

# CIRCUIT BEVELER

Model **CB-01** **CE**

**Ideally suited for chamfering machine and mold component parts.**

## Features

- Only requires a 6.8 mm diameter hole for chamfering
- Two 3-sided indexable inserts provide a cost effective way to get a smooth, chatter free finish
- Lightweight at only 500 g

## Example of Chamfering



# CIRCUIT BEVELER

Optional

TB09140 Guide Plate 78 Assembly for more stable operation



Optional

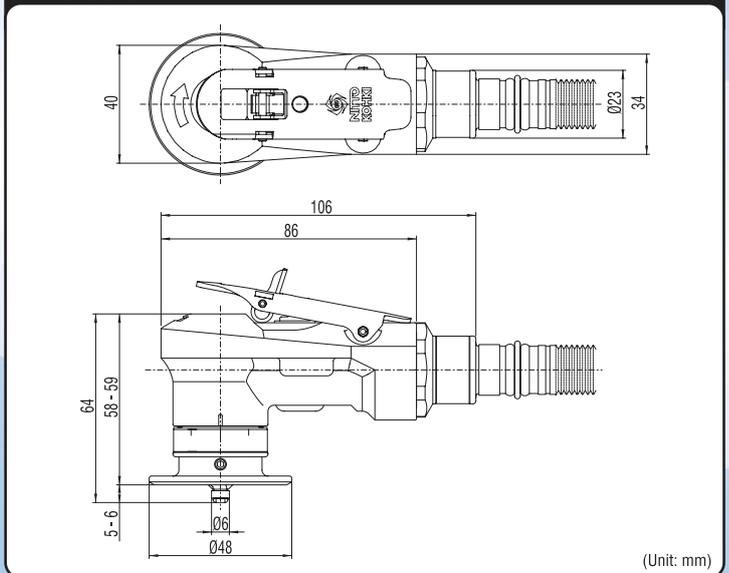
TB09143 Plate Assembly for straight edge use



## Specifications

| Specifications                              |   | CB-01  |
|---|---|--|
| <b>Model</b>                                |   | CB-01  |
| <b>Air Pressure</b>                         | MPa   | 0.6  |
| <b>Air Consumption</b>                      | m <sup>3</sup> /min   | 0.15   |
| <b>Free Speed</b>                           | min <sup>-1</sup>   | 28,000   |
| <b>Chamfering Capacity</b>                  | mm  | Mild Steel OC - 1C   |
| <b>Chamfer Angle</b>                        |   | 45°  |
| <b>Minimum Plate Thickness</b>              | mm  | 1.5<br>(Max chamfering capacity is reduced to 0.5C when plate thickness is 1.5 mm) |
| <b>Minimum Radius</b>                       | mm  | 3R   |
| <b>Minimum Hole Diameter for Chamfering</b> | mm  | Ø6.8   |
| <b>Minimum Chamfering Depth</b>             | mm  | 6  |
| <b>Mass (Weight)</b>                        | kg  | 0.5  |
| <b>Standard Accessories</b>                 | Indexable Insert : 2 pcs. (Installed)<br>Indexable insert set screw : 2 pcs. (Installed)<br>Indexable insert set screw : 2 pcs. (a back up supply)<br>Hex key 2 for chamfering adjustments : 1 pc.<br>T-6F wrench for cutter set screw : 1 pc.<br>Bushing R 1/4 x NPT 1/4 : 1 pc. |  |
| <b>Optional Accessories</b>                 | TB09097-0 Indexable Insert (10 pcs./set)<br>TB09140-0 Guide plate 78 Assembly<br>TB09143-0 Plate Assembly for straight edge use<br>**Requires use of TB09140-0 Guide Plate 78 Assembly**  |  |

## Dimensions



★ Specifications and designs are subject to change at any time without notice.



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# Circuit Beveler Model CB-01



## 1. Applications

Circuit Beveler Model CB-01 is a pneumatic hand tool. This tool operates with two disposable indexable inserts, and can chamfer straight and curved edges, and hole edges on mild steel products such as machined parts and molds.



## 2. The design purpose of Model CB-01

Chamfering burrs on workpieces such as machined parts and molds reduces operators' hand injuries while they handle the workpieces. Moreover, this makes them look fine. Due to these reasons the chamfering work on the workpieces is increasing at the site of processing. The big guide plate of the existing Model CB-02 has restricted chamfering work and brought about numerous requests for a downsized model from customers. Model CB-01 is completely downsized, and its motor performance is increased. In addition its product design is examined from all the possible angles.

