



## **MIYANAGA CO., LTD**



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**Website:** <http://www.miyanaga.co.jp>

R1/2



# **MIYANAGA**

## **PRODUCT CATALOGUE**

**Poly-Clic series**

**S-LOCK series**

**Deltagon Bit series**

**Drill Bit series**

**ANZEX series**

**Diamond series**

**METAL-BORER series**

**Holesaw series**

**Core Bit series**

**Disk series**



ISO 9001



Certification No: YKA 0941883

ISO 14001



Certification No: YKA 0772511

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○: Recommended    ◉(Wet type): Recommended  
 ●▲: Acceptable    ●▲(Wet type): Acceptable

## Poly-Clic series

| Mode | Concrete                      | Reinforced concrete | Hume pipe | HDPE pipe | Block | Mortar | Extruded cement | ALC | Stone | Artificial marble | Tile | Ceramic tile | Clay pipe | Sheet metal | Stainless steel plate | Metal insulated sandwich panels | PVC pipe | FRP | Brick | Metal siding | Ceramic siding | Wood |  |
|------|-------------------------------|---------------------|-----------|-----------|-------|--------|-----------------|-----|-------|-------------------|------|--------------|-----------|-------------|-----------------------|---------------------------------|----------|-----|-------|--------------|----------------|------|--|
| P 12 | Drimond Core Bit              |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
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| P 29 | HDPE Core Bit                 |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
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| P 31 | Vinyl Chloride Pipe Core Bit  |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
| P 32 | Wetmond Core Bit              |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
| P 34 | FRP Core Bit                  |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
| P 36 | Holesaw 378                   |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
| P 38 | Holesaw 378P                  |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
| P 40 | Deep-Bore Holesaw             |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
| P 42 | Carbide STEPDRILL             |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |
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| P 44 | Dust Collecting Pad           |                     |           |           |       |        |                 |     |       |                   |      |              |           |             |                       |                                 |          |     |       |              |                |      |  |

## S-LOCK series

|      |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 50 | Bi-Metal Holesaw      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 51 | Holesaw 578           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 52 | Holesaw 578P          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 53 | Wooding Holesaw       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 54 | Deep-Bore Holesaw     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 55 | DL Core Bit           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 56 | Hyperdia Holesaw      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 57 | Tile Holesaw          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 58 | Dust Collecting Cover |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

○: Recommended    ◉(Wet type): Recommended    ◉(Gel type): Recommended  
 ●▲: Acceptable    ●▲(Wet type): Acceptable    ▲(Gel type): Acceptable

## Deltagon Bit series

| Mode | Concrete                               | Reinforced concrete | Hume pipe | Deck plate and concrete | Block | Mortar | Extruded cement | ALC | Stone | Artificial marble | Tile | Ceramic tile | Porcelain tile | Clay pipe | Sheet metal | Stainless steel plate | PVC pipe | FRP | Brick | Metal siding | Ceramic siding | Wood |  |
|------|----------------------------------------|---------------------|-----------|-------------------------|-------|--------|-----------------|-----|-------|-------------------|------|--------------|----------------|-----------|-------------|-----------------------|----------|-----|-------|--------------|----------------|------|--|
| P 64 | Deltagon SDS-plus Bit                  |                     |           |                         |       |        |                 |     |       |                   |      |              |                |           |             |                       |          |     |       |              |                |      |  |
| P 66 | Deltagon SDS-max Bit                   |                     |           |                         |       |        |                 |     |       |                   |      |              |                |           |             |                       |          |     |       |              |                |      |  |
| P 67 | Deltagon Straight Shank Percussion Bit |                     |           |                         |       |        |                 |     |       |                   |      |              |                |           |             |                       |          |     |       |              |                |      |  |
| P 68 | Deltagon Vacuum Bit                    |                     |           |                         |       |        |                 |     |       |                   |      |              |                |           |             |                       |          |     |       |              |                |      |  |

## Drill Bit series

|      |                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------|-------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 72 | Straight Shank Bit for Ceramic tile |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 73 | Cable Guide Drill Bit               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## ANZEX series

|      |                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------|--------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 78 | ANZEX-D                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 82 | ANZEX-K                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 84 | ANZEX-LF (made to order) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Diamond series

|      |                                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|------|---------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 90 | Mistdia Drill Bit (Quick-Change Type) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 92 | AQUASHOT                              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 94 | COOLDIA (Diamond Bit)                 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## METAL-BORER series

|       |                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|-----------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 100 | METAL-BORER 350/500   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 102 | METAL-BORER 350A/500A |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 104 | METAL-BORER M500      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 106 | METAL-BORER 750/750A  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Holesaw series

|       |                                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|--------------------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 110 | Holesaw 278                                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 112 | Holesaw 278P (for pipe)                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 114 | DL Core Bit                                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 116 | Bi-Metal Holesaw for Cordless impact             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 117 | Bi-Metal Stopperless Holesaw for Cordless impact |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Core Bit series

|       |                             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|-----------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 120 | Rotary Hammer Core Bit 600W |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 121 | Rotary Hammer Core Bit      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## Disk series

|       |                                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------|-------------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| P 124 | Hyperdia Disk (Curved surface type) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| P 125 | Hyperdia Disk (Flat surface type)   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

## P 126 Reference

\* Product specification is subject to change without notice.

## Introduction

Miyanaga has contributed to various fields in the construction industry by supplying high-quality carbide tipped drills, various types of concrete bits, core bits, holesaws, metal borers, and diamond-tipped core bits.

Miyanaga is a longstanding drill bit manufacturer in Japan, which was established in Miki city in 1916.

Our two factories in Miki city are equipped with computerized up-to-date equipment and stably producing high-quality products.

Our high-quality products have been highly evaluated not only by customers in Japan but also by global drill manufacturers and oversea customers.

Miyanaga continues to produce unique products meeting the needs of the times from the aspects of "Durability", "Safety", and "Usability".



Head office & No.1 Factory



No.2 Factory

## Manufacturing

A computerized automation system(Flexible Manufacturing System(FMS)) is the basis of Miyanaga's production equipment.

To satisfy Miyanaga's unique ideas and their requirements, most machines are modified within the company, and originality in them promotes high-quality.



## Research and Development

As a pioneer in drill bit development, Miyanaga has accumulated technology and know-how for a long time and develops new products with features meeting the needs of the times to satisfy customers' demands.

Our developed prototypes are evaluated thoroughly from all aspects and then put into production. We always look at things from a user's viewpoint. We believe that this spirit will be fed back into product technology and reliability in future.



Testing site

## Quality

Miyanaga continually makes improvements by the use of ISO 9001 Quality Management System as part of Management Tools and promotes to increase customer satisfaction.

In order to improve customer satisfaction, each development responsible will have their own departments understand the policy, identify the risks and opportunities, set goals, and evaluate the achievement status.

We set up and operate the system which is consistently meets customer requirements, as well as legal and regulatory requirements in order to maintain customer satisfaction by using the ISO 9001 Quality Management System.

### ISO 9001 and ISO 14001 certification



ISO 9001:2015 Certificate



ISO 14001:2015 Certificate

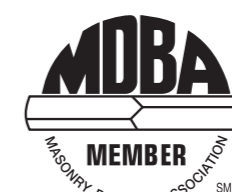
We obtained ISO 9001 certification (in November 1995) and ISO 14001 certification (in June 1999), which are the international quality assurance standard developed by ISO (International Organization for Standardization). Miyanaga's basic stance, which aims to create high-quality products that satisfy customers and to create environmentally friendly products, was recognized internationally.

We will continue to make further efforts to improve customer satisfaction, preserve the global environment and contribute to society. Thank you for your continued patronage of our products.

STAFDA



MDBA



PGM



## MIYANAGA Material Testing Center

In February 2017, Miyanaga Co., Ltd. Material Testing Center obtained ISO/IEC 17025 testing laboratory certification from Japan Accreditation Board (JAB).

### What is ISO/IEC 17025?

ISO/IEC 17025 is an "international standard for the capabilities of laboratories and calibration laboratories" established in 1978. Acquiring laboratory accreditation proves that it is a laboratory that can produce accurate results with test methods that comply with national and international standards.

### What can be done by the certification?

With the acquisition of certification, it is now possible to conduct anchor bolt tensile tests at the Miyanaga Material Testing Center. The results are guaranteed to be reliable internationally, and the grades with the following compound symbols will be widely accepted internationally.



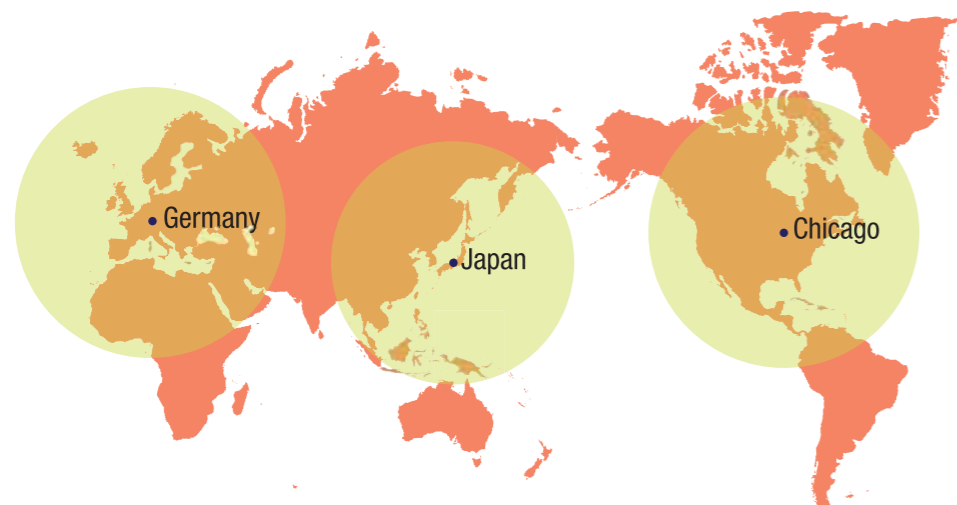
MIYANAGA Material Testing Center will provide internationally effective and reliable test results.

## Global network

Miyanaga's technologies and achievements have also received an excellent reputation overseas.

We have opened subsidiary company in Chicago and representative office in Germany so that we can consistently offer highlevel services.

We not only supply products through our global network, but also actively provide technical consultation, participate in exhibitions, and conduct market research and information gathering on local sites.



Miyanaga America Corp.

## Welcome to Miki

Miki city is famous as one of the oldest "cities of hardware" in Japan. The city transmits its good old tradition to our time, merges it with modern technologies, and creates new technologies constantly.

Miki city is located in the middle-southern of western Japan, in the north of Kobe Port, where Miki's hardware is exported to countries throughout the world.

## Company brief

Miyanaga has earned an excellent reputation from customers through the invention of unique products, which meet the needs of the age for "Drilling efficiency", "Durability", "Safety" and other aspects. What drove the remarkable progress was the flexible idea and technology for "Making a hole".

The technology and the past achievements of Miyanaga has been highly evaluated not only in Japan but also in overseas. The entry into the US and European markets through the opening of the representative offices in Chicago, USA and Germany. Sales contracts with overseas distributors in the US, Europe, and Southeast Asia. Through the global network thus built, Miyanaga not only supplies its products to the local markets, but also aggressively provides technical consultation, participates in exhibitions, and conducts market research and information gathering.

Always take the perspective of the users – we believe this motto is being reflected on the technology and reliability of our products.

**Company name:** Miyanaga Co., Ltd.

**Representatives:** President and Representative Director, Kiyoshi Miyanaga

**Company activities:** Manufacturing of Concrete drills, Carbide tools, Diamond tools, and other ancillary devices, and their applications

### History:

- Sep. 1916 Established as Miyanaga Iron Works
- Oct. 1964 Renamed to Miyanaga Co., Ltd.
- Dec. 1972 Kobe sales head office established
- Oct. 1973 Fukuoka sales office opened
- Sep. 1976 Tokyo branch opened
- Nov. 1979 The first phase construction of No.2 factory
- Feb. 1982 Chicago representative office opened
- Mar. 1982 Nagoya and Hiroshima sales offices opened
- Jun. 1982 Sapporo sales office opened
- Sep. 1988 Extension of No.2 factory (Annex)
- Dec. 1990 The first phase construction of Welfare building completed
- May 1991 Atsugi sales office opened
- Oct. 1992 Omiya sales office opened
- Jan. 1995 Kobe sales head office closed
- Feb. 1995 Osaka branch opened
- Nov. 1995 ISO 9001 certified
- Mar. 1997 Tokyo distribution center opened
- Dec. 1997 Stuttgart representative office opened
- Aug. 1998 In-house call center opened
- Nov. 1998 Transition to home based working system
- Jun. 1999 ISO 14001 certified
- Dec. 2001 Miyanaga America Corporation (MAC) established
- Jan. 2002 Extension of No.2 factory (Annex)
- Sep. 2014 50th anniversary of establishment
- Dec. 2015 New factory in head office completed
- Sep. 2016 100th anniversary of foundation
- Feb. 2017 MIYANAGA Material Testing Center opened and acquired "laboratory accreditation" according to ISO/IEC 17025. ISO/IEC 17025 Certified.



Overview of head office



No.1 Factory



No.2 Factory



Miyanaga America Corp.

### Okagesamade

Miyanaga always hopes to continuously provide products fulfilling your expectations.



"Okagesamade", a Japanese phrase to express gratitude for others.

12 DRY TYPE Dimond Core Bit



Dia. 25-310mm

Dry drilling in reinforced concrete.

14 DRY TYPE Hyperdia Core Bit



Dia. 25-310mm

Easy drilling in ceramic siding.

16 Galvawood Core Bit



Dia. 25-310mm

Easy drilling to galvanized metal siding board.

32 WET TYPE Wetmond Core Bit



Dia. 25-220mm

Drilling in reinforced concrete, hume pipe. (wet type)

34 FRP Core Bit



Dia. 17-127mm

High efficient drilling in work materials including in glass fiber.

36 Holesaw 378



Dia. 14-120mm

Dramatically improved drilling efficiency and cost effectiveness thanks to the Poly-Clic system.

18 Super Metal Core Bit



Dia. 25-220mm

Best for metal insulated sandwich panels (up to 130mm thickness).

20 Wooding Core Bit



Dia. 22-220mm

Safe and fast drilling through nail embedded wood with unique cutting teeth and slit.

22 ALC Core Bit



Dia. 22-310mm

Smooth cutting ALC with steel frame by special designed tips and chip pokets.

38 Holesaw 378P



Dia. 15-65mm

Longer body for drilling into curved surfaces such as pipes.

40 Deep-Bore Holesaw



Dia. 14-120mm

Specially designed cutting teeth for efficient removal of chips.

42 Carbide STEPDRIILL



Dia. 16-25mm

One cutter can drill five sizes of holes.

24 Percussion Core Bit ('S'Core)



Dia. 22-220mm

Original designed cutting teeth for use with percussion drill in percussion and rotary mode.

26 Hybrid Core Bit



Dia. 20-160mm

Best for drilling into composite panel with stainless steel plate.

28 Counter Bore Cutter



Dia. 60mm and 78mm

Best for counter boring to wooden floor for installation of pipe adaptor.

44 Dust Collecting Pad



Drill dia. 220mm or below

Supports Clean and Efficient Work Environments.

29 HDPE Core Bit



Dia. 20-210mm

Best for drilling into HDPE pipe, wood and composite material.

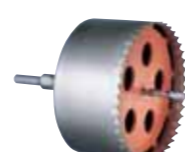
30 Rotary Core Bit ('H'Core)



Dia. 22-170mm

Sharp and fast drilling even into composite material.

31 Vinyl Chloride Pipe Core Bit



Dia. 120-225mm

Exclusive use for precisely drilling large hole in PVC pipe.

Three shanks, S, L and X are available. High cost-effective thanks to only three shanks.



S Shank

Cutter dia. below 49mm



L Shank

Cutter dia. 50-225mm



X Shank

Cutter dia. 50-310mm

# Poly-Clic series

Poly-Clic series can use cutters in all sizes and various types of cutters for multi-purpose with the S, L and X shanks.

The shank is locked automatically and released manually.

The light-weight shank reduces the power loss of electric drill.

Can use with electric drill equipped with brake function.

The center drill and the center pin can be easily attached and detached without using a tool.

# 1



# Poly-Clic series Features and Benefits

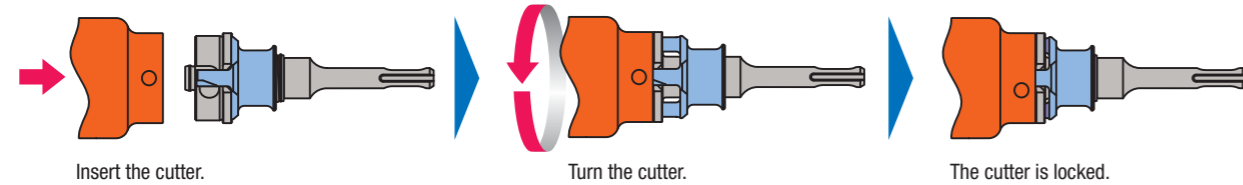
## What is "Poly-Clic Shank"?

- "Poly" means "many", "much", etc.
- "Clic" is given a meaning of producing a click. S, L and X shanks fit various types of Poly-Clic core cutters and holesaws.

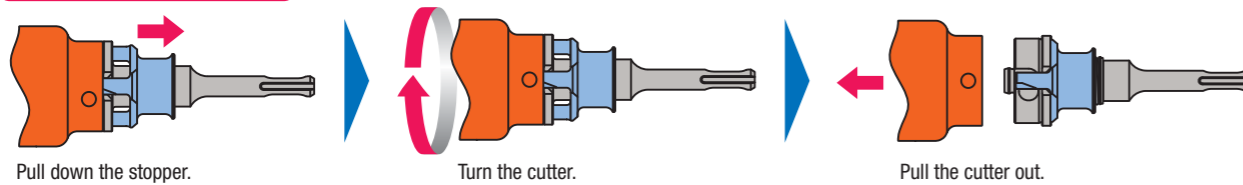
### Feature 1 Automatic lock and manual release

Automatic lock and manual release mechanism makes removal of cut core and cutter replacement much easier.

#### How to attach the cutter

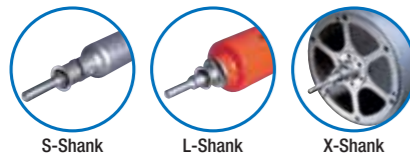


#### How to detach the cutter

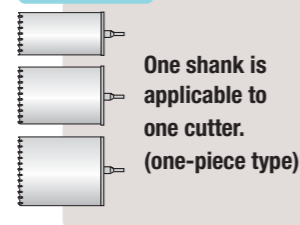


### Feature 2 Cost-effective

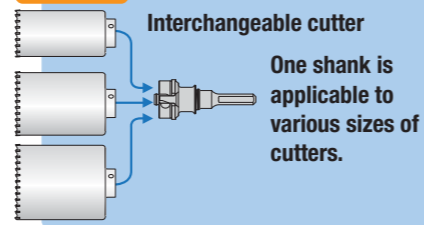
There are three types of shanks, S, L, and X, which can be used for various types of cutters.



#### Competitors

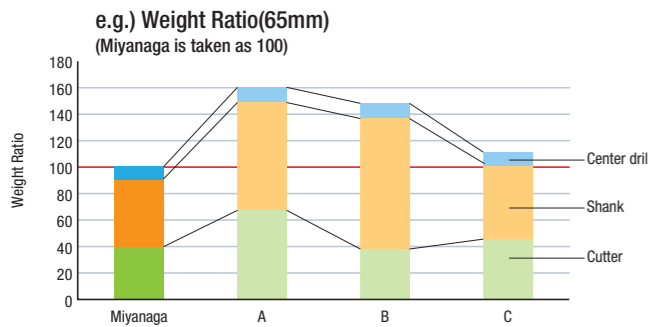


#### Miyanaga



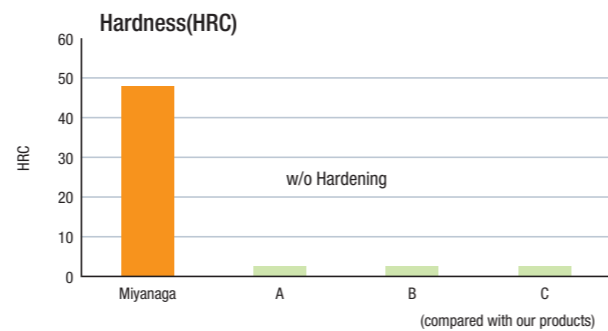
### Feature 3 Lightweight shank

The power losses of electric drills are reduced.



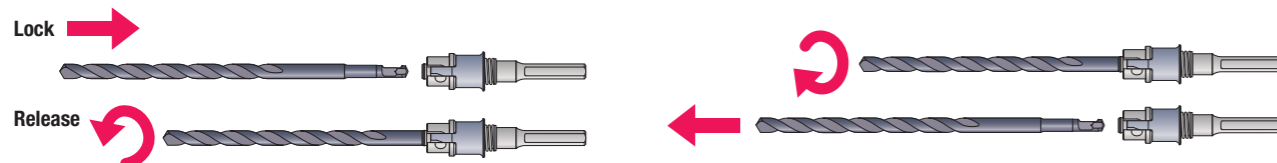
### Feature 4 High hardness cutter body

The cutter body is hardened, has high hardness, and withstands percussions delivered by electric drills.



### Feature 5 Quick-change center drill

The center drill and the center pin can be easily attached and detached without using a tool.



### Feature 6 Improved workability by using Long Shank

#### Drilling process with Long Shank

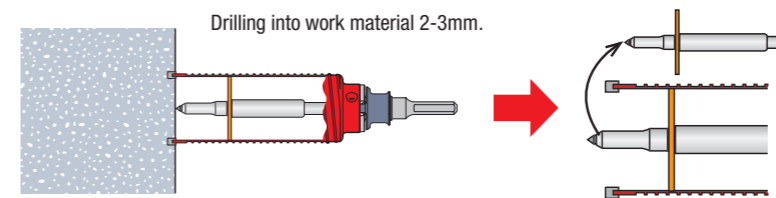
\*Poly-Clic Long Shank must be used with cutter dia. 29mm or larger.

#### 1. Positioning



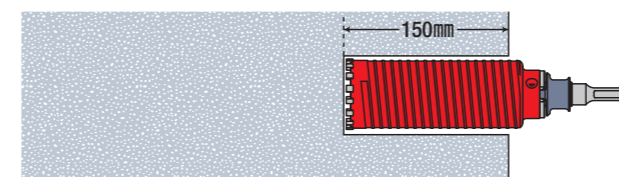
Center pin is used only for positioning.

#### 2. Detaching a center pin



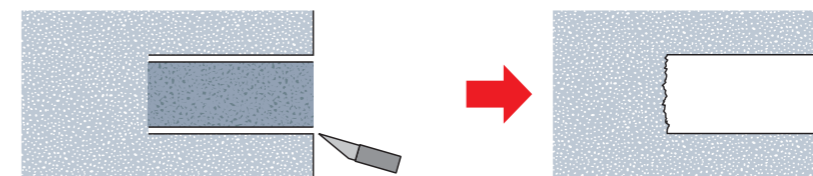
After the cutter has drilled to a depth of about 2-3mm, detach center pin from the cutter body. Note: Surely remove center pin from core body, after positioning. Otherwise the cutter body will be stuck on the way to drill.

#### 3. Drilling



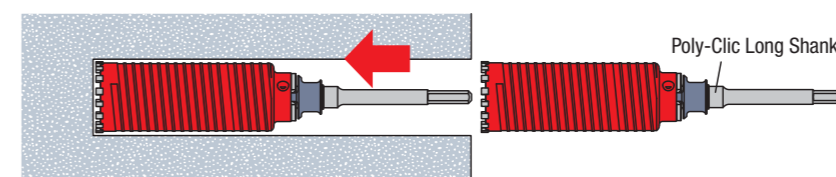
Use a standard Poly-Clic Shank until the depth of hole reaches Max. drilling depth (150mm) of the cutter and then pull out the cutter from the hole.

#### 4. Removal of drilled core



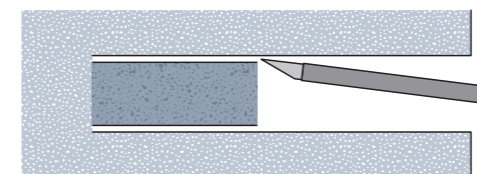
When drilled core cannot be broken off, break the drilled core with applying the principle of leverage. Remove the broken chip.

#### 5. Drilling with Long Shank



Change the standard Poly-Clic Shank to the Long Shank and start drilling.

#### 6. Removal of drilled core


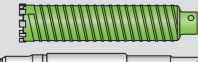


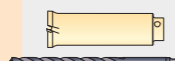
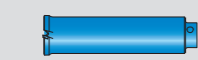

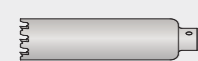

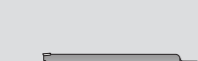



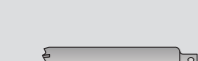



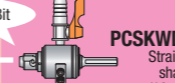


Break the drilled core with applying the principle of leverage. Remove the broken chip.

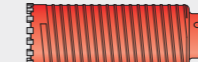




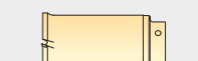



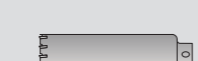





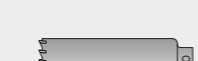

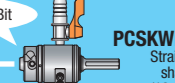


# Poly-Clic series Combination list

Poly-Clic series can use cutters in all sizes and various types of cutters for multi-purpose with the S, L and X shanks.

| Item                                  | Products applicable to S shank (nominal diameter: 49mm (1-59/64") or less)                                                                                                              |                                     | S shanks                                                                                                                                                                          |
|---------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drimond Core Bit</b>               |  <p>Included in standard set</p> <p>PCDCP3 (center pin)</p>                                            | <b>Vinyl Chloride Pipe Core Bit</b> | *S shank type is not available.                                                                                                                                                   |
| <b>★ Drimond Core Bit for Block</b>   |  <p>Included in standard set</p> <p>PCBCP3 (center pin)</p>                                            | <b>Hybrid Core Bit</b>              |  <p>Included in standard set</p> <p>PCHCDS φ8×120L<br/>PCFCDSH φ8×100L<br/>PCBHCD120</p>         |
| <b>Hyperdia Core Bit</b>              |  <p>Included in standard set</p> <p>PCHPCP3(center pin)<br/>PCHWCD225(TCT)<br/>PCHPCPK(center pin)</p> | <b>HDPE Core Bit</b>                |  <p>PCCDSD φ8×170L</p>                                                                           |
| <b>Galvawood Core Bit</b>             |  <p>Included in standard set</p> <p>PCGWCD225(HSS)<br/>PCGWGB(Guide bar)<br/>PCBHCD225(TCT)</p>        | <b>Carbide STEPDRILL</b>            |  <p>Included in standard set</p> <p>PCSCDS φ6×65L</p>                                            |
| <b>Super Metal Core Bit</b>           |  <p>PCSMCD225<br/>PCGWGB(Guide bar)<br/>PCSMGB320 (Guide bar)</p>                                     | <b>Holesaw 378</b>                  |  <p>PC378CDS6 φ6×70L<br/>PC378CDS φ8×70L</p>                                                    |
| <b>ALC Core Bit</b>                   |  <p>Included in standard set</p> <p>PCHWCD250(TCT)</p>                                               | <b>Holesaw 378P</b>                 |  <p>PC378PCDS6 φ6×100L<br/>PC378PCDS φ8×100L</p>                                               |
| <b>Wooding Core Bit</b>               |  <p>Included in standard set</p> <p>PCWSCD225(HSS)<br/>PCHWCD225(TCT)<br/>PCBHCD225(TCT)</p>         | <b>Deep-Bore Holesaw</b>            |  <p>Included in standard set</p> <p>PCFCDS6 φ6×100L<br/>PCFCDS φ8×100L<br/>PCFCDSH φ8×100L</p> |
| <b>Percussion Core Bit ('S' Core)</b> |  <p>Included in standard set</p> <p>PCSWCD225(TCT)</p>                                               | <b>FRP Core Bit</b>                 |  <p>Included in standard set</p> <p>PCFRPCDS φ8.2×120L(TCT)<br/>PCBHCD120</p>                  |
| <b>Rotary Core Bit ('H' Core)</b>     |  <p>PCHWCD225(TCT)</p>                                                                               |                                     |                                                                                                                                                                                   |
| <b>Wetmond Core Bit</b>               | Use shanks and center pin for the Wetmond Core Bit.                                                                                                                                     |                                     | <b>S-shank for Wetmond Core Bit</b>                                                                                                                                               |
|                                       |  <p>Included in standard set</p> <p>PCWDCP (center pin)</p>                                          |                                     |  <p>*For Wetmond Core Bit</p> <p>PCSKWDS Straight shank (10mm)</p>                           |
|                                       | *Long straight shank, SDS-plus shank and SDS-plus long shank are also available.                                                                                                        |                                     |                                                                                                                                                                                   |

★ Item for detailed information, please contact us.

| Item                                  | Products applicable to L shank (nominal diameter: 50mm (2") or larger (up to 225mm))                                                                                                      |                                     | L shanks                                                                                                                                                |
|---------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Drimond Core Bit</b>               |  <p>Included in standard set</p> <p>PCDCP3 (center pin)</p>                                            | <b>Vinyl Chloride Pipe Core Bit</b> |  <p>Included in standard set</p> <p>PCHWCD175 (TCT)</p>              |
| <b>★ Drimond Core Bit for Block</b>   |  <p>Included in standard set</p> <p>PCBCP3 (center pin)</p>                                            | <b>Hybrid Core Bit</b>              |  <p>Included in standard set</p> <p>PCHCDL</p>                       |
| <b>Hyperdia Core Bit</b>              |  <p>Included in standard set</p> <p>PCHPCP3(center pin)<br/>PCHWCD225(TCT)<br/>PCHPCPK(center pin)</p> | <b>HDPE Core Bit</b>                |  <p>PCCDCL φ8×190L</p>                                               |
| <b>Galvawood Core Bit</b>             |  <p>Included in standard set</p> <p>PCGWCD225(HSS)<br/>PCGWGB(Guide bar)<br/>PCBHCD225(TCT)</p>        | <b>Carbide STEPDRILL</b>            | *L shank type is not available.                                                                                                                         |
| <b>Super Metal Core Bit</b>           |  <p>PCSMCD225<br/>PCGWGB(Guide bar)<br/>PCSMGB320 (Guide bar)</p>                                     | <b>Holesaw 378</b>                  |  <p>PC378CDL φ8×82L</p>                                             |
| <b>ALC Core Bit</b>                   |  <p>Included in standard set</p> <p>PCHWCD250 (TCT)</p>                                              | <b>Holesaw 378P</b>                 |  <p>PC378PCDL φ8×135L</p>                                          |
| <b>Wooding Core Bit</b>               |  <p>Included in standard set</p> <p>PCWSCD225(HSS)<br/>PCHWCD225(TCT)<br/>PCBHCD225(TCT)</p>         | <b>Deep-Bore Holesaw</b>            |  <p>Included in standard set</p> <p>PCFCDL φ8×113L</p>             |
| <b>Percussion Core Bit ('S' Core)</b> |  <p>Included in standard set</p> <p>PCSWCD225 (TCT)</p>                                              | <b>FRP Core Bit</b>                 |  <p>Included in standard set</p> <p>PCFRPCDL φ8.2×135L(TCT)</p>    |
| <b>Rotary Core Bit ('H' Core)</b>     |  <p>PCHWCD225 (TCT)</p>                                                                              |                                     |                                                                                                                                                         |
| <b>Wetmond Core Bit</b>               | Use shanks and center pin for the Wetmond Core Bit.                                                                                                                                       |                                     | <b>L-shank for Wetmond Core Bit</b>                                                                                                                     |
|                                       |  <p>Included in standard set</p> <p>PCWDCP (center pin)</p>                                          |                                     |  <p>*For Wetmond Core Bit</p> <p>PCSKWDL Straight shank (13mm)</p> |
|                                       | *Long straight shank, SDS-plus shank and SDS-plus long shank are also available.                                                                                                          |                                     |                                                                                                                                                         |

★ Item for detailed information, please contact us.



# Drimond Core Bit



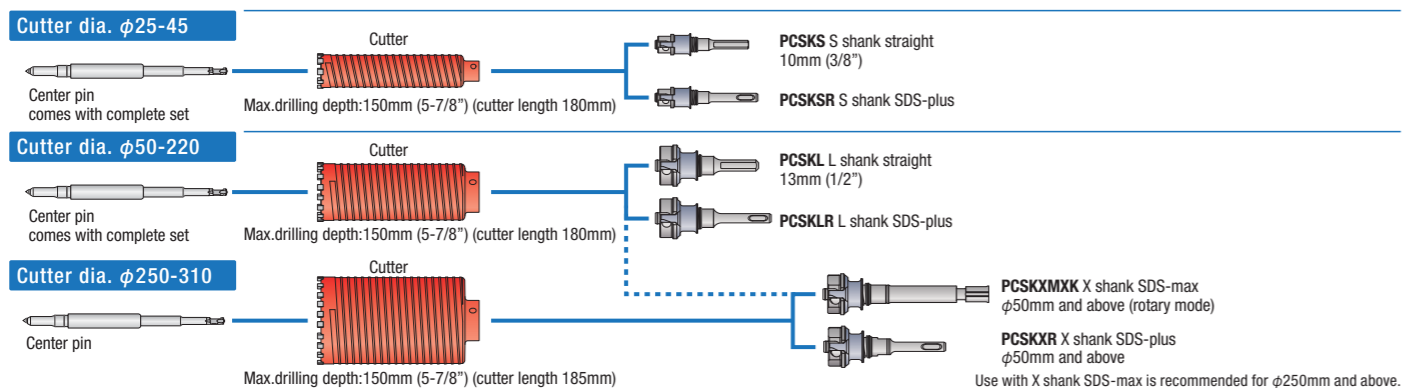
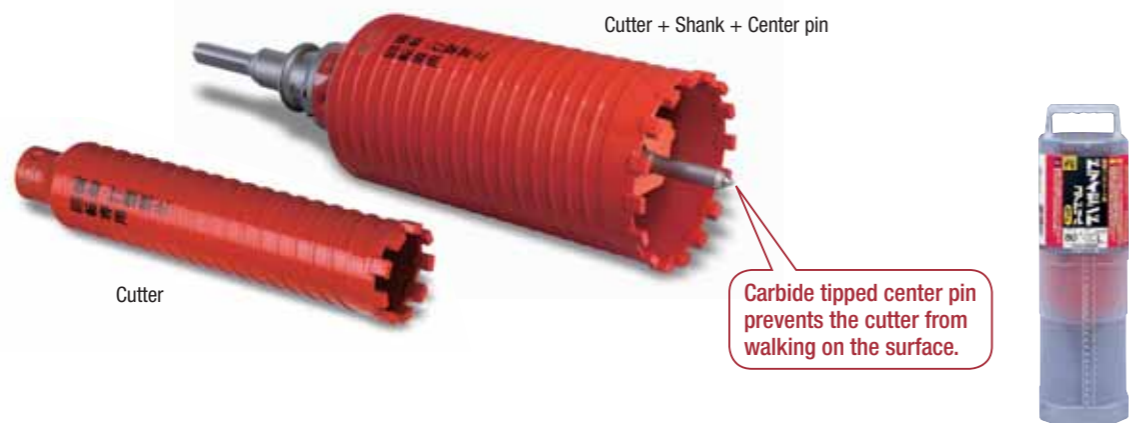
### Best for

- Reinforced concrete
- Concrete
- PC concrete
- Extruded cement
- Mortar
- Hume pipe
- Clay pipe
- Artificial marble

### Also can be used in

- Ceramic siding
- PVC pipe

## Dry drilling in reinforced concrete !



## Features

- Dry drilling in reinforced concrete or Hume pipe.
- Carbide tipped center pin for accurate centering.
- Peripheral threading on the cutter body for efficient dust removal.

## For use in

- All kinds of piping work, water, gas, electricity, air-conditioning, and drainage jobs
- Precast concrete and concrete
- Dry drilling in reinforced concrete (up to 13mm re-bar)

## For use with

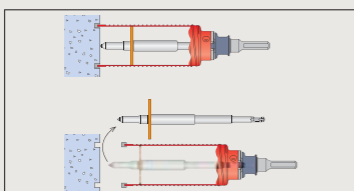
- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



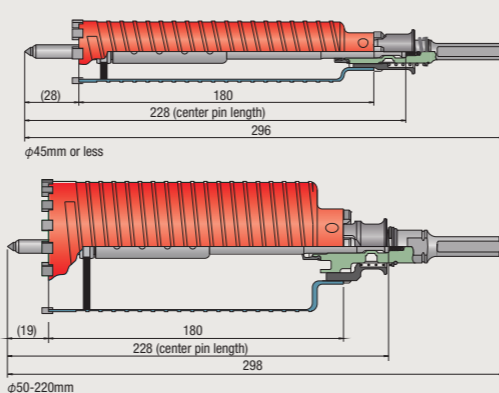
▲ Use with SDS-max shank in rotary mode

## How to use a center pin

Make sure to detach a center pin after positioning.



Center pin is used only for positioning.  
 Detach a center pin after drilling into work material 2 to 3mm.



**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)  
 Max. drilling depth : 150mm (5-7/8")

| Cutter dia. | Straight shank Set |        |         |         | SDS-plus shank Set |      |    |      | Cutter |      |    |      | Guide plate |      |  |  |
|-------------|--------------------|--------|---------|---------|--------------------|------|----|------|--------|------|----|------|-------------|------|--|--|
|             | mm                 | inch   | mm      | inch    | mm                 | inch | mm | inch | mm     | inch | mm | inch | mm          | inch |  |  |
| 25          | 1"                 | PCD25  | PCD25R  | PCD25C  | PCSGP25            |      |    |      |        |      |    |      |             |      |  |  |
| 29          | 1-1/8"             | PCD29  | PCD29R  | PCD29C  | PCSGP29            |      |    |      |        |      |    |      |             |      |  |  |
| 32          | 1-1/4"             | PCD32  | PCD32R  | PCD32C  | PCSGP32            |      |    |      |        |      |    |      |             |      |  |  |
| 35          | 1-3/8"             | PCD35  | PCD35R  | PCD35C  | PCSGP35            |      |    |      |        |      |    |      |             |      |  |  |
| 38          | 1-1/2"             | PCD38  | PCD38R  | PCD38C  | PCSGP38            |      |    |      |        |      |    |      |             |      |  |  |
| 45          | 1-3/4"             | PCD45  | PCD45R  | PCD45C  | PCSGP45            |      |    |      |        |      |    |      |             |      |  |  |
| 50          | 2"                 | PCD50  | PCD50R  | PCD50C  | PCSGP50            |      |    |      |        |      |    |      |             |      |  |  |
| 55          | 2-1/8"             | PCD55  | PCD55R  | PCD55C  | PCSGP55            |      |    |      |        |      |    |      |             |      |  |  |
| 60          | 2-3/8"             | PCD60  | PCD60R  | PCD60C  | PCSGP60            |      |    |      |        |      |    |      |             |      |  |  |
| 65          | 2-9/16"            | PCD65  | PCD65R  | PCD65C  | PCSGP65            |      |    |      |        |      |    |      |             |      |  |  |
| 70          | 2-3/4"             | PCD70  | PCD70R  | PCD70C  | PCSGP70            |      |    |      |        |      |    |      |             |      |  |  |
| 75          | 2-7/8"             | PCD75  | PCD75R  | PCD75C  | PCSGP75            |      |    |      |        |      |    |      |             |      |  |  |
| 80          | 3-1/8"             | PCD80  | PCD80R  | PCD80C  | PCSGP80            |      |    |      |        |      |    |      |             |      |  |  |
| 85          | 3-3/8"             | PCD85  | PCD85R  | PCD85C  | PCSGP85            |      |    |      |        |      |    |      |             |      |  |  |
| 90          | 3-1/2"             | PCD90  | PCD90R  | PCD90C  | PCSGP90            |      |    |      |        |      |    |      |             |      |  |  |
| 95          | 3-3/4"             | PCD95  | PCD95R  | PCD95C  | PCSGP95            |      |    |      |        |      |    |      |             |      |  |  |
| 100         | 3-7/8"             | PCD100 | PCD100R | PCD100C | PCSGP100           |      |    |      |        |      |    |      |             |      |  |  |
| 105         | 4-1/8"             | PCD105 | PCD105R | PCD105C | PCSGP105           |      |    |      |        |      |    |      |             |      |  |  |
| 110         | 4-1/4"             | PCD110 | PCD110R | PCD110C | PCSGP110           |      |    |      |        |      |    |      |             |      |  |  |
| 115         | 4-1/2"             | PCD115 | PCD115R | PCD115C | PCSGP115           |      |    |      |        |      |    |      |             |      |  |  |
| 120         | 4-3/4"             | PCD120 | PCD120R | PCD120C | PCSGP120           |      |    |      |        |      |    |      |             |      |  |  |
| 125         | 4-15/16"           | PCD125 | PCD125R | PCD125C | PCSGP125           |      |    |      |        |      |    |      |             |      |  |  |
| 130         | 5-1/8"             | PCD130 | PCD130R | PCD130C | PCSGP130           |      |    |      |        |      |    |      |             |      |  |  |
| 150         | 5-7/8"             | PCD150 | PCD150R | PCD150C | PCSGP150           |      |    |      |        |      |    |      |             |      |  |  |
| 155         | 6"                 | PCD155 | PCD155R | PCD155C | PCSGP155           |      |    |      |        |      |    |      |             |      |  |  |
| 160         | 6-5/16"            | PCD160 | PCD160R | PCD160C | PCSGP160           |      |    |      |        |      |    |      |             |      |  |  |
| 165         | 6-1/2"             | PCD165 | PCD165R | PCD165C | PCSGP165           |      |    |      |        |      |    |      |             |      |  |  |
| 170         | 6-11/16"           | PCD170 | PCD170R | PCD170C | PCSGP170           |      |    |      |        |      |    |      |             |      |  |  |
| 180         | 7"                 | PCD180 | PCD180R | PCD180C | PCSGP180           |      |    |      |        |      |    |      |             |      |  |  |
| 200         | 7-7/8"             | PCD200 | PCD200R | PCD200C | PCSGP200           |      |    |      |        |      |    |      |             |      |  |  |
| 210         | 8-1/4"             | PCD210 | PCD210R | PCD210C | PCSGP210           |      |    |      |        |      |    |      |             |      |  |  |
| 220         | 8-5/8"             | PCD220 | PCD220R | PCD220C | PCSGP220           |      |    |      |        |      |    |      |             |      |  |  |
| 250         | 9-7/8"             | —      | —       | PCD250C | PCSGP250           |      |    |      |        |      |    |      |             |      |  |  |
| 260         | 10-1/4"            | —      | —       | PCD260C | PCSGP260           |      |    |      |        |      |    |      |             |      |  |  |
| 300         | 11-7/8"            | —      | —       | PCD300C | PCSGP300           |      |    |      |        |      |    |      |             |      |  |  |
| 310         | 12-1/4"            | —      | —       | PCD310C | PCSGP310           |      |    |      |        |      |    |      |             |      |  |  |

\*Complete set contains center pin (PCDCP3)  
 \*Use 250mm and above cutters with PCSKXR or PCSKXMXK (not use with L shank)  
 Complete set is not available. Purchase cutter, shank and center pin.

**Long type 220L** (The actual sizes are in metric, and imperial sizes are approximate.)  
 Max. drilling depth : 220mm (8-5/8")

| Cutter dia. | Straight shank Set |         |          |          | SDS-plus shank Set |      |    |      | Cutter |      |    |      | Guide plate |      |  |  |
|-------------|--------------------|---------|----------|----------|--------------------|------|----|------|--------|------|----|------|-------------|------|--|--|
|             | mm                 | inch    | mm       | inch     | mm                 | inch | mm | inch | mm     | inch | mm | inch | mm          | inch |  |  |
| 50          | 2"                 | PCD5022 | PCD5022R | PCD5022C | PCSGP50            |      |    |      |        |      |    |      |             |      |  |  |
| 65          | 2-9/16"            | PCD6522 | PCD6522R | PCD6522C | PCSGP65            |      |    |      |        |      |    |      |             |      |  |  |
| 75          | 2-7/8"             | PCD7522 | PCD7522R | PCD7522C | PCSGP75            |      |    |      |        |      |    |      |             |      |  |  |
| 80          | 3-1/8"             | PCD8022 | PCD8022R | PCD8022C | PCSGP80            |      |    |      |        |      |    |      |             |      |  |  |

## Poly-Clc Shank

| Item                  | Part No.  | For use with                                             |
|-----------------------|-----------|----------------------------------------------------------|
| S shank straight      | PCSKS     | $\phi$ 25 – 45mm                                         |
| S shank SDS-plus      | PCSKSR    | $\phi$ 25 – 45mm                                         |
| S shank 200L straight | PCSKS200  | $\phi$ 29 – 45mm                                         |
| S shank SDS-plus 200L | PCSKSR200 | $\phi$ 29 – 45mm                                         |
| L shank straight      | PCSKL     | $\phi$ 50 – 220mm                                        |
| L shank SDS-plus      | PCSKLR    | $\phi$ 50 – 220mm                                        |
| L shank (10mm)        | PCSKLT    | $\phi$ 50 – 80mm                                         |
| L shank 200L straight | PCSKL200  | $\phi$ 50 – 220mm                                        |
| L shank SDS-plus 200L | PCSKLR200 | $\phi$ 50 – 220mm                                        |
| L shank 200L (10mm)   | PCSKLT200 | $\phi$ 50 – 80mm                                         |
| X shank SDS-max       | PCSKXMXK  | $\phi$ 50mm and above (Over $\phi$ 120mm is recommended) |
| X shank SDS-plus      | PCSKXR    | $\phi$ 50mm and above                                    |

## Center pin

| Item                    | Part No. | For use with                        |
|-------------------------|----------|-------------------------------------|
| Center pin              | PCDCP3   | $\phi$ 25 – 310mm                   |
| Center pin (light load) | PCDCPK*  | $\phi$ 25 – 310mm                   |
| Center pin 250          | PCDCP250 | $\phi$ 50 - 80mm for long type 220L |

\*Spring force is reduced for overhead drilling.

## Recommended Rotation Speed / Wattage

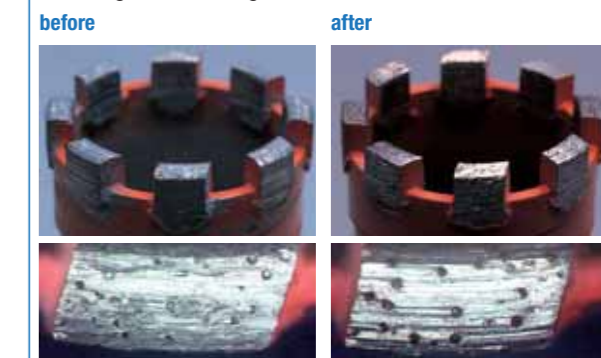
| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| $\phi$ 25 – 45       | 1500 – 800                          | 450W and above        |
| $\phi$ 50 – 80       | 1100 – 700                          | 550W and above        |
| $\phi$ 85 – 125      | 1100 – 700                          | 650W and above        |
| $\phi$ 130 – 220     | 1100 – 500                          | 750W and above        |
| $\phi$ 250 – 310     | 850 – 250                           | 1100W and above       |

## Diamond dressing plate

| Item                   | Part No. | Size (W×L×H) |
|------------------------|----------|--------------|
| Diamond dressing plate | DDP      | 150×75×40mm  |

## Dressing

Dressing when drilling slow down.







# Hyperdia Core Bit



Portable electric drill in rotary mode



Light-weight hammer drill in rotary mode

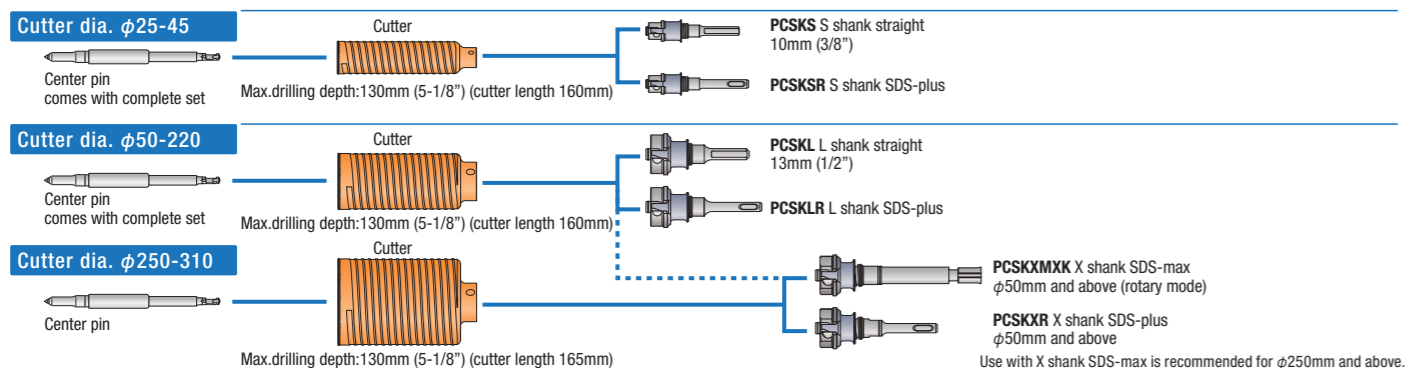
### Best for

- Ceramic siding (including heat insulating material)
- Rib pipe

### Also can be used in

- Composite material
- Artificial marble
- Plaster board
- Slate
- Synthetic resin
- PVC pipe
- Enamel

## Easy drilling in ceramic siding !



## Features

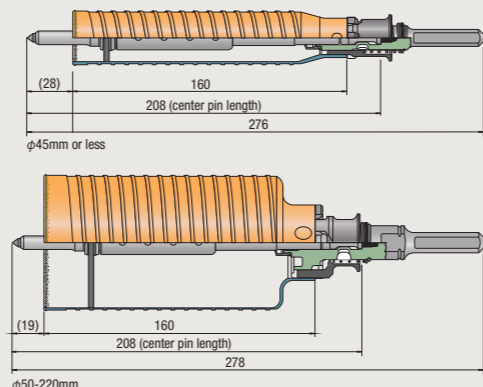
- Best for drilling in hard ceramic siding.
- Cut through composite material with heat insulating material in single action.
- Safe drilling without getting stuck in heat insulating material.

## For use in

- Ceramic siding board with heat insulating material, Artificial marble, and PVC pipe

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 130mm (5-1/8")

| Cutter dia.<br>mm inch | Straight shank Set | SDS-plus shank Set | Cutter    | Guide plate |
|------------------------|--------------------|--------------------|-----------|-------------|
|                        |                    |                    |           |             |
| 25 1"                  | PCHP025            | PCHP025R           | PCHPD025C | PCSGP25     |
| 29 1-1/8"              | PCHP029            | PCHP029R           | PCHPD029C | PCSGP29     |
| 32 1-1/4"              | PCHP032            | PCHP032R           | PCHPD032C | PCSGP32     |
| 35 1-3/8"              | PCHP035            | PCHP035R           | PCHPD035C | PCSGP35     |
| 38 1-1/2"              | PCHP038            | PCHP038R           | PCHPD038C | PCSGP38     |
| 45 1-3/4"              | PCHP045            | PCHP045R           | PCHPD045C | PCSGP45     |
| 50 2"                  | PCHP050            | PCHP050R           | PCHPD050C | PCSGP50     |
| 55 2-1/8"              | PCHP055            | PCHP055R           | PCHPD055C | PCSGP55     |
| 60 2-3/8"              | PCHP060            | PCHP060R           | PCHPD060C | PCSGP60     |
| 65 2-9/16"             | PCHP065            | PCHP065R           | PCHPD065C | PCSGP65     |
| 70 2-3/4"              | PCHP070            | PCHP070R           | PCHPD070C | PCSGP70     |
| 75 2-7/8"              | PCHP075            | PCHP075R           | PCHPD075C | PCSGP75     |
| 80 3-1/8"              | PCHP080            | PCHP080R           | PCHPD080C | PCSGP80     |
| 85 3-3/8"              | PCHP085            | PCHP085R           | PCHPD085C | PCSGP85     |
| 90 3-1/2"              | PCHP090            | PCHP090R           | PCHPD090C | PCSGP90     |
| 95 3-3/4"              | PCHP095            | PCHP095R           | PCHPD095C | PCSGP95     |
| 100 3-7/8"             | PCHP100            | PCHP100R           | PCHPD100C | PCSGP100    |
| 105 4-1/8"             | PCHP105            | PCHP105R           | PCHPD105C | PCSGP105    |
| 110 4-1/4"             | PCHP110            | PCHP110R           | PCHPD110C | PCSGP110    |
| 115 4-1/2"             | PCHP115            | PCHP115R           | PCHPD115C | PCSGP115    |
| 120 4-3/4"             | PCHP120            | PCHP120R           | PCHPD120C | PCSGP120    |
| 125 4-15/16"           | PCHP125            | PCHP125R           | PCHPD125C | PCSGP125    |
| 130 5-1/8"             | PCHP130            | PCHP130R           | PCHPD130C | PCSGP130    |
| 140 5-1/2"             | PCHP140            | PCHP140R           | PCHPD140C | PCSGP140    |
| 150 5-7/8"             | PCHP150            | PCHP150R           | PCHPD150C | PCSGP150    |
| 155 6"                 | PCHP155            | PCHP155R           | PCHPD155C | PCSGP155    |
| 160 6-5/16"            | PCHP160            | PCHP160R           | PCHPD160C | PCSGP160    |
| 165 6-1/2"             | PCHP165            | PCHP165R           | PCHPD165C | PCSGP165    |
| 170 6-11/16"           | PCHP170            | PCHP170R           | PCHPD170C | PCSGP170    |
| 200 7-7/8"             | PCHP200            | PCHP200R           | PCHPD200C | PCSGP200    |
| 210 8-1/4"             | PCHP210            | PCHP210R           | PCHPD210C | PCSGP210    |
| 220 8-5/8"             | PCHP220            | PCHP220R           | PCHPD220C | PCSGP220    |

\*Complete set contains center pin (PCHPCP3)

| Cutter dia.<br>mm inch | Cutter    | Shank (SDS-max) | Shank (SDS-plus) | Guide plate |
|------------------------|-----------|-----------------|------------------|-------------|
|                        |           |                 |                  |             |
| 250 9-7/8"             | PCHPD250C | PCSKXMXK        | PCSKXR           | PCSGP250    |
| 260 10-1/4"            | PCHPD260C |                 |                  | PCSGP260    |
| 300 11-7/8"            | PCHPD300C |                 |                  | PCSGP300    |
| 310 12-1/4"            | PCHPD310C |                 |                  | PCSGP310    |

\*Complete set is not available. Purchase cutter, shank and center pin.  
\*Use 250mm and above cutters with PCSKXR or PCSKXMXK (not use with L shank)

**Short type 80L** (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 80mm (3-1/8")

| Cutter dia.<br>mm inch | Cutter      | Cutter dia.<br>mm inch | Cutter      |
|------------------------|-------------|------------------------|-------------|
|                        |             |                        |             |
| 60 2-3/8"              | PCHPD06080C | 100 3-7/8"             | PCHPD10080C |
| 75 2-7/8"              | PCHPD07580C | 125 4-15/16"           | PCHPD12580C |
| 80 3-1/8"              | PCHPD08080C | 150 5-7/8"             | PCHPD15080C |

## Poly-Clic Shank

| Item                  | Part No.  | For use with                                    |
|-----------------------|-----------|-------------------------------------------------|
| S shank straight      | PCSKS     | φ25 – 45mm                                      |
| S shank SDS-plus      | PCSKSR    |                                                 |
| S shank 200L straight | PCSKS200  | φ29 – 45mm                                      |
| S shank SDS-plus 200L | PCSKSR200 |                                                 |
| L shank straight      | PCSKL     | φ50 – 220mm                                     |
| L shank SDS-plus      | PCSKLR    |                                                 |
| L shank (10mm)        | PCSKLT    | φ50 – 80mm                                      |
| L shank 200L straight | PCSKL200  |                                                 |
| L shank SDS-plus 200L | PCSKLR200 | φ50 – 220mm                                     |
| L shank 200L (10mm)   | PCSKLT200 |                                                 |
| X shank SDS-max       | PCSKXMXK  | φ50mm and above<br>(Over φ120mm is recommended) |
| X shank SDS-plus      | PCSKXR    |                                                 |

## Center pin / Center drill / Guide bar

| Item                                             | Part No.  | For use with                        |
|--------------------------------------------------|-----------|-------------------------------------|
| Center pin                                       | PCHPCP3   | φ25 – 310mm                         |
| Carbide tipped center drill                      | PCHWCD225 | Rib pipe, PVC pipe                  |
|                                                  | PCHWCD175 | for short type 80L                  |
| Center pin (lightweight steel beams for ceiling) | PCHPCPK   | Lightweight steel beams for ceiling |
| Center pin                                       | PCKTCP2   | for short type 80L                  |
| Guide bar 250                                    | PCGWGB    |                                     |
| Guide bar 175                                    | PCGB175   | for short type 80L                  |

## Recommended Rotation Speed / Wattage

Poly-Clic Hyperdia Core Bit

| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| φ25 – 45             | 1500 – 800                          | 450W and above        |
| φ50 – 80             | 1100 – 700                          | 550W and above        |
| φ85 – 125            | 1100 – 700                          | 650W and above        |
| φ130 – 220           | 1100 – 500                          | 750W and above        |
| φ250 – 310           | 850 – 250                           | 1100W and above       |

### How to use a center pin

Make sure to detach a center pin after positioning.

