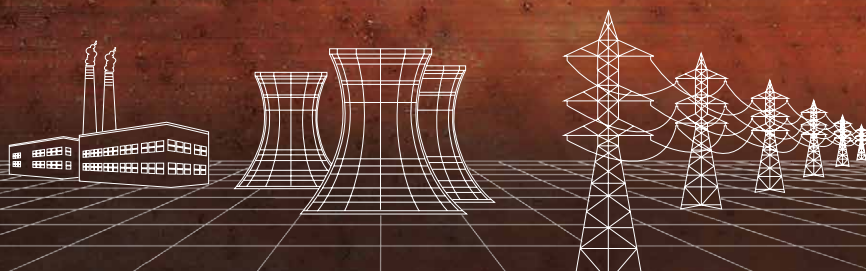




POWER GENERATION

INDUSTRY





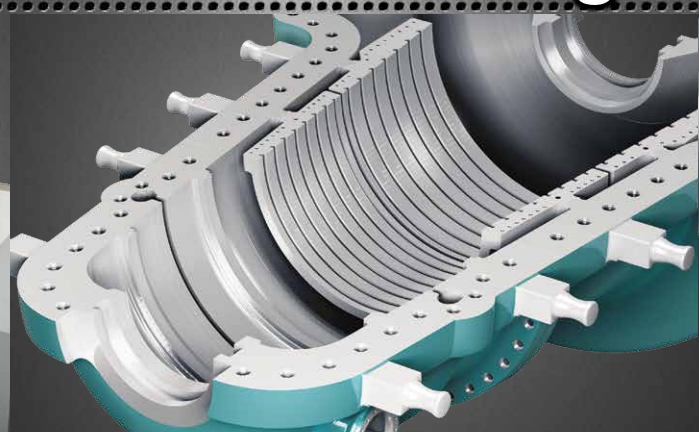
POWER GENERATION

Turbine Blade



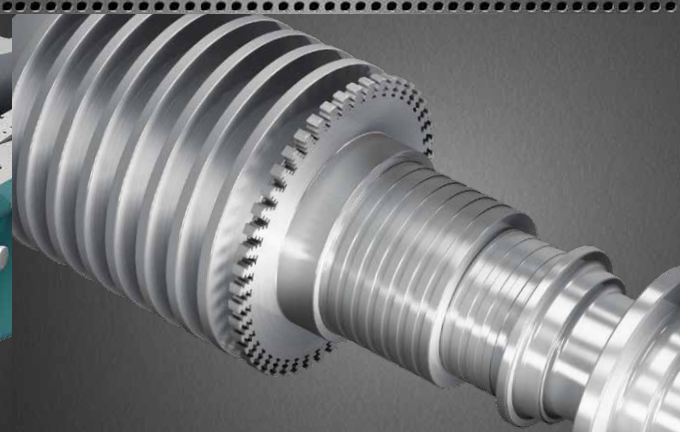
4-7

Turbine Casing



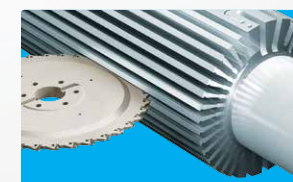
8-9

Turbine Rotor



10-11

Generator Rotor



12-13

Heat Exchanger



14-15



Turbine Blade

Turbine blades are twisted blades assembled in the turbine rotor and they convert heat and speed energy received from steam into rotational motion. The blades should be corrosion and erosion resistant and highly durable with high fatigue and fracture strength under high temperature and pressure operation. Special alloy steels like forged stainless are often used for the components.

