Grooving Tool

Product Features and Applications

- Holders can cover external, internal and face grooving.
- Insert width range： 2-8mm
- Three parting and grooving geometries: CS, CM, CH
- Two turning geometries: TM, TS.
- Two Profiling geometries： RM, RA
- High precision ground insert series, covering 1-8mm insert width, can be used in parting, grooving and profiling machining.
- Unique rake geometry design combined with double relief angle on the flank, obtained more clearance in smaller diameter face grooving and internal grooving

Insert Denomination System

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-Corner radius	
	02=0.2mm 03=0.3mm 04=0.4mm

6-Geometry	
	CS CM CH TS

7-Cutting edge angle	
	6
	15

8-Hand of tool	
	L: Left
	R: Right

Insert Denomination System (Ground)

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

1-Company name
ACHTECK

2-Application	
T	Turning/Grooving

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

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

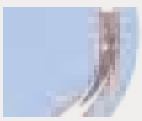
5-Application
E: External F: Facing I: Internal

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

7-Application limited	
G	only applicable to parting off

8-insert direction	
	L: left hand
	R: right hand

Overview of Grooving Inserts

Application \ Inserts*			ACD			ATD				
			CS	CM	CH	TS	TM	RM	RA	G
										
Page			P124	P125	P126	P127	P128	P129	P130	P131-133
External grooving	Parting off		●	●	●	◐	◐			
	Grooving		●	●	●	●	●	●		●
	Turning					●	●	●	◐	◐
	Profiling							●	●	◐
	Under cut							●	●	◐
Face grooving	Grooving		◐	◐	◐	●	●			●
	Turning					●	●			◐
Internal machining	Grooving		◐	◐	◐	●	●			●
	Turning					●	●	◐		◐

Marked：● Best choice
◐ 2nd choice

ACHTECK

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Grooving inserts

Insert Geometry Introduction

Inserts	Geometry	Shape of cutting edge	Description
	CS		1. Used in parting off & grooving stainless steel, heat resistant alloy and low carbon steel 2. For low feed rate application
	CM		1. Used in parting off & grooving low carbon steel and stainless steel 2. For sticky material, pipe fitting, thin-walled part parting off, low cutting force 3. For low to medium feed rate
	CH		1. Used in parting off and grooving steel with high hardness and toughness, alloy steel and stainless steel 2. Strong cutting edge 3. For parting office and grooving at medium to high feed rate
	TS		1. Multifunctional insert for external, internal turning and grooving, parting off, face grooving and face turning 2. Excellent chip control 3. For low and medium feed rate. 4. There is a wider machining diameter range in the internal grooving and face grooving.
	TM		1. Multifunctional insert for external, internal turning and grooving, parting off, face grooving and face turning 2. Stronger cutting edge design 3. For medium feed rate
	RM		1. External grooving, turning, profiling 2. Medium feed rate
	RA		1. For turning and profiling aluminum alloy 2. High positive rake angle and sharp cutting edge 3. Ground inserts with high precision

Grade Application Guide

Grooving grade ISO group					
Material	Materials	ISO	PVD coated AP301U	Uncoated AW100K	ISO
P	Unalloy steels / Alloyed steels	P01			P01
		P05			P05
		P10			P10
		P15	AP301U		P15
		P20			P20
		P25			P25
		P30			P30
		P35			P35
		P40			P40
		P45			P45
		P50			P50
M	Stainless steels	M01			M01
		M05			M05
		M10			M10
		M15	AP301U		M15
		M20			M20
		M25			M25
		M30			M30
		M35			M35
		M40			M40
		M45			M45
K	Cast iron	K01			K01
		K05			K05
		K10			K10
		K15	AP301U		K15
		K20			K20
		K25			K25
		K30			K30
		K35			K35
		K40			K40
		K45			K45
		K50			K50
S	Heat resistant alloys	S01			S01
		S05			S05
		S10			S10
		S15			S15
		S20			S20
		S25			S25
		S30			S30
		S35			S35
		S40			S40
N	Aluminum/ Aluminum alloys	N01			N01
		N05		AW100K	N05
		N10			N10
		N15			N15
		N20			N20
		N25			N25
		N30			N30
H	Hardened steels/ Chilled cast iron	H01			H01
		H05			H05
		H10			H10
		H15			H15
		H20			H20
		H25			H25
		H30			H30

