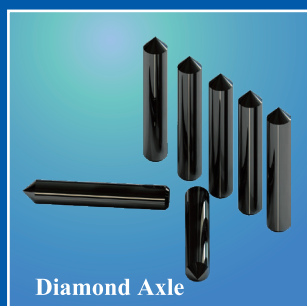
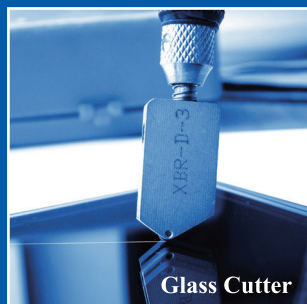




Holder



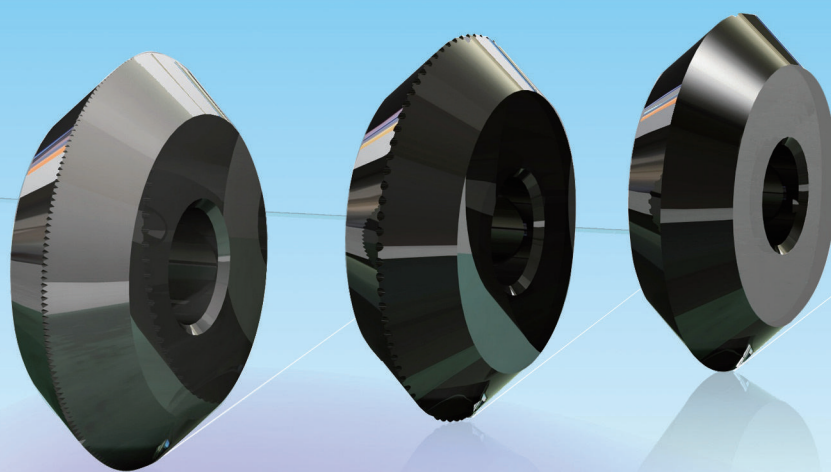
Diamond Axle



Glass Cutter



Glass Cutting Machine

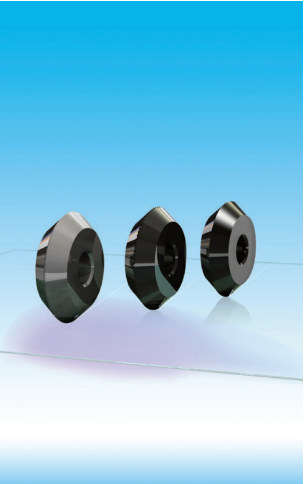


Diamond scribing wheels

Glass Cutting Tools

Diamond scribing wheels

Beijing World Super Hard Tools Co.,Ltd.



Beijing World Super Hard Tools Co., Ltd. is a Chinese manufacturer of products including glass cutting tool, super hard cutting tool and diamond die blank. We are a sister-company of Beijing Supower Science and Technology Developing Company Ltd., which is a new national, hi-tech enterprise. In order to achieve quicker and better development, we at World perform integrative recombination of our core business and assets. We now have numerous patents. What's more, we are the only manufacturer in China to provide many of the super hard cutting tools we produce, and they are not only popular here, but are among the top-ranked in the industry worldwide. In addition to the R&D of advanced production technologies and equipment, and the manufacturing of high quality super hard cutting tools, we are also involved in expanding our business into related industries around the world.

In the field of the glass cutting tool, we are one of only three high-penetration diamond scribing wheel producers in the world, and are the sole producer in China. With the production of our diamond scribing wheel, World has broken the monopoly of Japanese products in the high-end glass cutting industry. Due to the reliable performance and high precision of our World diamond scribing wheel, it is extensively used for precise cutting of high-end TFT-LCD, CSTN-LCD, STN-LCD panels and glass substrates, LCD panels, LCD touch screens, in addition to glass sheets for precision electronic instruments and automobiles. Our products are not only preferred by well-known Chinese LCD manufacturers, but they are now gaining popularity in Japan, South Korea, the US and other countries.