Root & Shroud

➤ Roughing



CHASEMOLD



CHASEFEED



➤ Semi-finishing



CHASE²MILL



CHASEHEPTA



➤ Finishing

CHASEMILL



MILL-RUSH



➤ Slotting



CHASEMILLPOWER



Transition

➤ Milling

DUETBALL



DUETBALL



2F16

➤ End milling



Turbine Blade



Various Root Type

➤ Straddle type



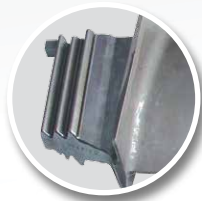
TPMC



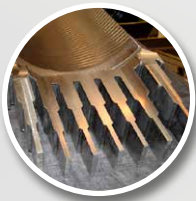
➤ Fir tree type



TPMC



➤ Finger type



TFG



ZNHU



ZNHT

Airfoil

➤ Roughing

CHASEMOLD



TFMRT



RTM(H)X

➤ Semi-finishing



4NKT



APKT

CHASE²MILL

4N TE90



CHASEMILL

TE90 AP

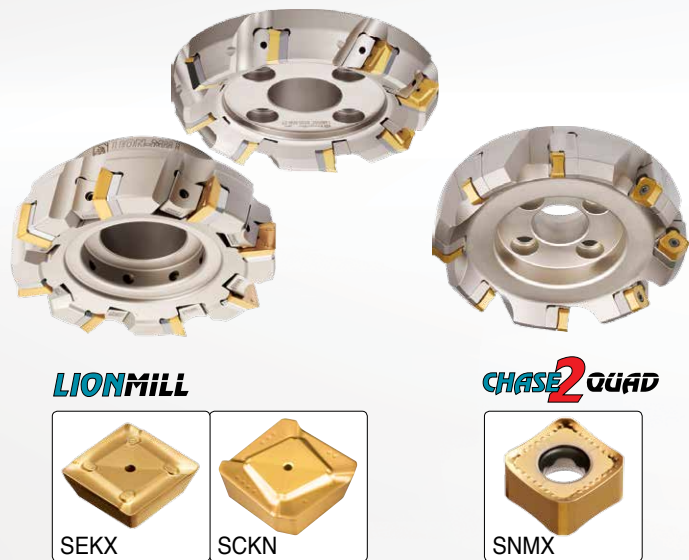


Turbine Casing

The turbine casing is a pressure vessel that has a nozzle diaphragm and non-moving blades attached. It also houses and supports the turbine rotor. The high pressure steam turbine casing should be produced from materials that can withstand high pressure and temperature while preventing cracks and steam leakages. These demands ensure each casing is subjected to a series of complicated inspections and tests that include hydraulic testing.