Center pin is used only for positioning.  
Detach a center pin after drilling into work material 2 to 3mm.



# Galvawood Core Bit



Portable electric drill in rotary mode  
Light-weight hammer drill in rotary mode

### Best for

- Galvanized metal siding
- Wood
- Plywood
- Metal siding

### Also can be used in

- ALC
- Japanese wall
- Lath wall
- FRP
- Catch basin
- PVC pipe
- Spiral duct
- Raised floor
- Artificial marble
- Ceramic siding
- Plastic
- Composite material
- Sheet metal (up to 1mm in thickness)

## Easy drilling to galvanized metal siding board !

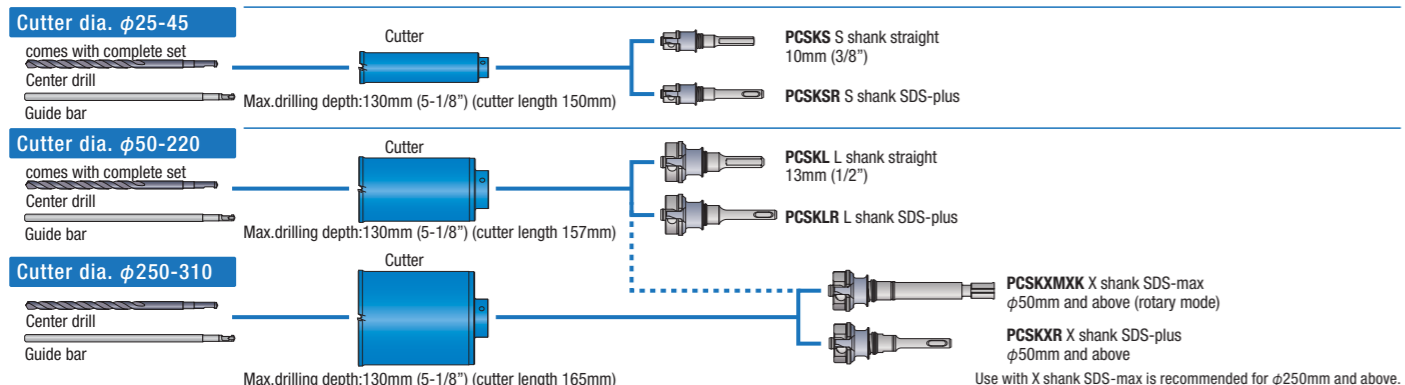


Cutter + Shank + Center drill

Cutter

Guide bar

Standard accessory with complete set or center drill (PCGWCD225).



### Features

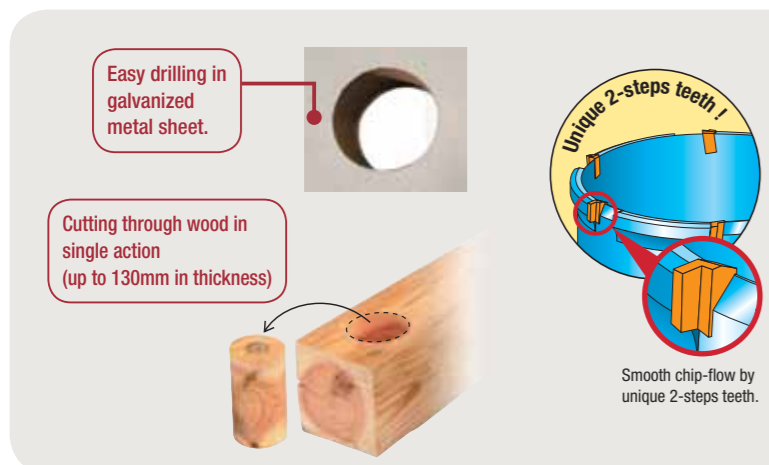
- Easy drilling to galvanized metal siding board !
- Cutting through wood in thickness up to 130mm in single action.
- Unique 2-steps teeth for efficient chip-flow.
- By using a guide bar, the center hole is not enlarged and it can be drilled into metal siding safely.

### For use in

- Galvanized metal siding board, Wood, Plywood, Metal siding, Ceramic siding, Plastic guttering, Vinyl chloride pipe, and FRP

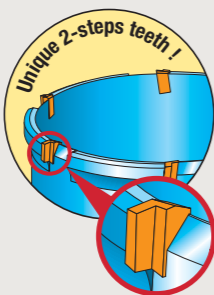
### For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

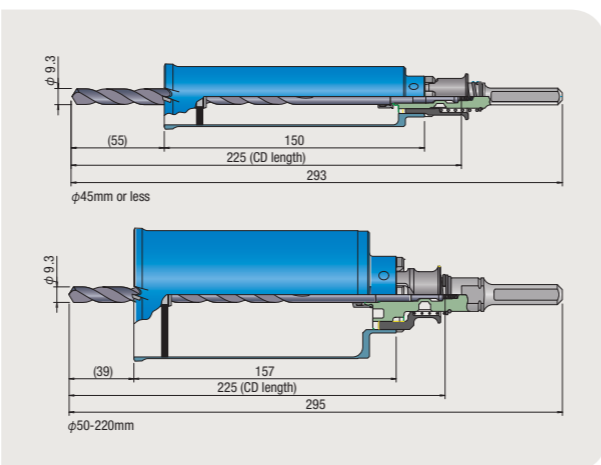


Easy drilling in galvanized metal sheet.

Cutting through wood in single action (up to 130mm in thickness)



Smooth chip-flow by unique 2-steps teeth.



Size table (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 130mm (5-1/8")

| Cutter dia.<br>mm inch | Straight shank Set | SDS-plus shank Set | Cutter   | Guide plate |           |
|------------------------|--------------------|--------------------|----------|-------------|-----------|
|                        |                    |                    |          |             | mm        |
| 25                     | 1"                 | PCGW25             | PCGW25R  | PCGW25C     | PCGWGP25  |
| 29                     | 1-1/8"             | PCGW29             | PCGW29R  | PCGW29C     | PCGWGP29  |
| 32                     | 1-1/4"             | PCGW32             | PCGW32R  | PCGW32C     | PCGWGP32  |
| 35                     | 1-3/8"             | PCGW35             | PCGW35R  | PCGW35C     | PCGWGP35  |
| 38                     | 1-1/2"             | PCGW38             | PCGW38R  | PCGW38C     | PCGWGP38  |
| 45                     | 1-3/4"             | PCGW45             | PCGW45R  | PCGW45C     | PCGWGP45  |
| 50                     | 2"                 | PCGW50             | PCGW50R  | PCGW50C     | PCGWGP50  |
| 55                     | 2-1/8"             | PCGW55             | PCGW55R  | PCGW55C     | PCGWGP55  |
| 60                     | 2-3/8"             | PCGW60             | PCGW60R  | PCGW60C     | PCGWGP60  |
| 65                     | 2-9/16"            | PCGW65             | PCGW65R  | PCGW65C     | PCGWGP65  |
| 70                     | 2-3/4"             | PCGW70             | PCGW70R  | PCGW70C     | PCGWGP70  |
| 75                     | 2-7/8"             | PCGW75             | PCGW75R  | PCGW75C     | PCGWGP75  |
| 80                     | 3-1/8"             | PCGW80             | PCGW80R  | PCGW80C     | PCGWGP80  |
| 85                     | 3-3/8"             | PCGW85             | PCGW85R  | PCGW85C     | PCGWGP85  |
| 90                     | 3-1/2"             | PCGW90             | PCGW90R  | PCGW90C     | PCGWGP90  |
| 95                     | 3-3/4"             | PCGW95             | PCGW95R  | PCGW95C     | PCGWGP95  |
| 100                    | 3-7/8"             | PCGW100            | PCGW100R | PCGW100C    | PCGWGP100 |
| 105                    | 4-1/8"             | PCGW105            | PCGW105R | PCGW105C    | PCGWGP105 |
| 110                    | 4-1/4"             | PCGW110            | PCGW110R | PCGW110C    | PCGWGP110 |
| 115                    | 4-1/2"             | PCGW115            | PCGW115R | PCGW115C    | PCGWGP115 |
| 120                    | 4-3/4"             | PCGW120            | PCGW120R | PCGW120C    | PCGWGP120 |
| 125                    | 4-15/16"           | PCGW125            | PCGW125R | PCGW125C    | PCGWGP125 |
| 130                    | 5-1/8"             | PCGW130            | PCGW130R | PCGW130C    | PCGWGP130 |
| 140                    | 5-1/2"             | PCGW140            | PCGW140R | PCGW140C    | PCGWGP140 |
| 150                    | 5-7/8"             | PCGW150            | PCGW150R | PCGW150C    | PCGWGP150 |
| 155                    | 6"                 | PCGW155            | PCGW155R | PCGW155C    | PCGWGP155 |
| 160                    | 6-5/16"            | PCGW160            | PCGW160R | PCGW160C    | PCGWGP160 |
| 165                    | 6-1/2"             | PCGW165            | PCGW165R | PCGW165C    | PCGWGP165 |
| 170                    | 6-11/16"           | PCGW170            | PCGW170R | PCGW170C    | PCGWGP170 |
| 180                    | 7"                 | PCGW180            | PCGW180R | PCGW180C    | PCGWGP180 |
| 200                    | 7-7/8"             | PCGW200            | PCGW200R | PCGW200C    | PCGWGP200 |
| 210                    | 8-1/4"             | PCGW210            | PCGW210R | PCGW210C    | PCGWGP210 |
| 220                    | 8-5/8"             | PCGW220            | PCGW220R | PCGW220C    | PCGWGP220 |

\*Complete set contains HSS Center Drill (PCGWCD225), Guide Bar (PCGWGB) and Guide Plate.

\*Make sure to buy Center Drill with Guide Bar when purchasing the cutter only.

| Cutter dia.<br>mm inch | Cutter  | Shank (SDS-max) | Shank (SDS-plus) | Guide plate |           |
|------------------------|---------|-----------------|------------------|-------------|-----------|
|                        |         |                 |                  |             | mm        |
| 250                    | 9-7/8"  | PCGW250C        | PCSKXMXK         | PCSKXR      | PCGWGP250 |
| 260                    | 10-1/4" | PCGW260C        | PCSKXMXK         | PCSKXR      | PCGWGP260 |
| 300                    | 11-7/8" | PCGW300C        | PCSKXMXK         | PCSKXR      | PCGWGP300 |
| 310                    | 12-1/4" | PCGW310C        | PCSKXMXK         | PCSKXR      | PCGWGP310 |

\*Complete set is not available. Purchase cutter, shank and center drill.  
\*Use 250mm and above cutters with PCSKXR or PCSKXMXK (not use with L shank)

### Poly-Clc Shank

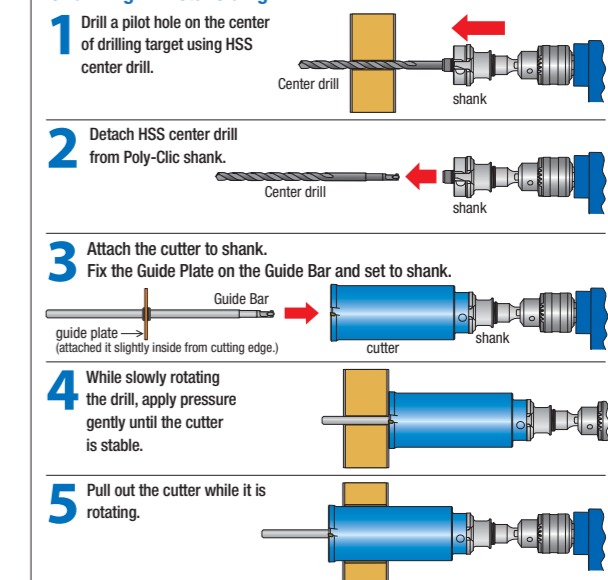
| Item                  | Part No.  | For use with                                 |
|-----------------------|-----------|----------------------------------------------|
| S shank straight      | PCSKS     | φ25 - 45mm                                   |
| S shank SDS-plus      | PCSKSR    | φ25 - 45mm                                   |
| S shank 200L straight | PCSKS200  | φ29 - 45mm                                   |
| S shank SDS-plus 200L | PCSKSR200 | φ29 - 45mm                                   |
| L shank straight      | PCSKL     | φ50 - 220mm                                  |
| L shank SDS-plus      | PCSKLR    | φ50 - 220mm                                  |
| L shank (10mm)        | PCSKLT    | φ50 - 80mm                                   |
| L shank 200L straight | PCSKL200  | φ50 - 220mm                                  |
| L shank SDS-plus 200L | PCSKLR200 | φ50 - 220mm                                  |
| L shank 200L (10mm)   | PCSKLT200 | φ50 - 80mm                                   |
| X shank SDS-max       | PCSKXMXK  | φ50mm and above (Over φ120mm is recommended) |
| X shank SDS-plus      | PCSKXR    | φ50mm and above                              |

### Center drill / Guide bar

| Item                                             | Part No.  | For use with                                                                                                               |
|--------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------|
| HSS center drill (containing the Guide Bar also) | PCGWCD225 | Metal siding, wood material (Complete set contains HSS center drill and Guide Bar)                                         |
| Carbide tipped center drill                      | PCHWCD225 | Ceramic siding / ALC                                                                                                       |
| Carbide tipped acute center drill                | PCBHCD225 | Wood, metal siding, ceramic siding                                                                                         |
| Guide bar                                        | PCGWGB    | Drilling guide after making a pilot hole by HSS center drill (Complete set always contains HSS center drill and Guide Bar) |



### Pre-drill using HSS center drill and use the guide bar as a guide for drilling in metal siding.





# Super Metal Core Bit



Portable electric drill in rotary mode



Light-weight hammer drill in rotary mode

## Super Metal Core Bit

### Best for

Metal insulated sandwich panels (up to 130mm in thickness)

### Best for metal insulated sandwich panels ! (up to 130mm in thickness)

### Also can be used in

Galvanized metal siding

Metal siding

Stainless steel plate (up to 4mm in thickness)

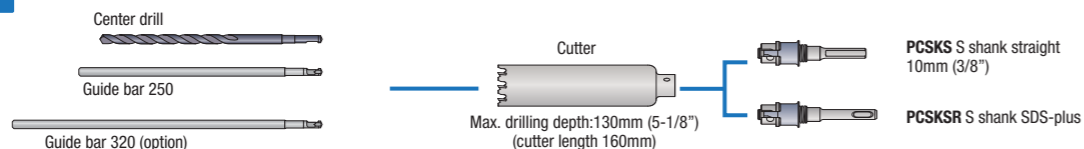
Sheet metal (up to 4mm in thickness)

\*Steel deck plate

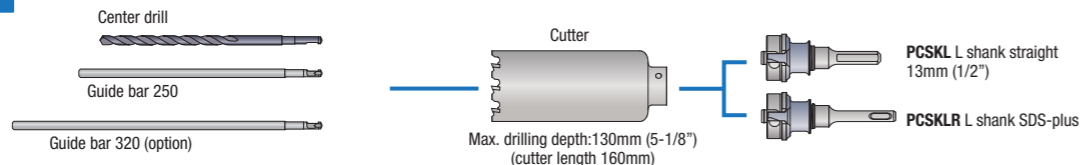
\*Intermittently drilling into steel deck plate may reduce durability.



### Cutter dia. φ25-38



### Cutter dia. φ50-220



## Features

- Capable of drilling into metal insulated sandwich panels.
- Guide bar provides safe and smooth drilling into metal insulated sandwich panels.

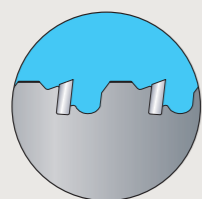
## For use in

- Metal insulated sandwich panels
- Galvanized metal siding

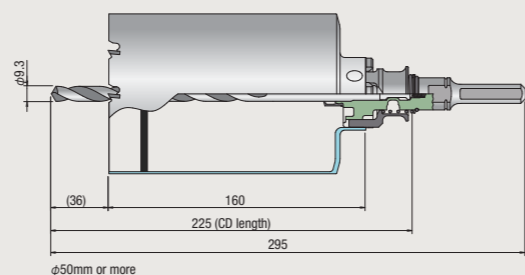
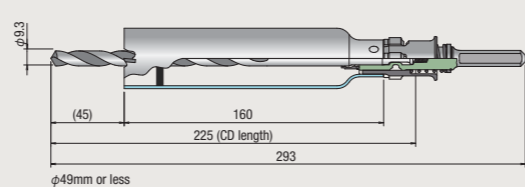
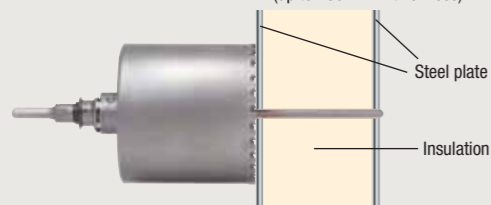
## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

## Tip Design



Metal insulated sandwich panels (up to 130mm in thickness)



Size table (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 130mm (5-1/8")

| Cutter dia. | Cutter   |          | Guide plate |
|-------------|----------|----------|-------------|
|             | mm       | inch     |             |
| 25          | 1"       | PCSM25C  | PCSGP25     |
| 29          | 1-1/8"   | PCSM29C  | PCSGP29     |
| 32          | 1-1/4"   | PCSM32C  | PCSGP32     |
| 35          | 1-3/8"   | PCSM35C  | PCSGP35     |
| 38          | 1-1/2"   | PCSM38C  | PCSGP38     |
| 45          | 1-3/4"   | PCSM45C  | PCSGP45     |
| 50          | 2"       | PCSM50C  | PCSGP50     |
| 55          | 2-1/8"   | PCSM55C  | PCSGP55     |
| 60          | 2-3/8"   | PCSM60C  | PCSGP60     |
| 65          | 2-9/16"  | PCSM65C  | PCSGP65     |
| 70          | 2-3/4"   | PCSM70C  | PCSGP70     |
| 75          | 2-7/8"   | PCSM75C  | PCSGP75     |
| 80          | 3-1/8"   | PCSM80C  | PCSGP80     |
| 85          | 3-3/8"   | PCSM85C  | PCSGP85     |
| 90          | 3-1/2"   | PCSM90C  | PCSGP90     |
| 95          | 3-3/4"   | PCSM95C  | PCSGP95     |
| 100         | 3-7/8"   | PCSM100C | PCSGP100    |
| 105         | 4-1/8"   | PCSM105C | PCSGP105    |
| 110         | 4-1/4"   | PCSM110C | PCSGP110    |
| 115         | 4-1/2"   | PCSM115C | PCSGP115    |
| 120         | 4-3/4"   | PCSM120C | PCSGP120    |
| 125         | 4-15/16" | PCSM125C | PCSGP125    |
| 130         | 5-1/8"   | PCSM130C | PCSGP130    |
| 140         | 5-1/2"   | PCSM140C | PCSGP140    |
| 150         | 5-7/8"   | PCSM150C | PCSGP150    |
| 155         | 6"       | PCSM155C | PCSGP155    |
| 160         | 6-5/16"  | PCSM160C | PCSGP160    |
| 165         | 6-1/2"   | PCSM165C | PCSGP165    |
| 170         | 6-11/16" | PCSM170C | PCSGP170    |
| 180         | 7"       | PCSM180C | PCSGP180    |
| 200         | 7-7/8"   | PCSM200C | PCSGP200    |
| 210         | 8-1/4"   | PCSM210C | PCSGP210    |
| 220         | 8-5/8"   | PCSM220C | PCSGP220    |

\*Complete set is not available. Purchase cutter, shank, center drill.  
Purchase a guide bar 320 if needed.

## Center drill / Guide bar

| Item             | Part No.  | For use with                                                                   |
|------------------|-----------|--------------------------------------------------------------------------------|
| HSS center drill | PCSMCD225 | Including Guide bar 250 (PCGWGB)                                               |
| Guide bar 250    | PCGWGB    | Up to 60mm in thickness. Provided with HSS center drill (PCSMCD225)            |
| Guide bar 320    | PCSMGB320 | Up to 130mm in thickness. Use after making a pilot hole with HSS center drill. |

## Poly-Clic Shank

| Item                  | Part No.  | For use with                                 |
|-----------------------|-----------|----------------------------------------------|
| S shank straight      | PCSKS     | φ25 - 45mm                                   |
| S shank SDS-plus      | PCSKSR    |                                              |
| S shank 200L straight | PCSKS200  | φ29 - 45mm                                   |
| S shank SDS-plus 200L | PCSKSR200 |                                              |
| L shank straight      | PCSKL     | φ50 - 220mm                                  |
| L shank SDS-plus      | PCSKLR    |                                              |
| L shank (10mm)        | PCSKLT    | φ50 - 80mm                                   |
| L shank 200L straight | PCSKL200  | φ50 - 220mm                                  |
| L shank SDS-plus 200L | PCSKLR200 |                                              |
| L shank 200L (10mm)   | PCSKLT200 | φ50 - 80mm                                   |
| X shank SDS-max       | PCSKXMKX  | φ50mm and above (Over φ120mm is recommended) |
| X shank SDS-plus      | PCSKXR    | φ50mm and above                              |

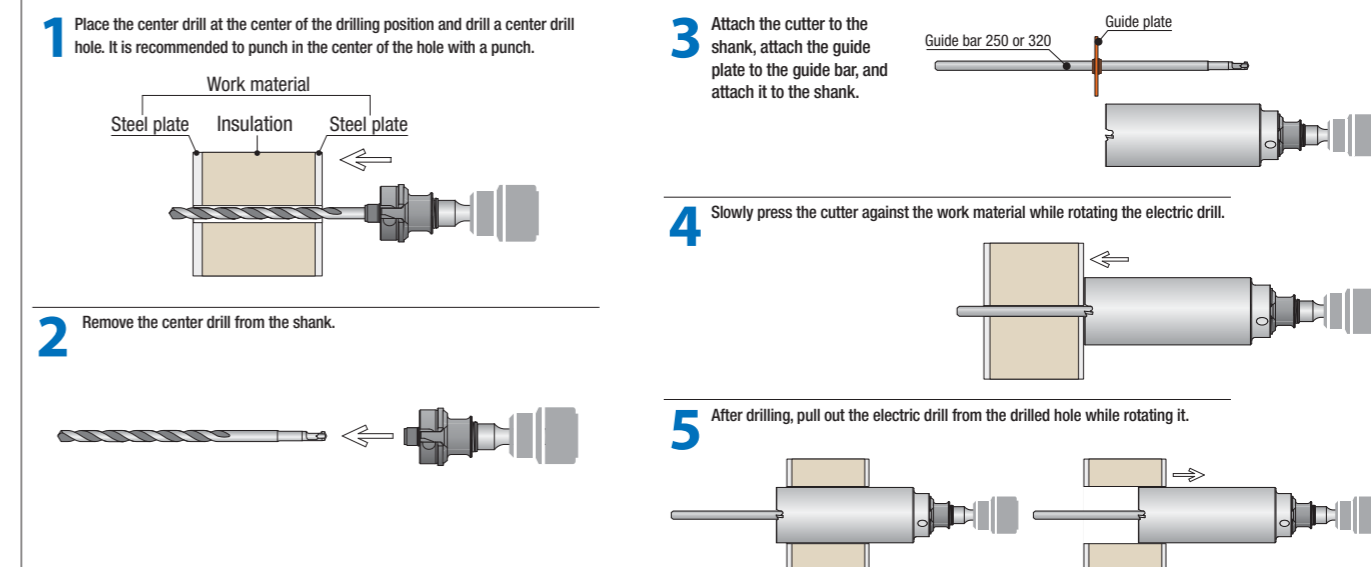
### CAUTION

Be sure to use a guide plate to reduce cutter runout. (Guide plate comes with cutter)  
When the guide plate is worn, replace it with a new one. Drilled with the guide plate worn, the cutting edge may runout.



## How to use a Guide bar

When drilling in metal sandwich panels or metal siding, first drill a hole with a center drill, and then replace it to a guide bar.





# Wooding Core Bit



Portable electric drill in rotary mode  
Light-weight hammer drill in rotary mode

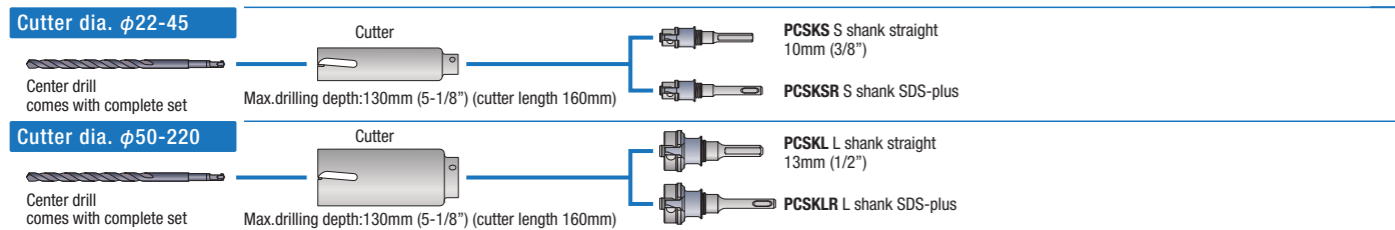
### Best for

- Wood
- Metal siding
- Ceramic siding
- Laminated wood
- Plaster board
- Floor panel

### Also can be used in

- PVC pipe
- FRP
- Slate
- Catch basin
- Plastic
- Resin material

Safe and fast drilling through nail embedded wood with unique cutting teeth and slit.



### Features

- Our original design of the cutting teeth permits safe and fast drilling through nail embedded wood.
- Drills into various wall materials such as ceramic siding, metal siding board and wood.

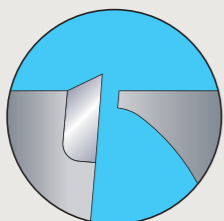
### For use in

- Ceramic siding, Metal siding
- Nail embedded wood
- Wood, Slate material, Plaster board, Vinyl chloride paneling and FRP

### For use with

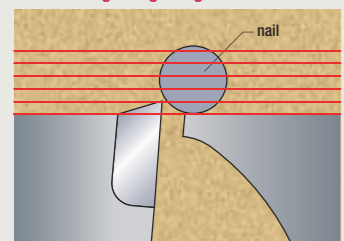
- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

### Tip Design

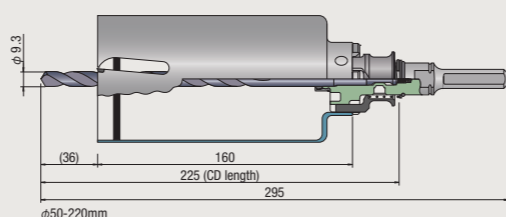
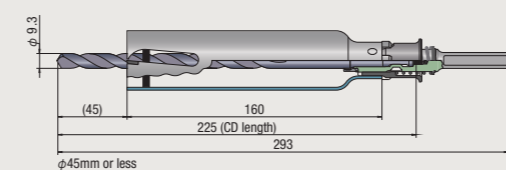
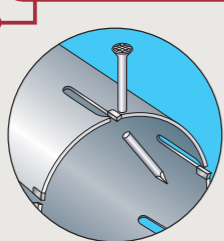


Uniquely designed cutting teeth

Uniquely designed cutting teeth prevent nails from getting caught in!



Usable for various types of wall materials!



Size table (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 130mm (5-1/8")

| Cutter dia. | Straight shank Set |         | SDS-plus shank Set |          | Cutter   | Guide plate |
|-------------|--------------------|---------|--------------------|----------|----------|-------------|
|             | mm                 | inch    | mm                 | inch     |          |             |
| 22          | 7/8"               | PCWS22  | PCWS22R            | PCWS22C  | PCSGP22  |             |
| 25          | 1"                 | PCWS25  | PCWS25R            | PCWS25C  | PCSGP25  |             |
| 29          | 1-1/8"             | PCWS29  | PCWS29R            | PCWS29C  | PCSGP29  |             |
| 32          | 1-1/4"             | PCWS32  | PCWS32R            | PCWS32C  | PCSGP32  |             |
| 35          | 1-3/8"             | PCWS35  | PCWS35R            | PCWS35C  | PCSGP35  |             |
| 38          | 1-1/2"             | PCWS38  | PCWS38R            | PCWS38C  | PCSGP38  |             |
| 45          | 1-3/4"             | PCWS45  | PCWS45R            | PCWS45C  | PCSGP45  |             |
| 50          | 2"                 | PCWS50  | PCWS50R            | PCWS50C  | PCSGP50  |             |
| 55          | 2-1/8"             | PCWS55  | PCWS55R            | PCWS55C  | PCSGP55  |             |
| 60          | 2-3/8"             | PCWS60  | PCWS60R            | PCWS60C  | PCSGP60  |             |
| 65          | 2-9/16"            | PCWS65  | PCWS65R            | PCWS65C  | PCSGP65  |             |
| 70          | 2-3/4"             | PCWS70  | PCWS70R            | PCWS70C  | PCSGP70  |             |
| 75          | 2-7/8"             | PCWS75  | PCWS75R            | PCWS75C  | PCSGP75  |             |
| 80          | 3-1/8"             | PCWS80  | PCWS80R            | PCWS80C  | PCSGP80  |             |
| 85          | 3-3/8"             | PCWS85  | PCWS85R            | PCWS85C  | PCSGP85  |             |
| 90          | 3-1/2"             | PCWS90  | PCWS90R            | PCWS90C  | PCSGP90  |             |
| 95          | 3-3/4"             | PCWS95  | PCWS95R            | PCWS95C  | PCSGP95  |             |
| 100         | 3-7/8"             | PCWS100 | PCWS100R           | PCWS100C | PCSGP100 |             |
| 105         | 4-1/8"             | PCWS105 | PCWS105R           | PCWS105C | PCSGP105 |             |
| 110         | 4-1/4"             | PCWS110 | PCWS110R           | PCWS110C | PCSGP110 |             |
| 115         | 4-1/2"             | PCWS115 | PCWS115R           | PCWS115C | PCSGP115 |             |
| 120         | 4-3/4"             | PCWS120 | PCWS120R           | PCWS120C | PCSGP120 |             |
| 125         | 4-15/16"           | PCWS125 | PCWS125R           | PCWS125C | PCSGP125 |             |
| 130         | 5-1/8"             | PCWS130 | PCWS130R           | PCWS130C | PCSGP130 |             |
| 140         | 5-1/2"             | PCWS140 | PCWS140R           | PCWS140C | PCSGP140 |             |
| 150         | 5-7/8"             | PCWS150 | PCWS150R           | PCWS150C | PCSGP150 |             |
| 155         | 6"                 | PCWS155 | PCWS155R           | PCWS155C | PCSGP155 |             |
| 160         | 6-5/16"            | PCWS160 | PCWS160R           | PCWS160C | PCSGP160 |             |
| 165         | 6-1/2"             | PCWS165 | PCWS165R           | PCWS165C | PCSGP165 |             |
| 170         | 6-11/16"           | PCWS170 | PCWS170R           | PCWS170C | PCSGP170 |             |
| 180         | 7"                 | PCWS180 | PCWS180R           | PCWS180C | PCSGP180 |             |
| 200         | 7-7/8"             | PCWS200 | PCWS200R           | PCWS200C | PCSGP200 |             |
| 210         | 8-1/4"             | PCWS210 | PCWS210R           | PCWS210C | PCSGP210 |             |
| 220         | 8-5/8"             | PCWS220 | PCWS220R           | PCWS220C | PCSGP220 |             |

Short type 80L (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 80mm (3-1/8")

| Cutter dia. | Cutter  | Cutter dia. | Cutter   |
|-------------|---------|-------------|----------|
| mm          | inch    | mm          | inch     |
| 32          | 1-1/4"  | 70          | 2-3/4"   |
| 35          | 1-3/8"  | 75          | 2-7/8"   |
| 38          | 1-1/2"  | 80          | 3-1/8"   |
| 45          | 1-3/4"  | 95          | 3-3/4"   |
| 50          | 2"      | 100         | 3-7/8"   |
| 53          | 2-1/16" | 110         | 4-1/4"   |
| 60          | 2-3/8"  | 120         | 4-3/4"   |
| 65          | 2-9/16" | 125         | 4-15/16" |
|             |         | 150         | 5-7/8"   |
|             |         | 160         | 6-5/16"  |

\*Complete set is not available. Please purchase cutter, center drill and shank. Short type cutter does not contain guide plate.

### Poly-Clc Shank

| Item                  | Part No.  | For use with                                    |
|-----------------------|-----------|-------------------------------------------------|
| S shank straight      | PCSKS     | φ22 – 45mm                                      |
| S shank SDS-plus      | PCSKSR    |                                                 |
| S shank 200L straight | PCSKS200  | φ29 – 45mm                                      |
| S shank SDS-plus 200L | PCSKSR200 |                                                 |
| L shank straight      | PCSKL     | φ50 – 220mm                                     |
| L shank SDS-plus      | PCSKLR    |                                                 |
| L shank (10mm)        | PCSKLT    | φ50 – 80mm                                      |
| L shank 200L straight | PCSKL200  | φ50 – 220mm                                     |
| L shank SDS-plus 200L | PCSKLR200 |                                                 |
| L shank 200L (10mm)   | PCSKLT200 | φ50 – 80mm                                      |
| X shank SDS-max       | PCSKXMXK  | φ50mm and above<br>(Over φ120mm is recommended) |
| X shank SDS-plus      | PCSKXR    | φ50mm and above                                 |

### Center drill / Guide bar

| Item                                                                         | Part No.  | For use with                      |
|------------------------------------------------------------------------------|-----------|-----------------------------------|
| Center drill                                                                 | PCWSCD225 | φ22 – 220mm                       |
| Center drill 80L                                                             | PCWSCD175 | φ32 – 160mm<br>for short type 80L |
| Carbide tipped acute center drill<br>*for wood, metal siding, ceramic siding | PCBHCD225 | φ22 – 220mm                       |
|                                                                              | PCBHCD175 | φ32 – 160mm<br>for short type 80L |
| Carbide tipped center drill<br>*for ceramic siding                           | PCHWCD225 | φ22 – 220mm                       |
|                                                                              | PCHWCD175 | φ32 – 160mm<br>for short type 80L |
| Guide bar 250                                                                | PCGWGB    |                                   |
| Guide bar 175                                                                | PCGB175   | for short type 80L                |

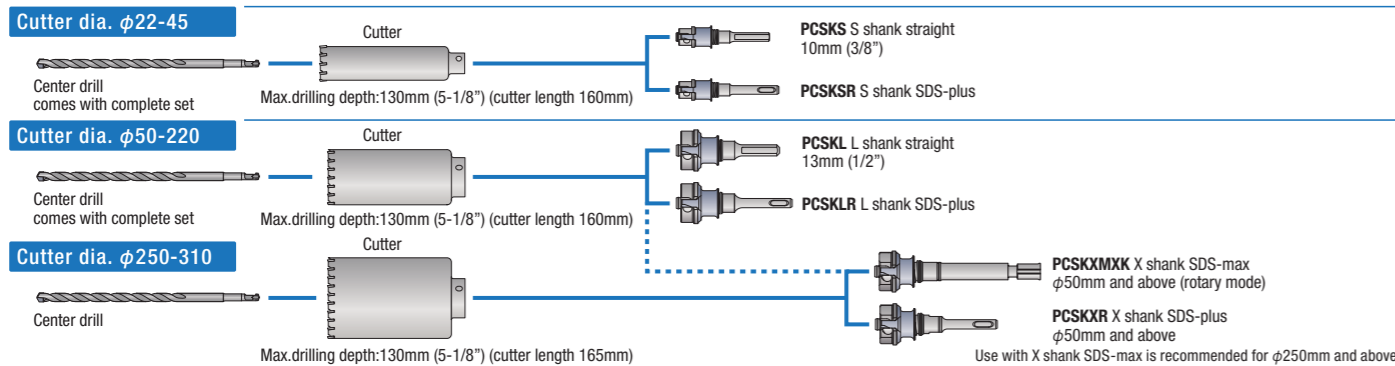


Tip of Carbide tipped acute center drill

Best for  
ALC

Also can be used in  
PVC pipe  
Ceramic siding

Smooth cutting ALC with steel frame by special designed tips and chip pockets !



## Features

- Cutting teeth and chip pockets are designed with proper balance for safe cutting of ALC (Autoclaved light-weight aerated concrete) and its reinforcing bars.

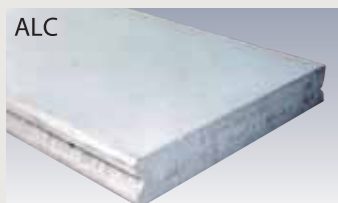
## For use in

- ALC (Autoclaved light-weight aerated concrete)  
\* Use Poly-Clic Galvawood Core Bit for wet ALC

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

ALC



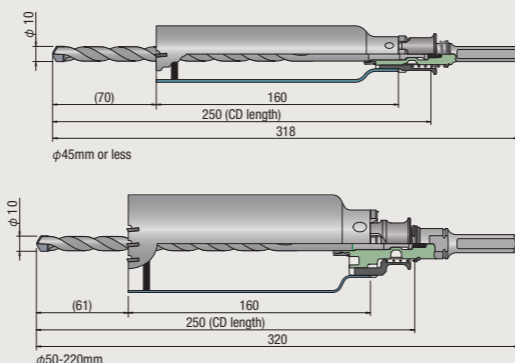
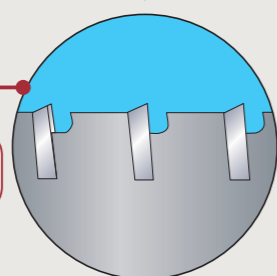
Use Galvawood Core Bit (P-16) for wet ALC

Cutting teeth and chip pockets are designed well balanced.

## Tip Design

The chip pockets are designed for smooth and safe cutting for steel frame.

Safe cutting ALC with steel frame !



Size table (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 130mm (5-1/8")

| Cutter dia.<br>mm | inch     | Straight shank Set | SDS-plus shank Set | Cutter    | Guide plate |
|-------------------|----------|--------------------|--------------------|-----------|-------------|
|                   |          |                    |                    |           |             |
| 22                | 7/8"     | PCALC22            | PCALC22R           | PCALC22C  | PCSGP22     |
| 25                | 1"       | PCALC25            | PCALC25R           | PCALC25C  | PCSGP25     |
| 29                | 1-1/8"   | PCALC29            | PCALC29R           | PCALC29C  | PCSGP29     |
| 32                | 1-1/4"   | PCALC32            | PCALC32R           | PCALC32C  | PCSGP32     |
| 35                | 1-3/8"   | PCALC35            | PCALC35R           | PCALC35C  | PCSGP35     |
| 38                | 1-1/2"   | PCALC38            | PCALC38R           | PCALC38C  | PCSGP38     |
| 45                | 1-3/4"   | PCALC45            | PCALC45R           | PCALC45C  | PCSGP45     |
| 50                | 2"       | PCALC50            | PCALC50R           | PCALC50C  | PCSGP50     |
| 55                | 2-1/8"   | PCALC55            | PCALC55R           | PCALC55C  | PCSGP55     |
| 60                | 2-3/8"   | PCALC60            | PCALC60R           | PCALC60C  | PCSGP60     |
| 65                | 2-9/16"  | PCALC65            | PCALC65R           | PCALC65C  | PCSGP65     |
| 70                | 2-3/4"   | PCALC70            | PCALC70R           | PCALC70C  | PCSGP70     |
| 75                | 2-7/8"   | PCALC75            | PCALC75R           | PCALC75C  | PCSGP75     |
| 80                | 3-1/8"   | PCALC80            | PCALC80R           | PCALC80C  | PCSGP80     |
| 85                | 3-3/8"   | PCALC85            | PCALC85R           | PCALC85C  | PCSGP85     |
| 90                | 3-1/2"   | PCALC90            | PCALC90R           | PCALC90C  | PCSGP90     |
| 95                | 3-3/4"   | PCALC95            | PCALC95R           | PCALC95C  | PCSGP95     |
| 100               | 3-7/8"   | PCALC100           | PCALC100R          | PCALC100C | PCSGP100    |
| 105               | 4-1/8"   | PCALC105           | PCALC105R          | PCALC105C | PCSGP105    |
| 110               | 4-1/4"   | PCALC110           | PCALC110R          | PCALC110C | PCSGP110    |
| 115               | 4-1/2"   | PCALC115           | PCALC115R          | PCALC115C | PCSGP115    |
| 120               | 4-3/4"   | PCALC120           | PCALC120R          | PCALC120C | PCSGP120    |
| 125               | 4-15/16" | PCALC125           | PCALC125R          | PCALC125C | PCSGP125    |
| 130               | 5-1/8"   | PCALC130           | PCALC130R          | PCALC130C | PCSGP130    |
| 140               | 5-1/2"   | PCALC140           | PCALC140R          | PCALC140C | PCSGP140    |
| 150               | 5-7/8"   | PCALC150           | PCALC150R          | PCALC150C | PCSGP150    |
| 155               | 6"       | PCALC155           | PCALC155R          | PCALC155C | PCSGP155    |
| 160               | 6-5/16"  | PCALC160           | PCALC160R          | PCALC160C | PCSGP160    |
| 165               | 6-1/2"   | PCALC165           | PCALC165R          | PCALC165C | PCSGP165    |
| 170               | 6-11/16" | PCALC170           | PCALC170R          | PCALC170C | PCSGP170    |
| 180               | 7"       | PCALC180           | PCALC180R          | PCALC180C | PCSGP180    |
| 200               | 7-7/8"   | PCALC200           | PCALC200R          | PCALC200C | PCSGP200    |
| 210               | 8-1/4"   | PCALC210           | PCALC210R          | PCALC210C | PCSGP210    |
| 220               | 8-5/8"   | PCALC220           | PCALC220R          | PCALC220C | PCSGP220    |

| Cutter dia.<br>mm | inch    | Cutter    | Shank (SDS-max) | Shank (SDS-plus) | Guide plate |
|-------------------|---------|-----------|-----------------|------------------|-------------|
|                   |         |           |                 |                  |             |
| 250               | 9-7/8"  | PCALC250C | PCSKXMXK        | PCSKXR           | PCSGP250    |
| 260               | 10-1/4" | PCALC260C |                 |                  | PCSGP260    |
| 300               | 11-7/8" | PCALC300C |                 |                  | PCSGP300    |
| 310               | 12-1/4" | PCALC310C |                 |                  | PCSGP310    |

\*Complete set is not available. Purchase cutter, shank and center drill.  
\*Use 250mm and above cutters with PCSKXR or PCSKXMXK (not use with L shank)  
\*Cutter (250mm and above) contains a guide bar.

## Poly-Clic Shank

| Item                  | Part No.  | For use with                                                |
|-----------------------|-----------|-------------------------------------------------------------|
| S shank straight      | PCSKS     | $\phi$ 22 – 45mm                                            |
| S shank SDS-plus      | PCSKSR    | $\phi$ 22 – 45mm                                            |
| S shank 200L straight | PCSKS200  | $\phi$ 29 – 45mm                                            |
| S shank SDS-plus 200L | PCSKSR200 | $\phi$ 29 – 45mm                                            |
| L shank straight      | PCSKL     | $\phi$ 50 – 220mm                                           |
| L shank SDS-plus      | PCSKLR    | $\phi$ 50 – 220mm                                           |
| L shank (10mm)        | PCSKLT    | $\phi$ 50 – 80mm                                            |
| L shank 200L straight | PCSKL200  | $\phi$ 50 – 220mm                                           |
| L shank SDS-plus 200L | PCSKLR200 | $\phi$ 50 – 220mm                                           |
| L shank 200L (10mm)   | PCSKLT200 | $\phi$ 50 – 80mm                                            |
| X shank SDS-max       | PCSKXMXK  | $\phi$ 50mm and above<br>(Over $\phi$ 120mm is recommended) |
| X shank SDS-plus      | PCSKXR    | $\phi$ 50mm and above                                       |

## Center drill

| Item         | Part No.  | For use with           |
|--------------|-----------|------------------------|
| Center drill | PCHWCD250 | $\phi$ 22 – 310mm 250L |
| Center drill | PCHWCD300 | $\phi$ 22 – 310mm 300L |

## Long type 150L

(The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 150mm (5-7/8")

| Cutter dia.<br>mm | inch    | Cutter       |
|-------------------|---------|--------------|
|                   |         |              |
| 32                | 1-1/4"  | PCALC32150C  |
| 35                | 1-3/8"  | PCALC35150C  |
| 38                | 1-1/2"  | PCALC38150C  |
| 50                | 2"      | PCALC50150C  |
| 60                | 2-3/8"  | PCALC60150C  |
| 65                | 2-9/16" | PCALC65150C  |
| 70                | 2-3/4"  | PCALC70150C  |
| 75                | 2-7/8"  | PCALC75150C  |
| 80                | 3-1/8"  | PCALC80150C  |
| 90                | 3-1/2"  | PCALC90150C  |
| 100               | 3-7/8"  | PCALC100150C |
| 110               | 4-1/4"  | PCALC110150C |
| 120               | 4-3/4"  | PCALC120150C |
| 130               | 5-1/8"  | PCALC130150C |
| 160               | 6-5/16" | PCALC160150C |
| 180               | 7"      | PCALC180150C |
| 210               | 8-1/4"  | PCALC210150C |
| *230              | 9-1/16" | PCALC230150C |
| *260              | 10-1/4" | PCALC260150C |
| *310              | 12-1/4" | PCALC310150C |

\*Complete set is not available. Purchase cutter, shank and center drill.  
\*Use 230mm and above with X shank.



# Percussion Core Bit ('S'Core)



Portable electric drill in rotary and percussion mode

## Percussion Core Bit ('S'Core)

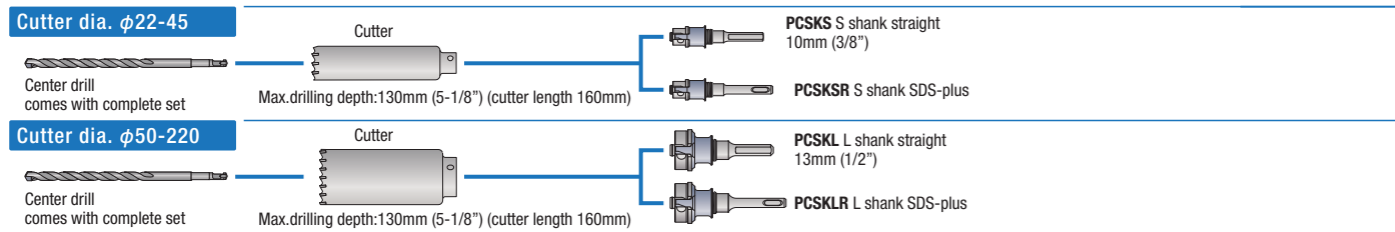
Best for

Mortar  
Block

Also can be used in

Ceramic siding  
Extruded cement

Original designed cutting teeth for use with percussion drill in percussion and rotary mode.



### Features

- The cutting teeth are well designed for effective use by percussion drills in percussion and rotary mode.
- No cracks on work surface.

### For use in

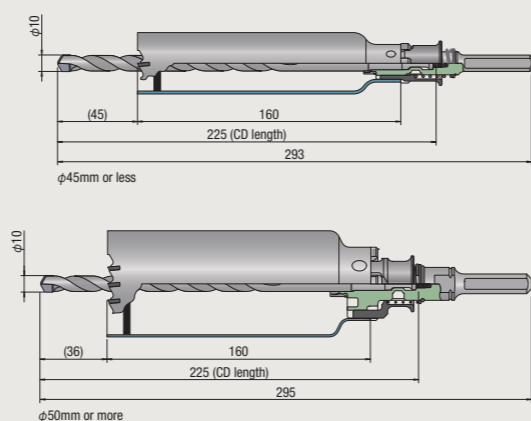
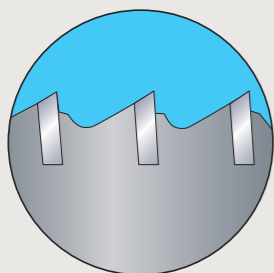
- Mortar and Block

### For use with

- Portable electric drills in both rotary and percussion mode

### Tip Design

Cutting teeth are designed to effectively use percussive and rotative forces delivered by percussion drills.



Size table (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 130mm (5-1/8")

| Cutter dia. | Straight shank Set |         |          |          | SDS-plus shank Set |          |          |          | Cutter   |          | Guide plate |          |
|-------------|--------------------|---------|----------|----------|--------------------|----------|----------|----------|----------|----------|-------------|----------|
|             | mm                 | inch    | Part No. | Part No. | Part No.           | Part No. | Part No. | Part No. | Part No. | Part No. | Part No.    | Part No. |
| 22          | 7/8"               | PCSW22  | PCSW22R  | PCSW22C  | PCSGP22            |          |          |          |          |          |             |          |
| 25          | 1"                 | PCSW25  | PCSW25R  | PCSW25C  | PCSGP25            |          |          |          |          |          |             |          |
| 29          | 1-1/8"             | PCSW29  | PCSW29R  | PCSW29C  | PCSGP29            |          |          |          |          |          |             |          |
| 32          | 1-1/4"             | PCSW32  | PCSW32R  | PCSW32C  | PCSGP32            |          |          |          |          |          |             |          |
| 35          | 1-3/8"             | PCSW35  | PCSW35R  | PCSW35C  | PCSGP35            |          |          |          |          |          |             |          |
| 38          | 1-1/2"             | PCSW38  | PCSW38R  | PCSW38C  | PCSGP38            |          |          |          |          |          |             |          |
| 45          | 1-3/4"             | PCSW45  | PCSW45R  | PCSW45C  | PCSGP45            |          |          |          |          |          |             |          |
| 50          | 2"                 | PCSW50  | PCSW50R  | PCSW50C  | PCSGP50            |          |          |          |          |          |             |          |
| 55          | 2-1/8"             | PCSW55  | PCSW55R  | PCSW55C  | PCSGP55            |          |          |          |          |          |             |          |
| 60          | 2-3/8"             | PCSW60  | PCSW60R  | PCSW60C  | PCSGP60            |          |          |          |          |          |             |          |
| 65          | 2-9/16"            | PCSW65  | PCSW65R  | PCSW65C  | PCSGP65            |          |          |          |          |          |             |          |
| 70          | 2-3/4"             | PCSW70  | PCSW70R  | PCSW70C  | PCSGP70            |          |          |          |          |          |             |          |
| 75          | 2-7/8"             | PCSW75  | PCSW75R  | PCSW75C  | PCSGP75            |          |          |          |          |          |             |          |
| 80          | 3-1/8"             | PCSW80  | PCSW80R  | PCSW80C  | PCSGP80            |          |          |          |          |          |             |          |
| 85          | 3-3/8"             | PCSW85  | PCSW85R  | PCSW85C  | PCSGP85            |          |          |          |          |          |             |          |
| 90          | 3-1/2"             | PCSW90  | PCSW90R  | PCSW90C  | PCSGP90            |          |          |          |          |          |             |          |
| 95          | 3-3/4"             | PCSW95  | PCSW95R  | PCSW95C  | PCSGP95            |          |          |          |          |          |             |          |
| 100         | 3-7/8"             | PCSW100 | PCSW100R | PCSW100C | PCSGP100           |          |          |          |          |          |             |          |
| 105         | 4-1/8"             | PCSW105 | PCSW105R | PCSW105C | PCSGP105           |          |          |          |          |          |             |          |
| 110         | 4-1/4"             | PCSW110 | PCSW110R | PCSW110C | PCSGP110           |          |          |          |          |          |             |          |
| 115         | 4-1/2"             | PCSW115 | PCSW115R | PCSW115C | PCSGP115           |          |          |          |          |          |             |          |
| 120         | 4-3/4"             | PCSW120 | PCSW120R | PCSW120C | PCSGP120           |          |          |          |          |          |             |          |
| 125         | 4-15/16"           | PCSW125 | PCSW125R | PCSW125C | PCSGP125           |          |          |          |          |          |             |          |
| 130         | 5-1/8"             | PCSW130 | PCSW130R | PCSW130C | PCSGP130           |          |          |          |          |          |             |          |
| 140         | 5-1/2"             | PCSW140 | PCSW140R | PCSW140C | PCSGP140           |          |          |          |          |          |             |          |
| 150         | 5-7/8"             | PCSW150 | PCSW150R | PCSW150C | PCSGP150           |          |          |          |          |          |             |          |
| 155         | 6"                 | PCSW155 | PCSW155R | PCSW155C | PCSGP155           |          |          |          |          |          |             |          |
| 160         | 6-5/16"            | PCSW160 | PCSW160R | PCSW160C | PCSGP160           |          |          |          |          |          |             |          |
| 165         | 6-1/2"             | PCSW165 | PCSW165R | PCSW165C | PCSGP165           |          |          |          |          |          |             |          |
| 170         | 6-11/16"           | PCSW170 | PCSW170R | PCSW170C | PCSGP170           |          |          |          |          |          |             |          |
| 180         | 7"                 | PCSW180 | PCSW180R | PCSW180C | PCSGP180           |          |          |          |          |          |             |          |
| 200         | 7-7/8"             | PCSW200 | PCSW200R | PCSW200C | PCSGP200           |          |          |          |          |          |             |          |
| 210         | 8-1/4"             | PCSW210 | PCSW210R | PCSW210C | PCSGP210           |          |          |          |          |          |             |          |
| 220         | 8-5/8"             | PCSW220 | PCSW220R | PCSW220C | PCSGP220           |          |          |          |          |          |             |          |

Long type 170L (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 170mm (6-11/16")

| Cutter dia. | Straight shank Set |           | SDS-plus shank Set |            | Cutter   |          | Guide plate |          |
|-------------|--------------------|-----------|--------------------|------------|----------|----------|-------------|----------|
|             | mm                 | inch      | Part No.           | Part No.   | Part No. | Part No. | Part No.    | Part No. |
| 25          | 1"                 | PCSW25170 | PCSW25170R         | PCSW25170C | PCSGP25  |          |             |          |
| 29          | 1-1/8"             | PCSW29170 | PCSW29170R         | PCSW29170C | PCSGP29  |          |             |          |
| 32          | 1-1/4"             | PCSW32170 | PCSW32170R         | PCSW32170C | PCSGP32  |          |             |          |
| 35          | 1-3/8"             | PCSW35170 | PCSW35170R         | PCSW35170C | PCSGP35  |          |             |          |
| 38          | 1-1/2"             | PCSW38170 | PCSW38170R         | PCSW38170C | PCSGP38  |          |             |          |

### Poly-Clc Shank

| Item                  | Part No.  | For use with    |
|-----------------------|-----------|-----------------|
| S shank straight      | PCSKS     | φ22 – 45mm      |
| S shank SDS-plus      | PCSKSR    |                 |
| S shank 200L straight | PCSKS200  | φ29 – 45mm      |
| S shank SDS-plus 200L | PCSKSR200 |                 |
| L shank straight      | PCSKL     | φ50 – 220mm     |
| L shank SDS-plus      | PCSKLR    |                 |
| L shank (10mm)        | PCSKLT    | φ50 – 80mm      |
| L shank 200L straight | PCSKL200  |                 |
| L shank SDS-plus 200L | PCSKLR200 | φ50 – 220mm     |
| L shank 200L (10mm)   | PCSKLT200 |                 |
| X shank SDS-plus      | PCSKXR    | φ50mm and above |

### Center drill

| Item                            | Part No.  | For use with             |
|---------------------------------|-----------|--------------------------|
| Center drill                    | PCSWCD225 | φ22 – 220mm              |
| Center drill for long type 170L | PCSWCD250 | φ25 – 38mm for long type |

# Poly-Clc Hybrid Core Bit



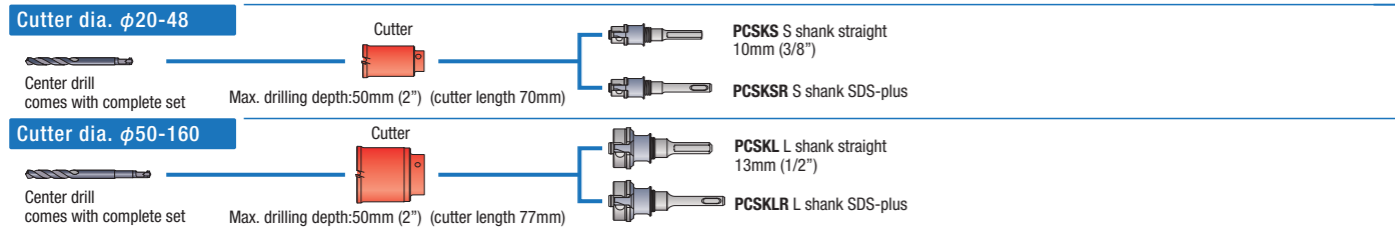
**Best for**

- Composite material
- Wood
- Catch basin

**Also can be used in**

- Sheet metal (up to 1mm in thickness)
- Artificial marble
- Metal siding
- PVC pipe
- FRP

Best for drilling into composite panel with stainless steel plate.



