



SUMITOMO

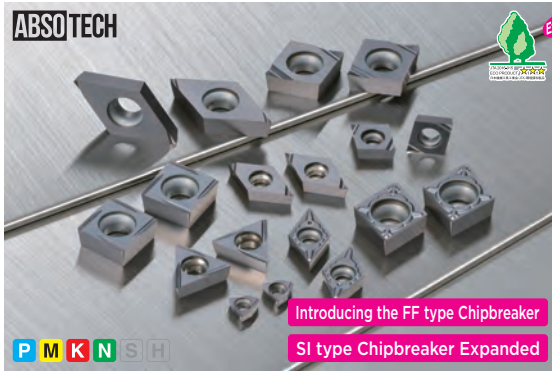
CARBIDE - CBN - DIAMOND

Global Support, Global Solutions.

Small Lathe Tools

# SumiSmall Guidance

Rev. 2



## AC1030U

Coated Carbide Grade for Small Products Turning

Employs ABSOTECH™ PVD coating and a dedicated tough carbide substrate. High-quality cutting edge suppresses adhesion and micro-chipping, realising excellent machined surface quality.

1st recommended grade for small lathes



## AC5005S/AC5015S/AC5025S

Coated Carbide Grades for Exotic Alloy Turning

Highly heat-resistant super multi-layered thin-film AlTiSiN structure realises excellent crater wear and flank wear resistance.

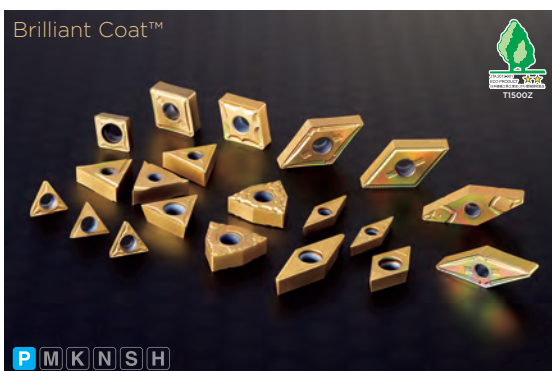
Introduction of a revolutionary new sintering process enables hardness to be maintained while greatly improving toughness, achieving excellent notch wear and chipping resistance.



## T1000A/T1500A

Uncoated Cermet Grades for Steel Turning

Lineup includes T1000A, a high-hardness grade with superior wear resistance, and T1500A, a general-purpose grade that provides both wear and fracture resistance with higher-quality surface finishes



## T1500Z/T2500Z

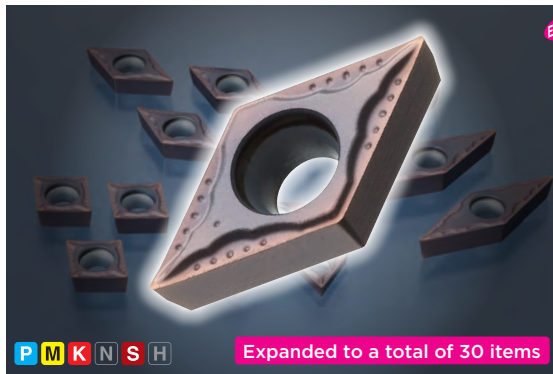
Coated Cermet Grades for Steel Turning

Adopts Brilliant Coat™ for excellent lubricity, these coated grades can achieve beautiful surface finish right from the start of machining



Insert Grade Selection Guide	Insert Grades	Application Range			Work Material					
		High-precision	Finishing to Light Cutting	Medium Cutting	P Steel	M Stainless Steel	K Cast Iron	N Non-Ferrous Metals	S Exotic Alloy	H Hardened Steel
		Coated Carbide (PVD)	ACZ150	AC5015S	AC5025S	AC530U	AC1030U			
Uncoated Cermet		T1000A	T1500A/T1500Z							
Coated Cermet										
Cemented Carbide	BL130		H1	EH510						
CBN (SUMIBORON)			BN1000/BN2000	BN7000						
PCD (SUMIDIA)			DA1000							

◎ : 1st Recommendation ○ : 2nd Recommendation

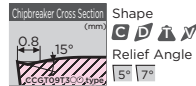


Expansion

## SI type Chipbreaker

Variable Depth of Cut Chipbreaker for G-class Positive Inserts

Handles a wide range of cutting applications from finishing to light cutting, delivering stable chip control

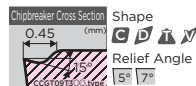


NEW

## FF type Chipbreaker

Fine Cutting Chipbreaker for G-class Positive Inserts

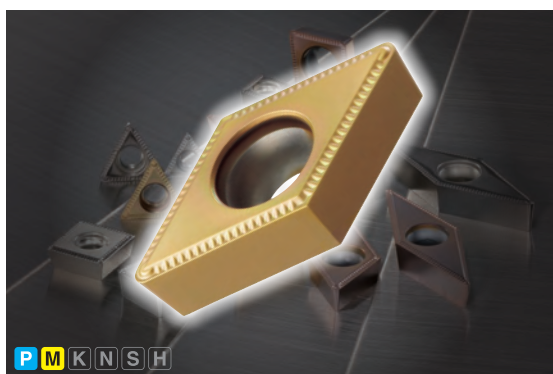
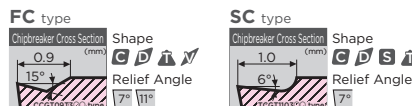
Realises outstanding chip control in fine cutting conditions



