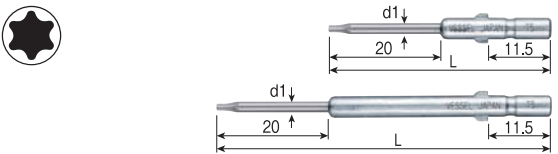


No. DS73 Shockless Bit **NEW**

- Combination of special alloy steel and zinc die cast:  
Stable fastening torque and improved durability
- Bit tip high-precision-machined to thread standards.

PAT.

| Size<br>Tip×Overall Length (mm) | d1<br>(mm) | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|------------|---------------|---------------|
| ⊕ 00 ×1.5×40                    | 1.5        | 10            | 100           |
| 60                              | 1.5        | 10            | 100           |
| ⊕ 0 ×1.5×40                     | 1.5        | 10            | 100           |
| 60                              | 1.5        | 10            | 100           |
| ⊕ 0 ×1.7×40                     | 1.7        | 10            | 100           |
| 60                              | 1.7        | 10            | 100           |
| ⊕ 0 ×2.0×40                     | 2.0        | 10            | 100           |
| 60                              | 2.0        | 10            | 100           |



No. DS73 Shockless Bit **NEW**

- Combination of special alloy steel and zinc die cast:  
Stable fastening torque and improved durability
- Bit tip high-precision-machined to thread standards.

PAT.

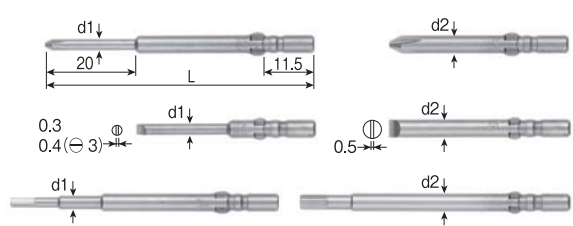
| Size<br>Tip×Overall Length (mm) | mm   | d1<br>(mm) | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|------|------------|---------------|---------------|
| T5 ×2.0×40                      | 1.37 | 2.0        | 10            | 100           |
| 60                              | 1.37 | 2.0        | 10            | 100           |
| T6 ×2.0×40                      | 1.65 | 2.0        | 10            | 100           |
| 60                              | 1.65 | 2.0        | 10            | 100           |



No. D73 TORX Bit

- For fastening small screws for such as HDDs.
- Bit tip high-precision-machined to thread standards.

| Size<br>Tip×Overall Length (mm) | mm   | d1<br>(mm) | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|------|------------|---------------|---------------|
| T1 ×40                          | 0.84 | 1.5        | 10            | 100           |
| T2 ×40                          | 0.94 | 1.5        | 10            | 100           |
| T3 ×40                          | 1.12 | 1.7        | 10            | 100           |
| T4 ×40                          | 1.3  | 1.8        | 10            | 100           |
| T5 ×40                          | 1.37 | 2.0        | 10            | 100           |
| T6 ×40                          | 1.65 | 2.5        | 10            | 100           |
| T7 ×40                          | 1.97 | 2.5        | 10            | 100           |
| T8 ×40                          | 2.3  | 3.0        | 10            | 100           |
| T9 ×40                          | 2.48 | 3.0        | 10            | 100           |
| T10×40                          | 2.72 | 3.0        | 10            | 100           |



No. D73 Bit

- For fastening small screws for watches glasses and camera.
- Bit tip high-precision-machined to thread standards.

| Size<br>Tip×Overall Length (mm) | d1<br>(mm) | d2<br>(mm) | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|------------|------------|---------------|---------------|
| ⊕ 00 ×1.2×20×40                 | 1.2        | —          | 10            | 100           |
| ⊕ 00 ×1.5 ×40                   | 1.5        | —          | 10            | 100           |
| 60                              | 1.5        | —          | 10            | 100           |
| ⊕ 00 ×2 ×40                     | 2.0        | —          | 10            | 100           |
| 60                              | 2.0        | —          | 10            | 100           |
| ⊕ 0 ×1.4×20×40                  | 1.4        | —          | 10            | 100           |
| 60                              | 1.4        | —          | 10            | 100           |
| ⊕ 0 ×1.7 ×40                    | 1.7        | —          | 10            | 100           |
| 60                              | 1.7        | —          | 10            | 100           |
| ⊕ 0 ×2.0×20×40                  | 2.0        | —          | 10            | 100           |
| 60                              | 2.0        | —          | 10            | 100           |
| 80                              | 2.0        | —          | 10            | 100           |
| 100                             | 2.0        | —          | 10            | 100           |
| ⊕ 0 ×2.5 ×40                    | 2.5        | —          | 10            | 100           |
| 60                              | 2.5        | —          | 10            | 100           |
| ⊕ 0 ×2.5×20×80                  | 2.5        | —          | 10            | 100           |
| 100                             | 2.5        | —          | 10            | 100           |
| ⊕ 1 ×3 ×40                      | 3.0        | —          | 10            | 100           |
| ⊕ 1 ×3 ×20×60                   | 3.0        | —          | 10            | 100           |
| 80                              | 3.0        | —          | 10            | 100           |
| 100                             | 3.0        | —          | 10            | 100           |
| 120                             | 3.0        | —          | 10            | 100           |
| ⊕ 1 ×4 ×40                      | —          | 4.0        | 10            | 100           |
| 60                              | —          | 4.0        | 10            | 100           |
| ⊕ 2 ×4 ×40                      | —          | 4.0        | 10            | 100           |
| 60                              | —          | 4.0        | 10            | 100           |
| 80                              | —          | 4.0        | 10            | 100           |
| 100                             | —          | 4.0        | 10            | 100           |
| 120                             | —          | 4.0        | 10            | 100           |
| ⊖ 2 ×0.3 ×40                    | 2.0        | —          | 10            | 100           |
| ⊖ 2.5×0.3 ×40                   | 2.5        | —          | 10            | 100           |
| ⊖ 3 ×0.4 ×40                    | 3.0        | —          | 10            | 100           |
| ⊖ 4 ×0.5 ×40                    | —          | 4.0        | 10            | 100           |
| A/F 1.5×2 ×60                   | 2.0        | —          | 10            | 100           |
| A/F 2 ×3 ×60                    | 3.0        | —          | 10            | 100           |
| A/F 2.5×3 ×60                   | 3.0        | —          | 10            | 100           |
| A/F 3 ×4 ×60                    | —          | 4.0        | 10            | 100           |

**Environmental measures**  
Complies with VESSEL's environmental countermeasure standards that meet the RoHS guidelines.

**Magnetized Tip-End**  
The tip-end is strongly magnetized to capture screws for better work efficiency.

**Hardness (Heat processing classifications)**  
Chip, wearing and deformation, which directly affect the life of bits and sockets, can be controlled by choosing different hardnesses (heat processing classification)  
X: Possible highest hardness    H: High hardness  
G: Standard hardness        E: Low hardness

Distributed by

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●Product specifications, dimensions, and other information are subject to change without notice.

