

**breton**

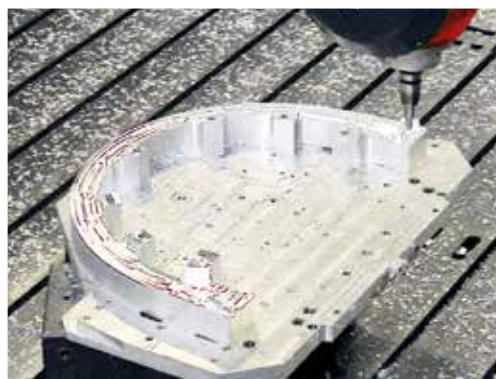
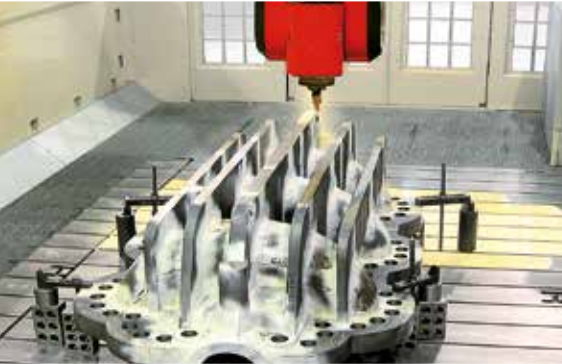
Machine Tools

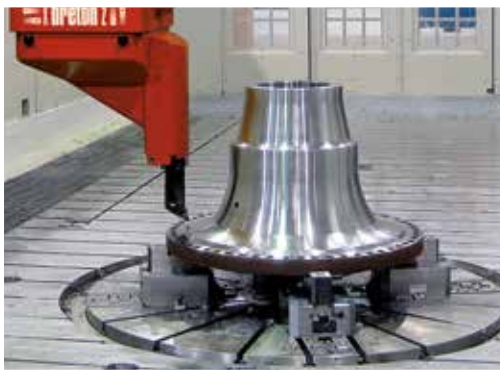
# MACHINE RANGE



**High performance vertical machining centres**

*Engineered on Your needs*





# VERTICAL MACHINING CENTRES

A comprehensive selection of solutions dedicated to precision engineering applications such as those of the **Aerospace, Mould&Dies and Automotive industries.**

We design, manufacture and commission **high-speed machining centres with overhead-gantry architectures** to provide the optimum performances on any type of material ranging from the toughest superalloys to the lightest composites, across steel and light-alloys.

Our **dedicated and specialized teams** support you in the definition of **the most cost-efficient configurations**, we work to guarantee you the smoothest implementation of the new technologies and we take care of you during the entire operational life of the equipment. Everything we do is specifically **focused granting you the best return of your investment** and the efficiency indicator charts give you an overview of the applications where each "family" proves its best efficiency.

## XCEEDER



HIGH DYNAMIC



DIRECT DRIVE



THERMOSTABLE



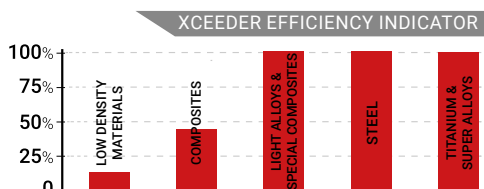
METALQUARTZ

Multipurpose 5-axis vertical machining centre, **trunnion table architecture**, for milling and high-precision grinding operations. Engineered to provide its **best efficiency on titanium, special alloys, steel and light alloys applications.**

**Designed for high dynamics** (jerk, acceleration and speed) avoiding the use of linear motors to allow a considerable energy saving and ensuring the necessary feed forces even for the heaviest operations.

The **monobloc structure is made of Metalquartz** to ensure the best rigidity and stability while providing the operator with the best ergonomics and operational comfort for an easy and safe access to the machine and the best workpiece visibility.

The Xceeder range includes three models: the biggest one can **machine parts up to Ø1600 mm.**



		XCEEDER E1	XCEEDER E2	XCEEDER E3
X stroke	mm	900	1.200	1.700
Y stroke	mm	900	1.000	1.700
Z stroke	mm	600	700	1.000
X / Y / Z Axes rapid feedrate	m/min	60 / 60 / 40		
A Axis rotation		-30° +110°	-30° +120°	± 120°
C Axis rotation		endless		
Spindle power S6 / S1	kW	55/40 - 41/37 - 40/40	41/37 - 40/40 - 85/75	40/40 - 85/75 - 62/48
Spindle torque S6 / S1	Nm	22/16 - 89/62 - 137/100	89/62 - 137/100 - 480/300	137/100 - 480/300 - 730/600
Spindle speed	rpm	40.000 - 28.000 - 18.000	28.000 - 18.000 - 14.000	18.000 - 14.000 - 14.000
Milling tool taper		HSK-A63 - HSK-E40	HSK-A63 - HSK-A100	HSK-A63 - HSK-A100
Rotary table power S6 / S1	kW	40/30	30/30	30/30
Rotary table torque S6 / S1	Nm	1.525/1.000	2.700/2.000	2.700/2.000 - 5.000/3.500
Rotary table speed	rpm	100		

