TOP TECH

PRECISO-CL Series
Precision Diamond Saw

Patent

CL65

Perfect Surface. Always

- Variable spindle speed
- Suitable for both abrasive cut-off wheels and diamond blades
- Three major cutting modes: gravity cutting, feeding wheel cutting, and platform cutting (option)
- The mini horizontal movement display value reaches 0.001mm
- Equipped with an automatic rotating clamping vise set, capable of cutting samples up to Ø65mm (option)
- Magnetic rechargeable LED light illuminates the cutting chamber (option)
- Electromagnetic lock acrylic safety cover (option)
- Various clamping vise applications

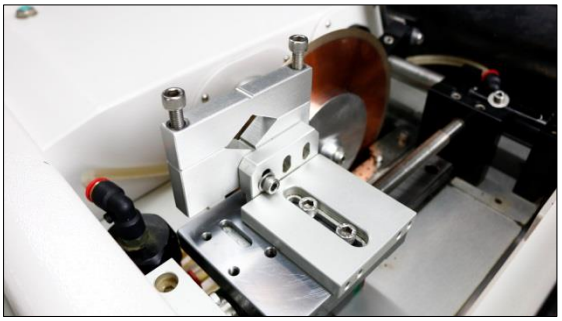
TOP TECH

Introduction & Feature

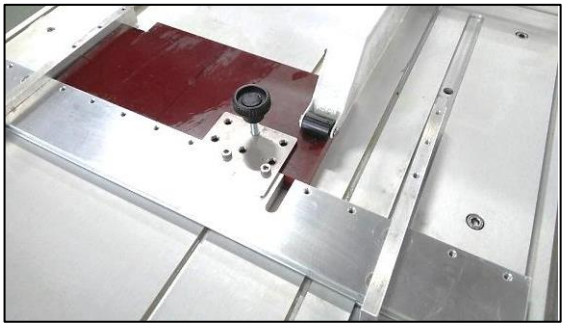
- Application: research & education institution, electronic industry, and manufacturing industry
- Suitable for steel, iron, titanium, copper, aluminum, ceramics, spark plugs, sensors, gears, fasteners, hardware fittings, carbon fiber plates, electronic components, bearings, heat-treated samples, PCB boards, etc.

Gravity cutting
The cutting force can be adjusted according to the material of the sample, effectively reducing the deformation of fragile samples, suitable for cutting delicate electronic components.

Feeding wheel cutting
Through the feeding wheel, the cutting time for heavier metal samples can be shortened compared to gravity cutting. When equipped with the optional automatic rotating clamping vise set, the maximum cutting capacity can reach Ø65mm.



Platform cutting (option)
The cutting platform is suitable for large-sized board samples such as PCB boards or carbon fiber boards. With the assistance of small-sized auxiliary vise sets, it can also cut small-sized board samples.



Functional touch panel
High-definition LCD operation interface displays rotational speed and cutting thickness, with zero positioning function and horizontal movement display accuracy up to 0.001mm.

Adjustable spindle speed
The effective speed ranges from 150 to 2000rpm, which can be adjusted according to the material of the sample. For fragile materials such as glass and ceramics, it is recommended to use a lower speed.

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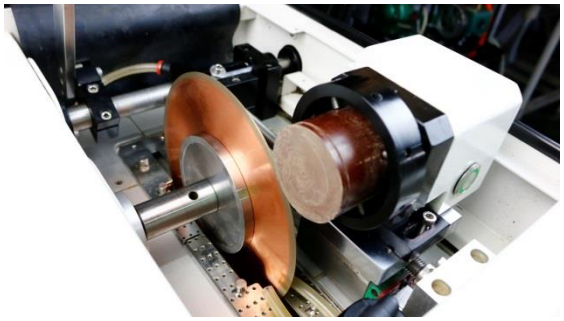
Introduction & Feature

Built-in circulating tank and spray hose
The water level in the coolant tank can be observed through the liquid level gauge. The circulating coolant tank is suitable for cooling the larger blades, while the spray hose can be used to assist in cooling when the blade is smaller.

Automatic stop cutting protection device
During gravity cutting, the sensor can be adjusted according to the size of the sample. Once the cutting is completed, the spindle will stop automatically, allowing operators to utilize their time flexibly.

Automatic rotating clamping vise set (option)
With its independent charging module, the machine's space is not affected by cable interference. When used with the feeding wheel cutting method, the maximum cutting capacity can reach up to Ø65mm.

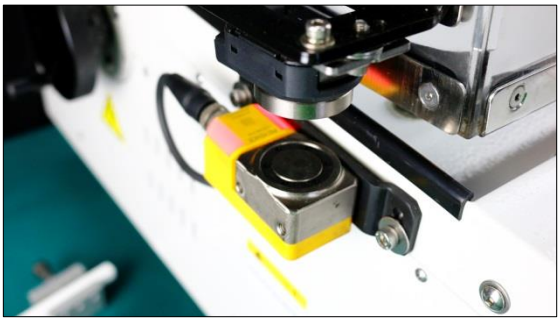


Horizontal movement system
During gravity cutting, the vise can be horizontally adjusted through a hand wheel, allowing for serial cutting (manual horizontal movement). The horizontal movement distance can reach up to 40mm.

Magnetic rechargeable LED light (option)
The magnetic LED light can be easily attached to the machine, providing auxiliary illumination for clear observation of the cutting process. The machine is equipped with a USB charging port, allowing the LED light to be recharged for repeated use.

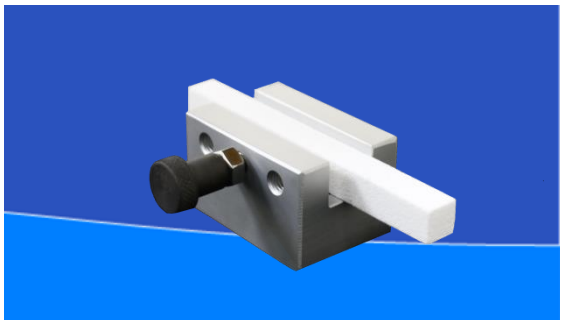
Auto stop after opening cover
During the cutting process, if the top cover is opened, the spindle will automatically stop to ensure the safety of the operator.

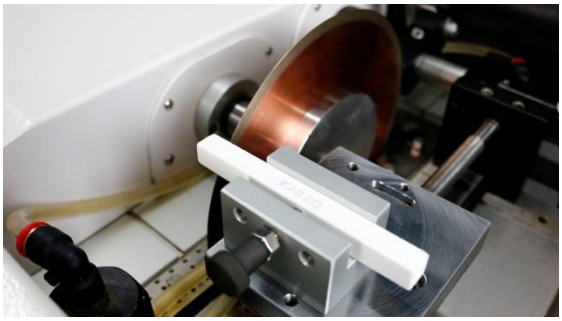
Electromagnetic lock acrylic safety cover (option)
During the cutting process, the top cover cannot be opened to ensure the safety of the operator.



