Tooling News No.551

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

Small Lathe Tools

Indexable Head Type Quick Change Tool Holder APM series

Rev.2

Sharply reduces changeover time with outstanding change repeatability

Polygon taper shape achieves head change accuracy within 5µm

Small Lathe/Autolathe Tool series
SumiSmall

SUMITOMO ELECTRIC GROUP

APM series

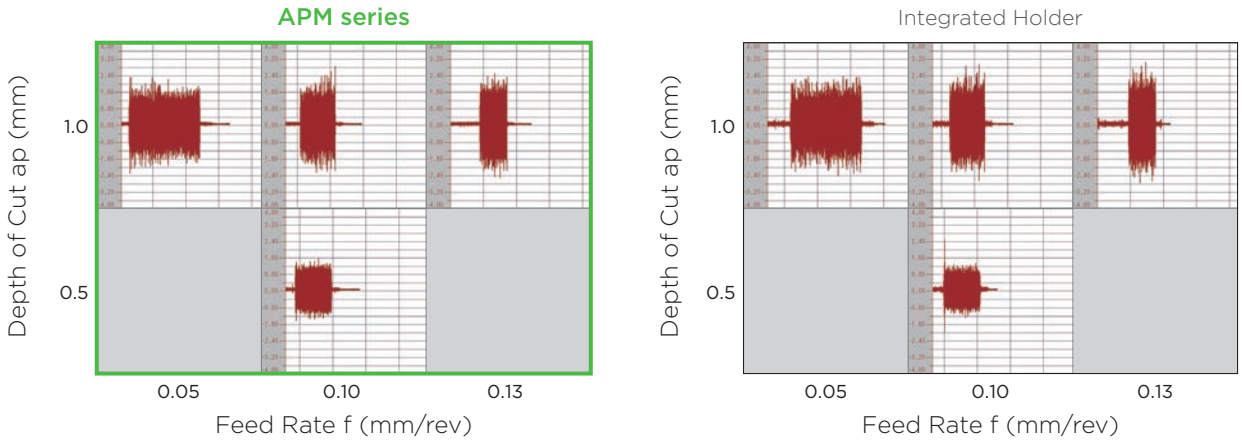
■ Features

- **Tool changeover time reduced**
  Mounting / removing the head alone improves workability and safety when changing the insert, reducing machine downtime at changeovers thus increasing productivity
- **Excellent head change repeatability**
  High-accuracy polygon taper shape achieves change repeatability within 5µm
- **Lineup of 10, 12 and 16mm shank sizes support a wide range of CNC autolathes, etc.**
- **Supports front turning, back turning, grooving, and cut-off**
- **Internal coolant supply design, supports coolant supply without hose**

■ Cutting Performance

● Low vibration

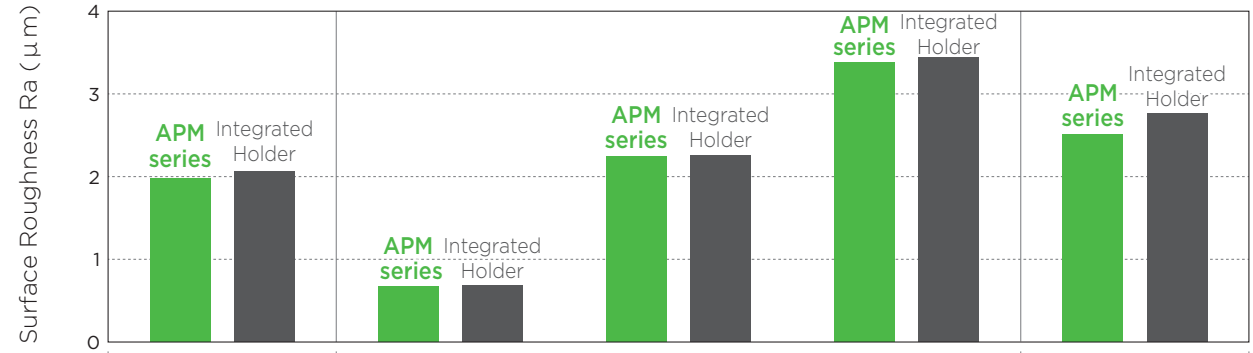
The APM series realises low vibration performance equivalent to that of integrated holders



Work Material: SUS420J2 Tool: Shank: APM-R1212X84J Head: APM12-SDJCR11T3J Insert: DCGT11T302MN-SI (AC1030U)
Cutting Conditions: vc = 80m/min f = 0.05, 0.10, 0.13mm/rev ap=0.5, 1.0mm Wet

● Machined surface roughness

The APM series realises machined surface roughness equivalent to that of integrated holders



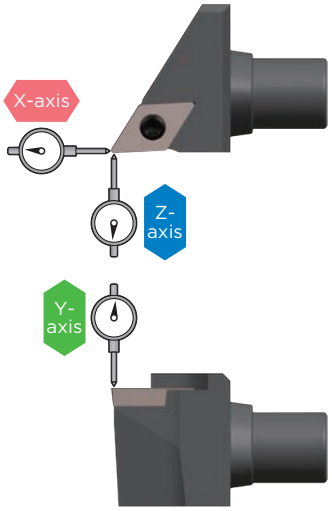
Feed Rate f (mm/rev)	0.10	0.05	0.10	0.13	0.10
Depth of Cut ap (mm)	0.5	1.0	1.0	1.0	2.0

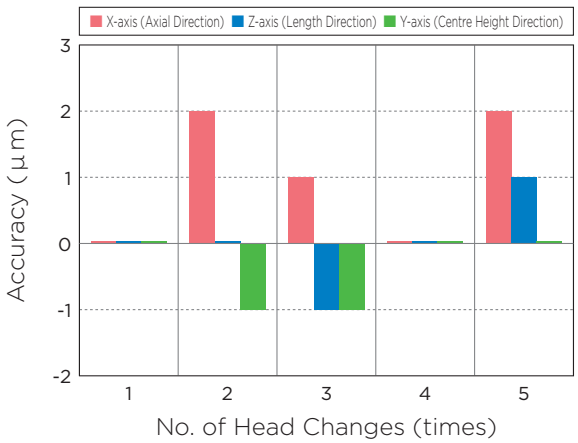
Work Material: SUS420J2 Tool: Shank: APM-R1212X84J Head: APM12-SDJCR11T3J Insert: DCGT11T302MN-SI (AC1030U)
Cutting Conditions: vc = 80m/min f = 0.05, 0.10, 0.13mm/rev ap=0.5, 1.0, 2.0mm Wet

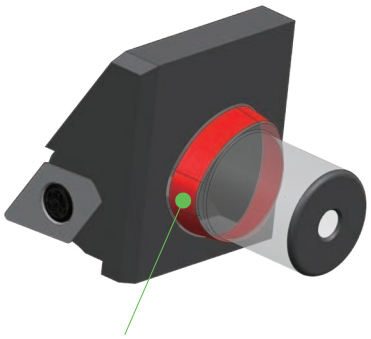
■ Head Change Repeatability

Polygon taper shape achieves change repeatability within 5µm

Related screen 1 Related screen 2







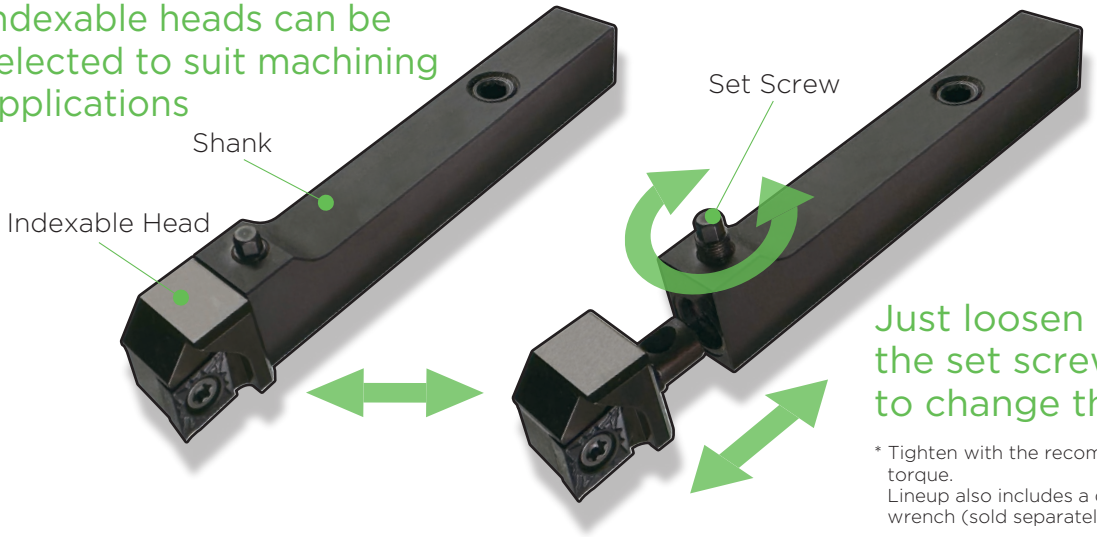
Polygon Taper Shape

* Measured using the same shank, the same head, and the same insert corner

■ Head Change Structure

Related screen 3

Indexable heads can be selected to suit machining applications



Just loosen the set screw to change the head

* Tighten with the recommended tightening torque.
Lineup also includes a dedicated torque wrench (sold separately).

