701 | 5.5         | 0.8             | 75           | 5.5            | 34            | 185          |
| 900 6*100  | 125702 | 6.0         | 0.9             | 100          | 6.4            | 34            | 210          |
| 900 6*150  | 125755 | 6.0         | 0.9             | 150          | 6.4            | 34            | 260          |
| 900 8*150  | 125704 | 8.0         | 1.1             | 150          | 8.0            | 36            | 275          |
| 900 P00*75 | 125741 | + No. 00    |                 | 75           | 3.0            | 21            | 153          |
| 900 P0*75  | 125742 | + No. 0     |                 | 75           | 3.0            | 21            | 153          |
| 900P1*75   | 125705 | + No. 1     |                 | 75           | 5.5            | 34            | 185          |
| 900 P2*100 | 125706 | + No. 2     |                 | 100          | 6.4            | 34            | 210          |
| 900 P3*150 | 125708 | + No. 3     |                 | 150          | 8.0            | 36            | 275          |
| 920 6*25   | 125752 | 6.4         | 0.9             | 25           | 6.4            | 36            | 75           |
| 920 P1*25  | 125753 | + No. 1     |                 | 25           | 6.4            | 36            | 75           |
| 920 P2*25  | 125754 | + No. 2     |                 | 25           | 6.4            | 36            | 75           |

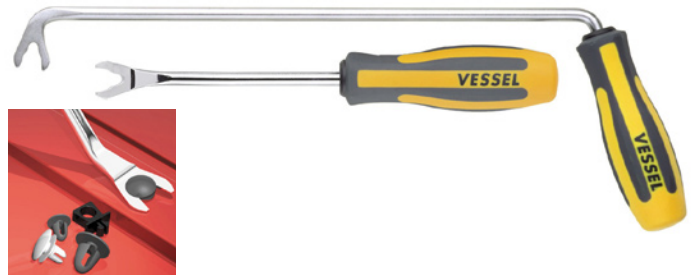
## 970 Series Chisel Screwdrivers



- Made of high grade chisel steel of HRC58 hardness
- Tang-Thru shank with large end cap
- Sound cutting and wear resistance
- Great for concrete bricks, ceramic tiles, deburring, corrosion scraping, frozen bolts and nuts, and spot welding stripping

| Part No.    | EDP #  | mm          |                 |              |                |               |              |
|-------------|--------|-------------|-----------------|--------------|----------------|---------------|--------------|
|             |        | Blade Width | Blade Thickness | Blade Length | Shaft Diameter | Handle Length | Total Length |
| 970 7*100   | 125722 | 5.5         | 0.8             | 75           | 5.5            | 34            | 185          |
| 970 9.5*120 | 125732 | 6.0         | 0.9             | 100          | 6.4            | 34            | 210          |

## 970 Series Clip Removers



- Dual size blade covers standard 7mm and 12mm clip sizes
- Suited for many clips used in automobiles
- Fully hardened vanadium steel
- Chrome plated fork to enable damage-free sliding
- Optimally angled for working in cramped places (i.e. door trim, wire anchors, clips, etc.)
- Long type for reaching clips deep inside car interiors

| Part No.   | EDP #  | Blade Size | mm           |                 |                |              |
|------------|--------|------------|--------------|-----------------|----------------|--------------|
|            |        |            | Blade Length | Blade Thickness | Shaft Diameter | Total Length |
| 970 CR-300 | 125731 | 12/7       | 300          | 7.0             | 34             | 352          |
| 970 CR-120 | 125721 | 12/7       | 120          | 7.0             | 34             | 230          |

## 970 Series Scrapers



- Ideal for removing cross/P tile, paint, stickers, and other scraping needs
- Made of high strength die-cast metal
- Easy lever-operated blade replacement
- Plated finish is resistant to paint and adhesives

| Part No.   | EDP No. | mm  |     |    |    |
|------------|---------|-----|-----|----|----|
|            |         | A   | B   | C  | D  |
| 970 S-180  | 252201  | 195 | 85  | -  | 34 |
| 970 S-300  | 252202  | 313 | 185 | 15 | 36 |
| 970 ST-300 | 252203  | 315 | 185 | 15 | 36 |

Replacement Blade: MSB-01 (100mm long)



The "Power-Grip" series are high precision tools ergonomically designed to the shape of the palm of your hand. Various grip sizes available according to tightening torque.



## 5400 Series Ultra Ball Hex Screwdrivers



Tapered to 35°, the ball tip is always at the center of rotation, ensuring smooth turning.



| Part No.     | EDP #  | mm  |        |       |      |       |
|--------------|--------|-----|--------|-------|------|-------|
|              |        | Tip | Length | Shank | Ball | Total |
| 5400 H1.5*80 | 122847 | 1.5 | 80     | 2.5   | 155  | 17    |
| 5400 H2*80   | 122848 | 2.0 | 80     | 3.0   | 155  | 17    |
| 5400H2.5*80  | 122849 | 2.5 | 80     | 3.0   | 155  | 17    |
| 5400 H3*120  | 122850 | 3.0 | 120    | 3.5   | 217  | 28    |
| 5400 H4*120  | 122851 | 4.0 | 120    | 5.0   | 224  | 31.8  |
| 5400 H5*120  | 122852 | 5.0 | 120    | 6.0   | 235  | 35.6  |
| 5400 H6*120  | 122853 | 6.0 | 120    | 7.0   | 235  | 35.6  |

## 5400TX Series Torx Screwdrivers



- Excellent torque transmission
- Outstanding durability
- No CAM-OUT
- Minimal damage to screws and tools

| Part No.       | EDP #  | Tip Size | mm   |        |       |      |       |
|----------------|--------|----------|------|--------|-------|------|-------|
|                |        |          | Tip  | Length | Shank | Ball | Total |
| 5400TX 5*80    | 122854 | T5       | 1.37 | 80     | 2.5   | 155  | 17.0  |
| 5400TX 6*80    | 122855 | T6       | 1.65 | 80     | 2.5   | 155  | 17.0  |
| 5400TX 7H*80   | 122856 | T7H      | 1.97 | 80     | 2.5   | 155  | 17.0  |
| 5400TX 8H*80   | 122857 | T8H      | 2.3  | 80     | 3.0   | 155  | 17.0  |
| 5400TX 9H*80   | 122858 | T9H      | 2.48 | 80     | 3.0   | 155  | 17.0  |
| 5400TX 10H*80  | 122859 | T10H     | 2.72 | 80     | 3.0   | 155  | 17.0  |
| 5400TX 15H*80  | 122860 | T15H     | 3.26 | 80     | 3.5   | 177  | 28.0  |
| 5400TX 20H*120 | 122861 | T20H     | 3.84 | 120    | 4.0   | 217  | 28.0  |
| 5400TX 25H*120 | 122862 | T25H     | 4.4  | 120    | 5.0   | 224  | 31.8  |
| 5400TX 27H*120 | 122863 | T27H     | 4.96 | 120    | 5.0   | 224  | 31.8  |
| 5400TX 30H*120 | 122864 | T30H     | 5.49 | 120    | 6.0   | 235  | 35.6  |
| 5400TX 40H*120 | 122865 | T40H     | 6.6  | 120    | 7.0   | 235  | 35.6  |

## 4100 Series Nut Drivers



- Ideal for fastening and unfastening hexagon bolts and nuts

| Part No.     | EDP #  | mm   |        |       |      |      |      |       |
|--------------|--------|------|--------|-------|------|------|------|-------|
|              |        | Tip  | Length | Shank | Ball | Ball | Ball | Total |
| 4100 5*115   | 123501 | 5.0  | 8      | 18    | 115  | 5.0  | 28.0 | 212   |
| 4100 5.5*115 | 123502 | 5.5  | 9      | 18    | 115  | 5.0  | 28.0 | 212   |
| 4100 6*115   | 123503 | 6.0  | 9      | 18    | 115  | 5.5  | 28.0 | 212   |
| 4100 7*125   | 123504 | 7.0  | 10     | 20    | 125  | 5.5  | 28.0 | 222   |
| 4100 8*125   | 123505 | 8.0  | 12     | 20    | 125  | 5.5  | 31.8 | 229   |
| 4100 9*125   | 123506 | 9.0  | 12     | 20    | 125  | 6.3  | 31.8 | 229   |
| 4100 10*125  | 123507 | 10.0 | 15     | 20    | 125  | 7.0  | 35.6 | 240   |
| 4100 11*125  | 123508 | 11.0 | 15     | 20    | 125  | 7.0  | 35.6 | 240   |
| 4100 12*150  | 123509 | 12.0 | 17     | 20    | 150  | 8.0  | 35.6 | 265   |
| 4100 13*150  | 123510 | 13.0 | 19     | 20    | 150  | 8.0  | 35.6 | 265   |

## 4200 Series SUPADRIV Screwdrivers



The basic shape is a cross recess of 4 equally thick blades. The drive faces that the screwdriver contacts inside the recess are almost perpendicular, raising drive efficiency, minimizes slipping, and further enhancing the torque transfer and anti-CAM-OUT properties of the POZIDRIV.

| Part No.      | EDP #  | mm        |        |       |      |       |
|---------------|--------|-----------|--------|-------|------|-------|
|               |        | Tip       | Length | Shank | Ball | Total |
| 4200 SDV1*75  | 636001 | SDV No. 1 | 75     | 5     | 28   | 172   |
| 4200 SDV2*100 | 636002 | SDV No. 2 | 100    | 6     | 31   | 204   |
| 4200 SDV3*150 | 636003 | SDV No. 3 | 150    | 8     | 35   | 265   |

## 4600 Series POZIDRIV Screwdrivers



The basic shape is a cross recess of 4 equally thick blades. This prevents annoying CAM-OUT and transmits strong torque to the screws.

| Part No.     | EDP #  | mm        |        |       |      |       |
|--------------|--------|-----------|--------|-------|------|-------|
|              |        | Tip       | Length | Shank | Ball | Total |
| 4600 PZ1*75  | 636011 | PZD No. 1 | 75     | 5     | 28   | 172   |
| 4600 PZ2*100 | 636012 | PZD No. 2 | 100    | 6     | 31   | 204   |
| 4600 PZ3*150 | 636013 | PZD No. 3 | 150    | 8     | 35   | 265   |



Ergonomically designed "Ball-Grip" handles fit comfortably in the palm of your hand while ensuring the operator maximum torque while tightening.

## 220 Series - Standard Type



- Transmits ample tightening force to screw
- Cushion grip color-coded by +/-
- Fully hardened chrome vanadium steel
- High precision black point tip
- Magnetized

| Part No.    | EDP No. | mm        |         |              |            |         |              |
|-------------|---------|-----------|---------|--------------|------------|---------|--------------|
|             |         | Shank Dia | Tip Dia | Shank Length | Tip Length | Tip Dia | Total Length |
| 220 5.5*75  | 125351  | 5.5       | 0.8     | 75           | 5.5        | 32      | 156.5        |
| 220 5.5*100 | 125361  | 5.5       | 0.8     | 100          | 5.5        | 32      | 181.5        |
| 220 5.5*150 | 125362  | 5.5       | 0.8     | 150          | 5.5        | 32      | 231.5        |
| 220 6*100   | 125352  | 6.0       | 0.9     | 100          | 6.4        | 41      | 200          |
| 220 6*150   | 125353  | 6.0       | 0.9     | 150          | 6.4        | 41      | 250          |
| 220 6*200   | 125354  | 6.0       | 0.9     | 200          | 6.4        | 41      | 300          |
| 220 P1*75   | 125355  | + No.1    |         | 75           | 5.5        | 32      | 156.5        |
| 220 P1*100  | 125371  | + No.1    |         | 100          | 5.5        | 32      | 181.5        |
| 220 P1*150  | 125372  | + No.1    |         | 150          | 5.5        | 32      | 231.5        |
| 220 P2*100  | 125356  | + No.2    |         | 100          | 6.4        | 41      | 200          |
| 220 P2*150  | 125357  | + No.2    |         | 150          | 6.4        | 41      | 250          |
| 220 P2*200  | 125358  | + No.2    |         | 200          | 6.4        | 41      | 300          |

## 220JF Series - JAWSFIT Type



| Part No.     | EDP No. | mm        |         |              |              |     |
|--------------|---------|-----------|---------|--------------|--------------|-----|
|              |         | Shank Dia | Tip Dia | Shank Length | Total Length |     |
| 220JF P2*100 | 125514  | + No.2    |         | 100          | 41           | 200 |
| 220JF P2*150 | 125515  | + No.2    |         | 150          | 41           | 250 |

## 225 Series - Insulated Type



- Shank is covered with resin for excellent safety
- Solid built body offers extra fastening power
- Cushion grip color-coded by +/-
- Fully hardened chrome vanadium steel
- Magnetized

| Part No.   | EDP No. | mm        |         |              |            |         |              |
|------------|---------|-----------|---------|--------------|------------|---------|--------------|
|            |         | Shank Dia | Tip Dia | Shank Length | Tip Length | Tip Dia | Total Length |
| 225 6*100  | 125382  | 6.0       | 0.9     | 100          | 41         | 200     |              |
| 225 6*150  | 125383  | 6.0       | 0.9     | 150          | 41         | 250     |              |
| 225 P2*100 | 125389  | + No.2    |         | 100          | 41         | 200     |              |
| 225 P2*150 | 125390  | + No.2    |         | 150          | 41         | 250     |              |

## 230 Series - Tang-Thru Type



- Tang-Thru shank with star end cap
- Fully hardened Chrome Vanadium steel shank
- Different color for (+) and (-)
- Cushion grips
- Magnetic tips

| Part No.   | EDP No. | mm        |         |              |            |         |              |
|------------|---------|-----------|---------|--------------|------------|---------|--------------|
|            |         | Shank Dia | Tip Dia | Shank Length | Tip Length | Tip Dia | Total Length |
| 230 5.5*75 | 125311  | 5.5       | 0.8     | 75           | 5.5        | 32      | 156.5        |
| 230 6*100  | 125314  | 5.5       | 0.8     | 100          | 6.4        | 41      | 200          |
| 230 6*150  | 125315  | 5.5       | 0.8     | 150          | 6.4        | 41      | 250          |
| 230 P1*75  | 125321  | + No.1    |         | 75           | 5.5        | 32      | 156.5        |
| 230 P2*100 | 125324  | + No.2    |         | 100          | 6.4        | 41      | 200          |
| 230 P2*150 | 125325  | + No.2    |         | 150          | 6.4        | 41      | 250          |



The "CRYSTALLINE" models are designed with a bright quartz hexagonal cross-sectioned handle, which accurately transmits torque to the screw.



## 6200 Stubby & 6300 Standard Series



- Fully hardened chrome vanadium steel
- Magnetized

| Part No.    | EDP #  |         |     |     |     |      |     |
|-------------|--------|---------|-----|-----|-----|------|-----|
|             |        | mm      |     |     |     |      |     |
| 6300 4.5*50 | 121201 | 4.5     | 0.6 | 50  | 5.0 | 22.0 | 138 |
| 6300 5.5*75 | 121202 | 5.5     | 0.7 | 75  | 5.5 | 22.0 | 163 |
| 6300 6*100  | 121203 | 6.0     | 0.8 | 100 | 6.0 | 25.0 | 198 |
| 6300 7*125  | 121204 | 7.0     | 0.9 | 125 | 7.0 | 28.5 | 238 |
| 6300 8*150  | 121205 | 8.0     | 1.0 | 150 | 8.0 | 28.5 | 263 |
| 6300 9*200  | 121206 | 9.0     | 1.1 | 200 | 9.0 | 30.0 | 320 |
| 6300 10*250 | 121207 | 10      | 1.2 | 250 | 9.0 | 30.0 | 370 |
| 6300 10*300 | 121208 | 10      | 1.2 | 300 | 9.0 | 30.0 | 420 |
| 6300 P1*75  | 121209 | + No.1  |     | 75  | 5.0 | 22.0 | 163 |
| 6300 P2*100 | 121210 | + No.2  |     | 100 | 6.0 | 25.0 | 198 |
| 6300 P3*150 | 121211 | + No.3  |     | 150 | 8.0 | 28.5 | 263 |
| 6300 P4*200 | 121212 | + No.4  |     | 200 | 9.0 | 30.0 | 320 |
| 6200 6*38   | 121101 | 6.0     | 0.8 | 38  | 6.0 | 28.5 | 86  |
| 6200 P1*38  | 121102 | + No. 1 |     | 38  | 6.0 | 28.5 | 86  |
| 6200 P2*38  | 121103 | + No. 2 |     | 38  | 6.0 | 28.5 | 86  |

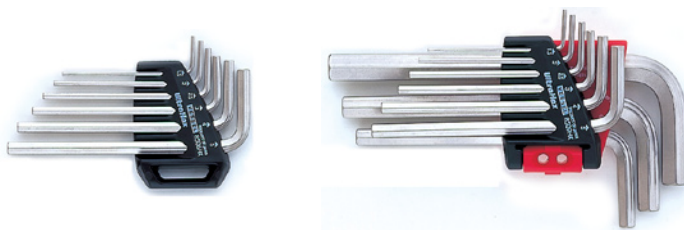
## 6300 Long Shank Series



- Long shaft hard to reach places
- Magnetized

| Part No.    | EDP #  |        |     |     |     |    |     |
|-------------|--------|--------|-----|-----|-----|----|-----|
|             |        | mm     |     |     |     |    |     |
| 6300 5*150  | 121213 | 5.0    | 0.7 | 150 | 4.8 | 25 | 248 |
| 6300 5*200  | 121214 | 5.0    | 0.7 | 200 | 4.8 | 25 | 298 |
| 6300 5*250  | 121215 | 5.0    | 0.7 | 250 | 4.8 | 25 | 348 |
| 6300 P1*150 | 121216 | + No.1 |     | 150 | 4.8 | 25 | 248 |
| 6300 P1*200 | 121217 | + No.1 |     | 200 | 4.8 | 25 | 298 |
| 6300 P1*250 | 121218 | + No.1 |     | 250 | 4.8 | 25 | 348 |
| 6300 P2*150 | 121219 | + No.2 |     | 150 | 6.0 | 25 | 248 |
| 6300 P2*200 | 121220 | + No.2 |     | 200 | 6.0 | 25 | 298 |
| 6300 P2*250 | 121221 | + No.2 |     | 250 | 6.0 | 25 | 348 |