**VESSEL**

# ELECTRIC SCREW DRIVER

**VE series** MADE IN JAPAN

[ Electric Screwdriver Catalog ]



**GOOD DESIGN  
AWARD 2015**

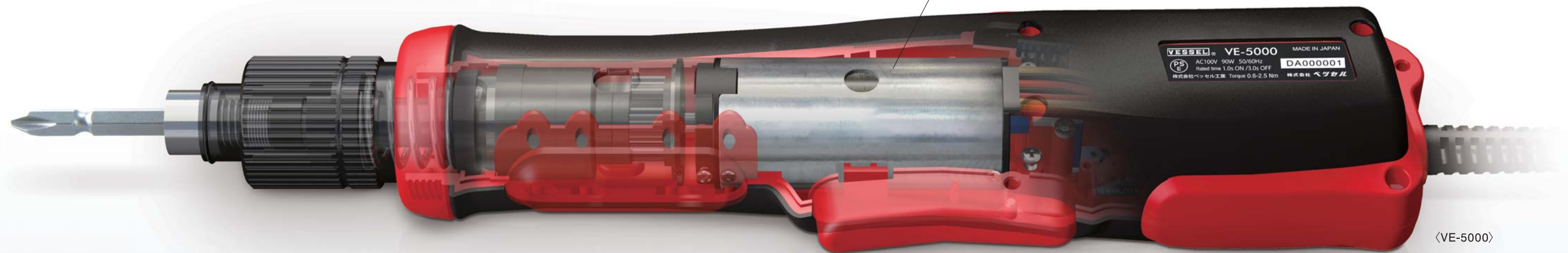




# Stable torque is a key of improvement in operator's performance and quality enhancement.

Torque stability of electric screwdrivers is an important factor, which influences the work quality in assembly and screw-tightening, and thus determines production efficiency and product quality.

VESSEL "VE series" incorporates highly-efficient slotless brushless motor in its heart. Not only the tightening accuracy but also the working and maintenance efficiency can be improved to enhance the performance in the production site.



〈VE-5000〉

## Slotless/Brushless Characteristics of motor

### Point 1

#### Brushless motor is incorporated; long life and low noise

Brushed motors require replacement of brushes at regular intervals because the brushes wear out. Brushless motors are free from maintenance because the motor rotation is controlled by an inverter to suppress the abrasion. Also brushless motors feature low annoying sounds and low electrical noises.

### Point 2

#### Slotless structure enables smooth rotation without cogging torque.

Usual brushless motors generate cogging torque (uneven rotation) due to the magnet suction power between the rotor permanent magnet and stator core (iron core). Slotless structure resolves such cogging torque by air core coil not using an iron core.

### Point 3

#### Less heat generation and stable torque transmission

Heat generation during motor actuation. Normally such heat remains inside the motor and influences the torque and the durability. In the slotless structure, however, coils are placed evenly along the inner periphery of the stator, which enhances radiation performance and suppresses efficiency loss caused by the electrical resistance fluctuation.

### Point 4

#### Circuit design optimizing the motor performance

It is necessary to stabilize the motor rotation at around 15000rpm for the stable output. By driving the motor with an inverter after detecting a position of the rotor magnetic pole with Hall element, the motor rotates smoothly with little vibration and keeps optimal revolution speed.



## Reliable operation, accurate adjustment, and easy maintenance... VESSEL's uncompromising approach to the quality is reflected in every design.

The ergonomic design that reduces the burden on the worker during consecutive assembly and/or fastening work.  
Easy installation and wiring. Accurate torque adjustment. Maintenance-free concept.  
The VE series is an electric screwdriver for professional use that powerfully supports the production lines.

### Easy-to-use, anti-fatigue ergonomic design

Design

The screwdriver handle's ergonomic design has a shape that fingers naturally fit at the lever position when the handle is gripped, a soft gel pads that absorb vibration, and a non-slip surface finish, etc.



Lever method for vertical driving

A thumb holder assures more stable operation (VE-1500 and 2000 only).



Push method for horizontal driving

GEL pad on the grip assures a firm hold and absorbs vibration for comfortable operation.

### Easy installation and wiring applicable to various working sites

Smooth

The newly designed controller (DC type) has a rounded back surface for easy installation onto the cell block's pipe. The AC type is plugged into a 100VAC outlet, and does not require a controller.



External controller capable of HI or LOW selection



Simple cord connection (DC type)

Fix onto a pipe of a cell production table

### Anti-static model compatible for use with EPA

EPA

Conductive resin is used for the body, switch lever, and sleeve, so screws can be tightened safely even in areas where static electricity is a concern.



※VE-1500EPA  
VE-2000EPA

### Accurate and secure torque adjustment

Adjustment

As the torque adjustment pitch is fine, precise adjustments are possible. A tamper-proof sleeve is enclosed as a standard accessory which can avoid the inappropriate torque setting.



16-step, 5 scale: VE-1500, 2000  
16-step, 8 scale: VE-3000, 4000 (P), 4500 (P), 5000 (P), 6000 (P)  
24-step, 5 scale: VE-1500 (EPA), 2000 (EPA)



Tamper-proof sleeve is enclosed as an accessory.

### Long-life, low-fault design Maintenance free

Maintenance

VESSEL electric screwdrivers incorporate a long life brushless motor; no need for replacement for 3 years in normal operating conditions. Brushless motors are not with a carbon brush which requires a regular replacement. In addition, a durable magnet switch is adopted.



Preventing faults caused by disconnection or pulling at cable connector section

Rigid gear clutch



Magnetic switch (non-contact type) reduces part wear and damage





A full line-up covers from precise/small parts to large devices.



The AC type is a 100VAC input that requires no controller.