Grade Application Guide

Materials				Turning grade application	
				PVD coated	Uncoated
ISO	Material classification	Tensile strength (N/mm^2)	Hardness (HB)	AP301U	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	◐	-
S	Fe-based alloy	943	280	-	-
	Co-based alloy	1076	320	-	-
	Ni-based alloy	1177	350	-	-
	Ti-alloy	1262	370	-	-
N	Aluminum	260	75	-	●
	Aluminum alloy	447	130	-	●
H	Hardened steel	-	50-60HRC	-	-
	Chilled cast iron	-	55HRC	-	-

● Best choice
◐ 2nd choice
- Inapplicable

Grooving Grade Description

AP301U

Coating: PVD coating

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

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P				AP301U							
M				AP301U							
K				AP301U							
S											
N											
H											

Remark：Best choice
2nd choice

AW100K

Coating: uncoated

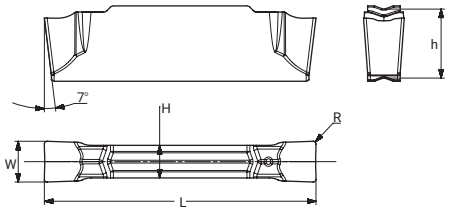
Uncoated ultra-fine grain substrate, specially treated cutting edge, suitable for aluminum alloy grooving

Application range											
ISO Classification	01	05	10	15	20	25	30	35	40	45	50
P											
M											
K											
S											
N		AW100K									
H											

Remark：Best choice

Parting Off-Grooving Series

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



Inserts	Product code	Cutting parameter		Dimension(mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AW100K
	ACD 202-CS	19.7	0.04-0.13	2	0.2	20	1.7	5.1	●	
	ACD 302-CS	19.7	0.05-0.15	3	0.2	20	2.4	5.1	●	

Marked：● Stock available ○ Non-stocked standard

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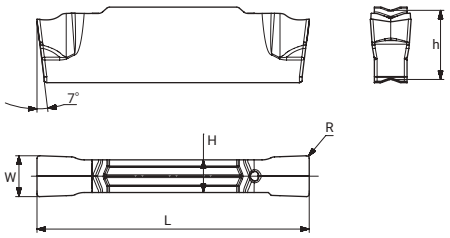
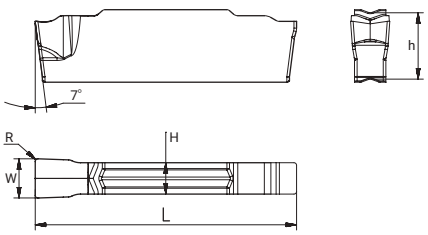
Parting Off-Grooving Series

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

ACD



ACS



Inserts	Product code	Cutting parameter		Dimension(mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AW100K
	ACD 202-CM	19.7	0.04-0.15	2	0.2	20.0	1.7	5.1	●	
	ACD 202-CM-6R	19.7	0.03-0.09	2	0.2	20.7	1.7	5.1	●	
	ACD 202-CM-6L	19.7	0.03-0.09	2	0.2	20.7	1.7	5.1	●	
	ACD 202-CM-15R	19.7	0.03-0.09	2	0.2	21.0	1.7	5.1	●	
	ACD 202-CM-15L	19.7	0.03-0.09	2	0.2	21.0	1.7	5.1	●	
	ACD 302-CM	19.7	0.05-0.16	3	0.2	20.0	2.4	5.1	●	
	ACD 302-CM-6R	19.7	0.04-0.14	3	0.2	20.7	2.4	5.1	●	
	ACD 302-CM-6L	19.7	0.04-0.14	3	0.2	20.7	2.4	5.1	●	
	ACD 302-CM-15R	19.7	0.04-0.14	3	0.2	21.0	2.4	5.1	●	
	ACD 302-CM-15L	19.7	0.04-0.14	3	0.2	21.0	2.4	5.1	●	
	ACD 403-CM	19.7	0.06-0.18	4	0.3	20.0	3.0	5.1	●	
	ACD 403-CM-4R	19.7	0.05-0.16	4	0.3	20.7	3.0	5.1	●	
	ACD 403-CM-4L	19.7	0.05-0.16	4	0.3	20.7	3.0	5.1	●	
	ACD 503-CM	24.7	0.06-0.20	5	0.3	25.0	4.0	5.0	●	
	ACD 503-CM-4R	24.7	0.06-0.18	5	0.3	25.7	4.0	5.0	○	
	ACD 503-CM-4L	24.7	0.06-0.18	5	0.3	25.7	4.0	5.0	○	
	ACD 603-CM	29.7	0.06-0.22	6	0.3	25.0	5.0	5.0	●	
	ACS 202-CM	19.7	0.04-0.15	2	0.2	20.0	1.7	5.1	●	
	ACS 302-CM	19.7	0.05-0.16	3	0.2	20.0	2.4	5.1	●	
	ACS 403-CM	19.7	0.06-0.18	4	0.3	20.0	3.0	5.1	○	
	ACS 503-CM	24.7	0.06-0.20	5	0.3	25.0	4.0	5.0	○	
	ACS 603-CM	29.7	0.06-0.22	6	0.3	25.0	5.0	5.0	○	