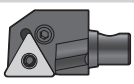
■ APM series Combination Examples

Indexable Head

For ISO Turning Inserts

Positive
SCLC type
SDJC type
SVJB type
SVJC type
SVJP type

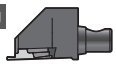
Negative
PTGN type



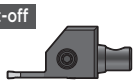
For Dedicated Inserts

Back Turning
SBT type

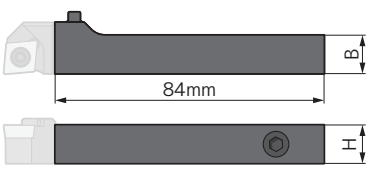
Grooving / Threading
GWC type



Grooving / Cut-off
GNDM type
GNDL type



Shank

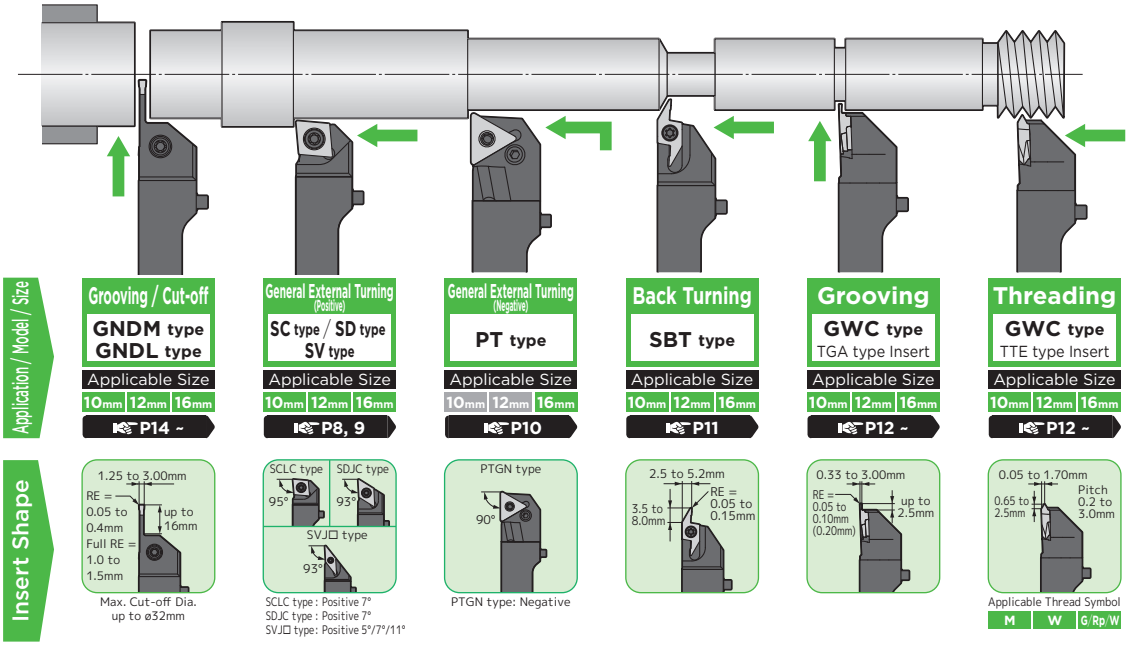


APM-R1010X84J	Height H: **10mm**	Width B: **10mm**
APM-R1212X84J	Height H: **12mm**	Width B: **12mm**
APM-R1616X84J	Height H: **16mm**	Width B: **16mm**

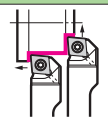
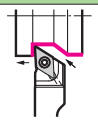
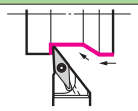
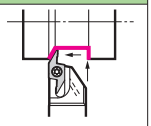
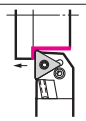
The product appearance may vary in colour, but these variations do not affect the performance.

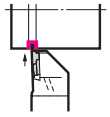
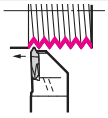
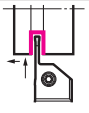
APM series

■ Head Lineup



■ Tooling Selection

Applications	External Turning				
	General Turning / Facing	General Turning / Profiling		General Turning	Back Turning
Insert Shape	80° Diamond type C (Positive)	55° Diamond type D (Positive)	35° Diamond type V (Positive)	Triangular type T (Negative)	Dedicated Insert (BT type)
Clamp Mechanism					
Screw-on	 **SCLC type** P8	 **SDJC type** P8	 **SVJB type / SVJC type SVJP type** P9	—	 **SBT type** P11
Lever Lock	—	—	—	 **PTGN type** P10	—

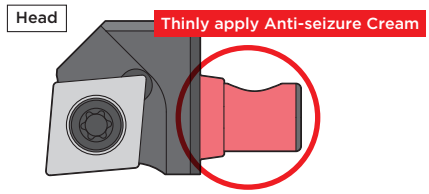
Applications	External Grooving / Threading / Cut-off		
	Grooving	Threading	Grooving / Cut-off
Insert Shape	Dedicated Insert (TGA type)	Dedicated Insert (TTE type)	Dedicated Insert (GCM type / GCG type)
Clamp Mechanism			
Screw-on	 **GWC type** P12 ~	 **GWC type** P12 ~	—
Clamp-on	—	—	 **GNDM type GNDL type** P14 ~

Quick Change Holder APM series Precautions for Use

■ Anti-seizure Cream (APM-P)

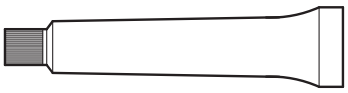
When removing the head, it may be difficult to take out even when the set screw has been loosened.
As a countermeasure, use dedicated Anti-seizure Cream APM-P to enable smooth removal.

Application Method



After cleaning the head polygon taper and shaft,
apply a thin layer of dedicated Anti-seizure Cream APM-P with a rag or similar.
* Anti-seizure Cream (APM-P) has been applied before packaging.

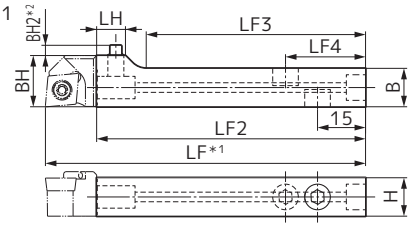
Anti-seizure Cream

Cat. No.	Stock	
APM-P	●	

Anti-seizure Cream is sold separately.

New Indexable Shank Internal Coolant

Fig 1



SumiSmall

Shank

Parts

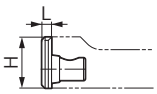
Dimensions (mm)

Cat. No.	Stock	Height H	Width B	Overall Length LF2	Width BH	Protrusion Width BH2	Head LH	Length LF3	Length LF4	Applicable Size	Fig	Set Screw	N·m	Plug	Torque Wrench
APM-R1010X84J	●	10	10	84	13.5	3	9	69.0	25	10	1	BTT0507H	3.0	APM-M8P	TRDRS3530(*)
APM-R1212X84J	●	12	12	84	16.0	3	9	68.5	25	12	1	BTT0510H			
APM-R1616X84J	●	16	16	84	20.0	4	10	68.0	27	16	1	BTT0611H	4.0	APM-G1/8P	TRDRS4540(*)

Select shanks and heads with matching applicable size. *1 See head tables for specific LF dimensions (set dimensions).
*2 When using separately sold set screws (torx type: BTT○○○○T), BH2 = 0mm.
*Torque wrench is sold separately from the shank.

Fig 1 (Standard hex type) Fig 2 (Torx type)

Fig 1



Parts (Set Screw)

Dimensions (mm)

Cat. No.	Stock	Screw Standard	Overall Length	Applicable Shank	N·m	Fig
BTT 0507H	●	SW3.5	10.0	APM-R1010X84J	3.0	1
BTT 0510H	●	SW3.5	12.5	APM-R1212X84J	3.0	1
BTT 0611H	●	SW4.5	14.5	APM-R1616X84J	4.0	1
BTT 0507T	●	T10	7.0	APM-R1010X84J	3.0	2
BTT 0510T	●	T10	9.5	APM-R1212X84J	3.0	2
BTT 0611T	●	T20	10.5	APM-R1616X84J	4.0	2

Suffix H: Hex (included with shank: use the torque wrench below or a commercially available wrench)
T: Torx (sold separately: use a commercially available wrench)

Parts (Stopper Plug)

Dimensions (mm)

Cat. No.	Stock	L	H	Applicable Shank	Fig
APM10-PLUG	●	2.2	13.4	APM-R1010X84J	1
APM12-PLUG	●	3.0	15.9	APM-R1212X84J	1
APM16-PLUG	●	4.0	19.9	APM-R1616X84J	1

Use the stopper plug to protect the shank joint part when the head is not mounted. (Sold separately)

Set Screw Torque Wrench

Cat. No.	Stock	Screw Standard	Torque Value (N·m)	Applicable Shank	
TRDRS3530	●	SW3.5	3.0	APM-R1010X84J APM-R1212X84J	(For hex)
TRDRS4540	●	SW4.5	4.0	APM-R1616X84J	

Torque wrench is sold separately. Dedicated for set screw part number suffix H (hex type).

Fig 1

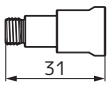


Fig 1

Piping Parts (Plug)

Cat. No.	Stock	Screw Standard	Applicable Shank	Fig
APM-M8P	●	M8	APM-R1010X84J APM-R1212X84J	1
APM-G1/8P	●	G1/8	APM-R1616X84J	1

The shank is shipped with two plugs mounted.