At World, we use unique design and sophisticated techniques to ensure the high precision and reliable quality of our super hard cutting tools, and are now leading in carbon processing cutting tools and other cutting tool industries. Today, our high precision cutting tool, PCD/PCBN roller cutting tool, PCD inserts specially used for cutting wind turbine blade and other products are increasingly used in many fields, such as new composite materials (like nonferrous metal, ferrous metal, tungsten carbide, plastic, fiber glass, etc.), tungsten carbide, fiber reinforced plastics (FRP), rollers, auto parts, stone engraving, and more. We also manufacture a diamond nozzle, diamond dressing logs, lapping and polishing machine, glass cutting machine, and other products, and are dedicated to offering customized, complete cutting solutions.

In manufacturing our diamond die blank, we creatively use precision grinding and polishing technologies. The application of cold press fit techniques instead of hot pressing prevents damage to PCD internal structure caused by high temperature. As for super hard materials processing, we provide high precision lapping and polishing, laser cutting, rework, in addition to OEM/ODM services. Hence our products are popular in Southeast Asia, Western countries, and others.

We have a modern factory covering 6,000 square meters, completely equipped with advanced manufacturing machines, including COBORN and FARMAN sharpening machine for PCD/PCBN tools; more than forty precision laser cutting machines; over one hundred large lapping and polishing machines; FANUC electric discharge machines (EDM) and machine tools.

Through the use of superior inspection equipment such as ultrasonic C-scanners imported from the US, universal tool microscopes, metallurgical microscopes and abrasion testers, as well as implementation of rigorous, complete and systemic quality checks, our highly experienced, professional technical staff ensures the superior performance of our products can meet customers' requirements. Strict application of quality management practices in conformity with international standards has earned us ISO9001:2008 certification.

At World, we focus on environmental protection in addition to the R&D of new technologies and products. Our next five-year plan is to continually increase our investments to build a comprehensive production base with an area of more than one hundred acres. It is our goal to become a global production and R&D base for super hard material tooling products and to continue to evolve as a large, modern, internationalized enterprise group.

Full of passion and with broad vision, the staff at World would like to establish business relationships with friends all over the world to promote the advancement of the super hard material industry.



Scribing Wheels

02

As a tool for glass cutting, the scribing wheel is the primary factor to decide the cutting quality of the glass. The World diamond scribing wheel features stable function, sharp cutting edge, precise cutting angle, and precise roundness and thickness of the bore. These features guarantee the excellent cutting quality. The World diamond scribing wheel has long service life and has the advantages of controllable cutting depth and smooth cutting surface.

High Penetration Diamond Scribing Wheels

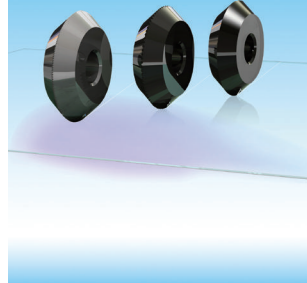
The high penetration diamond scribing wheel (similar to Penett, APIO) uses high quality PCD material of Element Six and Sumitomo. With unique high precision micromachining technology, we make denticles with regular depth and width in the cutting edge of the wheels, to increase or control the cutting depth of the glass.

Features

1. The denticles are distributed regularly and equally.
2. The high penetration diamond scribing wheel (similar to Penett, APIO) has a sharp cutting edge and precise cutting angle. The diamond scribing wheel can cut glasses with vertical and smooth sections and it will not cause chips of glass during cutting process.
3. Compared with the average diamond scribing wheel, the high penetration diamond scribing wheel (similar to Penett, APIO) can guarantee vertical cutting sections and deeper cutting cracks. It can control the cutting depth according to manufacturing need. The cutting depth can reach 50 to 100 percent the depth of the glass.
4. The high penetration diamond scribing wheel (similar to Penett, APIO) causes no fragmentation.
5. The high penetration diamond scribing wheel (similar to Penett, APIO) has long service life.
6. Our high penetration diamond scribing wheel (similar to Penett, APIO) is offered at low price.
7. The diamond scribing wheel can improve production efficiency, reduce waste and lessen production processes.

Application

High penetration diamond scribing wheel is used in high end LCD production lines, LCD panels, substrate glass, touch screens and sheet glass for cars.