## 8506HX & 8509HX Hex Key Wrench Sets



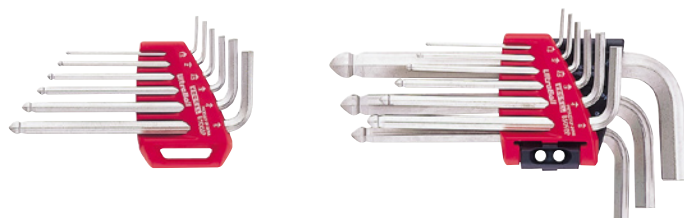
| Part No. | EDP #  | Sizes Included (mm)                    |
|----------|--------|--|
| 8506HX   | 144290 | 1.5 / 2 / 2.5 / 3 / 4 / 5              |
| 8509HX   | 144291 | 1.5 / 2 / 2.5 / 3 / 4 / 5 / 6 / 8 / 10 |

## 8606HX & 8609HX Hex Key Wrench Sets



| Part No. | EDP #  | Sizes Included (mm)                    |
|----------|--------|--|
| 8606HX   | 144270 | 1.5 / 2 / 2.5 / 3 / 4 / 5              |
| 8609HX   | 144271 | 1.5 / 2 / 2.5 / 3 / 4 / 5 / 6 / 8 / 10 |

## 8506BP & 8509BP Ultra Ball Wrench Sets



| Part No. | EDP #  | Sizes Included (mm)                    |
|----------|--------|--|
| 8506BP   | 144130 | 1.5 / 2 / 2.5 / 3 / 4 / 5              |
| 8509BP   | 144131 | 1.5 / 2 / 2.5 / 3 / 4 / 5 / 6 / 8 / 10 |

## 8606BP & 8609BP Ultra Ball Wrench Sets



| Part No. | EDP #  | Sizes Included (mm)                    |
|----------|--------|--|
| 8606BP   | 144040 | 1.5 / 2 / 2.5 / 3 / 4 / 5              |
| 8609BP   | 144041 | 1.5 / 2 / 2.5 / 3 / 4 / 5 / 6 / 8 / 10 |

# 1000V Insulated Hand Tools

All our hand tools are rated for 1,000V AC live line use, but tested up to 10,000V AC. These tools comply or exceed ASTM F1505 standards and they comply with IEC 900 Standards for Insulated Hand Tools. They meet OSHA 1910.333(c) (2) and NFPA 70E 2000 requirements. All the hand tools are impact resistant and flame retardant. Our tools are two color insulated for added safety. If the yellow underlayer is showing, the tool may no longer be insulated properly.

We also maintain the ability to modify any tool not in this catalog to your specific requirements.

JDV realizes that in every industry there are sets of tools unique to many jobs. Why buy sets that have unneeded tools?

JDV will customize your set to meet your specific requirements, and package these sets in customized rolls or boxes!!!

## We can make custom sets according to your specifications

### 1000V Sockets



#### 3/8" Drive Socket Standard (12 Point)

| Part No. | Size   |
|----------|--------|
| X2045208 | 1/4"   |
| X2045210 | 5/16"  |
| X2045212 | 3/8"   |
| X2045214 | 7/16"  |
| X2045216 | 1/2"   |
| X2045218 | 9/16"  |
| X2045120 | 5/8"   |
| X2045122 | 11/16" |
| X2045124 | 3/4"   |
| X2045126 | 13/16" |
| X2045128 | 7/8"   |
| X2045130 | 15/16" |
| X2045132 | 1"     |



#### 1/2" Drive Socket Standard (12 Point)

| Part No. | Size    |
|----------|---------|
| X2040212 | 3/8"    |
| X2040214 | 7/16"   |
| X2040216 | 1/2"    |
| X2040218 | 9/16"   |
| X2040120 | 5/8"    |
| X2040122 | 11/16"  |
| X2040124 | 3/4"    |
| X2040126 | 13/16"  |
| X2040128 | 7/8"    |
| X2040130 | 15/16"  |
| X2040132 | 1"      |
| X2040134 | 1-1/16" |
| X2040136 | 1-1/8"  |



#### 3/8" Drive Hex Bit Sockets

| Part No. | Size  |
|----------|-------|
| X2041201 | 1/16" |
| X2041202 | 5/64" |
| X2041203 | 3/32" |
| X2041204 | 7/64" |
| X2041205 | 1/8"  |
| X2041206 | 9/64" |
| X2041207 | 5/32" |
| X2041208 | 3/16" |
| X2041209 | 7/32" |
| X2041210 | 1/4"  |
| X2041211 | 5/16" |
| X2041212 | 3/8"  |

Metric sizes offered in 2-12mm

#### 3/8" Drive Socket Deep (12 Point)

| Part No. | Size   |
|----------|--------|
| X2042408 | 1/4"   |
| X2042410 | 5/16"  |
| X2042412 | 3/8"   |
| X2042414 | 7/16"  |
| X2042416 | 1/2"   |
| X2042418 | 9/16"  |
| X2042420 | 5/8"   |
| X2042422 | 11/16" |
| X2042424 | 3/4"   |
| X2042426 | 13/16" |
| X2042428 | 7/8"   |
| X2042430 | 15/16" |
| X2042432 | 1"     |

#### 1/2" Drive Socket Deep (12 Point)

| Part No. | Size    |
|----------|---------|
| X2040812 | 3/8"    |
| X2040814 | 7/16"   |
| X2040816 | 1/2"    |
| X2040818 | 9/16"   |
| X2040820 | 5/8"    |
| X2040822 | 11/16"  |
| X2040824 | 3/4"    |
| X2040826 | 13/16"  |
| X2040828 | 7/8"    |
| X2040830 | 15/16"  |
| X2040832 | 1"      |
| X2040834 | 1-1/16" |
| X2040836 | 1-1/8"  |

#### 1/2" Drive Hex Bit Sockets

| Part No. | Size       |
|----------|------------|
| X2041213 | 5/16"      |
| X2041214 | 3/8"       |
| X2041215 | 7/16"      |
| X2041216 | 1/2"       |
| X2041218 | 9/16"      |
| X2041220 | 5/8"       |
| X2041266 | 1/2" Long  |
| X2041268 | 9/16" Long |
| X2041270 | 5/8" Long  |

Metric sizes offered in 12-17mm

**Hex Bit Sockets also available in 1/4" drive.**

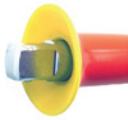
Also available in 1/4" & 3/4" Drives. Metric sizes offered in 4-36mm  
For 6 point sockets add"-6" after part number

## LOOK FOR SETS ON PAGES 38-39



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# 1000V Ratchets & Extensions



Detail of Flare Nose style extensions for use with non-booted sockets



## Extensions

| Part No. | OAL  | Drive |
|----------|------|-------|
| X2045159 | 1.5" | 3/8"  |
| X2045160 | 3"   | 3/8"  |
| X2045161 | 6"   | 3/8"  |
| X2045158 | 9"   | 3/8"  |
| X2045162 | 12"  | 3/8"  |
| X2045163 | 18"  | 3/8"  |
| X2045164 | 24"  | 3/8"  |
| X2045149 | 35"  | 3/8"  |
| X2040160 | 2"   | 1/2"  |
| X2040161 | 5"   | 1/2"  |
| X2040162 | 10"  | 1/2"  |
| X2040163 | 20"  | 1/2"  |

\* Add "FN" for close quarters sockets  
Also available in 1/4" and 3/4" drives



## Fiberglass Extensions

| Part No.   | OAL | Drive |
|------------|-----|-------|
| X2045161FB | 6"  | 3/8"  |
| X2045162FB | 12" | 3/8"  |
| X2040164FB | 6"  | 1/2"  |
| X2040165FB | 12" | 1/2"  |

Fiberglass extensions tested at 80ft/lbs.  
DO NOT EXCEED 60ft/lbs.



## Ratchets

| Part No.      | OAL   | Drive |
|---------------|-------|-------|
| X2040970      | 4.5"  | 1/4"  |
| X2045170      | 7.6"  | 3/8"  |
| X2045179 LONG | 10.3" | 3/8"  |
| X2042470      | 10.3" | 1/2"  |

Also available in 3/4" drive



## Hex Wrench - "L" Long Handle

| Part No. | Size  |
|----------|-------|
| X262223  | 1/16" |
| X262224  | 5/64" |
| X262225  | 3/32" |
| X262226  | 7/64" |
| X262227  | 1/8"  |
| X262228  | 9/64" |
| X262229  | 5/32" |
| X262231  | 3/16" |
| X262233  | 7/32" |
| X262235  | 1/4"  |
| X262239  | 5/16" |
| X262243  | 3/8"  |
| X262247  | 7/16" |
| X262251  | 1/2"  |

Available up to 1-1/8"  
Metric sizes offered in 2-12mm



## Hex Wrench - "T" Long Handle (6" Long)

| Part No. | Size  |
|----------|-------|
| X2631605 | 5/64" |
| X2631606 | 3/32" |
| X2631607 | 7/64" |
| X2631608 | 1/8"  |
| X2631609 | 9/64" |
| X2631610 | 5/32" |
| X2631612 | 3/16" |
| X2631614 | 7/32" |
| X2631616 | 1/4"  |
| X2631620 | 5/16" |
| X2631624 | 3/8"  |
| X2651628 | 7/16" |
| X2651632 | 1/2"  |
| X2651634 | 9/16" |

Available up to 1-1/8"  
Metric sizes offered in 0.7-36mm

# 1000V Hex Wrenches





# 1000V Wrenches



## Open Ended

| Part No. | Size    |
|----------|---------|
| X2488408 | 1/4"    |
| X2488410 | 5/16"   |
| X2488412 | 3/8"    |
| X2488414 | 7/16"   |
| X2488416 | 1/2"    |
| X2488418 | 9/16"   |
| X2488420 | 5/8"    |
| X2488422 | 11/16"  |
| X2488424 | 3/4"    |
| X24C26   | 13/16"  |
| X24C28   | 7/8"    |
| X24C30   | 15/16"  |
| X24C32   | 1"      |
| X24C34   | 1-1/16" |
| X24C36   | 1-1/8"  |
| X24C40   | 1-1/4"  |

Available up to 2"  
Metric sizes offered in 7-36mm



## Box/Closed Ended

| Part No.   | Size    |
|------------|---------|
| X2488408-B | 1/4"    |
| X2488410-B | 5/16"   |
| X2488412-B | 3/8"    |
| X2488414-B | 7/16"   |
| X2488416-B | 1/2"    |
| X2488418-B | 9/16"   |
| X2488420-B | 5/8"    |
| X2488422-B | 11/16"  |
| X2488424-B | 3/4"    |
| X24C26-B   | 13/16"  |
| X24C28-B   | 7/8"    |
| X24C30-B   | 15/16"  |
| X24C32-B   | 1"      |
| X24C34-B   | 1-1/16" |
| X24C36-B   | 1-1/8"  |
| X24C40-B   | 1-1/4"  |

Available up to 2"  
Metric sizes offered in 7-36mm



## Ratcheting Box Wrenches

| Part No. | Size    |
|----------|---------|
| X249008  | 1/4"    |
| X249010  | 5/16"   |
| X249011  | 11/32"  |
| X249012  | 3/8"    |
| X249014  | 7/16"   |
| X249016  | 1/2"    |
| X249018  | 9/16"   |
| X249020  | 5/8"    |
| X249022  | 11/16"  |
| X249024  | 3/4"    |
| X249026  | 13/16"  |
| X249028  | 7/8"    |
| X249030  | 15/16"  |
| X249032  | 1"      |
| X249034  | 1-1/16" |
| X249036  | 1-1/8"  |
| X249038  | 1-1/4"  |

Available up to 2-1/8"  
Metric sizes offered in 6-36mm



## Adjustable

| Part No. | OAL | Jaw Opening |
|----------|-----|-------------|
| X24804   | 4"  | 1/2"        |
| X24806   | 6"  | 15/16"      |
| X24808   | 8"  | 1-1/8"      |
| X24810   | 10" | 1-5/16"     |
| X24812   | 12" | 1-1/2"      |
| X24815   | 15" | 1-11/16"    |

Available up to 24" OAL  
(2-7/16" Jaw Opening)



## Torque Wrench

| Part Number    | OAL | Size Drive | Torque (In/Lb) |
|----------------|-----|------------|----------------|
| X22TCI-150RA38 | 10" | 3/8"       | 30-150         |

A wide variety of Torque Wrenches are available upon request

## 1000V Inspection Mirror



# 1000V Screwdrivers & Sets



## Standard Screwdrivers

| Part No. | Description        |
|----------|--------------------|
| X2376802 | 1/8" x 2" Shaft    |
| X2375904 | 3/16" x 4" Shaft   |
| X2375906 | 3/16" x 6" Shaft   |
| X2375910 | 3/16" x 10" Shaft  |
| X2375704 | 1/4" x 4" Shaft    |
| X2375705 | 1/4" x 6" Shaft    |
| X2375706 | 5/16" x 6" Shaft   |
| X2375708 | 3/8" x 8" Shaft    |
| X2375710 | 3/8" x 10" Shaft   |
| X2375712 | 3/8" x 12" Shaft   |
| X2376302 | # 0 x 2" Shaft     |
| X2376103 | # 1 x 3" Shaft     |
| X2376102 | # 2 x 1-1/2" Shaft |
| X2376104 | # 2 x 4" Shaft     |
| X2376105 | # 2 x 6" Shaft     |
| X2376106 | # 3 x 6" Shaft     |
| X2376108 | # 4 x 8" Shaft     |



## Nutdrivers w/ Cushion Grip

| Part No. | Description       |
|----------|-------------------|
| X2542010 | 3/16" x 3" Shaft  |
| X2542030 | 1/4" x 3" Shaft   |
| X2542050 | 5/16" x 3" Shaft  |
| X2542060 | 11/32" x 3" Shaft |
| X2542070 | 3/8" x 3" Shaft   |
| X2542080 | 7/16" x 3" Shaft  |
| X2542090 | 1/2" x 3" Shaft   |
| X2542100 | 9/16" x 3" Shaft  |
| X2542110 | 5/8" x 3" Shaft   |

Also available with 6" Cushion Grip  
Metric sizes offered in 5-12mm



### Part No. X23871

Screwdriver Set  
Includes: #1x3", #2x4", 1/8"x2",  
3/16"x6", 1/4"x4", 5/16"x6"  
Packaged in a roll

### Part No. X23869

Screwdriver Set  
Includes: #1x3", #2x4", 1/8"x2",  
3/16"x6", 3/16"x10", 1/4"x4",  
5/16"x6", 3/8"x8"  
Packaged in a roll

### Part No. X23870

Screwdriver Set  
Includes: #1x3", #2x4", #3x6", 1/8"x2",  
3/16"x6", 3/16"x10",  
1/4"x4", 5/16"x6", 3/8"x8", 3/8"x12"  
Packaged in a roll



## Torque Screwdriver

| Part No. | OAL    | Drive | Torque    |
|----------|--------|-------|-----------|
| X22TS35  | 6-3/8" | 1/4"  | 1-36in/lb |



## Torx Screwdrivers

| Part No. | Description    |
|----------|----------------|
| X2341410 | T10 x 3" Shaft |
| X2341415 | T15 x 3" Shaft |
| X2341420 | T20 x 3" Shaft |
| X2341425 | T25 x 3" Shaft |
| X2341427 | T27 x 4" Shaft |
| X2341430 | T30 x 4" Shaft |
| X2341440 | T40 x 6" Shaft |
| X2341445 | T45 x 6" Shaft |
| X2341450 | T50 x 6" Shaft |



## Magnetic Bit Screwdriver

| Part No. | Bits Included |      |     |     |
|----------|---------------|------|-----|-----|
| X2742614 | 3/16"         | 1/4" | # 1 | # 2 |



## Magnetic Screw Starter

| Part No. | Description |
|----------|-------------|
| X27500-6 | 6" Slotted  |
| X27700-6 | 6" Phillips |

## Nutdriver Sets



### Part No. X25922

3" Nutdriver Set  
Includes: 3/16", 1/4", 5/16", 11/32",  
3/8", 7/16", 1/2", 9/16", 5/8"  
Packaged in a roll

### Part No. X25925

3" Metric Nutdriver Set  
Includes: 5mm, 6mm, 7mm, 8mm,  
9mm, 10mm, 11mm, 12mm  
Packaged in a roll



# 1000V Pliers & Cutters



**Fiberglass Plier**

| Part No. | OAL | Jaw Opening |
|----------|-----|-------------|
| XKN9862  | 8"  | 1-1/2"      |



**Linesman Pliers**

| Part No. | OAL    | Description   |
|----------|--------|---------------|
| 21347    | 7"     | Rounded Nose  |
| X21348   | 8-1/2" | Rounded Nose  |
| X21369   | 9"     | High Leverage |



**Cutting Pliers**

| Part No. | OAL |
|----------|-----|
| X21436   | 6"  |
| X21437   | 7"  |



**Cable Cutter**

| Part No. | OAL    |
|----------|--------|
| X21911   | 9-1/2" |



**Crimping Tool & Wire Cutter**

| Part Number | OAL    | AWG   |
|-------------|--------|-------|
| X211005     | 9-3/4" | 10-22 |