|                              |             |                                                                                                                                                                                                                                 |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------|--|-----------------------------------------------------------------------------------------------------------------------------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Model No. (Screwdriver only) |             | —                                                                                                                                                                                                                               | —            | VE-1500EPAU                                                                                                                                                                       | VE-2000EPAU  | VE-3000U                                                                                                                          |  | VE-4000U                                                                                                                          | VE-4000PU | VE-4500U                                                                                                                          | VE-4500PU | VE-5000                                                                                                                                                                   | VE-5000P | VE-6000P                                                                                                                                                                  |
| EDP No. (Screwdriver only)   |             | —                                                                                                                                                                                                                               | —            | 550108                                                                                                                                                                            | 550109       | 550103                                                                                                                            |  | 550104                                                                                                                            | 550105    | 550106                                                                                                                            | 550107    | 550008                                                                                                                                                                    | 550009   | 550010                                                                                                                                                                    |
| Model No. (with controller)  |             | VE-1500                                                                                                                                                                                                                         | VE-2000      | VE-1500EPA                                                                                                                                                                        | VE-2000EPA   | VE-3000                                                                                                                           |  | VE-4000                                                                                                                           | VE-4000P  | VE-4500                                                                                                                           | VE-4500P  | —                                                                                                                                                                         | —        | —                                                                                                                                                                         |
| EDP No. (with controller)    |             | 550001                                                                                                                                                                                                                          | 550002       | 550201                                                                                                                                                                            | 552020       | 550003                                                                                                                            |  | 550004                                                                                                                            | 550005    | 550006                                                                                                                            | 550007    | —                                                                                                                                                                         | —        | —                                                                                                                                                                         |
| Output torque range          |             | 0.01—0.15N·m                                                                                                                                                                                                                    | 0.06—0.34N·m | 0.01—0.15N·m                                                                                                                                                                      | 0.06—0.34N·m | 0.15—1.0N·m                                                                                                                       |  | 0.3—1.5N·m                                                                                                                        |           | 0.4—1.8N·m                                                                                                                        |           | 0.6—2.5N·m                                                                                                                                                                |          | 1.6—4.5N·m                                                                                                                                                                |
| Applicable screws            | Small screw | M1.0—M1.7                                                                                                                                                                                                                       | M1.0—M2.3    | M1.0—M1.7                                                                                                                                                                         | M1.0—M2.3    | M1.6—3.0                                                                                                                          |  | M2.3—3.0                                                                                                                          |           | M2.3—3.0                                                                                                                          |           | M2.6—4.0                                                                                                                                                                  |          | M3.5—5.0                                                                                                                                                                  |
|                              | Tapping     | 1.0—1.5mm                                                                                                                                                                                                                       | 1.0—2.0mm    | 1.0—1.5mm                                                                                                                                                                         | 1.0—2.0mm    | 1.6—2.6mm                                                                                                                         |  | 1.6—2.6mm                                                                                                                         |           | 2.3—3.0mm                                                                                                                         |           | 2.6—3.5mm                                                                                                                                                                 |          | ≤ 4mm                                                                                                                                                                     |
| Torque adjustment ring       |             | 16-step x 5 scale                                                                                                                                                                                                               |              | 24-step x 5 scale                                                                                                                                                                 |              | 16-stage x 8 scale                                                                                                                |  | 16-stage x 8 scale                                                                                                                |           | 16-stage x 8 scale                                                                                                                |           | 16-stage x 8 scale                                                                                                                                                        |          | 16-stage x 8 scale                                                                                                                                                        |
| No-load rotation speed       |             | HI: 1000min <sup>-1</sup> ／LO: 700min <sup>-1</sup>                                                                                                                                                                             |              | HI: 1000min <sup>-1</sup> ／LO: 700min <sup>-1</sup>                                                                                                                               |              | HI: 1000min <sup>-1</sup> ／LO: 700min <sup>-1</sup>                                                                               |  | HI: 2000min <sup>-1</sup> (No LO setting)                                                                                         |           | HI: 1000min <sup>-1</sup> ／LO: 700min <sup>-1</sup>                                                                               |           | 1000min <sup>-1</sup>                                                                                                                                                     |          | 1000min <sup>-1</sup>                                                                                                                                                     |
| Rating                       |             | DC12V 15W                                                                                                                                                                                                                       |              | DC12V 15W                                                                                                                                                                         |              | DC32V 25W                                                                                                                         |  | DC32V 55W                                                                                                                         |           | DC32V 55W                                                                                                                         |           | AC100V 50／60Hz 90W                                                                                                                                                        |          | AC100V 50／60Hz 120W                                                                                                                                                       |
| Cable length                 |             | 2m                                                                                                                                                                                                                              |              | 2m                                                                                                                                                                                |              | 2m                                                                                                                                |  | 2m                                                                                                                                |           | 2m                                                                                                                                |           | 2.5m                                                                                                                                                                      |          | 2.5m                                                                                                                                                                      |
| Weight                       |             | 190g                                                                                                                                                                                                                            |              | 190g                                                                                                                                                                              |              | 430g                                                                                                                              |  | 700g                                                                                                                              |           | 710g                                                                                                                              |           | 1100g                                                                                                                                                                     |          | 1100g                                                                                                                                                                     |
| External dimensions          |             | 200mm                                                                                                                                                                                                                           |              | 200mm                                                                                                                                                                             |              | 222mm                                                                                                                             |  | 250mm                                                                                                                             |           | 250mm                                                                                                                             |           | 290mm                                                                                                                                                                     |          | 290mm                                                                                                                                                                     |
| Material                     |             | PC + elastomer                                                                                                                                                                                                                  |              | Conductive PC + conductive elastomer                                                                                                                                              |              | PC + elastomer                                                                                                                    |  | PC + elastomer                                                                                                                    |           | PC + elastomer                                                                                                                    |           | PC + elastomer                                                                                                                                                            |          | PC + elastomer                                                                                                                                                            |
| Package contents             |             | Screwdriver unit, tamperproof sleeve (already attached), two set screws (M3x3), one hexagon wrench (H1.5), one 3P2P conversion adapter, Instruction manual, controller VTC-20, one AC cable (1.8m), one 3P2P conversion adapter |              | Screwdriver unit, tamperproof sleeve (already attached), two set screws (M3x3), one hexagon wrench (H1.5), one 3P2P conversion adapter, Instruction manual, 3P/6P conversion cord |              | Screwdriver unit (with power cord), one tamperproof sleeve, two set screws (M3x3), one hexagon spanner (H1.5), Instruction manual |  | Screwdriver unit (with power cord), one tamperproof sleeve, two set screws (M3x3), one hexagon spanner (H1.5), Instruction manual |           | Screwdriver unit (with power cord), one tamperproof sleeve, two set screws (M3x3), one hexagon spanner (H1.5), Instruction manual |           | Screwdriver unit (with AC cord), one suspension ring, one tamperproof sleeve, two set screws (M3x3), one hexagon spanner, one 3P2P conversion adapter, Instruction manual |          | Screwdriver unit (with AC cord), one suspension ring, one tamperproof sleeve, two set screws (M3x3), one hexagon spanner, one 3P2P conversion adapter, Instruction manual |
| (with controller)            |             |                                                                                                                                                                                                                                 |              | Controller VTC-20, one AC cable (1.8m), one 3P2P conversion adapter                                                                                                               |              | Controller VTC-20, one AC cable (1.8m), one 3P2P conversion adapter                                                               |  | Controller VTC-45, one AC cable (1.8m), one 3P2P conversion adapter                                                               |           | Controller VTC-45, one AC cable (1.8m), one 3P2P conversion adapter                                                               |           | —                                                                                                                                                                         |          | —                                                                                                                                                                         |
| Enclosed bits                |             | D73 +0×1.4×40／+0×1.7×40 one bit each                                                                                                                                                                                            |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
| Applicable VESSEL bits       |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             | D73                                                   |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |
|                              |             |                                                                                                                                                                                                                                 |              |                                                                                                                                                                                   |              |                                                                                                                                   |  |                                                                                                                                   |           |                                                                                                                                   |           |                                                                                                                                                                           |          |                                                                                                                                                                           |