Introduction & Feature

Dressing system (option)
The dressing system can be used with the feeding wheel cutting mode, extending the lifespan of the diamond blade and maintaining the sharpness of the blade.



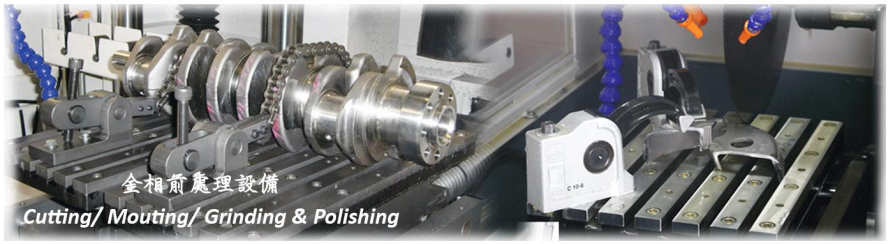


Suitable for various blades
Suitable for abrasive cut-off wheels, diamond blades, and CBN blades, increasing the diversity of cutting materials.

Various clamping vise sets (option)
The vise set is easy to be replaced, allowing users to choose the appropriate vise set based on the shape, size, and characteristics of the sample, thus increasing flexibility in usage.

Thin-section cutting
The thinnest cut for Ø32mm sample can reach up to 0.12mm, and the minimum thickness may vary depending on the material of the sample.

0.2mmm thin-section cutting



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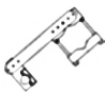
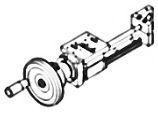
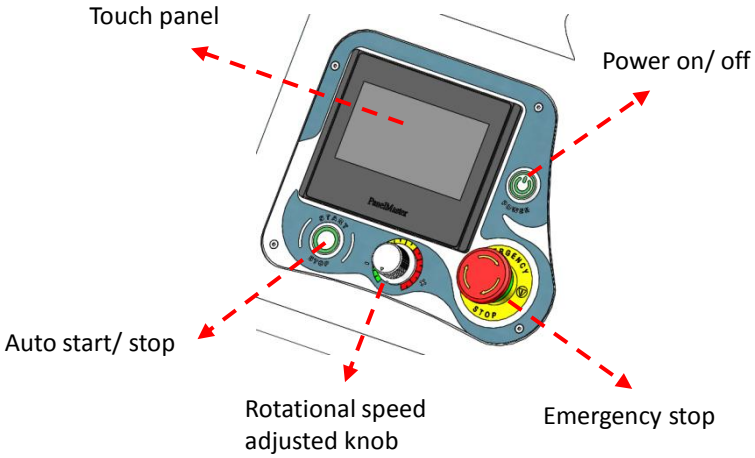
Specification

Model	CL65	
Motor Power (w)	750	
Cut-off Wheel (mm)	Ø76.2(3”) ~ Ø230(9”)	
Arbor Diameter (mm)	Ø12.7 or Ø25.4, special arbor diameter can be customized	
Flange (mm)	Ø40、Ø60、Ø75 (standard)	
Rotational Speed (rpm)	150 ~ 2000 (standard) , 3000 rotational speed can be customized (option)	
Cutting Method	Gravity cutting	Suitable for small and thin samples
		Horizontal movement distance: 0~40(mm)
		Standard clamping vise: MaxØ55 x 430L (mm)
		※Please refer to attachment 1 & 2 for other vise kits
	Feeding wheel cutting	Suitable for medium, long and harder samples
		Feeding distance: 0~130(mm)
		Standard chuck: MaxØ45 x 430L (mm)
		Automatic rotating clamping vise set (option): MaxØ65 x 110L (mm)
		※Please refer to attachment 1 & 2for other vise kits
	Platform cutting (option)	Suitable for PCB, glass and board samples
		Thickness: Max 8mm, special size can be customized
		Platform dimension: 475(W)x475(D)(mm)
		※Detailed specification will be shown on following pages
Coolant Tank Capacity (L)	2.5 (Recirculating in coolant tank)	
Dimension WxDxH (mm)	632x690x520	
Machine Weight (kg)	67	
Power Supply	AC220V 1Ø	
Accessories	Hex wrench 1 set, Cutting coolant 2L	



TOP TECH

Vise Application

Gravity Cutting

Suitable for small and thin samples, such as screws, plastic, aluminum, and copper.

☐ **Mode Configuration (Standard)**

Gravity cutting

- Specification

Blade size: 3”~9” (Ø76.2~Ø230mm)

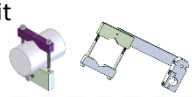
Horizontal movement distance: 0~40(mm)

☐ **Single clamping vise kit (Standard)**

CL500508 Single clamping vise kit

Max. sample: Ø55 (mm)

Max. sample length: 430 (mm)

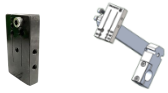


☐ **CZ23 Screw fastening vises (Option)**

CZ23A Mechanical screw jig

CZ23B Pipe fitting jig

CZ23C Self-tapping screw jig



Please refer to attachment 1 for detailed specification

☐ **All clamping vise for CL40、CL50 series (Option)**

CL40044A Single clamping vise kit

CL400051A Irregular shape vise kit

CL40052-L Single clamping vise kit

CL400053 Round and elliptic vise kit

CL400054A Fragile vise kit

CL40070-D Double clamping vise kit

CL500505A Irregular shape vise kit

CL500506 Round and elliptic vise kit

CL500507 Fragile vise kit

CL500509 Double clamping vise kit

CL50051001A Round vise kit

CL50051002A Round vise kit

CL50051101 Tear drop vise kit

CL50051102A Tear drop vise kit

CL500512 Biological medicine vise kit

CL500513 Screws vise kit

CL500514 Double clamping vise kit(Slice in half)

CL500303A Long type single clamping vise kit

Please refer to attachment 2 for detailed specification

Feeding Wheel Cutting

Suitable for medium, long and harder samples, such as iron, steel, titanium, and fasteners.