**Tongue and Groove Pliers**

| Part No. | OAL    | Capacity |
|----------|--------|----------|
| X21426   | 6-1/2" | 7/8"     |
| X21430   | 10"    | 2"       |



**Wire Stripper-Cutter**

| Part No. | AWG   |
|----------|-------|
| X2111045 | 10-18 |



**Ratcheting Cable Cutter**

| Part No. | Alum.   | Copper  |
|----------|---------|---------|
| X2163060 | 600 MCM | 400 MCM |







## Open-End Wrench Set

| Part No.       | Description                 |
|----------------|-----------------------------|
| <b>X241713</b> | 13pc Set Includes 1/4" - 1" |



## L Handle Hex Wrench Set

| Part No.        | Description                 |
|-----------------|-----------------------------|
| <b>X2610214</b> | 13pc Set Includes 1/4" - 1" |
| <b>X2610614</b> | 14pc Set Includes .09-17mm  |



## Battery Torque Wrench Set

| Part No.    | Description                |
|-------------|----------------------------|
| <b>X202</b> | 4pc Set Battery Torque Set |

*Includes:* 3/8" Drive Torque Wrench (10" OAL, 30-150in/lb) 7" Fiberglass Extension, 1/2" Box Wrench, 1/2" 6pt Socket



## Closed-End Wrench Set

| Part No.         | Description                 |
|------------------|-----------------------------|
| <b>X241713-B</b> | 13pc Set Includes 1/4" - 1" |



## T Handle Hex Wrench Set

| Part No.      | Description                    |
|---------------|--------------------------------|
| <b>X2613P</b> | 13pc Set Includes 5/64" - 1/2" |



## Ratchet and Socket Sets

| Part No.    | Description  |
|-------------|--|
| <b>X104</b> | 16pc Standard Socket Set<br>3/8" Drive, Deep Sockets |

*Includes:* Ratchet, 3" and 6" Extensions, 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, and 1" Sockets (12pt)

| Part No.    | Description  |
|-------------|--|
| <b>X106</b> | 24pc Metric Socket Set<br>3/8" Drive, Deep Sockets |

*Includes:* Ratchet, 3" and 6" Extensions, 6mm - 26mm Sockets (6pt and 12pt)



## Electrician Tool Set

| Part No.    | Description          |
|-------------|----------------------|
| <b>XTK9</b> | 9pc Electrician Roll |

*Includes:* 3/16x4", 3/16x6", 1/4x6" Slotted Screwdrivers, #1x3", #2x4" Phillips Screwdrivers, 7" Needle Nose Plier, 7-1/2" Diagonal Cutting Plier, 9" Linesman Plier, Combination Stripper/Crimper

**We can make custom sets according to your specifications**



# 1000V Tool Sets



| Part No.       | Description                               |
|----------------|---|
| <b>X204946</b> | 13pc 1/4" Drive Close Quarters Socket Set |

Includes: Ratchet; 3" and 6" Flared Extensions; 3/16, 7/32, 1/4, 9/32, 5/16, 11/32, 3/8, 7/16, 1/2, and 9/16" Regular Sockets (12pt)

| Part No.       | Description                               |
|----------------|---|
| <b>X204653</b> | 16pc 3/8" Drive Close Quarters Socket Set |

Includes: Ratchet; 3" and 6" Flared Extensions; 1/4, 5/16, 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, and 1" Regular Sockets (12pt)

| Part No.       | Description                               |
|----------------|---|
| <b>X204121</b> | 21pc 1/2" Drive Close Quarters Socket Set |

Includes: Ratchet; 5" Flared Extension; 3/8, 7/16, 1/2, 9/16, 5/8, 11/16, 3/4, 13/16, 7/8, 15/16, 1, 1-1/16, 1-1/8, 1-3/16, 1-1/4, 1-5/16, 1-3/8, 1-7/16, and 1-1/2" Regular Sockets (12pt)



| Part No.       | Description                  |
|----------------|------------------------------|
| <b>X10TK60</b> | 60pc General Maintenance Box |

Includes: 1/8x2", 3/16x4", 3/16x6", 1/4x6", 5/16x6" Slotted Screwdrivers; #2x4", #2x8" Phillips Screwdrivers; 3/16, 1/4, 5/16, 11/32, 3/8, 7/16, 1/2 Nutdrivers (6" Long); Torque Wrench (30-150in/lb); 3/8" Drive Reversible Ratchet; 3" and 6" Extensions; 10pcs 5/16" - 7/8" Deep Sockets; 11pcs 3/8" - 1" Type L Hex Wrenches (6"); 7-1/2" Diagonal Cutting Plier; 8" Needle Nose Plier; 9" Linesman Plier; 9-1/2" Cable Cutting Plier; 10" Water Pump Plier; Combination Stripper/Crimper

| Part No.       | Description                  |
|----------------|------------------------------|
| <b>X10TK25</b> | 25pc Outside Maintenance Box |

Includes: 1/4x6" Narrow Tip & #2x6" Phillips Screwdrivers; 3/8x3", 7/16x3", 1/2x3", 9/16"x3" Nutdrivers; Torque Wrench (30-150in/lb); Reversible 3/8" Drive Ratchet; 3", 6", and 12" Extensions; 8pcs 3/8" - 13/16" Deep Sockets; 3/16", 1/4", 5/16", and 3/8" Type L Hex Wrenches (6"); 10" Water Pump Plier



| Part No.       | Description                              |
|----------------|--|
| <b>X10TK23</b> | 24pc Basic Toll Power Connecting Toolbox |

Includes: Close Quarters Socket set w/ 3/8" Drive Ratchet; 3" and 6" Flared Extensions; 1/4", 5/16", 3/8", 7/16", 1/2", 9/16", 5/8", 11/16", 3/4", 13/16", 7/8", 15/16", and 1" Sockets (12pt); 6" Adjustable Wrench; 3/16", 1/4", 5/16", 11/32", 3/8", 7/16", 1/2" Nutdrivers (3")

**THIS SET IS DESIGNED FOR USE IN TIGHT WORK SPACES**



| Part No.    | Description                    |
|-------------|--------------------------------|
| <b>X101</b> | 16pc Telecommunication Toolbox |

Includes: 3/8" Drive Ratchet; 3/8" Drive 10" Torque Ratchet (30-250in/lb); 3" Extension; 3/8", 7/16", 1/2", 9/16" Regular Sockets (12pt); 5/8" Deep Socket; 9" Linesman Plier; 6" Needle Nose Plier; 8" Slip Joint Plier; 3/16x4", 1/4x6", 5/16x6", 3/8x8" Slotted Screwdrivers; #2x6" Phillips Screwdriver

**We can make custom sets according to your specifications**



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Effective and secure fastening of screws is indispensable in improved work efficiency and increased reliability in mass production assembly factories. Good bits play a vital role in improved product quality and cost reduction. The accurately machined tip configuration of VESSEL bits will match any screw head perfectly. We offer a wide selection of products and customer service in order to help you select and use the appropriate VESSEL bit for any application.

VESSEL is known for their high quality and ensures that every product supplied is manufactured and tested to the relevant quality and production standards as JIS (Japanese Industrial Standard) and DIN requirements.

### For Safety Use:

- Avoid over-torque, over-load
- Do not idle tool in free speed with bit attached to it
- Do not use hand tool bits for power tools
- Before tools put on services for installing or replacing bits, be sure to disconnect the power supply. Otherwise, these tools may operate accidentally during their replacement or come off during operation, resulting in accidents, which is dangerous
- During the operation, the bits and screws are heated due to friction. Therefore, do not touch them

### NOTE:

Special order bits may take 6-8 weeks. If bits are not in stock, the minimum order is 200 pcs. Dimensions and specifications are subject to change without notice in advance.

## Insert Bits & Holders



**HAM**

The HAM bit holder accepts 1/4" (6.35mm) hex drive insert bits, and only has a 75mm O.A.L.



**MBC-BLUE**

The MBC-BLUE is a unique magnetic bit holder perfect for repetitive screw fastening. With its powerful magnet, screws can be held in place in horizontal and vertical positions while a retainer ring secures the bit inside the blue anodized holder. Equipped with a quick release chuck and accommodates 1/4" hex insert bits.

| Part # | Model #             | OAL (mm) |
|--------|---------------------|----------|
| 482415 | HAM (Magnetic)      | 75       |
| 486345 | MBC-BLUE (Magnetic) | 68       |

### Cross Recessed

| Part # | Model # | Tip x L |
|--------|---------|---------|
| 489001 | 3000/25 | P0 x 1" |
| 489002 | 3001/25 | P1 x 1" |
| 489003 | 3002/25 | P2 x 1" |

### Cross

| Part # | Model # | Tip x L |
|--------|---------|---------|
| 487105 | 1001    | P1 x 1" |
| 487106 | 1002    | P2 x 1" |
| 487107 | 1003    | P3 x 1" |

### Slot Recessed

| Part # | Model # | Tip x L    |
|--------|---------|------------|
| 489061 | 5603/25 | 3x0.65x1"  |
| 489062 | 5604/25 | 4x0.7x1"   |
| 446389 | 5655/25 | 5.5x0.8x1" |
| 489065 | 5606/25 | 6x0.85x25" |
| 489066 | 5607/25 | 7x1.2x1"   |
| 489067 | 5608/25 | 8x1x25"    |

### Hex

| Part # | Model #  | Tip x L     |
|--------|----------|-------------|
| 487130 | 2001     | 1/8" x 25mm |
| 489051 | 3032/25  | 2 x 25mm    |
| 489052 | 30325/25 | 2.5 x 25mm  |
| 489053 | 3033/25  | 3 x 25mm    |
| 489054 | 3034/25  | 4 x 25mm    |
| 489055 | 3035/25  | 5 x 25mm    |
| 489056 | 3036/25  | 6 x 25mm    |
| 489057 | 3038/25  | 8 x 25mm    |

### Square Head

| Part # | Model # | Tip x L |
|--------|---------|---------|
| 487150 | 3001    | 1 x 1"  |
| 487151 | 3002    | 2 x 1"  |
| 487152 | 3003    | 3 x 1"  |

### Torx Recessed

| Part # | Model # | Tip x L  |
|--------|---------|----------|
| 489160 | T10/25  | T10 x 1" |
| 489161 | T15/25  | T15 x 1" |
| 489162 | T20/25  | T20 x 1" |
| 489163 | T25/25  | T25 x 1" |
| 489165 | T30/25  | T30 x 1" |
| 489166 | T40/25  | T40 x 1" |

## Double End Bits & Holder

### Features:

- One touch insertion and quick release
- Accepts both single-end and Double-end bits
- Perfect bit holding without any "play" between bit and holder
- Utilizes a precision engineered steel sheet spring to firmly grab bits without failure



**DBH-02**

Accepts all bits listed above, as well as Double-End bits

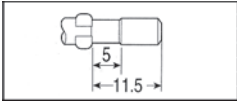


| Part # | Model #            | OAL (mm) |
|--------|--------------------|----------|
| 482433 | DBHM-01 (Magnetic) | 60       |
| 482434 | DBHM-02 (Magnetic) | 62       |

### DOUBLE END BITS

| TIP | Part # | Model # | Tip x L |
|-----|--------|---------|---------|
| +   | 482435 | P1D     | 1 x 30  |
|     | 482436 | P2D     | 2 x 30  |
|     | 482437 | P3D     | 3 x 30  |
| *   | 482438 | PZ1D    | 1 x 30  |
|     | 482439 | PZ2D    | 2 x 30  |
|     | 480440 | PZ3D    | 3 x 30  |
| -   | 482441 | 4MMD    | 4 x 30  |
|     | 482442 | 5MMD    | 5 x 30  |
|     | 482443 | 6MMD    | 6 x 30  |





## φ 4mm Shank Drive



| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 446001 | D73     | 00  | 1.2             | 40       |
| 446002 | D73     | 00  | 1.2             | 60       |
| 483001 | D73     | 00  | 1.5             | 40       |
| 483002 | D73     | 00  | 1.5             | 60       |
| 446004 | D73     | 00  | 1.7             | 40       |
| 446005 | D73     | 00  | 1.7             | 60       |
| 483005 | D73     | 00  | 2               | 40       |
| 483006 | D73     | 00  | 2               | 60       |
| 446006 | D73     | 00  | 2               | 80       |
| 446007 | D73     | 00  | 2               | 40       |
| 446008 | D73     | 00  | 2               | 60       |
| 446009 | D73     | 00  | 2               | 80       |
| 446010 | D73     | 00  | 2               | 60       |
| 446011 | D73     | 00  | 2               | 80       |
| 446012 | D73     | 00  | 2               | 100      |
| 446013 | D73     | 00  | 2               | 60       |
| 446014 | D73     | 00  | 2               | 80       |
| 446015 | D73     | 00  | 2               | 100      |



|        |     |   |     |     |
|--------|-----|---|-----|-----|
| 446016 | D73 | 0 | 1.4 | 40  |
| 446017 | D73 | 0 | 1.4 | 60  |
| 446018 | D73 | 0 | 1.4 | 80  |
| 446019 | D73 | 0 | 1.4 | 60  |
| 446020 | D73 | 0 | 1.4 | 80  |
| 446021 | D73 | 0 | 1.4 | 100 |
| 483010 | D73 | 0 | 1.7 | 40  |
| 483011 | D73 | 0 | 1.7 | 60  |
| 446023 | D73 | 0 | 1.7 | 60  |
| 446024 | D73 | 0 | 1.7 | 80  |
| 446025 | D73 | 0 | 2   | 40  |
| 446026 | D73 | 0 | 2   | 60  |
| 446027 | D73 | 0 | 2   | 80  |
| 446028 | D73 | 0 | 2   | 100 |
| 446030 | D73 | 0 | 2   | 80  |
| 446031 | D73 | 0 | 2   | 100 |
| 483015 | D73 | 0 | 2.5 | 40  |
| 483016 | D73 | 0 | 2.5 | 60  |
| 446033 | D73 | 0 | 2.5 | 80  |
| 446034 | D73 | 0 | 2.5 | 100 |
| 446036 | D73 | 0 | 2.5 | 80  |
| 446037 | D73 | 0 | 2.5 | 100 |
| 446038 | D73 | 0 | 3   | 40  |
| 446039 | D73 | 0 | 3   | 60  |
| 446040 | D73 | 0 | 3   | 80  |
| 446041 | D73 | 0 | 3   | 100 |
| 446042 | D73 | 0 | 3   | 80  |
| 446043 | D73 | 0 | 3   | 100 |
| 446044 | D73 | 0 | 4   | 40  |
| 446045 | D73 | 0 | 4   | 60  |



| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 446046 | D73     | 1   | 2.2             | 40       |
| 446047 | D73     | 1   | 2.2             | 60       |
| 446048 | D73     | 1   | 2.5             | 40       |
| 446049 | D73     | 1   | 2.5             | 60       |
| 446050 | D73     | 1   | 2.5             | 60       |
| 446051 | D73     | 1   | 2.5             | 80       |
| 446052 | D73     | 1   | 2.5             | 100      |
| 483021 | D73     | 1   | 3               | 40       |
| 446053 | D73     | 1   | 3               | 60       |
| 446054 | D73     | 1   | 3               | 80       |
| 446055 | D73     | 1   | 3               | 100      |
| 446056 | D73     | 1   | 3               | 60       |
| 446057 | D73     | 1   | 3               | 80       |
| 446058 | D73     | 1   | 3               | 100      |
| 483025 | D73     | 1   | 4               | 40       |
| 446059 | D73     | 1   | 4               | 60       |
| 446060 | D73     | 1   | 4               | 80       |
| 446061 | D73     | 1   | 4               | 100      |
| 446062 | D73     | 1   | 4               | 120      |



|        |     |   |   |     |
|--------|-----|---|---|-----|
| 446063 | D73 | 2 | 3 | 40  |
| 446064 | D73 | 2 | 3 | 60  |
| 446065 | D73 | 2 | 3 | 80  |
| 446066 | D73 | 2 | 3 | 60  |
| 446067 | D73 | 2 | 3 | 80  |
| 446068 | D73 | 2 | 3 | 100 |
| 446069 | D73 | 2 | 3 | 120 |
| 483031 | D73 | 2 | 4 | 40  |
| 446070 | D73 | 2 | 4 | 60  |
| 446071 | D73 | 2 | 4 | 80  |
| 446072 | D73 | 2 | 4 | 100 |
| 446073 | D73 | 2 | 4 | 120 |



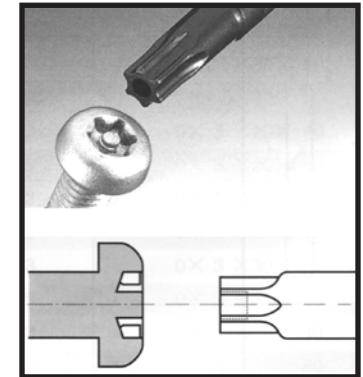
| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 446074 | D73     | 1.1 | 0.28            | 40       |
| 446075 | D73     | 1.1 | 0.28            | 60       |
| 446076 | D73     | 1.1 | 0.28            | 80       |
| 446077 | D73     | 1.3 | 0.28            | 40       |
| 446078 | D73     | 1.3 | 0.28            | 60       |
| 446079 | D73     | 1.3 | 0.28            | 80       |
| 446080 | D73     | 1.5 | 0.30            | 40       |
| 446081 | D73     | 1.5 | 0.30            | 60       |
| 446082 | D73     | 1.5 | 0.30            | 80       |
| 446083 | D73     | 1.7 | 0.30            | 40       |
| 446084 | D73     | 1.7 | 0.30            | 60       |
| 446085 | D73     | 1.7 | 0.30            | 80       |
| 446086 | D73     | 1.8 | 0.40            | 40       |
| 446087 | D73     | 1.8 | 0.40            | 60       |
| 446088 | D73     | 1.8 | 0.40            | 80       |