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

Marked：● Stock available ○ Non-stocked standard

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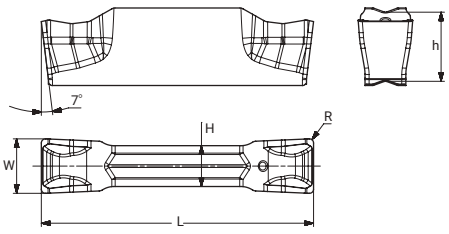
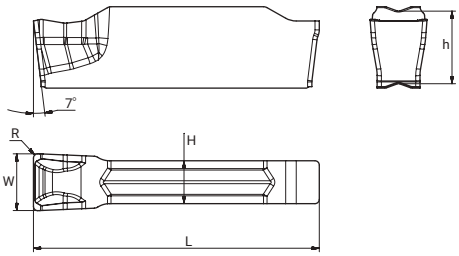
Parting Off-Grooving Series

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

ACD



ACS



inserts*	Product code	Cutting parameter		Dimension(mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AW100K
	ACD 202-CH	19.7	0.05-0.20	2	0.2	20.0	1.7	5.1	●	
	ACD 202-CH-6R	19.7	0.04-0.16	2	0.2	20.7	1.7	5.1	●	
	ACD 202-CH-6L	19.7	0.04-0.16	2	0.2	20.7	1.7	5.1	●	
	ACD 202-CH-15R	19.7	0.04-0.15	2	0.2	21.0	1.7	5.1	●	
	ACD 202-CH-15L	19.7	0.04-0.15	2	0.2	21.0	1.7	5.1	●	
	ACD 302-CH	19.7	0.07-0.25	3	0.2	20.0	2.4	5.1	●	
	ACD 302-CH-6R	20.7	0.05-0.20	3	0.2	20.7	2.4	5.1	●	
	ACD 302-CH-6L	21.7	0.05-0.20	3	0.2	20.7	2.4	5.1	●	
	ACD 302-CH-15R	20.0	0.05-0.18	3	0.2	21.0	2.4	5.1	●	
	ACD 302-CH-15L	20.0	0.05-0.18	3	0.2	21.0	2.4	5.1	●	
	ACD 403-CH	19.0	0.08-0.30	4	0.3	20.0	3.0	5.1	●	
	ACD 403-CH-4R	19.7	0.06-0.25	4	0.3	20.7	3.0	5.1	●	
	ACD 403-CH-4L	19.7	0.06-0.25	4	0.3	20.7	3.0	5.1	●	
	ACD 503-CH	24.0	0.09-0.35	5	0.3	25.0	4.0	5.0	●	
	ACD 503-CH-4R	24.7	0.08-0.30	5	0.3	25.7	4.0	5.0	●	
	ACD 503-CH-4L	25.7	0.08-0.30	5	0.3	25.7	4.0	5.0	●	
	ACD 603-CH	24.0	0.12-0.40	6	0.3	25.0	5.0	5.0	●	
	ACD 804-CH	29.0	0.15-0.45	8	0.4	30.0	6.0	6.1	●	
	ACS 202-CH	-	0.05-0.20	2	0.2	20.0	1.7	5.1	●	
	ACS 302-CH	-	0.07-0.25	3	0.2	20.0	2.4	5.1	●	
	ACS 403-CH	-	0.08-0.30	4	0.3	20.0	3.0	5.1	●	
	ACS 503-CH	-	0.09-0.35	5	0.3	20.0	4.0	5.0	●	
	ACS 603-CH	-	0.12-0.40	6	0.3	25.0	5.0	5.0	○	

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

Marked：● Stock available ○ Non-stocked standard

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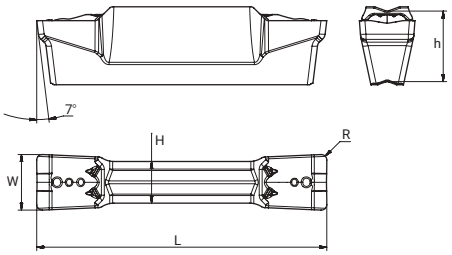
Grooving-Turning Series