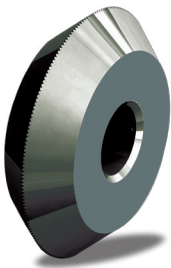
Standard Diamond Scribing Wheels

Features

- 1, The standard diamond scribing wheel has strong abrasive resistance.
- 2, The standard diamond scribing wheel has long service life.
- 3, The standard diamond scribing wheel has a sharp cutting edge and precise cutting angle. The wheel can cut glass with vertical and smooth sections and will not cause chips of glass during cutting process.
- 4, The friction coefficient between the wheel and holders is very small so the holders can be protected from friction.
- 5, The standard diamond scribing wheel features smooth cutting and flawless cutting lines.
- 6, The standard diamond scribing wheel can cut ITO conducting film and the glass at the same time when cutting touch screens. The scribing wheel can be used to cut touch screen that is made of tempered glass.

Application

The standard diamond scribing wheel is used in high end LCD production lines, LCD panels, substrate glass, and glass of touch screens.





Hybrid Diamond Scribing Wheels

Description

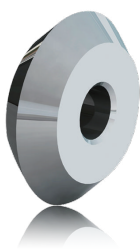
The hybrid diamond scribing wheel uses high quality PCD material made by Element Six and Sumitomo. It is manufactured with unique high precision processing technology and its cutting edge is processed with a matt finish.

Features

1. With unique choice of material, the hybrid diamond scribing wheel has a high cost performance. It is the ideal choice for cutting touch screen.
2. The hybrid diamond scribing wheel has various cutting edges, making it widely applicable. It is suitable to cut glasses made from different materials. The hybrid diamond scribing wheel is the ideal substitute for the tungsten carbide scribing wheel as its service life is three times that of the tungsten carbide scribing wheel.
3. Our hybrid diamond scribing wheel can cut the ITO conducting film and the glass at the same time when cutting touch screen.

Application

The hybrid diamond scribing wheel is used in high end LCD production lines, LCD panels, substrate glass, and glass tube of touch screens.



Carbide Scribing Wheels

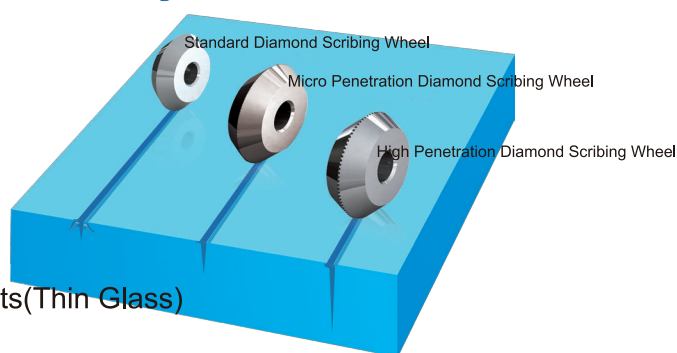
Features

1. Carbide scribing wheel uses special tungsten alloy material. It is manufactured with unique high precision processing technology.
2. The special tungsten alloy material, which is made by Osaka Nikken Dia Co., Ltd., can guarantee the cutting quality and service life of the carbide scribing wheel.
3. Compared with similar tungsten carbide scribing wheels, the carbide scribing wheel has higher cutting quality and longer service life.

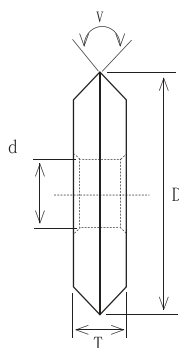
Application

The carbide scribing is used in low end LCD panel like STN and TN, substrate glass and glass tube of touch screens.

Influence of Wheels on Glass Cutting



Specification



D [mm]	d [mm]							T [mm]					V [°]	Materials and Grades of Wheels						Recommendations	
														PCD				Carbide			
	0.8	1.0	1.1	1.2	1.3	1.4	1.5	0.6	0.65	0.70	1.0	1.1		1.6xV	1.8xV	2.0xV	2.2xV		2.5xV		
2.0	★							★	★				60-163	★	★	★	★	★	★	Panels	
2.5	★	★	★					★	★					★	★	★	★	★	★	★	Tough screens
3.0	★	★	★	★				★	★					★	★	★	★	★	★	★	Substrates
3.2		★	★	★					★			★		★		★	★		★	★	Solar glass
4.0				★	★	★	★			★		★		★		★	★		★	★	Auto glass
5.0				★	★	★	★					★		★		★	★		★	★	Mirrors
6.0				★	★	★	★					★		★			★		★		Tubes Glass production Construction details



