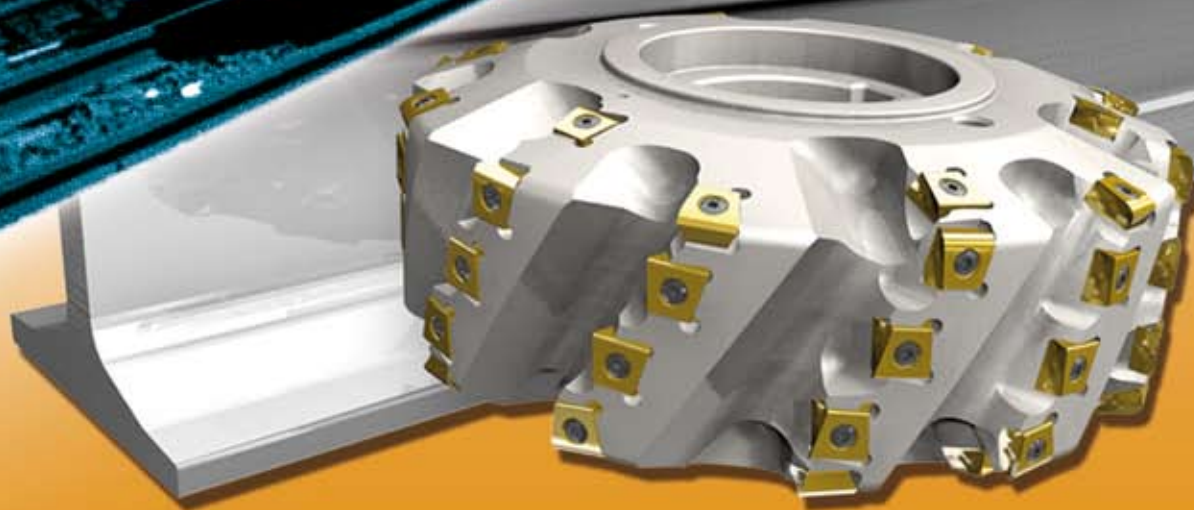


**ISCAR's**  
Solutions for the  
**Heavy**  
**Industries**  
with Ingersoll Technologies



A large, stylized graphic in the background consists of a gear and a drill bit. The gear is positioned at the bottom, and the drill bit is at the top. Both are rendered in a light gray, outlined style against a dark background. The gear has several teeth, and the drill bit has a central point and a fluted body.

**The heavy industry** is a very special niche in the metal cutting business. The tools used for specific applications in this industry are in many cases specially tailored. Their design and manufacture require special skills and facilities. Ingersoll has an experienced team with a long history of providing tools which are being successfully used by the leading companies in the power plant, large engine, turbine, construction and other large parts industries. The combination of Ingersoll's design teams and the most advanced geometries and tool materials provide the most efficient solutions for fast production and reduced machining costs.



#### **S-MAX**

A precision high positive tangential insert with 4 cutting edges, that guarantees maximum cutting performance. The latest formed rake face for reducing cutting forces and advanced grade technology provide maximum efficiency and tool life. Precision wiper flats provide outstanding surface finish. Sizes range from 8.5 to 25 mm.



## **Ingersoll's 'Double Backbone' Solutions for Heavy Industry Machining**



#### **V-MAX**

A precision high positive tangential insert with 8 cutting edges. Available in several cutting edge options for workpiece materials such as carbon steel, aluminum or iron.



