

HORIZONTAL MILLING AND BORING CENTRES

100T | 110T | 130T | 110TC | 130TC | 150TC



BRAGONZI

excellence for production

A strong tradition of milling and boring.



Milling and boring centre: **100T-110T**

The family of Bragonzi horizontal milling and boring centres, with moving column, is available in four basic models: 100T-110T, 130T, 110TC, 130TC-150TC all equipped with horizontal boring spindle with diameter between 100 mm and 150 mm. The entire range of Bragonzi horizontal milling and boring centres feature technological choices that have been firmly established by the company over its many years of experience. These choices are continuously updated by an intensive research of technical innovations and performance improvements,

which are expressed in evident advantages for the user:

- ultimate precision
- high productivity
- extensive solution flexibility
- remarkable operational capability and easy maintenance.

In particular, the overriding feature of the Bragonzi machines is their precision guaranteed by the strict application of the latest technologies in design, construction and assembly.

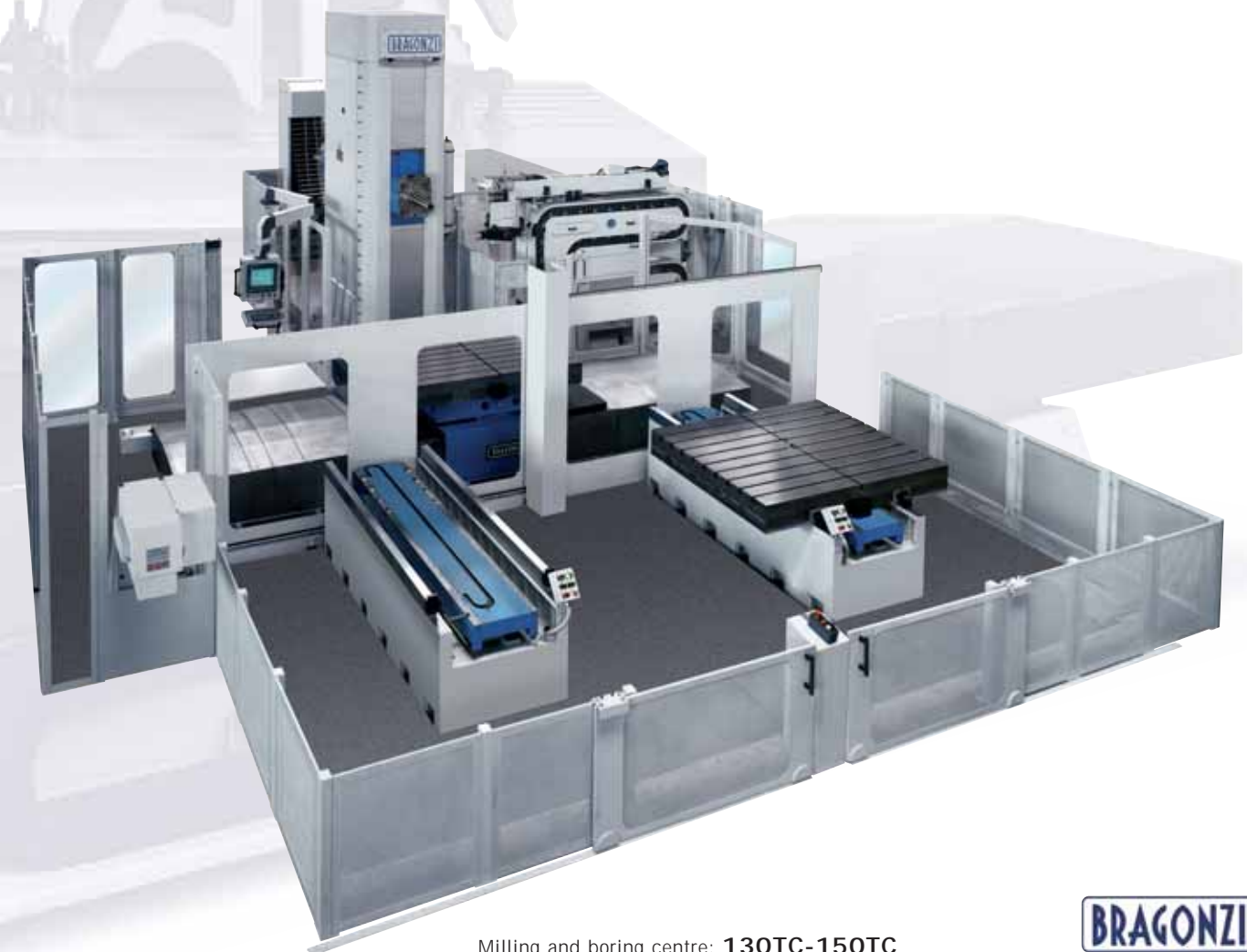
The ultimate precision and high rigidity of the machine structure and spindle, as well as the vast availability of configurations give Bragonzi horizontal milling and boring centres great potential for use in various application sectors such as: machine tools, general mechanics, reduction gears, energy, automotive and aeronautics.