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



inserts*	Product code	Cutting parameter				Dimension(mm)					Grade	
		Grooving	Tmax	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)		Feed (mm/rev)	Ap Ap(mm)							
	ATD 203-TS	0.04-0.20	19.7	0.12-0.19	0.40-1.50	2	0.3	20.7	1.7	5.1	●	
	ATD 303-TS	0.05-0.25	19.7	0.15-0.23	0.45-2.00	3	0.3	20.7	2.2	5.1	●	
	ATD 404-TS	0.06-0.27	19.7	0.18-0.25	0.50-2.50	4	0.4	20.7	3.0	5.1	●	
	ATD 408-TS	0.06-0.27	19.7	0.18-0.25	1.00-2.50	4	0.8	20.7	3.0	5.1	●	
	ATD 504-TS	0.07-0.30	24.7	0.20-0.30	0.55-3.50	5	0.4	25.7	4.0	5.0	●	
	ATD 508-TS	0.07-0.30	24.7	0.20-0.30	1.00-3.50	5	0.8	25.7	4.0	5.0	●	
	ATD 604-TS	0.10-0.40	24.7	0.22-0.45	0.65-3.80	6	0.4	25.7	5.0	5.0	●	
	ATD 608-TS	0.10-0.40	24.7	0.22-0.45	1.00-3.80	6	0.8	25.7	5.0	5.0	○	
	ATD 808-TS	0.12-0.45	30.5	0.28-0.50	1.00-4.50	8	0.8	31.5	6.0	6.1	○	

Marked：● Stock available ○ Non-stocked standard

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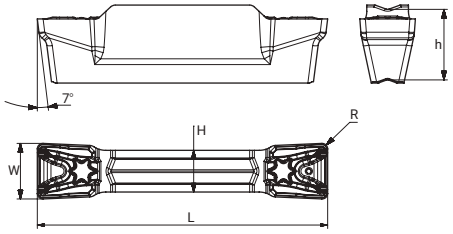
Grooving-Turning Series

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



inserts*	Product code	Cutting parameter				Dimension(mm)					Grade	
		Grooving	Tmax	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)		Feed (mm/rev)	Ap Ap(mm)							
	ATD 304-TM	0.10-0.25	19.7	0.15-0.22	0.50-2.0	3	0.4	20.7	2.2	5.1	●	
	ATD 404-TM	0.15-0.30	19.7	0.18-0.27	0.50-2.5	4	0.4	20.7	3.0	5.1	●	
	ATD 408-TM	0.15-0.30	19.7	0.18-0.27	1.00-2.5	4	0.8	20.7	3.0	5.1	●	
	ATD 504-TM	0.18-0.35	24.7	0.20-0.35	0.55-3.5	5	0.4	25.7	4.0	5.0	●	
	ATD 508-TM	0.18-0.35	24.7	0.20-0.35	1.00-3.5	5	0.8	25.7	4.0	5.0	●	
	ATD 604-TM	0.20-0.45	24.7	0.22-0.45	0.65-4.0	6	0.4	25.7	5.0	5.0	●	
	ATD 608-TM	0.20-0.45	24.7	0.22-0.45	1.00-4.0	6	0.8	25.7	5.0	5.0	●	
	ATD 808-TM	0.22-0.50	30.5	0.28-0.50	1.00-5.0	8	0.8	31.5	6.0	6.1	○	
	ATD 812-TM	0.22-0.50	30.5	0.28-0.50	1.50-5.0	8	1.2	31.5	6.0	6.1	●	

Marked：● Stock available ○ Non-stocked standard

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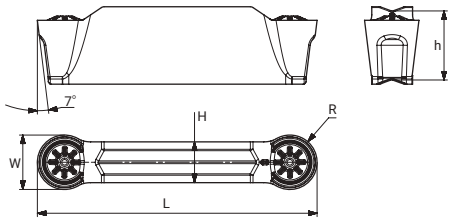
Grooving-Turning Series

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



inserts*	Product code	Cutting parameter			Dimension(mm)					Grade	
		Grooving	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)	Feed (mm/rev)	Ap Ap(mm)							
	ATD 210-RM	0.06-0.15	0.12-0.25	0.4-1.0	2	1.0	20.7	1.7	5.1	●	
	ATD 315-RM	0.08-0.18	0.15-0.30	0.5-1.5	3	1.5	20.7	2.2	5.1	●	
	ATD 420-RM	0.10-0.20	0.18-0.35	0.6-2.0	4	2.0	20.7	3.0	5.1	●	
	ATD 525-RM	0.12-0.25	0.20-0.40	0.7-2.5	5	2.5	25.7	4.0	5.0	●	
	ATD 630-RM	0.15-0.30	0.25-0.50	0.9-3.0	6	3.0	25.7	5.0	5.0	●	
	ATD 840-RM	0.18-0.35	0.30-0.60	1.0-4.0	8	4.0	31.5	6.0	6.1	●	

