

**GK-HAZX**  
**NO BURRS**



**Giken Ltd.**  
The Japanese products

*The world's first! 4 blades*

# ZERO BURR X

For Aluminum and Resin Cross hole Hybrid Drill.

The world's first! Four blades 3D waveform composite R shape.

## ZERO BURR X debut!

One punch without a pilot hole prevents burrs!

Perfect for drilling a cross hole in aluminum and resin!

The drilling speed has reduced significantly!

Hole accuracy H7 or less if there's no deflection!

Trademark registered, patent pending.

Drilling videos here!



**New Product!** For **Aluminum Resin Cross hole** **No Deburring!** Reducing deburring work enables cost reduction and high-efficiency production.  
**4 Blades!** **Speed Up!** Four blades increases cutting speed. (Compared to our company's product)  
**NO BURRS** **Repolishing!** Cost efficient because it can be repolished. (Repolishing is done by our company)  
**Hybrid Drill** **Patent and designs** Expand into overseas markets(EU/USA/China) "ZERO BURR" Trademark registered.

## The superior characteristics of ZEROBURR X ( The results of drilling test )

### Fine Curve Flute

Achieved excellent cutting and chip discharging with large waveform R shape.

### XZX thinning

New development. Composite R shape that enables to bite smoothly and precise positioning with composite R.

### Sub Fine Curve Flute

Complemented the fine curve flute in the main blade. Reducing and dispersing the load increased its cutting speed. Achieves excellent cutting and chip discharge without clogging.

### Special Wave Drill

Cutting Resistance 1/4. Hole Accuracy H7 or less. 3D waveform composite R shape to slightly reduce burrs.

### Sub Special Wave Drill

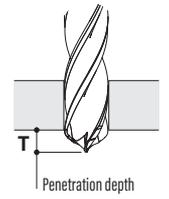
Removes burrs while increasing cutting speed. 3D waveform composite R shape.

### Spiral Reamer

Reamer shape for beautifully finished inner wall of hole.

### - PRECAUTIONS -

- \* Please use for wet drilling.
- \* Be sure to fix the work material firmly, and use the drill to completely pass through the penetration depth.
- \* If the deflection is large when the drill is mounted, welding or the hole diameter may become large, or a spiral flaw may remain on a drilling surface of the work material.



### - Cutting speed -

$$S = 1000 \times V \div 3.14 \div D$$

$$V = S \div (1000 \div 3.14 \div D)$$

$$F = S \times S$$

$$f = F \div S(3blade \times 1.5, 4blade \times 2)$$

$S = \text{Revolution (rpm)}$   
 $V = \text{Cutting speed (m/min)}$   
 $F = \text{Feed speed (mm/min)}$   
 $f = \text{Feed rate (mm/rev)}$

\*Recommended cutting conditions may vary depending on the cutting environment such as the type of work materials and thickness.