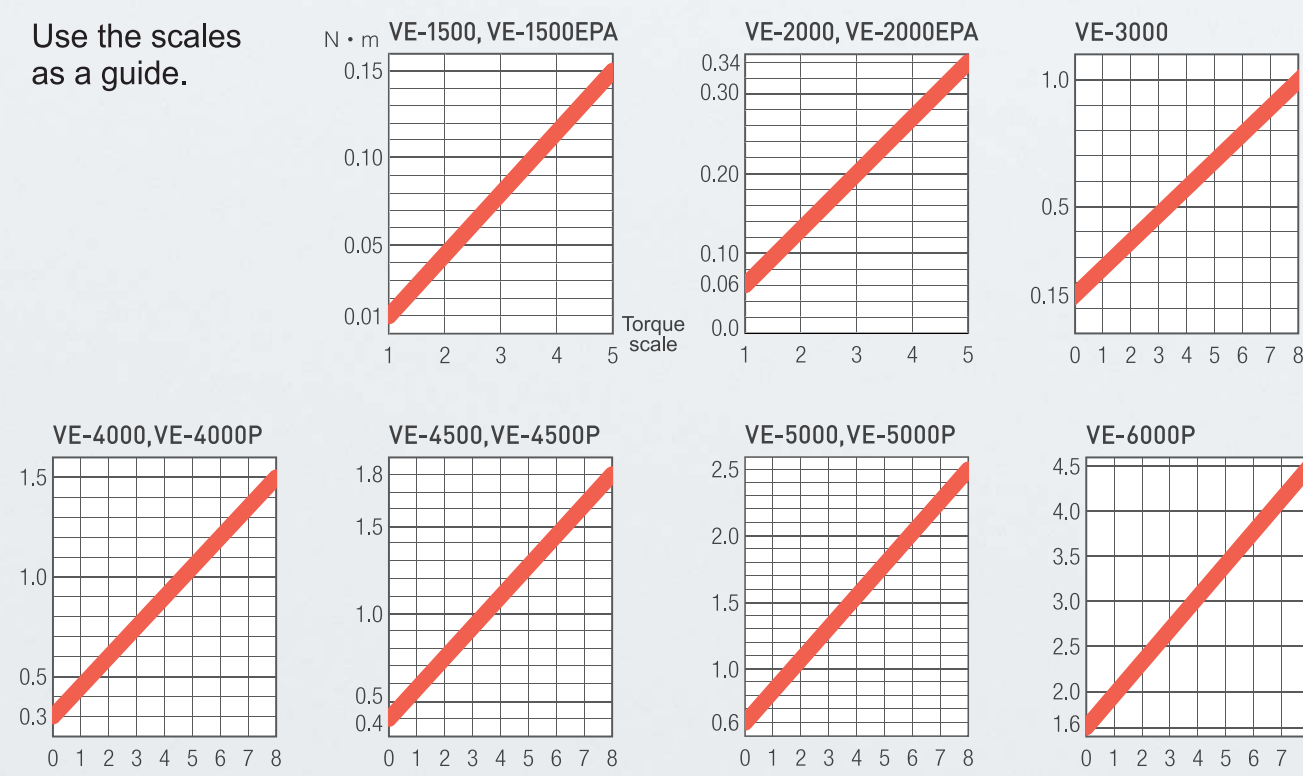


Covering a wide output torque range with all models.

Screwdriver Model Selection Table

| Model                 | Output torque range | Applicable screws |           |
|-----------------------|---------------------|-------------------|-----------|
|                       |                     | Small screw       | Tapping   |
| VE-1500<br>VE-1500EPA | 0.01-0.15           | M1.0-1.7          | 1.0-1.5mm |
| VE-2000<br>VE-2000EPA | 0.06-0.34           | M1.0-2.3          | 1.0-2.0mm |
| VE-3000               | 0.15-1.0            | M1.6-3.0          | 1.6-2.6mm |
| VE-4000<br>VE-4000P   | 0.3-1.5             | M2.3-3.0          | 1.6-2.6mm |
| VE-4500<br>VE-4500P   | 0.4-1.8             | M2.3-3.0          | 2.3-3.0mm |
| VE-5000<br>VE-5000P   | 0.6-2.5             | M2.6-4.0          | 2.6-3.5mm |
| VE-6000P              | 1.6-4.5             | M3.5-5.0          | ≤4mm      |

Guide to Output Torques (at HI input)



DC Type Controller

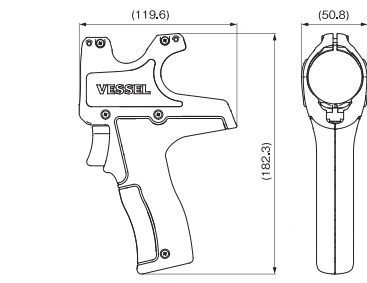
Compatible models VE-1500(EPA), 2000(EPA), 3000, 4000(P), 4500(P)

| Model                | VCT-20                                                     | VCT-30                     | VCT-45                           |
|----------------------|------------------------------------------------------------|----------------------------|----------------------------------|
| Rating               | AC100-240V 50/60Hz 31-42VA                                 | AC100-240V 50/60Hz 63-79VA | AC100-240V 50/60Hz 62-78VA       |
| Secondary power      | DC9V/12V 1.0A                                              | DC24V/32V 1.0A             | DC24V/32V 0.9A                   |
| External dimensions  | 72×170×40mm                                                | 72×170×40mm                | 82×200×55mm                      |
| Weight               | 230g                                                       | 300g                       | 510g                             |
| Applicable standards | PSE                                                        | PSE                        | PSE                              |
| Compatible models    | VE-1500, 1500EPA<br>VE-2000, 2000EPA                       | VE-3000                    | VE-4000, 4000P<br>VE-4500, 4500P |
| Package contents     | Instruction manual, 3P2P conversion adapter, 1.8m AC cable |                            |                                  |



New Pistol Grip VPG-L EDP No.551038

Compatible models VE-5000, 5000P, 6000P  
Optionally compatible models VE-1500(EPA), 2000(EPA), 3000, 4000(P), 4500(P)



|                        |                                                                                                                      |
|------------------------|----------------------------------------------------------------------------------------------------------------------|
| Model                  | VPG-L                                                                                                                |
| Width x depth x height | (119.6)×(50.8)×(182.3)mm                                                                                             |
| Weight                 | 113g                                                                                                                 |
| Material               | Polycarbonate                                                                                                        |
| Accessories            | Housing upper cover x 1<br>Housing lower cover x 1<br>Trigger x 1<br>Link x 1<br>Spring x 1<br>M3 pan-head screw x 5 |

Increasing workability, and reducing fatigue during screw tightening work

When the piston grip is mounted, the pressing force increases and the screwdriver becomes easier to hold. This reduces the burden applied on the hands.

■ Suspension ring mounting hole  
Using the suspension holes provided at two places on the piston grip and one place on the Dendora body can change the installation angle.



■ Non-tiring trigger  
Fatigue during long work is reduced as the entire trigger supports fingers.

The piston grip is available as an option for all models other than the VE-5000 (P) and VE-6000P. Contact VESSEL for more information.

New Color Sleeves

Type Available in five colors and four sizes



| Model         | VCS-SS                                         | VCS-S   | VCS-M                                      | VCS-L                           |
|---------------|------------------------------------------------|---------|--------------------------------------------|---------------------------------|
| Compatibility | VE-1500<br>VE-1500EPA<br>VE-2000<br>VE-2000EPA | VE-3000 | VE-4000<br>VE-4000P<br>VE-4500<br>VE-4500P | VE-5000<br>VE-5000P<br>VE-6000P |

New Extension Cord (2m) VE-EC2 EDP No.551036

Compatible models 1500EPA, 2000EPA, 3000, 4000(P), 4500(P)  
VCT-20\*, VCT-30, VCT-40, VSC-01



※The 3P/6P conversion cord is required to connect to the VCT-20.



# Screw Counter

The compact and lightweight body can be installed anywhere.

## Screw Counter

VSC-01 EDP No.551002

Compatible models VE-1500EPA, VE-2000EPA, VE-3000, VE-4000(P), VE-4500(P)

Prevent human errors during screw tightening work

### Count function



The number of tightened screws is displayed as 0 to 99 on the LCD display.

### Channel function



Maximum 5 channels can be preset. This saves time to implement newly the same settings.

### Screw tightening time setting



Setting the screw tightening time avoids tightening of wrong screws.

### POKA YOKE careless miss prevention



## Managing processes by exchanging signals

### External input/output

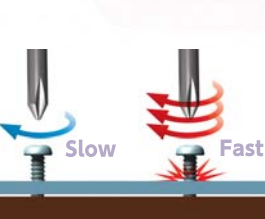
Signals can be input and output from the external input/output terminal to control the process and link with external devices.

|                                          |                                                                       |                    |
|------------------------------------------|-----------------------------------------------------------------------|--------------------|
| Output                                   | VCT-20                                                                | HI:DC12V, LO:DC9V  |
|                                          | VCT-30                                                                | HI:DC32V, LO:DC24V |
|                                          | VCT-45                                                                | HI:DC32V, LO:DC24V |
| Channel                                  | 5 channels                                                            |                    |
| Count number                             | 1-99                                                                  |                    |
| Count method                             | Count up/count down (selective)                                       |                    |
| Automatic reset time                     | 0.0-9.9 seconds                                                       |                    |
| Slow start setting time                  | 0.0-9.9 seconds                                                       |                    |
| Speed during slow start                  | 30, 35, 40, 45, 50, 60, 65, 70, 80, 85%(10steps)                      |                    |
| Screw tightening time (upper limit time) | 0.01-9.90 seconds                                                     |                    |
| Screw tightening time (lower limit time) | 0.01-9.90 seconds                                                     |                    |
| Connector                                | Dedicated connector (open collector 7 contacts)                       |                    |
| Dimensions                               | 150x65x32 mm                                                          |                    |
| Weight                                   | 180g                                                                  |                    |
| Working temperature/humidity             | 0-40℃/ 10-80%RH                                                       |                    |
| Compatible models                        | VE-1500EPA, VE-2000EPA, VE-3000, VE-4000, VE-4000P, VE-4500, VE-4500P |                    |