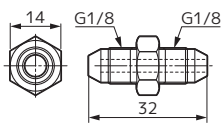
Piping Parts (Adapter)

Dimensions (mm)

Cat. No.	Stock	Screw Standard	Screw Standard	External Diameter	Applicable Shank	Fig
J-M8-G1/8-U	●	M8	G1/8	ø15	APM-R1010X84J APM-R1212X84J	1
J-G1/8-G1/8-U	●	G1/8	G1/8	ø18	APM-R1616X84J	1

Adapter is sold separately.

Fig 1 Fig 2



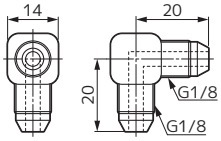
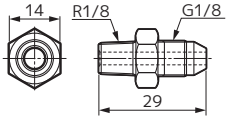


Fig 3 Fig 4



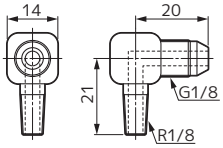
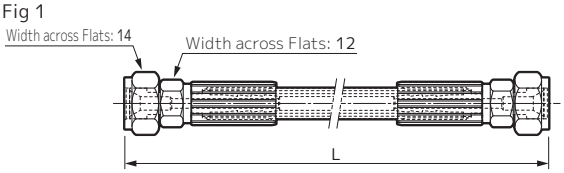


Fig 1



Piping 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.

Piping Parts (Connector)

Dimensions (mm)

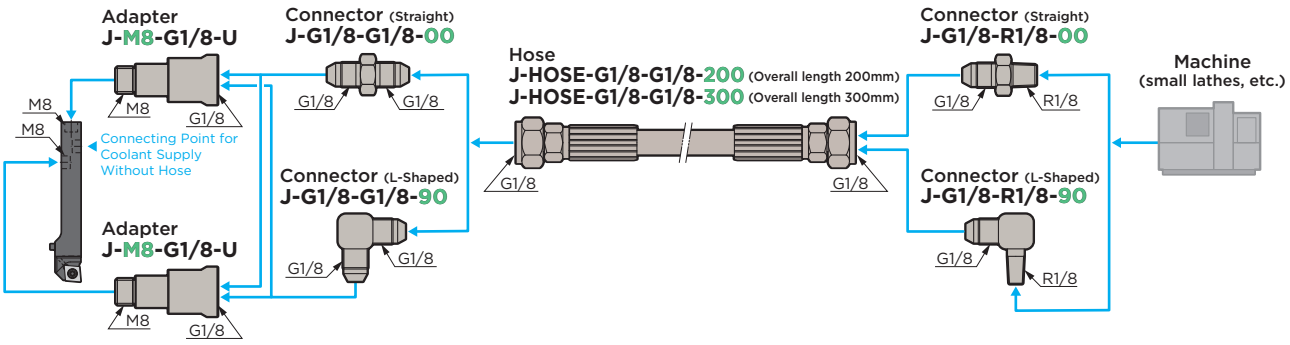
Cat. No.	Stock	Screw Standard	Screw Standard	Fig
J-G1/8-G1/8-00	●	G1/8	G1/8	1
J-G1/8-G1/8-90	●	G1/8	G1/8	2
J-G1/8-R1/8-00	●	G1/8	R1/8	3
J-G1/8-R1/8-90	●	G1/8	R1/8	4

Connectors are sold separately.

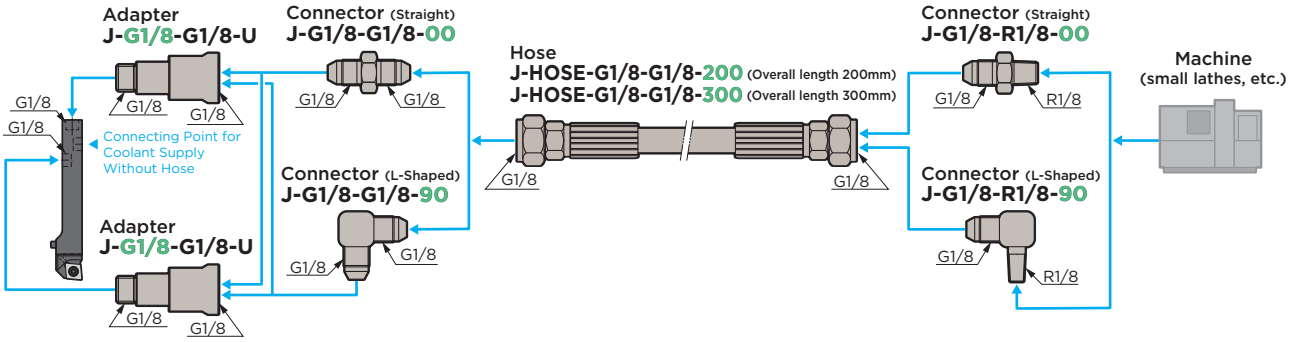
● mark: Standard stocked item N·m Recommended Tightening Torque (N·m)

■ Piping Method for Hoses, Connectors, and Adapters

APM series Shank
APM-R1010X84J (10mm square) / APM-R1212X84J (12mm square)

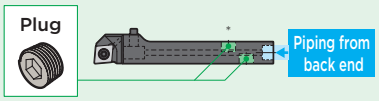


APM series Shank
APM-R1616X84J (16mm square)



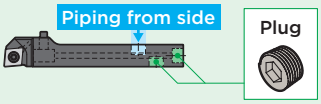
· Use an adapter suited to the machine specifications.
· Apply sealant such as commercial sealing tape to the piping connection parts.
· See figures below for plug mounting when piping. (For Plug Cat. No. 10/12mm square: **APM-M8P**, 16mm square: **APM-G1/8P**)

Piping from back end (as default)

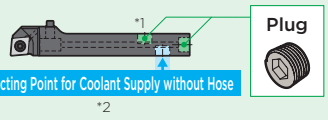


* The plug may protrude a few millimetres when mounted on the side.

Piping from side



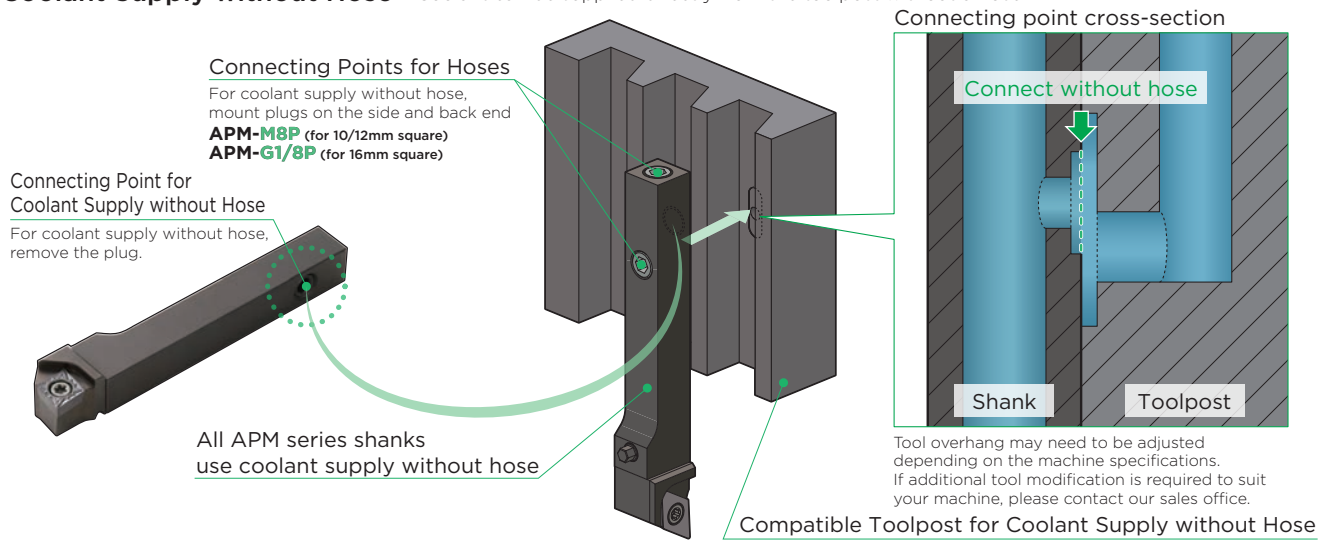
Coolant Supply without Hose



*1 The plug may protrude a few millimetres when mounted on the side.
*2 The plug is mounted as default, so remove it for use with coolant supply without hose.

Coolant Supply without Hose

Coolant can be supplied directly from the toolpost without a hose



Note: When using external coolant supply, attach a plug at the back end as well.

New | Positive | External | C 80° | 95° 95° | Zero Offset | Indexable Head | Internal Coolant

External Turning
Screw-on, Internal Coolant Supply

SCLC
External Turning and Facing

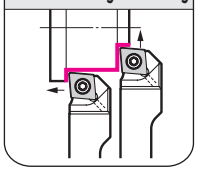


Fig 1

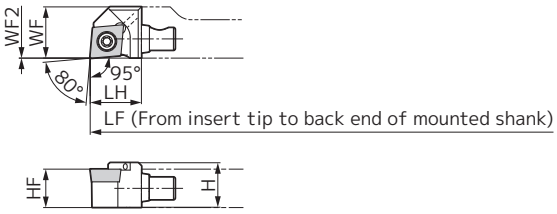


Figure shows right-handed (R) tool.

