ACHTECK

www.achtecktool.com

THE EXPERT OF DIFFICULT MACHINING



Grooving Inserts

Turning Grade Description

Grooving Grade Description

P Steel, cast steel, long chiping malleable cast iron

Basic grade

AP301U P25(P15-P35)

PVD coated grade, suitable for steel, stainless steel and heat resistant alloy grooving. High strength and wear resistant submicron carbide substrate with nanostructured PVD coating. Good coating adhesion, high wear resistance.

AC230P P20(P10-P30)

CVD coated grade. It's mainly used in steel, grey cast iron and nodular cast iron grooving, turning and profiling under high cutting speed. High toughness and wear resistant substrate combined with nano-structured coating offered good wear resistance, coating adhesion, machining stability and longer tool life.

Supplemental grade

AP330M P35(P25-P45)

Brand new PVD coated grade. Suitable for stainless steel and steel finishing, semi-finishing and rough grooving. It's the 1st choice for stainless steel turning, and good for steel turning as well. It has high thermal stability, wear resistance, and excellent thermal crack resistance. Enriched cobalt superfine grain substrate offers high hardness and good anti shock capability which reduces the edge chipping problem.

M Austenitic/ferrite/martensite, cast iron, manganese steel, alloyed cast iron, malleable cast iron, free cutting iron

Basic grade

AP330M M35(M25-M45)

Brand new PVD coated grade. Suitable for stainless steel and steel finishing, semi-finishing and rough grooving. It's the 1st choice for stainless steel turning, and good for steel turning as well. It has high thermal stability, wear resistance, and excellent thermal crack resistance. Enriched cobalt superfine grain substrate offers high hardness and good anti shock capability which reduces the edge chipping problem.

Supplemental grade

AP301U M20(M15-M35)

PVD coated grade. Suitable for steel, stainless steel and heat resistant alloy grooving. High strength and wear resistant submicron carbide substrate with nanostructured PVD coating. Good coating adhesion, high wear resistance.

AP130S M10(M05-M20)

PVD coated carbide material. Suitable for turning grooves in nickel-based, titanium-based, iron-based superalloys, titanium alloys, stainless steel, and other materials. The substrate adopts binder phase strengthening technology, enhancing the tool's high-temperature resistance and impact resistance. Paired with the newly developed PVD coating, which features a dense structure and low surface friction coefficient, the tool's resistance to built-up edge, wear resistance, and high-temperature oxidation resistance are improved.

N Non-ferrous metal

Basic grade

AW100K N15 (N05-N25)

Uncoated ultra-fine grain substrate, specially treated cutting edge, suitable for aluminum alloy grooving.

S Heat resistant alloys

Basic grade

AP130S S15(S10-S20)

PVD coated carbide material. Suitable for turning grooves in nickel-based, titanium-based, iron-based superalloys, titanium alloys, stainless steel, and other materials. The substrate adopts binder phase strengthening technology, enhancing the tool's high-temperature resistance and impact resistance. Paired with the newly developed PVD coating, which features a dense structure and low surface friction coefficient, the tool's resistance to built-up edge, wear resistance, and high-temperature oxidation resistance are improved.

Grade Application Guide

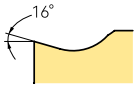
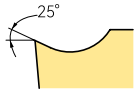
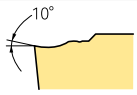
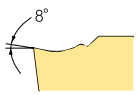
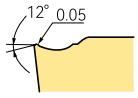
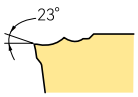
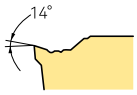
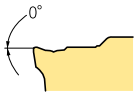
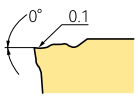
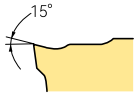
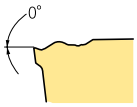
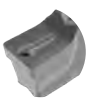
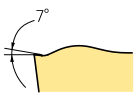
Material Group		ISO	ISO Group of Grooving Insert Grades					ISO
			PVD coated			CVD coated	Uncoated	
			AP301U	AP130S	AP330M	AC230P	AW100K	
P	Unalloyed steels /Alloyed steels	P01						P01
		P10	AP301U			AC230P		P10
		P20			AP330M			P20
		P30						P30
		P40						P40
		P50						P50
M	Stainless steels	M01		AP130S				M01
		M10	AP301U					M10
		M20			AP330M			M20
		M30						M30
		M40						M40
K	Cast iron	K01						K01
		K10						K10
		K20						K20
		K30						K30
		K40						K40
		K50						K50
N	Aluminum/ Aluminum alloys	N01					AW100K	N01
		N10						N10
		N20						N20
		N30						N30
S	Heat resistant alloys	S01						S01
		S10						S10
		S20		AP130S				S20
		S30						S30
		S40						S40
H	Hardened steels/ Chilled cast iron	H01						H01
		H10						H10
		H20						H20
		H30						H30

Grade Application Guide

Materials				Turning grade application				
				PVD coated			CVD coated	Uncoated
ISO	Material classification	Tensile strength (N/mm^2)	Hardness (HB)	AP301U	AP130S	AP330M	AC230P	AW100K
P	Unalloyed steel	<600	<180	●	◐	●	●	-
		<950	<280	●	◐	●	●	-
	Alloyed steel	700-950	200-280	●	◐	●	●	-
		950-1200	280-355	●	◐	●	●	-
		1200-1400	355-415	●	◐	●	●	-
M	Duplex stainless steel	778	230	●	●	●	-	-
	Austenitic stainless steel	675	200	●	●	●	-	-
	Precipitation-hardening stainless steel	1013	300	●	●	●	-	-
K	Grey cast iron	700	220	◐	-	-	●	-
	Nodular cast iron	880	260	◐	-	-	●	-
	Malleable cast iron	800	250	◐	-	-	●	-
N	Aluminum	260	75	-	-	-	-	●
	Aluminum alloy	447	130	-	-	-	-	●
S	Fe-based alloy	943	280	-	●	-	-	-
	Co-based alloy	1076	320	-	●	-	-	-
	Ni-based alloy	1177	350	-	●	-	-	-
	Ti-alloy	1262	370	-	●	-	-	-
H	Hardened steel	-	50-60HRC	-	-	-	-	-
	Chilled cast iron	-	55HRC	-	-	-	-	-

● 1st choice
◐ 2nd choice
- Inapplicable

Insert Geometry Introduction

Geometry	Insert	Shape of cutting edge	Description	Geometry width (mm)								
				External grooving					Face grooving		Internal grooving	
				Grooving	Parting off	Turning	Profiling	Undercutting	Grooving	Turning	Grooving	Turning
ATG			• High precision insert • Positive rake angle reduces the vibration • 3 teeth design, with good flexibility.	0.33 | 4.5	-	-	0.5 1.0 1.5 2.0 3.0 4.0	-	-	-	0.33 | 4.5	-
ASG			• High precision insert • Big rake angle and sharp teeth design obtain good surface quality. • 3 teeth design	0.8 | 2.5	-	-	-	-	-	-	0.8 | 2.5	
CS			• Used in parting off & grooving stainless steel, heat resistant alloy and low carbon steel • For low feed rate application	2.0 | 3.0	2.0 | 3.0	-	-	-	3.0	-	3.0	-
CM			• Used in parting off & grooving low carbon steel and stainless steel • For sticky material, pipe fitting, thin-walled part parting off, low cutting force • For low to medium feed rate	2.0 3.0 4.0 5.0 6.0	2.0 3.0 4.0 5.0 6.0	-	-	-	3.0 4.0 5.0 6.0	-	3.0 4.0 5.0 6.0	-
CH			• Used in parting off and grooving steel, alloy steel and stainless steel with high hardness and toughness. • Strong cutting edge • For parting off and grooving at medium to high feed rate	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	-	-	-	3.0 4.0 5.0 6.0	-	3.0 4.0 5.0 6.0	-
GS			• Excellent chip breaking, suitable for grooving and finish turning. • Geometry for finish machining, low cutting force, low feed, excellent surface quality. • Ground insert, better precision control and positioning repeatability.	2.0 | 4.00	2.0 | 4.00	2.0 | 4.00	-	-	3.0 | 4.00	3.0 | 4.00	2.0 | 4.00	2.0 | 4.00
TS			• Multifunctional insert for external, internal turning and grooving, parting off, face grooving and face turning • Excellent chip control • For low and medium feed rate • Extended diameter range for internal and face machining	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	-	-	3.0 4.0 5.0 6.0	3.0 4.0 5.0 6.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0
TM			• Multifunctional insert for external, internal turning and grooving, parting off, face grooving and face turning • Stronger cutting edge design • For medium feed rate • Extended diameter range for internal and face machining	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	-	-	3.0 4.0 5.0 6.0	3.0 4.0 5.0 6.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0
RM			• External grooving, turning, profiling • Medium feed rate	2.0 3.0 4.0 5.0 6.0 8.0	-	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	3.0 4.0 5.0 6.0	3.0 4.0 5.0 6.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0
RA			• For turning and profiling aluminum alloy • High positive rake angle and sharp cutting edge • Ground inserts with high precision	3.0 4.0 5.0 6.0 8.0	-	3.0 4.0 5.0 6.0 8.0	3.0 4.0 5.0 6.0 8.0	3.0 4.0 5.0 6.0 8.0	3.0 4.0 5.0 6.0 8.0	3.0 4.0 5.0 6.0 8.0	3.0 4.0 5.0 6.0 8.0	3.0 4.0 5.0 6.0 8.0
RS			• External grooving, turning, profiling • Robust cutting edge design • Low feed applications • Sharpened grade circular inserts with high precision control • Good surface quality	2.0 3.0 4.0 5.0 6.0 8.0	-	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	- 3.0 4.0 5.0 6.0 8.0	- 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0	2.0 3.0 4.0 5.0 6.0 8.0
Precision ground			• Ground insert with high precision, better precision control • Complete product offering • Good surface quality	1.0 | 8.0	-	2.22 | 8.0	3.0 4.0 4.8 5.0 6.0 8.0	3.0 4.0 4.8 5.0 6.0 8.0	3.0 4.0 4.8 5.0 6.0 8.0	3.0 4.0 4.8 5.0 6.0 8.0	2.22 | 8.0	2.22 | 8.0