**Features**

- Uniquely designed cutting teeth are best for drilling into composite material such as kitchen counter, bath surrounds, etc.
- Best for drilling into wooden floor material.

**For use in**

- Metal siding board
- Composite material, Wood, Plastic catch basin, FRP

**For use with**

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

| Hybrid Core Bit                                                                                                     | Normal type                                       |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| <p>Uniquely designed cutting teeth for drilling into overlapped material.</p> <p>Drill through in single action</p> | <p>Not for drilling into overlapped materials</p> |

Technical drawing showing dimensions for diameters 48mm or less and 50mm or more.

Catch basin

**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 50mm (2")

| Cutter dia. |          | Straight shank Set |  | Cutter  |
|-------------|----------|--------------------|--|---------|
| mm          | inch     |                    |  |         |
| 20          | 25/32"   | PCH20              |  | PCH20C  |
| 21          | 13/16"   | PCH21              |  | PCH21C  |
| 22          | 7/8"     | PCH22              |  | PCH22C  |
| 25          | 1"       | PCH25              |  | PCH25C  |
| 27          | 1-1/16"  | PCH27              |  | PCH27C  |
| 28          | 1-3/32"  | PCH28              |  | PCH28C  |
| 30          | 1-3/16"  | PCH30              |  | PCH30C  |
| 31          | 1-7/32"  | PCH31              |  | PCH31C  |
| 32          | 1-1/4"   | PCH32              |  | PCH32C  |
| 33          | 1-9/32"  | PCH33              |  | PCH33C  |
| 34          | 1-5/16"  | PCH34              |  | PCH34C  |
| 35          | 1-3/8"   | PCH35              |  | PCH35C  |
| 38          | 1-1/2"   | PCH38              |  | PCH38C  |
| 40          | 1-9/16"  | PCH40              |  | PCH40C  |
| 42          | 1-5/8"   | PCH42              |  | PCH42C  |
| 43          | 1-11/16" | PCH43              |  | PCH43C  |
| 45          | 1-3/4"   | PCH45              |  | PCH45C  |
| 48          | 1-7/8"   | PCH48              |  | PCH48C  |
| 50          | 2"       | PCH50              |  | PCH50C  |
| 53          | 2-1/16"  | PCH53              |  | PCH53C  |
| 55          | 2-1/8"   | PCH55              |  | PCH55C  |
| 60          | 2-3/8"   | PCH60              |  | PCH60C  |
| 65          | 2-9/16"  | PCH65              |  | PCH65C  |
| 70          | 2-3/4"   | PCH70              |  | PCH70C  |
| 75          | 2-7/8"   | PCH75              |  | PCH75C  |
| 80          | 3-1/8"   | PCH80              |  | PCH80C  |
| 85          | 3-3/8"   | PCH85              |  | PCH85C  |
| 90          | 3-1/2"   | PCH90              |  | PCH90C  |
| 95          | 3-3/4"   | PCH95              |  | PCH95C  |
| 100         | 3-7/8"   | PCH100             |  | PCH100C |
| 105         | 4-1/8"   | PCH105             |  | PCH105C |
| 110         | 4-1/4"   | PCH110             |  | PCH110C |
| 115         | 4-1/2"   | PCH115             |  | PCH115C |
| 120         | 4-3/4"   | PCH120             |  | PCH120C |
| 125         | 4-15/16" | PCH125             |  | PCH125C |
| 130         | 5-1/8"   | PCH130             |  | PCH130C |
| 150         | 5-7/8"   | PCH150             |  | PCH150C |
| 160         | 6-5/16"  | PCH160             |  | PCH160C |

\*SDS-plus shank set is not available. Purchase cutter, SDS-plus shank, and center drill separately.

**Poly-Clc Shank**

| Item                  | Part No.  | For use with                                 |
|-----------------------|-----------|----------------------------------------------|
| S shank straight      | PCSKS     | φ20 – 48mm                                   |
| S shank SDS-plus      | PCSKSR    | φ20 – 48mm                                   |
| S shank 200L straight | PCSKS200  | φ30 – 48mm                                   |
| S shank SDS-plus 200L | PCSKSR200 | φ30 – 48mm                                   |
| L shank straight      | PCSKL     | φ50 – 160mm                                  |
| L shank SDS-plus      | PCSKLR    | φ50 – 160mm                                  |
| L shank (10mm)        | PCSKLT    | φ50 – 80mm                                   |
| L shank 200L straight | PCSKL200  | φ50 – 160mm                                  |
| L shank SDS-plus 200L | PCSKLR200 | φ50 – 160mm                                  |
| L shank 200L (10mm)   | PCSKLT200 | φ50 – 80mm                                   |
| X shank SDS-max       | PCSKXMXK  | φ50mm and above (Over φ120mm is recommended) |
| X shank SDS-plus      | PCSKXR    | φ50mm and above                              |

**Center drill**

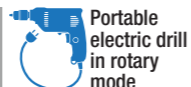
| Item                                             | Part No.  | For use with              |
|--------------------------------------------------|-----------|---------------------------|
| Center drill S                                   | PCHCDS    | φ20 – 48mm                |
| Center drill L                                   | PCHCDL    | φ50 – 160mm               |
| Center drill SH*                                 | PCFCDSH   | φ20 – 48mm                |
| Carbide tipped acute center drill (length 120mm) | PCBHCD120 | Use with Poly-Clc S shank |
| Carbide tipped acute center drill (length 140mm) | PCBHCD140 | Use with Poly-Clc L shank |

\*Short type center drill for φ20-48mm



Tip of Carbide tipped acute center drill

# Poly-Clc Counter Bore Cutter



Best for  
Wooden floor material

Best for counter boring to wooden floor for installation of pipe adaptor.

## Features

- Proper counter boring to the floor material for flush surface.
- Can be used with Poly-Clc S shank.

## For use in

- Counter boring for wooden floor

## For use with

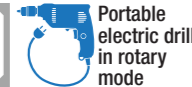
- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

## Size table

Max. drilling depth : 5mm

| Cutter dia. | Part No. | Max. Drilling Depth |
|-------------|----------|---------------------|
| 60          | PCZAG60  | 5mm                 |
| 78          | PCZAG78  |                     |

# Poly-Clc HDPE Core Bit



Best for  
HDPE pipe  
Wood  
FRP  
Composite material

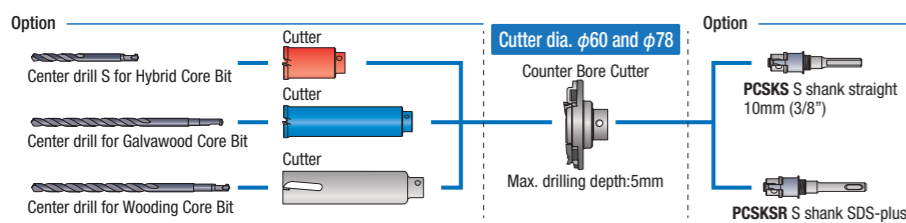
Best for drilling into HDPE pipe, wood and composite material.

Also can be used in  
PVC pipe  
Plaster board



Size table (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 100mm (3-7/8")

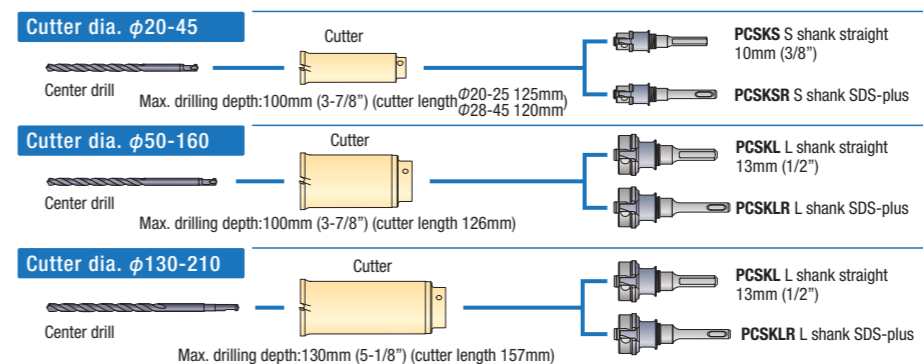
| Cutter dia. |         | Cutter  | Guide plate |
|-------------|---------|---------|-------------|
| mm          | inch    |         |             |
| 20          | 25/32"  | PCC20C  | PCCGP20     |
| 25          | 1"      | PCC25C  | PCCGP25     |
| 28          | 1-3/32" | PCC28C  | PCCGP28     |
| 30          | 1-3/16" | PCC30C  | PCCGP30     |
| 32          | 1-1/4"  | PCC32C  | PCCGP32     |
| 35          | 1-3/8"  | PCC35C  | PCCGP35     |
| 38          | 1-1/2"  | PCC38C  | PCCGP38     |
| 40          | 1-9/16" | PCC40C  | PCCGP40     |
| 45          | 1-3/4"  | PCC45C  | PCCGP45     |
| 50          | 2"      | PCC50C  | PCCGP50     |
| 55          | 2-1/8"  | PCC55C  | PCCGP55     |
| 60          | 2-3/8"  | PCC60C  | PCCGP60     |
| 65          | 2-9/16" | PCC65C  | PCCGP65     |
| 70          | 2-3/4"  | PCC70C  | PCCGP70     |
| 75          | 2-7/8"  | PCC75C  | PCCGP75     |
| 80          | 3-1/8"  | PCC80C  | PCCGP80     |
| 85          | 3-3/8"  | PCC85C  | PCCGP85     |
| 90          | 3-1/2"  | PCC90C  | PCCGP90     |
| 95          | 3-3/4"  | PCC95C  | PCCGP95     |
| 100         | 3-7/8"  | PCC100C | PCCGP100    |
| 110         | 4-1/4"  | PCC110C | PCCGP110    |
| 115         | 4-1/2"  | PCC115C | PCCGP115    |
| 120         | 4-3/4"  | PCC120C | PCCGP120    |
| 160         | 6-5/16" | PCC160C | PCCGP160    |



## Poly-Clc Core Bits / Usable with Counter Bore Cutter

| Item                     | For use in                                                                                       | Cutter dia. mm | Max. Drilling Depth mm | Part No. |
|--------------------------|--------------------------------------------------------------------------------------------------|----------------|------------------------|----------|
| Hybrid Core Bit (Set)    | Composite material, Metal siding board, Wood, FRP, Plastic catch basin, Polyvinyl chloride pipe. | 32             | 50                     | PCH32    |
|                          |                                                                                                  | 35             |                        | PCH35    |
| Galvawood Core Bit (Set) | Galvanized metal siding, Wood, Plywood, FRP.                                                     | 32             | 130                    | PCGW32   |
|                          |                                                                                                  | 35             |                        | PCGW35   |
| Wooding Core Bit (Set)   | Wood, Metal siding board, Ceramic siding board, FRP.                                             | 32             | 130                    | PCWS32   |
|                          |                                                                                                  | 35             |                        | PCWS35   |

## How to use (with Hybrid Core Bit) \*The same procedures when using Wooding Core Bit and Galvawood Core Bit.



## Features

- Unique cutting teeth for clean drilling into HDPE (High Density Polyethylene) pipe, wood, and fiber material.

## For use in

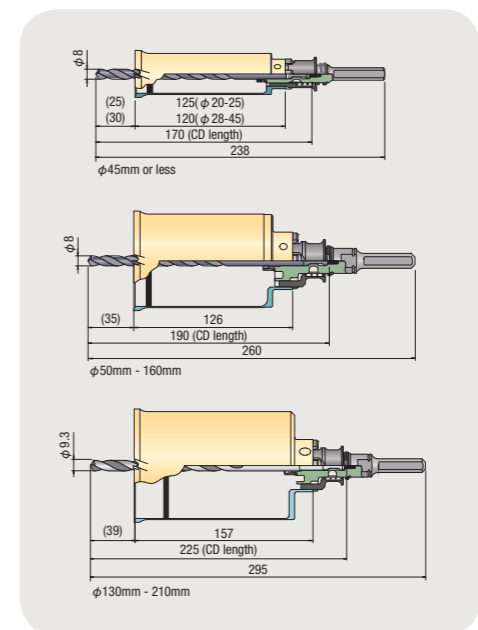
- HDPE pipe
- Wood, FRP, Composite material, and Plaster board

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

## Poly-Clc Shank

| Item                  | Part No.  | For use with       |
|-----------------------|-----------|--------------------|
| S shank straight      | PCSKS     | $\phi 20 - 45$ mm  |
| S shank SDS-plus      | PCSKSR    | $\phi 20 - 45$ mm  |
| S shank 200L straight | PCSKS200  | $\phi 30 - 45$ mm  |
| S shank SDS-plus 200L | PCSKSR200 | $\phi 30 - 45$ mm  |
| L shank straight      | PCSKL     | $\phi 50 - 210$ mm |
| L shank SDS-plus      | PCSKLR    | $\phi 50 - 210$ mm |
| L shank (10mm)        | PCSKLT    | $\phi 50 - 80$ mm  |



| Item                  | Part No.  | For use with                                                  |
|-----------------------|-----------|---------------------------------------------------------------|
| L shank 200L straight | PCSKL200  | $\phi 50 - 210$ mm                                            |
| L shank SDS-plus 200L | PCSKLR200 | $\phi 50 - 210$ mm                                            |
| L shank 200L (10mm)   | PCSKLT200 | $\phi 50 - 80$ mm                                             |
| X shank SDS-max       | PCSKMXK   | $\phi 50$ mm and above<br>(Over $\phi 120$ mm is recommended) |
| X shank SDS-plus      | PCSKXR    | $\phi 50$ mm and above                                        |

\*Complete set is not available. Purchase cutter, shank, and center drill separately.

Long type 130L (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 130mm (5-1/8")

| Cutter dia. |         | Cutter    | Guide plate |
|-------------|---------|-----------|-------------|
| mm          | inch    |           |             |
| 130         | 5-1/8"  | PCC13013C | PCGWGP130   |
| 150         | 5-7/8"  | PCC15013C | PCGWGP150   |
| 160         | 6-5/16" | PCC16013C | PCGWGP160   |
| 170         | 6-5/8"  | PCC17013C | PCGWGP170   |
| 210         | 8-1/4"  | PCC21013C | PCGWGP210   |

## Center drill

| Item                            | Part No.  | For use with        |
|---------------------------------|-----------|---------------------|
| Center drill S                  | PCCDS     | $\phi 20 - 45$ mm   |
| Center drill L                  | PCCDL     | $\phi 50 - 160$ mm  |
| Center drill for long type 130L | PCGWCD225 | $\phi 130 - 210$ mm |





# Rotary Core Bit ('H'Core)



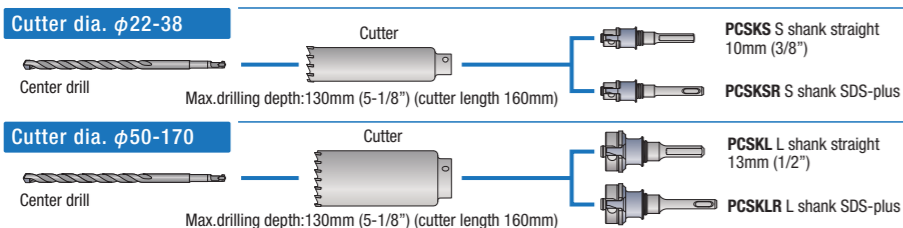
### Best for

- Lath wall
- Slate
- Plaster board
- Japanese wall

### Also can be used in

- PVC pipe
- Ceramic siding
- FRP
- Extruded cement
- Mortar

Sharp and fast drilling even into composite material.



## Features

- Sharp cutting teeth make sharp cutting of holes with electric drill in rotary mode.
- Drills holes even into brittle work materials without cracks on the surface.

## For use in

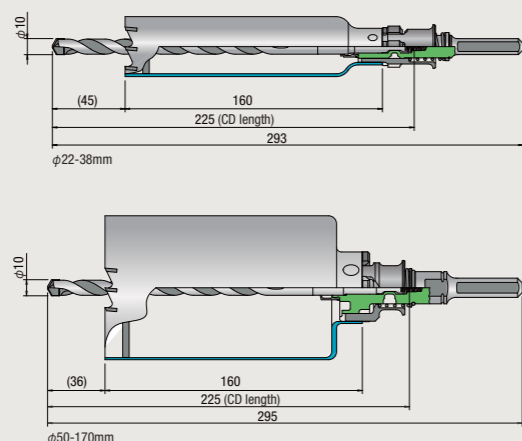
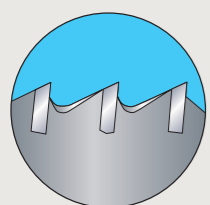
- Lath wall, Slate, and Plaster board

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

## Tip Design

The sharp angle of the teeth are designed to produce most efficient cutting performance in rotation mode only.



**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 130mm (5-1/8")

| Cutter dia. |          | Cutter   | Guide plate |
|-------------|----------|----------|-------------|
| mm          | inch     |          |             |
| 22          | 7/8"     | PCHW22C  | PCSGP22     |
| 25          | 1"       | PCHW25C  | PCSGP25     |
| 29          | 1-1/8"   | PCHW29C  | PCSGP29     |
| 32          | 1-1/4"   | PCHW32C  | PCSGP32     |
| 35          | 1-3/8"   | PCHW35C  | PCSGP35     |
| 38          | 1-1/2"   | PCHW38C  | PCSGP38     |
| 50          | 2"       | PCHW50C  | PCSGP50     |
| 60          | 2-3/8"   | PCHW60C  | PCSGP60     |
| 65          | 2-9/16"  | PCHW65C  | PCSGP65     |
| 70          | 2-3/4"   | PCHW70C  | PCSGP70     |
| 75          | 2-7/8"   | PCHW75C  | PCSGP75     |
| 80          | 3-1/8"   | PCHW80C  | PCSGP80     |
| 100         | 3-7/8"   | PCHW100C | PCSGP100    |
| 110         | 4-1/4"   | PCHW110C | PCSGP110    |
| 120         | 4-3/4"   | PCHW120C | PCSGP120    |
| 150         | 5-7/8"   | PCHW150C | PCSGP150    |
| 160         | 6-5/16"  | PCHW160C | PCSGP160    |
| 170         | 6-11/16" | PCHW170C | PCSGP170    |

\*Complete set is not available. Purchase cutter, shank, and center drill separately.

## Poly-Clic Shank

| Item                  | Part No.  | For use with                                 |
|-----------------------|-----------|----------------------------------------------|
| S shank straight      | PCSKS     | φ22 - 38mm                                   |
| S shank SDS-plus      | PCSKSR    |                                              |
| S shank 200L straight | PCSKS200  | φ29 - 38mm                                   |
| S shank SDS-plus 200L | PCSKSR200 |                                              |
| L shank straight      | PCSKL     | φ50 - 170mm                                  |
| L shank SDS-plus      | PCSKLR    |                                              |
| L shank (10mm)        | PCSKLT    | φ50 - 80mm                                   |
| L shank 200L straight | PCSKL200  | φ50 - 170mm                                  |
| L shank SDS-plus 200L | PCSKLR200 |                                              |
| L shank 200L (10mm)   | PCSKLT200 | φ50 - 80mm                                   |
| X shank SDS-max       | PCSKXMXK  | φ50mm and above (Over φ120mm is recommended) |
| X shank SDS-plus      | PCSKXR    | φ50mm and above                              |

## Center drill

| Item         | Part No.  | For use with |
|--------------|-----------|--------------|
| Center drill | PCHWCD225 | φ22 - 170mm  |



# Vinyl Chloride Pipe Core Bit



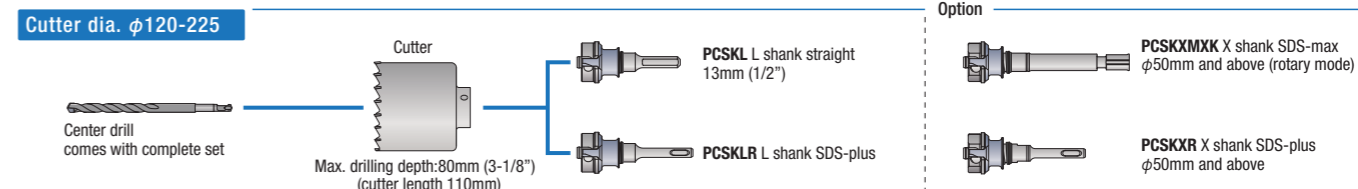
### Best for

- PVC pipe

### Also can be used in

- Ceramic siding

Exclusive use for precisely drilling large hole in PVC pipe.



## Features

- For precisely drilling a large-diameter hole in PVC pipe.
- The cutting teeth are designed for high-speed drilling with electric drills in rotary mode.

## For use in

- Vinyl chloride pipe used in drainage systems

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

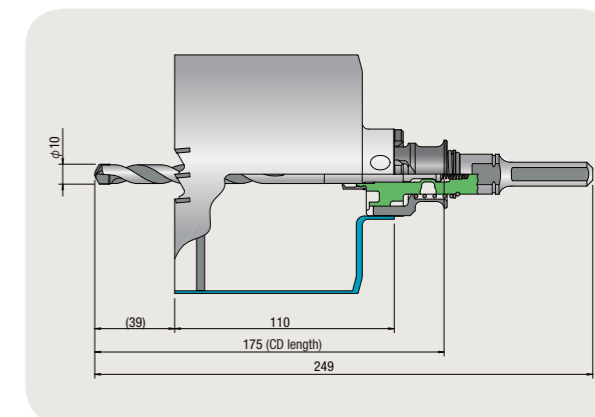
**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 80mm (3-1/8")

| Cutter dia. |          | Straight shank Set | SDS-plus shank Set | Cutter   | Guide plate |
|-------------|----------|--------------------|--------------------|----------|-------------|
| mm          | inch     |                    |                    |          |             |
| 120         | 4-3/4"   | PCEW120            | PCEW120R           | PCEW120C | PCSGP120    |
| 130         | 5-1/8"   | PCEW130            | PCEW130R           | PCEW130C | PCSGP130    |
| 140         | 5-1/2"   | PCEW140            | *Note1             | PCEW140C | PCSGP140    |
| 147         | 5-25/32" | PCEW147            | *Note1             | PCEW147C | PCSGP147    |
| 150         | 5-7/8"   | PCEW150            | *Note1             | PCEW150C | PCSGP150    |
| 168         | 6-39/64" | PCEW168            | *Note1             | PCEW168C | PCSGP168    |
| 170         | 6-11/16" | PCEW170            | PCEW170R           | PCEW170C | PCSGP170    |
| 173         | 6-13/16" | PCEW173            | *Note1             | PCEW173C | PCSGP173    |
| 180         | 7"       | PCEW180            | *Note1             | PCEW180C | PCSGP180    |
| 185         | 7-9/32"  | PCEW185            | *Note1             | PCEW185C | PCSGP185    |
| 200         | 7-7/8"   | PCEW200            | *Note1             | PCEW200C | PCSGP200    |
| 220         | 8-5/8"   | PCEW220            | *Note1             | PCEW220C | PCSGP220    |
| 225         | 8-7/8"   | -                  | *Note2             | PCEW225C | PCSGP225    |

\*Note 1: SDS-plus shank set is not available. Purchase cutter, SDS-plus shank, and center drill separately.

\*Note 2: Complete set is not available. Purchase cutter, shank, and center drill separately.

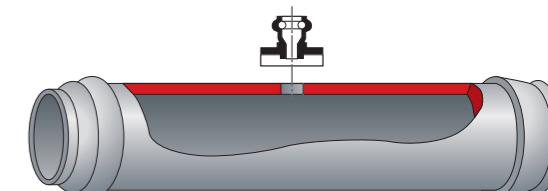


## Poly-Clic Shank

| Item                  | Part No.  | For use with |
|-----------------------|-----------|--------------|
| L shank straight      | PCSKL     | φ120 - 225mm |
| L shank SDS-plus      | PCSKLR    |              |
| L shank 200L straight | PCSKL200  |              |
| L shank SDS-plus 200L | PCSKLR200 |              |
| X shank SDS-max       | PCSKXMXK  |              |
| X shank SDS-plus      | PCSKXR    |              |

## Center drill

| Item         | Part No.  | For use with |
|--------------|-----------|--------------|
| Center drill | PCHWCD175 | φ120 - 225mm |





# Wetmond Core Bit



Electric drill  
Double  
insulation,  
in rotary mode



Light-weight  
hammer drill  
in rotary mode



Double  
insulation

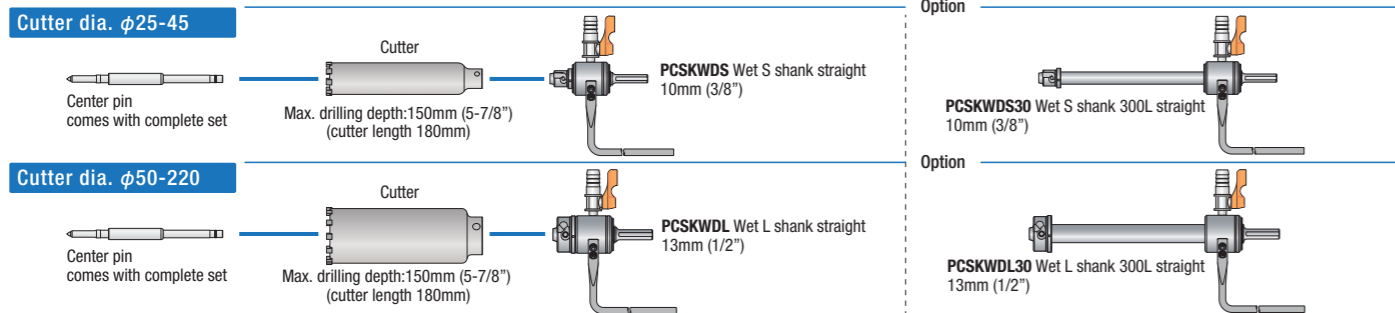
### Best for

- Reinforced concrete
- Concrete
- Ceramic tile
- Hume pipe
- Clay pipe
- Tile

### Also can be used in

- Block
- Stone
- Extruded cement
- Asphalt
- Brick

## Drilling in reinforced concrete, hume pipe. (wet type)



\*SDS-plus shank is also available.

### Features

- Easy to replace a cutter with Quick-change system without any tools.
- Drill into reinforcing bar only with rotative force.
- Efficient water feed system allows cooling the cutting teeth and smooth discharge of dust.

### For use in

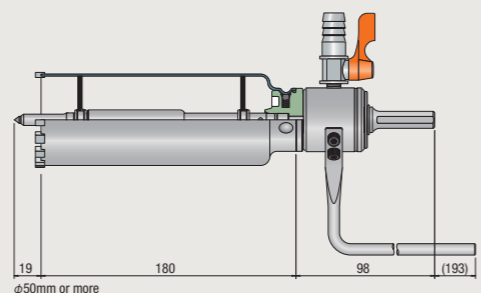
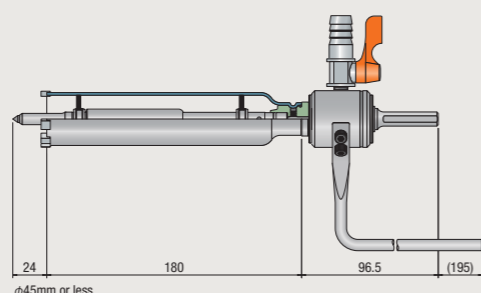
- Concrete, Reinforced concrete, Stone, Ceramic tile, Granite, Hume & Clay pipe

### For use with

- Double insulated electric drills in rotaly mode only
- Light-weight hammer drills in rotary mode only



Dust Collecting Pad: refer to P-44



Size table (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 150mm (5-7/8")

| Cutter dia. | Straight shank Set |         | Cutter   | Guide plate |
|-------------|--------------------|---------|----------|-------------|
|             | mm                 | inch    |          |             |
| 25          | 1"                 | PCWD25  | PCWD25C  | PCSGP25     |
| 29          | 1-1/8"             | PCWD29  | PCWD29C  | PCSGP29     |
| 32          | 1-1/4"             | PCWD32  | PCWD32C  | PCSGP32     |
| 35          | 1-3/8"             | PCWD35  | PCWD35C  | PCSGP35     |
| 38          | 1-1/2"             | PCWD38  | PCWD38C  | PCSGP38     |
| 45          | 1-3/4"             | PCWD45  | PCWD45C  | PCSGP45     |
| 50          | 2"                 | PCWD50  | PCWD50C  | PCSGP50     |
| 55          | 2-1/8"             | PCWD55  | PCWD55C  | PCSGP55     |
| 60          | 2-3/8"             | PCWD60  | PCWD60C  | PCSGP60     |
| 65          | 2-9/16"            | PCWD65  | PCWD65C  | PCSGP65     |
| 70          | 2-3/4"             | PCWD70  | PCWD70C  | PCSGP70     |
| 75          | 2-7/8"             | PCWD75  | PCWD75C  | PCSGP75     |
| 80          | 3-1/8"             | PCWD80  | PCWD80C  | PCSGP80     |
| 90          | 3-1/2"             | PCWD90  | PCWD90C  | PCSGP90     |
| 95          | 3-3/4"             | PCWD95  | PCWD95C  | PCSGP95     |
| 100         | 3-7/8"             | PCWD100 | PCWD100C | PCSGP100    |
| 110         | 4-1/4"             | PCWD110 | PCWD110C | PCSGP110    |
| 120         | 4-3/4"             | PCWD120 | PCWD120C | PCSGP120    |
| 130         | 5-1/8"             | PCWD130 | PCWD130C | PCSGP130    |
| 150         | 5-7/8"             | PCWD150 | PCWD150C | PCSGP150    |
| 160         | 6-5/16"            | PCWD160 | PCWD160C | PCSGP160    |
| 170         | 6-11/16"           | PCWD170 | PCWD170C | PCSGP170    |
| 200         | 7-7/8"             | PCWD200 | PCWD200C | PCSGP200    |
| 220         | 8-5/8"             | PCWD220 | PCWD220C | PCSGP220    |

\*SDS-plus shank set is not available. Purchase cutter, SDS-plus shank, and center pin separately.  
\* 2 Guide plates are included up to 80mm in diameter.

Long type 220L (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 220mm (8-5/8")

| Cutter dia. | Straight shank Set |          | Cutter    | Guide plate |
|-------------|--------------------|----------|-----------|-------------|
|             | mm                 | inch     |           |             |
| 32          | 1-1/4"             | PCWD3222 | PCWD3222C | PCSGP32     |
| 38          | 1-1/2"             | PCWD3822 | PCWD3822C | PCSGP38     |
| 50          | 2"                 | PCWD5022 | PCWD5022C | PCSGP50     |
| 60          | 2-3/8"             | PCWD6022 | PCWD6022C | PCSGP60     |
| 65          | 2-9/16"            | PCWD6522 | PCWD6522C | PCSGP65     |
| 75          | 2-7/8"             | PCWD7522 | PCWD7522C | PCSGP75     |
| 80          | 3-1/8"             | PCWD8022 | PCWD8022C | PCSGP80     |

\*SDS-plus shank set is not available. Purchase cutter, SDS-plus shank, and center pin 250 separately.  
\* 2 Guide plates are included up to 80mm in diameter.

**Option**

**Water Bottle Swivel Set (Hands-Free Type) [PBSSH]**

\*Water bottle is not included

**Spare Valve [DMNV]**

**Simple Water Supply kit. [DME]**

For supplying water to Mistdia or Wetmond Core Bit.

### Wetmond Shank

| Item                      | Part No.   | For use with |
|---------------------------|------------|--------------|
| Wet S shank straight      | PCSKWDS    | φ25 – 45mm   |
| Wet S shank SDS-plus      | PCSKWDSR   |              |
| Wet S shank 300L straight | PCSKWDS30  |              |
| Wet S shank SDS-plus 300L | PCSKWDSR30 | φ50 – 220mm  |
| Wet L shank straight      | PCSKWDL    |              |
| Wet L shank SDS-plus      | PCSKWDLR   |              |
| Wet L shank 300L straight | PCSKWDL30  |              |
| Wet L shank SDS-plus 300L | PCSKWDLR30 |              |

\*Use only with Wetmond cutters and Wetmond center pin. Do not attach Wetmond shanks to other Poly-Clic cutters.

### Center pin

| Item                              | Part No. | For use with |
|-----------------------------------|----------|--------------|
| Center pin                        | PCWDCP   | φ25 – 220mm  |
| Center pin 250 for long type 220L | PCWDCP25 | φ50 – 80mm   |

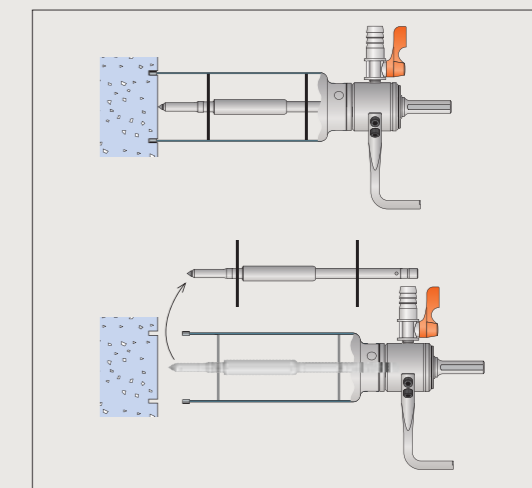
### Recommended Rotation Speed / Wattage

Poly-Clic Wetmond Core Bit

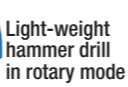
| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| φ25 – 38             | 4900 – 800                          | 500W and above        |
| φ45 – 65             | 2700 – 700                          | 500W and above        |
| φ70 – 120            | 1800 – 700                          | 700W and above        |
| φ130 – 220           | 1100 – 500                          | 700W and above        |

### How to use a center pin

Make sure to detach a center pin after positioning.



Center pin is used only for positioning.  
Detach a center pin after drilling into work material 2 to 3mm.



### Best for

- FRP
- Acrylic board

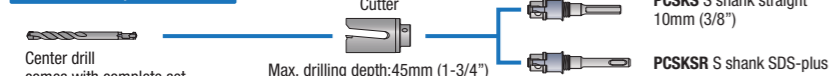
### Also can be used in

- Artificial marble
- Wood, Plywood
- PVC pipe
- Composite material

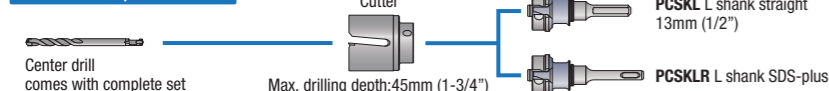
High efficient drilling in work materials including in glass fiber.



### Cutter dia. $\phi$ 17-48



### Cutter dia. $\phi$ 50-127



## Features

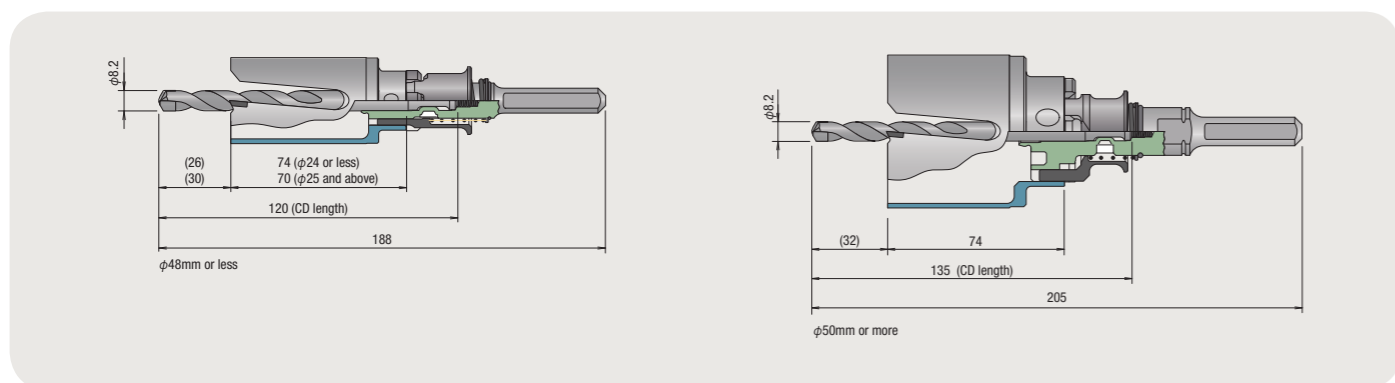
- Sharp cutting teeth can drill into the work materials including in glass fiber.
- Deep chip pockets increase heat dissipation.
- Cut core can be removed easily by deep chip pockets.

## For use in

- FRP, Acrylic resin fiber, Vinyl chloride pipe, and Composite material

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



## Size table (The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 45mm (1-3/4")

| Cutter dia. |          | Straight Shank Set |  | Cutter    |  |
|-------------|----------|--------------------|--|-----------|--|
| mm          | inch     |                    |  |           |  |
| 17          | 21/32"   | PCFRP017           |  | PCFRP017C |  |
| 18          | 45/64"   | PCFRP018           |  | PCFRP018C |  |
| 19          | 3/4"     | PCFRP019           |  | PCFRP019C |  |
| 20          | 25/32"   | PCFRP020           |  | PCFRP020C |  |
| 21          | 13/16"   | PCFRP021           |  | PCFRP021C |  |
| 22          | 7/8"     | PCFRP022           |  | PCFRP022C |  |
| 23          | 29/32"   | PCFRP023           |  | PCFRP023C |  |
| 24          | 15/16"   | PCFRP024           |  | PCFRP024C |  |
| 25          | 1"       | PCFRP025           |  | PCFRP025C |  |
| 26          | 1-1/64"  | PCFRP026           |  | PCFRP026C |  |
| 27          | 1-1/16"  | PCFRP027           |  | PCFRP027C |  |
| 28          | 1-3/32"  | PCFRP028           |  | PCFRP028C |  |
| 29          | 1-1/8"   | PCFRP029           |  | PCFRP029C |  |
| 30          | 1-3/16"  | PCFRP030           |  | PCFRP030C |  |
| 32          | 1-1/4"   | PCFRP032           |  | PCFRP032C |  |
| 33          | 1-9/32"  | PCFRP033           |  | PCFRP033C |  |
| 35          | 1-3/8"   | PCFRP035           |  | PCFRP035C |  |
| 36          | 1-13/32" | PCFRP036           |  | PCFRP036C |  |
| 38          | 1-1/2"   | PCFRP038           |  | PCFRP038C |  |
| 40          | 1-9/16"  | PCFRP040           |  | PCFRP040C |  |
| 42          | 1-5/8"   | PCFRP042           |  | PCFRP042C |  |
| 45          | 1-3/4"   | PCFRP045           |  | PCFRP045C |  |
| 48          | 1-7/8"   | PCFRP048           |  | PCFRP048C |  |
| 50          | 2"       | PCFRP050           |  | PCFRP050C |  |
| 51          | 2-1/64"  | PCFRP051           |  | PCFRP051C |  |
| 52          | 2-3/64"  | PCFRP052           |  | PCFRP052C |  |
| 55          | 2-1/8"   | PCFRP055           |  | PCFRP055C |  |
| 60          | 2-3/8"   | PCFRP060           |  | PCFRP060C |  |
| 65          | 2-9/16"  | PCFRP065           |  | PCFRP065C |  |
| 70          | 2-3/4"   | PCFRP070           |  | PCFRP070C |  |
| 75          | 2-7/8"   | PCFRP075           |  | PCFRP075C |  |
| 80          | 3-1/8"   | PCFRP080           |  | PCFRP080C |  |
| 90          | 3-1/2"   | PCFRP090           |  | PCFRP090C |  |
| 95          | 3-3/4"   | PCFRP095           |  | PCFRP095C |  |
| 100         | 3-7/8"   | PCFRP100           |  | PCFRP100C |  |
| 110         | 4-1/4"   | PCFRP110           |  | PCFRP110C |  |
| 115         | 4-1/2"   | PCFRP115           |  | PCFRP115C |  |
| 120         | 4-3/4"   | PCFRP120           |  | PCFRP120C |  |
| 127         | 5"       | PCFRP127           |  | PCFRP127C |  |

\*SDS-plus shank set is not available. Purchase cutter, SDS-plus shank, and center drill separately.

\*Guide plate does not include.

## Poly-Clie Shank

| Item                  | Part No.  | For use with                                                |
|-----------------------|-----------|-------------------------------------------------------------|
| S shank straight      | PCSKS     | $\phi$ 17 – 48mm                                            |
| S shank SDS-plus      | PCSKSR    |                                                             |
| S shank 200L straight | PCSKS200  | $\phi$ 29 – 48mm                                            |
| S shank SDS-plus 200L | PCSKSR200 |                                                             |
| L shank straight      | PCSKL     | $\phi$ 50 – 127mm                                           |
| L shank SDS-plus      | PCSKLR    |                                                             |
| L shank (10mm)        | PCSKLT    | $\phi$ 50 – 80mm                                            |
| L shank 200L straight | PCSKL200  |                                                             |
| L shank SDS-plus 200L | PCSKLR200 | $\phi$ 50 – 127mm                                           |
| L shank 200L (10mm)   | PCSKLT200 |                                                             |
| X shank SDS-max       | PCSKXMXK  | $\phi$ 50mm and above<br>(Over $\phi$ 120mm is recommended) |
| X shank SDS-plus      | PCSKXR    |                                                             |

## Center drill

| Item                                             | Part No.  | For use with      |
|--------------------------------------------------|-----------|-------------------|
| Center drill S                                   | PCFRPCDS  | $\phi$ 17 – 48mm  |
| Center drill L                                   | PCFRPCDL  | $\phi$ 50 – 127mm |
| Carbide tipped acute Center drill (length 120mm) | PCBHCD120 |                   |



Carbide tipped acute center drill



Tip of Carbide tipped acute center drill



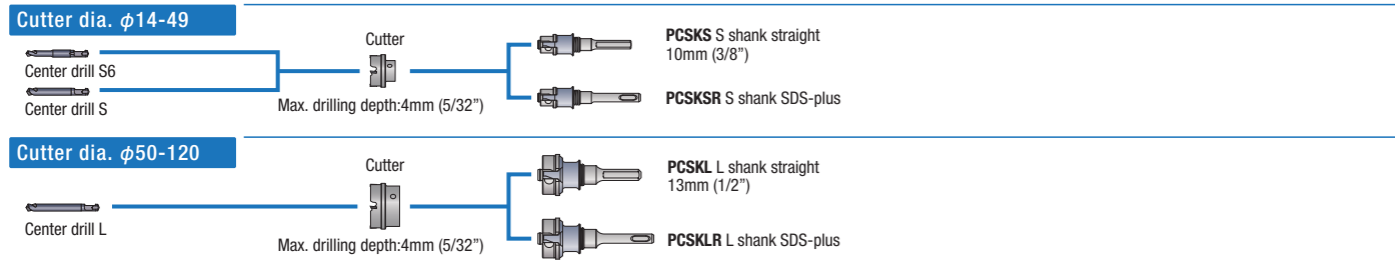
**Best for**

- Sheet metal (up to 4mm in thickness)
- Stainless steel plate

**Also can be used in**

- Aluminium
- Spiral duct
- Plastic
- Resin material
- Catch basin

**Dramatically improved drilling efficiency and cost effectiveness thanks to the Poly-Clic system.**



**Features**

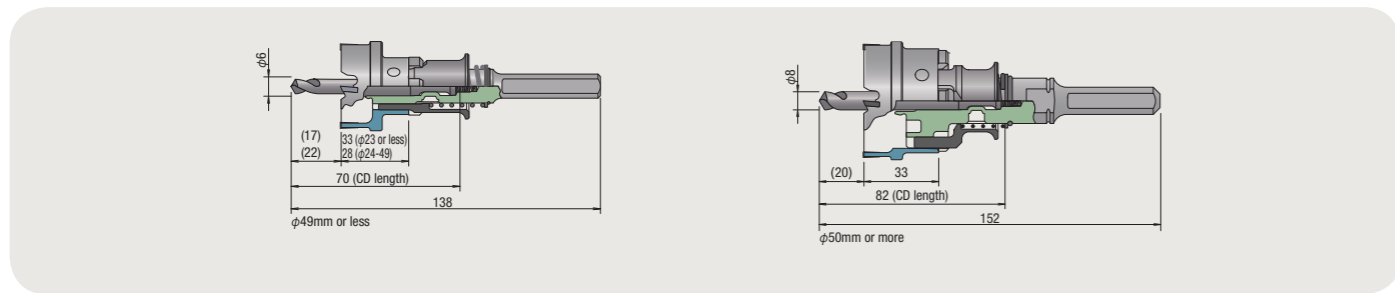
- Carbide-tipped holesaw can drill in stainless steel.
- Easily to drill in work materials up to 4mm in thickness.
- Drills faster than HSS cutters.
- Safety stopper prevents a cutter from drilling through after penetration.

**For use in**

- Steel, Stainless steel, Aluminium, FRP, and Resin

**For use with**

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



**TIPS**

After drilling a center drill hole only without attaching a holecutter, attach a holecutter and drill a hole. The damage to the cutting teeth can be prevented when the center drill penetrates.

**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 4mm (5/32")

| Cutter dia. |          | Cutter    | Cutter dia. |          | Cutter    |
|-------------|----------|-----------|-------------|----------|-----------|
| mm          | inch     |           | mm          | inch     |           |
| 14          | 35/64"   | PC378014C | 42          | 1-5/8"   | PC378042C |
| 15          | 19/32"   | PC378015C | 43          | 1-11/16" | PC378043C |
| 16          | 5/8"     | PC378016C | 44          | 1-23/32" | PC378044C |
| 17          | 21/32"   | PC378017C | 45          | 1-3/4"   | PC378045C |
| 18          | 45/64"   | PC378018C | 48          | 1-7/8"   | PC378048C |
| 19          | 3/4"     | PC378019C | 49          | 1-59/64" | PC378049C |
| 20          | 25/32"   | PC378020C | 50          | 2"       | PC378050C |
| 21          | 13/16"   | PC378021C | 51          | 2-1/64"  | PC378051C |
| 22          | 7/8"     | PC378022C | 52          | 2-3/64"  | PC378052C |
| 23          | 29/32"   | PC378023C | 53          | 2-1/16"  | PC378053C |
| 24          | 15/16"   | PC378024C | 55          | 2-1/8"   | PC378055C |
| 25          | 1"       | PC378025C | 56          | 2-11/64" | PC378056C |
| 26          | 1-1/64"  | PC378026C | 57          | 2-15/64" | PC378057C |
| 27          | 1-1/16"  | PC378027C | 58          | 2-1/4"   | PC378058C |
| 28          | 1-3/32"  | PC378028C | 60          | 2-3/8"   | PC378060C |
| 29          | 1-1/8"   | PC378029C | 61          | 2-25/64" | PC378061C |
| 30          | 1-3/16"  | PC378030C | 65          | 2-9/16"  | PC378065C |
| 31          | 1-7/32"  | PC378031C | 70          | 2-3/4"   | PC378070C |
| 32          | 1-1/4"   | PC378032C | 75          | 2-7/8"   | PC378075C |
| 33          | 1-9/32"  | PC378033C | 80          | 3-1/8"   | PC378080C |
| 34          | 1-5/16"  | PC378034C | 85          | 3-3/8"   | PC378085C |
| 35          | 1-3/8"   | PC378035C | 90          | 3-1/2"   | PC378090C |
| 36          | 1-13/32" | PC378036C | 95          | 3-3/4"   | PC378095C |
| 37          | 1-7/16"  | PC378037C | 100         | 3-7/8"   | PC378100C |
| 38          | 1-1/2"   | PC378038C | 110         | 4-1/4"   | PC378110C |
| 39          | 1-17/32" | PC378039C | 115         | 4-1/2"   | PC378115C |
| 40          | 1-9/16"  | PC378040C | 120         | 4-3/4"   | PC378120C |

\*Complete set is not available. Purchase cutter, shank, and center drill separately.

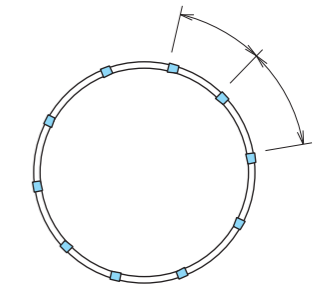
\*One-piece type→Please refer to P-110 Holesaw 278.

**Poly-Clic Shank**

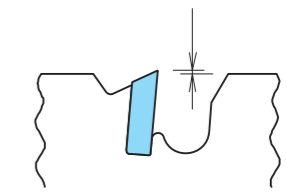
| Item             | Part No. | For use with      |
|------------------|----------|-------------------|
| S shank straight | PCSKS    | $\phi$ 14 – 49mm  |
| S shank SDS-plus | PCSKSR   |                   |
| L shank straight | PCSKL    | $\phi$ 50 – 120mm |
| L shank SDS-plus | PCSKLR   |                   |
| L shank (10mm)   | PCSKLT   |                   |

**Center drill**

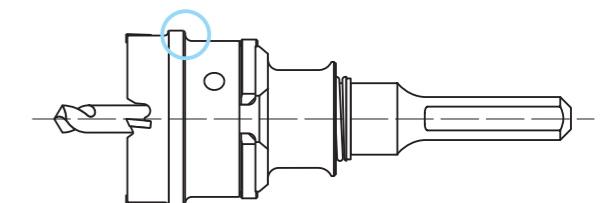
| Item            | Part No.  | Drill dia. | For use with      |
|-----------------|-----------|------------|-------------------|
| Center drill S6 | PC378CDS6 | $\phi$ 6   | $\phi$ 14 – 49mm  |
| Center drill S  | PC378CDS  | $\phi$ 8   |                   |
| Center drill L  | PC378CDL  | $\phi$ 8   | $\phi$ 50 – 120mm |



Random spaced carbide tips



Safe drilling



Safety stopper



Portable electric drill in rotary mode  
Light-weight hammer drill in rotary mode

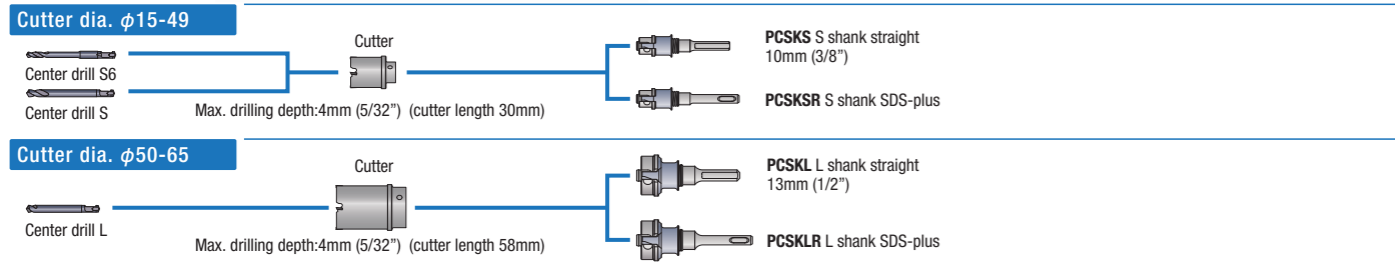
**Best for**

- Sheet metal (up to 4mm in thickness)
- Stainless steel plate

**Also can be used in**

- PVC pipe
- Metal siding
- Aluminium
- Spiral duct
- Plastic
- Resin material

Longer body for drilling into curved surfaces such as pipes.



**Features**

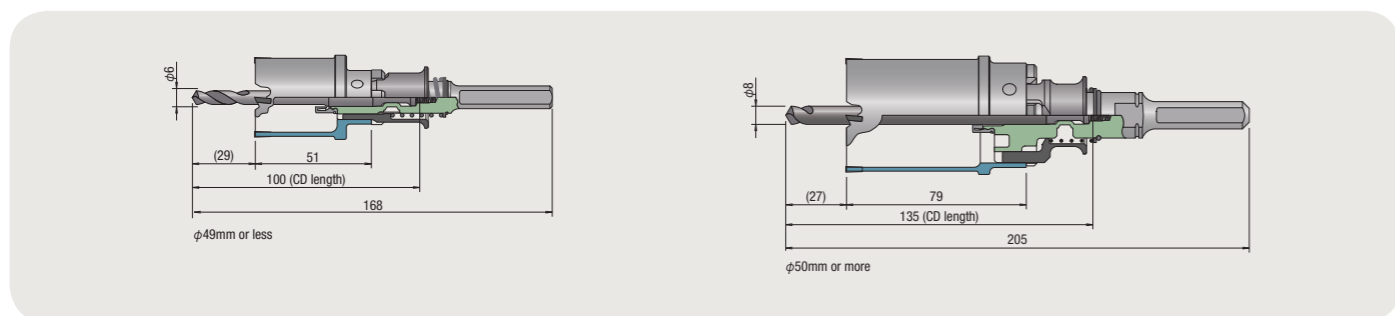
- Long body length suitable for drilling pipe and curved surfaces.
- Carbide-tipped holesaw drills in work materials up to 4mm in thickness.

**For use in**

- Steel up to 4mm in thickness
- PVC Pipe and Metal siding

**For use with**

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



**TIPS**

After drilling a center drill hole only without attaching a holecutter, attach a holecutter and drill a hole. The damage to the cutting teeth can be prevented when the center drill penetrates.

**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 4mm (5/32")

| Cutter dia. |          | Cutter     | Cutter length (mm) |
|-------------|----------|------------|--------------------|
| mm          | inch     |            |                    |
| 15          | 19/32"   | PC378P015C | 30                 |
| 16          | 5/8"     | PC378P016C |                    |
| 17          | 21/32"   | PC378P017C |                    |
| 18          | 45/64"   | PC378P018C |                    |
| 19          | 3/4"     | PC378P019C |                    |
| 20          | 25/32"   | PC378P020C |                    |
| 21          | 13/16"   | PC378P021C |                    |
| 22          | 7/8"     | PC378P022C |                    |
| 23          | 29/32"   | PC378P023C |                    |
| 24          | 15/16"   | PC378P024C |                    |
| 25          | 1"       | PC378P025C |                    |
| 26          | 1-1/64"  | PC378P026C |                    |
| 27          | 1-1/16"  | PC378P027C |                    |
| 28          | 1-3/32"  | PC378P028C |                    |
| 29          | 1-1/8"   | PC378P029C |                    |
| 30          | 1-3/16"  | PC378P030C |                    |
| 31          | 1-7/32"  | PC378P031C |                    |
| 32          | 1-1/4"   | PC378P032C |                    |
| 33          | 1-9/32"  | PC378P033C |                    |
| 34          | 1-5/16"  | PC378P034C |                    |
| 35          | 1-3/8"   | PC378P035C |                    |
| 36          | 1-13/32" | PC378P036C |                    |
| 38          | 1-1/2"   | PC378P038C |                    |
| 40          | 1-9/16"  | PC378P040C |                    |
| 41          | 1-39/64" | PC378P041C |                    |
| 42          | 1-5/8"   | PC378P042C |                    |
| 43          | 1-11/16" | PC378P043C |                    |
| 44          | 1-23/32" | PC378P044C |                    |
| 45          | 1-3/4"   | PC378P045C |                    |
| 48          | 1-7/8"   | PC378P048C |                    |
| 49          | 1-59/64" | PC378P049C |                    |
| 50          | 2"       | PC378P050C | 58                 |
| 53          | 2-1/16"  | PC378P053C |                    |
| 55          | 2-1/8"   | PC378P055C |                    |
| 60          | 2-3/8"   | PC378P060C |                    |
| 65          | 2-9/16"  | PC378P065C |                    |

\*Complete set is not available. Purchase cutter, shank, and center drill separately.

