INDUSTREALIZE

TRANSFORMING INDUSTRY

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ISCAR

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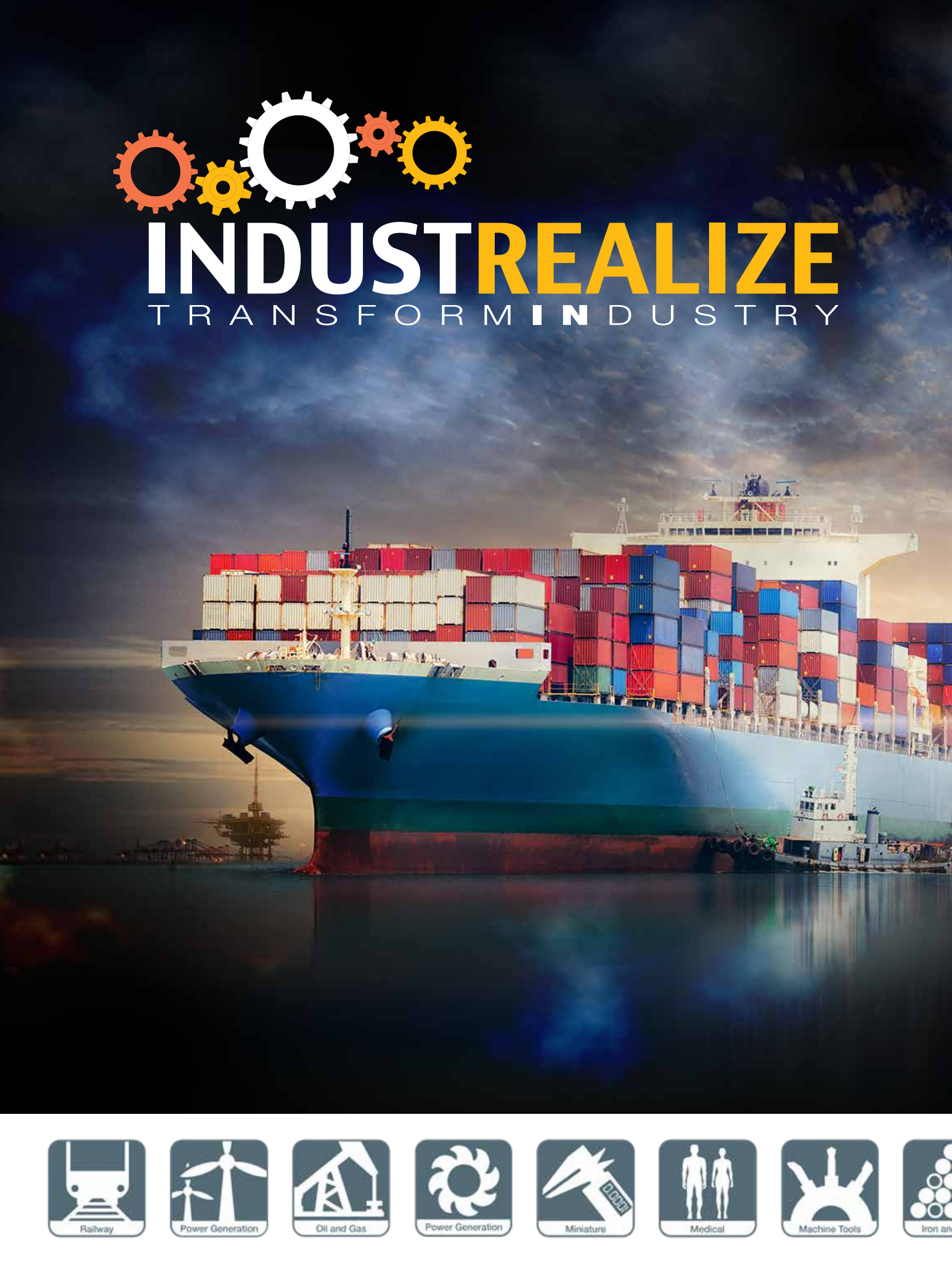

INDUSTREALIZE
TRANSFORMINDUSTRY
Railway
Power Generation
Oil and Gas
Power Generation
Miniature
Medical
Machine Tools

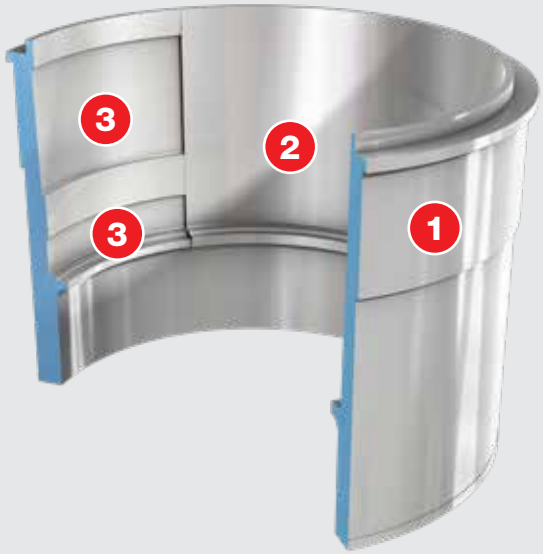
d Steel | Heavy | Engineering | Die and Mold | Automotive | Aerospace | Composite Materials | Bearing

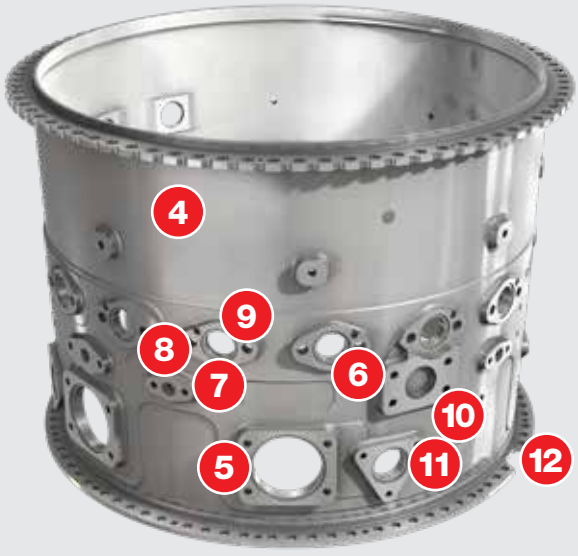
Aerospace

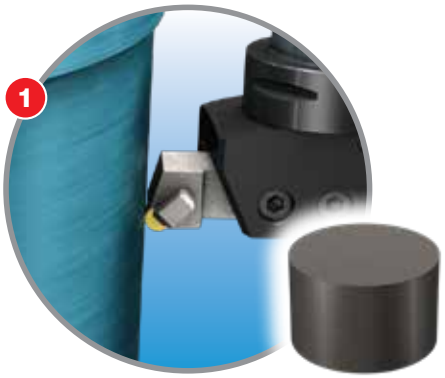
Jet Engine Case

No Setup Time | Ease of Use | Variety of Applications

The jet engine case is a pressure chamber designed to carry jet engine inner core components that withstanding drastic temperature changes and mechanical stresses. The inner structure of the jet engine is composed of stationary and rotational parts. The jet engine case is typically manufactured on CNC machining centers for a variety of different materials based on their structural location. The casing is cold and made of Titanium and composite materials while the hot area is made of superalloys such as Inconel, Hastelloy and Waspalloy which tend to have high strength machinability resistance.

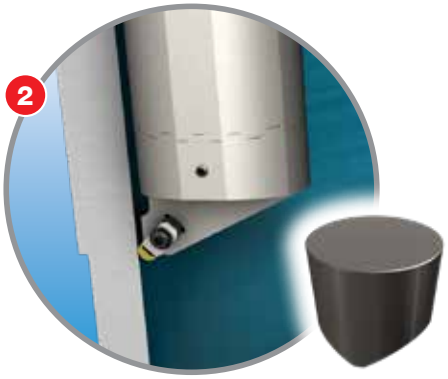






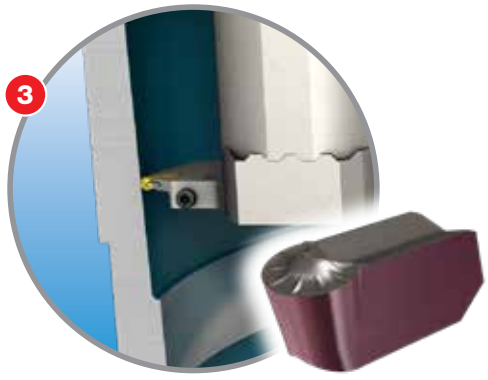
ISOTURN

External Rough Turning



ISOTURN

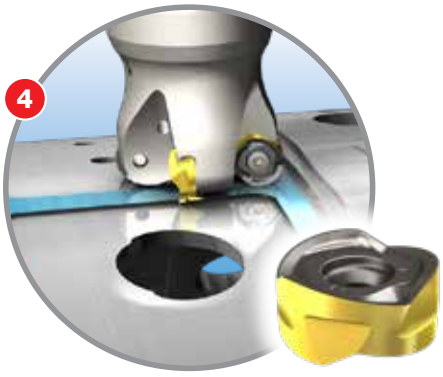
Internal Rough Turning



CUTGRIP

Internal Groove Turning

4

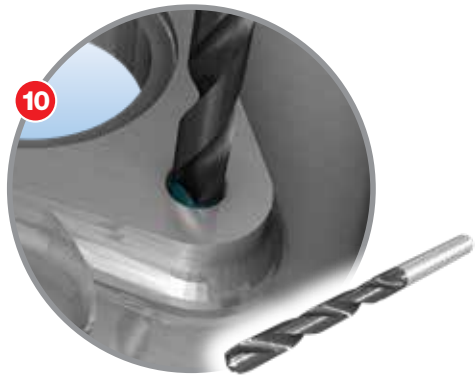


HELIDO
ROUND H606 LINE
Outer Profile Milling

7

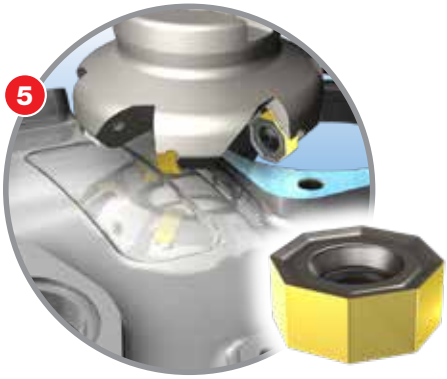
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Shoulder Milling

10



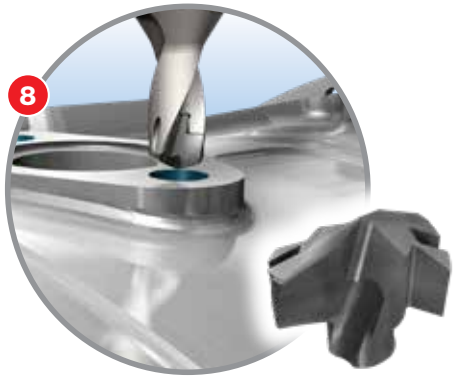
SOLIDDRILL
Drilling

5



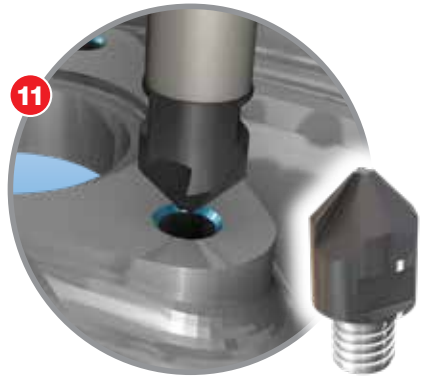
16MILL
Face Milling

8



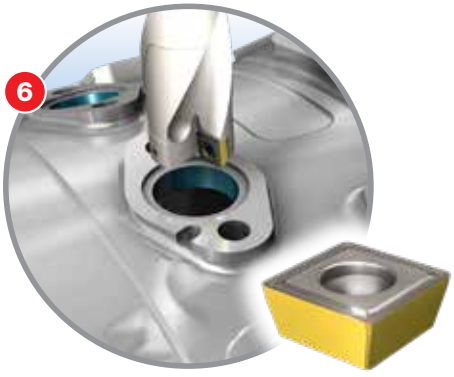
SUMOCHAM
CHAMDRILL LINE
Drilling

11



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfering

6



DR-TWIST
INDEXABLE DRILL LINE
Drilling

9

SOLIDH-REAM
Reaming

12

CHATTERFREE
MULTI-MASTER LINE
Shoulder Milling

Aerospace

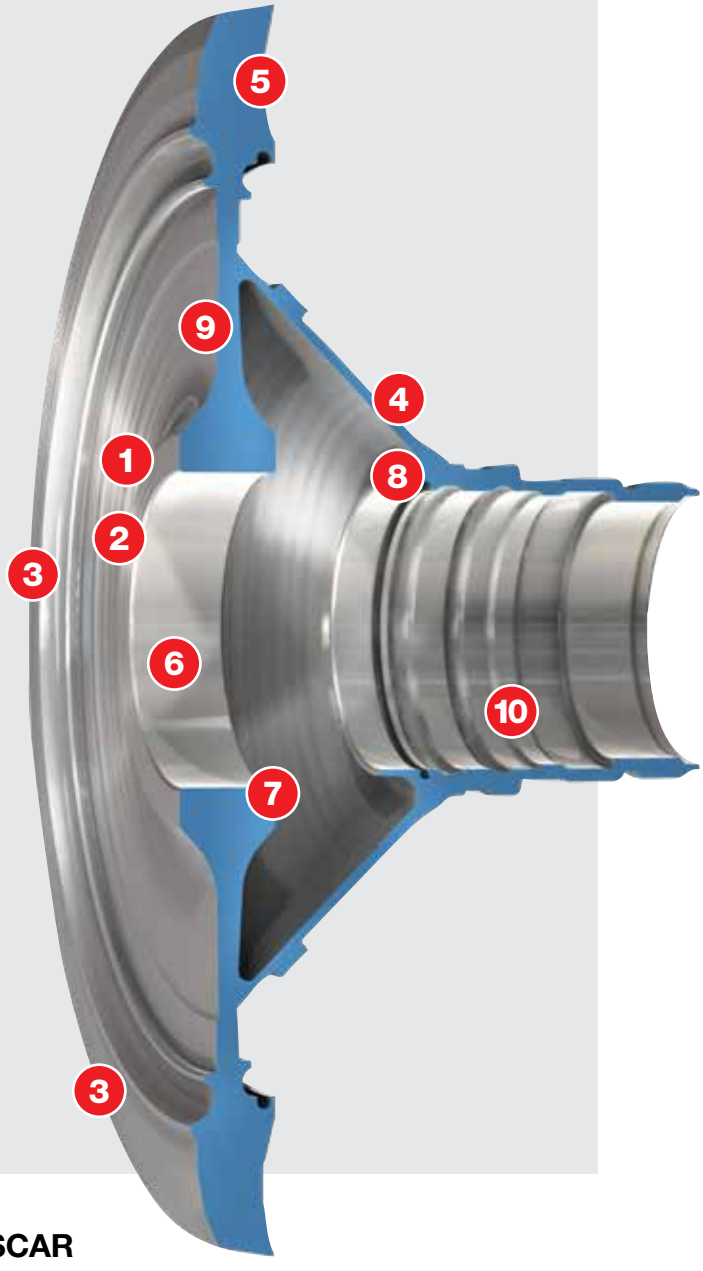
Titanium Blisk

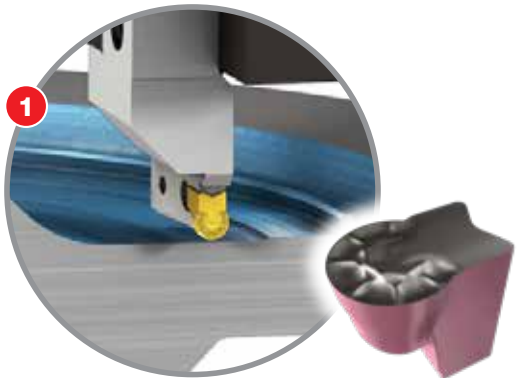
Unique Chip Formers

High Temperatures Resistant

Unique Chip Formers

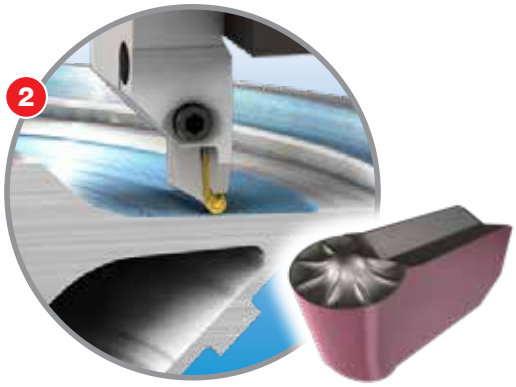
A blisk is a turbomachine component comprised of both rotor disks and blades which are made of removable single-part blade rings. Blisks may be integrally cast, machined from a solid piece or made by welding the individual blades to a rotor disk. Each structure requires a different machining technology. ISCAR has developed a variety of substrate materials for inserts intended to machine and sustain high temperatures. Titanium blisks are used for the fan disk at the front end, while superalloy blisks are made for high temperature and pressure compressor zones.





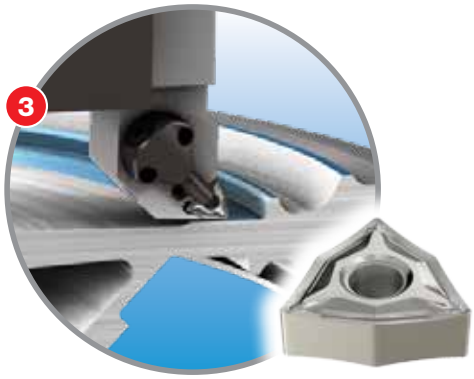
SUMO-GRIP HEAVY DUTY LINE

Face Pocket Rough
Zigzag Turning



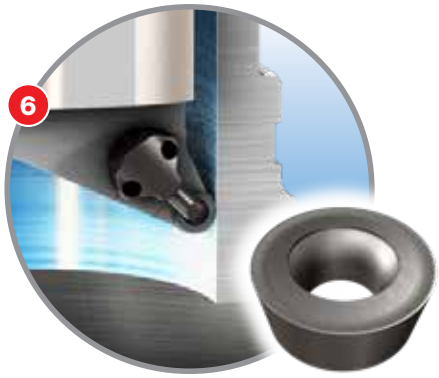
CUT-GRIP

Face Profiling



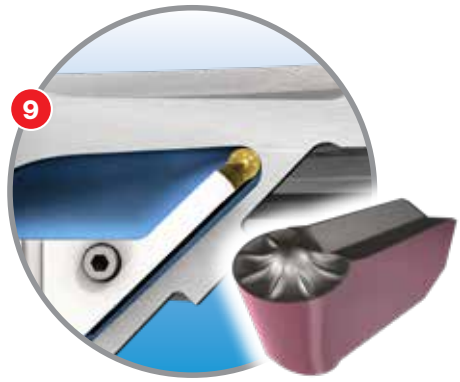
ISOTURN

Face Turning Finishing



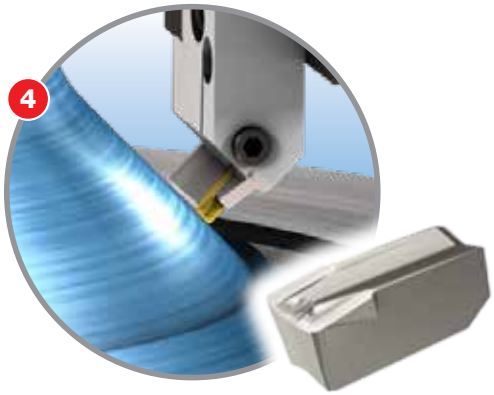
ISOTURN

Rough Inner Diameter Machining



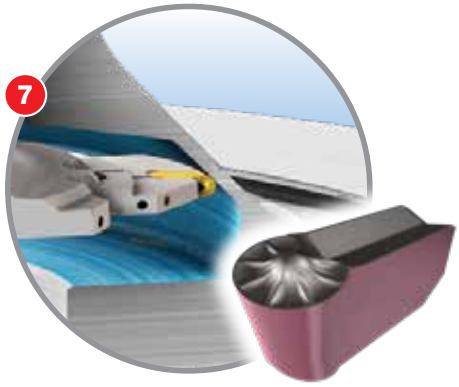
CUTGRIP

Inner Pocket Machining
Zig Zag Turning and Finish Profiling



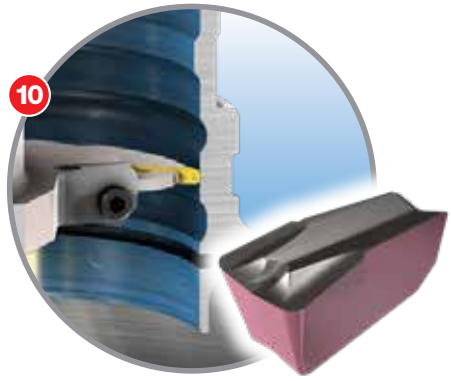
CUTGRIP

Outer Profiling



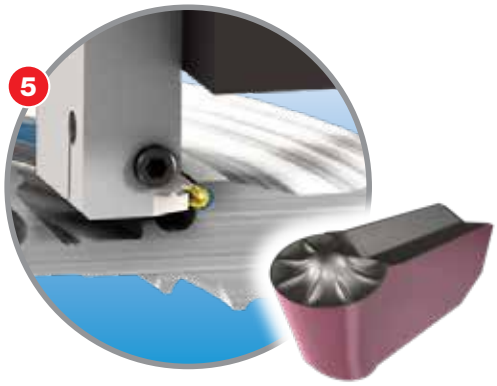
CUTGRIP

Inner Pocket Rough
Zigzag Turning



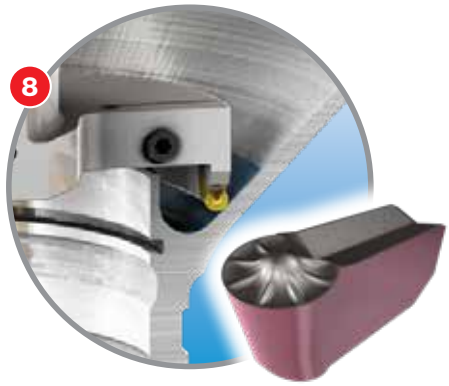
CUTGRIP

Inner Profiling, Rough
Finish and Grooving



CUTGRIP

Outer Radial Grooving



CUTGRIP

Inner Pocket Rough Grooving
and Finish Profiling

Aerospace

Inconel Blisk

Unique Chip Formers

High Temperatures Resistant

Unique Chip Formers

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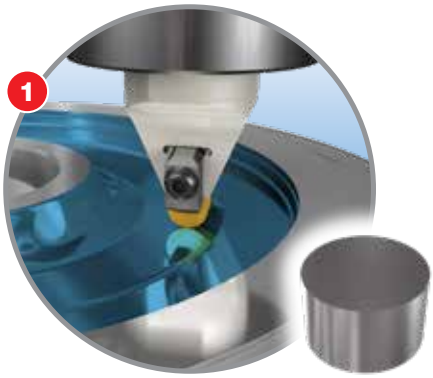
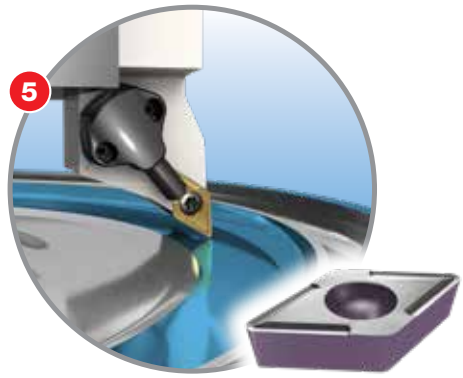


ISOTURN

Rough Face Turning
and Pocket

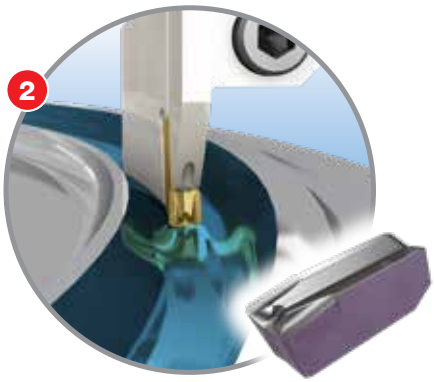
ISOTURN

Inner Diameter Turning



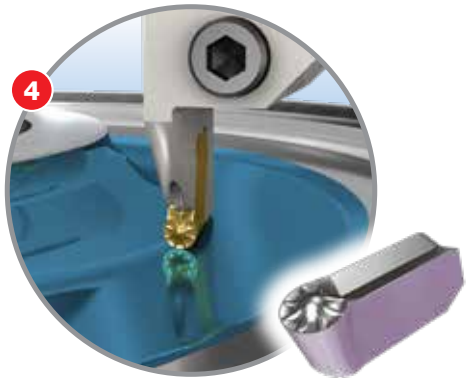
ISOTURN

Finish Face Turning



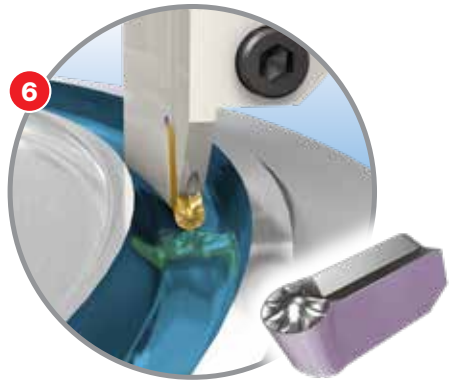
CUTGRIP

Rough Face Grooving



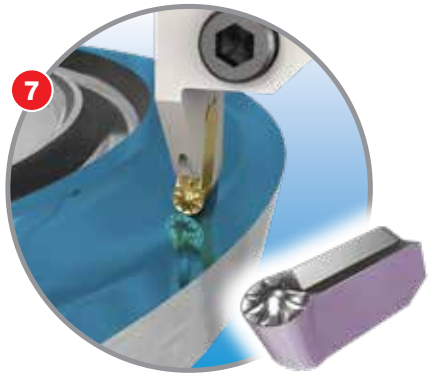
CUTGRIP

Face Profile Turn Grooving



CUTGRIP

Face Profile Turn Grooving



CUTGRIP

Rough Blade Profiling

Aerospace

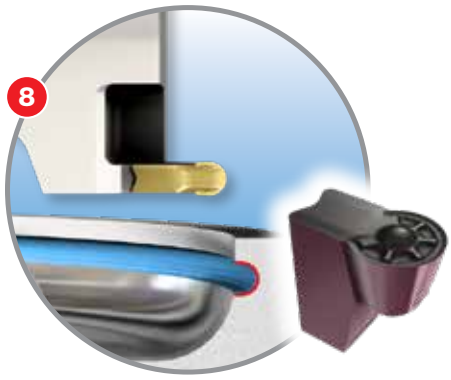
Inconel Blisk

No Setup Time

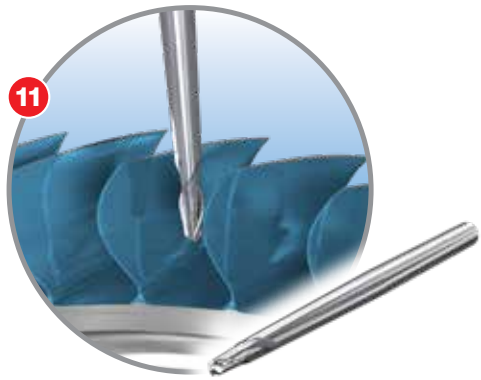
High Temperatures Resistant

Variety of Applications

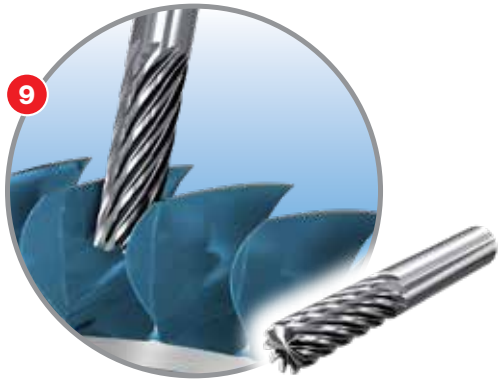
A blisk is a turbomachine component comprised of both rotor disks and blades made of removable single-part blade rings. Blisks may be integrally cast, machined from a solid piece or made by welding the individual blades to a rotor disk. Each structure requires a different machining technology. ISCAR has developed a variety of substrate materials for inserts intended to machine and sustain high temperatures. Titanium blisks are used for the fan disk at the front end, while superalloy blisks are made for high temperature and pressure compressor zones.



SUMO-GRIP
HEAVY DUTY LINE
Finish Inner Grooving



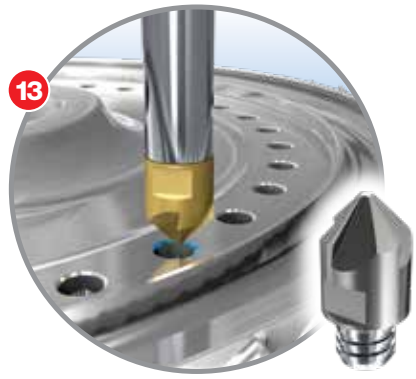
SOLIDMILL
PREMIUM LINE
Finish and Bottom
Radius Milling



SOLIDMILL
PREMIUM LINE
Rough Trochoidal Milling

SUMOCHAM
CHAMDRILL LINE
Drilling and Chamfering

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Semi Finish Profile Milling



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfering

Aerospace

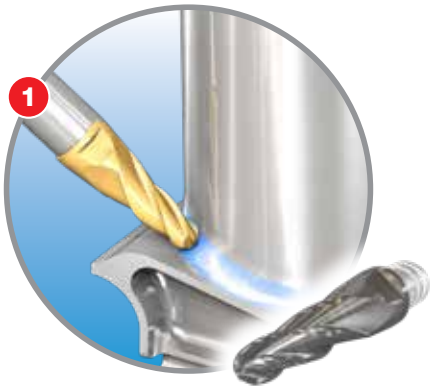
Jet Engine Blade

No Setup Time

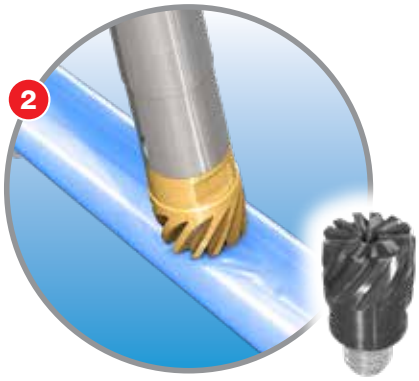
Profiling

Unique Inserts Geometry

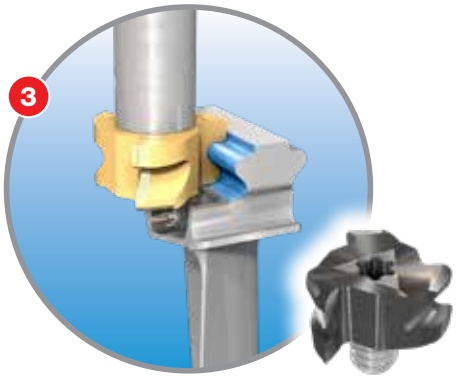
A jet engine turbine blade is the individual component which makes up the turbine section of a jet engine. The blades are responsible for extracting energy from the high temperature, high pressure gas produced by the combustor. Growing requirements for fuel efficiency now demand tighter tolerances, and many manufacturers have responded by machining oversize forgings to their final net shape. The turbine blades are often the limiting component of the jet engine. To survive in difficult atmospheric environments, jet engine turbine blades are usually made of exotic materials like superalloys to assure cooling methods, such as internal air channels, boundary layer cooling, and thermal barrier coatings.



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Blade Root Radius Milling



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Airfoil Finish Milling



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Blade Root Profile Milling

Aerospace

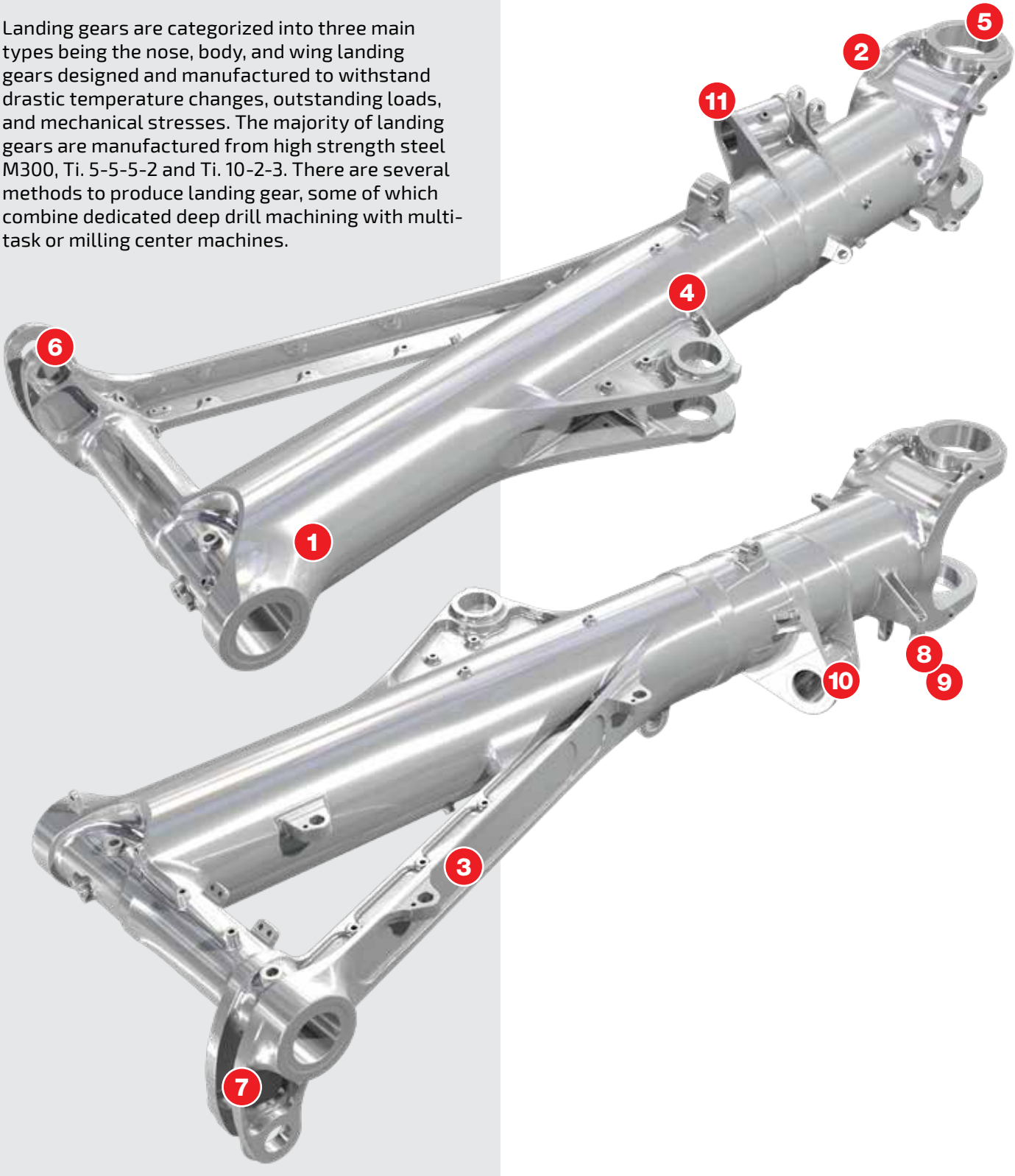
Landing Gear Main Fitting

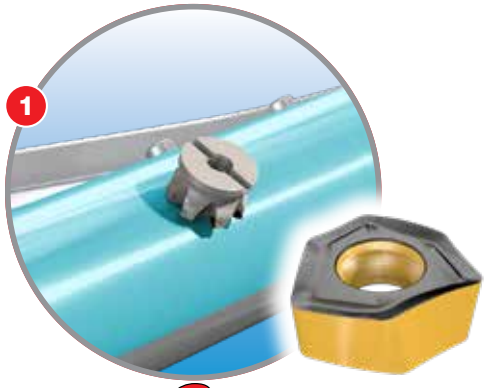
Cost Effective Inserts

Super Finish

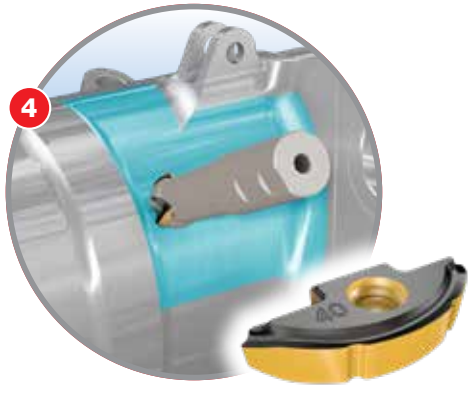
2 Sided Insert
Double Sided Inserts

Landing gears are categorized into three main types being the nose, body, and wing landing gears designed and manufactured to withstand drastic temperature changes, outstanding loads, and mechanical stresses. The majority of landing gears are manufactured from high strength steel M300, Ti. 5-5-5-2 and Ti. 10-2-3. There are several methods to produce landing gear, some of which combine dedicated deep drill machining with multi-task or milling center machines.

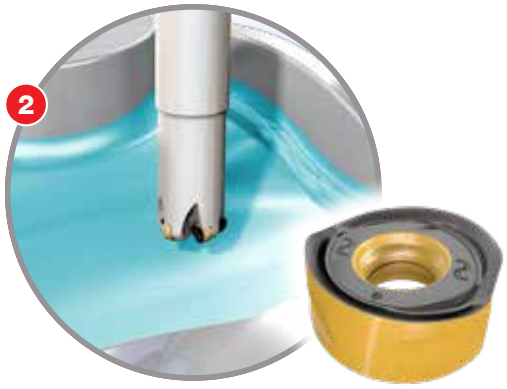




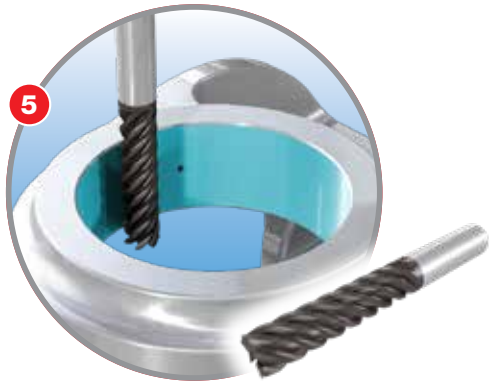
HELI6FEED
UPFEED LINE
High Feed Milling



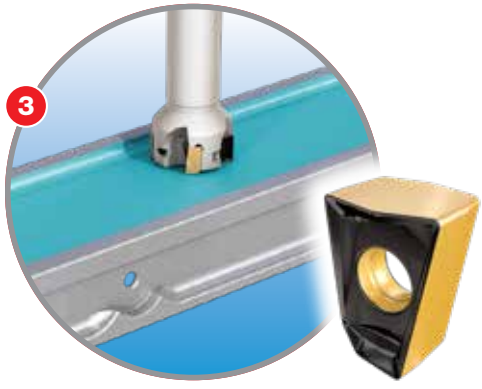
DROPMILL
3 FLUTE BALL NOSE
Radius Milling



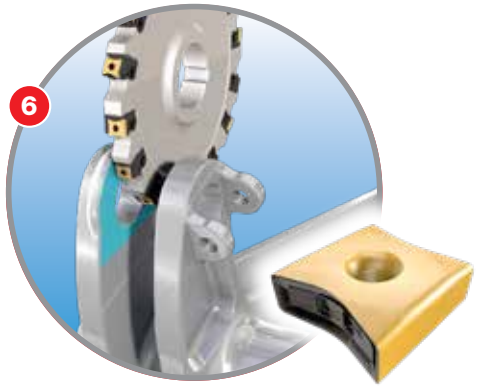
HELIDO
ROUND H400 LINE
Profile Milling



SOLIDMILL
PREMIUM LINE
Milling – Semi Finish



HELIDO
490 LINE
Rough Pocket Milling



TANGMILL
TANGENTIAL LINE
Slot Milling

Aerospace

Landing Gear Main Fitting

Ease of Use

Cost Effective Inserts

Super Finish

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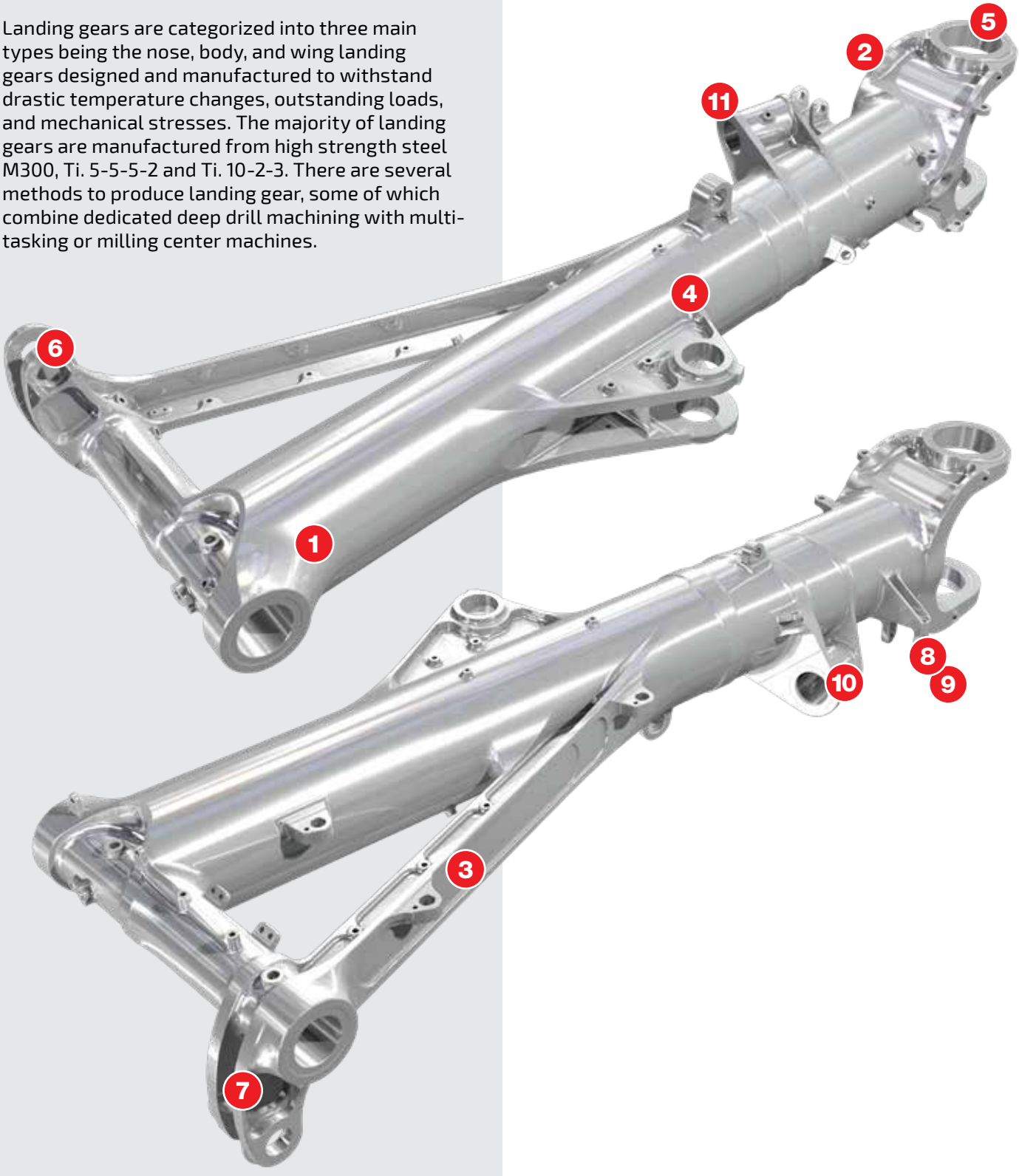
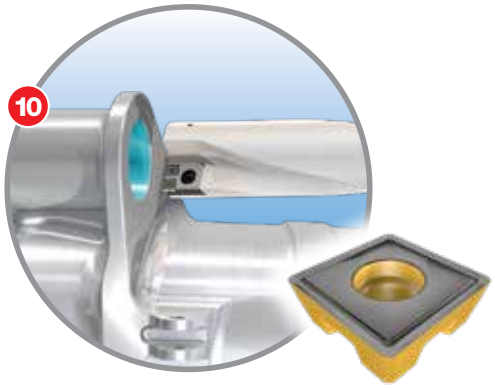
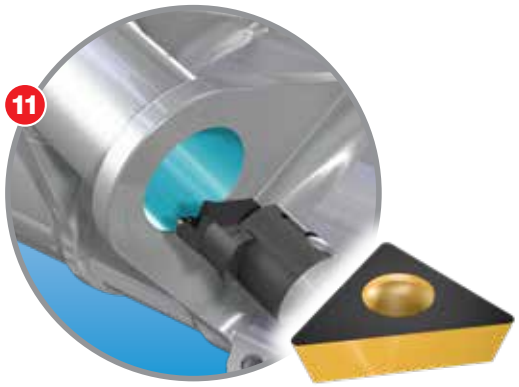


MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Pocket Milling



DRDRILLS
Drilling

SUMOCHAM
CHAMDRILL LINE
Fork Drilling



ITSBORE
Boring

BAYOT-REAM
Reaming

Aerospace

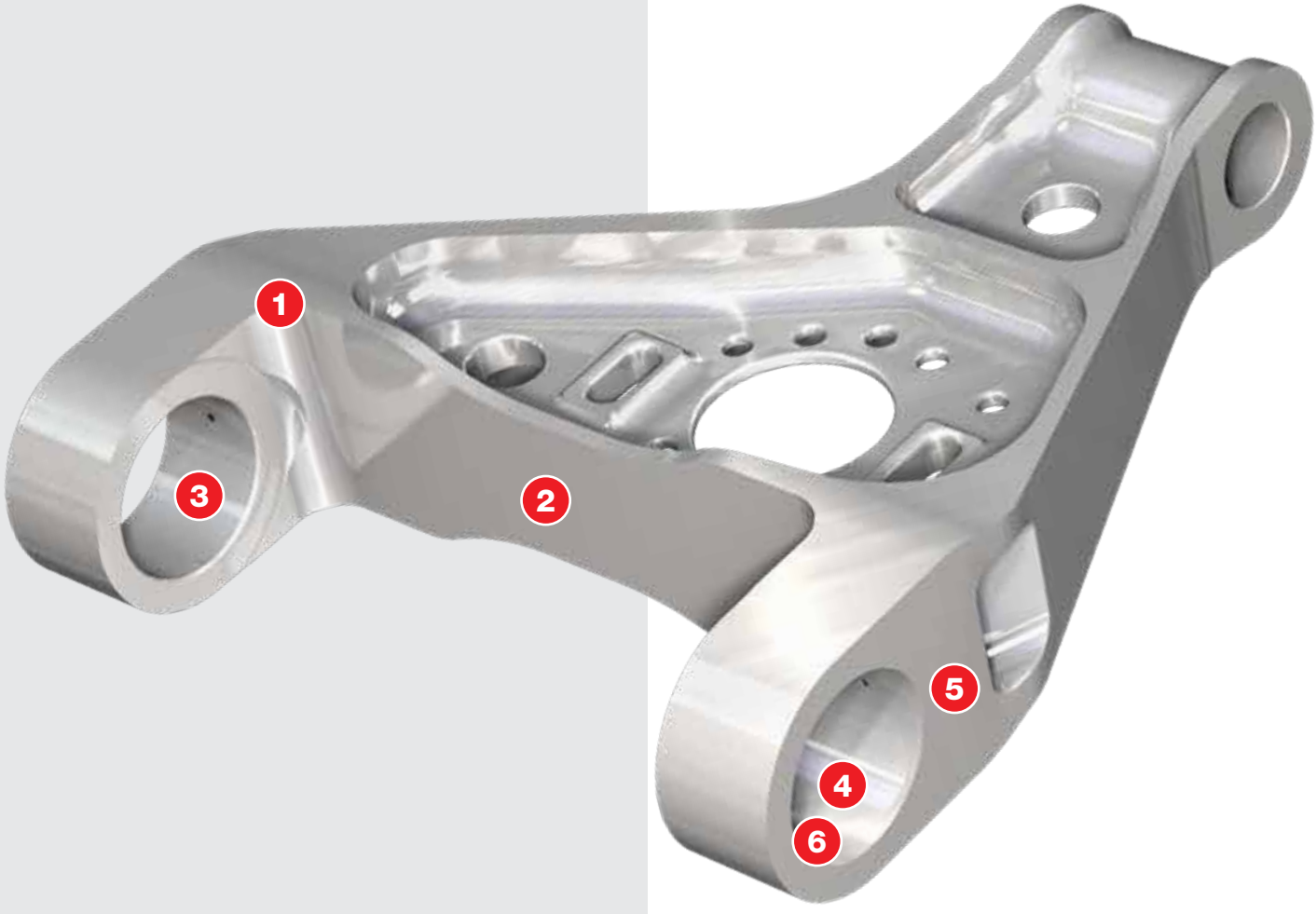
Landing Gear Torque Link

Cost Effective Inserts

Super Finish

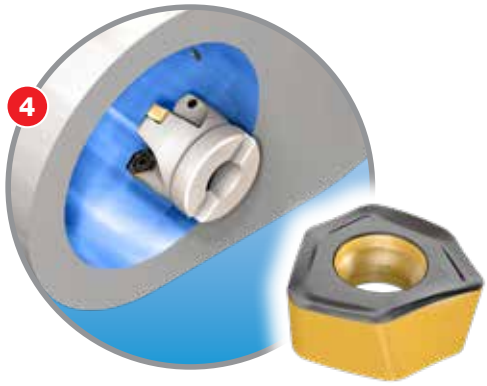
2 Sided Insert
Double Sided Inserts

Torsion links are made of Ti alloy frames which couple the inner and outer cylinders of a landing gear strut together. Typically manufactured in machining centers with a relatively high metal removal stock.



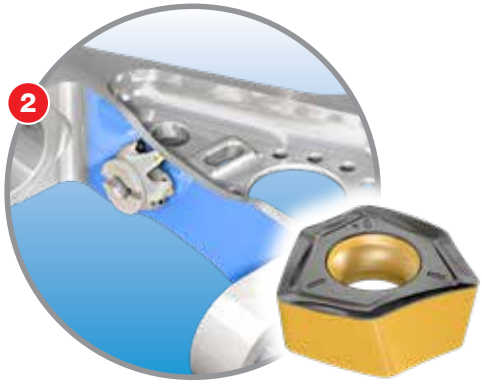
TANGPLUNGE
PLUNGING LINE

Plunging



HELIDO
600 UPFEED LINE

Helical Interpolation Milling

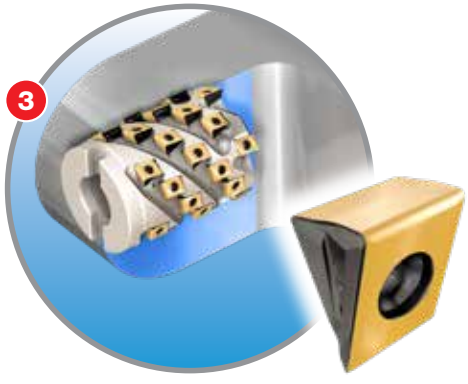


HELI6FEED
UPFEED LINE

Face Milling

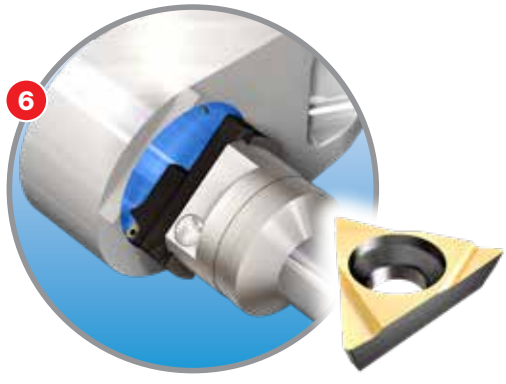
HELI12FEED
UPFEED LINE

Face Milling Finish



HELITANG
T490 LINE

Shouldering



ITSBORE

Fine Boring

Automotive

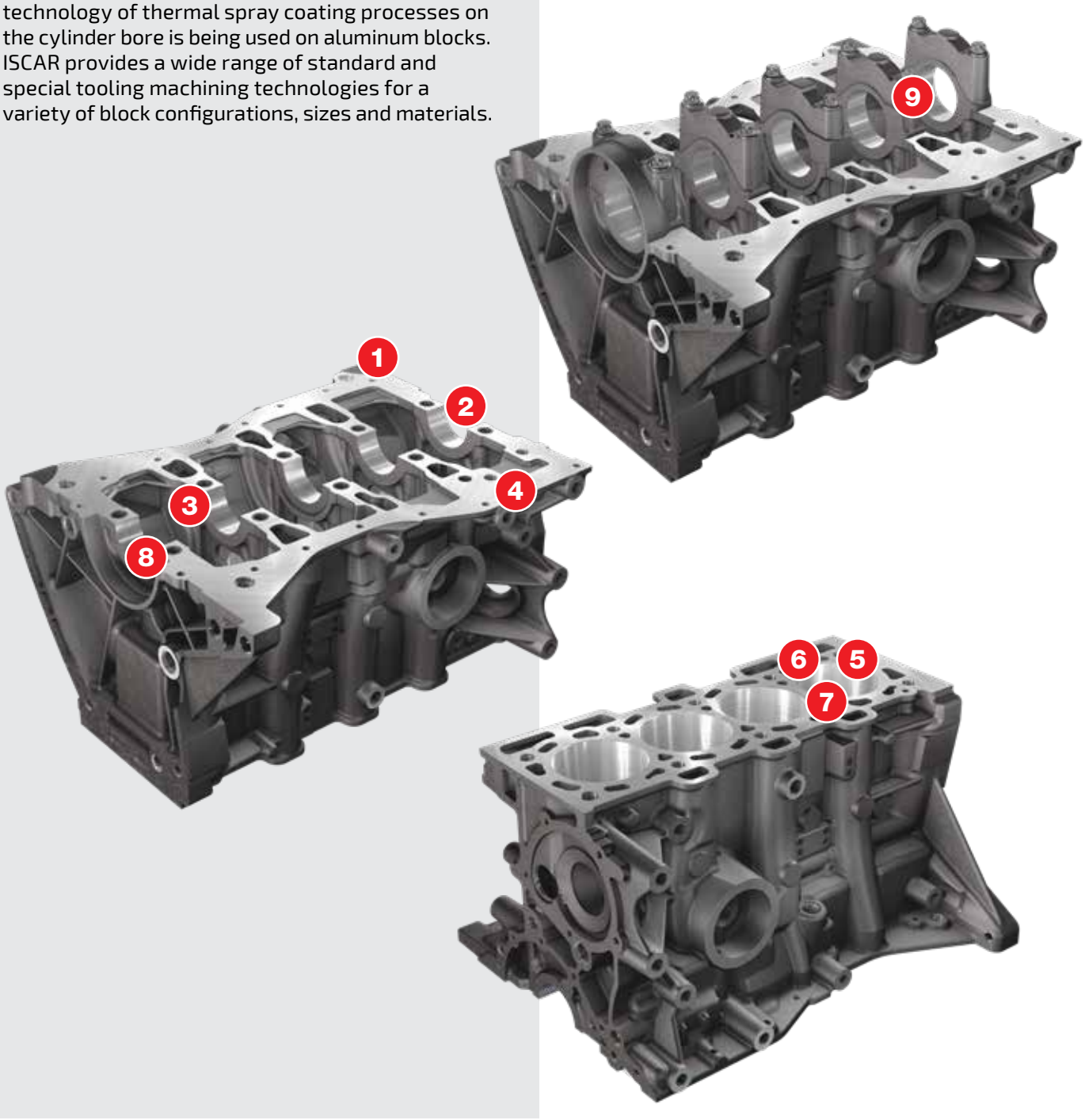
Cylinder Block

Stong Tool Body

Easy Chip Evacuationn

Longer Tool Life

The cylinder block is the supporting structure portion of the engine between the cylinder head and sump (oil pan). It is traditionally manufactured from cast iron and was upgraded to a bi-metal block design (aluminum block with inserted cast iron liners) to reduce weight. Nowadays, newer technology of thermal spray coating processes on the cylinder bore is being used on aluminum blocks. ISCAR provides a wide range of standard and special tooling machining technologies for a variety of block configurations, sizes and materials.



