



AEROSPACE

INDUSTRY





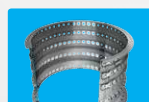
AEROSPACE

Engine

Wing

Fuselage

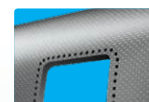
Landing Gear



Casing ——— 4-5



Frame ——— 14-15



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Landing Gear — 18-19



Blade ——— 6-7



Blisk ——— 8-9



Diffuser ——— 10-11



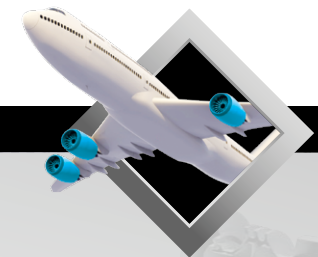
Housing Bearing — 12-13



Casing



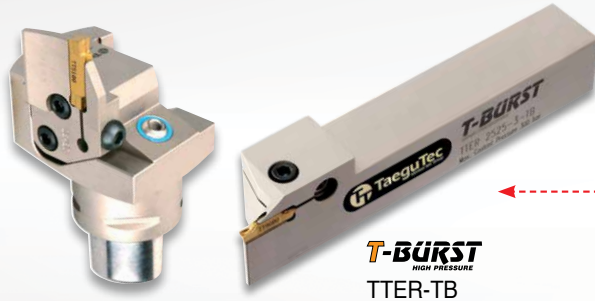
Engine Part



HRSA material (Heat resistant super alloys)

Cases, mounted on the exterior of the aircraft engines, protect and support the parts required for combustion. Accordingly, they need to be made from materials that can stand rapid temperature change and that can reduce weight of an engine. Titanium alloys and stainless alloys are often used for parts that go into compressors installed on the cold section of the engine, while Inconel and nickel-base superalloy are often used for combustion chamber and turbine parts in the hot section of the engine.

» T-Clamp solutions



» Milling solutions for parting off



» High speed turning solutions



» Milling solutions for rough milling

CHASEMOLD



TFMRY

- General machining
- Various chip breakers (MM, MLL, L)

CHASE2FEED



TFMBL
(BLMP-MM)

CHASESPEED



TFMRN
(RNGN)

» Drilling solutions



H-DRILL **TOPDRILL**

» Milling & endmilling solutions

CHASEMILL
TEF-AP12
(APKT-EL)



CHASEMILL
TE90AP
(APCT-ML)



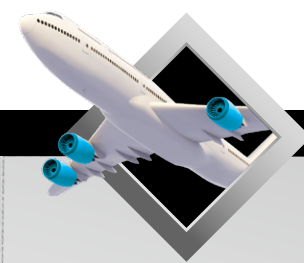
STARMILL
SED



Blade



Engine Part



Turbine blades resemble fan blades and are susceptible to considerable heat inside the aircraft engine. The blades are made of super heat-resistant alloys that contain chrome, aluminum, cobalt and many more materials that can withstand high stress levels and temperatures beyond 700°C.

➤ Milling solutions for blade machining

CHASEMILL



TFM90AP
(APKT-EML/EL, APCT-ML)

CHASE²FEED



TFM90AP
(BLMP-ML)

CHASEMOLD



TFMRT-12
(RTMX-ML, MM, MLL)

➤ Slot & root machining



TOPSLOT
TSM
(ZNHT-ML)



Special cutter
Producing various sizes
& geometries

➤ Endmilling solutions



STARMILL
SED

STARMILL
SBT

Unequal spaced high helix cutting edges
for less vibration during operation



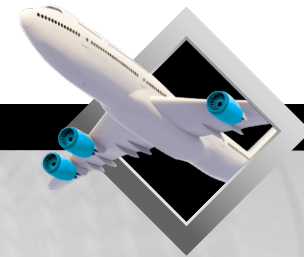
DUETBALL
2F
(2FB-M)



Blink



Engine Part



A blisk is a single engine component comprising a rotor disc and blades. It is both integrally cast and machined from a solid piece of material or it is made by welding individual blades to the rotor disc. This eliminates the need to attach the blades to the disk (via screws, bolts, etc.), thus decreasing the number of components within the compressor, while at the same time decreasing drag and increasing efficiency of air compression within the engine.

