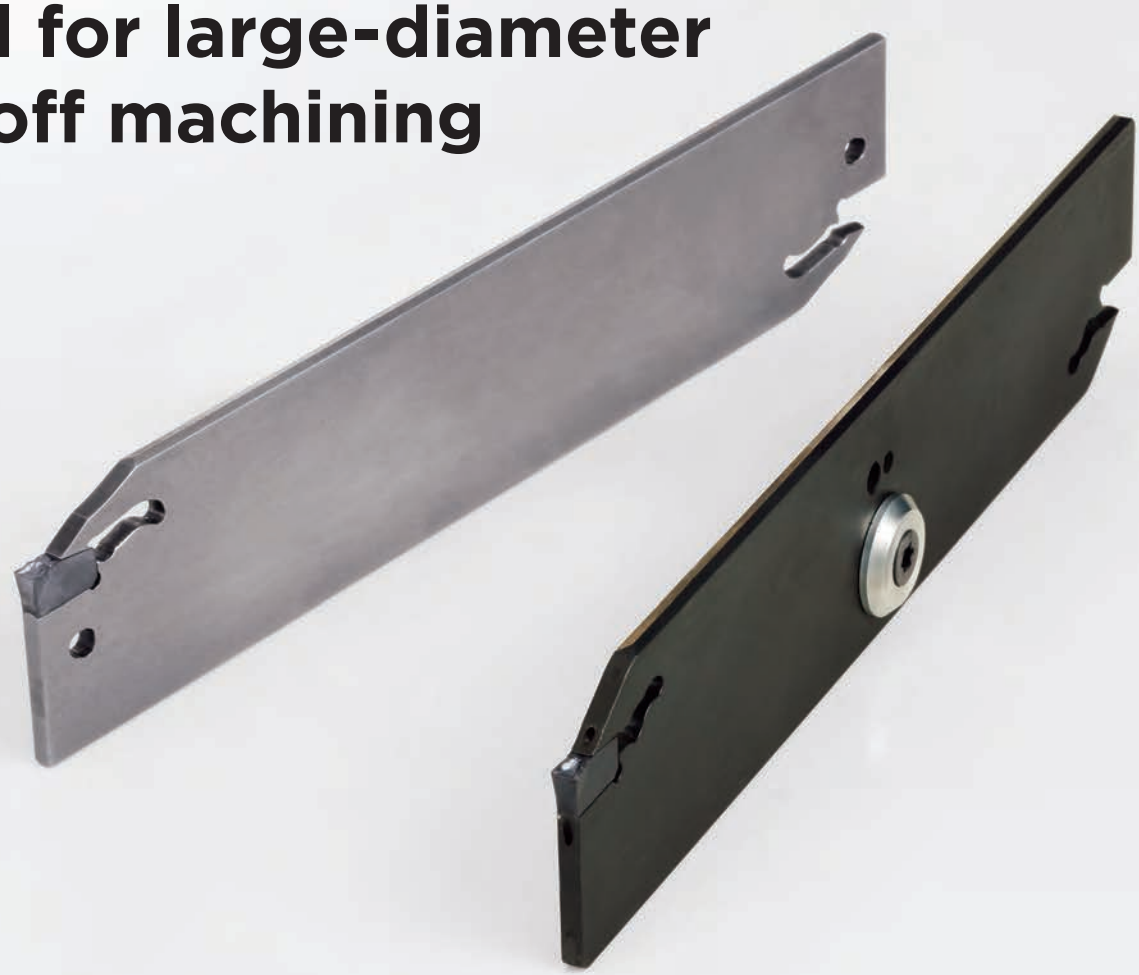
Tooling News No.561

SUMITOMO
CARBIDE - CBN - DIAMOND
Global Support, Global Solutions.