Triangular Shallow Grooving Insert Denomination System

A	T	G	32	R/L	050	T12	-	R005
1	2	3	4	5	6	7	-	8

1- Company Name
ACHTECK

2- Insert Type	
T	Triangular
S	Only applied to Swiss lathe

3- Application	
G	Grooving

4- Insert IC Size
32=9.525mm
43=12.70mm

5- Hand of Tool	
L	Left
R	Right

6- Insert Width
050=0.5mm

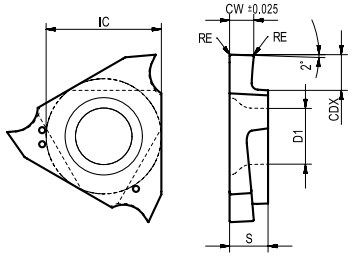
7- Maximum CDX
T12=1.2mm

8- Insert Corner
R005=0.05mm

Shallow Grooving Series

ASG: Applied to external shallow grooving for Swiss lathe

Product code	IC	S	D1
ASG 32-	9.525	3.18	4.6



(The diagram shows the right hand insert)

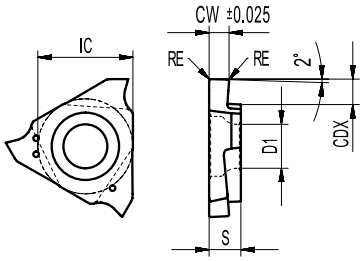
Inserts	Product code	Machining conditions: Cutting parameter: Grooving f (mm/rev)	CDX	Dimensions: CW	RE	● Good Conditions ◐ General Conditions ✱ Bad Conditions							
						●	✱	◐	✱	●	◐	●	●
						P			M		K		N
						AP301U	AP330M	AC230P	AP330M	AP301U	AC230P	AP301U	AW100K
	**ASG 32R/L033T08-R005**	0.01-0.05	0.8	0.33	0.05	●				●		●	
	ASG 32R/L050T12-R005	0.01-0.05	1.2	0.50	0.05	●				●		●	
	ASG 32R/L075T20-R010	0.02-0.07	2.0	0.75	0.10	●				●		●	
	ASG 32R/L095T20-R010	0.02-0.07	2.0	0.95	0.10	●				●		●	
	ASG 32R/L100T20-R010	0.03-0.08	2.0	1.00	0.10	●				●		●	
	ASG 32R/L120T20-R010	0.03-0.08	2.0	1.20	0.10	●				●		●	
	ASG 32R/L125T20-R010	0.03-0.08	2.0	1.25	0.10	●				●		●	
	ASG 32R/L140T20-R010	0.03-0.08	2.0	1.40	0.10	●				●		●	
	ASG 32R/L145T20-R010	0.03-0.08	2.0	1.45	0.10	●				●		●	
	ASG 32R/L150T20-R010	0.03-0.08	2.0	1.50	0.10	●				●		●	
	ASG 32R/L175T20-R010	0.03-0.08	2.0	1.75	0.10	●				●		●	
	ASG 32R/L200T25-R010	0.03-0.08	2.5	2.00	0.10	●				●		●	
	ASG 32R/L250T25-R010	0.03-0.08	2.5	2.50	0.10	●				●		●	

● : Standard stock ○ : Made-to-Order

Shallow Grooving Series

ATG: Applied to external and internal shallow grooving

Product code	IC	S	D1
ATG 32-	9.525	3.18	4.4
ATG 43-	12.7	4.76	5.5
ATG 43R/L450	12.7	5.0	5.5



(The diagram shows the right hand insert)

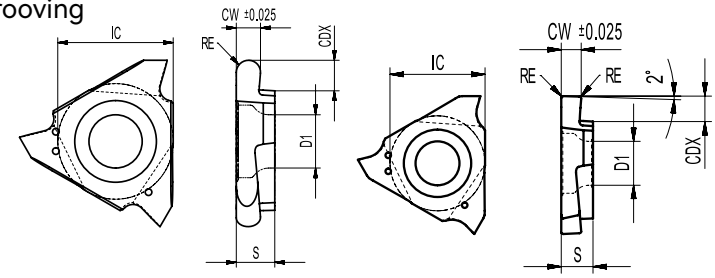
Inserts	Product code	Machining conditions: Cutting parameter: Grooving f (mm/rev)	CDX	Dimensions: CW	Dimensions: RE	P: AP301U	P: AP330M	P: AC230P	M: AP330M	M: AP301U	K: AC230P	K: AP301U	N: AW100K
		● Good Conditions ⧓ General Conditions ✱ Bad Conditions				●	✱	⧓	✱	●	⧓	●	●
	**ATG 32R/L033T08-R005**	0.03-0.08	0.8	0.33	0.05	●				●		●	
	ATG 32R/L050T12-R005	0.03-0.08	1.2	0.50	0.05	●				●		●	
	ATG 32R/L075T20-R005	0.03-0.08	2.0	0.75	0.05	●				●		●	
	ATG 32R/L095T20-R005	0.03-0.08	2.0	0.95	0.05	●				●		●	
	ATG 32R/L100T20-R005	0.03-0.08	2.0	1.00	0.05	●				●		●	
	ATG 32R/L110T20-R005	0.03-0.08	2.0	1.10	0.05	●				●		●	
	ATG 32R/L120T20-R005	0.03-0.08	2.0	1.20	0.05	●				●		●	
	ATG 32R/L125T20-R020	0.04-0.09	2.0	1.25	0.20	●				●		●	
	ATG 32R/L130T20-R020	0.04-0.09	2.0	1.30	0.20	●				●		●	
	ATG 32R/L140T25-R020	0.04-0.09	2.5	1.40	0.20	●				●		●	
	ATG 32R/L145T25-R020	0.04-0.09	2.5	1.45	0.20	●				●		●	
	ATG 32R/L150T25-R020	0.04-0.09	2.5	1.50	0.20	●				●		●	
	ATG 32R/L160T25-R020	0.04-0.09	2.5	1.60	0.20	●				●		●	
	ATG 32R/L170T25-R020	0.04-0.09	2.5	1.70	0.20	●				●		●	
	ATG 32R/L175T25-R020	0.04-0.09	2.5	1.75	0.20	●				●		●	
	ATG 32R/L200T25-R020	0.04-0.09	2.5	2.00	0.20	●				●		●	
	ATG 32R/L225T25-R020	0.04-0.09	2.5	2.25	0.20	●				●		●	
	ATG 32R/L250T25-R020	0.05-0.10	2.5	2.50	0.20	●				●		●	
	ATG 32R/L300T25-R020	0.05-0.10	2.5	3.00	0.20	●				●		●	
	ATG 43R/L100T20-R010	0.03-0.08	2.0	1.00	0.10	●				●		●	
	ATG 43R/L125T20-R010	0.04-0.09	2.0	1.25	0.10	●				●		●	
	ATG 43R/L125T20-R020	0.04-0.09	2.0	1.25	0.20	●				●		●	
	ATG 43R/L130T30-R010	0.04-0.09	3.0	1.30	0.10	●				●		●	
	ATG 43R/L130T30-R020	0.04-0.09	3.0	1.30	0.20	●				●		●	
	ATG 43R/L140T35-R020	0.04-0.09	3.5	1.40	0.20	●				●		●	
	ATG 43R/L145T35-R020	0.04-0.09	3.5	1.45	0.20	●				●		●	
	ATG 43R/L150T35-R010	0.04-0.09	3.5	1.50	0.10	●				●		●	
	ATG 43R/L150T35-R020	0.04-0.09	3.5	1.50	0.20	●				●		●	
	ATG 43R/L170T35-R020	0.04-0.09	3.5	1.70	0.20	●				●		●	
	ATG 43R/L175T35-R020	0.04-0.09	3.5	1.75	0.20	●				●		●	
	ATG 43R/L185T35-R020	0.04-0.09	3.5	1.85	0.20	●				●		●	
	ATG 43R/L195T35-R020	0.04-0.09	3.5	1.95	0.20	●				●		●	