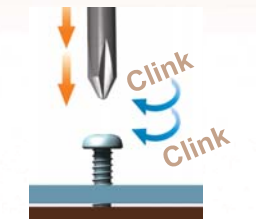
### Improved ease-of-use

#### Slow start function

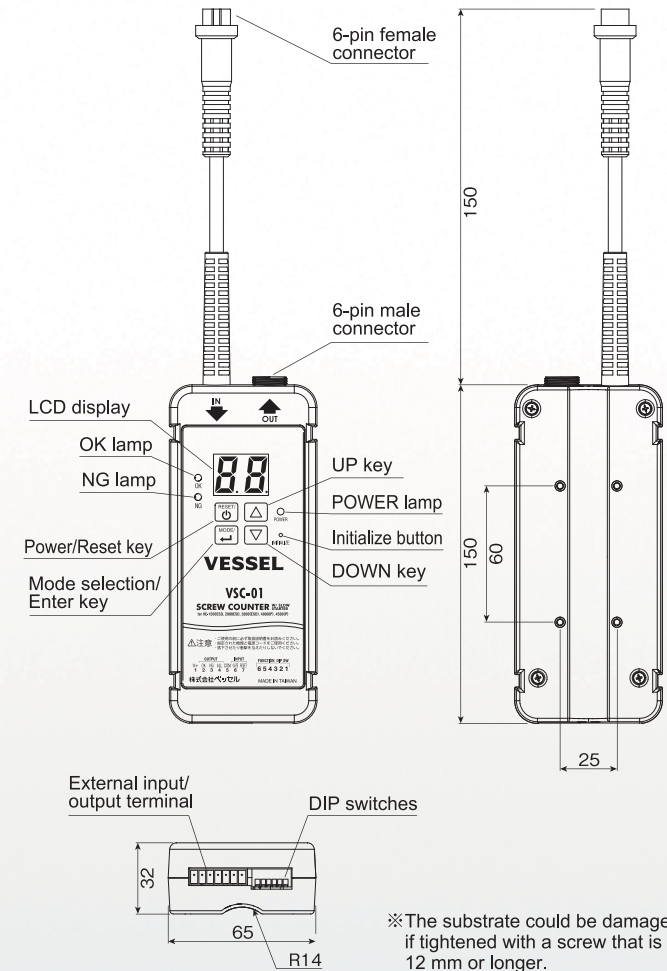


In the beginning of screw tightening, the electric screwdriver starts operating slowly by reducing the revolution speed to avoid the damages on the screw.

#### Tightening function



In order to reassure the tightening torque, the electric screwdriver may perform the final tightening. Such torque-up is not counted.



※The substrate could be damaged if tightened with a screw that is 12 mm or longer.

# Screw Feeder

Accurately pickup precision small screws and thin-headed screws without fail.

## Screw Feeder

VSF-5 EDP No.551001

Compatible screws M1~M5

Supporting a variety of screw sizes with one unit

### Compatible with a variety of screw sizes

Screw sizes from M1 to M5 x 20 are supported with one unit.

### Adjustable with enclosed rail

The rail width can be adjusted, so there's no need to manage several rails.

### Adjustment tool enclosed in set

The adjustment tool required to change the screw size is enclosed so adjustments can be made.

### Adjustment procedure movie

Watch a movie showing how to change the screw size.



<http://www.vessel.co.jp/html/info/movie-ve.html>

|                              |                                                                                        |
|------------------------------|----------------------------------------------------------------------------------------|
| Model                        |                                                                                        |
| Input voltage/current        |                                                                                        |
| Compatible screw sizes       | Regular screws / tapping screws: M1.0 to M5.0<br>Screw under head length maximum 20 mm |
| Screw capacity               |                                                                                        |
| Width x depth x height       | (excluding protrusions)                                                                |
| Weight                       | (excluding accessories)                                                                |
| Working temperature/humidity | (with no dew condensation)                                                             |
| Installation place           | Limited to indoors                                                                     |

|             |                                                                                                             |
|-------------|-------------------------------------------------------------------------------------------------------------|
| AC adapter  | Model                                                                                                       |
|             | Rated input voltage                                                                                         |
|             | Rated output voltage                                                                                        |
|             | Working temperature/humidity                                                                                |
|             | (with no dew condensation)                                                                                  |
|             | Cord length                                                                                                 |
|             | Cord approx. 1.8m                                                                                           |
|             | Weight                                                                                                      |
| Spare parts | Stopper: For M1.0 to 2.0 ... 1 pc., for M2.3 to 5.0 ... 1 pc.                                               |
|             | Rail width front section adjustment plate (mm): 70 x 90 x 10.8, 11.0, 11.2, 11.5, 12.0 ... one plate each   |
|             | Rail width rear section adjustment plate (mm): 20 x 10 x 10.2 ... two plates, 20 x 10 x 10.5 ... ten plates |
|             | L-shape hexagon wrench H2.0 mm x 108 mm, grounding wire, Instruction manual                                 |

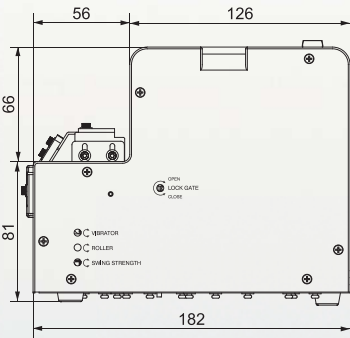
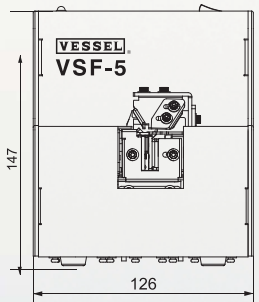
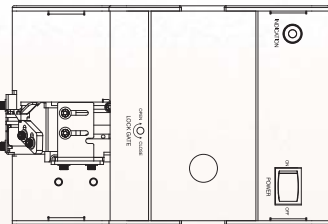


### ● Spare parts

SP-VSF EDP No.551071

### ● AC adapter

AD15-VSF EDP No.551072





## Torque Meter

# Ensure secure screw tightening with daily torque checks.

## Torque Meter VTM-8 / 10 / 100

### Realize accurate screw tightening

The torque measurement accuracy is within  $\pm 0.5\%$ , so the torque can be measured accurately. By setting the upper limit and lower limit values, the acceptability of the measurement results can be judged.

### Two measurement mode types

Either the Peak Hold measurement mode suitable for measuring electric screwdrivers, or the Peak Down Hold measurement mode suitable for manual tools can be selected.