D:6.0 / S=3350 F=250



D:6.0, 10.4 / S=3350 F=250



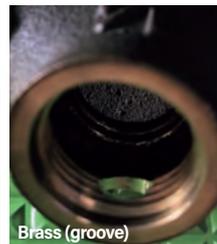
D:6.0 / S=3350 F=250



D:6.0 / S=3350 F=250



D:6.0 / S=3350 F=250



D:6.0 / S=3350 F=250

## ZEROBURR X LINEUP (for Aluminum / Resin / Cross hole)

| Model number    | φD<br>Diameter | T<br>Penetration Depth | ℓ<br>Groove Length | L<br>Overall Length | φd<br>Shank |
|-----------------|----------------|------------------------|--------------------|---------------------|-------------|
| GK-HAZX 0300DLC | 3              | 1.8                    | 20                 | 60                  | 3           |
| GK-HAZX 0310DLC | 3.1            | 2.1                    | 25                 | 60                  | 4           |
| GK-HAZX 0320DLC | 3.2            |                        |                    |                     |             |
| GK-HAZX 0330DLC | 3.3            |                        |                    |                     |             |
| GK-HAZX 0340DLC | 3.4            |                        |                    |                     |             |
| GK-HAZX 0350DLC | 3.5            |                        |                    |                     |             |
| GK-HAZX 0360DLC | 3.6            | 2.4                    | 30                 | 75                  | 6           |
| GK-HAZX 0370DLC | 3.7            |                        |                    |                     |             |
| GK-HAZX 0380DLC | 3.8            |                        |                    |                     |             |
| GK-HAZX 0390DLC | 3.9            |                        |                    |                     |             |
| GK-HAZX 0400DLC | 4              |                        |                    |                     |             |
| GK-HAZX 0410DLC | 4.1            | 2.7                    | 35                 | 100                 | 8           |
| GK-HAZX 0420DLC | 4.2            |                        |                    |                     |             |
| GK-HAZX 0430DLC | 4.3            |                        |                    |                     |             |
| GK-HAZX 0440DLC | 4.4            |                        |                    |                     |             |
| GK-HAZX 0450DLC | 4.5            |                        |                    |                     |             |
| GK-HAZX 0460DLC | 4.6            | 3                      | 40                 | 120                 | 12          |
| GK-HAZX 0470DLC | 4.7            |                        |                    |                     |             |
| GK-HAZX 0480DLC | 4.8            |                        |                    |                     |             |
| GK-HAZX 0490DLC | 4.9            |                        |                    |                     |             |
| GK-HAZX 0500DLC | 5              |                        |                    |                     |             |
| GK-HAZX 0510DLC | 5.1            | 3.3                    | 45                 | 150                 | 16          |
| GK-HAZX 0520DLC | 5.2            |                        |                    |                     |             |
| GK-HAZX 0530DLC | 5.3            |                        |                    |                     |             |
| GK-HAZX 0540DLC | 5.4            |                        |                    |                     |             |
| GK-HAZX 0550DLC | 5.5            |                        |                    |                     |             |
| GK-HAZX 0560DLC | 5.6            | 3.6                    | 50                 | 180                 | 20          |
| GK-HAZX 0570DLC | 5.7            |                        |                    |                     |             |
| GK-HAZX 0580DLC | 5.8            |                        |                    |                     |             |
| GK-HAZX 0590DLC | 5.9            |                        |                    |                     |             |
| GK-HAZX 0600DLC | 6              |                        |                    |                     |             |
| GK-HAZX 0610DLC | 6.1            | 3.9                    | 55                 | 210                 | 24          |
| GK-HAZX 0620DLC | 6.2            |                        |                    |                     |             |
| GK-HAZX 0630DLC | 6.3            |                        |                    |                     |             |
| GK-HAZX 0640DLC | 6.4            |                        |                    |                     |             |
| GK-HAZX 0650DLC | 6.5            |                        |                    |                     |             |
| GK-HAZX 0660DLC | 6.6            | 4.2                    | 60                 | 240                 | 28          |
| GK-HAZX 0670DLC | 6.7            |                        |                    |                     |             |
| GK-HAZX 0680DLC | 6.8            |                        |                    |                     |             |
| GK-HAZX 0690DLC | 6.9            |                        |                    |                     |             |
| GK-HAZX 0700DLC | 7              |                        |                    |                     |             |
| GK-HAZX 0710DLC | 7.1            | 4.5                    | 65                 | 270                 | 32          |
| GK-HAZX 0720DLC | 7.2            |                        |                    |                     |             |
| GK-HAZX 0730DLC | 7.3            |                        |                    |                     |             |