➤ Milling for blisk roughing

CHASE²FEED



TFMBL



BLMP-MM/ML

Low depth of cut and high feed for productivity

CHASEMOLD
TERRY



RYMX-MM



RYHX-L

➤ Turning for blisk machining



T-BURST
HIGH PRESSURE
PCLNR/L-TB

High pressure coolant for tool life and productivity



SNMG-MP



CNMG-MP

➤ T-CLAMP for blisk machining



TDT-RU



TDT

➤ Solid carbide end mill for blisk machining



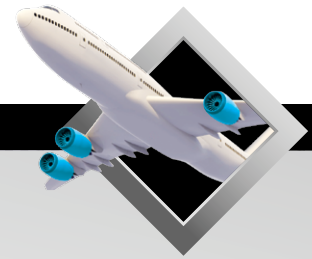
STARMILL
SBT



Diffuser



Engine Part

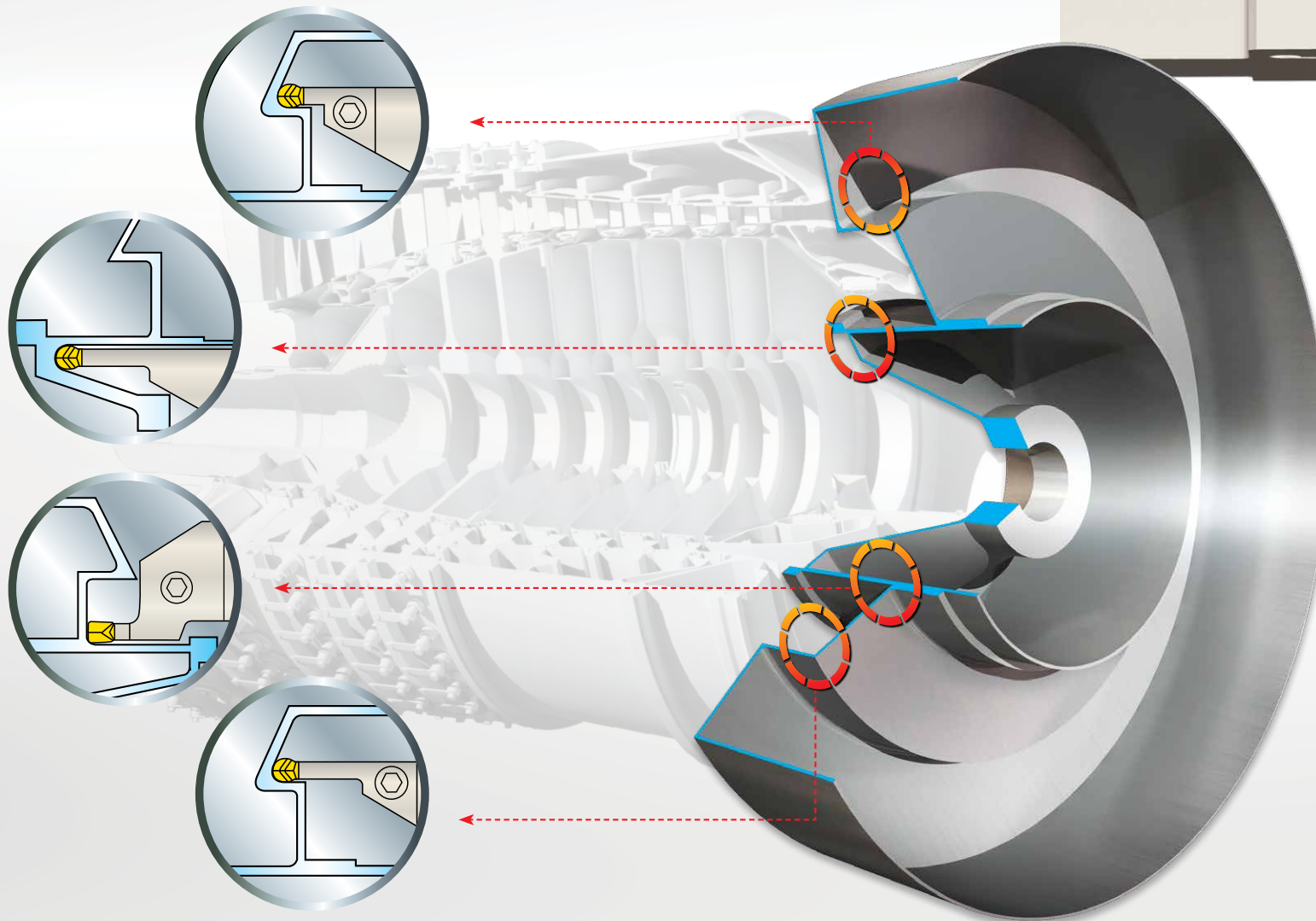


The diffuser is the part of a jet engine that conducts air intake. This is the space between the mouth of the engine and the first set of blades on the compressor.