**FOR USE WITH:**  
DELVO (DENSEI), HIOS (FERRA TOOLS)

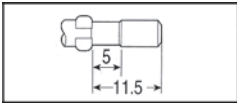


|        |     |     |   |     |
|--------|-----|-----|---|-----|
| 446107 | D73 | 5   | 2 | 40  |
| 446108 | D73 | 5   | 2 | 60  |
| 446109 | D73 | 6   | 2 | 40  |
| 446110 | D73 | 6   | 2 | 60  |
| 446111 | D73 | 6   | 4 | 60  |
| 446112 | D73 | 6   | 4 | 100 |
| 446113 | D73 | 7   | 2 | 60  |
| 446114 | D73 | 7   | 4 | 60  |
| 446115 | D73 | 7   | 4 | 100 |
| 446116 | D73 | 8H  | 4 | 60  |
| 446117 | D73 | 8H  | 4 | 100 |
| 446118 | D73 | 8H  | 4 | 150 |
| 446119 | D73 | 10H | 4 | 60  |
| 446120 | D73 | 10H | 4 | 100 |
| 446421 | D73 | 10H | 4 | 150 |
| 446422 | D73 | 15H | 4 | 60  |
| 446123 | D73 | 15H | 4 | 100 |

\* H = Tamper Proof



|        |     |     |      |    |
|--------|-----|-----|------|----|
| 446089 | D73 | 2   | 0.40 | 40 |
| 446090 | D73 | 2   | 0.40 | 60 |
| 446091 | D73 | 2   | 0.40 | 80 |
| 446092 | D73 | 2.3 | 0.40 | 40 |
| 446093 | D73 | 2.3 | 0.40 | 60 |
| 446094 | D73 | 2.3 | 0.40 | 80 |
| 446095 | D73 | 2.5 | 0.40 | 40 |
| 446096 | D73 | 2.5 | 0.40 | 60 |
| 446097 | D73 | 2.5 | 0.40 | 80 |
| 446098 | D73 | 2.8 | 0.40 | 40 |
| 446099 | D73 | 2.8 | 0.40 | 60 |
| 446100 | D73 | 2.8 | 0.40 | 80 |
| 446101 | D73 | 3   | 0.40 | 40 |
| 446102 | D73 | 3   | 0.40 | 60 |
| 446103 | D73 | 3   | 0.40 | 80 |
| 446104 | D73 | 4   | 0.60 | 40 |
| 446105 | D73 | 4   | 0.60 | 60 |
| 446106 | D73 | 4   | 0.60 | 80 |



FOR USE WITH:  
HIOS (FERRA TOOLS)

## φ 5mm Shank Drive



| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 483105 | D76     | 00  | 2               | 60       |
| 446258 | D76     | 0   | 2.5             | 40       |
| 483115 | D76     | 0   | 2.5             | 60       |
| 446252 | D76     | 0   | 2.5             | 80       |
| 446260 | D76     | 0   | 3               | 60       |
| 446261 | D76     | 0   | 5               | 60       |
| 446262 | D76     | 1   | 2.6             | 60       |
| 446263 | D76     | 1   | 2.6             | 80       |
| 446264 | D76     | 1   | 2.6             | 100      |
| 446265 | D76     | 1   | 2.6             | 120      |
| 446266 | D76     | 1   | 3               | 40       |
| 483121 | D76     | 1   | 3               | 60       |
| 446267 | D76     | 1   | 3               | 80       |
| 446268 | D76     | 1   | 3               | 100      |
| 446269 | D76     | 1   | 3               | 120      |
| 483125 | D76     | 1   | 5               | 60       |
| 446270 | D76     | 1   | 5               | 80       |
| 446271 | D76     | 1   | 5               | 100      |
| 446272 | D76     | 1   | 5               | 120      |
| 446273 | D76     | 1   | 5               | 150      |

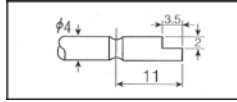


| Part # | Model # | Tip | Thick (mm) | OAL (mm) |
|--------|---------|-----|------------|----------|
| 446274 | D76     | 2   | 3          | 60       |
| 446275 | D76     | 2   | 3          | 60       |
| 446276 | D76     | 2   | 3          | 80       |
| 446277 | D76     | 2   | 3          | 100      |
| 446278 | D76     | 2   | 3          | 120      |
| 483131 | D76     | 2   | 5          | 60       |
| 446279 | D76     | 2   | 5          | 80       |
| 446280 | D76     | 2   | 5          | 100      |
| 446281 | D76     | 2   | 5          | 120      |
| 446282 | D76     | 2   | 5          | 150      |



| Part # | Model # | Tip | Thick (mm) | OAL (mm) |
|--------|---------|-----|------------|----------|
| 446284 | D76     | 5   | 5          | 60       |
| 446285 | D76     | 6   | 5          | 60       |
| 446286 | D76     | 7   | 5          | 60       |
| 446287 | D76     | 8H  | 5          | 60       |
| 446288 | D76     | 10H | 5          | 60       |
| 446289 | D76     | 15H | 5          | 60       |

\* H = Tamper Proof (see pg 37)



FOR USE WITH:  
DELVO (DENSEI)

## φ 4mm Drive



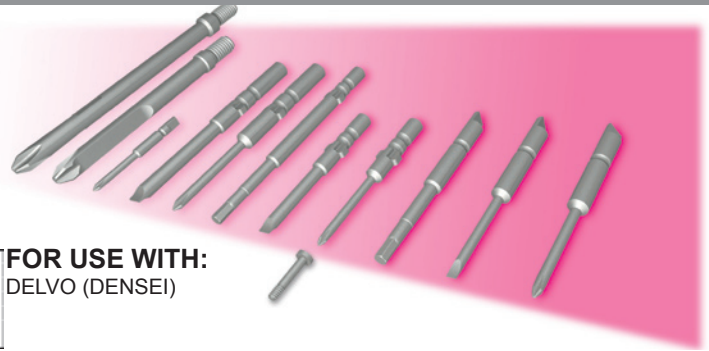
| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 446290 | EPH201  | 0   | 1.8             | 44       |
| 446291 | EPH202  | 0   | 1.8             | 64       |
| 446292 | EPH203  | 00  | 2               | 44       |
| 446293 | EPH204  | 00  | 2               | 64       |
| 446294 | EPH205  | 0   | 2.5             | 44       |
| 446295 | EPH206  | 0   | 2.5             | 64       |
| 446296 | EPH207  | 1   | 3               | 44       |
| 446297 | EPH208  | 1   | 3               | 64       |
| 446498 | EPH209  | 1   | 4               | 44       |
| 446299 | EPH210  | 1   | 4               | 64       |
| 446300 | EPH211  | 2   | 4               | 44       |
| 446301 | EPH212  | 2   | 4               | 64       |
| 446302 | EPH213  | 3   | 6               | 44       |



| Part # | Model # | Tip | Thick (mm) | OAL (mm) |
|--------|---------|-----|------------|----------|
| 446303 | EPL221  | 2   | 0.3        | 44       |
| 446304 | EPL222  | 2.5 | 0.3        | 44       |
| 446305 | EPL223  | 3   | 0.4        | 44       |
| 446306 | EPL224  | 4   | 0.5        | 44       |
| 446307 | EPL225  | 5   | 0.65       | 44       |



| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 446308 | EHW231  | 1.5 | n/a             | 44       |
| 446309 | EHW232  | 2   | n/a             | 44       |
| 446310 | EHW233  | 2.5 | n/a             | 44       |
| 446311 | EHW234  | 3   | n/a             | 44       |



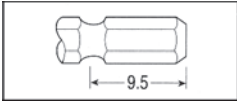
| Part # | Model # | Size (mm) | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----------|-----------------|----------|
| 446312 | EBX241  | 2.3       | n/a             | 44       |
| 446313 | EBX242  | 2.5       | n/a             | 44       |
| 446314 | EBX243  | 3         | n/a             | 44       |
| 446315 | EBX244  | 4         | n/a             | 44       |
| 446316 | EBX245  | 4.5       | n/a             | 44       |
| 446317 | EBX246  | 5         | n/a             | 44       |
| 446318 | EBX247  | 5.5       | n/a             | 44       |



| Part # | Model # | Tip | Thick (mm) | OAL (mm) |
|--------|---------|-----|------------|----------|
| 446319 | ETX250  | 5   | n/a        | 44       |
| 446320 | ETX251  | 5   | n/a        | 64       |
| 446321 | ETX252  | 6   | n/a        | 44       |
| 446322 | ETX253  | 6   | n/a        | 64       |
| 446323 | ETX254  | 8H  | n/a        | 44       |
| 446324 | ETX255  | 8H  | n/a        | 64       |
| 446325 | ETX256  | 10H | n/a        | 44       |
| 446326 | ETX257  | 10H | n/a        | 64       |
| 446327 | ETX258  | 15H | n/a        | 44       |
| 446328 | ETX259  | 15H | n/a        | 64       |

\* H = Tamper Proof (see pg 37)





**1/4" = 6.35mm Drive**

**FOR USE WITH:** AEG, ARO, ATLAS-COPCO, BIAx, B&D, BOSCH, BUCKEYE-TOOLS, CHICAGO PNEUMATIC, CLECO, DELVO (DENSEI), DEPRAG, DESOUTTER, FIAM, FUJI-KUKI, GARDNER-DENVER, HIOS (FERRA TOOLS) HITACHI, INGERSOLL, KELLER, MAKITA, MALL, MATSUSHITA, METABO, NPK, PNEUTEC, PREMAG, ROCKWELL, ROTOR-TOOL, SKIL, STANLEY, STAR, STAYER, THOR, TONICHI, URYU, VAN-DORN, VIRAX, WOLF, YOKOTA, YUTANI



| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 446125 | B35     | 00  | 1.2             | 40       |
| 446126 | B35     | 00  | 1.2             | 60       |
| 446127 | B35     | 00  | 1.5             | 40       |
| 446128 | B35     | 00  | 1.5             | 60       |
| 446129 | B35     | 00  | 1.7             | 40       |
| 446130 | B35     | 00  | 1.7             | 60       |
| 446131 | B35     | 00  | 2               | 40       |
| 446132 | B35     | 00  | 2               | 60       |
| 446133 | B35     | 00  | 2               | 80       |
| 446134 | B35     | 00  | 2               | 60       |
| 446135 | B35     | 00  | 2               | 80       |
| 446136 | B35     | 00  | 2               | 60       |
| 446137 | B35     | 00  | 2               | 80       |
| 446138 | B35     | 00  | 2               | 100      |
| 446139 | B35     | 00  | 2               | 60       |
| 446140 | B35     | 00  | 2               | 80       |
| 446141 | B35     | 00  | 2               | 100      |
| 446142 | B35     | 0   | 1.4             | 40       |
| 446143 | B35     | 0   | 1.4             | 60       |
| 446144 | B35     | 0   | 1.4             | 80       |
| 446145 | B35     | 0   | 1.4             | 60       |
| 446146 | B35     | 0   | 1.4             | 80       |
| 446147 | B35     | 0   | 1.4             | 100      |
| 446148 | B35     | 0   | 1.7             | 40       |
| 446149 | B35     | 0   | 1.7             | 60       |
| 446150 | B35     | 0   | 1.7             | 60       |
| 446151 | B35     | 0   | 1.7             | 80       |
| 446152 | B35     | 0   | 2               | 40       |
| 446153 | B35     | 0   | 2               | 60       |
| 446154 | B35     | 0   | 2               | 80       |
| 446155 | B35     | 0   | 2               | 100      |
| 446156 | B35     | 0   | 2               | 80       |
| 446157 | B35     | 0   | 2               | 100      |
| 446158 | B35     | 0   | 2.5             | 40       |
| 446159 | B35     | 0   | 2.5             | 60       |
| 446160 | B35     | 0   | 2.5             | 80       |
| 446161 | B35     | 0   | 2.5             | 100      |
| 446162 | B35     | 0   | 2.5             | 80       |
| 446163 | B35     | 0   | 2.5             | 100      |
| 446164 | B35     | 0   | 3               | 40       |
| 446165 | B35     | 0   | 3               | 60       |
| 446166 | B35     | 0   | 3               | 80       |
| 446167 | B35     | 0   | 3               | 100      |

| Part # | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|-----|-----------------|----------|
| 446168 | B35     | 0   | 3               | 80       |
| 446169 | B35     | 0   | 3               | 100      |
| 446170 | B35     | 0   | 4               | 40       |
| 446171 | B35     | 0   | 4               | 60       |
| 446172 | B35     | 1   | 2.2             | 40       |
| 446173 | B35     | 1   | 2.2             | 60       |
| 446174 | B35     | 1   | 2.3             | 75       |
| 446175 | B35     | 1   | 2.5             | 40       |
| 446176 | B35     | 1   | 2.5             | 60       |
| 446177 | B35     | 1   | 2.5             | 60       |
| 446178 | B35     | 1   | 2.5             | 80       |
| 446179 | B35     | 1   | 2.5             | 100      |
| 446180 | B35     | 1   | 3               | 40       |
| 446181 | B35     | 1   | 3               | 60       |
| 446182 | B35     | 1   | 3               | 80       |
| 446183 | B35     | 1   | 3               | 100      |
| 446184 | B35     | 1   | 3               | 60       |
| 446185 | B35     | 1   | 3               | 80       |
| 446186 | B35     | 1   | 3               | 100      |
| 446187 | B35     | 1   | 3.2             | 75       |
| 446188 | B35     | 1   | 4               | 40       |
| 446189 | B35     | 1   | 4               | 60       |
| 446190 | B35     | 1   | 4               | 80       |
| 446191 | B35     | 1   | 4               | 100      |
| 424035 | B35     | 1   | 7               | 75       |
| 446192 | B35     | 1   | 4               | 120      |
| 446193 | B35     | 2   | 3               | 40       |
| 446194 | B35     | 2   | 3               | 60       |
| 446195 | B35     | 2   | 3               | 80       |
| 446196 | B35     | 2   | 3               | 60       |
| 446197 | B35     | 2   | 3.2             | 70       |
| 446198 | B35     | 2   | 3               | 80       |
| 446199 | B35     | 2   | 3               | 100      |
| 446200 | B35     | 2   | 3               | 120      |
| 446201 | B35     | 2   | 3.2             | 75       |
| 446202 | B35     | 2   | 4               | 40       |
| 446203 | B35     | 2   | 4               | 60       |
| 446204 | B35     | 2   | 4               | 80       |
| 446205 | B35     | 2   | 4               | 100      |
| 446206 | B35     | 2   | 4               | 120      |
| 424049 | B35     | 2   | 7               | 150      |
| 446207 | B35     | 2   | 7               | 200      |



| Part # | Model # | Tip Size | Shaft Dia. (in) | OAL (mm) |
|--------|---------|----------|-----------------|----------|
| 446423 | 10600   | 00       | 2/32"           | 49       |
| 487195 | 1060    | 0        | 1/8"            | 49       |
| 487200 | 1061    | 1        | 3/16"           | 49       |
| 446424 | 1062R   | 2        | 3/16"           | 49       |
| 487205 | 1062    | 2        | 1/4"            | 49       |
| 487201 | 1071    | 1        | 3/16"           | 70       |
| 487206 | 1072    | 2        | 1/4"            | 70       |
| 487202 | 1081    | 1        | 3/16"           | 89       |
| 487207 | 1082    | 2        | 1/4"            | 89       |
| 446425 | 41071   | 1        | 3/16"           | 75       |
| 446426 | 42071   | 2        | 3/16"           | 75       |
| 446427 | 41081   | 1        | 3/16"           | 100      |



| Part # | Model # | A/F (mm) | Shaft Dia. (in) | OAL (mm) |
|--------|---------|----------|-----------------|----------|
| 489301 | 1304/50 | 4        | 8               | 50       |
| 489302 | 1345/50 | 4.5      | 8               | 50       |
| 489303 | 1305/50 | 5        | 8.5             | 50       |
| 489304 | 1355/50 | 5.5      | 9               | 50       |
| 489305 | 1306/50 | 6        | 10              | 50       |
| 489306 | 1307/50 | 7        | 13              | 50       |
| 489307 | 1308/50 | 8        | 13              | 50       |
| 489308 | 1309/50 | 9        | 14              | 50       |
| 489309 | 1310/50 | 10       | 16              | 50       |
| 489310 | 1311/50 | 11       | 17              | 50       |
| 489311 | 1312/50 | 12       | 19              | 50       |
| 489312 | 1313/50 | 13       | 19              | 50       |
| 489313 | 1314/50 | 14       | 20              | 50       |
| 446601 | 1317/55 | 17       |                 | 55       |

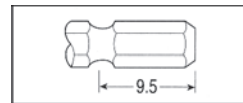
\* Other lengths available up to 150 mm.



| Part # | Model #  | Tip Size | Shaft Dia. (mm) | OAL (mm) |
|--------|----------|----------|-----------------|----------|
| 489672 | 4301/150 | 1        | 4.5             | 150      |
| 489673 | 4302/150 | 2        | 6               | 150      |
| 446437 | 4303/150 | 3        | 8               | 150      |
| 446438 | 4301/200 | 1        | 4.5             | 200      |
| 446439 | 4302/200 | 2        | 6               | 200      |
| 446440 | 4303/200 | 3        | 8               | 150      |