● : Standard stock ○ : Made-to-Order

Shallow Grooving Series

ATG: Applied to external and internal shallow grooving

Product code	IC	S	D1
ATG 32-	9.525	3.18	4.4
ATG 43-	12.7	4.76	5.5
ATG 43R/L450	12.7	5.0	5.5



(The diagram shows the right hand insert)

● Good Conditions ⬮ General Conditions ✱ Bad Conditions

Inserts	Product code	Machining conditions				●	✱	⬮	✱	●	⬮	●	●
		Cutting parameter		Dimensions		P			M		K		N
		Grooving f (mm/rev)	CDX	CW	RE	AP301U	AP330M	AC230P	AP330M	AP301U	AC230P	AP301U	AW100K
	**ATG 43R/L200T35-R010**	0.04-0.09	3.5	2.00	0.10	●				●		●	
	ATG 43R/L200T35-R020	0.04-0.09	3.5	2.00	0.20	●				●		●	
	ATG 43R/L225T35-R020	0.04-0.09	3.5	2.25	0.20	●				●		●	
	ATG 43R/L230T35-R020	0.05-0.10	3.5	2.30	0.20	●				●		●	
	ATG 43R/L250T50-R010	0.05-0.10	5.0	2.50	0.10	●				●		●	
	ATG 43R/L250T50-R030	0.05-0.10	5.0	2.50	0.30	●				●		●	
	ATG 43R/L265T50-R030	0.05-0.10	5.0	2.65	0.30	●				●		●	
	ATG 43R/L280T50-R030	0.05-0.10	5.0	2.80	0.30	●				●		●	
	ATG 43R/L300T50-R010	0.05-0.10	5.0	3.00	0.10	●				●		●	
	ATG 43R/L300T50-R030	0.05-0.10	5.0	3.00	0.30	●				●		●	
	ATG 43R/L325T50-R030	0.05-0.10	5.0	3.25	0.30	●				●		●	
	ATG 43R/L330T50-R030	0.05-0.12	5.0	3.30	0.30	●				●		●	
	ATG 43R/L350T50-R010	0.05-0.12	5.0	3.50	0.10	●				●		●	
	ATG 43R/L350T50-R030	0.05-0.12	5.0	3.50	0.30	●				●		●	
	ATG 43R/L400T50-R010	0.05-0.12	5.0	4.00	0.10	●				●		●	
	ATG 43R/L400T50-R040	0.05-0.12	5.0	4.00	0.40	●				●		●	
	ATG 43R/L430T50-R040	0.05-0.12	5.0	4.30	0.40	●				●		●	
	ATG 43R/L450T50-R040	0.05-0.12	5.0	4.50	0.40	●				●		●	
	**ATG 32R/L050T12-R025**	0.03-0.08	1.2	0.50	0.25	●				●		●	
	ATG 32R/L100T12-R050	0.03-0.08	1.2	1.00	0.50	●				●		●	
	ATG 32R/L150T25-R075	0.04-0.09	2.5	1.50	0.75	●				●		●	
	ATG 32R/L200T25-R100	0.04-0.09	2.5	2.00	1.00	●				●		●	
	ATG 32R/L300T25-R150	0.05-0.10	2.5	3.00	1.50	●				●		●	
	ATG 43R/L100T20-R050	0.03-0.08	2.0	1.00	0.50	●				●		●	
	ATG 43R/L150T35-R075	0.04-0.09	3.5	1.50	0.75	●				●		●	
	ATG 43R/L200T35-R100	0.04-0.09	3.5	2.00	1.00	●				●		●	
	ATG 43R/L250T40-R125	0.05-0.10	5.0	2.50	1.25	●				●		●	
	ATG 43R/L300T40-R150	0.05-0.10	5.0	3.00	1.50	●				●		●	
	ATG 43R/L400T50-R200	0.05-0.12	5.0	4.00	2.00	●				●		●	

● : Standard stock ○ : Made-to-Order

Insert Denomination System (Pressing Insert)

A	C	D	4	0	3	-	CM	6	R
1	2	3	4	5		-	6	7	8

1- Company Name
ACHTECK

2- Application	
C	Grooving/Parting off
T	Turning/Grooving

3- Insert Shape	
S	Single-edged
D	Double-edged

4- Insert Width
2=2.0mm 3=3.0mm 4=4.0mm

5-Insert Corner
02=0.2mm 03=0.3mm 04=0.4mm

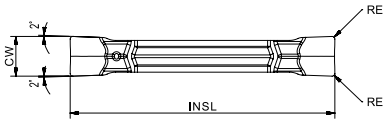
6-Geometry
CS CM CH GS TS TM RM RA

7-Cutting Edge Angle
6=6° 15=15°

8-Hand of Tool	
	L: Left
	R: Right

Parting Off-Grooving Series

CS: Double-edged inserts applicable to parting off and grooving







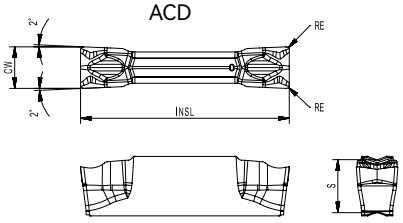
Inserts	Product code	Machining conditions: Cutting parameter CDX	f (mm/rev)	Dimensions CW	RE	INSL	S	● Good Conditions ⬌ General Conditions ✱ Bad Conditions: ●	✱	⬌	✱	✱	●	⬌	●	✱	●
								P			M			K		S	N
								AP301U	AP330M	AC230P	AP330M	AP130S	AP301U	AC230P	AP301U	AP130S	AW100K
	**ACD 202 CS**	19.7	0.04-0.13	2	0.2	20	5.1	●	●		●	●	●		●	●	
	ACD 302 CS	19.7	0.05-0.15	3	0.2	20	5.1	●	●		●	●	●		●	●	