Self-Restrained Tool Holders for Cut-off Machining

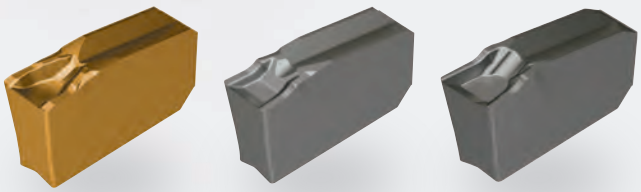
SEC-Cut-off Tool Holders GLC series

Optimised blade shape ideal for large-diameter cut-off machining




Internal coolant supply with GLC-SJ type

Three types of chipbreakers for various machining



General-purpose
GG type

Exotic alloys/
Low cutting force
GF type

Low cutting force
(handed)
CF type

P M K N S H

SUMITOMO ELECTRIC GROUP

GLC series

New

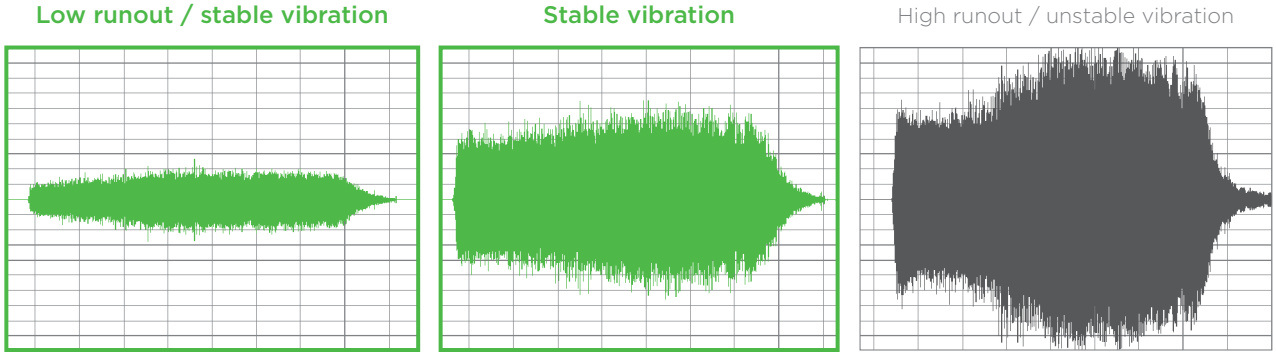
■ Features

- Achieves high machining accuracy and durability with optimised blade shape
- Insert can be mounted and removed with just a wrench
- Internal coolant supply extends insert life
- Lineup includes steel holders, steel holders with internal coolant supply (max. cut-off dia. ø100mm), and carbide holders (max. cut-off dia. ø140mm)
- Support for various machining through combination with three chipbreaker types (general-purpose chipbreaker GG type and low cutting force chipbreakers GF type (neutral) and CF type (handed))

■ Cutting Performance

● Low vibration

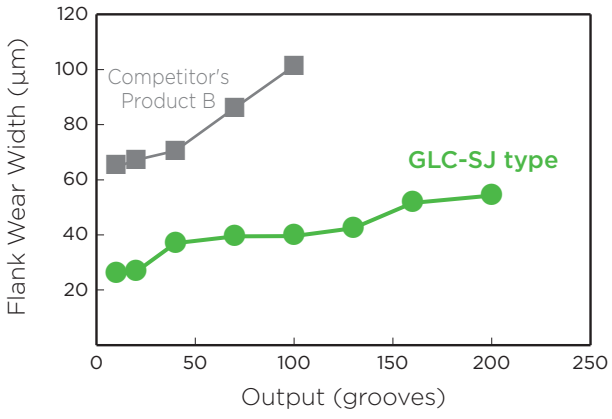
Achieves stable machining with a high-rigidity holder and strong clamping



Work Material: SUS316 (ø40) Insert: WCFN3-GF (AC1030U) Holder: GLCBN32-3C (Carbide) / GLCBN32-3S (Steel)
Cutting Conditions: vc = 100m/min, f = 0.1mm/rev, Wet (External Coolant Supply)

● Tool life

Achieves longer tool life with optimised coolant supply outlets and a wide lineup of grades



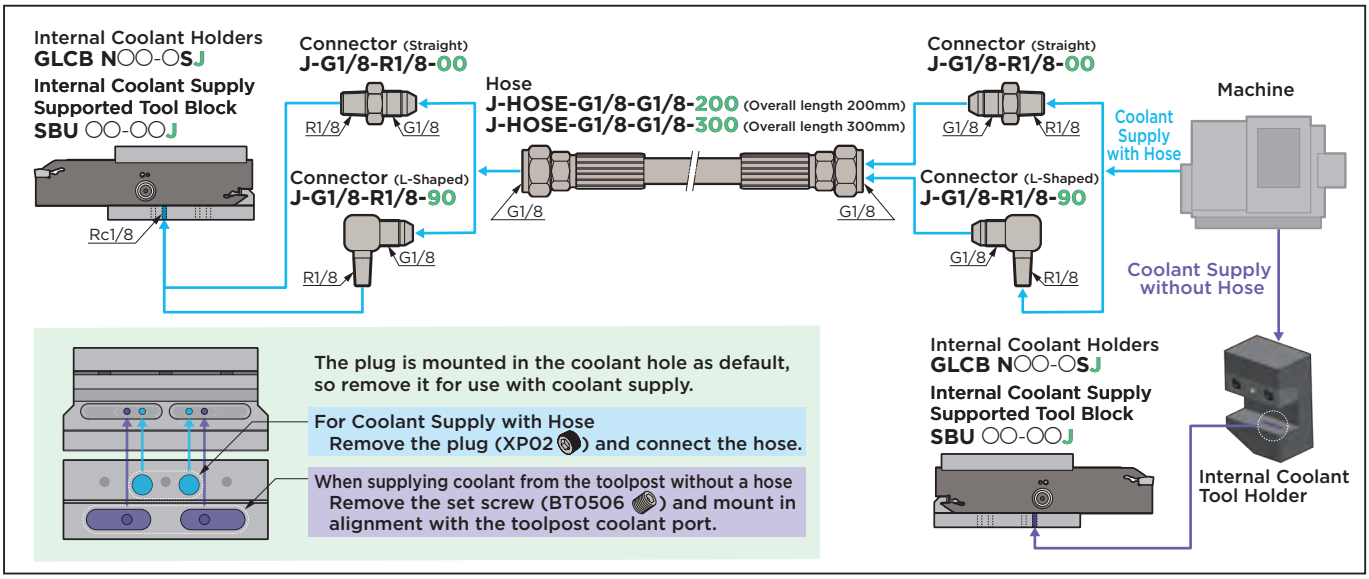
Work Material: SUS316
Holder: GLCBN32-3SJ (Steel) Insert: WCFN3-GF (AC1030U)
Cutting Conditions: vc = 200m/min, f = 0.1mm/rev, Wet (Internal Coolant Supply)