Marked：● Stock available ○ Non-stocked standard

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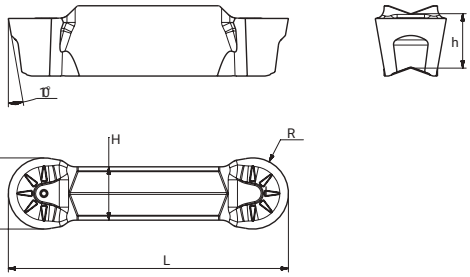
Grooving-Turning Series

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



inserts*	Product code	Cutting parameter			Dimension(mm)					Grade	
		Grooving	Turning		W	R	L	H	h	AP301U	AW100K
		Feed (mm/rev)	Feed (mm/rev)	Ap (mm)							
	ATD 315-RA	0.08-0.18	0.15-0.30	0.5-1.5	3	1.5	20.7	2.2	5.1		○
	ATD 420-RA	0.10-0.25	0.20-0.45	0.6-0.2	4	2.0	20.7	3.0	5.1		○
	ATD 525-RA	0.11-0.28	0.20-0.50	0.7-2.5	5	2.5	25.7	4.0	5.0		○
	ATD 630-RA	0.12-0.30	0.22-0.60	0.9-3.0	6	3.0	25.7	5.0	5.0		○
	ATD 840-RA	0.15-0.40	0.25-0.65	1.0-4.0	8	4.0	31.5	6.0	6.1		○

Marked：● Stock available ○ Non-stocked standard

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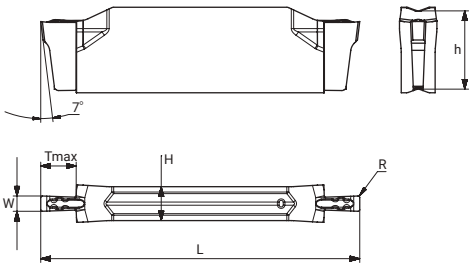
Grooving Series

Ground inserts applicable to grooving



inserts*	Product code	Suitable tool holder	Cutting parameter	Dimension(mm)						Grade	
			Grooving Feed (mm/rev)	W	R	Tmax	H	h	L	AP301U	AW100K
	ATD 100E000G	2mm	0.02-0.05	1.00	0.00	2.00	2.20	5.1	20.700	●	
	ATD 104E000G	2mm	0.02-0.05	1.04	0.00	2.00	2.20	5.1	20.700	●	
	*ATD 115E000G	2mm	0.02-0.05	1.15	0.00	2.00	2.20	5.1	20.700	●	
	ATD 120E000G	2mm	0.03-0.05	1.20	0.00	2.00	2.20	5.1	20.700	●	
	ATD 125E010G	2mm	0.03-0.05	1.25	0.10	2.00	2.20	5.1	20.700	●	
	*ATD 130E000G	2mm	0.03-0.05	1.30	0.00	2.00	2.20	5.1	20.700	●	
	ATD 135E000G	2mm	0.03-0.05	1.35	0.00	2.00	2.20	5.1	20.700	●	
	ATD 140E000G	2mm	0.03-0.06	1.40	0.00	2.00	2.20	5.1	20.700	●	
	ATD 145E010G	2mm	0.03-0.06	1.45	0.10	2.00	2.20	5.1	20.700	●	
	ATD 147E000G	2mm	0.03-0.06	1.47	0.00	2.50	2.20	5.1	20.700	●	
	ATD 150E010G	2mm	0.03-0.06	1.50	0.10	2.50	2.20	5.1	20.700	●	
	ATD 157E015G	2mm	0.03-0.07	1.57	0.15	2.70	2.20	5.1	20.700	●	
	*ATD 165E010G	2mm	0.03-0.07	1.65	0.10	2.70	2.20	5.1	20.700	●	
	ATD 170E010G	2mm	0.03-0.07	1.70	0.10	3.00	2.20	5.1	20.700	●	
	ATD 178E018G	2mm	0.03-0.07	1.78	0.18	3.00	2.20	5.1	20.700	●	
	*ATD 190E010G	2mm	0.04-0.09	1.90	0.10	3.00	2.20	5.1	20.700	●	
	ATD 196E015G	2mm	0.04-0.09	1.96	0.15	3.00	2.20	5.1	20.700	●	
	ATD 200E020G	2mm	0.04-0.09	2.00	0.20	3.00	2.20	5.1	20.700	●	
	*ATD 215E010G	2mm	0.04-0.10	2.15	0.10	3.00	2.20	5.1	20.700	●	
	ATD 222E015G	2mm	0.04-0.10	2.22	0.15	3.50	2.20	5.1	20.700	●	
	ATD 230E020G	2mm	0.04-0.10	2.30	0.20	3.50	2.20	5.1	20.700	●	
	ATD 100E050G	2mm	0.03-0.06	1.00	0.50	2.00	2.20	5.1	20.700	●	
	ATD 140E070G	2mm	0.04-0.07	1.40	0.70	2.00	2.20	5.1	20.700	●	
	ATD 157E079G	2mm	0.04-0.08	1.57	0.78	2.70	2.20	5.1	20.700	●	
	ATD 200E100G	2mm	0.05-0.11	2.00	1.00	3.00	2.20	5.1	20.700	●	
	ATD 239E120G	2mm	0.06-0.12	2.39	1.19		2.20	5.1	20.700	●	