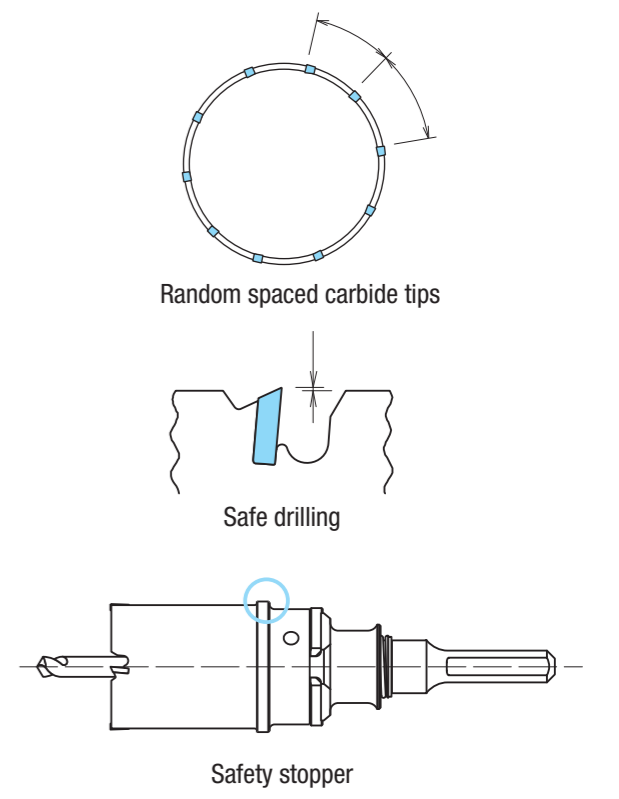
\*Cutter diameter 66mm and above→Please refer to P-112 Holesaw 278P.  
 \*One-piece type→Please refer to P-112 Holesaw 278P.

**Poly-Clie Shank**

| Item             | Part No. | For use with |
|------------------|----------|--------------|
| S shank straight | PCSKS    | φ15 – 49mm   |
| S shank SDS-plus | PCSKSR   |              |
| L shank straight | PCSKL    | φ50 – 65mm   |
| L shank SDS-plus | PCSKLR   |              |
| L shank (10mm)   | PCSKLT   | φ50 – 65mm   |

**Center drill**

| Item            | Part No.   | Drill dia. | For use with |
|-----------------|------------|------------|--------------|
| Center drill S6 | PC378PCDS6 | φ6         | φ15 – 49mm   |
| Center drill S  | PC378PCDS  | φ8         |              |
| Center drill L  | PC378PCDL  | φ8         | φ50 – 65mm   |





# Deep-Bore Holesaw



Portable electric drill in rotary mode



Light-weight hammer drill in rotary mode

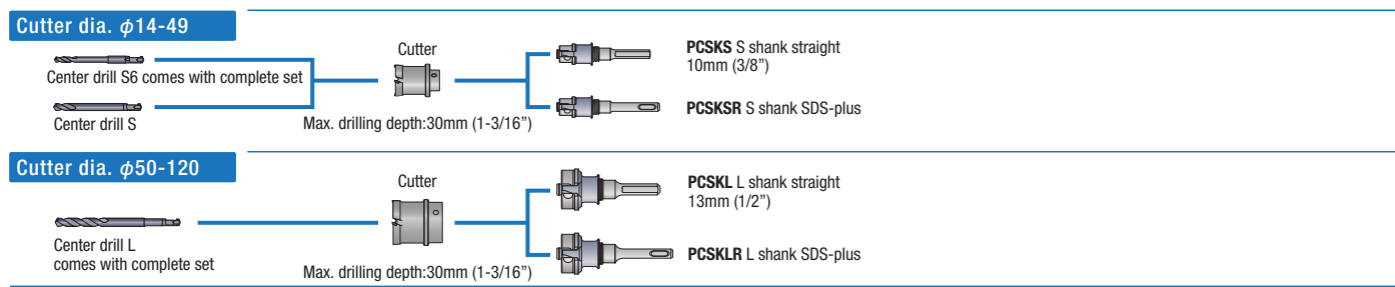
Best for

- Sheet metal
- Stainless steel plate

Also can be used in

- PVC pipe
- Metal siding
- FRP
- Composite material
- Aluminium
- Spiral duct

Specially designed cutting teeth for efficient removal of chips.



## Features

- Carbide tipped cutting teeth can drill in stainless steel.
- Long body length is suitable for drilling into curved surfaces such as metal pipe.
- Efficient chips removal by original designed cutting teeth.

## For use in

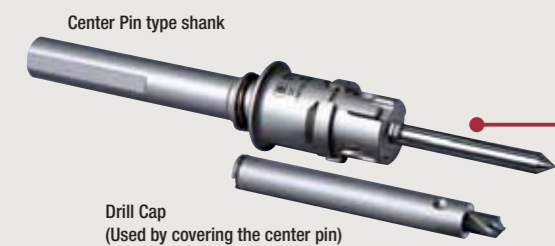
- Steel, Copper, Stainless steel, and Metal plate up to 12mm in thickness
- Metal pipe
- Composite material up to 30mm in thickness

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

## Precautions for use

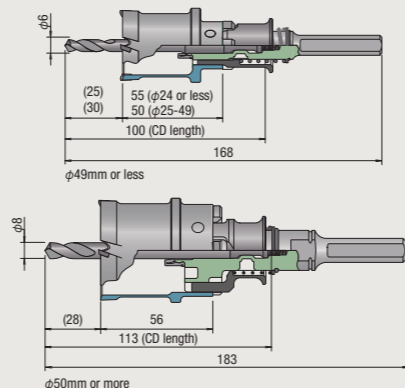
\*Using a drilling machine is recommended for drilling into metal 12mm or more in thickness and cutters 36mm or more in diameter.



For metal (4mm or more in thickness), Center Pin type shank allows smooth drilling without a pilot hole.

## TIPS

After drilling a center drill hole only without attaching a holecutter, attach a holecutter and drill a hole. The damage to the cutting teeth can be prevented when the center drill penetrates.



Size table (The actual sizes are in metric, and imperial sizes are approximate.) Max. drilling depth : 30mm (1-3/16")

| Cutter dia. |          | Straight Shank Set |  | Cutter  |
|-------------|----------|--------------------|--|---------|
| mm          | inch     |                    |  |         |
| 14          | 35/64"   | PCF014             |  | PCF014C |
| 15          | 19/32"   | PCF015             |  | PCF015C |
| 16          | 5/8"     | PCF016             |  | PCF016C |
| 17          | 21/32"   | PCF017             |  | PCF017C |
| 18          | 45/64"   | PCF018             |  | PCF018C |
| 19          | 3/4"     | PCF019             |  | PCF019C |
| 20          | 25/32"   | PCF020             |  | PCF020C |
| 21          | 13/16"   | PCF021             |  | PCF021C |
| 22          | 7/8"     | PCF022             |  | PCF022C |
| 23          | 29/32"   | PCF023             |  | PCF023C |
| 24          | 15/16"   | PCF024             |  | PCF024C |
| 25          | 1"       | PCF025             |  | PCF025C |
| 26          | 1-1/64"  | PCF026             |  | PCF026C |
| 27          | 1-1/16"  | PCF027             |  | PCF027C |
| 28          | 1-3/32"  | PCF028             |  | PCF028C |
| 29          | 1-1/8"   | PCF029             |  | PCF029C |
| 30          | 1-3/16"  | PCF030             |  | PCF030C |
| 31          | 1-7/32"  | PCF031             |  | PCF031C |
| 32          | 1-1/4"   | PCF032             |  | PCF032C |
| 33          | 1-9/32"  | PCF033             |  | PCF033C |
| 34          | 1-5/16"  | PCF034             |  | PCF034C |
| 35          | 1-3/8"   | PCF035             |  | PCF035C |
| 36          | 1-13/32" | PCF036             |  | PCF036C |
| 37          | 1-7/16"  | PCF037             |  | PCF037C |
| 38          | 1-1/2"   | PCF038             |  | PCF038C |
| 39          | 1-17/32" | PCF039             |  | PCF039C |
| 40          | 1-9/16"  | PCF040             |  | PCF040C |
| 41          | 1-39/64" | PCF041             |  | PCF041C |
| 42          | 1-5/8"   | PCF042             |  | PCF042C |
| 43          | 1-11/16" | PCF043             |  | PCF043C |
| 44          | 1-23/32" | PCF044             |  | PCF044C |
| 45          | 1-3/4"   | PCF045             |  | PCF045C |
| 46          | 1-51/64" | PCF046             |  | PCF046C |
| 47          | 1-13/16" | PCF047             |  | PCF047C |
| 48          | 1-7/8"   | PCF048             |  | PCF048C |
| 49          | 1-59/64" | PCF049             |  | PCF049C |
| 50          | 2"       | PCF050             |  | PCF050C |
| 51          | 2-1/64"  | *Note1             |  | PCF051C |
| 52          | 2-3/64"  | *Note1             |  | PCF052C |
| 53          | 2-1/16"  | *Note1             |  | PCF053C |
| 54          | 2-7/64"  | *Note1             |  | PCF054C |
| 55          | 2-1/8"   | PCF055             |  | PCF055C |
| 60          | 2-3/8"   | PCF060             |  | PCF060C |
| 61          | 2-25/64" | PCF061             |  | PCF061C |
| 62          | 2-7/16"  | PCF062             |  | PCF062C |
| 63          | 2-15/32" | *Note1             |  | PCF063C |
| 65          | 2-9/16"  | PCF065             |  | PCF065C |

| Cutter dia. |         | Straight Shank Set |  | Cutter  |
|-------------|---------|--------------------|--|---------|
| mm          | inch    |                    |  |         |
| 70          | 2-3/4"  | PCF070             |  | PCF070C |
| 75          | 2-7/8"  | PCF075             |  | PCF075C |
| 76          | 3"      | *Note1             |  | PCF076C |
| 77          | 3-1/32" | PCF077             |  | PCF077C |
| 78          | 3-1/16" | *Note1             |  | PCF078C |
| 80          | 3-1/8"  | PCF080             |  | PCF080C |
| 85          | 3-3/8"  | PCF085             |  | PCF085C |
| 90          | 3-1/2"  | PCF090             |  | PCF090C |
| 95          | 3-3/4"  | PCF095             |  | PCF095C |
| 100         | 3-7/8"  | PCF100             |  | PCF100C |
| 105         | 4-1/8"  | PCF105             |  | PCF105C |
| 110         | 4-1/4"  | PCF110             |  | PCF110C |
| 115         | 4-1/2"  | PCF115             |  | PCF115C |
| 120         | 4-3/4"  | PCF120             |  | PCF120C |

\*SDS-plus shank set is not available. Purchase cutter, SDS-plus shank, and center drill separately.

\*Note1: Complete set is not available. Purchase cutter, shank, and center drill separately.

## Poly-Clic Shank

| Item                    | Part No. | For use with                                    |
|-------------------------|----------|-------------------------------------------------|
| S shank straight        | PCSKS    | φ14 – 49mm                                      |
| S shank SDS-plus        | PCSKSR   |                                                 |
| L shank straight        | PCSKL    | φ50 – 120mm                                     |
| L shank SDS-plus        | PCSKLR   |                                                 |
| L shank (10mm)          | PCSKLT   | φ50 – 80mm                                      |
| Center Pin type S shank | PCSKSCP  | φ14 – 49mm                                      |
| Center Pin type L shank | PCSKLCP  | φ50 – 120mm                                     |
| Drill Cap               | PCSKDC   | for Center Pin type shank                       |
| X shank SDS-max         | PCSKXMXK | φ50mm and above<br>(Over φ120mm is recommended) |
| X shank SDS-plus        | PCSKXR   | φ50mm and above                                 |

## Center drill

| Item            | Part No. | Drill dia. | For use with |
|-----------------|----------|------------|--------------|
| Center drill S6 | PCFCDS6  | φ6         | φ14 – 49mm   |
| Center drill S  | PCFCDS   | φ8         |              |
| Center drill L  | PCFCDL   | φ8         | φ50 – 120mm  |

## Center drill (Option)

| Item            | Part No. | For use with              |
|-----------------|----------|---------------------------|
| Center drill SH | PCFCDSH  | φ14 – 49mm (S shank)      |
| Center drill    | PCHCDS   | φ50mm and above (L shank) |

\*Use optional center drills for resin, plywood, or other work materials. (12mm and above in thickness)

\*SDS-plus shank set is not available. Purchase cutter, SDS-plus shank, and center drill separately.

\*Note1: Complete set is not available. Purchase cutter, shank, and center drill separately.



# Carbide STEPDRILL



Portable electric drill in rotary mode



Light-weight hammer drill in rotary mode

Best for

Sheet metal  
(up to 3.5mm in thickness)

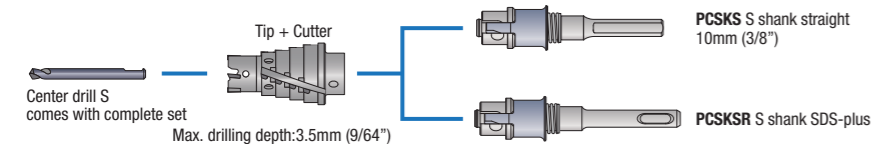
Also can be used in

Stainless steel plate  
(up to 3.5mm in thickness)

One cutter can drill five sizes of holes.



Cutter dia.  $\phi$ 16-25



## Features

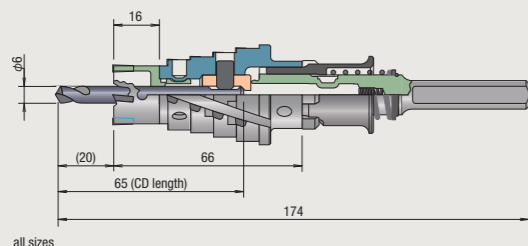
- Easy drilling in stainless steel up to 3.5mm in thickness.
- Holes of 5 different diameters can be drilled with one tool.
- The tip and cutter can be easily replaced.

## For use in

- Metal plate up to 3.5mm in thickness

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



## Poly-Clic Shank

| Item             | Part No. | For use with         |
|------------------|----------|----------------------|
| S shank straight | PCSKS    | No.1<br>No.2<br>No.3 |
| S shank SDS-plus | PCSKSR   | No.4                 |

## Center drill

| Item           | Part No. | For use with                 |
|----------------|----------|------------------------------|
| Center drill S | PCSCDS   | No.1<br>No.2<br>No.3<br>No.4 |

## Size table Complete set

The actual sizes are in metric, and imperial sizes are approximate. Max. drilling depth : 3.5mm (9/64")

| Item | Cutter dia. |         | Straight shank Set | SDS-plus shank Set |
|------|-------------|---------|--------------------|--------------------|
|      | mm          | inch    |                    |                    |
| No.1 | 21          | 13/16"  | PCS1               | PCS1R              |
|      | 25          | 1"      |                    |                    |
|      | 27          | 1-1/16" |                    |                    |
|      | 30          | 1-3/16" |                    |                    |
|      | 33          | 1-9/32" |                    |                    |
| No.2 | 16          | 5/8"    | PCS2               | PCS2R              |
|      | 18          | 45/64"  |                    |                    |
|      | 22          | 7/8"    |                    |                    |
|      | 25          | 1"      |                    |                    |
|      | 28          | 1-3/32" |                    |                    |
| No.3 | 22          | 7/8"    | PCS3               | PCS3R              |
|      | 25          | 1"      |                    |                    |
|      | 28          | 1-3/32" |                    |                    |
|      | 30          | 1-3/16" |                    |                    |
|      | 34          | 1-5/16" |                    |                    |
| No.4 | 25          | 1"      | PCS4               | PCS4R              |
|      | 28          | 1-3/32" |                    |                    |
|      | 32          | 1-1/4"  |                    |                    |
|      | 35          | 1-3/8"  |                    |                    |
|      | 38          | 1-1/2"  |                    |                    |

## Tip

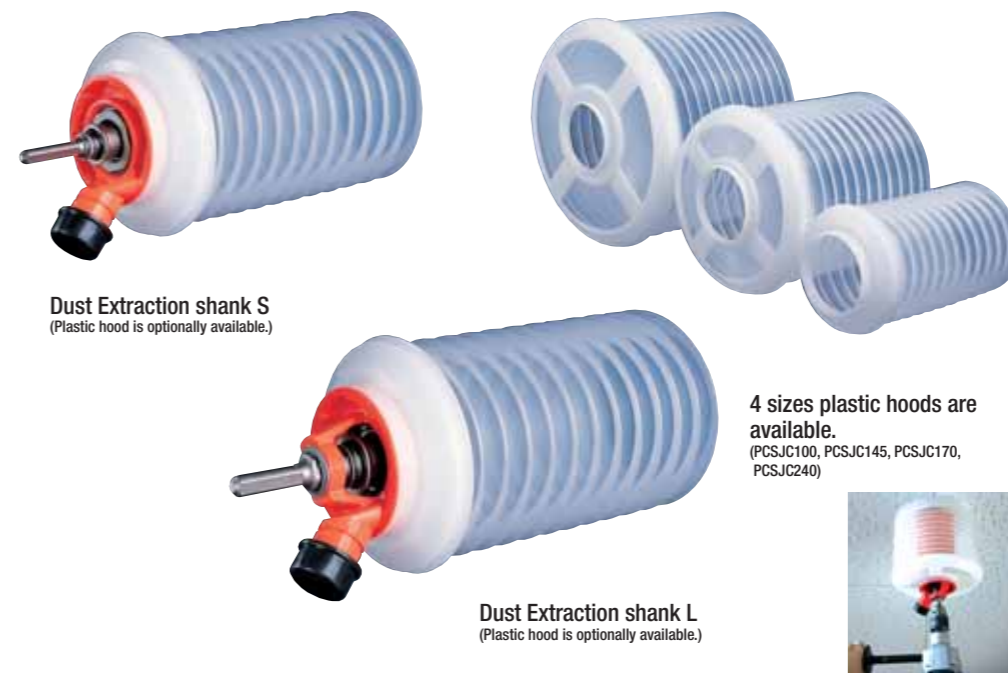
| Item | Cutter dia. |        | Part No. |
|------|-------------|--------|----------|
|      | mm          | inch   |          |
| No.1 | 21          | 13/16" | PCSB21   |
| No.2 | 16          | 5/8"   | PCSB16   |
| No.3 | 22          | 7/8"   | PCSB22   |
| No.4 | 25          | 1"     | PCSB25   |

## Cutter

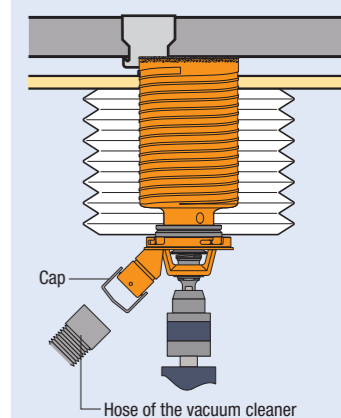
| Item | Cutter dia. |         | Part No. |
|------|-------------|---------|----------|
|      | mm          | inch    |          |
| No.1 | 25          | 1"      | PCS1C    |
|      | 27          | 1-1/16" |          |
|      | 30          | 1-3/16" |          |
|      | 33          | 1-9/32" |          |
|      | 18          | 45/64"  |          |
| No.2 | 22          | 7/8"    | PCS2C    |
|      | 25          | 1"      |          |
|      | 28          | 1-3/32" |          |
|      | 25          | 1"      |          |
|      | 28          | 1-3/32" |          |
| No.3 | 28          | 1-3/32" | PCS3C    |
|      | 30          | 1-3/16" |          |
|      | 34          | 1-5/16" |          |
|      | 28          | 1-3/32" |          |
|      | 32          | 1-1/4"  |          |
| No.4 | 35          | 1-3/8"  | PCS4C    |
|      | 38          | 1-1/2"  |          |



# Dust Extraction shank



Dust Extraction shank ensures comfortable drilling in the ceiling.



4 sizes plastic hoods are available.  
(PCSJC100, PCSJC145, PCSJC170, PCSJC240)

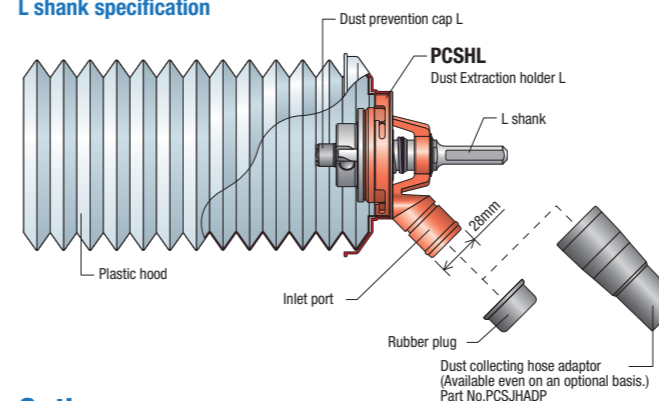
## Dust Extraction shank

| Item                              | Part No. | For use with                   | Specification                                                                 |
|-----------------------------------|----------|--------------------------------|-------------------------------------------------------------------------------|
| *Dust Extraction shank S Straight | PCSKSS   | $\phi$ 49mm (1-59/64") or less | 10mm Straight shank (comes with Dust collecting hose adaptor and rubber plug) |
| *Dust Extraction shank S SDS-plus | PCSKSSR  |                                | SDS-plus (comes with Dust collecting hose adaptor and rubber plug)            |
| Dust Extraction shank L Straight  | PCSKLS   | $\phi$ 50mm (2") or larger     | 13mm Straight shank (comes with Dust collecting hose adaptor and rubber plug) |
| Dust Extraction shank L SDS-plus  | PCSKLSR  |                                | SDS-plus (comes with Dust collecting hose adaptor and rubber plug)            |
| Plastic hood 100                  | PCSJC100 | Up to $\phi$ 80mm (3-1/8")     | Hood inner diameter 100mm (3-7/8")                                            |
| Plastic hood 145                  | PCSJC145 | Up to $\phi$ 125mm (4-15/16")  | Hood inner diameter 145mm (5-23/32")                                          |
| Plastic hood 170                  | PCSJC170 | Up to $\phi$ 150mm (5-7/8")    | Hood inner diameter 170mm (6-11/16")                                          |
| Plastic hood 240                  | PCSJC240 | Up to $\phi$ 220mm (8-5/8")    | Hood inner diameter 240mm (9-29/64")                                          |

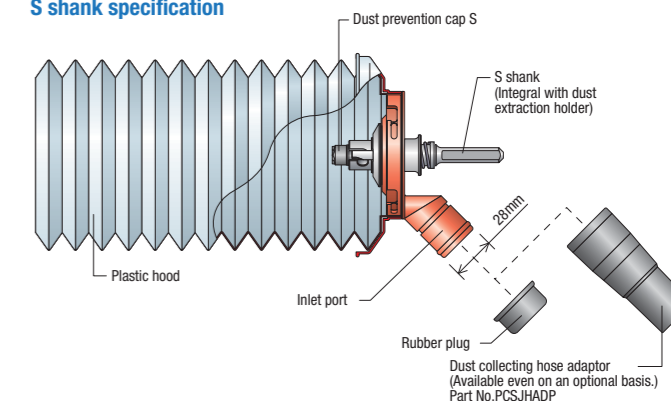
\*Dust Extraction shank S is integrated with Dust Extraction holder.

## <Structural drawing>

### L shank specification



### S shank specification



## Option

| Item                         | Part No. | Shank size                   | For use with  |
|------------------------------|----------|------------------------------|---------------|
| Dust Extraction holder L     | PCSHL    | $\phi$ 50mm (2") or larger   | L shank       |
| Dust collecting hose adaptor | PCSJHADP | Hose diameter $\phi$ 30-38mm | S and L shank |

\*Dust collecting hose adaptor comes standard with Dust Extraction shank

## Dust prevention caps

| Item                  | Part No. | For use with |
|-----------------------|----------|--------------|
| Dust prevention cap S | PCBCS    | S shank      |
| Dust prevention cap L | PCBCL    | L shank      |



# Dust Collecting Pad

Supports Clean and Efficient Work Environments.



## Features

- Excellent flexibility and adsorption allow attaching to wall and ceiling.
- Usable for both dry and wet drilling. (Use a wet type vacuum cleaner for wet drilling)
- Usable with other manufacturers' products.
- Plate 38 and Plate 38A can be used as a positioning guide as well.
- Promotes clean and comfortable work environments.

## Adsorption of the Dust Collecting Pad (Guideline)

| Vacuum cleaner used        | Portable vacuum cleaner |                             | Vacuum cleaner with 600W or more |                             | Vacuum cleaner with 1000W or more |      |
|----------------------------|-------------------------|-----------------------------|----------------------------------|-----------------------------|-----------------------------------|------|
|                            | Ceiling                 | Wall                        | Ceiling                          | Wall                        | Ceiling                           | Wall |
| Dust Collecting Pad 38     | ×                       | Flat wall ○<br>Brick wall × | ○                                | ○                           | ○                                 | ○    |
| Dust Collecting Pad 80・125 | ×                       | ×                           | ×                                | Flat wall ○<br>Brick wall × | ○                                 | ○    |
| Dust Collecting Pad V・L    | ×                       | ×                           | ×                                | ×                           | ○                                 | ○    |

## ⚠️ Precautions for use

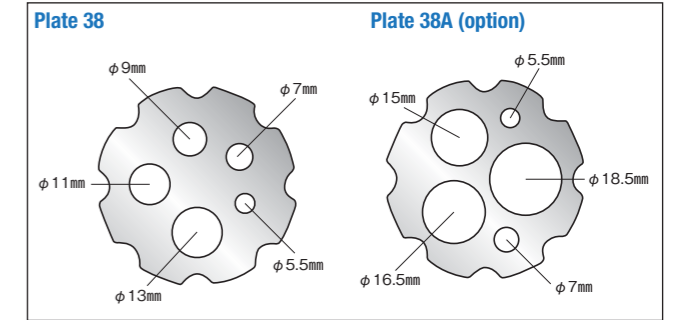
- Attachment to ceiling: Dust Collecting Pad may not be attached to the ceiling depending on the height of the ceiling, suction force of the vacuum cleaner, or condition of the ceiling surface.
- It is possible that dust cannot be removed from Dust Collecting Pad if it is used for drilling into walls with deep colored wallpaper or fabric wallpaper.
- Using an electric drill and a vacuum cleaner with the same power supply reduces the power of each of them.

## Size table

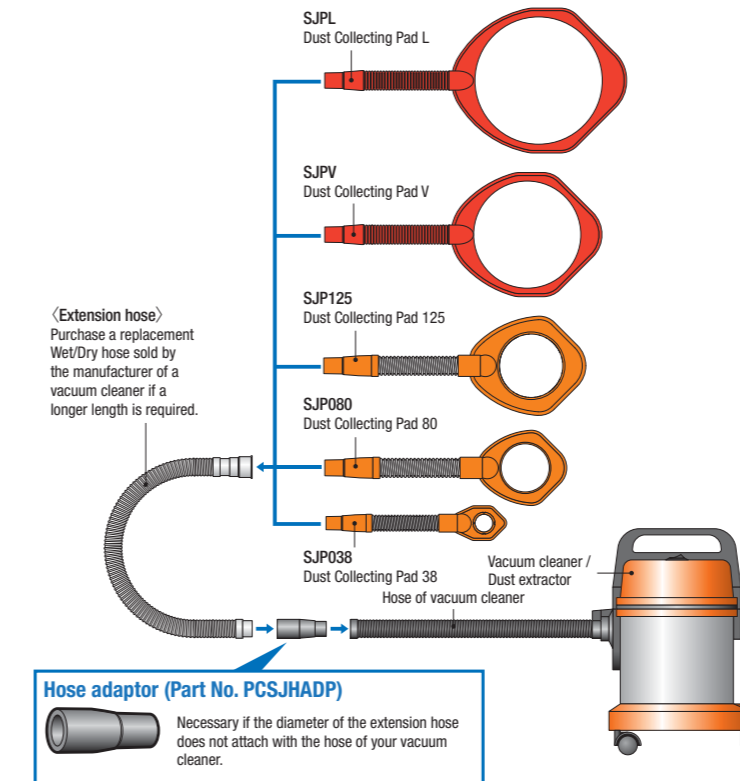
| Item                    | Part No. | Drill Diameter         | Note             |
|-------------------------|----------|------------------------|------------------|
| Dust Collecting Pad 38  | SJP038   | $\phi 38$ mm or below  | includes SJP038P |
| Dust Collecting Pad 80  | SJP080   | $\phi 80$ mm or below  | includes SJP080P |
| Dust Collecting Pad 125 | SJP125   | $\phi 125$ mm or below | includes SJP125P |
| Dust Collecting Pad V   | SJPV     | $\phi 165$ mm or below | includes SJPVA   |
| Dust Collecting Pad L   | SJPL     | $\phi 220$ mm or below | includes SJPLA   |

## Option

| Item                 | Part No. | Drill Diameter                                  |
|----------------------|----------|-------------------------------------------------|
| Plate 38 (Metallic)  | SJP038P  | $\phi 5.5, 7, 9, 11, 13$ mm                     |
| Plate 38A (Metallic) | SJP038PA | $\phi 5.5, 7, 15, 16.5, 18.5$ mm                |
| Plate 80 (Resin)     | SJP080P  | $\phi 80$ mm or below                           |
| Plate 125 (Resin)    | SJP125P  | $\phi 125$ mm or below                          |
| Plate V (Rubber)     | SJPVA    | $\phi 165$ mm or below                          |
| Plate L (Rubber)     | SJPLA    | $\phi 220$ mm or below                          |
| Hose adaptor         | PCSJHADP | Usable with hoses $\phi 30 - 38$ mm in diameter |



## How to connect





**50** Bi-Metal Holesaw



Dia. **14-85**mm

High Speed Steel (M42) is used.  
For drilling in sheet metal.

**51** Holesaw 578



Dia. **14-65**mm

Excellent cutting performance for  
steel plate and stainless steel plate.

**52** Holesaw 578P



Dia. **14-65**mm

Easy drilling into metal pipe.

**56** Hyperdia Holesaw



Dia. **22-65**mm

Diamond-tipped teeth can drill into  
various types of work materials.

**57** Tile Holesaw



Dia. **22-65**mm

Diamond-tipped teeth can drill into  
ceramic tile and rigid tile.

**58** Dust Collecting Cover



Suitable for drilling in ceiling.

**53** Wooding Holesaw



Dia. **22-65**mm

Safe and fast drilling through nails.

**54** Deep-Bore Holesaw



Dia. **14-65**mm

For deep boring. Specially designed  
cutting teeth make it easy to remove  
dust.

**55** DL Core Bit



Dia. **20-65**mm

Drill through 2x4 lumber with  
cordless impact driver.

# S-LOCK series

S-LOCK is simple, speedy and safe system. High-quality and low-price system for a wide range of customer's needs.

Individually replaceable cutter delivers reduction of running costs.

Usable with commercially-available bi-metal holesaws based on American National Standards.

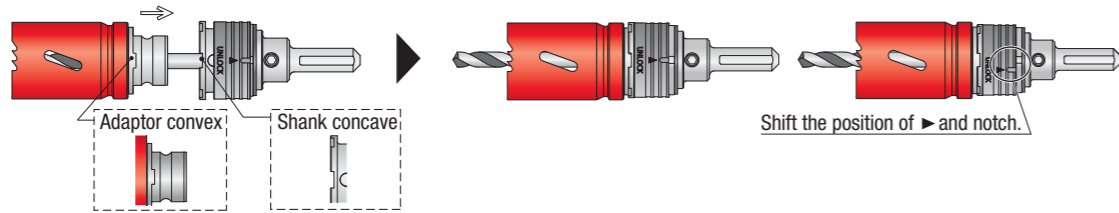
# 2

# S-LOCK series

## Feature 1 Automatic locking and manual release (cutter falling prevention function)

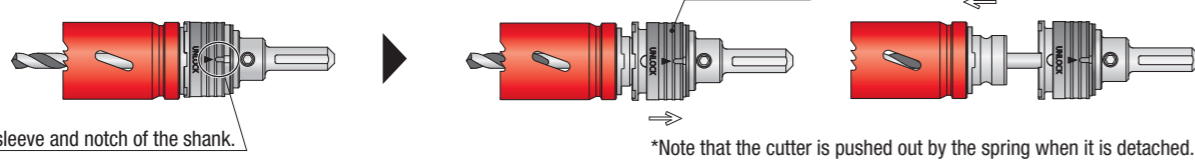
- Align the convex of adaptor and the concave of shank. Push the adaptor onto the shank.
- Turn the sleeve and lock the cutter.

### How to attach



- Turn the sleeve and align the ▶ of the sleeve and notch of the shank.
- Pull the sleeve toward the electric drill.

### How to detach

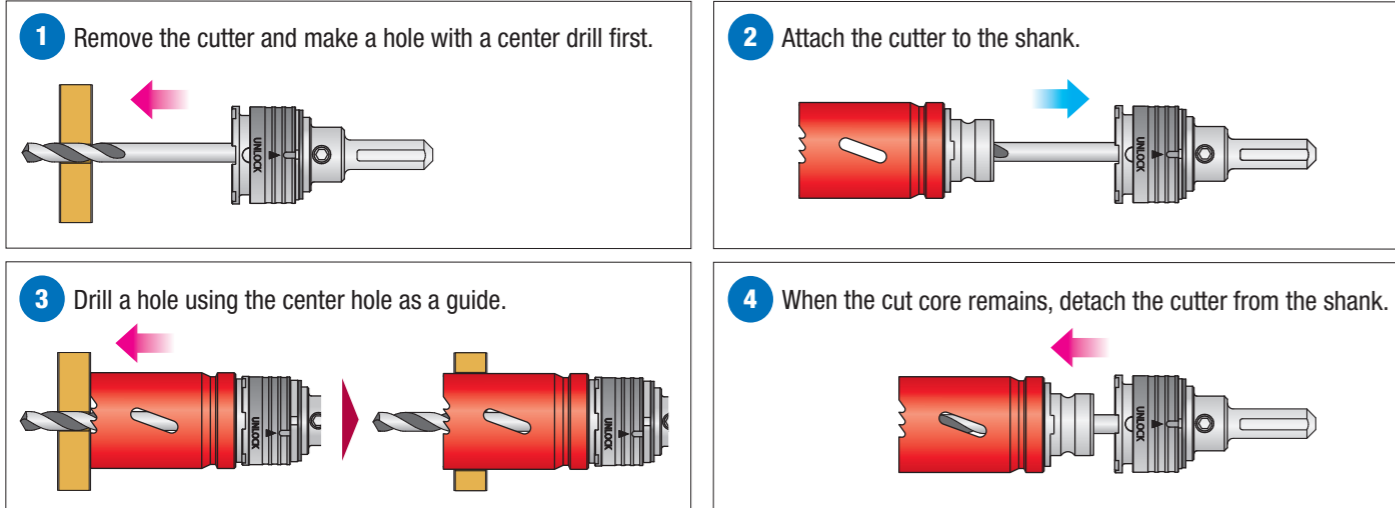


## Simple, Fast, and Safe

- High-quality and low-price system for a wide range of customer's needs.
- Automatic lock and manual release shank.
- Anti-drop mechanism for cutter.
- Individually replaceable cutter delivers reduction of running costs.

## Feature 2 One-touch shank protects cutting edge and increases durability

How to avoid contact between the cutter and work material when penetrating the center drill



### Plug ejector

Cut core can be removed easily with Plug ejector.

\*Plug ejector comes with S-LOCK shank.

## S-LOCK shank Combination List

\*Each shank comes with a high speed steel center drill

10mm straight shank <SLSK> (66mm length)

SDS-plus shank <SLSKR> (91mm length)

Hex shank for cordless impact drivers <SLSKJDE> (67mm length)

Can be used with cutter up to 35mm. (DL Core → up to 38mm)

Bi-metal Holesaw: High Speed Steel (M42) is used. For drilling in sheet metal up to 3.2mm in thickness.

HSS center drill for Holesaw 578 <SLCD80> (80mm length, φ6.35)

Holesaw 578: Excellent drilling performance for steel plate up to 4mm in thickness and stainless steel plate.

Carbide tipped center drill <SLCDT80> (80mm length, φ6.3)

Holesaw 578P: Suitable for drilling into metal pipe.

HSS center drill <SLCD> (105mm length, φ6.35) (for cutting holes in steel and stainless steel)

Wooding Holesaw: Best for wood and composite material.

Carbide tipped center drill <SLCDT> (105mm length, φ6.3) (for cutting holes in ceramic material)

Deep-Bore Holesaw: Drill in sheet metal up to 12mm in thickness.

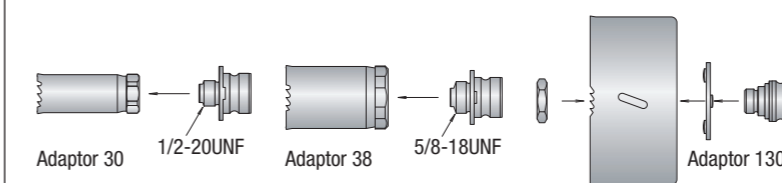
Center pin <SLCP> (85.5mm length, φ8.5)

DL Core Bit: Drill through 2x4 lumber with cordless impact driver.

Hyperdia Holesaw: Diamond-tipped teeth can drill into various types of work materials. **PBSSH Water Bottle Swivel Set**

Tile Holesaw: Diamond-tipped teeth can drill into ceramic tile. (WET type)

Use the adaptors below to connect conventional Bi-metal holesaw to S-LOCK shanks.



### Cutter Adaptor

| Item        | Part No. | For use with                     |
|-------------|----------|----------------------------------|
| Adaptor 30  | SLADP30  | Under φ30mm (1-3/16")            |
| Adaptor 38  | SLADP38  | φ31mm (1-7/32") - 37mm (1-7/16") |
| Adaptor 130 | SLADP130 | φ38mm (1-1/2") and above         |



Portable electric drill in rotary mode

Cordless impact driver (6.35mm Hex) (Up to φ35mm)

Light-weight hammer drill in rotary mode

Max. drilling depth: 4mm



Portable electric drill in rotary mode

Light-weight hammer drill in rotary mode

### Best for

Sheet metal

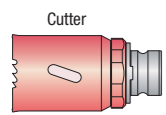
### Also can be used in

- PVC pipe
- Metal siding
- FRP
- Wood
- Plywood
- Spiral duct
- Catch basin
- Plaster board
- Resin material
- Plastic

High Speed Steel (M42) realizes excellent drilling performance and good durability.

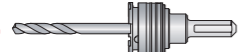


### Cutter dia. φ14-85

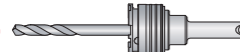


Cutter length: 34mm (φ14-35)  
31mm (φ38-85)

### Option



SLSK Straight shank 10mm (3/8")



SLSKR SDS-plus shank



SLSKJDE Shank for cordless impact driver (6.35mm Hex) (For cutter size of 35mm (1-3/8") or less)

\*Each shank comes with a HSS center drill (SLCD)

### Features

- Made with High Speed Steel (M42), which provides excellent cutting performance and durability.
- Capable of drilling into various types of materials.
- Easy to use with automatic lock and manual release mechanism.

### For use in

- Sheet metal up to 3.2mm in thickness
- Stainless steel plate up to 1mm in thickness
- Plastic and Vinyl chloride pipe

### For use with

- Portable electric drills in rotary mode only
- Cordless impact drivers (6.35mm Hex) (DIN3126, ISO1173 Style E6.3) up to φ35mm
- Light-weight hammer drills in rotary mode only

### S-LOCK Shank

| Item                                             | Part No. | Remark                       |
|--------------------------------------------------|----------|------------------------------|
| Straight shank                                   | SLSK     |                              |
| SDS-plus shank                                   | SLSKR    | Shank contains SLCD and SLPE |
| Shank (6.35mm Hex) (DIN3126, ISO1173 Style E6.3) | SLSKJDE  |                              |

Size table (The actual sizes are in metric, and imperial sizes are approximate.)

| Cutter dia. |         | Cutter  |
|-------------|---------|---------|
| mm          | inch    |         |
| 14          | 35/64"  | SLBI014 |
| 15          | 19/32"  | SLBI015 |
| 16          | 5/8"    | SLBI016 |
| 17          | 21/32"  | SLBI017 |
| 18          | 45/64"  | SLBI018 |
| 19          | 3/4"    | SLBI019 |
| 20          | 25/32"  | SLBI020 |
| 21          | 13/16"  | SLBI021 |
| 22          | 7/8"    | SLBI022 |
| 23          | 29/32"  | SLBI023 |
| 24          | 15/16"  | SLBI024 |
| 25          | 1"      | SLBI025 |
| 26          | 1-1/64" | SLBI026 |
| 27          | 1-1/16" | SLBI027 |
| 28          | 1-3/32" | SLBI028 |
| 29          | 1-1/8"  | SLBI029 |
| 30          | 1-3/16" | SLBI030 |
| 31          | 1-7/32" | SLBI031 |
| 32          | 1-1/4"  | SLBI032 |
| 33          | 1-9/32" | SLBI033 |
| 34          | 1-5/16" | SLBI034 |
| 35          | 1-3/8"  | SLBI035 |
| 38          | 1-1/2"  | SLBI038 |
| 40          | 1-9/16" | SLBI040 |
| 42          | 1-5/8"  | SLBI042 |
| 45          | 1-3/4"  | SLBI045 |
| 48          | 1-7/8"  | SLBI048 |
| 50          | 2"      | SLBI050 |
| 53          | 2-1/16" | SLBI053 |
| 55          | 2-1/8"  | SLBI055 |
| 60          | 2-3/8"  | SLBI060 |
| 65          | 2-9/16" | SLBI065 |
| 70          | 2-3/4"  | SLBI070 |
| 85          | 3-3/8"  | SLBI085 |

### Center drill

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Center drill | SLCD     | Standard accessory to the shank |

### Plug Ejector

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |

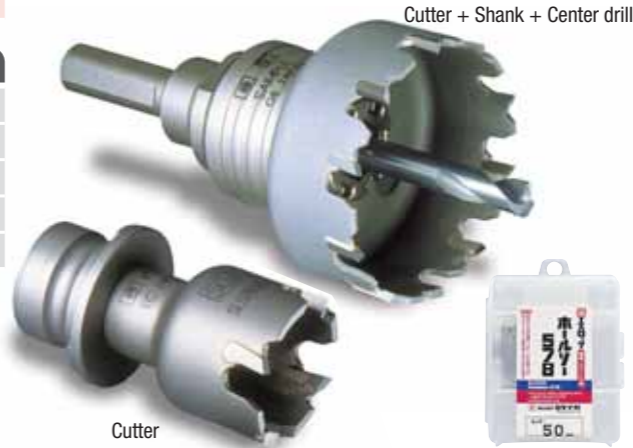
### Best for

Sheet metal  
Stainless steel plate

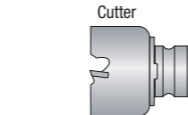
### Also can be used in

- Aluminium
- Spiral duct
- Catch basin
- Resin material
- Plastic

Carbide-tipped teeth permit drilling into metal and stainless steel.

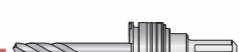


### Cutter dia. φ14-65



Max. drilling depth: 4mm (5/32")

### Option



SLSK578 Straight shank 10mm (3/8")



SLSKR578 SDS-plus shank

\*Each shank comes with a HSS center drill (SLCD80).

### Features

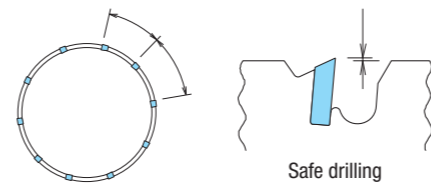
- Excellent drilling performance for steel plate and stainless steel plate. (up to 4mm in thickness)
- Easy to operate with the automatic locking and manual release mechanism.

### For use in

- Steel, Stainless steel plate up to 4mm in thickness

### For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



Random spaced carbide tips

Safe drilling

### S-LOCK Shank

| Item                          | Part No. | Remark                         |
|-------------------------------|----------|--------------------------------|
| Straight shank for 578 (10mm) | SLSK578  | Shank contains SLCD80 and SLPE |
| SDS-plus shank for 578        | SLSKR578 |                                |

Size table (The actual sizes are in metric, and imperial sizes are approximate.)

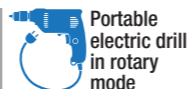
| Cutter dia. |         | Cutter   |
|-------------|---------|----------|
| mm          | inch    |          |
| 14          | 35/64"  | SL578014 |
| 15          | 19/32"  | SL578015 |
| 16          | 5/8"    | SL578016 |
| 18          | 45/64"  | SL578018 |
| 19          | 3/4"    | SL578019 |
| 20          | 25/32"  | SL578020 |
| 21          | 13/16"  | SL578021 |
| 22          | 7/8"    | SL578022 |
| 23          | 29/32"  | SL578023 |
| 24          | 15/16"  | SL578024 |
| 25          | 1"      | SL578025 |
| 26          | 1-1/64" | SL578026 |
| 27          | 1-1/16" | SL578027 |
| 28          | 1-3/32" | SL578028 |
| 29          | 1-1/8"  | SL578029 |
| 30          | 1-3/16" | SL578030 |
| 32          | 1-1/4"  | SL578032 |
| 33          | 1-9/32" | SL578033 |
| 34          | 1-5/16" | SL578034 |
| 35          | 1-3/8"  | SL578035 |
| 38          | 1-1/2"  | SL578038 |
| 40          | 1-9/16" | SL578040 |
| 42          | 1-5/8"  | SL578042 |
| 45          | 1-3/4"  | SL578045 |
| 50          | 2"      | SL578050 |
| 53          | 2-1/16" | SL578053 |
| 65          | 2-9/16" | SL578065 |

### Center drill

| Item            | Part No. | Remark                          |
|-----------------|----------|---------------------------------|
| Center drill 80 | SLCD80   | Standard accessory to the shank |

### Plug Ejector

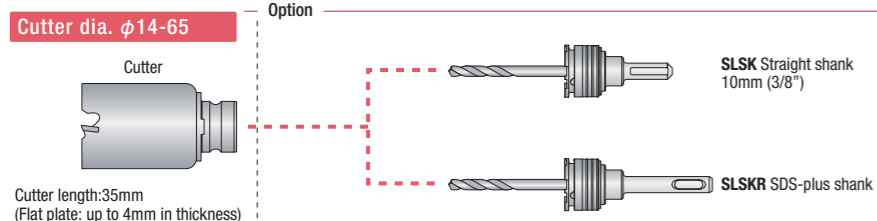
| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |



- Best for**
- Sheet metal
  - Stainless steel plate

- Also can be used in**
- Aluminium
  - Spiral duct
  - Catch basin
  - Resin material
  - Plastic

**Best for steel plate, stainless steel plate and metal pipe.**



\*Each shank comes with a HSS center drill (SLCD)

**Features**

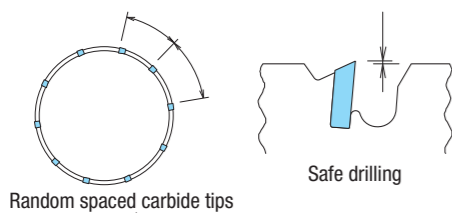
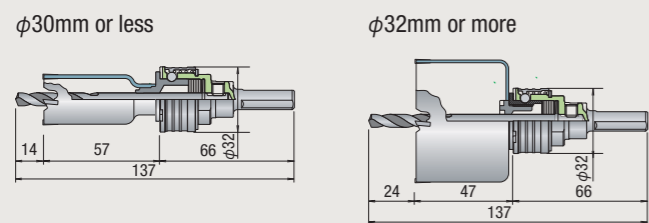
- Excellent cutting performance for work materials such as steel plate, stainless steel plate, and metal pipe.

**For use in**

- Steel plate up to 4mm in thickness

**For use with**

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 4mm (5/32")

| Cutter dia. mm | Cutter dia. inch | Cutter    |
|----------------|------------------|-----------|
| 14             | 35/64"           | SL578P014 |
| 15             | 19/32"           | SL578P015 |
| 16             | 5/8"             | SL578P016 |
| 18             | 45/64"           | SL578P018 |
| 19             | 3/4"             | SL578P019 |
| 20             | 25/32"           | SL578P020 |
| 21             | 13/16"           | SL578P021 |
| 22             | 7/8"             | SL578P022 |
| 23             | 29/32"           | SL578P023 |
| 24             | 15/16"           | SL578P024 |
| 25             | 1"               | SL578P025 |
| 26             | 1-1/64"          | SL578P026 |
| 27             | 1-1/16"          | SL578P027 |
| 28             | 1-3/32"          | SL578P028 |
| 29             | 1-1/8"           | SL578P029 |
| 30             | 1-3/16"          | SL578P030 |
| 32             | 1-1/4"           | SL578P032 |
| 33             | 1-9/32"          | SL578P033 |
| 34             | 1-5/16"          | SL578P034 |
| 35             | 1-3/8"           | SL578P035 |
| 38             | 1-1/2"           | SL578P038 |
| 40             | 1-9/16"          | SL578P040 |
| 42             | 1-5/8"           | SL578P042 |
| 45             | 1-3/4"           | SL578P045 |
| 50             | 2"               | SL578P050 |
| 53             | 2-1/16"          | SL578P053 |
| 65             | 2-9/16"          | SL578P065 |

**S-LOCK Shank**

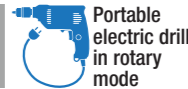
| Item                  | Part No. | Remark                       |
|-----------------------|----------|------------------------------|
| Straight shank (10mm) | SLSK     | Shank contains SLCD and SLPE |
| SDS-plus shank        | SLSKR    |                              |

**Center drill**

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Center drill | SLCD     | Standard accessory to the shank |

**Plug Ejector**

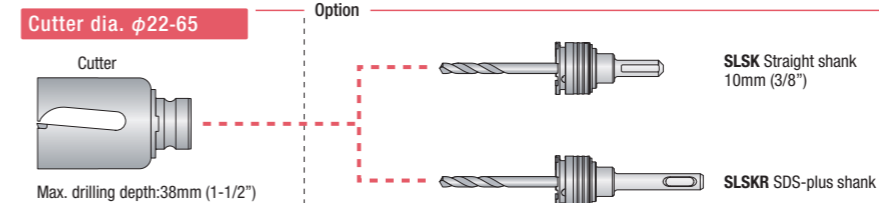
| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |



- Best for**
- Wood
  - Ceramic siding
  - Plywood

- Also can be used in**
- Floor material
  - Plastic
  - PVC pipe
  - Catch basin
  - FRP
  - Metal siding
  - Plaster board
  - Slate
  - Resin material

**Safe and fast drilling through nails embedded wood with unique cutting teeth and slit.**



\*Each shank comes with a HSS center drill (SLCD)

**Features**

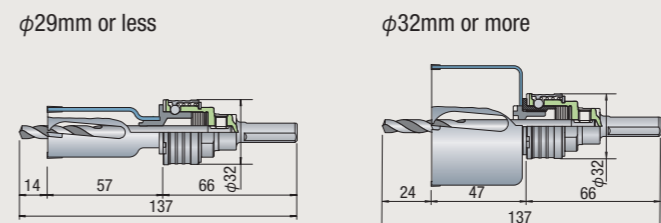
- Our original design of the cutting teeth permit safe cutting through nails.
- Smooth removal of dust.

**For use in**

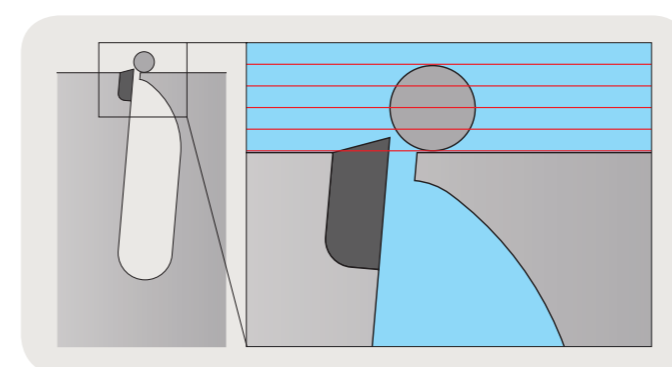
- Wood, Ceramic siding, Plywood, Floor material

**For use with**

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only



**Safely cut nails in wood**



**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 38mm (1-1/2")

| Cutter dia. mm | Cutter dia. inch | Cutter |
|----------------|------------------|--------|
| 22             | 7/8"             | SLW022 |
| 25             | 1"               | SLW025 |
| 29             | 1-1/8"           | SLW029 |
| 32             | 1-1/4"           | SLW032 |
| 35             | 1-3/8"           | SLW035 |
| 38             | 1-1/2"           | SLW038 |
| 40             | 1-9/16"          | SLW040 |
| 45             | 1-3/4"           | SLW045 |
| 50             | 2"               | SLW050 |
| 53             | 2-1/16"          | SLW053 |
| 60             | 2-3/8"           | SLW060 |
| 65             | 2-9/16"          | SLW065 |

**S-LOCK Shank**

| Item                  | Part No. | Remark                       |
|-----------------------|----------|------------------------------|
| Straight shank (10mm) | SLSK     | Shank contains SLCD and SLPE |
| SDS-plus shank        | SLSKR    |                              |

**Center drill**

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Center drill | SLCD     | Standard accessory to the shank |

**Plug Ejector**

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |



Portable electric drill in rotary mode



Light-weight hammer drill in rotary mode

|                       |
|-----------------------|
| Best for              |
| Sheet metal           |
| Stainless steel plate |

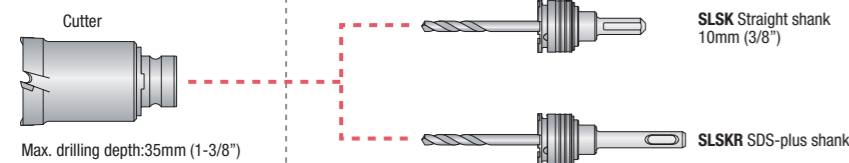
|                     |
|---------------------|
| Also can be used in |
| PVC pipe            |
| Metal siding        |
| FRP                 |
| Aluminium           |
| Spiral duct         |
| Plastic             |
| Plaster board       |
| Veneer / Plywood    |
| Composite material  |
| Resin material      |

Specially designed cutting teeth realize efficient removal of dust in deep boring.



Cutter dia.  $\phi$ 14-65

Option



\*Each shank comes with a HSS center drill (SLCD)

## Features

- Specially designed cutting teeth realize efficient removal of dust.

## For use in

- Sheet metal and stainless steel plate up to 12mm in thickness  
\*Using a drilling machine is recommended for drilling into metal 12mm or more in thickness and cutters 38mm or more in diameter.
- Composite material up to 35mm in thickness

## For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

## S-LOCK Shank

| Item                  | Part No. | Remark                       |
|-----------------------|----------|------------------------------|
| Straight shank (10mm) | SLSK     | Shank contains SLCD and SLPE |
| SDS-plus shank        | SLSKR    |                              |

Size table (The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 35mm (1-3/8")

| Cutter dia. | Cutter  |
|-------------|---------|
| mm          | inch    |
| 14          | 35/64"  |
| 15          | 19/32"  |
| 16          | 5/8"    |
| 18          | 45/64"  |
| 19          | 3/4"    |
| 20          | 25/32"  |
| 21          | 13/16"  |
| 22          | 7/8"    |
| 23          | 29/32"  |
| 24          | 15/16"  |
| 25          | 1"      |
| 26          | 1-1/64" |
| 27          | 1-1/16" |
| 28          | 1-3/32" |
| 29          | 1-1/8"  |
| 30          | 1-3/16" |
| 32          | 1-1/4"  |
| 33          | 1-9/32" |
| 34          | 1-5/16" |
| 35          | 1-3/8"  |
| 38          | 1-1/2"  |
| 40          | 1-9/16" |
| 42          | 1-5/8"  |
| 45          | 1-3/4"  |
| 50          | 2"      |
| 53          | 2-1/16" |
| 60          | 2-3/8"  |
| 65          | 2-9/16" |

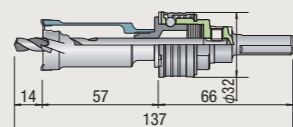
## Center drill

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Center drill | SLCD     | Standard accessory to the shank |

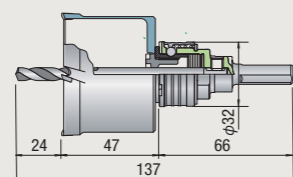
## Plug Ejector

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |

$\phi$ 38mm or less



$\phi$ 40mm or more



Portable electric drill in rotary mode



Cordless impact driver (6.35mm Hex) (Up to  $\phi$ 38mm)



Light-weight hammer drill in rotary mode

|          |
|----------|
| Best for |
| Wood     |
| Veneer   |
| Plywood  |

|                     |
|---------------------|
| Also can be used in |
| Artificial marble   |
| *Sheet metal        |
| *Galvanized metal   |
| Plastic             |
| PVC pipe            |
| FRP                 |
| Resin material      |
| Catch basin         |
| Plaster board       |

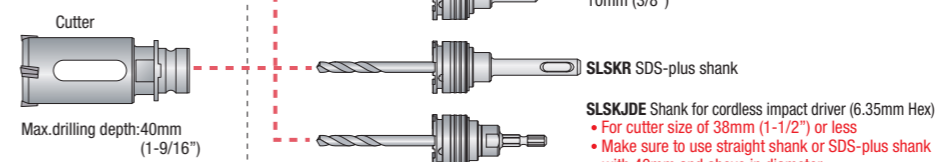
\*Up to 1.6mm in thickness. Use in rotary mode only.