| Model number    | φD<br>Diameter | T<br>Penetration Depth | ℓ<br>Groove Length | L<br>Overall Length | φd<br>Shank |
|-----------------|----------------|------------------------|--------------------|---------------------|-------------|
| GK-HAZX 0740DLC | 7.4            | 4.5                    | 45                 | 300                 | 36          |
| GK-HAZX 0750DLC | 7.5            |                        |                    |                     |             |
| GK-HAZX 0760DLC | 7.6            |                        |                    |                     |             |
| GK-HAZX 0770DLC | 7.7            |                        |                    |                     |             |
| GK-HAZX 0780DLC | 7.8            |                        |                    |                     |             |
| GK-HAZX 0790DLC | 7.9            | 4.8                    | 50                 | 360                 | 42          |
| GK-HAZX 0800DLC | 8              |                        |                    |                     |             |
| GK-HAZX 0810DLC | 8.1            |                        |                    |                     |             |
| GK-HAZX 0820DLC | 8.2            |                        |                    |                     |             |
| GK-HAZX 0830DLC | 8.3            |                        |                    |                     |             |
| GK-HAZX 0840DLC | 8.4            | 5.1                    | 55                 | 390                 | 48          |
| GK-HAZX 0850DLC | 8.5            |                        |                    |                     |             |
| GK-HAZX 0860DLC | 8.6            |                        |                    |                     |             |
| GK-HAZX 0870DLC | 8.7            |                        |                    |                     |             |
| GK-HAZX 0880DLC | 8.8            |                        |                    |                     |             |
| GK-HAZX 0890DLC | 8.9            | 5.4                    | 60                 | 420                 | 54          |
| GK-HAZX 0900DLC | 9              |                        |                    |                     |             |
| GK-HAZX 0910DLC | 9.1            |                        |                    |                     |             |
| GK-HAZX 0920DLC | 9.2            |                        |                    |                     |             |
| GK-HAZX 0930DLC | 9.3            |                        |                    |                     |             |
| GK-HAZX 0940DLC | 9.4            | 5.7                    | 65                 | 450                 | 60          |
| GK-HAZX 0950DLC | 9.5            |                        |                    |                     |             |
| GK-HAZX 0960DLC | 9.6            |                        |                    |                     |             |
| GK-HAZX 0970DLC | 9.7            |                        |                    |                     |             |
| GK-HAZX 0980DLC | 9.8            |                        |                    |                     |             |
| GK-HAZX 0990DLC | 9.9            | 6                      | 70                 | 480                 | 66          |
| GK-HAZX 1000DLC | 10             |                        |                    |                     |             |
| GK-HAZX 1010DLC | 10.1           |                        |                    |                     |             |
| GK-HAZX 1020DLC | 10.2           |                        |                    |                     |             |
| GK-HAZX 1030DLC | 10.3           |                        |                    |                     |             |
| GK-HAZX 1040DLC | 10.4           | 6.3                    | 75                 | 510                 | 72          |
| GK-HAZX 1050DLC | 10.5           |                        |                    |                     |             |
| GK-HAZX 1060DLC | 10.6           |                        |                    |                     |             |
| GK-HAZX 1070DLC | 10.7           |                        |                    |                     |             |
| GK-HAZX 1080DLC | 10.8           |                        |                    |                     |             |
| GK-HAZX 1090DLC | 10.9           | 6.6                    | 80                 | 540                 | 78          |
| GK-HAZX 1100DLC | 11             |                        |                    |                     |             |
| GK-HAZX 1110DLC | 11.1           |                        |                    |                     |             |
| GK-HAZX 1120DLC | 11.2           |                        |                    |                     |             |
| GK-HAZX 1130DLC | 11.3           |                        |                    |                     |             |
| GK-HAZX 1140DLC | 11.4           | 6.9                    | 85                 | 570                 | 84          |
| GK-HAZX 1150DLC | 11.5           |                        |                    |                     |             |
| GK-HAZX 1160DLC | 11.6           |                        |                    |                     |             |
| GK-HAZX 1170DLC | 11.7           |                        |                    |                     |             |