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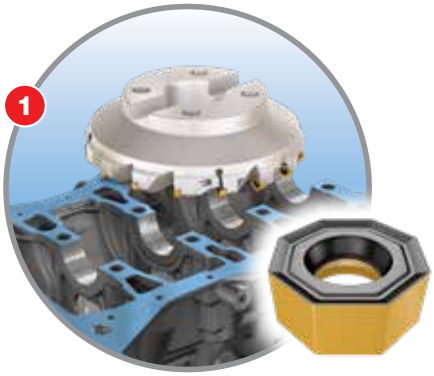
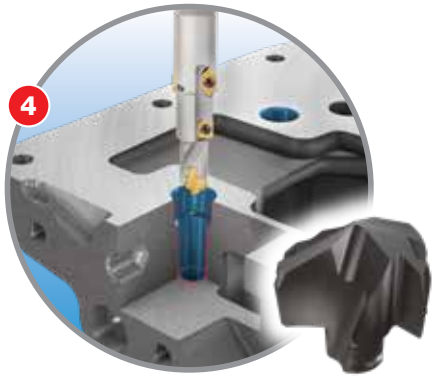


HELIDO
800 LINE
Engine Bottom Block
Face Milling

4

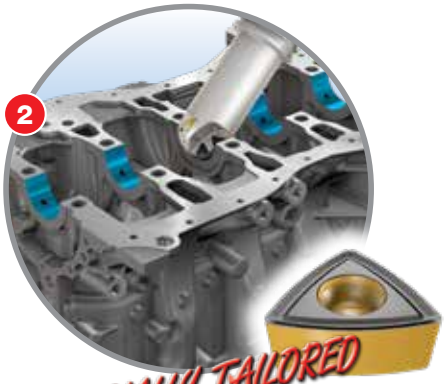


SUMOCHAM
CHAMDRILL LINE
Bush Rods Hole
Step Drilling and Chamfering

7

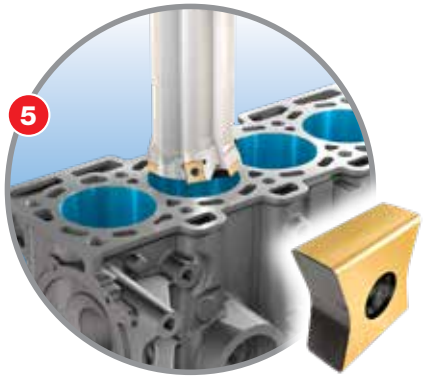
ISCARREAMER
Cylinder Bore Finish Boring

2



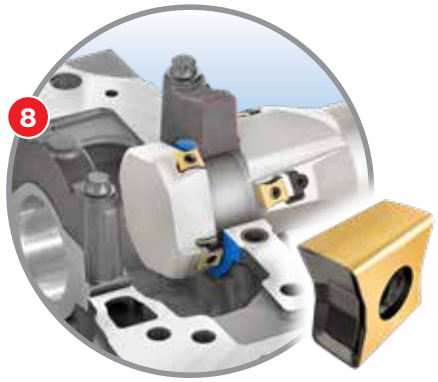
SPECIALLY TAILORED
Bearing Seats
Rough Milling

5



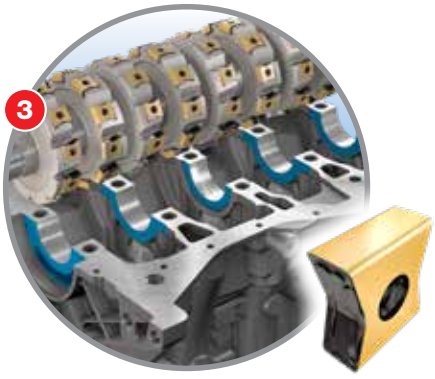
TANGMILL
TANGENTIAL LINE
Cylinder Bore Rough Boring

8



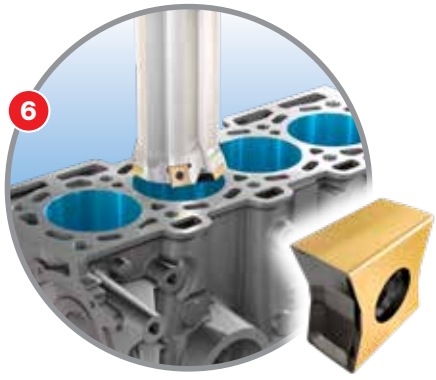
TANGMILL
TANGENTIAL LINE
Thrust Face Milling

3



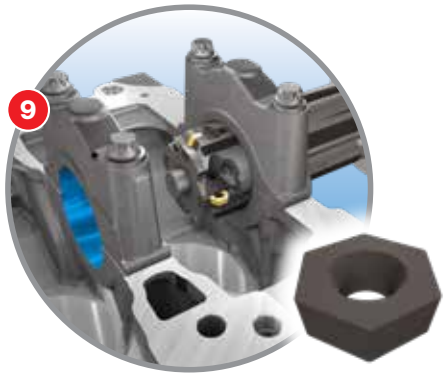
TANGMILL
TANGENTIAL LINE
Side Bearing Caps
Gang Milling

6



TANGMILL
TANGENTIAL LINE
Cylinder Bore
Semi-Finish Boring

9



ISCARREAMER
Bearing Seats Pilot Reamer
and Long Reamer Finishing

Automotive

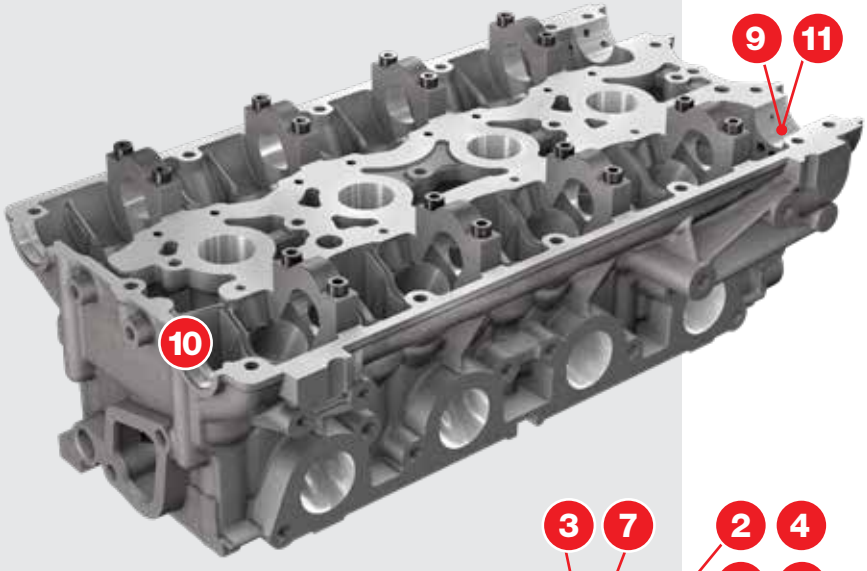
Cylinder Head

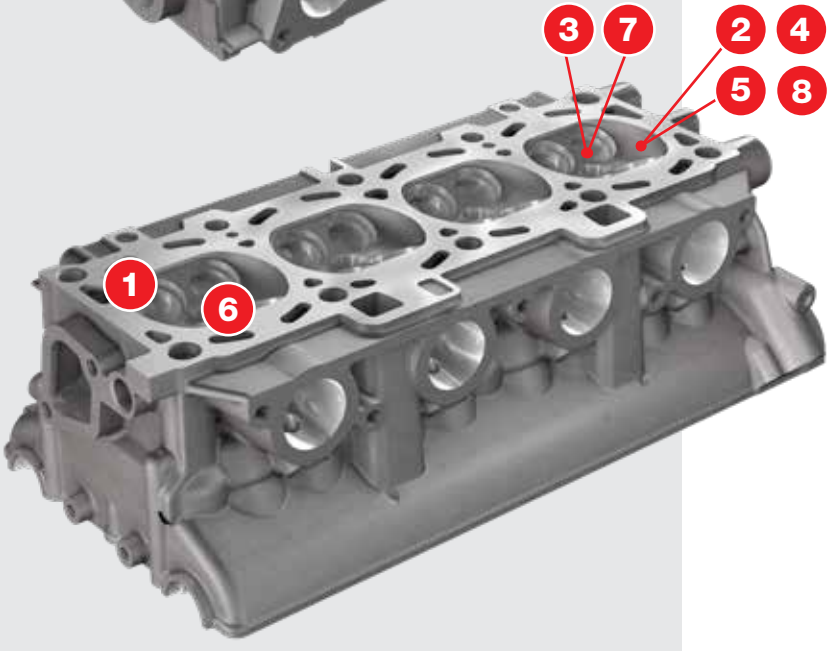
Stong Tool Body

Deep Boring

Longer Tool Life

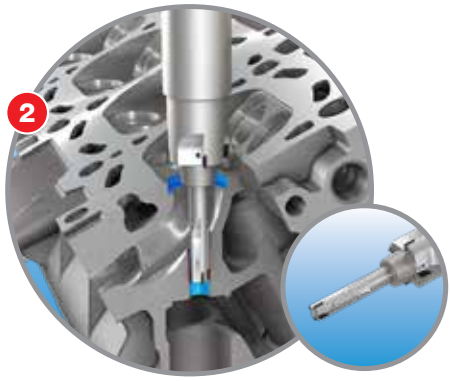
Cylinder heads perform several functions in the car engine. These include the exhaust housing and intake valves, the fuel injector, necessary linkages and passages for fuel and air mixture.
They are commonly produced from gray cast iron or cast aluminum for newer light weight vehicles.
ISCAR provides a wide range of standard and special tooling machining technologies for a variety of cylinder head configurations, sizes and materials.





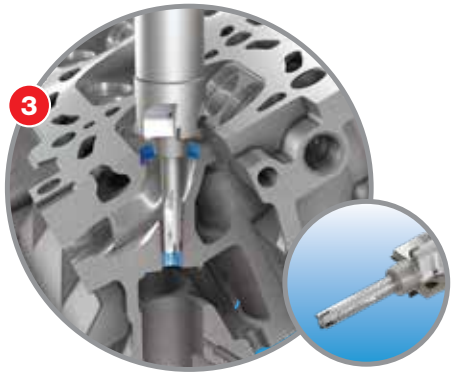
ALUFRAISE

Top and Bottom - Face Milling



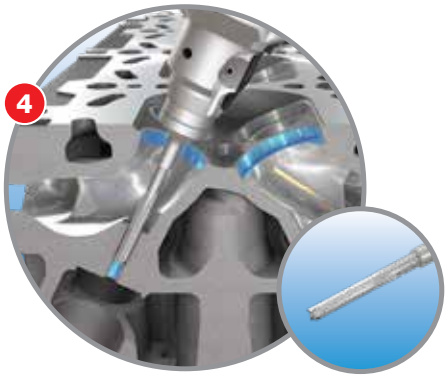
ISCARREAMER

Valve Line Intake (before press in) – Boring & Sport Face



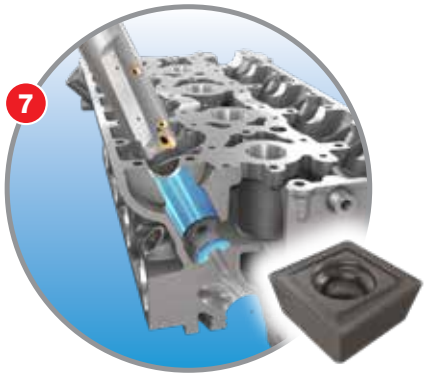
ISCARREAMER

Valve Line Exhaust - Boring & Spot Face



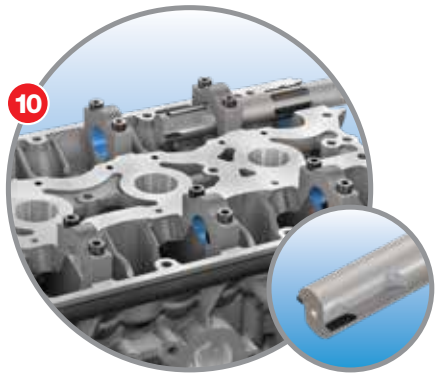
ISCAR REAMER

Valve Line Intake and Exhaust
(after press in) – Semi Finish Reaming



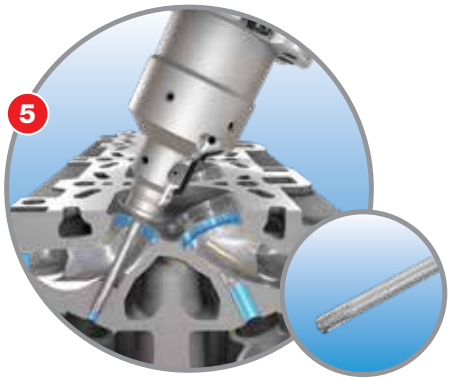
DR-TWIST
INDEXABLE DRILL LINE

Spring Seat Boring
and Bottom Facing



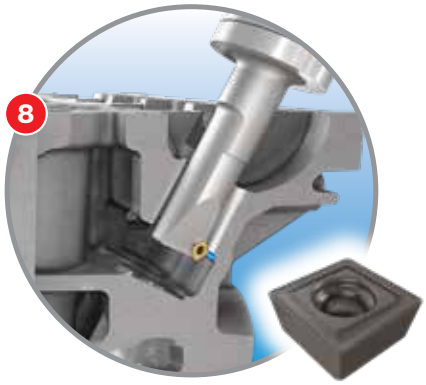
ISCAR REAMER

Cam Shaft Axis
Pilot Boring



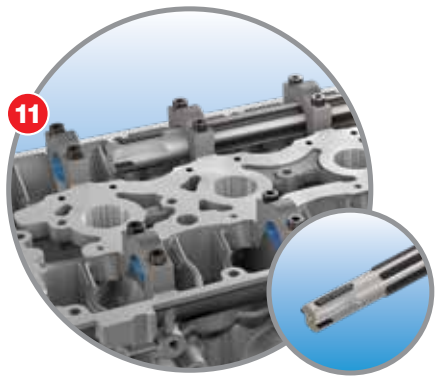
ISCAR REAMER

Valve Line Intake and Exhaust
(after press in) – Finish Reaming



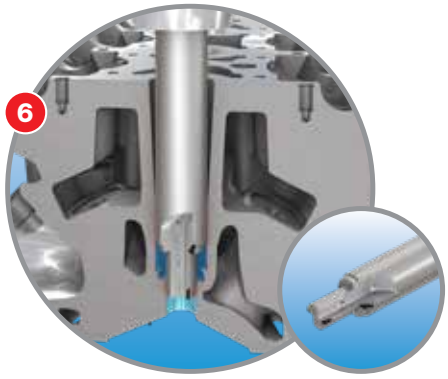
DR-TWIST
INDEXABLE DRILL LINE

Spring Seat
Back Chamfering



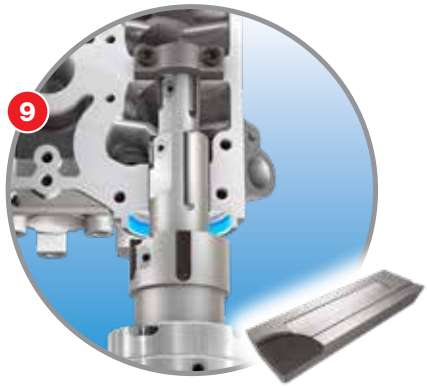
ISCAR REAMER

Cam Shaft Axis Boring
and Spot Facing



ISCAR REAMER

Injector Hole Boring
and Spot Face



INDEX H-REAM

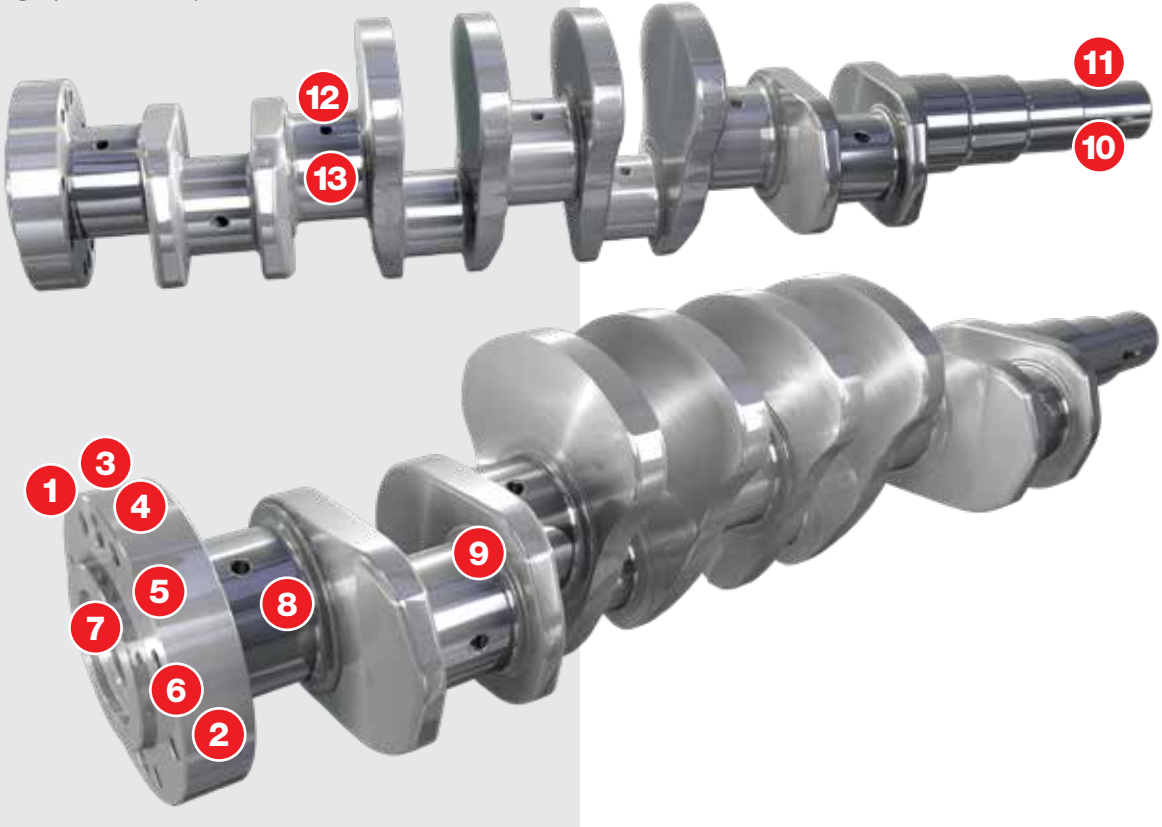
Cam Axis Inlet
and Exhaust Reaming

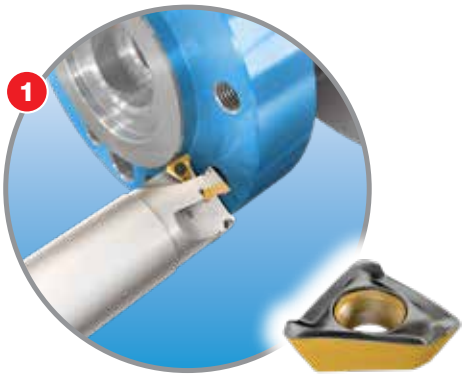
Automotive

Crank Shaft

Super Finish | Ease of Use | No Setup Time

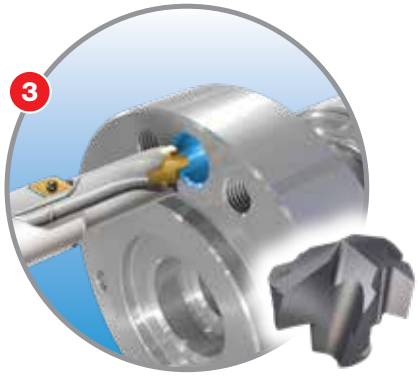
A crankshaft translates the linear reciprocating motion of the piston into the rotational motion. This is accomplished by connecting the pistons to the crank throws, which are then offset from the central axis of the crankshaft to create a rotation of that axis.
Crankshafts can be monolithic (made in a single piece) or assembled from several pieces. Monolithic crankshafts are most common, but some smaller and larger engines use assembled crankshafts. Crankshafts can be forged from a steel bar usually through roll forging or cast in ductile steel. Today, more and more manufacturers tend to favor the use of forged crankshafts due to their lighter weight. Crankshafts can also be machined out of a billet, often a bar of high quality vacuum remelted steel. Machining or remanufacturing crankshafts are precision machined to exact tolerances without odd size crankshaft bearings or journals. ISCAR has developed long solid carbide drills for crankshaft oiling holes. For bearings or journal cranks, ISCAR's milling, turning and tooling solutions assure high productivity.





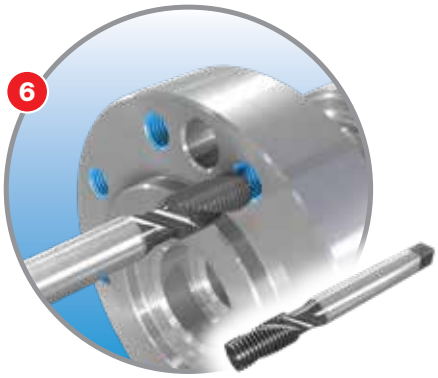
HELIQMILL 390 LINE

Shoulder Face Milling



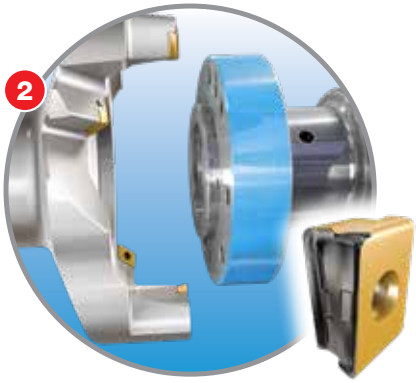
SUMOCHAM CHAMDRILL LINE

Locating Pin
Hole Making and Chamfering



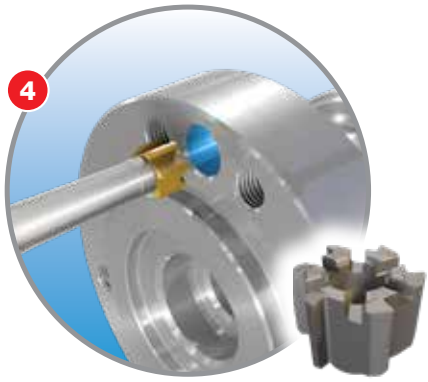
ONETAP

Tapping



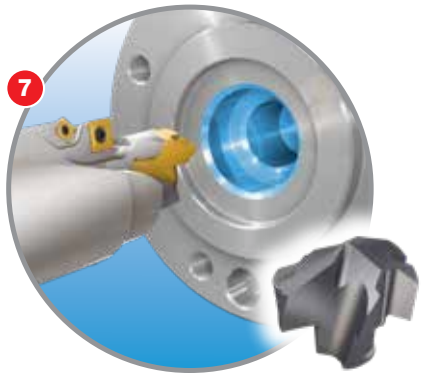
TANGPLUNGE PLUNGING LINE

Outer Diameter Plunge
Milling and Chamfering



BAYOT-REAM

Reaming Locating Pin



SUMOCHAM CHAMDRILL LINE

Flywheel Mounting Flange Step
Drilling and Chamfering

SUMOCHAM CHAMDRILL LINE

Flywheel Flange Hole Making
and Chamfering

Automotive

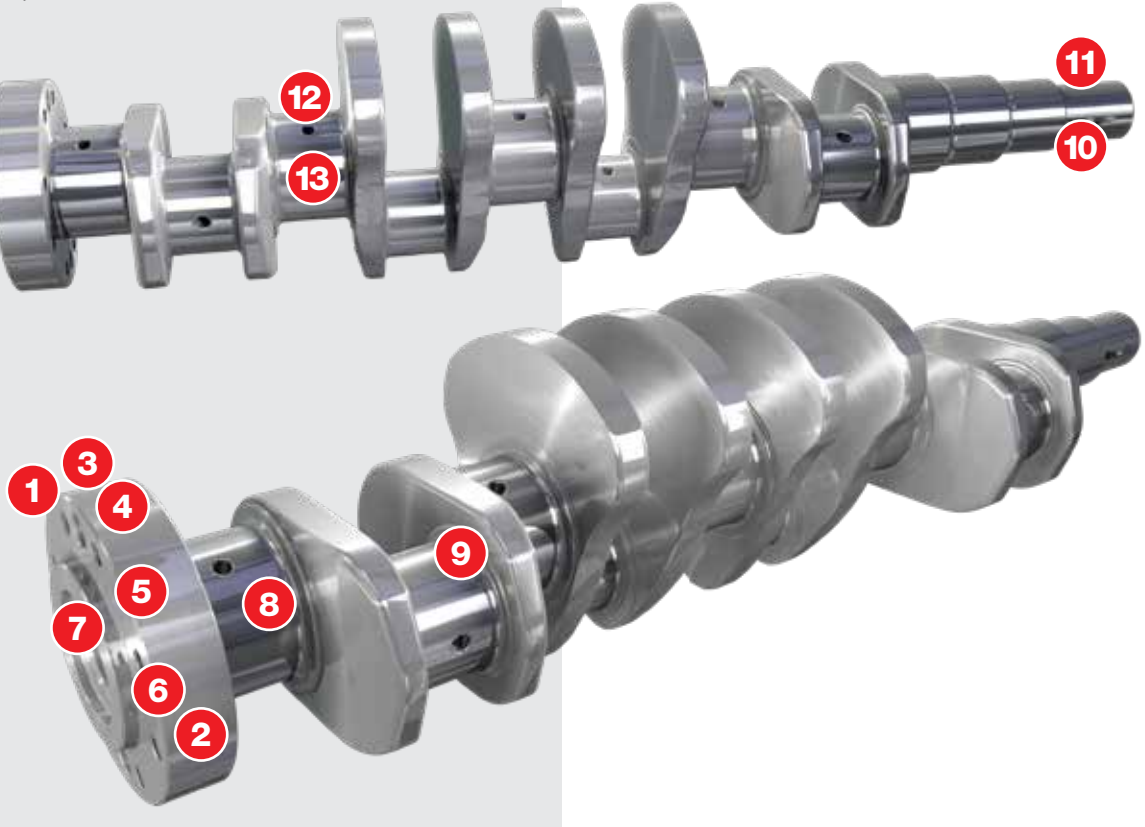
Crank Shaft

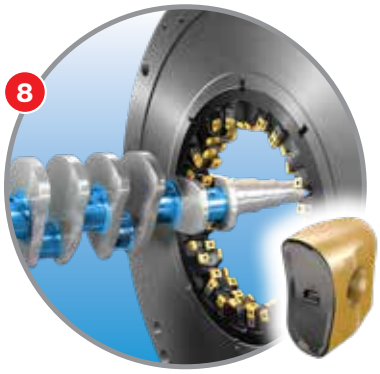
Deep Boring

Specially Tailored

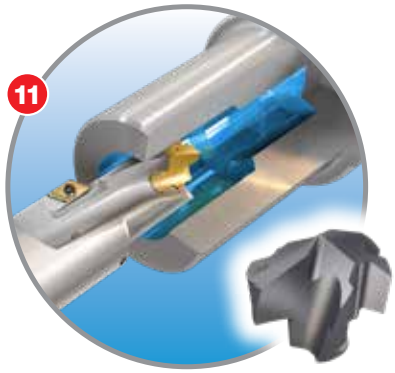
Longer Tool Life

A crankshaft translates the linear reciprocating motion of the piston into the rotational motion. This is accomplished by connecting the pistons to the crank throws, which are then offset from the central axis of the crankshaft to create a rotation of that axis.
Crankshafts can be monolithic (made in a single piece) or assembled from several pieces. Monolithic crankshafts are most common, but some smaller and larger engines use assembled crankshafts. Crankshafts can be forged from a steel bar usually through roll forging or cast in ductile steel. Today, more and more manufacturers tend to favor the use of forged crankshafts due to their lighter weight. Crankshafts can also be machined out of a billet, often a bar of high quality vacuum remelted steel. Machining or remanufacturing crankshafts are precision machined to exact tolerances without odd size crankshaft bearings or journals. ISCAR has developed long solid carbide drills for crankshaft oiling holes. For bearings or journal cranks, ISCAR's milling, turning and tooling solutions assure high productivity.

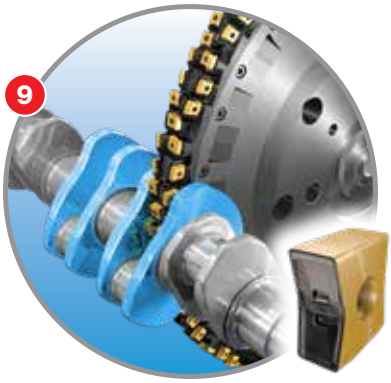




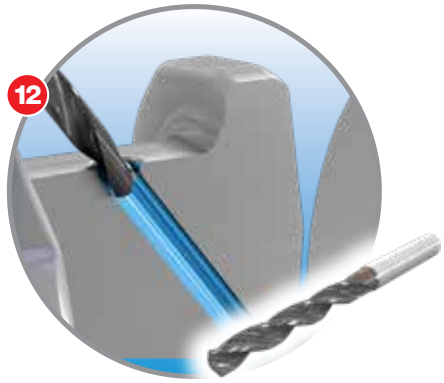
TANGMILL
TANGENTIAL LINE
Main and Pin - Internal Milling



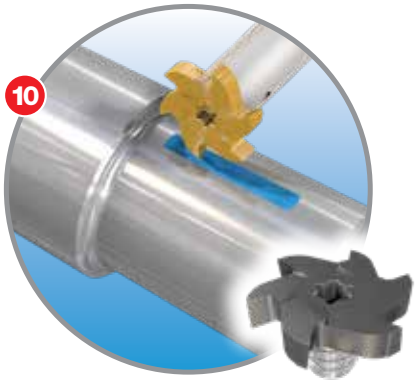
SUMOCHAM
CHAMDRILL LINE
Crank Nose Hole Making
and Chamfering



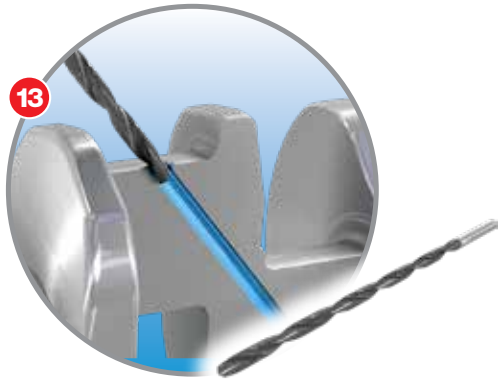
TANGMILL
TANGENTIAL LINE
Main and Pin -
External Milling



SOLIDDRILL
Oil Hole Pilot
for Deep Drill



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Crank Nose Keyway



SOLIDDRILL
Main Journal
Oilway Hole Making

Automotive

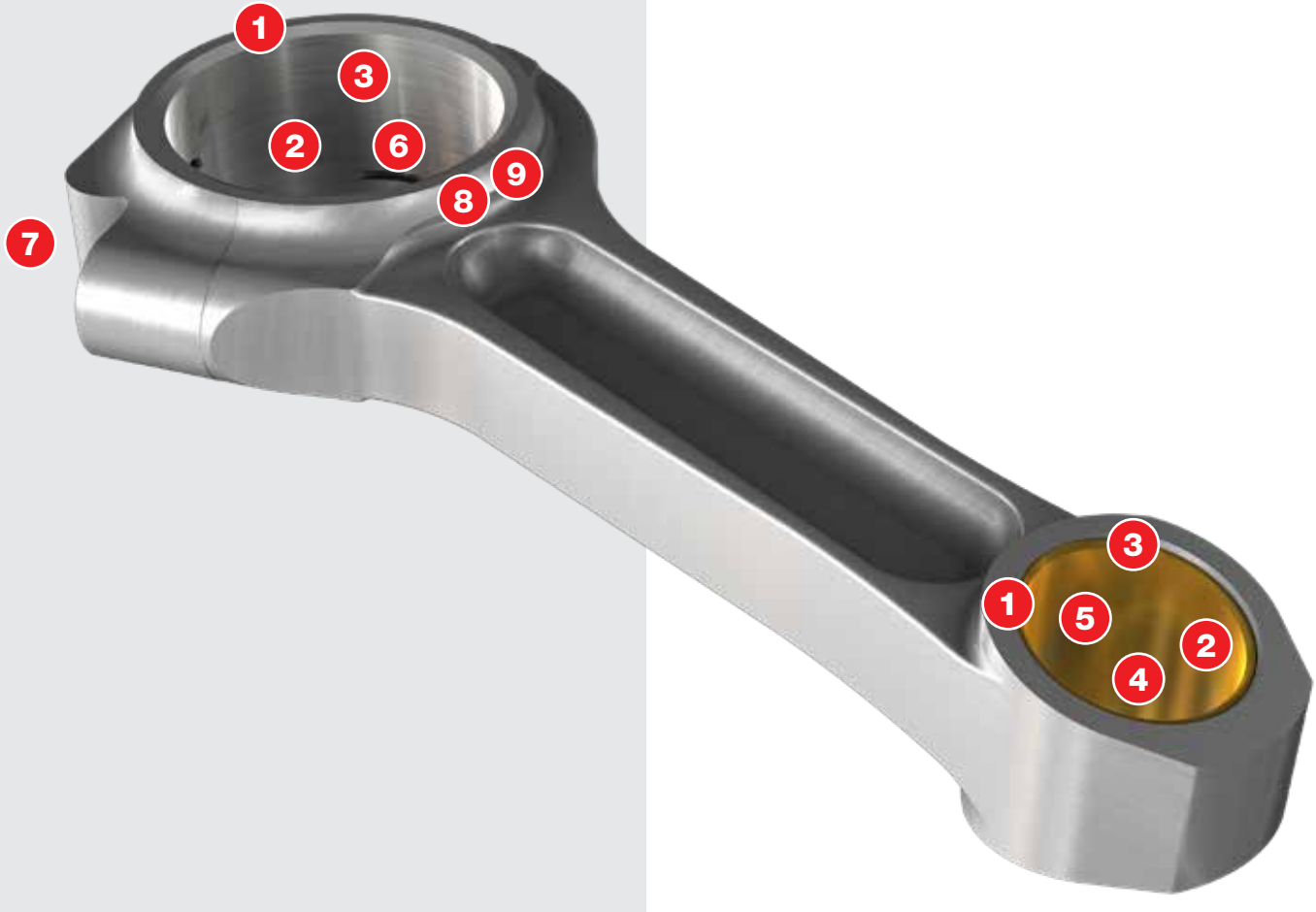
Connecting Rod

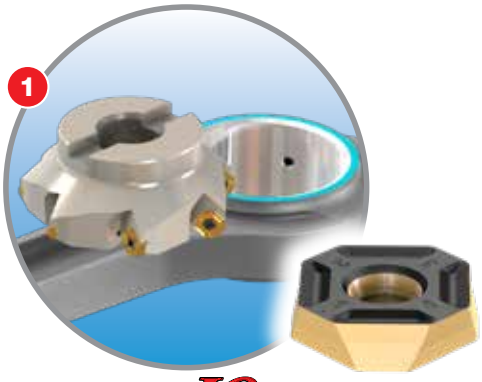
Deep Boring

Easy Chip Evacuationn

No Setup Time

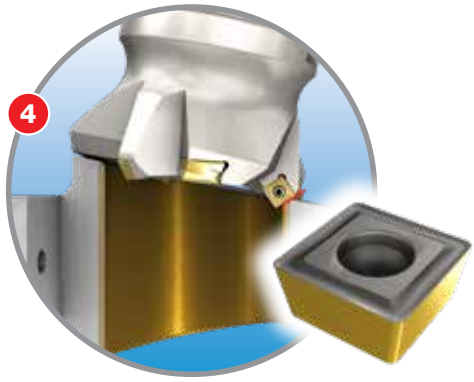
Con-rods are part of the engine component that transfers motion from the piston to the crankshaft and functions as a lever arm. Connecting rods are commonly made from cast aluminum alloys and steel alloys which are designed to withstand dynamic stresses from combustion and piston movement.
Connecting rods are produced as one-piece or two-piece components. A rod cap is the removable section of a two-piece connecting rod that provides a bearing surface for the crankpin journal. The rod cap sawed or cracked is attached to the connecting rod with two cap screws for installation and removal from the crankshaft.
ISCAR provides a wide range of standard and special tooling for con rods.





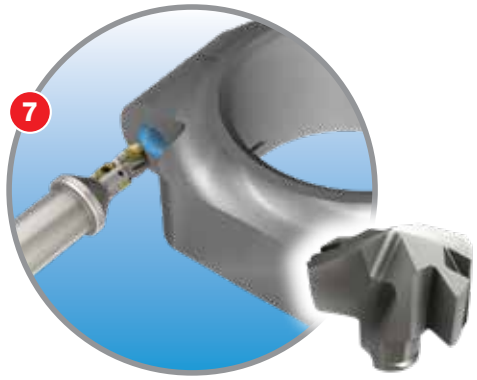
DOVE IQ MILL
845 LINE

Finishing - Face Milling



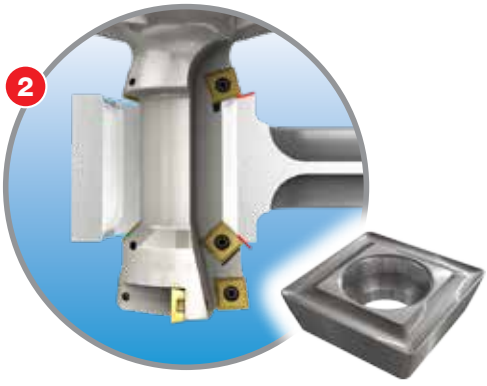
ISCARDRILL

Chamfering (pin)



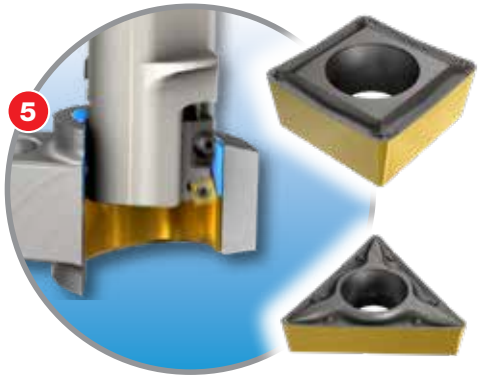
SUMOCHAM
CHAMDRILL LINE

Drilling



ISCARDRILL

Boring and Chamfering



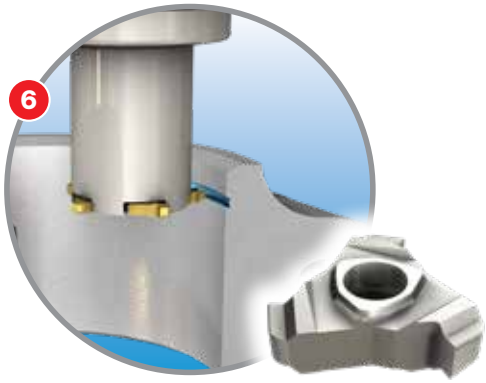
ISOTURN

Boring on Brass Bushing -
Semi-Finish and Finish

SUMOCHAM
CHAMDRILL LINE

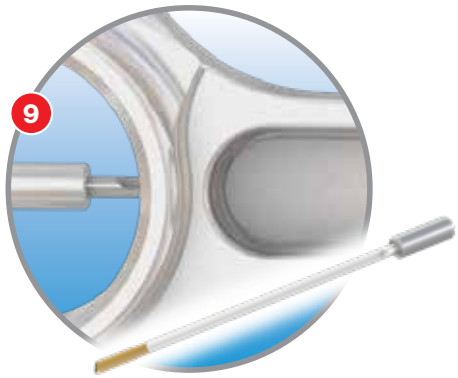
Drilling Oil Hole (Pre-hole)

Reaming (Main & Pin)



CHAMSLIT

Slot & Slot Chamfering



GUNDRILLS

Drilling Oil Hole

Automotive

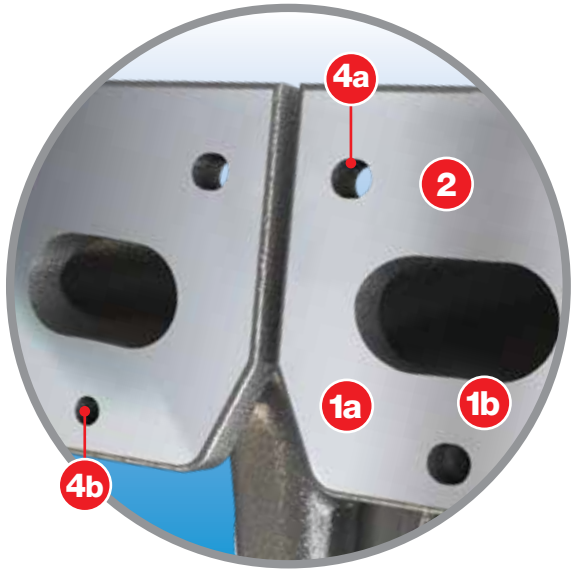
Turbine Housing With an Exhaust Manifold

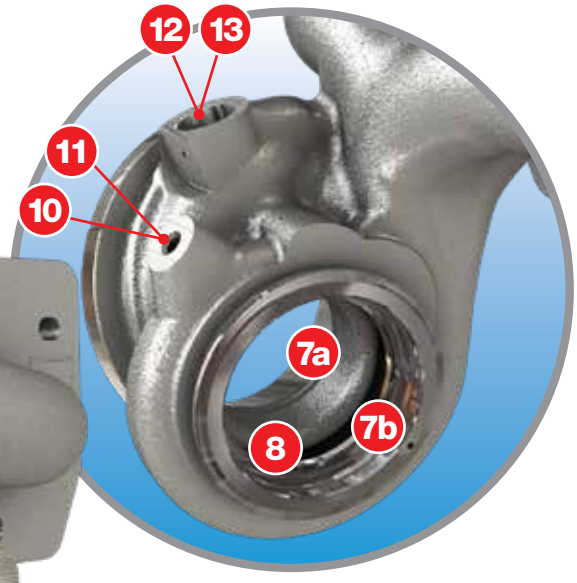
High Temperatures Resistant

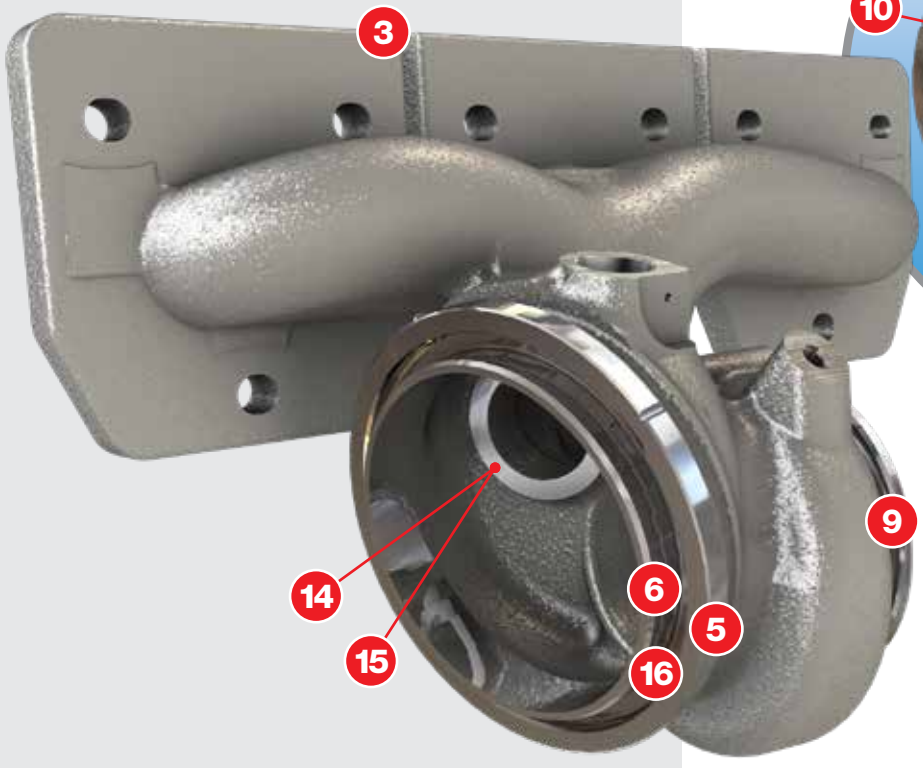
High Productivity

2 Sided Insert
Double Sided Inserts

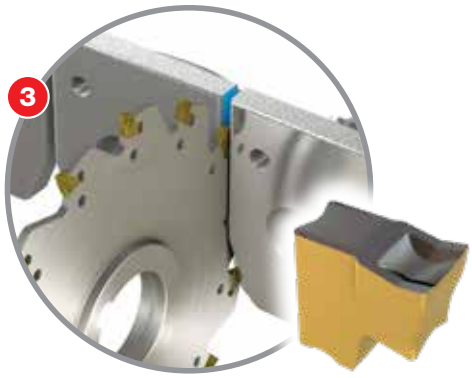
The turbocharger plays a key role for increasing an engine's performance by reutilizing the wasted exhaust gasses into the engine's combustion chambers, resulting in air/fuel mixture which significantly increases the engine's efficiency. An unwelcomed consequence of the turbocharger's output is by running the turbine housing temperatures to 900°C in diesel engines, and up to 1100°C in gasoline powered units. To withstand these high temperatures, turbine housings are manufactured from austenitic, heat-resistant cast steels, which have relatively high-creep strength, good thermal stability, and excellent castability. ISCAR developed special combined tools, chipformers and unique coating edge technology to meet the market challenges in producing millions of turbo chargers all over the world year by year.



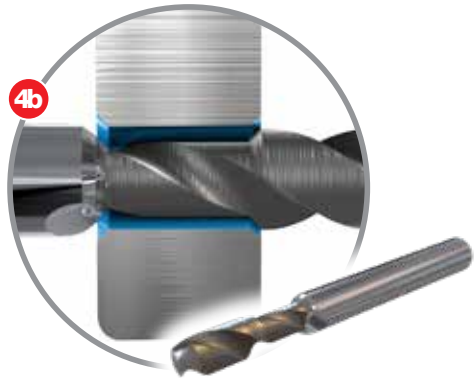




HELIDO 800 LINE
Flange Face Rough Milling



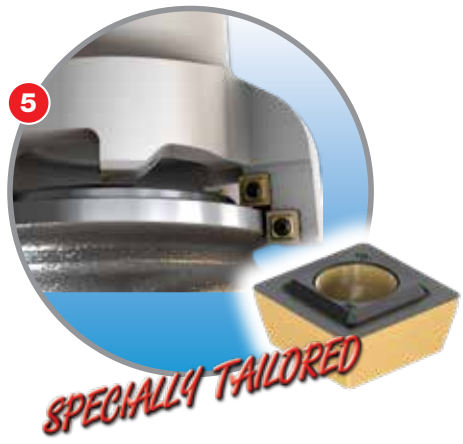
TANGSLIT
Slot - Milling



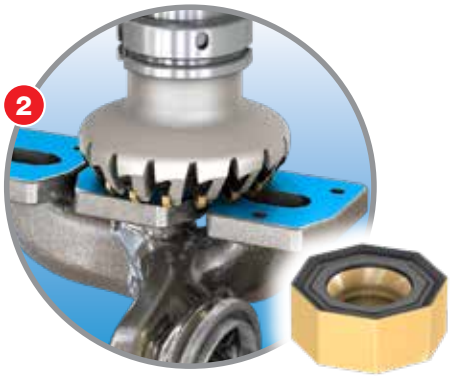
SOLIDDRILL
Screw Clamp for Cylindrical Hole - Drilling, Front and Back Chamfer Milling

HELIDO 800 LINE
Flange - Rough Face Milling

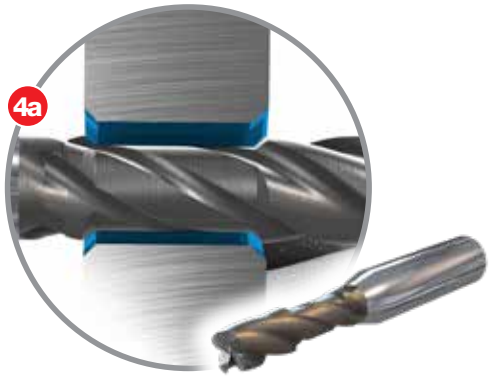
SUMOCHAM CHAMDRILL LINE
Drilling



Big V Band - Plunging



HELIDO 800 LINE
Flange - Finish Face Milling



SOLIDMILL PREMIUM LINE
Milling, Back and Front Chamfering

HELIFACE
Face Grooving

Automotive

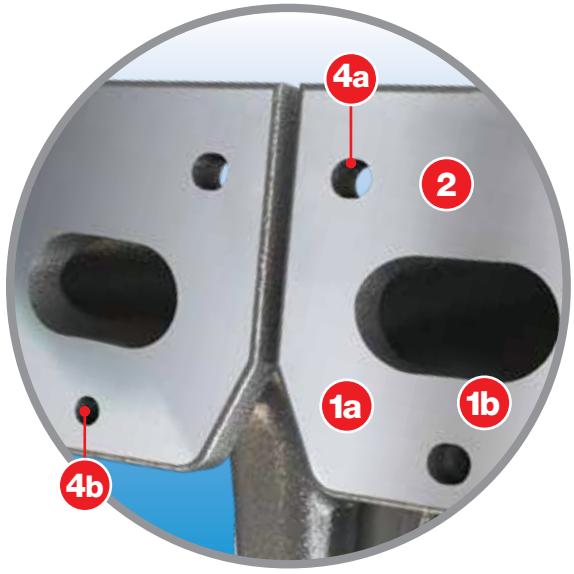
Turbine Housing With an Exhaust Manifold

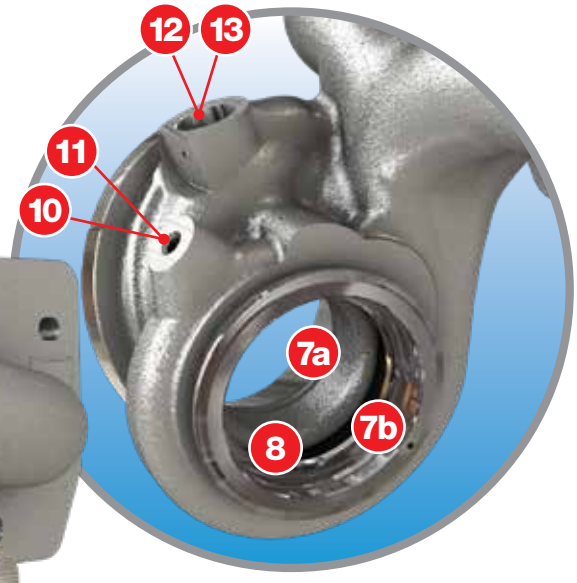
High Temperatures Resistant

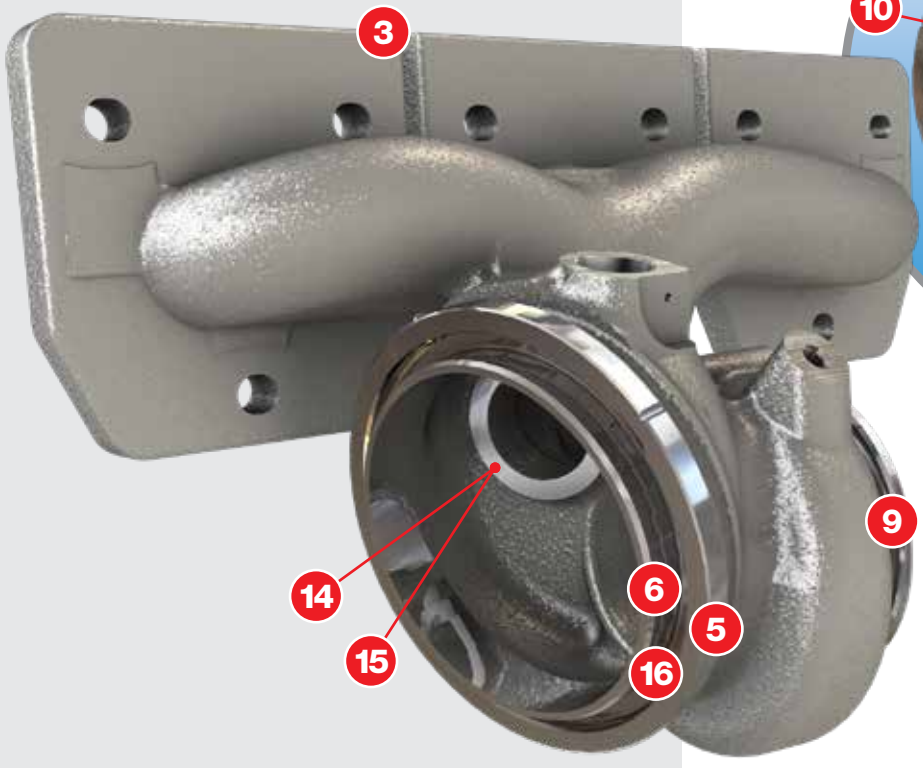
Variety

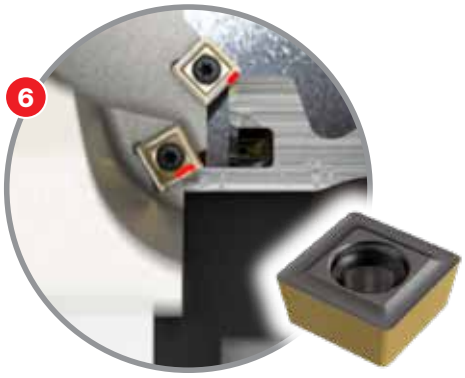
Easy Chip Evacuationn

The turbocharger plays a key role for increasing an engine's performance by reutilizing the wasted exhaust gasses into the engine's combustion chambers, resulting in air/fuel mixture which significantly increases the engine's efficiency. An unwelcomed consequence of the turbocharger's output is by running the turbine housing temperatures to 900°C in diesel engines, and up to 1100°C in gasoline powered units. To withstand these high temperatures, turbine housings are manufactured from austenitic, heat-resistant cast steels, which have relatively high-creep strength, good thermal stability, and excellent castability. ISCAR developed special combined tools, chipformers and unique coating edge technology to meet the market challenges in producing millions of turbo chargers all over the world year by year.









DR-TWIST
INDEXABLE DRILL LINE

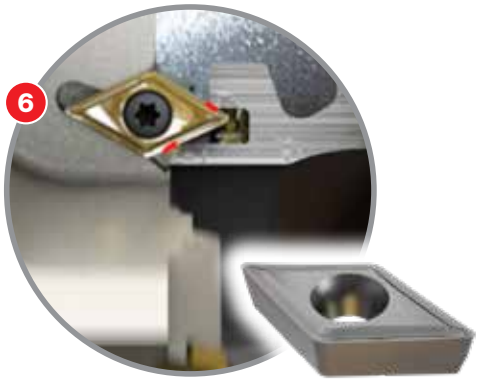
Chamfering

ISOTURN

Contour Turbine Wheel – Interpolation Turning

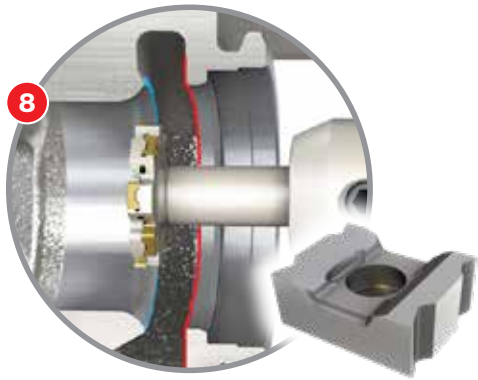
SPECIALLY TAILORED

Small V Band Turning



PRETHREAD

Chamfering

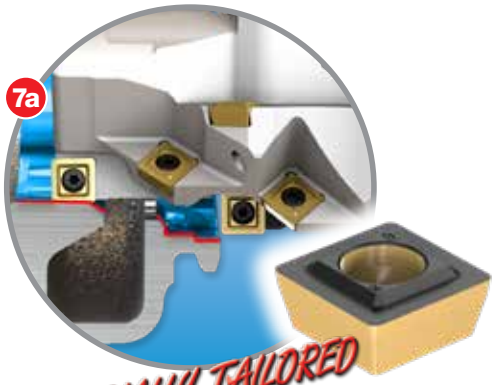


MINI-TANGSLOT

Safety Cut Milling

SOLIDDRILL

Pre-Thread Drilling



Contour Turbine Wheel - Rough Boring

Small V Band - Circular Interpolation Milling

HSSTAPS

Fixation Hole – Tapping

Automotive

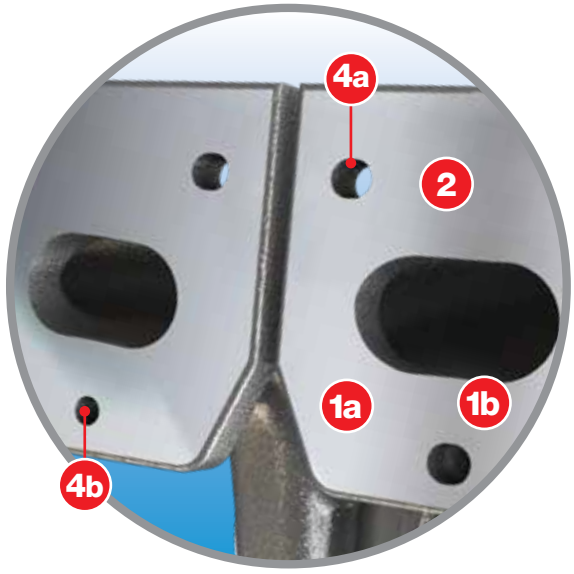
Turbine Housing With an Exhaust Manifold

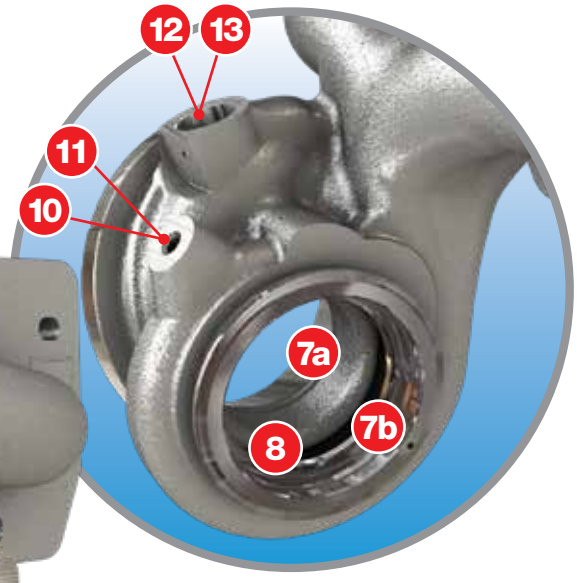
High Temperatures Resistant

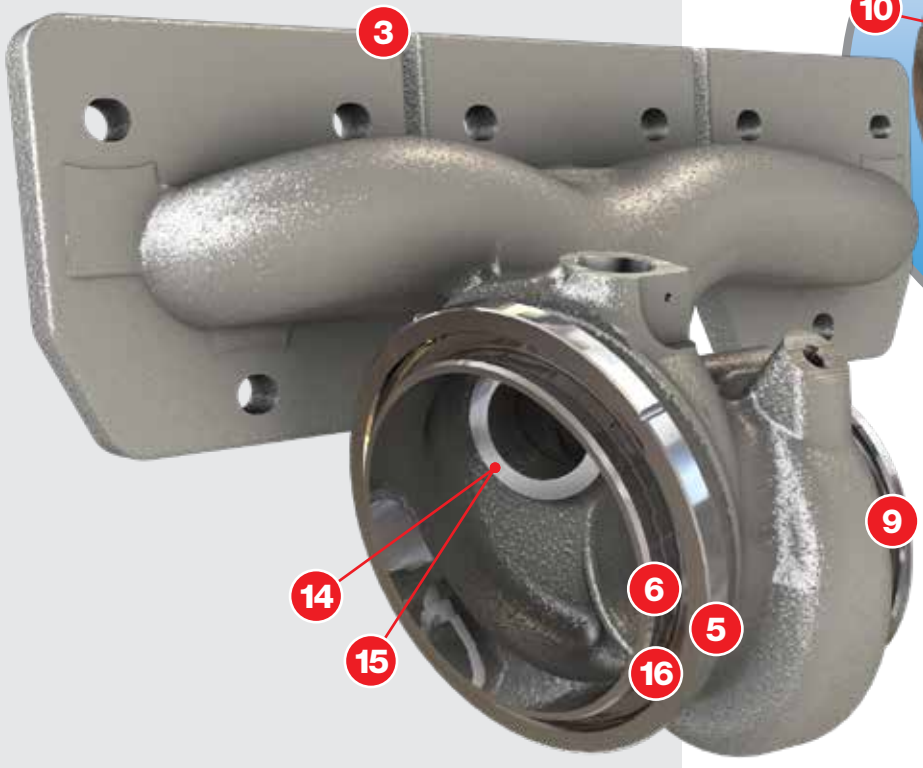
High Productivity

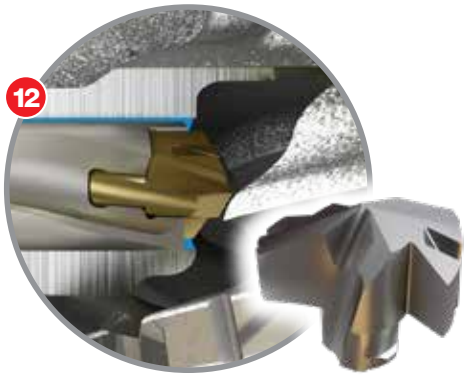
Easy Chip Evacuationn

The turbocharger plays a key role for increasing an engine's performance by reutilizing the wasted exhaust gasses into the engine's combustion chambers, resulting in air/fuel mixture which significantly increases the engine's efficiency. An unwelcomed consequence of the turbocharger's output is by running the turbine housing temperatures to 900°C in diesel engines, and up to 1100°C in gasoline powered units. To withstand these high temperatures, turbine housings are manufactured from austenitic, heat-resistant cast steels, which have relatively high-creep strength, good thermal stability, and excellent castability. ISCAR developed special combined tools, chipformers and unique coating edge technology to meet the market challenges in producing millions of turbo chargers all over the world year by year.

