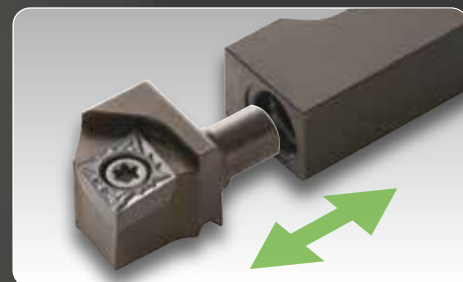


Indexable Head Type Quick Change Tool Holder **APM** type

Sharply reduces changeover time with outstanding change repeatability

Polygon taper shape realises mounting/removal accuracy within 5 μ m



Small Lathe/Autolathe Tool series

SumiSmall

APM type



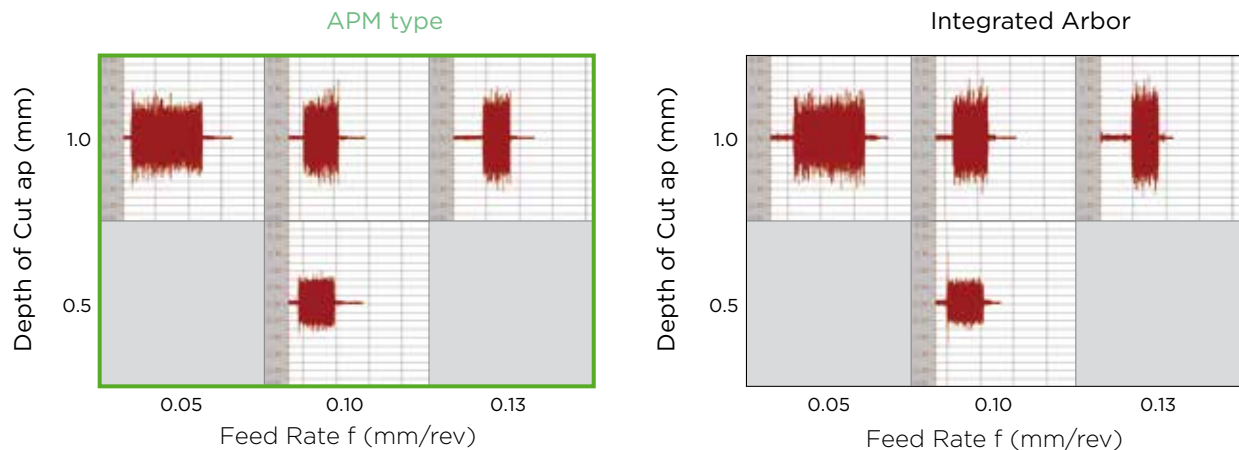
■ Features

- Tool changeover time reduced
Mounting/removal of the head alone improves workability and safety when changing the insert, reducing equipment stop time at changeovers to contribute to increased productivity
- Excellent head change repeatability
High-accuracy polygon taper shape realises change repeatability within 5 μ m
- Lineup including shank sizes of 10, 12, and 16mm supports a wide range of CNC autolathes, etc.
- Supports front turning, back turning, grooving, and cut-off
- Internal coolant supply design, supporting coolant supply without hose

■ Cutting Performance

● Low vibration

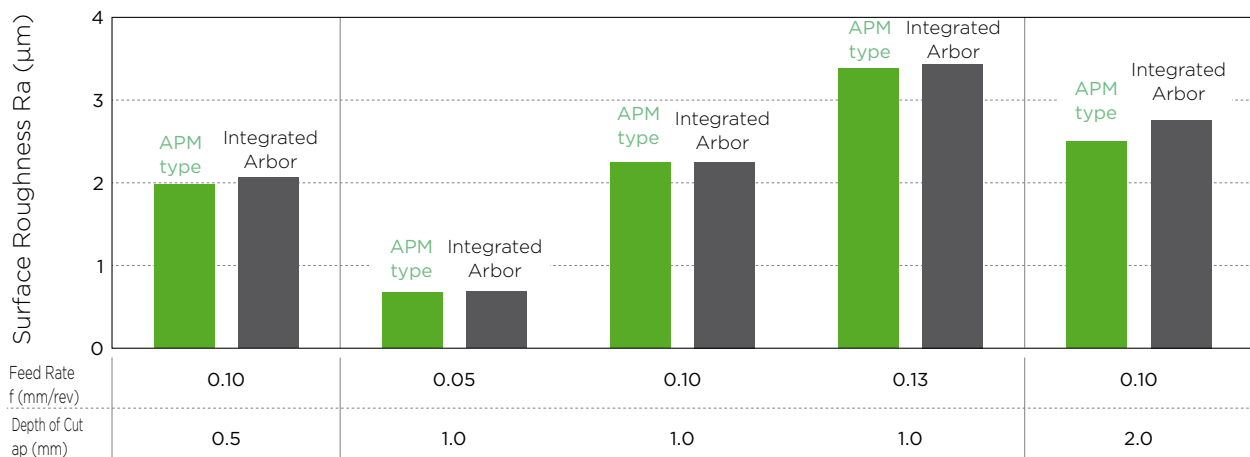
The APM type realises low vibration performance equivalent to that of integrated holders



Work Material: SUS420J2 Tool: Shank: APM-R1212X84J Head: APM12-SDJCR11T3J Insert: DCGT11T302MN-SI (AC1030U)
Cutting Conditions: $v_c = 80\text{m/min}$ $f = 0.05, 0.10, 0.13\text{mm/rev}$ $a_p = 0.5, 1.0\text{mm}$ Wet