Milling

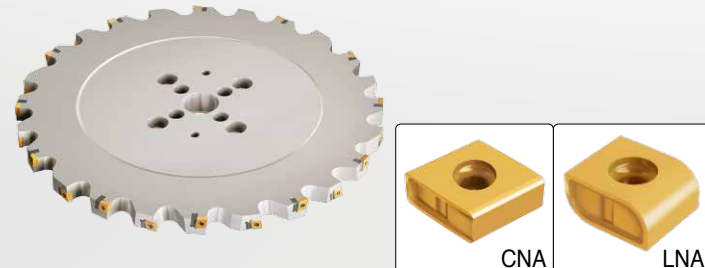
» For roughing



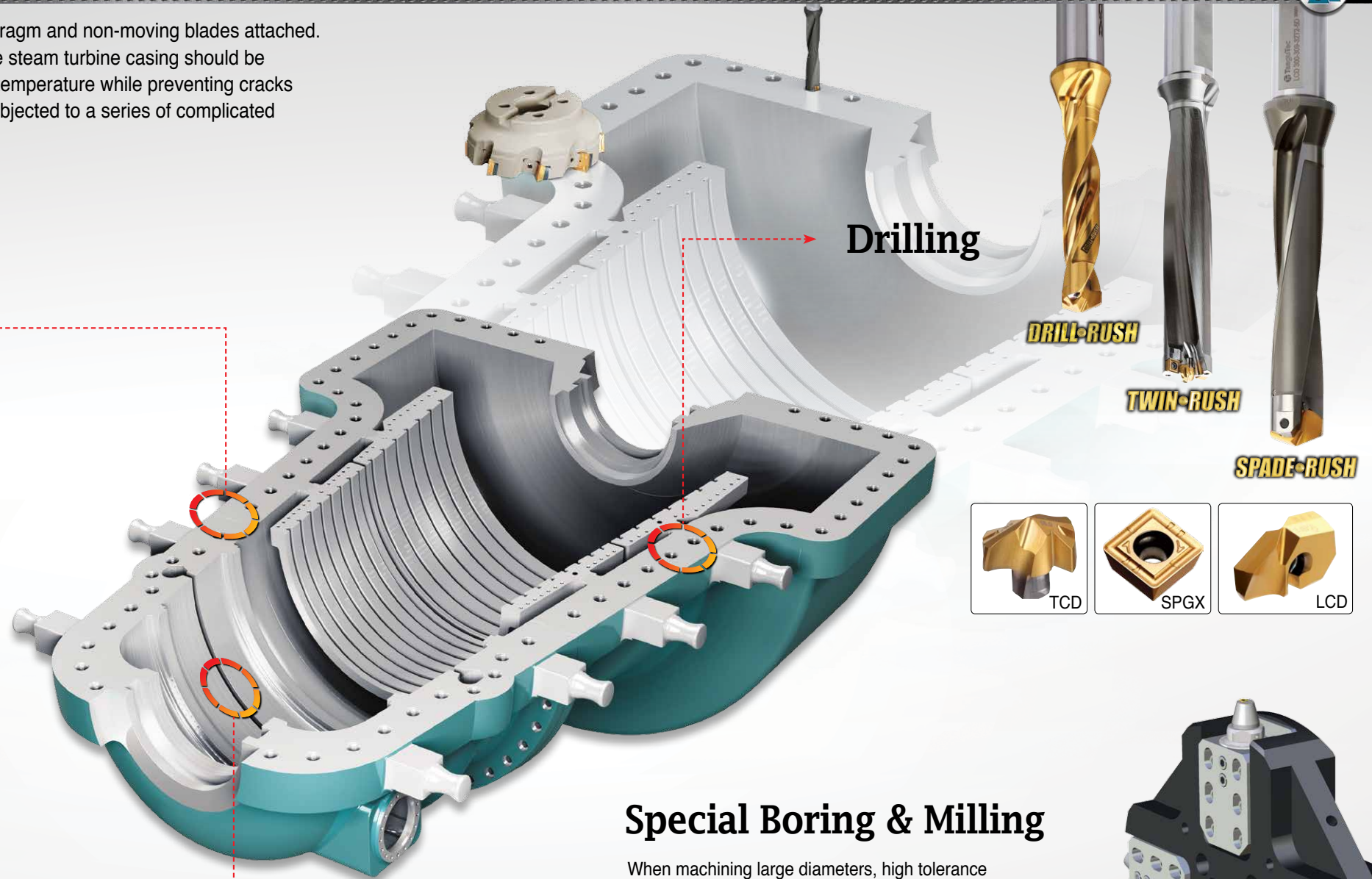
» For finishing



» For inner slotting

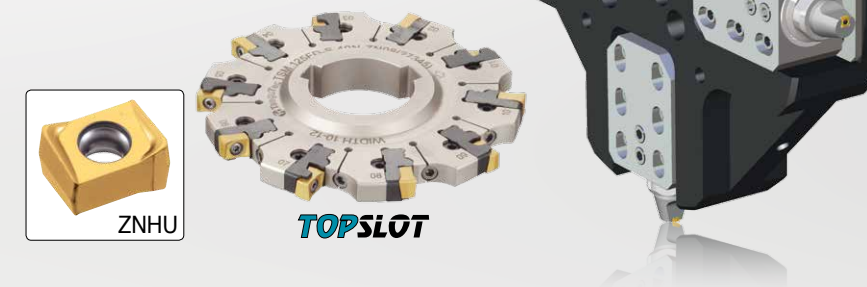


Drilling



Special Boring & Milling

When machining large diameters, high tolerance and accuracy are required. TaeguTec offers special cutters that can provide tight tolerances and accuracy for this machining process.



Turbine Rotor

The turbine rotor is the rotating part of the engine that transforms the kinetic energy of wind to mechanical energy. In addition, the rotor as a large and high speed component should have sufficient strength to endure great stress levels. To this end, its assembly should undergo a balancing process in order to prevent vibration. Hence, 25CrMoVNB forged alloys are used as rotor materials and these are defined as a high tensile strength material with a high temperature stability and excellent thermal fatigue strength.

Special Form Cutter

➤ Fir tree cutters



Productivity increased 5 times!