● Chip control

Outstanding chip control even in cut-off machining of stainless steel

Work Material: SUS316
Holder: GLCBN32-3S (Steel) Insert: WCFN3-GF (AC1030U)
Cutting Conditions: vc = 100m/min, f = 0.1mm/rev, Wet (External Coolant Supply)

■ Piping Method for Hoses and Connectors



■ Hoses and Connectors

Fig 1

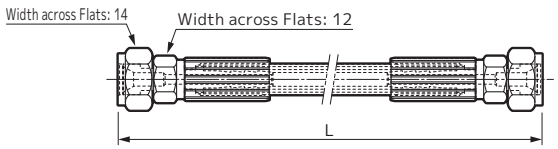


Fig 1

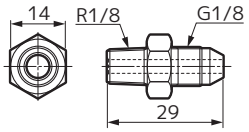
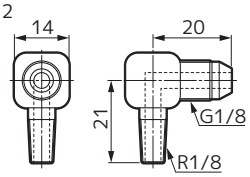


Fig 2



Parts (Hose)

Dimensions (mm)

Cat. No.	Stock	L	Screw Standard	Screw Standard	Fig
J-HOSE-G1/8-G1/8-200	●	200	G1/8	G1/8	1
J-HOSE-G1/8-G1/8-300	●	300	G1/8	G1/8	1

Hoses are sold separately.

Parts (Connector)

Dimensions (mm)

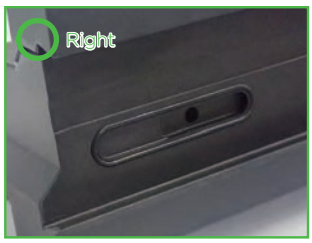
Cat. No.	Stock	Screw Standard	Screw Standard	Fig
J-G1/8-R1/8-00	●	G1/8	R1/8	1
J-G1/8-R1/8-90	●	G1/8	R1/8	2

Connectors are sold separately.

Precautions for Coolant Supply without Hose

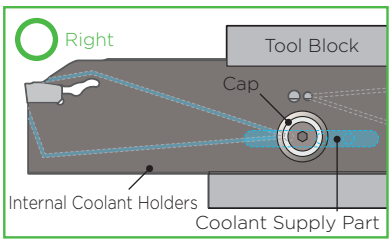
■ Internal Coolant Supply Supported Tool Block SBU-J type

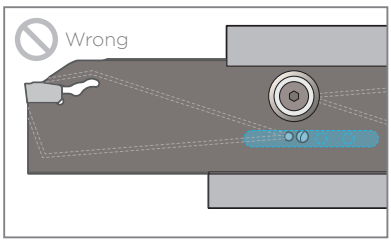
· Mount the O-ring correctly.

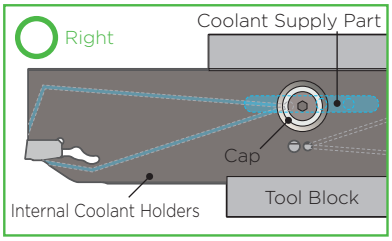


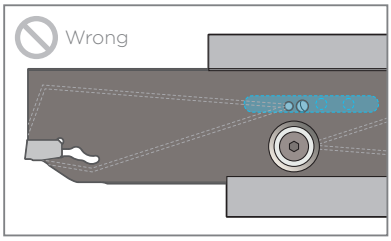
■ Internal Coolant Holder GLC-J type

· To prevent coolant leakage, mount the cap in the correct position.









● mark: Standard stocked item

GLC-S(J) type

New Cut-off Steel

Cut-off
(Steel Holder/Tool Block type)