## FC type / SC type Chipbreakers

Finishing to Light Cutting Chipbreaker Series for G-class Positive Inserts

Lineup includes FC type, with excellent chip control and cutting edge sharpness in finishing to light cutting, and SC type, a two-step chipbreaker for light to medium cutting



## FB type Chipbreaker

Finishing Chipbreaker for M-class Positive Inserts

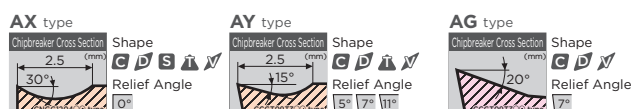
Realises excellent chip control in finishing applications



## AX type / AY type / AG type Chipbreakers

Chipbreaker Series for Aluminum Alloy and Non-Ferrous Metal Turning

This series provides a beautiful surface finish and excellent chip control thanks to its high rake design





## SEC-PB Tool Holders

### SPB series

#### Special Tool Holders for Small Products Turning

Lineup includes uncoated carbide grade BL130, with outstanding wear resistance and sharp-cornered cutting edges, usable on turret-type toolposts as well

External Turning Back Turning Grooving Cut-off Threading



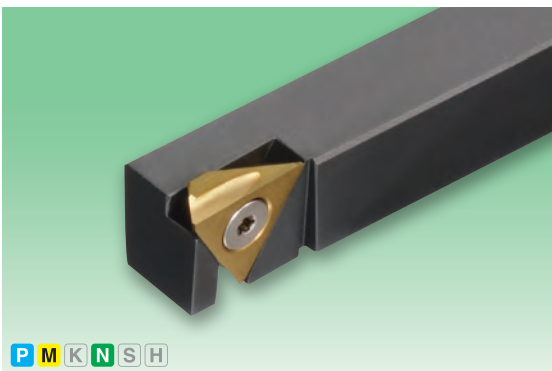
## SEC-Mini Tool Holders

### SBT series / PBT series

#### Special Tool Holders for Small Products Turning

Realises smooth chip evacuation and superb surface finish in back turning

External Back Turning



## SEC-Front Turning Tool Holders

### SFT series

#### Special Tool Holders for Small Products Turning

Tangential insert tool holder for front turning with a max. depth of cut up to 4mm.

External Turning



## SEC-Wide-Cut Holders

### SGW series

#### SUMIDIA Multi-purpose Tool

PCD chipbreaker SUMIDIA BREAK MASTER LD type realises outstanding chip control in grooving and traverse cutting of aluminum alloys

External Grooving Traverse Cutting



## SEC-Round Shank Tool Holders

### RS series

#### Adapter Sleeve Holder Tool for External Turning

Lineup includes shank diameters of  $\varnothing 14$  to 25mm, supporting various adapter sleeve toolposts

External Turning

Applicable Inserts:





**SEC-MINI Boring Tool Holders**

**CKB series**

**Very Small Diameter Turning Tool**

Turning, internal boring, and face grooving are supported through the combination of a unique design that ensures high indexing accuracy and easy insert replacement

Internal Face Grooving  
 Min Bore Dia:  $\phi$ 1.0mm up



**Twin Head Holder**

**Multi-functional Small Lathe Tools**

Innovative small tool with 2 types of cutting edges to solve the lack of tools in small lathe machining

External Internal Face  
 Min Bore Dia:  $\phi$ 1.0mm up



**Solid Carbide Bar**

**BXBR series**

**Very Small Diameter Turning Tool**

Economical 2-cornered bars  
 Usable at any desired overhang

Internal  
 Min Bore Dia:  $\phi$ 2.0mm up



**SUMIBORON Small Hole Boring Bars**

**BSME series**

**Small Diameter Turning Tool**

Clamp mechanism achieves high-precision cutting edge position  
 Realises high-efficiency machining by switching from grinding to cutting in the small diameter range

Internal Coolant Supply Internal  
 Min Bore Dia:  $\phi$ 2.5mm up



**Small Dia. Boring Bar**

**SEXC series**

**Small Diameter Turning Tool**

Clamp mechanism achieves high-precision cutting edge position  
 Realises high-efficiency machining by switching from grinding to cutting in the small diameter range  
 Economical Indexable Insert type

Internal Coolant Supply Internal  
 Min Bore Dia:  $\phi$ 4.0mm up





## SEC-Grooving Tools

### GWC series

#### Shallow Grooving Tools

3-cornered grooving tools with a wide selection of insert grades

Lineup also includes the 3D chipbreaker B-Groove inserts

External Internal Grooving

Width of Cut: 0.33 to 4.80mm



## SEC-Grooving Tools

### GND series

#### Grooving / Cut-off Tools

High rigidity integrated body that uses die steel and a diverse lineup of inserts that achieve outstanding chip control