● : Standard stock ○ : Made-to-Order

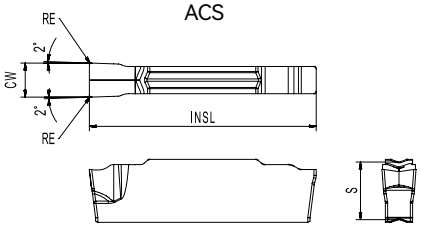
Parting Off-Grooving Series

CM: Double-edged inserts applicable to parting off and grooving

ACD



ACS



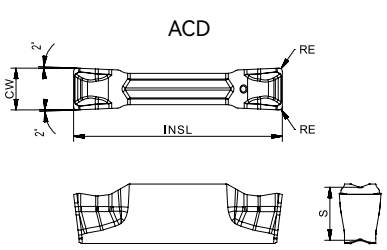
Inserts	Product code	Machining conditions: ● Good Conditions ⇹ General Conditions ✱ Bad Conditions													
		●	✱	⇹	✱	✱	●	⇹	●	✱	●				
		Cutting parameter		Dimensions				P			M			K		S	N
		CDX	f (mm/rev)	CW	RE	INSL	S	AP301U	AP330M	AC230P	AP330M	AP130S	AP301U	AC230P	AP301U	AP130S	AW100K
	**ACD 202-CM**	19.7	0.04-0.15	2	0.2	20	5.1	●	●		●	●	●		●	●	
	ACD 202-CM-6R	19.7	0.03-0.09	2	0.2	20.7	5.1	●	●		●		●		●		
	ACD 202-CM-6L	19.7	0.03-0.09	2	0.2	20.7	5.1	●	○		○		●		●		
	ACD 202-CM-15R	19.7	0.03-0.09	2	0.2	21	5.1	●	●		●		●		●		
	ACD 202-CM-15L	19.7	0.03-0.09	2	0.2	21	5.1	●	○		○		●		●		
	ACD 302-CM	19.7	0.05-0.16	3	0.2	20	5.1	●	●		●	●	●		●	●	
	ACD 302-CM-6R	19.7	0.04-0.14	3	0.2	20.7	5.1	●	○		○		●		●		
	ACD 302-CM-6L	19.7	0.04-0.14	3	0.2	20.7	5.1	●	●		●		●		●		
	ACD 302-CM-15R	19.7	0.04-0.14	3	0.2	21	5.1	●	●		●		●		●		
	ACD 302-CM-15L	19.7	0.04-0.14	3	0.2	21	5.1	●	○		○		●		●		
	ACD 403-CM	19.7	0.06-0.18	4	0.3	20	5.1	●	●		●		●		●		
	ACD 403-CM-4R	19.7	0.05-0.16	4	0.3	20.7	5.1	●	●		●		●		●		
	ACD 403-CM-4L	19.7	0.05-0.16	4	0.3	20.7	5.1	●	●		●		●		●		
	ACD 503-CM	24.7	0.06-0.20	5	0.3	25	5.0	●	○		○		●		●		
	ACD 503-CM-4R	24.7	0.06-0.18	5	0.3	25.7	5.0	○	○		○		○		○		
	ACD 503-CM-4L	24.7	0.06-0.18	5	0.3	25.7	5.0	○	○		○		○		○		
	ACD 603-CM	29.7	0.06-0.22	6	0.3	25	5.0	●	○		○		●		●		
	**ACS 202-CM**	—	0.04-0.15	2	0.2	20	5.1	●	●		●		●		●		
	ACS 302-CM	—	0.05-0.16	3	0.2	20	5.1	●	○		○		●		●		
	ACS 403-CM	—	0.06-0.18	4	0.3	20	5.1	○	○		○		○		○		
	ACS 503-CM	—	0.06-0.20	5	0.3	25	5.0	○	○		○		○		○		
	ACS 603-CM	—	0.06-0.22	6	0.3	25	5.0	○	○		○		○		○		

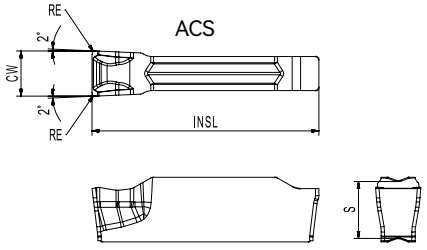
● : Standard stock ○ : Made-to-Order

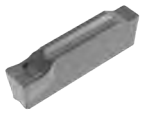
Remark: 1. if R/L style inserts are selected, the feed need to be reduced by 20-40%.
2. ACS single edged insert's Tmax is determined according to the tool holder.

Parting Off-Grooving Series

CH: Double-edged inserts applicable to parting off and grooving





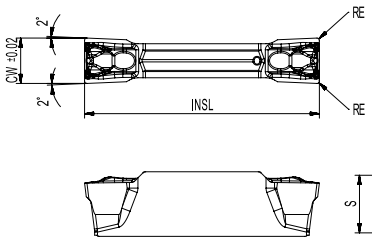
Inserts	Product code	Machining conditions						● Good Conditions ❶ General Conditions ✱ Bad Conditions							
								●	✱	❶	✱	●	❶	●	●
		Cutting parameter		Dimensions				P			M		K		N
		CDX	f (mm/rev)	CW	RE	INSL	S	AP301U	AP330M	AC230P	AP330M	AP301U	AC230P	AP301U	AW100K
	**ACD 202-CH**	19.7	0.05-0.20	2	0.2	20	5.1	●	●		●	●		●	
	ACD 202-CH-6R	19.7	0.04-0.16	2	0.2	20.7	5.1	●	●		●	●		●	
	ACD 202-CH-6L	19.7	0.04-0.16	2	0.2	20.7	5.1	●	○		○	●		●	
	ACD 202-CH-15R	19.7	0.04-0.15	2	0.2	21	5.1	●	●		●	●		●	
	ACD 202-CH-15L	19.7	0.04-0.15	2	0.2	21	5.1	●	○		○	●		●	
	ACD 2.502-CH	19.7	0.07-0.20	2.5	0.2	20	5.1	●	○		○	●		●	
	ACD 302-CH	19.7	0.07-0.25	3	0.2	20	5.1	●	●		●	●		●	
	ACD 302-CH-6R	20.7	0.05-0.20	3	0.2	20.7	5.1	●	●		●	●		●	
	ACD 302-CH-6L	21.7	0.05-0.20	3	0.2	20.7	5.1	●	●		●	●		●	
	ACD 302-CH-15R	20	0.05-0.18	3	0.2	21	5.1	●	●		●	●		●	
	ACD 302-CH-15L	20	0.05-0.18	3	0.2	21	5.1	●	○		○	●		●	
	ACD 403-CH	19	0.08-0.30	4	0.3	20	5.1	●	●		●	●		●	
	ACD 403-CH-4R	19.7	0.06-0.25	4	0.3	20.7	5.1	●	●		●	●		●	
	ACD 403-CH-4L	19.7	0.06-0.25	4	0.3	20.7	5.1	●	●		●	●		●	
	ACD 503-CH	24	0.09-0.35	5	0.3	25	5.0	●	●		●	●		●	
	ACD 503-CH-4R	24.7	0.08-0.30	5	0.3	25.7	5.0	●	●		●	●		●	
	ACD 503-CH-4L	25.7	0.08-0.30	5	0.3	25.7	5.0	●	●		●	●		●	
	ACD 603-CH	24	0.12-0.40	6	0.3	25	5.0	●	●		●	●		●	
	ACD 804-CH	29	0.15-0.45	8	0.4	30	6.1	●	●		●	●		●	
	**ACS 202-CH**	—	0.05-0.20	2	0.2	20	5.1	●	○		○	●		●	
	ACS 302-CH	—	0.07-0.25	3	0.2	20	5.1	●	●		●	●		●	
	ACS 403-CH	—	0.08-0.30	4	0.3	20	5.1	●	●		●	●		●	
	ACS 503-CH	—	0.09-0.35	5	0.3	25	5.0	●	●		●	●		●	
	ACS 603-CH	—	0.12-0.40	6	0.3	25	5.0	○	○		○	○		○	

● : Standard stock ○ : Made-to-Order

Remark: 1. if R/L style inserts are selected, the feed need to be reduced by 20-40%.
2. ACS single edged insert's Tmax is determined according to the tool holder.