Drill through 2x4 lumber in a single action with cordless impact driver !



Cutter dia.  $\phi$ 20-65

Option



\*Each shank comes with a HSS center drill (SLCD)

## Features

- Drills through 2x4 (Two-by-four) lumber in a single action with cordless impact drivers (Up to  $\phi$ 38mm).
- Unique 2-step teeth provide easy removal of dust.
- Drills into metal plate up to 1.6mm in thickness with a rotary drill or a cordless driver drill.  
\*Make sure to use in rotary mode for drilling into metal plate up to 1.6mm in thickness.

## For use in

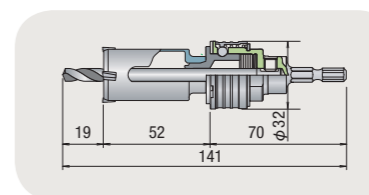
- Wood, Plywood, Resin material, Vinyl chloride pipe, FRP and Metal plate up to 1.6mm in thickness

## For use with

- Portable electric drills in rotary mode only
- Cordless impact drivers (6.35mm Hex) (DIN3126, ISO1173 Style E6.3) up to  $\phi$ 38mm
- Light-weight hammer drills in rotary mode only

## S-LOCK Shank

| Item                                             | Part No. | Remark                       |
|--------------------------------------------------|----------|------------------------------|
| Straight shank                                   | SLSK     | Shank contains SLCD and SLPE |
| SDS-plus shank                                   | SLSKR    |                              |
| Shank (6.35mm Hex) (DIN3126, ISO1173 Style E6.3) | SLSKJDE  |                              |



Size table (The actual sizes are in metric, and imperial sizes are approximate.)

| Cutter dia. | Cutter  |
|-------------|---------|
| mm          | inch    |
| 20          | 25/32"  |
| 21          | 13/16"  |
| 22          | 7/8"    |
| 25          | 1"      |
| 27          | 1-1/16" |
| 28          | 1-3/32" |
| 30          | 1-3/16" |
| 32          | 1-1/4"  |
| 33          | 1-9/32" |
| 35          | 1-3/8"  |
| 38          | 1-1/2"  |
| 40          | 1-9/16" |
| 42          | 1-5/8"  |
| 45          | 1-3/4"  |
| 48          | 1-7/8"  |
| 50          | 2"      |
| 60          | 2-3/8"  |
| 65          | 2-9/16" |

## Center drill

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Center drill | SLCD     | Standard accessory to the shank |

## Plug Ejector

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |

**Best for**

Ceramic siding

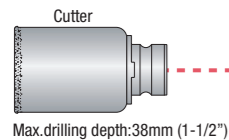
**Also can be used in**

- Artificial marble
- Enamel
- PVC pipe
- Plaster board
- Slate
- Composite material
- Resin material

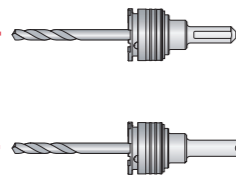
**Diamond-tipped teeth can drill into various types of work materials.**



Cutter dia.  $\phi 22-65$



Option



\*Each shank comes with Carbide tipped center drill (SLCDT)

### Features

- Diamond-tipped cutter permits drilling in a wide variety of work materials such as artificial marble.
- Safely drilling with less getting stuck.

### For use in

- Ceramic siding, Artificial marble and PVC pipe

### For use with

- Portable electric drills in rotary mode only
- Light-weight hammer drills in rotary mode only

### S-LOCK Shank

| Item                                       | Part No. | Remark                        |
|--------------------------------------------|----------|-------------------------------|
| Straight shank (10mm) for Hyperdia Holesaw | SLSKH    | Shank contains SLCDT and SLPE |
| SDS-plus shank for Hyperdia Holesaw        | SLSKHR   | SLPE                          |

**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)  
Max. drilling depth : 38mm (1-1/2")

| Cutter dia. |         | Cutter  |
|-------------|---------|---------|
| mm          | inch    |         |
| 22          | 7/8"    | SLHP022 |
| 25          | 1"      | SLHP025 |
| 29          | 1-1/8"  | SLHP029 |
| 32          | 1-1/4"  | SLHP032 |
| 35          | 1-3/8"  | SLHP035 |
| 38          | 1-1/2"  | SLHP038 |
| 40          | 1-9/16" | SLHP040 |
| 45          | 1-3/4"  | SLHP045 |
| 50          | 2"      | SLHP050 |
| 65          | 2-9/16" | SLHP065 |

### Center drill

| Item                        | Part No. | Remark                          |
|-----------------------------|----------|---------------------------------|
| Carbide tipped center drill | SLCDT    | Standard accessory to the shank |
| Center drill (HSS)          | SLCD     | for PVC pipe                    |

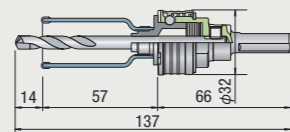
### Plug Ejector

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |

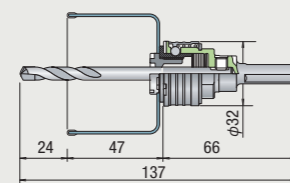
### Recommended Rotation Speed / Wattage

| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| $\phi 22 - 45$       | 1500 - 800                          | 450W and above        |
| $\phi 50 - 65$       | 1100 - 700                          | 550W and above        |

$\phi 29$ mm or less



$\phi 32$ mm or more



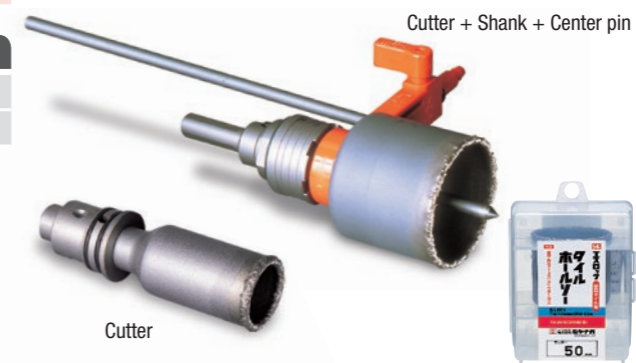
**Best for**

Ceramic tile  
Tile

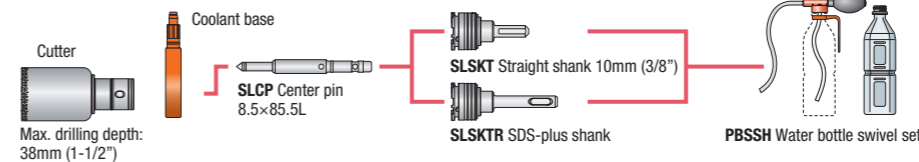
**Also can be used in**

Stone  
Marble

**Diamond-tipped teeth can drill into ceramic tile and rigid tile.**



Cutter dia.  $\phi 22-65$



### Features

- (Wet type) Diamond-tipped cutter permits drilling in ceramic tile and rigid tile.
- The carbide tipped center pin prevents bit walk when positioning.

### For use in

- Ceramic tile up to 38mm in thickness
- \*Make sure to use water while drilling.

### For use with

- Double insulated electric drills (in rotary mode only)
- Light-weight hammer drills in rotary mode only

**Size table** (The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 38mm (1-1/2")

| Cutter dia. |         | Cutter | Straight shank Set | SDS-plus shank Set |
|-------------|---------|--------|--------------------|--------------------|
| mm          | inch    |        |                    |                    |
| 22          | 7/8"    | SLT022 | SLT022PB           | SLT022RPB          |
| 25          | 1"      | SLT025 | SLT025PB           | SLT025RPB          |
| 29          | 1-1/8"  | SLT029 | SLT029PB           | SLT029RPB          |
| 32          | 1-1/4"  | SLT032 | SLT032PB           | SLT032RPB          |
| 35          | 1-3/8"  | SLT035 | SLT035PB           | SLT035RPB          |
| 38          | 1-1/2"  | SLT038 | SLT038PB           | SLT038RPB          |
| 40          | 1-9/16" | SLT040 | SLT040PB           | SLT040RPB          |
| 45          | 1-3/4"  | SLT045 | SLT045PB           | SLT045RPB          |
| 50          | 2"      | SLT050 | SLT050PB           | SLT050RPB          |
| 65          | 2-9/16" | SLT065 | SLT065PB           | SLT065RPB          |

Complete set includes shank, cutter, center pin, Coolant base, Plug Ejector and PBSSH (Water Bottle Swivel set)

### S-LOCK Shank

| Item                                   | Part No. | Remark                                       |
|----------------------------------------|----------|----------------------------------------------|
| Straight shank (10mm) for Tile Holesaw | SLSKT    | Shank contains SLPE, not includes center pin |
| SDS-plus shank for Tile Holesaw        | SLSKTR   |                                              |

### Center pin

| Item       | Part No. |
|------------|----------|
| Center pin | SLCP     |

### Plug Ejector

| Item         | Part No. | Remark                          |
|--------------|----------|---------------------------------|
| Plug Ejector | SLPE     | Standard accessory to the shank |

### Water bottle swivel set

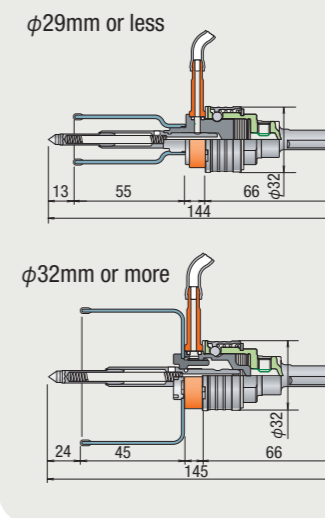
| Item                    | Part No. |
|-------------------------|----------|
| Water bottle swivel set | PBSSH    |

### Coolant base

| Item         | Part No. | Remark           |
|--------------|----------|------------------|
| Coolant base | SLCB     | For Tile Holesaw |

### Recommended Rotation Speed / Wattage

| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| $\phi 22 - 45$       | 1500 - 800                          | 450W and above        |
| $\phi 50 - 65$       | 1100 - 700                          | 550W and above        |



### Tile Holesaw set

(including Water Bottle Swivel Set (PBSSH))

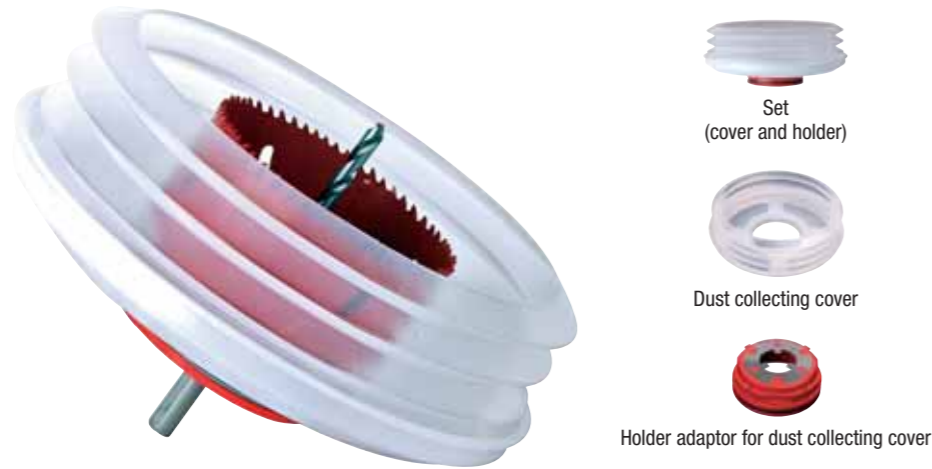


### Package contents

- Cutter
- Shank
- Center pin (SLCP)
- Coolant base (SLCB)
- Plug Ejector (SLPE)
- Water Bottle Swivel Set (PBSSH)

# S-LOCK Dust Collecting Cover

For dust control when drilling holes in ceiling for downlight construction, etc.



## Features

- Minimize dust scattering.
- Comfortable drilling to the ceiling.

## For use in

- For upward work such as downlight and spotlight installation
- To prevent dust scattering when using the S-LOCK series
- Holder adaptor for dust collecting cover can be attached to Poly-Clic Dust Extraction plastic hood (option)

## S-LOCK Dust Collecting Cover set

| Item    | Part No.    | For use with                       |
|---------|-------------|------------------------------------|
| Set 145 | SLSJCH145ST | φ50 – 125 (cover inner dia. 145mm) |
| Set 170 | SLSJCH170ST | φ50 – 150 (cover inner dia. 170mm) |

## S-LOCK Dust Collecting Cover

| Item      | Part No. | For use with                       |
|-----------|----------|------------------------------------|
| Cover 145 | SLSJC145 | φ50 – 125 (cover inner dia. 145mm) |
| Cover 170 | SLSJC170 | φ50 – 150 (cover inner dia. 170mm) |

## Holder adaptor for S-LOCK Dust Collecting Cover

| Item           | Part No. | For use with           |
|----------------|----------|------------------------|
| Holder adaptor | SLSJCH   | Use with S-LOCK shanks |

\*S-LOCK cutter and shank are required to use.  
Cannot use dust collecting cover set only.

## ⚠ Precautions for use

The holder may become hot when used continuously. In that case, please stop working and wait for the temperature to drop before use.

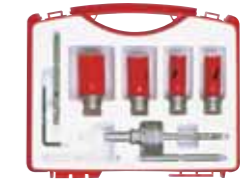


# S-LOCK Kit

## S-LOCK Bi-Metal Holesaw Box Kit

(Kit contains shank, spare center drill, plug ejector and hex wrench)

| Item           | Straight shank Set | SDS-plus shank Set | Cutter dia.         |
|----------------|--------------------|--------------------|---------------------|
| Bi-Metal Kit 1 | SLBIBOX1           | SLBIBOX1R          | φ21×2, φ27×1, φ33×1 |
| Bi-Metal Kit 2 | SLBIBOX2           | SLBIBOX2R          | φ22×2, φ28×1, φ34×1 |
| Bi-Metal Kit 3 | SLBIBOX3           | SLBIBOX3R          | φ22, 25, 32, 38     |
| Bi-Metal Kit 4 | SLBIBOX4           | SLBIBOX4R          | φ28, 32, 38, 50     |

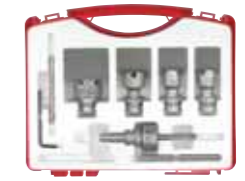


S-LOCK Bi-Metal Holesaw Box Kit

## S-LOCK Holesaw 578 Box Kit

(Kit contains shank, spare center drill, plug ejector and hex wrench)

| Item      | Straight shank Set | SDS-plus shank Set | Cutter dia.         |
|-----------|--------------------|--------------------|---------------------|
| 578 Kit 1 | SL578BOX1          | SL578BOX1R         | φ21×2, φ27×1, φ33×1 |
| 578 Kit 2 | SL578BOX2          | SL578BOX2R         | φ22×2, φ28×1, φ34×1 |
| 578 Kit 4 | SL578BOX4          | SL578BOX4R         | φ28, 32, 38, 50     |



S-LOCK Holesaw 578 Box Kit

## S-LOCK Holesaw 578P Box Kit

(Kit contains shank, spare center drill, plug ejector and hex wrench)

| Item       | Straight shank Set | SDS-plus shank Set | Cutter dia.         |
|------------|--------------------|--------------------|---------------------|
| 578P Kit 1 | SL578PBOX1         | SL578PBOX1R        | φ21×2, φ27×1, φ33×1 |
| 578P Kit 2 | SL578PBOX2         | SL578PBOX2R        | φ22×2, φ28×1, φ34×1 |
| 578P Kit 4 | SL578PBOX4         | SL578PBOX4R        | φ28, 32, 38, 50     |



S-LOCK Holesaw 578P Box Kit

## S-LOCK Deep-Bore Holesaw Box Kit

(Kit contains shank, spare center drill, plug ejector and hex wrench)

| Item                    | Straight shank Set | SDS-plus shank Set | Cutter dia.         |
|-------------------------|--------------------|--------------------|---------------------|
| Deep-Bore Holesaw Kit 1 | SLFBOX1            | SLFBOX1R           | φ21×2, φ27×1, φ33×1 |
| Deep-Bore Holesaw Kit 2 | SLFBOX2            | SLFBOX2R           | φ22×2, φ28×1, φ34×1 |
| Deep-Bore Holesaw Kit 4 | SLFBOX4            | SLFBOX4R           | φ28, 32, 38, 50     |



S-LOCK Deep-Bore Holesaw Box Kit

## S-LOCK DL Core Bit Box Kit for Cordless impact driver

(Kit contains shank, spare center drill, plug ejector and hex wrench)

| Item              | Part No.     | Cutter dia.         |
|-------------------|--------------|---------------------|
| DL Core Bit Kit 1 | SLDLCBOX1JDE | φ25, 28, 32, 38     |
| DL Core Bit Kit 2 | SLDLCBOX2JDE | φ21×2, φ27×1, φ33×1 |



S-LOCK DL Core Bit Box Kit for Cordless impact driver

**64** Deltagon SDS-plus Bit



Dia. **4-26mm**

Higher cutting performance for drilling in concrete.

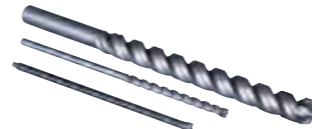
**66** Deltagon SDS-max Bit



Dia. **10-32mm**

Improved safety and drilling speed.

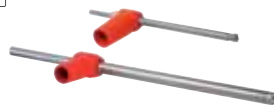
**67** Deltagon Straight Shank Percussion Bit



Dia. **2.5-14.5mm**

The three edges have significantly improved drilling and cost efficiency.

**68** Deltagon Vacuum Bit



Dia. **12.0-32.0mm**

Clean drilling with sucking up the dust in concrete.



**3** cutting edges  
Cutter dia. below 20mm



**5** cutting edges  
Cutter dia. 22-26mm



**6** cutting edges  
Cutter dia. above 28mm

# Deltagon Bit series

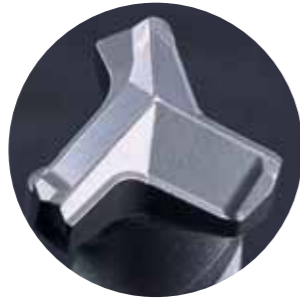
Deltagon bit can stable drilling with less getting stuck and impact shock.  
Less physical burden even in long periods of usage, which leads to less fatigue.  
It can drill near-perfectly round holes thanks to the unique teeth geometry.  
Increased safety with less getting stuck and less swinging by electric drills in contact with reinforcing bars.  
Can penetrate deck plates with limited circumferential wear.

# 3



# Features of Deltagon Bit

Carbide tip is jointed with a special technology



**Three edges**  
Bit size: 21mm or less



**Five edges**  
Bit size: 22mm to 26mm



**Six edges**  
Bit size: 28mm and above

## Feature 1 Worker-friendly

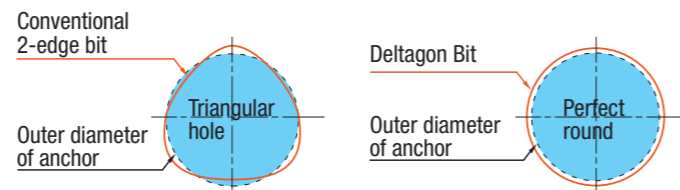
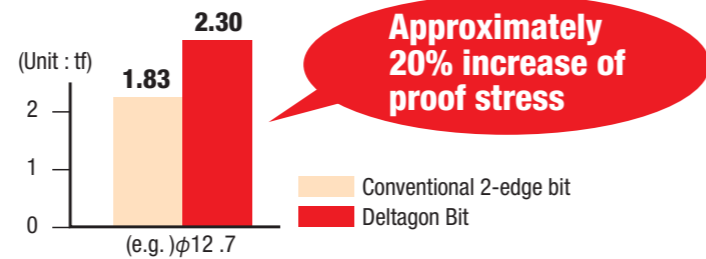
Stable drilling with less getting stuck and impact shock.  
Less physical burden even in long periods of usage, which leads to less fatigue.



## Feature 2 Drilling near-perfectly round holes

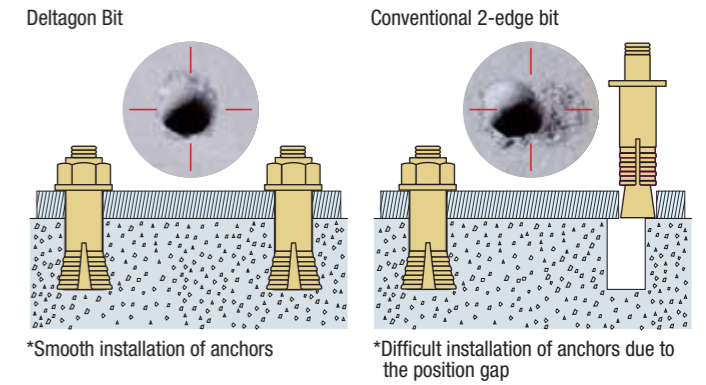
Unique teeth geometry allows drilling near-perfectly round holes.  
An anchor can be easily installed into the hole.  
The proof strength is increased by approximately 20%.  
The gap is constant in each point on the circumference, resulting in a high wedge effect.

**Anchor pullout test**  
(Comparison with our conventional 2-edge bit)  
<Anchor type: Hammer drive anchor (M12)>



## Feature 3 Improved positioning performance

The tip without chisel point allows easy positioning.

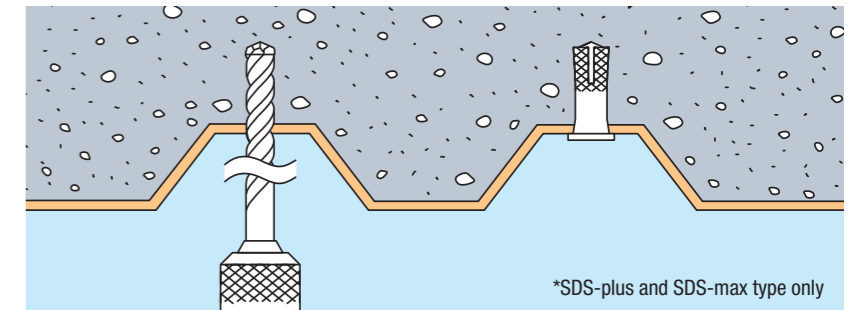


## Feature 4 Increased safety in contact with reinforced bar

Increased safety with less getting stuck and less swinging by electric drills in contact with reinforcing bar.

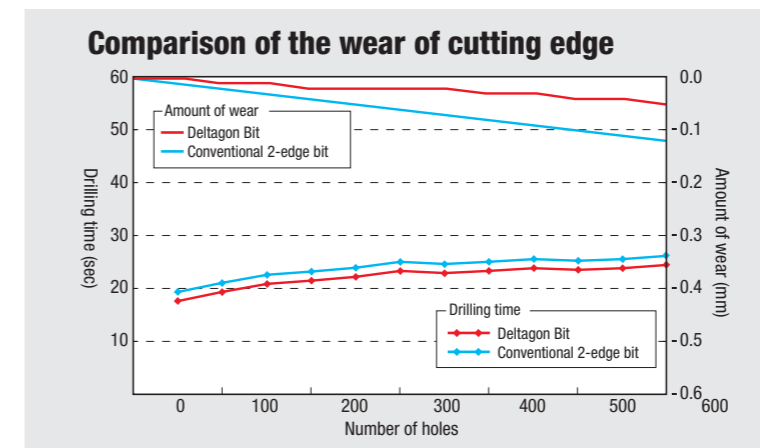
## Feature 5 Penetrates deck plate

Easily penetrates concrete-placed deck plate.



## Feature 6 Limited circumferential wear

Multi-cutting edges provide reduction of circumferential wear and are suitable for drilling pilot holes for anchors.



This test result is just an example, and it may change depending on work material and electric drill used etc.  
Bit diameter: 19.0mm  
Electric drill: 1100W  
Work material: Concrete 30N/mm<sup>2</sup>  
Drilling depth: 100mm



# Deltagon SDS-plus Bit



- Best for**
- Concrete
  - Mortar
  - Block
  - Deck plate and concrete

- Also can be used in**
- PC concrete
  - Stone
  - Brick
  - Asphalt

Higher cutting performance with 3 cutting edges and 5 cutting edges.



## Features


- Improved safety and drilling speed.
- Stable drilling with less getting stuck and impact shock.
- Drilling near-perfectly round holes.
- Improved positioning performance.
- Increased safety in contact with reinforced bar.
- Penetrates deck plate.
- Limited circumferential wear.

## For use in

- Concrete, Block, Mortar, and Deck plate and concrete

## For use with

- Electric hammer drills with SDS-plus



**PGM Certified**  
**Deltagon SDS-plus Bit and Deltagon SDS-max Bit bear the mark of conformity of the Prüfgemeinschaft Mauerbohrer e.V. (PGM).**

Advantages of PGM marked drill bits:

- Strict criteria of the DIBt (Deutsches Institut für Bautechnik) and of the European Organization for Technical Assessment (EOTA)
- Strict tolerance limits for the diameter and the symmetry of the carbide tip ensuring the exactness of the drill hole.
- Secure anchoring and fixing with a national or European Technical approval.
- Regular sample tests of the drills by independent institutes

**Size table** (The bit diameter is based on PGM (DIN) specification.)

**Deltagon SDS-plus bit** (Max. drilling depth 50mm)

| Bit dia. mm | Part No.   | Overall length (mm) | Max. drilling depth (mm) |
|-------------|------------|---------------------|--------------------------|
| 4           | DLSDS0401E | 116                 | 50                       |
| 5           | DLSDS0501E |                     |                          |
| 6           | DLSDS0601E |                     |                          |
| 8           | DLSDS0801E |                     |                          |
| 10          | DLSDS1001E |                     |                          |

**Deltagon SDS-plus bit** (Max. drilling depth 100mm)

| Bit dia. mm | Part No.  | Overall length (mm) | Max. drilling depth (mm) |
|-------------|-----------|---------------------|--------------------------|
| 5           | DLSDS050E | 166                 | 100                      |
| 6           | DLSDS060E |                     |                          |
| 7           | DLSDS070E |                     |                          |
| 8           | DLSDS080E |                     |                          |
| 9           | DLSDS090E |                     |                          |
| 10          | DLSDS100E |                     |                          |
| 11          | DLSDS110E |                     |                          |
| 12          | DLSDS120E |                     |                          |
| 13          | DLSDS130E |                     |                          |
| 14          | DLSDS140E |                     |                          |
| 15          | DLSDS150E |                     |                          |
| 16          | DLSDS160E |                     |                          |
| 18          | DLSDS180E |                     |                          |
| 20          | DLSDS200E |                     |                          |

**Deltagon SDS-plus bit** (Max. drilling depth 150mm)

| Bit dia. mm | Part No.   | Overall length (mm) | Max. drilling depth (mm) |
|-------------|------------|---------------------|--------------------------|
| 5           | DLSDS0502E | 216                 | 150                      |
| 6           | DLSDS0602E |                     |                          |
| 7           | DLSDS0702E |                     |                          |
| 8           | DLSDS0802E |                     |                          |
| 9           | DLSDS0902E |                     |                          |
| 10          | DLSDS1002E |                     |                          |
| 11          | DLSDS1102E |                     |                          |
| 12          | DLSDS1202E |                     |                          |
| 14          | DLSDS1402E |                     |                          |
| 15          | DLSDS1502E |                     |                          |
| 16          | DLSDS1602E |                     |                          |
| 18          | DLSDS1802E |                     |                          |
| 20          | DLSDS2002E |                     |                          |

**Deltagon SDS-plus bit** (Max. drilling depth 200mm)

| Bit dia. mm | Part No.    | Overall length (mm) | Max. drilling depth (mm) |
|-------------|-------------|---------------------|--------------------------|
| 6           | DLSDS06026E | 266                 | 200                      |
| 8           | DLSDS08026E |                     |                          |
| 10          | DLSDS10026E |                     |                          |
| 12          | DLSDS12026E |                     |                          |
| 14          | DLSDS14026E |                     |                          |
| 16          | DLSDS16026E |                     |                          |
| 18          | DLSDS18026E |                     |                          |
| 20          | DLSDS20026E |                     |                          |
| 22          | DLSDS22027E |                     |                          |
| 23          | DLSDS23027E |                     |                          |
| 24          | DLSDS24027E | 270                 |                          |
| 25          | DLSDS25027E |                     |                          |
| 26          | DLSDS26027E |                     |                          |

**Deltagon SDS-plus bit** (Max. drilling depth 250mm)

| Bit dia. mm | Part No.    | Overall length (mm) | Max. drilling depth (mm) |
|-------------|-------------|---------------------|--------------------------|
| 8           | DLSDS0803E  | 316                 | 250                      |
| 10          | DLSDS1003E  |                     |                          |
| 12          | DLSDS1203E  |                     |                          |
| 14          | DLSDS1403E  |                     |                          |
| 15          | DLSDS1503E  |                     |                          |
| 16          | DLSDS1603E  |                     |                          |
| 18          | DLSDS1803E  |                     |                          |
| 20          | DLSDS2003E  |                     |                          |
| 22          | DLSDS22032E |                     |                          |
| 23          | DLSDS23032E |                     |                          |
| 24          | DLSDS24032E |                     |                          |
| 25          | DLSDS25032E |                     |                          |
| 26          | DLSDS26032E |                     |                          |

**Deltagon SDS-plus bit** (Max. drilling depth 400mm)

| Bit dia. mm | Part No.    | Overall length (mm) | Max. drilling depth (mm) |     |
|-------------|-------------|---------------------|--------------------------|-----|
| 10          | DLSDS1004E  | 466                 | 400                      |     |
| 12          | DLSDS1204E  |                     |                          |     |
| 14          | DLSDS1404E  |                     |                          |     |
| 16          | DLSDS1604E  |                     |                          |     |
| 18          | DLSDS1804E  |                     |                          |     |
| 20          | DLSDS2004E  |                     |                          |     |
| 22          | DLSDS22047E |                     |                          |     |
| 23          | DLSDS23047E |                     |                          | 470 |
| 24          | DLSDS24047E |                     |                          |     |
| 25          | DLSDS25047E |                     |                          |     |
| 26          | DLSDS26047E |                     |                          |     |

# Deltagon SDS-max Bit



|                         |
|-------------------------|
| Best for                |
| Concrete                |
| Deck plate and concrete |
| Block                   |
| Mortar                  |
| Also can be used in     |
| Stone                   |
| Brick                   |
| PC concrete             |
| Asphalt                 |

**3 cutting edges, 5 cutting edges and 6 cutting edges increase safety and drilling speed !**



3 cutting edges (φ10-20)   5 cutting edges (φ22-26)   6 cutting edges (φ28-32)



3 cutting edges (φ10-20mm)

5 cutting edges (φ22-26mm)

6 cutting edges (φ28-32mm)



## Features

- Improved safety and drilling speed.
- Stable drilling with less getting stuck and impact shock.
- Drilling near-perfectly round holes.
- Improved positioning performance.
- Increased safety in contact with reinforced bar.
- Penetrates deck plate.
- Limited circumferential wear.

## For use in

- Concrete, Stone, and Deck plate and concrete

## For use with

- Electric hammer drills with SDS-max

## Size table

(The bit diameter is based on PGM (DIN) specification.)

### Deltagon SDS-max bit

(Max. drilling depth 200mm, 300mm)

| Bit dia. mm | Part No.    | Overall length (mm) | Max. drilling depth (mm) |
|-------------|-------------|---------------------|--------------------------|
| 10          | DLMAX10034E | 340                 | 200                      |
| 12          | DLMAX12034E |                     |                          |
| 13          | DLMAX13034E |                     |                          |
| 14          | DLMAX14034E |                     |                          |
| 15          | DLMAX15034E |                     |                          |
| 16          | DLMAX16034E |                     |                          |
| 18          | DLMAX18034E | 320                 | 200                      |
| 20          | DLMAX20034E |                     |                          |
| 22          | DLMAX22034E |                     |                          |
| 23          | DLMAX23034E |                     |                          |
| 24          | DLMAX24032E |                     |                          |
| 25          | DLMAX25032E |                     |                          |
| 26          | DLMAX26032E | 420                 | 300                      |
| 28          | DLMAX28042E |                     |                          |
| 30          | DLMAX30042E |                     |                          |
| 32          | DLMAX32042E |                     |                          |

### Deltagon SDS-max bit

(Max. drilling depth 400mm, 450mm)

| Bit dia. mm | Part No.    | Overall length (mm) | Max. drilling depth (mm) |
|-------------|-------------|---------------------|--------------------------|
| 10          | DLMAX10054E | 540                 | 400                      |
| 12          | DLMAX12054E |                     |                          |
| 13          | DLMAX13054E |                     |                          |
| 14          | DLMAX14054E |                     |                          |
| 15          | DLMAX15054E |                     |                          |
| 16          | DLMAX16054E |                     |                          |
| 18          | DLMAX18054E | 520                 | 400                      |
| 20          | DLMAX20054E |                     |                          |
| 22          | DLMAX22054E |                     |                          |
| 23          | DLMAX23054E |                     |                          |
| 24          | DLMAX24052E |                     |                          |
| 25          | DLMAX25052E |                     |                          |
| 26          | DLMAX26052E | 570                 | 450                      |
| 28          | DLMAX28057E |                     |                          |
| 30          | DLMAX30057E |                     |                          |
| 32          | DLMAX32057E |                     |                          |

## PGM Certified

Deltagon SDS-plus Bit and Deltagon SDS-max Bit bear the mark of conformity of the Prüfgemeinschaft Mauerbohrer e.V. (PGM).

Advantages of PGM marked drill bits:

- Strict criteria of the DIBt (Deutsches Institut für Bautechnik) and of the European Organization for Technical Assessment (EOTA)
- Strict tolerance limits for the diameter and the symmetry of the carbide tip ensuring the exactness of the drill hole.
- Secure anchoring and fixing with a national or European Technical approval.
- Regular sample tests of the drills by independent institutes

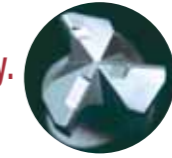


# Deltagon Straight Shank Percussion Bit



|                     |
|---------------------|
| Best for            |
| Mortar              |
| Block               |
| Concrete            |
| Also can be used in |
| PC concrete         |
| Brick               |
| Stone               |

**3 cutting edges significantly increase efficiency and durability.**



3 cutting edges (φ2.5-14.5)

## Features

- 3 cutting edges have significantly improved drilling and cost efficiency.
- Excellent durability (compared to our conventional products).
- Increased drilling speed (compared to our conventional products).
- Bit dia.: Spiral type: φ2.5mm to 14.5mm  
Delta type: φ3.0mm to 4.4mm

## For use in

- Concrete, Block and Mortar

## For use with

- Electric drills in percussion mode  
\*Make sure to use with a percussion drill in percussion mode. Do not use with an impact drill or a driver drill.

## Size table (The bit diameter is based on Miyanaga specification.)

### Deltagon Straight Shank Percussion Bit (Spiral type)

| Bit dia. mm | Part No. | Overall length (mm) | Max. drilling depth (mm) |
|-------------|----------|---------------------|--------------------------|
| 2.5         | DLS25    | 100                 | 45                       |
| 2.8         | DLS28    |                     |                          |
| 3.0         | DLS30    |                     |                          |
| 3.2         | DLS32    |                     |                          |
| 3.3         | DLS33    |                     |                          |
| 3.4         | DLS34    |                     |                          |
| 3.5         | DLS35    |                     |                          |
| 3.6         | DLS36    |                     |                          |
| 3.7         | DLS37    |                     |                          |
| 3.8         | DLS38    |                     |                          |
| 4.0         | DLS40    |                     |                          |
| 4.2         | DLS42    | 115                 | 65                       |
| 4.3         | DLS43    |                     |                          |
| 4.4         | DLS44    |                     |                          |
| 4.5         | DLS045   |                     |                          |
| 4.8         | DLS048   |                     |                          |
| 5.0         | DLS050   |                     |                          |
| 5.2         | DLS052   |                     |                          |
| 5.3         | DLS053   |                     |                          |
| 5.4         | DLS054   |                     |                          |
| 5.5         | DLS055   |                     |                          |
| 5.8         | DLS058   |                     |                          |
| 6.0         | DLS060   | 125                 | 75                       |
| 6.4         | DLS064   |                     |                          |
| 6.5         | DLS065   |                     |                          |
| 7.0         | DLS070   |                     |                          |
| 7.2         | DLS072   |                     |                          |
| 7.5         | DLS075   |                     |                          |
| 8.0         | DLS080   |                     |                          |
| 8.5         | DLS085   |                     |                          |
| 8.7         | DLS087   |                     |                          |
| 9.0         | DLS090   |                     |                          |
| 9.5         | DLS095   |                     |                          |
| 10.0        | DLS100   | 150                 | 90                       |
| 10.5        | DLS105   |                     |                          |
| 11.0        | DLS110   |                     |                          |
| 11.5        | DLS115   |                     |                          |
| 12.0        | DLS120   |                     |                          |
| 12.5        | DLS125   |                     |                          |
| 12.7        | DLS127   |                     |                          |
| 13.0        | DLS130   |                     |                          |
| 13.5        | DLS135   |                     |                          |
| 14.0        | DLS140   |                     |                          |
| 14.3        | DLS143   |                     |                          |
| 14.5        | DLS145   |                     |                          |

### Deltagon Straight Shank Percussion Bit (Delta type)

| Bit dia. mm | Part No. | Overall length (mm) | Max. drilling depth (mm) |
|-------------|----------|---------------------|--------------------------|
| 3.0         | DLS030   | 85                  | 42                       |
| 3.2         | DLS032   |                     |                          |
| 3.4         | DLS034   |                     |                          |
| 3.5         | DLS035   |                     |                          |
| 3.8         | DLS038   |                     |                          |
| 4.0         | DLS040   |                     |                          |
| 4.2         | DLS042   | 50                  | 50                       |
| 4.3         | DLS043   |                     |                          |
| 4.4         | DLS044   |                     |                          |

### Deltagon Straight Shank Percussion Bit (Long size)

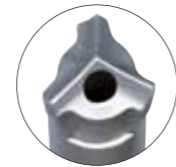
| Bit dia. mm | Part No. | Overall length (mm) | Max. drilling depth (mm) |
|-------------|----------|---------------------|--------------------------|
| 3.2         | DLS03215 | 150                 | 90                       |
| 3.4         | DLS03415 |                     |                          |
| 3.5         | DLS03515 |                     |                          |
| 4.0         | DLS04015 |                     |                          |
| 4.3         | DLS04315 |                     |                          |
| 4.5         | DLS04515 |                     |                          |
| 4.8         | DLS04815 |                     |                          |
| 5.0         | DLS05015 |                     |                          |
| 5.2         | DLS05215 |                     |                          |
| 5.3         | DLS05315 |                     |                          |
| 5.5         | DLS05515 |                     |                          |
| 6.0         | DLS06015 | 200                 | 120                      |
| 3.4         | DLS03420 |                     |                          |
| 3.5         | DLS03520 |                     |                          |
| 4.5         | DLS04520 |                     |                          |
| 4.8         | DLS04820 |                     |                          |
| 5.0         | DLS05020 |                     |                          |
| 5.3         | DLS05320 |                     |                          |
| 5.5         | DLS05520 |                     |                          |
| 6.0         | DLS06020 |                     |                          |
| 6.4         | DLS06420 |                     |                          |
| 7.0         | DLS07020 |                     |                          |
| 8.0         | DLS08033 | 330                 | 200                      |
| 9.0         | DLS09033 |                     |                          |
| 10.0        | DLS10033 |                     |                          |
| 10.5        | DLS10533 |                     |                          |
| 12.0        | DLS12033 |                     |                          |
| 12.7        | DLS12733 |                     |                          |
| 14.5        | DLS14533 |                     |                          |

# Deltagon Vacuum Bit



- Best for**
- Concrete
  - Deck plate and concrete
- Also can be used in**
- PC concrete
  - Stone

Promotes a clean drilling with sucking up the dust while drilling.



3 cutting edges  
(φ12.0-20.0mm)



5 cutting edges  
(φ22.0-32.0mm)



3 cutting edges  
(φ12.0-20.0mm)



5 cutting edges  
(φ22.0-32.0mm)

## Features

- Promotes a clean drilling with sucking up the dust while drilling.
- Creates clean working environment for operator not only for vertical and horizontal drilling, but also overhead drilling.
- One-piece structure contributes strong body and durability.
- Suction holes on the carbide tip reduce dust scattering.

## For use in

- Drilling a pilot hole for installation of chemical anchor, etc.
- Drilling a hole in concrete, etc.

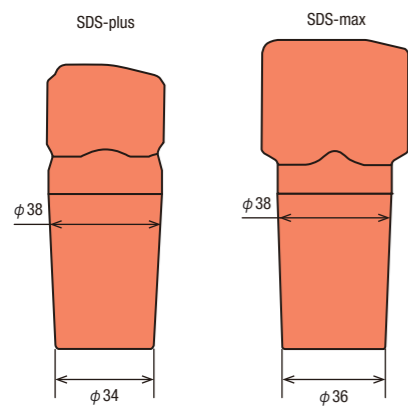
## For use with

- Light-weight hammer drills
- Electric hammer drills

## CAUTION

When using an electric hammer drill with a power consumption of 1300W or more, the carbide tip will be easily damaged if it hits a reinforcing bar during drilling. In that case, be sure to change the drilling point.

## Holder dimensions



\*The holder is not removable and is not sold separately.

## Size table

Deltagon Vacuum Bit (SDS-plus shank) (The bit diameter is based on Miyanaga specification.)

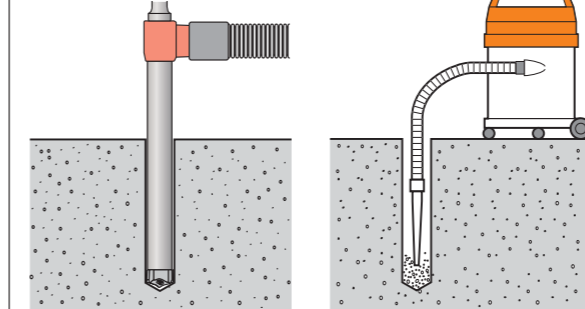
| Bit dia. mm | Part No.     | Overall length (mm) | Max. drilling depth (mm) | Cutting edges |
|-------------|--------------|---------------------|--------------------------|---------------|
| 12.0        | DLVSDS120029 | 290                 | 150                      | 3             |
| 12.5        | DLVSDS125029 |                     |                          |               |
| 14.5        | DLVSDS145029 |                     |                          |               |
| 16.0        | DLVSDS160029 |                     |                          |               |

Deltagon Vacuum Bit (SDS-max shank) (The bit diameter is based on Miyanaga specification.)

| Bit dia. mm | Part No.     | Overall length (mm) | Max. drilling depth (mm) | Cutting edges |
|-------------|--------------|---------------------|--------------------------|---------------|
| 16.0        | DLVMAX160044 | 440                 | 210                      | 3             |
| 18.0        | DLVMAX180049 | 490                 | 260                      |               |
| 19.0        | DLVMAX190049 |                     |                          |               |
| 20.0        | DLVMAX200049 |                     |                          |               |
| 22.0        | DLVMAX220049 |                     |                          | 540           |
| 23.0        | DLVMAX230049 |                     |                          |               |
| 24.0        | DLVMAX240054 |                     |                          |               |
| 25.0        | DLVMAX250054 |                     |                          |               |
| 28.0        | DLVMAX280059 | 590                 | 360                      | 5             |
| 32.0        | DLVMAX320063 | 630                 | 400                      |               |

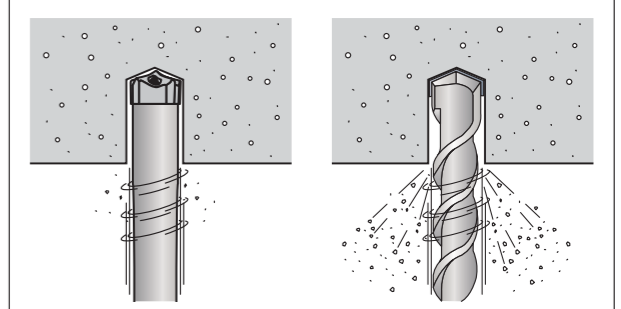
\*Product specification is subject to change without notice

## Easy to clean up



● Deltagon Vacuum Bit ● Conventional drill bit  
It sucks out most of the dust while drilling a pilot hole for anchor works.

## Good for overhead drilling



● Deltagon Vacuum Bit ● Conventional drill bit  
Even when drilling upwards, most of the dust are sucked out and reduce the burden on the operator.

**72** Straight Shank Bit for Ceramic tile



Dia. **3.0-11.0**mm

Carbide tip with excellent drilling performance and durability.

**73** Cable Guide Drill Bit



Dia. **10.0-15.0**mm

Best for guiding cables through cavity wall.

# Drill Bit series

Our drills use carbide tips with high hardness, low wear and high impact resistance. Various variations are available to meet a wide range of needs. From small holes to large holes, for concrete, blocks, bricks, marble and stone.

# 4

# Straight Shank Bit for Ceramic tile



## Best for

- Ceramic tile
- Roof tile
- Tile
- Marble
- ALC

## Also can be used in

- Ceramic siding
- FRP
- Extruded cement
- PVC pipe

Excellent sharpness and durability.



## Features

- Highly sharp and durable carbide tip.
- Specially shaped carbide tip provides easy drilling into ceramic tile.
- The optimum grinding angle provides efficient drilling.  
\*Using water increases cutting performance and durability.  
\*Use Mistdia Drill Bit for hard ceramic tile.
- Carbide tip with excellent cutting ability and durability.

## For use in

- Ceramic tile, Marble, Ceramic siding

## For use with

- Portable electric drills in rotary mode only

## Size table

| Bit dia.<br>mm | Part No. | Overall length (mm) | Max. drilling depth (mm) |
|----------------|----------|---------------------|--------------------------|
| 3.0            | Z030     | 85                  | 42                       |
| 3.2            | Z032     |                     |                          |
| 3.4            | Z034     |                     |                          |
| 3.5            | Z035     |                     |                          |
| 3.8            | Z038     |                     |                          |
| 4.0            | Z040     |                     |                          |
| 4.3            | Z043     | 50                  |                          |
| 4.5            | Z045     |                     |                          |
| 4.8            | Z048     |                     |                          |
| 5.0            | Z050     |                     |                          |
| 5.5            | Z055     | 100                 | 65                       |
| 6.0            | Z060     |                     |                          |
| 6.4            | Z064     |                     |                          |
| 6.5            | Z065     |                     |                          |
| 7.0            | Z070     | 125                 | 75                       |
| 7.2            | Z072     |                     |                          |
| 7.5            | Z075     |                     |                          |
| 8.0            | Z080     |                     |                          |
| 8.5            | Z085     |                     |                          |
| 9.0            | Z090     |                     |                          |
| 10.0           | Z100     | 150                 | 90                       |
| 10.5           | Z105     |                     |                          |
| 11.0           | Z110     |                     |                          |

# Cable Guide Drill Bit



## Best for

- Metal siding
- Ceramic siding
- Wood
- 2x4 wood

## Also can be used in

- Extruded cement
- ALC
- PVC pipe

Best for guiding cables through cavity wall.



Straight shank with Three Milled Flats

Hole for cable



## Features

- The one bit solution to guiding cables through cavity wall.
- Smooth drilling in various types of siding wall, wood, etc.
- The specially shaped carbide tip on the cutting edge provides smooth drilling in ceramic/metal siding board, wood, etc.
- Easy centering position due to an acute angle of cutting edge.
- After drilling in cavity wall, you can connect the cable to the drill bit and pull it through the cavity.
- Straight shank with Three Milled Flats for better grip on shank.

## For use in

- Metal siding, Ceramic siding and Wood

## For use with

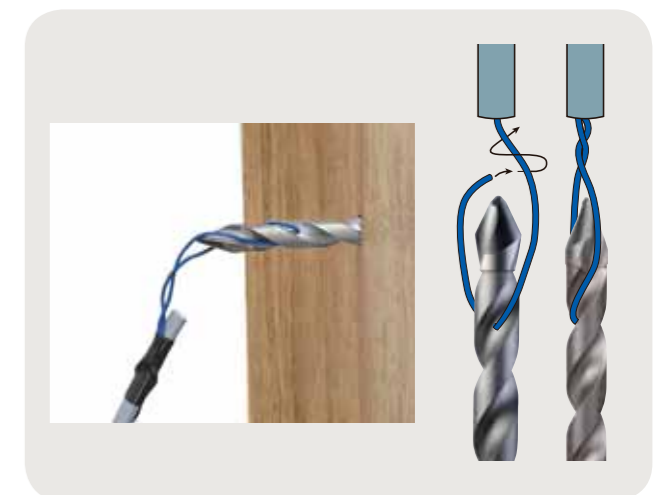
- Light-weight hammer drills in rotary mode only
- Portable electric drills in rotary mode only

## Straight shank with Three Milled Flats

| Bit dia.<br>mm | Part No. | Overall length (mm) | Max. drilling depth (mm) |
|----------------|----------|---------------------|--------------------------|
| 10.0           | TD100032 | 320                 | 150                      |
| 12.0           | TD120032 |                     |                          |
| 15.0           | TD150032 |                     |                          |

## SDS-plus shank

| Bit dia.<br>mm | Part No.  | Overall length (mm) | Max. drilling depth (mm) |
|----------------|-----------|---------------------|--------------------------|
| 10.0           | TD100032R | 320                 | 150                      |
| 12.0           | TD120032R |                     |                          |
| 15.0           | TD150032R |                     |                          |



Poly-Dic Series

S-LOCK Series

Delapan Bit Series

Drill Bit Series

ANZE Series

Diamond Series

METAL-ROTOR Series

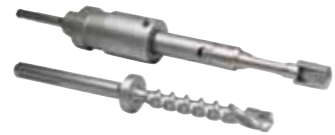
Holesaw Series

Core Bit Series

Disk Series

Reference

**78** Undercut Anchor System  
ANZEX-D



Unique and reliable undercut anchor system.  
Easy and reliable installation.

**82** Undercut Anchor System  
ANZEX-K



Reliable anchor bolt installation  
by mechanical interlock.

# ANZEX series

Total post-installed anchor system for secure anchor work.  
Using our specialized Undercutter enables to undercut with easy and reliable operation.  
Prevents anchor bolt from slip by mechanical interlock.

# 5

Unique and reliable undercut anchor system.  
Easy and reliable installation.

**What's benefits of undercut?**

- Mechanical interlock**  
Anchor bolt is mechanically fixed in the precise conical surface in the undercut hole.
- Bearing force**  
The tensile load is sustained by bearing force on the conical surface.
- Undercut tools**  
Creates a reliable undercut hole by original undercut tools.

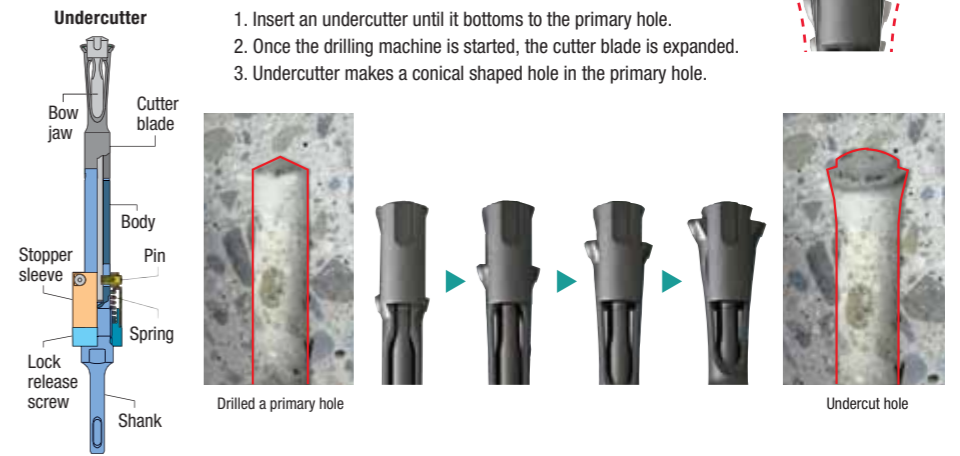
European Technical Assessment  
ETA-17/0690 (M16/steel grade 8.8)



**Key Point 1**

**Make a conical shaped hole in the primary hole.**

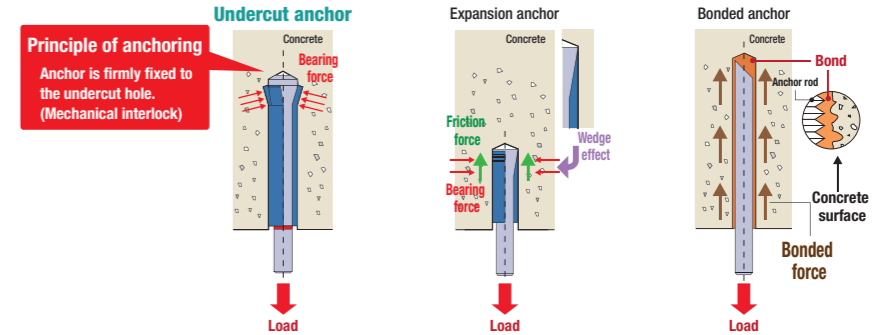
Undercutter expands the bottom of primary hole in conical shape. Undercut part realizes a safe and secure anchoring.



**Key Point 2**

**Reliable anchoring by mechanical interlock.**

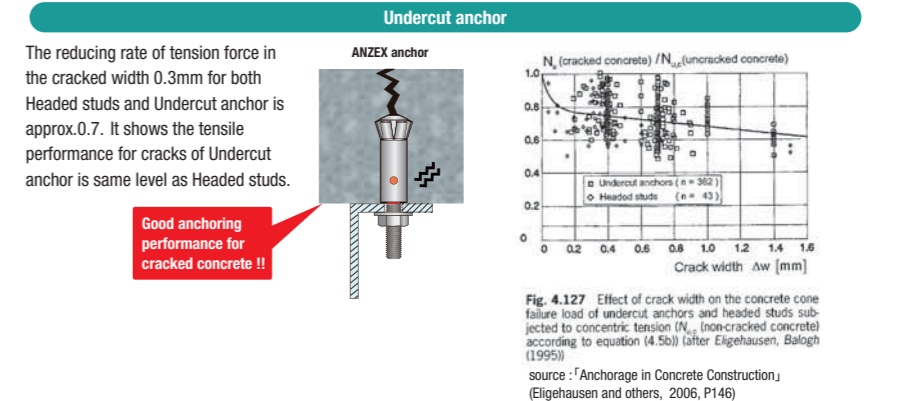
Mechanical interlock without pulling out and slipping. Bearing force ensures the support of the load.



**Key Point 3**

**Efficient installation in non-cracked and cracked concrete.**

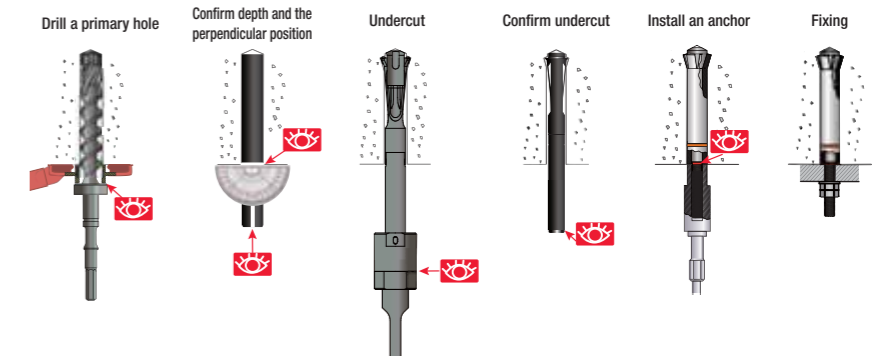
Prevents reducing the anchoring performance for cracked concrete because anchor is firmly fixed to the undercut hole. The tensile performance for cracks of undercut anchor is the same level as headed studs.



**Key Point 4**

**“Visual confirmation” realizes reliable installation.**

Each step of anchor installation can be visually confirmed with using our specialized tools. Visual confirmation ensures reliable installation.