☐ **Mode Configuration (Standard)**

Feeding wheel cutting

- Specification

Blade size: 3”~9” (Ø76.2~Ø230mm)

Feeding distance:0~130(mm)

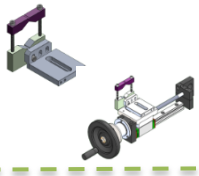
☐ **Single clamping vise kit (Standard)**

CL6508B Feeding wheel vise kit

Max. blade: 9” (Ø230mm)

Max. sample: Ø45 (mm)

Max. sample length: 430L (mm)



☐ **Screw Vise (Option)**

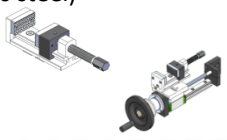
CLM50A12A Screw vise (Stainless steel)

Max. blade: 8” (Ø203mm)

Max. sample: Ø40 x 430L (mm)

Vise opening size: 58 (mm)

Vise panel : 30(H) x 50(W) (mm)



☐ **Vertical Clamping Vise (Option)**

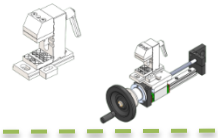
CL6508F Vertical Clamping Vise (Stainless steel)

Max. blade: 9” (Ø230mm)

Max. sample: Ø45 x 430L (mm)

Vise opening size: 50 (mm)

Vise panel : 40(H) x 40(W) (mm)

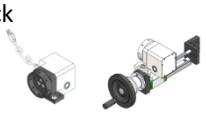


☐ **Automatic rotating clamping vise set (Option)**

CL6508G Automatic rotating chuck

Max. blade: 7” (Ø175mm)

Max. sample: Ø65 x 110 (mm)



TOP TECH

Platform Application & Accessories

Platform Cutting (Option)

Suitable for board samples, such as carbon, PCB, and glass.

☐ **Mode Configuration (Option)**

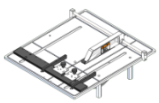
Manual cutting platform

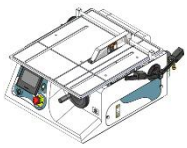
● *Specification*

Blade size: 8” diamond blade (Ø203mm)
Cutting thickness : Max 8mm
Platform dimension : 475 (W) x 475 (D)(mm)

☐ **Cutting platform set (Option)**

CL6508D Cutting platform
Blade size: 8” diamond blade (Ø203mm)
Cutting thickness : Max 8mm
Platform dimension : 475 (W) x 475 (D) (mm)





Other Accessories

☐ **Filter set (Option)**

CL6506B Filter set
Stainless steel filter mesh, filter size: 80 mesh

☐ **Electromagnetic lock acrylic safety cover (option)**

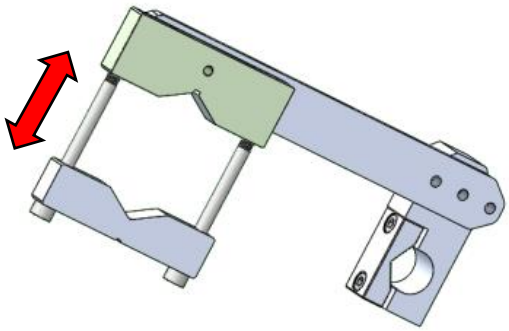
CL6512B Electromagnetic lock acrylic safety cover
Voltage: DC24V
Suction force: 500N

☐ **Magnetic rechargeable LED light (Option)**

CL6512A Magnetic rechargeable LED light
Voltage: DC5V
Watt: 30W
Accessories: Rechargeable battery 2pcs,
USB charging cable 1pc

TOP TECH

Gravity Cutting



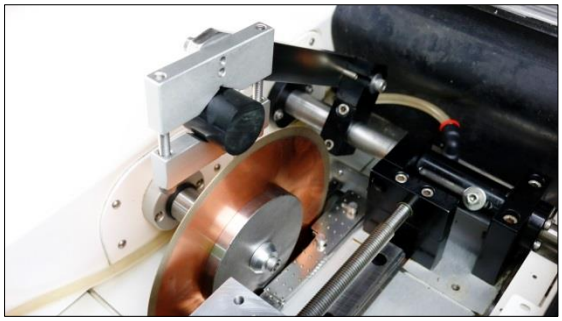
- Specification
  Max. blade: 9” (Ø230mm)
  Max. sample: Ø55 (mm)
  Max. sample length: 430 (mm)
  Horizontal movement distance: 0~40 (mm)
  Min. value display 0.001 (mm)

Installation Position

Application & Feature

- Suitable for small and thin samples, such as screws, plastic, aluminum, and copper
- Various clamping vise sets application

0.2mmm thin-section cutting

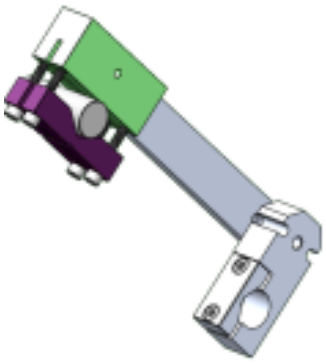


Sample clamping

TOP TECH

Gravity Cutting

Vise kit (Option)



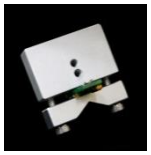
● Specification
Max. blade: 9” (Ø230mm)
Max. sample: According to the clamping range of each vise kits
(Please refer to attachment 2)
Max. sample length: 430 (mm)
Horizontal movement distance: 0~40 (mm)
Min. value display 0.001 (mm)

※ Customized vise kits can be made for special-sized samples

Installation Position

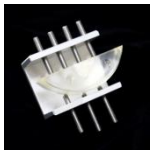
Application & Feature

- Suitable for small and thin samples, such as screws, plastic, aluminum, and copper
- Various clamping vise sets application



