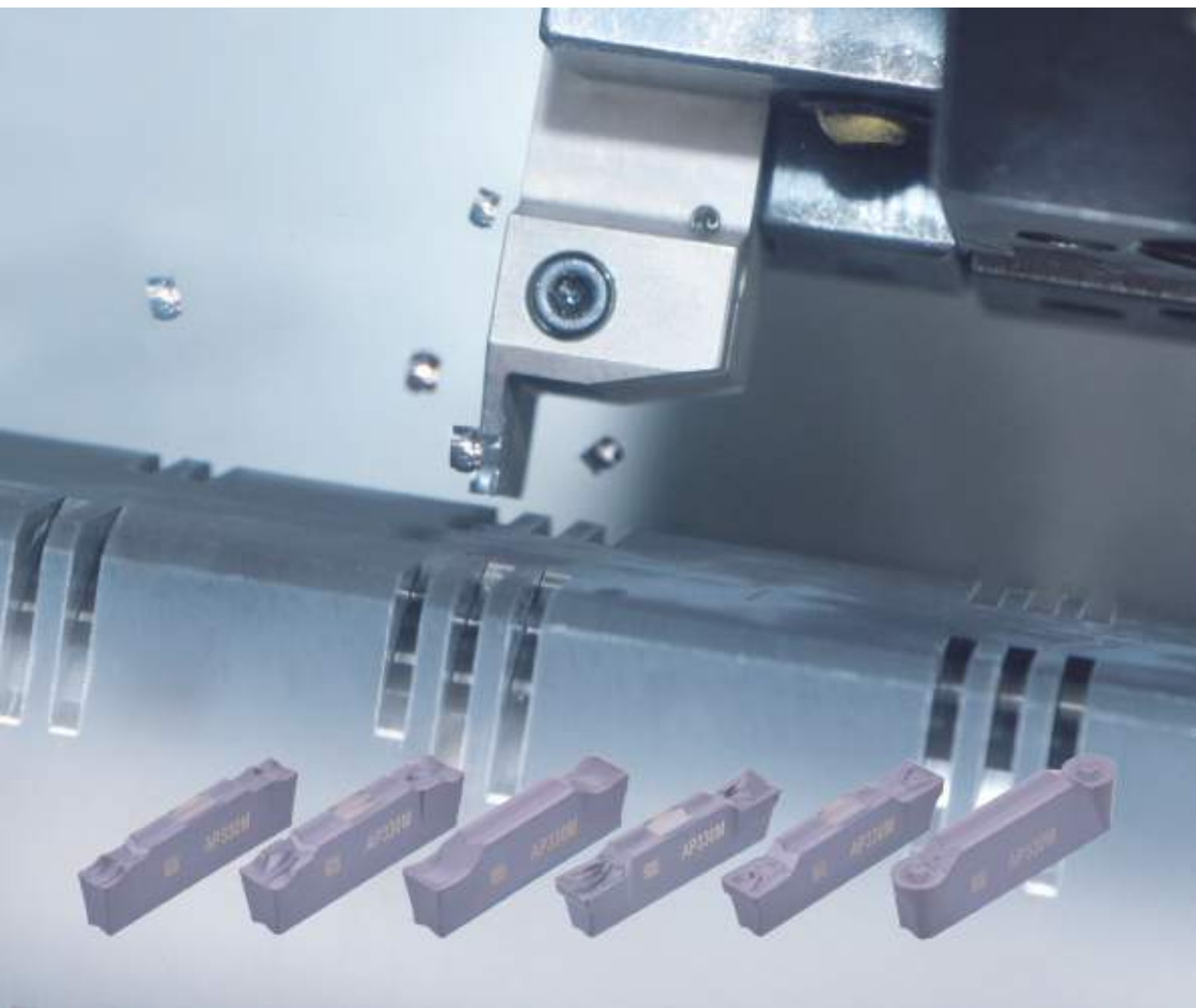


AP330M

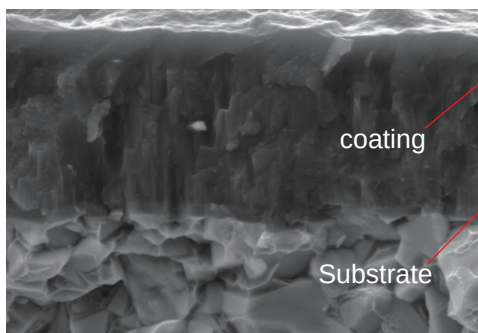
New Tougher Grooving Grade



Ultra high heat stability and wear resistance,
Excellent Impact resistance



Grade Features



New PVD coating for stainless steel turning, with ultra-high heat stability and wear resistance, excellent thermal crack resistance and coating adhesion force.