SumiSmall
General Catalogue Inserts Stock Page

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Applicable Insert Cat. No.	Applicable Size	Fig	Flat Insert Screw	N·m	Wrench (For Torx hole)
APM10-SCLC R0602J	●	11.9	16	13.5	10	0	100	CC□T0602	10	1	BFTX02506N	1.5	TRX08(*)
APM12-SCLC R0602J	●	13.9	16	16.0	12	0	100		12	1			
APM16-SCLC R0602J	●	17.9	16	20.0	16	0	100		16	1			
APM10-SCLC R09T3J	●	11.9	16	13.5	10	0	100	CC□T09T3	10	1	BFTX0409N	3.4	TRX15(*)
APM12-SCLC R09T3J	●	13.9	16	16.0	12	0	100		12	1			
APM16-SCLC R09T3J	●	17.9	16	20.0	16	0	100		16	1			

Refer to shank selection on P6 for applicable shank.
* Wrenches are sold separately from heads.

New | Positive | External | D 55° | 93° | Zero Offset | Indexable Head | Internal Coolant

External Turning
Screw-on, Internal Coolant Supply

SDJC
External/Profiling

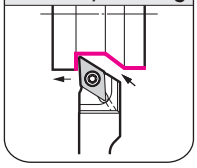


Fig 1

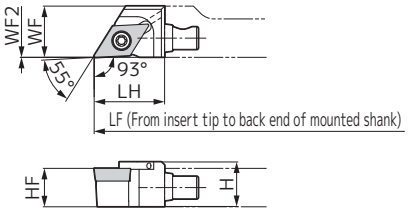


Fig 2

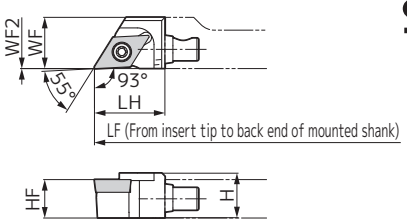


Figure shows right-handed (R) tool.

SumiSmall
General Catalogue Inserts Stock Page

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Applicable Insert Cat. No.	Applicable Size	Fig	Flat Insert Screw	N·m	Wrench (For Torx hole)
APM10-SDJC R0702J	●	11.9	16	13.5	10	0	100	DC□T0702	10	1	BFTX02506N	1.5	TRX08(*)
APM12-SDJC R0702J	●	13.9	16	16.0	12	0	100		12	1			
APM16-SDJC R0702J	●	17.9	16	20.0	16	0	100		16	1			
APM10-SDJC R11T3J	●	11.9	20	13.5	10	0	104	DC□T11T3	10	1	BFTX0409N	3.4	TRX15(*)
APM12-SDJC R11T3J	●	13.9	22	16.0	12	0	106		12	2			
APM16-SDJC R11T3J	●	17.9	22	20.0	16	0	106		16	2			

Refer to shank selection on P6 for applicable shank.
* Wrenches are sold separately from heads.

Refer to the chapter on "Indexable Inserts" in the General Catalogue for applicable inserts.
● mark: Standard stocked item N·m Recommended Tightening Torque (N·m)

APM series

New | Positive | External | V 35° | 93° | Zero Offset | Indexable Head | Internal Coolant

External Turning
Screw-on, Internal Coolant Supply

SVJB

General Turning and Profiling

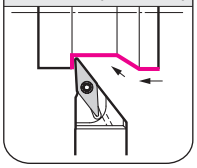


Fig 1

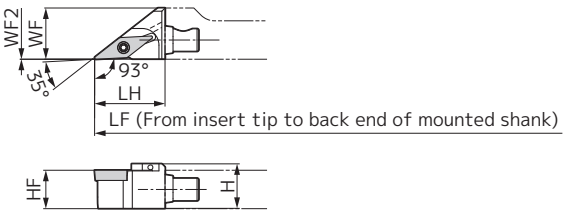


Figure shows right-handed (R) tool.

SumiSmall
General Catalogue Inserts Stock Page

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Applicable Insert Cat. No.	Applicable Size	Fig	Flat Insert Screw	N·m	Wrench (For Torx hole)
APM10-SVJB R1103J	●	11.9	22	13.5	10	0	106	VB□T1103	10	1	BFTX02508NV	1.5	TRX08(*)
APM12-SVJB R1103J	●	13.9	22	16.0	12	0	106		12	1			
APM16-SVJB R1103J	●	17.9	22	20.0	16	0	106		16	1			

Refer to shank selection on P6 for applicable shank. * Wrenches are sold separately from heads.

New | Positive | External | V 35° | 93° | Zero Offset | Indexable Head | Internal Coolant

External Turning
Screw-on, Internal Coolant Supply

SVJC

General Turning and Profiling

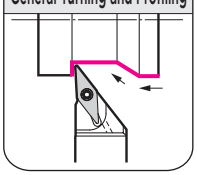


Fig 1

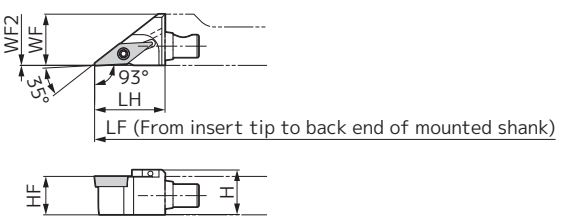


Figure shows right-handed (R) tool.

SumiSmall
General Catalogue Inserts Stock Page

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Applicable Insert Cat. No.	Applicable Size	Fig	Flat Insert Screw	N·m	Wrench (For Torx hole)
APM10-SVJC R1103J	●	11.9	22	13.5	10	0	106	VC□T1103	10	1	BFTX02508NV	1.5	TRX08(*)
APM12-SVJC R1103J	●	13.9	22	16.0	12	0	106		12	1			
APM16-SVJC R1103J	●	17.9	22	20.0	16	0	106		16	1			

Refer to shank selection on P6 for applicable shank. * Wrenches are sold separately from heads.

New | Positive | External | V 35° | 93° | Zero Offset | Indexable Head | Internal Coolant

External Turning
Screw-on, Internal Coolant Supply

SVJP

General Turning and Profiling

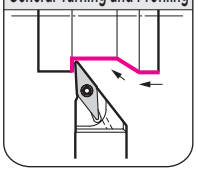


Fig 1

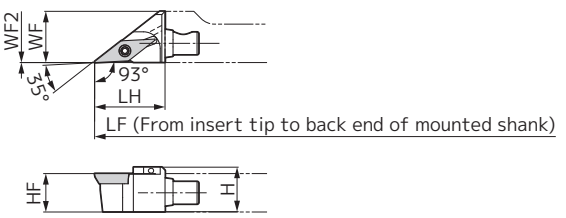


Figure shows right-handed (R) tool.

SumiSmall
General Catalogue Inserts Stock Page

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Applicable Insert Cat. No.	Applicable Size	Fig	Flat Insert Screw	N·m	Wrench (For Torx hole)
APM10-SVJP R1103J	●	11.9	22	13.5	10	0	106	VP□T1103	10	1	BFTX02508NV	1.5	TRX08(*)
APM12-SVJP R1103J	●	13.9	22	16.0	12	0	106		12	1			
APM16-SVJP R1103J	●	17.9	22	20.0	16	0	106		16	1			

Refer to shank selection on P6 for applicable shank.
* Wrenches are sold separately from heads.

Refer to the chapter on "Indexable Inserts" in the General Catalogue for applicable inserts.

● mark: Standard stocked item (N·m) Recommended Tightening Torque (N·m)

APM series

New | Negative | External | T 60° | 90° | Zero Offset | Indexable Head | Internal Coolant

External Turning
Lever Lock, Internal Coolant Supply

PTGN
External Turning

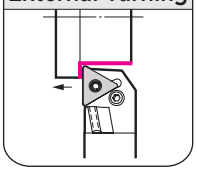


Fig 1

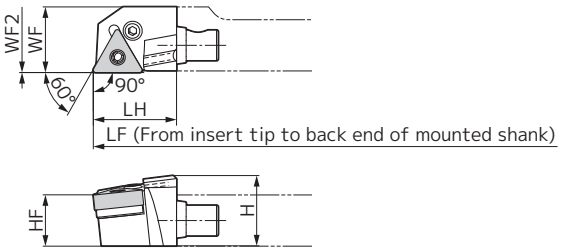


Figure shows right-handed (R) tool.

SumiSmall
General Catalogue Inserts Stock Page

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Applicable Insert Cat. No.	Applicable Size	Fig	Lever Pin	Bolt	Bolt N·m	Shim	Shim Retainer	Wrench (For hexagonal hole)
APM16-PTGN R1604J	●	22	26	20.5	16	0.5	110	TN□□1604	16	1	LCL3APM	LCS3APM	3.5	LST317APM	LSP3APM	LH025(*)

Refer to shank selection on P6 for applicable shank.
* Wrenches are sold separately from heads.

Refer to the chapter on "Indexable Inserts" in the General Catalogue for applicable inserts.
● mark: Standard stocked item (N·m) Recommended Tightening Torque (N·m)

New | External | Back Turning | Indexable Head | Internal Coolant

Back Turning
Screw-on, Internal Coolant Supply

SBT
Back Turning

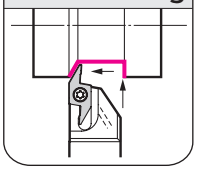


Fig 1

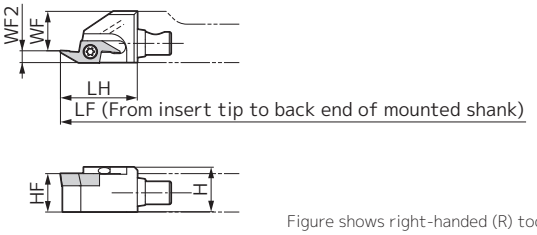


Figure shows right-handed (R) tool.