## MATRIX E1 - MATRIX E2



HIGH DYNAMIC



DIRECT DRIVE



THERMOSTABLE



THERMAL SHIELD

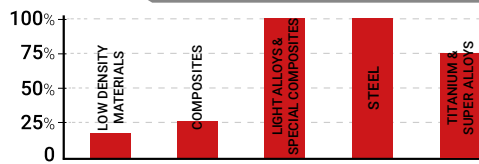
High-precision 5-axis overhead gantry machining centre particularly suitable for **roughing, semi-finishing and finishing operations on medium-large parts made of steel, light alloys or special composites.**

**Designed for high accuracies and high dynamics** (jerk, acceleration and speed) avoiding the use of linear motors to allow for a considerable energy saving and to ensure the necessary thrust even in the most demanding operations.

The robust and **thermo-symmetric gantry architecture** ensures the best rigidity and both structural and thermal stability while providing the operator with the best ergonomics and operational comfort for an easy part setup and a safe access to the machine.

Thanks to the patented **Thermal Shield technology** the machine guarantees the best accuracy even when installed in environments which are not stable in temperature.

MATRIX EFFICIENCY INDICATOR



		MATRIX E1	MATRIX E2
X stroke	mm	2.000	2.500 - 4.000
Y stroke	mm	2.500	2.500
Z stroke	mm	800 - 1.000	1.100
X / Y / Z Axes rapid feedrate	m/min	50 / 50 / 40	
A Axis rotation		-105° +120° - ±115°	
C Axis rotation		±305° - endless	
Spindle power S6 / S1	kW	31/25 - 41/37 - 115/87 - 40/40	41/37 - 110/83 - 40/40 - 40/40
Spindle torque S6 / S1	Nm	65/52 - 89/62 - 110/83 - 137/100	89/62 - 115/87 - 137/100 - 180/150
Spindle speed	rpm	16.000 - 28.000 - 24.000 - 18.000	28.000 - 24.000 - 18.000 - 16.000
Milling tool taper		HSK-A63	HSK-A63 - HSK-A100

## ULTRIX



HIGH DYNAMIC



DIRECT DRIVE



THERMOSTABLE



METALQUARTZ



TURNING

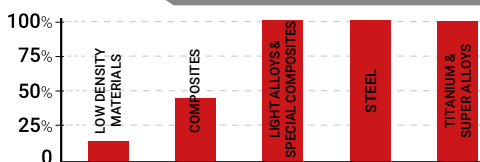
Multiasking 5-axis vertical machining centre, **trunnion table architecture and independent turning bar**, for milling, turning and high-precision grinding operations. Engineered to provide its **best efficiency on titanium, special alloys, steel and light alloys applications.**

**Designed for high dynamics** (jerk, acceleration and speed) avoiding the use of linear motors to allow for a considerable energy saving and ensuring the necessary feed forces even in the heaviest operations.

The **monobloc structure is made of Metalquartz** to ensure the best rigidity and stability while providing the operator with the best ergonomics and operational comfort for an easy and safe access to the machine and the best workpiece visibility.

The Ultrix range includes three models: the biggest one can **machine parts up to Ø1600 mm.**

ULTRIX EFFICIENCY INDICATOR



		ULTRIX E1	ULTRIX E2	ULTRIX E3
X stroke	mm	900	1.150	1.700
Y stroke	mm	900	1.000	1.700
Z stroke	mm	600	700	1.000
X / Y / Z Axes rapid feedrate	m/min	60 / 60 / 40		
A Axis rotation		-30° +110°	-30° +120°	± 120°
C Axis rotation		endless		
Spindle power S6 / S1	kW	55/40 - 41/37 - 40/40	41/37 - 40/40 - 85/75	40/40 - 85/75 - 62/48
Spindle torque S6 / S1	Nm	22/16 - 89/62 - 137/100	89/62 - 137/100 - 480/300	137/100 - 480/300 - 730/600
Spindle speed	rpm	40.000 - 28.000 - 18.000	28.000 - 18.000 - 14.000	18.000 - 14.000 - 14.000
Milling tool taper		HSK-A63	HSK-A63 - HSK-A100	HSK-A63 - HSK-A100
Rotary table power S6 / S1	kW	40/30	30/30	30/30
Rotary table torque S6 / S1	Nm	1.525/1.000	2.700/2.000	2.700/2.000 - 5.000/3.500
Rotary table speed S6 / S1	rpm	1.000/800	500/400	450/350
Turning tool taper		Capto C6	Capto C8	Capto C8 - HSK-T100