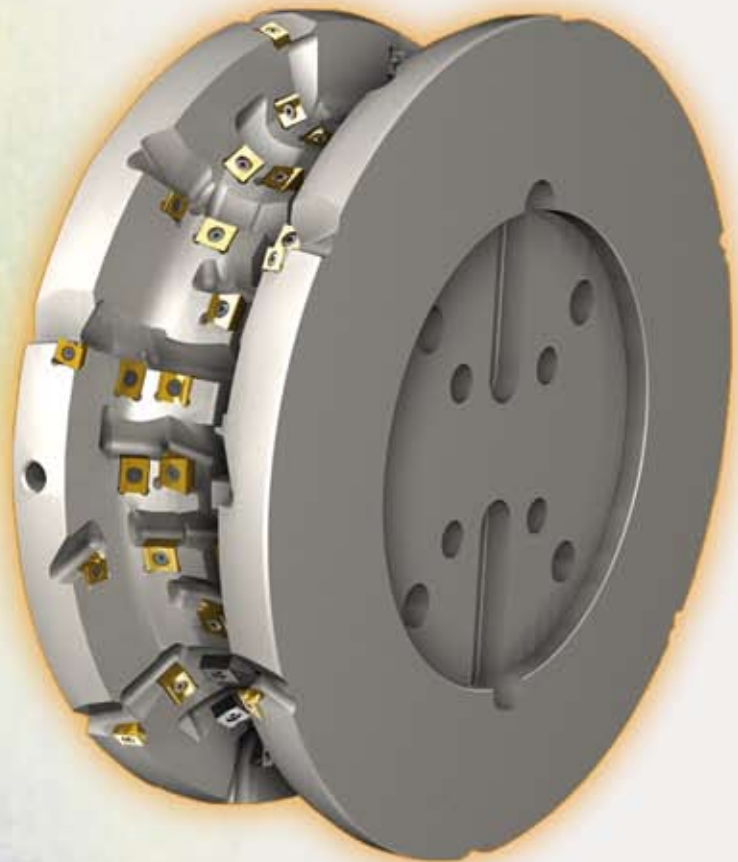
# Rail Machining



## **Special form cutter**

using tangentially clamped inserts made from the latest submicron grades. Provides improved cutting edge life and increased feed rate capability. For machining switch tongue and all other profiles.

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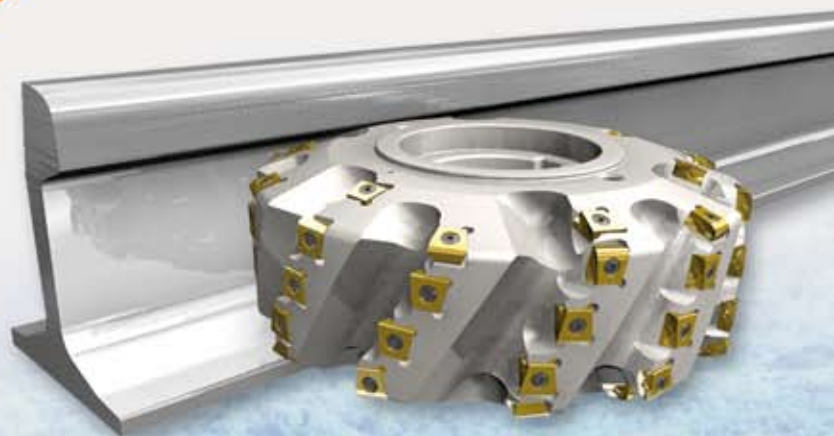
## **Special form cutter**

for machining manganese or steel crossings with transition rail machining, eliminates hard finishing. Integral shank and face mount web milling. Positive rake cutting action reduces cutting forces and dramatically improves tool consistency for difficult-to-clamp rail shapes.



---

**Special web mill cutter**  
of latest design, which uses  
tangentially clamped inserts  
with chipformers for maximum  
metal removal by exerting  
low cutting forces.



# Power Generation

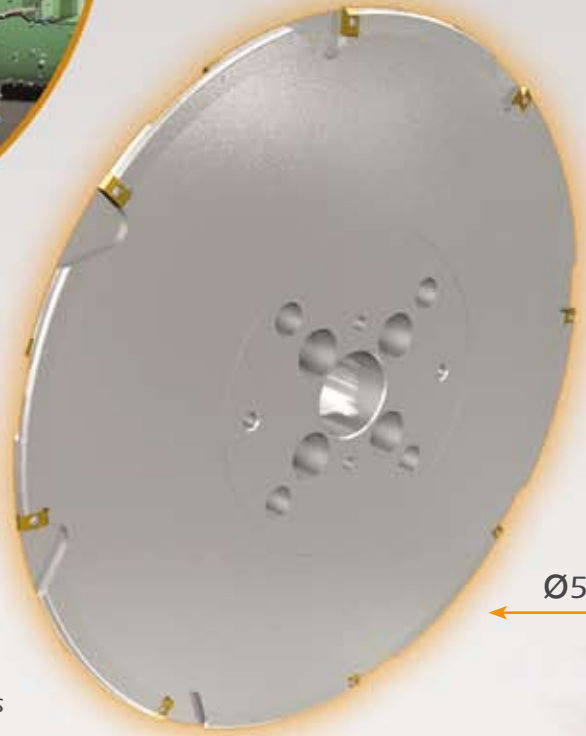


## Slotting cutter

for machining coil slots. Combination rough, semi-finish or dedicated finishing of generator rotor slotters. **S-MAX** inserts with a unique shape to provide both RH and LH cutting edges on the same insert. Reduces carbide inventory and eliminates possibility of incorrect insert loading.