New substrate with fine sized particle additive with high Cobalt and high Chromium, obtaining excellent impact resistance meanwhile having high hardness, which can decrease cutting edge breakage on high request cutting condition.

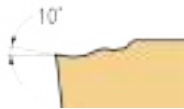
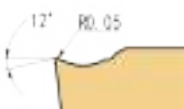
With new coating and substrate, AP330M is the first choice of stainless steel turning, can be also used in steel turning

Recommended Applications and Cutting Parameter

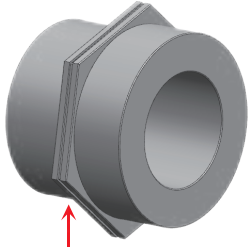
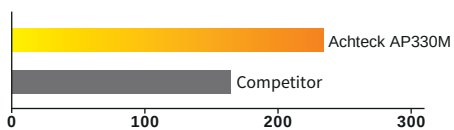
Materials	Stainless Steel					Steel				
Cutting Range	Finishing ←──									

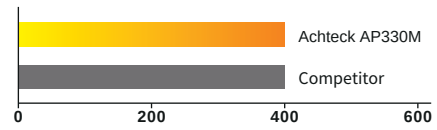
Workpiece Material		Brinell Hardness	Vc (m/min)
M	Duplex Stainless Steel	HB 200-300	60-180
	Austenitic Stainless Steel		
	Precipitation-hardening stainless steel		
P	Unalloyed Steel	HB 180-280	60-180
	Alloyed Steel	HB 200-415	

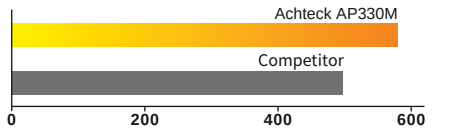
Geometries

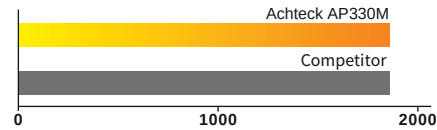
Application	Geometry	Insert	Geometry amplified view	Shape of cutting edge	Description
Finishing	CS				1. Used in parting off & grooving stainless steel, heat resistant alloy and low carbon steel 2. For low feed rate application
Medium	CM				1. Used in parting off & grooving low carbon steel and stainless 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. First choice for parting off and grooving at medium rate 3. Strong cutting edge
Low Feed	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
Medium & General	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 4. There is a wider machining diameter range in the internal grooving and face grooving
	RM				1. External grooving, turning, profiling 2. Medium feed rate

● Machining Cases

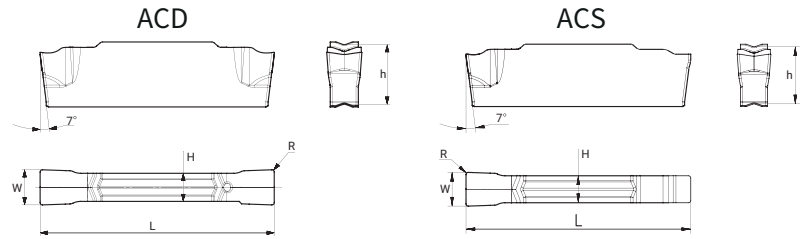
Insert	ACD 302-CH AP330M
Workpiece	Pin 
Material	SUS316
Vc	157m/min
fz	0.05mm/rev
ap	-
Coolant	Oil
Results	 AP330M machining is very stable, Tool life increased

Insert	ACD 302-CM-K AP330M
Workpiece	Handle 
Material	SUS303
Vc	95m/min
fz	0.05mm/rev
ap	6mm
Coolant	Oil
Results	 AP330M machining is very stable, same tool life, lower cost per part