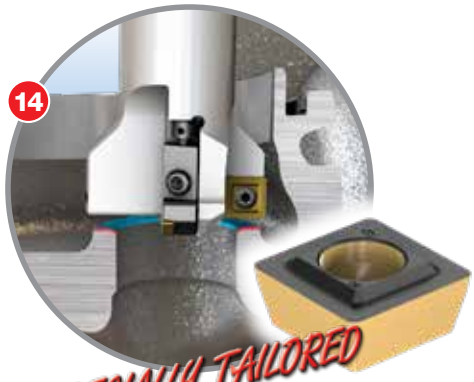






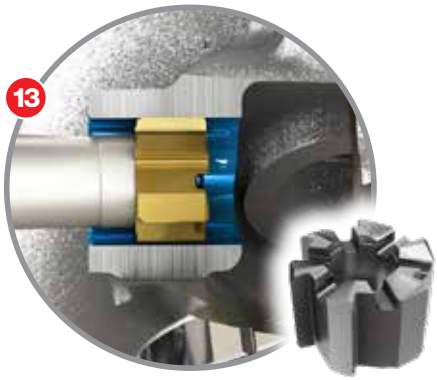


SUMOCHAM
CHAMDRILL LINE
Drilling and chamfering

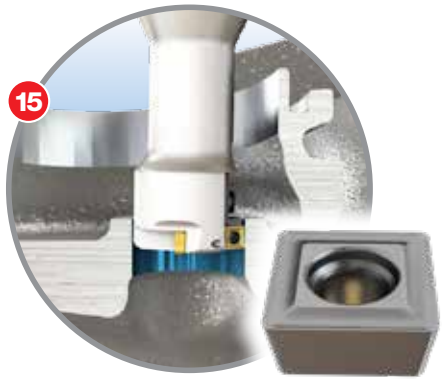


Contour Turbine Wheel - Rough Spot Facing and Chamfering

Big V Band - Interpolation Turning

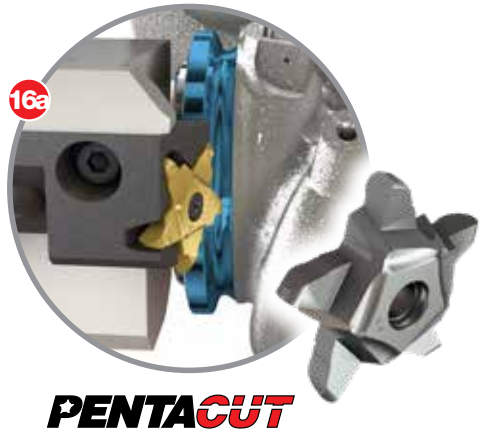


BAYOT-REAM
Bush Boring Control Valve - Reaming



DR-TWIST
INDEXABLE DRILL LINE
Waste Gate - Boring Finish

Big V Band - Interpolation Turning



PENTACUT
Big V Band - Interpolation Turning

Automotive

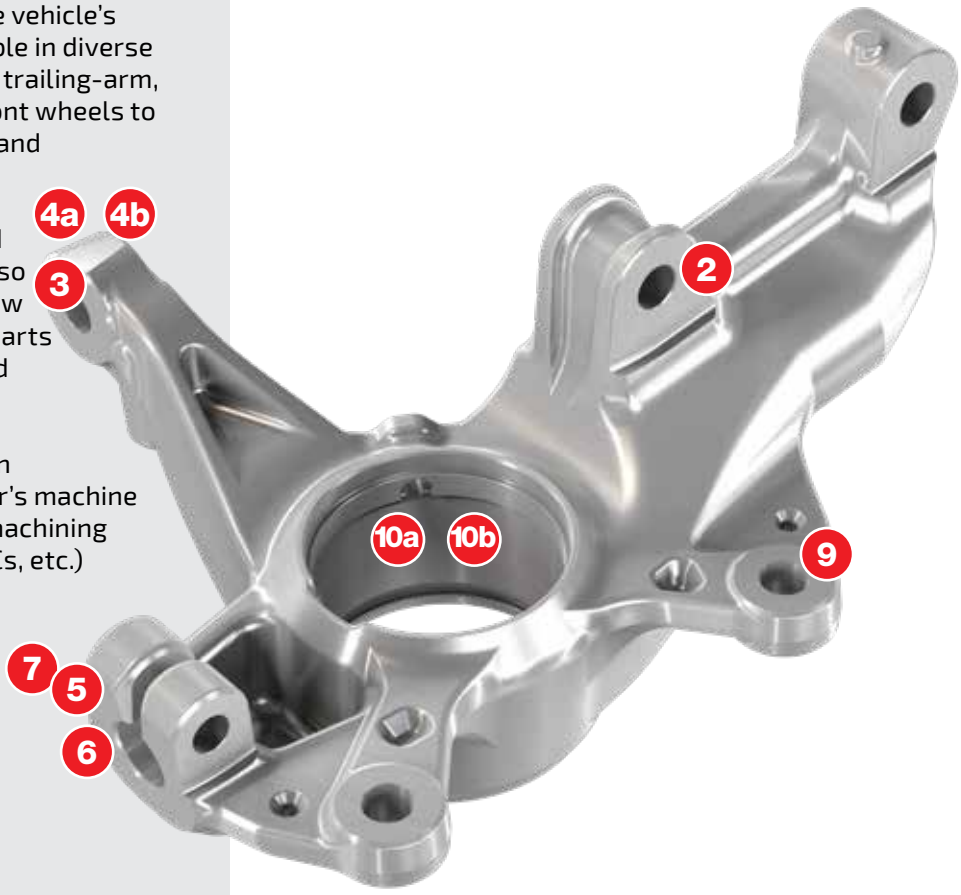
Steering Knuckle

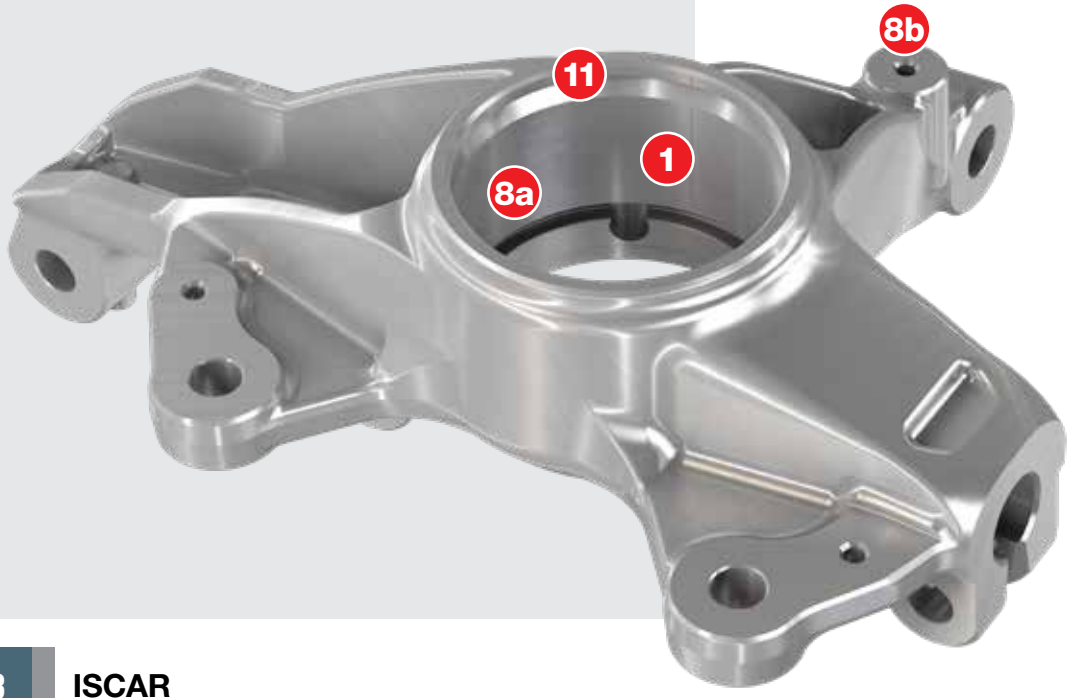
Deep Boring

Easy Chip Evacuationn

Variety

A steering knuckle is a key part of the vehicle's suspension system which are available in diverse shapes (McPherson strut, multi-link, trailing-arm, etc). They are designed to link the front wheels to the steering system, strut dampers, and to carry the brake system components. Traditionally steering knuckles are made of nodular cast iron and forged steel (rarely). Steering knucles are also made of aluminum alloy casts for new vehicle types. Aluminum alloy cast parts contribute to low weight vehicles and efficient automotive manufacturing. ISCAR offers a wide range of knuckle machining technologies depending on the workpiece material, the customer's machine type (transfer line, single-spindled machining centers, tween or triple spindled CNCs, etc.) and part holding fixtures.





Boring and milling bearing area

Reaming of steering arm

Lower ball joint drilling and slotting

Strut arm milling and drilling

Reaming of steering arm

Lower ball joint reaming

Drilling and spot face steering arm

Lower ball joint drilling

Automotive

Steering Knuckle

Cost Effective Inserts

Variety

Easy Chip Evacuationn

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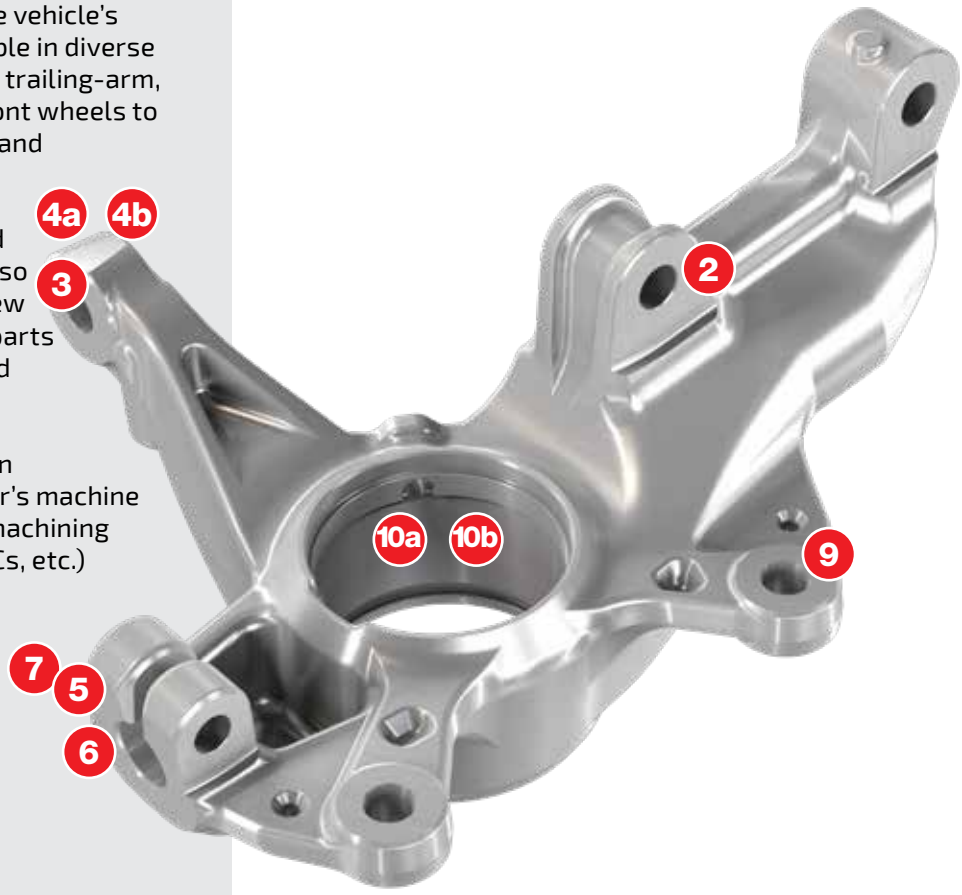
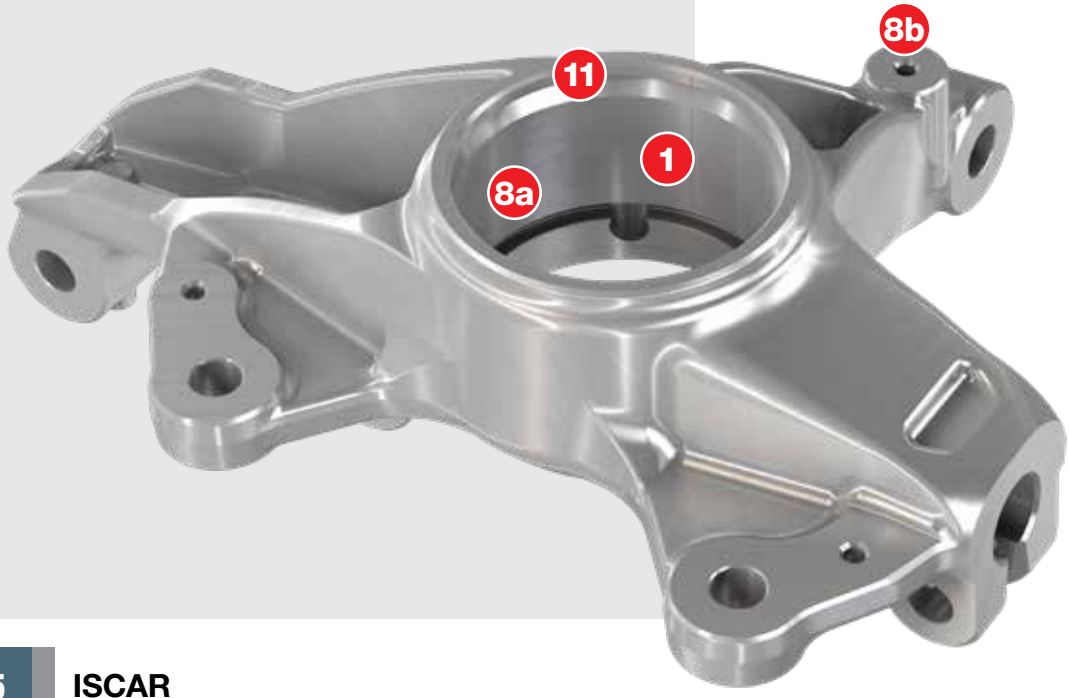




SPECIALLY TAILORED

Retaining ring groove

SPECIALLY TAILORED

Brake caliper area drilling
and Back face milling

SPECIALLY TAILORED

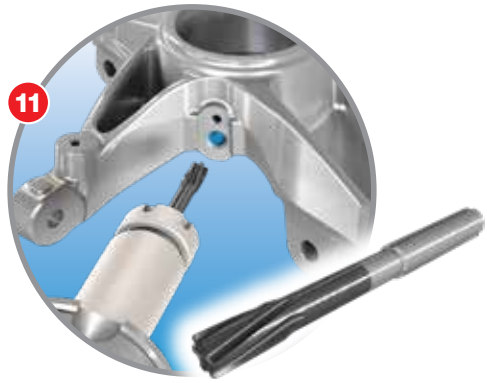
Bearing bore reaming

HSS TAPS

Dust shield tapping

ISCAR REAMER

Bearing bore reaming



SOLID H-REAM

ABS hole reaming

Automotive

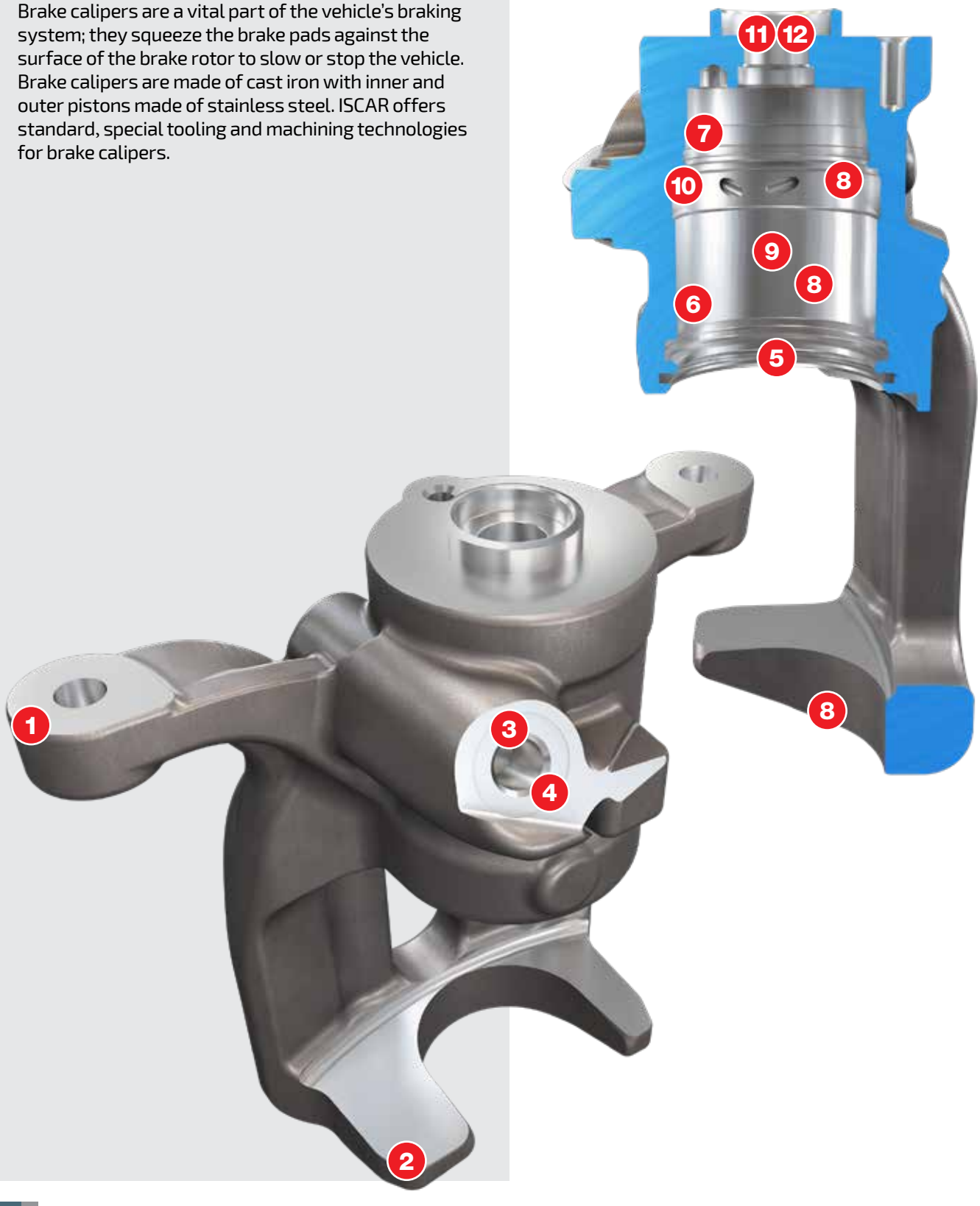
Brake Caliper

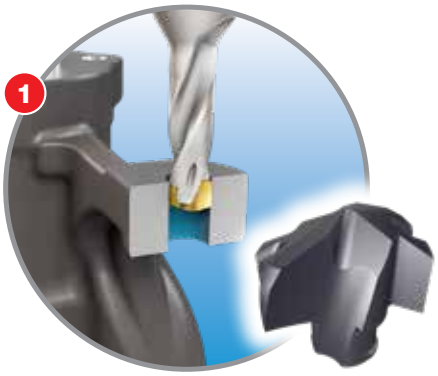
Easy Chip Evacuationn

Ease of Use

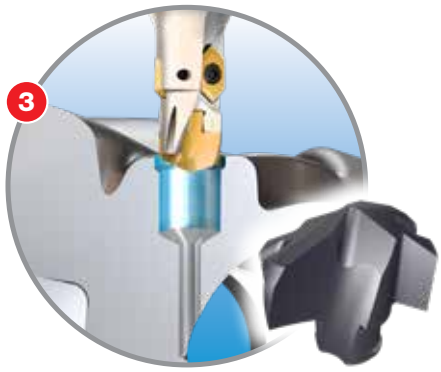
Longer Tool Life

Brake calipers are a vital part of the vehicle's braking system; they squeeze the brake pads against the surface of the brake rotor to slow or stop the vehicle. Brake calipers are made of cast iron with inner and outer pistons made of stainless steel. ISCAR offers standard, special tooling and machining technologies for brake calipers.

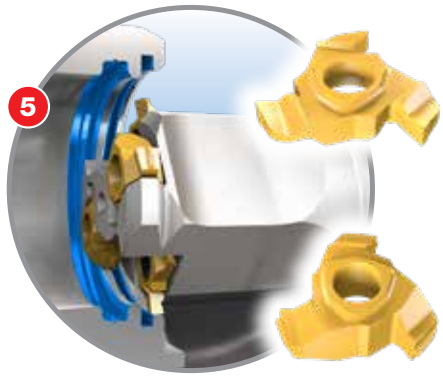




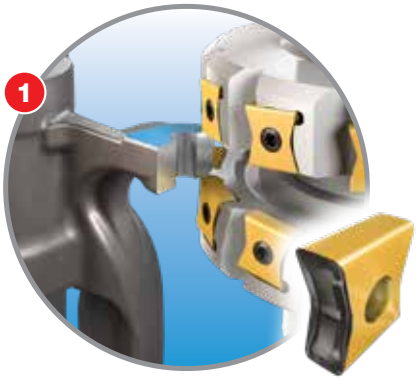
SUMOCHAM
CHAMDRILL LINE
Drilling



SUMOCHAM
CHAMDRILL LINE
Cylinder Side Hole
Drilling and Chamfering

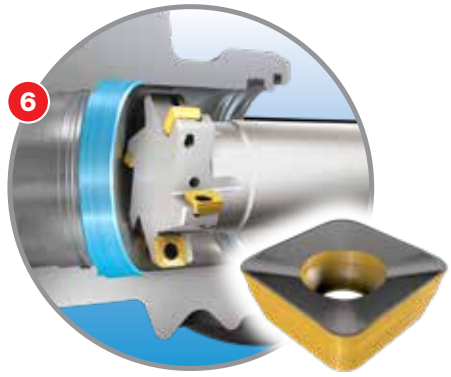


CHAMSLIT
Retainer and Boot groove
interpolation milling

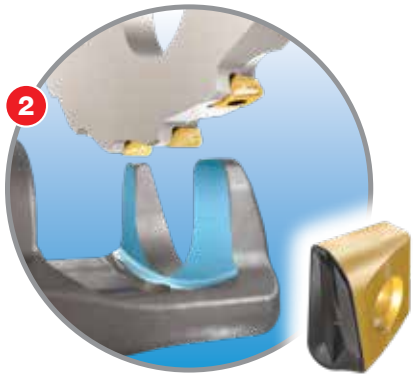


TANGMILL
TANGENTIAL LINE
Milling (Top & Bottom)

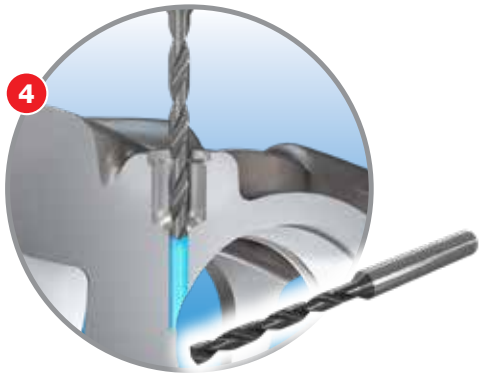
PRETHREAD
Chamfering



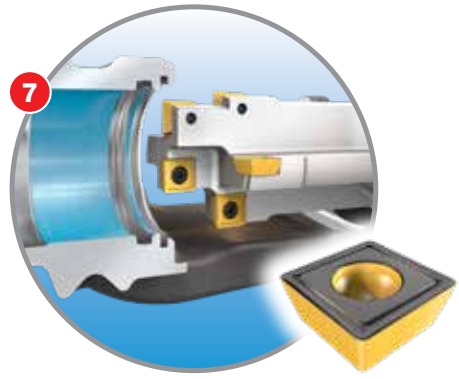
QUAD2000
Cylinder Release Groove



HELITANG
T490 LINE
Caliper Body
Face Milling



SOLIDDRILL
TEC LINE
Oil Drill On Cylinder Side
Hole Drilling



DR-TWIST
INDEXABLE DRILL LINE
Cylinder Area Rough Boring

Automotive

Brake Caliper

Easy Chip Evacuationn

No Setup Time

2 Sided Insert
Double Sided Inserts

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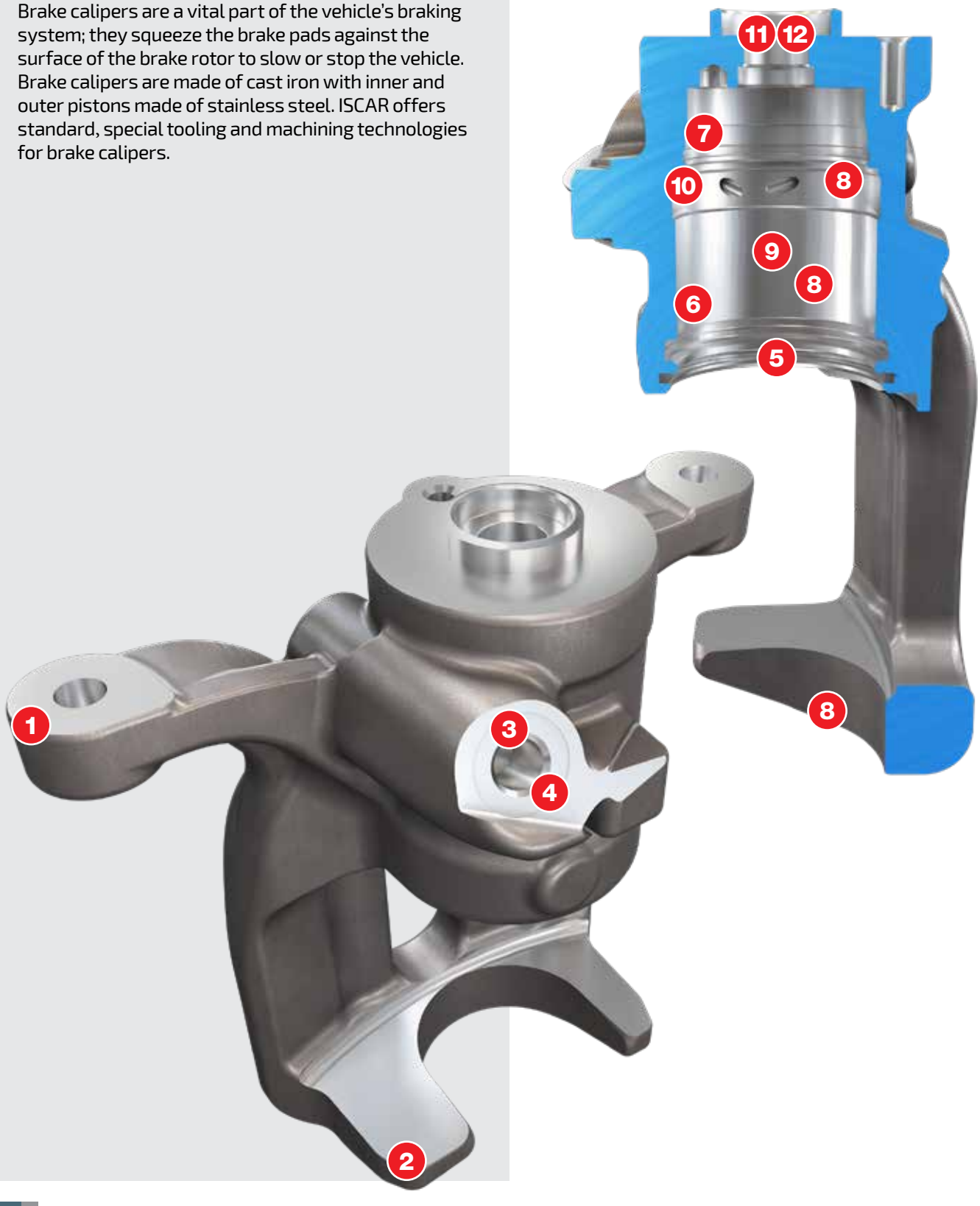
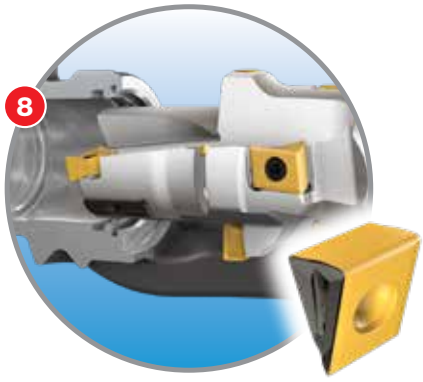
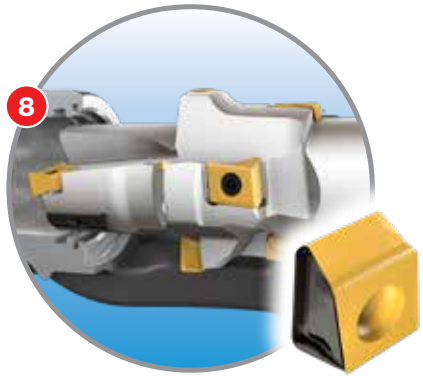
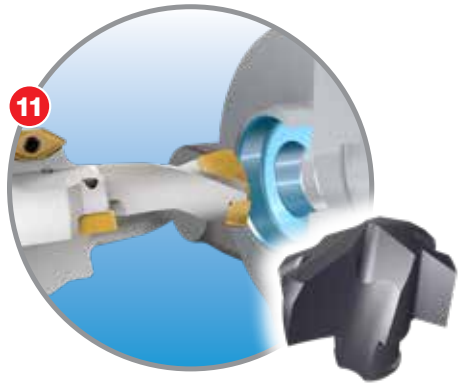




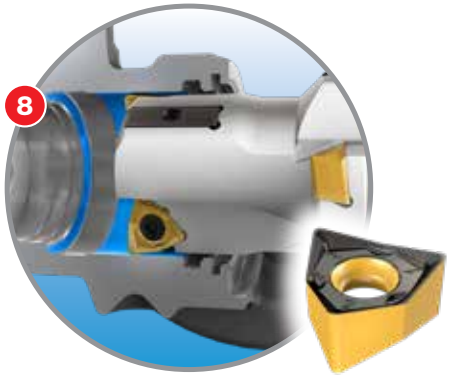
HELITANG
T490 LINE
Plunge



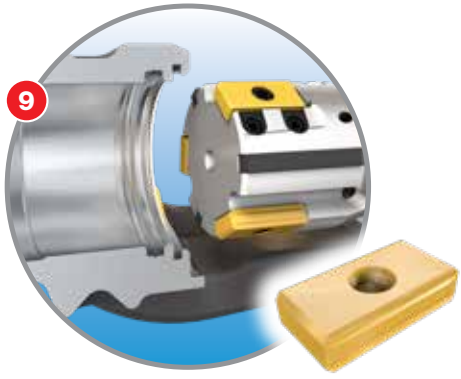
TANGPLUNGE
PLUNGING LINE
Spot Facing



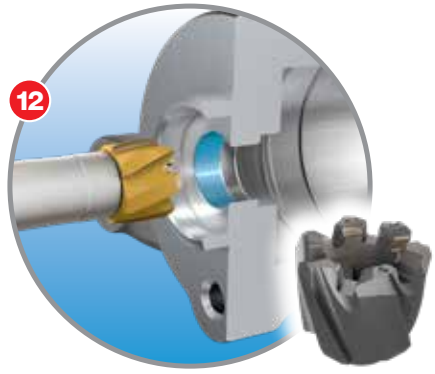
SUMOCHAM
CHAMDRILL LINE
Drilling



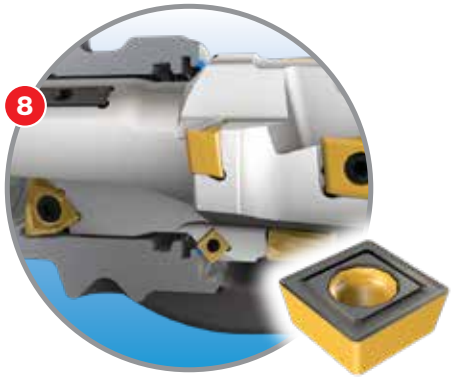
HELIDO
TRIGON LINE
Boring



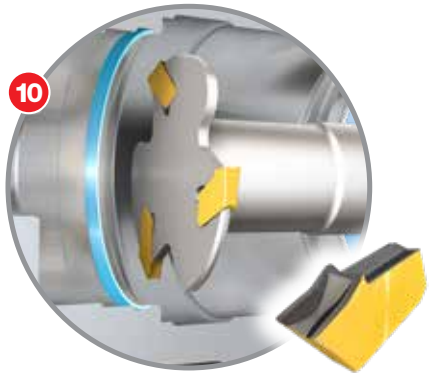
INDEXH-REAM
Cylinder Area Reaming



BAYOT-REAM
Mounting Bolt Reaming



DR-TWIST
INDEXABLE DRILL LINE
Chamfering



SELFGRIP
Milling interpolation
Seal Groove

Automotive

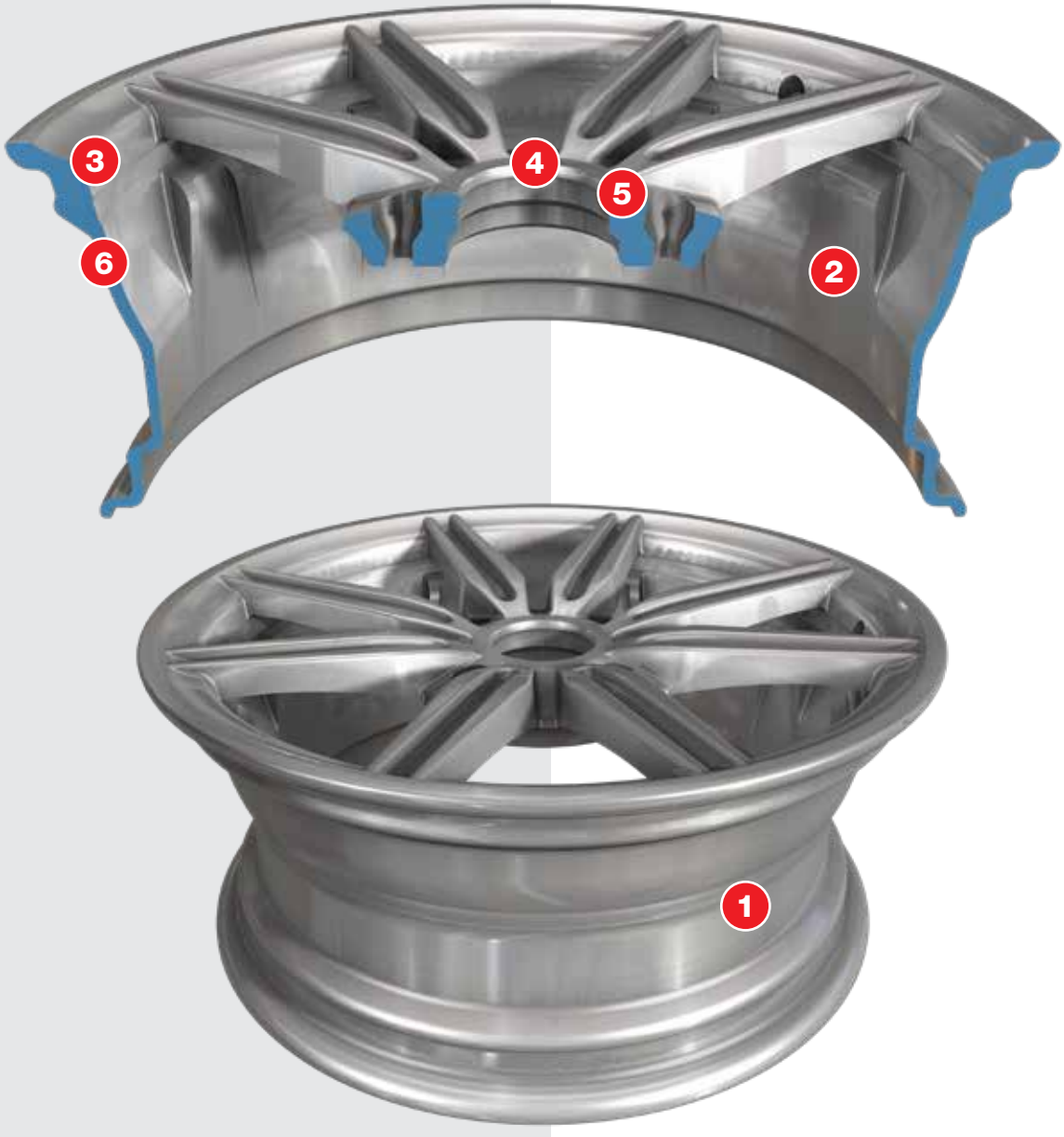
Aluminum Wheels

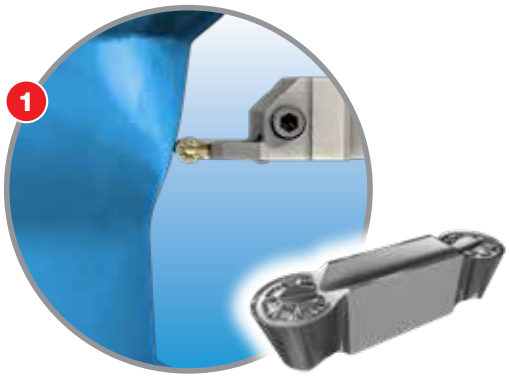
Easy Chip Evacuationn

High Temperatures Resistant

High Productivity

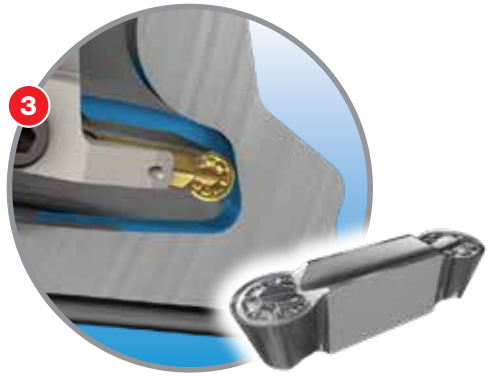
Aluminum wheels are made of magnesium aluminum alloy casting, which typically provides lighter weight with no compromise to structural strength, and often produced with PCD type tooling for roughing and finishing operations. ISCAR has developed unique PCD special tools, inserts with chip formers and polished edges for optimized chip formation and prolonged edge life.





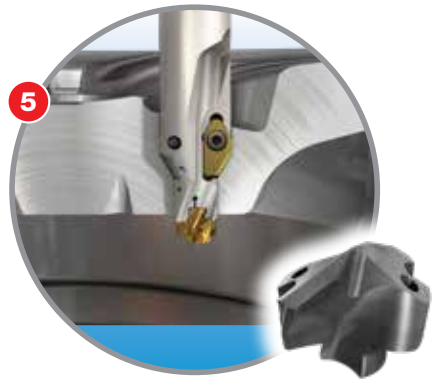
FIXGRIP

Outer Diameter
Grooving and Turning



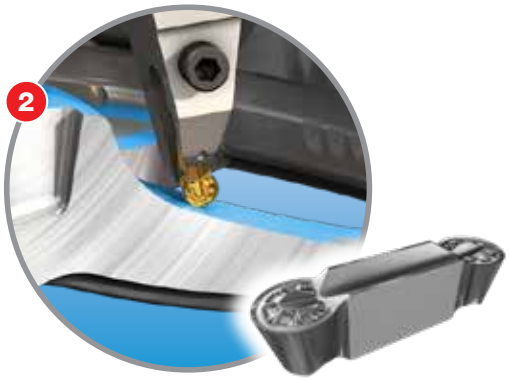
FIXGRIP

Undercuting Grooving and Turning



CHAMDRILLJET

Lug hole drilling
and chamfering

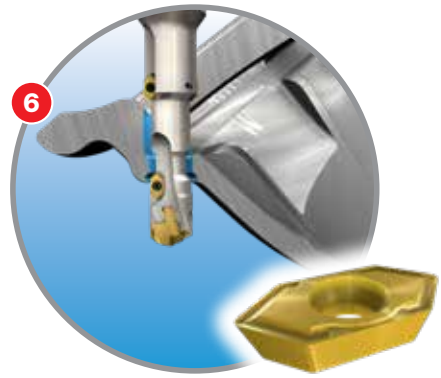


FIXGRIP

Inner Diameter
Grooving and Turning

ISOTURN

Bore Turning



PRETHREAD

Valve hole drilling with rear
and front chamfering

Automotive

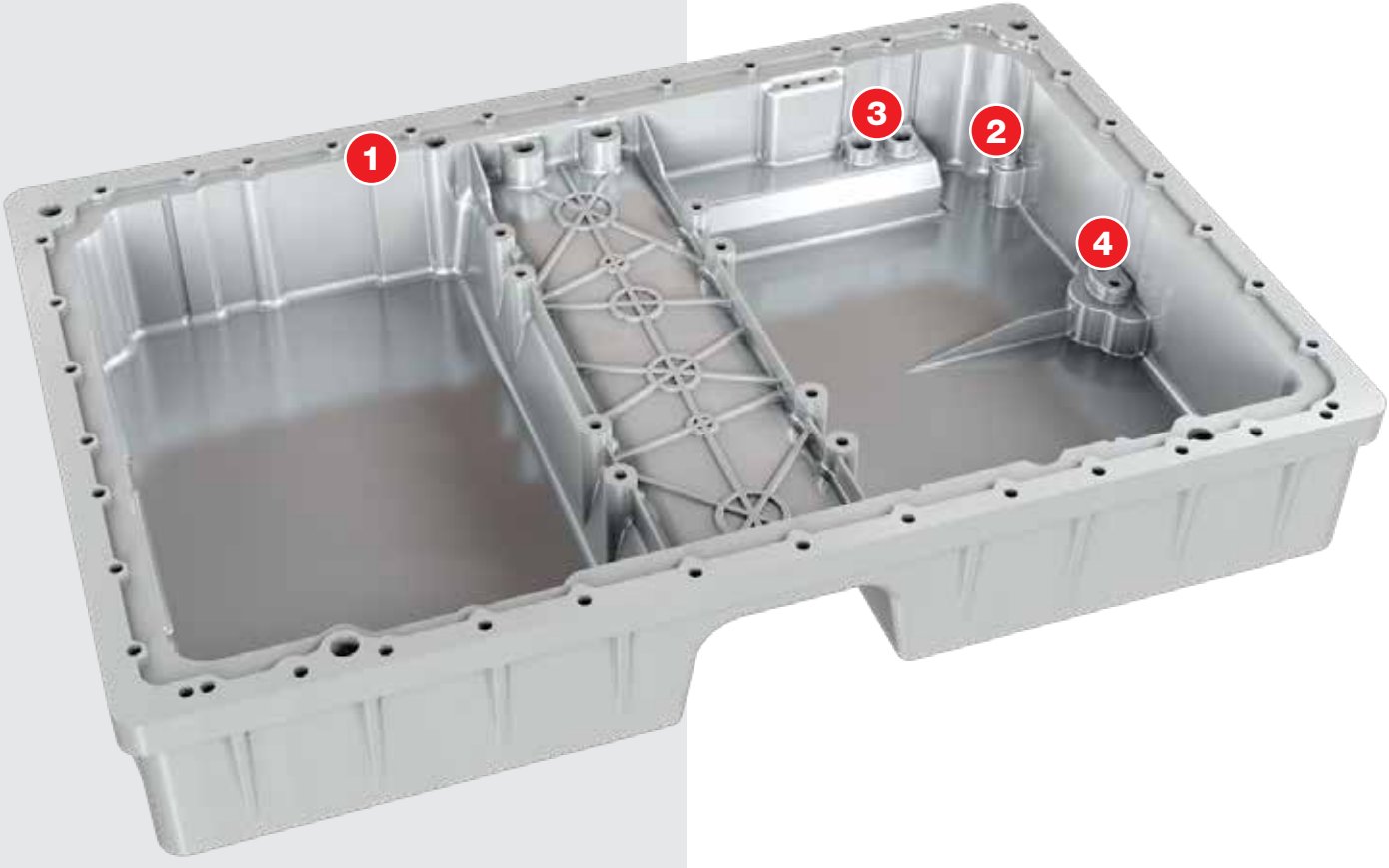
Electric Car Battery Case

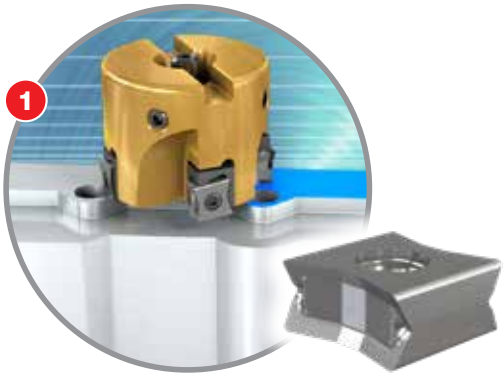
Ease of Use

High Productivity

No Setup Time

Battery cases have become an alternative solution to energy in modern car designs.
Large size and light weight requirements make aluminum a natural choice for manufacturing this part. ISCAR provides a wide choice of tools of tools specially designed to machine aluminum and provide productive and economical solutions for any application.





ALUTANG

Face Milling

BAYOT-REAM

Reaming

Drilling and chamfering

CHATTERFREE
MULTI-MASTER LINE

Face Milling

Automotive

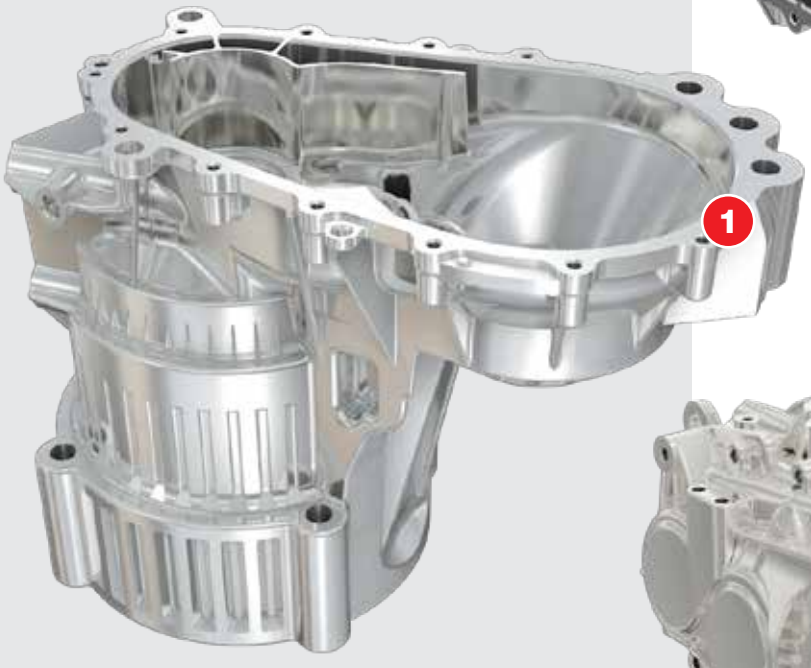
Electric Car Motor Housing

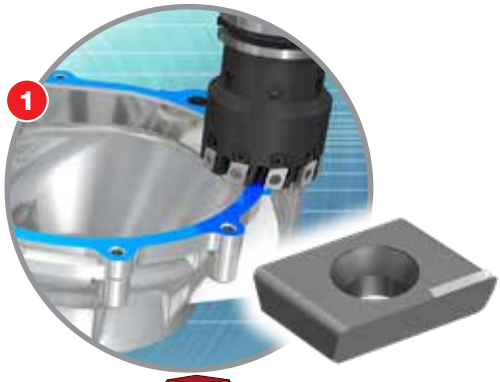
Super Finish

High Temperatures Resistant

PCD Inserts

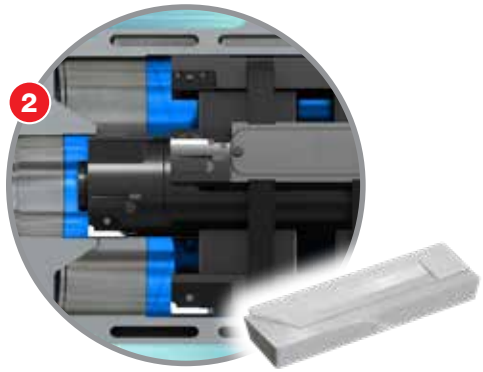
As batteries are replacing fuel as an energy source for vehicles, the battery case is an integral component of car design. Large size and light weight requirements make aluminum a natural choice for manufacturing this part.
Iscar has an arsenal of tools specially designed to machine aluminum and provide productive and economical solutions for any application.





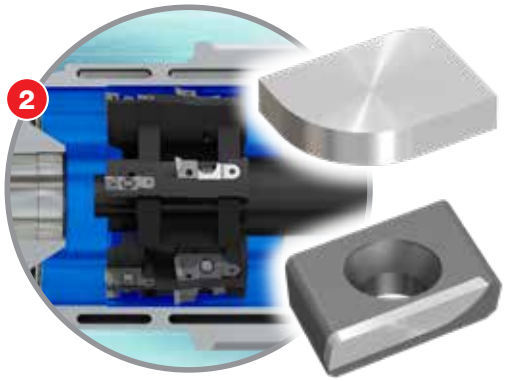
ISCAR PCD LINE

Motor Housing Cover
Face Milling



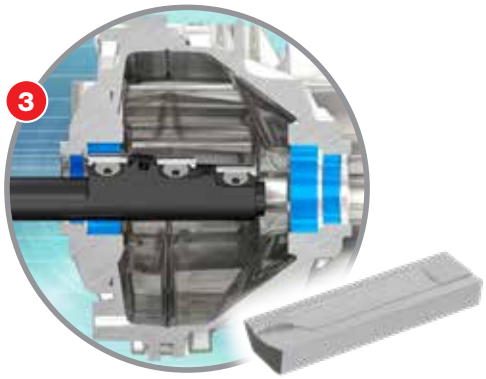
ISCAR PCD LINE

Reaming



ISCAR PCD LINE

Boring



ISCAR PCD LINE

Motor Housing Bearing
Seat Reaming

Automotive

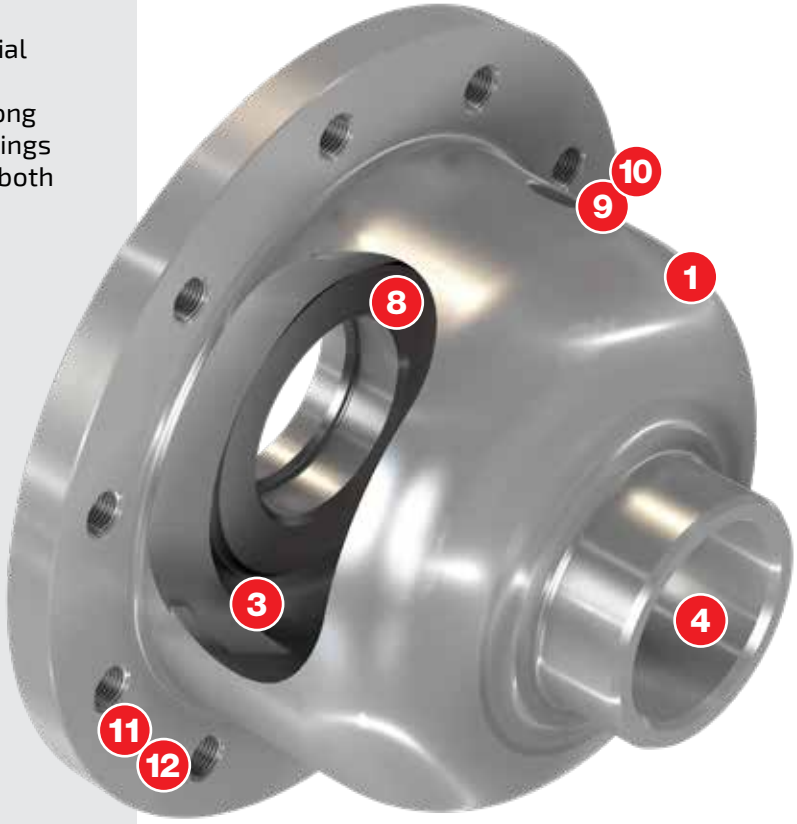
Differential Housing

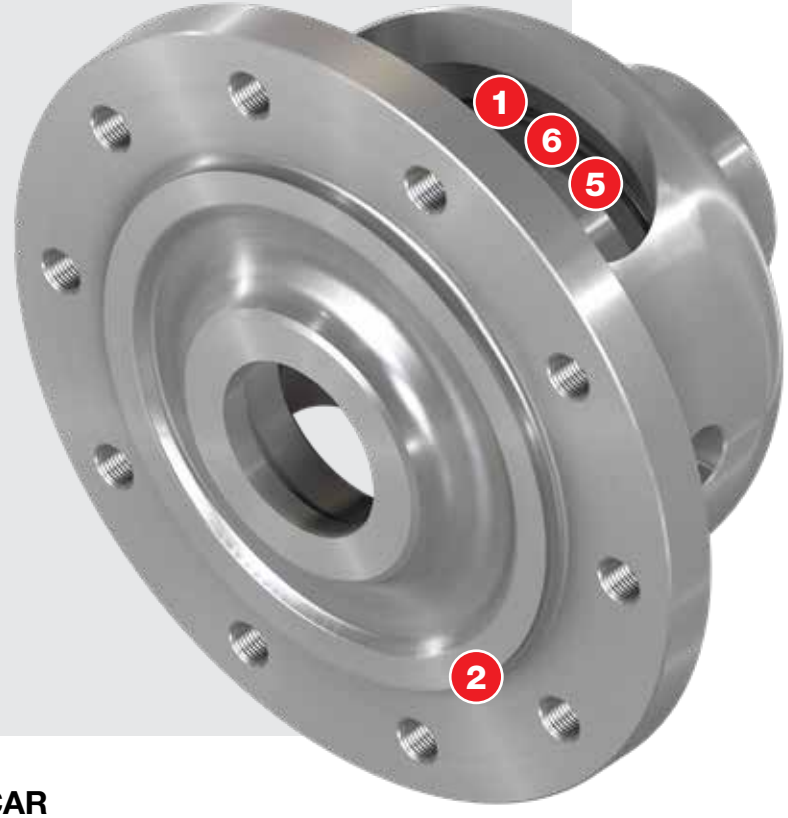
High Pressure Coolant

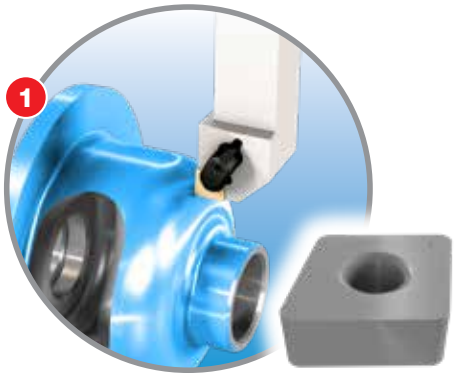
High Temperatures Resistant

Stong Tool Body

The differential housing commonly made from nodular cast iron is a case which holds the differential transmission gear. The differential is a gear wheel transmission system that transmits and splits the engine's torque among the car's wheels in motion. Differential housings challenge machining demands and combine both conventional and custom machining tools.