● Machined surface roughness

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

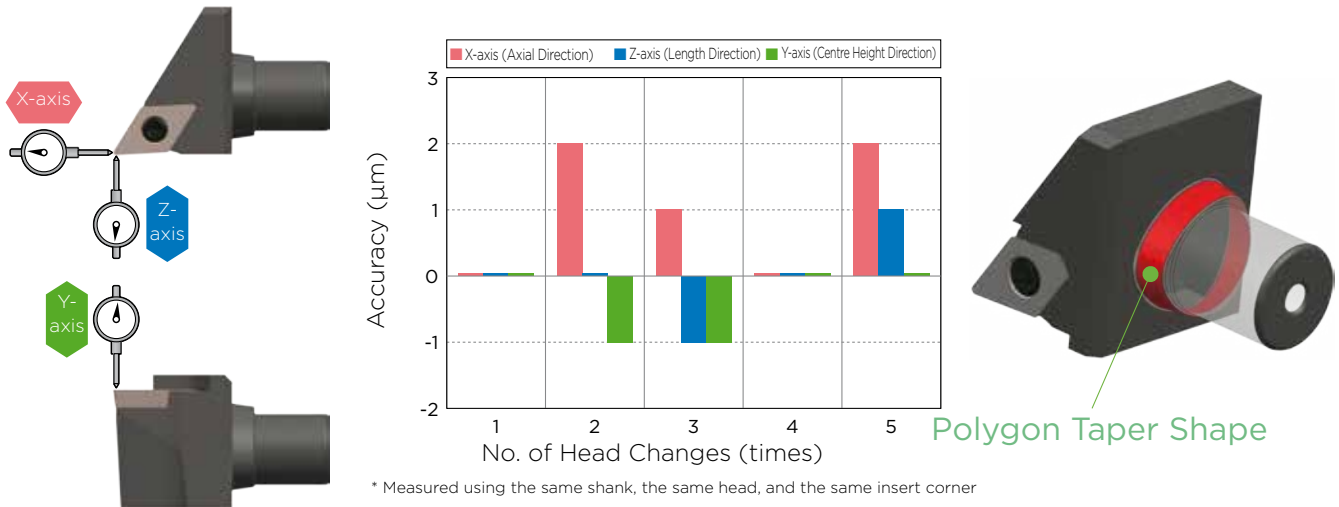


Work Material: SUS420J2 Tool: Shank: APM-R1212X84J Head: APM12-SDJCR11T3J Insert: DCGT11T302MN-SI (AC1030U)
Cutting Conditions: $v_c = 80\text{m/min}$ $f = 0.05, 0.10, 0.13\text{mm/rev}$ $a_p = 0.5, 1.0, 2.0\text{mm}$ Wet

APM type

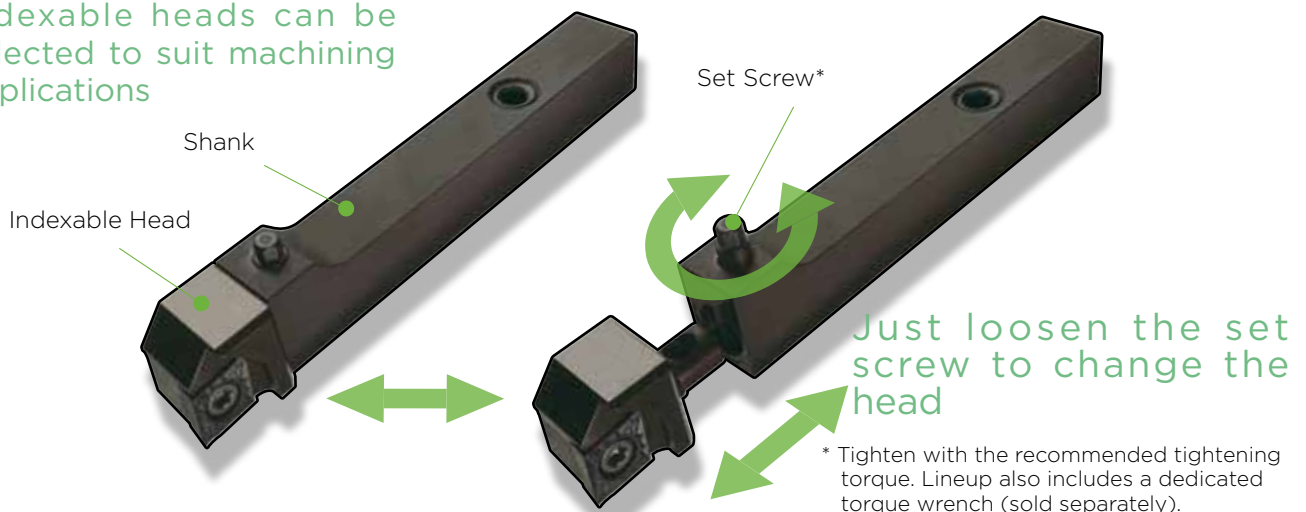
Head Change Repeatability

Polygon taper shape realizes change repeatability within 5 μm



Head Change Structure

Indexable heads can be selected to suit machining applications



APM type Combination Examples

Indexable Head

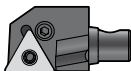
For ISO Turning Inserts

Positive

SCLC type
SDJC type
SVJB type
SVJC type
SVJP type



Negative PTGN type

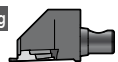


For Dedicated Inserts

Back Turning SBT series



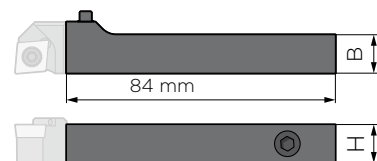
Grooving/Threading GWC series



Grooving/Cut-Off GNDM type GNDL type



Shank



APM-R1010X84J
APM-R1212X84J
APM-R1616X84J

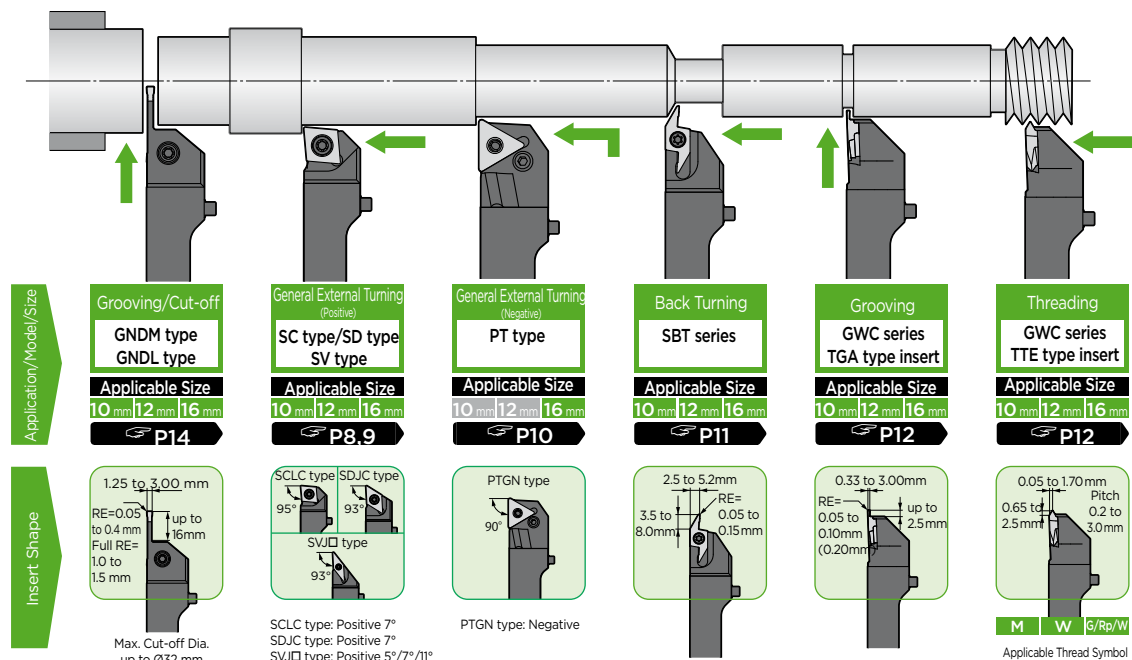
Height H: 10 mm
Height H: 12 mm
Height H: 16 mm