Axles

04

The affecting factors of the cutting quality include the suitability of the scribing wheel and axle, the abrasive resistance of the axle, the precision of the cylindricity, and the diameter and length of the axle. Common phenomena, such as unstable cutting quality and short service life of the scribing wheel, are often related to the misuse or inadequate hardness of the axle. The fast abrasion of the axle is one of the factors that cause the damage of scribing wheel and unstable cutting quality.



Diamond Axles

Features

1. The diamond axle features high precision. The precision of its abrasive resistance, cylindricity, diameter and length has been strictly examined.
2. The strong suitability of the scribing wheel and the axle reduces the friction between them.
3. The diamond axle has long service life. It can also prolong the service life of the scribing wheel.
4. The diamond axle can guarantee stable cutting quality.

Application

1. The diamond axle is suitable for diamond scribing wheels of different specifications.
2. As a kind of high precision wear resistant part, the diamond axle can be used in precision mechanical equipment including high precision bearings, high precision instruments and intelligent robots.



Carbide Axles

Description

The carbide axle uses high quality tungsten alloy made by Sumitomo and their specially made hard material.

Application

1. The carbide axle is suitable for diamond scribing wheels of different specifications to be used to cut glasses.
2. As a kind of high precision wear resistant part, the carbide axle can be used in precision mechanical equipment including high precision bearings, high precision instruments and intelligent robots.

Description	Specification						
	D(mm)	L (mm)	A(°)	a(°)	Coaxiality (μm)	Cylindricity (μm)	Roughness (μm)
Diamond Axles	0.80	0.50	120	45	5.00	2.00	0.20
	1.00	0.80					
	1.10	0.80					
	1.20	0.80					
	1.30	1.20					
	1.40	1.30					



Description

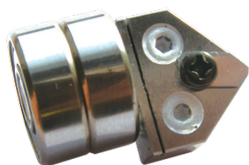
The precision and applicability of the holder can affect the cutting quality. To satisfy the need of various glass cutting machines. World develops many different holders with excellent applicability, such as holders for LCD glass cutting machines, common glass cutting machines, glass tube cutting machines, and glass cutter and tile cutting machines.

Features

1. High precision. The scribing wheel and the holder are closely connected together to avoid the phenomena of wrong cutting line and to improve the cutting quality.
2. Strong applicability. The scribing wheel and the holder are matched. We can manufacture the holder according to the needs of our customers.
3. Long service life. Thanks to the strong suitability of the scribing wheel and the holder, the friction between them is small so the attrition of them can be reduced. This prolongs the service life of the scribing wheel and the holder.

Application

Our precision holder has different specifications. The precision holder is suitable for glass cutting machines manufactured by many famous companies, such as MDI, SHIRAI, JOYOU, BANDO and BOTTERO.



XBR-12/14



XBR-13



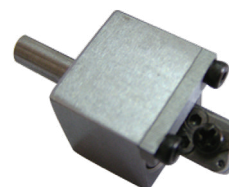
XBR-W-14



XBR-W-14-T



XBR-15



XBR-17



XBR-18



XBR-19



XBR-20



Holders

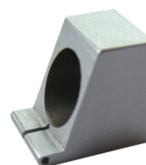
06



XBR-02



XBR-03



XBR-04



XBR-05



XBR-06



XBR-07



XBR-08



XBR-01



XBR-11

Description	Specification		Matched Glass Cutting Machine
Precision holders for LCD cutting machine	XBR-14	23×14×7×0.67×0.8	MDI cutting machine
	XBR-12	23×12×7×0.67×0.8	
	XBR-W-14	13×14×6×0.67×0.8	
U type precision holders	XBR-6	18×5.3×7.8×1.0×1.4	Multi-knife precision glass cutting machine
U type standard wheel holders			Standard multi-knife glass cutting machine
Abnormal type standard holders	XBR-8-A	18×5×7×1.0×1.4	Holders for Abnormal type glass cutting machine
	XBR-8-B	18×5×7×1.0×1.2	
	XBR-8-C	18×5×7×0.7×0.8	
Straight line standard holders	XBR-9	31.5×18×8.8×0.96×1.4	Holders for straight line glass cutting machine