GLC-S

Cut-off

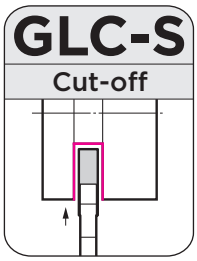


Fig 1

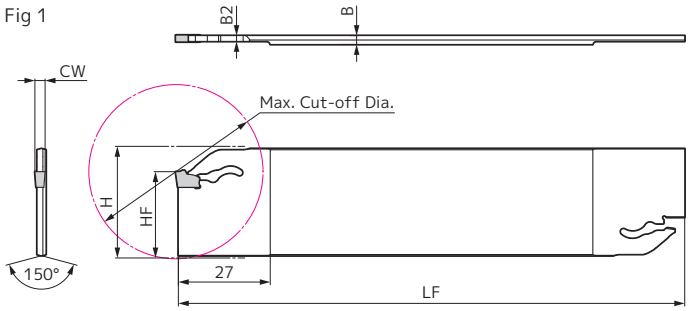
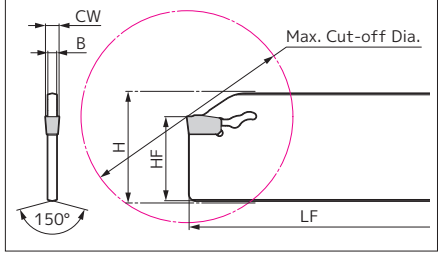


Fig 2



Holder (Steel)

Parts Dimensions (mm)

Cat. No.	Stock	Height H	Width B	Width B2	Overall Length LF	Cutting Edge Height HF	Width of Cut CW	Max. Cut-off Dia.	Applicable Insert	Applicable Tool Blocks	Fig	Wrench
GLCB N26-2S	○	26	2.6	1.7	120.0	21.4	**2**	**50**	WCF□2-□□	SB□20-26	1	SL-5(*)
N26-3S	○	26	2.6	—	120.0	21.4	**3**	**70**	WCF□3-□□		2	
N26-4S	○	26	3.6	—	120.0	21.4	**4**	**70**	WCF□4-□□		2	
N26-5S	○	26	4.6	—	120.0	21.4	**5**	**70**	WCF□5-□□		2	
GLCB N32-2S	○	32	2.6	1.7	148.8	25.0	**2**	**50**	WCF□2-□□	SB□20-32 SB□25-32	1	SL-5(*)
N32-3S	○	32	2.6	—	148.8	25.0	**3**	**100**	WCF□3-□□		2	
N32-4S	○	32	3.6	—	148.8	25.0	**4**	**100**	WCF□4-□□		2	
N32-5S	○	32	4.6	—	148.8	25.0	**5**	**100**	WCF□5-□□		2	

*Wrench is sold separately from the main body.
Refer to P5 for applicable inserts.

Tool Blocks P8

New Cut-off Steel Internal Coolant

Cut-off with Internal Coolant Supply
(Steel Holder/Tool Block type)

GLC-SJ

Cut-off

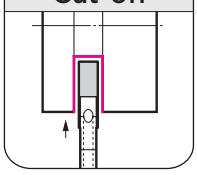


Fig 1

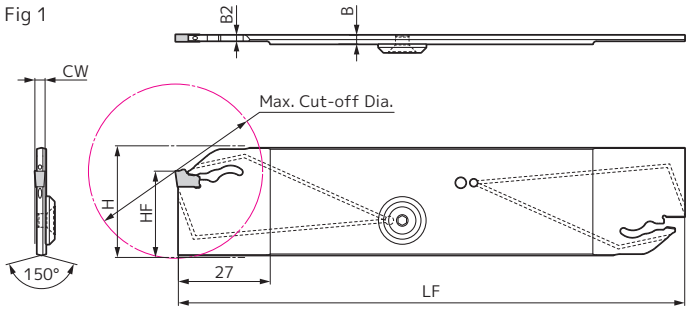
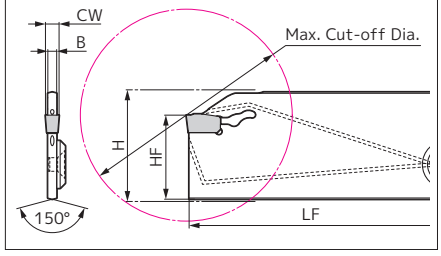


Fig 2



Holder (Steel, Internal Coolant Supply)

Parts Dimensions (mm)

Cat. No.	Stock	Height H	Width B	Width B2	Overall Length LF	Cutting Edge Height HF	Width of Cut CW	Max. Cut-off Dia.	Applicable Insert	Applicable Tool Blocks	Fig	Wrench	Cap	Flat Head Screw
GLCB N26-2SJ	○	26	2.6	1.7	120.0	21.4	**2**	**50**	WCF□2-□□	SBU20-26J (SB□20-26)	1	SL-5(*)	RW14M4	BFT0405T15ZN
N26-3SJ	○	26	2.6	—	120.0	21.4	**3**	**70**	WCF□3-□□		2			
N26-4SJ	○	26	3.6	—	120.0	21.4	**4**	**70**	WCF□4-□□		2			
N26-5SJ	○	26	4.6	—	120.0	21.4	**5**	**70**	WCF□5-□□		2			
GLCB N32-2SJ	○	32	2.6	1.7	148.8	25.0	**2**	**50**	WCF□2-□□	SBU20-32J SBU25-32J (SB□20-32) (SB□25-32)	1	SL-5(*)	RW14M4	BFT0405T15ZN
N32-3SJ	○	32	2.6	—	148.8	25.0	**3**	**100**	WCF□3-□□		2			
N32-4SJ	○	32	3.6	—	148.8	25.0	**4**	**100**	WCF□4-□□		2			
N32-5SJ	○	32	4.6	—	148.8	25.0	**5**	**100**	WCF□5-□□		2			

*Wrench is sold separately from the main body.
Refer to P5 for applicable inserts. The parentheses for applicable tool blocks are for use without internal coolant supply.