Width B: 10 mm
Width B: 12 mm
Width B: 16 mm

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

APM type

Head Lineup



Tooling Selection

Applications	External Turning				
	General Turning/Facing	General Turning/Profiling	General Turning	Back Turning	
Insert Shape	80° Diamond type (Positive) C	55° Diamond type (Positive) D	35° Diamond type (Positive) A	Triangular type (Negative) I	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 series P12-	 GWC series P12-	—
Clamp-on	—	—	 GNDM type GNDL type P14-

APM type

Quick Change Holder APM type Precautions for Use

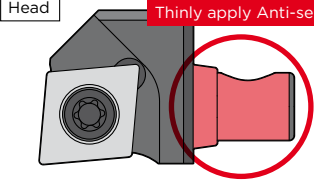
■ Anti-seizure Cream (APM-P)

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

Application Method

Head

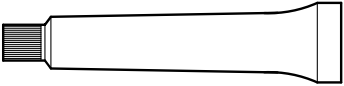
Thinly apply Anti-seizure Cream



After cleaning the head polygon taper and shaft, use a rag, etc. to apply a thin layer of dedicated Anti-seizure Cream APM-P.

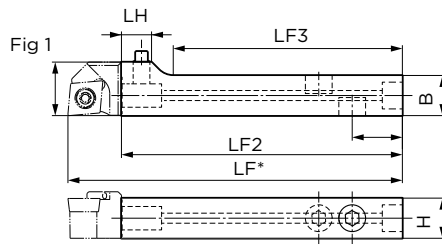
* Anti-seizure Cream (APM-P) has been applied as of shipping.

Anti-seizure Cream

Cat. No.	Stock	
APM-P	●	

Anti-seizure Cream is sold separately.

APM type



Shank

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

Use a suitable combination of the applicable head and shank sizes. * See the head dimensions for dimension LF (set dimensions).

* Torque wrench is sold separately from the main body.

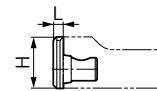
Fig 1



Fig 2



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

H at end: Hex T at end: Torx (sold separately: use a commercially available wrench)

Set Screw Torque Wrench

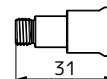
Cat. No.	Stock	Screw Standard	Torque Value (N·m)	Applicable Shank	
TRDRS3530	●	SW3.5	3.0	APM-R1010X84J APM-R1212X84J	 (For hex)
TRDRS4540	●	SW4.5	4.0	APM-R1616X84J	

Torque wrench is sold separately. Dedicated for set screw part number suffix H.

Fig 1



Fig 1

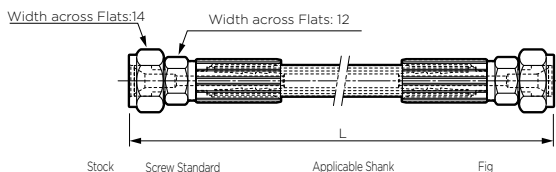


Piping Parts (Plug)

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.

Fig 1



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

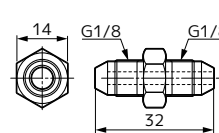
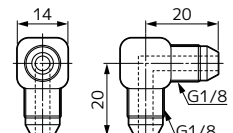


Fig 2



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

Connectors are sold separately.

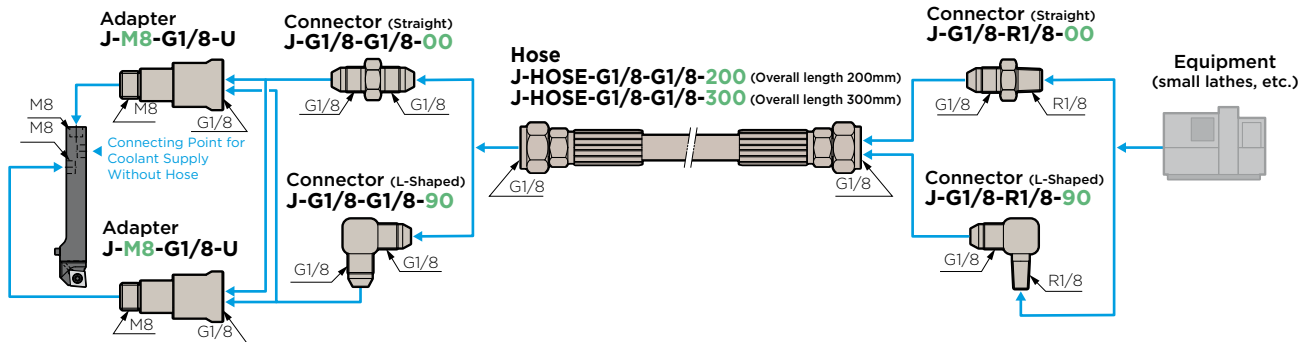
● mark: Standard stocked item  Recommended Tightening Torque (N·m)

APM type

■ Piping Method for Hoses, Connectors, and Adapters

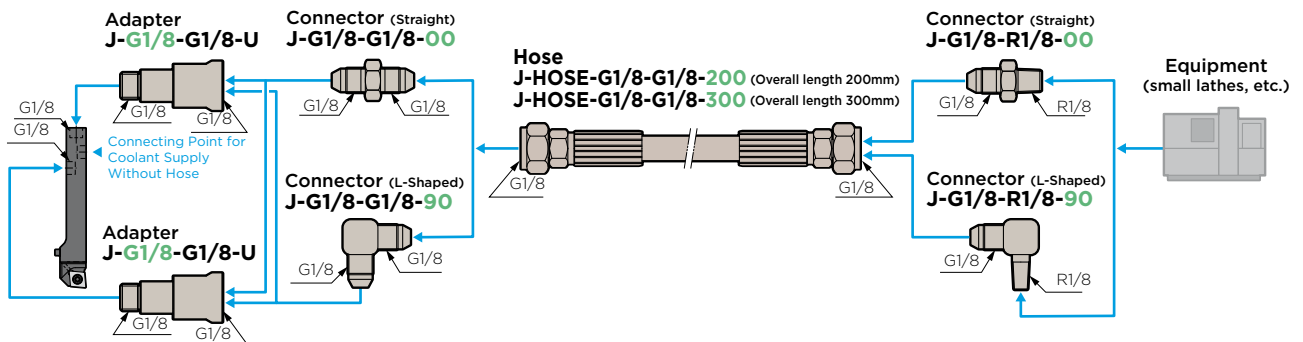
APM type Shank

APM-R1010X84J (10mm square) / **APM-R1212X84J** (12mm square)



