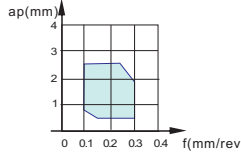
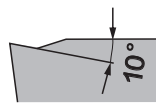
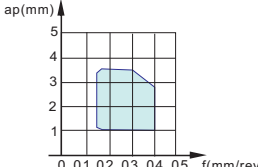
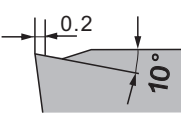
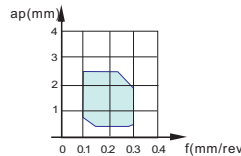
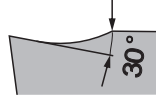
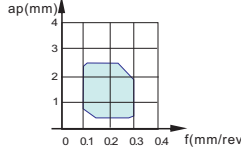
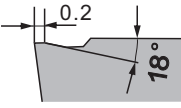
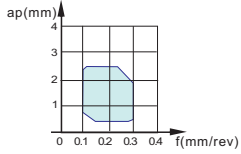
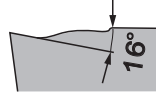
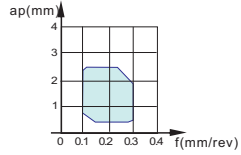
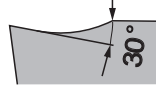
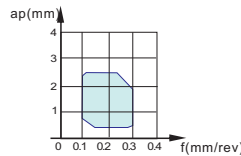
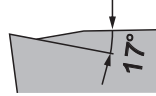
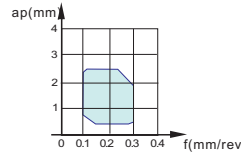
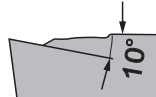


TURNLINE CHIPBREAKER OVERVIEW



Chipbreaker	Features	Application	Cutting Edge
PF	First choice chipbreaker for finishing steels. The dimple structure decreases the contact area between the insert surface and chips, resulting in significant reduction of heat occurrence.		
PM	General purpose chipbreaker used for medium cutting. Unique chipbreaker geometry with sharp edges and large rake angle assures free cutting action in a wide range of cutting conditions.		
MP	Excellent chip control when finish cutting. Outstanding chip control when high feed turning at small depth of cut.		
GM	Applicable to a wide range of cutting condition with sharp edge. Recommended chipbreaker for stainless steel turning.		
MK	Highly reliable chipbreaker for medium cutting under a wide range of conditions from continuous to interrupted cutting. Recommended chipbreaker for cast iron turning.		
No Chipbreaker	Can cover a wide range of applications from finishing to roughing of cast iron. Excellent in cutting edge strength.		
PS	3-dimensional chipbreaker designed to have excellent chip control capability and low cutting force in finishing to medium cutting. Low cost, M-class positive insert used for high efficiency in a wide range of applications.		

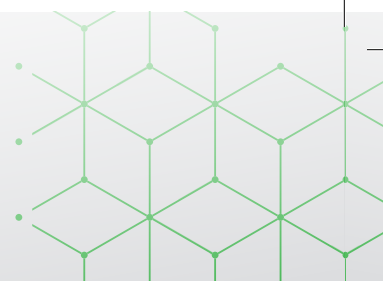


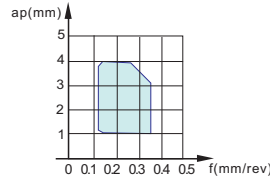
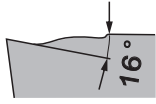
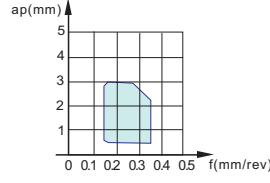
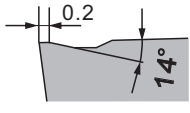
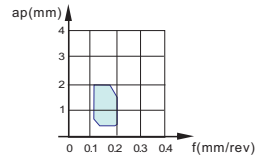
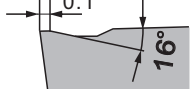
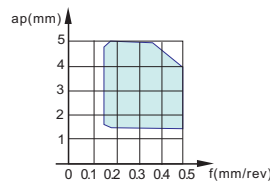
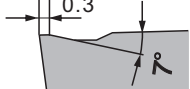
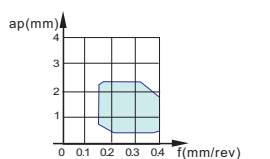
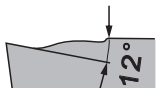
Chipbreaker	Features	Application	Cutting Edge
MM	Developed chipbreaker for medium cutting. Excellent chip control due to wide, positive chip flow zone.		
KS	Highly reliable chipbreaker for medium cutting under a wide range of conditions from continuous to interrupted cutting.		
25UL	High positive cutting edge reduces chip contact. Minimized temperature while machining ensures longer tool life. Stable machining with superior chip evacuation in high depth of cut.		
15D	Excellent chip control at wide range of cutting conditions. Suitable for stainless steel cutting.		
15M	Shallow depth of cut with sharp edge. Longer tool life at high speed cutting due to low cutting force. Good finishing surface.		
24UL	High positive cutting edge reduces chip contact. Minimized temperature while machining ensures longer tool life. Stable machining with superior chip evacuation in high depths of cut.		
15V	Longer tool life due to minimizing chip contact and reducing cutting heat while machining.		
12U/13U/15U	Improved chip control makes tool life longer and better machining.		

TURNLINE CHIPBREAKER OVERVIEW



Chipbreaker	Features	Application	Cutting Edge
16X	Stable machinability in interrupted machining toughness. Stable chip evacuation and machining in machining with high depth of cut.		
15K	Excellent chip control in application with micro depth of cut and low feed. Low cutting load and super finishing surface. Excellent for both internal and external machining		
14VI	Longer tool life due to minimizing chip contact and reducing cutting heat while machining.		
AL	Extremely sharp cutting edge. Polished surface. Excellent chip forming at high cutting feeds. Low power consumption.		
FM	Suitable for finishing to medium cutting. Excellent chip control.		
SF	Large rake angle reduces cutting force. Less burring achieved by diminishing damage from notching.		
US	Superior cutting edge sharpness and strength achieved by a positive land. Extra strength of cutting edge inhibits damage from wall shouldering.		



Chipbreaker	Features	Application	Cutting Edge
UG	Large rake angle reduces cutting force. Less burring achieved by diminishing damage from notching.		
PU	General purpose chipbreaker. Excellent chip control at machining of low carbon steel.		
TQ	Sharp cutting performance with 3-D rake angle and double projection design.		
LR	Smooth chipbreaker geometry improves chip flow with less adhesion. Large curled chips.		
UA	Enables machining over a wide range of conditions by using the optimum chipbreaker width according to the cutting depth.		
UT	Strong edge chipbreaker for medium machining range.	