➤ Customized cutters



Rough end milling

Dovetail rough milling

Dovetail finish milling

Heavy Turning

➤ For turning

TOPDUTY
SNMD/CNMD



25 HD

19,25 HY

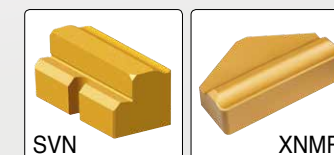
25 HZ



RCMX 25,32

RCMX 25,32-RA

➤ For grooving



SVN

XNMR



Generator Rotor

The turbine generator consists of a stator, rotor, protection frame and housing.

The rotor axle is made of a one-piece cylindrical coupling flange. In order to put the field coil into the cylindrical forging tool, the coil slot is machined in an axial direction.

Since the rotor rotates at high-speeds it requires tensile strength and mechanical robustness and must have high heat-resistant properties in order to withstand high temperatures.

Slotting

➤ For flex slotting



Ø500mm (Tangential type)

➤ For key way slotting



3P TEF



3PKT

➤ Dove-tail milling



ZNHT



TFFI

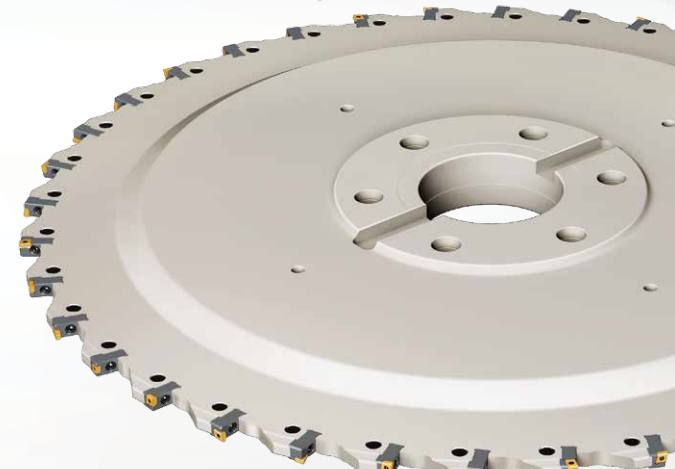


For roughing

For finishing



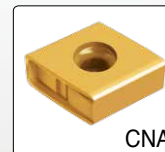
➤ For coil slotting



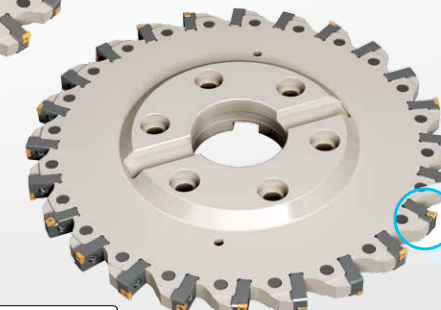
Ø1000mm (Cartridge type)



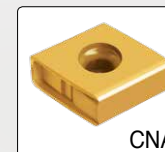
For roughing



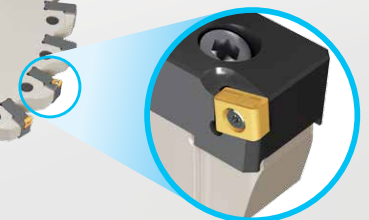
CNA



For finishing



CNA



Wiper insert

Heat Exchanger

A heat exchanger is a device for cooling the high temperature steam extracted from turbines. The seal between the tube and tube sheet determines the life of the heat exchanger. Precision machining where the tube is installed is vital. The heat exchanger requires corrosion free materials such as welding roll steel, stainless steel, alloy steels like chrome molybdenum and titanium and forged steel for high pressure vessels. When machining tube sheets, tools should be able to machine accurately on various materials while optimizing productivity. TaeguTec offers a variety of hole making tools that can machine various materials with high quality and productivity levels.

Drilling



Deep Drilling

Single Tube System

- ▶ Drill diameter: 12.60mm - 65.00mm
- ▶ Various grades for workpiece material



BTA type

Single Tube System

- ▶ Drill diameter: 12.60mm - 20.00mm
- ▶ Excellent surface finish with single edge type



BTS type



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