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

Marked：● Stock available ○ Non-stocked standard

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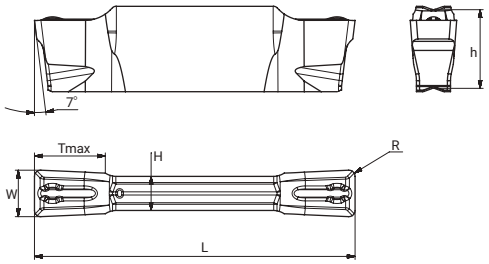
Grooving Series

Ground inserts applicable to profiling, turning and grooving



inserts*	Product code	Suitable tool holder	Cutting parameter			Dimension(mm)						Grade	
			Grooving	Turning		W	R	Tmax	H	h	L	AP301U	AW100K
			Feed (mm/rev)	Feed (mm/rev)	Ap (mm)								
	ATD 265E015	3mm	0.04-0.12	0.10-0.18	0.20-1.80	2.65	0.15	-	2.20	5.1	20.70	●	
	ATD 300E020	3mm	0.06-0.14	0.11-0.20	0.30-2.00	3.00	0.20	-	2.20	5.1	20.70	●	
	ATD 300E040	3mm	0.06-0.15	0.15-0.23	0.50-2.20	3.00	0.40	-	2.20	5.1	20.70	●	
	ATD 400E040	4mm	0.08-0.19	0.16-0.30	0.50-2.50	4.00	0.40	-	3.00	5.1	20.70	●	
	ATD 400E080	4mm	0.08-0.19	0.16-0.30	1.00-2.50	4.00	0.80	-	3.00	5.1	20.70	●	
	ATD 415E015	4mm	0.08-0.19	0.16-0.30	0.20-2.50	4.15	0.15	-	3.00	5.1	20.70	●	
	ATD 478E055	5mm	0.10-0.20	0.20-0.35	0.60-2.60	4.78	0.55	-	4.00	5.0	25.70	●	
	ATD 500E040	5mm	0.10-0.20	0.20-0.35	0.50-2.60	5.00	0.40	-	4.00	5.0	25.70	●	
	ATD 500E080	5mm	0.10-0.20	0.22-0.35	1.00-3.00	5.00	0.80	-	4.00	5.0	25.70	●	
	ATD 515E015	5mm	0.10-0.22	0.22-0.35	0.20-3.00	5.15	0.15	-	4.00	5.0	25.70	●	
	ATD 555E055	6mm	0.12-0.28	0.23-0.40	0.60-3.00	5.55	0.55	-	5.00	5.0	25.70	●	
	ATD 600E080	6mm	0.12-0.30	0.25-0.45	1.00-3.50	6.00	0.80	-	5.00	5.0	25.70	●	
	ATD 600E120	6mm	0.12-0.30	0.25-0.45	1.30-3.50	6.00	1.20	-	5.00	5.0	25.70	●	
	ATD 635E080	6mm	0.13-0.30	0.25-0.45	1.00-3.50	6.35	0.80	-	5.00	5.0	25.70	●	
	ATD 800E080	8mm	0.15-0.40	0.30-0.55	1.00-4.80	8.00	0.80		6.00	6.1	31.50	●	
	ATD 800E120	8mm	0.15-0.40	0.30-0.55	1.20-4.80	8.00	1.20		6.00	6.1	31.50	●	