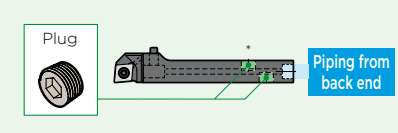
APM type Shank

APM-R1616X84J (16mm square)



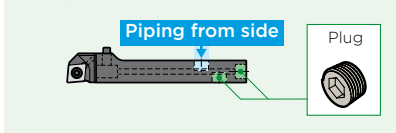
- Use an adapter suited to the equipment specifications.
- Apply sealant such as commercial sealing tape to the piping connection parts.
- For plug mounting when piping, see the figure below. (For Plug Cat. No. 10/12mm square: **APM-M8P**, 16mm square: **APM-G1/8P**)

Piping from back end (at shipping)

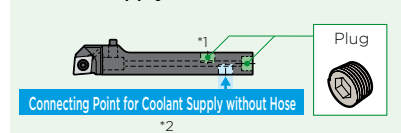


* The plug may protrude a few millimetres when mounted on the side.

Piping from side



Coolant Supply without Hose

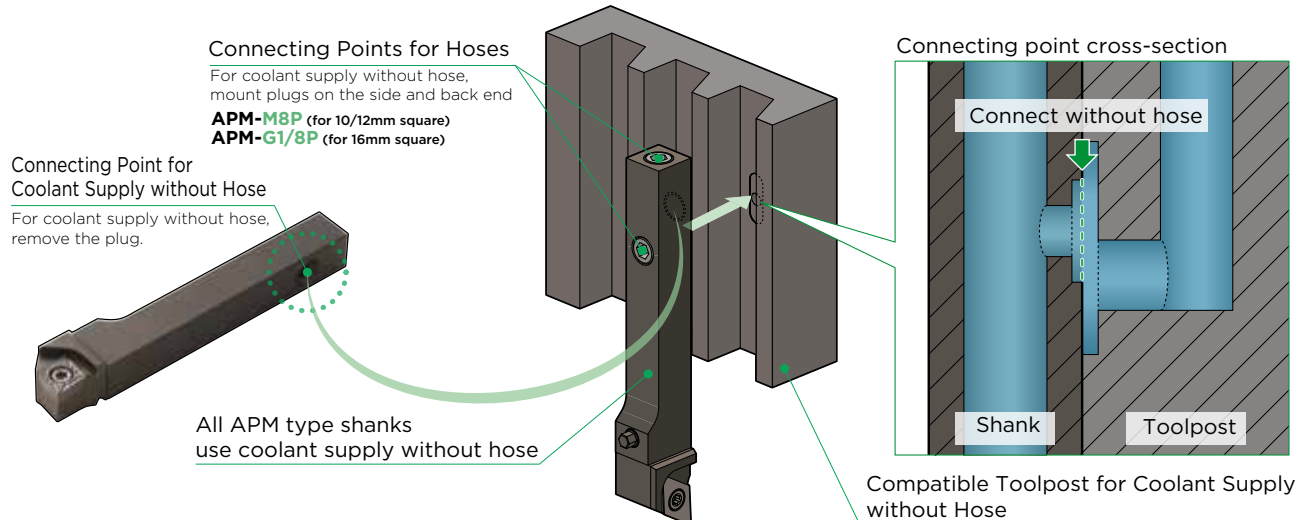


*1 The plug may protrude a few millimetres when mounted on the side.

*2 The plug is mounted at shipping, 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, mount a plug on the end as well.

APM type



External Turning
Screw-on, Internal Coolant Supply

SumiSmall

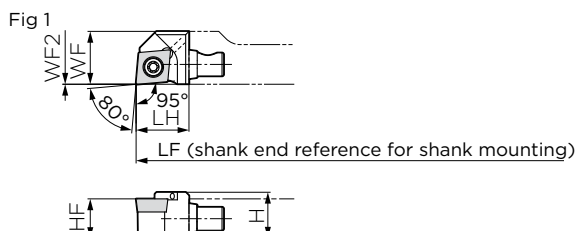
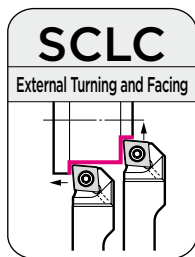


Figure shows right-handed (R) tool.

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		Fig	Flat Insert Screw		Wrench (For Torx hole)
								Cat. No.	Appli- cable Size				
APM10-SCLC R0602J	●	11.9	16	13.5	10	0	100	CC□T0602	10	1			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			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 applicable sizes on P6 for applicable shanks.

* Wrenches are sold separately from heads.



External Turning
Screw-on, Internal Coolant Supply

SumiSmall

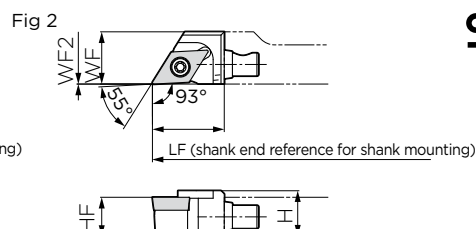
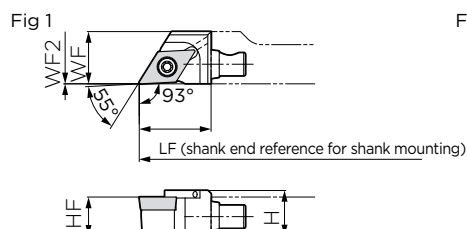
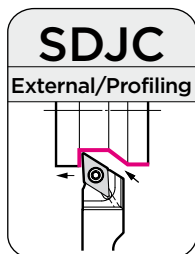


Figure shows right-handed (R) tool.

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		Fig	Flat Insert Screw		Wrench (For Torx hole)
								Cat. No.	Appli- cable Size				
APM10-SDJC R0702J	●	11.9	16	13.5	10	0	100	DC□T0702	10	1			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			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 applicable sizes on P6 for applicable shanks.