**FOR USE WITH:** AEG, ARO, ATLAS-COPCO, BIAX, B&D, BOSCH, BUCKEYE-TOOLS, CHICAGO PNEUMATIC, CLECO, DELVO (DENSEI), DEPRAG, DESOUTTER, FIAM, FUJI-KUKI, GARDNER-DENVER, HIOS (FERRA TOOLS) HITACHI, INGERSOLL, KELLER, MAKITA, MALL, MATSUSHITA, METABO, NPK, PNEUTEC, PREMAG, ROCKWELL, ROTOR-TOOL, SKIL, STANLEY, STAR, STAYER, THOR, TONICHI, URYU, VAN-DORN, VIRAX, WOLF, YOKOTA, YUTANI



**1/4" = 6.35mm Drive**



| Part # | Model # | Tip Size | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|----------|-----------------|----------|
| 21202  | -       | 2        | 3               | 49       |
| 487280 | 21225   | 2.5      | 3.5             | 49       |
| 487281 | 21203   | 3        | 3.5             | 49       |
| 487282 | 21204   | 4        | 4.6             | 49       |
| 487283 | 21205   | 5        | 5.8             | 49       |
| 487284 | 21206   | 6        |                 | 49       |
| 489291 | 1332/70 | 2        | 7               | 70       |
| 489292 | 1333/70 | 3        | 7               | 70       |
| 489293 | 1334/70 | 4        | 7               | 70       |
| 489294 | 1335/70 | 5        | 7               | 70       |
| 489295 | 1336/70 | 6        | 7               | 70       |
| 489496 | 1337/70 | 7        | 10              | 70       |
| 489297 | 1338/70 | 8        | 11              | 70       |
| 489298 | 1339/70 | 9        | 11              | 70       |
| 489299 | 1334/70 | 10       | 12              | 70       |
| 424080 | B35     | 2        | 7               | 75       |
| 424082 | B35     | 2.5      | 7               | 75       |
| 424084 | B35     | 3        | 7               | 75       |
| 424086 | B35     | 4        | 7               | 75       |
| 424088 | B35     | 5        | 7               | 75       |
| 424090 | B35     | 6        | 7               | 75       |
| 424081 | B35     | 2        | 7               | 100      |
| 424083 | B35     | 2.5      | 7               | 100      |
| 424085 | B35     | 3        | 7               | 100      |
| 424087 | B35     | 4        | 7               | 100      |
| 424089 | B35     | 5        | 7               | 100      |
| 424091 | B35     | 6        | 7               | 100      |



| Part # | Model #  | Width (mm) | Thick (mm) | OAL (mm) |
|--------|----------|------------|------------|----------|
| 489271 | 5303/51  | 3          | 0.5        | 51       |
| 489272 | 5335/51  | 3.5        | 0.55       | 51       |
| 489273 | 5304/51  | 4          | 0.6        | 51       |
| 489274 | 5345/51  | 4.5        | 0.7        | 51       |
| 489275 | 5305/51  | 5          | 0.75       | 51       |
| 489276 | 5355/51  | 5.5        | 0.8        | 51       |
| 489277 | 5306/51  | 6          | 0.85       | 51       |
| 449278 | 5365/51  | 6.5        | 0.85       | 51       |
| 489279 | 5307/51  | 7          | 0.9        | 51       |
| 489280 | 5308/51  | 8          | 1          | 51       |
| 489281 | 5309/51  | 9          | 1.15       | 51       |
| 489282 | 5310/51  | 10         | 1.2        | 51       |
| 489675 | 5303/75  | 3          | 0.5        | 75       |
| 489283 | 5304/75  | 4          | 0.6        | 75       |
| 489284 | 5305/75  | 5          | 0.75       | 75       |
| 489285 | 5306/75  | 6          | 0.85       | 75       |
| 489676 | 5306/125 | 6          | 0.85       | 125      |
| 489677 | 5365/75  | 6.5        | 0.85       | 75       |
| 489286 | 5307/75  | 7          | 0.9        | 75       |



| Part # | Model # | Tip Size | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|----------|-----------------|----------|
| 446488 | T10607  | 7        | N/A             | 49       |
| 446489 | T10608  | 8        | N/A             | 49       |
| 446490 | T10609  | 9        | N/A             | 49       |
| 446491 | T10610  | 10       | N/A             | 49       |
| 446492 | T10615  | 15       | N/A             | 49       |
| 446493 | T10620  | 20       | N/A             | 49       |
| 446494 | T10625  | 25       | N/A             | 49       |
| 446495 | T10627  | 27       | N/A             | 49       |
| 446496 | T10630  | 30       | N/A             | 49       |
| 446497 | T10640  | 40       | N/A             | 49       |
| 446499 | T10707  | 7        | N/A             | 70       |
| 446500 | T10708  | 8        | N/A             | 70       |
| 446501 | T10709  | 9        | N/A             | 70       |
| 446502 | T10710  | 10       | N/A             | 70       |
| 466503 | T10715  | 15       | N/A             | 70       |
| 466504 | T10720  | 20       | N/A             | 70       |
| 466505 | T10725  | 25       | N/A             | 70       |
| 466506 | T10727  | 27       | N/A             | 70       |
| 466507 | T10730  | 30       | N/A             | 70       |
| 466508 | T10740  | 40       | N/A             | 70       |
| 446509 | T10807  | 7        | N/A             | 90       |
| 446510 | T10808  | 8        | N/A             | 90       |
| 466511 | T10809  | 9        | N/A             | 90       |
| 466512 | T10810  | 10       | N/A             | 90       |
| 466513 | T10815  | 15       | N/A             | 90       |
| 466514 | T10820  | 20       | N/A             | 90       |
| 466515 | T10825  | 25       | N/A             | 90       |
| 466516 | T10827  | 27       | N/A             | 90       |
| 466517 | T10830  | 30       | N/A             | 90       |
| 446518 | T10840  | 40       | N/A             | 90       |

**NOTE: Tamper Proof Models Available**



| Part No. | Model # | Tip | OAL (mm) |
|----------|---------|-----|----------|
| 487300   | 3031    | 1   | 49       |
| 487305   | 3032    | 2   | 49       |
| 487310   | 3033    | 3   | 49       |
| 487301   | 3041    | 1   | 70       |
| 487306   | 3042    | 2   | 70       |
| 487311   | 3043    | 3   | 70       |
| 487302   | 3051    | 1   | 90       |
| 487307   | 3052    | 2   | 90       |
| 487312   | 3053    | 3   | 90       |
| 487303   | 3061    | 1   | 152      |
| 487308   | 3062    | 2   | 152      |
| 487313   | 3063    | 3   | 152      |



| Part # | Model # | Tip Size | Shaft Dia. (mm) | OAL (mm) |
|--------|---------|----------|-----------------|----------|
| 635300 | JT      | 6        | 4               | 75       |
| 635305 | JT      | 8        | 4.5             | 75       |
| 635310 | JT      | 10       | 4.5             | 75       |
| 635315 | JT      | 15       | 4.5             | 75       |
| 635320 | JT      | 20       | 5               | 75       |
| 635325 | JT      | 25       | 5               | 75       |
| 635330 | JT      | 27       | 5.5             | 75       |
| 635335 | JT      | 30       | 6               | 75       |
| 635340 | JT      | 40       | 7               | 75       |
| 635345 | JT      | 45       | 8               | 75       |
| 635301 | JT      | 6        | 4               | 100      |
| 635306 | JT      | 8        | 4.5             | 100      |
| 635311 | JT      | 10       | 4.5             | 100      |
| 635316 | JT      | 15       | 4.5             | 100      |
| 635321 | JT      | 20       | 5               | 100      |
| 635326 | JT      | 25       | 5               | 100      |
| 635331 | JT      | 27       | 5.5             | 100      |
| 635336 | JT      | 30       | 6               | 100      |
| 635341 | JT      | 40       | 7               | 100      |
| 635346 | JT      | 45       | 8               | 100      |



| Part No. | Model # | Tip  | Shaft Dia. (mm) | OAL (mm) |
|----------|---------|------|-----------------|----------|
| 487270   | 2021    | 7/64 | -               | 49       |
| 487271   | 2022    | 1/8  | -               | 49       |
| 487272   | 2023    | 9/64 | -               | 49       |
| 487273   | 2024    | 5/32 | -               | 49       |
| 487274   | 2025    | 3/16 | -               | 49       |
| 487275   | 2026    | 7/32 | -               | 49       |
| 487276   | 2027    | 1/4  | -               | 49       |

# Industrial Bits



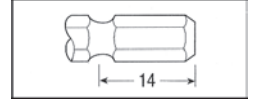
FOR USE WITH: VESSEL, HITACHI, MAKITA, MATSUSHITA, MAX, NPK, RYOBI, TONICHI, TOSHIBA, YOKOTA, YUTANI



| Part No. | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|----------|---------|-----|-----------------|----------|
| 481090   | A16     | 2   | -               | 65       |
| 481091   | A16     | 2.5 | -               | 65       |
| 481092   | A16     | 3   | -               | 65       |
| 481093   | A16     | 4   | -               | 65       |
| 481094   | A16     | 5   | -               | 65       |
| 481096   | A16     | 6   | -               | 65       |



| Part # | Model # | Width (mm) | Thick (mm) | OAL (mm) |
|--------|---------|------------|------------|----------|
| 415071 | A16     | 6          | 0.8        | 45       |
| 415072 | A16     | 6          | 0.8        | 70       |
| 415171 | A16     | 8          | 1          | 45       |
| 415172 | A16     | 8          | 1          | 70       |
| 415271 | A16     | 10         | 1.2        | 45       |
| 415272 | A16     | 10         | 1.2        | 70       |



1/4" = 6.35mm Drive



| Part # | Model # | Tip Size | OAL (mm) |
|--------|---------|----------|----------|
| 413029 | A14     | 1        | 45       |
| 413031 | A14     | 1        | 65       |
| 413032 | A14     | 1        | 65       |
| 413231 | A14     | 1        | 110      |
| 413039 | A14     | 2        | 45       |
| 413041 | A14     | 2        | 45       |
| 413040 | A14     | 2        | 45       |
| 413047 | A14     | 2        | 65       |
| 413042 | A14     | 2        | 65       |
| 413043 | A14     | 2        | 65       |
| 413045 | A14     | 2        | 65       |
| 413241 | A14     | 2        | 110      |
| 413242 | A14     | 2        | 110      |
| 413243 | A14     | 2        | 110      |
| 413245 | A14     | 2        | 150      |
| 413247 | A14     | 2        | 150      |
| 413249 | A14     | 2        | 200      |
| 413255 | A14     | 2        | 300      |
| 413051 | A14     | 3        | 45       |
| 413052 | A14     | 3        | 65       |
| 413252 | A14     | 3        | 110      |
| 413251 | A14     | 3        | 110      |



| Part No. | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|----------|---------|-----|-----------------|----------|
| 635120   | VT      | 10  | 4.5             | 65       |
| 635125   | VT      | 15  | 4.5             | 65       |
| 635130   | VT      | 20  | 5               | 65       |
| 635135   | VT      | 25  | 5               | 65       |
| 635140   | VT      | 27  | 5.5             | 65       |
| 635145   | VT      | 30  | 6               | 65       |
| 635150   | VT      | 40  | 7               | 65       |
| 635121   | VT      | 10  | 4.5             | 110      |
| 635126   | VT      | 15  | 4.5             | 110      |
| 635131   | VT      | 20  | 5               | 110      |
| 635136   | VT      | 25  | 5               | 110      |
| 635141   | VT      | 27  | 5.5             | 110      |
| 635146   | VT      | 30  | 6               | 110      |
| 635151   | VT      | 40  | 7               | 110      |



| Part # | Model # | A/F (mm) | Shaft Dia. (in) | OAL (mm) |
|--------|---------|----------|-----------------|----------|
| 416080 | A20     | 4.5      | 7.5             | 55       |
| 416081 | A20     | 5        | 8.5             | 55       |
| 416082 | A20     | 5.5      | 10              | 55       |
| 416083 | A20     | 6        | 10              | 55       |
| 416084 | A20     | 7        | 13              | 55       |
| 416181 | A20     | 8        | 13              | 55       |
| 416182 | A20     | 9        | 16              | 55       |
| 416188 | A20     | 9.6      | 16              | 55       |
| 416183 | A20     | 10       | 16              | 55       |
| 416184 | A20     | 11       | 16              | 55       |
| 416185 | A20     | 12       | 19              | 55       |
| 416186 | A20     | 13       | 19              | 55       |
| 416187 | A20     | 14       | 20              | 55       |
| 416189 | A20     | 15       | 22              | 55       |
| 416190 | A20     | 17       | 23              | 55       |

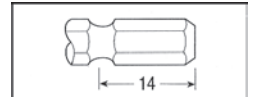
\* Other lengths available up to 100 mm.

FOR USE WITH: DELVO (DENSEI), HIOS (FERRA TOOLS), HITACHI, MATSUSHITA, URYU, YOKOTA



| Part No. | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|----------|---------|-----|-----------------|----------|
| 422036   | B34     | 1   | 6               | 70       |
| 422031   | B34     | 1   | 6               | 72       |
| 422037   | B34     | 1   | 6               | 100      |
| 422032   | B34     | 1   | 6               | 100      |
| 422038   | B34     | 1   | 6               | 150      |
| 422033   | B34     | 1   | 6               | 150      |
| 422051   | B34     | 2   | 6               | 70       |
| 422041   | B34     | 2   | 6               | 70       |
| 422052   | B34     | 2   | 6               | 100      |
| 422042   | B34     | 2   | 6               | 100      |
| 422053   | B34     | 2   | 6               | 120      |
| 422045   | B34     | 2   | 6               | 120      |
| 422067   | B34     | 2   | 6               | 125      |
| 422068   | B34     | 2   | 6               | 125      |
| 422054   | B34     | 2   | 6               | 150      |

| Part No. | Model # | Tip | Shaft Dia. (mm) | OAL (mm) |
|----------|---------|-----|-----------------|----------|
| 422043   | B34     | 2   | 6               | 150      |
| 422055   | B34     | 2   | 6               | 200      |
| 422044   | B34     | 2   | 6               | 200      |
| 422039   | B34     | 1   | 5.3             | 105      |
| 422034   | B34     | 1   | 5.3             | 105      |
| 422040   | B34     | 1   | 5.3             | 120      |
| 422035   | B34     | 1   | 5.3             | 120      |
| 422061   | B34     | 1   | 5.3             | 125      |
| 422062   | B34     | 1   | 5.3             | 125      |
| 422058   | B34     | 2   | 5.3             | 105      |
| 422046   | B34     | 2   | 5.3             | 105      |
| 422059   | B34     | 2   | 5.3             | 120      |
| 422047   | B34     | 2   | 5.3             | 120      |
| 422064   | B34     | 2   | 5.3             | 125      |
| 422065   | B34     | 2   | 5.3             | 125      |



5mm Drive



| Part # | Model # | Tip Size | OAL (mm) |
|--------|---------|----------|----------|
| 423035 | B36     | 1        | 70       |
| 423031 | B36     | 1        | 70       |
| 423036 | B36     | 1        | 100      |
| 423032 | B36     | 1        | 100      |
| 423045 | B36     | 2        | 70       |
| 423041 | B36     | 2        | 70       |
| 423046 | B36     | 2        | 100      |
| 423042 | B36     | 2        | 100      |
| 423047 | B36     | 2        | 100      |
| 423043 | B36     | 2        | 100      |



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### GT-S4.5DR



Bit Sleeve Retainer  
**6.35mm**

Noise reducer

### GT-PLR



Ball Spring Retainer  
**6.35mm**

Lever activated

### GT-PLP



Ball Spring Retainer  
**6.35mm**

Button activated  
Rear exhaust

### GT-PLZ



Bit Sleeve Retainer  
**6.35mm** (pull type)

Lever activated  
Noise Reducer

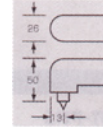
### GT-PLRC



Angle Head Size

Ball Spring Retainer  
**6.35mm**

Lever activated

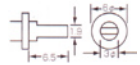


### GT-H2

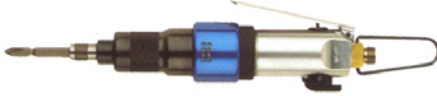


Guide Spring Retainer  
**3mm**

Push activated  
Rear exhaust



### GT-H4R



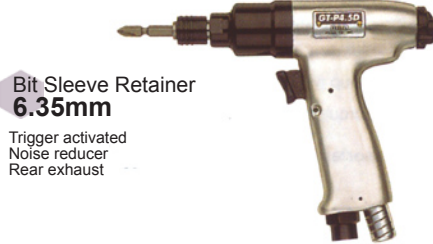
Ball Spring Retainer  
**6.35mm**

Lever activated  
Noise Reducer

**Options**

Anvil for A/F 5mm bit  
Torque Adjusting Spring  
(medium/weak)

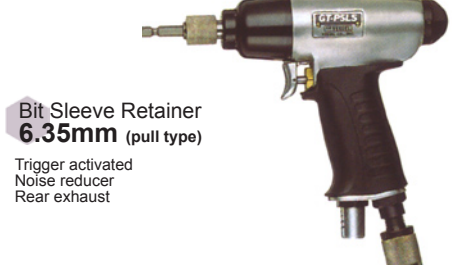
### GT-P4.5D GT-P4.5DR (powerful for reverse turn)



Bit Sleeve Retainer  
**6.35mm**

Trigger activated  
Noise reducer  
Rear exhaust

### GT-P5LS



Bit Sleeve Retainer  
**6.35mm** (pull type)