Grooving-Turning Series

GS: Double-edged inserts applicable to external, internal and face turning, grooving and parting off

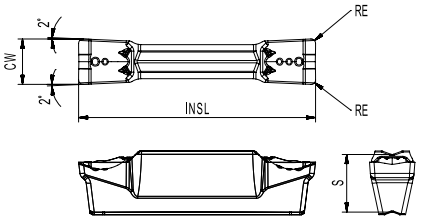


Inserts	Product code	Machining conditions: ● Good Conditions ⧓ General Conditions ⧑ Bad Conditions														
		●	⧑	⧓	⧑	⧑	●	⧓	●	⧑	●					
		Cutting parameter			Dimensions				P			M			K		S	N
		Grooving	Turning		CW	RE	INSL	S	AP301U	AP330M	AC230P	AP330M	AP130S	AP301U	AC230P	AP301U	AP130S	AW100K
		f (mm/rev)	f (mm/rev)	Ap (mm)														
	**ATD 200E020-GS**	0.04-0.20	0.05-0.20	0.30-1.5	2	0.20	20.70	5.1	●				●				●	
	ATD 300E020-GS	0.04-0.20	0.05-0.20	0.30-2.0	3.00	0.20	20.70	5.1	●				●	●		●	●	
	ATD 300E040-GS	0.04-0.20	0.05-0.20	0.45-2.0	3.00	0.40	20.70	5.1	●				●	●		●	●	
	ATD 310E020-GS	0.04-0.20	0.05-0.20	0.25-2.0	3.15	0.20	20.70	5.1	●					●		●		
	ATD 318E020-GS	0.04-0.20	0.05-0.20	0.25-2.0	3.18	0.20	20.70	5.1	●					●		●		
	ATD 318E040-GS	0.04-0.20	0.05-0.20	0.45-2.0	3.18	0.40	20.70	5.1	●					●		●		
	ATD 318E080-GS	0.04-0.20	0.05-0.20	0.85-2.0	3.18	0.80	20.70	5.1	●					●		●		
	ATD 361E030-GS	0.04-0.20	0.06-0.23	0.35-2.0	3.61	0.30	20.70	5.1	●					●		●		
	ATD 396E020-GS	0.05-0.25	0.07-0.25	0.25-2.50	3.96	0.20	20.70	5.1	●					●		●		
	ATD 396E040-GS	0.05-0.25	0.07-0.25	0.45-2.50	3.96	0.40	20.70	5.1	●					●		●		
	ATD 396E080-GS	0.05-0.25	0.07-0.25	0.85-2.50	3.96	0.80	20.70	5.1	●					●		●		
	ATD 400E020-GS	0.05-0.25	0.07-0.25	0.25-2.50	4.00	0.20	20.70	5.1	●				●	●		●	●	
	ATD 400E040-GS	0.05-0.25	0.07-0.25	0.45-2.50	4.00	0.40	20.70	5.1	●				●	●		●	●	

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

TS: Double-edged inserts applicable to external, internal and face turning, grooving and parting off

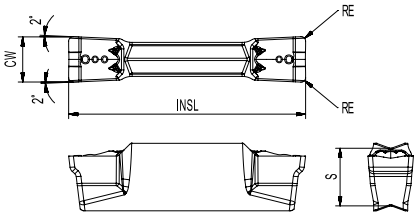


Inserts	Product code	Machining conditions: CDX	Cutting parameter: Grooving f (mm/rev)	Cutting parameter: Turning f (mm/rev)	Cutting parameter: Turning Ap (mm)	Dimensions: CW	Dimensions: RE	Dimensions: INSL	Dimensions: S	P: AP301U	P: AP330M	P: AC230P	M: AP330M	M: AP130S	K: AP301U	K: AC230P	K: AP301U	S: AP130S	N: AW100K
										● Good Conditions	⇕ General Conditions	✱ Bad Conditions							
	ATD 203-TS	19.7	0.04-0.20	0.12-0.19	0.40-1.50	2	0.3	20.7	5.1	●	○	○	○		●	○	●		
	ATD 303-TS	19.7	0.05-0.25	0.15-0.23	0.45-2.00	3	0.3	20.7	5.1	●	●	○	●		●	○	●	●	
	ATD 404-TS	19.7	0.06-0.27	0.18-0.25	0.50-2.50	4	0.4	20.7	5.1	●	●	○	●	●	●	○	●		
	ATD 408-TS	19.7	0.06-0.27	0.18-0.25	1.00-2.50	4	0.8	20.7	5.1	●	○	●	○		●	●	●		
	ATD 504-TS	24.7	0.07-0.30	0.20-0.30	0.55-3.50	5	0.4	25.7	5.0	●	●	○	●		●	○	●		
	ATD 508-TS	24.7	0.07-0.30	0.20-0.30	1.00-3.50	5	0.8	25.7	5.0	●	●	○	●		●	○	●		
	ATD 604-TS	24.7	0.10-0.40	0.22-0.45	0.65-3.80	6	0.4	25.7	5.0	●	○	○	○		●	○	●		
	ATD 608-TS	24.7	0.10-0.40	0.22-0.45	1.0-3.80	6	0.8	25.7	5.0	●	●	●	●		●	●	●		
	ATD 808-TS	30.5	0.12-0.45	0.28-0.50	1.0-4.50	8	0.8	31.5	6.1	●	○	○	○		●	○	●		

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

TSR: Double-edged inserts applicable to external, internal and face turning, grooving and parting off

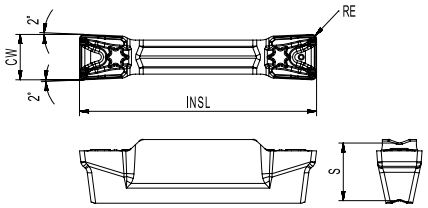


Inserts	Product code	Machining conditions: CDX	Cutting parameter: Grooving f (mm/rev)	Cutting parameter: Turning f (mm/rev)	Cutting parameter: Turning Ap (mm)	Dimensions: CW	Dimensions: RE	Dimensions: INSL	Dimensions: S	P: AP301U	P: AP330M	P: AC230P	M: AP330M	M: AP130S	K: AP301U	K: AC230P	K: AP301U	S: AP130S	N: AW100K
										● Good Conditions	⇕ General Conditions	✱ Bad Conditions							
	ATD 203-TSR	19.7	0.04-0.20	0.12-0.19	0.40-1.50	2	0.3	20.7	5.1	●				●	●		●	●	
	ATD 303-TSR	19.7	0.05-0.25	0.15-0.23	0.45-2.00	3	0.3	20.7	5.1	●				●	●		●	●	
	ATD 404-TSR	19.7	0.06-0.27	0.18-0.25	0.50-2.50	4	0.4	20.7	5.1	●				●	●		●	●	
	ATD 408-TSR	19.7	0.06-0.27	0.18-0.25	1.00-2.50	4	0.8	20.7	5.1	●				●	●		●	●	
	ATD 504-TSR	24.7	0.07-0.30	0.20-0.30	0.55-3.50	5	0.4	25.7	5.0	●				●	●		●	●	
	ATD 508-TSR	24.7	0.07-0.30	0.20-0.30	1.00-3.50	5	0.8	25.7	5.0	●				●	●		●	●	
	ATD 604-TSR	24.7	0.10-0.40	0.22-0.45	0.65-3.80	6	0.4	25.7	5.0	●				●	●		●	●	
	ATD 608-TSR	24.7	0.10-0.40	0.22-0.45	1.0-3.80	6	0.8	25.7	5.0	●				●	●		●	●	
	ATD 808-TSR	30.5	0.12-0.45	0.28-0.50	1.0-4.50	8	0.8	31.5	6.1	●				○	●		●	○	

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

TM: Double-edged inserts applicable to external turning, grooving and parting off

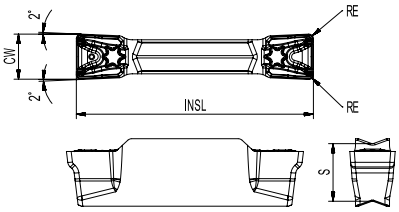


Inserts	Product code	Machining conditions: Cutting parameter: CDX	Grooving: f (mm/rev)	Turning: f (mm/rev)	Turning: Ap (mm)	Dimensions: CW	RE	INSL	S	P: AP301U	P: AP330M	P: AC230P	M: AP330M	M: AP301U	K: AC230P	K: AP301U	N: AW100K
		● Good Conditions ⬌ General Conditions ✱ Bad Conditions								●	✱	⬌	✱	●	⬌	●	●
	**ATD 304-TM**	19.7	0.1-0.25	0.15-0.22	0.5-2.0	3	0.4	20.7	5.1	●	○	○	○	●	○	○	
	ATD 404-TM	19.7	0.15-0.30	0.18-0.27	0.5-2.50	4	0.4	20.7	5.1	●	●	●	●	●	●	●	
	ATD 408-TM	19.7	0.15-0.30	0.18-0.27	1.0-2.50	4	0.8	20.7	5.1	●	●	○	●	●	○	●	
	ATD 504-TM	24.7	0.18-0.35	0.20-0.35	0.55-3.50	5	0.4	25.7	5.0	●	●	●	●	●	●	●	
	ATD 508-TM	24.7	0.18-0.35	0.20-0.35	1.0-3.50	5	0.8	25.7	5.0	●	●	○	●	●	○	●	
	ATD 604-TM	24.7	0.20-0.45	0.22-0.45	0.65-4.0	6	0.4	25.7	5.0	●	●	●	●	●	●	●	
	ATD 608-TM	24.7	0.20-0.45	0.22-0.45	1.0-4.0	6	0.8	25.7	5.0	●	●	●	●	●	●	●	
	ATD 808-TM	30.5	0.22-0.50	0.28-0.5	1.0-5.0	8	0.8	31.5	6.1	○	○	○	○	○	○	○	
	ATD 812-TM	30.5	0.22-0.50	0.28-0.5	1.5-5.0	8	1.2	31.5	6.1	●	○	○	○	●	○	○	