* Wrenches are sold separately from heads.

APM type



External Turning
Screw-on, Internal Coolant Supply

SumiSmall

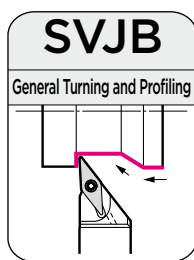


Fig 1

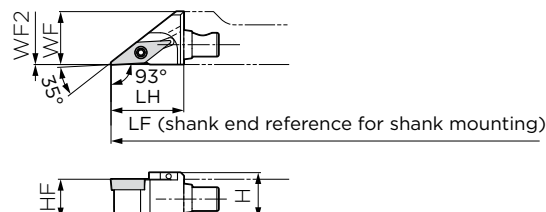


Figure shows right-handed (R) tool.

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		Fig	Flat Insert Screw		Wrench
								Cat. No.	Applicable Size			N·m	
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 applicable sizes on P6 for applicable shanks. * Wrenches are sold separately from heads.



External Turning
Screw-on, Internal Coolant Supply

SumiSmall

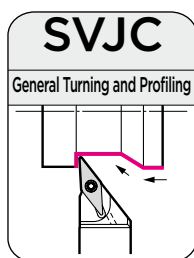


Fig 1

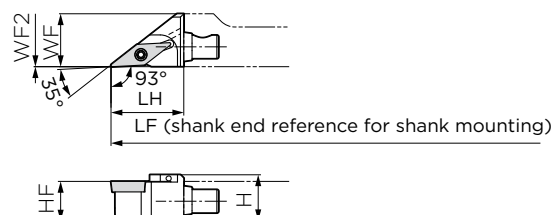


Figure shows right-handed (R) tool.

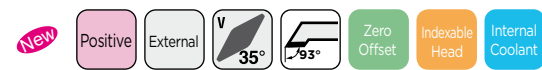
Head

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		Fig	Flat Insert Screw		Wrench
								Cat. No.	Applicable Size			N·m	
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 applicable sizes on P6 for applicable shanks. * Wrenches are sold separately from heads.



External Turning
Screw-on, Internal Coolant Supply

SumiSmall

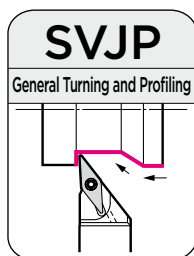


Fig 1

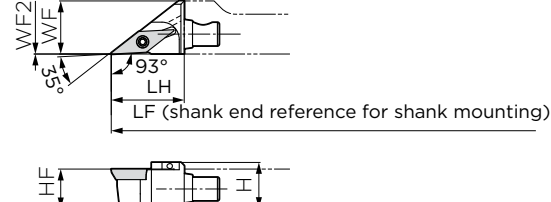


Figure shows right-handed (R) tool.

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		Fig	Flat Insert Screw		Wrench
								Cat. No.	Applicable Size			N·m	
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 applicable sizes on P6 for applicable shanks. * Wrenches are sold separately from heads.

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

APM type



External Turning
Lever Lock, Internal Coolant Supply

Sumi Small

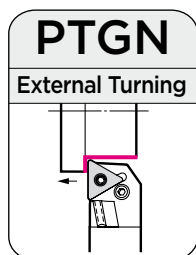


Fig 1

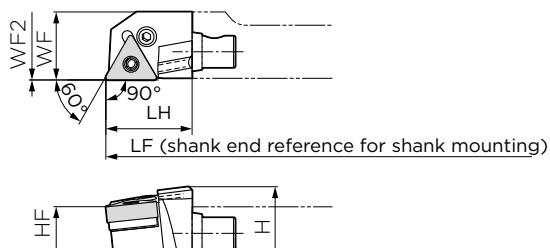


Figure shows right-handed (R) tool.

Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height	Head	Cutting Edge Distance	Cutting Edge Height	Offset	Overall Length	Applicable Insert	Applicable Size	Fig	Lever	Bolt	Tightening Torque	Shim	Shim	Wrench
		H	LH	WF	HF	WF2	LF	Cat. No.					(N·m)			(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 applicable sizes on P6 for applicable shanks. * Wrenches are sold separately from heads.

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

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

APM type



Back Turning
Screw-on, Internal Coolant Supply

SumiSmall

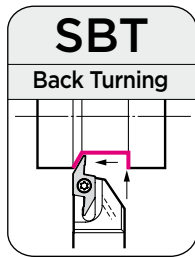


Fig 1

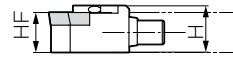
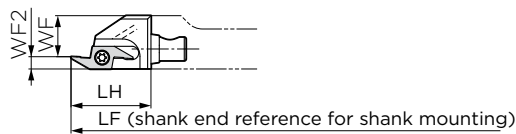


Figure shows right-handed (R) tool.

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		Wrench (For Torx hole)
APM10-SBT R-35J	●	11.9	22	11.0	10	2.5	106	BTR3500	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	BTR5500	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	BTR8000	12	1	BFTX0307N	2.0	TRX10(*)
APM16-SBT R-80J	●	17.9	30	14.8	16	5.2	114		16	1			

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 Heads	Fig	Fig 1
BT R3505	○	○	○	○	○	○	○	15	3.5	2.5	0.05	APM00-SBTR- 35J	1	
BT R3508	○	○	○	○	○	○	○	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	APM00-SBTR- 55J	1	
BT R5508	○	○	○	○	○	○	○	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	APM00-SBTR- 80J	1	
BT R8008	○	○	○	○	○	—	—	24	8.0	5.2	0.08		1	
BT R8015	○	○	○	○	○	—	—	24	8.0	5.2	0.15		1	

Recommended Cutting Conditions

Work Material	P Free-Cutting Steel		P Carbon Steel		M Stainless Steel		S Exotic Alloy		N Non-Ferrous Metal	
	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: Planned stock (around summer 2024) — mark: Not available Blank: Made-to-order item Recommended Tightening Torque (N·m)

APM type

External Shallow Grooving
Screw-on

SumiSmall

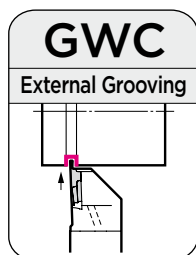


Fig 1

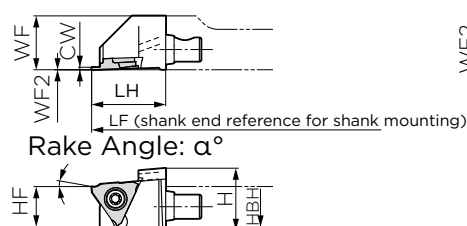
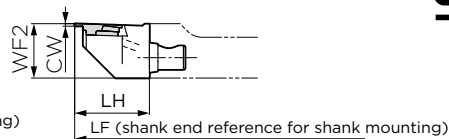