Trigger activated  
Noise reducer  
Rear exhaust

# VESSEL®

**The Pursuit of Quality**

For Industrial Bits,  
please see page 46

### GT-PH4



Ball Spring Retainer  
**5mm**

Trigger activated  
Noise reducer  
Rear exhaust

**Options**  
Torque Spring  
Anvil for A/F 6.35mm bit

### GT-PH5



Ball Spring Retainer  
**6.35mm**

Trigger activated  
Noise reducer  
Rear exhaust

| Part No.  | Capacity (mm)  |               |              |           | Torque Range |             | Free Speed (rpm) | Air Cons. m3/min | Hose Coupling | O.A.L. |         | Weight |      |
|-----------|----------------|---------------|--------------|-----------|--------------|-------------|------------------|------------------|---------------|--------|---------|--------|------|
|           | Standard Screw | Tapping Screw | Wooden Screw | Bolt      | N.m.         | (ft. lbf)   |                  |                  |               | mm     | in.     | g.     | lb.  |
| GT-S4.5DR | 4.0 ~ 5.0      | 3.5 ~ 4.0     | 2.7 ~ 3.5    | 4.0 ~ 5.0 | 3.4 ~ 6.4    | (2.5 ~ 4.7) | 14,000           | 0.2              | G 1/4         | 180    | 7-3/32  | 585    | 1.29 |
| GT-PLR    | 4.0 ~ 5.0      | -             | 2.7 ~ 3.5    | 4.0 ~ 5.0 | 2.9 ~ 6.9    | (2.2 ~ 5.1) | 9,000            | 0.2              | G 1/4         | 187    | 7-11/32 | 830    | 1.83 |
| GT-PLP    | 4.0 ~ 5.0      | 3.5 ~ 4.0     | 2.7 ~ 3.5    | 4.0 ~ 5.0 | 3.4 ~ 6.4    | (2.5 ~ 4.7) | 9,000            | 0.2              | G 1/4         | 197    | 7-3/4   | 750    | 1.65 |
| GT-PLZ    | 4.0 ~ 5.0      | 3.5 ~ 4.0     | 2.7 ~ 3.5    | 4.0 ~ 5.0 | 2.9 ~ 6.9    | (2.2 ~ 5.1) | 9,000            | 0.2              | G 1/4         | 205    | 8-5/64  | 950    | 2.09 |
| GT-PLRC   | 4.0 ~ 5.0      | -             | -            | 4.0 ~ 5.0 | 2.0 ~ 5.9    | (1.5 ~ 4.3) | 9,000            | 0.2              | G 1/4         | 228    | 8-31/32 | 1,100  | 2.43 |
| GT-H2     | 1.6 ~ 2.3      | -             | -            | -         | 0.1 ~ 0.4    | (0.1 ~ 0.3) | 3,200            | 0.16             | G 1/4         | 164    | 6-7/16  | 267    | 0.59 |
| GT-H4R    | 3 ~ 4          | -             | 1.8 ~ 2.4    | 3 ~ 4     | 1.0 ~ 2.2    | (0.7 ~ 1.6) | 1,500            | 0.2              | G 1/4         | 190    | 7-15/32 | 590    | 1.30 |
| GT-P4.5D  | 4.0 ~ 5.0      | 3.5 ~ 4.0     | 2.7 ~ 3.5    | 4.0 ~ 5.0 | 3.4 ~ 6.4    | (2.5 ~ 4.7) | 14,000           | 0.2              | Rc 1/4        | 160    | 6-9/32  | 715    | 1.58 |
| GT-P5LS   | 4.0 ~ 5.0      | 3.5 ~ 4.0     | 2.7 ~ 3.5    | 4.0 ~ 5.0 | 2.9 ~ 6.9    | (2.2 ~ 5.1) | 9,000            | 0.2              | Rc 1/4        | 165    | 6-1/2   | 980    | 2.16 |
| GT-PH4    | 3 ~ 4          | -             | 1.8 ~ 2.4    | 3 ~ 4     | 1.0 ~ 2.2    | (0.8 ~ 1.6) | 1,500            | 0.19             | Rc 1/4        | 175    | 6-7/8   | 800    | 1.76 |
| GT-PH5    | 4 ~ 5          | 3.5 ~ 4       | 2.7 ~ 3.5    | 4 ~ 5     | 2.0 ~ 5.4    | (1.5 ~ 4.0) | 1,500            | 0.25             | Rc 1/4        | 200    | 7-7/8   | 1,070  | 2.36 |

• Air pressure... 0.6 Mpa • Air hose bore diameter: 6.35 mm • OAL does not include accessories and hangers • Weight: Accessories not included





# Pneumatic Screwdrivers



## GT-P6XD



Bit Sleeve Retainer  
**5~6mm**

Trigger activated  
Noise reducer  
Rear exhaust

## GT-P6LS III



Bit Sleeve Retainer  
**6.35mm**

Trigger activated  
Noise reducer  
Rear exhaust

Options  
Anvil  
(9mm bit insertion length)  
(push type bit insertion)

## GT-P6HS



Bit Sleeve Retainer  
**6.35mm**

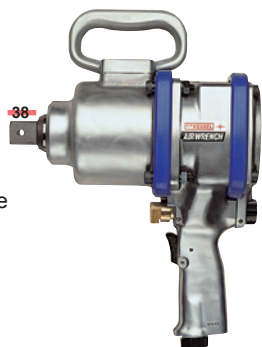
Trigger activated  
Noise reducer  
Rear exhaust

| Part No.    | Torque Range |            | Free Speed (rpm) | Air Cons. m3/min | O.A.L. |         | Weight |      | Air Hose Size | Body Form |
|-------------|--------------|------------|------------------|------------------|--------|---------|--------|------|---------------|-----------|
|             | N.m.         | (ft. lbf)  |                  |                  | mm     | in.     | kg.    | lb.  |               |           |
| GT-P6XD     | -            | -          | 8500             | 0.49             | 153    | 6 3/16  | 940    | 2.07 | PT 1/4        | PISTOL    |
| GT-P6LS III | 3.9 ~ 9.8    | 2.9 ~ 7.2  | 9000             | 0.3              | 177    | 6 31/32 | 955    | 2.11 | PT 1/4        | PISTOL    |
| GT-P6HS     | 7.9 ~ 19.6   | 5.8 ~ 14.5 | 10000            | 0.3              | 180    | 7 3/32  | 1170   | 2.58 | PT 1/4        | PISTOL    |

• Air pressure... 0.6 Mpa • Air hose bore diameter: 6.35 mm • OAL does not include accessories and hangers • Weight: Accessories not included

# Pneumatic Impact Wrenches

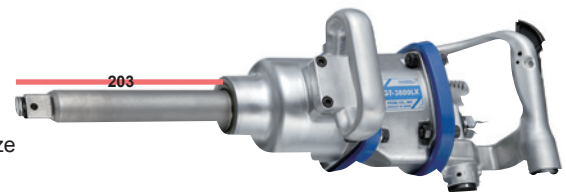
## GT-3800PF



Square Drive Size  
**25.4mm**

Pin Lock

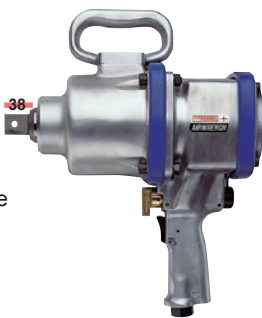
## GT-3800LF



Square Drive Size  
**25.4mm**

Pin Lock

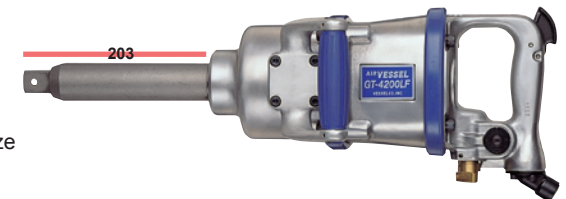
## GT-4200PF



Square Drive Size  
**25.4mm**

Pin Lock

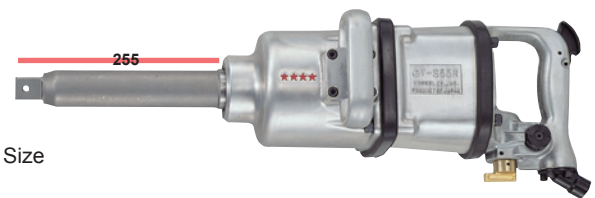
## GT-4200LF



Square Drive Size  
**25.4mm**

Pin Lock

## GT-S55R



Square Drive Size  
**25.4mm**

Pin Lock  
Noise Reducer

| Part No.  | Torque Range |            | Free Speed (rpm) | Air Cons. m3/min | O.A.L. |          | Weight |       | Air Hose Size | Body Form |
|-----------|--------------|------------|------------------|------------------|--------|----------|--------|-------|---------------|-----------|
|           | N.m.         | (ft. lbf)  |                  |                  | mm     | in.      | kg.    | lb.   |               |           |
| GT-3800PF | 343 ~ 1569   | 253 ~ 1157 | 3800             | 0.8              | 251    | 9 7/8    | 9.2    | 20.28 | PT 3/8        | PISTOL    |
| GT-3800LF | 343 ~ 1569   | 253 ~ 1157 | 4000             | 0.8              | 518    | 20 3/8   | 9.5    | 20.94 | PT 3/8        | STRAIGHT  |
| GT-4200PF | 490 ~ 1765   | 361 ~ 1302 | 2500             | 1.0              | 296    | 11 21/32 | 11.5   | 25.35 | PT 3/8        | PISTOL    |
| GT-4200LF | 490 ~ 1765   | 361 ~ 1302 | 3200             | 1.0              | 559    | 22 1/64  | 13.3   | 29.32 | PT 3/8        | STRAIGHT  |
| GT-S55R   | 490 ~ 2450   | 361 ~ 1807 | 2800             | 1.2              | 610    | 24 1/64  | 17.0   | 37.48 | PT 1/2        | STRAIGHT  |

• Air pressure... 0.6 Mpa • Air hose bore diameter: 6.35 mm • OAL does not include accessories and hangers • Weight: Accessories not included



**JDV Products, Inc • 22-01 Raphael Street • Fair Lawn, NJ 07410 USA**  
**201-796-1720 • Fax 201-796-9399 • www.jdvproducts.com**

## GT-S650



Square Drive Size  
**9.5mm**

Retainer Ring

## GT-P6 II



Square Drive Size  
**9.5mm**

Retainer Ring

Options  
GT-P6 II Z  
(with noise reducer)

## GT-S600C



Square Drive Size  
**9.5mm**

Ball Lock

## GT-P8 II



Square Drive Size  
**12.7mm**

Retainer Ring

Options  
GT-P8 II Z  
(with noise reducer)

## GT-P12



Square Drive Size  
**12.7mm**

Retainer Ring

Options  
GT-P12Z  
(with noise reducer)

## GT-P14J



Square Drive Size  
**12.7mm**

Retainer Ring

Options  
GT-P14JZ  
(with noise reducer)

## GT-P14JL



Square Drive Size  
**12.7mm**

Retainer Ring



## GT-P18J

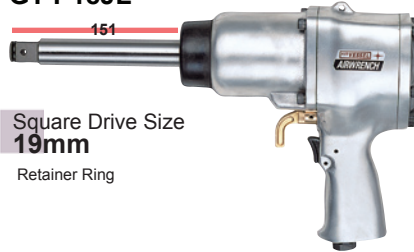


Square Drive Size  
**19mm**

Retainer Ring

Options  
GT-P18JZ  
(with noise reducer)

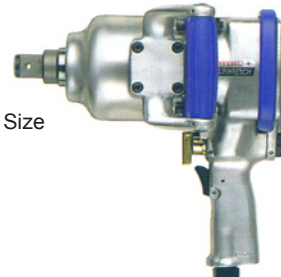
## GT-P18JL



Square Drive Size  
**19mm**

Retainer Ring

## GT-P32J



Square Drive Size  
**25.4mm**

Pin Lock

| Part No. | Torque Range |           | Free Speed (rpm) | Air Cons. m3/min | O.A.L. |         | Weight |       | Air Hose Size | Body Form |
|----------|--------------|-----------|------------------|------------------|--------|---------|--------|-------|---------------|-----------|
|          | N.m.         | (ft. lbf) |                  |                  | mm     | in.     | kg.    | lb.   |               |           |
| GT-S650  | 20 ~ 69      | 15 ~ 51   | 7500             | 0.30             | 207    | 8 5/32  | 1.33   | 2.93  | PT 1/4        | STRAIGHT  |
| GT-P6 II | 20 ~ 69      | 15 ~ 51   | 7800             | 0.38             | 146    | 5 3/4   | 1.43   | 3.15  | PT 1/4        | PISTOL    |
| GT-S600C | 20 ~ 39      | 15 ~ 29   | 5600             | 0.30             | 250    | 9 27/32 | 1.87   | 4.12  | PT 1/4        | ANGLE     |
| GT-P8 II | 39 ~ 137     | 29 ~ 101  | 7500             | 0.40             | 163    | 6 3/8   | 1.89   | 4.17  | PT 1/4        | PISTOL    |
| GT-P12   | 69 ~ 216     | 51 ~ 159  | 7500             | 0.40             | 183    | 7 3/16  | 2.30   | 5.07  | PT 1/4        | PISTOL    |
| GT-P14J  | 98 ~ 265     | 72 ~ 195  | 6300             | 0.42             | 194    | 7 5/8   | 2.95   | 6.50  | PT 1/4        | PISTOL    |
| GT-P14JL | 98 ~ 265     | 72 ~ 195  | 6300             | 0.42             | 226    | 8 7/8   | 3.05   | 6.72  | PT 1/4        | PISTOL    |
| GT-P18J  | 196 ~ 461    | 145 ~ 340 | 5000             | 0.52             | 239    | 9 3/8   | 4.20   | 9.26  | PT 1/4        | PISTOL    |
| GT-P18JL | 196 ~ 461    | 145 ~ 461 | 4700             | 0.52             | 353    | 13 7/8  | 4.70   | 10.36 | PT 1/4        | PISTOL    |
| GT-P32J  | 343 ~ 1275   | 253 ~ 940 | 4200             | 1.30             | 264    | 10 3/8  | 11.2   | 24.70 | PT 1/4        | PISTOL    |

• Air pressure... 0.6 Mpa • Air hose bore diameter: 6.35 mm • OAL does not include accessories and hangers • Weight: Accessories not included



**Pneumatic Scraper**



**GT-ASC5**  
Blade sold seperately

Perfect for removing IC chips from circuit boards when recycling PCs, faxe machines and copiers, This tool is also ideal for the removal of stickers, and can even scrape off mortar or paint from external walls of buildings. The short stroke pitch reduces jumping of the scraper attachment, whereby making it more comfortable for the operator.

| Part No. | Working Air Pressure MPa | Stroke Speed c.p.m. | Air Consumption m3/min | Stroke (mm) | Air Hose Joint | O.A.L. |     | Weight |
|----------|--------------------------|---------------------|------------------------|-------------|----------------|--------|-----|--------|
|          |                          |                     |                        |             |                | mm     | g.  |        |
| GT-ASC5  | 0.6                      | 7,000               | 0.28                   | 5           | RFC1/4         | 195.5  | 810 |        |

| Part No. | Blade Width | Shank Dia. | Used for          |
|----------|-------------|------------|-------------------|
| ASC-25-8 | 25 mm       | 8          | IC chip           |
| ASC-50-8 | 50 mm       | 8          | IC chip, out wall |



**Pneumatic Saws**



- GT-AS10**
- Oil-resistant cushion grip
  - Convenient RESET button can be used to restart unit if engine stalls
  - Noise reducer

**FEEL THE DIFFERENCE**



- GT-AS100**
- High-speed cutting
  - Ergonomic rubber grip
  - Ideal for long-use applications
  - Very lightweight

| Part No. | Cutting Capacity           | Working Air Pressure MPa | Stroke Speed c.p.m. | Air Consumption m3/min | Stroke (mm) | Air Hose Joint | O.A.L. |     | Weight |
|----------|----------------------------|--------------------------|---------------------|------------------------|-------------|----------------|--------|-----|--------|
|          |                            |                          |                     |                        |             |                | mm     | g.  |        |
| GT-AS10  | Steel: 4mm                 | 0.6                      | 5,000               | 0.28                   | 10          | Rc 1/4         | 195.5  | 570 |        |
| GT-AS100 | Steel: 1.6mm<br>Wood: 55mm | 0.6                      | 10,000              | 0.34                   | 10          | Rc 1/4         | 170    | 570 |        |

| Part No. | Specifications                   | Part No. | Specifications          |
|----------|----------------------------------|----------|-------------------------|
| ASB-32   | Cobalt mix Std. blade, 32 teeth  | ASB-25-5 | 25mm wide scraper blade |
| ASB-32T  | Thin blade, 32 teeth             | ASF-F-5  | Flat file               |
| ASB-32H  | Cobalt mix Thick blade, 32 teeth | ASF-R-5  | Round file              |
| ASB-24H  | Cobalt mix Thick blade, 24 teeth | ASF-T-5  | Triangular file         |



**Blow Guns**

**NEW!**



**AD-3-100A**

VESSEL's "Air Penguin" series blow guns are equipped with an ergonomically designed handle and trigger, a safety nozzle, and are very lightweight. The AD-3-100A comes with a stainless steel nozzle angled at 30° to access hard to reach places.



**AD-3-S**

| Part No.  | Max Working Pressure | Working Temperature | O.A.L. |      | Weight |      | Inlet  |
|-----------|----------------------|---------------------|--------|------|--------|------|--------|
|           |                      |                     | mm.    | in.  | g.     | lb.  |        |
| AD-3-S    | 0.97MPa              | 0°C - 60°C          | 148    | 5.83 | 71     | 0.16 | Rc 1/4 |
| AD-3-100A | 0.97MPa              | 0°C - 60°C          | 217    | 8.54 | 83     | 0.18 | Rc 1/4 |

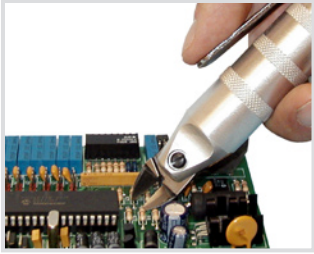


Increase productivity with our lightweight pneumatic cutting tools. Ideal for cutting wire, terminals, or for trimming component leads on thru-hole PCB's.

