



# ultrix

# XCEEDER

Multitasking to have all work phases performed on a single machine

**High power and high precision 5-axis vertical machining centre with trunnion table for milling and turning.**

A robust and stable Metalquartz base frame and a dedicated boring bar for a full range of operations on a single machining centre. Ideal for roughing, finishing and super finishing operations on superalloys, steel, lightweight alloy, or composites.

**breton**

## Breton Ultrix / Xceeder

Breton's proposal of five-axis multitasking machining centres with rotary table features Xceeder, for milling operations, and Ultrix, which adds the possibility of turning operations. Both solutions are ideal for machining of medium-size/ large workpieces in titanium, superalloys, steel, lightweight alloys, and special composites. Developed on gantry architecture with a gantry type moving bridge, the machine has a trunnion table and independent boring bar.

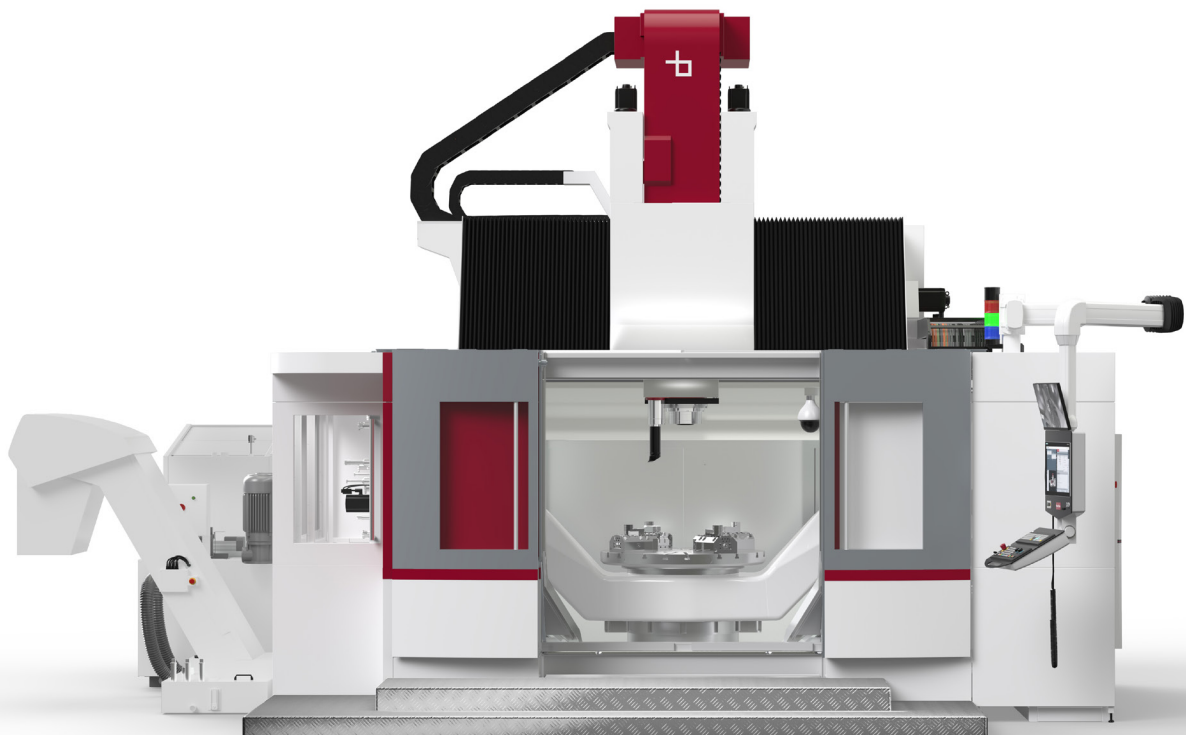
A machining centre for high speed milling and turning that delivers high performance with absolute precision while also being able to handle large size workpieces. With strokes of up to 1,700 x 1,600 x 1,000 mm and maximum swing diameter over the bed of 1,600 mm, the Ultrix E3 is our largest trunnion table machine. Painstaking attention was awarded to the layout during the design stage, with the aim of achieving the smallest possible machine footprint.

Ultrix is the best solution for machining aerospace engine components: the **vertical spindle** facilitates workpiece positioning, the tilting table allows quick and easy access to the workpiece and easy cleaning of the work area.

Angle heads can be housed in tool stores or dedicated slots, the loading and unloading of which is fully automatic. The head body is hydraulically clamped to the RAM, allowing the full torque of the electrospindle to be transferred.

The top bellows open completely, facilitating workpiece loading/unloading operations with overhead cranes. The work area is fully clad in stainless steel to make it bright, easy to clean, and impervious to erosion caused by machining chips.

All axes are pressurised to prevent infiltration. Some of the best accessibility on the market allows the operator to be only 15 cm from the turning table.