Fig 2



Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height	Head	Cutting Edge Distance	Cutting Edge Height	Step	Offset	Overall Length	Width of Cut	Maximum Groove Depth	Appli- cable Size	Applicable Insert	Fig	Flat Insert Screw		Wrench
		H	LH	WF	HF	HBH	WF2	LF	CW			Cat. No.				 (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	TGAR3...	1	BFTX0409N	3.4 [†]	TRX15(*2)
APM12-GWC R-R3J	●	18.4	22	16.0	12	1	0	106	0.33 to 3.00	0.8 to 2.5	12		1			
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	TGAL3...	2	BFTX0409N	3.4 [†]	TRX15(*2)
APM12-GWC R16-L3J	●	18.4	22	—	12	1	16.0	106	0.33 to 3.00	0.8 to 2.5	12		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 applicable sizes on P6 for applicable shanks. Refer to P13 for applicable inserts.

*1 Cermet inserts have a recommended tightening torque of 4N·m.

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

*2 Wrenches are sold separately from heads.

Selecting GWC series Heads

Integrated Arbor	Right-handed (R)	Left-handed (L)
APM type	Right-handed (R) No Offset	Right-handed (R) With Offset
APM type Shank	APM-R00X84J (Common)	
GWC series Head	APM00-GWC R-R3J	APM00-GWC R-000-L3J Offset Dimensions
Applicable Insert	TGA R3000	TGA L3000
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 Holder (α°)

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

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

APM type

Fig 1 (Grooving)

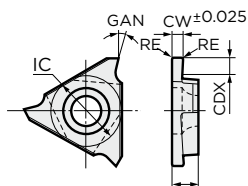


Fig 2 (Threading)

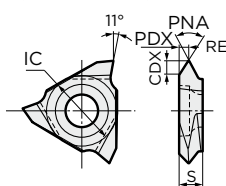


Figure shows right-handed (R) tool.

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 with head mounted, 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 Heads	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	APMOO-GWCR-R3J	1
TGA R/L3043(E)					○	○							○	○	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)					○	○							○	○	0.53	1.2	0.05	9.525	3.18		1
TGA R/L3065(E)					○	○							○	○	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)					○	○							○	○	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)					○	○							○	○	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)					○	○							○	○	1.30	2.0	0.1 ²	9.525	3.18		1
TGA R/L3135(E)					○	○					○	○	○	○	1.35	2.0	0.1 ²	9.525	3.18		1
TGA R/L3140(E)					○	○							○	○	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		1
TGA R/L3150(E)	○	○	○	○	○	○	○	○	○	○	○	○	○	○	1.50	2.0	0.1 ²	9.525	3.18	APMOO-GWCR...-L3J	1
TGA R/L3160(E)					○	○							○	○	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)	○	○	○	○	○	○			○	○			○	○	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 can be 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
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)

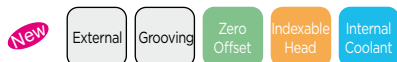
Dimensions (mm)

Cat. No.	AC5015S		AC5025S		AC1030U		DL1500		T1500A		Pitch		Corner Radius	X Direction	Depth of Cut	Included Angle	Inscribed Circle	Thickness	Applicable Heads	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 can be used with right-handed (part number suffix: -R3J) heads.

● mark: Standard stocked item ○ mark: Planned stock (around summer 2024) Blank: Made-to-order item

APM type



* 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

Sumi Small

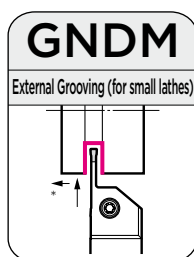


Fig 1

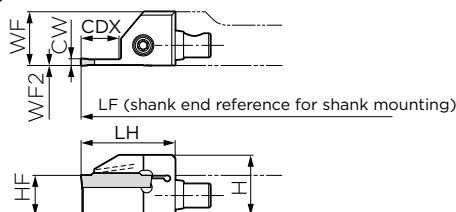
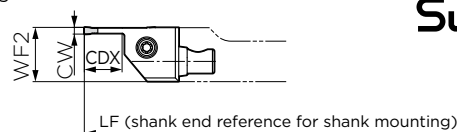


Fig 2



Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height	Head	Cutting Edge Distance	Cutting Edge Height	Offset	Overall Length	Width of Cut	Maximum Groove Depth	Max. Cut-off Dia.	Applicable Size	Fig	Flat Insert Screw		Wrench
		H	LH	WF	HF	WF2	LF	CW	CDX						
APM16-GNDMR-213J	●	21.9	28	20	16	0	112	2.00	13	25	16	1	BX0515	4.0	LH040(*)
APM16-GNDMR-313J	●	21.9	28	20	16	0	112	3.00	13	25	16	1			
APM16-GNDMR20-213J	●	21.9	28	—	16	20	112	2.00	13	25	16	2			
APM16-GNDMR20-313J	●	21.9	28	—	16	20	112	3.00	13	25	16	2			

Refer to shank applicable sizes on P6 for applicable shanks. 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.



External Deep Grooving & Cut-off Clamp-on

Sumi Small

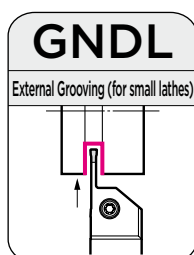


Fig 1

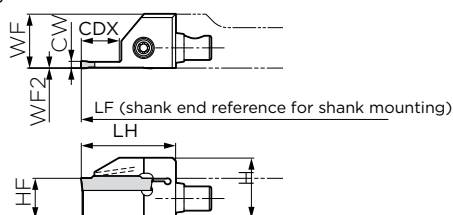
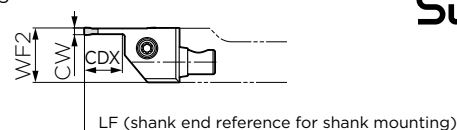


Fig 2



Head

Parts

Dimensions (mm)

Cat. No.	Stock	Height	Head	Cutting Edge Distance	Cutting Edge Height	Offset	Overall Length	Width of Cut	Maximum Groove Depth	Max. Cut-off Dia.	Applicable Size	Fig	Flat Insert Screw		Wrench
		H	LH	WF	HF	WF2	LF	CW	CDX						
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	25	12	1			
APM12-GNDLR-313J	●	17.9	28	16	12	0	112	3.00	13.0	25	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	25	12	2			
APM12-GNDLR16-313J	●	17.9	28	—	12	16	112	3.00	13.0	25	12	2			
APM16-GNDLR-1.2512.5J	●	21.9	33	20	16	0	117	1.25	12.5	25	16	1	BX0515	4.0	LH040(*)
APM16-GNDLR-1.512.5J	●	21.9	33	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	33	—	16	20	117	1.25	12.5	25	16	2			
APM16-GNDLR20-1.512.5J	●	21.9	33	—	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 applicable sizes on P6 for applicable shanks. 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.