The cutting blades can be easily rotated for left or right-handed operation in less than a minute and the unit is easily maintained.

Replacing manual cutting tools with these ergonomic air-powered units can reduce injuries caused by Repetitive Stress Syndrome. Each kit includes the air nipper body, cutting blade, 6 ft. air hose, and fittings.

Additional size units and body styles available.



"BBH" Blade



"AS" Blade



"HS" Blade



| Kit Part No. | Cutting Capacity (mm) |       |            | Supply Air Pressure (psi) | Body Dia. (mm) | Weight (g) | Overall Length (mm) | Replacement Blade Part No. |
|--------------|-----------------------|-------|------------|---------------------------|----------------|------------|---------------------|----------------------------|
|              | Copper                | Steel | Piano Wire |                           |                |            |                     |                            |
| GT-N3/BBH    | 1.0                   | 0.5   | 0.2        | 58-73                     | 23             | 95         | 112                 | N3BBH90                    |
| GT-N3/AS     |                       |       |            |                           |                |            |                     | N3AS                       |
| GT-N3/HS     |                       |       |            |                           |                |            |                     | N3HS                       |
| GT-N7/BBH    | 1.6                   | 1.0   | 0.5        | 58-73                     | 34             | 180        | 123                 | N7BBH80                    |
| GT-N7/AS     |                       |       |            |                           |                |            |                     | N7AS                       |
| GT-N7/HS     |                       |       |            |                           |                |            |                     | N7HS                       |
| GT-N20/BBH   | 2.6                   | 2.0   | 1.0        | 73-87                     | 45             | 375        | 156                 | N20BBH837                  |
| GT-N20/AS    |                       |       |            |                           |                |            |                     | N20AS                      |
| GT-N20/HS    |                       |       |            |                           |                |            |                     | N20HS                      |

\* Cutting capacities are based on ideal conditions. Weight and OAL does not include blades or accessories. 1/8" or 1/4" NPT male fittings provided.

**Elbow Fitting**



| Part No. | Hose OD | Thread | Part No.  | Hose OD | Thread   |
|----------|---------|--------|-----------|---------|----------|
| ELB4-8   | 4MM     | R1/8   | ELB1/4-8M | 1/4"    | R1/8     |
| ELB4-4   | 4MM     | R1/4   | ELB1/4-4M | 1/4"    | R1/4     |
| ELB6-8   | 6MM     | R1/8   | ELB1/4-8  | 1/4"    | 1/8" NPT |
| ELB6-4   | 6MM     | R1/4   |           |         |          |

**Straight Fitting**



| Part No. | Hose OD | Thread | Part No. | Hose OD | Thread   |
|----------|---------|--------|----------|---------|----------|
| SF4-8    | 4MM     | R1/8   | SF1/4-8M | 1/4"    | R1/8     |
| SF4-4    | 4MM     | R1/4   | SF1/4-4M | 1/4"    | R1/4     |
| SF6-8    | 6MM     | R1/8   | SF1/4-8  | 1/4"    | 1/8" NPT |
| SF6-4    | 6MM     | R1/4   |          |         |          |

**Coiled Hose**



| Part No. | Hose OD | Hose ID |
|----------|---------|---------|
| CH1/4    | 1/4"    | 1/8"    |

Extended Length: 8'  
Retracted Length: 6.5"

**Nylon Hose**



| Part No. | Fitting | Length |
|----------|---------|--------|
| A-10738  | 1/8"    | 6'     |
| A-12549  | 1/8"    | 8'     |

**Kink Resistant Hose**



| Part No. | Hose OD | Hose ID |
|----------|---------|---------|
| H4       | 4mm     | 2.4mm   |
| H6       | 6mm     | 4mm     |
| H1/4     | 1/4"    | 0.160"  |

Most pneumatic tool manufacturers recommend using a filter regulator. The filter/regulator removes particles and captures moisture, while the regulator is used when the air is clean and dry. Both come equipped with a gauge.

**REG**



**FILREG**



**RMB**

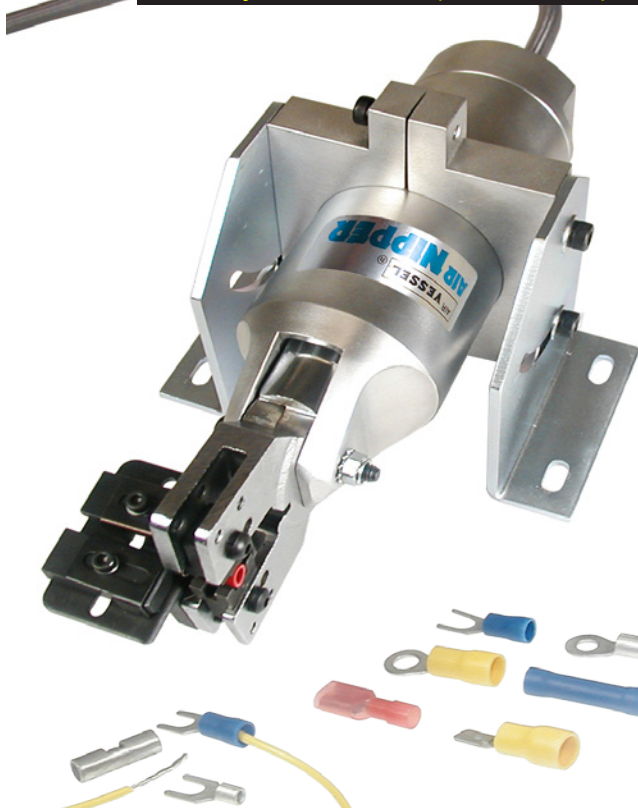


Will fit both REG regulator and FILREG Filer Regulator

| Part No. | Port Size (NPT) | Pressure Range | Max. Operating Pressure | Filtration |
|----------|-----------------|----------------|-------------------------|------------|
| REG      | 1/8"            | 7-120 psi      | 150 psi                 | 5µm        |
| FILREG   | 1/8"            | 7-120 psi      | 150 psi                 | NONE       |



- Prevents Ergonomic Health Issues
- Universal Crimping Jaw
- Variety of Die Sets (10-22AWG)



The TH-2000 starter kit includes a tool stand with foot pedal, VESSEL high-quality air nipper body, hose, and fittings. The swiveling stand can be easily fastened to a surface for quick, precise, and safe crimping.

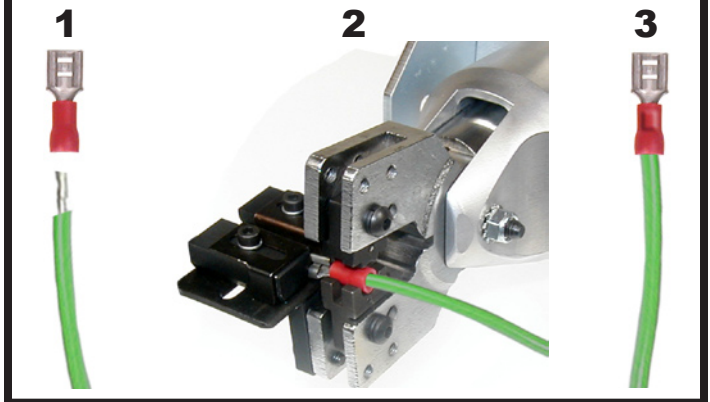
**NOTE:** Crimping Jaw and Die Set are not included with TH-2000. Please see Crimping Jaw and Die Set Options.

TH-2000 Pneumatic Crimper includes:

| Part No.  | Description                  |
|-----------|------------------------------|
| GT-NR30   | Round Air Nipper Body        |
| NR30ST    | Swivel Air Nipper Stand      |
| 250F-3-10 | Foot Pedal Actuator          |
| A-10738   | 6 ft. Nylon Braided Air Hose |

Optional model P-30 power booster available

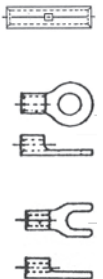
## SIMPLE TO OPERATE! AS EASY AS...



## Crimping Jaws & Die Sets

### NON-INSULATED Terminals

| Part No. | Description         | AWG   |
|----------|---------------------|-------|
| CJ-NT125 | Crimping Jaw        | 22-16 |
| NT125    | Replacement Die Set |       |
| CJ-NT200 | Crimping Jaw        | 16-12 |
| NT200    | Replacement Die Set |       |
| CJ-NT500 | Crimping Jaw        | 12-10 |
| NT500    | Replacement Die Set |       |



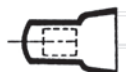
### INSULATED Terminals

| Part No. | Description         | AWG   |
|----------|---------------------|-------|
| CJ-IT125 | Crimping Jaw        | 22-16 |
| IT125    | Replacement Die Set |       |
| CJ-IT200 | Crimping Jaw        | 16-12 |
| IT200    | Replacement Die Set |       |
| CJ-IT500 | Crimping Jaw        | 12-10 |
| IT500    | Replacement Die Set |       |



### CLOSED-END INSULATED Connectors

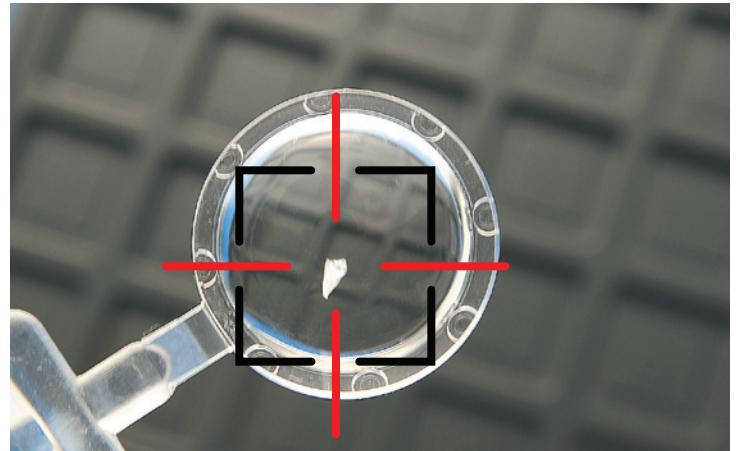
| Part No. | Description         | AWG   |
|----------|---------------------|-------|
| CJ-CE125 | Crimping Jaw        | 22-16 |
| CE125    | Replacement Die Set |       |
| CJ-CE200 | Crimping Jaw        | 16-12 |
| CE200    | Replacement Die Set |       |
| CJ-CE500 | Crimping Jaw        | 12-10 |
| CE500    | Replacement Die Set |       |
| A-13465  | Positioning Device  |       |



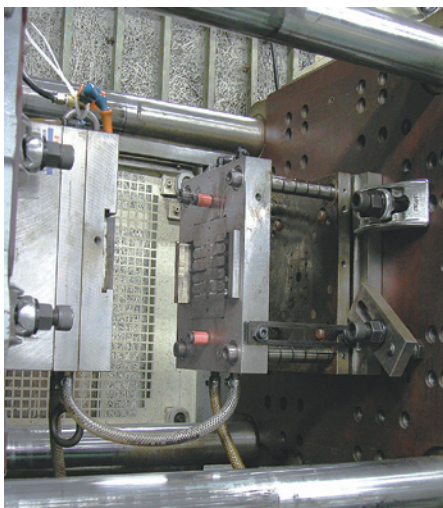
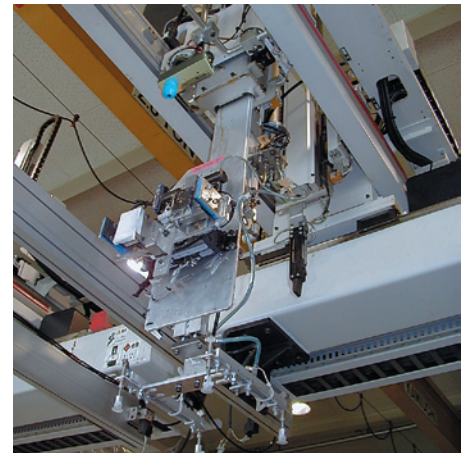


Static electricity causes contamination by dirt or dust. It is generated in molding where strong compression or friction occurs, causing airborne dirt or dust to adhere to the work the moment it is removed from the mold.

Immediate Static Elimination right after items are removed from an injection mold.



The SDJ-02R is a small, lightweight and handy static electricity eraser that can be installed directly on the chuck plate of the extractor. When the extractor takes a part from the mold and hands it to the conveyor line, the chuck plate holds the work while the SDJ-02R blows ionized air on it, which effectively removes static electricity.

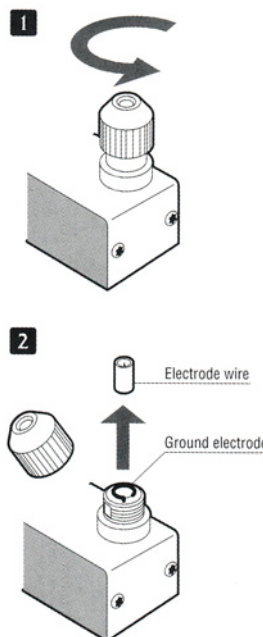


Static electricity can be removed continuously or intermittently during work holding and handling as demanded by the charged condition of the work.

This kind of control normally requires a sequencer or solenoid valve built into the extractor, plus air supply and electric power.

**Features:**

- Super-small and lightweight, the entire unit can be installed on moving part of a robot or the innermost space of an automated machine.
- Designed for safety with built-in discharge parts, high-voltage cable, and high-voltage build-up parts.
- Used 24V DC power supply for safety.
- Can effectively use the molding cycle when installed on the chuck plate of the extractor.
- Products of stable quality can be manufactured by keeping dust and dirt away.
- Easy one-touch replacement of the electrode wire unit.

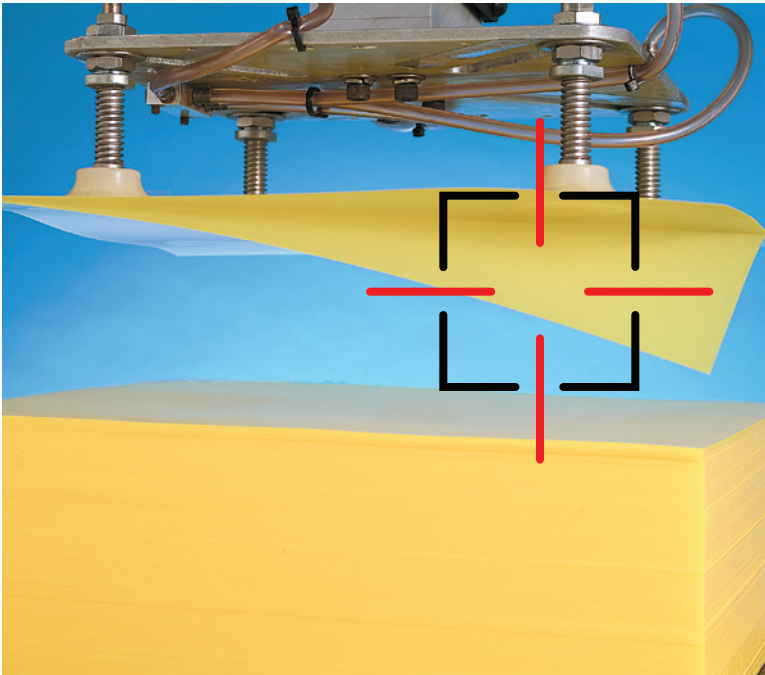


**Application:**

Applicable for dust and chip removal from molds and products, static elimination off injection mold, dust-off, improving removal from mold, to assemble with anti-static cleaning and installing into automation machine.



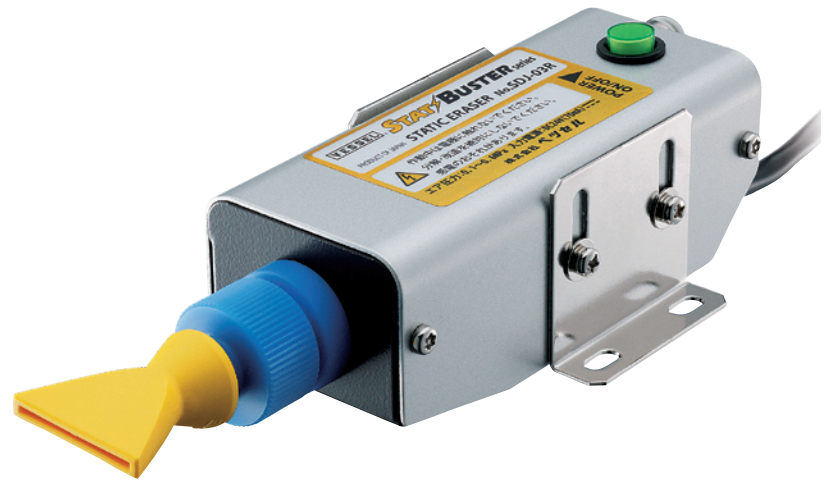




During work handling, the film insert laminate is repeatedly contacted and detached by the pickup, causing electrical charge to accumulate on the film.