## MATRIX E3



HIGH DYNAMIC



DIRECT DRIVE



THERMOSTABLE



THERMAL SHIELD

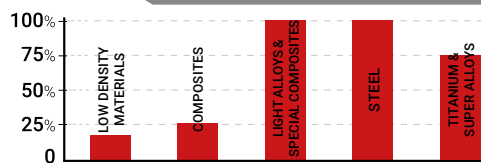
High-precision 5-axis overhead gantry machining centre particularly suitable for **roughing, semi-finishing and finishing operations on large parts made of steel, light alloys or special composites.**

**Designed for high accuracies and high dynamics** (jerk, acceleration and speed) avoiding the use of linear motors to allow for a considerable energy saving and to ensure the necessary thrust even in the most demanding operations.

The robust and **thermo-symmetric gantry architecture** ensures the best rigidity and both structural and thermal stability while providing the operator with the best ergonomics and operational comfort for an easy part setup and a safe access to the machine.

Thanks to the patented **Thermal Shield technology** the machine guarantees the best accuracy even when installed in environments which are not stable in temperature.

MATRIX E3 EFFICIENCY INDICATOR



NEW

		MATRIX E3
X stroke	mm	3.000 - 30.000
Y stroke	mm	3.000 - 4.000
Z stroke	mm	1.500
X / Y / Z Axes rapid feedrate	m/min	50 / 50 / 40
A Axis rotation		-105° +120° - ±115°
C Axis rotation		±305° - endless
Spindle power S6 / S1	kW	41/37 - 110/83 - 40/40 - 40/40 - 55/55
Spindle torque S6 / S1	Nm	89/62 - 115/87 - 137/100 - 180/150 - 235/200
Spindle speed	rpm	28.000 - 24.000 - 18.000 - 16.000 - 12.500
Milling tool taper		HSK-A63 - HSK-A100

## EAGLE

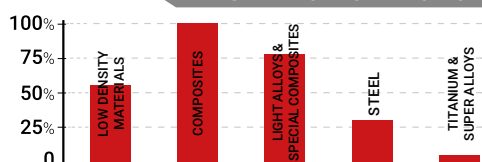
5-axis overhead gantry machining centre which provides the best efficiency on **medium-large size applications of light alloys, composites, resins and low density materials.**

The **wide range of available configurations** allows the Eagle series to machine other materials such as steel and stainless-steel laminates.

**Extremely modular** and with a vast array of available accessories, Eagle is easily configurable with suitable axis travels and **the most efficient technological solutions for every application.**

Each single component has been carefully selected to **increase productivity while reducing machining times and cutting maintenance costs.**

EAGLE EFFICIENCY INDICATOR



		EAGLE E1	EAGLE E2
X stroke	mm	2.000 - 30.000	3.000 - 30.000
Y stroke	mm	2.500 - 4.000	3.000 - 4.000
Z stroke	mm	1.000 - 1.500	2.000 - 2.500
X / Y / Z Axes rapid feedrate	m/min	70 / 70 / 40	
A Axis rotation		± 115°	
C Axis rotation		± 270° - endless	
Spindle power S6 / S1	kW	31/25 - 41/37	
Spindle torque S6 / S1	Nm	65/52 - 89/62	
Spindle speed	rpm	16.000 - 28.000	
Milling tool taper		HSK-A63	

## FLYMILL - FLYMILL MT



HEAD CHANGE



DIRECT DRIVE



THERMOSTABLE



THERMAL SHIELD



TURNING

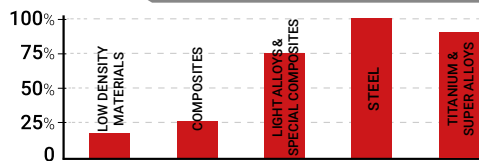
**5-axis overhead gantry machining centre** designed to provide its best efficiency on machining operations for **large parts made of super alloys, stainless-steel and ferrous materials.**

**Built to machine with high torque,** it delivers the necessary machining thrust even in the most demanding operations while maintaining the best precision.