Insert	ACD 302-CH-K AP330M
Workpiece	Hydraulic component 
Material	42CrMo (Alloy Steel)
Vc	104m/min
fz	0.06mm/rev
ap	5mm
Coolant	Oil
Results	 AP330M machining is very stable, Tool life increased

Insert	ACD 302-CH-K AP330M
Workpiece	Spring cap 
Material	Low Carbon Alloy Steel
Vc	127m/min
fz	0.05mm/rev
ap	4mm
Coolant	Oil
Results	 AP330M tool life is stable, same tool life, lower cost per part

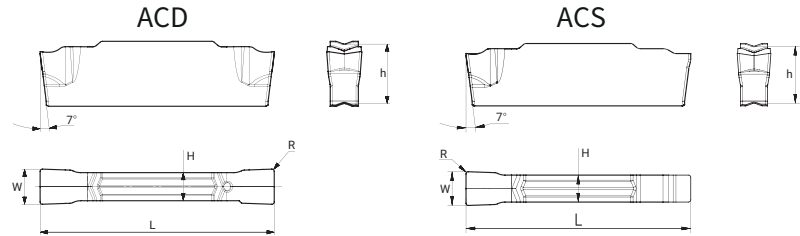
Product List



Inserts	Product code	Cutting Parameter		Dimension (mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AP330M ^{New}
	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	●	○
	ACD 202-CM	19.7	0.04-0.15	2	0.2	20	1.7	5.1	●	○
	ACD 202-CM-K	19.7	0.04-0.15	2	0.2	20	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	1.7	5.1	●	○
	ACD 202-CM-15L	19.7	0.03-0.09	2	0.2	21	1.7	5.1	●	○
	ACD 302-CM	19.7	0.05-0.16	3	0.2	20	2.4	5.1	●	●
	ACD 302-CM-K	19.7	0.05-0.16	3	0.2	20	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	2.4	5.1	●	○
	ACD 302-CM-15L	19.7	0.04-0.14	3	0.2	21	2.4	5.1	●	○
	ACD 403-CM	19.7	0.06-0.18	4	0.3	20	3	5.1	●	○
	ACD 403-CM-4R	19.7	0.05-0.16	4	0.3	20.7	3	5.1	●	○
	ACD 403-CM-4L	19.7	0.05-0.16	4	0.3	20.7	3	5.1	●	○
	ACD 503-CM	24.7	0.06-0.20	5	0.3	25	4	5.0	●	○
	ACD 503-CM-4R	24.7	0.06-0.18	5	0.3	25.7	4	5.0	○	○
	ACD 503-CM-4L	24.7	0.06-0.18	5	0.3	25.7	4	5.0	○	○
	ACD 603-CM	29.7	0.06-0.22	6	0.3	25	5	5.0	●	○
	ACS 202-CM	19.7	0.04-0.15	2	0.2	20	1.7	5.1	●	○
	ACS 302-CM	19.7	0.05-0.16	3	0.2	20	2.4	5.1	●	○
	ACS 403-CM	19.7	0.06-0.18	4	0.3	20	3	5.1	○	○
	ACS 503-CM	24.7	0.06-0.20	5	0.3	25	4	5.0	○	○
	ACS 603-CM	29.7	0.06-0.22	6	0.3	25	5	5.0	○	○