## EXCLUSIVE TECHNOLOGIES

Breton Ultrix / Xceeder is optimised through the most advanced technologies to guarantee excellent working performance.

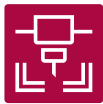
Hi-speed milling



Turning



High Dynamics



Thermostable



Metalquartz



Direct Drive



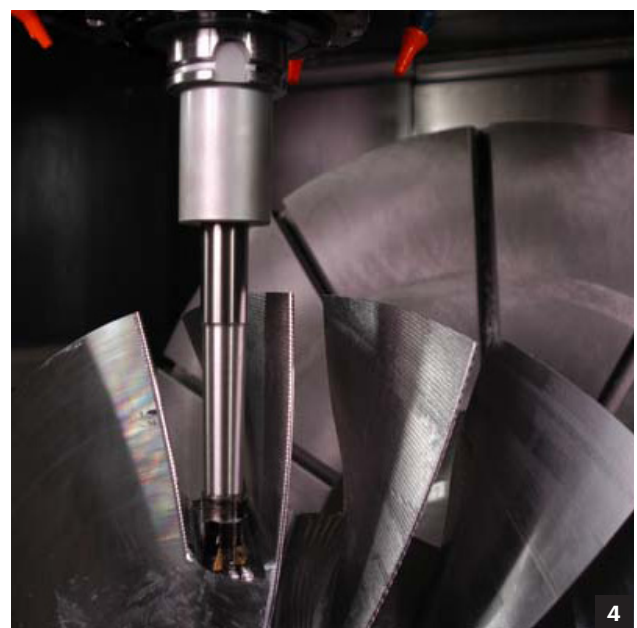
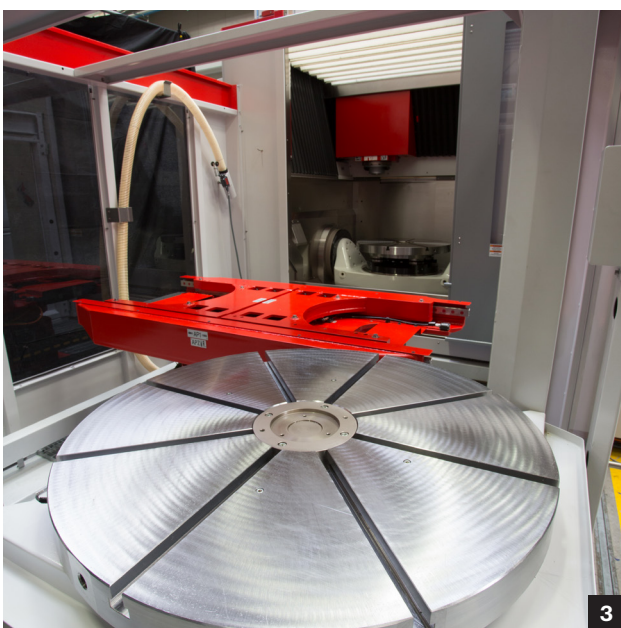
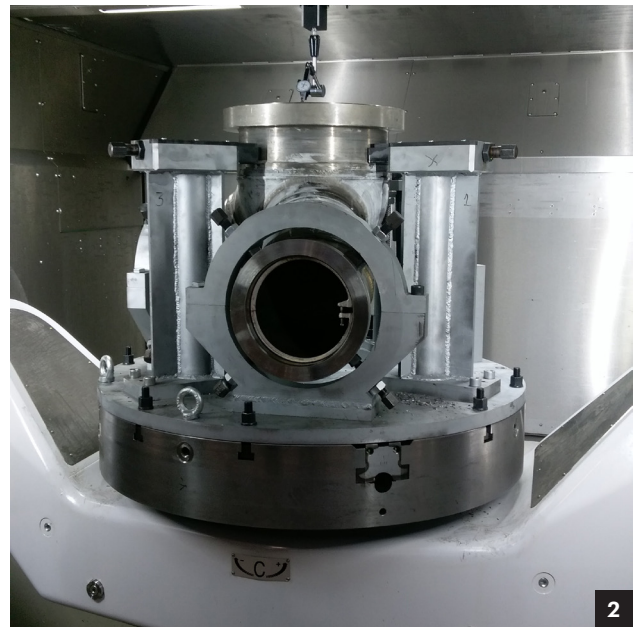
1. Ultrix and Xceeder plant for aerospace parts production

2. Milling and turning on valve body for the energy sector

3. Automated pallet change

4. Aircraft blisk machining

Scan the QR code to discover more



## 5 reasons to choose Ultrix / Xceeder

### 1 / Superior force, speed, and precision

The major benefit is having **multiple production capabilities** in a single solution: roughing, finishing, super finishing, measurement, inspection and quality control of surfaces. Meticulous design and structural optimisation assisted by a digital twin made it possible to develop a machine that combines **force and robustness** for roughing phases with speed and precision for superfinishing operations.