Peak Hold mode

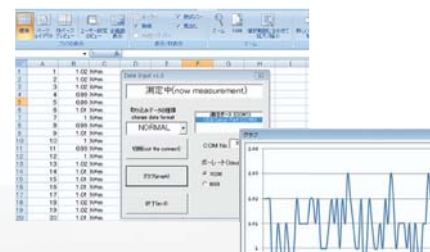


Peak Down Hold mode

| Model                              | VTM-8                                                                    | VTM-10                                                       | VTM-100                               |
|------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------|
| EDP No.                            | 551011                                                                   | 551012                                                       | 551013                                |
| Measurement range                  | 0.002-0.8 N·m                                                            | 0.01-1.0 N·m                                                 | 0.1-10.0 N·m                          |
| Precision *                        | $\pm 0.5\%$<br>( $\pm 3$ digits below 499 digits)                        | $\pm 0.5\%$<br>( $\pm 1$ digit below 199 digits)             |                                       |
| Unit measurement                   | cN·m / mN·m                                                              | N·m / cN·m                                                   |                                       |
| Data memory                        | Data for 800 measurement values                                          |                                                              |                                       |
| Data output                        | ASCII format (baud rate 19200 bps)                                       |                                                              |                                       |
| Power supply                       | Nickel-cadmium battery 1.2V x 5 cells (700 mAh)                          |                                                              |                                       |
| Charging/usage time                | Charging approx. 3 hours/max. 12 hours of use                            |                                                              |                                       |
| Battery life                       | 300 or more charges (varies according to the usage state)                |                                                              |                                       |
| Automatic power OFF                | Power OFF if left idle for 10 minutes                                    |                                                              |                                       |
| Socket fitting section dimensions  | 20 x 20 mm / 9.5 x 9.5 mm                                                |                                                              |                                       |
| Working temperature/humidity range | Temperature 19°C to 29°C/humidity 48 to 63%RH (with no dew condensation) |                                                              |                                       |
| External dimensions                | 160(W) x 125(D) x 55(H)                                                  |                                                              |                                       |
| Weight                             | Approx. 1.0 kg                                                           |                                                              |                                       |
| Accessories                        | Torque adapter<br>· VJ-3                                                 | Torque adapter<br>· VJ-3<br>· VJ-10                          | Torque adapter<br>· VJ-10K<br>· VJ-50 |
|                                    | Four types of H5 mm bit, one each                                        |                                                              |                                       |
|                                    | AC adapter (input 100 to 240 VAC, 50/60 Hz, 0.3A output 12 VDC, 0.5A)    |                                                              |                                       |
|                                    | Test Results, Proof of Calibration, Traceability System Diagram          |                                                              |                                       |
|                                    | Instruction manual                                                       |                                                              |                                       |
|                                    | Torque adapter<br>usage range (N·m)                                      | VJ-3 : 0.25 or less<br>VJ-10(K) : 0.3-1.0<br>VJ-50 : 0.5-5.0 |                                       |

### Manage measurement data

The torque measurement accuracy is within  $\pm 0.5\%$ . The upper and the lower value can be preset for judgement of acceptance.



#### ● Torque adapter

|        |               |
|--------|---------------|
| VJ-3   | EDP No.551021 |
| VJ-10  | EDP No.551022 |
| VJ-10K | EDP No.551023 |
| VJ-50  | EDP No.551024 |



#### ● Measurement bits

| H5 mm bits  | H6 mm bits  |
|-------------|-------------|
| • D73 H5×50 | • D73 H6×50 |
| • D76 H5×50 | • D76 H6×50 |
| • B34 H5×50 | • B34 H6×50 |
| • A16 H5×50 | • A16 H6×50 |



## Bits Lineup

H 6.35 mm VE-5000 / 5000P / 6000P



#### No. A14

#### Double End Bit

- If one end breaks, the other end can be used.
- A wide variety of bits according to different heat treatment.

| Size<br>Tip×Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|----------------------------------|---------------|---------------|
| ⊕ 1× 45                         | H                                | 10            | 100           |
| 65                              | H                                | 10            | 100           |
| 65                              | G                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 110                             | G                                | 10            | 100           |
| ⊕ 2× 45                         | X                                | 10            | 100           |
| 45                              | H                                | 10            | 100           |
| 45                              | G                                | 10            | 100           |
| 65                              | X                                | 10            | 100           |
| 65                              | H                                | 10            | 100           |
| 65                              | G                                | 10            | 100           |
| 65                              | E                                | 10            | 100           |
| 110                             | X                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 110                             | G                                | 10            | 100           |
| 110                             | E                                | 10            | 100           |
| 150                             | X                                | 10            | 100           |
| 150                             | H                                | 10            | 100           |
| 150                             | G                                | 10            | 100           |
| 150                             | E                                | 10            | 100           |
| 200                             | X                                | 10            | 150           |
| 200                             | H                                | 10            | 150           |
| 200                             | G                                | 10            | 150           |
| 200                             | E                                | 10            | 150           |
| 300                             | G                                | 10            | 100           |
| ⊕ 3× 45                         | H                                | 10            | 100           |
| 45                              | E                                | 10            | 100           |
| 65                              | X                                | 10            | 100           |
| 65                              | H                                | 10            | 100           |
| 65                              | E                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 110                             | E                                | 10            | 100           |



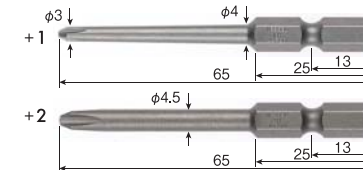
#### No. M-A14

#### Double End Bit (Magnetized)

- If one end breaks, the other end can be used.
- Strongly magnetized

| Size<br>Tip×Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|----------------------------------|---------------|---------------|
| ⊕ 1× 45                         | H                                | 10            | 100           |
| 65                              | H                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| ⊕ 2× 45                         | H                                | 10            | 100           |
| 45                              | G                                | 10            | 100           |
| 65                              | H                                | 10            | 100           |
| 65                              | G                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 110                             | G                                | 10            | 100           |
| 150                             | H                                | 10            | 100           |

H 6.35 mm VE-5000 / 5000P / 6000P

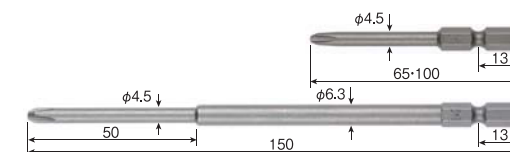


#### No. A16

#### Recssed Bit

- Bit with recessed type. Thin shank allows for use in narrow spaces.

| Size<br>Tip×Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|----------------------------------|---------------|---------------|
| ⊕ 1×3 ×65                       | H                                | 10            | 100           |
| ⊕ 2×4.5×65                      | H                                | 10            | 100           |



#### No. M-A16

#### Recssed Bit (Magnetized)

- Stepped type. Thin shank allows for use in narrow spaces.
- Power magnetized

| Size<br>Tip×Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|----------------------------------|---------------|---------------|
| ⊕ 2×4.5×65                      | H                                | 10            | 100           |
| 100                             | H                                | 10            | 100           |
| 150                             | H                                | 10            | 100           |



#### No. A16

#### Hex Bit

- For assembly work focusing on workability

| Size<br>Tip×Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|---------------------------------|----------------------------------|---------------|---------------|
| H 2×65                          | H                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 2.5×65                          | H                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 3×65                            | H                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 4×65                            | H                                | 10            | 100           |
| 110                             | H                                | 10            | 100           |
| 5×65                            | G                                | 10            | 100           |
| 110                             | G                                | 10            | 100           |
| 6×65                            | G                                | 10            | 100           |
| 110                             | G                                | 10            | 100           |

## Custom-Made Bits

If you cannot find an appropriate bit among our standard line-up, VESSEL can also produce specially designed bits for your application.

\*For some types of bits, more time may be needed to machine specific dies and jigs.  
\*For delivery deadline, we will inform you each time.

#### ● Outline for made-to-order bit

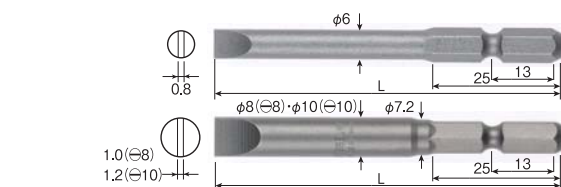
**Arrangement** We receive a minimum order of 10 pieces including test samples. Since the more the number of bits ordered, the less the unit price becomes, we recommend you to make a bulk purchase for production.