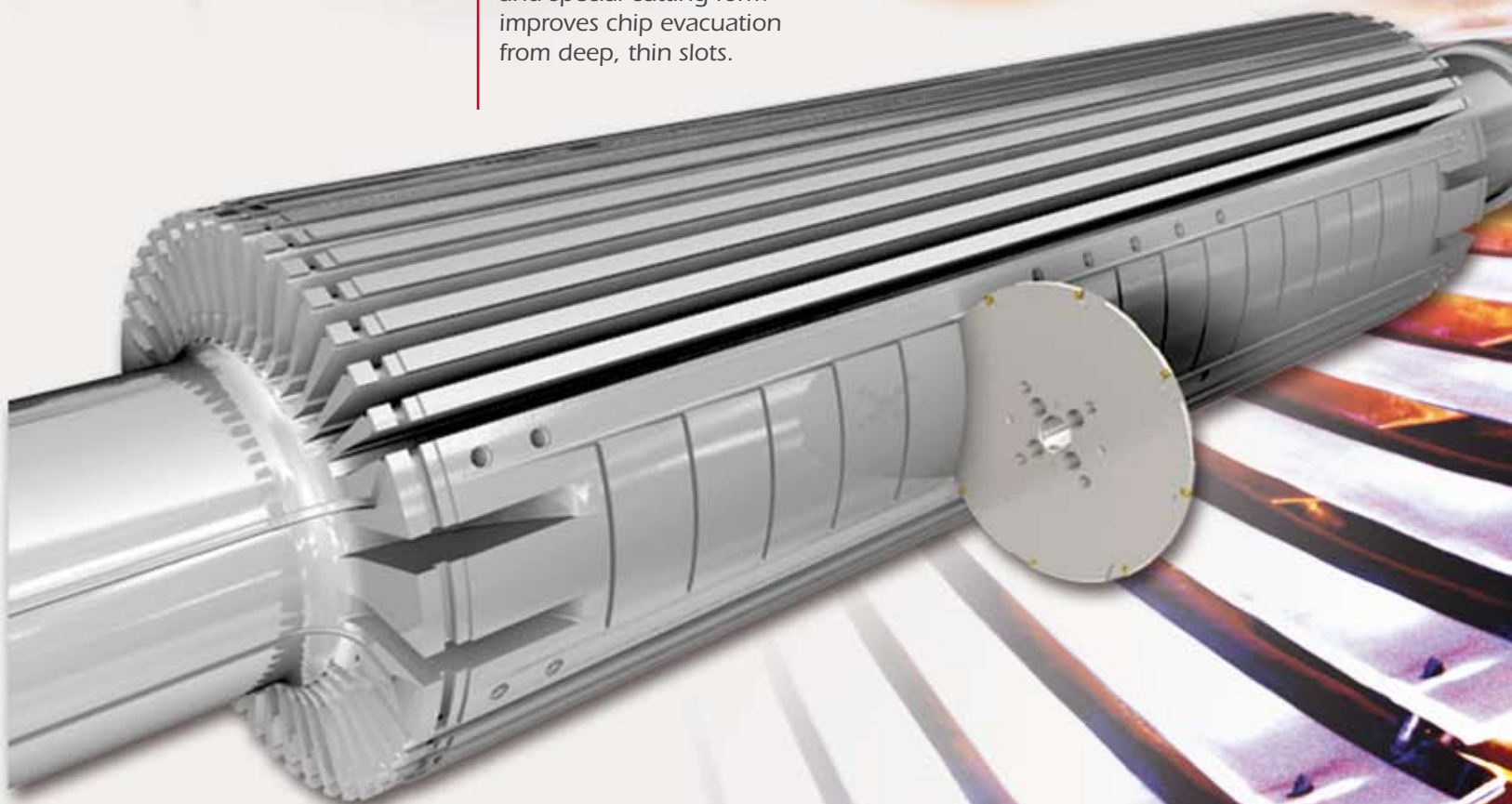
Ø1000 mm



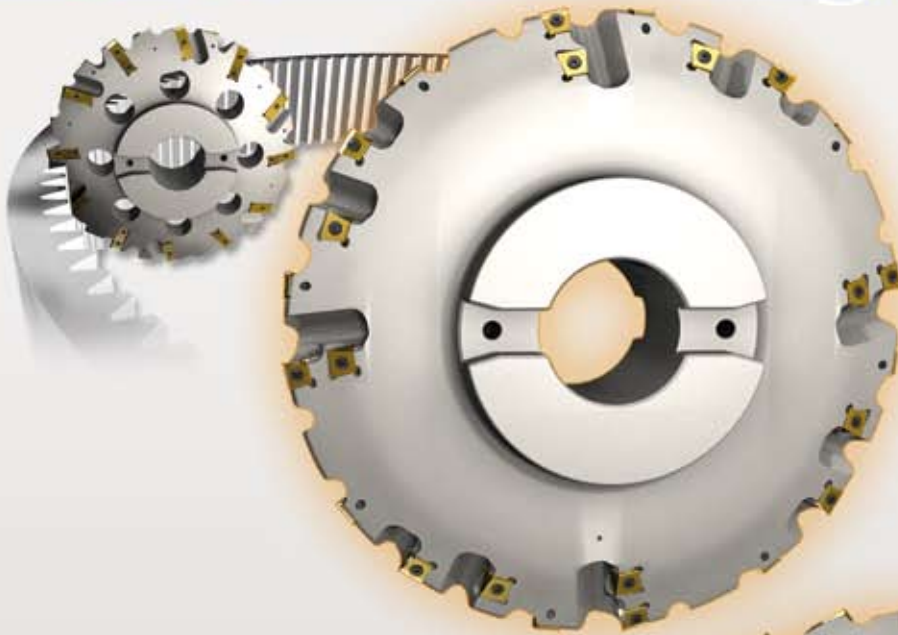
Ø500 mm

**Slotting cutter**

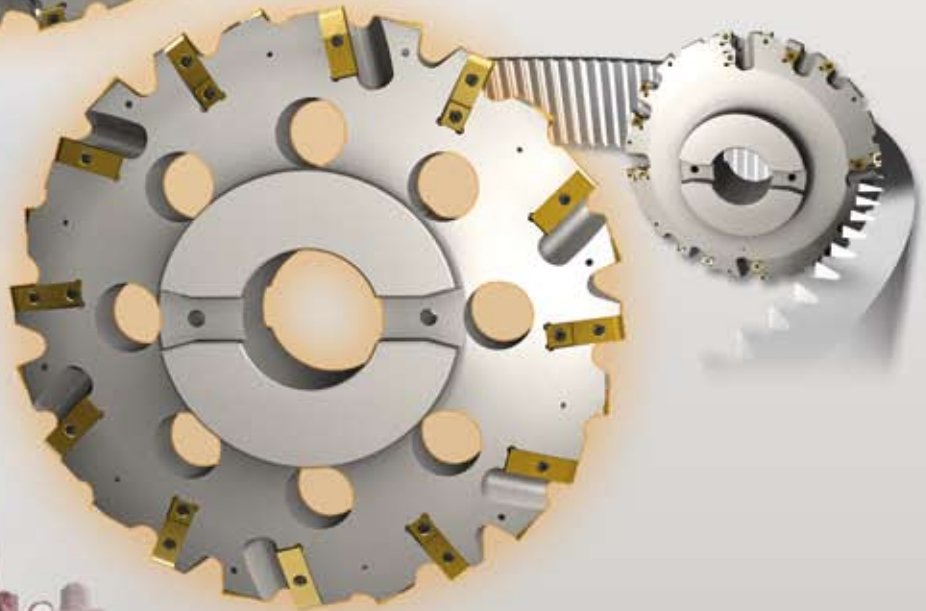
for machining flex slots.  
Positive rake angle inserts  
and special cutting form  
improves chip evacuation  
from deep, thin slots.



# Gear Machining

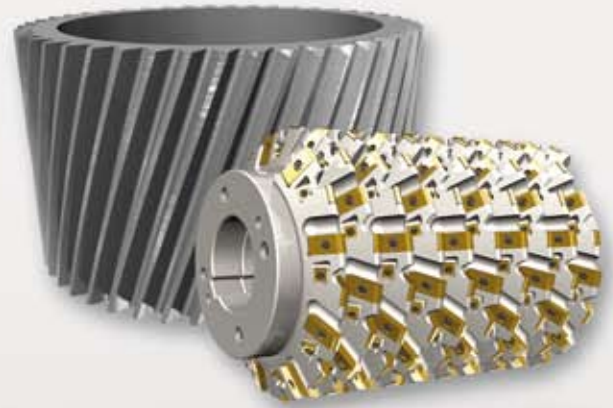


**Indexable form milling cutter** for roughing and finishing internal and external gears. Gear tooth forms can be involute or straight.