Thanks to the patented **Thermal Shield technology** the machine guarantees the best accuracy even when installed in environments which are not stable in temperature. The robust and **thermo-symmetric gantry architecture** grants the best thermal stability while providing the operator with the best ergonomics and operational comfort for an **easy part setup and a safe access** to the machine.

The **multitasking MT version** is equipped with a high precision and powerful **turning table, a vertical turning head** with automatic rapid change system and a two-position **head store** designed to store the milling and the turning head.

FLYMILL EFFICIENCY INDICATOR



		NEW	NEW
		FLYMILL E1	FLYMILL E1 MT
X stroke	mm	3.000 - 30.000	
Y stroke	mm	3.000 - 4.000	
Z stroke	mm	1.500	
X / Y / Z Axes rapid feedrate	m/min	50 / 50 / 40	
A Axis rotation		-105° +120° - ±115°	
C Axis rotation		±305° — endless	
Spindle power S6 / S1	kW	41/37 - 110/83 - 40/40 - 40/40 - 54/54 - 85/75 - 62/48	
Spindle torque S6 / S1	Nm	89/62 - 115/87 - 137/100 - 180/150 - 235/200 - 450/300 - 730/600	
Spindle speed	rpm	28.000 - 24.000 - 18.000 - 16.000 - 12.500 - 14.000 - 14.000	
Milling tool taper		HSK-A63 - HSK-A100 - Capto C8	
Turning table diameter*	mm	-	1.250 - 1.600 - 2.000 ... (500)... - 5.000
Rotary table power S6 / S1	kW	-	75 / 50
Rotary table torque S6 / S1	Nm	-	10.000
Rotary table speed S6 / S1	rpm	-	60
Turning tool taper		-	HSK-T100 - Capto C8

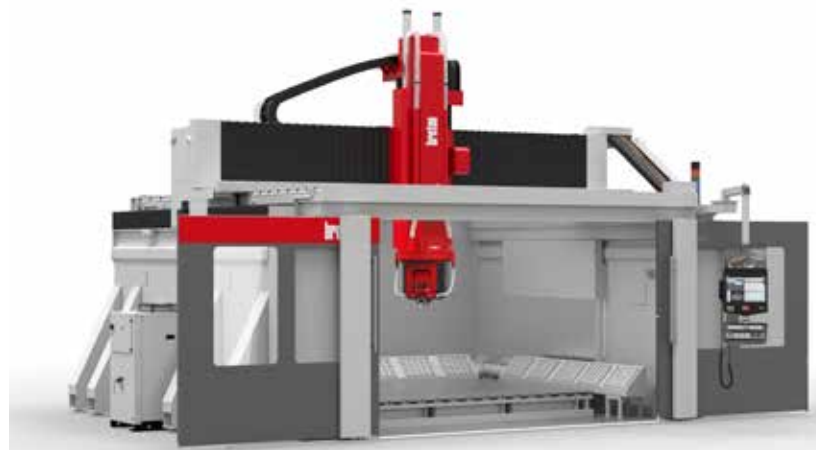
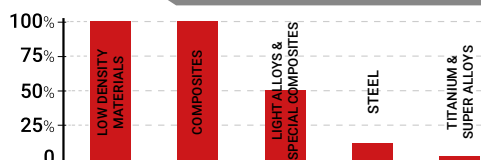
\* Other turning table dimensions available.

## RAPTOR

5-axis overhead gantry machining centre particularly suitable for high-speed operations, **from roughing to finishing, on medium-large parts made of light alloys, composites, resins and low-density materials.**

Raptor incorporates **the most robust structures of its category** and the highest quality components to ensure versatility, precision and **stability over time.** In addition to the wide range of accessories and solutions for dust and chip extraction, Raptor can be equipped with **spindles up to 28000 rpm and 40 Kw.**

RAPTOR EFFICIENCY INDICATOR



		RAPTOR E1	RAPTOR E2
X stroke	mm	4.000	4.000
Y stroke	mm	2.800 - 5.500	8.000
Z stroke	mm	1.200	2.000
X / Y / Z Axes rapid feedrate	m/min	80 / 80 / 40	40 / 40 / 15
A Axis rotation		± 115°	± 105°
C Axis rotation		± 200°	
Spindle power S6 / S1	kW	31/25 - 41/37	
Spindle torque S6 / S1	Nm	65/52 - 89/62	
Spindle speed	rpm	16.000 - 28.000	
Milling tool taper		HSK-A63	



**BRETON S.p.A.**

Via Garibaldi, 27  
31030 Castello di Godego (TV) - ITALY  
Tel. +39 0423 7691 | Fax +39 0423 769600  
info@breton.it | breton.it



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