Multi-head Scriber



Description

The Supower glass cutting machine is equipped with high quality diamond scribing wheels. Compared with the average glass cutting machine, the Supower glass cutting machine has the advantages of high precision and good cutting quality. With humanized design, the Supower glass cutting machine is easy to operate. Workers only need to be trained for an hour and then they can proficiently operate the machine. The machine can save the training time and help many factories with the problem of inadequate processing capability.

Application

Our glass cutting machine is used to cut various glasses with the thickness of 0.1mm to 2.0mm, such as LCD substrate, panel glass, optical windows, touch screens, glass slides, solar energy glass and decorative mirrors.

Typical Parameters

Items	Parameters
Dimensions	950×750×450mm
Desktop Size	380×180mm
Desktop Height	680mm
Thickness Range of Applicable Glass	0.1-2mm
Minimum Scribing Size	18×18mm
Distance Error of Scribing Line	±0.05mm
Orthogonality Deviation of Scribing Line	±0.02/400mm
Number of Scribing Heads	20 sets (Standard Configuration)
Gross Weight	200KG
Net Weight	150KG
Notes	1· Desktop size can be decided by customers.
	2· The machine must work with air compressor (0.2-1.0MPa, 0.75-1.5KW)



Glass Cutters

08

Diamond Glass Cutters



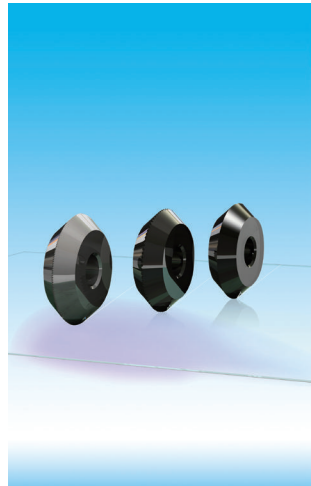
Typical Parameters			
Description	Type	Cutting Thickness	Application
Supower Diamond Glass Cutters	XBR-0	0.2-2.0mm	Ultra Thin Glass,H-Penetration Series
	XBR-1	0.5-3.0mm	Thin Glass
	XBR-2	2.0-8.0mm	Middle Thickness Glass
	XBR-3	6.0-15.0mm	Thick Glass
	XBR-4	8.0-19.0mm	

Description

1. A traditional glass cutter often uses an tungsten carbide scribing wheel, while our diamond glass cutter uses a diamond scribing wheel.
2. We design and develop various diamond glass cutters to cut glasses with thicknesses ranging from 0.2mm to 19mm.
3. Our diamond glass cutter has a longer service life than glass cutters with an tungsten carbide scribing wheel. Our diamond glass cutter can cut 100,000 meters of glass.
4. With humanized and scientific design, our diamond glass cutter can be oiled without leakage and can cut glasses smoothly with good cutting quality.

Application

The diamond glass cutter is used on materials with different thickness, such as common glass, constructional engineering glass, glass doors and windows, and mirrors.





Nikken Glass Cutters

Description

Osaka Nikken Co., Ltd. was founded in 1903 and is the inventor of wheel type cutting. The Nikken glass cutter and tungsten carbide scribing wheel have a history of more than one hundred years. The products of Nikken cover many fields, including LCDs, touch screens, substrates, optical windows and car windows.

Features

1. With specially made tungsten carbide material, the Nikken glass cutter has the advantages of good abrasive resistance, toughness and long service life.
2. The Nikken glass cutter has a unique appearance and can be oiled without leakage. Our cutter also has unique grinding equipment and grinding technology.

Application

The Nikken glass cutter is used on materials with different thickness, such as common glass, constructional engineering glass, glass doors and windows, and mirrors.