CL40044A
Single clamping vise kit

CL40070-D
Double clamping vise kit



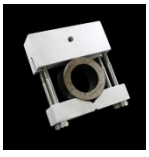
CL400051A
Irregular shape vise kit

CL400053
Round and elliptic vise kit

CL400054A
Fragile vise kit

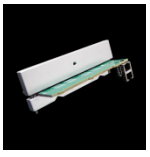
CL500505A
Irregular shape vise kit

CL500506
Round and elliptic vise kit



CL500509
Double clamping vise kit

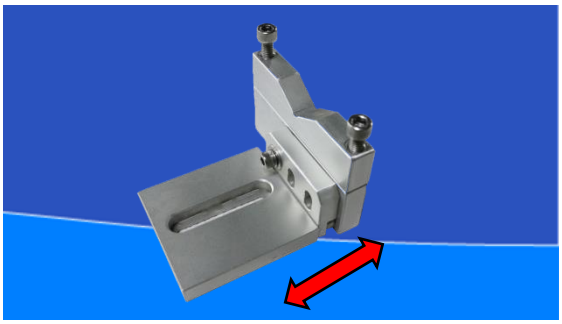
CL50051001A
Round vise kit



CL500303A
Long type single clamping vise kit

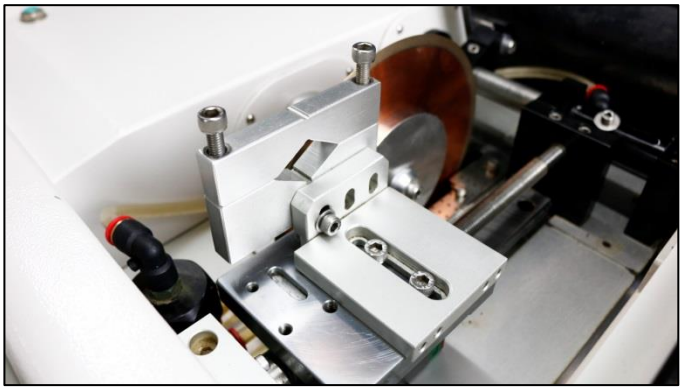
TOP TECH

Feeding Wheel Cutting



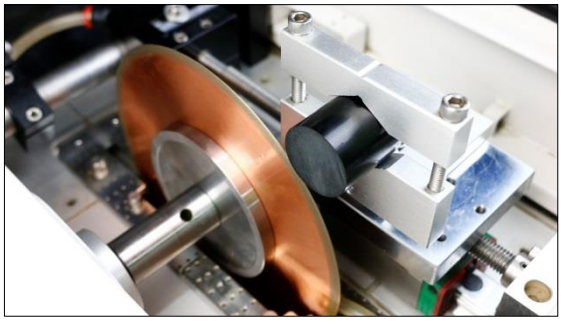
- Specification
  Max. blade: 9” (Ø230mm)
  Max. sample: Ø45 (mm)
  Max. sample length: 430 (mm)

Installation Position

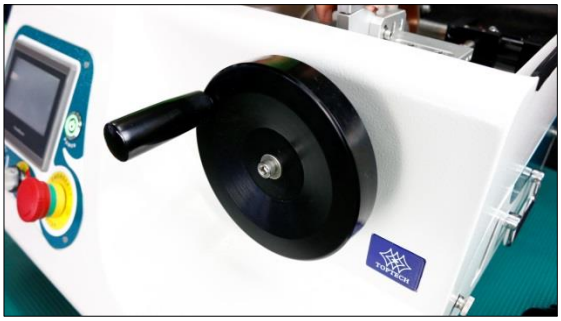


Application & Feature

- Suitable for medium, long and harder samples, such as iron, steel, titanium, and fasteners



Sample clamping

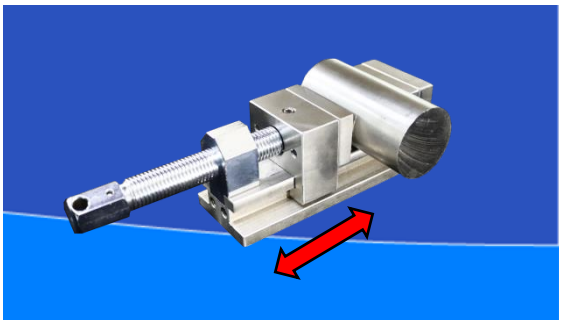


Feeding wheel

TOP TECH

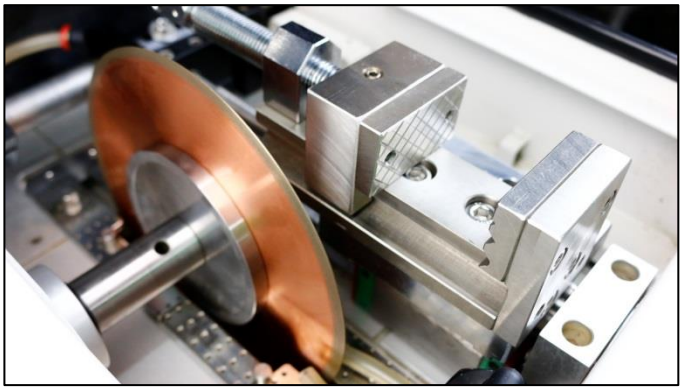
Feeding Wheel Cutting

CLM50A012A Stainless steel screw vise (Option)



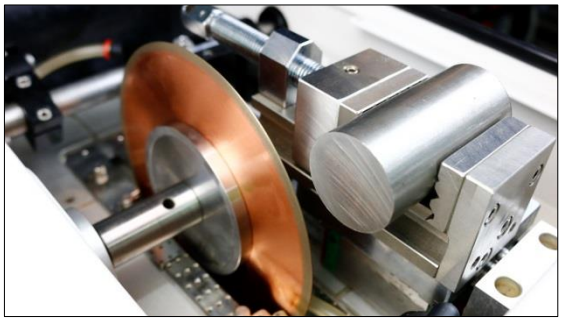
- Specification
  Max. blade: 8” (Ø203mm)
  Max. sample: Ø40 x 430 (mm)
  Vise opening size: 58 (mm)
  Vise panel : 30(H) x 50(W) (mm)

Installation Position

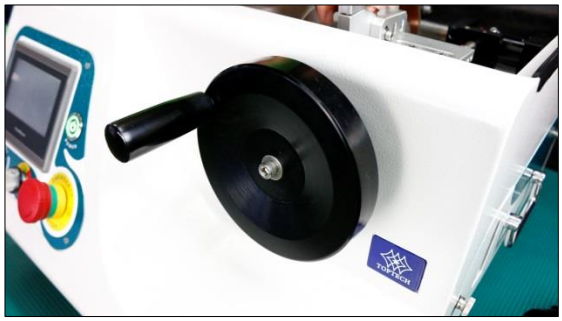


Application & Feature

- Suitable for medium, long and harder samples, such as iron, steel, titanium, and fasteners



Sample clamping

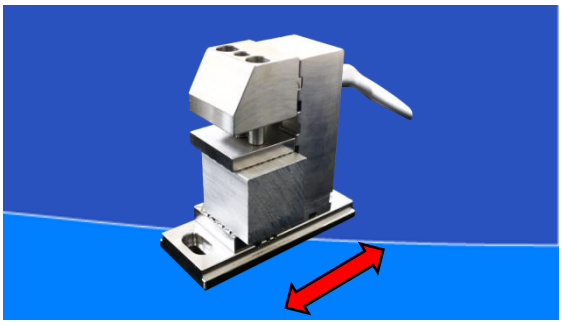


Feeding wheel

TOP TECH

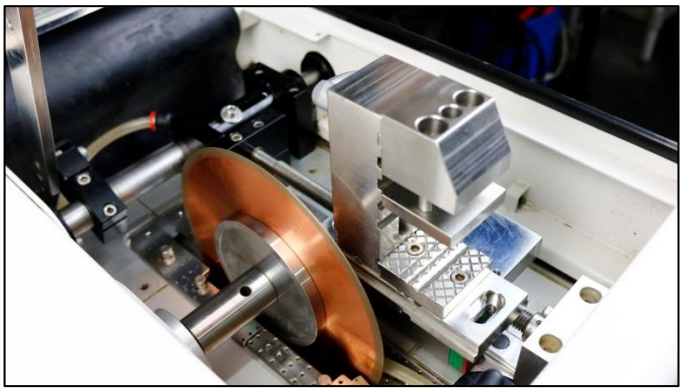
Feeding Wheel Cutting

CL6508F Stainless steel vertical clamping vise (Option)