The cross-sectional area increases as the space gets close to the compressor, so the flow velocity is decreased and pressure is increased. This aids the compressor and begins the process of adding energy to the airflow.

➤ Diffuser Machining

- A variety of machining solutions with T-CLAMP line



T-BURST
HIGH PRESSURE
TTER-TB



TDXU



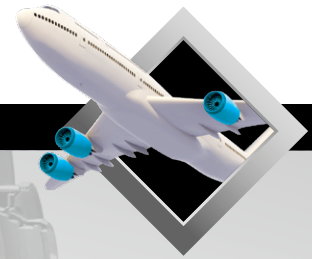
PMUR/L



Housing Bearing



Engine Part



- Housing Bearing Machining
- A variety of machining solutions with T-CLAMP line



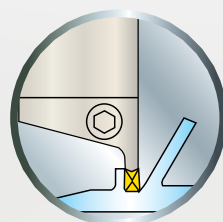
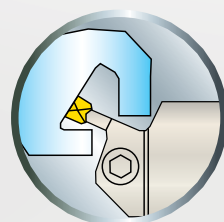
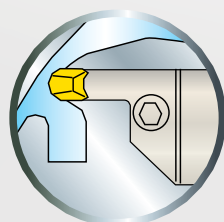
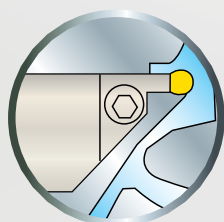
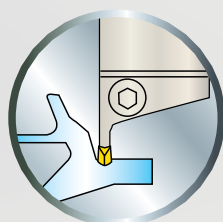
T-BURST
HIGH PRESSURE
TTER-TB