Best for  
Concrete

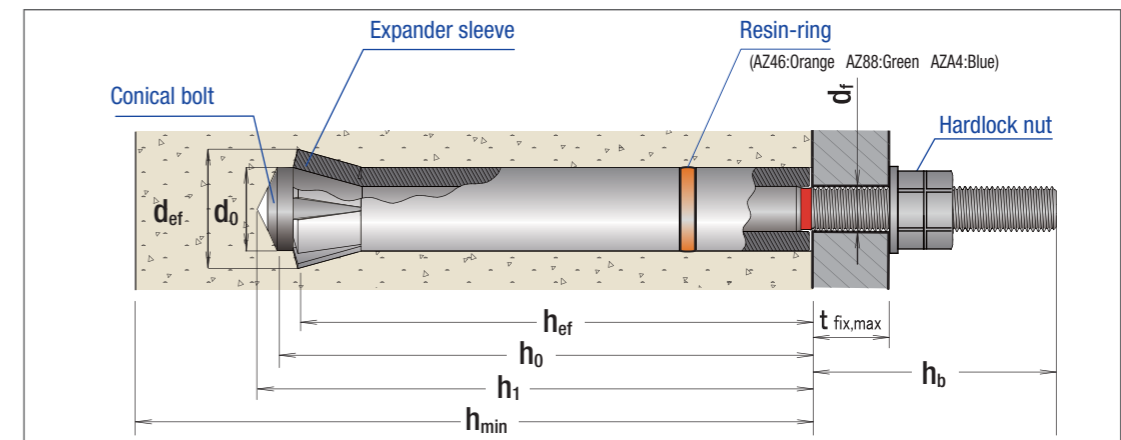
Large bearing area realizes the undercut anchors to achieve full ductile steel failure !



High reliability and superior workability due to mechanical interlock.

Specification of ANZEX-D anchor bolts

**AZ46** (grade 4.6) / **AZ88** (grade 8.8) / **AZA4** (SUS316)



|                                            | <b>AZ46</b><br>Steel grade:4.6*1  |               |                     |               | <b>AZ88</b><br>Steel grade:8.8*1 |               |                     |               | <b>AZA4</b><br>Property class:50*2 A4 (SUS316) |               |                     |               |       |
|--------------------------------------------|-----------------------------------|---------------|---------------------|---------------|----------------------------------|---------------|---------------------|---------------|------------------------------------------------|---------------|---------------------|---------------|-------|
|                                            | Stock items                       |               | Made to order items |               | Stock items                      |               | Made to order items |               | Stock items                                    |               | Made to order items |               |       |
| Thread (pitch)                             | M12 (1.75)                        | M16 (2.0)     | M20 (2.5)           | M24 (3.0)     | M12 (1.75)                       | M16 (2.0)     | M20 (2.5)           | M24 (3.0)     | M12 (1.75)                                     | M16 (2.0)     | M20 (2.5)           | M24 (3.0)     |       |
| Coating                                    | Zinc coating (hot dip galvanized) |               |                     |               | Zinc coating (electroplated)     |               |                     |               | No coating                                     |               |                     |               |       |
| Part number                                | AZM12P 46H225                     | AZM16P 46H305 | AZM20P 46H360       | AZM24P 46H440 | AZM12P 88E225                    | AZM16P 88E305 | AZM20P 88E360       | AZM24P 88E440 | AZM12P A4N225                                  | AZM16P A4N305 | AZM20P A4N360       | AZM24P A4N440 |       |
| Unit                                       |                                   |               |                     |               |                                  |               |                     |               |                                                |               |                     |               |       |
| Drill hole diameter                        | d <sub>0</sub>                    | 22.5          | 30.5                | 36.0          | 44.0                             | 22.5          | 30.5                | 36.0          | 44.0                                           | 22.5          | 30.5                | 36.0          | 44.0  |
| Drilled hole depth                         | h <sub>0</sub>                    | 96            | 131                 | 162           | 195                              | 141           | 198                 | 249           | 296                                            | 109           | 148                 | 185           | 221   |
| Deepest drilled hole depth                 | h <sub>1</sub>                    | 100.8         | 137.5               | 170.1         | 204.5                            | 145.8         | 204.5               | 257.1         | 305.5                                          | 113.8         | 154.5               | 193.1         | 230.5 |
| Expanded diameter                          | d <sub>ef</sub>                   | 31.5          | 42.3                | 49.3          | 59.2                             | 31.5          | 42.3                | 49.3          | 59.2                                           | 31.5          | 42.3                | 49.3          | 59.2  |
| Effective anchorage depth                  | h <sub>ef</sub>                   | 90            | 123                 | 153           | 184                              | 135           | 190                 | 240           | 285                                            | 103           | 140                 | 176           | 210   |
| Effective sectional area of thread         | A <sub>s</sub>                    | 84.3          | 157                 | 245           | 353                              | 84.3          | 157                 | 245           | 353                                            | 84.3          | 157                 | 245           | 353   |
| Minimum thickness of concrete member       | h <sub>min</sub>                  | 150           | 200                 | 250           | 300                              | 210           | 290                 | 360           | 430                                            | 170           | 230                 | 290           | 350   |
| Diameter of clearance hole in the fixture  | d <sub>f</sub>                    | 14            | 18                  | 22            | 26                               | 14            | 18                  | 22            | 26                                             | 14            | 18                  | 22            | 26    |
| Projection length of anchor bolt           | h <sub>b</sub>                    | 63            | 79                  | 100           | 121                              | 68            | 89                  | 110           | 131                                            | 68            | 89                  | 110           | 131   |
| Maximum thickness of fixture               | t <sub>fix,max</sub>              | 25            | 30                  | 40            | 50                               | 30            | 40                  | 50            | 60                                             | 30            | 40                  | 50            | 60    |
| Minimum tensile strength                   | s <sub>t</sub>                    | 400           | 400                 | 400           | 400                              | 800           | 800                 | 830           | 830                                            | 500           | 500                 | 500           | 500   |
| Lower yield strength                       | s <sub>y</sub>                    | 240           | 240                 | 240           | 240                              | -             | -                   | -             | -                                              | -             | -                   | -             | -     |
| Stress at 0.2% non-proportional elongation | s <sub>0.2</sub>                  | -             | -                   | -             | -                                | 640           | 640                 | 660           | 660                                            | 210           | 210                 | 210           | 210   |

\*1: Steel grade according to JIS B 1051 (ISO 898-1)  
\*2: Steel grade according to JIS B 1054-1 (ISO 3056-1)  
JIS: Japanese Industrial Standard

Tool list

|                                           | <b>AZ46</b>   |                   |                     |               | <b>AZ88</b>   |                   |                     |               | <b>AZA4</b>   |                   |                     |               |
|-------------------------------------------|---------------|-------------------|---------------------|---------------|---------------|-------------------|---------------------|---------------|---------------|-------------------|---------------------|---------------|
|                                           | Stock items   |                   | Made to order items |               | Stock items   |                   | Made to order items |               | Stock items   |                   | Made to order items |               |
| Primary hole bit with perpendicular guide | PHG225 101MAX | PHG305 138MAX     | PHG360 171MAX       | PHG440 205MAX | PHG225 146MAX | PHG305 205MAX     | PHG360 258MAX       | PHG440 306MAX | PHG225 114MAX | PHG305 155MAX     | PHG360 194MAX       | PHG440 231MAX |
| Primary hole bit                          | PH225 101MAX  | PH305 138MAX      | PH360 171MAX        | PH440 205MAX  | PH225 146MAX  | PH305 205MAX      | PH360 258MAX        | PH440 306MAX  | PH225 114MAX  | PH305 155MAX      | PH360 194MAX        | PH440 231MAX  |
| Undercutter                               | UC225SDS      | UC305MAX UC305HEX | UC360MAX            | UC440MAX      | UC225SDS      | UC305MAX UC305HEX | UC360MAX            | UC440MAX      | UC225SDS      | UC305MAX UC305HEX | UC360MAX            | UC440MAX      |
| Mechanical setting tool                   | STMAXM12      | STMAXM16          | STMAXM20            | STMAXM24      | STHEXM12      | STHEXM16          | STHEXM20            | STHEXM24      | STHEXM12      | STHEXM16          | STHEXM20            | STHEXM24      |
| Setting tool (hand-operated)              | STM12         | STM16             | STM20               | STM24         | STM12         | STM16             | STM20               | STM24         | STM12         | STM16             | STM20               | STM24         |
| Perpendicular guide                       | PG225         | PG305V            | PG360V              | PG440V        | PG225         | PG305V            | PG360V              | PG440V        | PG225         | PG305V            | PG360V              | PG440V        |
| Perpendicular gauge                       | VG46225       | VG46305           | VG46360             | VG46440       | VG88225       | VG88305           | VG88360             | VG88440       | VGA4225       | VGA4305           | VGA4360             | VGA4440       |
| Undercut gauge                            | GE225         | GE305             | GE360               | GE440         | GE225         | GE305             | GE360               | GE440         | GE225         | GE305             | GE360               | GE440         |
| Cutter blade                              | BL225         | BL305             | BL360               | BL440         | BL225         | BL305             | BL360               | BL440         | BL225         | BL305             | BL360               | BL440         |
| Bow jaw                                   | BJ225         | BJ305             | BJ360               | BJ440         | BJ225         | BJ305             | BJ360               | BJ440         | BJ225         | BJ305             | BJ360               | BJ440         |

Features

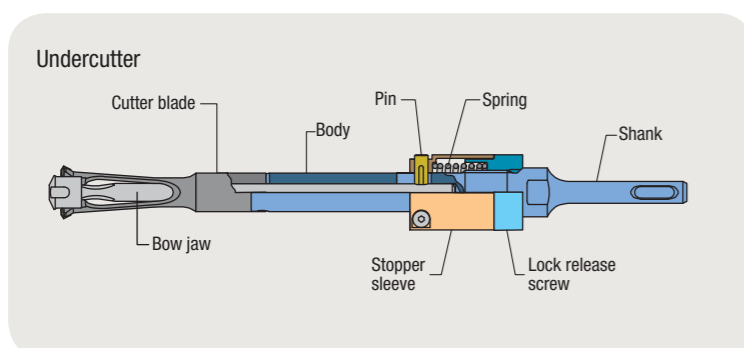
- Total post-installed anchor system for secure anchor work.
- Using our specialized Undercutter enables to undercut with easy and reliable operation.
- Prevents anchor bolt from slip by mechanical interlock.
- Large bearing area at the undercut part ensures secure anchoring even in low-strength concrete. (Even if the cracks occur on the concrete around working area, reduction in anchoring performance is minimized)
- The embedment depth of anchor bolt is designed to bear the characteristic steel yield strength. Anchor bolt can be designed with "full ductile steel failure".
- Anchor bolt materials : steel grade 4.6 / steel grade 8.8 / SUS316

For use in

- Various anchor works.

Specification

- See specification of ANZEX anchor bolt. (P-79)



Poly-Glic Series

S-LOCK Series

Deltagon Bit Series

Drill Bit Series

ANZEX Series

Diamond Series

METAL-BORER Series

Holesaw Series

Core Bit Series

Disk Series

Reference

# Installation Procedure

(You can visually confirm each process)

|                       | <b>1. Drill a primary hole</b>                                                                                                                                                                                                                                                           | <b>2. Clean the hole</b>                                                            | <b>3. Confirm depth and the perpendicular position</b>                                                                                                                                                                                                                                        | <b>4. Undercut</b>                                                                                                                                                                                                                                                                                                                                                   | <b>5. Clean the undercut hole</b>                                                   | <b>6. Confirm undercut</b>                                                                                                                                                                           | <b>7. Install an anchor bolt</b>                                                                                                                                                                                                         | <b>8. Fixing</b>                                                                                                                                                                                                                                               |
|-----------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                       | Drill a hole in proper depth with our "Primary hole bit with stopper".                                                                                                                                                                                                                   | Clean the hole using a blow-out bulb or compressed air.                             | Confirm less than ±5 degrees.                                                                                                                                                                                                                                                                 | Undercut with undercutter.                                                                                                                                                                                                                                                                                                                                           | Clean the undercut hole using a blow-out bulb or compressed air.                    | Confirm undercut.                                                                                                                                                                                    | Anchor bolt is expanded with setting tool.                                                                                                                                                                                               | Complete all process after tightening nuts.                                                                                                                                                                                                                    |
| Working image diagram |                                                                                                                                                                                                                                                                                          |                                                                                     |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     |                                                                                                                                                                                                      |                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                |
|                       |                                                                                                                                                                                                                                                                                          |                                                                                     |                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                      |                                                                                     |                                                                                                                                                                                                      |                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                |
| Visual check          | When the stopper of primary hole bit contacts a perpendicular guide (or the surface of concrete), the process is completed.                                                                                                                                                              |                                                                                     | Confirm the drilled depth and perpendicularity with white line of perpendicular gauge.                                                                                                                                                                                                        | Undercut is completed when the gap is closed.                                                                                                                                                                                                                                                                                                                        |                                                                                     | Once the gap of Undercut gauge is closed, undercut is completed.                                                                                                                                     | Once the red line of anchor bolt appears, the bolt is properly installed. (Once the bolt is installed completely, the hammering sound is changed.)                                                                                       |                                                                                                                                                                                                                                                                |
| Features              | <ul style="list-style-type: none"> <li>Primary hole bit</li> <li>Perpendicular guide</li> </ul> <p><b>Primary hole bit</b></p> <ul style="list-style-type: none"> <li>The stopper enables to drill a hole in proper depth.</li> <li>*Make sure to use our "Primary hole bit".</li> </ul> | <ul style="list-style-type: none"> <li>A blow-out bulb or compressed air</li> </ul> | <ul style="list-style-type: none"> <li>Depth perpendicular gauge</li> <li>A protractor</li> </ul> <p><b>Depth perpendicular gauge</b></p> <ul style="list-style-type: none"> <li>Measure the perpendicularity of the drilled hole.</li> <li>Confirm the depth of the primary hole.</li> </ul> | <ul style="list-style-type: none"> <li>Undercutter</li> </ul> <p><b>Undercutter</b></p> <ul style="list-style-type: none"> <li>The cutter blade is expanded and undercut.</li> <li>Undercut process can be completed in a short time.</li> <li>The completion of undercut process is visually confirmed.</li> <li>Cutter blade is easily interchangeable.</li> </ul> | <ul style="list-style-type: none"> <li>A blow-out bulb or compressed air</li> </ul> | <ul style="list-style-type: none"> <li>Undercut gauge</li> </ul> <p><b>Undercut gauge</b></p> <ul style="list-style-type: none"> <li>Undercut can be visually confirmed with using gauge.</li> </ul> | <ul style="list-style-type: none"> <li>Setting tool</li> <li>Anchor bolt</li> </ul> <p><b>Setting tool</b></p> <ul style="list-style-type: none"> <li>The undercut anchor bolt is installed with using original setting tool.</li> </ul> | <ul style="list-style-type: none"> <li>Nuts</li> <li>Washer</li> <li>Torque wrench</li> </ul> <p><b>Anchor bolt</b></p> <ul style="list-style-type: none"> <li>Interlocked mechanically by applying proper torque.</li> <li>Few stress to concrete.</li> </ul> |

Poly-Glic Series

S-LOCK Series

Deltagon Bit Series

Drill Bit Series

ANZEX Series

Diamond Series

METAL-BORER Series

Holesaw Series

Core Bit Series

Disk Series

Reference



Best for  
Concrete

Reliable anchor bolt installation by mechanical interlock.

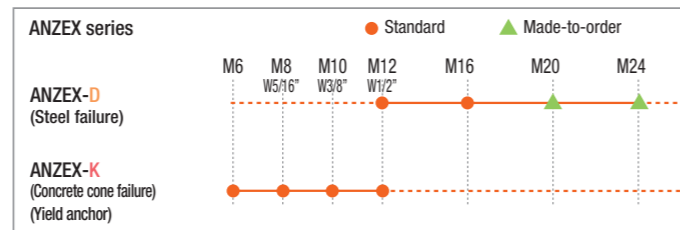
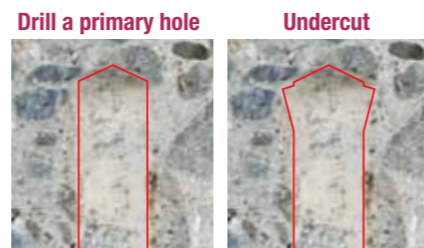


Features

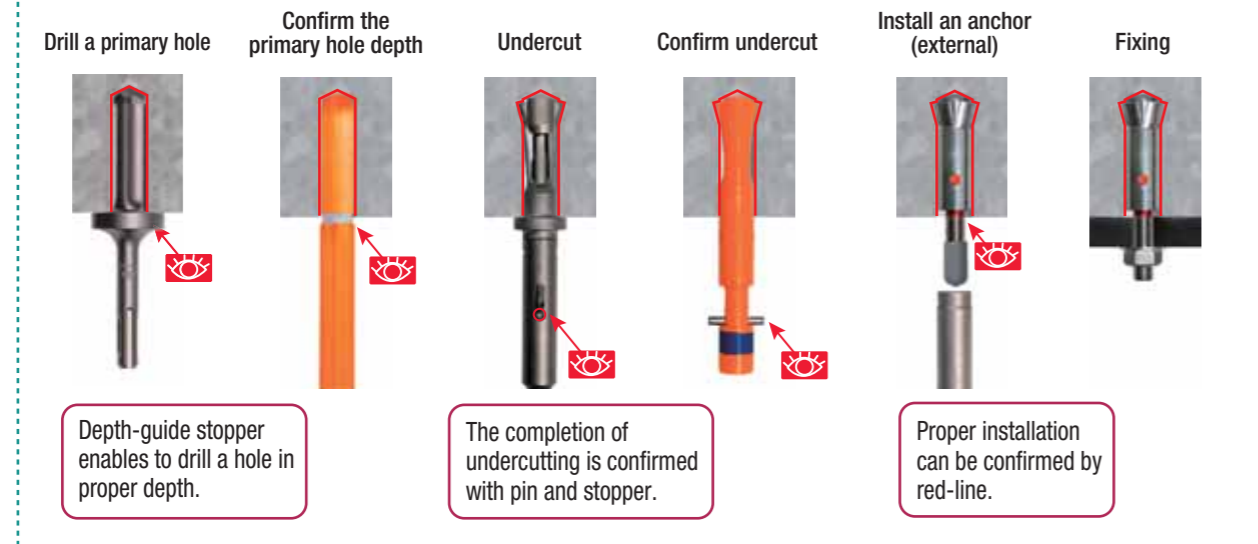
- Prevents anchor bolt from slip by mechanical interlock.
- ANZEX-K is designed with higher failure strength than yield strength of anchor bolt.
- Maintains anchoring performance in cracked concrete is minimized.
- Prevents anchor bolt from contact with the rebar by minimalizing the primary hole depth.
- Both "External thread" and "Internal thread" are available. Tools can be used with both types.
- Completion of installation can be visually checked.

Application

- Application for request of safety or reliability. e.g. Installation of ceiling hanger. Installation of air conditioning ducts. Installation of cable rack. Installation of high ceiling lighting in tunnel.



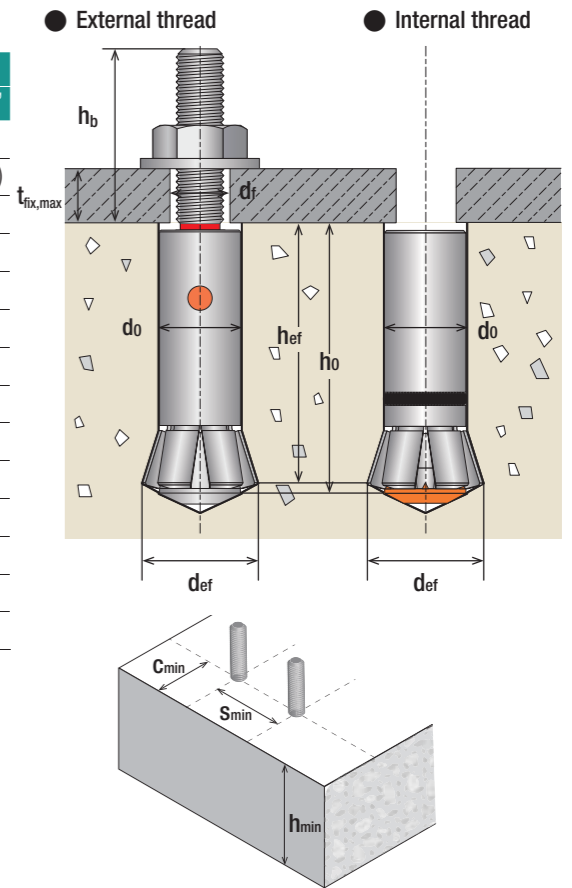
Visual confirmation



ANZEX-K Specifications (External thread / Internal thread)

| Thread size                           | M6 M8 M10 M12           |                                             |       |       |      |
|---------------------------------------|-------------------------|---------------------------------------------|-------|-------|------|
|                                       | -                       | W5/16"                                      | W3/8" | W1/2" |      |
| Property class                        | AZK-46E/H               | Steel grade:4.6*1                           |       |       |      |
|                                       | AZK-A4N                 | Property class:50*2 Steel grade:A4 (SUS316) |       |       |      |
| Coating                               | AZK-46E                 | Zinc coating (electroplated)                |       |       |      |
|                                       | AZK-46H                 | Zinc coating (hot dip galvanized)           |       |       |      |
|                                       | AZK-A4N                 | No coating                                  |       |       |      |
| Drill hole diameter                   | d <sub>0</sub> mm       | 10.6                                        | 13.6  | 16.6  | 19.6 |
| Drill hole depth                      | h <sub>0</sub> mm       | 33.1                                        | 43.3  | 53.7  | 64   |
| Effective anchorage depth             | h <sub>ef</sub> mm      | 32                                          | 42    | 52    | 62   |
| Projection length of anchor bolt      | h <sub>b</sub> mm       | 20                                          | 25    | 30    | 41   |
| Maximum thickness of fixture          | t <sub>fix,max</sub> mm | 10                                          | 13    | 15    | 22   |
| Diameter of clearance hole in fixture | d <sub>f</sub> mm       | 7                                           | 9     | 12    | 14   |
| Minimum member thickness              | h <sub>min</sub> mm     | 100                                         | 100   | 110   | 120  |
| Minimum edge distance                 | c <sub>min</sub> mm     | 30                                          | 35    | 45    | 50   |
| Minimum spacing                       | s <sub>min</sub> mm     | 32                                          | 42    | 52    | 62   |

\*1 Steel grade according to JIS B 1051 (ISO 898-1)  
\*2 Steel grade according to JIS B 1054-1 (ISO 3506-1)  
(JIS: Japanese Industrial Standards)



Anchor bolts

|                 | M6                                           | M8          | M10         | M12         | W5/16"      | W3/8"       | W1/2"       |
|-----------------|----------------------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| External thread | AZK-46E<br>Zinc coating (electroplated)      | KM06P46E106 | KM08P46E136 | KM10P46E166 | KM12P46E196 | -           | -           |
|                 | AZK-46H<br>Zinc coating (hot dip galvanized) | -           | -           | KM10P46H166 | KM12P46H196 | -           | -           |
|                 | AZK-A4N                                      | KM06PA4N106 | KM08PA4N136 | KM10PA4N166 | KM12PA4N196 | -           | -           |
| Internal thread | AZK-46E<br>Zinc coating (electroplated)      | KM06I46E106 | KM08I46E136 | KM10I46E166 | KM12I46E196 | KW25I46E136 | KW30I46E166 |
|                 | AZK-46H<br>Zinc coating (hot dip galvanized) | -           | -           | KM10I46H166 | KM12I46H196 | -           | KW30I46H166 |
|                 | AZK-A4N                                      | KM06IA4N106 | KM08IA4N136 | KM10IA4N166 | KM12IA4N196 | KW25IA4N136 | KW30IA4N166 |

Specialized tools (usable for both external thread and internal thread)

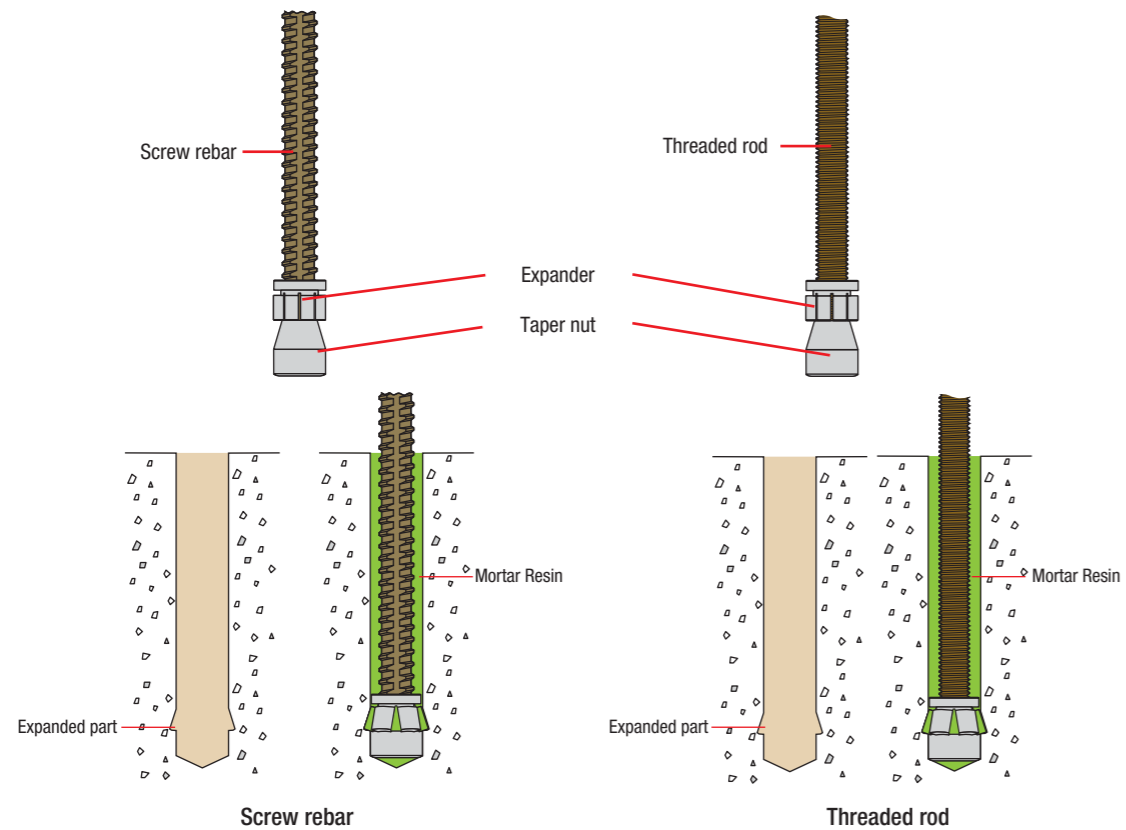
|                                         | M6           | M8 · W5/16"  | M10 · W3/8"  | M12 · W1/2"  |
|-----------------------------------------|--------------|--------------|--------------|--------------|
| Primary hole bit                        | KPH106036SDS | KPH136047SDS | KPH166058SDS | KPH196069SDS |
| Depth gauge                             | KVG106       | KVG136       | KVG166       | KVG196       |
| Undercutter                             | KUC106SDS    | KUC136SDS    | KUC166SDS    | KUC196SDS    |
| Cutter blade                            | KBL106       | KBL136       | KBL166       | KBL196       |
| Bow jaw                                 | KBJ106       | KBJ136       | KBJ166       | KBJ196       |
| Undercut gauge                          | KGE106       | KGE136       | KGE166       | KGE196       |
| Setting tool (External thread)          | KSTSDSM6     | KSTSDSM8     | KSTSDSM10    | KSTSDSM12    |
| Setting tool (Internal thread)          | KSTSDSM6I    | KSTSDSM8I    | KSTSDSM10I   | KSTSDSM12I   |
| Setting tool (hand-operated / External) | KSTM6        | KSTM8        | KSTM10       | KSTM12       |
| Setting tool (hand-operated / Internal) | KSTM6I       | KSTM8I       | KSTM10I      | KSTM12I      |

\*All specifications are subject to change without prior notice.

Poly-Gluc Series  
S-LOCK Series  
Deltagon Bit Series  
Drill Bit Series  
ANZEX Series  
Diamond Series  
METAL-ROPER Series  
Holesaw Series  
Core Bit Series  
Disk Series  
Reference

# Undercut Anchor System

## ANZEX-LF (made to order)



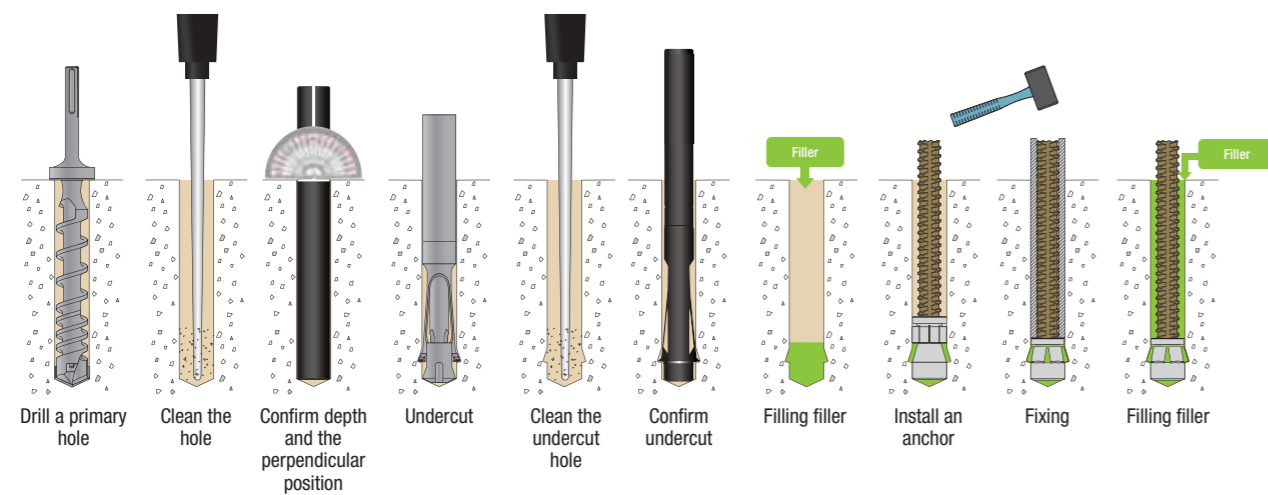
### Features

- Fixing the anchor mechanically in the undercut hole, the initial stress is not applied to the concrete.
- Compared to the bonded anchor, the shorter fixing length realizes the reliable fixing.
- Ensures high reliability for cracked concrete compared to expansion anchor or bonded anchor.
- Anchor length or fixing length can be freely designed.

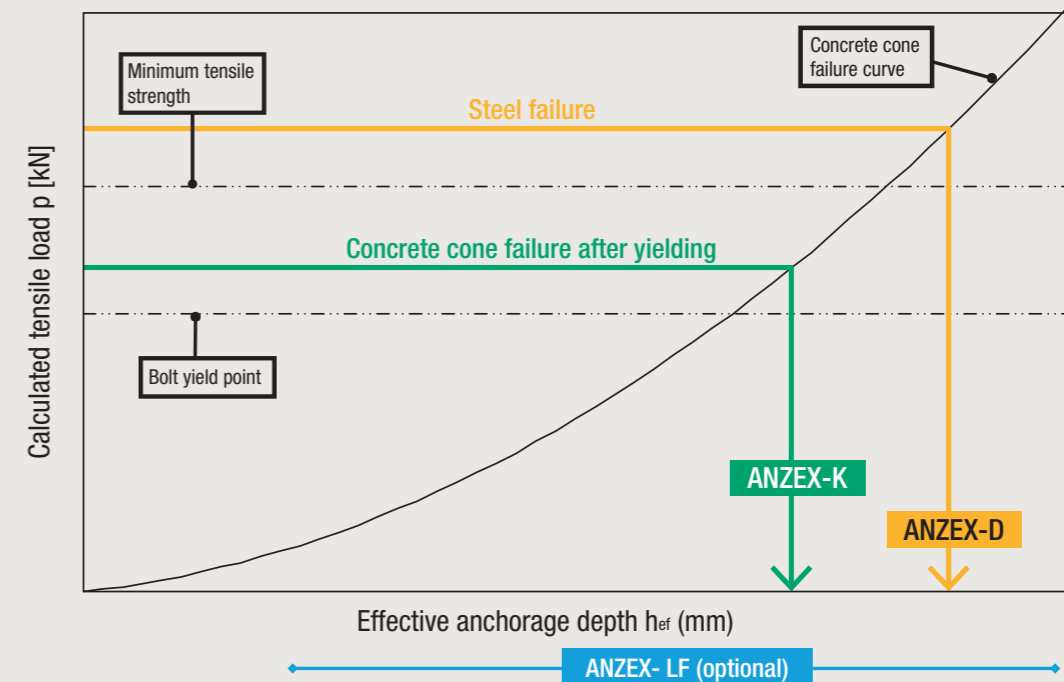
### Example of anchor reinforcing bar

- Screw rebar  
SD345, SD490 Size: D13 – D32
- Threaded rod :  
steel grade 4.6, steel grade 8.8, SUS316 Size: M12 – M36

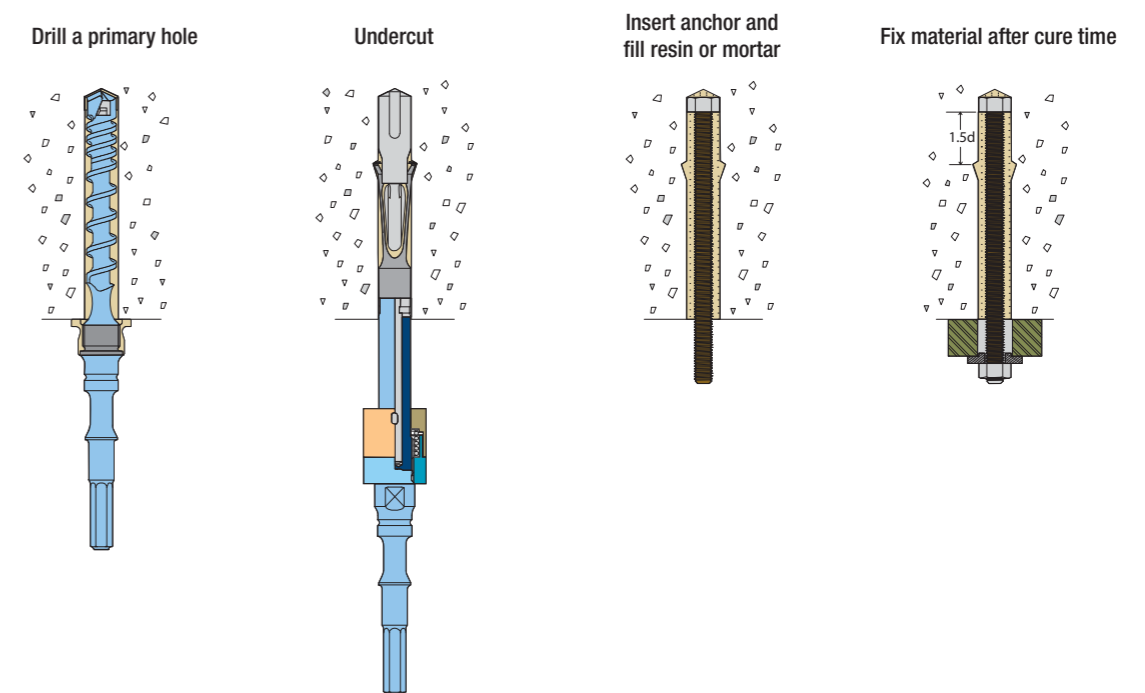
### How to install



### Design of effective anchorage depth (ANZEX series)



### Application example



### Features

- Undercut part at about 1.5d from bottom of the hole realizes high security against tensile load.
- Less rust by covering the bolts with resin or mortar even in the severe environment where rust is gathered easily.

**90** → **WET TYPE** Mistdia Drill Bit  
(Quick-Change Type)



Dia. **4.0-24.0**mm

Best for low vibration and low noise construction.

**92** → **WET TYPE** AQUASHOT



Dia. **4.0-10.5**mm

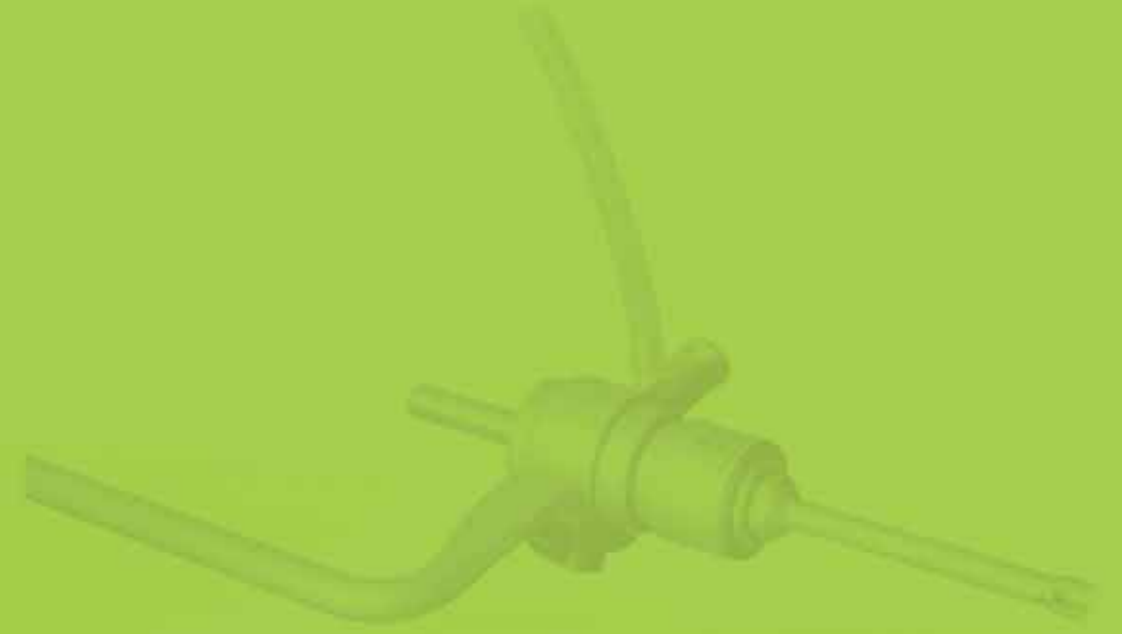
Easy drilling into difficult-to-cut materials such as ceramic tile.

**94** → **COOLDIA (Diamond Bit)**



Dia. **5.0-38.0**mm

Easy drilling into ceramic tile with use of Cool Gel for waterless operation.



# Diamond series

Diamond enables drilling of difficult-to-cut materials such as concrete, ceramic tile, and stone with a rotary drill. We realized more speedy and efficient drilling.

Diamond abrasive grains and metal powders are sintered and used as a cutting blade. Drilling in rotation mode reduces the burden on the body and enables low-vibration and low-noise construction.

# 6

# Wet Type Mistdia Drill Bit (Quick-Change Type) Features

## Feature 1 Drilling only in rotary mode

Drilling holes into concrete, ceramic tile, porcelain tile and stone only with drilling in rotary mode.  
Cracks do not get clogged with dust.  
Delamination on the back side at the time of penetration is minimized.

### Comparison of residual dust around cracks



Hammer drill bit



Mistdia Drill Bit

### Comparison of delamination on the back side



Hammer drill bit

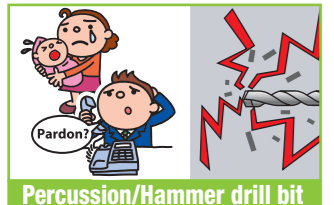
Percussion drill bit

Mistdia Drill Bit

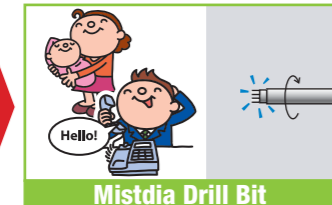
Delamination on the back side at the time of penetration is minimized by rotary-only drilling, which achieves the best finish for resin injection.

## Feature 2 Low vibration and low noise

Low noise is achieved by rotary-only drilling. It is possible to work anytime and anywhere.



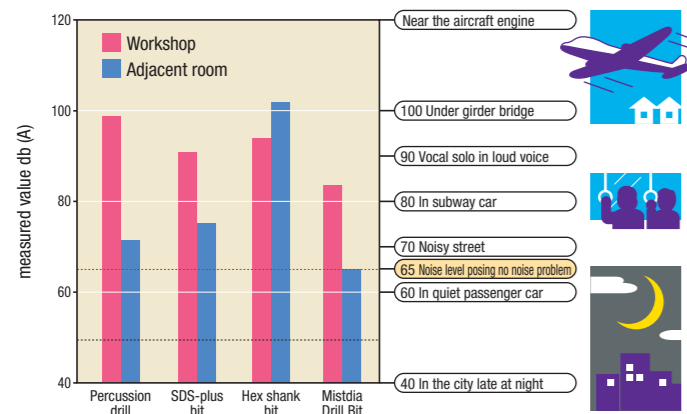
Percussion/Hammer drill bit



Mistdia Drill Bit

### Noise level comparison

\*The measurement results are a few examples and may differ depending on environment and drilling conditions.



## Feature 3 Greatly increased drilling efficiency and durability

Easy drilling in materials such as hard ceramic tile and stone without burning or chipping of cutting edge.



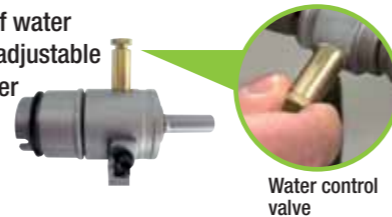
Chipped cutting edge



Drilling with Mistdia Drill Bit

## Feature 6 Finely adjustable water flow

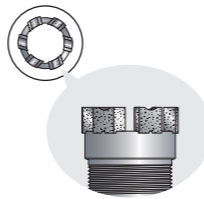
The amount of water flow is finely adjustable using the water control valve attached onto the shank.



Water control valve

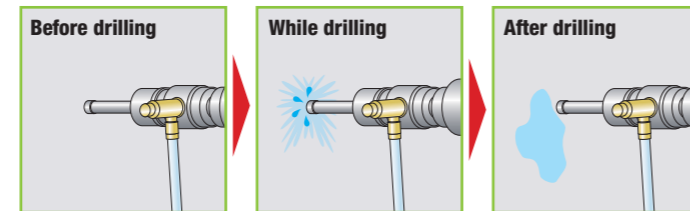
## Feature 4 Limited circumferential wear

Proper diameter is kept until the cutter reaches the durable period.



## Feature 5 Reduced wetting (Automatic lock mechanism)

By automatic lock mechanism, water is fed to the cutting teeth only while drilling. Wetting in workplace is reduced.



### Dust Collecting Pad leaves no mess!

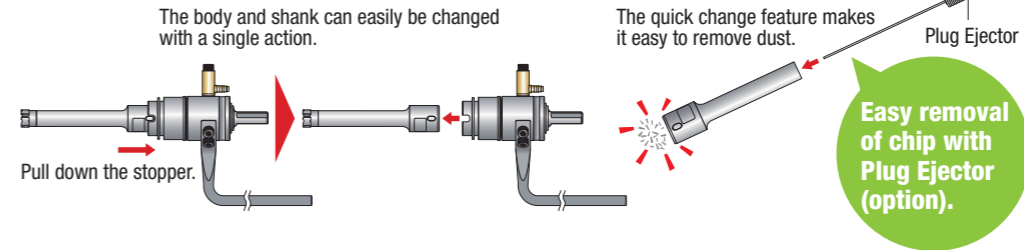


Using Dust Collecting Pad

After using Dust Collecting Pad  
(Only the area under the pad is exposed to the water.)

## Feature 7 Easy body replacement with Quick Change system

The body can be detached with a single action.



The body and shank can easily be changed with a single action.

The quick change feature makes it easy to remove dust.

Easy removal of chip with Plug Ejector (option).

## Feature 8 Cost saving

Individually replaceable cutter that delivers cost saving.



## Option



Water Bottle Swivel Set [PBSSH]  
\*Water bottle is not included.

For hanging plastic bottle onto your belt.  
Hands-Free Belt Clip [PBHBC]



Spare Hose [PBT1200]  
Length: 1,200mm

Hands-Free Kit [PBHKIT]  
\*Replacement parts for PBSSH.

Spare Valve [DMNV]



Positioning Plate [PP]

For Positioning Mistdia Drill Bit.  
Positioning Guide [PG]

When the diamond segment is clogged or burned, drill a few times into the dressing plate.  
Diamond Dressing Plate [DDP]  
L75mm x W150mm x H40mm

For removing dust and water (Please use with Wet Vacuum Cleaner.)  
Also can be used as positioning guide.



Dust Collecting Pad 38 [SJP038]

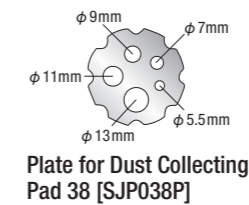


Plate for Dust Collecting Pad 38 [SJP038P]

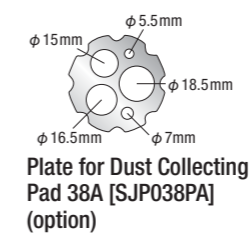


Plate for Dust Collecting Pad 38A [SJP038PA] (option)

To remove slug in the body.



Plug Ejector [DMPE1]

For supplying water to Mistdia Drill Bit.  
Simple Water Supply Kit [DME]



# Mistdia Drill Bit (Quick-Change Type)



## Mistdia Drill Bit (Quick-Change Type)

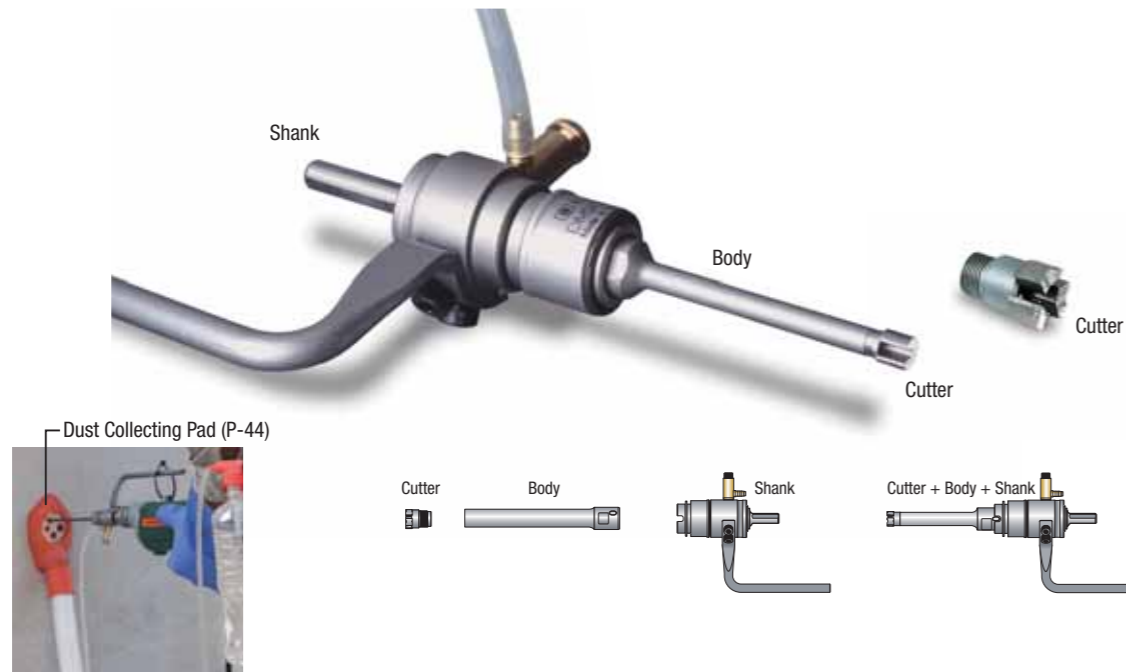
### Best for

- Concrete
- PC concrete
- Porcelain tile
- Ceramic tile
- Stone
- Roof tile
- Artificial marble
- Tile

### Also can be used in

- Mortar
- Brick

Best for low vibration and low noise construction.



### Features

- Speedy drilling into concrete, porcelain tile, ceramic tile, granite, and marble with low noise and vibration.
- Best for drilling holes in small diameters with low vibration and low noise.
- Quickly drills into difficult-to-cut materials such as ceramic tile and stone.
- Supplied water cools the diamond-tipped teeth, removes dust, and increases drilling efficiency.
- The cutter can be individually replaced when the cutting teeth is worn out.

### For use in

- Concrete, Stone, Ceramic tile, and Porcelain tile
- \*For earthquake-resistant reinforcement work, water-proofing work, and drilling pilot holes for installation of anchor bolts

### For use with

- Recommended rotation speed: 1500 to 15000min<sup>-1</sup> (ensure to use with double insulated drilling machine in rotary mode only)
- Earthquake-resistant reinforcement work

### Positioning Plate



### Example of use

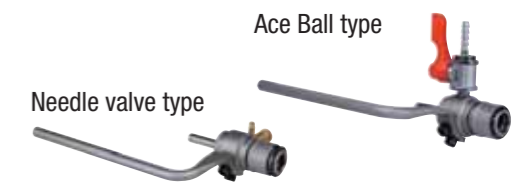


### Size table

| Cutter dia.<br>mm | Cutter<br>Part No. | Body                                 |                                       |                                       |                                       |
|-------------------|--------------------|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
|                   |                    | Max. drilling depth 50mm<br>Part No. | Max. drilling depth 100mm<br>Part No. | Max. drilling depth 130mm<br>Part No. | Max. drilling depth 200mm<br>Part No. |
| 4.0               | DM040C             | DMA04050B                            |                                       |                                       |                                       |
| 5.0               | DM050C             | DMA05050B                            | DMA050100B                            |                                       |                                       |
| 5.5               | DM055C             |                                      |                                       |                                       |                                       |
| 6.0               | DM060C             |                                      |                                       |                                       |                                       |
| 6.5               | DM065C             | DMA06050B                            | DMA060100B                            |                                       |                                       |
| 7.0               | DM070C             |                                      |                                       |                                       |                                       |
| 8.0               | DM080C             | DMA08050B                            | DMA080100B                            |                                       |                                       |
| 8.5               | DM085C             |                                      |                                       |                                       |                                       |
| 9.0               | DM090C             | DMA08550B                            | DMA085100B                            |                                       |                                       |
| 10.0              | DM100C             | DMA10050B                            | DMA100100B                            |                                       |                                       |
| 10.5              | DM105C             | DMA10550B                            | DMA105100B                            |                                       |                                       |
| 12.0              | DM120C             | DMA12050B                            | DMA120100B                            |                                       |                                       |
| 12.5              | DM125C             | DMA12550B                            | DMA125100B                            |                                       |                                       |
| 14.5              | DM145C             | DMA14550B                            | DMA145100B                            |                                       |                                       |
| 16.0              | DM160C             |                                      | DMA160100B                            |                                       |                                       |
| 16.5              | DM165C             |                                      | DMA165100B                            |                                       |                                       |
| 18.0              | DM180C             |                                      | DMA180100B                            |                                       |                                       |
| 19.0              | DM190C             |                                      |                                       | DMA190130B                            |                                       |
| 20.0              | DM200C             |                                      |                                       | DMA200130B                            |                                       |
| 22.0              | DM220C             |                                      |                                       |                                       | DMA220200B                            |
| 23.0              | DM230C             |                                      |                                       |                                       | DMA230200B                            |
| 24.0              | DM240C             |                                      |                                       |                                       | DMA240200B                            |

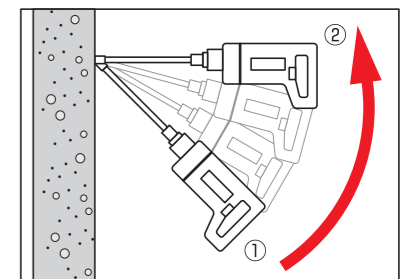
### Shank Assembly

| Item          | Part No. | For use with                   | Note              |
|---------------|----------|--------------------------------|-------------------|
| No.1          | DMSK1A   | φ4.0 – 12.5mm Shank size 6.5mm | Needle valve type |
| No.2          | DMSK2A   | φ14.5 – 24.0mm Shank size 10mm |                   |
| No.1 Ace Ball | DMSK1ABH | φ4.0 – 12.5mm Shank size 6.5mm | Ace Ball type     |
| No.2 Ace Ball | DMSK2ABH | φ14.5 – 24.0mm Shank size 10mm |                   |



### Recommended Rotation Speed / Wattage

| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| φ4.0 – 10.5          | 15000 – 3000                        | 250W and above        |
| φ12.0 – 24.0         | 7000 – 1500                         | 500W and above        |



### Positioning

- ① Put the cutter to the work material in an oblique direction and start drilling.
- ② Slowly move the drilling position to vertical.

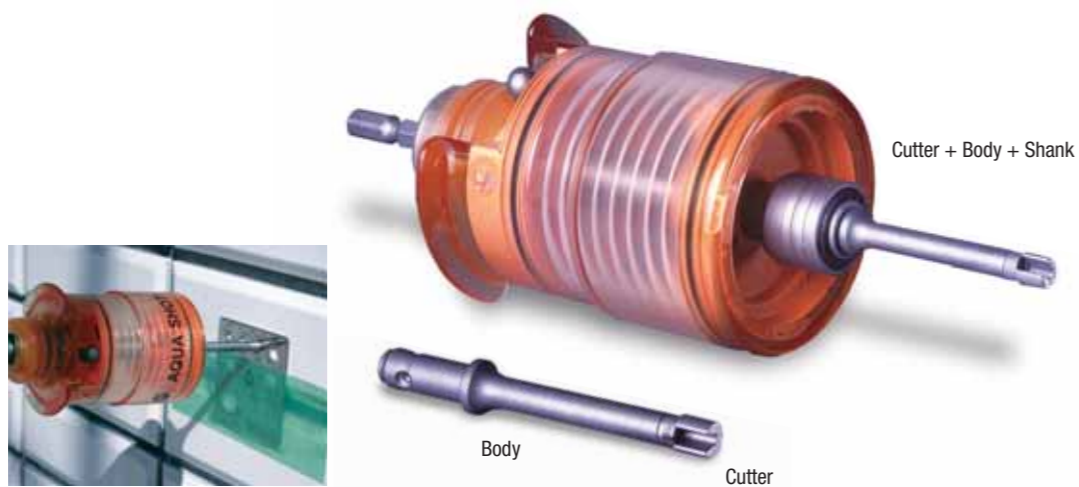
**Best for**

- Ceramic tile
- Porcelain tile
- Stone
- Tile

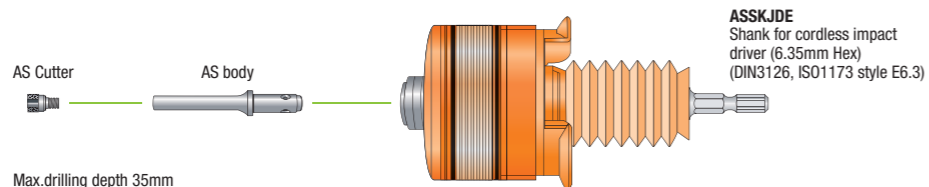
**Also can be used in**

- Marble
- Artificial marble
- Clay pipe
- Brick

Easy drilling into difficult-to-cut materials such as ceramic tile.



Cutter dia.  $\phi$ 4-10.5



**Features**

- Smoothly drilling into porcelain tile, ceramic tile, granite, and marble with cordless impact drivers.
- Built-in water tank self feeds water.
- One shank fits all replaceable cutters.

**For use in**

- Ceramic tile and Stone

**For use with**

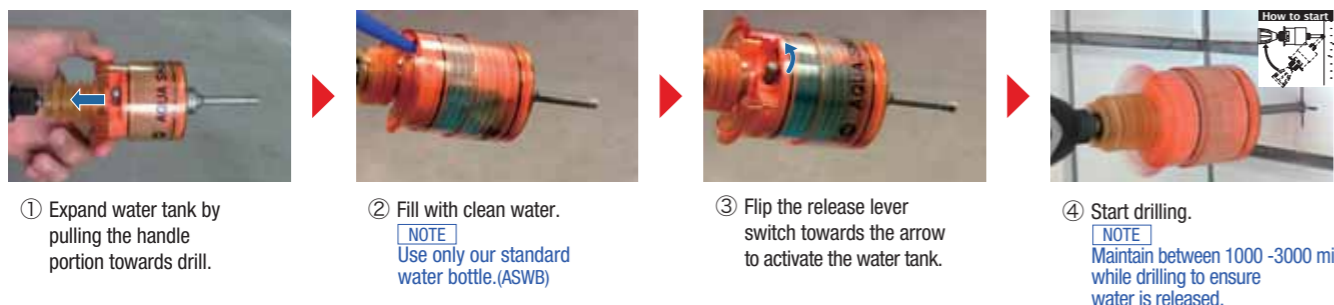
- Recommended rotation speed: 1000 to 3000min<sup>-1</sup>  
(NOTE: Maintain between 1000-3000min<sup>-1</sup> while drilling to ensure water is released.)  
(NOTE: Make sure to use with double insulated drilling machine in rotary mode.)
- Cordless impact drivers (1/4" Hexagonal shank (6.35mm))  
(DIN 3126, ISO1173 Style E6.3)  
\*AQUASHOT can be used with impact driver drill.  
(NOTE: The cutter can be damaged if it is constantly subjected to impact. Use the drill with the optimum thrust.)