Piping Method and Precautions P3
Tool Blocks P8

○ mark: Planned stock (around autumn 2025)

GLC-S(J) type

(Coated Carbide)

Fig 1 (Neutral (N))

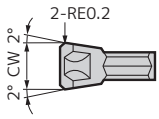


Fig 2 (Right Hand (R))

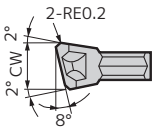
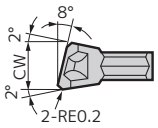
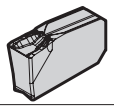
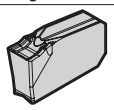
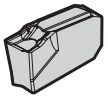


Fig 3 (Left Hand (L))



Insert for GLC type (Common)

Dimensions (mm)

Appearance	Cat. No.	AC830P	AC1030U	AC5015S	AC5025S	Width of Cut CW	Applicable Holder	Fig
WCF NO-GG General-purpose 	**WCF N2-GG**	●	●	●	●	**2.0**	GLCBNOO-2...	1
	WCF N3-GG	●	●	●	●	**3.0**	GLCBNOO-3...	1
	WCF N4-GG	●	●	●	●	**4.0**	GLCBNOO-4...	1
	WCF N5-GG	●	●	●	●	**5.0**	GLCBNOO-5...	1
WCF NO-GF Exotic Alloy Low-feed 	**WCF N2-GF**		●	●	●	**2.0**	GLCBNOO-2...	1
	WCF N3-GF		●	●	●	**3.0**	GLCBNOO-3...	1
	WCF N4-GF		●	●	●	**4.0**	GLCBNOO-4...	1
	WCF N5-GF		●	●	●	**5.0**	GLCBNOO-5...	1
WCF □O-CF Exotic Alloy Low-feed (Handed) 	**WCF R3-CF**		●	●	●	**3.0**	GLCBNOO-3...	2
	WCF L3-CF		●	●	●	**3.0**		3
	WCF R4-CF		●	●	●	**4.0**	GLCBNOO-4...	2
	WCF L4-CF		●	●	●	**4.0**		3

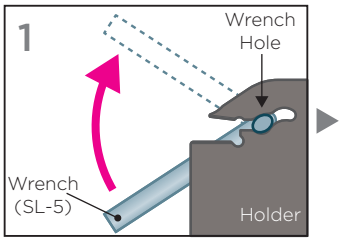
Recommended Cutting Conditions

Work Material	Cutting Speed vc (m/min)			
	AC830P	AC1030U	AC5015S	AC5025S
P Carbon Steel / Alloy Steel	80-200	50-200	80-200	50-200
M Stainless Steel	70-150	50-150	70-150	50-150
K Cast Iron	—	50-200	60-200	50-200
S Exotic Alloy	—	20- 60	20- 80	20- 60
N Non-Ferrous Metal	—	150-300	—	—

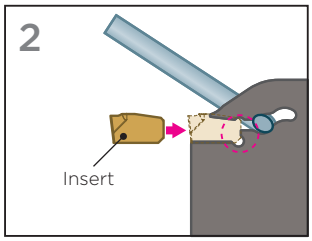
Chipbreaker		Feed Rate f (mm/rev)		
		Neutral		Handed
		GG	GF	CF
		General-purpose	Exotic Alloy/Low Cutting Force type	Low Cutting Force
Width of Cut CW (mm)	**2.0**	0.05-0.15	0.03-0.12	—
	3.0	0.08-0.25	0.05-0.15	0.05-0.10
	4.0	0.10-0.30	0.05-0.18	0.05-0.10
	5.0	0.10-0.30	0.05-0.20	—

Insert Mounting Method and Precautions (Steel Holder)

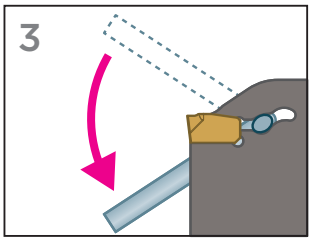
Insert Mounting



Insert the wrench into the wrench hole above and rotate it in the direction of the arrow

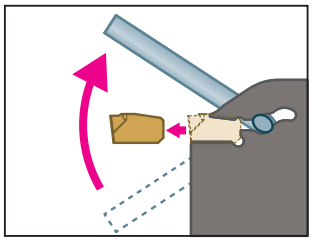


Push in the insert until its back touches the backstop of the holder



Rotate the wrench in the direction of the arrow to complete mounting

Insert Removal



Perform step 1 on the left to remove the insert

■ Insert Mounting Precautions

- Remove any chips or other foreign matter on the insert and holder seats.
- To prevent breakage, do not insert the wrench anywhere else but the wrench hole.
- To prevent breakage, do not use anything but the dedicated wrench (sold separately).
- To extend tool life, lubricate the wrench and the wrench hole with oil, etc.