SumiSmall

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Applicable Insert Cat. No.	Applicable Size	Fig	Flat Insert Screw	N·m	Wrench (For Torx hole)
APM10-SBT R-35J	●	11.9	22	11.0	10	2.5	106	BTR35○○	10	1	BFTX0307N	2.0	TRX10(*)
APM12-SBT R-35J	●	13.9	22	13.5	12	2.5	106		12	1			
APM16-SBT R-35J	●	17.9	22	17.5	16	2.5	106		16	1			
APM10-SBT R-55J	●	11.9	22	9.8	10	3.7	106	BTR55○○	10	1	BFTX0307N	2.0	TRX10(*)
APM12-SBT R-55J	●	13.9	24	12.3	12	3.7	108		12	1			
APM16-SBT R-55J	●	17.9	24	16.3	16	3.7	108		16	1			
APM12-SBT R-80J	●	13.9	30	10.8	12	5.2	114	BTR80○○	12	1	BFTX0307N	2.0	TRX10(*)
APM16-SBT R-80J	●	17.9	30	14.8	16	5.2	114		16	1			

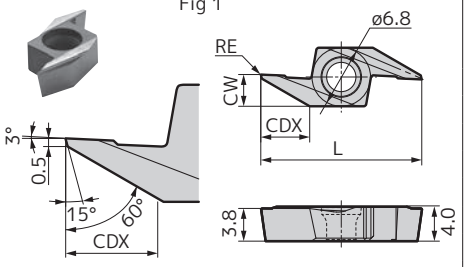
Refer to shank selection on P6 for applicable shank.
* Wrenches are sold separately from heads.

Insert (Coated Carbide / DLC / Cermet)

Dimensions (mm)

Cat. No.	AC5015S	AC5025S	AC1030U	AC530U	ACZ150	DL1500	T1500A	Overall Length L	Maximum Depth of Cut CDX	Width of Cut CW	Corner Radius RE	Applicable Head	Fig
BT R3505	●	●	●	●	●	●	●	15	3.5	2.5	0.05	APM○○-SBTR-35J	1
BT R3508 New	●	●	●			●	●	15	3.5	2.5	0.08		1
BT R3515	●	●	●	●	●	●	●	15	3.5	2.5	0.15		1
BT R5505	●	●	●	●	●	●	●	19	5.5	3.7	0.05	APM○○-SBTR-55J	1
BT R5508 New	●	●	●			●	●	19	5.5	3.7	0.08		1
BT R5515	●	●	●	●	●	●	●	19	5.5	3.7	0.15		1
BT R8005	●	●	●	●	●		—	24	8.0	5.2	0.05	APM○○-SBTR-80J	1
BT R8008 New	●	●	●				—	24	8.0	5.2	0.08		1
BT R8015	●	●	●	●	●		—	24	8.0	5.2	0.15		1

Fig 1



Recommended Cutting Conditions

Work Material	P Free-Cutting Steel		P Carbon Steel		M Stainless Steel		S Exotic Alloy		N Non-Ferrous Metal	
Tooling	Plunging	Traverse Cut	Plunging	Traverse Cut	Plunging	Traverse Cut	Plunging	Traverse Cut	Plunging	Traverse Cut
Tool Grades	AC1030U/ACZ150 T1500A		AC1030U/AC530U/ACZ150 T1500A		AC1030U/AC5015S/AC5025S AC530U/ACZ150		AC5015S AC5025S		DL1500	
Cutting Speed vc (m/min)	50 to 150		50 to 150		50 to 150		20 to 80		150 to 300	
Feed Rate f (mm/rev)	0.02 to 0.10	0.02 to 0.15	0.02 to 0.05	0.02 to 0.10	0.02 to 0.04	0.02 to 0.06	0.01 to 0.03	0.01 to 0.04	0.02 to 0.05	0.02 to 0.10

● mark: Standard stocked item ● mark: Standard stocked item (expanded item) — mark: Not available Blank: Made-to-order item N·m Recommended Tightening Torque (N·m)

New | External | Grooving | Threading | Zero Offset | Indexable Head | Internal Coolant

External Shallow Grooving
Screw-on

GWC
External Grooving

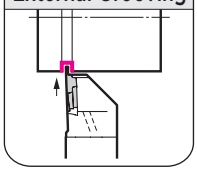


Fig 1

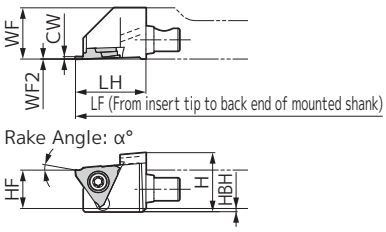
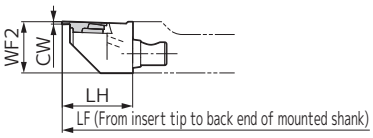


Fig 2



SumiSmall

Head

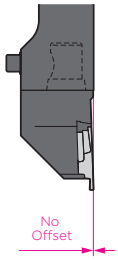
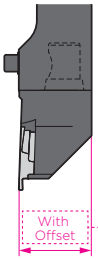
Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Step HBH	Offset WF2	Overall Length LF	Width of Cut CW	Maximum Groove Depth	Applicable Size	Applicable Insert Cat. No.	Fig	Flat Insert Screw	N·m	Wrench (For Torx hole)
APM10-GWC R-R3J	●	18.3	20	13.5	10	3	0	104	0.33 to 3.00	0.8 to 2.5	10		1			
APM12-GWC R-R3J	●	18.4	22	16.0	12	1	0	106	0.33 to 3.00	0.8 to 2.5	12	TGAR3···	1	BFTX0409N	**3.4**[*1]	TRX15(*2)
APM16-GWC R-R3J	●	21.4	22	20.0	16	—	0	106	0.33 to 3.00	0.8 to 2.5	16		1			
APM10-GWC R13.5-L3J	●	18.3	20	—	10	3	13.5	104	0.33 to 3.00	0.8 to 2.5	10		2			
APM12-GWC R16-L3J	●	18.4	22	—	12	1	16.0	106	0.33 to 3.00	0.8 to 2.5	12	TGAL3···	2	BFTX0409N	**3.4**[*1]	TRX15(*2)
APM16-GWC R20-L3J	●	21.4	22	—	16	—	20.0	106	0.33 to 3.00	0.8 to 2.5	16		2			

Refer to shank selection on P6 for applicable shank. Refer to P13 for applicable inserts.
*1 Cermet inserts have a recommended tightening torque of 4N·m.
Right-handed (part number suffix: -R3J) heads are used with right-handed (R) inserts.
*2 Wrenches are sold separately from heads.

Selecting GWC series Heads

Integrated Holder	Right-handed (R)	Left-handed (L)
APM series	Right-handed (R) **No** Offset	Right-handed (R) **With** Offset
APM series Shank	**APM-R○○X84J** (Common)	
GWC series Head	**APM○○-GWC R-R3J**	**APM○○-GWC R○○○-L3J** (Offset Dimensions)
Applicable Insert	**TGA R3○○○**	**TGA L3○○○**
GWC series Head Mounted Appearance	 Shank: Common Head: No Offset, Right-handed Insert: Right-handed No Offset	 Shank: Common Head: With Offset, Right-handed Insert: Left-handed With Offset

Rake Angle When Mounted on the Head (α°)

Coated Carbide	Carbide	DLC	Coated Cermet	Cermet
AC5015S AC5025S AC530U	H1	DL1500	T2500Z	T1500A
10°	20°	10°	10°	5°

● mark: Standard stocked item (N·m) Recommended Tightening Torque (N·m)

Fig 1 (Grooving)

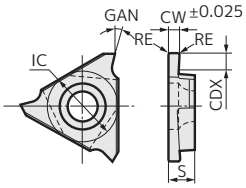


Fig 2 (Threading)

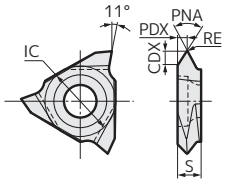


Figure shows right-handed (R) tool.

Rake Angle by Grade (Grooving)

Grade		Cutting Edge Shape	GAN
Coated Carbide	AC5015S	Honing	15°
Coated Carbide	AC5025S	Honing	15°
Coated Carbide	AC530U	Honing	15°
Carbide	H1	Sharp Edged	25°
DLC	DL1500	Sharp Edged	25°
Coated Cermet	T2500Z	Honing	15°
Cermet	T1500A	Sharp Edged	10°

* For the rake angle when mounted on the head, refer to P12.