Tailor-made geometries



TDT-RU



- Housing Bearing Machining
- Turning solutions



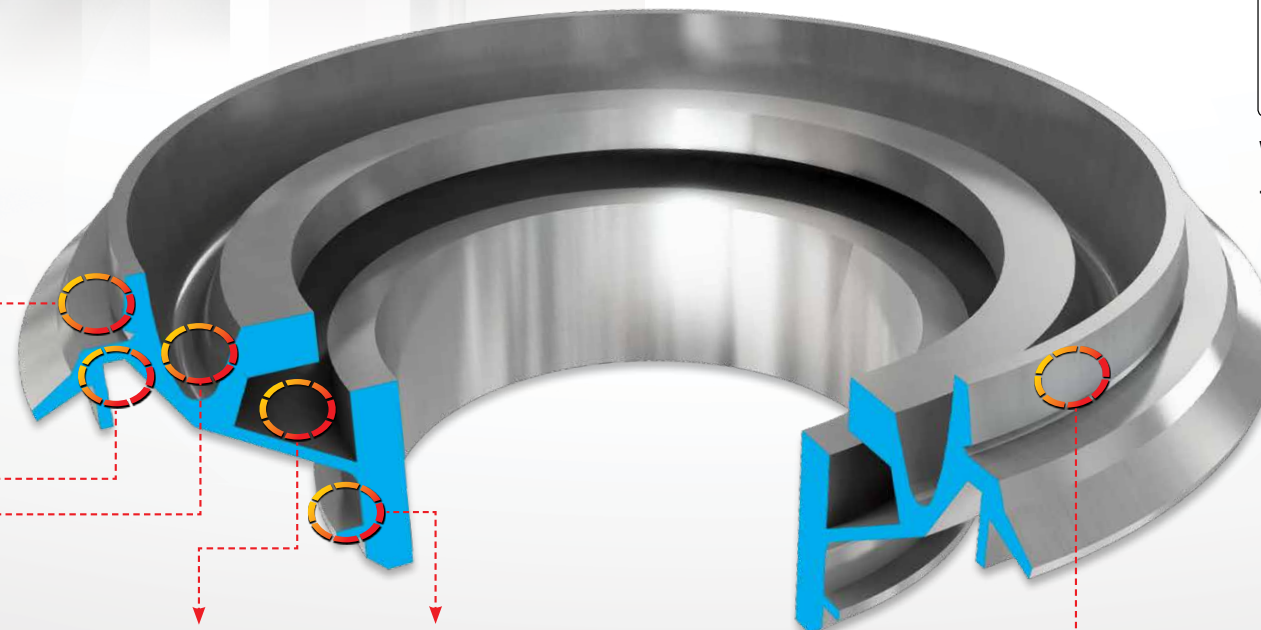
-MP



-ML



Whisker & SiAlON ceramic grades
- High speed & high productivity (TC3020 / TC3030)



TCLNR/L-F



Frame



Wing Part



Aluminum & Titanium Alloy

Frames for the aerospace sector are components that literally frame the basic structure of an aircraft. As they require high rigidity and light weight; aluminum alloys are often used to produce the frames. The use of titanium alloys has also increased due to its exceptional high strength-to-weight ratio.

High speed milling solutions (AL)

CHASEALU



TFM90XEV(XEVT 16)

Stable machining in high speed & high ramping angle

High speed milling solutions (Ti)

CHASE²FEED



TFM90XEV(XEVT 16)
(BLMP-ML)

CHASEMOLD



TFM90XEV(XEVT 16)
(RYHX-L)

CHASEFEED



TFM90XEV(XEVT 16)
(SBMT-ML)

Drilling solutions

H-DRILL
SAO

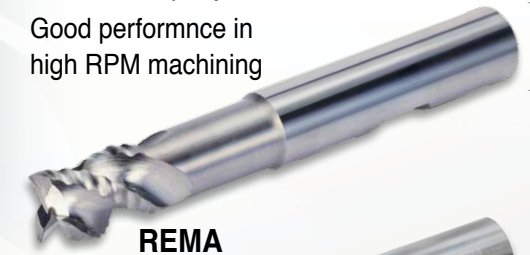


End milling solutions

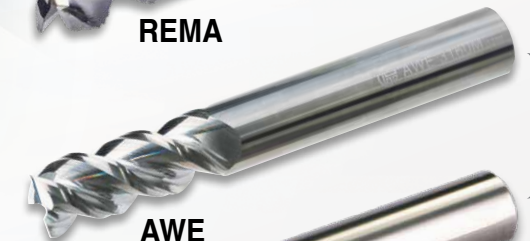
ALUMILL (AL)

Good performance in high RPM machining

Rough splitter type



REMA



AWE



AES

Finishing



SED

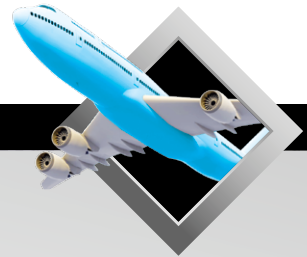
STARMILL (Ti)



CFRP



Fuselage Part



Carbon Fibre Reinforced Plastic

Carbon Fibre Reinforced Plastic (CFRP) is extremely light and rustproof, highly favoured by the aerospace sector for its tensile strength and stability (5-10 times stronger than iron). The abrasion-proof material also has higher elastic modulus (stiffness), weighs 60% less than aluminum and is not susceptible to heat, plus it has a low friction coefficient. As CFRP's coefficient of thermal expansion (CTE) nearly reaches zero, dimensional accuracy is extremely high, making it one of the most popular materials used in frame components.

➤ High speed milling solutions for CFRP machining



CHASEMILL
TFM90AP



APCT TD810

PCD brazing insert

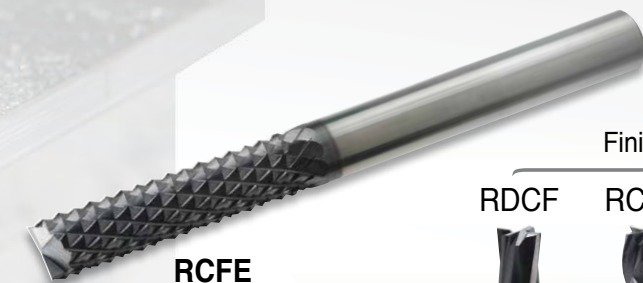
- Good surface quality with long tool life



CHASEMILL
TE90AP

➤ Endmilling solutions for CFRP machining

PCD or diamond coating with unique geometry for preventing delamination.