Marked：● Stock available ○ Non-stocked standard

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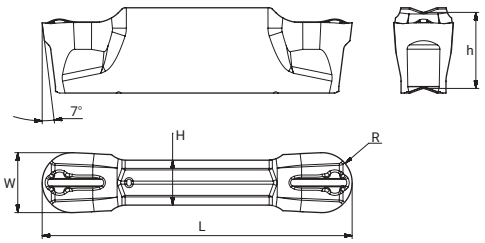
Grooving Series

Ground inserts applicable to turning and grooving



inserts*	Product code	Suitable tool holder	Cutting parameter			Dimension(mm)						Grade	
			Grooving	Turning		W	R	Tmax	H	h	L	AP301U	AW100K
			Feed (mm/rev)	Feed (mm/rev)	Ap (mm)								
	ATD 300E150	3mm	0.08-0.19	0.15-0.30	0-1.50	3.00	1.50	-	2.20	5.1	20.700	●	
	ATD 400E200	4mm	0.10-0.20	0.18-0.35	0-2.00	4.00	2.00	-	3.00	5.1	20.700	●	
	ATD 478E239	5mm	0.12-0.24	0.22-0.45	0-2.40	4.78	2.39	-	4.00	5.0	25.700	●	
	ATD 500E250	5mm	0.12-0.24	0.22-0.45	0-2.50	5.00	2.50	-	4.00	5.0	25.700	●	
	ATD 600E300	6mm	0.15-0.30	0.25-0.50	0-3.00	6.00	3.00	-	5.00	5.0	25.700	●	
	ATD 800E400	8mm	0.18-0.35	0.30-0.65	0-4.00	8.00	4.00	-	6.00	6.1	31.500	●	

Marked：● Stock available ○ Non-stocked standard

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Cutting Parameter Recommendation of Parting Off and Grooving Application

Materials						Cutting parameter recommended table of parting off and grooving application					
ISO	Workpiece material			Brinell hardness (HB)	Tensile strength Rm(N/mm²)	AP301U			AW100K		
						feed（mm/rev）					
						0.1	0.3	0.5	0.1	0.2	0.4
P	Unalloyed steel	C≤0.25%	Annealed	125	428	180	145	130	-	-	-
		0.25 < C≤0.55%	Annealed	190	639	145	130	115	-	-	-
		0.25 < C≤0.55%	Heat-treated	210	708	130	115	100	-	-	-
		C > 0.55%	Annealed	190	639	145	130	115	-	-	-
		C > 0.55%	Heat-treated	300	1013	115	100	80	-	-	-
		Free cutting steel (short-chip)	Annealed	220	745	130	115	100	-	-	-
	Low-alloyed steel	Annealed		175	591	180	145	130	-	-	-
		Heat-treated		300	1013	115	100	80	-	-	-
		Heat-treated		380	1282	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	-	-	-
		Martensitic, heat-treated		330	1114	150	115	70	-	-	-
M	Stainless steel	Austenitic, quench hardened		200	675	165	135	105	-	-	-
		Austenitic, precipitation hardened (PH)		300	1013	155	120	80	-	-	-
		Austenitic/ferritic, duplex		230	778	135	110	85	-	-	-
K	Malleable cast iron	Ferritic		200	400	115	90	65	-	-	-
		Pearlitic		260	700	115	90	65	-	-	-
	Grey cast iron	Low tensile strength		180	200	185	140	95	-	-	-
		High tensile strength/austenitic		245	350	185	140	95	-	-	-
	Nodular cast iron	Ferritic		155	400	145	110	80	-	-	-
		Pearlitic		265	700	145	110	80	-	-	-
	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 (bronze/brass)	Unalloyed, electrolytic copper		100	340	-	-	-	-	-	-
		Brass, bronze, red brass		90	310	-	-	-	-	-	-
		Cu alloys, short-chip		110	380	-	-	-	-	-	-
		High tensile, Ampco alloy		300	1010	-	-	-	-	-	-
S	Heat-resistant alloys	Fe-based	Annealed	200	680	-	-	-	-	-	-
			Hardened	280	940	-	-	-	-	-	-
		Ni or Co based	Annealed	250	840	-	-	-	-	-	-
			Hardened	350	1180	-	-	-	-	-	-
			Cast	320	1080	-	-	-	-	-	-
	Titanium alloys	Pure titanium		200	680	-	-	-	-	-	-
		α and β alloys, hardened		375	1260	-	-	-	-	-	-
		β alloys		410	1400	-	-	-	-	-	-
	Tungsten alloys	1177		300	1010	-	-	-	-	-	-
	Molybdenum alloys	1262		300	1010	-	-	-	-	-	-
H	Hardened steel	Hardened and tempered		50HRC	-	-	-	-	-	-	-
		Hardened and tempered		55HRC	-	-	-	-	-	-	-
		Hardened and tempered		60HRC	-	-	-	-	-	-	-
	Hardened cast steel	Hardened and tempered		50HRC	-	-	-	-	-	-	-