## 3. Specifications

| Model                                |                     | CB-01  | CB-02<br>(Existing Model) |
|--------------------------------------|---------------------|--|---------------------------|
| Air Pressure                         | MPa                 | 0.6  | 0.59                      |
| Air Consumption                      | m <sup>3</sup> /min | 0.15   | 0.4                       |
| Free Speed                           | min <sup>-1</sup>   | 28,000   | 13,000                    |
| Chamfering Capacity                  | mm                  | Mild Steel 0C-1C   | 0C-2C,2R                  |
| Chamfer Angle                        |                     | 45°  | 45°                       |
| Minimum Plate Thickness              | mm                  | 1.5<br>(Max Chamfering capacity is reduced to 0.5C when plate thickness is 1.5 mm) | 10                        |
| Minimum Radius                       | mm                  | 3R   | 6R                        |
| Minimum Hole Diameter for Chamfering | mm                  | 6.8 dia.   | 12 dia.                   |
| Minimum Chamfering Depth             | mm                  | 6  | 20                        |
| Mass (Weight)                        | kg                  | 0.5  | 1.8                       |

## Standard Accessories

- Indexable insert: 2 pcs. (installed)
- Indexable Insert Set Screw: 2 pcs. (installed)
- Indexable Insert Set Screw: 2 pcs. (a back up supply)
- Hex. Key 2 for chamfering adjustment: 1 pc.
- T-6F wrench for cutter set screw: 1 pc.

## Optional Accessories

- TB09097 Indexable Insert (10 pcs./set)
- TB09140 Guide Plate 78 Assembly
- TB09143 Plate Assembly for straight edge use (requires use of TB09140 Guide Plate 78 Assembly)

## Comparison between CB-01 and conventional tools

### Comparison with CB-02

- CB-02: Since the disk sub assembly (round guide plate) is large in size, it often hits a difference in level or projection. This restricts and hinders the chamfering work.

CB-01: The guide plate is downsized.



- CB-02: As the bearing that runs on the side surface of the workpiece is large in size, it cannot go into the rounded corner of the machined parts. (Acceptable Minimum Radius of rounded corner: 6R) (6mm, 8mm, and 10mm diameter end mills are mostly used in mechanical working.)

CB-01: Most popular diameter size of end mill in Japan is 6 mm. Therefore, CB-01 is designed so that it can chamfer the edge of the rounded corner 3R.

(Acceptable Minimum Radius of rounded corner: 3R)

- CB-02: The bearing that runs on the side surface of the workpiece projects greatly from the bottom of the disk sub assembly (round guide plate). If the groove or hole depth in the workpiece is shallow, the tip of the cutter spindle reaches the bottom of the hole. This does not allow you to chamfer the edge on the workpiece.

CB-01: The projected length of the end of the indexable insert holder from the round guide plate is far less than that of CB-02.

### Comparison Example

|        | <u>Projected length from the round guide plate in the case of 1C</u> |
|--------|--|
| CB-02: | 18.0 mm  |
| CB-01: | 5.5 mm   |

- CB-02: It cannot chamfer a thin plate. The thin plate will become caught in the gap between the round guide plate and the ball bearing. (Minimum plate thickness is 10 mm.)  
CB-01: It can chamfer a thin plate. (Minimum plate thickness is 1.5 mm.)

#### Comparison with Machining Center (MC)

- MC: Programming for chamfering work is required.  
CB-01: Just place CB-01 on the edge to be chamfered. No need for preparation.
- MC: MC should not be used for light-chamfering work in order to increase the rate of its operation.  
CB-01: While waiting for the MC to finish processing work, an operator can finish light-chamfering work with CB-01.

#### Comparison with Grinders

- Grinder: Chamfered surface is uneven and looks bad.  
CB-01: Chamfered surface is even and smooth, and looks fine.
- Grinder: Secondary burrs are caused by grinding.  
CB-01: No secondary burr is caused by chamfering.

#### **Features**

- Employing two indexable inserts results in a significant speedup in chamfering work.
- Employing long life 3-sided indexable inserts makes it possible to reduce the running cost.
- Compact and lightweight model enhances operator's productivity. The downsized guide plate enables an operator to perform chamfering work in confined areas.
- A newly developed energy-saving and high efficient motor provides high output power, yet low air consumption.
- The long life motor is cost-effective in maintenance.
- Easy replacement of indexable insert.
- Elongated hole edges and curved edges can be chamfered.

Expected work sites to be used.

- Die and mold manufacturing
- Machining
- Sheet-metal processing

CB-01 will be mainly used in the above-mentioned work sites. This tool can be used wherever burrs are caused during processing work in the industries ranging from precision machinery industry to heavy industry. It can be expected that this tool will be much more used in the applications of elongated hole edges and curved edges rather than straight edges.