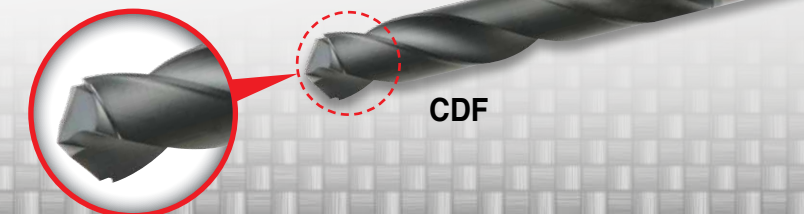


RCFE
Roughing

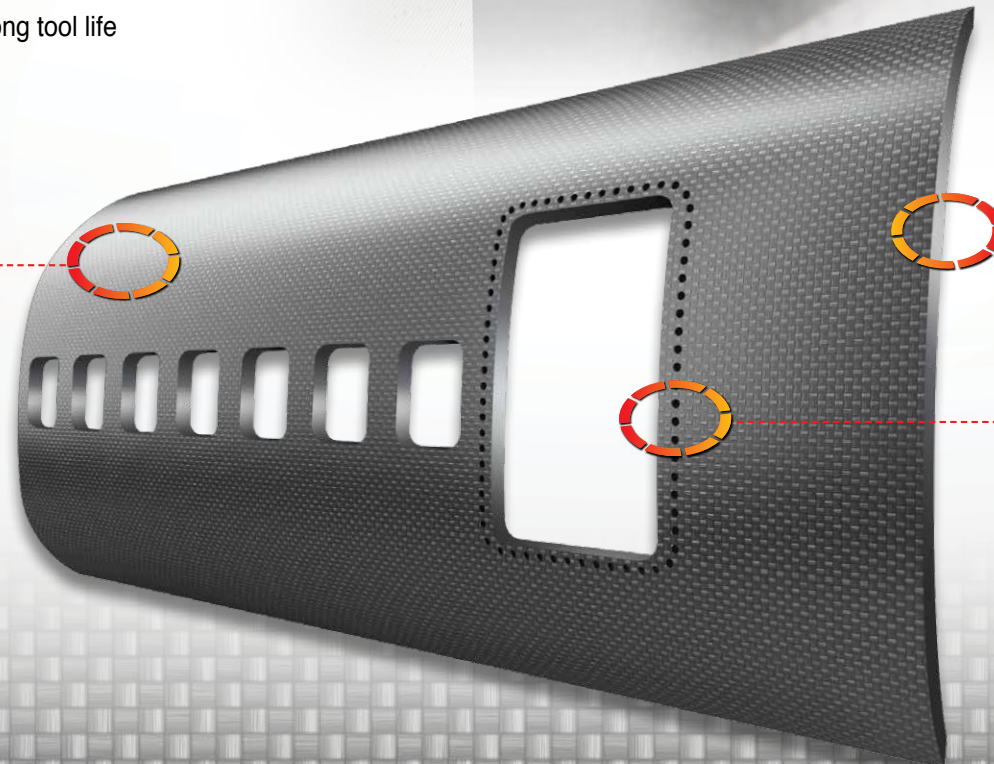


PCD brazing S/E
for finishing

➤ Drilling solutions for CFRP machining



CDF



Landing Gear



Landing Gear Part

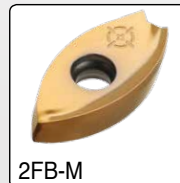
The landing gear is used during landing, take-off and taxiing. It supports the aircraft weight and performs as a shock absorber. The nose landing gear includes a steering system and the main landing gear that is installed on the lower left and right of center area of an aircraft, supporting 90% of the aircraft weight.