Insert (Grooving) (Coated Carbide / Cemented Carbide / DLC / Cermet)

Dimensions (mm)

Cat. No.*1	AC5015S		AC5025S		AC530U		H1		DL1500		T2500Z		T1500A		Width of Cut	Maximum Groove Depth	Corner Radius	Inscribed Circle	Thickness	Applicable Head	Fig
	R	L	R	L	R	L	R	L	R	L	R	L	R	L	CW	CDX	RE	IC	S		
TGA R/L3033(E)					●	●	●	●			●	●	●	●	**0.33**	**0.8**	0.05	9.525	3.18		1
TGA R/L3043(E) New					●	●							●	●	**0.43**	**0.8**	0.05	9.525	3.18		1
TGA R/L3050(E)					●	●	●	●	●	●	●	●	●	●	**0.50**	**1.2**	0.05	9.525	3.18		1
TGA R/L3053(E) New					●	●							●	●	**0.53**	**1.2**	0.05	9.525	3.18		1
TGA R/L3065(E) New					●	●							●	●	**0.65**	**1.2**	0.05	9.525	3.18		1
TGA R/L3075(E)					●	●	●	●	●	●	●	●	●	●	**0.75**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3080(E) New					●	●							●	●	**0.80**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3095(E)					●	●	●	●			●	●	●	●	**0.95**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3100(E)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	**1.00**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3110(E)	●	●	●	●	●	●					●	●	●	●	**1.10**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3120(E) New					●	●							●	●	**1.20**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3125(E)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	**1.25**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3130(E) New					●	●							●	●	**1.30**	**2.0**	0.1*2	9.525	3.18	APMOO-GWCR-R3J	1
TGA R/L3135(E)					●	●					●	●	●	●	**1.35**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3140(E) New					●	●							●	●	**1.40**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3145(E)					●	●	●	●			●	●	●	●	**1.45**	**2.0**	0.1*2	9.525	3.18	APMOO-GWCR···-L3J	1
TGA R/L3150(E)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	**1.50**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3160(E) New					●	●							●	●	**1.60**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3165(E)					●	●					●	●	●	●	**1.65**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3175(E)					●	●					●	●	●	●	**1.75**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3185(E)					●	●	●	●			●	●	●	●	**1.85**	**2.0**	0.1*2	9.525	3.18		1
TGA R/L3200(E)	●	●	●	●	●	●	●	●	●	●	●	●	●	●	**2.00**	**2.5**	0.1*2	9.525	3.18		1
TGA R/L3220(E)					●	●					●	●	●	●	**2.20**	**2.5**	0.1*2	9.525	3.18		1
TGA R/L3230(E)					●	●	●	●			●	●	●	●	**2.30**	**2.5**	0.1*2	9.525	3.18		1
TGA R/L3250(E)					●	●	●	●			●	●	●	●	**2.50**	**2.5**	0.1*2	9.525	3.18		1
TGA R/L3265(E)					●	●					●	●	●	●	**2.65**	**2.5**	0.1*2	9.525	3.18		1
TGA R/L3270(E)					●	●					●	●	●	●	**2.70**	**2.5**	0.1*2	9.525	3.18		1
TGA R/L3280(E)					●	●					●	●	●	●	**2.80**	**2.5**	0.1*2	9.525	3.18		1
TGA R/L3300(E) New	●	●	●	●	●	●			●	●			●	●	**3.00**	**2.5**	0.1*2	9.525	3.18		1

*1 Add E as the part number suffix for T1500A. Right-handed (R) inserts are used with right-handed (part number suffix: -R3J) heads.
*2 T1500A is RE = 0.2

Recommended Cutting Conditions

Work Material	P General Steel			M Stainless Steel		S Exotic Alloy	N Non-Ferrous Metal	
Tool Grades	AC530U	T2500Z	T1500A	AC5015S AC5025S	AC530U	AC5015S AC5025S	H1	DL1500
Cutting Speed vc (m/min)	50 to 200	100 to 180	100 to 180	50 to 200	50 to 200	20 to 80	up to 300	up to 300
Feed Rate f (mm/rev)	0.02 to 0.10	0.05 to 0.10	0.05 to 0.08	0.02 to 0.10	0.02 to 0.10	0.01 to 0.03	0.05	0.15

Insert (60°/55° General Screw for Threading) (Coated Carbide / DLC / Cermet)

Dimensions (mm)

Cat. No.	AC5015S		AC5025S		AC1030U		DL1500		T1500A		Pitch		Corner Radius	X Direction	Depth of Cut	Included Angle	Inscribed Circle	Thickness	Applicable Head	Fig
	R	L	R	L	R	L	R	L	R	L	mm	Threads/Inch	RE	PDX	CDX	PNA	IC	S		
TTE R/L36002075	●	●	●	●	●	●	●	●	●	●	0.20 to 0.75	80 to 32	0.05	0.55	0.65	**60**	9.525	3.18	APMOO-GWCR-R3J	2
TTE R/L36005125	●	●	●	●	●	●	●	●	●	●	0.50 to 1.25	56 to 20	0.05	1.00	1.30	**60**	9.525	3.18		2
TTE R/L3601015	●	●	●	●	●	●	●	●	●	●	1.00 to 1.50	24 to 16	0.10	1.30	1.80	**60**	9.525	3.18		2
TTE R/L3601530	●	●	●	●	●	●	●	●	●	●	1.50 to 3.00	16 to 8	0.20	1.70	2.40	**60**	9.525	3.18	APMOO-GWCR···-L3J	2
TTE R/L3554816	●	●	●	●	●	●	●	●	●	●	—	48 to 16	0.05	1.00	1.50	**55**	9.525	3.18		2
TTE R/L3552008	●	●	●	●	●	●	●	●	●	●	—	20 to 8	0.10	1.50	2.40	**55**	9.525	3.18		2

Right-handed (R) inserts are used with right-handed (part number suffix: -R3J) heads.

● mark: Standard stocked item ● mark: Standard stocked item (expanded item) Blank: Made-to-order item

New | External | Grooving | Zero Offset | Indexable Head | Internal Coolant

* For traverse cutting (groove expansion), use a multi-functional or profiling insert.

For Small Lathes, External Multi-Functional (Grooving, Traverse Cutting and Profiling) Clamp-on

GNDM

External Grooving (for Small Lathes)

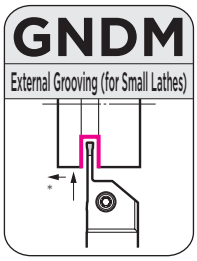


Fig 1

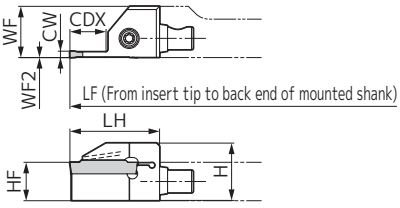
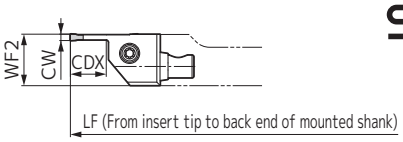


Fig 2



SumiSmall

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Width of Cut CW	Maximum Groove Depth CDX	Max. Cut-off Dia.	Applicable Size	Fig	Flat Insert Screw	N·m	Wrench
APM16-GNDMR-213J	●	21.9	**28.5**	20	16	0	112	**2.00**	**13.0**	**26**	16	1	BX0515	**4.0**	LH040(*)
APM16-GNDMR-313J	●	21.9	**28.5**	20	16	0	112	**3.00**	**13.0**	**26**	16	1			
APM16-GNDMR20-213J	●	21.9	**28.5**	—	16	20	112	**2.00**	**13.0**	**26**	16	2			
APM16-GNDMR20-313J	●	21.9	**28.5**	—	16	20	112	**3.00**	**13.0**	**26**	16	2			

Refer to shank selection on P6 for applicable shank. Select heads and inserts with matching width of cut CW.
Refer to P15 for applicable inserts. Refer to P16 for head feed direction selection. * Wrenches are sold separately from heads.
The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to P16.

New | External | Grooving | Zero Offset | Indexable Head | Internal Coolant

External Deep Grooving & Cut-off Clamp-on

GNDL

External Grooving (for Small Lathes)

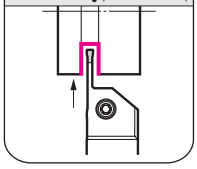


Fig 1

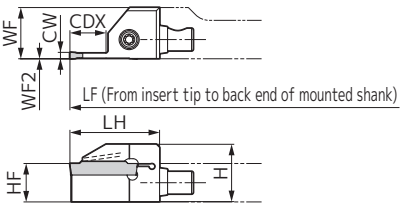
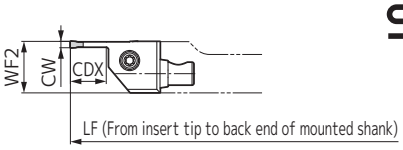