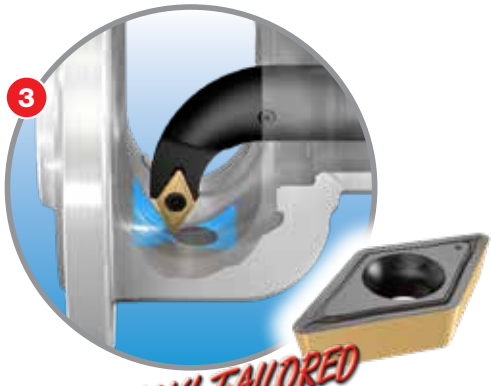




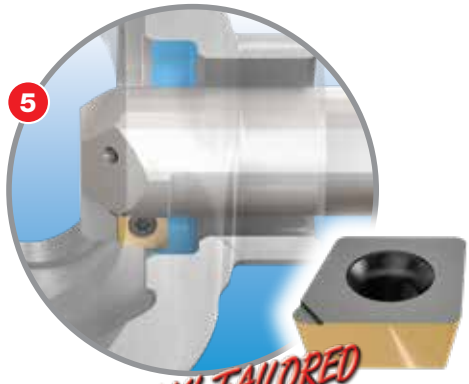


ISOTURN

External Turning



Internal Turning



Internal Back Turning

Face Turning

Boring and Chamfering

Internal Rough Face
Back Turning

Automotive

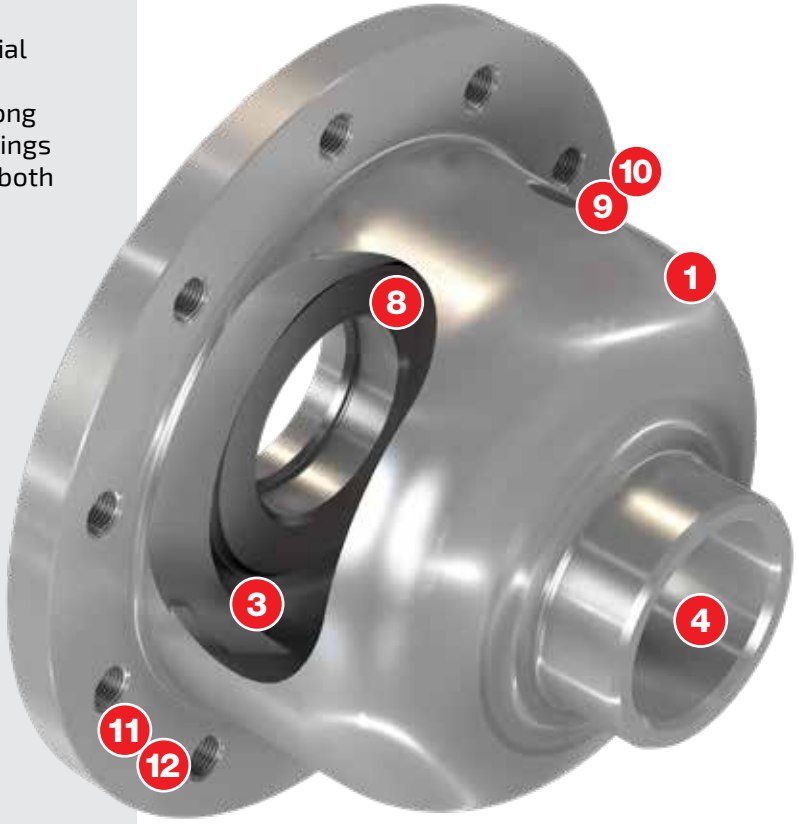
Differential Housing

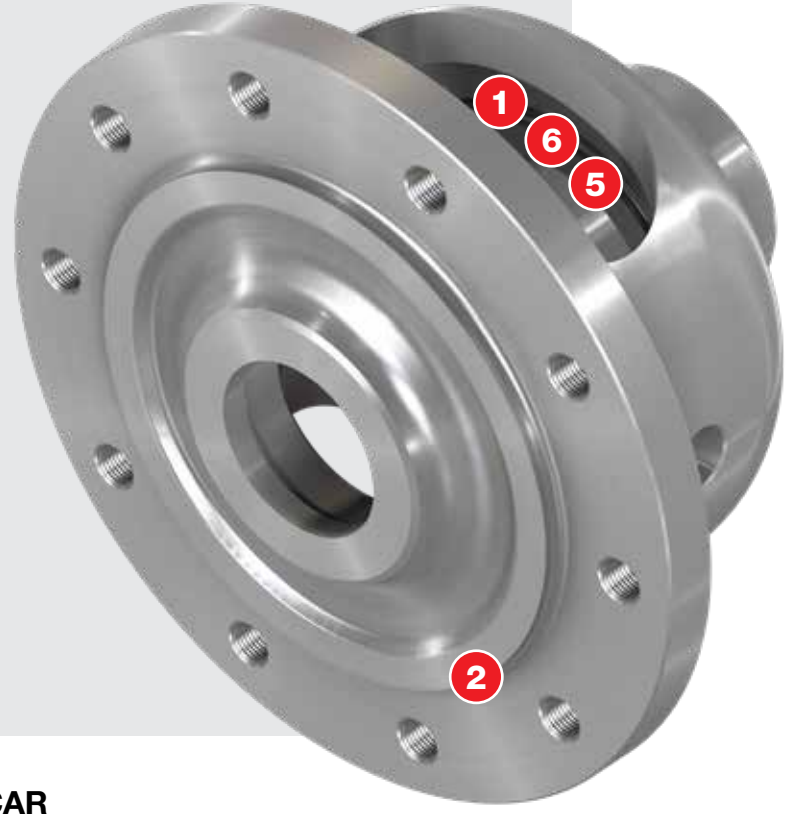
Easy Chip Evacuationn

High Temperatures Resistant

Stong Tool Body

The differential housing commonly made from nodular cast iron is a case which holds the differential transmission gear. The differential is a gear wheel transmission system that transmits and splits the engine's torque among the car's wheels in motion. Differential housings challenge machining demands and combine both conventional and custom machining tools.

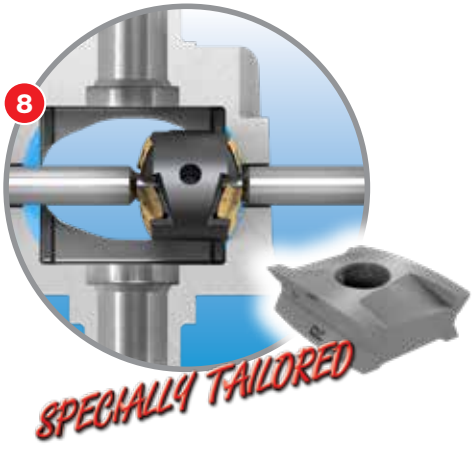




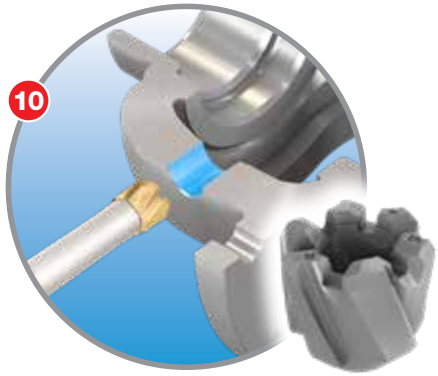
Internal Finish Face Turning

Drilling and Chamfering

Flange Drilling



Internal Milling



Reaming

Tapping

Automotive

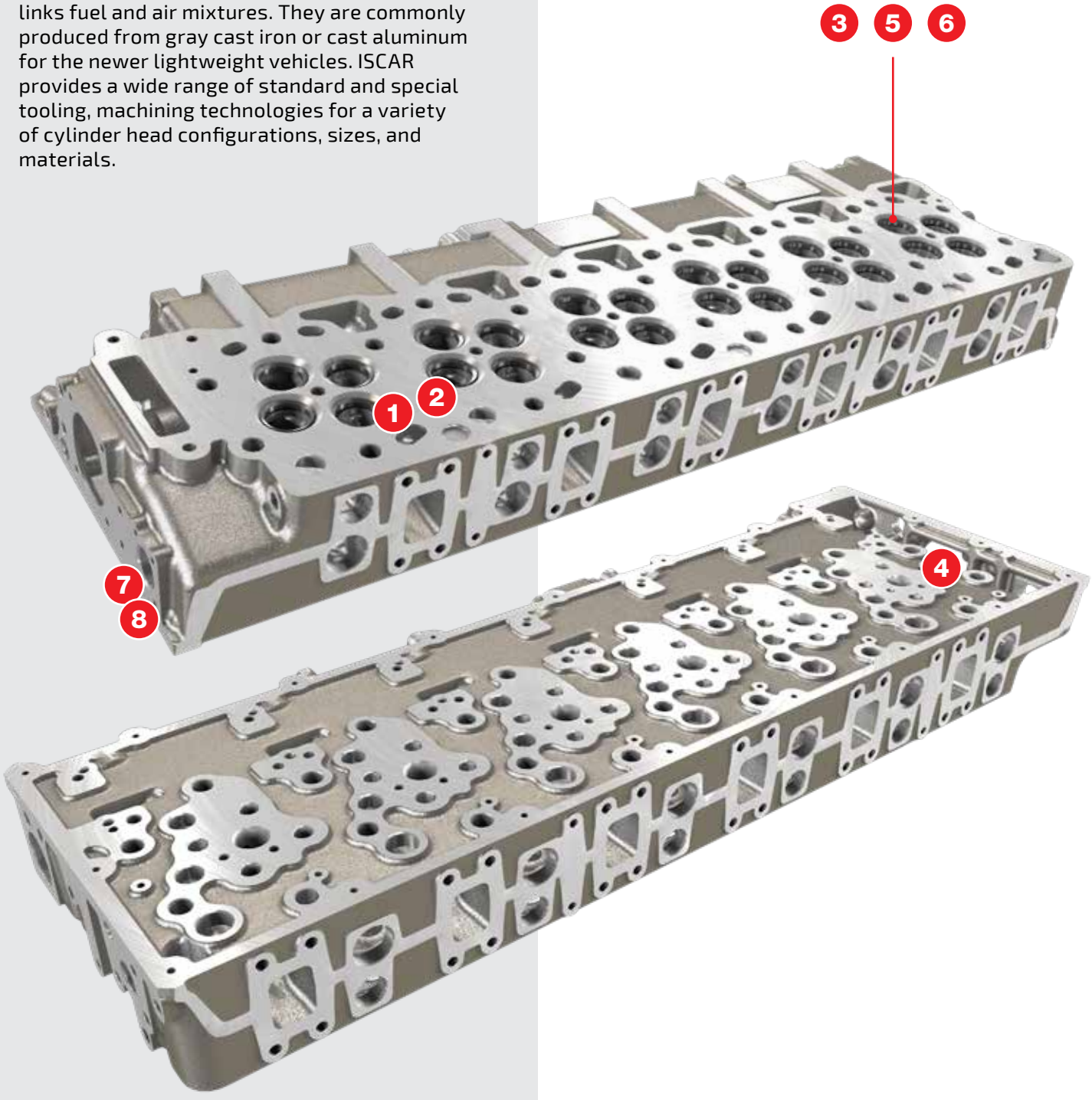
Cylinder Head Cast Iron

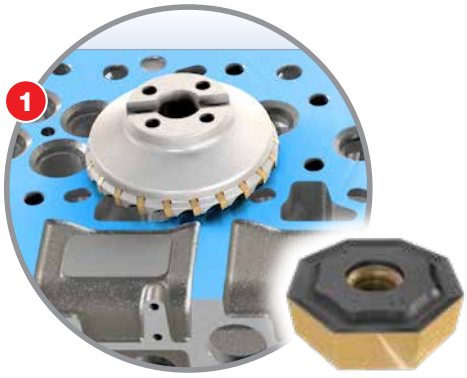
Super Finish

High Temperatures Resistant

Specially Tailored

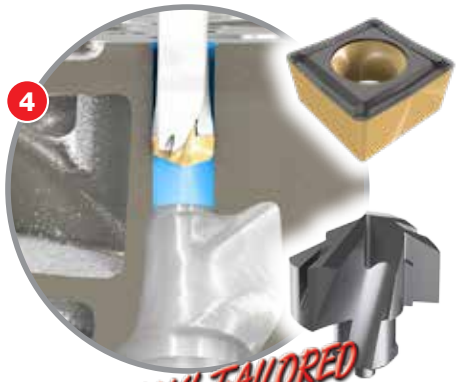
Cylinder heads perform several functions in the car engine. These include housing the exhaust and intake valves, and the fule injector which links fuel and air mixtures. They are commonly produced from gray cast iron or cast aluminum for the newer lightweight vehicles. ISCAR provides a wide range of standard and special tooling, machining technologies for a variety of cylinder head configurations, sizes, and materials.



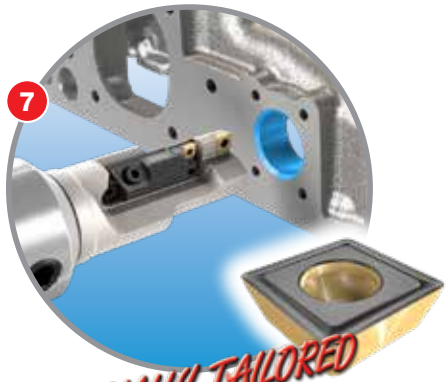


16MILL

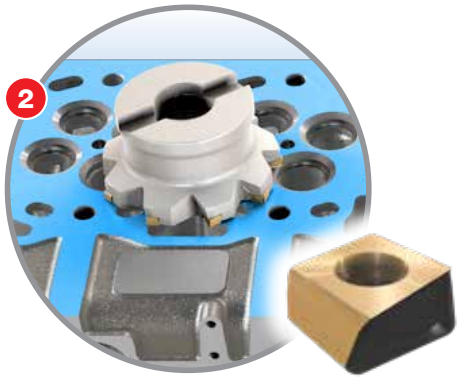
Rough Face Milling



Step Drilling



Boring



TANGFIN
FINISH MILLING

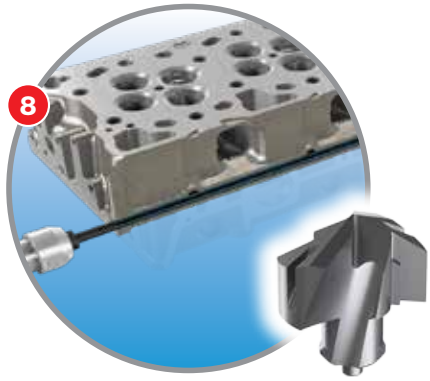
Rough Face Milling

Reaming

Boring

Profile Drilling

Boring



SUMOGUN

Deep Drilling

Automotive

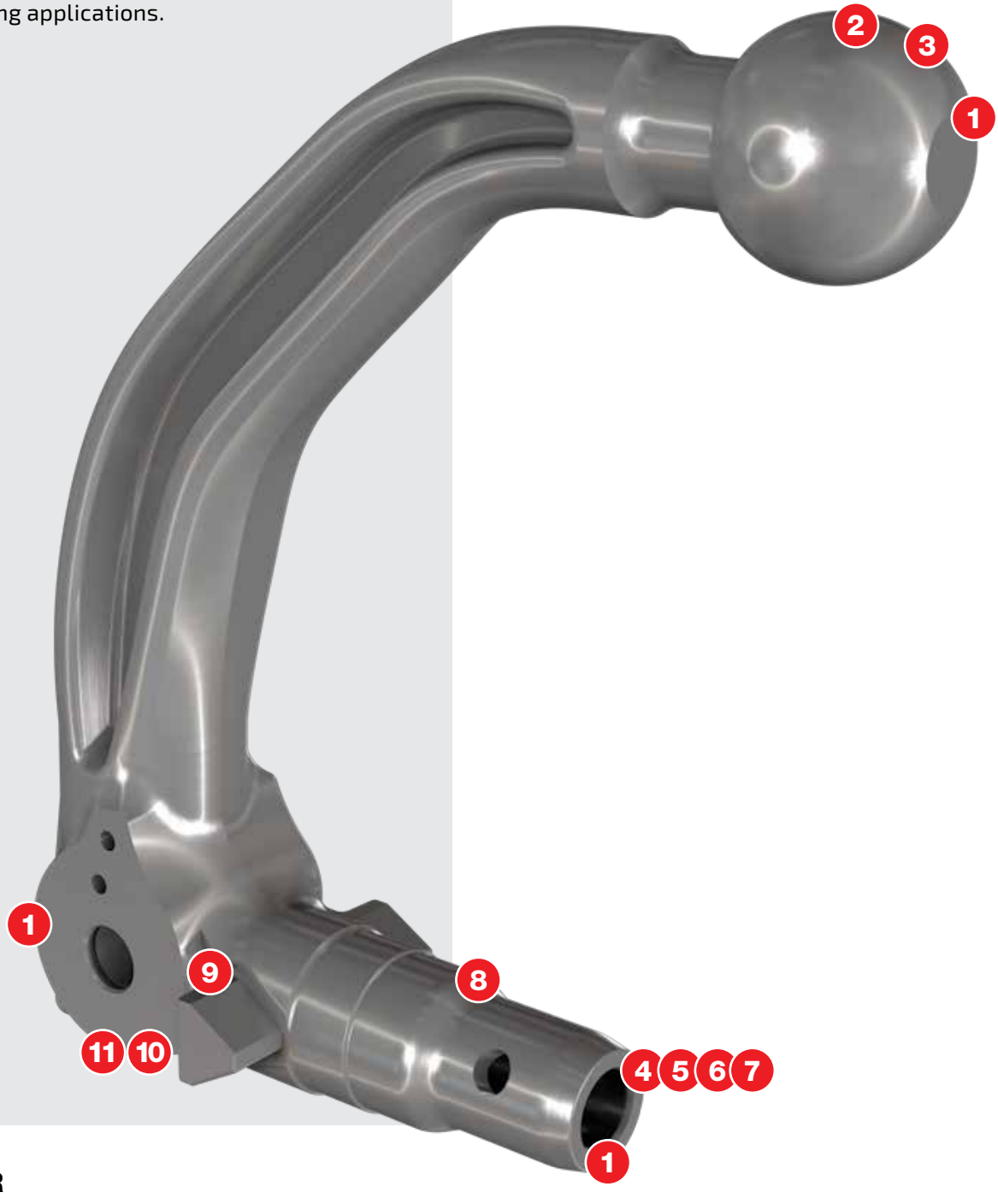
Tow bar

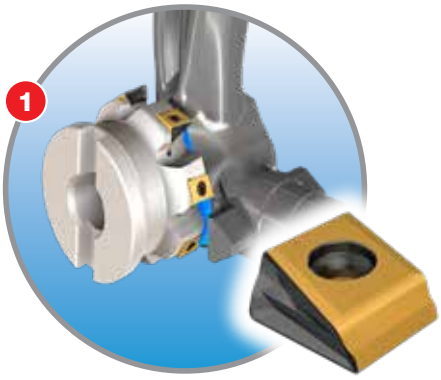
Easy Chip Evacuationn

High Temperatures Resistant

Super Finish

A Tow Bar is a device that attaches to a base plate on the vehicle's rear end to tow a trailer and allows easy steering. The tow bars are categorized as different types and class sizes to match the designed load and customized to the vehicle brand and model. The towbar is typically fabricated of high-quality anti-corrosion steel with the addition of chromium and nickel. Manufacturing towbar includes milling, drilling and threading applications.

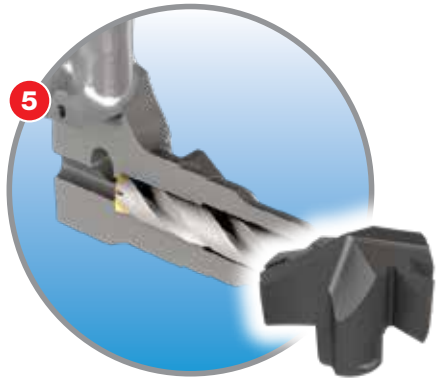




HELITANG
T490 LINE

Milling

Finish Profiling



SUMOCHAM
CHAMDRILL LINE

Drilling – Second Step

Rough Profiling

Drilling – First Step

Automotive

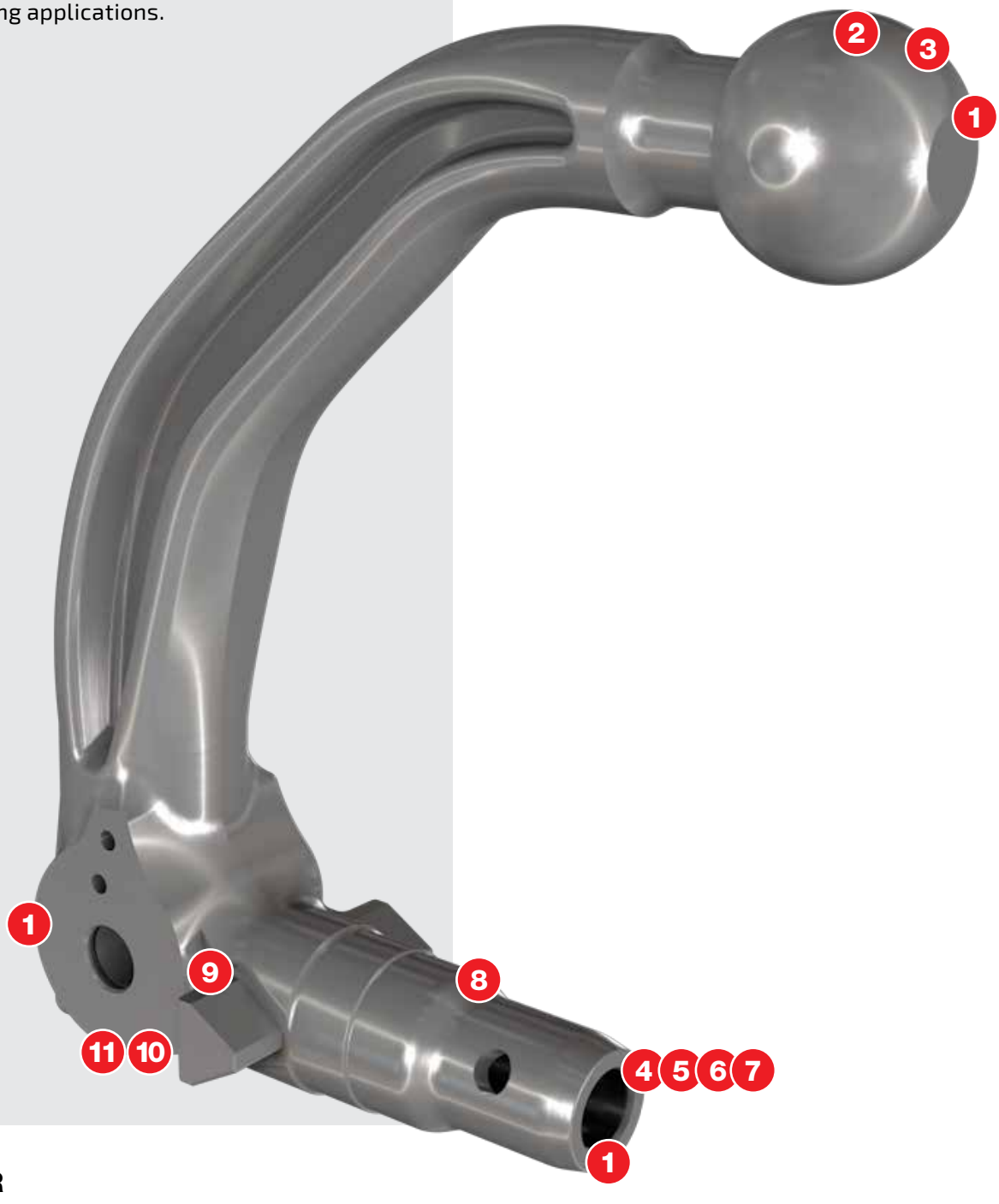
Tow bar

Easy Chip Evacuationn

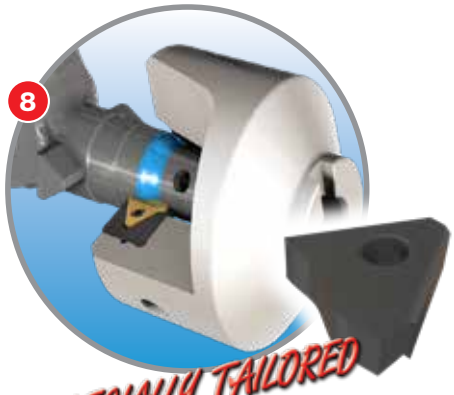
High Temperatures Resistant

No Setup Time

A Tow Bar is a device that attaches to a base plate on the vehicle's rear end to tow a trailer and allows easy steering. The tow bars are categorized as different types and class sizes to match the designed load and customized to the vehicle brand and model. The towbar is typically fabricated of high-quality anti-corrosion steel with the addition of chromium and nickel. Manufacturing towbar includes milling, drilling and threading applications.



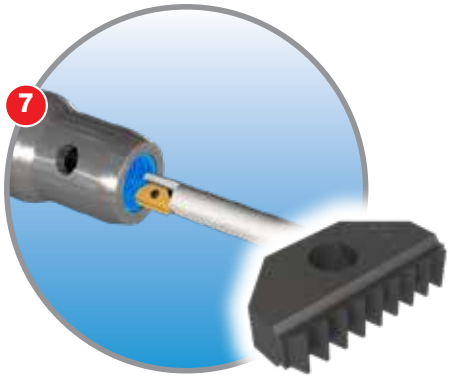
Drilling – Third Step



Finish Profiling

ISCARMILL

Chamfering



MILLTHREAD

Thread Milling

CHATTERFREE
SOLID MILL LINE

Milling

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

Slotting

Railway

Switcher

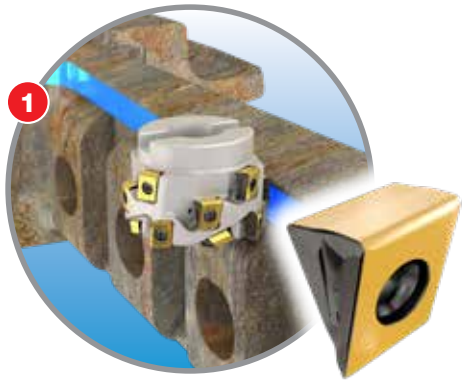
Easy Chip Evacuationn

High Temperatures Resistant

2 Sided Insert

Double Sided Inserts

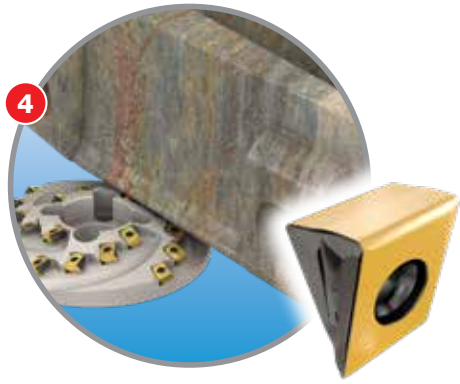
The switcher, also known as the frog , refers to the crossing point of two rails. This can be assembled by several appropriately cut and bent pieces of rail or can be a single casting of alloy manganese steel. ISCAR offers a wide range of standard and specially designed mills and drills for the production of switchers.



HELITANG T490 LINE
Shouldering - 90 Degree

HELITANG T490 LINE
Shouldering - Conical Profile

HELITANG T490 LINE
Shouldering - Radius Contour



HELITANG T490 LINE
Shouldering - Chamfer

Railway

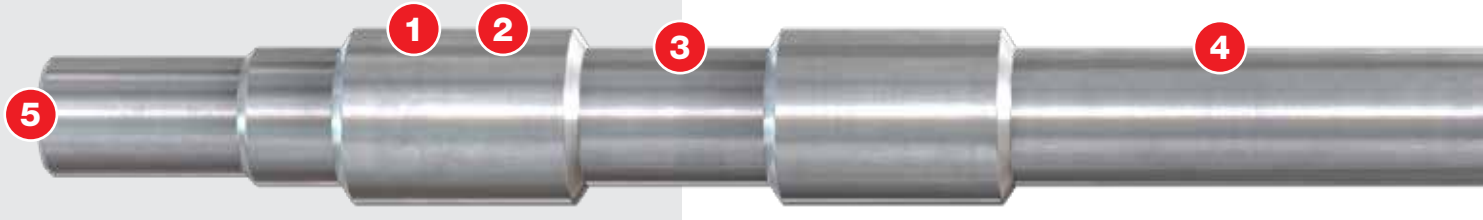
Axle Shaft

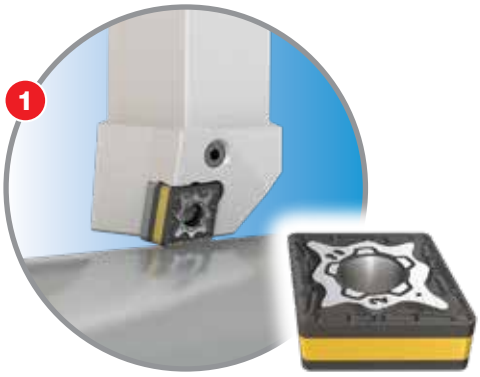
Longer Tool Life

2 Sided Insert
Double Sided Insers

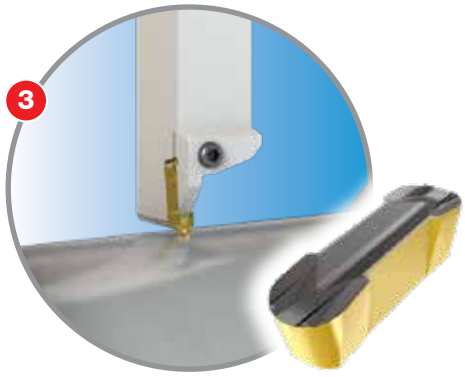
High Productivity

The rail bogie axle shaft is part of a wheelset railroad car axle wheel assembly. Rail axle shafts are made of forged and rolled heat-treated high strength steel. ISCAR offers standard turning, drills and mill threading tools for the production of rail axle shafts.

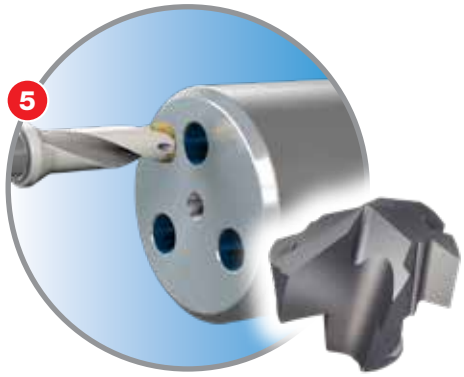




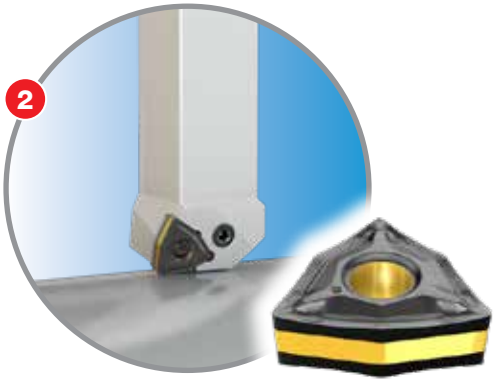
DOVEIQTURN
HEAVY DUTY LINE
Rough External Turning



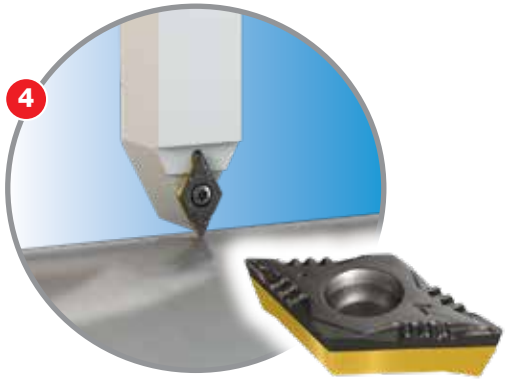
GROOVETURN
External Grooving



SUMOCHAM
CHAMDRILL LINE
Drilling



ISOTURN
Semi-Finish External Turning



ISOTURN
Semi-Finish Turning

Railway

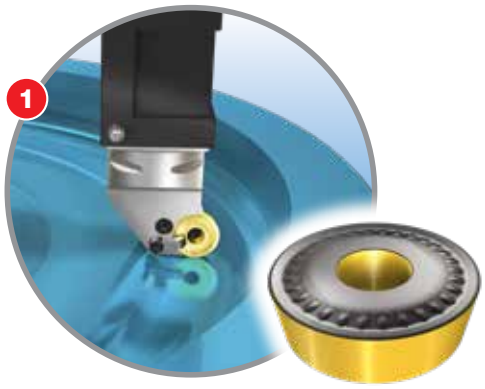
New Wheel

Super Finish

High Temperatures Resistant

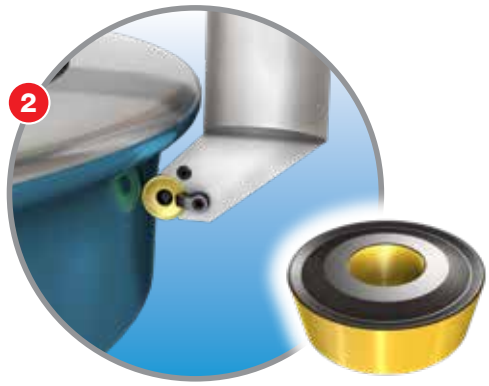
Cost Effective Insert

Rail wheels are made from forged and rolled heat-treated high strength steel and can reach from 650mm to 1250mm diameters according to the wheel form and type. New wheels are turned, using a lathe, to a specific profile before being pressed onto an axle. ISCAR offers standard and special turning and boring tools for the production of rail wheels.



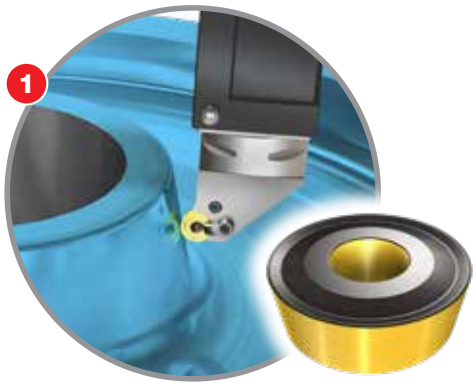
ISOTURN

Rough and Finish
Turning Side A



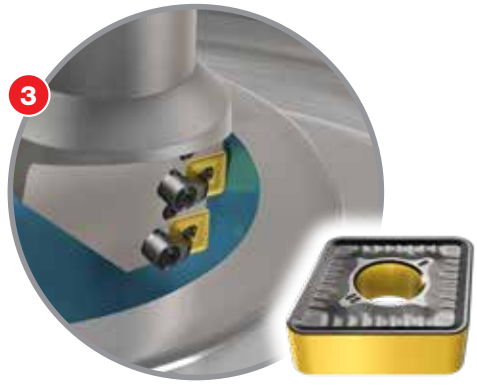
ISOTURN

Side Turning Rims



ISOTURN

Rough and Finish
Turning Side B



ISOTURN

Boring

Railway

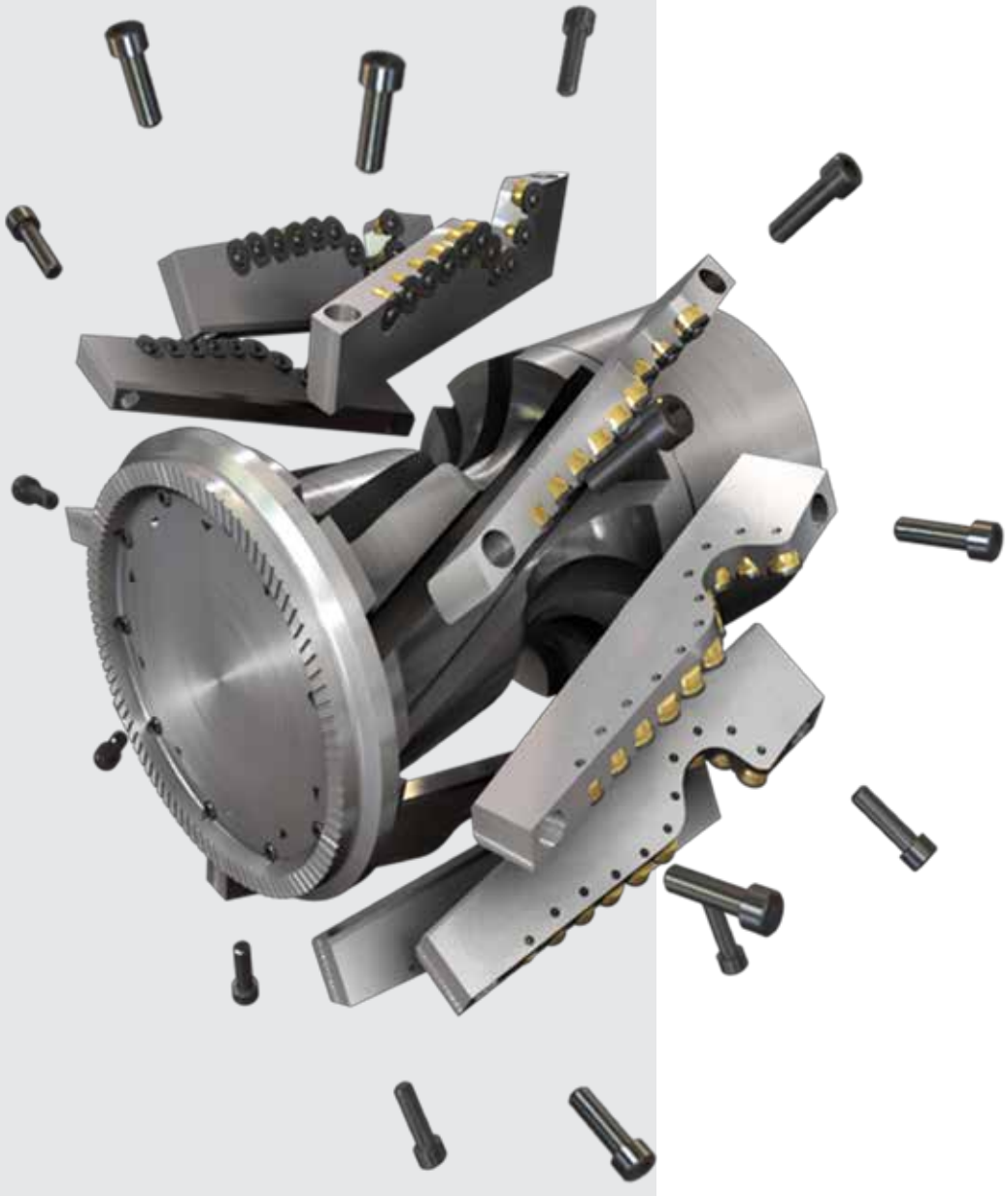
Under Floor Type Machine

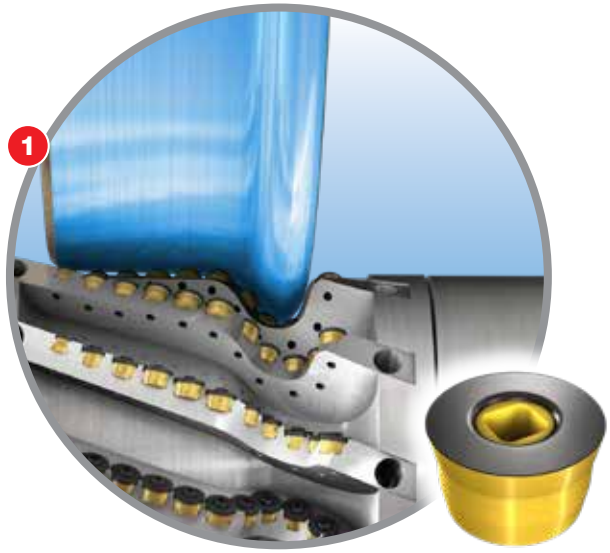
Longer Tool Life

Stong Tool Body

Specially Tailored

Underfloor, counter-wheel machines are used for locomotive wheel reprofiling. They are capable of simultaneously reprofiling both left and right wheels while providing high profile accuracy and preserving the dimensions and profile of the wheels. ISCAR offers specially designed mills with interchangeable cartridges for locomotive wheel reprofiling. The cutter is curry's round RPMW 16 mill insert with a quick chip breaker.





ISOMILL

Under Floor Wheel Mill

Railway

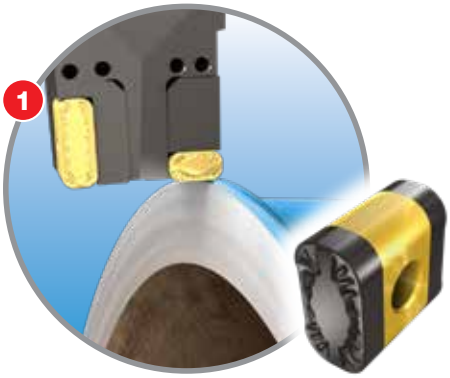
Portal Type Wheel Lathe

Longer Tool Life

High Productivity

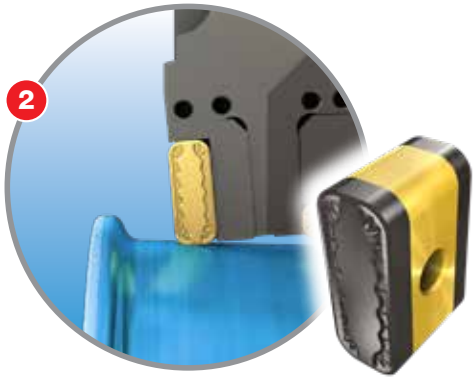
Cost Effective Insert

Portal CAM or CNC counter-wheel machines are used for re-turning wheelsets. Capable of simultaneously re-turning both left and right wheels while providing high profile accuracy and preserving the dimensions and profile of the wheels. The majority of wheel raw material is made of rolled steel and cast iron. The wheel's diameter varies from 400mm to 1200mm.
ISCAR offers standard tools with interchangeable cartridges and tangential inserts, sizes 19 & 30mm, with a wide range of geometries and carbide grades for the wide spectrum of wheelset forms and sizes for re-turning.



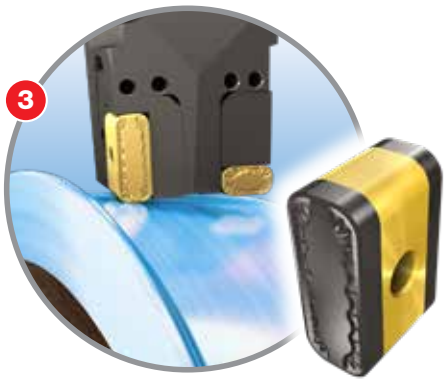
ISOTURN

Side Turning Rim Area



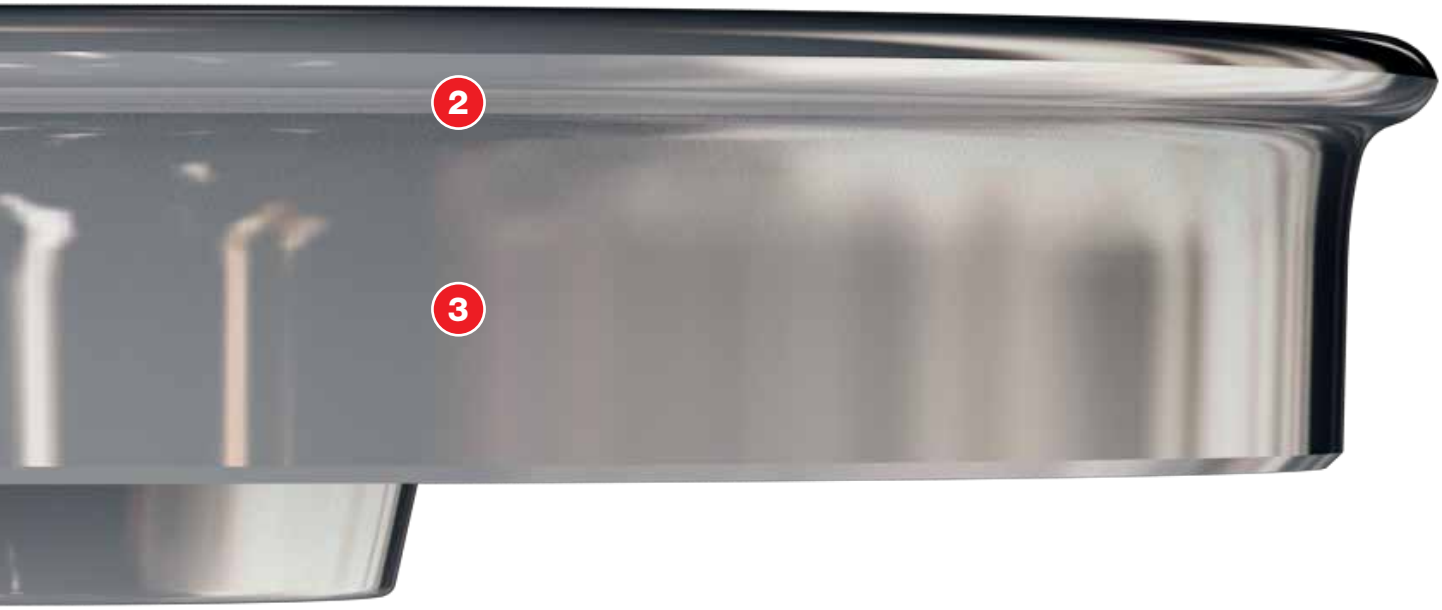
ISOTURN

Side Turning Rim Area



ISOTURN

Side Turning



Railway

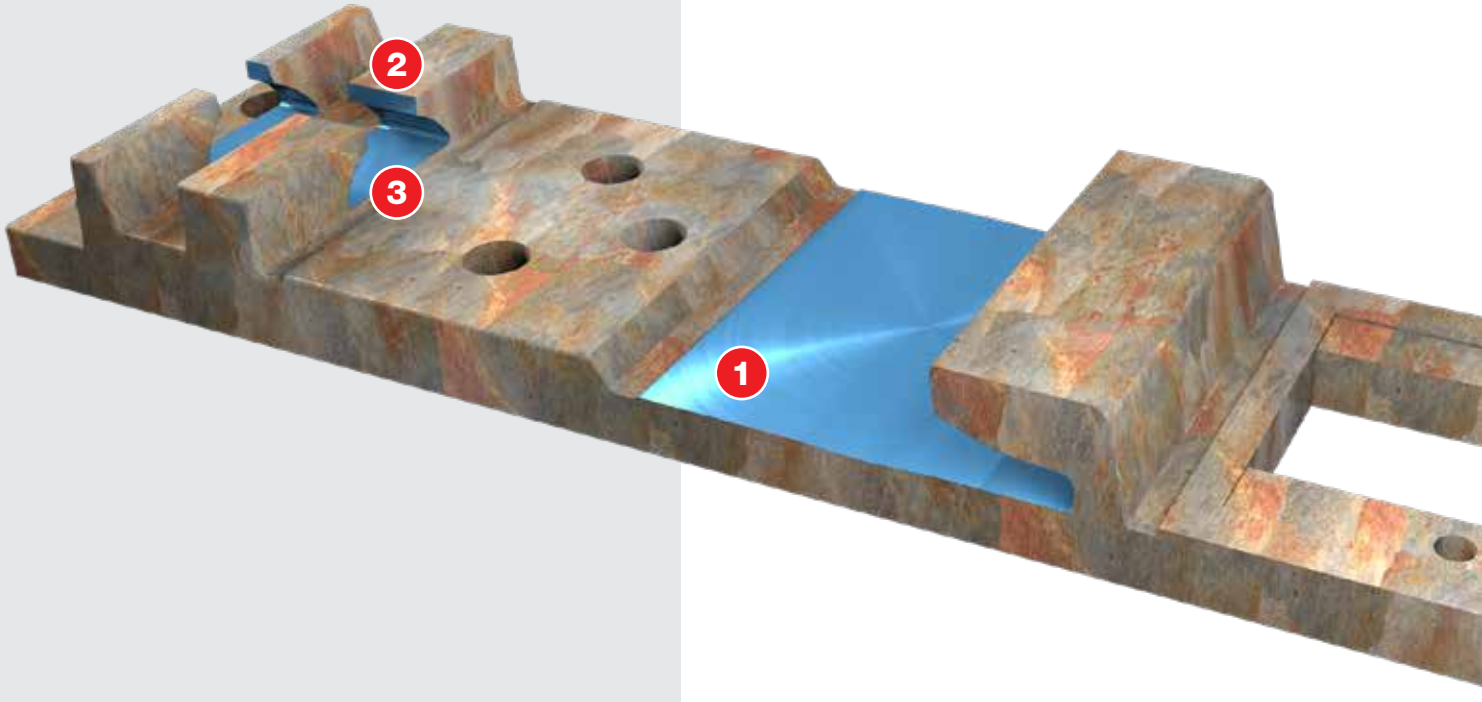
Slide Plate

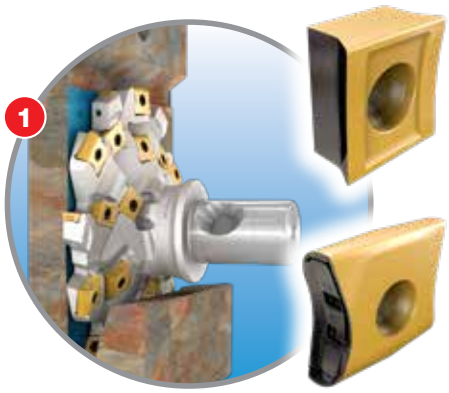
Variety

High Temperatures Resistant

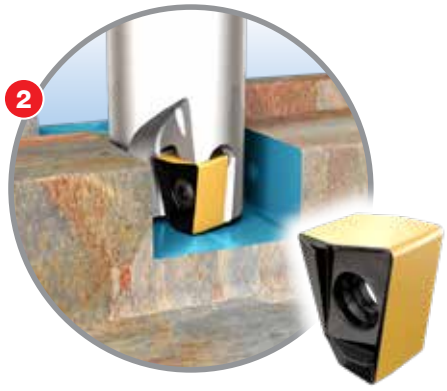
Super Finish

A slide plate, base plate, or sole plate is typically manufactured from cast steel or steel.
The slide plate increases the bearing area and holds the rail to a correct gauge. They are fastened to wooden or concrete ties by means of spikes or bolts through holes in the plate. The slide plate is used on rail tracks between the flanged T-rail and crossties.

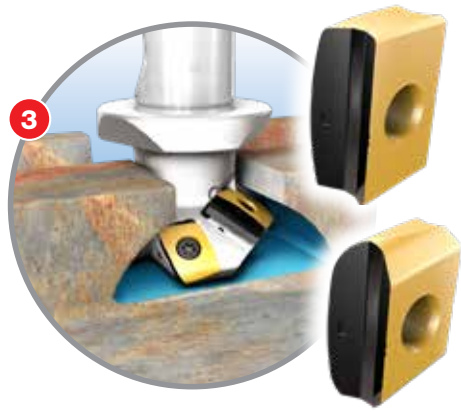




TANGMILL
TANGENTIAL LINE
Slot Milling



HELIDO
490 LINE
Mushroom Rough Slotting



HELITANG
T490 LINE
Mushroom Slot Milling

Railway

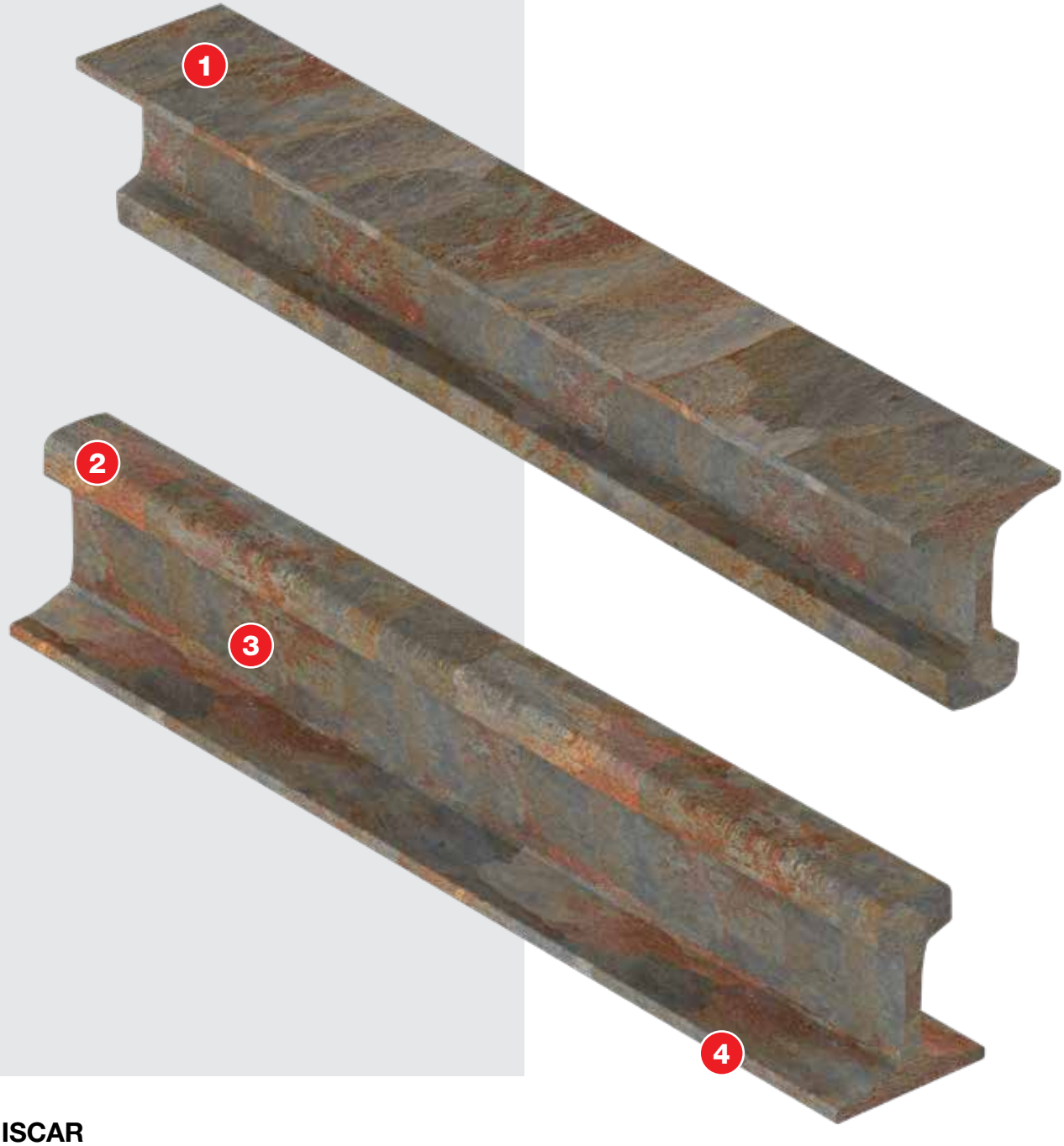
Connecting Link Type E61

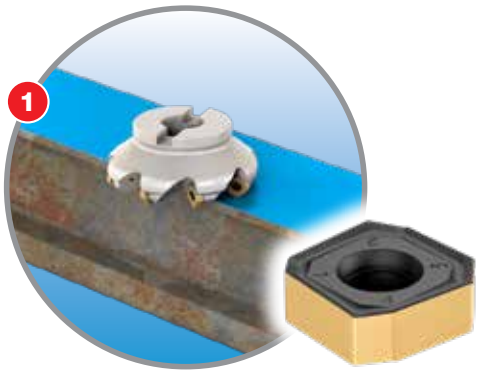
Longer Tool Life

High Productivity

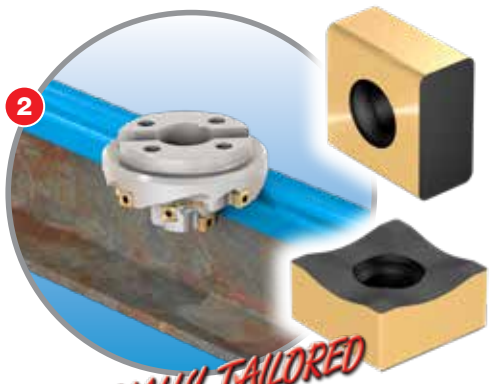
Super Finish

The connecting link blades are the running rails placed alongside the switch rails when in the closed position. They are designed with different profiles and moles to fit rail configurations. The connection link is usually manufactured from manganese steel and the production operation includes various types of profile milling.