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

TMR: Double-edged ground inserts applicable to aluminium alloy turning and parting off

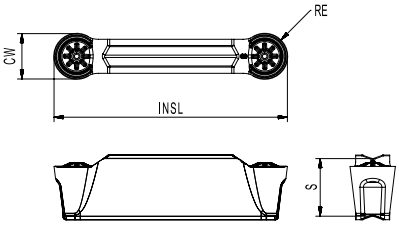


Inserts	Product code	Machining conditions: Cutting parameter: CDX	Grooving: f (mm/rev)	Turning: f (mm/rev)	Turning: Ap (mm)	Dimensions: CW	RE	INSL	S	P: AP301U	P: AP330M	P: AC230P	M: AP330M	M: AP301U	K: AC230P	K: AP301U	N: AW100K
		● Good Conditions ⬌ General Conditions ✱ Bad Conditions								●	✱	⬌	✱	●	⬌	●	●
	**ATD 304-TMR**	19.7	0.1-0.25	0.15-0.22	0.5-2.0	3	0.4	20.7	5.1	●				●		●	
	ATD 404-TMR	19.7	0.15-0.30	0.18-0.27	0.5-2.50	4	0.4	20.7	5.1	●				●		●	
	ATD 408-TMR	19.7	0.15-0.30	0.18-0.27	1.0-2.50	4	0.8	20.7	5.1	●				●		●	
	ATD 504-TMR	24.7	0.18-0.35	0.20-0.35	0.55-3.50	5	0.4	25.7	5.0	●				●		●	
	ATD 508-TMR	24.7	0.18-0.35	0.20-0.35	1.0-3.50	5	0.8	25.7	5.0	●				●		●	
	ATD 604-TMR	24.7	0.20-0.45	0.22-0.45	0.65-4.0	6	0.4	25.7	5.0	●				●		●	
	ATD 608-TMR	24.7	0.20-0.45	0.22-0.45	1.0-4.0	6	0.8	25.7	5.0	●				●		●	
	ATD 812-TMR	30.5	0.22-0.50	0.28-0.5	1.5-5.0	8	1.2	31.5	6.1	●				●		●	

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

RM: Double-edged inserts applicable to external turning, grooving and profiling

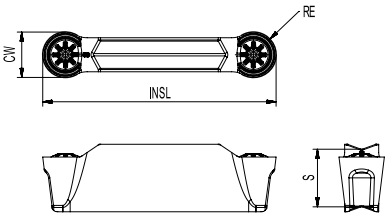


Inserts	Product code	Machining conditions: Cutting parameter – Grooving f (mm/rev)	Machining conditions: Cutting parameter – Turning f (mm/rev)	Machining conditions: Cutting parameter – Turning Ap (mm)	Dimensions CW	Dimensions RE	Dimensions INSL	Dimensions S	P AP301U	P AP330M	P AC230P	M AP330M	M AP301U	K AC230P	K AP301U	N AW100K
		● Good Conditions ◐ General Conditions ✱ Bad Conditions							●	✱	◐	✱	●	◐	●	●
	**ATD 210-RM**	0.06-0.15	0.12-0.25	0.4-1.0	2	1	20.7	5.1	●	●	○	●	●	○	●	
	ATD 315-RM	0.08-0.18	0.15-0.30	0.5-1.5	3	1.5	20.7	5.1	●	●	●	●	●	●	●	
	ATD 420-RM	0.10-0.20	0.18-0.35	0.6-2.0	4	2	20.7	5.1	●	●	●	●	●	●	●	
	ATD 525-RM	0.12-0.25	0.20-0.40	0.7-2.5	5	2.5	25.7	5.0	●	●	●	●	●	●	●	
	ATD 630-RM	0.15-0.30	0.25-0.50	0.9-3.0	6	3	25.7	5.0	●	●	○	●	●	○	●	
	ATD 840-RM	0.18-0.35	0.30-0.60	1.0-4.0	8	4	31.5	6.1	●	○	○	○	●	○	●	

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

RMR: Double-edged round inserts applicable to external turning, grooving and profiling

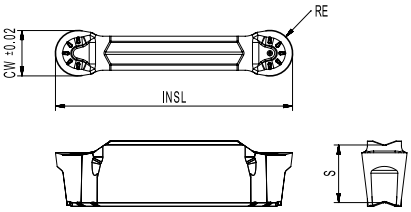


Inserts	Product code	Machining conditions: Cutting parameter – Grooving f (mm/rev)	Machining conditions: Cutting parameter – Turning f (mm/rev)	Machining conditions: Cutting parameter – Turning Ap (mm)	Dimensions CW	Dimensions RE	Dimensions INSL	Dimensions S	P AP301U	P AP330M	P AC230P	M AP330M	M AP130S	M AP301U	K AC230P	K AP301U	S AP130S	N AW100K
		● Good Conditions ◐ General Conditions ✱ Bad Conditions							●	✱	◐	✱	✱	●	◐	●	✱	●
	**ATD 210-RMR**	0.06-0.15	0.12-0.25	0.4-1.0	2	1	20.7	5.1	●				●	●		●	●	
	ATD 315-RMR	0.08-0.18	0.15-0.30	0.5-1.5	3	1.5	20.7	5.1	●				●	●		●	●	
	ATD 420-RMR	0.10-0.20	0.18-0.35	0.6-2.0	4	2	20.7	5.1	●				●	●		●	●	
	ATD 525-RMR	0.12-0.25	0.20-0.40	0.7-2.5	5	2.5	25.7	5.0	●				○	●		●	○	

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

RA: Double-edged ground inserts applicable to aluminium alloy turning and profiling

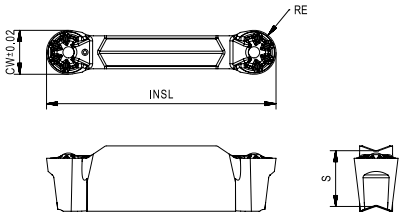


Inserts	Product code	Machining conditions: Cutting parameter – Grooving f (mm/rev)	Machining conditions: Cutting parameter – Turning f (mm/rev)	Machining conditions: Cutting parameter – Turning Ap (mm)	Dimensions: CW	Dimensions: RE	Dimensions: INSL	Dimensions: S	P: AP301U	P: AP330M	P: AC230P	M: AP330M	M: AP301U	K: AC230P	K: AP301U	N: AW100K
		● Good Conditions ⬌ General Conditions ✱ Bad Conditions							●	✱	⬌	✱	●	⬌	●	●
	**ATD 315-RA**	0.08-0.18	0.15-0.30	0.5-1.5	3	1.5	20.7	5.1								●
	ATD 420-RA	0.10-0.25	0.2-0.45	0.6-0.2	4	2	20.7	5.1								●
	ATD 525-RA	0.11-0.28	0.2-0.50	0.7-2.5	5	2.5	25.7	5.0								●
	ATD 630-RA	0.12-0.30	0.22-0.60	0.9-3.0	6	3	25.7	5.0								●
	ATD 840-RA	0.15-0.40	0.25-0.65	1.0-4.0	8	4	31.5	6.1								●