➤ Milling solutions for landing gear



CHASEMILL
TES-AP 12
(APKT-EML)

CHASEMOLD
TERY



High feed rate & 6 corners for economy with stable seating

➤ Hole making solutions for landing gear

TOPDRILL



TOP
Low machining load & good tool life



DRILL-RUSH



TCD
No set-up time & high productivity



T-DEEP

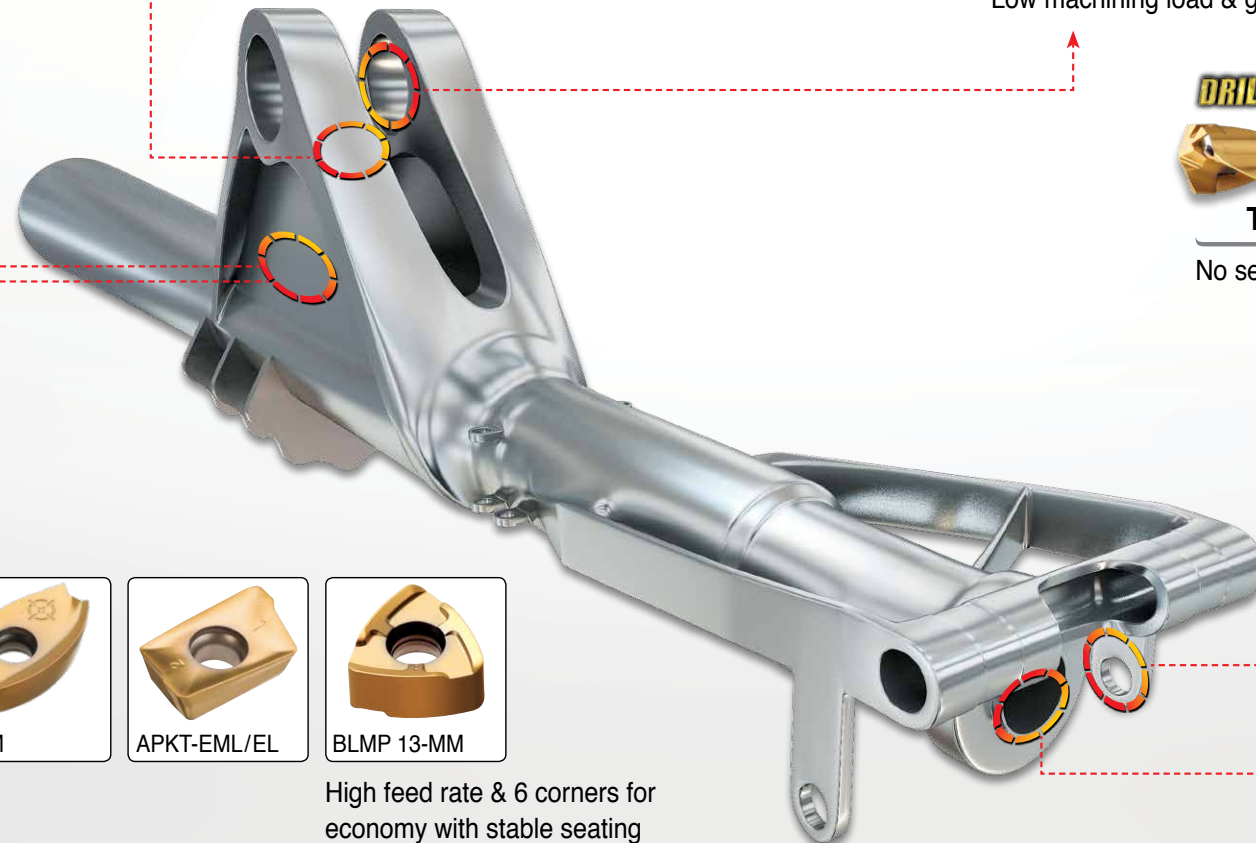
Stable machining for deep hole drilling



BTA



TBTA-FB

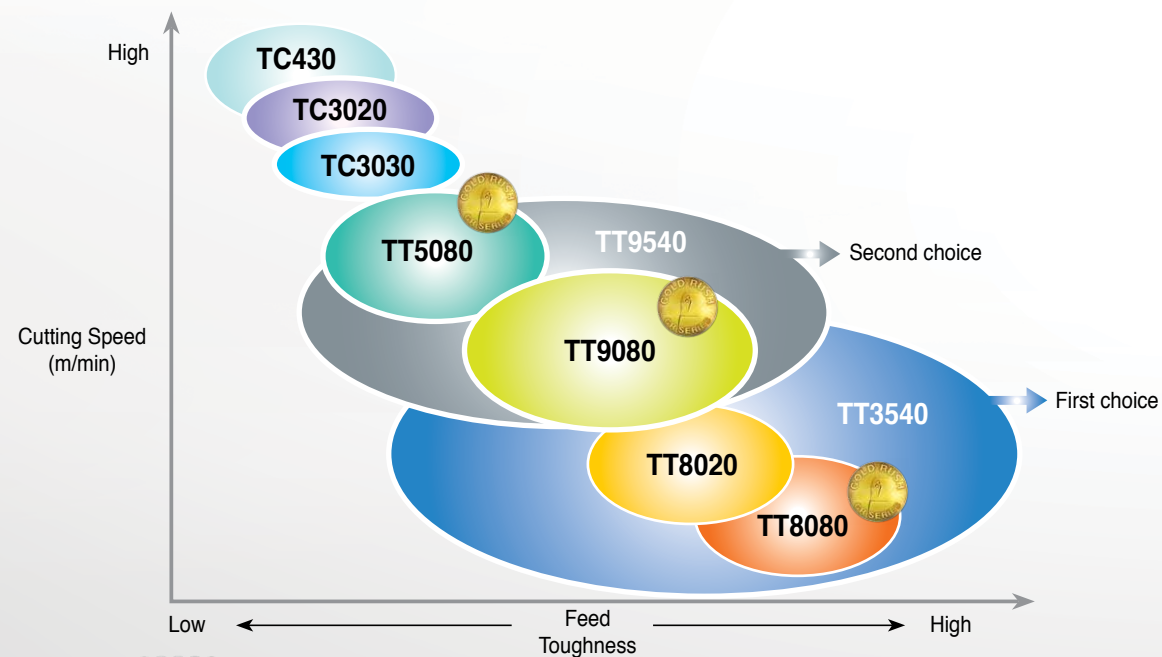


TaeguTec Experience



Grades

	Grade	Layer	ISO Range	Workpiece Material	Application
Coated	TT3540	PVD	S30 ~ S50	High toughness for low-medium cutting speeds	-Milling
	TT5080 	PVD - TiAlN	S05 ~ S15	High speed turning of heat resistant alloy	-Turning
	TT8020	PVD - TiCN	S20 ~ S30	Low speed and interrupted machining of heat resistant alloy	-Milling