● mark: Standard stocked item Blank: Made-to-order item

GLC-C type

For Cut-off
(Carbide Holder/Tool Block type)

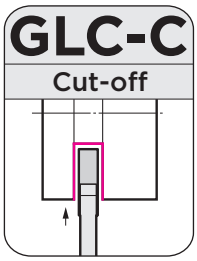


Fig 1

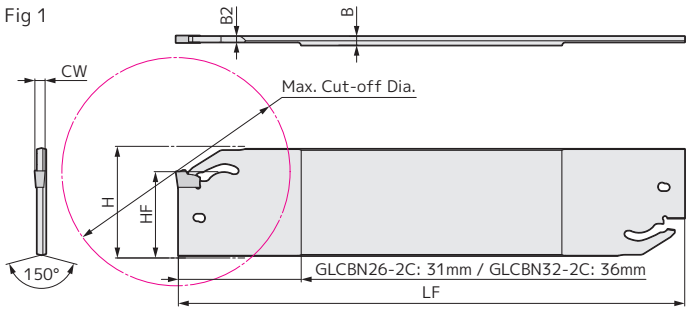
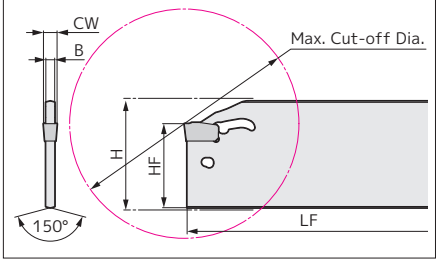


Fig 2



Holder

Parts Dimensions (mm)

Cat. No.	Stock	Height H	Width B	Width B2	Overall Length LF	Cutting Edge Height HF	Width of Cut CW	Max. Cut-off Dia.	Applicable Insert	Applicable Tool Blocks	Fig	Wrench
GLCB N26-2C	●	26	2.6	1.7	120.0	21.4	**2**	**60**	WCF□2-□□	SB□20-26	1	SL-2(*)
N26-3C	●	26	2.6	—	120.0	21.4	**3**	**80**	WCF□3-□□		2	SL-6(*)
N26-4C	●	26	3.6	—	120.0	21.4	**4**	**80**	WCF□4-□□		2	
N26-5C	●	26	4.6	—	120.0	21.4	**5**	**80**	WCF□5-□□		2	
GLCB N32-2C	●	32	2.6	1.7	148.8	25.0	**2**	**68**	WCF□2-□□	SB□20-32 SB□25-32	1	SL-2(*)
N32-3C	●	32	2.6	—	148.8	25.0	**3**	**140**	WCF□3-□□		2	SL-6(*)
N32-4C	●	32	3.6	—	148.8	25.0	**4**	**140**	WCF□4-□□		2	
N32-5C	●	32	4.6	—	148.8	25.0	**5**	**140**	WCF□5-□□		2	

*Wrench is sold separately from the main body.
Refer to P7 for applicable inserts.

Tool Blocks P8

● mark: Standard stocked item

GLC-C type

(Coated Carbide)

Fig 1 (Neutral (N))

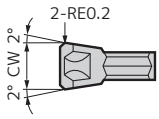


Fig 2 (Right Hand (R))

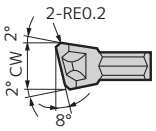
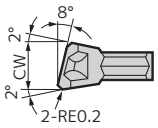
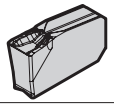
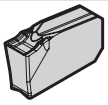
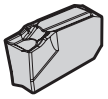


Fig 3 (Left Hand (L))



Insert for GLC type (Common)

Dimensions (mm)

Appearance	Cat. No.	AC830P	AC1030U	AC5015S	AC5025S	Width of Cut CW	Applicable Holder	Fig
WCF NO-GG General-purpose 	**WCF N2-GG**	●	●	●	●	**2.0**	GLCBNOO-2...	1
	WCF N3-GG	●	●	●	●	**3.0**	GLCBNOO-3...	1
	WCF N4-GG	●	●	●	●	**4.0**	GLCBNOO-4...	1
	WCF N5-GG	●	●	●	●	**5.0**	GLCBNOO-5...	1
WCF NO-GF Exotic Alloy Low-feed 	**WCF N2-GF**		●	●	●	**2.0**	GLCBNOO-2...	1
	WCF N3-GF		●	●	●	**3.0**	GLCBNOO-3...	1
	WCF N4-GF		●	●	●	**4.0**	GLCBNOO-4...	1
	WCF N5-GF		●	●	●	**5.0**	GLCBNOO-5...	1
WCF □O-CF Exotic Alloy Low-feed (Handed) 	**WCF R3-CF**		●	●	●	**3.0**	GLCBNOO-3...	2
	WCF L3-CF		●	●	●	**3.0**		3
	WCF R4-CF		●	●	●	**4.0**	GLCBNOO-4...	2
	WCF L4-CF		●	●	●	**4.0**		3