**Delivery deadline** Normally, we ship products within 21 work days after receiving your order. Regarding bits for Torx and automatic machine (screw thread cutting), we try to ship products within 25 work days after receiving your order.



H 6.35 mm

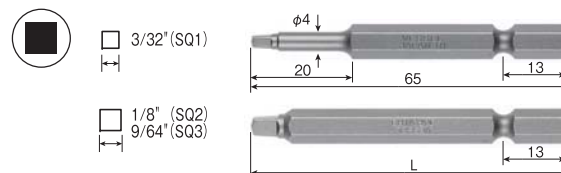
VE-5000/5000P/6000P



## No. A16 Recessed Bit

- For assembly work focusing on workability

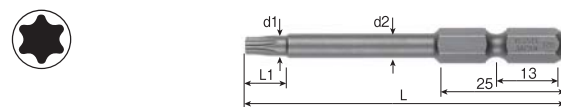
| Size<br>Tip x Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|-----------------------------------|----------------------------------|---------------|---------------|
| 6 × 45                            | G                                | 10            | 100           |
| 70                                | G                                | 10            | 100           |
| 8 × 45                            | G                                | 10            | 300           |
| 70                                | G                                | 10            | 250           |
| 10 × 52                           | G                                | 10            | 200           |
| 70                                | G                                | 10            | 200           |



## No. A16 Square Bit

- For assembly work focusing on workability

| Size<br>Tip x Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|-----------------------------------|----------------------------------|---------------|---------------|
| SQ 1 × 4 × 65                     | H                                | 10            | 100           |
| SQ 2 × 65                         | H                                | 10            | 100           |
| 110                               | H                                | 10            | 100           |
| 150                               | H                                | 10            | 100           |
| SQ 3 × 65                         | H                                | 10            | 100           |
| 110                               | H                                | 10            | 100           |
| 150                               | H                                | 10            | 100           |

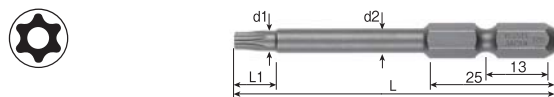


## No. V TORX Bit

- For TORX screws used in the automobile field

| Size<br>Tip x Overall Length (mm) | mm   | d1<br>(mm) | L1<br>(mm) | d2<br>(mm) | Inner<br>Ctn. |
|-----------------------------------|------|------------|------------|------------|---------------|
| T6 × 65                           | 1.65 | 1.95       | 6.5        | 4.0        | 10            |
| 110                               | 1.65 | 1.95       | 6.5        | 4.0        | 10            |
| T8 × 65                           | 2.3  | 2.60       | 7.0        | 4.5        | 10            |
| 110                               | 2.3  | 2.60       | 7.0        | 4.5        | 10            |
| T10 × 65                          | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| 110                               | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| T15 × 65                          | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| 110                               | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| T20 × 65                          | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| 110                               | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| T25 × 65                          | 4.4  | 4.70       | 8.0        | 5.0        | 10            |
| 110                               | 4.4  | 4.70       | 8.0        | 5.0        | 10            |
| T27 × 65                          | 4.96 | 5.26       | 8.0        | 5.5        | 10            |
| 110                               | 4.96 | 5.26       | 8.0        | 5.5        | 10            |
| T30 × 65                          | 5.49 | 5.79       | 8.5        | 6.0        | 10            |
| 110                               | 5.49 | 5.79       | 8.5        | 6.0        | 10            |
| T40 × 65                          | 6.6  | H6.35      | —          | H6.35      | 10            |
| 110                               | 6.6  | H6.35      | —          | H6.35      | 10            |

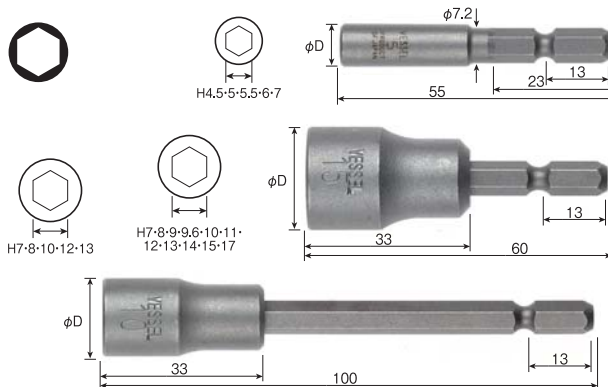
▲For the date of delivery, consult VESSEL



## No. V TORX Bit (Tamper-Proof)

- For TORX screws used in the automobile field
- With a round hole for tamper-proof

| Size<br>Tip x Overall Length (mm) | mm   | d1<br>(mm) | L1<br>(mm) | d2<br>(mm) | Inner<br>Ctn. |
|-----------------------------------|------|------------|------------|------------|---------------|
| T8H × 65                          | 2.3  | 2.60       | 7.0        | 4.5        | 10            |
| 110                               | 2.3  | 2.60       | 7.0        | 4.5        | 10            |
| T10H × 65                         | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| 110                               | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| T15H × 65                         | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| 110                               | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| T20H × 65                         | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| 110                               | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| T25H × 65                         | 4.4  | 4.70       | 8.0        | 5.0        | 10            |
| 110                               | 4.4  | 4.70       | 8.0        | 5.0        | 10            |
| T27H × 65                         | 4.96 | 5.26       | 8.0        | 5.5        | 10            |
| 110                               | 4.96 | 5.26       | 8.0        | 5.5        | 10            |
| T30H × 65                         | 5.49 | 5.79       | 8.5        | 6.0        | 10            |
| 110                               | 5.49 | 5.79       | 8.5        | 6.0        | 10            |
| T40H × 65                         | 6.6  | H6.35      | —          | H6.35      | 10            |
| 110                               | 6.6  | H6.35      | —          | H6.35      | 10            |



## No. A20 Socket Bit

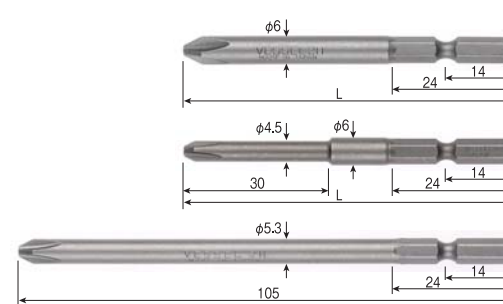
- Socket bit for assembly
- Strong resistance to shank breakage with press-fit method (Marked with a star symbol in the table below)

| Size<br>Tip x Overall Length (mm) | φD<br>(mm) | Drilling holes<br>depth (mm) | Inner<br>Ctn. | Outer<br>Ctn. |
|-----------------------------------|------------|------------------------------|---------------|---------------|
| A/F 4.5 × 55                      | 7.5        | 20                           | 10            | 250           |
| 5 × 55                            | 8.5        | 20                           | 10            | 250           |
| 5.5 × 55                          | 9          | 20                           | 10            | 250           |
| 100                               | 9          | 25                           | 10            | 250           |
| 6 × 55                            | 10         | 20                           | 10            | 200           |
| 100                               | 10         | 25                           | 10            | 200           |
| 7 × 11 × 55                       | 11         | 20                           | 10            | 200           |
| 100                               | 11         | 25                           | 10            | 150           |
| 7 × 60                            | ☆ 13.5     | 22                           | 10            | 200           |
| 100                               | ☆ 13.5     | 25                           | 10            | 150           |
| 8 × 60                            | ☆ 13.5     | 22                           | 10            | 200           |
| 100                               | ☆ 13.5     | 22                           | 10            | 150           |
| 9 × 60                            | ☆ 15       | 22                           | 10            | 150           |
| 9.6 × 60                          | ☆ 15       | 22                           | 10            | 150           |
| 10 × 60                           | ☆ 16       | 22                           | 10            | 150           |
| 100                               | ☆ 16       | 22                           | 10            | 100           |
| 11 × 60                           | ☆ 17       | 22                           | 10            | 150           |
| 12 × 60                           | ☆ 18       | 22                           | 10            | 100           |
| 100                               | ☆ 18       | 22                           | 10            | 100           |
| 13 × 60                           | ☆ 19       | 22                           | 10            | 100           |
| 100                               | ☆ 19       | 22                           | 10            | 50            |
| 14 × 60                           | ☆ 20       | 22                           | 10            | 100           |
| 15 × 60                           | ☆ 21       | 22                           | 10            | 50            |
| 17 × 60                           | ☆ 23       | 22                           | 10            | 50            |