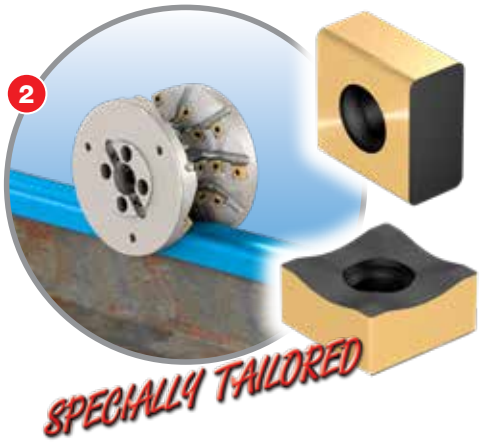


HELIDO 800 LINE
Face Milling Rail Base Section



Milling Rail Head Section

Milling Base Section



Milling Rail Head Section

Milling Web Section

Milling Base Section

Milling Web Section

Railway

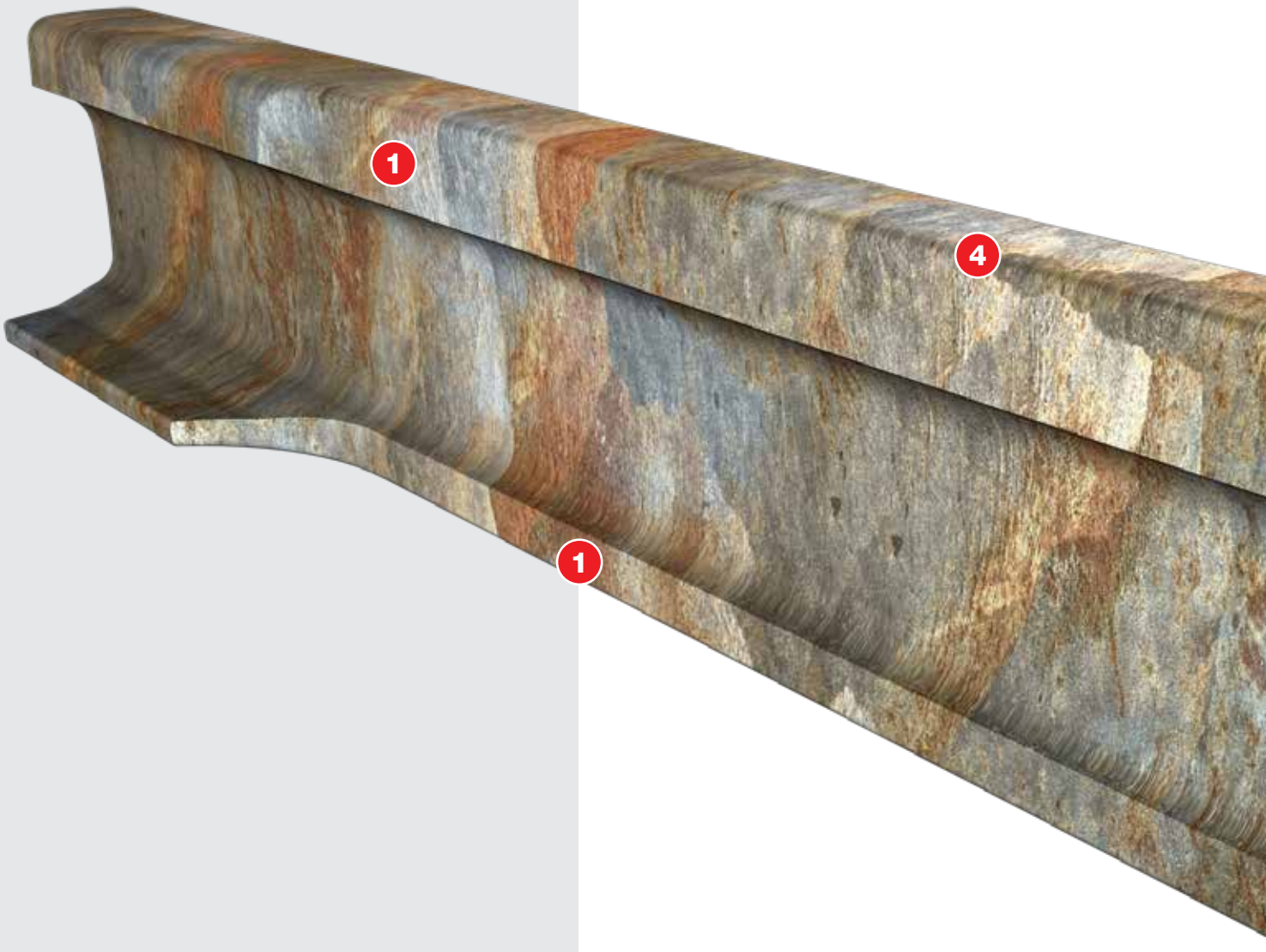
Connecting Link

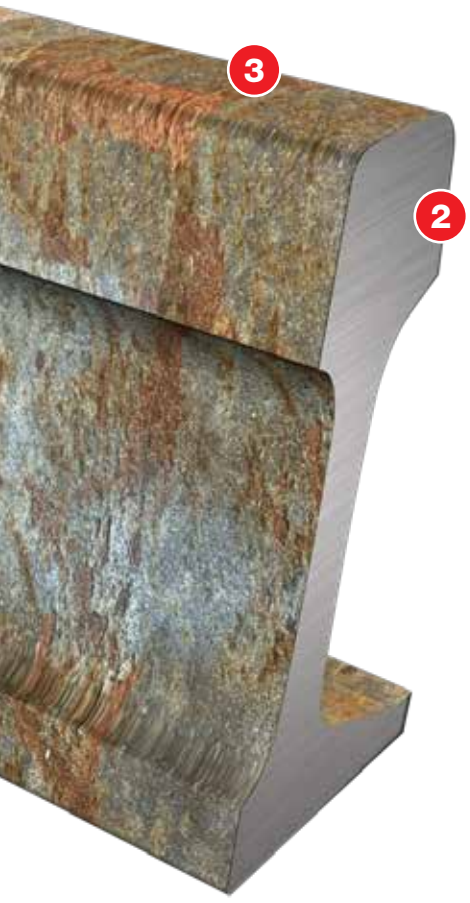
Stong Tool Body

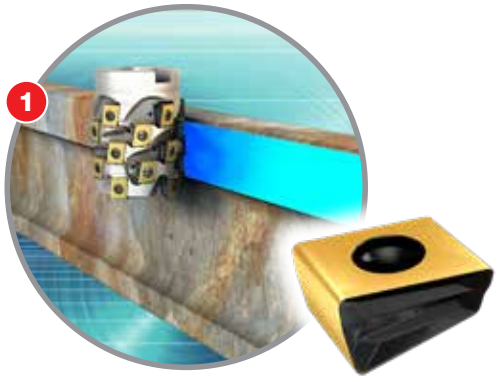
Easy Chip Evacuationn

Longer Tool Life

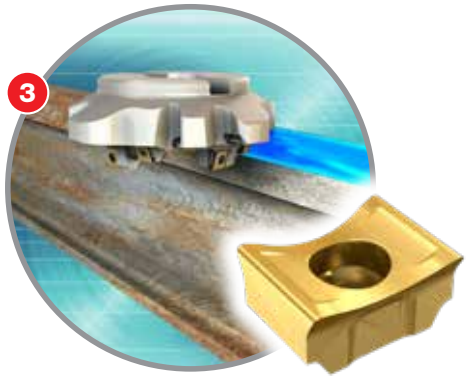
The connecting link blades are the running rails placed alongside the switch rails when in the closed position. They are designed with different profiles and moles to fit rail configurations. The connection link is usually manufactured from manganese steel and the production operation includes various types of profile milling.



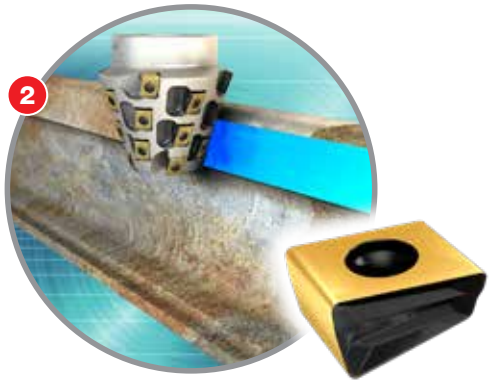




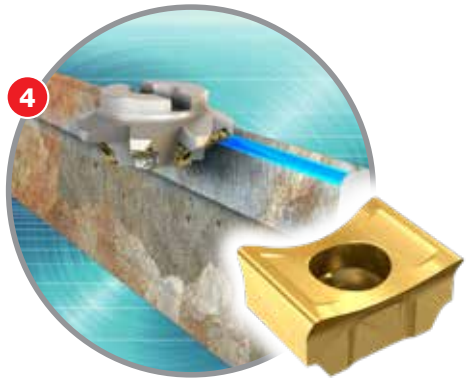
HELITANG T490 LINE
Shouldering



HELITANG T490 LINE
Large Radius Profile Milling



HELITANG T490 LINE
Conical Shouldering



HELITANG T490 LINE
Medium Radius Profile Milling

Railway

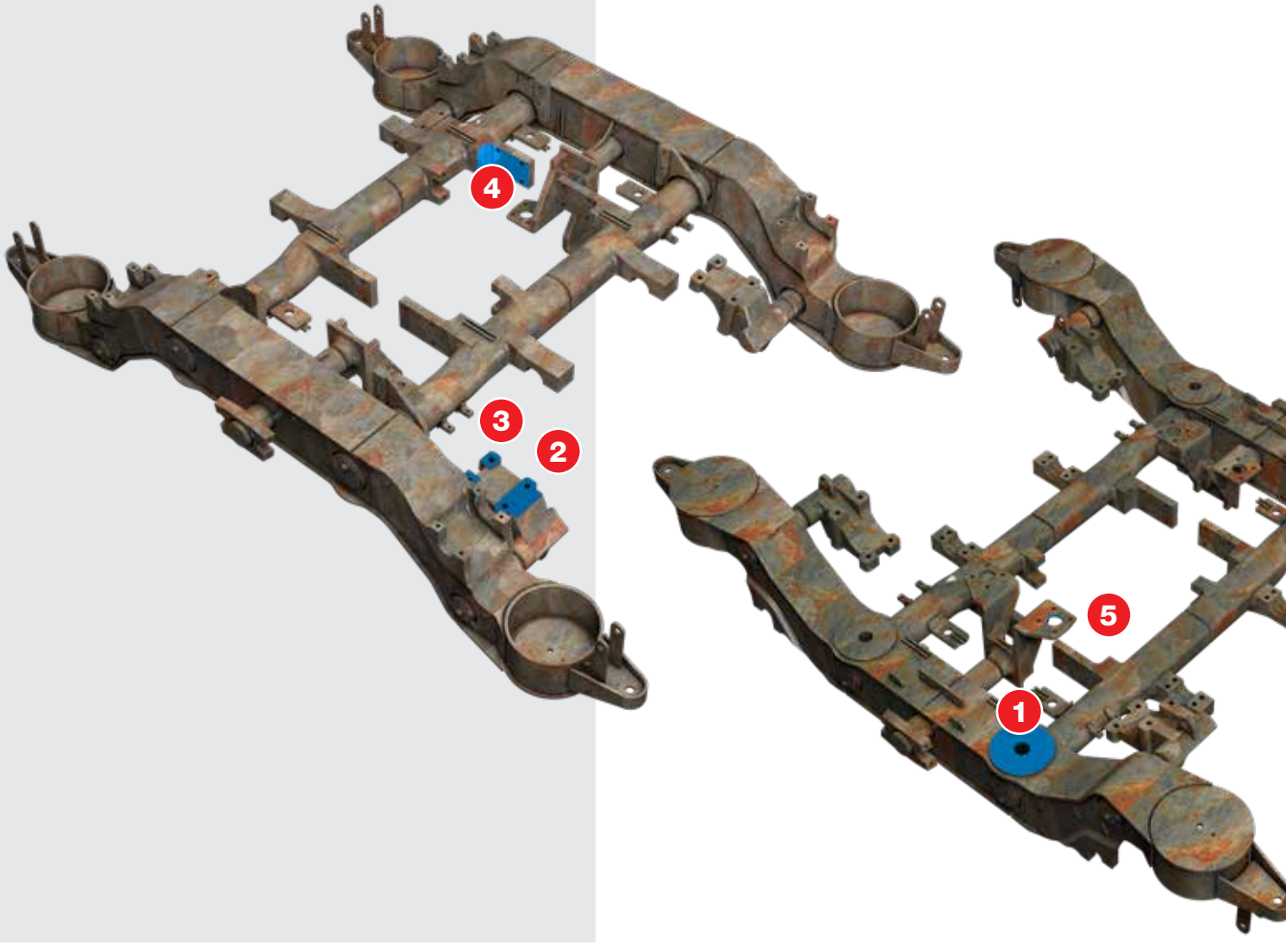
Bogie Frame

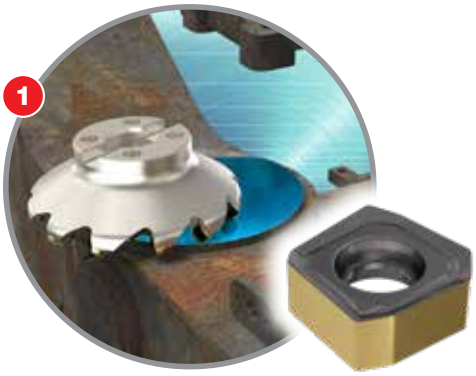
Easy Chip Evacuationn

Fast Feed

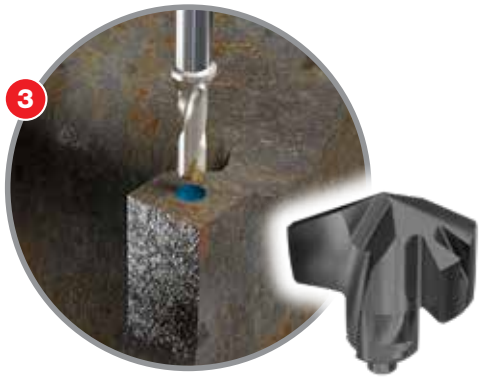
High Productivity

The Bogie is a chassis or framework that carries a wheelset, which can take various forms in various modes of transport. It supports the rail vehicle body and stability on both straight and curved tracks. Usually, two bogies are fitted to each carriage, wagon, or locomotive. Some cars are designed for heavy loads have more axles per bogie. The bogie frames are usually fabricated from carbon steel.

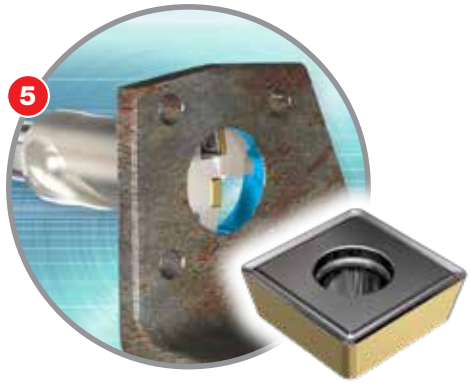




HELIDO
800 HD LINE
Face Milling

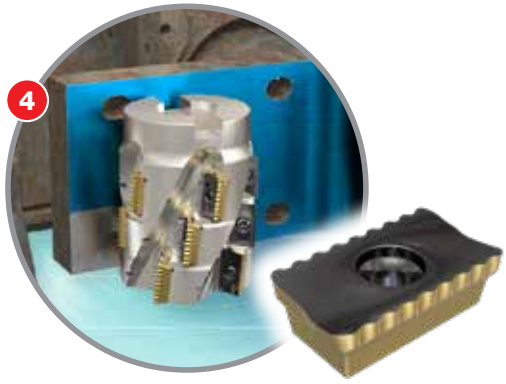


SUMOCHAM
CHAMDRILL LINE
Drilling



DR-TWIST
INDEXABLE DRILL LINE
Drilling

LOGIQ8TANG
T890 MILLING LINE
Face Milling



MILLSHRED
P290 LINE
Shoulder Milling

Off Road

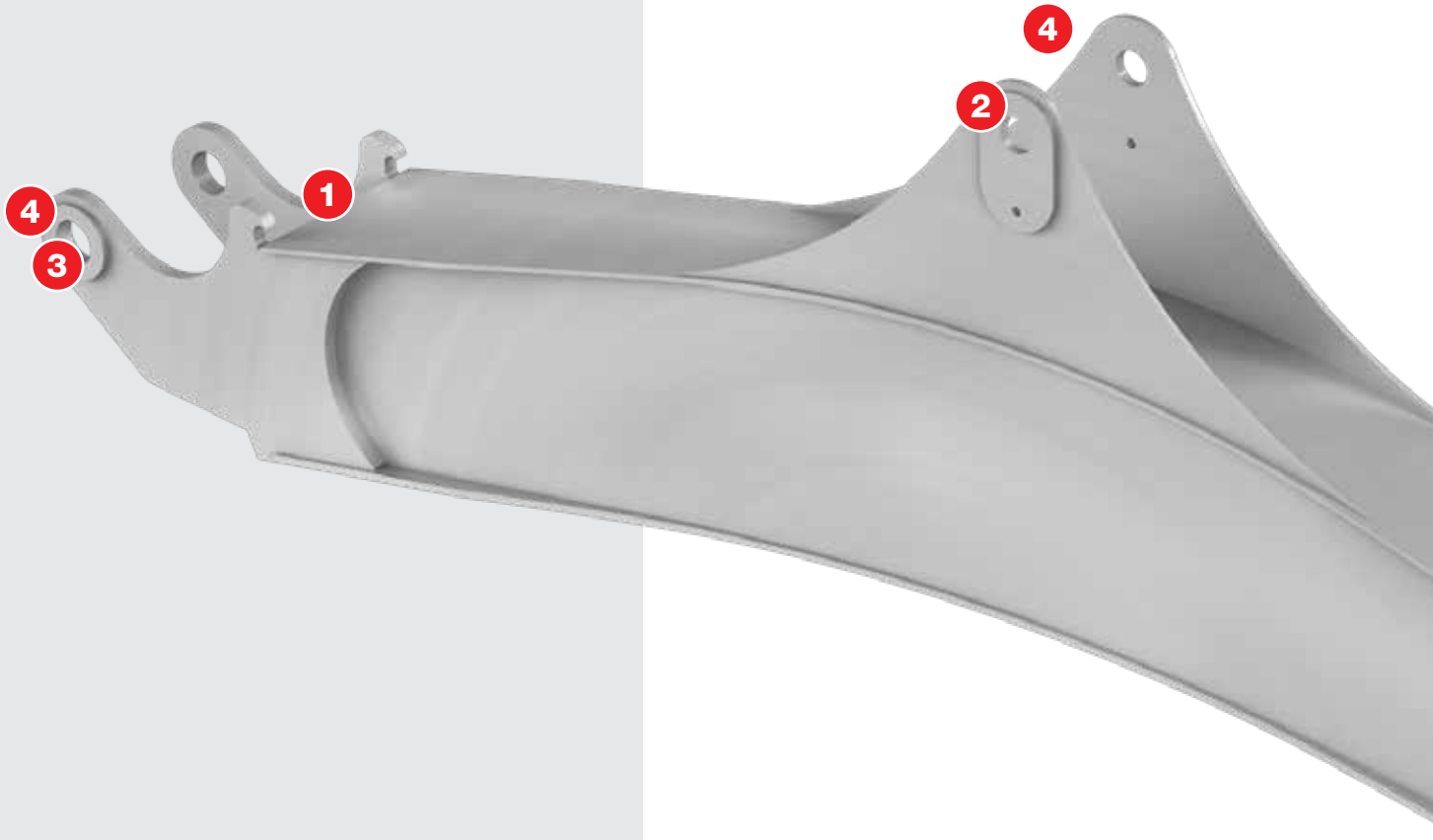
Boom

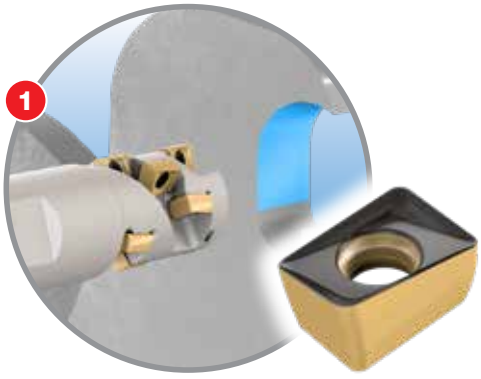
Super Finish

Double Sided Inserts

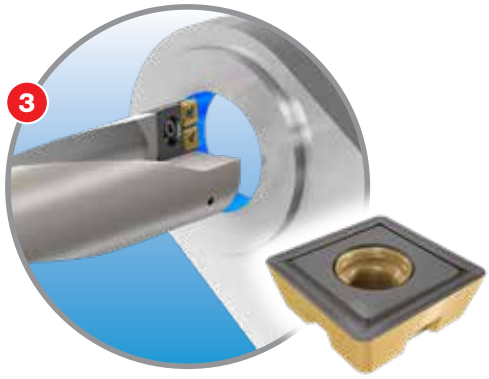
Ease of Use

The Boom structure is part of the backhoe loader and shovel assembly. It allows both horizontal and vertical reach to difficult places.
The articulating boom can be available in many sizes and shapes to fit the dedicated equipment which is usually made of steel or cast iron therefore required for final machining in milling, drilling and boring.

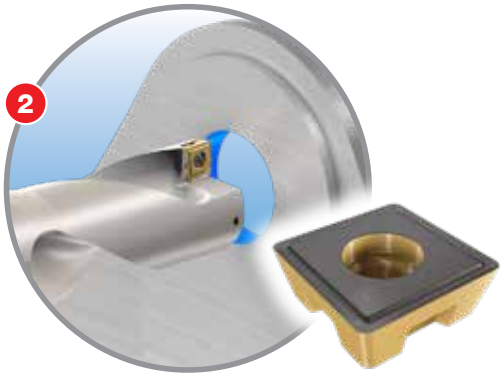




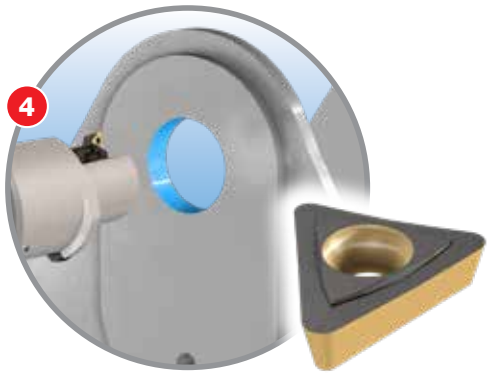
HELIDO
490 LINE
Milling



DR-TWIST
INDEXABLE DRILL LINE
Drilling



DR-TWIST
INDEXABLE DRILL LINE
Drilling



BORING
Boring

Off Road

H-Links

Easy Chip Evacuationn

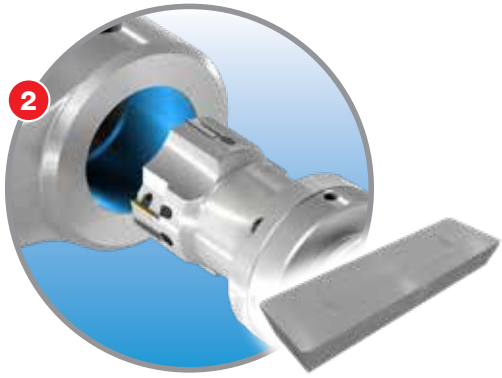
No Setup Time

Cost Effective Insert

The H-Link is part of the backhoe loader and shovel assembly which is part of the connection links that connect the bucket segment to the articulating boom arm.
The H-Link can be found in many sizes and shapes to fit the dedicated equipment.
It is usually made of steel or cast iron and required for final machining such as milling, drilling and boring.

SUMOCHAMIQ
CHAMDRILL LINE

Drilling



INDEXH-REAM

Reaming

Chamfering

Off Road

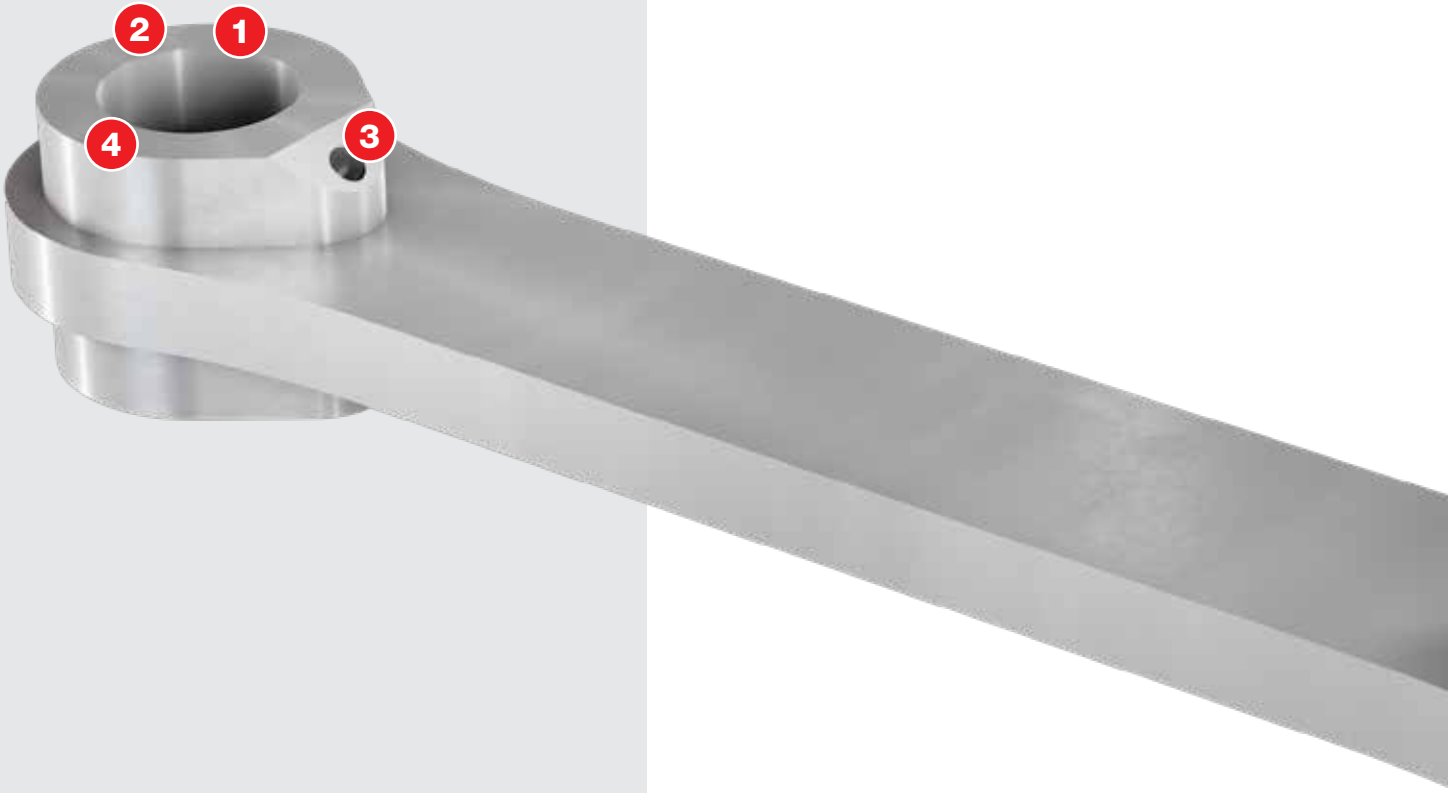
Bucket Link

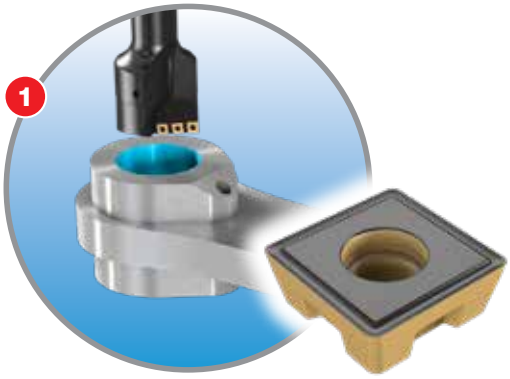
Easy Chip Evacuationn

Ease of Use

Cost Effective Insert

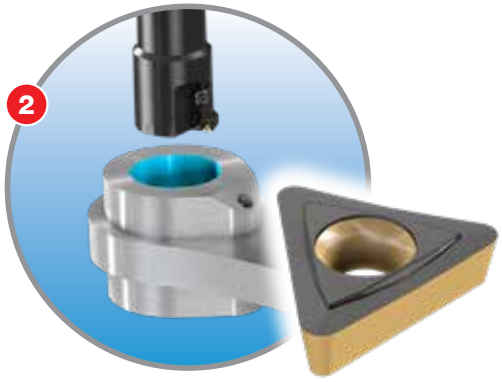
The bucket link is part of the backhoe loader and shovel assembly which is part of the connection of the bucket segment to the articulating boom.
The bucket link can be found in many sizes and shapes fit that dedicated equipment.
The bucket link is usually made from steel or cast iron and required for final machining in milling, drilling and boring.





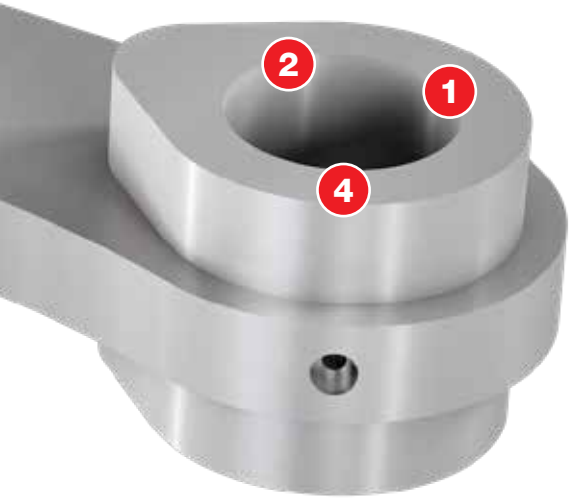
DR-TWIST
INDEXABLE DRILL LINE
Drilling

SUMOCHAM
CHAMDRILL LINE
Drilling



BORING
Boring

HELIDO
490 LINE
Milling



Off Road

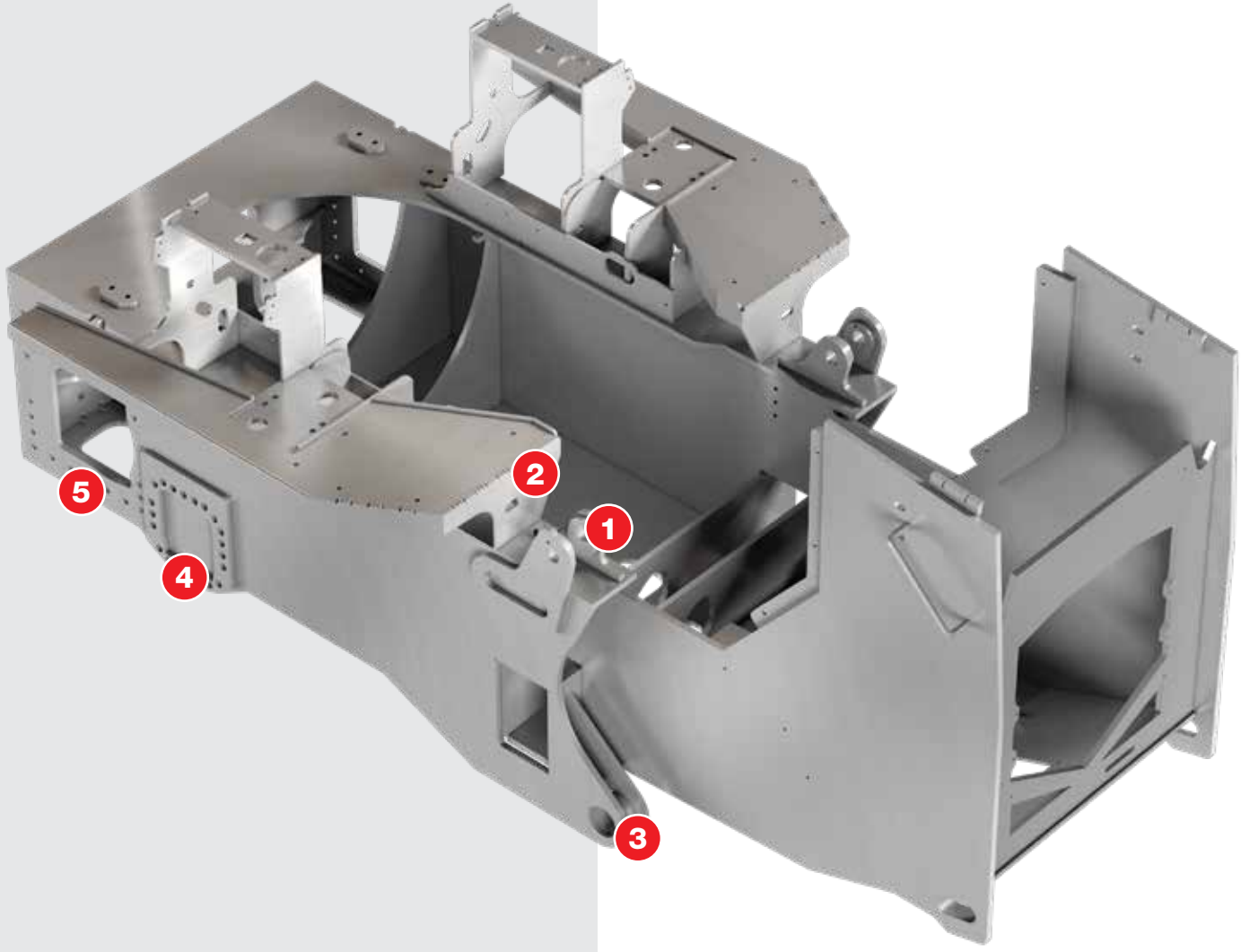
Main Frame

Super Finish

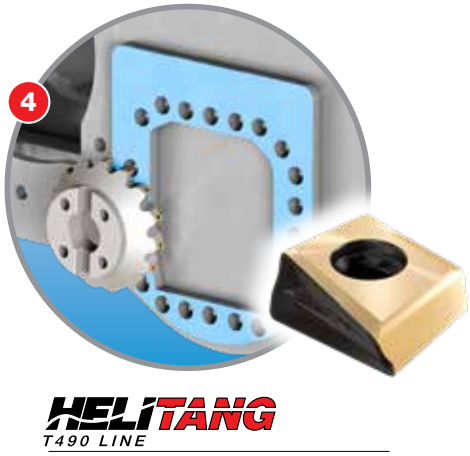
Longer Tool Life

Ease of Use

The main frame structure is part of the backhoe loader and shovel assembly. The main frame is a revolving deck with a power plant, drive, control mechanisms, usually a counterweight and a front attachment such as a boom which supports a dipper with a bucket at the end. It is usually made from steel or cast iron and requires final machining in milling, drilling, and boring.



Drilling



Milling

Boring

Drilling

Boring

Off Road

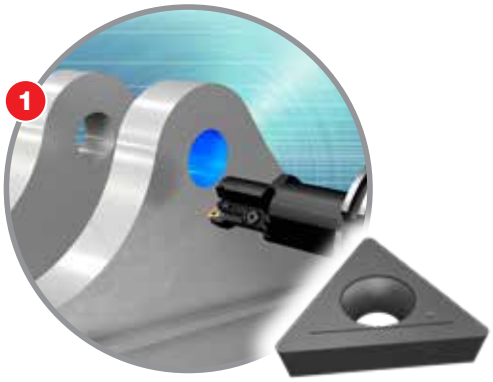
Dipper

Deep Boring

Cost Effective Insert

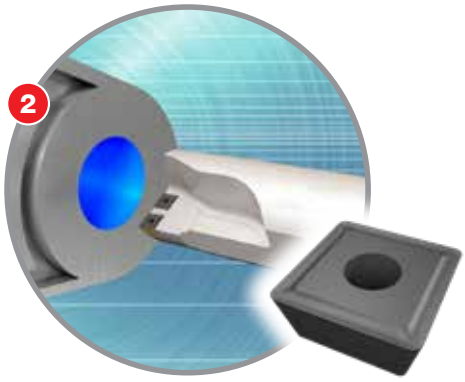
Ease of Use

The dipper is part of the backhoe loader and shovel assembly construction.
The dipper arm is attached to the end of the boom which provides the digging movement needed to pull the bucket through the ground.
It is usually made from steel or cast iron and requires final machining in milling, drilling, and boring.



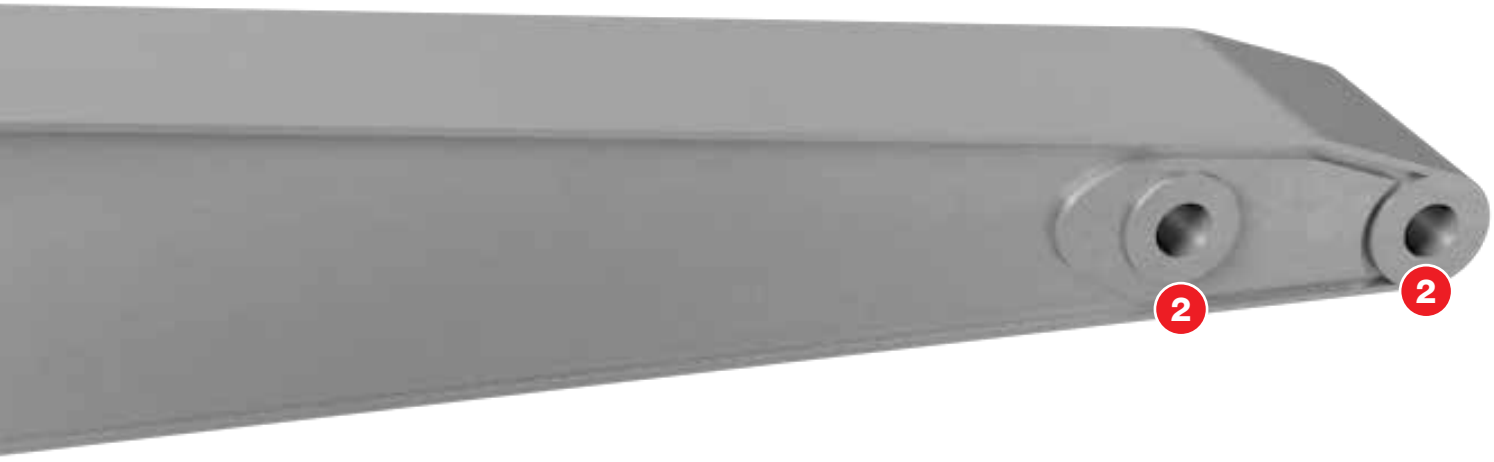
BORING

Flange Boring



DR-TWIST
INDEXABLE DRILL LINE

Boring



Off Road

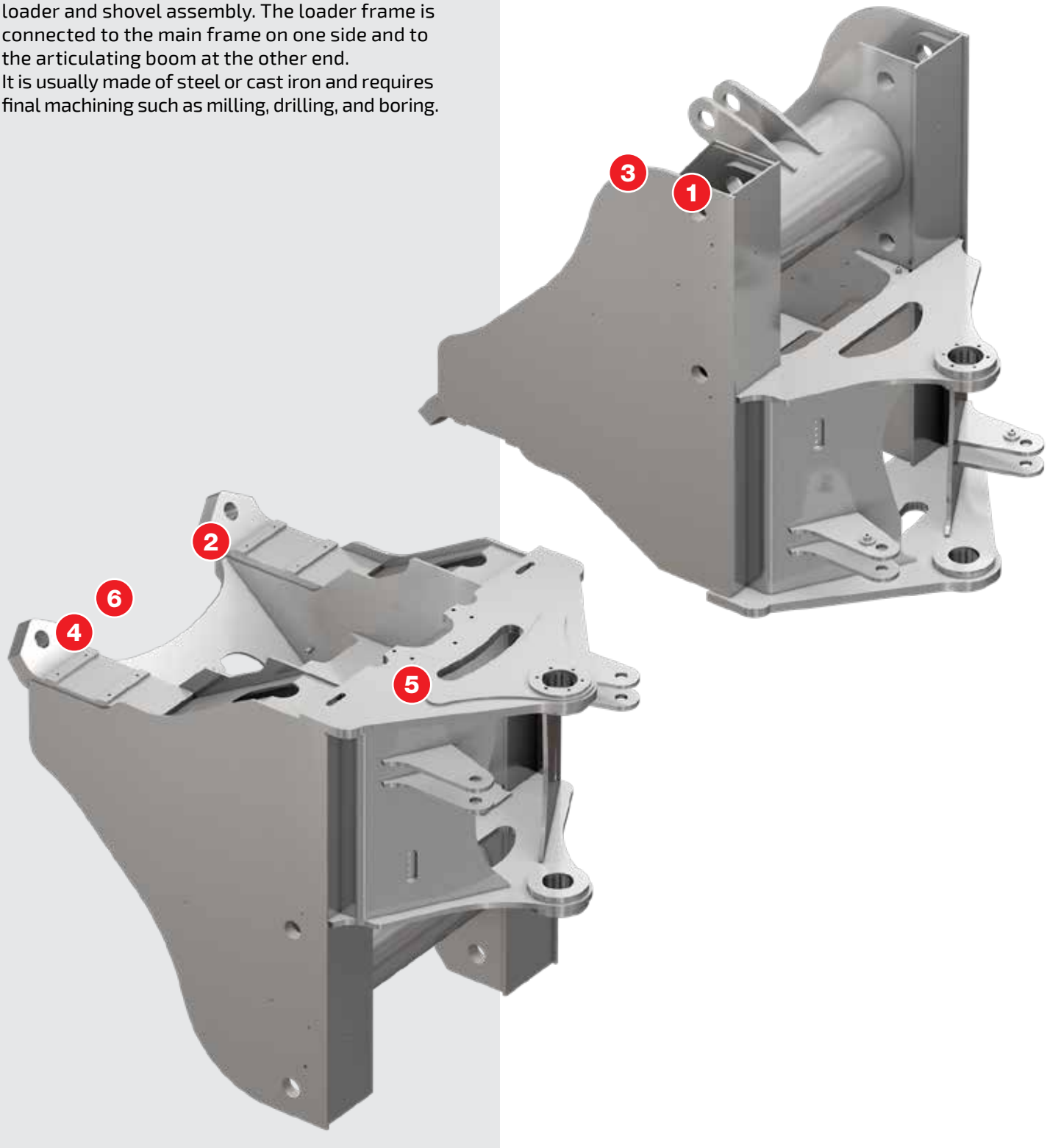
Loader Frame

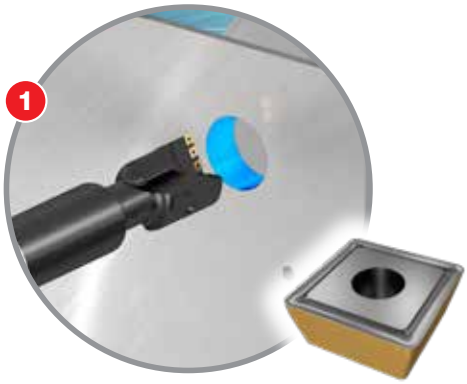
High Productivity

Longer Tool Life

Stong Tool Body

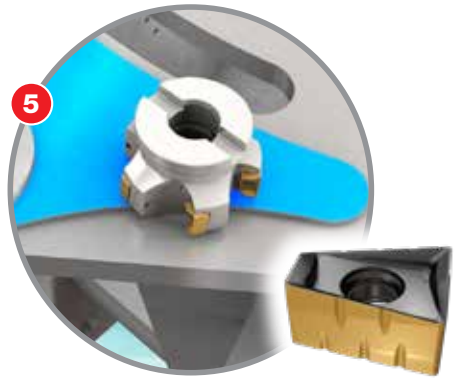
The main frame structure is part of the backhow loader and shovel assembly. The loader frame is connected to the main frame on one side and to the articulating boom at the other end.
It is usually made of steel or cast iron and requires final machining such as milling, drilling, and boring.



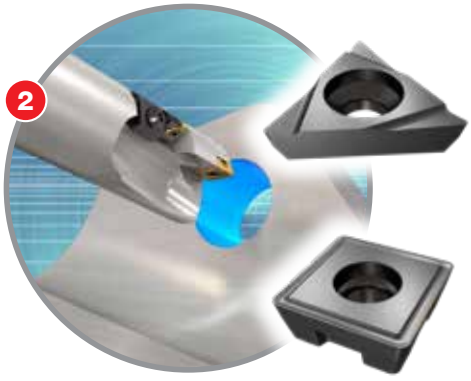


DR-TWIST
INDEXABLE DRILL LINE
Drilling

BORING
Boring



HELIDO
490 LINE
Milling



DR-TWIST
INDEXABLE DRILL LINE
Side Flange Drilling

SUMOCHAM
CHAMDRILL LINE
Drilling

HSS TAPS
Tapping

Medical

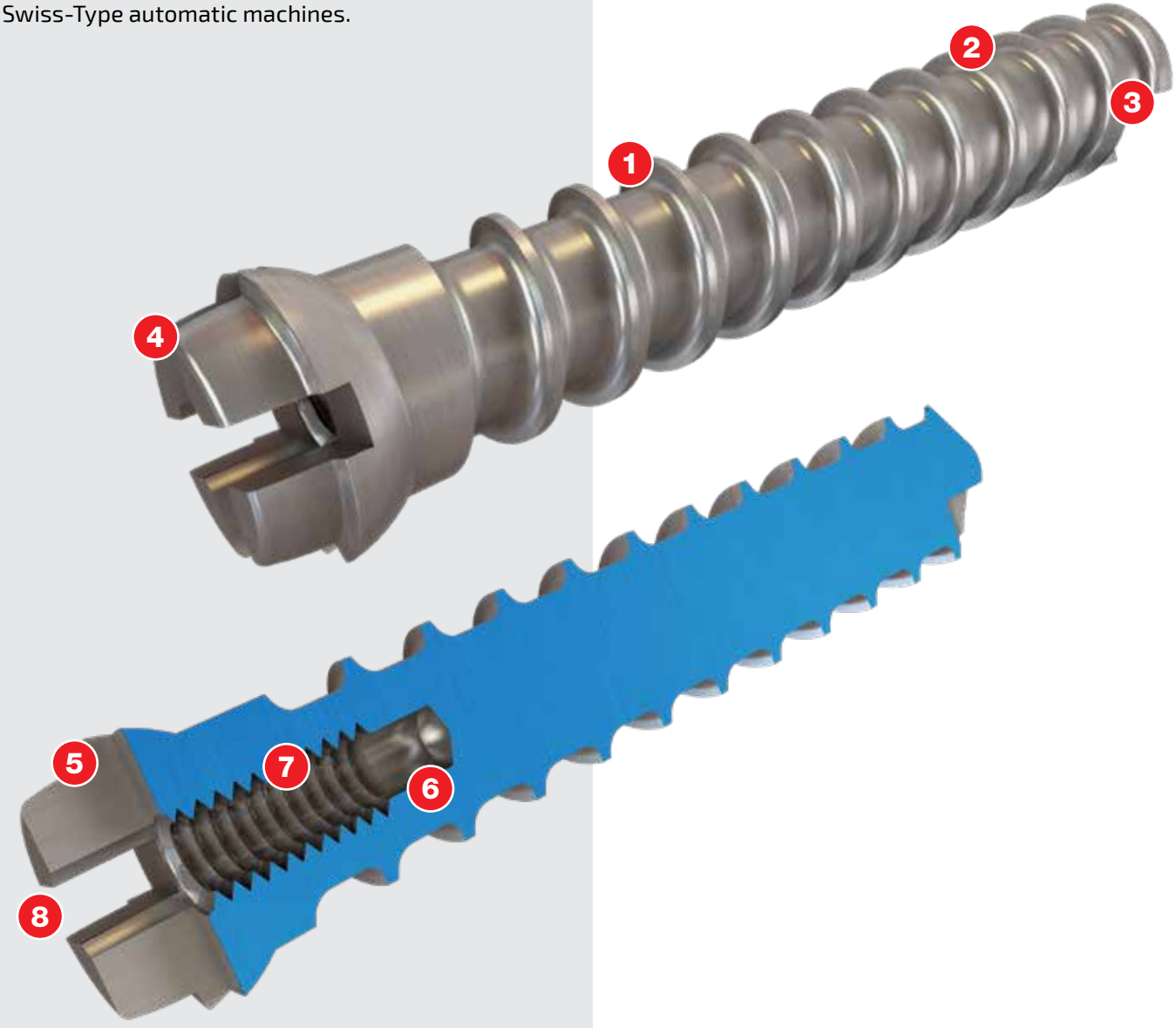
Dental Screw

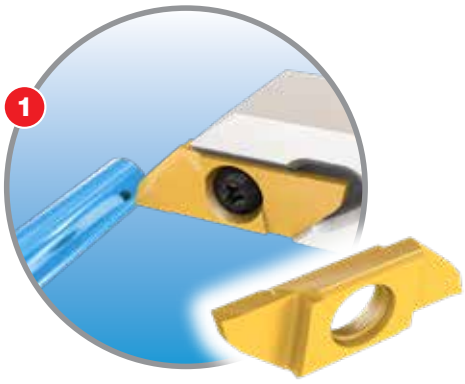
Precision

Profiling

Deep Parting

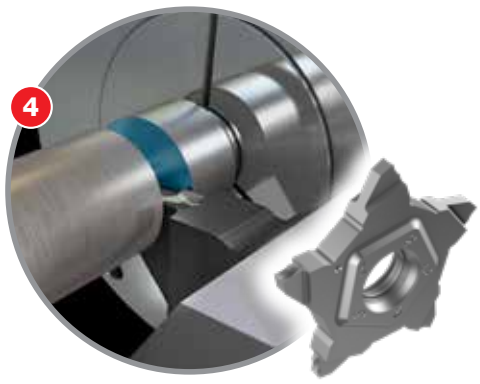
Bone screws are used to secure a variety of orthopedic implants, primarily for repairing fractured bones with plates and surgeries to stabilize or correct the spine. Bone screws are machined from titanium or stainless steel, depending on the surgical demand and application. ISCAR offers a wide range of standard and special turning, threading, milling and drilling tools to produce bone screws on Swiss-Type automatic machines.





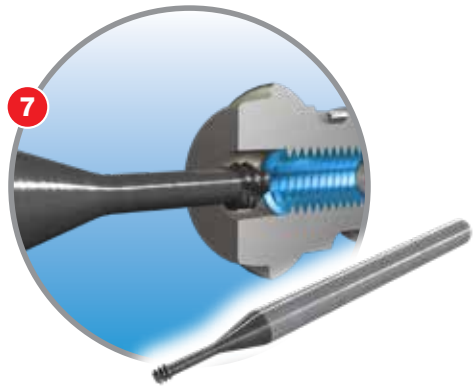
SWISSCUT

Rough Outer Diameter Turning



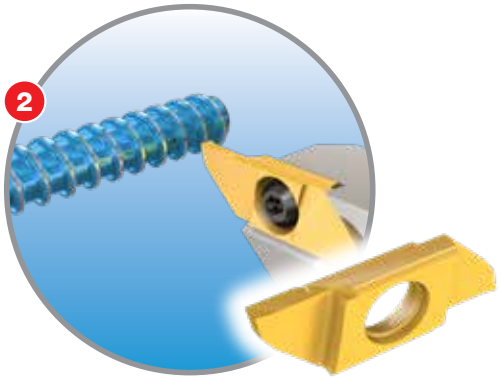
PENTACUT

Parting



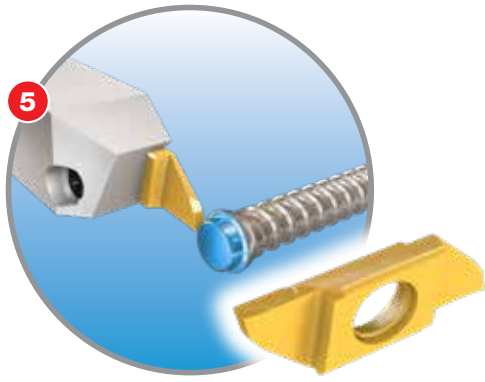
SOLIDTHREAD

Thread Milling



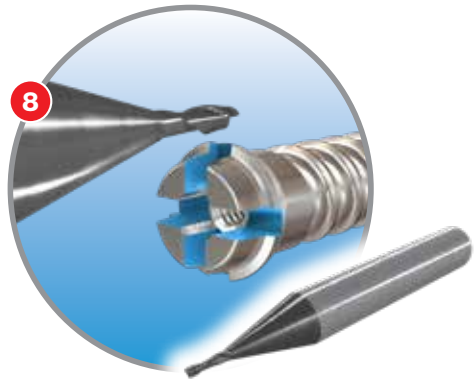
SWISSCUT

Turn Threading



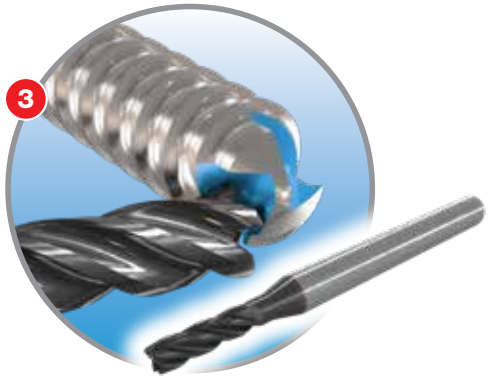
SWISSCUT

Screw Head Turning



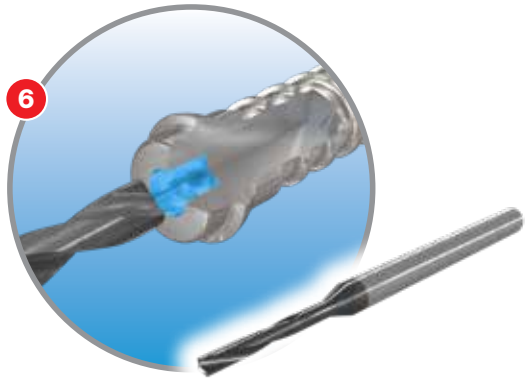
SOLIDMILL
PREMIUM LINE

Key Head Milling



CHATTERFREE
SOLID MILL LINE

Slot Milling



SOLIDDRILL

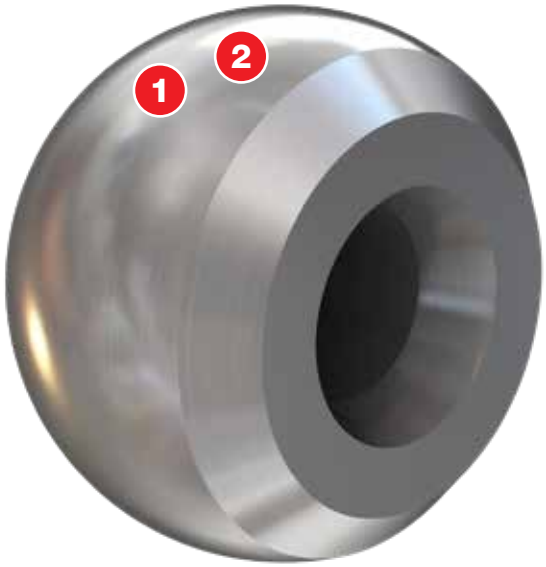
Drilling

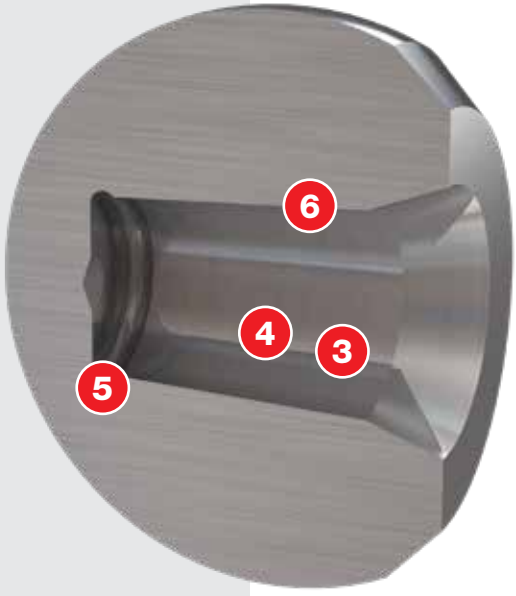
Medical

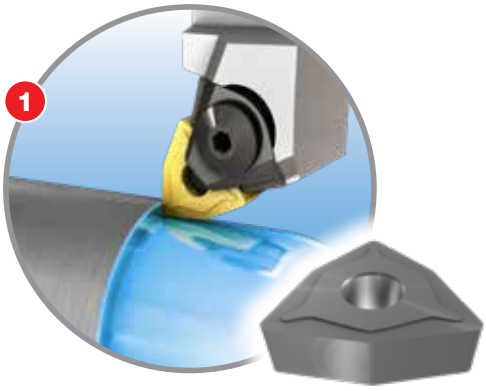
Hip Joint Head

Super Finish | Profiling | Variety

Attached to the top of the femoral stem, a femoral cap must be machined to size and then polished to reduce the wear of the socket liner, to ensure maximum life of the implant. Often machined from cobalt chrome bar stock, the component demands high tolerances and surface quality.
ISCAR offers a wide range of standard and special turning tools and drills to produce hip joint heads on Swiss-Type machines.