Fig 2



SumiSmall

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height H	Head LH	Cutting Edge Distance WF	Cutting Edge Height HF	Offset WF2	Overall Length LF	Width of Cut CW	Maximum Groove Depth CDX	Max. Cut-off Dia.	Applicable Size	Fig	Flat Insert Screw BFTX0412N / BX0515	N·m	Wrench LT15-10(*) / LH040(*)
APM10-GNDLR-1.2509J	○	13.9	22	13.5	10	0	106	**1.25**	**9.0**	**18**	10	1	BFTX0412N	**3.0**	LT15-10(*)
APM10-GNDLR-1.509J	○	13.9	22	13.5	10	0	106	**1.50**	**9.0**	**18**	10	1			
APM10-GNDLR-209J	●	13.9	22	13.5	10	0	106	**2.00**	**9.0**	**18**	10	1			
APM10-GNDLR-309J	●	13.9	22	13.5	10	0	106	**3.00**	**9.0**	**18**	10	1			
APM10-GNDLR13.5-1.2509J	○	13.9	22	—	10	13.5	106	**1.25**	**9.0**	**18**	10	2			
APM10-GNDLR13.5-1.509J	○	13.9	22	—	10	13.5	106	**1.50**	**9.0**	**18**	10	2			
APM10-GNDLR13.5-209J	●	13.9	22	—	10	13.5	106	**2.00**	**9.0**	**18**	10	2			
APM10-GNDLR13.5-309J	●	13.9	22	—	10	13.5	106	**3.00**	**9.0**	**18**	10	2			
APM12-GNDLR-1.2512J	○	17.9	28	16	12	0	112	**1.25**	**12.0**	**24**	12	1	BFTX0412N	**3.0**	LT15-10(*)
APM12-GNDLR-1.512J	○	17.9	28	16	12	0	112	**1.50**	**12.0**	**24**	12	1			
APM12-GNDLR-213J	●	17.9	28	16	12	0	112	**2.00**	**13.0**	**26**	12	1			
APM12-GNDLR-313J	●	17.9	28	16	12	0	112	**3.00**	**13.0**	**26**	12	1			
APM12-GNDLR16-1.2512J	○	17.9	28	—	12	16	112	**1.25**	**12.0**	**24**	12	2			
APM12-GNDLR16-1.512J	○	17.9	28	—	12	16	112	**1.50**	**12.0**	**24**	12	2			
APM12-GNDLR16-213J	●	17.9	28	—	12	16	112	**2.00**	**13.0**	**26**	12	2			
APM12-GNDLR16-313J	●	17.9	28	—	12	16	112	**3.00**	**13.0**	**26**	12	2			
APM16-GNDLR-1.2512.5J	○	21.9	**28.5**	20	16	0	117	**1.25**	**12.5**	**25**	16	1	BX0515	**4.0**	LH040(*)
APM16-GNDLR-1.512.5J	○	21.9	**28.5**	20	16	0	117	**1.50**	**12.5**	**25**	16	1			
APM16-GNDLR-216J	●	21.9	33	20	16	0	117	**2.00**	**16.0**	**32**	16	1			
APM16-GNDLR-316J	●	21.9	33	20	16	0	117	**3.00**	**16.0**	**32**	16	1			
APM16-GNDLR20-1.2512.5J	○	21.9	**28.5**	—	16	20	117	**1.25**	**12.5**	**25**	16	2			
APM16-GNDLR20-1.512.5J	○	21.9	**28.5**	—	16	20	117	**1.50**	**12.5**	**25**	16	2			
APM16-GNDLR20-216J	●	21.9	33	—	16	20	117	**2.00**	**16.0**	**32**	16	2			
APM16-GNDLR20-316J	●	21.9	33	—	16	20	117	**3.00**	**16.0**	**32**	16	2			

Refer to shank selection on P6 for applicable shank. Select heads and inserts with matching width of cut CW.
Refer to P15 for applicable inserts. Refer to P16 for head feed direction selection. * Wrenches are sold separately from heads.
The maximum groove depth CDX is the figure during grooving. For maximum depth of cut during traverse cutting and profiling, refer to P16.

Note: Cat. Nos. and dimensions in red have changed from those in Tooling News No. 551 APM series.

● mark: Standard stocked item (expanded item) ○ mark: Planned stock (around spring 2025) N·m Recommended Tightening Torque (N·m)

Inserts for GNDM-J type / GNDL-J type

(Coated Carbide / Cermet / Cemented Carbide / DLC)

Fig 1

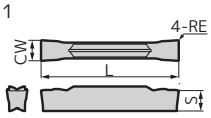


Fig. 2 (Figure shows right-handed (R) tool.)

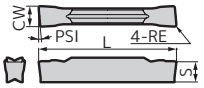


Fig 3

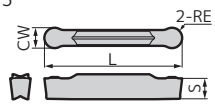
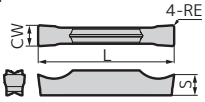


Fig 4



Grooving / Traverse Cutting

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
										Width of Cut	Tolerance	RE	L	S		
GCM N3002-MG	●	●		●	●	●		●	—	3.0	±0.03	0.2	21.1	3.8	5	1
N3004-MG	●	●	●	●	●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8		1
GCM N2002-ML	—	—	—	—	●	●	●	●	—	2.0	±0.03	0.2	21.1	3.6		1
GCM N3002-ML	●	●	●	●	●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8	5	1
N3004-ML	●	●		●	●	●		●	●	3.0	±0.03	0.4	21.1	3.8		1

Grooving / Cut-off

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
										Width of Cut	Tolerance	RE	L	S		
GCM N2002-GG		●	●		●	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
GCM N3002-GG		●	●		●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		1
N3004-GG		●	●		●	●	●	●	—	3.0	±0.03	0.4	21.1	3.8		1
GCM N2002-GL		●	●		●	●	●	●	—	2.0	±0.03	0.2	21.1	3.6	5	1
N2004-GL		●			●	●		●	—	2.0	±0.03	0.4	21.1	3.6		1
GCM N3002-GL		●	●		●	●	●	●	—	3.0	±0.03	0.2	21.1	3.8		1
N3004-GL		●			●	●		●	—	3.0	±0.03	0.4	21.1	3.8		1
GCM N125005-GF	—	—	—	—	—	—	—	●	—	1.25	±0.03	0.05	17.4	3.2	5	1
GCM N150005-GF	—	—	—	—	—	—	—	●	—	1.5	±0.03	0.05	17.8	3.7		1
GCM N2002-GF	—	—	—	—	●	●		●	●	2.0	±0.03	0.2	21.1	3.6		1
N2004-GF	—	—	—	—	●	●		●	●	2.0	±0.03	0.4	21.1	3.6		1
GCM N3002-GF		●	●		●	●	●	●	●	3.0	±0.03	0.2	21.1	3.8		1
N3004-GF		●			●	●		●	●	3.0	±0.03	0.4	21.1	3.8		1

Cut-off (Handed Edge)

Dimensions (mm)

Cat. No.	AC8035P	AC830P	AC5015S	AC5025S	AC520U	AC530U	AC1030U	Lead Angle	Width of Cut CW		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
								PSI	Width of Cut	Tolerance	RE	L	S		
GCM R2002-CG-05	●	●	●	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6	5	2
GCM L2002-CG-05	●	●	●	●	●	●	—	5°	2.0	±0.03	0.2	21.1	3.6		2
GCM R3002-CG-05	●	●	●	●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8		2
GCM L3002-CG-05	●	●	●	●	●	●	—	5°	3.0	±0.03	0.2	21.3	3.8		2
GCM R20003-CF-10	—	—	●	●	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6	5	2
GCM L20003-CF-10	—	—	●	●	—	—	●	10°	2.0	±0.08	0.03	22.4	3.6		2
GCM R30003-CF-10	—	—	●	●	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		2
GCM L30003-CF-10	—	—	●	●	—	—	●	10°	3.0	±0.08	0.03	22.4	3.8		2
GCM R20003-CF-15	—	—	●	●	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		2
GCM L20003-CF-15	—	—	●	●	—	—	●	15°	2.0	±0.08	0.03	22.4	3.6		2
GCM R30003-CF-15	—	—	●	●	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		2
GCM L30003-CF-15	—	—	●	●	—	—	●	15°	3.0	±0.08	0.03	22.4	3.8		2

GCMR: Right-handed, GCML: Left-handed

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut CW		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
										Width of Cut	Tolerance	RE	L	S		
GCM N3015-RG	●	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	21.1	3.8	5	3

Profiling / Radius Grooving / Necking

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	Width of Cut CW		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
									Width of Cut	Tolerance	RE	L	S		
GCM N2010-RN	—	—	—	—	●	●	●	●	2.0	±0.03	1.0	21.7	3.6	5	3
N3015-RN	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8		3

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	DL1500							Width of Cut CW		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
									Width of Cut	Tolerance	RE	L	S		
GCG N2002-GA	●	●							2.0	±0.025	0.2	21.1	3.6	5	4
N3002-GA	●	●							3.0	±0.025	0.2	21.1	3.8		4

Part Number Suffix Code (Chipbreakers)

Type	Symbol	Applications
Grooving / Traverse Cutting	MG	Multi-functional / General-purpose
	ML	Multi-functional / Low-feed
Grooving / Cut-off	GG	Grooving / General-purpose
	GL	Grooving / Low-feed
	GF	Grooving / Low cutting force

Type	Symbol	Applications
Cut-off (Handed Edge)	CG	Cut-off / General-purpose
	CF	Cut-off / Low cutting force
External Profiling / External Radius Grooving	RG	Profiling / General-purpose
Profiling / Radius Grooving / Necking	RN	Facing / Necking / General-purpose
For Non-Ferrous Metals	GA	Non-Ferrous Metals / General-purpose

Chipbreaker Selection P17 Recommended Cutting Conditions P16

Select heads and inserts with matching width of cut (CW).