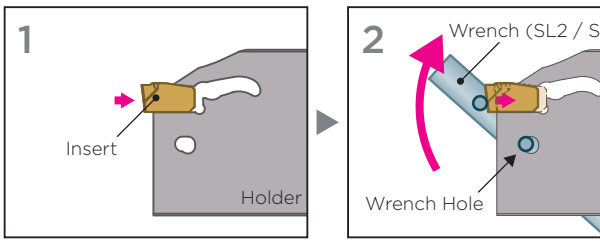
Recommended Cutting Conditions

Work Material	Cutting Speed vc (m/min)			
	AC830P	AC1030U	AC5015S	AC5025S
P Carbon Steel / Alloy Steel	80-200	50-200	80-200	50-200
M Stainless Steel	70-150	50-150	70-150	50-150
K Cast Iron	—	50-200	60-200	50-200
S Exotic Alloy	—	20- 60	20- 80	20- 60
N Non-Ferrous Metal	—	150-300	—	—

Chipbreaker		Feed Rate f (mm/rev)		
		Neutral		Handed
		GG	GF	CF
		General-purpose	Exotic Alloy/Low Cutting Force type	Low Cutting Force
Width of Cut CW (mm)	**2.0**	0.05-0.15	0.03-0.12	—
	3.0	0.08-0.25	0.05-0.15	0.05-0.10
	4.0	0.10-0.30	0.05-0.18	0.05-0.10
	5.0	0.10-0.30	0.05-0.20	—

Insert Mounting Method and Precautions (Carbide Holder)

Insert Mounting

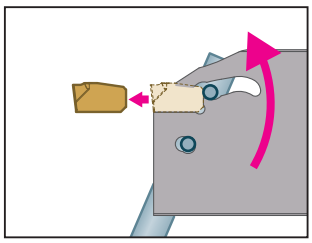


Gently put the insert into the holder

Insert the wrench into the wrench hole as shown and push in the insert from the front while rotating it in the direction of the arrow

Push in the insert until its back touches the backstop of the holder to complete mounting

Insert Removal

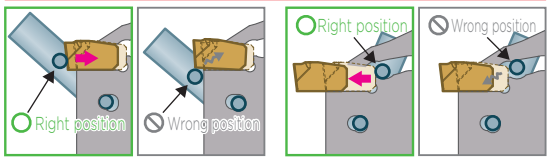


Insert the wrench into the wrench hole as shown and push out the insert from the back while rotating it in the direction of the arrow

■ Insert Mounting Precautions

- Remove any chips or other foreign matter on the insert and holder seats.
- To prevent holder breakage, check that the wrench is in the correct position.
- To prevent breakage, do not use anything but the dedicated wrench (sold separately).
- When removing the insert, the wrench will contact the clamp portion of the holder; do not apply excessive force to the holder after contact is made.

Check that the wrench is in the correct position



When mounting insert

When removing insert

● mark: Standard stocked item Blank: Made-to-order item

GLC series

Fig 1

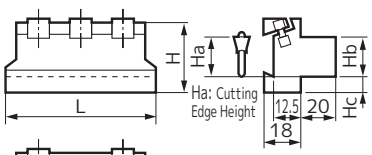


Fig 2

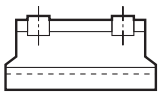


Fig 1

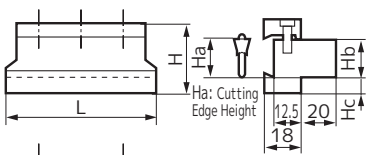
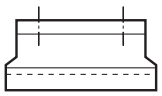


Fig 2



Tool Block SBN type (Integrated) Parts

Dimensions (mm)

Cat. No.	Stock	Cutting Edge Height Ha	Mounting Length Hb	Mounting Position Hc	Height H	Overall Length L	Fig	Clamp Plate	Double Screw	Wrench
SBN 20-26	●	20	20	10.0	45	80	2	BWS30	WB8-20	LH040
20-32	●	20	20	13.5	50	100	1			
25-32	●	25	25	8.5	50	110	1			

Tool Block SBU type (Split type) Parts

Dimensions (mm)

Cat. No.	Stock	Cutting Edge Height Ha	Mounting Length Hb	Mounting Position Hc	Height H	Overall Length L	Fig	Clamp Wedge (BCS15 / BCS20 / BCS25)	Cap Screw	Wrench
SBU 20-26	●	20	20	10.0	45	80	2	BCS15	BX0622	LH050
20-32	●	20	20	13.5	50	100	1	BCS20		
25-32	●	25	25	8.5	50	110	1	BCS25		