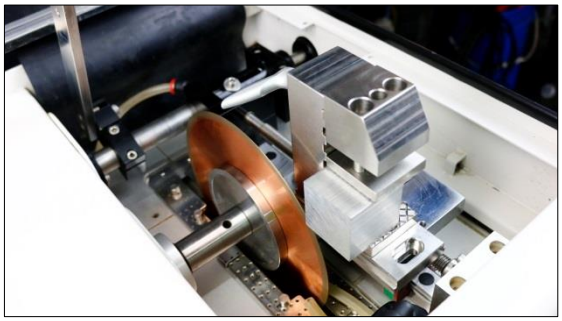
- Specification
  Max. blade: 9” (Ø230mm)
  Max. sample: Ø45 x 430 (mm)
  Vise opening size: 50 (mm)
  Vise panel : 40(H) x 40(W) (mm)

Installation Position

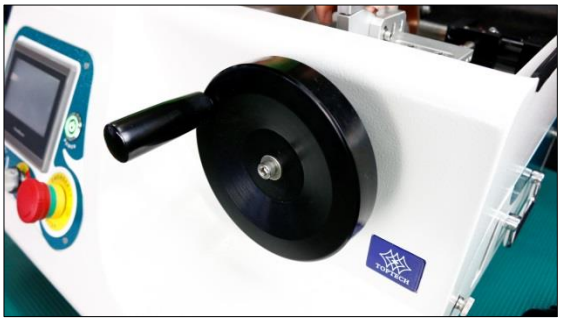


Application & Feature

- Suitable for medium, long and harder samples, such as iron, steel, titanium, and fasteners



Sample clamping

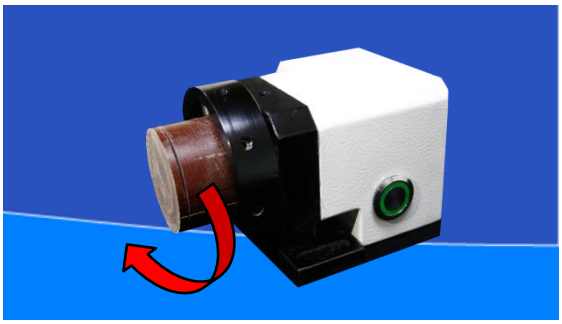


Feeding wheel

TOP TECH

Feeding Wheel Cutting

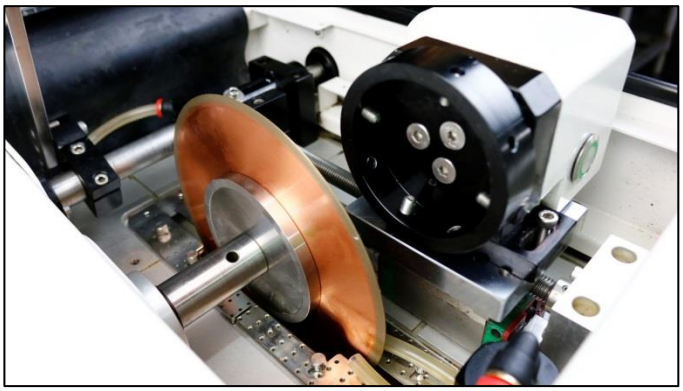
CL6508G Automatic rotating clamping vise set (Option)



● Specification
Max. blade: 7” (Ø175mm)
Max. sample: Ø65 x 110 (mm)
Max. rotational speed : 25 (rpm)
Power supply: 9V charging module

※ Customized clamping vise set can be made for special-sized samples

Installation Position



Application & Feature

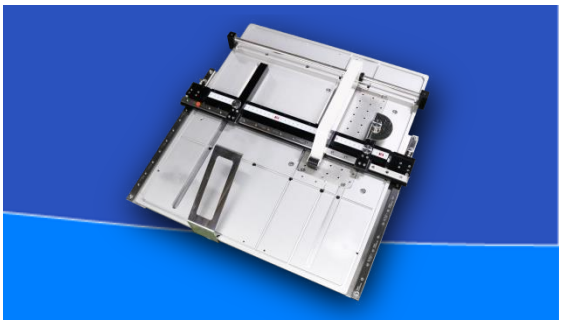
- Suitable for hollow and harder samples, such as iron, steel, titanium, heat-treated parts (actual cutting capacity depends on the material characteristics of the sample)
- Independent charging module, space is not affected by cable interference

- Power usage reference:
  Standby power: approximately 10 hours
  Load power: approximately 6 hours and 30 minutes
  Full charge: approximately 3 hours (from completely drained to fully charged)

※ Actual power usage may vary depending on cutting conditions.

TOP TECH

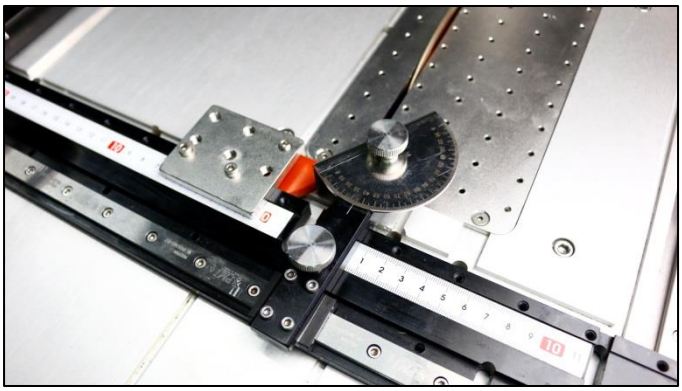
Platform Cutting (Option)



● Specification
Max. blade: 8” (Ø203mm)
Max. cutting thickness: 8 (mm)
Max. sample width: 430 (mm)
Max. sample length: Max 200 (mm)

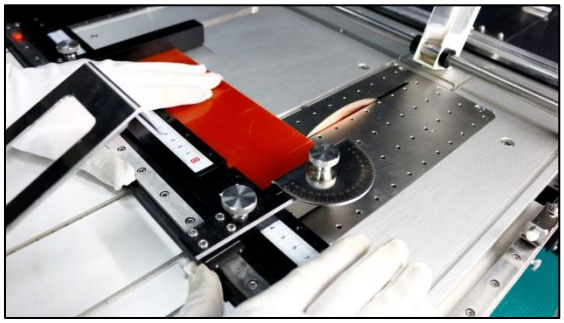
※ Customized vise kits can be made for special-sized samples