APM type

Inserts for GNDM-J type / GNDL-J type (■ Coated Carbide / □ Cemented Carbide / ■ DLC / ■ Cermet)

Fig 1

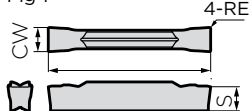


Fig 2 (Figure shows right-handed (R) tool.)

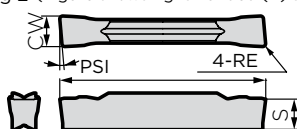


Fig3

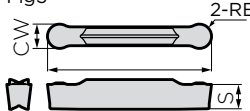
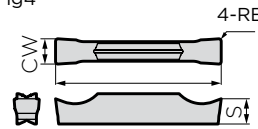


Fig4



Grooving / Traverse Cutting

Dimensions (mm)

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

Grooving / Cut-off

Dimensions (mm)

Cat. No.		AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/ Pack	Fig
											CW						
											Width of Cut	Tolerance					
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	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	5	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 PSI	Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/ Pack	Fig
									CW						
									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	5	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, GCM L: Left-handed

External Profiling / External Radius Grooving

Dimensions (mm)

Cat. No.	AC8025P	AC8035P	AC830P	AC425K	AC5015S	AC5025S	AC520U	AC530U	T2500A	Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/ Pack	Fig
										CW						
										Width of Cut	Tolerance					
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		Corner Radius	Overall Length	Thickness	Pcs/Pack	Fig
									CW						
									Width of Cut	Tolerance					
GCM N2010-RN N3015-RN	●	●	●	●	●	●	●	●	2.0	±0.03	1.0	21.7	3.6	5	3
	●	●	●	●	●	●	●	●	3.0	±0.03	1.5	22.6	3.8		

Non-Ferrous Metals

Dimensions (mm)

Cat. No.	H10	DL1500									Width of Cut		Corner Radius	Overall Length	Thickness	Pcs/ Pack	Fig
											CW						
											Width of Cut	Tolerance					
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: Planned stock (around summer 2024) Blank: Made-to-order item — mark: Not available

APM type

GND series Head Lineup

			MG : Multi-functional / General-purpose type CG : Cut-off / General-purpose type								ML : Multi-functional / Low-feed type CF : Cut-off / Low cutting force type								GG : Grooving / General-purpose type RG : Profiling / General-purpose type								GL : Grooving / Low-feed type RN : Facing / Necking / General-purpose type								GF : Grooving / Low cutting force type GA : Non-Ferrous Metal / General-purpose type																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
Type	Shank Size (mm)		Width of Cut (mm)								Model	Max. Groove Depth (mm)						Ref. Page	Applicable Chipbreakers																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																														
	Height H	Width B	1.25	1.5	2	3	4	5	6	7		8	5	10	15	20	25		30	MG	ML	GG	GL	GF	CG	CF	RG	RN	GA																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																				
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In Stock

⊙: Best ○: Suitable

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

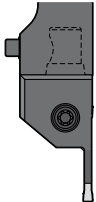
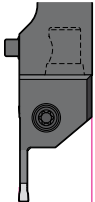
Width of Cut (mm)	Recommended Cutting Conditions		Corner Radius (mm)	Applicable Insert
	Grooving / Cut-off (Necking)	Traverse Cutting		
1.25		—	0.05	MG ML GG GL GF CG CF RG RN GA
1.5		—	0.05	MG ML GG GL GF CG CF RG RN GA
2.0			0.03	MG ML GG GL GF CG CF RG RN GA
			0.2	MG ML GG GL GF CG CF RG RN GA
	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

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)

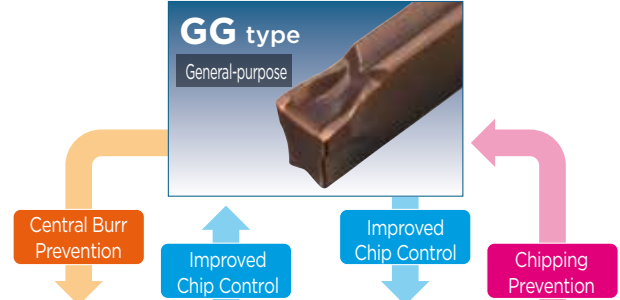
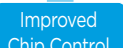
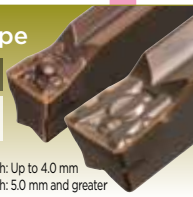
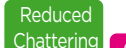
Work Material	P Carbon Steel/Alloy Steel					M Stainless Steel			K Cast Irons Steel				S Exotic Alloy		N Non-Ferrous Metal
Tool Grades	AC8025P	AC8035P AC830P	AC5015S AC520U	AC5025S AC530U AC1030U	T2500A	AC8035P AC830P	AC5015S AC520U	AC5025S AC530U AC1030U	AC8025P	AC425K	AC5015S AC520U	AC5025S AC530U 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

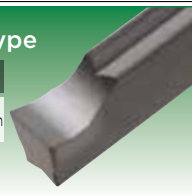
Selecting GND series Heads

Integrated Arbor	Right-handed (R)		Left-handed (L)	
APM type	Right-handed (R) No Offset		Right-handed (R) With Offset	
APM type Shank	APM-R00X84J (Common)			
GND series Head	APM00-GND□ R-0000J		APM00-GND□ R-0000J-0000J	
Applicable Insert	Common			
GND series Head Mounted Appearance				
	Shank: Common Head: No Offset, Right-handed Insert: Right-handed		Shank: Common Head: With Offset, Right-handed Insert: Left-handed	