Fig 1

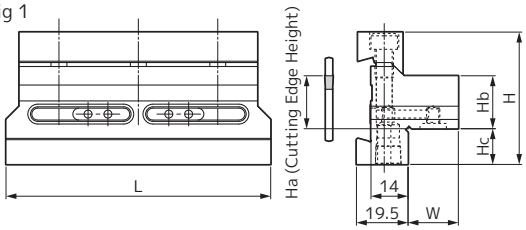
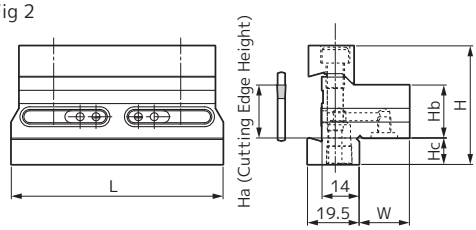


Fig 2



Tool Block for Internal Coolant Supply SBU-J type (Split type) Parts

Dimensions (mm)

Cat. No.	Stock	Cutting Edge Height Ha	Mounting Length Hb	Mounting Position Hc	Height H	Width W	Overall Length L	Fig	Clamp Wedge (BCS15 / BCS20 / BCS25)	O-ring	Cap Screw	Set Screw	Wrench	Plug
SBU 20-26J	○	20	20	10	45	19	80	2	BCS15	ID210W1	BX0622	BT0506	LH050	XP02
20-32J	○	20	20	13.5	50	19	100	1	BCS20	ID255W1				
25-32J	○	25	25	8.5	50	23	110	1	BCS25	ID280W1				

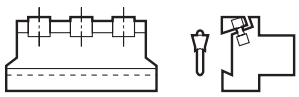
For Internal Coolant Supply Supported Holder GLC-SJ type.

Piping Method and Precautions P3

Tool Block type Selection Guide

Integrated type

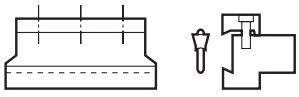
SBN type Example: SBN20-32



· Applicable to toolpost shown on the right **A**.

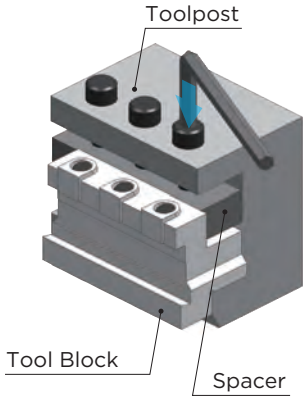
Split type

SBU(-J) type Example: SBU20-32



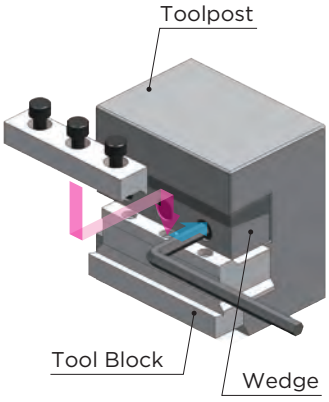
· Applicable to toolpost shown on the right **A** **B**.
· Large clamp plate ensures a wide clamp area that enables long holder overhang.

A General-purpose Lathe, etc.
SBN type **SBU(-J) type**



(Clamp from above)

B Turret type Toolpost, etc.
SBU(-J) type

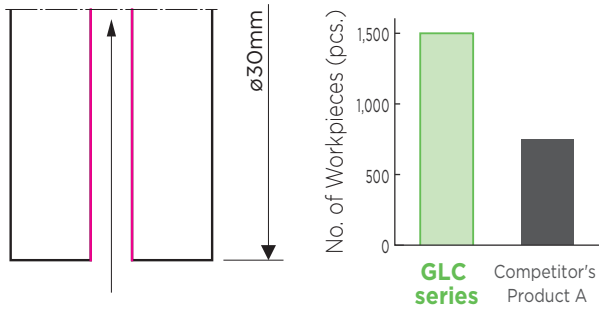


(Clamp from the side)

● mark: Standard stocked item ○ mark: Planned stock (around autumn 2025)

SUS303 Semiconductor Manufacturing Equipment Component M

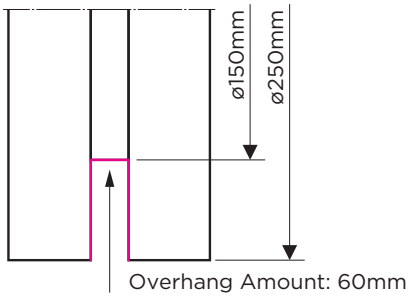
Achieves 1.5x longer insert life than competitor's product in stainless steel machining



Holder: GLCBN32-3SJ Insert: WCFN3-GF(AC5015S)
Cutting Conditions: vc = 50m/min f = 0.05mm/rev
Wet (Internal Coolant Supply / Cut-off Machining)

SUS630 Measuring Instrument Component M

Realises stable machining with 60mm overhang amount thanks to carbide holder



Holder: GLCBN32-5C Insert: WCFN5-GF(AC5015S)
Cutting Conditions: vc = 80m/min f = 0.1mm/rev
Wet (External Coolant Supply / Grooving)

MEMO

MEMO

< SAFETY NOTES >

- 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.
- 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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https://www.sumitool.com/global

(2025.3)I SN/AK