| Model number    | φD<br>Diameter | T<br>Penetration Depth | ℓ<br>Groove Length | L<br>Overall Length | φd<br>Shank |
|-----------------|----------------|------------------------|--------------------|---------------------|-------------|
| GK-HAZX 1180DLC | 11.8           | 7.2                    | 70                 | 120                 | 12          |
| GK-HAZX 1190DLC | 11.9           |                        |                    |                     |             |
| GK-HAZX 1200DLC | 12             |                        |                    |                     |             |
| GK-HAZX 1210DLC | 12.1           |                        |                    |                     |             |
| GK-HAZX 1220DLC | 12.2           |                        |                    |                     |             |
| GK-HAZX 1230DLC | 12.3           | 7.5                    | 75                 | 140                 | 14          |
| GK-HAZX 1240DLC | 12.4           |                        |                    |                     |             |
| GK-HAZX 1250DLC | 12.5           |                        |                    |                     |             |
| GK-HAZX 1260DLC | 12.6           |                        |                    |                     |             |
| GK-HAZX 1270DLC | 12.7           |                        |                    |                     |             |
| GK-HAZX 1280DLC | 12.8           | 7.8                    | 80                 | 160                 | 16          |
| GK-HAZX 1290DLC | 12.9           |                        |                    |                     |             |
| GK-HAZX 1300DLC | 13             |                        |                    |                     |             |
| GK-HAZX 1310DLC | 13.1           |                        |                    |                     |             |
| GK-HAZX 1320DLC | 13.2           |                        |                    |                     |             |
| GK-HAZX 1330DLC | 13.3           | 8.1                    | 85                 | 180                 | 18          |
| GK-HAZX 1340DLC | 13.4           |                        |                    |                     |             |
| GK-HAZX 1350DLC | 13.5           |                        |                    |                     |             |
| GK-HAZX 1360DLC | 13.6           |                        |                    |                     |             |
| GK-HAZX 1370DLC | 13.7           |                        |                    |                     |             |
| GK-HAZX 1380DLC | 13.8           | 8.4                    | 90                 | 200                 | 20          |
| GK-HAZX 1390DLC | 13.9           |                        |                    |                     |             |
| GK-HAZX 1400DLC | 14             |                        |                    |                     |             |
| GK-HAZX 1410DLC | 14.1           |                        |                    |                     |             |
| GK-HAZX 1420DLC | 14.2           |                        |                    |                     |             |
| GK-HAZX 1430DLC | 14.3           | 8.7                    | 95                 | 220                 | 22          |
| GK-HAZX 1440DLC | 14.4           |                        |                    |                     |             |
| GK-HAZX 1450DLC | 14.5           |                        |                    |                     |             |
| GK-HAZX 1460DLC | 14.6           |                        |                    |                     |             |
| GK-HAZX 1470DLC | 14.7           |                        |                    |                     |             |
| GK-HAZX 1480DLC | 14.8           | 9                      | 100                | 240                 | 24          |
| GK-HAZX 1490DLC | 14.9           |                        |                    |                     |             |
| GK-HAZX 1500DLC | 15             |                        |                    |                     |             |
| GK-HAZX 1510DLC | 15.1           |                        |                    |                     |             |
| GK-HAZX 1520DLC | 15.2           |                        |                    |                     |             |
| GK-HAZX 1530DLC | 15.3           | 9.3                    | 105                | 260                 | 26          |
| GK-HAZX 1540DLC | 15.4           |                        |                    |                     |             |
| GK-HAZX 1550DLC | 15.5           |                        |                    |                     |             |
| GK-HAZX 1560DLC | 15.6           |                        |                    |                     |             |
| GK-HAZX 1570DLC | 15.7           |                        |                    |                     |             |
| GK-HAZX 1580DLC | 15.8           | 9.6                    | 110                | 280                 | 28          |
| GK-HAZX 1590DLC | 15.9           |                        |                    |                     |             |
| GK-HAZX 1600DLC | 16             |                        |                    |                     |             |

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