APM type

Chipbreaker Selection Guide for GND series Head Inserts

Grooving / Traverse Cutting		Grooving		Cut-off	
1st Recommendation	MG type General-purpose 	GG type General-purpose 	GG type General-purpose 		
	 Improved Chip Control  Chipping Prevention	 Improved Chip Control  Chipping Prevention	 Improved Chip Control  Chipping Prevention		
2nd Recommendation	ML type Low-Feed Chip Control Emphasized  Cutting Edge Width: Up to 4.0 mm Cutting Edge Width: 5.0 mm and greater	GL type General-purpose Chip Control Emphasized 	CG type Allg. Empfehlung Feed Direction Lead Angle 5° 	GL type Allg. Empfehlung Chip Control Emphasized 	
	 Improved Chip Control  Reduced Chattering  Chipping Prevention	 Improved Chip Control  Chipping Prevention	 Improved Chip Control  Reduced Chattering  Chipping Prevention		
	GF type Low Cutting Force 	GF type Low Cutting Force 	CF type Low Cutting Force Feed Direction Lead Angle 10°/15° 		

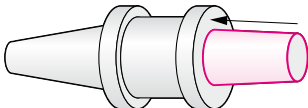
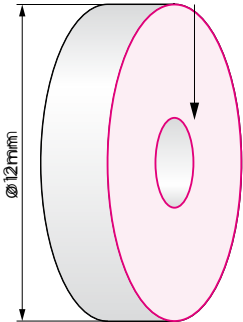
External Profiling / External Radius Grooving		Facing / Internal Profiling / Radius Grooving / Necking		For Non-Ferrous Metals	
Recommendation	RG type General-purpose 1st Recommendation 	RN type General-purpose 2nd Recommendation 2mm Width Supported 	RN type General-purpose 	GA type General-purpose 1st Recommendation 	

Grade Selection Guide for GND series Head Inserts

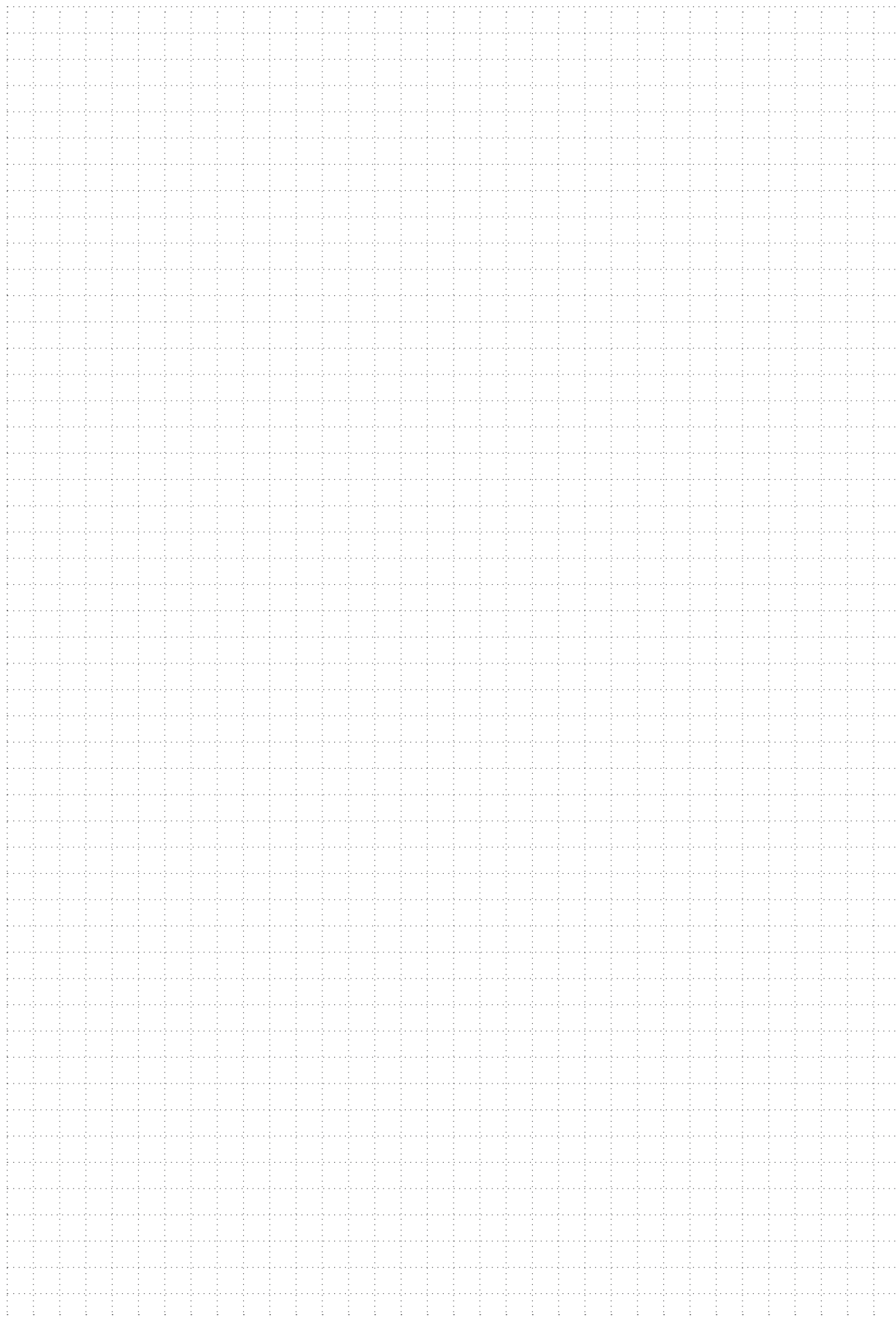
Applications	P Steel	M Stainless Steel	K Cast Iron	S Exotic Alloy	N Non-Ferrous Metal
Continuous/High-speed	AC8025P CVD Surface Finish Emphasized T2500A Cermet	AC8035P (AC830P) CVD AC5015S PVD	AC425K CVD AC8025P CVD	AC5015S PVD	
Interrupted/Unstable	AC8035P (AC830P) CVD AC5025S (AC520U) PVD 1st Recommendation AC530U/AC1030U PVD	AC5025S (AC520U) PVD 1st Recommendation AC530U/AC1030U PVD	AC5015S PVD AC5025S (AC520U) PVD AC530U/AC1030U PVD	AC5025S (AC520U) PVD 1st Recommendation AC530U/AC1030U PVD	DL1500 1st Recommendation H10 Uncoated Carbide

APM type

Application Examples

Titanium Alloy Medical Component	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: $v_c = 50\text{m/min}$ $f = 0.03\text{mm/rev}$ $a_p = 1.0\text{mm}$ Vibration Cutting Wet	Shank: APM-R1212X84J Head: APM12-SCLCR09T3J Insert: CCGT09T301 Cutting Conditions: $v_c = 60\text{m/min}$ $f = 0.06\text{mm/rev}$ $a_p = 0.5\text{mm}$ Wet

Notizen

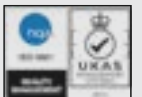




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