**Special form cutter** for machining compressor screws, male or female.





**Hob indexable  
milling cutter**  
for high productivity  
roughing and  
finishing of gears.



# Heavy Diesel Engines



## **Combination face mill**

for rough and semi-finish of head faces. Combined rough and semi-finish head deck milling by using the stable face mounted wiper insert system. An elliptical wiper cutting edge reduces the time spent for pre-setting. The tangential insert concept allows close pitch cutters and simple insert screw access.

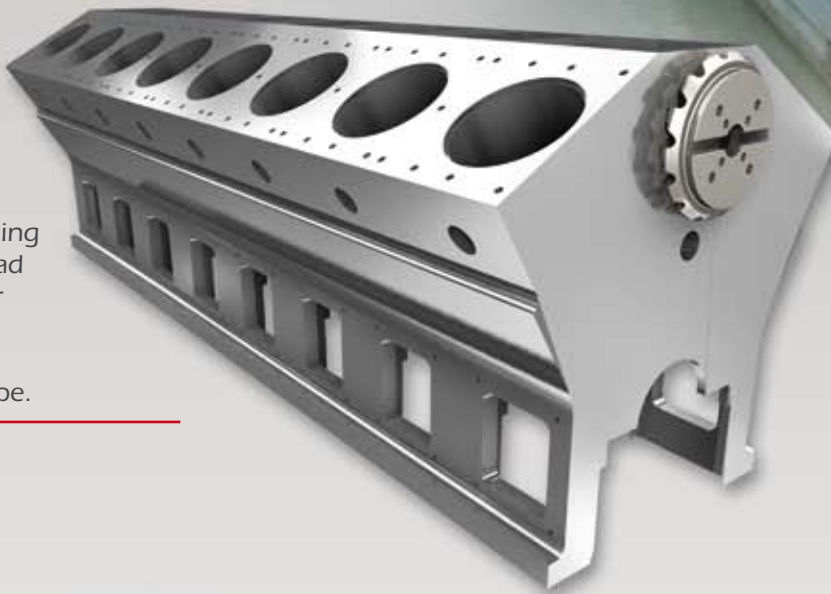
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### **Heavy duty milling cutter**

for rough machining of block ends. Lead angle or shoulder style face mills, depending on engine block shape.

---



### **Boring tool**

for rough and finish cylinder boring. Positive 8-sided V-MAX inserts reduce created heat and workpiece thermal distortion. Improves insert life.