● mark: Standard stocked item ● mark: Standard stocked item (expanded item) Blank: Made-to-order item — mark: Not available

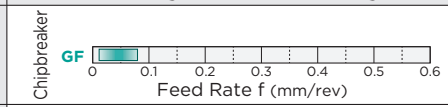
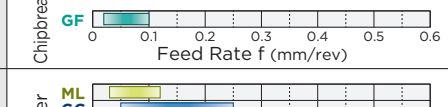
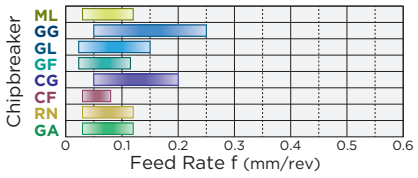
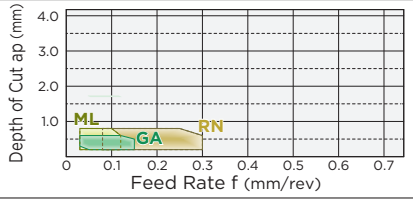
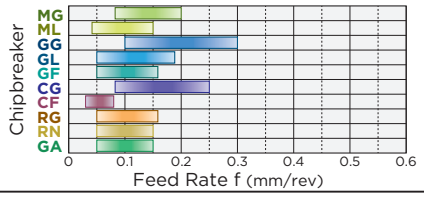
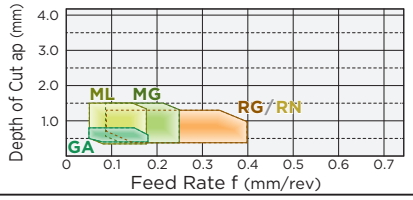
GND series Head Lineup

MG : Multi-functional / General-purpose type　ML : Multi-functional / Low-feed type　GG : Grooving / General-purpose type　GL : Grooving / Low-feed type　GF : Grooving / Low cutting force type
CG : Cut-off / General-purpose type　CF : Cut-off / Low cutting force type　RG : Profiling / General-purpose type　RN : Facing / Necking / General-purpose type　GA : Non-Ferrous Metal / General-purpose type

Type	Shank Size (mm) Height H	Shank Size (mm) Width B	Width of Cut (mm) 1.25	1.5	2	3	4	5	6	7	8	Model	Max. Groove Depth (mm)	Ref. Page	MG	ML	GG	GL	GF	CG	CF	RG	RN	GA
For Small Lathes	10	10	■	■								GNDL-J	9	P14					◎					
					■							GNDL-J	9	P14		○	◎	◎	◎	◎	◎		◎	◎
						■						GNDL-J	9	P14	○	○	◎	◎	◎	◎	◎	◎	○	◎
	12	12	■	■								GNDL-J	12	P14					◎					
					■							GNDL-J	12.5	P14		○	◎	◎	◎	◎	◎		◎	◎
						■						GNDL-J	12.5	P14	○	○	◎	◎	◎	◎	◎	◎	○	◎
	16	16	■	■								GNDL-J	12.5	P14					◎					
					■							GNDM-J	12.5	P14		◎	◎	◎	◎	◎	◎		◎	◎
					■							GNDL-J	16	P14		○	◎	◎	◎	◎	◎		◎	◎
						■						GNDM-J	12.5	P14	◎	◎	◎	◎	◎	◎	◎	◎	○	◎
						■						GNDL-J	16	P14	○	○	◎	◎	◎	◎	◎	◎	○	◎

■ : In Stock　　◎: Best ○: Suitable

GND series Head Recommended Cutting Conditions (Feed Rate / Depth of Cut)

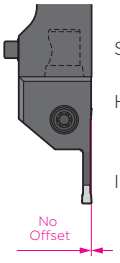
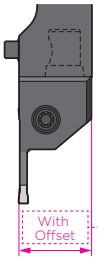
Width of Cut (mm)	Recommended Cutting Conditions: Grooving / Cut-off (Necking)	Recommended Cutting Conditions: Traverse Cutting	Corner Radius (mm)	Applicable Insert
1.25		—	0.05	GF
1.5		—	0.05	GF
2.0			0.03	CF
			0.2	ML GG GL GF CG GA
			0.4	GL GF
			1.0	RN
3.0			0.03	CF
			0.2	MG ML GG GL GF CG GA
			0.4	MG ML GG GL GF
			1.5	RG RN

In cut-off applications, reduce the feed rate to around 30% to 50% near the centre of the workpiece.

GND series Head Recommended Cutting Conditions (Cutting Speed by Work Material)

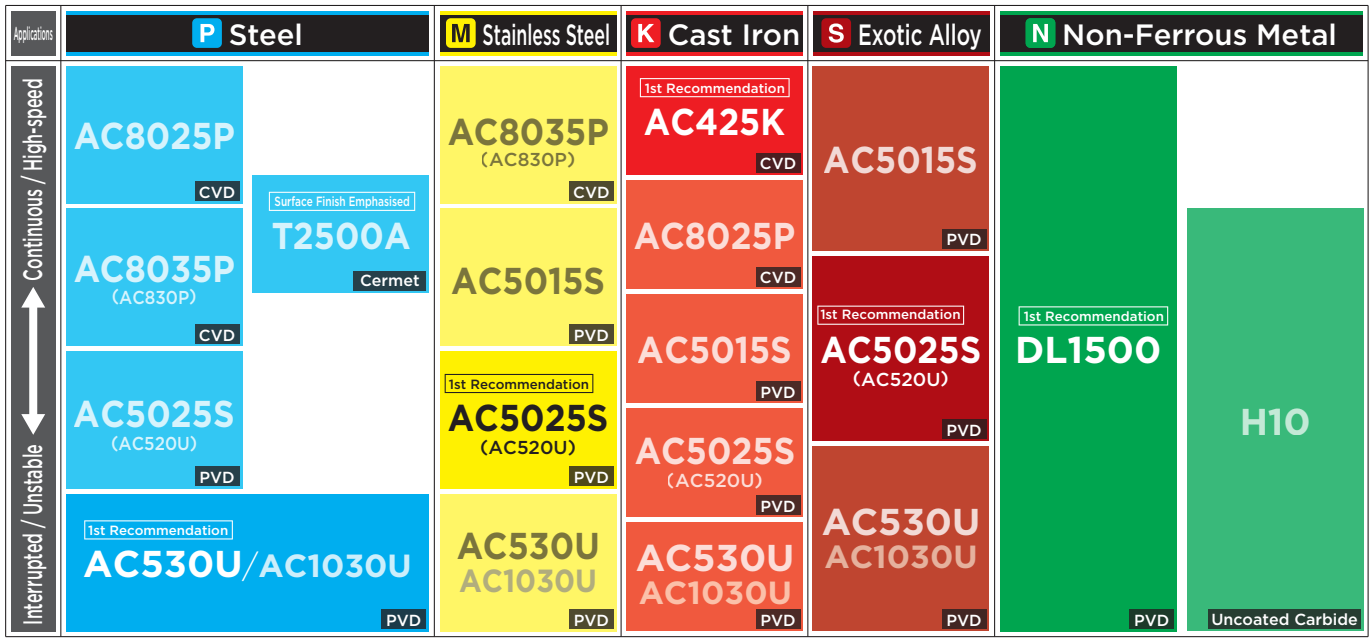
Work Material	P Carbon Steel / Alloy Steel					M Stainless Steel			K Cast Iron				S Exotic Alloy		N Non-Ferrous Metal
Tool Grades	AC8025P	AC8035P AC830P	AC5015S AC520U	AC5025S AC530U AC1030U	T2500A	AC8035P AC830P	AC5015S AC520U	AC5025S AC530U AC1030U	AC8025P	AC425K	AC5015S AC520U	AC5025S AC530U AC1030U	AC5015S AC520U	AC5025S AC530U AC1030U	H10 DL1500
Cutting Speed vc (m/min)	80 to 250	80 to 200	80 to 200	50 to 200	50 to 200	70 to 150	70 to 150	50 to 150	80 to 200	80 to 200	60 to 200	50 to 200	20 to 80	20 to 60	150 to 300

Selecting GND series Heads

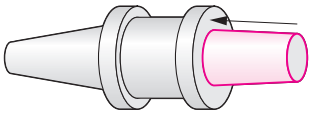
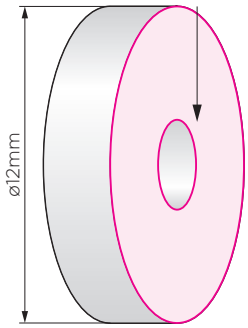
Integrated Holder	Right-handed (R)	Left-handed (L)
APM series	Right-handed (R) **No** Offset	Right-handed (R) **With** Offset
APM series Shank	**APM-R○○X84J** (Common)	
GND series Head	**APM○○-GND□ R-○○○○J**	**APM○○-GND□ R○○○-○○○○J** (Offset Dimensions)
Applicable Insert	Common	
GND series Head Mounted Appearance	 Shank: Common Head: No Offset, Right-handed Insert: Common	 Shank: Common Head: With Offset, Right-handed Insert: Common

Chipbreaker Selection Guide for GND series Head Inserts

Grade Selection Guide for GND series Head Inserts



■ Application Examples

Titanium Alloy Medical Component S	Kovar Semiconductor Component S
Machined surface quality equivalent to integrated type in vibration cutting of titanium alloy 	Realises accuracy equivalent to integrated type in facing 
Shank: APM-R1212X84J Head: APM12-SDJCR11T3J Insert: DCGT11T302 Cutting Conditions: vc = 50m/min f = 0.03mm/rev ap = 1.0mm Vibration Cutting Wet	Shank: APM-R1212X84J Head: APM12-SCLCR09T3J Insert: CCGT09T301 Cutting Conditions: vc = 60m/min f = 0.06mm/rev ap = 0.5mm Wet

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.

Sumitomo Electric Industries, Ltd.

Hardmetal Division

Global Marketing Department : 1-1-1, Koyakita, Itami, Hyogo 664-0016, Japan

https://www.sumitool.com/global

R(2024.8)II 2405 AK/AK