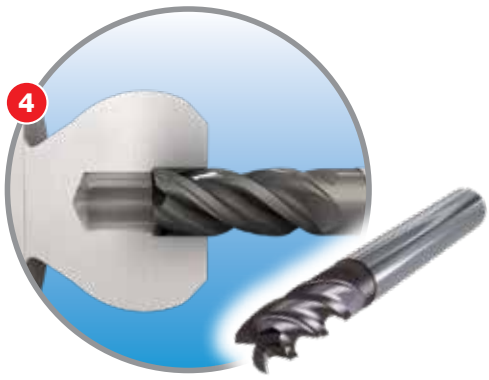






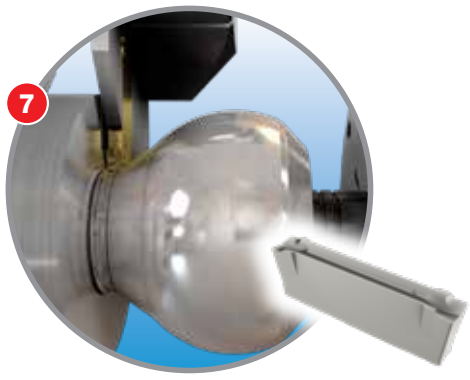
ISOTURN

Rough Turning



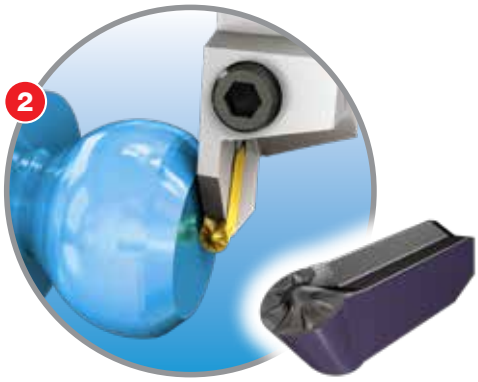
CHATTERFREE
SOLID MILL LINE

Semi-Finish Milling



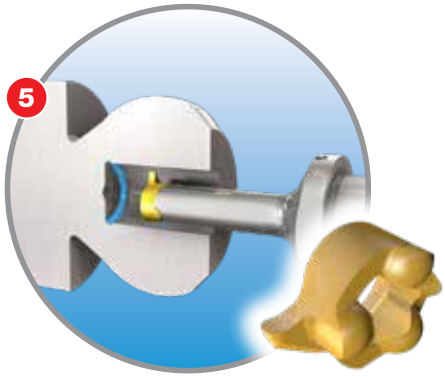
DO-GRIP
500 STRAIGHT LINE

Cut-Off



CUT-GRIP

Semi-Finish Turning

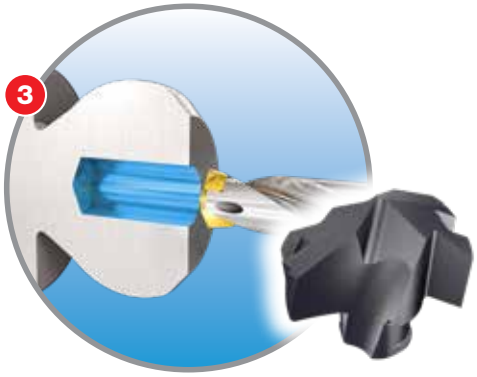


CHAMGROOVE

Interpolar Semi-Finish Grooving

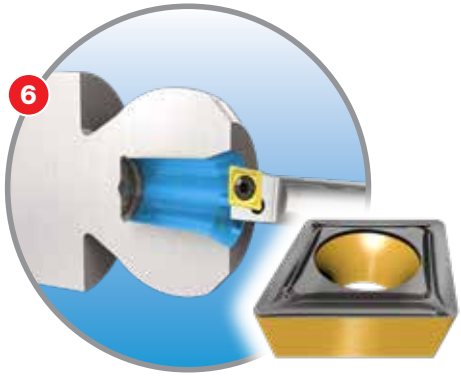
SWISSTURN

Rough Turning



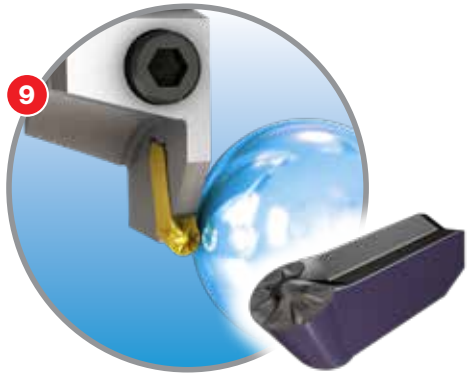
SUMOCHAM
CHAMDRILL LINE

Drilling



ISOTURN

Semi-Finish Internal Turning



CUT-GRIP

Semi-Finish Turning

Medical

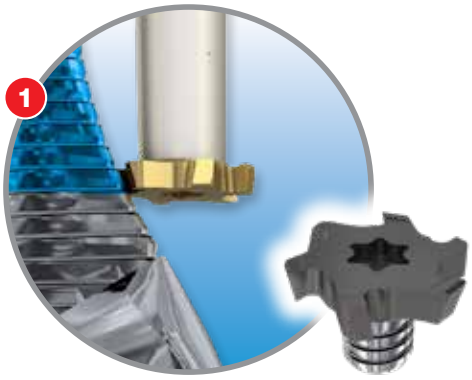
Hip Joint Stem

Precision

No Setup Time

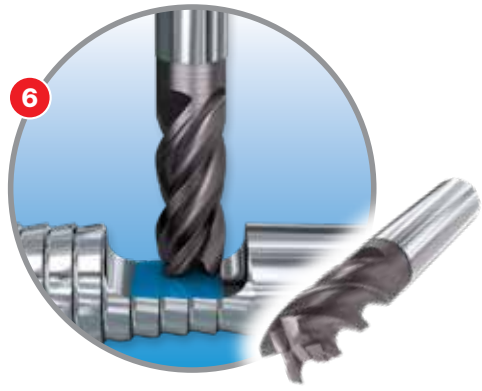
Ease of Use

When hip replacement surgery is required the stem implant is inserted into the natural thigh bone and part of the hip replacement set which includes the stem, ball, and socket which allow the leg to rotate and move forward, backward, and sideways.
The stem is typically fabricated from titanium or cobalt-chrome-based alloys.
ISCAR offers a wide range of standard and special turning, milling, and drilling tools for manufacturing stem implants.

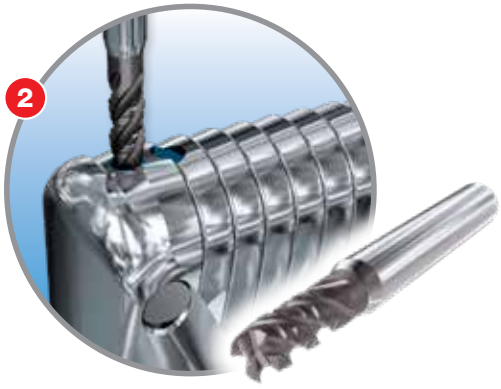


MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Slotting

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfer Milling

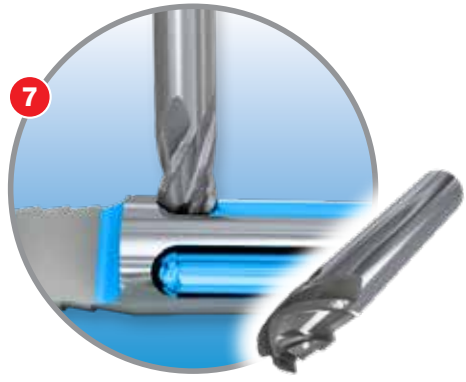


SOLIDMILL
PREMIUM LINE
Face Milling

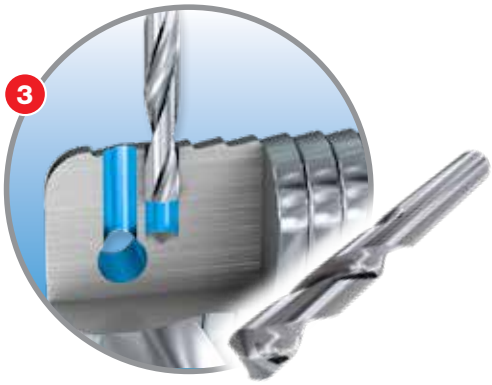


SOLIDMILL
PREMIUM LINE
Spot Milling

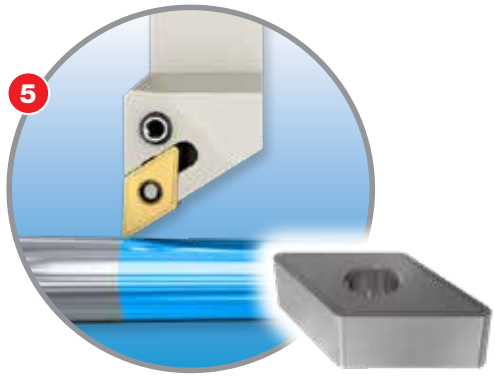
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfer Milling



SOLIDMILL
PREMIUM LINE
Profile Milling



SOLIDDRILL
Drilling



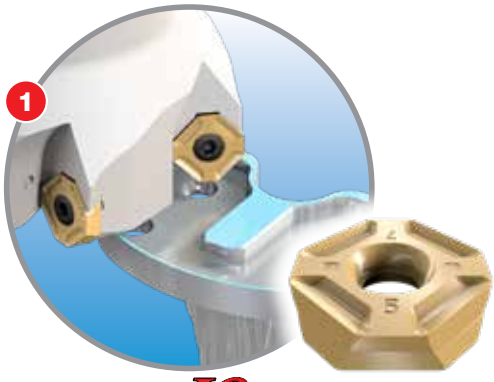
SWISSTURN
JETCUT
Turning

Medical

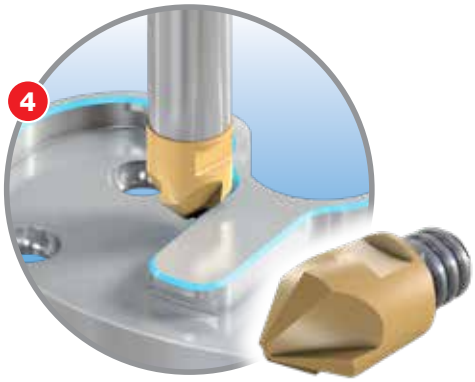
Knee Joint
Tibial component

Super Finish | Profiling | Variety

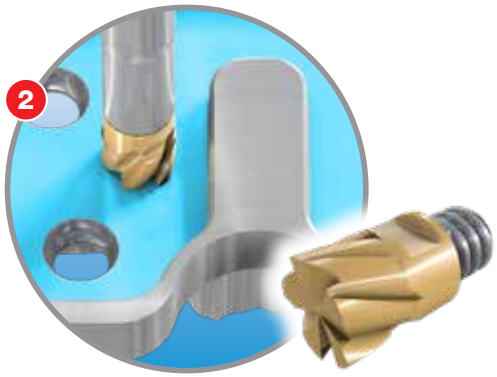
When knee replacement surgery is required the Tibial component implant is part of the knee replacement set which includes the Tibial component, spacer, and femoral component that allow normal knee rotation.
The Tibial component implant is typically fabricated of titanium or cobalt-chromium-based alloys.
ISCAR offers a wide range of standard, special milling and drilling tools for manufacturing Tibial component implants.



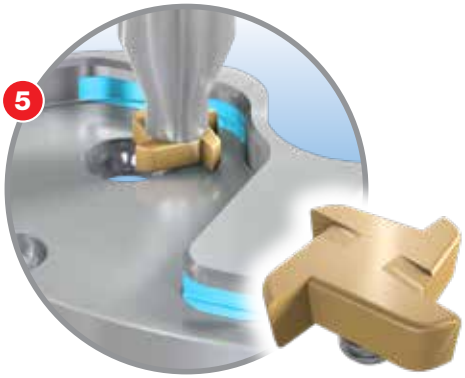
DOVE IQ MILL
845 LINE
Face Milling



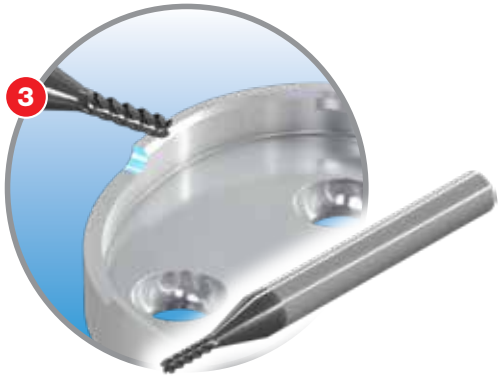
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfer Milling



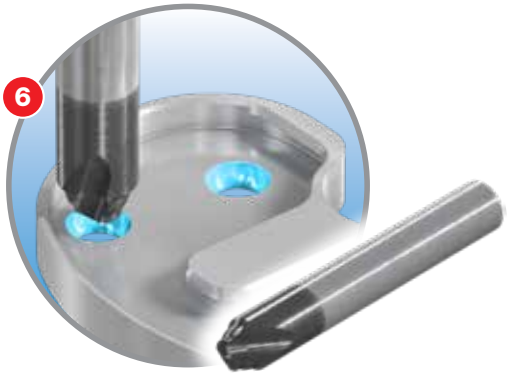
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Face Milling - Finish



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Slotting



SOLIDMILL
PREMIUM LINE
Profile Milling



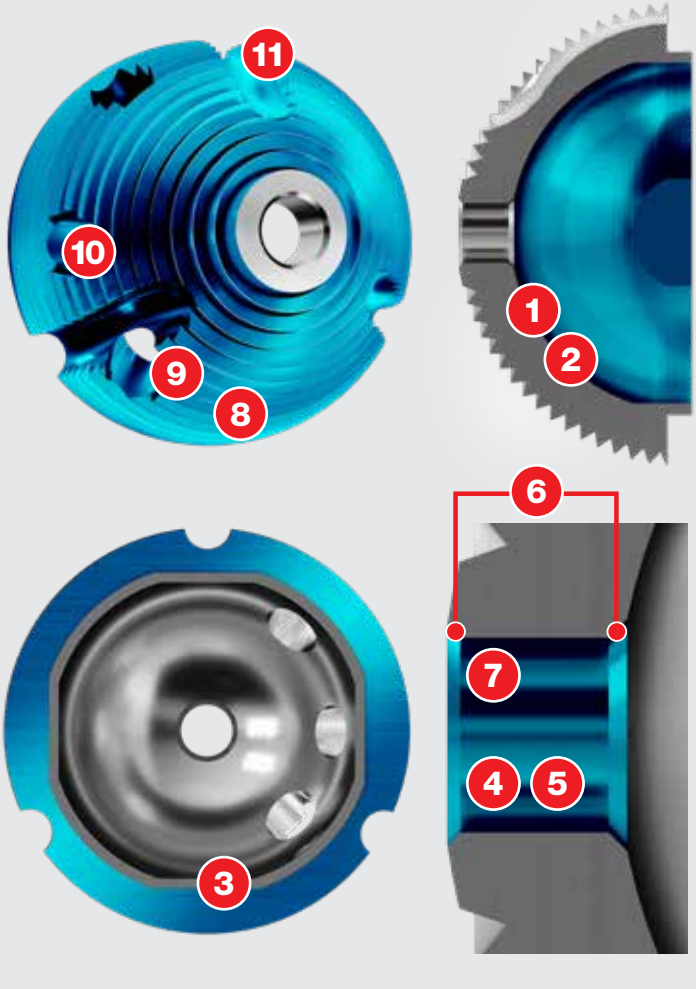
SOLIDDRILL
Counter Boring

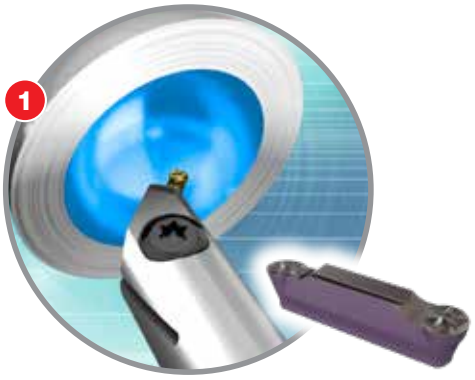
Medical

Hip Joint Shell (Socket)

Super Finish | Ease of Use | Variety

When hip replacement surgery is required the shell socket implant also called the acetabulum, is part of the hip replacement set which includes the steam, ball, and shell socket which allows the leg to rotate and move forward, backward, and sideways.
The shell socket is typically fabricated from titanium or cobalt-chrome-based alloys with inner Polyethylene linear.
ISCAR offers a wide range of standard and special turning, milling, drilling, and threading tools for manufacturing shell socket implants.

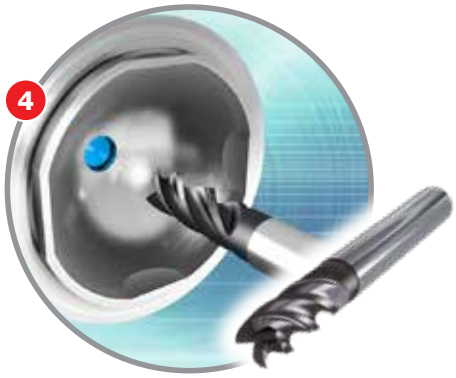




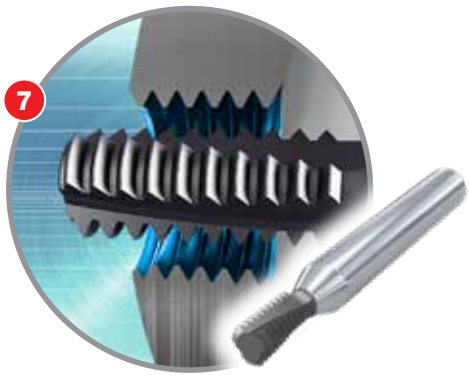
HELIGRIP
Rough Internal Turning

SOLIDMILL PREMIUM LINE
Internal Finish Milling

SOLIDMILL PREMIUM LINE
Finish Milling

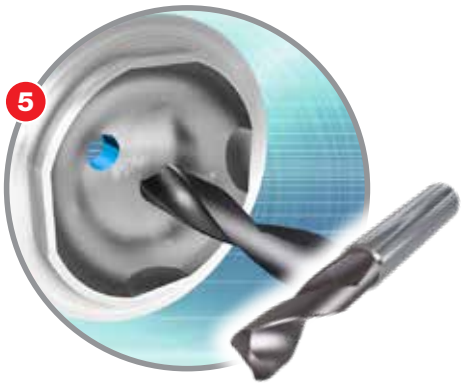


SOLIDMILL
PREMIUM LINE
Milling

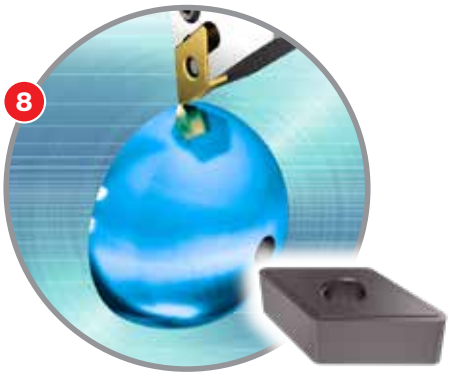


SOLIDTHREAD
Thread Milling

SOLIDMILL
PREMIUM LINE
Milling

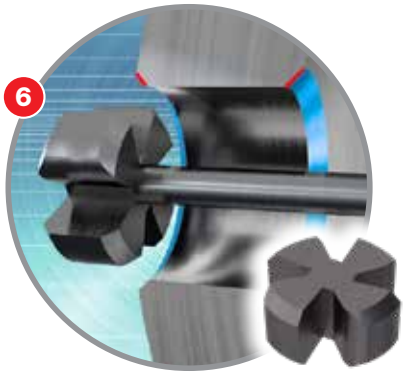


SOLIDDRILL
Drilling

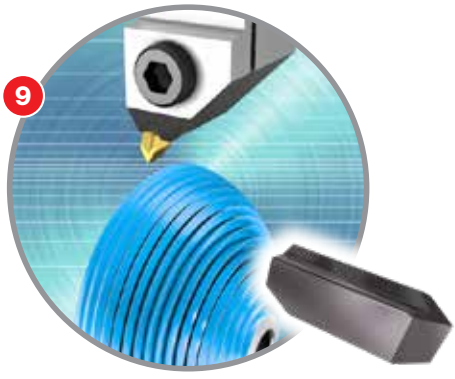


SWISSTURN
JETCUT
Rough Turning

SOLIDMILL
PREMIUM LINE
Milling



SOLIDMILL
PREMIUM LINE
Upper and Bottom
Chamfer Milling



CUTGRIP
External Threading

Medical

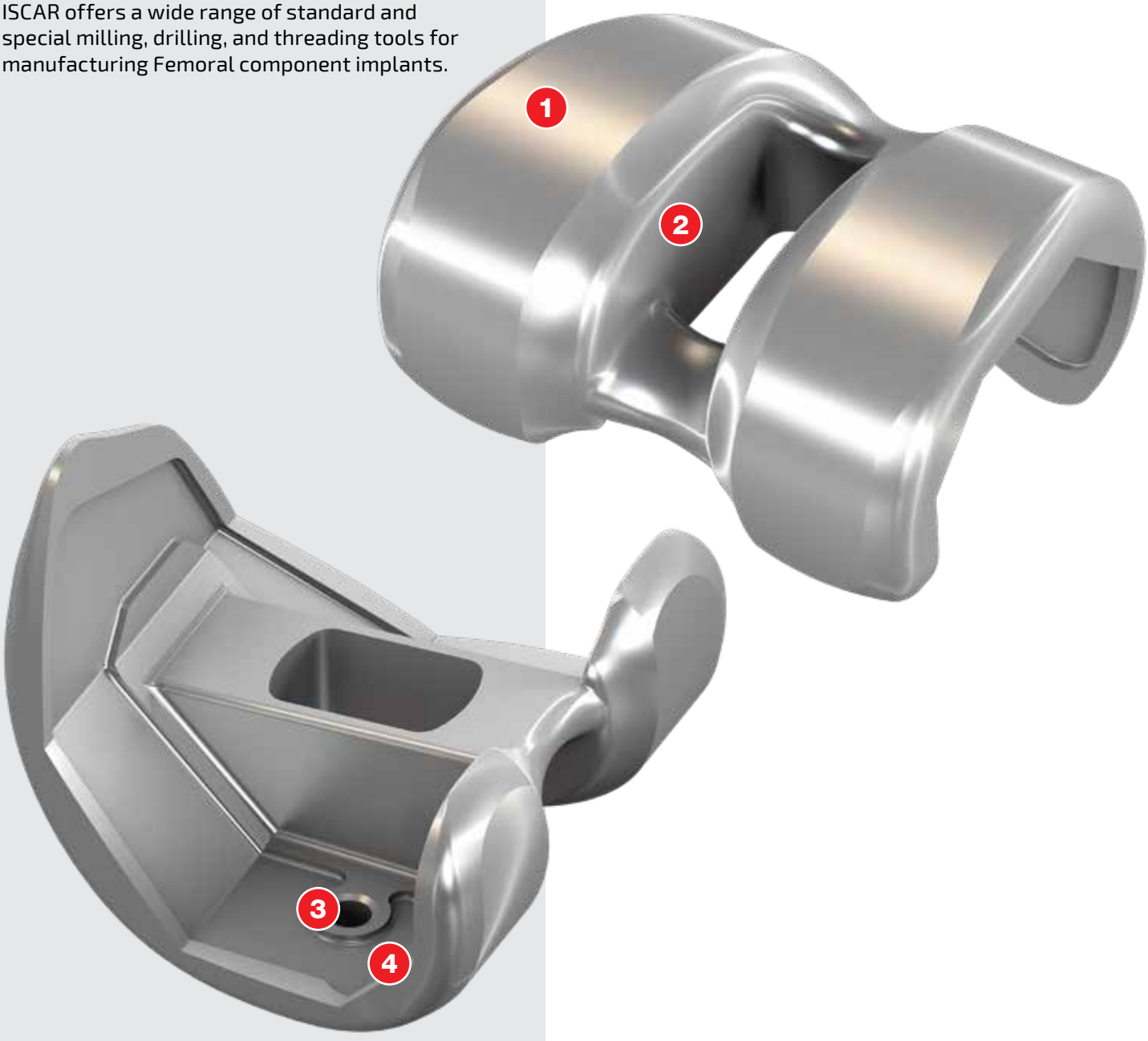
Knee Joint
Femoral component

Precision

Profiling

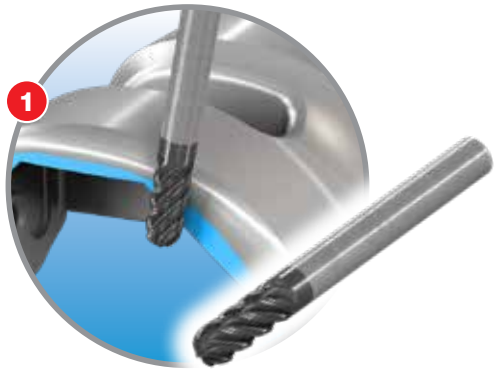
Cost Effective Tools

When knee replacement surgery is required the Femoral component implant is part of the knee replacement set which includes the Tibial component, spacer, and femoral component that allow normal knee rotation. The Femoral component implant is typically fabricated of titanium or cobalt-chromium-based alloys.
ISCAR offers a wide range of standard and special milling, drilling, and threading tools for manufacturing Femoral component implants.

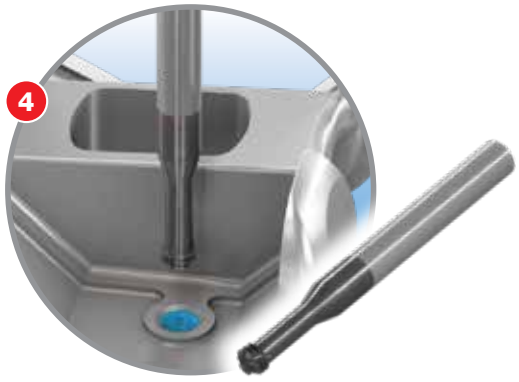


SOLIDMILL
PREMIUM LINE
Semi Finish Milling

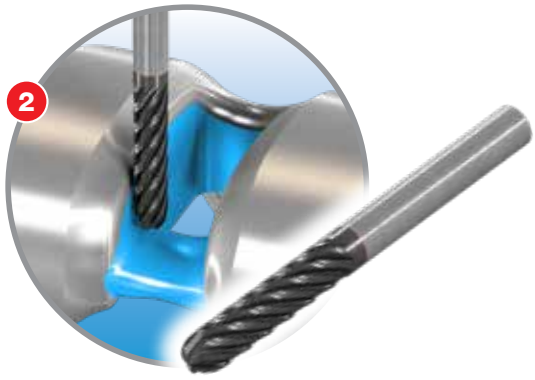
SOLIDDRILL
Drilling



SOLIDMILL
PREMIUM LINE
Semi Finish Milling



SOLIDTHREAD
Thread Milling



SOLIDMILL
PREMIUM LINE
Finish Milling

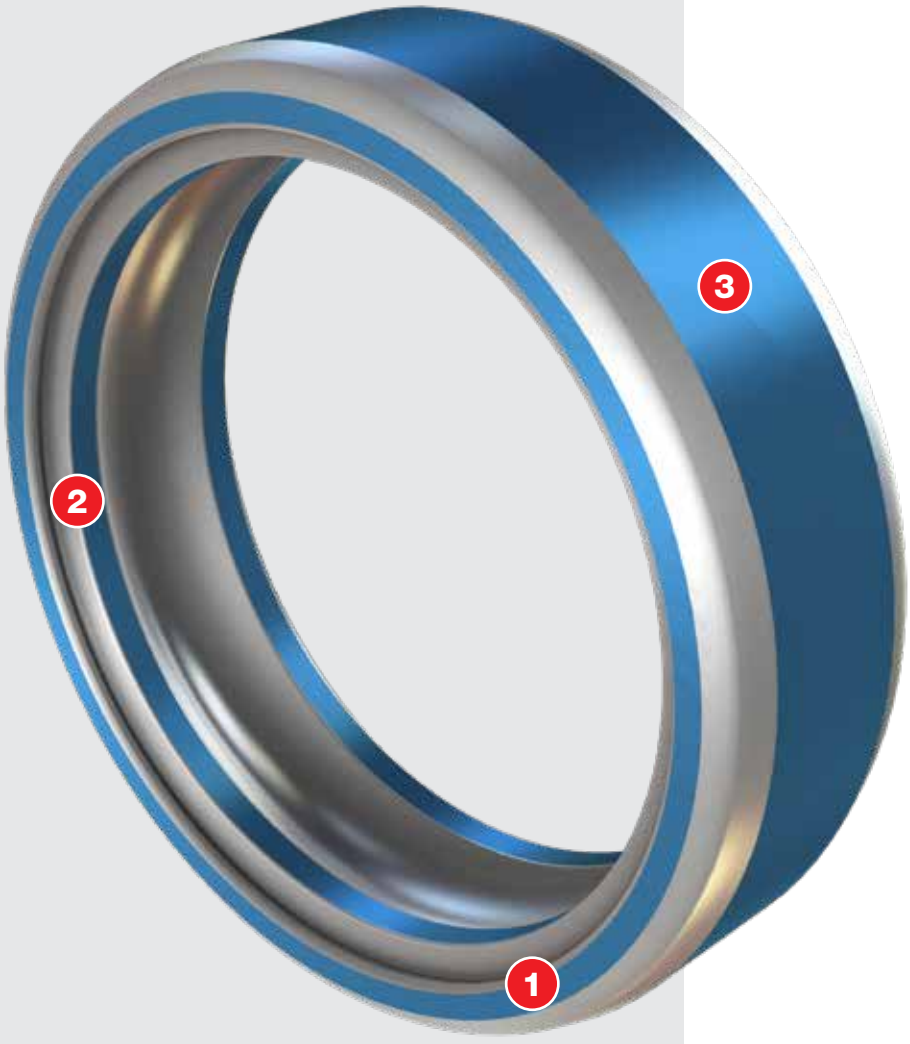
Ball Bearing Outer Ring


Deep Parting


Profiling

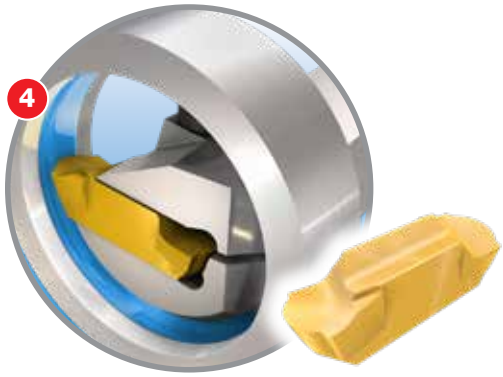
Super Finish

Bearings are necessary for almost any mechanical system and many other maching elements that require rotational movement. Ball bearings are the most popular bearing types in the market. Ball bearings are made from 100cr6 material and vary in size from 2 mm for electronic systems, and up to 3000 mm for powers stations.
ISCAR's experienced engineers are capable of planning any ball bearing size with advanced machining solutions that can ensure maximum performance, efficiency and precision.



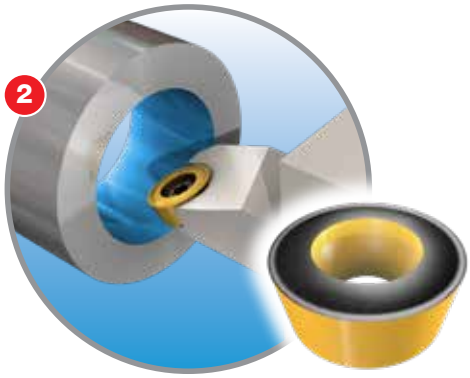
PENTACUT

Parting-Off



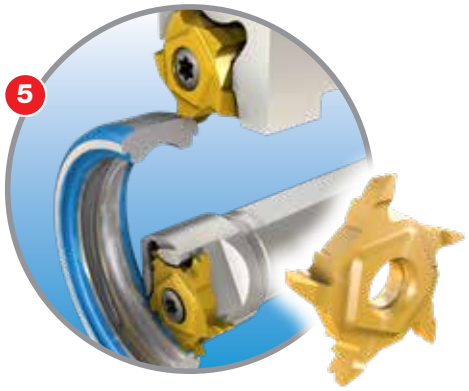
CUTGRIP

Ball Bearing Raceway Grooving



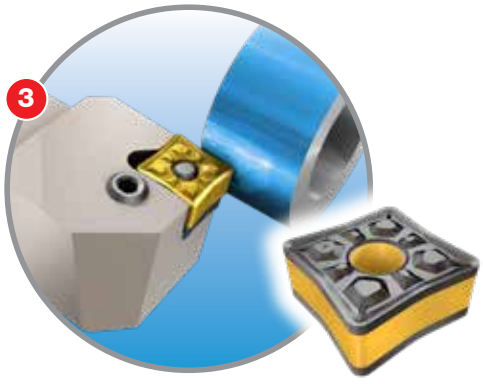
ISOTURN

Inner Diameter Turning



PENTACUT

Radius Chamfer and Seal Groove Machining

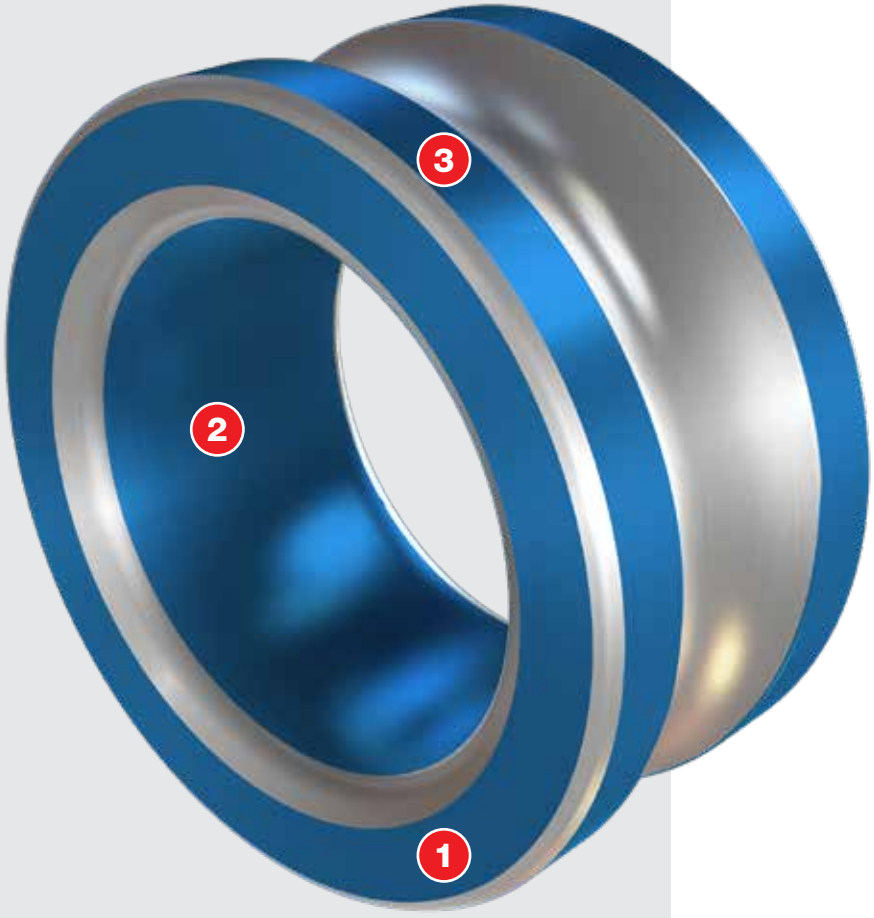


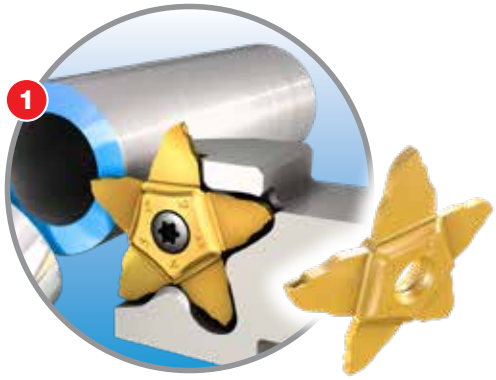
ISOTURN

Outer Diameter Turning

Ball Bearing Inner Ring

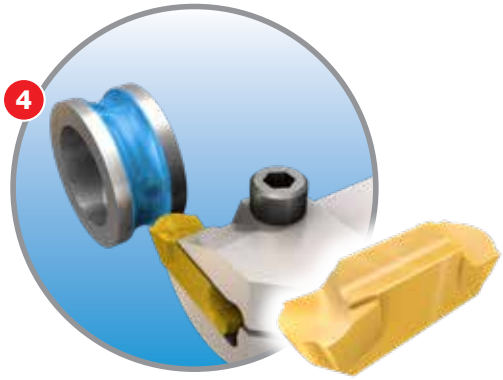
Bearings are necessary for almost any mechanical system and many other maching elements that require rotational movement. Ball bearings are the most popular bearing types in the market. Ball bearings are made from 100cr6 material and vary in size from 2 mm for electronic systems, and up to 3000 mm for powers stations.
ISCAR's experienced engineers are capable of planning any ball bearing size with advanced machining solutions that can ensure maximum performance, efficiency and precision.





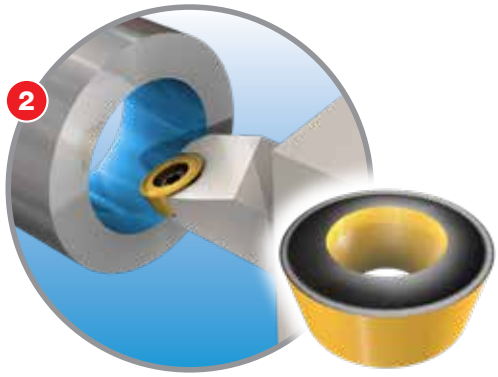
PENTACUT

Parting



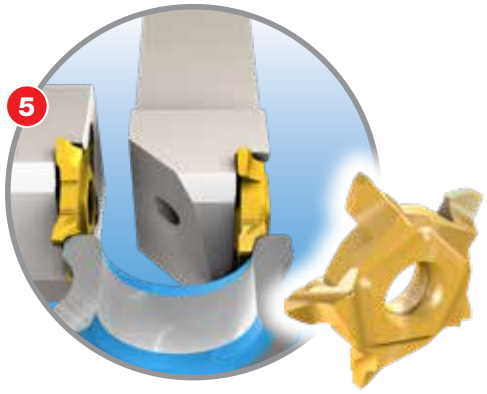
CUTGRIP

Ball Bearing Raceway
Grooving



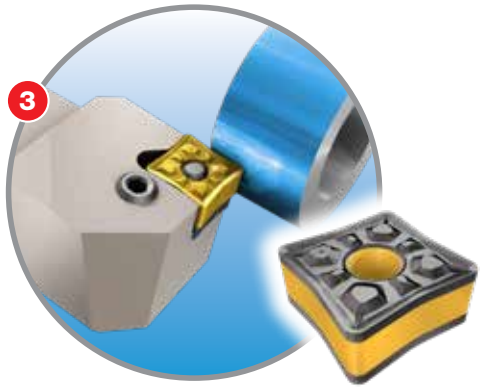
ISOTURN

Inner Diameter Turning



PENTACUT

Radius Chamfer
Internal and External



ISOTURN

Outer Diameter Turning

Die and Mold

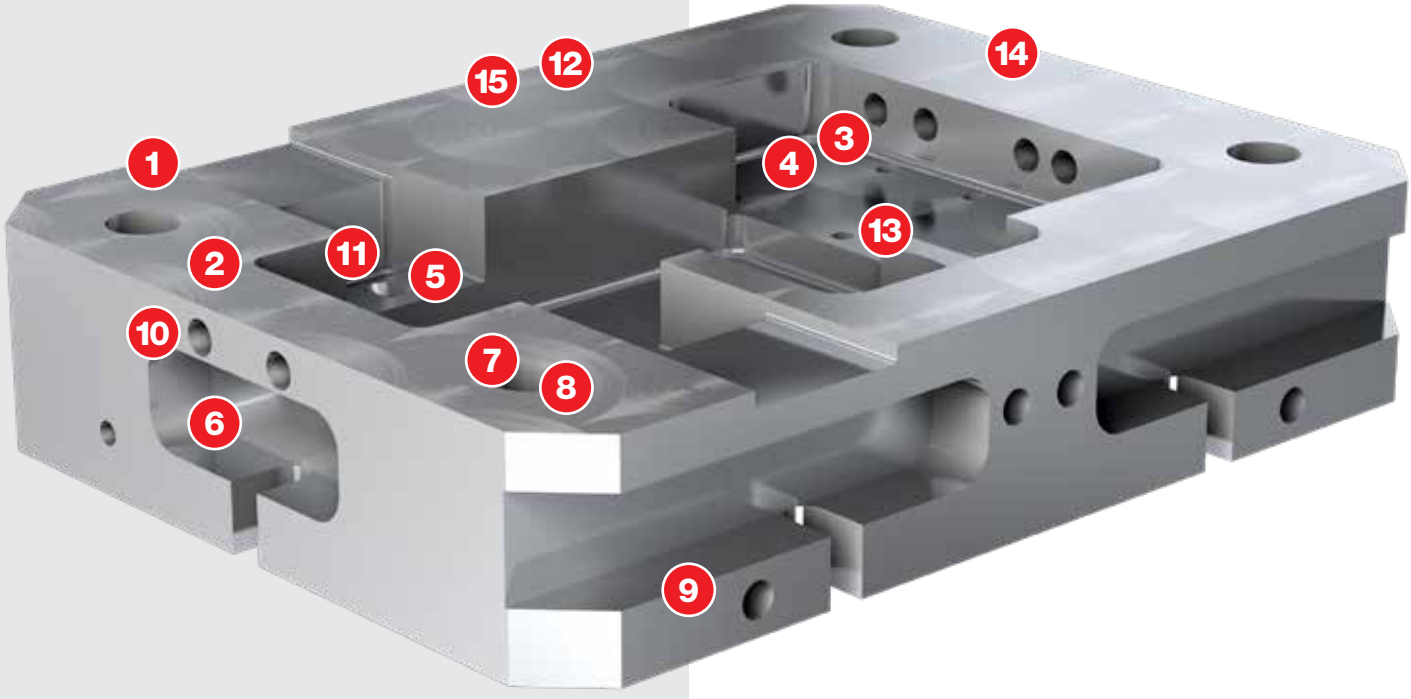
Mold Base

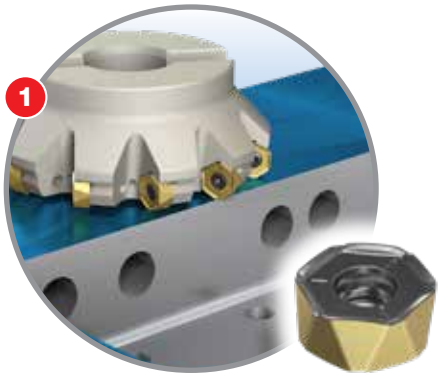
Self Centering

High Temperatures Resistant

Fast Feed

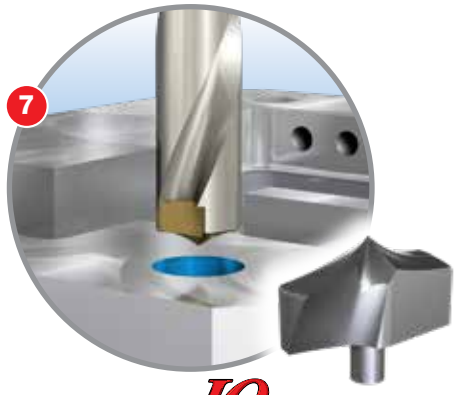
A mold base is the structural steel prismatic part of the mold that holds the cavity and core inserts. ISCAR offers a wide range of standard face mills, drills, reamers, thread mills and rough and fine boring tools for the production of mold bases.





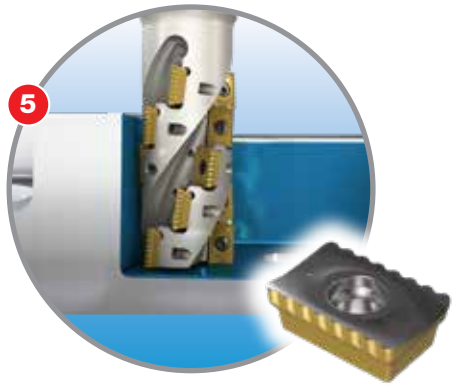
HELIDO
1200 UPFEED LINE
High Feed Face Milling

HELIQMILL
390 LINE
Shouldering Corner Radii

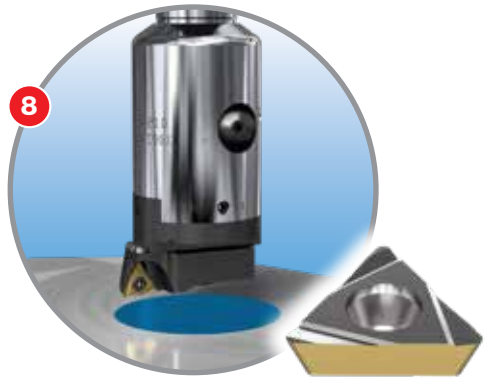


CHAMIQDRILL
700 LINE
Drilling

DOVEIQMILL
845 LINE
Face Milling – Finishing

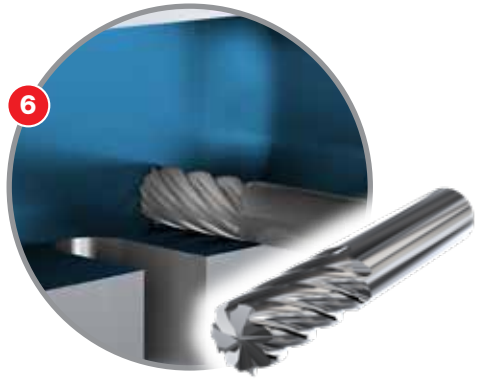


MILLSHRED
P290 LINE
Shouldering Extended Flute



ITSBORE
Boring

HELIDO
600 UPFEED LINE
Roughing Cavities



CHATTERFREE
SOLID MILL LINE
Pocket Milling

HELISLOT
Side Slotting

Die and Mold

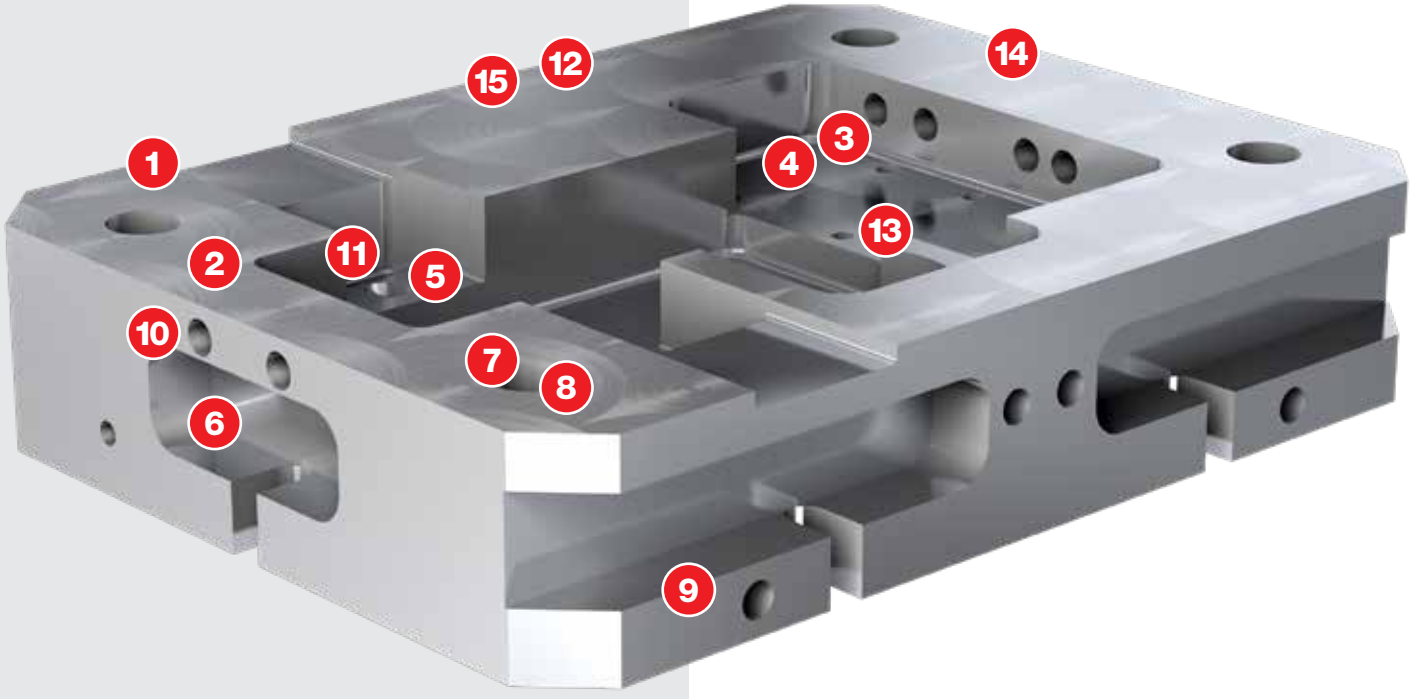
Mold Base

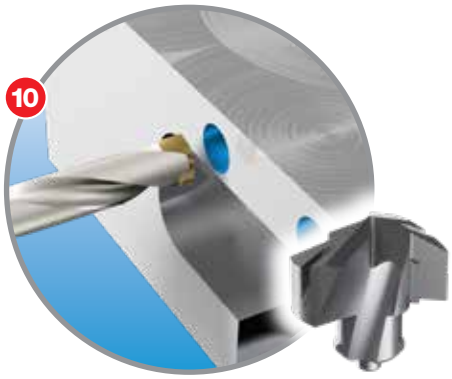
Easy Chip Evacuationn

High Temperatures Resistant

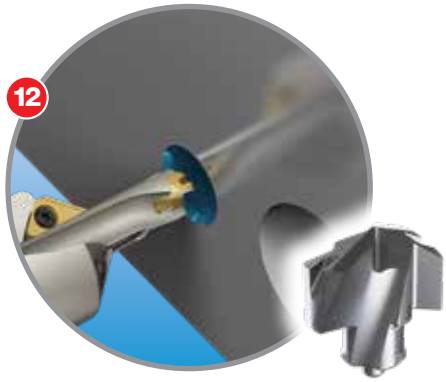
Fast Feed

A mold base is the structural steel prismatic part of the mold that holds the cavity and core inserts. ISCAR offers a wide range of standard face mills, drills, reamers, thread mills and rough and fine boring tools for the production of mold bases.

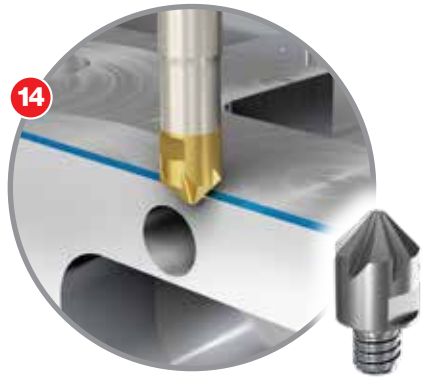




SUMOCHAM
CHAMDRILL LINE
Drilling

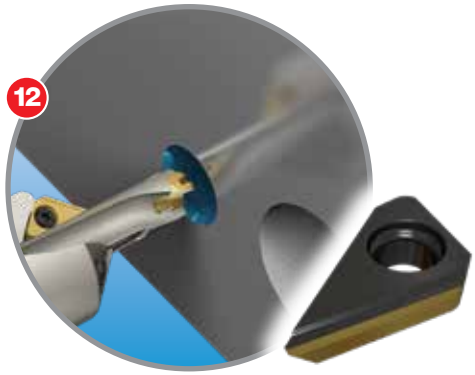


SUMO UNI CHAM
Chamfering

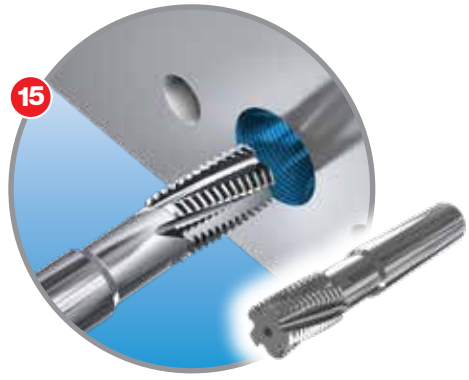


MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfering – Milling

HELIDO
ROUND H606 LINE
Profiling



CHAMRING
Drilling



SOLIDTHREAD
Thread Milling

BAYOT-REAM
Reaming

Die and Mold

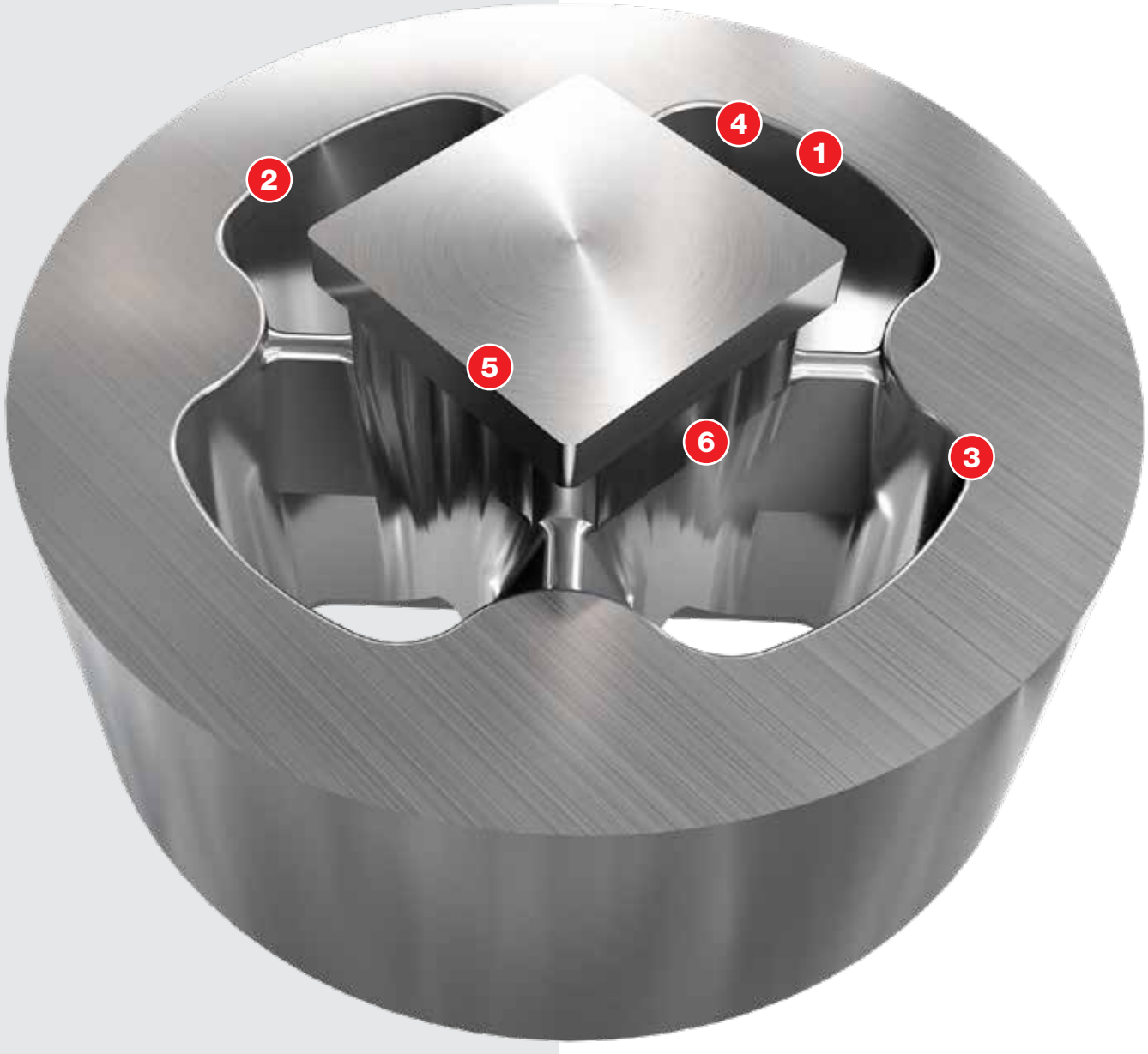
Extrusion Die

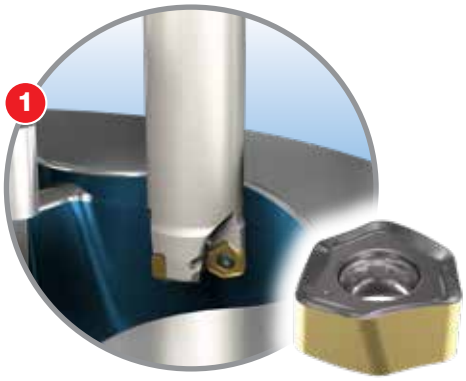
Profiling

Cost Effective Insert

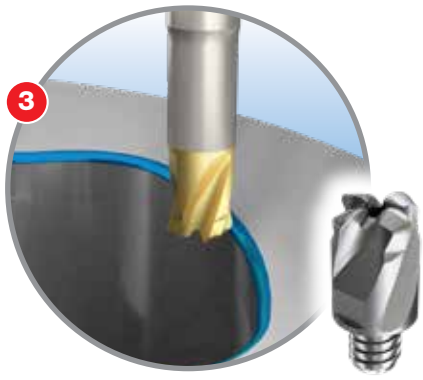
No Setup Time

Extrusion is a process used to create objects of a fixed cross-sectional profile. Material is pushed through the die profile of the desired cross-section. Extrusion dies are made of hard tensile materials such as D2, H13.
ISCAR offers a wide range of standard face mills, feed mills, ball nose endmills, drills, reamers, thread mills and rough and fine boring tools for the production of extrusion dies.