Internal Coolant Supply Coolant Supply Without Hole External Internal Face Grooving Traverse Cutting Cut-off Necking

Width of Cut: 1.25 to 8.00mm



## SEC-Grooving Tools

### SSH series

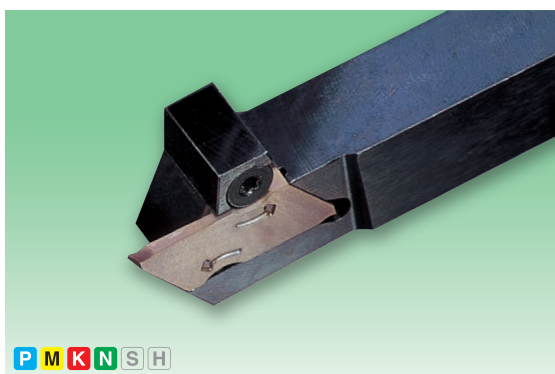
#### Internal Grooving Tools

Tough carbide body suppresses chatter  
Supports internal grooving of  $\varnothing 8\text{mm}$  up

Insert series expansion for grooving depths of 2mm and 3mm

Internal Coolant Supply Internal Grooving Traverse Cutting Chamfering

Width of Cut: 0.74 to 3.00mm



## SEC-Small Diameter Cut-off Tool Holders

### SCT series

#### Cut-off Tools

Cut-off tool using tangential 2-cornered inserts, exchangeable just by loosening the screws

External Cut-off

Width of Cut: 0.5 to 2.0mm Max. Cut-off Dia.:  $\varnothing 16\text{mm}$



## SEC-Threading Tools

### SSTE series / SSTI series

#### Threading Tools

Realises stable chip control thanks to a 3D chipbreaker, supporting various thread types

External Internal Threading

Applicable Thread Standard: M W UNC/UNF G/Rp/W NPT R/Rc NPTF UNJ





P M K N S H

## NeXEO MDE series

### Coated Carbide Drill

General-purpose drill suitable for a wide range of work materials and cutting conditions

External Coolant Supply Internal Coolant Supply

Diameter:  $\phi$ 1.0 to 20.0mm 2D 3D 4D 5D 8D



P M K N S H

## Flat MULTIDRILL

### MDF series

### Coated Carbide Drill

Effective for drilling on tilted and cylindrical surfaces, ideal for burr control at through hole exits

External Coolant Supply Internal Coolant Supply

Diameter:  $\phi$ 0.3 to 20.0mm 2D 3D 5D



P M K N S H

New

## MULTIDRILL

### MDA series

### DLC Coat Drill for Non-Ferrous Metal Drilling

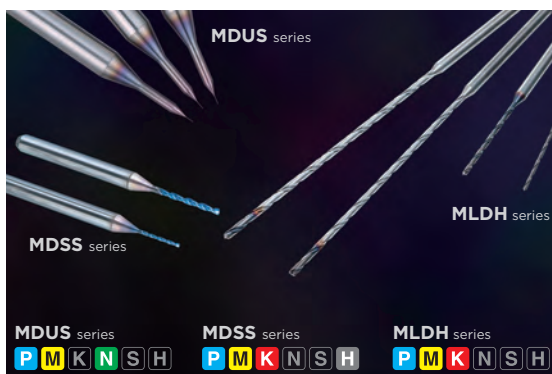
Covers a wide application range from high-precision to high-efficiency drilling

New DLC Coat and AURORA Coat X now available

Internal Coolant Supply

Diameter:  $\phi$ 1.0 to 3.0mm 5D 5D 10D 15D 20D

Diameter:  $\phi$ 3.1 to 12.0mm 5D 5D 10D



MDUS series

MLDH series

MDSS series

P M K N S H

P M K N S H

P M K N S H

## MULTIDRILL Series for Very Small and Small Diameter Drilling

Micro MULTIDRILL

MINI-MULTIDRILL

Micro Long Drill

### MDUS series / MDSS series / MLDH series

### Solid Carbide Drill

Wide-ranging lineup supports very small diameter drilling of  $\phi$ 0.03mm up

External Coolant Supply Internal Coolant Supply

MDUS series Diameter:  $\phi$ 0.03 to 0.19mm MDUP P10H 10D

MDSS series Diameter:  $\phi$ 0.20 to 1.00mm 10D

MLDH series Diameter:  $\phi$ 0.80 to 2.00mm P10H 5D 12D 20D 50D



P K H

## SumiReamer

### SSR series

### Solid Carbide Reamer

A balanced design that combines sharpness and cutting edge strength to achieve high-efficiency reaming

Internal Coolant Supply

Diameter:  $\phi$ 2.97 to 12.0mm





- Very hot or lengthy chips may be discharged while the machine is in operation. Therefore, machine guards, safety goggles or other protective covers must be used. Fire safety precautions must also be considered.

< SAFETY NOTES >

- Please handle with care as this product has sharp edges.
- Improper cutting conditions or mis-handling of the tool may result in breakages or projectiles. Therefore, please use the tool within its recommended conditions.

- When using non-water soluble cutting oil, precautions against fire must be taken and please ensure that a fire extinguisher is placed near the machine.

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