● : Standard stock ○ : Made-to-Order

Grooving-Turning Series

RS: Double-edged precision ground inserts, turning and profiling



Inserts	Product code	Machining conditions: Cutting parameter – Grooving f (mm/rev)	Machining conditions: Cutting parameter – Turning f (mm/rev)	Machining conditions: Cutting parameter – Turning Ap (mm)	Dimensions: CW	Dimensions: RE	Dimensions: INSL	Dimensions: S	P: AP301U	P: AP330M	P: AC230P	M: AP330M	M: AP130S	M: AP301U	K: AC230P	K: AP301U	S: AP130S	N: AW100K
		● Good Conditions ⬌ General Conditions ✱ Bad Conditions							●	✱	⬌	✱	✱	●	⬌	●	✱	●
	**ATD 210-RS**	0.08-0.15	0.10-0.22	0-1.0	2.0	1.0	20.7	5.1					●				●	
	ATD 315-RS	0.08-0.18	0.15-0.30	0-1.5	3.0	1.5	20.7	5.1					●				●	
	ATD 420-RS	0.10-0.20	0.18-0.35	0-2.0	4.0	2	20.7	5.1					●				●	
	ATD 525-RS	0.13-0.25	0.25-0.55	0-2.5	5.0	2.5	25.7	5.0					●				●	
	ATD 630-RS	0.15-0.28	0.30-0.65	0-3.0	6.0	3	25.7	5.0					●				●	
	ATD 840-RS	0.18-0.35	0.35-0.65	0-4.0	8.0	4	31.5	6.1					○				○	

● : Standard stock ○ : Made-to-Order

Insert Denomination System (Ground Insert)

A	T	D	215	E	010	G	R/L
1	2	3	4	5	6	7	8

1- Company Name
ACHTECK

2- Application	
C	Grooving/Parting off
T	Turning/Grooving

3- Insert Shape	
S	Single-edged
D	Double-edged

4- Insert Width
215=2.15mm
145=1.45mm

5- Application
E: External F: Facing I: Internal

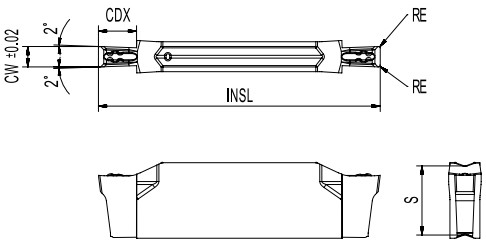
6- Insert Corner
010=0.10mm 020=0.20mm 200=2.00mm

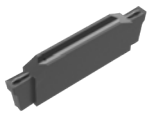
7- Application Limited	
G	only applicable to parting off

8- Hand of Tool	
	L: Left
	R: Right

Grooving-Turning Ground Series

Ground inserts applicable to turning and grooving



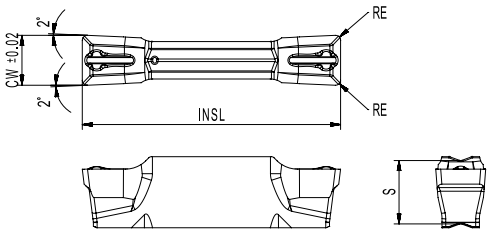
Inserts	Product code	Suitable tool holder (mm)	Machining conditions: Cutting parameter Grooving f (mm/rev)	Dimensions: CW	RE	CDX	S	INSL	● Good Conditions ⧓ General Conditions ✱ Bad Conditions							
									●	✱	⧓	✱	●	⧓	●	●
									P			M		K		N
									AP301U	AP330M	AC230P	AP330M	AP301U	AC230P	AP301U	AW100K
	**ATD 100E000G**	2	0.02-0.05	1.00	0.00	2.00	5.1	20.700	●				●		●	
	ATD 104E000G	2	0.02-0.05	1.04	0.00	2.00	5.1	20.700	●				●		●	
	ATD 115E000G	2	0.02-0.05	1.15	0.00	2.00	5.1	20.700	●				●		●	
	ATD 120E000G	2	0.03-0.05	1.20	0.00	2.00	5.1	20.700	●				●		●	
	ATD 125E010G	2	0.03-0.05	1.25	0.10	2.00	5.1	20.700	●				●		●	
	ATD 130E000G	2	0.03-0.05	1.30	0.00	2.00	5.1	20.700	●				●		●	
	ATD 135E000G	2	0.03-0.05	1.35	0.00	2.00	5.1	20.700	●				●		●	
	ATD 140E000G	2	0.03-0.06	1.40	0.00	2.00	5.1	20.700	●				●		●	
	ATD 145E010G	2	0.03-0.06	1.45	0.10	2.00	5.1	20.700	●				●		●	
	ATD 147E000G	2	0.03-0.06	1.47	0.00	2.50	5.1	20.700	●				●		●	
	ATD 150E010G	2	0.03-0.06	1.50	0.10	2.50	5.1	20.700	●				●		●	
	ATD 157E015G	2	0.03-0.07	1.57	0.15	2.70	5.1	20.700	●				●		●	
	ATD 165E010G	2	0.03-0.07	1.65	0.10	2.70	5.1	20.700	●				●		●	
	ATD 170E010G	2	0.03-0.07	1.70	0.10	3.00	5.1	20.700	●				●		●	
	ATD 178E018G	2	0.03-0.07	1.78	0.18	3.00	5.1	20.700	●				●		●	
	ATD 190E010G	2	0.04-0.09	1.90	0.10	3.00	5.1	20.700	●				●		●	
	ATD 196E015G	2	0.04-0.09	1.96	0.15	3.00	5.1	20.700	●				●		●	
	ATD 200E020G	2	0.04-0.09	2.00	0.20	3.00	5.1	20.700	●				●		●	
	ATD 215E010G	2	0.04-0.10	2.15	0.10	3.00	5.1	20.700	●				●		●	
	ATD 222E015G	2	0.04-0.10	2.22	0.15	-	5.1	20.700	●				●		●	
	ATD 230E020G	2	0.04-0.10	2.30	0.20	-	5.1	20.700	●				●		●	
	ATD 100E050G	2	0.03-0.06	1.00	0.50	2.00	5.1	20.700	●				●		●	
	ATD 140E070G	2	0.04-0.07	1.40	0.70	2.00	5.1	20.700	●				●		●	
	ATD 157E079G	2	0.04-0.08	1.57	0.785	2.70	5.1	20.700	●				●		●	
	ATD 200E100G	2	0.05-0.11	2.00	1.00	3.00	5.1	20.700	●				●		●	
	ATD 239E120G	2	0.06-0.12	2.39	1.195	-	5.1	20.700	●				●		●	

● : Standard stock ○ : Made-to-Order

1. When the width of insert is less than 1.78mm, please pay attention to size A of the holder.

Grooving-Turning Ground Series

Ground inserts applicable to turning and grooving

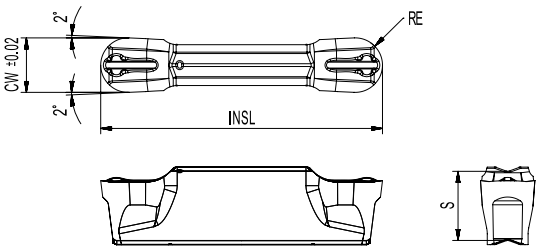


Inserts	Product code	Suitable tool holder (mm)	Machining conditions: Turning f (mm/rev)	Turning Ap (mm)	Grooving f (mm/rev)	Dimensions CW	RE	CDX	S	INSL	● Good Conditions ◐ General Conditions ✱ Bad Conditions: ●	✱	◐	✱	●	◐	●	●
											P			M		K		N
											AP301U	AP330M	AC230P	AP330M	AP301U	AC230P	AP301U	AW100K
	**ATD 265E015**	3	0.10-0.18	0.20-1.80	0.04-0.12	2.65	0.15	-	5.1	20.70	●				●		●	
	ATD 300E020	3	0.11-0.20	0.30-2.00	0.06-0.14	3.00	0.20	-	5.1	20.70	●				●		●	
	ATD 300E040	3	0.15-0.23	0.50-2.20	0.06-0.15	3.00	0.40	-	5.1	20.70	●				●		●	
	ATD 400E040	4	0.16-0.30	0.50-2.50	0.08-0.19	4.00	0.40	-	5.1	20.70	●				●		●	
	ATD 400E080	4	0.16-0.30	1.00-2.50	0.08-0.19	4.00	0.80	-	5.1	20.70	●				●		●	
	ATD 415E015	4	0.16-0.30	0.20-2.50	0.08-0.19	4.15	0.15	-	5.1	20.70	●				●		●	
	ATD 478E055	5	0.20-0.35	0.60-2.60	0.10-0.20	4.78	0.55	-	5.0	25.70	●				●		●	
	ATD 500E040	5	0.20-0.35	0.50-2.60	0.10-0.20	5.00	0.40	-	5.0	25.70	●				●		●	
	ATD 500E080	5	0.22-0.35	1.00-3.00	0.10-0.20	5.00	0.80	-	5.0	25.70	●				●		●	
	ATD 515E015	5	0.22-0.35	0.20-3.00	0.10-0.22	5.15	0.15	-	5.0	25.70	●				●		●	
	ATD 555E055	6	0.23-0.40	0.60-3.00	0.12-0.28	5.55	0.55	-	5.0	25.70	●				●		●	
	ATD 600E080	6	0.25-0.45	1.00-3.50	0.12-0.30	6.00	0.80	-	5.0	25.70	●				●		●	
	ATD 600E120	6	0.25-0.45	1.30-3.50	0.12-0.30	6.00	1.20	-	5.0	25.70	●				●		●	
	ATD 635E080	6	0.25-0.45	1.00-3.50	0.13-0.30	6.35	0.80	-	5.0	25.70	●				●		●	
	ATD 800E080	8	0.30-0.55	1.00-4.80	0.15-0.40	8.00	0.80	-	6.1	31.50	●				●		●	
	ATD 800E120	8	0.30-0.55	1.20-4.80	0.15-0.40	8.00	1.20	-	6.1	31.50	●				●		●	