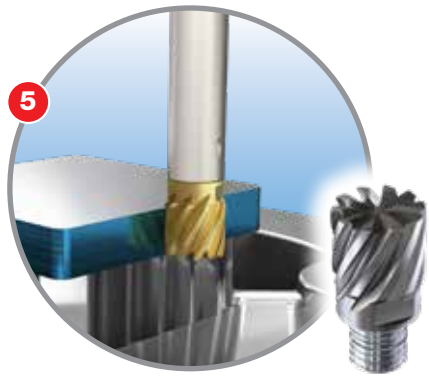




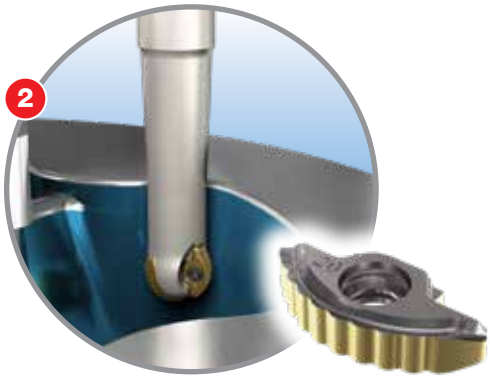
HELIDO
600 UPFEED LINE
Rough Milling



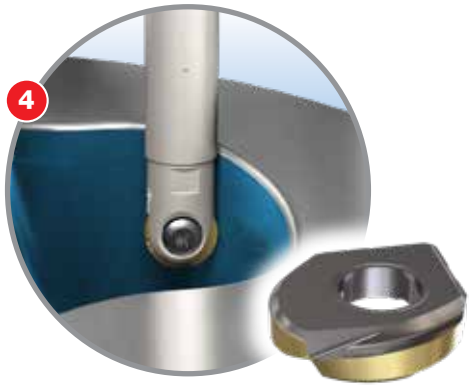
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Semi-Finish 3D Surface
Radius Milling



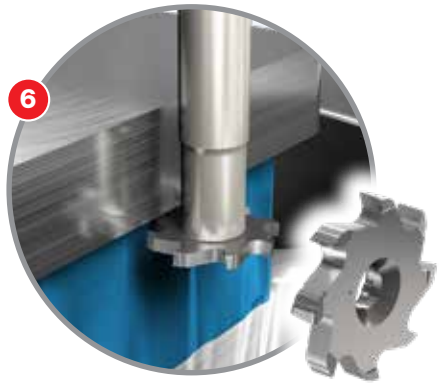
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Shouldering



DROPMILL
3 FLUTE BALL NOSE
Semi-Finish
3D Surface Milling



BALLPLUS
Finish 3D Surfaces Milling



T-SLOT
Side Slotting

Composite Materials

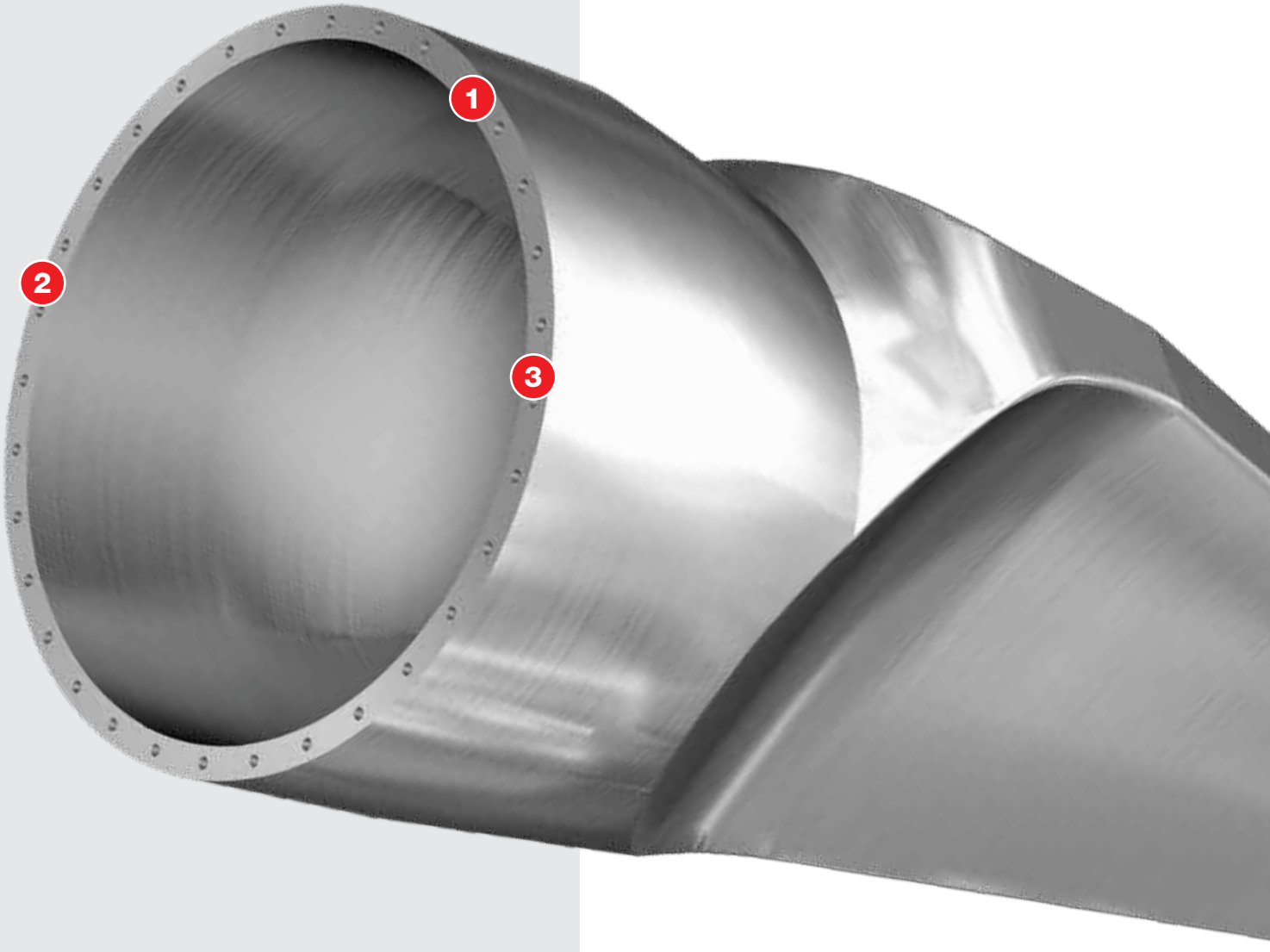
Rotor Blade

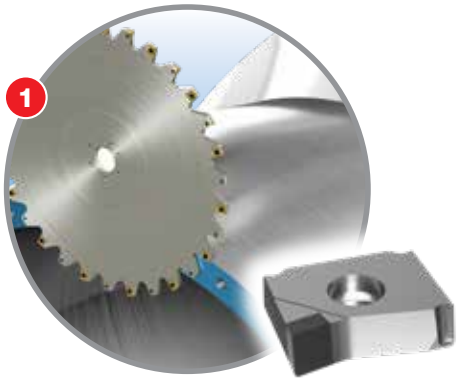
Cost Effective Insert

Ease of Use

Variety

Wind power rotor blades are predominantly produced from carbon fiber composite material due to their huge scale size and lightweight design. ISCAR offers a wide range of standard and specially designed mills, drills, reamers and mill thread tooling for the production of wind power rotor blades.



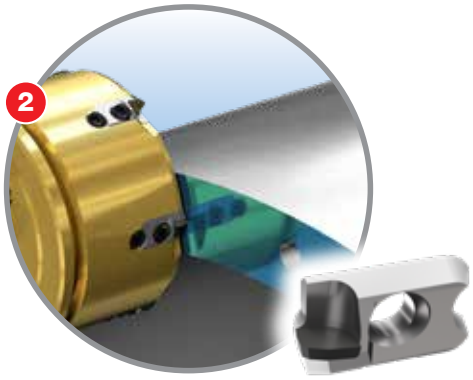


TANGSLOT

Slot Mill Roughing

DR-TWIST
INDEXABLE DRILL LINE

Drilling



ALUFRAISE

Face Mill Finishing

SUMOCHAM
CHAMDRILL LINE

Drilling

Composite Materials

Aircraft Fueslage

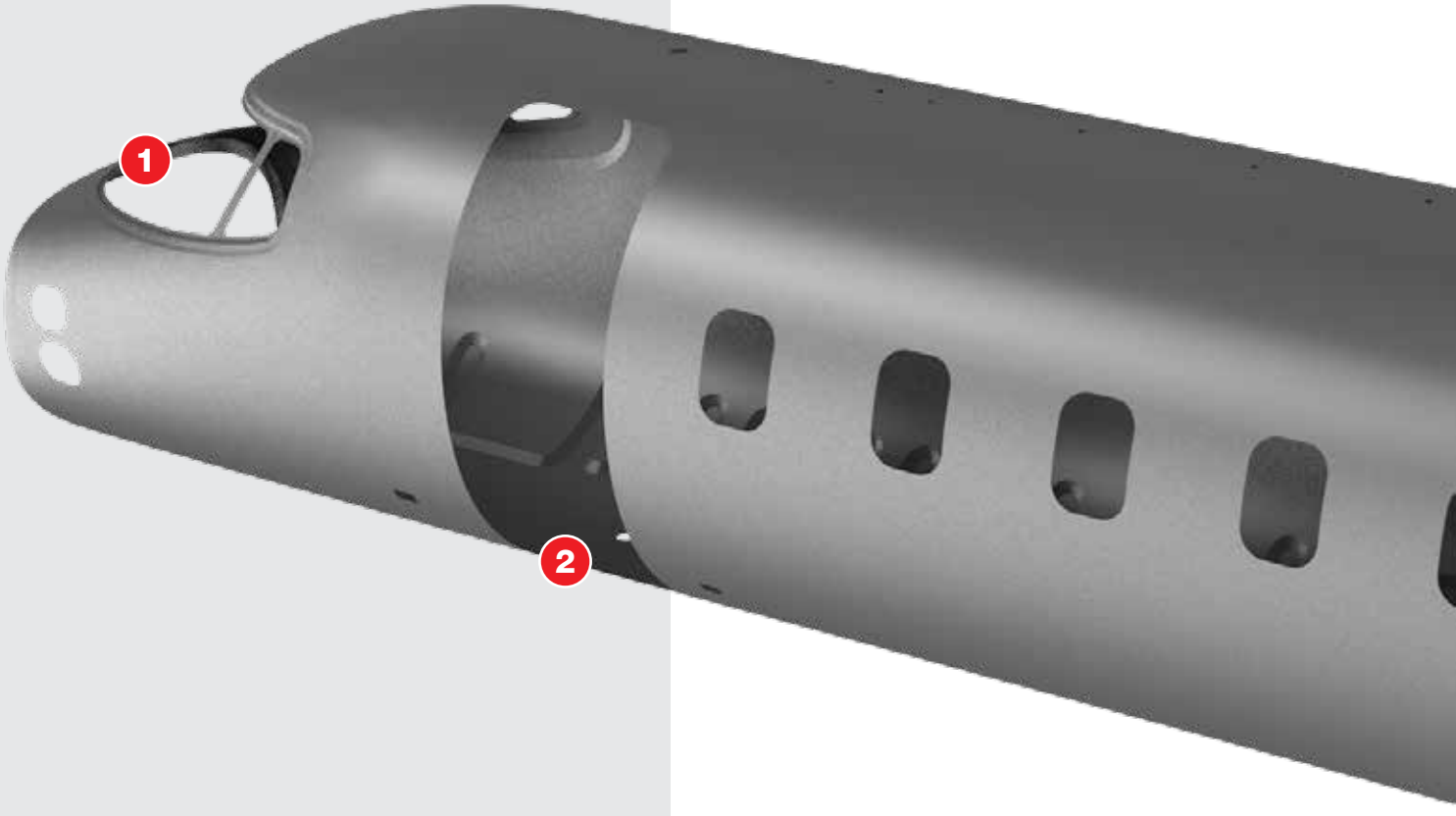
Stong Tool Body

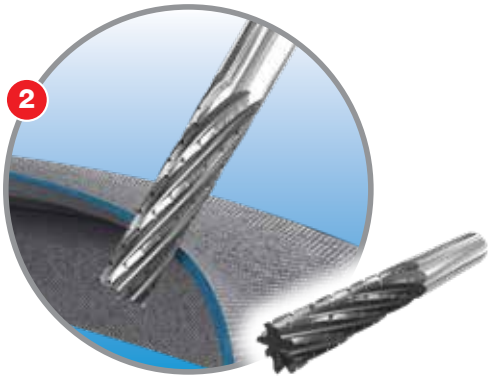
No Setup Time

Easy Chip Evacuationn

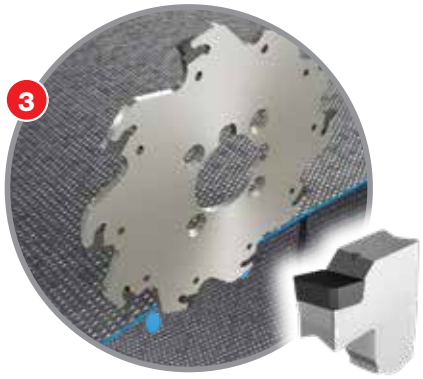
The fuselage is an aircraft's main body section predominantly produced from carbon fiber composite material for newer, lightweight aircraft frames. ISCAR offers a wide range of standard and specially designed mills, drills and reamer tooling for the production of an aircraft fuselage.

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Shoulder Milling

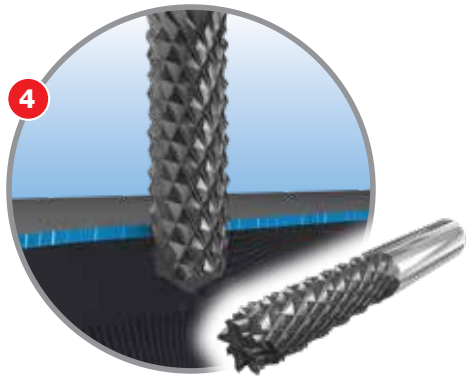




SOLIDMILL
SOLID CARBIDE LINE
Shoulder Milling



TANGSLIT
Mill TGSF Slitting Cutters



SOLIDMILL
SOLID CARBIDE LINE
Shoulder Milling

Iron and Steel

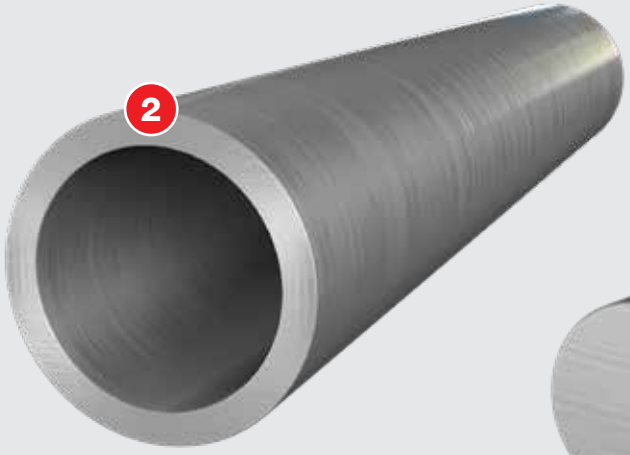
Raw Material Parting

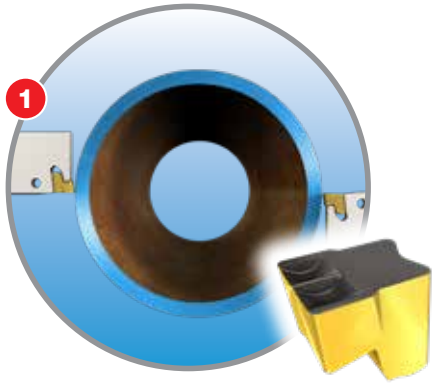
High Temperatures Resistant

Ease of Use

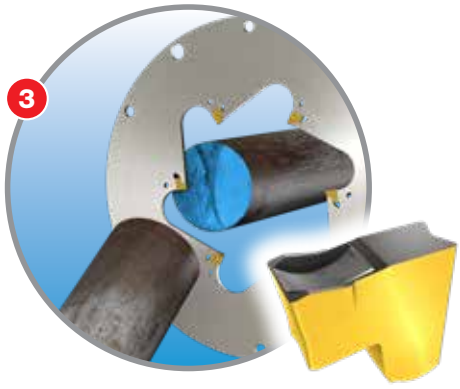
Cost Effective Insert

Seamless pipes are traditionally produced from carbon-manganese steels or Mo-containing high strength, stress corrosion cracking material of up to 0.4% Mo. from 60mm up to 400mm diameters. ISCAR offers a wide range of heavy duty economical and productive parting, single and multi-blade sawing solutions.

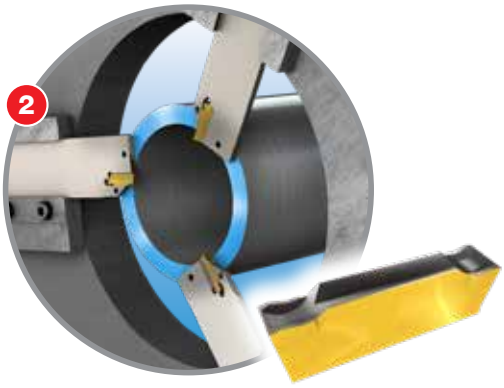




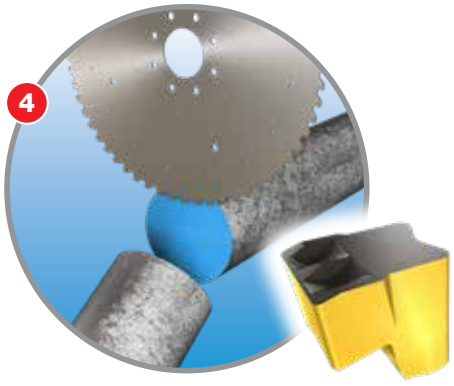
TANG-GRIP
PARTING LINE
Blades Method



TANG-GRIP
PARTING LINE
Solid Bar Planetary Movement

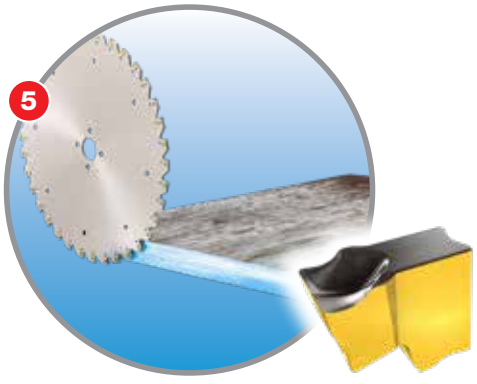


DO-GRIP
TWISTED 2-SIDED
Radial Rotary Method



TANG-GRIP
PARTING LINE
Solid Bar

TANG-GRIP
PARTING LINE
Planetary Movement Method



TANG-GRIP
PARTING LINE
Plate Cutting

Iron and Steel

Raw Material Heavy Duty Face Milling

Super Finish

High Temperatures Resistant

Cost Effective Insert

Alloy steel forgings and other types of material billets are made in foundries. ISCAR offers a wide range of heavy duty, economical and productive face milling cutters for rough and semi-finishing operations for pre-sold materials.

HELITANG
T465 LINE
Heavy Duty Face Milling

Oil and Gas

Wellheads

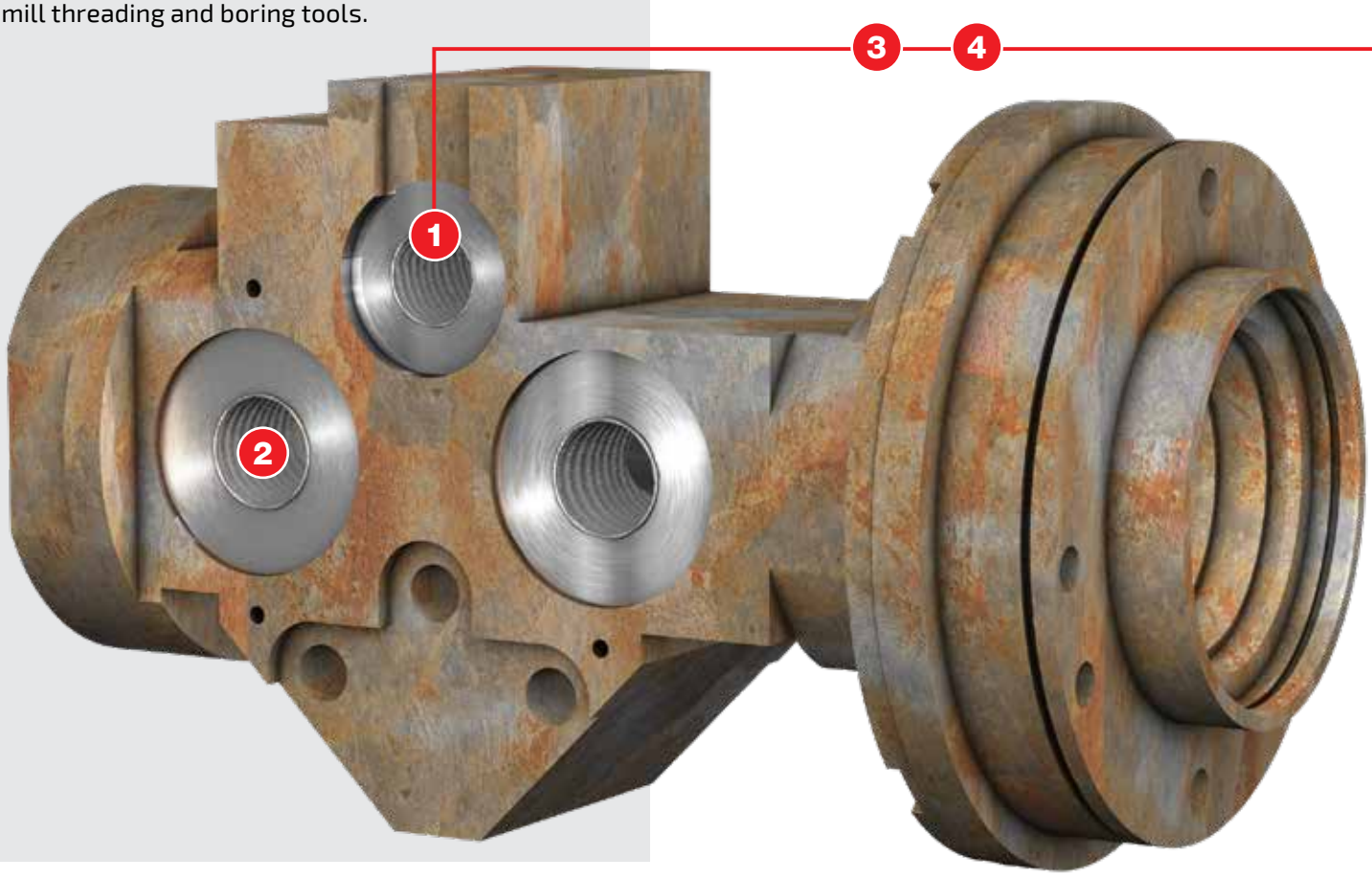
Stong Tool Body

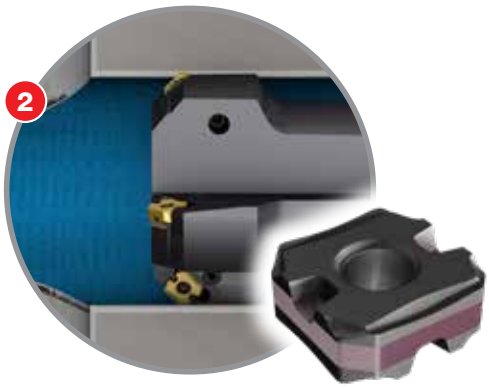
High Temperatures Resistant

Cost Effective Insert

A wellhead christmas tree is the general term used to describe a structure that is installed at the top of an oil and gas well. Its main function is to ensure a safe operation and manage the pressure and flow of oil or gas from the well into the gathering system. It is a system composed of valves, spools and assorted adapters that control the pressure of the production well.
The surface pressure control is provided by a christmas tree, which is installed on top of the wellhead. Wellheads are typically welded onto the first string of casing, which has been cemented in place during drilling operations,
to form an integral structure of the well.
A tree and wellhead are separate pieces of equipment. The wellhead is used without a christmas tree during drilling operations.
Wellhead components need to be precision engineered out of the very best material such as alloy steels. For the production of well head components, ISCAR offers a wide range of standard and special drills, deep drills, mills, mill threading and boring tools.

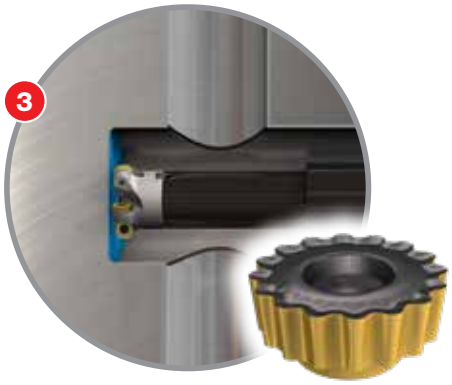
HELIDO 690 LINE
Face Milling





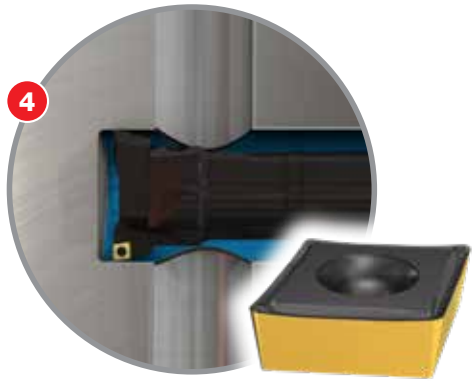
ISOTURN

Rough Boring



MILLSHRED
ROUND LINE

Rough Helical Interpolation



ITSBORE

Precise Boring

Oil and Gas

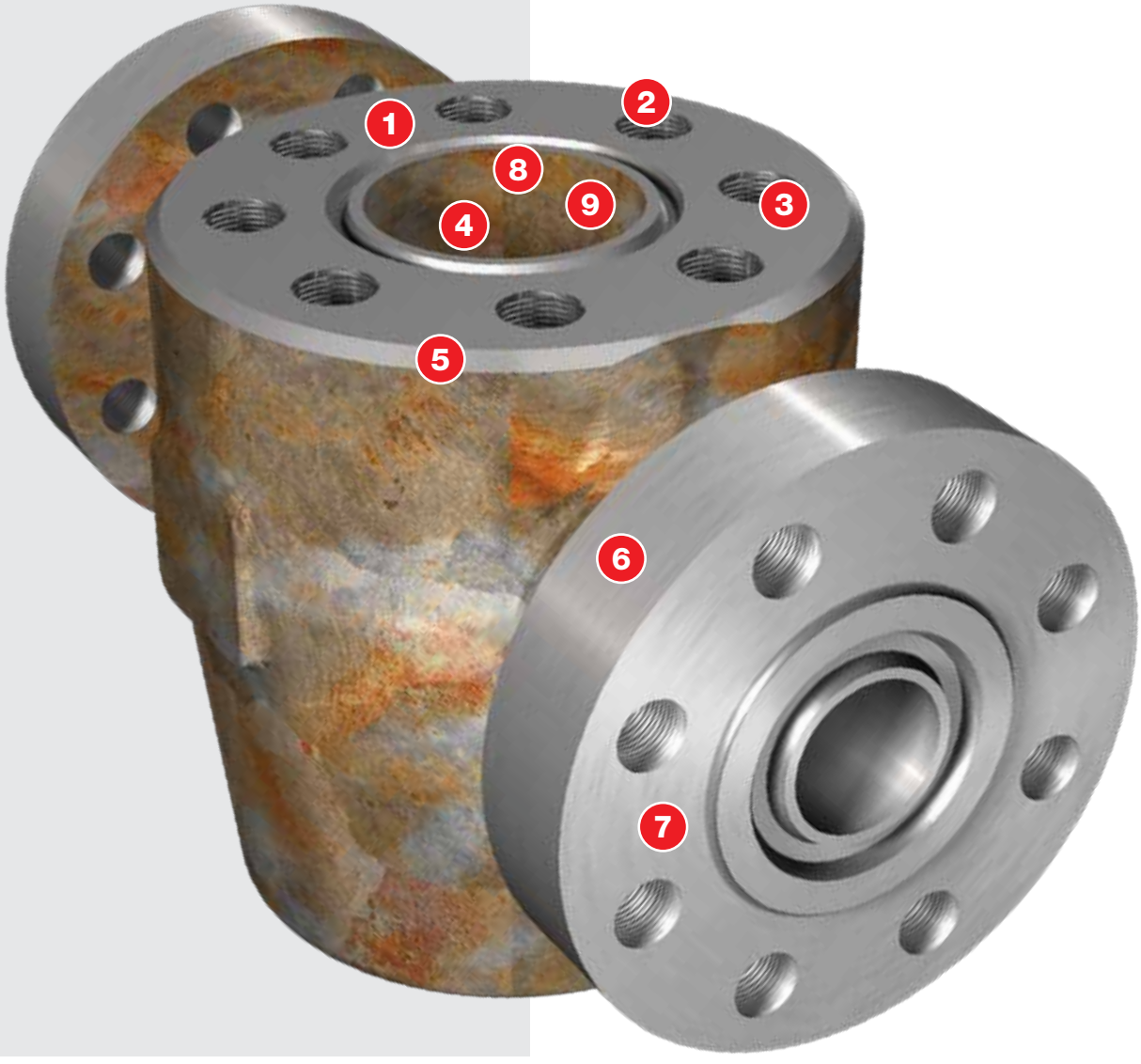
Pressure Valve

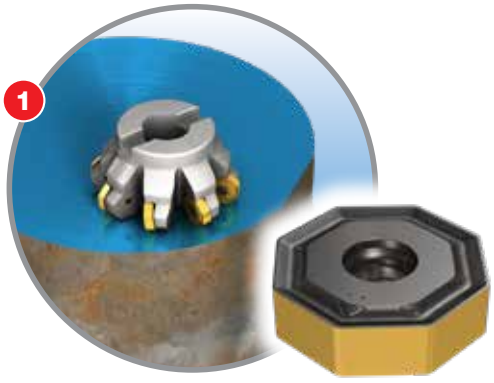
Super Finish

Longer Tool Life

Fast Feed

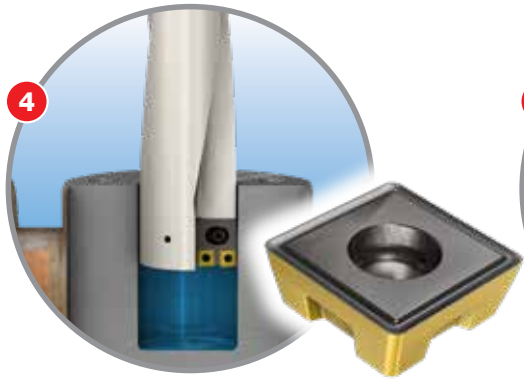
Valves, fittings and pumps are popular components in pressure control systems, that provide the requested security under heavy duty conditions for surface and subsea operations.
The high strength of stainless steels, duplex and super duplex alloys assure long lasting pressure systems and very common in the pressure control system field. Other exotic materials such as titanium, inconel, powder metals and forged metals are also well-known in this sector.
ISCAR offers a wide range of standard and special drills, deep drills, mills, mill threading and turning and boring tools for the production of pressure valves.





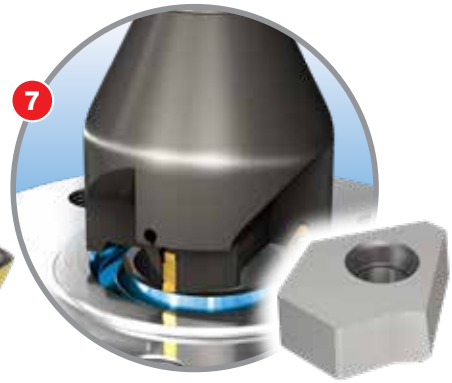
16MILL

Face Milling



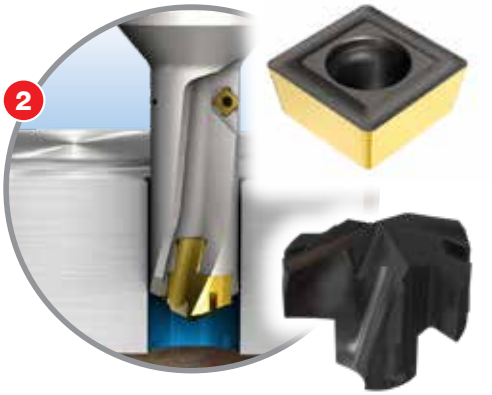
DR-TWIST
INDEXABLE DRILL LINE

Hole Making



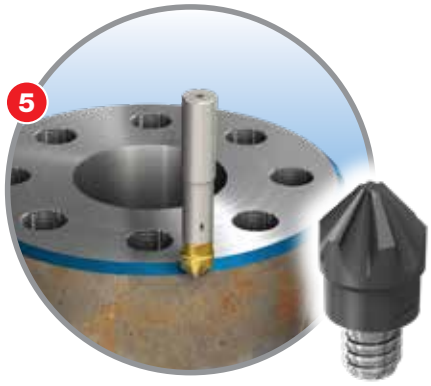
CUTGRIP

Ring Groove Tooling
Face Trepanning



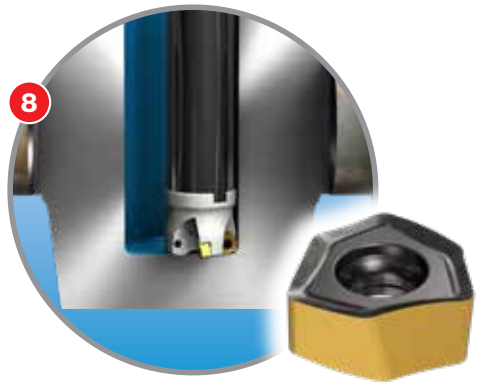
SUMOCHAM
CHAMDRILL LINE

Hole Making and Chamfering



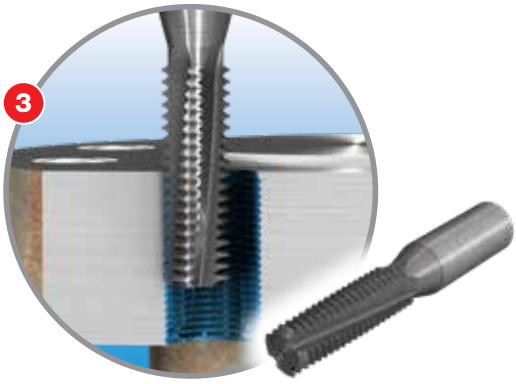
MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

Internal and
External Chamfering



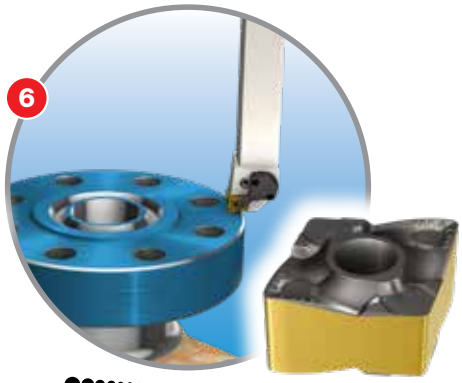
HELIDO
600 UPFEED LINE

Rampdown Milling Interpolation



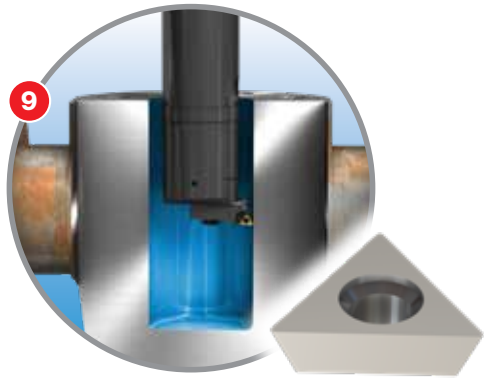
SOLIDTHREAD

Thread Milling



JETCUT

Turning Tools for
High-Pressure Coolant



ITSBORE

Fine Boring

Oil and Gas

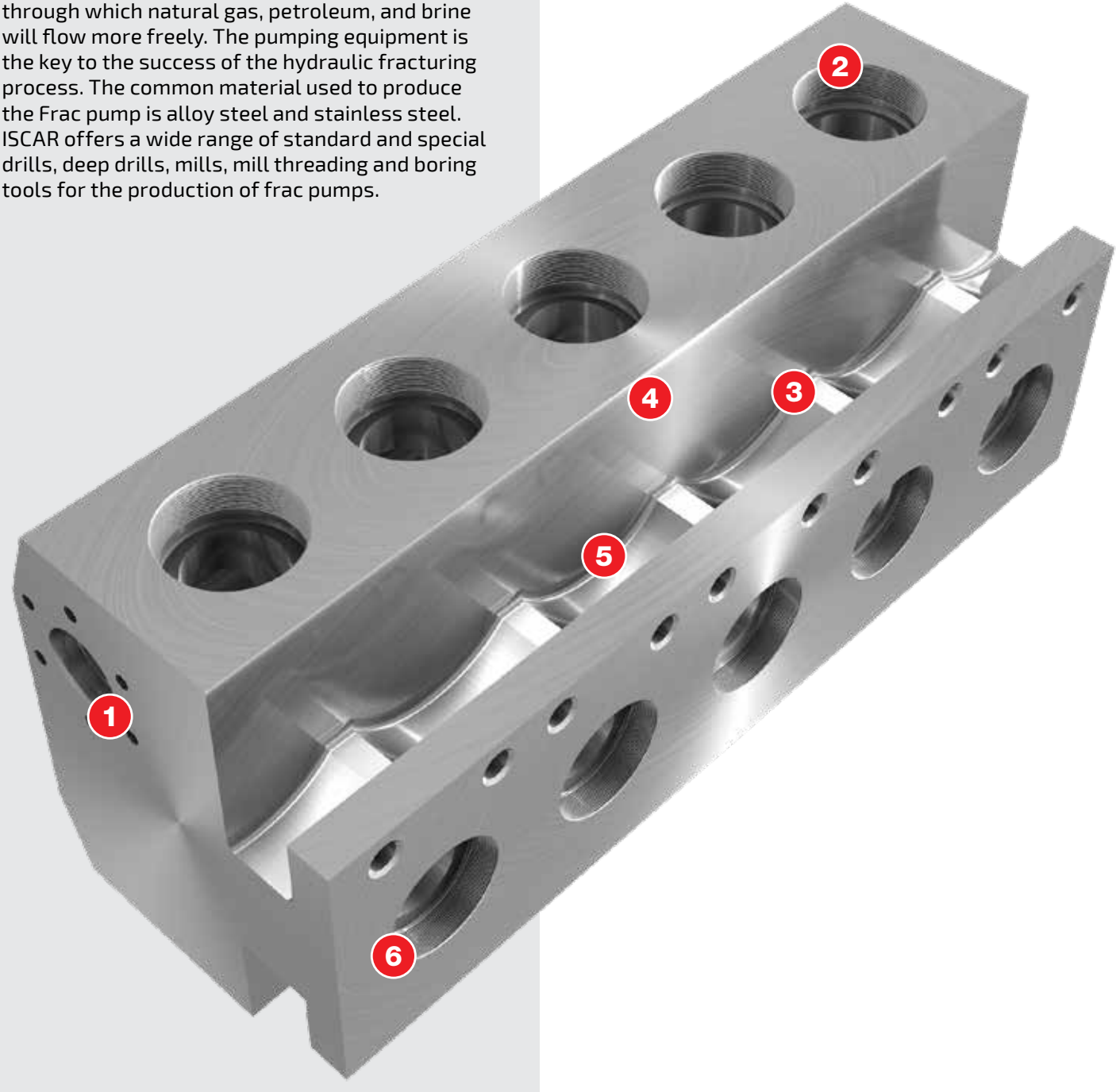
Frac Pump

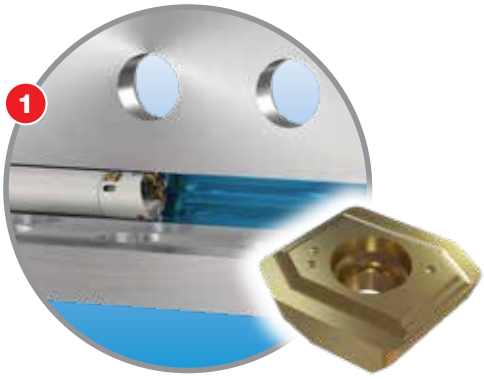
Easy Chip Evacuationn

Fast Feed

Cost Effective Insert

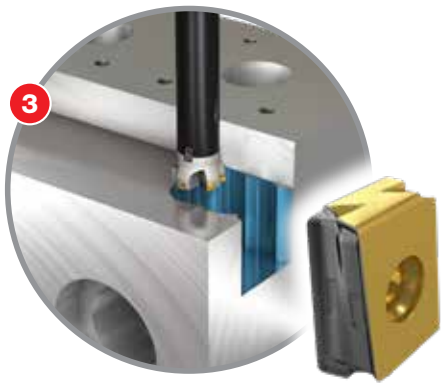
Hydraulic fracturing is the process of injecting liquid at high-pressure into subterranean rocks and boreholes. The process involves high-pressure injection of 'fracking fluid' (primarily water, containing sand or other proppants) into a wellbore to create cracks in the deep-rock formations through which natural gas, petroleum, and brine will flow more freely. The pumping equipment is the key to the success of the hydraulic fracturing process. The common material used to produce the Frac pump is alloy steel and stainless steel. ISCAR offers a wide range of standard and special drills, deep drills, mills, mill threading and boring tools for the production of frac pumps.





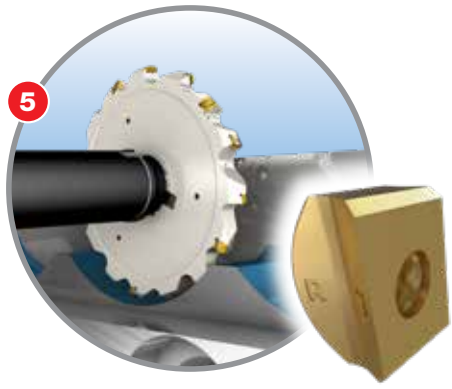
ISCARDEEPDRILL

Deep Drilling



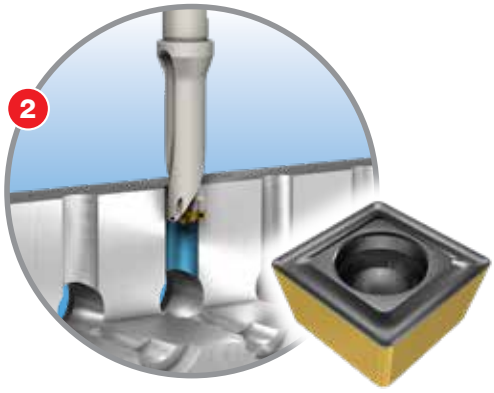
TANGPLUNGE
PLUNGING LINE

Plunge Milling with
Side Plunger



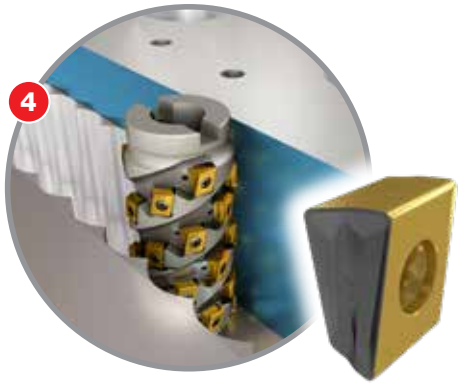
TANGSLOT

Accurate Slot Milling
Through Coolant Tool



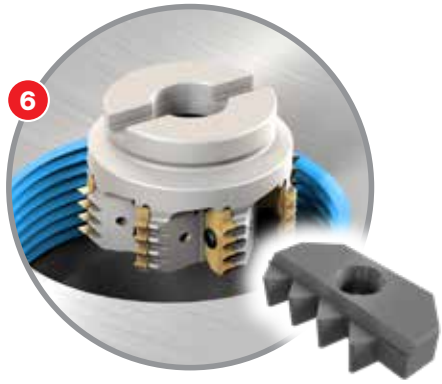
COMBICHAM

Hole Making 5XD
Large Diameters



HELITANG
T490 LINE

Shoulder Milling



TANGSLOT

Thread milling

Oil and Gas

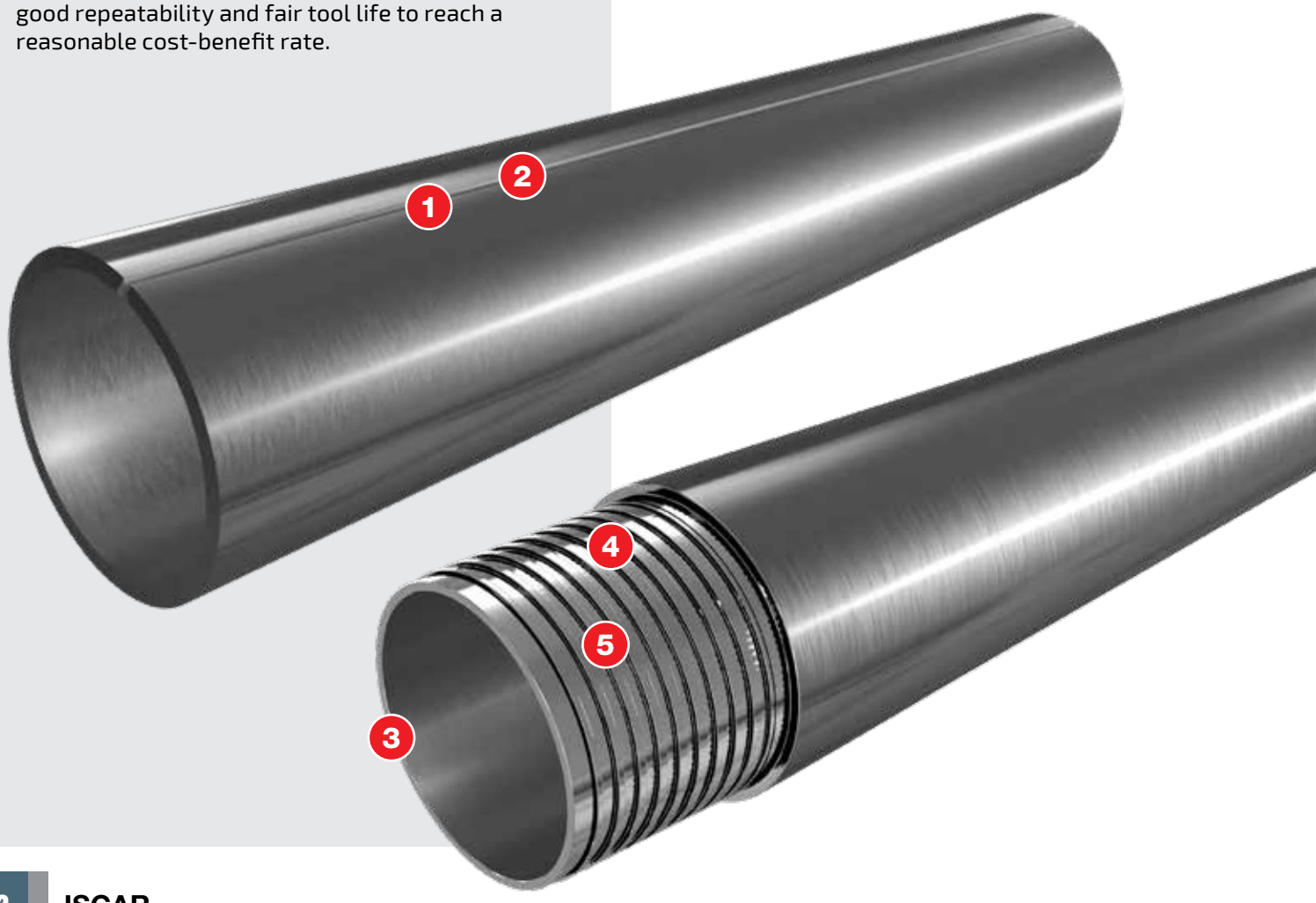
Seamless Pipes

Easy Chip Evacuationn

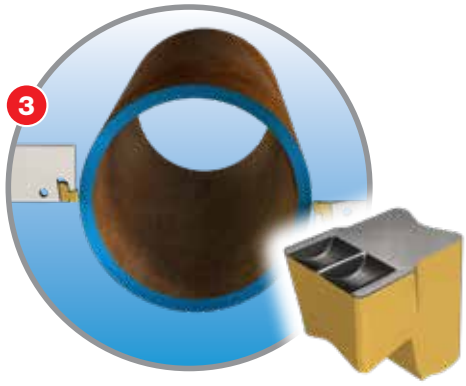
High Temperatures Resistant

Cost Effective Insert

Oil Country Tubular Goods (OCTG) is a family of rolled products used in the petroleum industry (onshore and offshore), which consists of drill pipes, oil pipes, casing and tubing subjected to loading conditions according to their specific application. A drill pipe is a heavy seamless tube that rotates the drill bit and circulates drilling fluid. The casing line borehole is particularly exposed to axial tension and internal pressure by the pumped oil or gas emulsion. Tubing is the pipe through which the oil or gas is transported from the wellbore. Traditionally, OCTG grades were carbon-manganese steels or Mo-containing grades up to 0.4% Mo. In recent years, deep well drilling and reservoirs containing contaminants that cause corrosive attacks have created a strong demand for higher strength materials resistant to hydrogen embrittlement and SCC (Stress Corrosion Cracking). The manufacturing processes of these parts require dimensional accuracy, good repeatability and fair tool life to reach a reasonable cost-benefit rate.

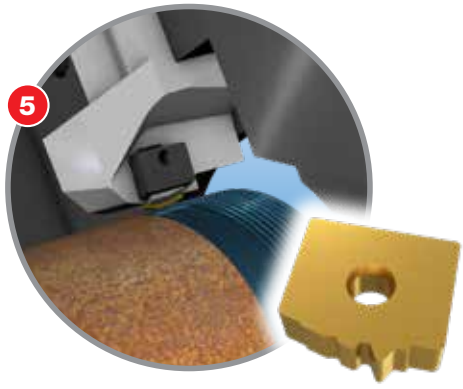


Welding Edge Preparation
Chamfer Milling Cutter



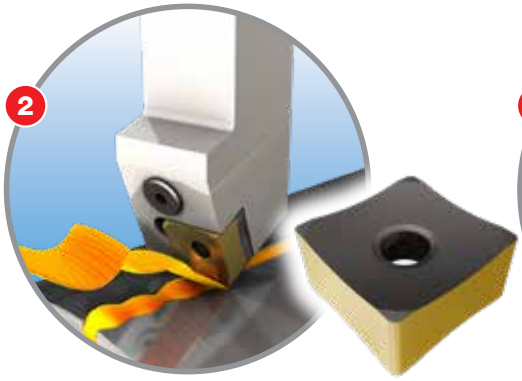
TANGGRIP
PARTING LINE

Tube End Parting



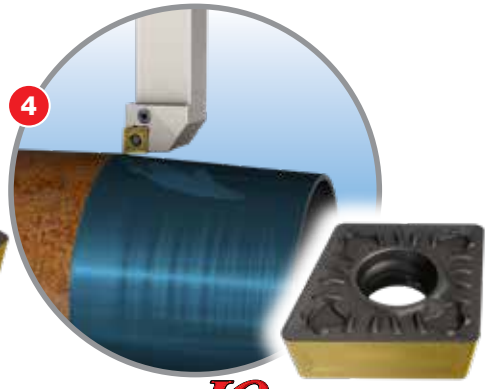
ISCARTHREAD

Oilfield Threading



ISOTURN

External Weld Seam Skiving



DOVEIQTURN
HEAVY DUTY LINE

External Rough Turning

Oil and Gas

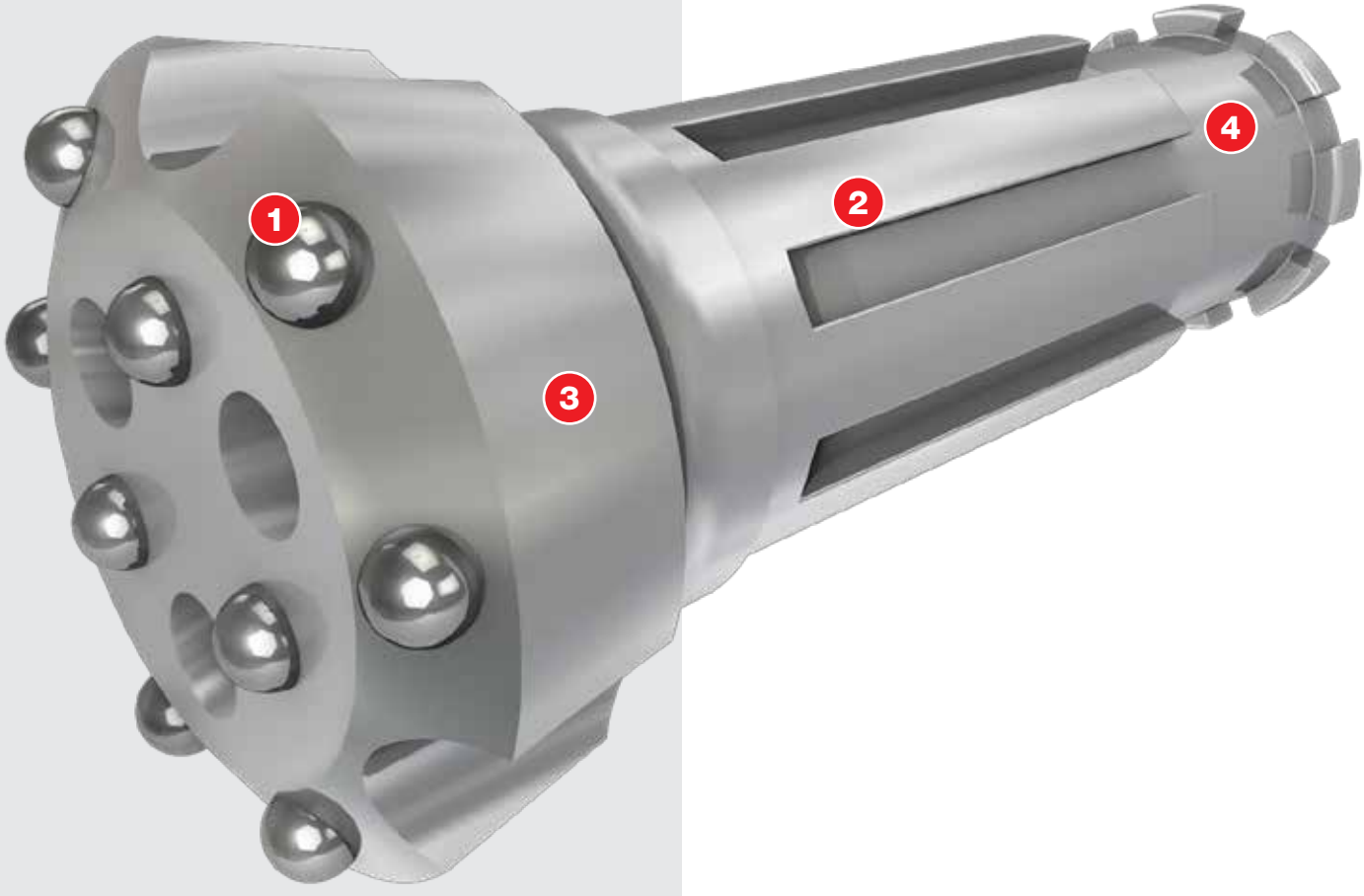
Rock Bits

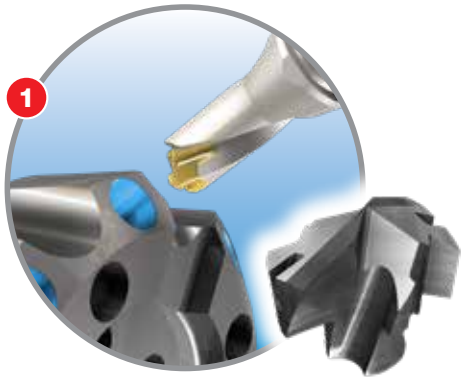
Easy Chip Evacuationn

No Setup Time

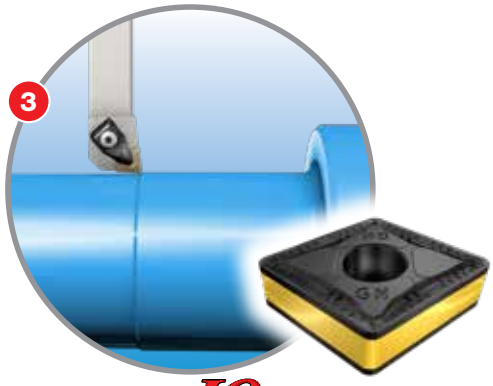
High Productivity

Drill bits are tools used for deep drilling in onshore or offshore oil explorations (wellbore) such as crude oil and natural gas. There are two types of drill bits; a fixed cutter and a roller cone (or rock bits). Fixed cutter bits can either be polycrystalline diamond compact (PDC) grit hot-pressed inserts (GHI) or natural diamond. Roller cone bits can be either tungsten carbide inserts (TCI), for harder formations or illed tooth (MT) for softer rock. The common material for roller cone bit heads is alloyed steel. ISCAR offers a wide range of standard and special turning tools, drills, deep drills and mills for the production of roller cone bit heads.

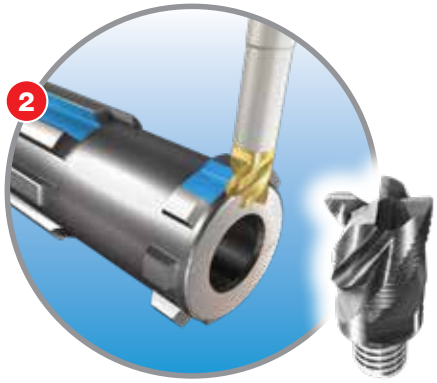




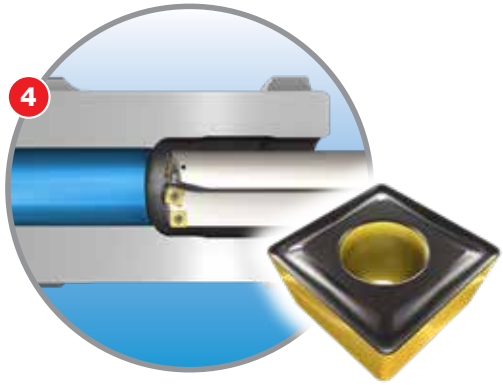
SUMOCHAM
CHAMDRILL LINE
Carbide Bit Holes



DOVEIQTURN
HEAVY DUTY LINE
External Rough Turning



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Slot Milling



ISCARDEEPDRILL
Deep Hole Drilling

Power Generation

Hydro Pelton Blade

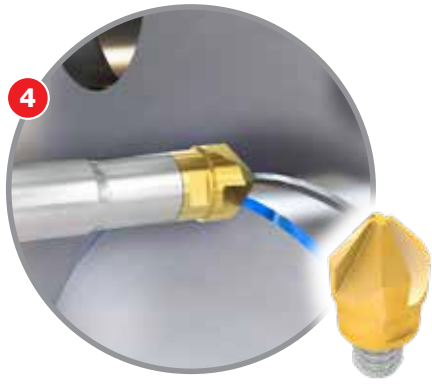
Fast Feed

Profiling

Super Finish

A Pelton blade is an impulse-type water turbine which extracts energy from the impulse of moving water, as opposed to the water's dead weight like the traditional overshot water wheel.
The Pelton blade is either produced from stainless steel alloys, cast iron, cast steel bronze or stainless steel depending upon their design configuration and size. ISCAR offers unique machining technology for Pelton blades based on standard and special turning, drilling and milling tools.