Installation Position

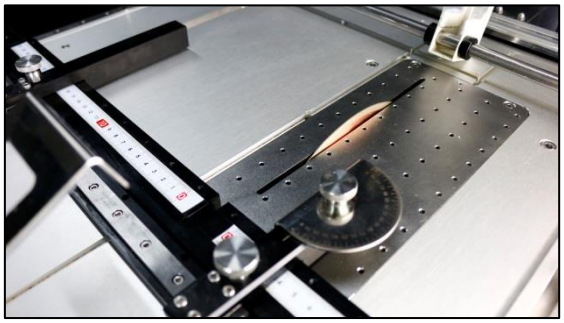


Application & Feature

• Suitable for board samples, such as carbon, PCB, and glass



Manual cutting



Angle gauge set

TOP TECH

Attachment 1- Mechanical Screw Jig

Option

Model	CZ23A					
Specification	Four pieces per set (two pcs metric, two pcs imperial)					
Fastening Method	1. Vise kit adaptor for screw fastening (CLM50A17-C)					
	2. Screw fastening					
	3. Vise clamping					
Thread Angle	Metric (M): 60 degrees					
	Imperial (W): 55 degrees (Whitworth thread)					
Specification						
Metric Coarse Thread (Outer Diameter x Pitch)	CZ23A01A	M3x0.5	M4x0.7	M5x0.8	M6x1.0	M8x1.25
	CZ23A01B	M10x1.5	M12x1.75	M14x2.0	M16x2.0	

Imperial Coarse Thread (Outer Diameter - Threads per Inch)	CZ23A02A	W1/8"-40	W5/32"-32	W3/16"-24	W1/4"-20	W5/16"-18
	CZ23A02B	W3/8"-16	W1/2"-12	W9/16"-12	W5/8"-11	

Other Screws	CAP Screw	Hexagon	Truss Head	Round Head	Flat Head
	Set Screw	Wing Both	Eye Bolt	Nut	

TOP TECH

Attachment 1- Pipe Fitting Jig

Option

Model	CZ23B			
Specification	Four pieces per set (two pcs straight pipes , two pcs taper pipes)			
Fastening Method	1. Vise kit adaptor for screw fastening (CLM50A17-C)			
	2. Screw fastening			
	3. Vise clamping			
Thread Angle	Straight pipe (PS): 55 degrees, PF and G threads are interchangeable.			
	Tapered pipe (PT): 55 degrees, Taper 1:12			
Specification				
Pipe Fitting (PT) (Outer Diameter - Threads per Inch)	CZ23B01A	PT 1/16"-28	PT 1/8"-28	PT 1/4"-19
	CZ23B01B	PT 3/8"-19	PT 1/2"-14	

Pipe Fitting (PS) (Outer Diameter - Threads per Inch)	CZ23B02A	PS 1/16"-28	PS 1/8"-28	PS 1/4"-19
	CZ23B02B	PS 3/8"-19	PS 1/2"-14	

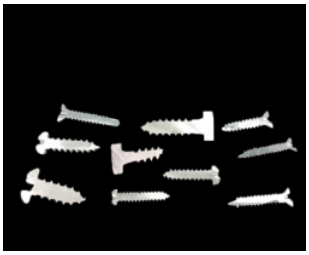
Other Pipe Fittings	Barb Connector	Quick Coupler	Adapter
	Elbow Connector	Bushing Fitting	T Joint

TOP TECH

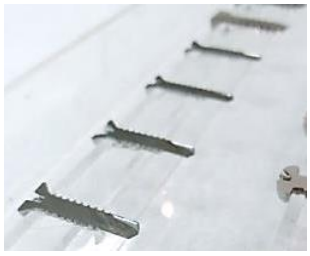
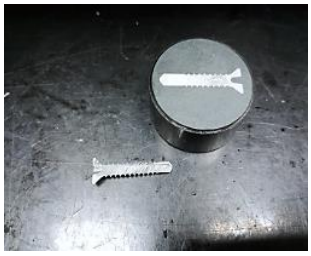
Attachment 1- Self Tapping Screw Jig

Option

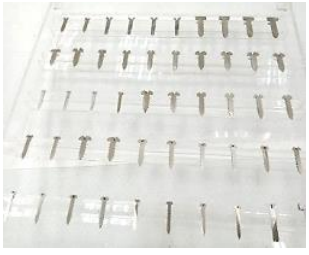
Model	CZ23C				
Specification	Two pieces per set (one pc self tapping and one pc self drilling)				
Fastening Method	1. Vise kit adaptor for screw fastening (CLM50A17-C)				
	2. Screw fastening				
	3. Vise clamping				
Specification					
Self Tapping	CZ23C01A	1/8"	5/32"	3/16"	1/4"



Self Drilling	CZ23C02A	6#	8#	10#	12#

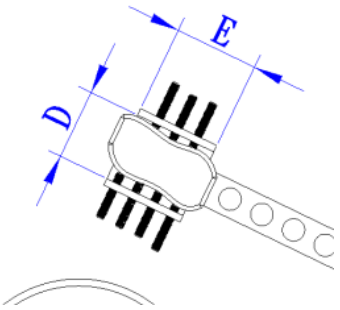
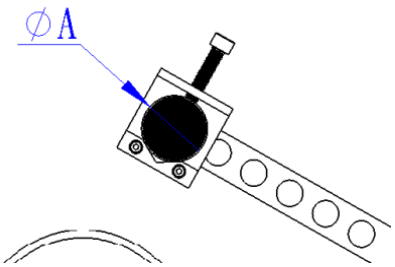
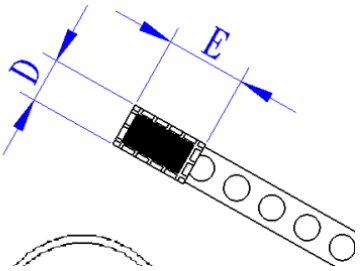
Other Self Tapping Screws	Truss Head	Round Head	Flat Head	Flange Head
	Thread cutting	Other Self Drilling	Wood Screw	

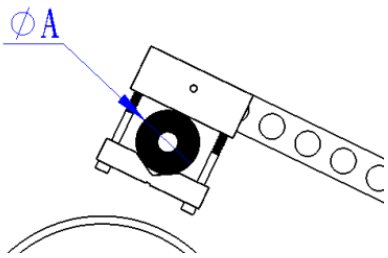
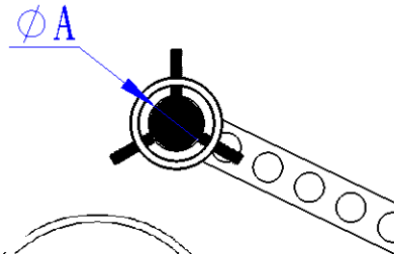