	TT8080 	PVD - TiAlN	S15 ~ S30	Rough machining of heat-resistant alloy	-Parting & Grooving
	TT9080 	PVD - Multi Nano	S15 ~ S25	General milling of heat-resistant alloy	-Holemaking
	TT9540	CVD	S20 ~ S40	Increased wear resistance for medium to high cutting speeds	-Milling
Ceramic	TC3020	SiAlON	S05 ~ S15	High speed turning and milling of Ni-based super alloy. High wear resistance	-Turning & Milling
	TC3030	SiAlON			
	TC430	SiC	S15 ~ S25	High speed turning and milling of super alloy, Whisker ceramics.	-Turning & Milling



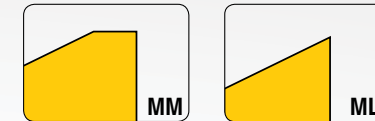
Chipbreakers

➤ Milling Insert

**Round insert
-CHASEMOLD**



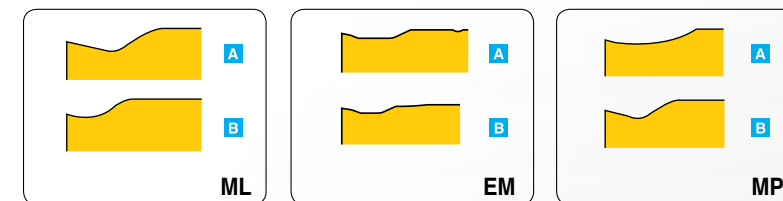
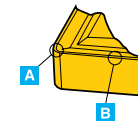
High feed insert



90° insert



➤ Turning Insert



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