Marked: ● Stocked
○ Non-stocked

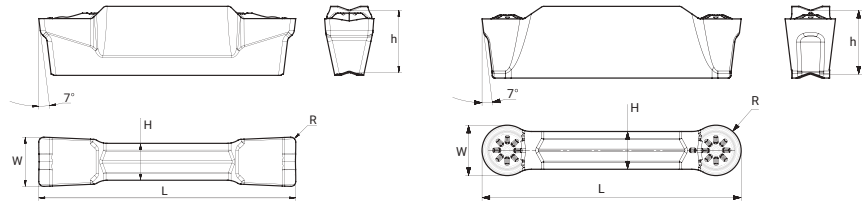
Product List



Inserts	Product code	Cutting Parameter		Dimension (mm)					Grade	
		Tmax	Feed (mm/rev)	W	R	L	H	h	AP301U	AP330M ^{New}
	ACD 202-CH	19.7	0.05-0.20	2	0.2	20	1.7	5.1	●	○
	ACD 202-CH-K	19.7	0.05-0.20	2	0.2	20	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	1.7	5.1	●	○
	ACD 202-CH-15L	19.7	0.04-0.15	2	0.2	21	1.7	5.1	●	○
	ACD 302-CH	19.7	0.07-0.25	3	0.2	20	2.4	5.1	●	●
	ACD 302-CH-K	19.7	0.07-0.25	3	0.2	20	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	0.05-0.18	3	0.2	21	2.4	5.1	●	○
	ACD 302-CH-15L	20	0.05-0.18	3	0.2	21	2.4	5.1	●	○
	ACD 403-CH	19	0.08-0.30	4	0.3	20	3.0	5.1	●	○
	ACD 403-CH-K	19	0.08-0.30	4	0.3	20	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	0.09-0.35	5	0.3	25	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	0.12-0.40	6	0.3	25	5	5.0	●	○
	ACD 804-CH	29	0.15-0.45	8	0.4	30	6	6.1	●	○
	ACS 202-CH	19.7	0.05-0.20	2	0.2	20	1.7	5.1	●	○
	ACS 302-CH	19.7	0.07-0.25	3	0.2	20	2.4	5.1	●	○
	ACS 403-CH	19.7	0.08-0.30	4	0.3	20	3.0	5.1	●	○
	ACS 503-CH	19.7	0.09-0.35	5	0.3	20	4.0	5.0	●	○
	ACS 603-CH	24.7	0.12-0.40	6	0.3	25	5	5.0	○	○

Marked: ● Stocked
○ Non-stocked

Product List



Inserts	Product code	Cutting Parameter				Dimension (mm)					Grade	
		Grooving Feed (mm/rev)	Tmax	Turning		W	R	L	H	h	AP301U	AP330M
				Feed (mm/rev)	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	0.45-2.0	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 404-TS-K	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	1.0-2.50	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	1.0-3.50	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	1.0-3.80	6	0.8	25.7	5.0	5.0	○	○
	ATD 808-TS	0.12-0.45	30.5	0.28-0.50	1.0-4.50	8	0.8	31.5	6	6.1	○	○
	ATD 304-TM	0.1-0.25	19.7	0.15-0.22	0.5-2.0	3	0.4	20.7	2.2	5.1	●	○
	ATD 404-TM	0.15-0.30	19.7	0.18-0.27	0.5-2.50	4	0.4	20.7	3.0	5.1	●	●
	ATD 408-TM	0.15-0.30	19.7	0.18-0.27	1.0-2.50	4	0.8	20.7	3.0	5.1	●	○
	ATD 408-TM-K	0.15-0.30	19.7	0.18-0.27	1.0-2.50	4	0.8	20.7	3.0	5.1	●	○
	ATD 504-TM	0.18-0.35	24.7	0.20-0.35	0.55-3.50	5	0.4	25.7	4.0	5.0	●	●
	ATD 508-TM	0.18-0.35	24.7	0.20-0.35	1.0-3.50	5	0.8	25.7	4.0	5.0	●	●
	ATD 508-TM-K	0.18-0.35	24.7	0.20-0.35	1.0-3.50	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	1.0-4.0	6	0.8	25.7	5.0	5.0	●	○
	ATD 808-TM	0.22-0.50	30.5	0.28-0.5	1.0-5.0	8	0.8	31.5	6.0	6.1	○	○
	ATD 812-TM	0.22-0.50	30.5	0.28-0.5	1.5-5.0	8	1.2	31.5	6.0	6.1	●	○
	ATD 210-RM	0.06-0.15	-	0.12-0.25	0.4-1.0	2	1	20.7	1.7	5.1	●	●
	ATD 315-RM	0.08-0.18	-	0.15-0.3	0.5-1.5	3	1.5	20.7	2.2	5.1	●	○
	ATD 420-RM	0.1-0.2	-	0.18-0.35	0.6-2.0	4	2	20.7	3	5.1	●	○
	ATD 525-RM	0.12-0.25	-	0.2-0.4	0.7-2.5	5	2.5	25.7	4	5.0	●	●
	ATD 630-RM	0.15-0.3	-	0.25-0.5	0.9-3.0	6	3	25.7	5	5.0	●	○
	ATD 840-RM	0.18-0.35	-	0.3-0.6	1.0-4.0	8	4	31.5	6	6.1	●	○

Marked: ● Stocked

○ Non-stocked