### 2 / Dedicated Boring Bar

Breton Ultrix has an exclusive solution composed of a **vertical boring bar** rigidly secured to the vertical RAM structure. The bar is position-controlled and has powerful hydraulic brakes so it can be locked at any point of its vertical stroke. The ease with which the independent boring bar penetrates the workpiece makes it possible to drastically reduce the number of tools required and the length of the tool holder tapers. This means that turning operations can be performed with higher power and with a significant **reduction of vibration**.

### 3 / Metalquartz monobloc

Metalquartz is a special Breton patented polymer matrix quartz compound that guarantees high mechanical strength, vibration damping, and a thermal expansion coefficient similar to that of steel. Thanks to this technology, the base frame of the various versions guarantees reduction of vibrations and consequently greater precision of processed parts.

### 4 / Advanced connectivity and technology

Breton Ultrix/Xceeder was developed by exploiting the capabilities of the **Digital Twin** which, thanks to simulations conducted in a virtual environment, allows targeted optimisation of design choices with consequent gains in performance.

Both models are available with the very latest Heidenhain and Siemens controls. The machine is fully connectorised for rapid

programming and maintenance. This solution allows integration with **Industry 4.0** software to analyse operating statistics, optimise operations, and for predictive maintenance.

### 5/ Designed around your needs

Ultrix is available in three different sizes and configurable to suit specific application sectors. This means Ultrix can offer optimal solutions of wet or dry machining of special composites, aluminium, steel, and superalloys.

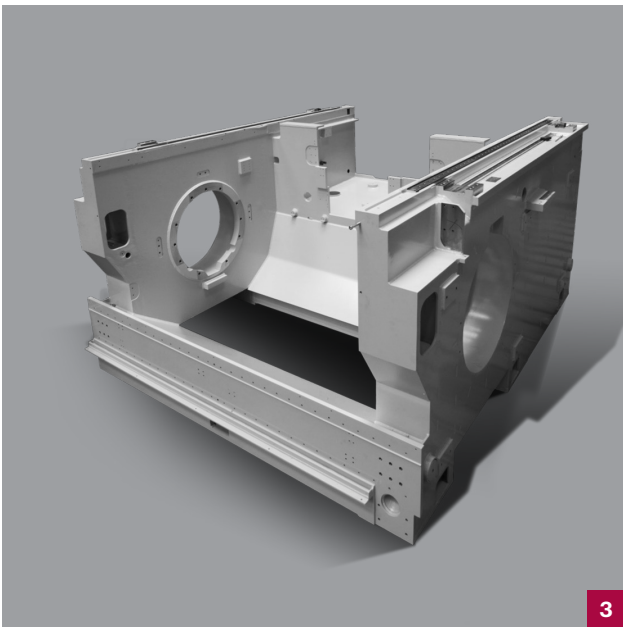
Both are available with a **wide range of accessories** for each application type, including motor spindles, milling/turning tables, various automations for workpiece loading/unloading, and tool stores with up to 300 cells. Can also integrate additional innovative technologies such as power skiving for gear machining operations.



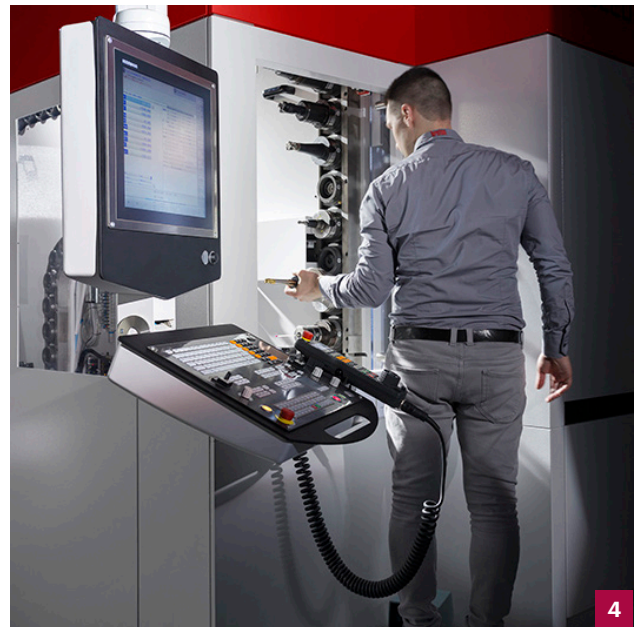
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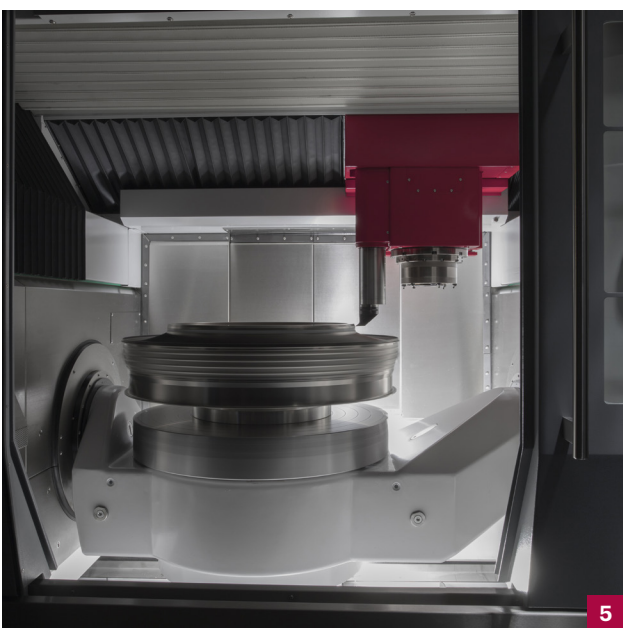
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4