**Built-in water supply tank !**

Simple workability without water tank, hose and stopper



**How to use**



**Size table**

\*AS set contains shank, body, cutter, and water bottle (ASWB).

| Cutter dia.<br>mm | AS set Part No. | AS cutter Part No. | AS body Part No.<br>Max. drilling depth 35mm |
|-------------------|-----------------|--------------------|----------------------------------------------|
| 4.0               | AS040STE        | AS040C             | AS040B                                       |
| 5.0               | AS050STE        | AS050C             | AS050B                                       |
| 5.5               | AS055STE        | AS055C             | AS050B                                       |
| 6.0               | AS060STE        | AS060C             | AS060B                                       |
| 6.5               | AS065STE        | AS065C             | AS060B                                       |
| 7.0               | AS070STE        | AS070C             | AS060B                                       |
| 8.0               | AS080STE        | AS080C             | AS080B                                       |
| 8.5               | AS085STE        | AS085C             | AS085B                                       |
| 9.0               | AS090STE        | AS090C             | AS100B                                       |
| 10.0              | AS100STE        | AS100C             | AS100B                                       |
| 10.5              | AS105STE        | AS105C             | AS105B                                       |

**Shank**

| Item                                | Part No. | Remark                      |
|-------------------------------------|----------|-----------------------------|
| AS impact shank w/tank (6.35mm Hex) | ASSKJDE  | DIN3126, ISO1173 style E6.3 |



**Replacement parts**

| Item                     | Part No. | Remark                      |
|--------------------------|----------|-----------------------------|
| AS impact shank w/o tank | ASSKJDPE | DIN3126, ISO1173 style E6.3 |
| AS water tank            | ASWT     |                             |



**Option**

**Positioning Plate [PP]**



**Dust Collecting Pad 38 [SJP038]**



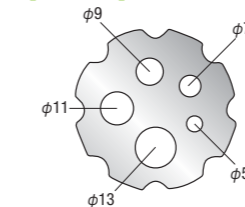
**Plate for Dust Collecting Pad 38 [SJP038P]**

For removing dust and water (Please use with Wet Vacuum Cleaner) Also can be used as positioning guide.

**Positioning Guide [PG]**



**Plate for Dust Collecting Pad 38 [SJP038P]**



**Water Bottle [ASWB]**



**Plug Ejector [DMPE1]**



**Diamond Dressing Plate [DDP]**

When the diamond segment is clogged or burned, drill a few time into the dressing plate.



L75mm x W150mm x H40mm



# COOLDIA (Diamond Bit)



Cordless impact driver

Electric drill in rotary mode (2000-3000min<sup>-1</sup>)

## COOLDIA (Diamond Bit)

|              |   |
|--------------|---|
| Best for     | ▼ |
| Ceramic tile |   |
| Stone plate  |   |
| Tile         |   |

Easy drilling into ceramic tile with use of Cool Gel for waterless operation.

|                     |   |
|---------------------|---|
| Also can be used in | ▼ |
| Extruded cement     |   |
| Artificial marble   |   |



### Size table

| Bit dia.<br>mm | Part No. | Max. drilling depth (mm) |
|----------------|----------|--------------------------|
| 5.0            | DG050    | 15                       |
| 6.0            | DG060    |                          |
| 6.5            | DG065    |                          |
| 7.0            | DG070    |                          |
| 8.0            | DG080    |                          |
| 10.0           | DG100    |                          |
| 12.0           | DG120    |                          |
| 13.5           | DG135    |                          |
| 15.0           | DG150    |                          |
| 20.0           | DG200    |                          |
| 25.0           | DG250    |                          |
| 30.0           | DG300    |                          |
| 32.0           | DG320    |                          |
| 35.0           | DG350    |                          |
| 38.0           | DG380    |                          |

### Cool Gel

| Item     | Part No. | Volume |
|----------|----------|--------|
| Cool Gel | GEL50    | 50ml   |
|          | GEL100   | 100ml  |



NOTE Please apply Cool Gel to 1/4 of cutting edge.

### Features

- Use with Cool Gel for waterless operation.
- Efficient removal of dust due to side slot.
- Cordless impact drivers (6.35mm Hexagonal shank) is usable.

### For use in

- Ceramic tile, Extruded cement, Artificial marble, etc.

### For use with

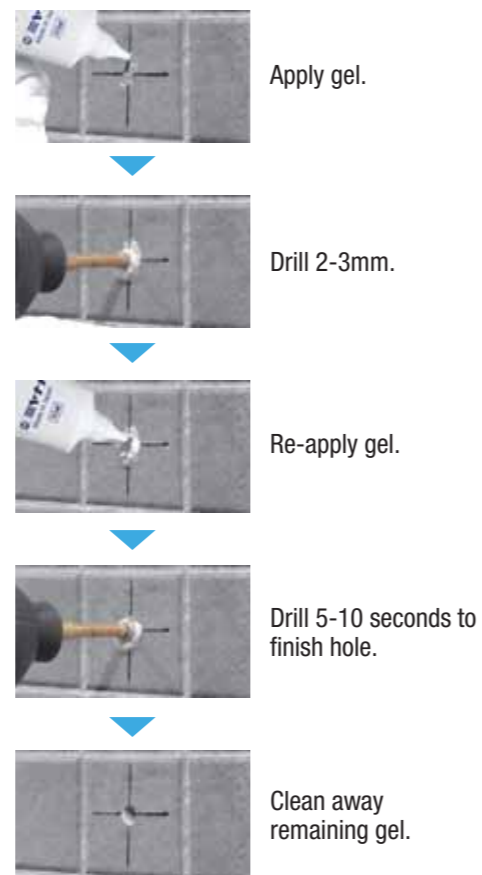
- Portable electric drills in rotary mode
- Cordless impact drivers (6.35mm Hexagonal shank)

### ⚠ Precautions for use

Please use Cool Gel (option).  
Water is also usable.



### How to use (with Cool Gel)



### Option

#### Positioning Plate [PP]



#### Positioning Guide [PG]



#### Plug Ejector [DMPE1]

To remove slug in the body.



#### Center pin [DGCP]



Use with bits dia. 20mm and above

Bit and center pin



Remove the center pin after drill 2-3mm depth into work material.

### Option

| Item                        | Part No. |
|-----------------------------|----------|
| Positioning Plate           | PP       |
| Positioning Guide           | PG       |
| Plug Ejector                | DMPE1    |
| Center pin for above 20.0mm | DGCP     |

Poly-Dic Series

S-LOCK Series

Delapan Bit Series

Drill Bit Series

ANEX Series

Diamond Series

METAL-BORER Series

Holesaw Series

Core Bit Series

Disk Series

Reference

# Combination of the Mistdia cutters, bodies, and shanks

**Wet type** For concrete, porcelain tile, ceramic tile and stone

## Mistdia Drill Bit (Quick-Change Type)

| Cutters(Part No.) | Bodies(Part No.) |
|-------------------|------------------|
| DM040C            | DMA04050B        |
| DM050C            | DMA050100B       |
| DM055C            | DMA05050B        |
| DM060C            | DMA060100B       |
| DM065C            | DMA06050B        |
| DM070C            | DMA06050B        |
| DM080C            | DMA080100B       |
| DM085C            | DMA085100B       |
| DM090C            | DMA08550B        |
| DM100C            | DMA100100B       |
| DM105C            | DMA10050B        |
| DM120C            | DMA120100B       |
| DM125C            | DMA12050B        |
| DM145C            | DMA145100B       |
| DM160C            | DMA14550B        |
| DM165C            | DMA160100B       |
| DM180C            | DMA165100B       |
| DM190C            | DMA180100B       |
| DM200C            | DMA190130B       |
| DM220C            | DMA200130B       |
| DM230C            | DMA220200B       |
| DM240C            | DMA230200B       |
| DM240C            | DMA240200B       |

**Shank No.1**  
Shank size 6.5mm

**Shank No.2**  
Shank size 10.0mm

Mistdia Drill Shank Assembly (Quick-Change type) No.1 DMSK1A

Mistdia Drill Shank Assembly (Quick-Change type) No.2 DMSK2A

Outer diameter of valve's nozzle : 5mm

Water Bottle Swivel Set (Hands-Free Type) PBSSH

Simple Water Supply kit DME

Nipple NIP16 Option

Inner diameter of hose 15mm

From a water supply

Max. drilling depth 50 or 100mm (Horseshoe type)

Max. drilling depth 100mm

Max. drilling depth 130mm

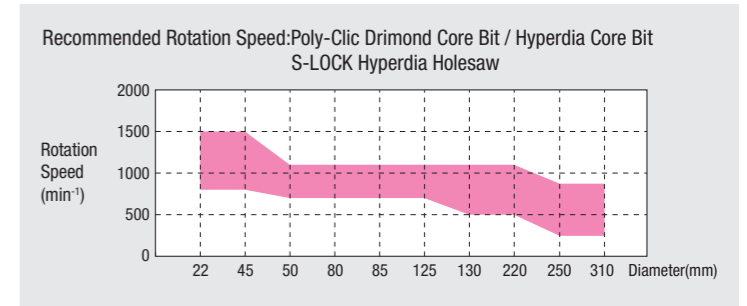
Max. drilling depth 200mm

\*Water bottle(Plastic bottle) is not included.

## Recommended Rotation Speed / Wattage

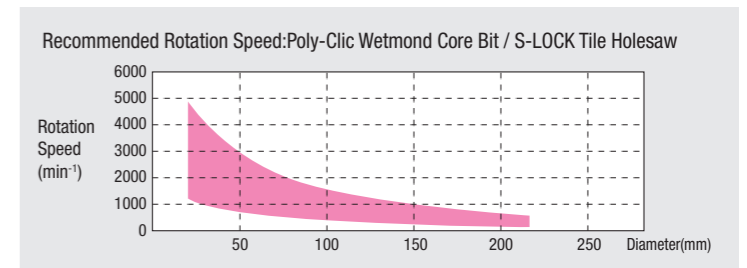
### Poly-Clic Drimond Core Bit / Hyperdia Core Bit S-LOCK Hyperdia Holesaw

| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| φ22 – 45             | 1500 – 800                          | 450W and above        |
| φ50 – 80             | 1100 – 700                          | 550W and above        |
| φ85 – 125            | 1100 – 700                          | 650W and above        |
| φ130 – 220           | 1100 – 500                          | 750W and above        |
| φ250 – 310           | 850 – 250                           | 1100W and above       |



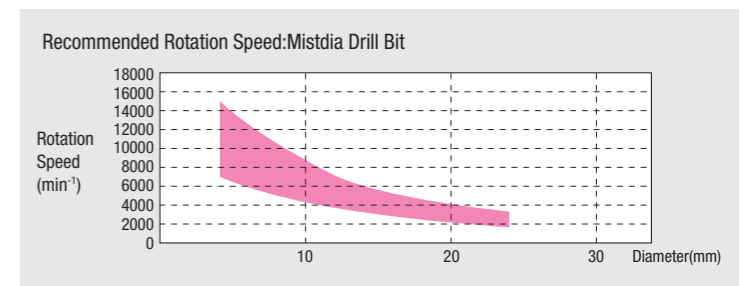
### Poly-Clic Wetmond Core Bit / S-LOCK Tile Holesaw

| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| φ22 – 40             | 4900 – 800                          | 500W and above        |
| φ45 – 65             | 2700 – 700                          | 500W and above        |
| φ70 – 120            | 1800 – 700                          | 700W and above        |
| φ130 – 220           | 1100 – 500                          | 700W and above        |



### Mistdia Drill Bit

| Cutter diameter (mm) | Rotation speed (min <sup>-1</sup> ) | Power consumption (W) |
|----------------------|-------------------------------------|-----------------------|
| φ4.0 – 10.5          | 15000 – 3000                        | 250W and above        |
| φ12.0 – 24.0         | 7000 – 1500                         | 500W and above        |

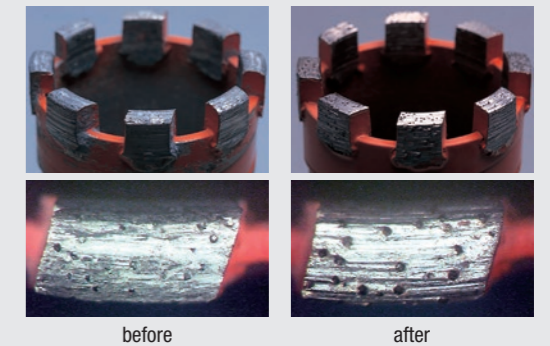


## Dressing

Dressing with block or dressing plate when drilling slow down.

### Diamond dressing plate

| Item                   | Part No. | Size (W×L×H) |
|------------------------|----------|--------------|
| Diamond dressing plate | DDP      | 150×75×40mm  |



**100 METAL-BORER 350/500**



Dia. **14-80mm**

Drilling a large-diameter hole of 50mm in a 50mm thick steel plate (MB500).

**102 METAL-BORER 350A/500A**



Dia. **14-65mm**

Realize high-speed and high-precision drilling with a minimal force.

**104 METAL-BORER M500**



Dia. **35-150mm**

Drill into sheet metal up to 50mm in thickness with a large diameter.

**106 METAL-BORER 750/750A**

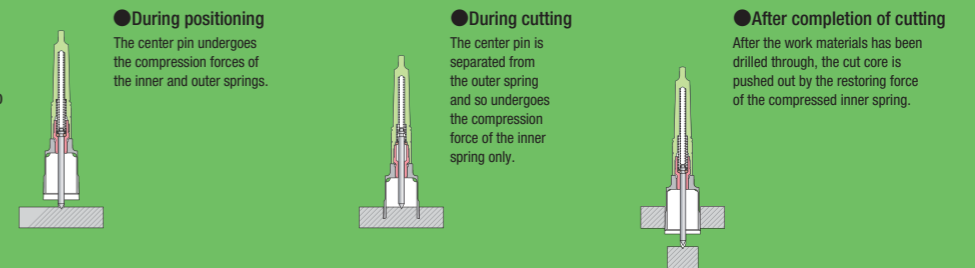


Dia. **22.5-26.5mm**

Realize high-speed and high-precision drilling with a minimal force (Max drilling depth 75mm).

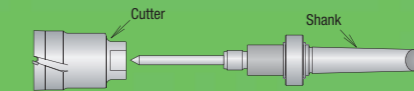
● **Dual-spring center pin (MT-2/MT-3)**

The center pin has eliminated the necessity for drilling a pilot hole to ensure accurate hole starting. The inner spring acts to push out the cut core and thus achieves smooth ejection.



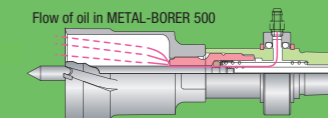
● **Cutter can be separated from shank**

Since the METAL-BORER is so designed that the cutter can be separated from the shank, cutters of different sizes can be fitted into the same shank.



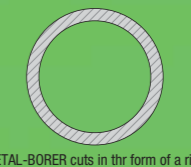
● **Cutting oil is fed from inside**

Adopting the internal oiling system in which cutting oil is fed from inside the cutter, the METAL-BORER offers high efficiency of oiling and even longer life of the cutting bits.



● **Energy-saving and efficient cutting**

While every conventional twist drill cuts the whole area of a drilling spot, the METAL-BORER only cuts the perimeter of a drilling spot in the form of a ring. Therefore, it requires low horsepower and thrust, thus achieving energy-saving cutting. Besides, in order to prevent the efficiency of cutting from lowering due to the jamming with dust, the Deltagon METAL-BORER uses three-part split bits and other METAL-BORERS use two-part split bits, which achieves smooth removal of dust and efficient cutting.



# METAL-BORER series

METAL BORERS are products that enable drilling large-diameter metal materials with less energy consumption and faster working speed.

In addition to steel plates, stainless steel and cast iron as well as curved holes such as steel pipes can be drilled.

It is a high-performance drilling universal tool made of metal material that can drill holes up to 150mm in diameter in materials up to 50mm thick.

# 7

# METAL-BORER 350/500



- Best for**
- Sheet metal
  - Stainless steel plate
  - Aluminium

Drilling a large-diameter hole of 50mm in a 50mm thick steel plate (MB500).



## Features

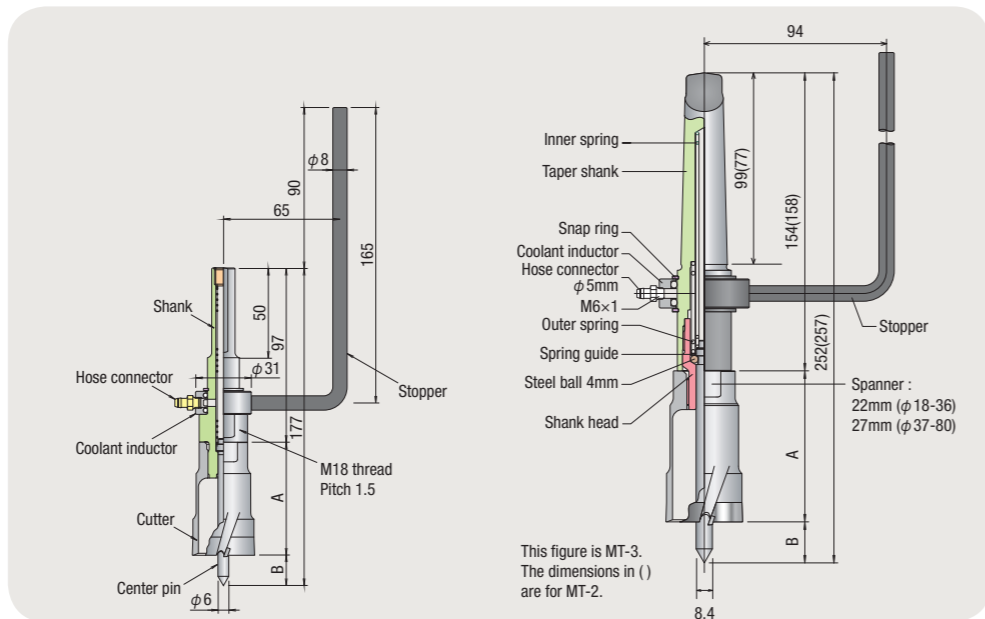
- High-speed and high-precision drilling is possible with a minimal force.

## For use in

- For drilling in Steel, Shape steel, Stainless steel plate, and Cast iron up to 35mm (MB350) or 50mm (MB500) in thickness
- Best for drilling work in shipbuilding, bridge building, framework building, and steel structure building

## For use with

- Magnetic drill presses, Upright drilling machines, Radial drilling machines, Lathes, and Milling machines



| Size             | A    | B    |
|------------------|------|------|
| MB350 φ14 – 25   | 67mm | 13mm |
| MB350 φ25.5 – 36 | 63mm | 17mm |

| Size                  | A    | B    |
|-----------------------|------|------|
| MB500 φ18 – 25        | 82mm | 17mm |
| MB500 φ25.5 and above | 78mm | 21mm |

## Size table METAL-BORER 350

(Max. drilling depth: 35mm)

| Cutter dia. mm | Part No. |
|----------------|----------|
| 14             | MB35014  |
| 14.5           | MB350145 |
| 15             | MB35015  |
| 16             | MB35016  |
| 17             | MB35017  |
| 17.5           | MB350175 |
| 18             | MB35018  |
| 19             | MB35019  |
| 20             | MB35020  |
| 21             | MB35021  |
| 21.5           | MB350215 |
| 22             | MB35022  |
| 22.5           | MB350225 |
| 23             | MB35023  |
| 23.5           | MB350235 |
| 24             | MB35024  |
| 24.5           | MB350245 |
| 25             | MB35025  |
| 25.5           | MB350255 |
| 26             | MB35026  |
| 26.5           | MB350265 |
| 27             | MB35027  |
| 28             | MB35028  |
| 29             | MB35029  |
| 30             | MB35030  |
| 31             | MB35031  |
| 32             | MB35032  |
| 33             | MB35033  |
| 35             | MB35035  |
| 36             | MB35036  |

## Size table METAL-BORER 500

(Max. drilling depth: 50mm)

| Cutter dia. mm | Part No. |
|----------------|----------|
| 18             | MB50018  |
| 19             | MB50019  |
| 20             | MB50020  |
| 21             | MB50021  |
| 21.5           | MB500215 |
| 22             | MB50022  |
| 22.5           | MB500225 |
| 23             | MB50023  |
| 23.5           | MB500235 |
| 24             | MB50024  |
| 24.5           | MB500245 |
| 25             | MB50025  |
| 25.5           | MB500255 |
| 26             | MB50026  |
| 26.5           | MB500265 |
| 27             | MB50027  |
| 27.5           | MB500275 |
| 28             | MB50028  |
| 29             | MB50029  |
| 30             | MB50030  |
| 31             | MB50031  |
| 32             | MB50032  |
| 33             | MB50033  |
| 34             | MB50034  |
| 35             | MB50035  |
| 36             | MB50036  |
| 37             | MB50037  |
| 38             | MB50038  |
| 39             | MB50039  |
| 40             | MB50040  |
| 41             | MB50041  |
| 42             | MB50042  |
| 43             | MB50043  |

| Cutter dia. mm | Part No. |
|----------------|----------|
| 44             | MB50044  |
| 45             | MB50045  |
| 46             | MB50046  |
| 47             | MB50047  |
| 48             | MB50048  |
| 49             | MB50049  |
| 50             | MB50050  |
| 51             | MB50051  |
| 52             | MB50052  |
| 53             | MB50053  |
| 54             | MB50054  |
| 55             | MB50055  |
| 56             | MB50056  |
| 57             | MB50057  |
| 58             | MB50058  |
| 59             | MB50059  |
| 60             | MB50060  |
| 61             | MB50061  |
| 62             | MB50062  |
| 63             | MB50063  |
| 64             | MB50064  |
| 65             | MB50065  |
| 66             | MB50066  |
| 67             | MB50067  |
| 68             | MB50068  |
| 70             | MB50070  |
| 71             | MB50071  |
| 72             | MB50072  |
| 75             | MB50075  |
| 77             | MB50077  |
| 78             | MB50078  |
| 80             | MB50080  |

## MB350 Shank Assembly

| Item        | Part No. | For use with |
|-------------|----------|--------------|
| Straight 13 | MBSK13   | φ14 – 25mm   |
| Straight 16 | MBSK16   | φ14 – 36mm   |

\*φ17mm or above cutters can be attached to MB500 Shank Assembly.  
\*Oiler is not included.

## MB500 Shank Assembly

| Item | Part No. | For use with |
|------|----------|--------------|
| MT-2 | MBSK2    | φ18 – 35mm   |
| MT-3 | MBSK3    | φ18 – 80mm   |

\*Oiler is included.

## Oiler

| Item  | Part No. |
|-------|----------|
| Oiler | MBO      |



# METAL-BORER 350A/500A



Magnetic drill presses



Magnetic drill presses for smaller sizes

## METAL-BORER 350A/500A

- Best for**
- Sheet metal
  - Stainless steel plate
  - Aluminium

Realize high-speed and high-precision drilling with a minimal force.



### Features

- Nitto Quick-change type.
- Circumferential cutting, in which cutting area is very small, permits boring large holes with low-powered machines.
- No need of pilot holes for positioning by using center pin. An inner spring provides easy removal of chips.

### For use in

- For drilling in Steel, Shape steel, Stainless steel plate, and Cast iron up to 35mm (MB350A) or 50mm (MB500A) in thickness
- Best for drilling work in shipbuilding, bridge building, framework building, and steel structure building

### For use with

- Magnetic drill presses, Upright drilling machines, Radial drilling machines, Lathes, and Milling machines

### Size table METAL-BORER 350A (Max. drilling depth: 35mm)

| Cutter dia.<br>mm | Part No.  |
|-------------------|-----------|
| 14                | MB350A14  |
| 14.5              | MB350A145 |
| 15                | MB350A15  |
| 16                | MB350A16  |
| 17                | MB350A17  |
| 17.5              | MB350A175 |
| 18                | MB350A18  |
| 19                | MB350A19  |
| 20                | MB350A20  |
| 21                | MB350A21  |
| 21.5              | MB350A215 |
| 22                | MB350A22  |
| 22.5              | MB350A225 |
| 23                | MB350A23  |
| 23.5              | MB350A235 |
| 24                | MB350A24  |
| 24.5              | MB350A245 |
| 25                | MB350A25  |
| 25.5              | MB350A255 |
| 26                | MB350A26  |
| 26.5              | MB350A265 |
| 27                | MB350A27  |
| 28                | MB350A28  |
| 29                | MB350A29  |
| 30                | MB350A30  |
| 31                | MB350A31  |
| 32                | MB350A32  |
| 33                | MB350A33  |
| 34                | MB350A34  |
| 35                | MB350A35  |
| 36                | MB350A36  |
| 37                | MB350A37  |
| 38                | MB350A38  |
| 39                | MB350A39  |
| 40                | MB350A40  |

### Size table METAL-BORER 500A (Max. drilling depth: 50mm)

| Cutter dia.<br>mm | Part No.  |
|-------------------|-----------|
| 18                | MB500A18  |
| 19                | MB500A19  |
| 20                | MB500A20  |
| 21                | MB500A21  |
| 21.5              | MB500A215 |
| 22                | MB500A22  |
| 22.5              | MB500A225 |
| 23                | MB500A23  |
| 23.5              | MB500A235 |
| 24                | MB500A24  |
| 24.5              | MB500A245 |
| 25                | MB500A25  |
| 25.5              | MB500A255 |
| 26                | MB500A26  |
| 26.5              | MB500A265 |
| 27                | MB500A27  |
| 28                | MB500A28  |
| 29                | MB500A29  |
| 30                | MB500A30  |
| 31                | MB500A31  |
| 32                | MB500A32  |
| 33                | MB500A33  |
| 34                | MB500A34  |
| 35                | MB500A35  |
| 36                | MB500A36  |
| 37                | MB500A37  |
| 38                | MB500A38  |
| 39                | MB500A39  |
| 40                | MB500A40  |
| 41                | MB500A41  |
| 42                | MB500A42  |
| 43                | MB500A43  |
| 44                | MB500A44  |
| 45                | MB500A45  |
| 46                | MB500A46  |
| 47                | MB500A47  |
| 48                | MB500A48  |
| 49                | MB500A49  |
| 50                | MB500A50  |
| 51                | MB500A51  |
| 52                | MB500A52  |
| 53                | MB500A53  |
| 54                | MB500A54  |
| 55                | MB500A55  |
| 56                | MB500A56  |
| 57                | MB500A57  |
| 58                | MB500A58  |
| 59                | MB500A59  |
| 60                | MB500A60  |
| 61                | MB500A61  |
| 62                | MB500A62  |
| 63                | MB500A63  |
| 64                | MB500A64  |
| 65                | MB500A65  |

### Shank Assembly

| Item  | Part No. | For use with |
|-------|----------|--------------|
| MT-2A | MBSK2A   | φ14 – 35mm   |
| MT-3A | MBSK3A   | φ17.5 – 65mm |

\*Optional center pin (MB35ACP1) is needed to use cutters of φ14mm to 17mm  
 \*Shank assembly is common to 350A and 500A  
 \*Oilier and vinyl chloride hose are included

### Carbide Tipped Center Pin

| Part No. | dia.(mm) | OVL(mm) | For use with        |
|----------|----------|---------|---------------------|
| MB35ACP1 | 7.1      | 91      | MB350A φ14 – 17mm   |
| MB35ACP2 | 8.0      | 93      | MB350A φ17.5 – 40mm |
| MB50ACP  | 8.0      | 115     | MB500A φ18 – 65mm   |



# METAL-BORER M500



- Best for**
- Sheet metal
  - Stainless steel plate
  - Aluminium

Drill into sheet metal up to 50mm in thickness with a large diameter.



## Features

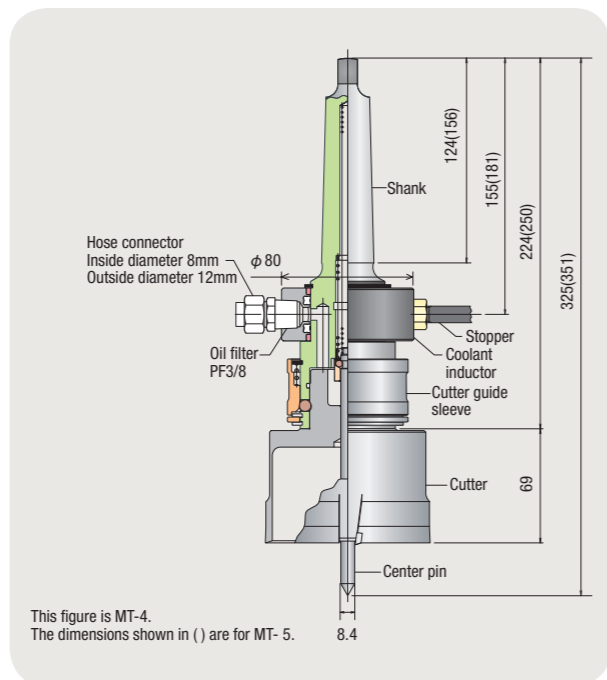
- Drill into sheet metal up to 50mm in thickness with a large diameter up to 150mm by using machine over 5 horsepower.
- The thick cutter body and thick carbide tips for heavy duty machine with large feed rate.

## For use in

- Steel, Copper, Aluminium, Stainless steel plate, and Cast iron up to 50mm in thickness

## For use with

- Various heavy-cutting machine tools such as Radial drilling machines, Milling machines, Horizontal boring machines, and Machining center



## Size table METAL-BORER M500 (Max. drilling depth: 50mm)

| Cutter dia. mm | Part No. | Shank Assembly             |
|----------------|----------|----------------------------|
| 35             | MBM35    | (Morse taper) MT-4<br>MT-5 |
| 36             | MBM36    |                            |
| 37*            | MBM37    |                            |
| 38             | MBM38    |                            |
| 39*            | MBM39    |                            |
| 40             | MBM40    |                            |
| 41*            | MBM41    |                            |
| 42             | MBM42    |                            |
| 43             | MBM43    |                            |
| 44             | MBM44    |                            |
| 45             | MBM45    |                            |
| 46*            | MBM46    |                            |
| 47*            | MBM47    |                            |
| 48             | MBM48    |                            |
| 49             | MBM49    |                            |
| 50             | MBM50    |                            |
| 51             | MBM51    |                            |
| 52             | MBM52    |                            |
| 53             | MBM53    |                            |
| 54             | MBM54    |                            |
| 55             | MBM55    |                            |
| 56             | MBM56    |                            |
| 57*            | MBM57    |                            |
| 58             | MBM58    |                            |
| 59*            | MBM59    |                            |
| 60             | MBM60    |                            |
| 61             | MBM61    |                            |
| 62             | MBM62    |                            |
| 63*            | MBM63    |                            |
| 64*            | MBM64    |                            |
| 65             | MBM65    |                            |
| 66             | MBM66    |                            |
| 67*            | MBM67    |                            |
| 68             | MBM68    |                            |
| 69*            | MBM69    |                            |
| 70             | MBM70    |                            |
| 71*            | MBM71    |                            |
| 72*            | MBM72    |                            |
| 73*            | MBM73    |                            |
| 74*            | MBM74    |                            |
| 75             | MBM75    |                            |

| Cutter dia. mm | Part No. | Shank Assembly     |
|----------------|----------|--------------------|
| 76*            | MBM76    | (Morse taper) MT-5 |
| 77             | MBM77    |                    |
| 78             | MBM78    |                    |
| 79*            | MBM79    |                    |
| 80             | MBM80    |                    |
| 81*            | MBM81    |                    |
| 82             | MBM82    |                    |
| 83*            | MBM83    |                    |
| 84*            | MBM84    |                    |
| 85             | MBM85    |                    |
| 86*            | MBM86    |                    |
| 87*            | MBM87    |                    |
| 88*            | MBM88    |                    |
| 89*            | MBM89    |                    |
| 90             | MBM90    |                    |
| 91*            | MBM91    |                    |
| 92*            | MBM92    |                    |
| 93*            | MBM93    |                    |
| 94*            | MBM94    |                    |
| 95             | MBM95    |                    |
| 96*            | MBM96    |                    |
| 97*            | MBM97    |                    |
| 98*            | MBM98    |                    |
| 99*            | MBM99    |                    |
| 100            | MBM100   |                    |
| 105            | MBM105   |                    |
| 110            | MBM110   |                    |
| 115            | MBM115   |                    |
| 120            | MBM120   |                    |
| 125            | MBM125   |                    |
| 130            | MBM130   |                    |
| 140            | MBM140   |                    |
| 150            | MBM150   |                    |

\*Made to order products



## Shank Assembly

| Item | Part No. | For use with |
|------|----------|--------------|
| MT-4 | MBMSK4   | φ35 – 75mm   |
| MT-5 | MBMSK5   | φ35 – 150mm  |



Poly-Clc Series  
S-LOCK Series  
Delapan Bit Series  
Drill Bit Series  
ANZE Series  
Diamond Series  
METAL-BORER Series  
Holesaw Series  
Core Bit Series  
Disk Series  
Reference

# METAL-BORER 750/750A



- Best for
- Sheet metal
- Stainless steel plate

Realize high-speed and high-precision drilling with a minimal force (Max. drilling depth: 75mm).



## Features

- High-speed and high-precision drilling is possible with a minimal force.

## For use in

- For drilling in Steel, Shape steel, Stainless steel plate, and Cast iron up to 75mm in thickness
- Best for drilling work in shipbuilding, bridge building, framework building, and steel structure building

## For use with

- Magnetic drill presses, Upright drilling machines, Radial drilling machines, Lathes, and Milling machines

## Size table METAL-BORER 750

(Max. drilling depth: 75mm)

| Cutter dia. | Part No. |
|-------------|----------|
| mm          |          |
| 23.5        | MB75235  |
| 24          | MB75240  |
| 24.5        | MB75245  |
| 26          | MB75260  |
| 26.5        | MB75265  |

## MB750 Center Pin Adaptor

| Item                     | Part No. |
|--------------------------|----------|
| MB750 Center Pin Adaptor | MB75CPAD |

\* For use with METAL-BORER Shank MT-2 and MT-3.

## Size table METAL-BORER 750A (Nitto Quick-change type)

(Max. drilling depth: 75mm)

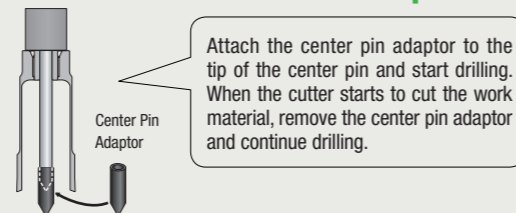
| Cutter dia. | Part No. |
|-------------|----------|
| mm          |          |
| 22.5        | MB75A225 |
| 23.5        | MB75A235 |
| 24          | MB75A240 |
| 24.5        | MB75A245 |
| 25          | MB75A250 |
| 26          | MB75A260 |
| 26.5        | MB75A265 |

## MB750A Center Pin Adaptor

| Item                      | Part No.  |
|---------------------------|-----------|
| MB750A Center Pin Adaptor | MB75ACPAD |

\* For use with METAL-BORER Center Pin (MB50ACP)

## How to use Center Pin Adaptor



Attach the center pin adaptor to the tip of the center pin and start drilling. When the cutter starts to cut the work material, remove the center pin adaptor and continue drilling.

\*Drilling into stainless steel is not suitable for magnetic drilling machine.

# Guidelines on the required work conditions of METAL-BORER and Holesaw

## Recommended rotation speed

Please note that the rotation speeds provided in this chart are only guidelines. Ensure to select the most appropriate speed according to your electric drill and work material.

### <Formula for determining the recommended rotation speed>

$$\text{Rotation speed (mm}^{-1}\text{)} = \frac{1000 \times \text{Peripheral speed (m/min)}}{\pi(3.14) \times \text{Cutter diameter (mm)}}$$

| Peripheral speed (m/min) | 16   | 17   | 18   | 19   | 20   | 25   | 30  | 35  | 40  | 45  | 50  | 55  | 60  | 65  | 70  | 75  | 80  | 85  | 90  | 100 | 110 | 120 | 130 | 140                 | 150 |  |
|--------------------------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|---------------------|-----|--|
| 90                       | 1790 | 1685 | 1591 | 1507 | 1432 | 1145 | 954 | 818 | 716 | 636 | 572 | 520 | 477 | 440 | 409 | 358 | 318 | 286 | 260 | 238 | 220 | 204 | 190 | TCT Cast iron       |     |  |
| 85                       | 1691 | 1591 | 1503 | 1424 | 1352 | 1082 | 901 | 773 | 676 | 601 | 541 | 491 | 450 | 416 | 386 | 338 | 300 | 270 | 245 | 225 | 208 | 193 | 180 |                     |     |  |
| 80                       | 1591 | 1497 | 1414 | 1340 | 1273 | 1018 | 848 | 727 | 636 | 565 | 509 | 462 | 424 | 391 | 363 | 318 | 282 | 254 | 231 | 212 | 195 | 181 | 169 | TCT Ordinary steel  |     |  |
| 75                       | 1492 | 1404 | 1326 | 1256 | 1193 | 954  | 795 | 682 | 596 | 530 | 477 | 434 | 397 | 367 | 341 | 298 | 265 | 238 | 217 | 198 | 183 | 170 | 159 |                     |     |  |
| 70                       | 1392 | 1310 | 1237 | 1172 | 1114 | 891  | 742 | 636 | 557 | 495 | 445 | 405 | 371 | 342 | 318 | 278 | 247 | 222 | 202 | 185 | 171 | 159 | 148 | TCT Stainless steel |     |  |
| 65                       | 1293 | 1217 | 1149 | 1088 | 1034 | 827  | 689 | 591 | 517 | 459 | 413 | 376 | 344 | 318 | 295 | 258 | 229 | 206 | 188 | 172 | 159 | 147 | 137 |                     |     |  |
| 60                       | 1193 | 1123 | 1061 | 1005 | 954  | 763  | 636 | 545 | 477 | 424 | 381 | 347 | 318 | 293 | 272 | 238 | 212 | 190 | 173 | 159 | 146 | 136 | 127 | BI Ordinary steel   |     |  |
| 55                       | 1094 | 1029 | 972  | 921  | 875  | 700  | 583 | 500 | 437 | 389 | 350 | 318 | 291 | 269 | 250 | 218 | 194 | 175 | 159 | 145 | 134 | 125 | 116 |                     |     |  |
| 50                       | 994  | 936  | 884  | 837  | 795  | 636  | 530 | 454 | 397 | 353 | 318 | 289 | 265 | 244 | 227 | 198 | 176 | 159 | 144 | 132 | 122 | 113 | 106 | BI Cast iron        |     |  |
| 45                       | 895  | 842  | 795  | 753  | 716  | 572  | 477 | 409 | 358 | 318 | 285 | 260 | 238 | 220 | 204 | 179 | 159 | 143 | 130 | 119 | 110 | 102 | 95  |                     |     |  |
| 40                       | 795  | 748  | 707  | 670  | 636  | 509  | 424 | 363 | 318 | 282 | 254 | 231 | 212 | 195 | 181 | 159 | 141 | 127 | 115 | 106 | 97  | 90  | 84  | BI Stainless steel  |     |  |
| 35                       | 696  | 655  | 618  | 586  | 557  | 445  | 371 | 318 | 278 | 247 | 222 | 202 | 185 | 171 | 159 | 139 | 123 | 111 | 101 | 92  | 85  | 79  | 74  |                     |     |  |
| 30                       | 596  | 561  | 530  | 502  | 477  | 381  | 318 | 272 | 238 | 212 | 190 | 173 | 159 | 146 | 136 | 119 | 106 | 95  | 86  | 79  | 73  | 68  | 63  | BI Cast iron        |     |  |
| 25                       | 497  | 468  | 442  | 418  | 397  | 318  | 265 | 227 | 198 | 176 | 159 | 144 | 132 | 122 | 113 | 99  | 88  | 79  | 72  | 66  | 61  | 56  | 53  |                     |     |  |
| 20                       | 397  | 374  | 353  | 335  | 318  | 254  | 212 | 181 | 159 | 141 | 127 | 115 | 106 | 97  | 90  | 79  | 70  | 63  | 57  | 53  | 48  | 45  | 42  | BI Stainless steel  |     |  |
| 15                       | 296  | 280  | 265  | 251  | 238  | 190  | 159 | 136 | 119 | 106 | 95  | 86  | 79  | 73  | 68  | 59  | 53  | 47  | 43  | 39  | 36  | 34  | 31  |                     |     |  |
| 10                       | 198  | 187  | 176  | 167  | 159  | 127  | 106 | 90  | 79  | 70  | 63  | 57  | 53  | 48  | 45  | 39  | 35  | 31  | 28  | 26  | 24  | 22  | 21  |                     |     |  |

TCT When carbide tipped cutter is used  
BI When Bi-Metal Holesaw is used

## <How to use the recommended rotation speed chart>

(Example)Cutter: Carbide tipped cutter

Cutter diameter: 50mm

Work material: Ordinary steel

1. Identify "50" along the x-axis (cutter blade diameter).

2. Move vertically up the y-axis from that point and then identify the figures provided for the range of "TCT Ordinary steel".

3. The range is between 254 and 381. Ensure to set the speed of your electric drill to within this range.

## Recommended feed rate

(mm/revolution)

| METAL-BORER    | Ordinary steel | Stainless steel | Cast iron   |
|----------------|----------------|-----------------|-------------|
| 350/500/750    | 0.01 - 0.05    | 0.01 - 0.05     | 0.01 - 0.05 |
| 350A/500A/750A | 0.01 - 0.05    | 0.01 - 0.05     | 0.01 - 0.05 |
| M500           | 0.08 - 0.12    | 0.08 - 0.12     | 0.10 - 0.20 |

**110 Holesaw 278**  
→



Dia. **14-120**mm

Excellent cutting ability for use in steel plate, stainless steel plate, and synthetic resin plate.

**112 Holesaw 278P (for pipe)**  
→



Dia. **16-120**mm

Long body length suitable for drilling pipe and curved surface.

**114 DL Core Bit**  
→



Dia. **20-65**mm

Efficient drilling with cordless impact driver and electric drill.

**116 Bi-Metal Holesaw for Cordless impact driver**  
→



Dia. **12-38**mm

Best for drilling with cordless impact drivers and portable electric drills.

**117 Bi-Metal Stopperless Holesaw for Cordless impact driver**  
→



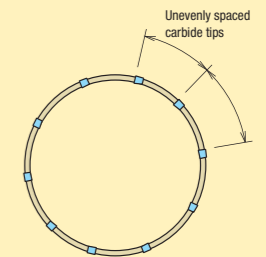
Dia. **12-38**mm

Best for penetrating work such as metal stud framing.

## Holesaw 278•Holesaw 278P

### ●Carbide-tipped cutting teeth

The carbide tips having an excellent cutting ability and wear resistance realize surprisingly high-speed hole cutting performance. In addition, remarkable heat resistance of the carbide tip makes the dry drilling possible. Furthermore, unevenly spaced carbide tips prevent chattering caused by resonance action during cutting, firmly grab the work materials, and cut a hole efficiently.



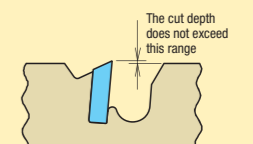
### ●Cutting large diameter hole with minimum power

Unlike the twist drill, which cuts the whole surface area of a hole, the cylindrical body of the holesaw 278, which cuts only the circumference of the hole, can cut a large diameter hole with minimum power, and the finished hole is close to a perfect roundness with smooth appearance as shown in the photo.



### ●Optimal setting of cut depth for safety in hole cutting work

The ultimate geometry of the cutting teeth developed for preventing stalling and/or recoil even in case of excessive cutter binding. This safety design always allows smooth cutting with constant cutting depth for a wide range of work materials.



# Holesaw series

# 8



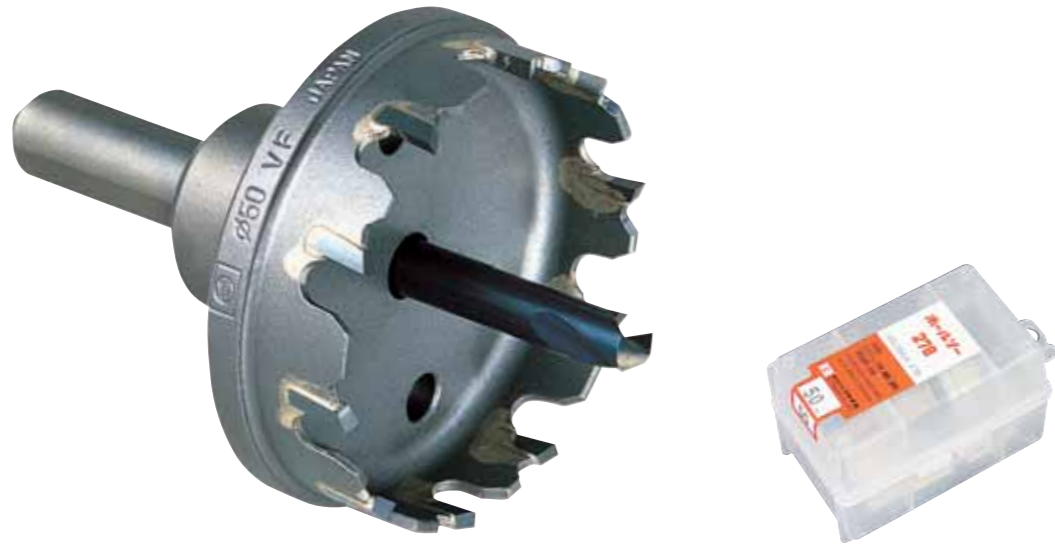
# Holesaw 278



- Best for**
- Sheet metal
  - Stainless steel plate

Excellent cutting ability for use in steel plate, stainless steel plate, and synthetic resin plate.

- Also can be used in**
- Aluminium
  - Spiral duct
  - Catch basin
  - FRP
  - Synthetic resin



## Features

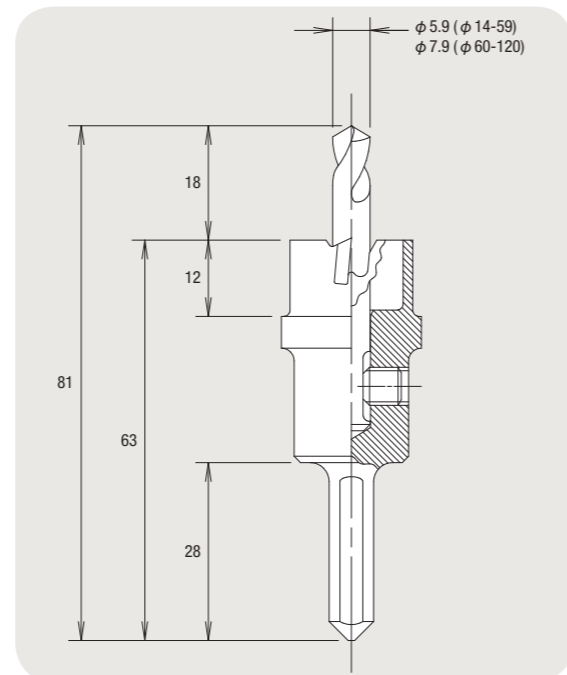
- Excellent cutting performance that achieves drilling into steel plate, stainless steel plate, and synthetic resin plate.
- Randomly arranged carbide tips prevent chattering caused by resonance.
- Usable with high revolution drills. Drills faster than High Speed Steel (HSS) cutters.
- Safety stopper prevents the cutter from moving forward after penetration.
- Easily drills into work materials up to 4mm in thickness.

## For use in

- With "C" type center drill (cobalt)  
Drilling into steel plate, Stainless steel plate, Copper plate, Aluminium plate up to 4mm in thickness
- With "T" type center drill (tungsten carbide tipped)  
Drilling into FRP and resin plate up to 4mm in thickness

## For use with

- Portable electric drills in rotary mode only

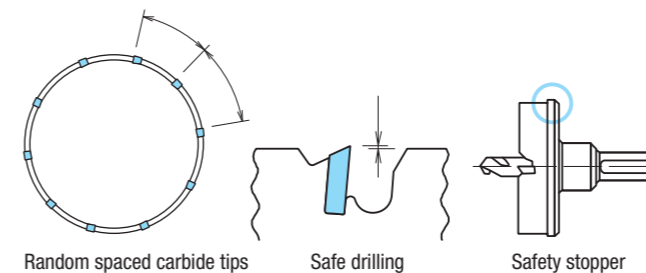


## Size table

(The actual sizes are in metric, and imperial sizes are approximate.)

| Cutter dia. mm | Cutter dia. inch | Part No. | Number of tips (pcs) | Center drill      | Shank dia. (mm) |    |                   |    |
|----------------|------------------|----------|----------------------|-------------------|-----------------|----|-------------------|----|
| 14             | 35/64"           | 278014   | 3                    |                   | 6.5             |    |                   |    |
| 14.5           | 9/16"            | 2780145  |                      |                   |                 |    |                   |    |
| 15             | 19/32"           | 278015   |                      |                   |                 |    |                   |    |
| 16             | 5/8"             | 278016   |                      |                   |                 |    |                   |    |
| 17             | 21/32"           | 278017   | 4                    |                   | 6.5             |    |                   |    |
| 18             | 45/64"           | 278018   |                      |                   |                 |    |                   |    |
| 19             | 3/4"             | 278019   |                      |                   |                 |    |                   |    |
| 20             | 25/32"           | 278020   |                      |                   |                 |    |                   |    |
| 21             | 13/16"           | 278021   |                      |                   |                 |    |                   |    |
| 22             | 7/8"             | 278022   |                      |                   |                 |    |                   |    |
| 23             | 29/32"           | 278023   | 6                    | C-6<br><Standard> | 10              |    |                   |    |
| 24             | 15/16"           | 278024   |                      |                   |                 |    |                   |    |
| 25             | 1"               | 278025   |                      |                   |                 |    |                   |    |
| 26             | 1-1/64"          | 278026   |                      |                   |                 |    |                   |    |
| 27             | 1-1/16"          | 278027   |                      |                   |                 |    |                   |    |
| 28             | 1-3/32"          | 278028   |                      |                   |                 |    |                   |    |
| 29             | 1-1/8"           | 278029   |                      |                   |                 |    |                   |    |
| 30             | 1-3/16"          | 278030   |                      |                   |                 |    |                   |    |
| 31             | 1-7/32"          | 278031   | 8                    | T-6<br><Option>   | 10              |    |                   |    |
| 32             | 1-1/4"           | 278032   |                      |                   |                 |    |                   |    |
| 33             | 1-9/32"          | 278033   |                      |                   |                 |    |                   |    |
| 34             | 1-5/16"          | 278034   |                      |                   |                 |    |                   |    |
| 35             | 1-3/8"           | 278035   | 10                   |                   | 10              |    |                   |    |
| 36             | 1-13/32"         | 278036   |                      |                   |                 |    |                   |    |
| 37             | 1-7/16"          | 278037   |                      |                   |                 |    |                   |    |
| 38             | 1-1/2"           | 278038   |                      |                   |                 |    |                   |    |
| 39             | 1-17/32"         | 278039   |                      |                   |                 |    |                   |    |
| 40             | 1-9/16"          | 278040   |                      |                   |                 |    |                   |    |
| 41             | 1-39/64"         | 278041   |                      |                   |                 |    |                   |    |
| 42             | 1-5/8"           | 278042   |                      |                   |                 |    |                   |    |
| 43             | 1-11/16"         | 278043   |                      |                   |                 |    |                   |    |
| 44             | 1-23/32"         | 278044   |                      |                   |                 |    |                   |    |
| 45             | 1-3/4"           | 278045   | 16                   |                   | 13              |    |                   |    |
| 46             | 1-51/64"         | 278046   |                      |                   |                 |    |                   |    |
| 47             | 1-13/16"         | 278047   |                      |                   |                 |    |                   |    |
| 48             | 1-7/8"           | 278048   |                      |                   |                 |    |                   |    |
| 49             | 1-59/64"         | 278049   |                      |                   |                 |    |                   |    |
| 50             | 2"               | 278050   |                      |                   |                 |    |                   |    |
| 51             | 2-1/64"          | 278051   |                      |                   |                 |    |                   |    |
| 52             | 2-3/64"          | 278052   |                      |                   |                 |    |                   |    |
| 53             | 2-1/16"          | 278053   |                      |                   |                 |    |                   |    |
| 54             | 2-7/64"          | 278054   |                      |                   |                 |    |                   |    |
| 55             | 2-1/8"           | 278055   |                      |                   |                 | 12 | C-6<br><Standard> | 10 |
| 56             | 2-11/64"         | 278056   |                      |                   |                 |    |                   |    |
| 57             | 2-15/64"         | 278057   |                      |                   |                 |    |                   |    |
| 58             | 2-1/4"           | 278058   |                      |                   |                 |    |                   |    |
| 59             | 2-21/64"         | 278059   |                      |                   |                 |    |                   |    |
| 60             | 2-3/8"           | 278060   |                      |                   |                 |    |                   |    |
| 61             | 2-25/64"         | 278061   |                      |                   |                 |    |                   |    |
| 62             | 2-7/16"          | 278062   |                      |                   |                 |    |                   |    |
| 63             | 2-15/32"         | 278063   |                      |                   |                 |    |                   |    |
| 64             | 2-33/64"         | 278064   |                      |                   |                 |    |                   |    |
| 65             | 2-9/16"          | 278065   |                      |                   |                 |    |                   |    |
| 66             | 2-19/32"         | 278066   |                      |                   |                 |    |                   |    |
| 67             | 2-5/8"           | 278067   |                      |                   |                 |    |                   |    |
| 68             | 2-43/64"         | 278068   |                      |                   |                 |    |                   |    |
| 69             | 2-23/32"         | 278069   | 14                   | C-8<br><Standard> | 13              |    |                   |    |
| 70             | 2-3/4"           | 278070   |                      |                   |                 |    |                   |    |
| 71             | 2-51/64"         | 278071   |                      |                   |                 |    |                   |    |
| 72             | 2-53/64"         | 278072   |                      |                   |                 |    |                   |    |
| 73             | 2-7/8"           | 278073   |                      |                   |                 |    |                   |    |
| 74             | 2-29/32"         | 278074   |                      |                   |                 |    |                   |    |
| 75             | 2-7/8"           | 278075   |                      |                   |                 |    |                   |    |
| 76             | 3"               | 278076   |                      |                   |                 |    |                   |    |
| 77             | 3-1/32"          | 278077   | 18                   | T-8<br><Option>   | 13              |    |                   |    |
| 78             | 3-1/16"          | 278078   |                      |                   |                 |    |                   |    |
| 79             | 3-7/64"          | 278079   |                      |                   |                 |    |                   |    |
| 80             | 3-1/8"           | 278080   |                      |                   |                 |    |                   |    |
| 81             | 3-3/16"          | 278081   |                      |                   |                 |    |                   |    |
| 82             | 3-15/64"         | 278082   |                      |                   |                 |    |                   |    |
| 83             | 3-17/64"         | 278083   |                      |                   |                 |    |                   |    |
| 84             | 3-5/16"          | 278084   |                      |                   |                 |    |                   |    |
| 85             | 3-3/8"           | 278085   |                      |                   |                 |    |                   |    |
| 89             | 3-15/32"         | 278089   |                      |                   |                 | 20 |                   | 13 |
| 90             | 3-1/2"           | 278090   |                      |                   |                 |    |                   |    |
| 91             | 3-37/64"         | 278091   |                      |                   |                 |    |                   |    |
| 92             | 3-5/8"           | 278092   |                      |                   |                 |    |                   |    |
| 95             | 3-3/4"           | 278095   |                      |                   |                 |    |                   |    |
| 100            | 3-7/8"           | 278100   |                      |                   |                 |    |                   |    |
| 102            | 4-1/64"          | 278102   | 18                   |                   | 13              |    |                   |    |
| 105            | 4-1/8"           | 278105   |                      |                   |                 |    |                   |    |
| 110            | 4-1/4"           | 278110   |                      |                   |                 |    |                   |    |
| 115            | 4-1/2"           | 278115   |                      |                   |                 |    |                   |    |
| 120            | 4-3/4"           | 278120   |                      |                   |                 |    |                   |    |

| Cutter dia. mm | Cutter dia. inch | Part No. | Number of tips (pcs) | Center drill      | Shank dia. (mm) |
|----------------|------------------|----------|----------------------|-------------------|-----------------|
| 55             | 2-1/8"           | 278055   | 12                   | C-6<br><Standard> | 10              |
| 56             | 2-11/64"         | 278056   |                      |                   |                 |
| 57             | 2-15/64"         | 278057   |                      |                   |                 |
| 58             | 2-1/4"           | 278058   |                      |                   |                 |
| 59             | 2-21/64"         | 278059   |                      |                   |                 |
| 60             | 2-3/8"           | 278060   |                      |                   |                 |
| 61             | 2-25/64"         | 278061   |                      |                   |                 |
| 62             | 2-7/16"          | 278062   |                      |                   |                 |
| 63             | 2-15/32"         | 278063   |                      |                   |                 |
| 64             | 2-33/64"         | 278064   |                      |                   |                 |
| 65             | 2-9/16"          | 278065   |                      |                   |                 |
| 66             | 2-19/32"         | 278066   |                      |                   |                 |
| 67             | 2-5/8"           | 278067   |                      |                   |                 |
| 68             | 2-43/64"         | 278068   |                      |                   |                 |
| 69             | 2-23/32"         | 278069   | 14                   | C-8<br><Standard> | 13              |
| 70             | 2-3/4"           | 278070   |                      |                   |                 |
| 71             | 2-51/64"         | 278071   |                      |                   |                 |
| 72             | 2-53/64"         | 278072   |                      |                   |                 |
| 73             | 2-7/8"           | 278073   |                      |                   |                 |
| 74             | 2-29/32"         | 278074   |                      |                   |                 |
| 75             | 2-7/8"           | 278075   |                      |                   |                 |
| 76             | 3"               | 278076   |                      |                   |                 |
| 77             | 3-1/32"          | 278077   | 18                   | T-8<br><Option>   | 13              |
| 78             | 3-1/16"          | 278078   |                      |                   |                 |
| 79             | 3-7/64"          | 278079   |                      |                   |                 |
| 80             | 3-1/8"           | 278080   |                      |                   |                 |
| 81             | 3-3/16"          | 278081   |                      |                   |                 |
| 82             | 3-15/64"         | 278082   |                      |                   |                 |
| 83             | 3-17/64"         | 278083   |                      |                   |                 |
| 84             | 3-5/16"          | 278084   |                      |                   |                 |
| 85             | 3-3/8"           | 278085   |                      |                   |                 |
| 89             | 3-15/32"         | 278089   |                      |                   |                 |
| 90             | 3-1/2"           | 278090   |                      |                   |                 |
| 91             | 3-37/64"         | 278091   |                      |                   |                 |
| 92             | 3-5/8"           | 278092   |                      |                   |                 |
| 95             | 3-3/4"           | 278095   |                      |                   |                 |
| 100            | 3-7/8"           | 278100   |                      |                   |                 |
| 102            | 4-1/64"          | 278102   | 18                   |                   | 13              |
| 105            | 4-1/8"           | 278105   |                      |                   |                 |
| 110            | 4-1/4"           | 278110   |                      |                   |                 |
| 115            | 4-1/2"           | 278115   |                      |                   |                 |
| 120            | 4-3/4"           | 278120   |                      |                   |                 |



## Center drill

| Item                              | Part No. | For use with  | Specification |
|-----------------------------------|----------|---------------|---------------|
| C-6 (HSS Center drill)            | 278CDC6  | φ14mm – 59mm  | φ5.9×48       |
| C-8 (HSS Center drill)            | 278CDC8  | φ60mm – 120mm | φ7.9×48       |
| T-6 (Carbide tipped Center drill) | 278CDT6  | φ14mm – 59mm  | φ5.9×48       |
| T-8 (Carbide tipped Center drill) | 278CDT8  | φ60mm – 120mm | φ7.9×48       |

# Holesaw 278P (for pipe)



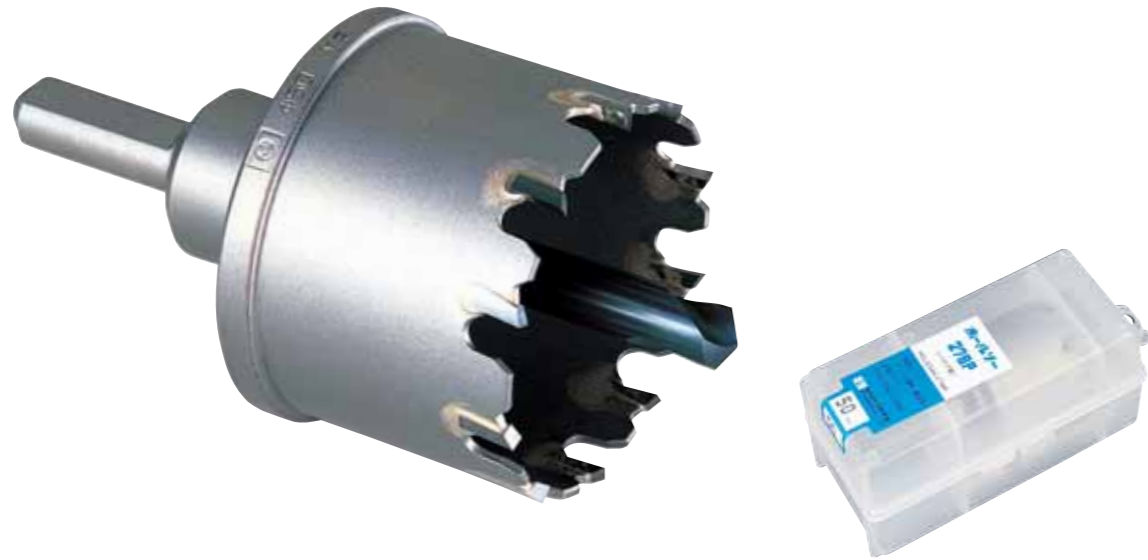
**Best for**

- Sheet metal
- Stainless steel plate

Long body length suitable for drilling pipe and curved surface.