*The recommended cutting conditions always refer to general conditions. These cutting conditions should be adjusted according to the practical machine rigidity, tools, workpiece clamping and coolant

Note

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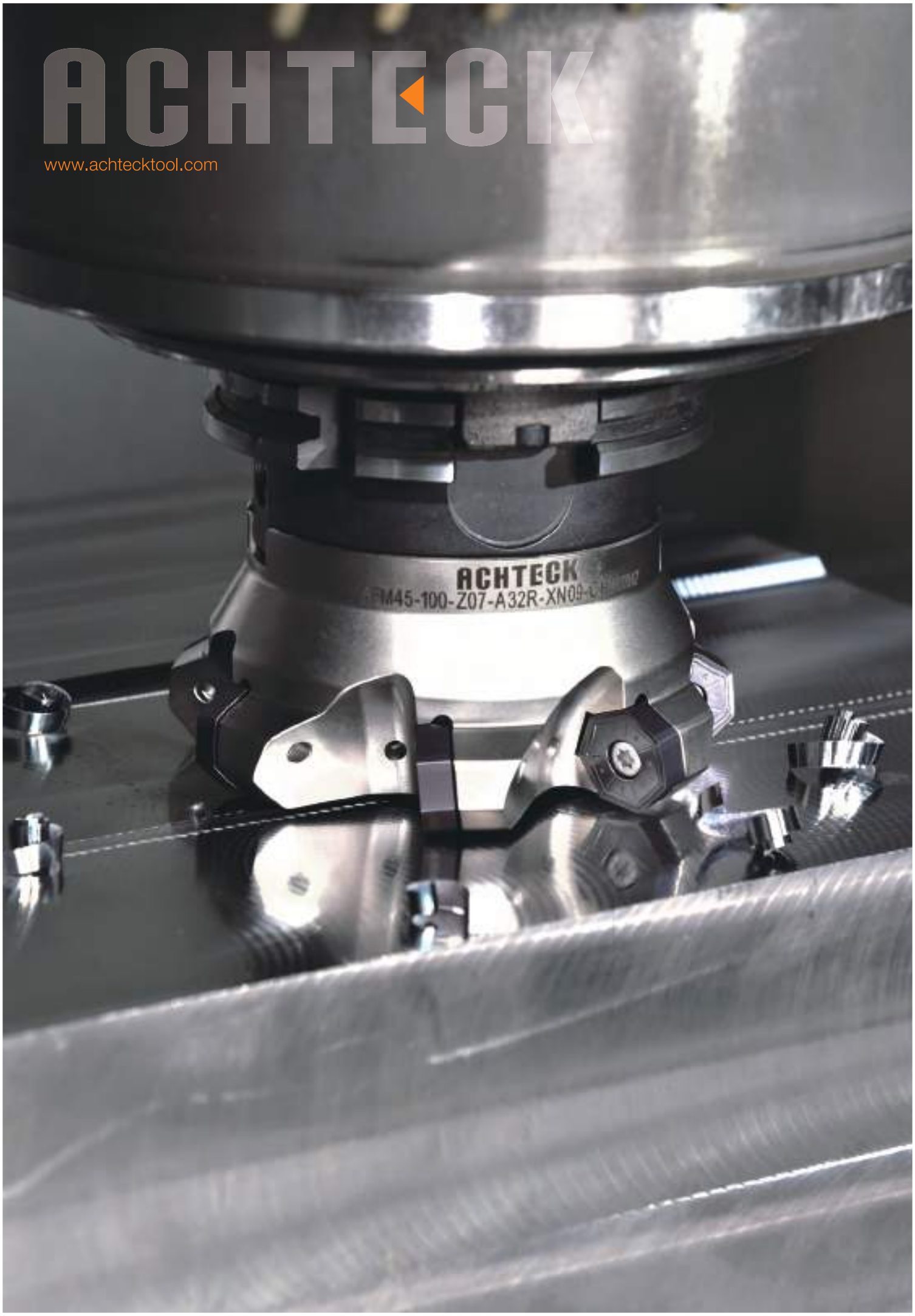

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