5

1. Combustion chamber for aerospace machining
2. Wide access to working area
3. Metalquartz base frame
4. Easy access to tool store
5. Patented turning bar



	<b>ULTRIX E1 XCEEDER E1</b>	<b>ULTRIX E2 XCEEDER E2</b>
<b>X axis travel</b>	900 mm	1150 mm
<b>Y axis travel</b>	900 mm	1000 mm
<b>Z axis travel</b>	600 mm	700 mm
<b>X / Y / Z axis rapid feed rate</b>	60 / 60 / 40 m/min	60 / 60 / 40 m/min
<b>A axis rotation</b>	- 30 + 110°	- 30 + 120°
<b>A axis rapid feedrate</b>	30	30
<b>C axis rotation</b>	endless	endless
<b>C axis turning speed</b> S6   S1	1000 / 800 rpm*	500 / 400 rpm*
<b>C axis Torque</b> S6   S1	1.520 / 1.000 Nm	2.700 / 2.000 Nm
<b>Spindle power</b> S6   S1	55 - 40   41 - 37   40 - 40 kW	55 - 40   41 - 37   40 - 40 kW
<b>Spindle torque</b> S6   S1	22 - 16   89 - 62   137 - 100 Nm	89 - 62   137 - 100   480 - 300 Nm
<b>Spindle speed</b>	40.000   28.000   18.000 rpm	40.000   28.000   18.000 rpm
<b>Milling tool taper</b>	HSK-A63	HSK-A63 / HSK-A100
<b>Turning tool taper</b>	CAPTO C6*	CAPTO C8*
<b>Rotary table diameter</b>	1000 mm	1200 mm

\* Only available on Ultrix model



	<b>ULTRIX E3 XCEEDER E3</b>	<b>ULTRIX E3 HD XCEEDER E3 HD</b>
<b>X axis travel</b>	1700 mm	1700 mm
<b>Y axis travel</b>	1600 mm	1600 mm
<b>Z axis travel</b>	1000 mm	1000 mm
<b>X / Y / Z axis rapid feed rate</b>	50 / 50 / 50 m/min	50 / 50 / 50 m/min
<b>A axis rotation</b>	- 120 + 120°	- 120 + 120°
<b>A axis rapid feedrate</b>	30	30
<b>C axis rotation</b>	endless	endless
<b>C axis turning speed</b> S6   S1	450 / 350 rpm*	450 / 350 rpm*
<b>C axis Torque</b> S6   S1	2.700 / 2.000 Nm	5.000 / 3.500 Nm
<b>Spindle power</b> S6   S1	40 - 40   85 - 75	62 - 48 kW
<b>Spindle torque</b> S6   S1	137 - 100   480 - 300	730 - 600 Nm
<b>Spindle speed</b>	18.000   14.000	14.000 rpm
<b>Milling tool taper</b>	HSK-A63/ HSK-A100	HSK-T100
<b>Turning tool taper</b>	CAPTO C8 / HSK-T100*	CAPTO C8 / HSK-T100*
<b>Rotary table diameter</b>	1400 mm	1400 mm

\* Only available on Ultrix model

**breton** ultrix / xceeder

**Breton - a pioneer in the development of advanced technologies and materials - is an international group specialized in the design and production of state-of-the-art industrial machinery and plants.**

Founded in 1963, Breton has established itself on the global market thanks to its trustworthiness and its philosophy of innovation combined with reliability. Over its history, it has registered more than 1700 patents, devoting the equivalent of around 5% of its turnover to research and development each year.



The Breton Institute of Technology, expression of Breton's DNA and pioneering attitude, is the department where new technologies are explored and created. Several teams devoted to research design and develop new sustainable materials and technologies for different industrial sectors.