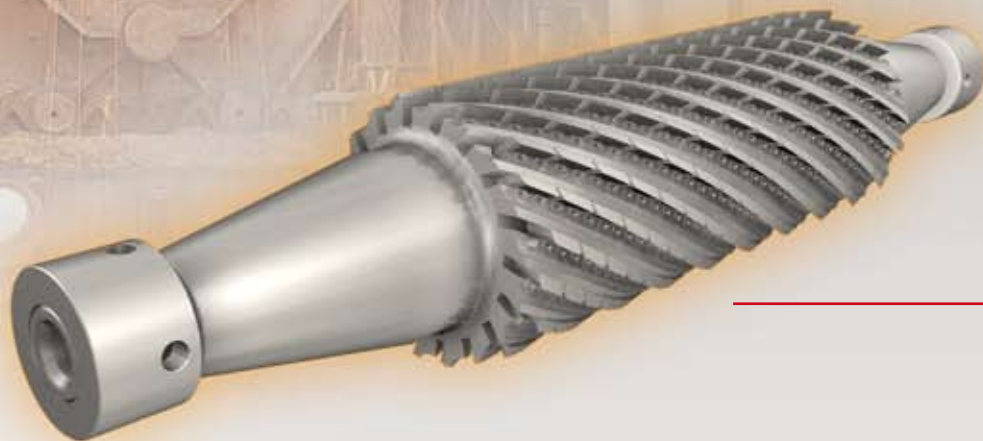
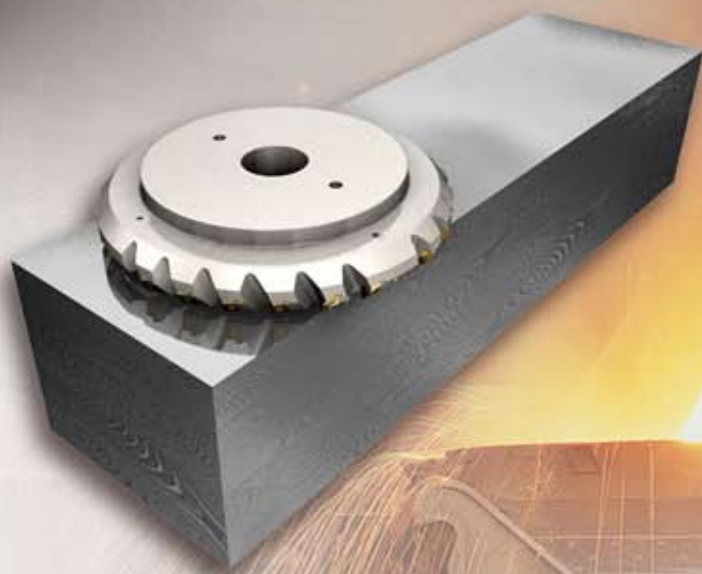
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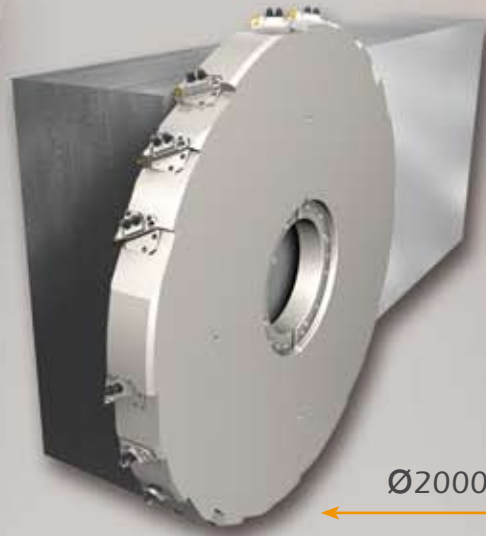


# Primary Metal

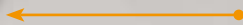
Heavy duty milling cutter  
for steel billet machining.

---





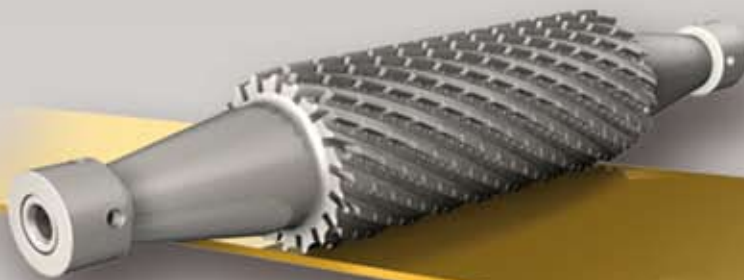
Ø2000 mm



**Scalping modular system**  
for machining aluminum  
ingots. Dedicated rough,  
semi-finish and finish cutters  
provide excellent chip control,  
as well as the required  
surface finish.



**Slab mill cutter**  
for machining copper  
and copper alloys.



# Weld Preparation

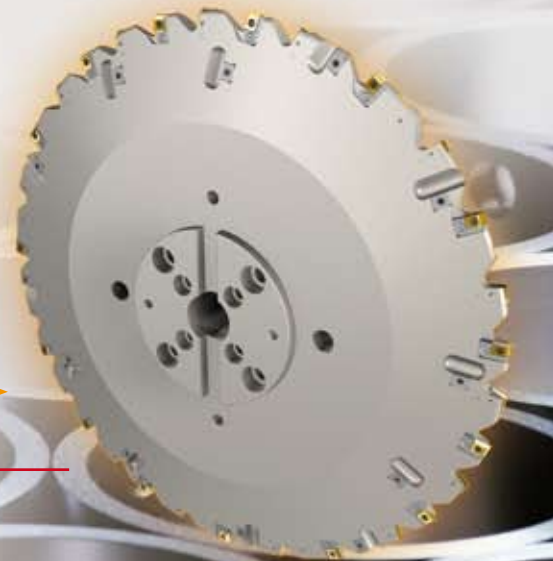
Ø400 mm

Form milling cutter  
for weld preparation.



Ø500 mm

Edge mill cutter  
with interchangeable  
cartridges for machining  
weld preparation for  
offshore components  
and steel construction.



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