☆...Press-fit type

H 5 mm

VE-4000/4000P/4500/4500P

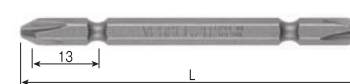


## No. B34 Bit

- For assembly work focusing on workability
- Hexagonal shape with the width across flats of 5mm is also suited for electric drivers.

| Size<br>Tip x Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|-----------------------------------|----------------------------------|---------------|---------------|
| 1 × 70                            | X                                | 10            | 100           |
| 70                                | H                                | 10            | 100           |
| 100                               | X                                | 10            | 100           |
| 100                               | H                                | 10            | 100           |
| 150                               | H                                | 10            | 100           |
| 1 × 4 × 70                        | H                                | 10            | 100           |
| 1 × 5.3 × 105                     | H                                | 10            | 100           |
| 120                               | X                                | 10            | 100           |
| 120                               | H                                | 10            | 100           |
| 125                               | X                                | 10            | 100           |
| 2 × 70                            | H                                | 10            | 100           |
| 100                               | H                                | 10            | 100           |
| 120                               | H                                | 10            | 100           |
| 150                               | H                                | 10            | 100           |
| 200                               | H                                | 10            | 100           |
| 2 × 4.5 × 70                      | H                                | 10            | 100           |
| 2 × 5.3 × 105                     | H                                | 10            | 100           |
| 120                               | H                                | 10            | 100           |
| H 2 × 70                          | H                                | 10            | 100           |
| 2.5 × 70                          | H                                | 10            | 100           |
| 3 × 70                            | H                                | 10            | 100           |
| 4 × 70                            | H                                | 10            | 100           |
| 5 × 70                            | H                                | 10            | 100           |

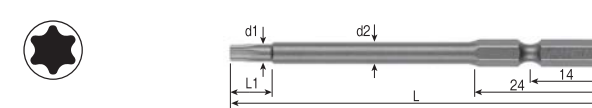
H 5 mm VE-4000/4000P/4500/4500P



## No. B36 Double End Bit

- If one end breaks, the other end can be used
- For assembly work focusing on workability

| Size<br>Tip x Overall Length (mm) | Heat treatment<br>classification | Inner<br>Ctn. | Outer<br>Ctn. |
|-----------------------------------|----------------------------------|---------------|---------------|
| 1 × 70                            | H                                | 10            | 100           |
| 100                               | X                                | 10            | 100           |
| 100                               | H                                | 10            | 100           |
| 2 × 70                            | H                                | 10            | 100           |
| 100                               | H                                | 10            | 100           |
| 150                               | H                                | 10            | 100           |
| 200                               | H                                | 10            | 100           |

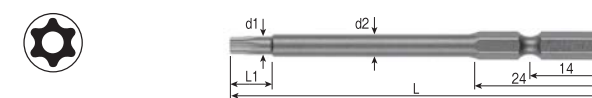


## No. N TORX Bit

- For TORX screws popular in the automobile industries

| Size<br>Tip x Overall Length (mm) | mm   | d1<br>(mm) | L1<br>(mm) | d2<br>(mm) | Inner<br>Ctn. |
|-----------------------------------|------|------------|------------|------------|---------------|
| T5 × 75                           | 1.37 | 1.67       | 6.5        | 4.0        | 10            |
| 100                               | 1.37 | 1.67       | 6.5        | 4.0        | 10            |
| T6 × 75                           | 1.65 | 1.95       | 6.5        | 4.0        | 10            |
| 100                               | 1.65 | 1.95       | 6.5        | 4.0        | 10            |
| T8 × 75                           | 2.3  | 2.60       | 7.0        | 4.5        | 10            |
| 100                               | 2.3  | 2.60       | 7.0        | 4.5        | 10            |
| T10 × 75                          | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| 100                               | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| T15 × 75                          | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| 100                               | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| T20 × 75                          | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| 100                               | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| T25 × 75                          | 4.4  | 4.70       | 8.0        | 5.0        | 10            |
| 100                               | 4.4  | 4.70       | 8.0        | 5.0        | 10            |
| T27 × 75                          | 4.96 | 5.26       | 8.0        | 5.5        | 10            |
| 100                               | 4.96 | 5.26       | 8.0        | 5.5        | 10            |

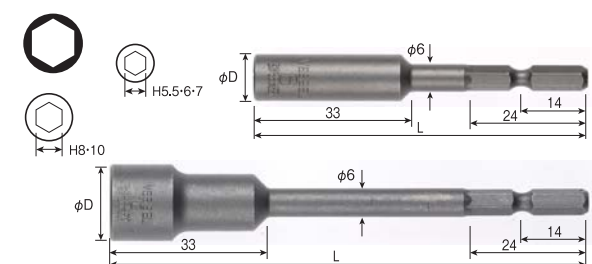
▲For the date of delivery, consult Vessel.



## No. N TORX Bit (Tamper-Proof)

- For TORX screws popular in the automobile industries
- With a round hole for tamper-proof

| Size<br>Tip x Overall Length (mm) | mm   | d1<br>(mm) | L1<br>(mm) | d2<br>(mm) | Inner<br>Ctn. |
|-----------------------------------|------|------------|------------|------------|---------------|
| T10H × 75                         | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| 100                               | 2.72 | 3.02       | 7.5        | 4.5        | 10            |
| T15H × 75                         | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| 100                               | 3.26 | 3.56       | 7.5        | 4.5        | 10            |
| T20H × 75                         | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| 100                               | 3.84 | 4.14       | 7.5        | 5.0        | 10            |
| T25H × 75                         | 4.4  | 4.70       | 8.0        | 5.0        | 10            |
| 100                               | 4.4  | 4.70       | 8.0        | 5.0        | 10            |



## No. B44 Socket Bit

- Socket Bit for Hex Screw

| Size<br>Tip x Overall Length (mm) | φD<br>(mm) | Drilling holes<br>depth (mm) | Inner<br>Ctn. | Outer<br>Ctn. |
|-----------------------------------|------------|------------------------------|---------------|---------------|
| A/F 5.5 × 70                      | 9          | 25                           | 10            | 250           |
| 100                               | 9          | 25                           | 10            | 250           |
| 6 × 70                            | 10         | 25                           | 10            | 200           |
| 100                               | 10         | 25                           | 10            | 200           |
| 7 × 70                            | 11         | 25                           | 10            | 200           |
| 100                               | 11         | 25                           | 10            | 150           |
| 8 × 70                            | 13         | 25                           | 10            | 200           |
| 100                               | 13         | 25                           | 10            | 150           |
| 10 × 100                          | 16         | 25                           | 10            | 100           |