TOP TECH

Attachment 2- Vise Kit

Option

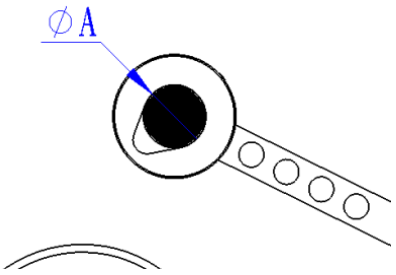
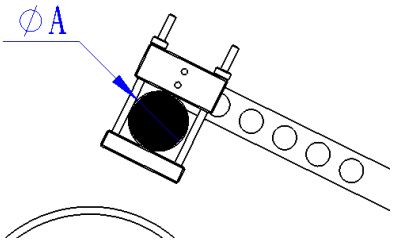
CL500505A **Irregular shape vise kit**		**CL500506** **Round and elliptic vise kit**		**CL500507** **Fragile vise kit**	
● ↙	▬ ↙	● ↙	▬ ↙	● ↙	▬ ↙
A (mm)	E x D (mm)	A (mm)	E x D (mm)	A (mm)	E x D (mm)
-	60x50	Max.40	50x35	-	50x28
					

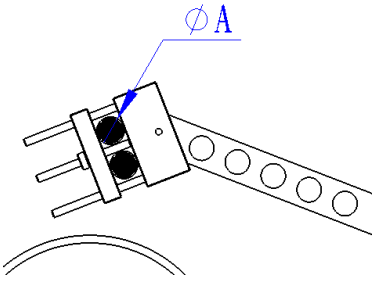
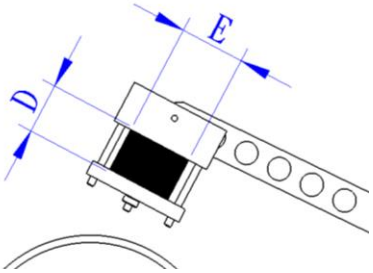
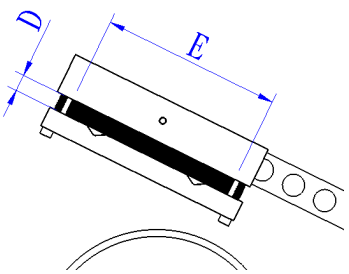
CL500509 **Double clamping vise kit**		**CL50051001A** **Round vise kit (Ø32)**		**CL50051002A** **Round vise kit (Ø40)**	
● ↙	▬ ↙	● ↙	▬ ↙	● ↙	▬ ↙
A (mm)	E x D (mm)	A (mm)	E x D (mm)	A (mm)	E x D (mm)
Max.50	50x35	Max.32	-	Max.40	-
					

TOP TECH

Attachment 2- Vise Kit

Option

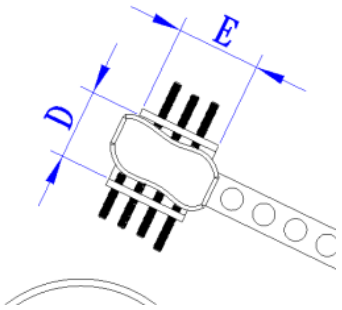
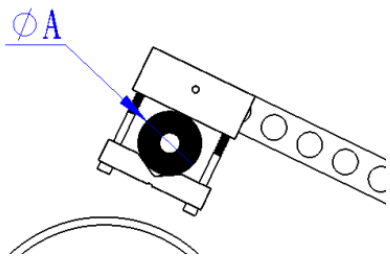
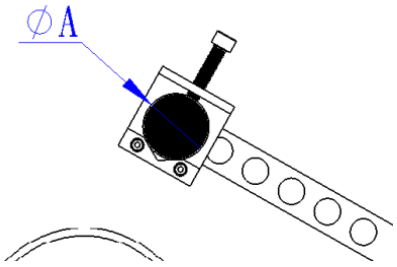
CL50051101A Tear drop vise kit		**CL50051102A Tear drop vise kit**		**CL500512 Biological medicine vise kit**	
● ↙	▬ ↙	● ↙	▬ ↙	● ↙	▬ ↙
A (mm)	E x D (mm)	A (mm)	E x D (mm)	A (mm)	E x D (mm)
5~20	-	18~40	-	Max.40	40x30
					

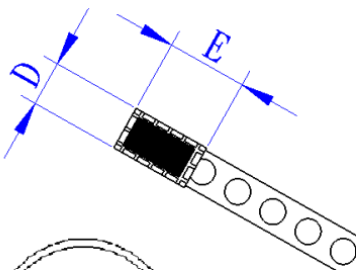
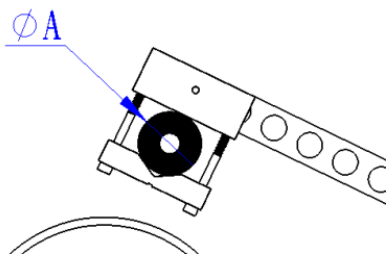
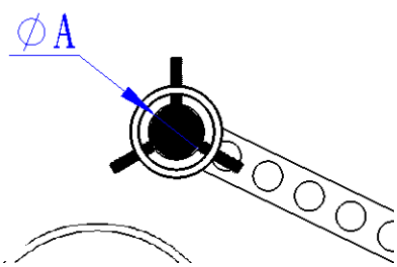
CL500513 Screws vise kit		**CL500514 Double clamping vise kit (Slice in half)**		**CL500303A Long type single clamping vise kit**	
● ↙	▬ ↙	● ↙	▬ ↙	● ↙	▬ ↙
A (mm)	E x D (mm)	A (mm)	E x D (mm)	A (mm)	E x D (mm)
Max.18	-	-	45x35x3T	-	130*12
					

TOP TECH

Attachment 2- Vise Kit

Option

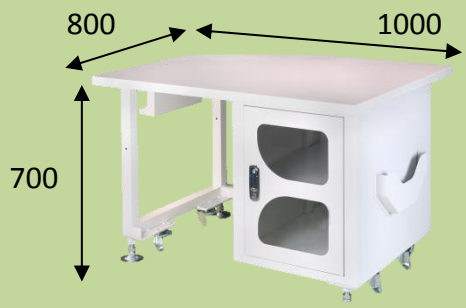
CL400051A **Irregular shape vise kit**		**CL400052-L** **Single clamping vise kit (Ø20)**		**CL400053** **Round and elliptic vise kit**	
● ↙	▬ ↙	● ↙	▬ ↙	● ↙	▬ ↙
A (mm)	E x D (mm)	A (mm)	E x D (mm)	A (mm)	E x D (mm)
-	38x25	Max. 20	20x30	Max. 14	38x10
					

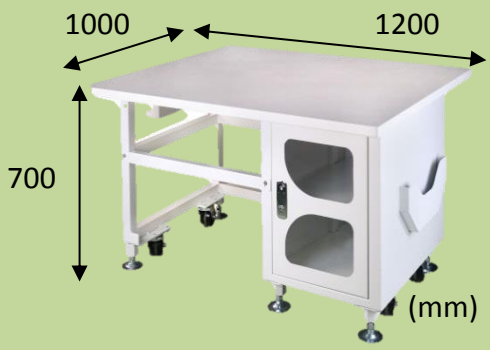
CL400054A **Fragile vise kit**		**CL400070-D** **Double clamping vise kit**		**CL50051001A** **Round vise kit**	
● ↙	▬ ↙	● ↙	▬ ↙	● ↙	▬ ↙
A (mm)	E x D (mm)	A (mm)	E x D (mm)	A (mm)	E x D (mm)
-	50x28	Max. 20	20x30	Max. 32	-
					

Metallographic Workbench (Option)

Model	TF01	TF02
Dimension (W*D*H)	1000*800*700 mm	1200*1000*700 mm

Picture





TOP TECH

Consumables

Cut-off Wheel

The most common used cut-off wheel in the metallographic industry. Significantly affect the cutting efficiency and wear rate based on the material, grain size, grain density, bonding method, and etc.