● : Standard stock ○ : Made-to-Order

Grooving-Turning Ground Series

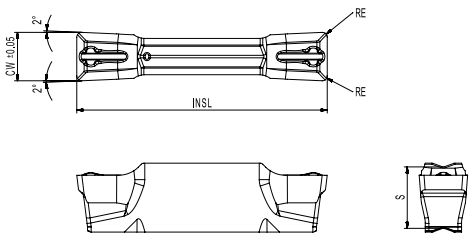
Ground inserts applicable to turning and grooving



● Good Conditions ◐ General Conditions ✱ Bad Conditions

Inserts	Product code	Suitable tool holder (mm)	Machining conditions: Turning f (mm/rev)	Turning Ap (mm)	Grooving f (mm/rev)	Dimensions CW	RE	CDX	S	INSL	P AP301U	P AP330M	P AC230P	M AP330M	M AP301U	K AC230P	K AP301U	N AW100K
	**ATD 300E150**	3	0.15-0.30	0-1.50	0.08-0.19	3.00	1.50	-	5.1	20.700	●				●		●	
	ATD 400E200	4	0.18-0.35	0-2.00	0.10-0.20	4.00	2.00	-	5.1	20.700	●				●		●	
	ATD 478E239	5	0.22-0.45	0-2.40	0.12-0.24	4.78	2.39	-	5.0	25.700	●				●		●	
	ATD 500E250	5	0.22-0.45	0-2.50	0.12-0.24	5.00	2.50	-	5.0	25.700	●				●		●	
	ATD 600E300	6	0.25-0.50	0-3.00	0.15-0.30	6.00	3.00	-	5.0	25.700	●				●		●	
	ATD 800E400	8	0.30-0.65	0-4.00	0.18-0.35	8.00	4.00	-	6.1	31.50	●				●		●	

● : Standard stock ○ : Made-to-Order



Blank Inserts of ATBD

Inserts	Product code	Suitable tool holder (mm)	Dimensions CW	RE	INSL	S	P	M	K	N	S	H
	**ATBD 2.6 M200**	2	2.60	0.10	21.2	5.1	●	●	●	●	●	
	ATBD 3.5 M200	3	3.50	0.10	21.2	5.1	●	●	●	●	●	
	ATBD 4.5 M200	4	4.50	0.10	21.2	5.1	●	●	●	●	●	
	ATBD 5.5 M200	5	5.50	0.10	26.2	5.0	●	●	●	●	●	
	ATBD 6.5 M200	6	6.50	0.10	26.2	5.0	●	●	●	●	●	
	ATBD 8.5 M200	8	8.74	0.12	32.0	6.1	●	●	●	●	●	

● : Standard stock ○ : Made-to-Order

Finished inserts need to be used together with Achteck grooving holder.

Cutting Data Recommandation Table

Materials						Cutting parameter recommended table of parting off and grooving application														
ISO	Workpiece material			Brinell hardness (HB/HRC)	Tensile strength (N/mm^2)	AP301U			AP130S			AP330M			AC230P			AW100K		
						f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)			f (mm/rev)		
						0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.3	0.5	0.1	0.2	0.4
P	Unalloyed steel	C ≤ 0.25%	Annealed	125	428	180	145	130	180	145	130	160	130	100	220	180	160	-	-	-
		0.25 < C ≤ 0.55%	Annealed	190	639	145	130	115	145	130	115	120	100	90	160	130	115	-	-	-
		0.25 < C ≤ 0.55%	Heat-treated	210	708	130	115	100	130	115	100	120	100	90	130	115	100	-	-	-
		C > 0.55%	Annealed	190	639	145	130	115	145	130	115	145	130	80	160	130	115	-	-	-
		C > 0.55%	Heat-treated	300	1013	115	100	80	115	100	80	115	100	80	115	100	80	-	-	-
		Free cutting steel (short-chip)	Annealed	220	745	130	115	100	130	115	100	130	115	100	130	115	100	-	-	-
	Low-alloyed steel	Annealed		175	591	180	145	130	180	145	130	-	-	-	-	-	-	-	-	-
		Heat-treated		300	1013	115	100	80	115	100	80	-	-	-	-	-	-	-	-	-
		Heat-treated		380	1282	170	90	105	170	90	105	-	-	-	-	-	-	-	-	-
		Heat-treated		430	1477	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	High-alloyed steel and high-alloyed tool steel	Annealed		200	675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Hardened and tempered		300	1013	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Hardened and tempered		400	1361	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Stainless steel	Ferritic/martensitic, annealed		200	675	165	135	105	165	135	105	-	-	-	-	-	-	-	-	-
		Martensitic, heat-treated		330	1114	150	115	70	150	115	70	-	-	-	-	-	-	-	-	-
M	Stainless steel	Austenitic, quench hardened		200	675	165	135	105	165	135	105	165	135	105	-	-	-	-	-	-
		Austenitic, precipitation hardened (PH)		300	1013	155	120	80	155	120	80	155	120	80	-	-	-	-	-	-
		Austenitic/ferritic, duplex		230	778	135	110	85	135	110	85	135	110	85	-	-	-	-	-	-
K	Malleable cast iron	Ferritic		200	400	115	90	65	-	-	-	-	-	-	115	90	65	-	-	-
		Pearlitic		260	700	115	90	65	-	-	-	-	-	-	115	90	65	-	-	-
	Grey cast iron	Low tensile strength		180	200	185	140	95	-	-	-	-	-	-	200	160	120	-	-	-
		High tensile strength/austenitic		245	350	185	140	95	-	-	-	-	-	-	200	160	120	-	-	-
	Nodular cast iron	Ferritic		155	400	145	110	80	-	-	-	-	-	-	160	130	100	-	-	-
		Pearlitic		265	700	145	110	80	-	-	-	-	-	-	160	130	100	-	-	-
	GGV(CGI)			230	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
N	Wrought aluminium alloys	Non-aging		30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Aged		100	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Cast aluminium alloys	≤ 12% Si, non-aging		75	260	-	-	-	-	-	-	-	-	-	-	-	-	850	500	200
		≤ 12% Si, aged		90	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		12% Si, non-aging		130	450	-	-	-	-	-	-	-	-	-	-	-	-	450	250	40
	Magnesium alloys			70	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Copper and copper alloys	Unalloyed, electrolytic copper		100	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Brass, bronze, red brass		90	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Cu alloys, short-chipping		110	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		High-tensile, Ampco alloy		300	1010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	Heat-resistant alloys	Fe-based	Annealed	200	680	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
			Hardened	280	940	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
		Ni or Co based	Annealed	250	840	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
			Hardened	350	1180	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
			Cast	320	1080	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
	Titanium alloys	Pure titanium		200	680	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
		α and β alloys, hardened		375	1260	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
		β alloys		410	1400	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
	Tungsten alloys			300	1010	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
	Molybdenum alloys			300	1010	-	-	-	80	60	40	-	-	-	-	-	-	-	-	-
H	Hardened steel	Hardened and tempered		50HRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Hardened and tempered		55HRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		Hardened and tempered		60HRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Chilled cast iron	Hardened and tempered		55HRC	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

The recommended cutting data always refer to general cutting conditions. The actual selection should be adjusted according to machine rigidity, tool body and workpiece conditions and coolant.
(f=mm/rev to be adjusted for insert radius)