Typical Parameters			
Description	Type	Cutting Thickness	Application
Nikken Glass Cutters	NC-X03/03B K	0.5-3.0mm	Thin Glass
	NC-X02/03/02B/03B	2.0-8.0mm	Middle Thickness Glass
	NC-X03/03B T	6.0-15.0mm	Thick Glass
	NC-X03/03B S	8.0-19.0mm	



Nikken Glass Pliers

**Features**

The Nikken glass plier has a unique humanized design and adjustable gasket. The Nikken glass plier can easily break different kinds of glasses with thickness ranging from 10mm to 15mm.

Application

The Nikken glass plier is used to break different kinds of glass with their thickness ranging from 10mm to 15mm.

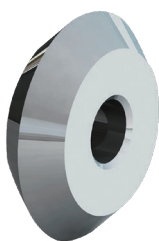


Nikken Products

10



Nikken Carbide Scribing Wheels



Description

Osaka Nikken Co., Ltd. was founded in 1903 and is the inventor of wheel type cutting. The Nikken glass cutter and tungsten carbide scribing wheel have a history of more than one hundred years. The products of Nikken cover many fields, including LCDs, touch screens, substrates, optical windows and car windows.

Features

1. With specially made tungsten carbide material, Nikken tungsten carbide scribing wheel has the advantages of good abrasive resistance, toughness and long service life.
2. Nikken tungsten carbide scribing wheel has a unique appearance and can be oiled without leakage, also has unique grinding equipment and grinding technology.

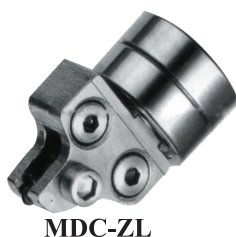
Application

Nikken tungsten carbide scribing wheel is in low end LCD panel like STN and TN, substrate glass and glass tube of touch screens.

Description	Specification			
	OD(mm)	ID(mm)	T(mm)	V(°)
Nikken Carbide Scribing Wheels	2.0	0.8	0.65	60-163
	2.5	0.8	0.65	
	3.0	0.8 1.0 1.1 1.2	0.65	
	3.2	1.0 1.1 1.2	0.65 1.0 1.1	
	4.0	1.2 1.3 1.4 1.5	0.7 1.0 1.1	
	5.0	1.2 1.3 1.4 1.5	1.0 1.1	
	6.0	1.2 1.3 1.4 1.5	1.0 1.1	



Integrated Diamond Scribing Wheels and Holders



MDC-ZL

Features

1. The integration of the scribing wheel and holder can avoid their fit tolerance and the friction between them. The design can guarantee the simultaneous mechanical motion of the scribing wheel and holder.
2. The integrated diamond scribing wheel and holder can be used to cut LCD and substrate glass with the life service of 300,000 to 700,000 meters. Its service life is ten to twenty times that of the average diamond scribing wheel.
3. The integrated diamond scribing wheel and holder have flawless cutting quality.
4. The integrated diamond scribing wheel and holder are of various specifications. We can manufacture the product according to your needs.

Application

Nikken integration of the scribing wheel and holder is used in overlarge sized high end LCD production lines, LCD panels, substrate glass, touch screens.



MDC-ZB

Description	Specification					Applications
	OD(mm)	T(mm)	V(°)	Teeth(mm)	Deep of Teeth(mm)	
Nikken Integrated diamond scribing wheels	2.00	0.65	60-163	3-360	0.0015-0.015	TFT-LCD, STN-LCD, LCD Displayer
	2.50					
	3.00					

The Only Manufacturer of Diamond Scribing Wheels in China

General Agency of Osaka Nikken Dia. Co., Ltd in China

Beijing World Super Hard Tools Co., Ltd.

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[http:// www. cuttingtoolscn.com](http://www.cuttingtoolscn.com)

<http://www.bjsupower.com.cn>



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Supower Products and Services

Main Products

- 1.Diamond Scribing Wheels
- 2.PCD/PCBN Cutting Tools
- 3.Diamond Wire Drawing Die Blanks
- 4.CVD Diamond Line of products
- 5.PCD/PCBN/CVD Blanks
- 6.PDC Cutters
- 7.Laser Cutting and Drilling Machines

Main Services

- 1.Grinding, Lapping and Mirror polishing
- 2.PCD Blanks and PDC Cutters finishing
- 3.Laser Cutting and Drilling
- 4.Rework service of PDC Cutters