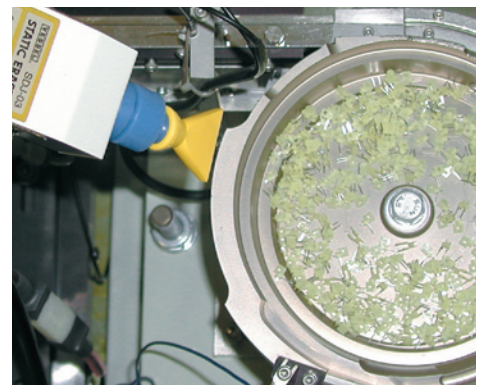
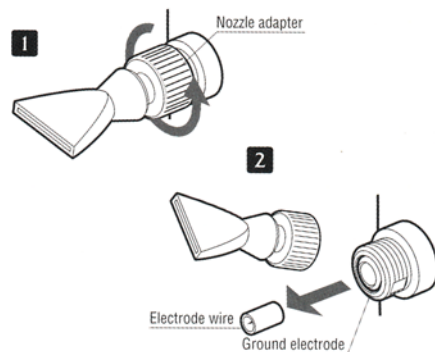
Pin-pointed Ion blow for effective static-elimination.

With a flared nozzle, the SDJ-03R can blow ionized air across a wide area. Small and lightweight, the entire unit can be installed near a stocker, grinder, parts feeder, or mold to securely remove static electricity from targeted points. In addition, the SDJ-03R is equipped with height-adjustable fittings and the nozzle can be angled as needed. Therefore, air blow can be easily fine-tuned to contact a specific area.



### Features:

- The flared nozzle can blow across a wide area.
- Designed for safety with built-in discharge parts, high-voltage cable, and high-voltage build-up parts.
- Uses a 24V DC power supply for safety.
- Products of stable quality can be manufactured by keeping dust and dirt away.
- Easy one-touch replacement of the electrode wire unit.



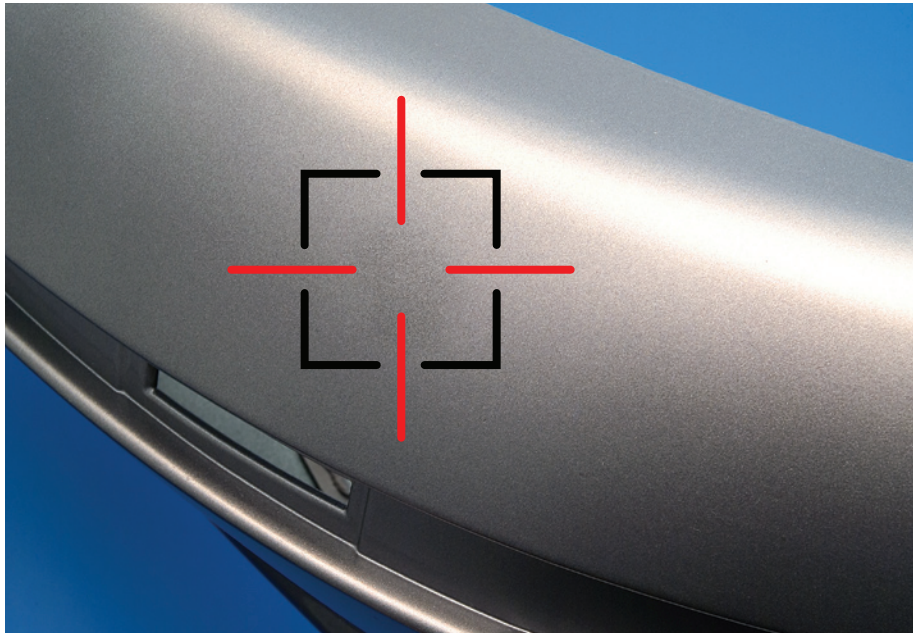
### Application:

Elimination of static charge of resin pellets, inside of hopper containers, stocker and molded parts, plastic crushers, stacked film, IC printcard, Lens assembly lines, vaporized and Fore-process, accumulation in parts feeders, and other static troubles.

Uneven colors often occur in coating processes of metallic or pearl-finish surfaces. The reason is that the aluminum flake or pearl mica in the paint is dispersed by static electricity during the coating process. Resultantly, the surface is not consistent or fine.

The SDJ-06R can be used against a wide range of static electricity trouble such as prevention of dust accumulation of items, removal of electric charge and dust from trays, clear dust from molds, or removal of dust before coating. Dirt can be removed by elimination static electricity and dust before shipping. The SDJ-06R is a gun-type static electricity eraser with a flared nozzle that can remove static and dust over a wide area.

Static electricity is generated in molding where strong compression or friction occurs. Then, the moment the mold cools and the work is removed, electricity discharges between the work and molding. The work is charged by this discharge, and if the work is left for a while under this condition, airborne dust will accumulate in an electrified pattern resembling lightning or discs.



Practice static elimination and dust removal before shipping.

### Features:

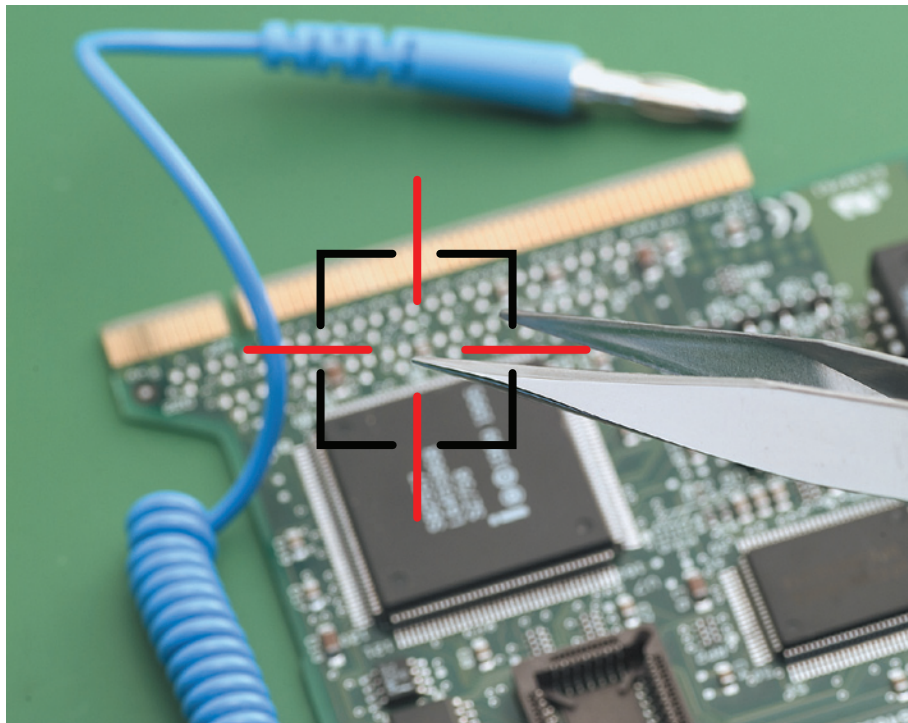
- The small and lightweight body incorporates a high-voltage section, which eliminates high-voltage cables and ensures safety.
- Ergonomic grip fits comfortably in user's hand.
- Uses a 4V DC power supply for safety.
- The air hose and electrical wires are concealed by a flexible duct.
- Easy one-touch replacement of the electrode wire unit.

### Application:

Dust and chip removal from molds and products, pellets, paper and film. Static removal and dust countermeasure for acceptance and assembly of LCDs, ICs, etc.  
 Dust removal for acceptance and assembly of cameras, watches, lenses, etc.  
 Static electricity removal prior to painting of car bodies, and plating of resin products.  
 Preventing dust adherence during packaging, preventing infiltration of foreign matter into containers, countermeasures to trouble caused by static electricity in various industrial fields.







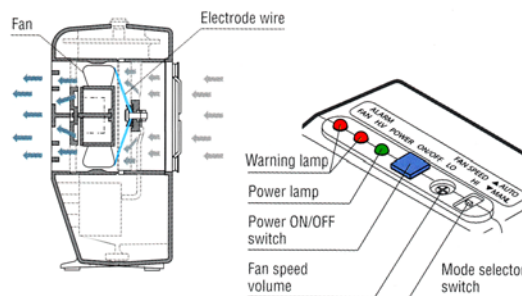
When static electricity generates on a parts tray or workbench for the manufacturing or assembly of electronics parts, electronic components may be destroyed by static electricity.

Direct an efficient Ionized airflow toward parts placed on a work table

In cell production sites, many parts are placed around the workbench, therefore a large unit would be a stumbling block to smooth operation. Using the attached clip, the SDJ-08S can be installed on the workbench or bracing pole to save space. The SDJ-08S uses a highly reliable voltage transformer to keep ion balance within  $10 \pm V$ .

**Features:**

- Small and lightweight resin body weighs only 300g.
- The unit is easily installed by using the attached clip, and blow direction and angle can be easily adjusted.
- By detaching the clip, the SDJ-08S can be installed on an automatic adjuster or set on the top of a desk/workbench.
- The discharge wire is located near the point where the blown air moves at the fastest speed, enabling ions to be effectively transferred far and wide.
- The SDJ-08S is equipped with a warning alarm and external output terminal that transmits troubles like high-voltage or fan failure.
- Unique 100 hour times signals workers with a flashing lamp, indicating necessary discharge needle cleaning.



**Application:**

Static removal for electronic device manufacturing and assembly, test and manufacture equipment, film and packaging separation, static removal in feeders, molding machines. Prevents dust adherence for cameras, watches, lenses, etc., container processing, product conveyance and filling. Ideal for static removal of food packaging, cosmetics, medicing packaging, etc.

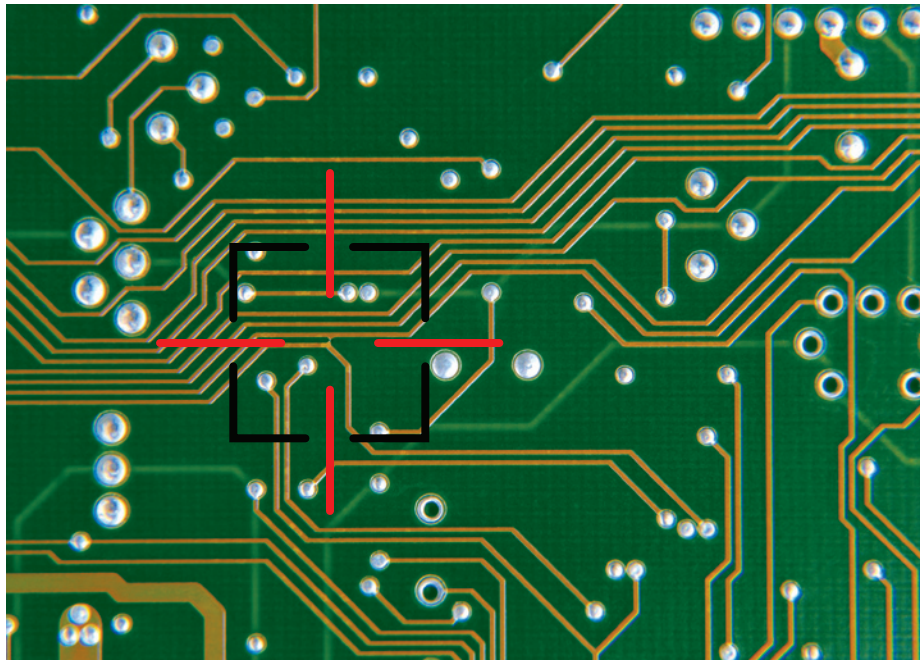


The functions of the IC and LSI are lost when electrostatic discharge (ESD) is generated toward them because ESD causes short-circuiting and damage to the joint of the semiconductor device, as well as wiring breaks and disconnections, for sensitive devices that can be easily damaged, systematic measures against ESD are required.



Sensitive parts require a highly efficient static eliminator that can reduce static electricity to almost 0V. If proper maintenance is not done, however, the ion balance is disrupted, causing reverse charging and air pollution.

Because the SDJ-09 adopts a capacity coupling method using eight discharging needles, it can generate stable ionic air with an ion balance of  $\pm 5V$ . With the help of a 100 hour timer that displays and informs the need for cleaning the needle electrode, the SDJ-09 can establish control standards for needle maintenance.



## 5V ion balance to prevent static electricity troubles in advance

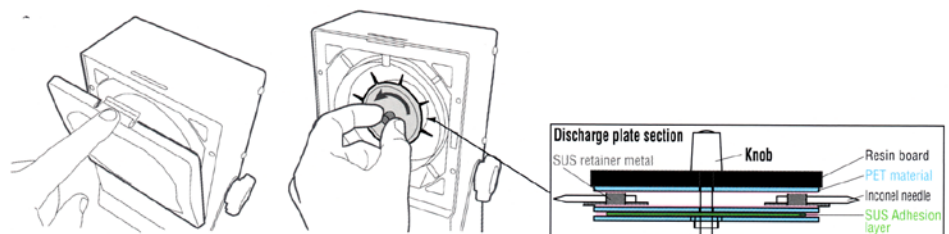


### Features:

- Highly reliable piezoelectric AC transformer
- Because the innovative disk-type discharge plate adopts a capacity coupling method, it can prevent the disruption of ion balance and is ideal for the removal of static electricity from sensitive electronic devices.
- Easy cleaning and replacement of the discharge plate.
- Equipped with a warning lamp that indicates troubles such as high pressure and fan failure.
- Unique 100 hour timer signals workers with a flashing lamp, indicating necessary discharge needle cleaning.

### Application:

Static electricity removal for electronic devices manufacturing and assembly workstations, Static electricity removal for manufacturing and assembly of optical devices, watches, precision parts, etc. Static erasure from processing and filling of food containers, film lamination, and peeling of LCD panels. Prevention of adhesive stringing in gluing processes, Static erasure of molded parts on conveyors, dust adherence prevention prior to printing and coating. Static erasure for stockers, winders and Thompson punching and cutting processes for paper, film, and sheet. Static erasure of oscillating parts loaded into parts feeders.



# Replacement Parts for Stat-Busters



## Discharge Needles



**SDJ-02RH**  
**SDJ-06H**

For use with:  
SDJ-02R, SDJ-03R, SDJ-06R



**SDJ-09H**

For use with:  
SDJ-09

## Filters



**SDJ-08F**

For use with:  
SDJ-08



**SDJ-09F**

For use with:  
SDJ-09

## Pin Spot Nozzle



**SDJ-03PN**

For use with:  
SDJ-02R, SDJ-03R, SDJ-06R

## Flare Nozzle



**SDJ-03FN**

For use with:  
SDJ-02R, SDJ-03R, SDJ-06R

## Cap Nozzle



**SDJ-02SN**

For use with:  
SDJ-02R, SDJ-03R, SDJ-06R

## Power Adapters



**AD24-06**  
**AD24-06EX**



**AD24-08**  
**AD24-08EX**



**AD24-09EX**

|                      | AD24-06                   | AD24-06EX                     | AD24-08                       | AD24-08EX                     | AD24-09EX                     |
|----------------------|---------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|
| Rated Input Voltage  | 100V AC (50/60Hz)<br>19VA | 100-240V AC (50/60Hz)<br>1.3A | 100-120V AC (50/60Hz)<br>40VA | 100-240V AC (50/60Hz)<br>0.4A | 100-240V AC (50/60Hz)<br>0.4A |
| Rated Output Voltage | 24V DC<br>0.3A            | 24V DC<br>0.5A                | 24V DC<br>0.65A               | 24V DC<br>0.65A               | 24V DC<br>0.75A               |
| Applicable for       | SDJ-06R                   | SDJ-06R                       | SDJ-03R<br>SDJ-08<br>SDJ-09   | SDJ-03R<br>SDJ-08<br>SDJ-09   | SDJ-03R<br>SDJ-08<br>SDJ-09   |





Frictional electrification is caused when a resin mold product is removed from the mold. The generation of this strong static electricity draws airborne dust to the product.



The locator is indispensable towards resolving "invisible static electricity trouble" The SDL-01 checks the charged state of products or packaging materials, the positions of static electricity removers, and confirms the removal of static electricity from the product.

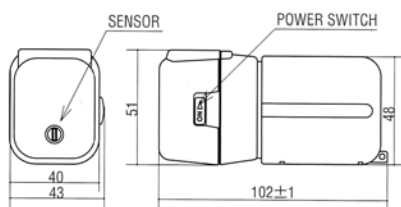
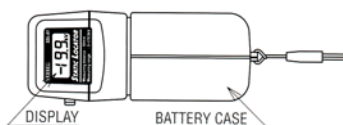
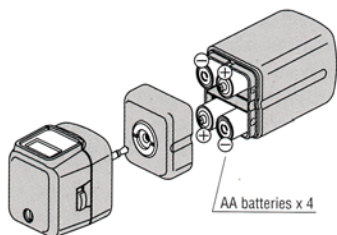
Unseen static electricity is displayed for easy detection

**Features:**

- The potential of charged item is digitally indicated without making contact. Invisible static electricity can be easily measured.
- Voltage is measured and indicated in units of 100V in a range from -19.9 to + 19.9KV every 0.5 seconds.
- Handy, portable, small and lightweight unit. Includes a storage case.
- Low power consumption. Can be used with 4AA batteries for about 6 months.

**Application:**

Checking resin molding, film, paper, packing containers, coated sheet metal surfaces, and testing the effect of static electricity removal.



|  |
|--|
| RANGE OF INDICATION: 0.0 to ± 19.9KV (0.1KV scale)           |
| DETECTABLE DISTANCE: 50mm (between locator and charged item) |
| RESPONSE TIME: 0.5 seconds                                   |
| AMBIENT TEMPERATURE: 0 ~ 40° C                               |
| AMBIENT HUMIDITY: 20 to 90% RH (no dewing)                   |
| DIRECTIVITY: Forward from the sensor hole                    |
| POWER SUPPLY VOLTAGE: 6V DC (4 AA batteries)                 |
| SIZE: H51 x W102 x D43mm                                     |
| WEIGHT: 170g (including batteries)                           |
| ACCESSORIES: 4 AA batteries, 1 soft case                     |





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