**Also can be used in**

- Aluminium
- Spiral duct
- Catch basin
- FRP
- Synthetic resin



## Features

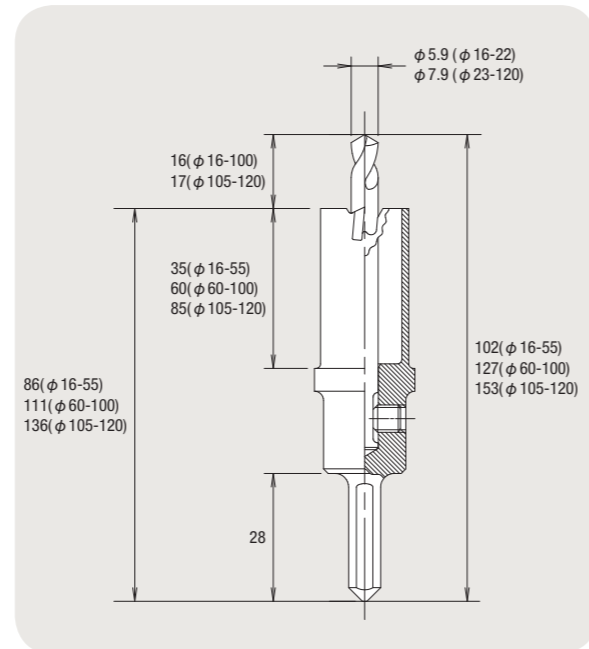
- Longer body allows drilling into curved surface such as metal pipe.

## For use in

- Stainless steel pipe, Steel pipe and Copper pipe

## For use with

- Portable electric drills in rotary mode only



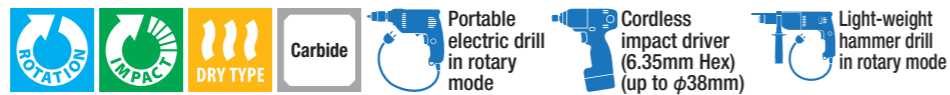
Size table (The actual sizes are in metric, and imperial sizes are approximate.)

Holesaw 278P (for pipe)

| Cutter dia.<br>mm | Cutter dia.<br>inch | Part No. | Overall length<br>(mm) | Cutter length<br>(mm) | Number of tips<br>(pcs) | Center drill          | Shank dia.<br>(mm)    |    |
|-------------------|---------------------|----------|------------------------|-----------------------|-------------------------|-----------------------|-----------------------|----|
|                   |                     |          |                        |                       |                         |                       |                       |    |
| 16                | 5/8"                | 278P016  | 86                     | 35                    | 3                       | PC6-69<br><278PCD669> | 6.5                   |    |
| 17                | 21/32"              | 278P017  |                        |                       |                         |                       |                       |    |
| 18                | 45/64"              | 278P018  |                        |                       |                         |                       |                       |    |
| 19                | 3/4"                | 278P019  |                        |                       |                         |                       |                       |    |
| 20                | 25/32"              | 278P020  |                        |                       | 6                       | 8                     | PC8-69<br><278PCD869> | 10 |
| 21                | 13/16"              | 278P021  |                        |                       |                         |                       |                       |    |
| 22                | 7/8"                | 278P022  |                        |                       |                         |                       |                       |    |
| 23                | 29/32"              | 278P023  |                        |                       |                         |                       |                       |    |
| 24                | 15/16"              | 278P024  |                        |                       |                         |                       |                       |    |
| 25                | 1"                  | 278P025  |                        |                       |                         |                       |                       |    |
| 26                | 1-1/64"             | 278P026  |                        |                       |                         |                       |                       |    |
| 27                | 1-1/16"             | 278P027  |                        |                       |                         |                       |                       |    |
| 28                | 1-3/32"             | 278P028  |                        |                       |                         |                       |                       |    |
| 29                | 1-1/8"              | 278P029  |                        |                       |                         |                       |                       |    |
| 30                | 1-3/16"             | 278P030  |                        |                       | 10                      | 10                    | PC8-94<br><278PCD894> | 13 |
| 31                | 1-7/32"             | 278P031  |                        |                       |                         |                       |                       |    |
| 32                | 1-1/4"              | 278P032  |                        |                       |                         |                       |                       |    |
| 33                | 1-9/32"             | 278P033  |                        |                       |                         |                       |                       |    |
| 34                | 1-5/16"             | 278P034  |                        |                       |                         |                       |                       |    |
| 35                | 1-3/8"              | 278P035  |                        |                       |                         |                       |                       |    |
| 36                | 1-13/32"            | 278P036  |                        |                       |                         |                       |                       |    |
| 37                | 1-7/16"             | 278P037  |                        |                       |                         |                       |                       |    |
| 38                | 1-1/2"              | 278P038  |                        |                       |                         |                       |                       |    |
| 39                | 1-17/32"            | 278P039  |                        |                       |                         |                       |                       |    |
| 40                | 1-9/16"             | 278P040  | 111                    | 60                    | PC8-94<br><278PCD894>   | 13                    |                       |    |
| 41                | 1-39/64"            | 278P041  |                        |                       |                         |                       |                       |    |
| 42                | 1-5/8"              | 278P042  |                        |                       |                         |                       |                       |    |
| 43                | 1-11/16"            | 278P043  |                        |                       |                         |                       |                       |    |
| 44                | 1-23/32"            | 278P044  |                        |                       |                         |                       |                       |    |
| 45                | 1-3/4"              | 278P045  |                        |                       |                         |                       |                       |    |
| 46                | 1-51/64"            | 278P046  |                        |                       |                         |                       |                       |    |
| 47                | 1-13/16"            | 278P047  |                        |                       |                         |                       |                       |    |
| 48                | 1-7/8"              | 278P048  |                        |                       |                         |                       |                       |    |
| 49                | 1-59/64"            | 278P049  |                        |                       |                         |                       |                       |    |
| 50                | 2"                  | 278P050  | 136                    | 85                    | PC8-120<br><278PCD8120> | 13                    |                       |    |
| 51                | 2-1/64"             | 278P051  |                        |                       |                         |                       |                       |    |
| 52                | 2-3/64"             | 278P052  |                        |                       |                         |                       |                       |    |
| 53                | 2-1/16"             | 278P053  |                        |                       |                         |                       |                       |    |
| 54                | 2-7/64"             | 278P054  |                        |                       |                         |                       |                       |    |
| 55                | 2-1/8"              | 278P055  |                        |                       |                         |                       |                       |    |
| 60                | 2-3/8"              | 278P060  |                        |                       |                         |                       |                       |    |
| 61                | 2-25/64"            | 278P061  |                        |                       |                         |                       |                       |    |
| 62                | 2-7/16"             | 278P062  |                        |                       |                         |                       |                       |    |
| 65                | 2-9/16"             | 278P065  |                        |                       |                         |                       |                       |    |
| 70                | 2-3/4"              | 278P070  |                        |                       |                         |                       |                       |    |
| 75                | 2-7/8"              | 278P075  |                        |                       |                         |                       |                       |    |
| 77                | 3-1/32"             | 278P077  |                        |                       |                         |                       |                       |    |
| 80                | 3-1/8"              | 278P080  |                        |                       |                         |                       |                       |    |
| 85                | 3-3/8"              | 278P085  |                        |                       |                         |                       |                       |    |
| 90                | 3-1/2"              | 278P090  |                        |                       |                         |                       |                       |    |
| 95                | 3-3/4"              | 278P095  |                        |                       |                         |                       |                       |    |
| 100               | 3-7/8"              | 278P100  |                        |                       |                         |                       |                       |    |
| 105               | 4-1/8"              | 278P105  |                        |                       |                         |                       |                       |    |
| 110               | 4-1/4"              | 278P110  |                        |                       |                         |                       |                       |    |
| 115               | 4-1/2"              | 278P115  |                        |                       |                         |                       |                       |    |
| 120               | 4-3/4"              | 278P120  |                        |                       |                         |                       |                       |    |

## Center drill (HSS Center drill)

| Item    | Part No.   | For use with                       | Specification         |
|---------|------------|------------------------------------|-----------------------|
| PC6-69  | 278PCD669  | $\phi 16\text{mm} - 22\text{mm}$   | $\phi 5.9 \times 69$  |
| PC8-69  | 278PCD869  | $\phi 23\text{mm} - 55\text{mm}$   | $\phi 7.9 \times 69$  |
| PC8-94  | 278PCD894  | $\phi 60\text{mm} - 100\text{mm}$  | $\phi 7.9 \times 94$  |
| PC8-120 | 278PCD8120 | $\phi 105\text{mm} - 120\text{mm}$ | $\phi 7.9 \times 120$ |



**Best for**

|         |
|---------|
| Wood    |
| Veneer  |
| Plywood |

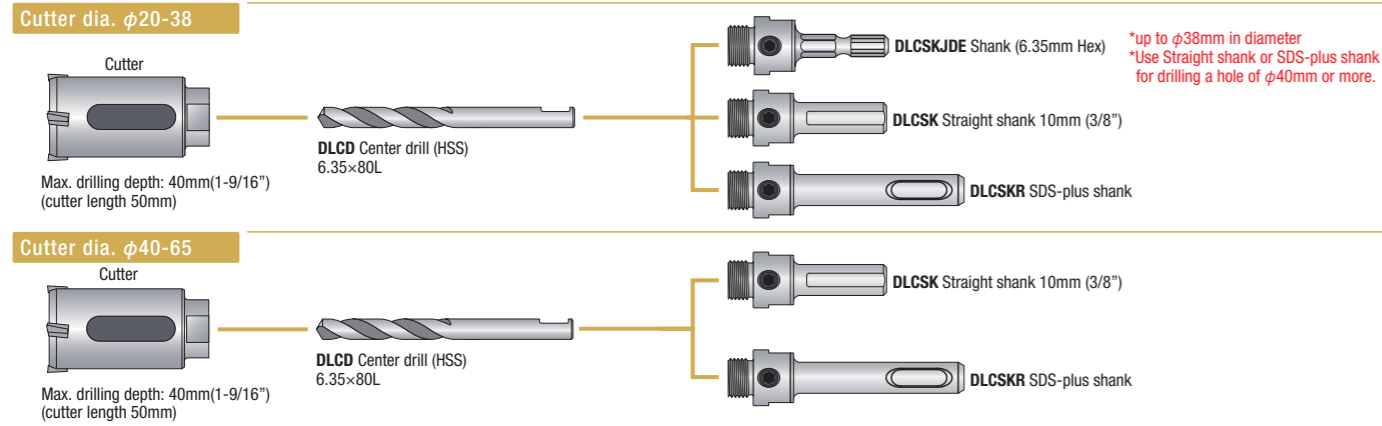
## Efficient drilling with cordless impact driver and electric drill.

**Also can be used in**

|                         |
|-------------------------|
| Artificial marble       |
| Sheet metal*            |
| Galvanized steel sheet* |
| Plastic                 |
| PVC pipe                |
| FRP                     |
| Resin material          |
| Catch basin             |
| Plaster board           |



\*Up to 1.6mm in thickness with rotary mode only  
(Not drill in impact mode)



### Features

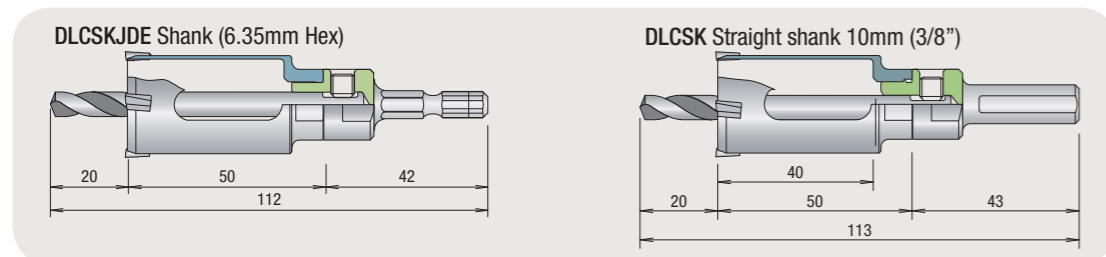
- Easily drills holes into wood and resin with cordless impact drivers (Up to φ38mm).  
\*Use Straight shank or SDS-plus shank for drilling a hole of φ40mm or more.
- Unique 2-step teeth improve the initial drilling efficiency.
- Cutter without chip pocket allows stuck-free drilling.
- Easy chip removal from a side slot in the cutter body.  
\*Use a cordless driver drill for drilling into a metal plate. Do not use with a cordless impact drill.

### For use in

- Wood, Plywood, Resin material, PVC pipe, and FRP

### For use with

- Portable electric drills in rotary mode only
- Cordless impact drivers (6.35mm Hex) (DIN3126, ISO1173 Style E6.3) up to φ38mm
- Light-weight hammer drills in rotary mode only



### Size table

(The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 40mm (1-9/16")

| Cutter dia. |         | Set      | Cutter |
|-------------|---------|----------|--------|
| mm          | inch    |          |        |
| 20          | 25/32"  | DLC20JDE | DLC20C |
| 21          | 13/16"  | DLC21JDE | DLC21C |
| 22          | 7/8"    | DLC22JDE | DLC22C |
| 25          | 1"      | DLC25JDE | DLC25C |
| 27          | 1-1/16" | DLC27JDE | DLC27C |
| 28          | 1-3/32" | DLC28JDE | DLC28C |
| 30          | 1-3/16" | DLC30JDE | DLC30C |
| 32          | 1-1/4"  | DLC32JDE | DLC32C |
| 33          | 1-9/32" | DLC33JDE | DLC33C |
| 35          | 1-3/8"  | DLC35JDE | DLC35C |
| 38          | 1-1/2"  | DLC38JDE | DLC38C |

### Size table

(The actual sizes are in metric, and imperial sizes are approximate.)

Max. drilling depth : 40mm (1-9/16")

| Cutter dia. |         | Cutter |
|-------------|---------|--------|
| mm          | inch    |        |
| 40          | 1-9/16" | DLC40C |
| 42          | 1-5/8"  | DLC42C |
| 45          | 1-3/4"  | DLC45C |
| 48          | 1-7/8"  | DLC48C |
| 50          | 2"      | DLC50C |
| 60          | 2-3/8"  | DLC60C |
| 65          | 2-9/16" | DLC65C |

\*Use φ40mm and above cutters with DLCSK or DLCSKR (not use with DLCSKJDE)

### Shank

| Item               | Part No. | Remark                                      |
|--------------------|----------|---------------------------------------------|
| Shank (6.35mm Hex) | DLCSKJDE | DIN3126, ISO1173 Style E6.3<br>*Up to φ38mm |
| Straight shank     | DLCSK    | 10mm                                        |
| SDS-plus shank     | DLCSKR   | Portable electric drill                     |

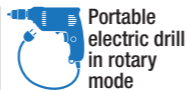
### Center drill

| Item         | Part No. | Specification |
|--------------|----------|---------------|
| Center drill | DLCD     | 6.35×80L      |



Easy slug removal with side slot.

# Bi-Metal Holesaw for Cordless impact

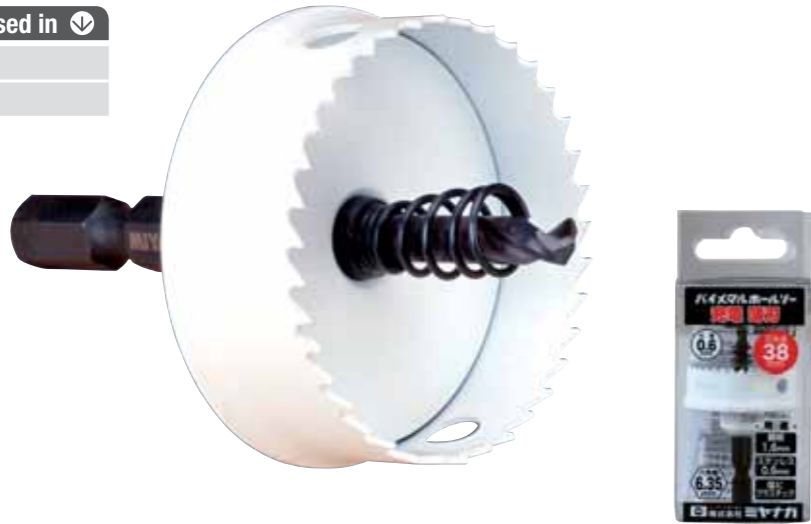


Best for

- Sheet metal (up to 1.6mm in thickness)
- Stainless steel plate (up to 0.6mm in thickness)

Also can be used in

- PVC
- Plastic



Best for drilling with cordless impact drivers and portable electric drills.

## Features

- Excellent sharpness with ultra-thin bi-metal blade (blade thickness 0.6mm).
- Reduced cutting force and ideal for drilling with cordless impact drivers and portable electric drills.

## For use in

- Steel plate (up to 1.6mm in thickness), stainless steel plate (up to 0.6mm in thickness)
- PVC, plastic

## For use with

- Portable electric drills in rotary mode only
- Cordless impact drivers / Cordless drills

### ⚠ Precautions for use

Use a cordless drill when drilling in stainless steel.  
Do not use a cordless impact driver.

## Size table (Cutter length: 10mm)

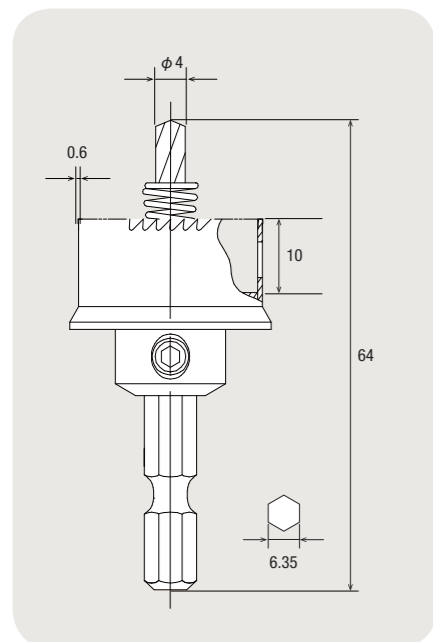
(The actual sizes are in metric, and imperial sizes are approximate.)

| Cutter dia. |          | Part No. |
|-------------|----------|----------|
| mm          | inch     |          |
| 12          | 15/32"   | BITJD12  |
| 13          | 1/2"     | BITJD13  |
| 14          | 35/64"   | BITJD14  |
| 15          | 19/32"   | BITJD15  |
| 16          | 5/8"     | BITJD16  |
| 17          | 21/32"   | BITJD17  |
| 18          | 45/64"   | BITJD18  |
| 19          | 3/4"     | BITJD19  |
| 20          | 25/32"   | BITJD20  |
| 21          | 13/16"   | BITJD21  |
| 22          | 7/8"     | BITJD22  |
| 23          | 29/32"   | BITJD23  |
| 24          | 15/16"   | BITJD24  |
| 25          | 1"       | BITJD25  |
| 26          | 1-1/64"  | BITJD26  |
| 27          | 1-1/16"  | BITJD27  |
| 28          | 1-3/32"  | BITJD28  |
| 29          | 1-1/8"   | BITJD29  |
| 30          | 1-3/16"  | BITJD30  |
| 31          | 1-7/32"  | BITJD31  |
| 32          | 1-1/4"   | BITJD32  |
| 33          | 1-9/32"  | BITJD33  |
| 34          | 1-5/16"  | BITJD34  |
| 35          | 1-3/8"   | BITJD35  |
| 36          | 1-13/32" | BITJD36  |
| 37          | 1-7/16"  | BITJD37  |
| 38          | 1-1/2"   | BITJD38  |

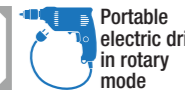
## Replacement parts



| Item         | Part No. |
|--------------|----------|
| Center drill | BITCD    |
| Spring       | BITSP    |



# Bi-Metal Stopperless Holesaw for Cordless impact



Best for

- Sheet metal (up to 3.2mm in thickness)
- Metal stud

Also can be used in

- Aluminium
- PVC



Best for penetrating work such as metal stud framing.

## Size table (Cutter length: 40mm)

(The actual sizes are in metric, and imperial sizes are approximate.)

| Cutter dia. |          | Part No. |
|-------------|----------|----------|
| mm          | inch     |          |
| 12          | 15/32"   | BINSJD12 |
| 13          | 1/2"     | BINSJD13 |
| 14          | 35/64"   | BINSJD14 |
| 15          | 19/32"   | BINSJD15 |
| 16          | 5/8"     | BINSJD16 |
| 17          | 21/32"   | BINSJD17 |
| 18          | 45/64"   | BINSJD18 |
| 19          | 3/4"     | BINSJD19 |
| 20          | 25/32"   | BINSJD20 |
| 21          | 13/16"   | BINSJD21 |
| 22          | 7/8"     | BINSJD22 |
| 23          | 29/32"   | BINSJD23 |
| 24          | 15/16"   | BINSJD24 |
| 25          | 1"       | BINSJD25 |
| 26          | 1-1/64"  | BINSJD26 |
| 27          | 1-1/16"  | BINSJD27 |
| 28          | 1-3/32"  | BINSJD28 |
| 29          | 1-1/8"   | BINSJD29 |
| 30          | 1-3/16"  | BINSJD30 |
| 31          | 1-7/32"  | BINSJD31 |
| 32          | 1-1/4"   | BINSJD32 |
| 33          | 1-9/32"  | BINSJD33 |
| 34          | 1-5/16"  | BINSJD34 |
| 35          | 1-3/8"   | BINSJD35 |
| 36          | 1-13/32" | BINSJD36 |
| 37          | 1-7/16"  | BINSJD37 |
| 38          | 1-1/2"   | BINSJD38 |

## Features

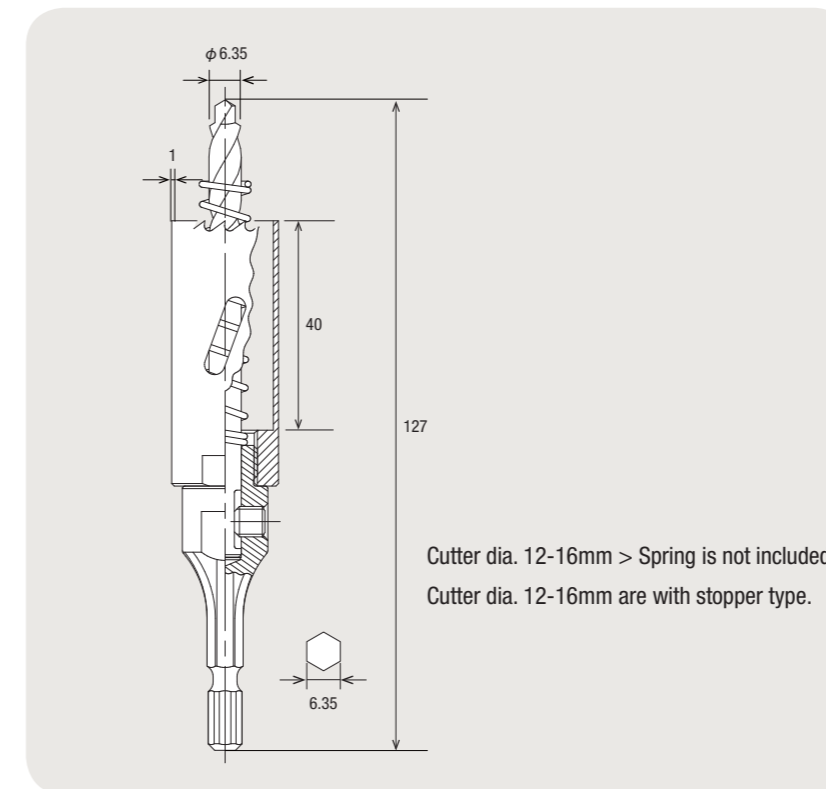
- Smooth cutting with 1mm blade thickness.
- Eliminates the stopper and allows smooth penetration (cutter diameter 17mm and above).
- Improved operability by using a stepped center drill.

## For use in

- Penetrating work such as metal stud framing

## For use with

- Portable electric drills in rotary mode only
- Cordless impact drivers / Cordless drills



## Replacement parts



| Item                               | Part No. |
|------------------------------------|----------|
| Stepped center drill               | BINSCD   |
| Spring (for $\phi$ 17mm and above) | BINSSP   |

**120** Rotary Hammer Core Bit 600W



Dia. **25-100**mm

The light-weight hammer drill bit can easily drill a large-diameter hole.

**121** Rotary Hammer Core Bit



Dia. **25-150**mm

Easily drill a hole in reinforced concrete with heavy-weight hammer drill.

# Core Bit series

Product series for efficient drilling in concrete walls.  
Fast drilling of large-diameter holes by shaping the cutter into a cylinder.

# 9

# Rotary Hammer Core Bit 600W



Best for  
Concrete w/o rebar

Also can be used in  
Mortar  
Brick  
Block  
PC concrete  
Asphalt

The light-weight hammer drill bit can easily drill a large-diameter hole.



## Features

- Thanks to SDS-plus shank, it can be used with various light-weight hammer drills.
- Drills large-diameter holes with light-weight rotary hammer drills.
- Efficiently transmit the power of light-weight rotary hammer drill to the cutting teeth, which achieves fast drilling of large-diameter holes.
- The center pin ensures accurate positioning.
- Randomly arranged carbide tips provide effective drilling.

## For use in

- Non-reinforced concrete, Mortar and Brick

## For use with

- 600W type rotary hammer with SDS-plus

Size table (The actual sizes are in metric, and imperial sizes are approximate.)

| Cutter dia. |         |              |          |             | Max. drilling depth (mm)    | Shank (SDS-plus)            | Center Pin           |
|-------------|---------|--------------|----------|-------------|-----------------------------|-----------------------------|----------------------|
| mm          | inch    | SDS-plus Set | Cutter   | Guide plate |                             |                             |                      |
| 25          | 1"      | 600W25       | 600W25C  | 600WGP25    | 70<br>(Cutter length 105mm) | No.601×105 <600WSK1105><br> | No.600 <600WCP0><br> |
| 29          | 1-1/8"  | 600W29       | 600W29C  | 600WGP29    |                             | No.601×200 <600WSK1200><br> |                      |
| 32          | 1-1/4"  | 600W32       | 600W32C  | 600WGP32    |                             | No.601×300 <600WSK1300><br> | No.601 <600WCP1><br> |
| 35          | 1-3/8"  | 600W35       | 600W35C  | 600WGP35    |                             |                             |                      |
| 38          | 1-1/2"  | 600W38       | 600W38C  | 600WGP38    |                             |                             |                      |
| 45          | 1-3/4"  | 600W45       | 600W45C  | 600WGP45    |                             |                             |                      |
| 50          | 2"      | 600W50       | 600W50C  | 600WGP50    |                             |                             |                      |
| 55          | 2-1/8"  | 600W55       | 600W55C  | 600WGP55    |                             | No.602×105 <600WSK2105><br> | No.602 <600WCP2><br> |
| 60          | 2-3/8"  | 600W60       | 600W60C  | 600WGP60    |                             | No.602×200 <600WSK2200><br> |                      |
| 65          | 2-9/16" | 600W65       | 600W65C  | 600WGP65    |                             | No.602×300 <600WSK2300><br> |                      |
| 70          | 2-3/4"  | 600W70       | 600W70C  | 600WGP70    |                             |                             |                      |
| 75          | 2-7/8"  | 600W75       | 600W75C  | 600WGP75    |                             |                             |                      |
| 80          | 3-1/8"  | 600W80       | 600W80C  | 600WGP80    |                             |                             |                      |
| 90          | 3-1/2"  | 600W90       | 600W90C  | 600WGP90    |                             |                             |                      |
| 100         | 3-7/8"  | 600W100      | 600W100C | 600WGP100   |                             |                             |                      |

## Shank (SDS-plus)

| Item    | Overall length |         | Part No.   | For use with |
|---------|----------------|---------|------------|--------------|
|         | mm             | inch    |            |              |
| No. 601 | 105            | 4-1/8"  | 600WSK1105 | φ25 – 38mm   |
|         | 200            | 7-7/8"  | 600WSK1200 |              |
|         | 300            | 11-7/8" | 600WSK1300 |              |
| No. 602 | 105            | 4-1/8"  | 600WSK2105 | φ45 – 100mm  |
|         | 200            | 7-7/8"  | 600WSK2200 |              |
|         | 300            | 11-7/8" | 600WSK2300 |              |

## Max. drilling depth (guideline)

| Shank       | Overall length | Max. drilling depth |
|-------------|----------------|---------------------|
| No. 601×105 | 190mm          | 130mm               |
| No. 601×200 | 285mm          | 225mm               |
| No. 601×300 | 385mm          | 325mm               |
| No. 602×105 | 180mm          | 120mm               |
| No. 602×200 | 275mm          | 215mm               |
| No. 602×300 | 375mm          | 315mm               |

## Center Pin

| Item    | Part No. | For use with |
|---------|----------|--------------|
| No. 600 | 600WCP0  | φ25 and 29mm |
| No. 601 | 600WCP1  | φ32 – 38mm   |
| No. 602 | 600WCP2  | φ45 – 100mm  |

# Rotary Hammer Core Bit



Best for  
Concrete  
Reinforced concrete

Also can be used in  
Mortar  
Brick  
Block  
PC concrete  
Asphalt

Easily drill a hole in reinforced concrete with heavy-weight hammer drill.



## Features

- The center pin realizes accurate hole starting without bit walk.
- Easily drills into reinforced concrete with heavy duty rotary hammer drills.
- Efficiently transmit the high power of heavy duty rotary hammer drill to the cutting teeth, which achieves fast drilling in concrete.

## For use in

- Reinforced concrete and Non-reinforced concrete

## For use with

- Heavy duty rotary hammer with SDS-max

Size table (The actual sizes are in metric, and imperial sizes are approximate.)

| Cutter dia. |         |        |             | Max. drilling depth (mm)     | Shank (SDS-max)     | Center Pin       |
|-------------|---------|--------|-------------|------------------------------|---------------------|------------------|
| mm          | inch    | Cutter | Guide plate |                              |                     |                  |
| 25          | 1"      | MH25C  | MHGP25      | 100<br>(Cutter length 150mm) | No.1 <MHSK1MAX><br> | No.0 <MHCP0><br> |
| 29          | 1-1/8"  | MH29C  | MHGP29      |                              |                     | No.1 <MHCP1><br> |
| 32          | 1-1/4"  | MH32C  | MHGP32      |                              |                     |                  |
| 35          | 1-3/8"  | MH35C  | MHGP35      |                              | No.2 <MHSK2MAX><br> | No.2 <MHCP2><br> |
| 38          | 1-1/2"  | MH38C  | MHGP38      |                              |                     |                  |
| 45          | 1-3/4"  | MH45C  | MHGP45      |                              |                     |                  |
| 50          | 2"      | MH50C  | MHGP50      |                              |                     |                  |
| 55          | 2-1/8"  | MH55C  | MHGP55      |                              |                     |                  |
| 60          | 2-3/8"  | MH60C  | MHGP60      |                              |                     |                  |
| 65          | 2-9/16" | MH65C  | MHGP65      |                              |                     |                  |
| 70          | 2-3/4"  | MH70C  | MHGP70      |                              |                     |                  |
| 75          | 2-7/8"  | MH75C  | MHGP75      |                              |                     |                  |
| 80          | 3-1/8"  | MH80C  | MHGP80      |                              |                     |                  |
| 90          | 3-1/2"  | MH90C  | MHGP90      |                              |                     |                  |
| 100         | 3-7/8"  | MH100C | MHGP100     |                              |                     |                  |
| 120         | 4-3/4"  | MH120C | MHGP120     |                              |                     |                  |
| 150         | 5-7/8"  | MH150C | MHGP150     |                              |                     |                  |

## Shank (SDS-max)

| Item  | Overall length |         | Part No. | For use with |
|-------|----------------|---------|----------|--------------|
|       | mm             | inch    |          |              |
| No. 1 | 300            | 11-7/8" | MHSK1MAX | φ25 – 35mm   |
| No. 2 | 300            | 11-7/8" | MHSK2MAX | φ38 – 150mm  |

## Center Pin

| Item  | Part No. | For use with |
|-------|----------|--------------|
| No. 0 | MHCP0    | φ25 and 29mm |
| No. 1 | MHCP1    | φ32 and 35mm |
| No. 2 | MHCP2    | φ38 – 150mm  |

**124** Hyperdia Disk  
→ (Curved surface type)



Dia. **100-125**mm

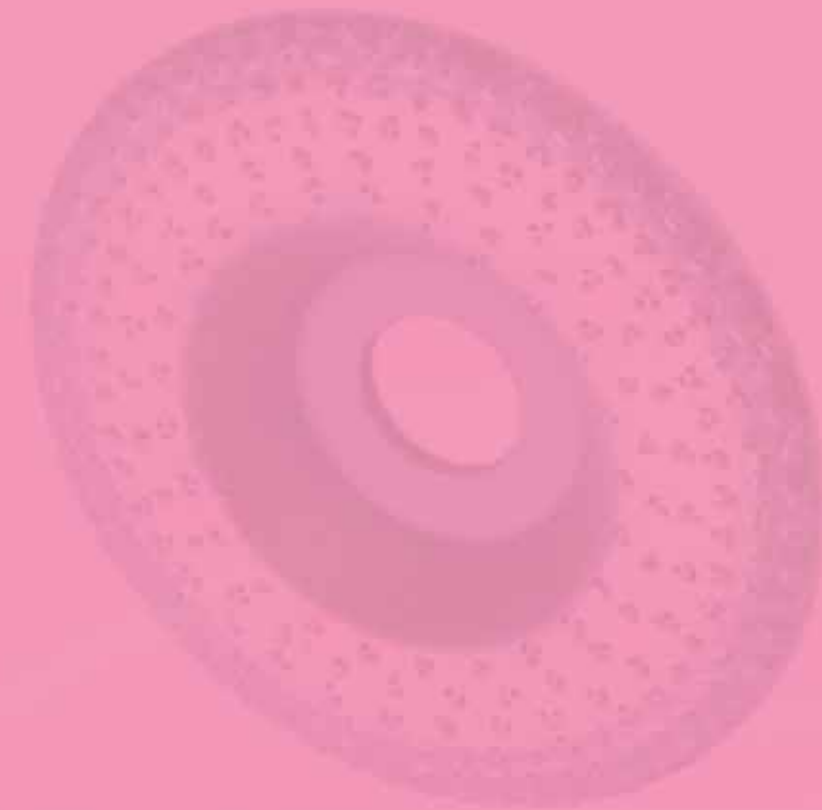
Hard to clog. Original curved shape increases cutting ability.

**125** Hyperdia Disk  
→ (Flat surface type)



Dia. **100**mm

Hard to clog. Ideal for a wide variety of works.



# Disk series

The diamond disk has obtained high grinding power by special method for joining abrasive grains.

# 10

# Hyperdia Disk (Curved surface type)



## Best for

- Concrete
- Stone
- Mortar
- Block
- Brick
- Ceramic siding
- Hume pipe
- Clay pipe
- PVC pipe
- Extruded cement

## Also can be used in

- ALC
- FRP
- Metal
- Artificial marble
- Wood
- Ceramic tile

Hard to clog. Original curved shape increases cutting ability.

Increased efficiency with less sparks and dust!



## Features

- Hard to clog design.
- Diamond grains embedded on the whole surface provides safe work without bouncing.
- Larger diamond grains significantly increase durability and speed.
- Increased efficiency with less sparks and dust.
- Unique curved surface and the arrangement of diamond grains increase usability.
- Diamond grains embedded around the outer circumference allow cutting materials such as PVC pipe.

## For use in

- Chamfering, surfacing, and grinding concrete, stone
- Eliminating difference in surface level
- Removing elastic film
- Removing mill scale on metal and weld bead

## For use with

- Electric disk grinders

## Size table

(The actual sizes are in metric, and imperial sizes are approximate.)

### Hyperdia Disk (Curved surface type for Rough finish)

| Outer diameter |          | Part No.    | Mounting hole (inch) | Grain size |
|----------------|----------|-------------|----------------------|------------|
| mm             | inch     |             |                      |            |
| 100            | 3-7/8"   | HPD100C030  | 15mm (19/32")        | #30        |
| 125            | 4-15/16" | HPD125C030  | 22mm (7/8")          | #30        |
| 100            | 3-7/8"   | HPD100C030E | 22.2mm (7/8")        | #30        |
| 115            | 4-1/2"   | HPD115C030E | 22.2mm (7/8")        | #30        |
| 125            | 4-15/16" | HPD125C030E | 22.2mm (7/8")        | #30        |

### Option (for outer diameter 100mm)

| Item                   | Part No. | Specification (inch) |
|------------------------|----------|----------------------|
| *Spacer set 100        | HPDSN100 | 100mm (3-7/8")       |
| *Spacer 100            | HPDS100  | 100mm (3-7/8")       |
| *Nut                   | HPDN100  | 100mm (3-7/8")       |
| Vibration-proof spacer | HPDBADP  | 100mm (3-7/8")       |

\*Use these when the protection cover hits the disk and cutting has become impossible.



▲ For eliminating difference in level on concrete walls



▲ For wood, PVC, tile, etc.



▲ For removing mill scale



▲ Chamfering the inside edge of PVC pipe, etc.

## ⚠️ Precautions for use

Do not push the Hyperdia Disk with an excessively strong force. Otherwise, it may result in damage or bend.

# Hyperdia Disk (Flat surface type)



## Best for

- Concrete
- Stone
- Mortar
- Block
- Brick
- Ceramic siding
- Hume pipe
- Clay pipe
- PVC pipe
- Extruded cement

## Also can be used in

- ALC
- FRP
- Metal
- Artificial marble
- Wood
- Ceramic tile

Hard to clog. Ideal for a wide variety of works.



## Features

- Hard to clog design.
- Diamond grains embedded on the whole surface provides safe work without bouncing.
- Larger diamond grains significantly increase durability and speed.
- Increased efficiency with less sparks and dust.
- Diamond grains embedded around the outer circumference allow cutting materials such as PVC pipe.

## For use in

- Chamfering, surfacing, and grinding concrete, stone
- Eliminating difference in surface level
- Removing elastic film
- Removing mill scale on metal and weld bead
- Grooving tile joints

## For use with

- Electric disk grinders



▲ For removing elastic film



▲ For grooving tile joints etc.

## Size table

(The actual sizes are in metric, and imperial sizes are approximate.)

### Hyperdia Disk (Flat surface type for Rough finish)

| Outer diameter |        | Part No.    | Mounting hole (inch) | Grain size |
|----------------|--------|-------------|----------------------|------------|
| mm             | inch   |             |                      |            |
| 100            | 3-7/8" | HPD100F030  | 22mm (7/8")          | #30        |
| 100            | 3-7/8" | HPD100F030E | 22.2mm (7/8")        | #30        |

### Option (for outer diameter 100mm)

| Item                   | Part No. | Specification (inch) |
|------------------------|----------|----------------------|
| *Spacer set 100        | HPDSN100 | 100mm (3-7/8")       |
| *Spacer 100            | HPDS100  | 100mm (3-7/8")       |
| *Nut                   | HPDN100  | 100mm (3-7/8")       |
| Vibration-proof spacer | HPDBADP  | 100mm (3-7/8")       |

\*Use these when the protection cover hits the disk and cutting has become impossible.

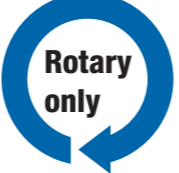


# Criteria of Core Bit Breakage Claims

| Condition                                                                          | Remark                                                                | Cause                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Drimond Core Bit : Breakage of diamond tip</b>                     | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Excess force in cross direction while drilling.</li> <li>Thrust in cross direction without rotating when pulling out core bit from a drilled hole.</li> </ul>                                                                                                                      |
|    | <b>Drimond Core Bit : Diamond tips come off</b>                       | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Drilling with hammering mode, tips might be broken.</li> </ul>  <p><b>Guarantee claim: accepted</b></p> <ul style="list-style-type: none"> <li>Diamond tips come off by poor welding.</li> </ul>  |
|    | <b>Drimond Core Bit : Body breakage</b>                               | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Improper r.p.m might lead to body breakage.</li> <li>Insufficient thrust might lead to body breakage.</li> </ul>                                                                                                                                                                   |
|  | <b>Drimond Core Bit : Early wear</b>                                  | <p><b>Guarantee claim: not accepted</b></p> <ol style="list-style-type: none"> <li>Drilling into block causes early wearing.<br/>*For drilling into block, please use Drimond Core Bit for Block.</li> <li>Less thrust by using the low-powered electric drill causes early wearing of segment.</li> </ol>                                                           |
|  | <b>Drimond Core Bit : Early wear</b>                                  | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Drilling in wet condition leads to early wear.</li> </ul> <p>The marks of wet drilling remain in the inner or outer side of cutter body.</p>                                                                                                                                     |
|  | <b>Drimond Core Bit : Burned cutter body</b>                          | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Continuous drilling after diamond tip dulled.</li> <li>Excess circumferential speed or excess thrust.</li> <li>Excess thrust when drilling into reinforced bar.</li> </ul>  <p>Dulled diamond tip</p>                                                                            |
|  | <b>Drimond Core Bit : Deformed cutter body and dulled diamond tip</b> | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Deformed the cutter body and dulled the diamond tips by drilling in hammering mode.</li> </ul>   <p>Dulling in hammering mode      Normal tip</p>                                           |


Products may be damaged by the following reasons.  
 1. Lifetime reached.  
 2. Use with the unsuitable machine.  
 3. Drill to the unsuitable materials.

## ⚠️ Precaution for Poly-Clic Drimond Core Bit



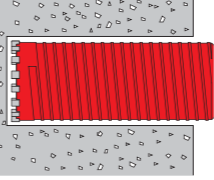
**Rotary only**

Use in Rotary mode only

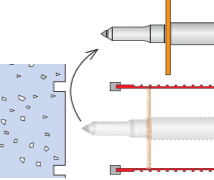


**Water**


Dry operation (do not use water)



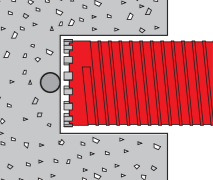
Drill straightly








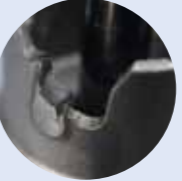
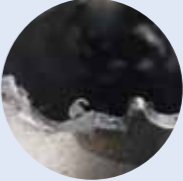







Detach center pin after centering



Dress when drilling speed slows down.



Reduce thrust against reinforced bar

| Condition                                                                             | Remark                                                       | Cause                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------------------------------------------------------------------|--------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Poly-Clic ALC Core Bit : Breakage of carbide tips</b>     | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Excess thrust when drilling into reinforced bar.</li> </ul>                                                                                                                                                                                               |
|    | <b>Poly-Clic cutter : Droop of embossed part</b>             | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Lifetime reached when the embossed part is drooped or cracked.</li> </ul>                                                                                                                                                                                 |
|  | <b>Holesaw 278 : Breakage of carbide tip</b>                 | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Excess thrust when the center drill penetrates or while drilling, causes tip breakage or body breakage.</li> </ul>   <p>Tip breakage      Cutter body breakage</p> |
|  | <b>Holesaw 278P : Breakage of cutter</b>                     | <p><b>Guarantee claim: accepted</b></p> <ul style="list-style-type: none"> <li>Poor brazing</li> </ul>                                                                                                                                                                                                                                     |
|  | <b>METAL-BORER : Breakage of body</b>                        | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Excess thrust or excess feed while drilling.</li> </ul>                                                                                                                                                                                                                                                                                      |
|  | <b>METAL-BORER : Breakage of carbide tip</b>                 | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Excess thrust or excess feed while drilling.</li> </ul>                                                                                                                                                                                                 |
|  | <b>Poly-Clic Carbide STEPDRILL : Breakage of carbide tip</b> | <p><b>Guarantee claim: not accepted</b></p> <ul style="list-style-type: none"> <li>Excess thrust when center drill penetrates or while drilling causes tip breakage or body breakage.</li> </ul>                                                                                                                                           |

Poly-Clic Series

S-LOCK Series

Delapan Bit Series

Drill Bit Series

ANZEX Series

Diamond Series

METAL-BORER Series

Holesaw Series

Core Bit Series

Disk Series

Reference

# Criteria of Concrete Drill Bit Breakage Claims

## Drill bits may be damaged by the following reasons.




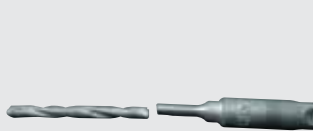


1. Lifetime reached.
2. Use with the unsuitable machine.
3. Drill to the unsuitable material.
4. Drilling over the maximum drilling depth.



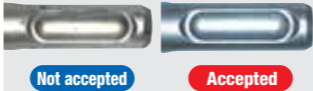
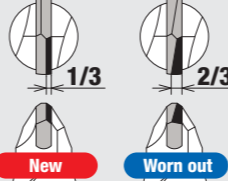






## How to check the lifetime of drill bits.

1. Wear of carbide tip
2. Wear of the flute
3. Wear of the shank

## Criteria of lifetime

| Part                           | Guideline                                                   |
|--------------------------------|-------------------------------------------------------------|
| Wear of the carbide tip        | Diameter of carbide tip becomes less than nominal diameter. |
| Wear of the flute of drill bit | Width of the thread becomes wider than unworn part.         |

| Condition                                                                           | Remark                        | Cause                                                                                                                                   |
|-------------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Carbide tip separation</b> | <b>Guarantee claim: not accepted</b><br>Carbide tip comes off by melting the brazing materials due to generated heat for long term use. |
|    | <b>Breakage of flute</b>      | <b>Guarantee claim: not accepted</b><br>Drilling beyond the wear-limit of flute results in metal fatigue.                               |
|   | <b>Breakage of flute</b>      | <b>Guarantee claim: accepted</b><br>Defective of heat treatment.<br>*When the bit breaks with few wear on the carbide tip and flute.    |
|   | <b>Breakage of flute</b>      | <b>Guarantee claim: not accepted</b><br>Drilling over maximum drilling depth.                                                           |
|  | <b>Breakage of head</b>       | <b>Guarantee claim: not accepted</b><br>Drilling over maximum drilling depth or drilling beyond the wear-limit result in metal fatigue. |
|   | <b>Wear of flute</b>          | <b>Guarantee claim: not accepted</b><br>The flute is worn by chips after long term use.                                                 |

| Condition                                                                             | Remark                                                | Cause                                                                                                                                                                                              |
|---------------------------------------------------------------------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Breakage of carbide tip</b>                        | <b>Guarantee claim: not accepted</b><br>Drilling into hard materials such as reinforced bar.                                                                                                       |
|    | <b>Crack of carbide tip</b>                           | <b>Guarantee claim: not accepted</b><br>Continuous drilling after the breakage of carbide tip.                                                                                                     |
|    | <b>SDS-plus shank can not be attached to machine.</b> | <b>Guarantee claim: not accepted</b><br>•Ball groove burrs due to long use.<br>•Wear of drive key in a drilling machine.                                                                           |
|    | <b>Wear of carbide tip (Two edges)</b>                | <b>Guarantee claim: not accepted</b><br>As shown in the left figure.                                                                                                                               |
|   | <b>Wear of carbide tip (Deltagon bit)</b>             | <b>Guarantee claim: not accepted</b><br>As shown in the left figure.                                                                                                                               |
|  | <b>Wear of carbide tip (Deltagon bit)</b>             | <b>Guarantee claim: not accepted</b><br>The burnt "blue" shows wear-limit when drilling beyond the wear-limit of carbide tip, drilling in rotation mode, or drilling into extremely hard material. |
|  | <b>Carbide tip separation</b>                         | <b>Guarantee claim: not accepted</b><br>Lifetime<br>*When the flute is burnt and turned "blue", and the carbide tip is come off.                                                                   |
|  | <b>Tip breakage</b>                                   | <b>Guarantee claim: not accepted</b><br>When flute part on the shank is burned, claim of tip breakage is not accepted.                                                                             |
|  | <b>Chipping tip</b>                                   | <b>Guarantee claim: not accepted</b><br>Tip is chipped when continuing to drill after hitting re-bar.                                                                                              |
|  | <b>Tip breakage of Deltagon Vacuum Bit</b>            | <b>Guarantee claim: not accepted</b><br>Tip is chipped when continuing to drill after hitting re-bar.                                                                                              |

Poly-Glic Series

S-LOCK Series

Deltagon Bit Series

Drill Bit Series

ANZEX Series

Diamond Series

METAL-DRILL Series

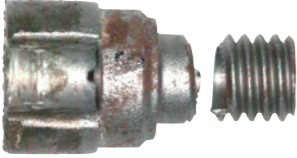





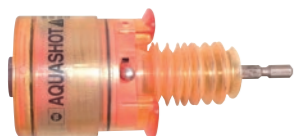
Holesaw Series

Core Bit Series

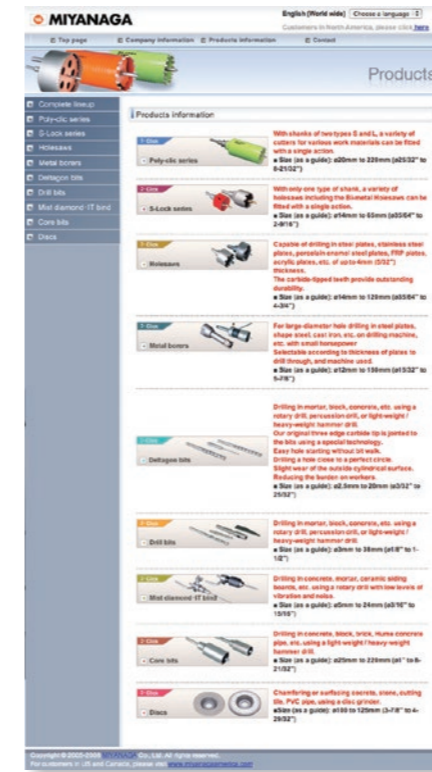
Disk Series

Reference

# Criteria of AQUASHOT Breakage Claims

| Condition                                                                          | Remark                                               | Cause                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|    | <b>Breakage of the threads of the diamond cutter</b> | <b>Guarantee claim: not accepted</b><br>The threads are sheared off during drilling when the tip becomes stuck due to insufficient water flow or excessive thrusting force.                                                                                                                                              |
|    | <b>The diamond tip separates from the cutter</b>     | <b>Guarantee claim: accepted</b><br>•Poor welding.<br>•If the diamond tip separates at the welding point when stuck during drilling, this can be attributed to a welding failure.                                                                                                                                        |
|   | <b>Water is expelled from the water-feed inlet</b>   | <b>Guarantee claim: not accepted</b><br>This is caused by the failure of the water stop valve.<br>1) The nozzle of the refill bottle is pushed into the water-feed inlet with excessive force.<br>2) Something other than the Miyanaga refill water bottle was inserted into the water-feed inlet and damaged the valve. |
|  | <b>The cover of the water tank separates</b>         | <b>Guarantee claim: not accepted</b><br>The upper outer cover can separate from the shank if it is pulled while retracting the lower internal cover at the same time.                                                                                                                                                    |
|  | <b>Water does not feed</b>                           | <b>Guarantee claim: not accepted</b><br>If the water tank is held while drilling, this can cause the internal o-ring seals to melt and the water supply route to become clogged with dregs.                                                                                                                              |
|  | <b>The bellows are exposed</b>                       | <b>Guarantee claim: not accepted</b><br>The fixing pin is melted and the cover is forward if you hold the tank while drilling.                                                                                                                                                                                           |
|  | <b>The body cannot be attached to the tank</b>       | <b>Guarantee claim: not accepted</b><br>This is because the fixing pin in the tank was broken due to holding the tank while drilling, and the tank was displaced and hit the removable ring.                                                                                                                             |

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