HELIDO
600 UPFEED LINE
Interpolar Face Milling

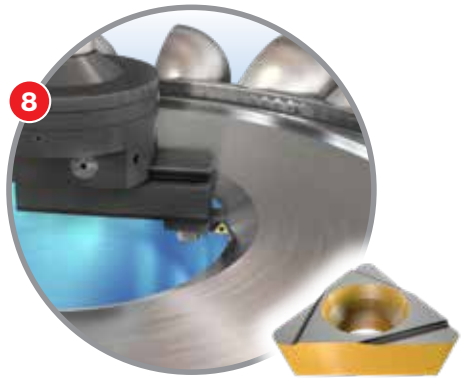


MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfering

SOLIDTHREAD
Thread Milling

HELIDO
ROUND H400 LINE
Profiling and Semi-Finishing

BALLPLUS
Radius Profiling and Finishing



ITSBORE
Fine Boring

MILLSHRED
ROUND LINE
Blade Profiling and Roughing

SUMOCHAM
CHAMDRILL LINE
Drilling

Power Generation

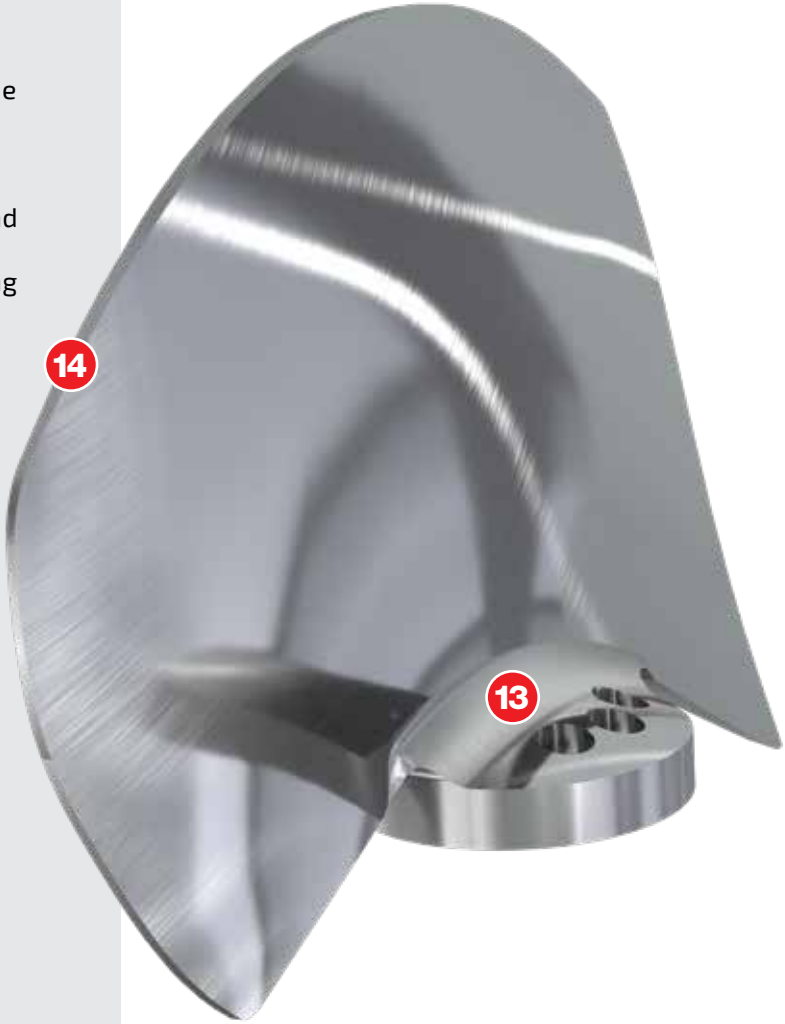
Kaplan Blade

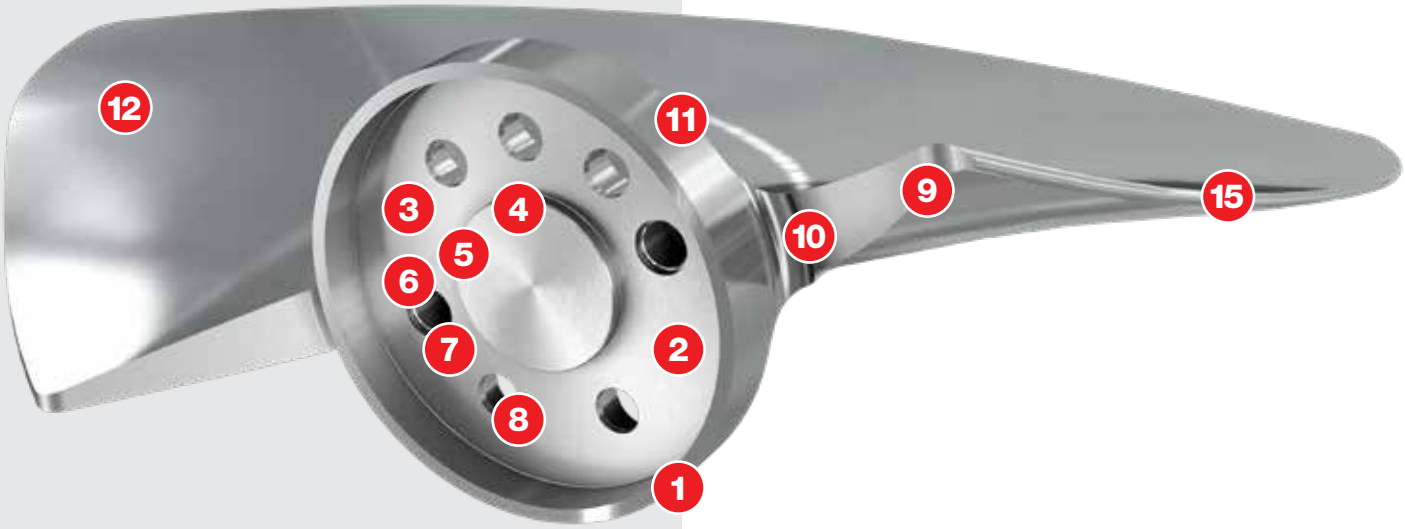
Fast Feed

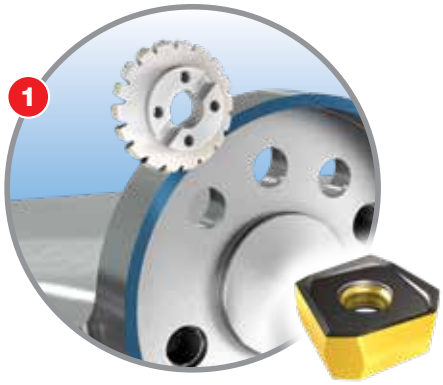
Profiling

Super Finish

The Hydro Kaplan Blade turbine is a propeller-type water adjustable blade turbine with outward flow reaction. The working fluid changes pressure as it moves through the turbine and gives up its energy. Power is recovered from both the hydrostatic head and from the kinetic energy of the flowing water. ISCAR offers standard milling, drilling, turning and threading tools for the production of casted stainless steel Kaplan blades.



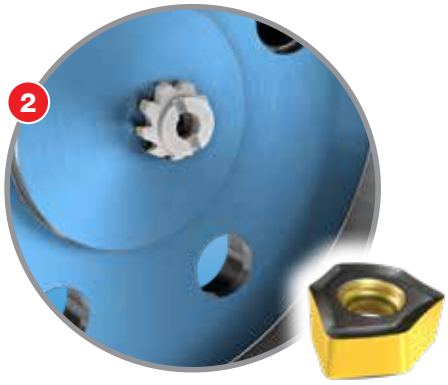




HELIDO
800 LINE
Face Rough Milling

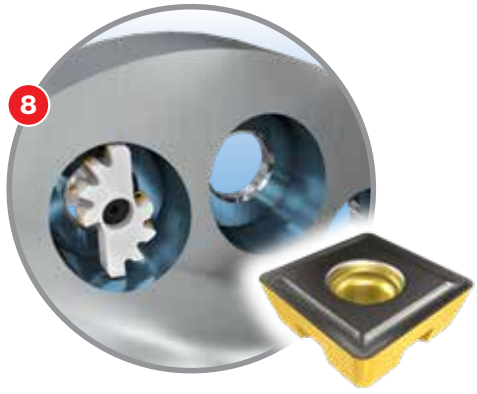
CHATTERFREE
SOLID MILL LINE
Shoulder Finishing

ITSBORE
Fine Boring

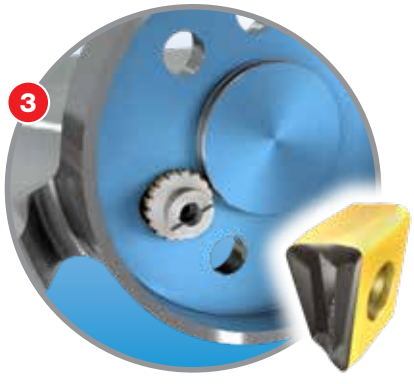


HELIDO
600 UPFEED LINE
Inner Face Rough Machining

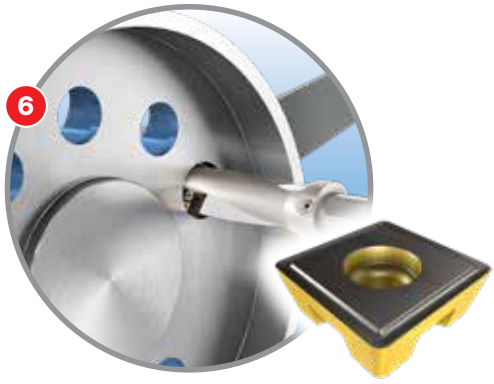
BALLPLUS
Chamfering



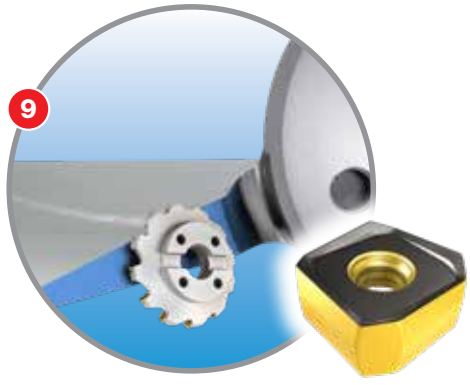
DR-TWIST
INDEXABLE DRILL LINE
Back Facing By
Helical Interpolation



HELITANG
T490 LINE
Inner Face Finish Machining



DR-TWIST
INDEXABLE DRILL LINE
Drilling



HELIDO
845 LINE
Face Milling

Power Generation

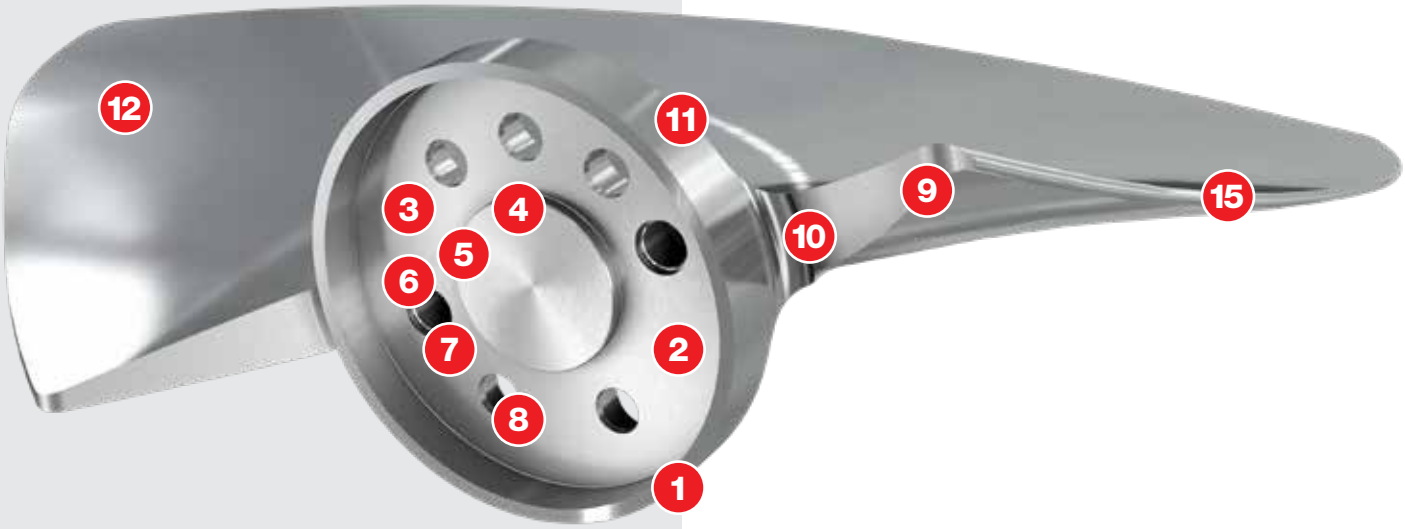
Kaplan Blade

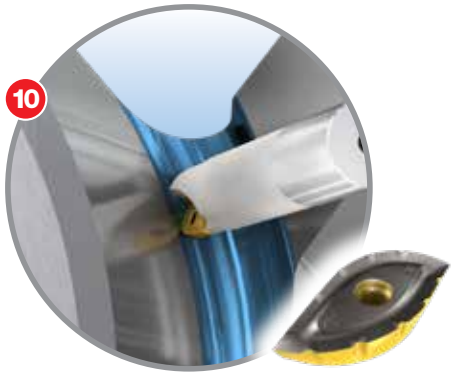
Fast Feed

Profiling

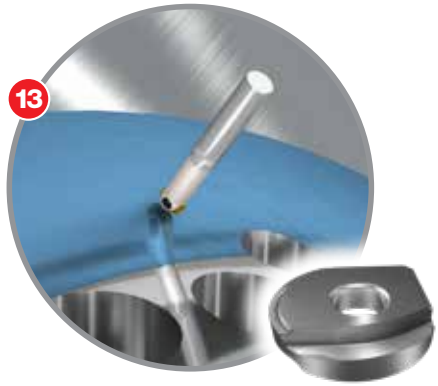
Super Finish

The Hydro Kaplan Blade turbine is a propeller-type water adjustable blade turbine with outward flow reaction. The working fluid changes pressure as it moves through the turbine and gives up its energy. Power is recovered from both the hydrostatic head and from the kinetic energy of the flowing water. ISCAR offers standard milling, drilling, turning and threading tools for the production of casted stainless steel Kaplan blades.

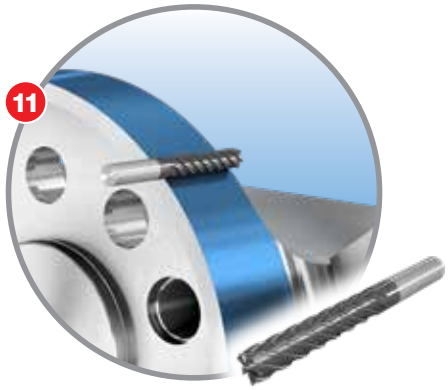




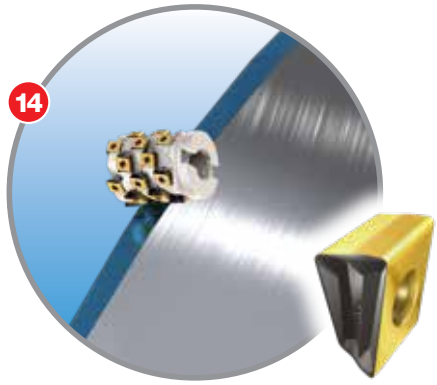
DROPMILL
3 FLUTE BALL NOSE
Interpolar Under Cutting



BALLPLUS
Radius Finish Profiling

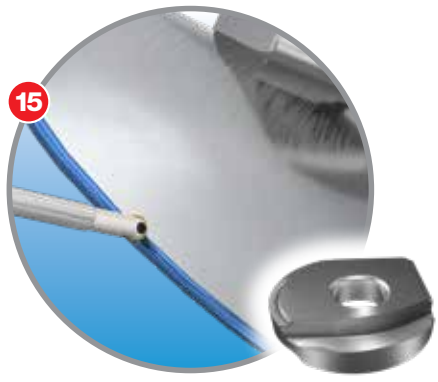


SOLIDMILL
SOLID CARBIDE LINE
Shoulder Finishing



HELITANG
T490 LINE
Rough Shouldering

HELIDO
ROUND H400 LINE
Blade Profile Roughing
and Finishing



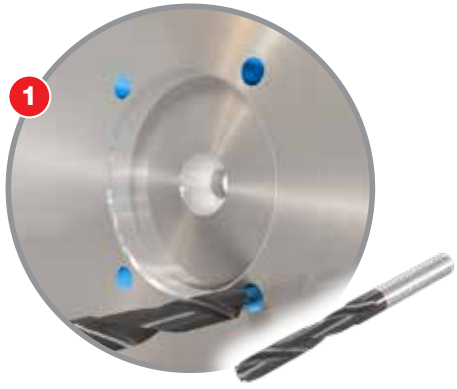
BALLPLUS
Finish Shouldering

Power Generation

Steam And Nuclear Turbine Rotor

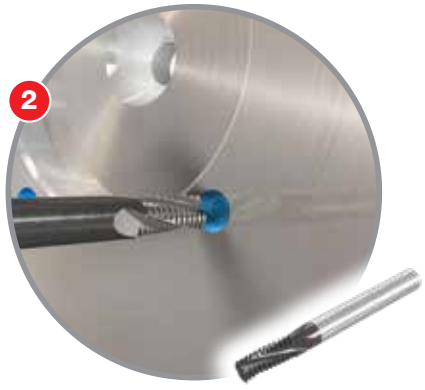
Cost Effective Insert | Variety | Stong Tool Body

Turbine HP rotors are the rotational part of power generation for either steam, gas or nuclear stations. Steam turbine utilizes the pressure and flow of the steam to rapidly turn the rotor blade assembly, thus generating electricity.
High temperature rotors are made of high tensile strength forged Chromium Molybdenum Vanadium steel. (Cr Mo V)
ISCAR offers a wide range of standard and special turning, deep grooving, drills, deep drills, and milling tools for the production of turbine HP rotors.



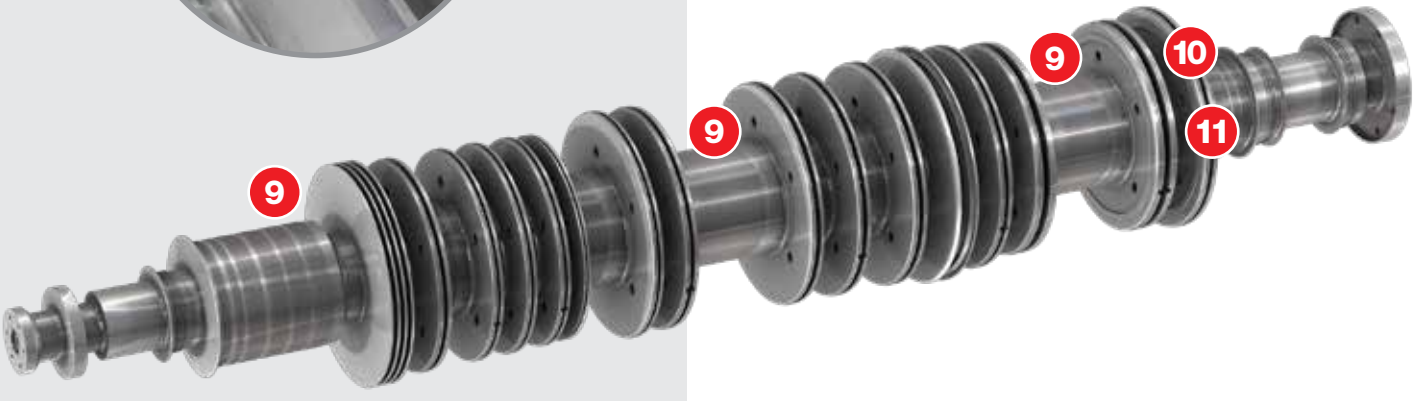
SOLIDDRILL

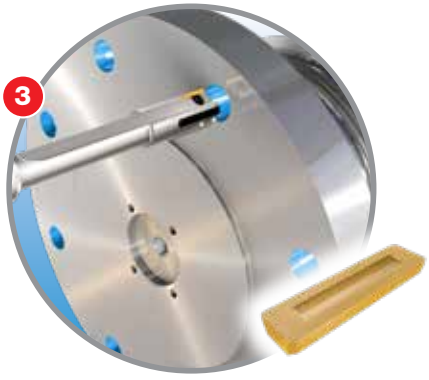
Drilling



SOLIDTHREAD

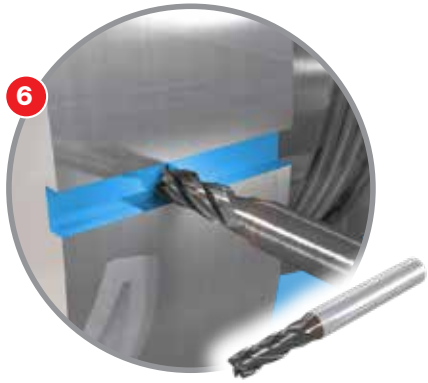
Thread Milling





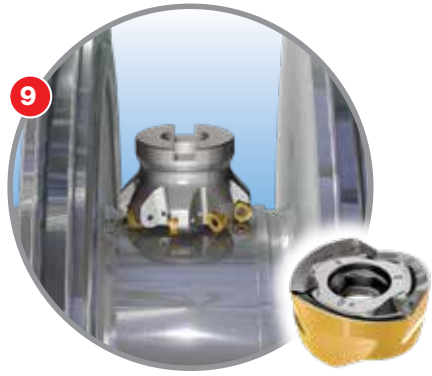
INDEXH-REAM

Reaming



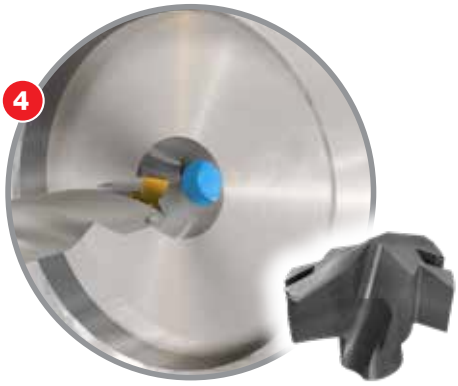
SOLIDMILL
SOLID CARBIDE LINE

Keyway Milling



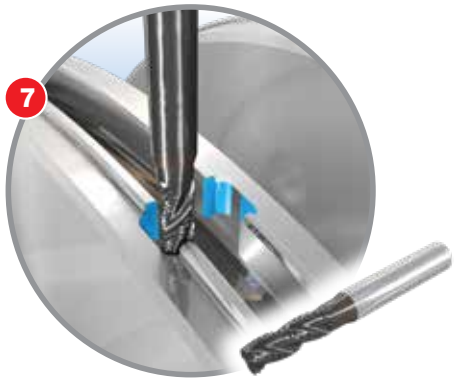
HELIDO
ROUND H606 LINE

Inner Shaft Circular Rough Milling



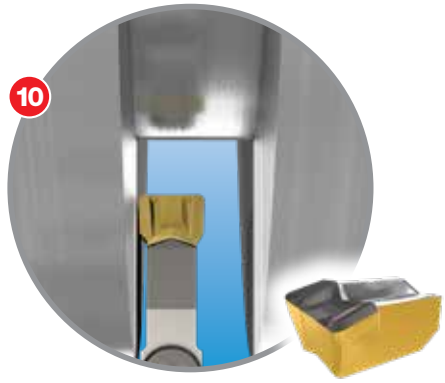
SUMOCHAM
CHAMDRILL LINE

Drilling



SOLIDSHRED

Rough Milling

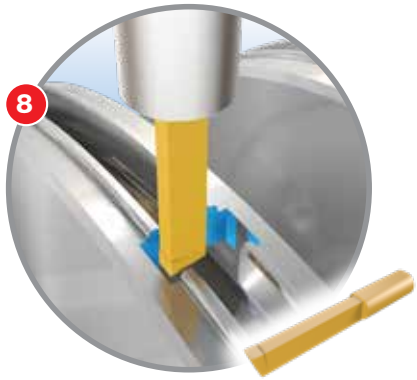


CUTGRIP

Grooving

MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE

Chamfering



ISCARBROACH

Broaching

CUTGRIP

Inner Face Grooving

Power Generation

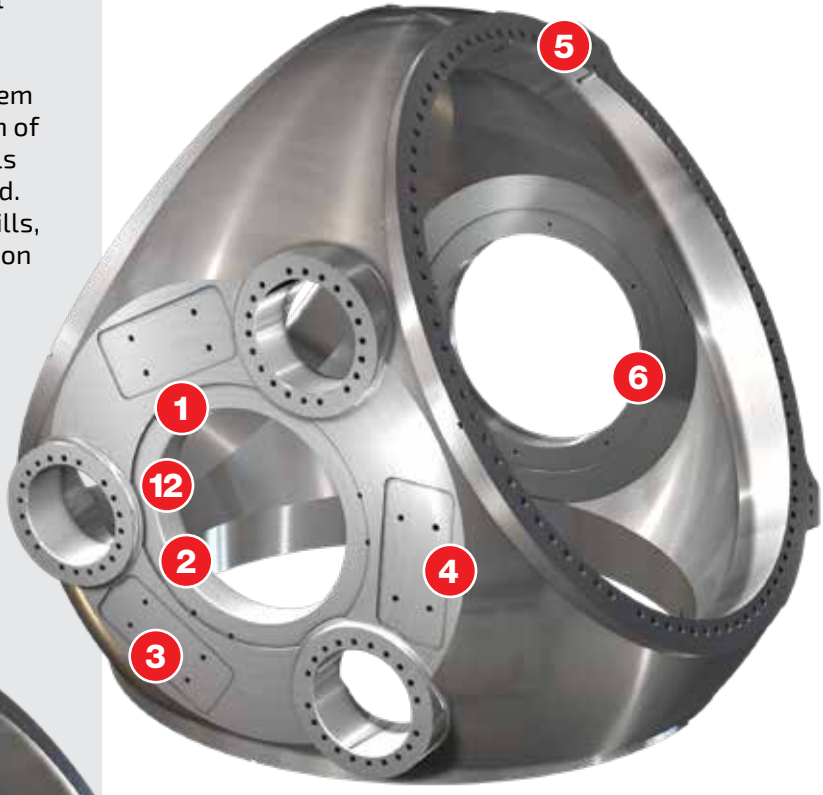
Rotor Hub

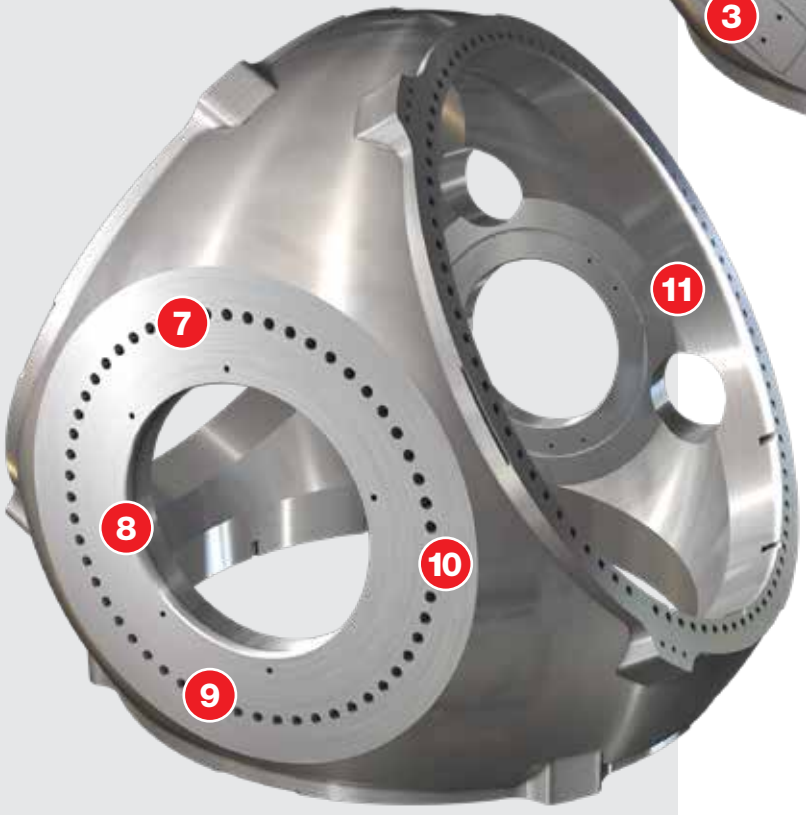
Fast Feed

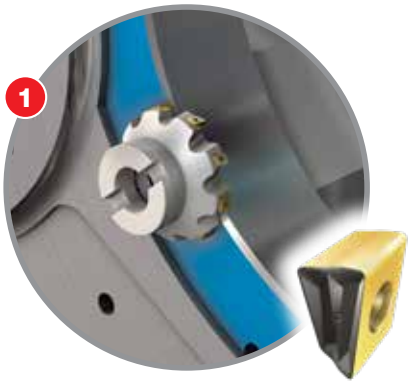
Profiling

Super Finish

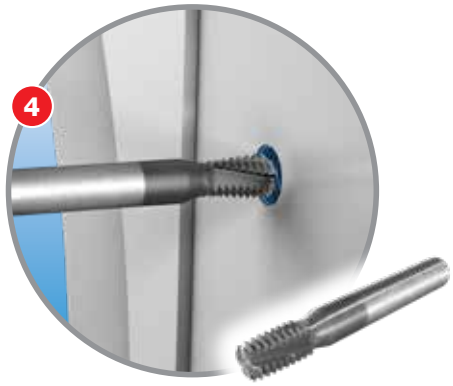
The windmill hub is a huge scale case made of cast iron and functions as the rotational housing. It generally connects the three blade rotational assembly to a linear low speed shaft, which connects to the turbine's gearbox.
Most modern turbine hubs contain a pitch system to adjust the angle of the blades by the rotation of a bearing at the root of each blade. This controls the power and slows down the rotor as required.
ISCAR offers a wide range of standard mills, drills, boring and thread milling tools for the production of windmill hubs.





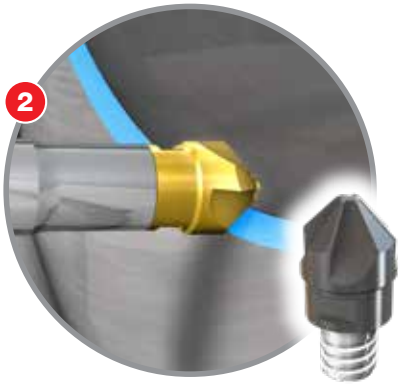


HELITANG
T490 LINE
Shouldering

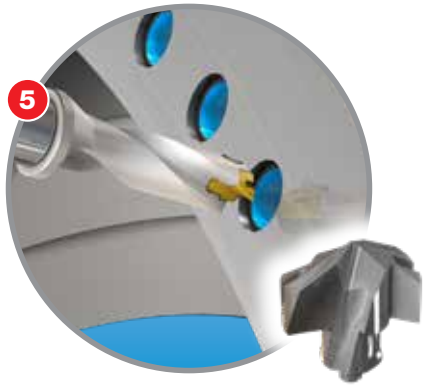


SOLIDTHREAD
Mill Threading

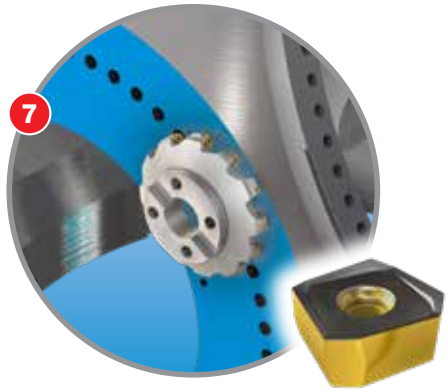
SPECIALLY TAILORED
Back Milling - Second Option



MULTI-MASTER
INDEXABLE SOLID CARBIDE LINE
Chamfering



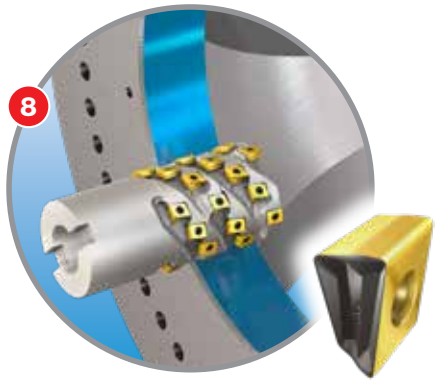
SUMOCHAM
CHAMDRILL LINE
Drilling



HELIDO
SOF 26 LINE
Face Milling

HELIDO
600 UPFEED LINE
Rough Pocketing

SPECIALLY TAILORED
Back Milling - First Option



HELITANG
T490 LINE
Helical Interpolation Rough Boring

Power Generation

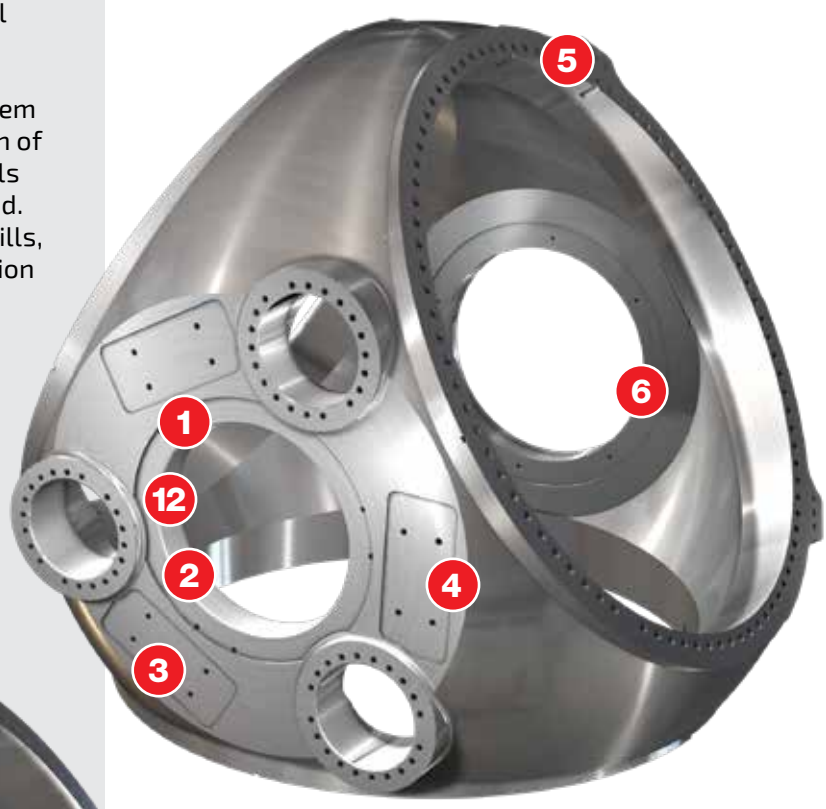
Rotor Hub

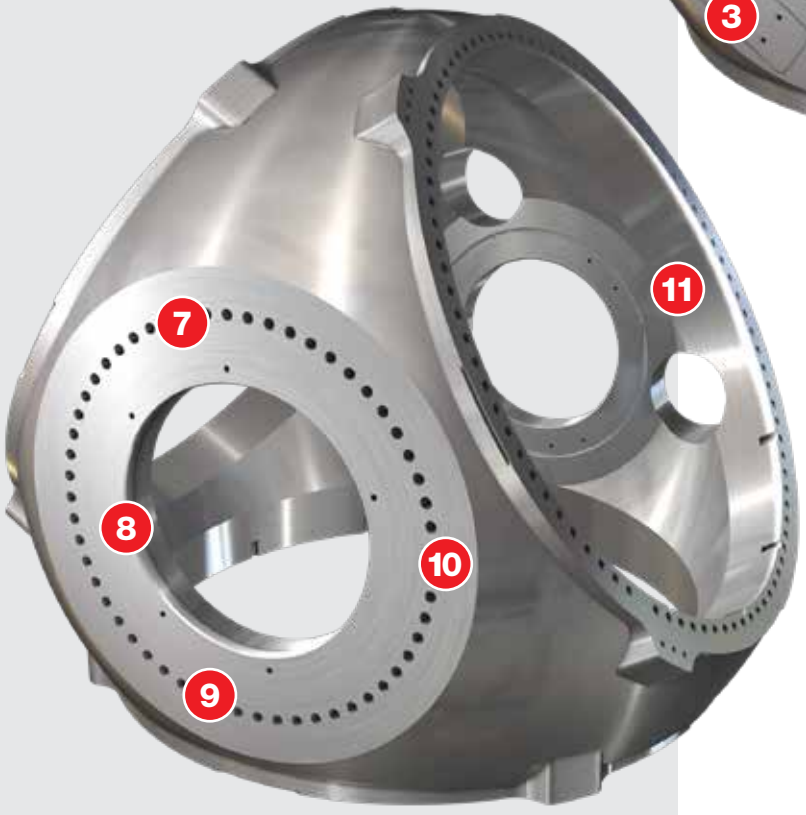
Fast Feed

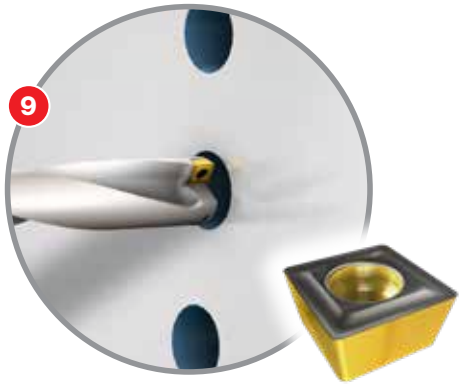
High Productivity

Longer Tool Life

The windmill hub is a huge scale case made of cast iron and functions as the rotational housing. It generally connects the three blade rotational assembly to a linear low speed shaft, which connects to the turbine's gearbox.
Most modern turbine hubs contain a pitch system to adjust the angle of the blades by the rotation of a bearing at the root of each blade. This controls the power and slows down the rotor as required.
ISCAR offers a wide range of standard mills, drills, boring and thread milling tools for the production of windmill hubs.

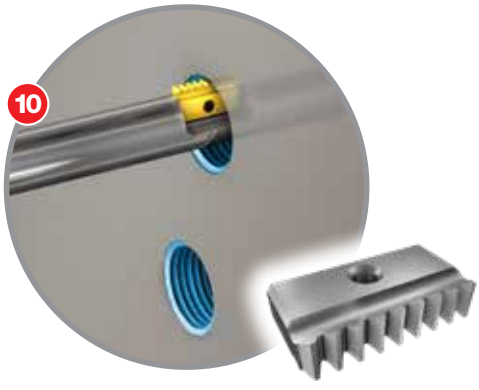






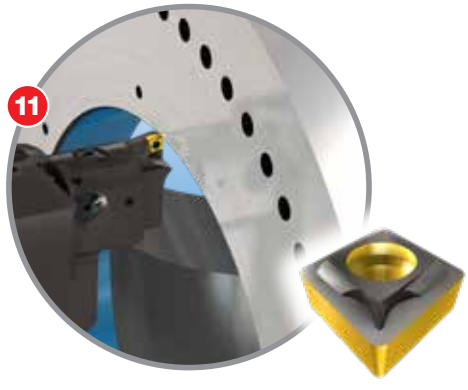
DR-TWIST
INDEXABLE DRILL LINE
Drilling

Groove Milling



MILLTHREAD
Threading

Groove Milling



ITSBORE
Fine Boring

Groove Milling

Power Generation

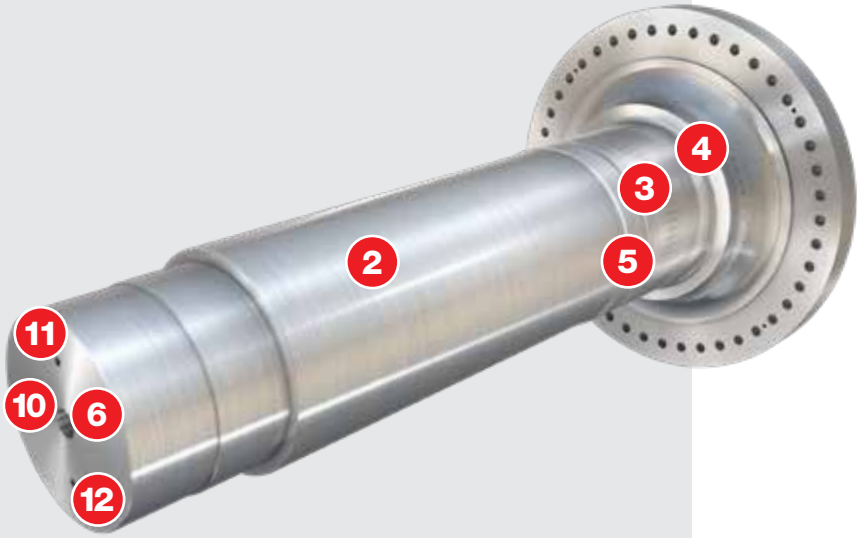
Gear Main Shaft

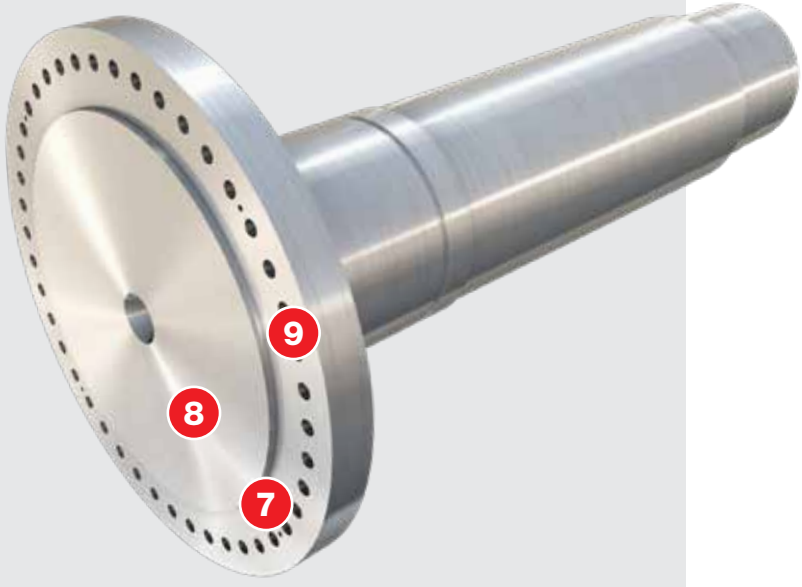
2 Sided Insert
Double Sided Inserts

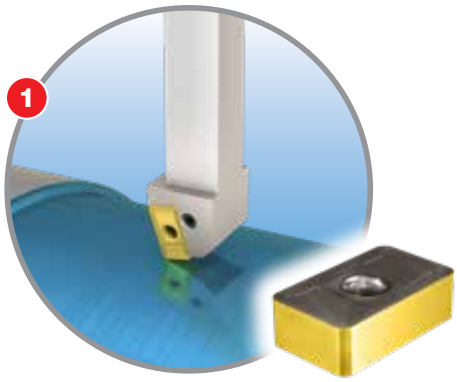
Variety

High Temperatures Resistant

The windmill's main shaft gear is usually made of forged hardened and tempered steel.
The main shaft transmits the low speed rotational force from the rotor hub. Kinetic wind energy to the gearbox enables high speed rotation, which spins the generator and creates electrical energy.
ISCAR offers a wide range of standard drills, deep drills, turning and thread milling tools for the production of main shaft machinery.

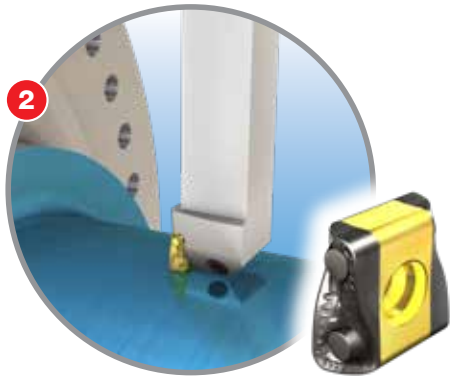






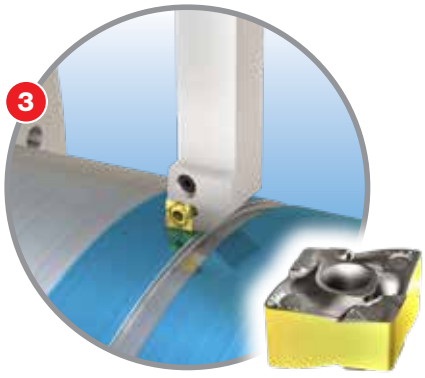
HEAVY SUPER TURN

External Rough Turning



HELITURN LAYDOWN LINE

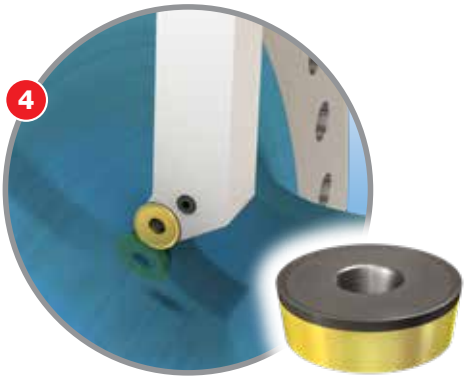
Outer Diameter Rough Turning



HELITURN TG

External Rough Turning

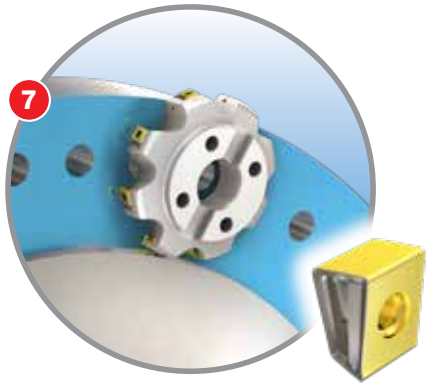
4



ISOTURN

External Turning
(Finishing)

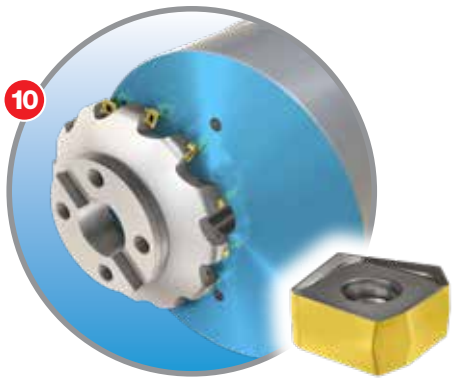
7



HELITANG
T490 LINE

Finish Face Milling

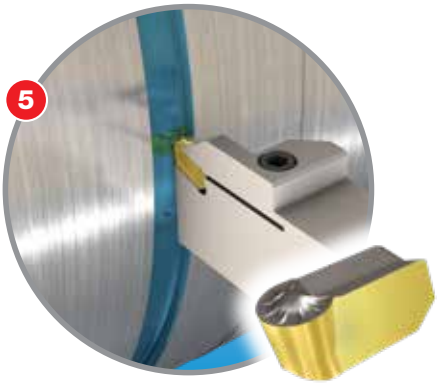
10



HELIDO
SOF 26 LINE

Face Milling

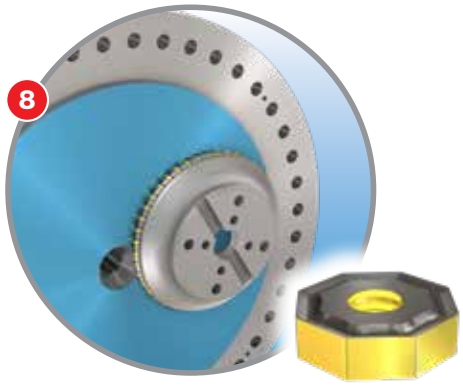
5



CUTGRIP

External Side
Turning and Grooving

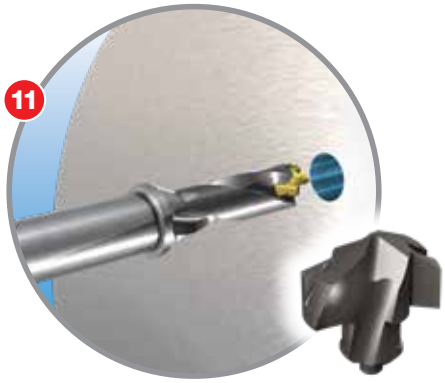
8



HELIDO
SOF 26 LINE

Finish Face Milling

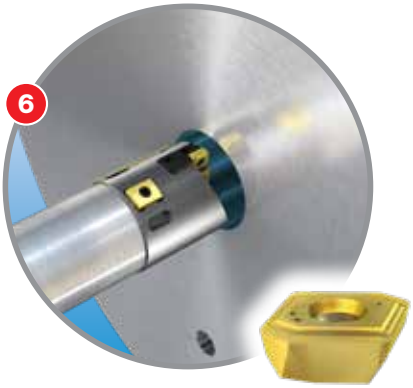
11



SUMOCHAM
CHAMDRILL LINE

Drilling

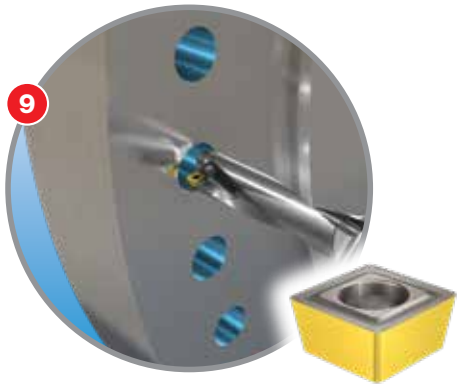
6



ISCARDEEPDRILL

Deep Drilling

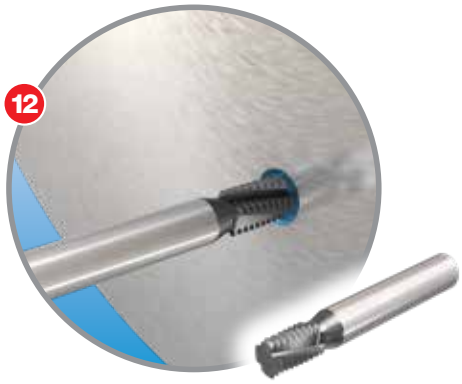
9



DR-TWIST
INDEXABLE DRILL LINE

Drilling

12



SOLIDTHREAD

Threading

Power Generation

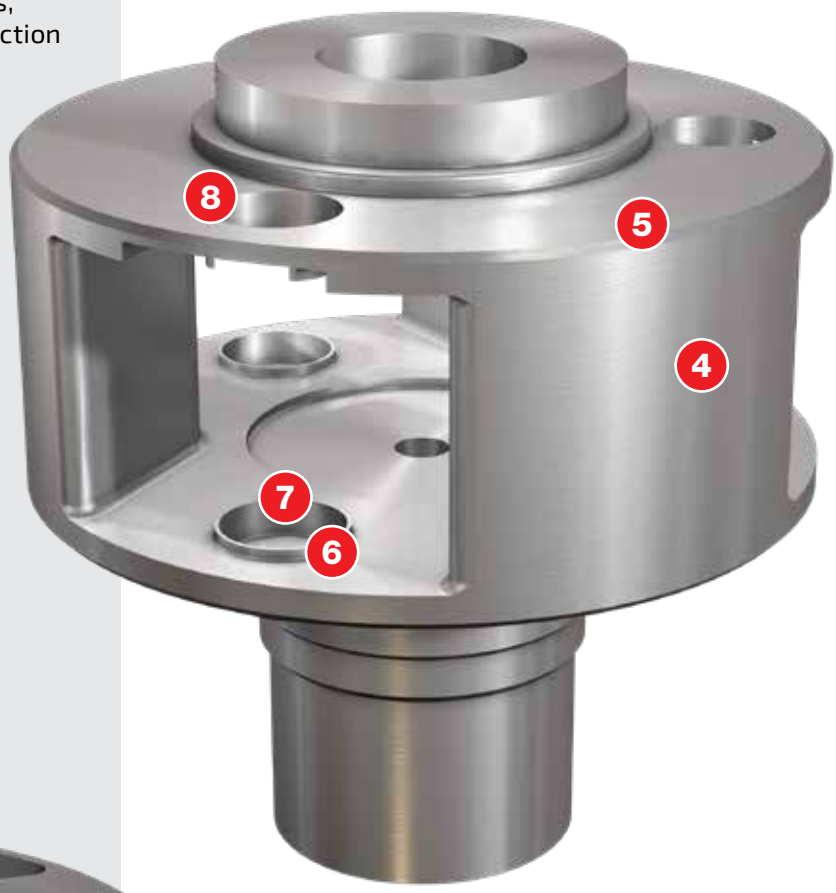
Planetary Carrier

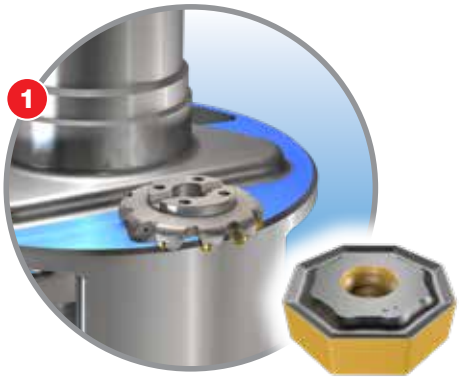
Fast Feed

Variety

High Temperatures Resistant

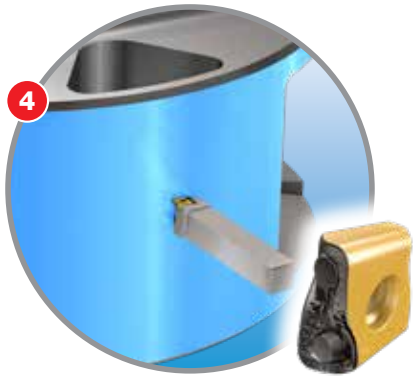
The rotary gear planetary carrier, a part of the gear assembly, is made of nodular cast iron. It functions to increase the slow rotation speed of the main shaft transferred as high rotation to the generator. ISCAR offers a wide range of standard mills, drills, boring, long extension adaptaters, turning and thread milling tools for the production of planetary carriers.





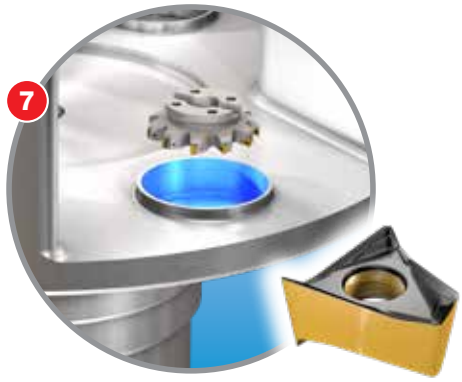
16MILL

Face Milling



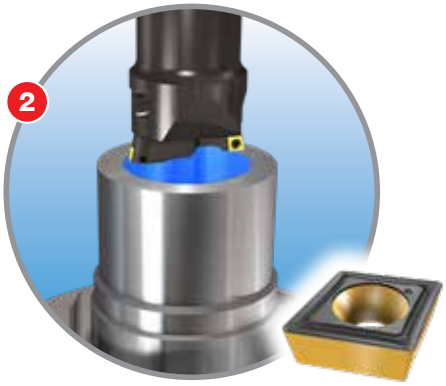
HELITURN TG

Turning



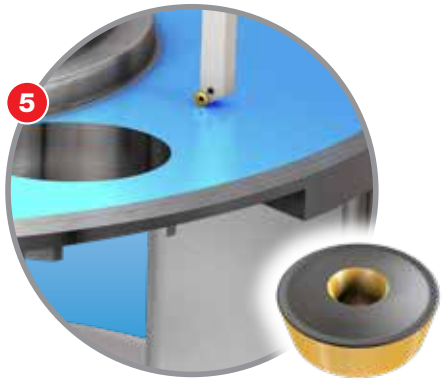
HELIDO
690 LINE

Finish Helical Interpolation



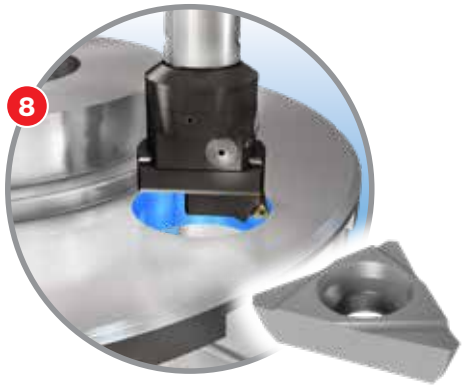
ITSBORE

Rough Boring



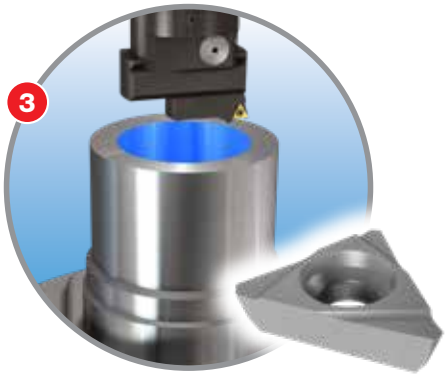
SUMOTURN
HEAVY DUTY LINE

Turning



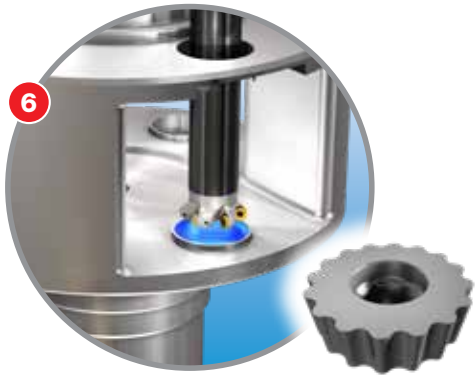
ITSBORE

Fine Boring



ITSBORE

Fine Boring



MILLSHRED
ROUND LINE

Rough Helical Interpolation

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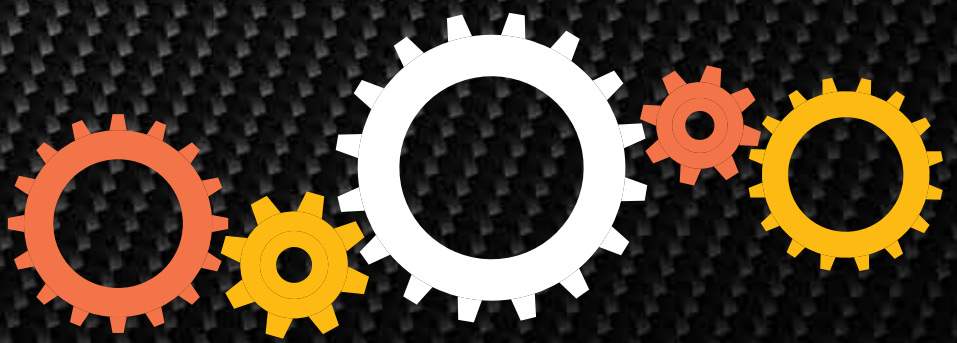

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