For heat treated steel-alloy tool steel
SKS, SKD, SKT, SK3, SUP, S45C, SCM415, SNCM439
HV495~710 (HRC50~60)

Order No.	Size	Dia. x Arbor x T(mm)	Packing
S02A0705	Ø6”	Ø152xØ12.7x0.5	10
S02A1401	Ø8”	Ø203xØ25.4x1.0	10
S02A0101	Ø9”	Ø229xØ31.75x1.0	10

For hard heat treated steel
Special Alloy Steel, SKD, SKH, SKS3, SCM415, SACM , SNCM439
HV670 ~ 780 (HRC58 ~ 64)

Order No.	Size	Dia. x Arbor x T(mm)	Packing
S02C0708	Ø6”	Ø152xØ12.7x0.8	10
S02C1401	Ø8”	Ø203xØ25.4x1.0	10
S02C0101	Ø9”	Ø229xØ31.75x1.0	10

For bakelite, plastic, resin, mounting specimen, sapphire, tungsten steel , aluminum, copper, glass, and ceramics (aluminum oxide ceramics, zirconium oxide ceramics)

Order No.	Size	Dia. x Arbor x T(mm)	Packing
S02F0705	Ø6”	Ø152xØ12.7x0.8	10
S02F1401	Ø8”	Ø203xØ25.4x1.0	10
S02F0101	Ø9”	Ø229xØ31.75x1.0	10

(Customization for 5” or 6” cut-off wheel is available.)

Electroplating Diamond Blade

Single layer grain and strong cutting ability, but more abrasion.
For glass, ceramics, gem, asbestos, alloy, and rubber

Order No.	Size	Dia. x Arbor x T(mm)	Packing
HW21110607	Ø5”	Ø127xØ12.7x1.0	1
HW21110808	Ø6”	Ø152xØ25.4x1.2	1
HW21111008	Ø7”	Ø178xØ25.4x1.2	1
HW21111208H	Ø8”	Ø203xØ25.4x1.2	1

(Customized cut-off wheel is also available)

TOP TECH

Consumables

Metal Bond Diamond Blade

Best grain with good wear resistance, smooth cutting surface and long life span
For glass, ceramics, gem, asbestos, alloy, and rubber

Order No.	Size	Dia. x Arbor x T(mm)	Packing
HW21120502L	Ø4”	Ø102xØ12.7x0.5	1
HW21120602L	Ø5”	Ø127xØ12.7x0.5	1
HW21120702L	Ø6”	Ø152xØ12.7x0.5	1
HW21121003L	Ø7”	Ø178xØ25.4x0.6	1
HW21121207L	Ø8”	Ø203xØ25.4x1.0	1
			(Customized cut-off wheel is also available)

Resin Bond Diamond Blade

Flexible blades reduce the force of damage during preparation
For quartz, glass, non iron metal, ceramics, and silicon wafer

Order No.	Size	Dia. x Arbor x T(mm)	Packing
HW21130502L	Ø4”	Ø102xØ12.7x0.5	1
HW21130602L	Ø5”	Ø127xØ12.7x0.5	1
HW21130702L	Ø6”	Ø152xØ12.7x0.5	1
HW21131003L	Ø7”	Ø178xØ25.4x0.6	1
HW21131207	Ø8”	Ø203xØ25.4x1.0	1
HW21131408	Ø9”	Ø230xØ25.4x1.2	1
			(Customized cut-off wheel is also available)

Electroplating CBN Blade

Single layer grain and strong cutting ability, but more abrasion.
For high speed steel, alloy steel, tool steel, stainless steel, and magnetic material

Order No.	Size	Dia. x Arbor x T(mm)	Packing
HW21210502	Ø4”	Ø102xØ12.7x0.5	1
HW21210607L	Ø5”	Ø127xØ12.7x1.0	1
HW21210808L	Ø6”	Ø152xØ25.4x1.2	1
HW21211008L	Ø7”	Ø178xØ25.4x1.2	1
HW21211207	Ø8”	Ø203xØ25.4x1.0	1
			(Customized cut-off wheel is also available)

TOP TECH

Consumables

Metal Bond CBN Blade

Best grain with good wear resistance, smooth cutting surface and long life span
For high speed steel, alloy steel, tool steel, stainless steel, and magnetic material

Order No.	Size	Dia. x Arbor x T(mm)	Packing
HW21220502	Ø4”	Ø102xØ12.7x0.5	1
HW21220602L	Ø5”	Ø127xØ12.7x0.5	1
HW21220702L	Ø6”	Ø152xØ12.7x0.5	1
HW21221003L	Ø7”	Ø178xØ25.4x0.6	1
HW21231207	Ø8”	Ø203xØ25.4x1.0	1
(Customized cut-off wheel is also available)			

Resin Bond CBN Blade

Flexible blades reduce the force of damage during preparation
For hard steel, ferrous sintered metal, bearing, hard alloy, and forged iron

Order No.	Size	Dia. x Arbor x T(mm)	Packing
HW21230502	Ø4”	Ø102xØ12.7x0.5	1
HW21230602L	Ø5”	Ø127xØ12.7x0.5	1
HW21230702L	Ø6”	Ø152xØ12.7x0.5	1
HW21231005L	Ø7”	Ø178xØ25.4x0.6	1
HW21231207	Ø8”	Ø203xØ25.4x1.0	1
HW21231408	Ø9”	Ø230xØ25.4x1.2	1
(Customized cut-off wheel is also available)			

Cutting Coolant

Order No.	Cutting Coolant	Packing(1L/BTL)
S01003	Water-based – transparent (Red cap)	20
S01004	Water-based – transparent (Red cap)	1

Top Tech distributors

TOP TECH

TOP TECH MACHINES CO.,LTD

No.6-3,Siayuan Rd.,Dali,Taichung,412 Taiwan
TEL: +886-4-2406-3799 FAX:+886-4-2406-0960
E-mail:top@toptech.tw http://www.toptech.tw

Agent

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