Milling and boring centre: **130TC**



Milling and boring centre: **130 T**



Milling and boring centre: **130TC-150TC**

Excellence for production: precision and stiffness.

The milling and boring centres 100T - 110T - 130T

The machine models 100T-110T and 130T have a T-shaped moving column configuration with a high rigidity side headstock unit.

Beds, column, headstock unit, carriages and table of Ni.Cr.Cu. cast iron with pearlitic structure, 210-230 Brinell hardness undergo heat treatment, before and after roughing, for stress relieving and to guarantee high rigidity and geometric stability. The production process of the machine structures is carried out vertically and entirely at the Bragonzi production plant, starting at the company owned onsite foundry.

The Bragonzi foundry house is a true centre of excellence and boasts more than 80 years of strong tradition in the sector.

The beds (X and Z axes), heavily ribbed and largely proportioned, have been studied in order to give the structure high features in term of rigidity and damping capacity. The integrated and hardened bed guides offer considerable support on the ground surfaces to guarantee adequate rigidity to the consequent stresses deriving from the machine's high chip removal capacity. These guides are also faced with special steel, through hardened, for the sliding of column and carriage on special preloaded roller blocks to overcome the stick-slip and pick-up effects during traverse of the Z and X axes.

The ballscrews, of large section and high precision, are equipped with a preloaded system to maximise the axis positioning and reversal performances.



All the linear axes are equipped with high performance Heidenhain measuring systems.

The milling and boring centres 100TC - 130TC - 150TC

The structure of these models is characterised by a double column of steel with central headstock unit, which guarantees the thermal-symmetrical behaviour. Another key factor is the high rapid traversing speed of the linear axes.

The beds of electrowelded and thermo-stabilized steel, have a double-walled cellular composition to offer the best performance between rigidity and damping. The headstock unit, carriages and table are made of cast iron. The column is equipped with flat integrated guides of hardened steel. The three main axes (X - Y - Z) slides on flat bed guides made of hardened and grinded steel.



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Long lasting reliability and performance.

Rotary tables

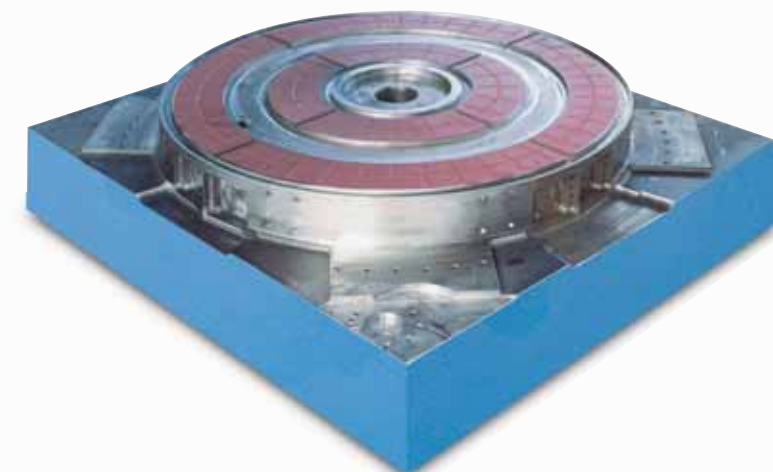
The potential of the Bragonzi horizontal milling and boring centres is also emphasised in the wide range of rotary tables with different workpiece surface dimensions (from 1300 x 1100 mm, up to 1800 x 2500 mm) and different loading capacities (from 3 to 30 tons).

The Bragonzi rotary tables share the following main characteristics:

- table rotation on a single or double ground plate centered on a precision roller bearing
- sliding of the traversing axis with hydrostatic support



- rotation movement by means of reduction gear with double pinion and automatic backlash elimination
- rotary table hydraulic locked
- precision indexing in each of the four orthogonal positions.



Spindles

The high performance milling and boring production processes are possible thanks to spindles designed to guarantee high power values, available even at low rotation speeds.

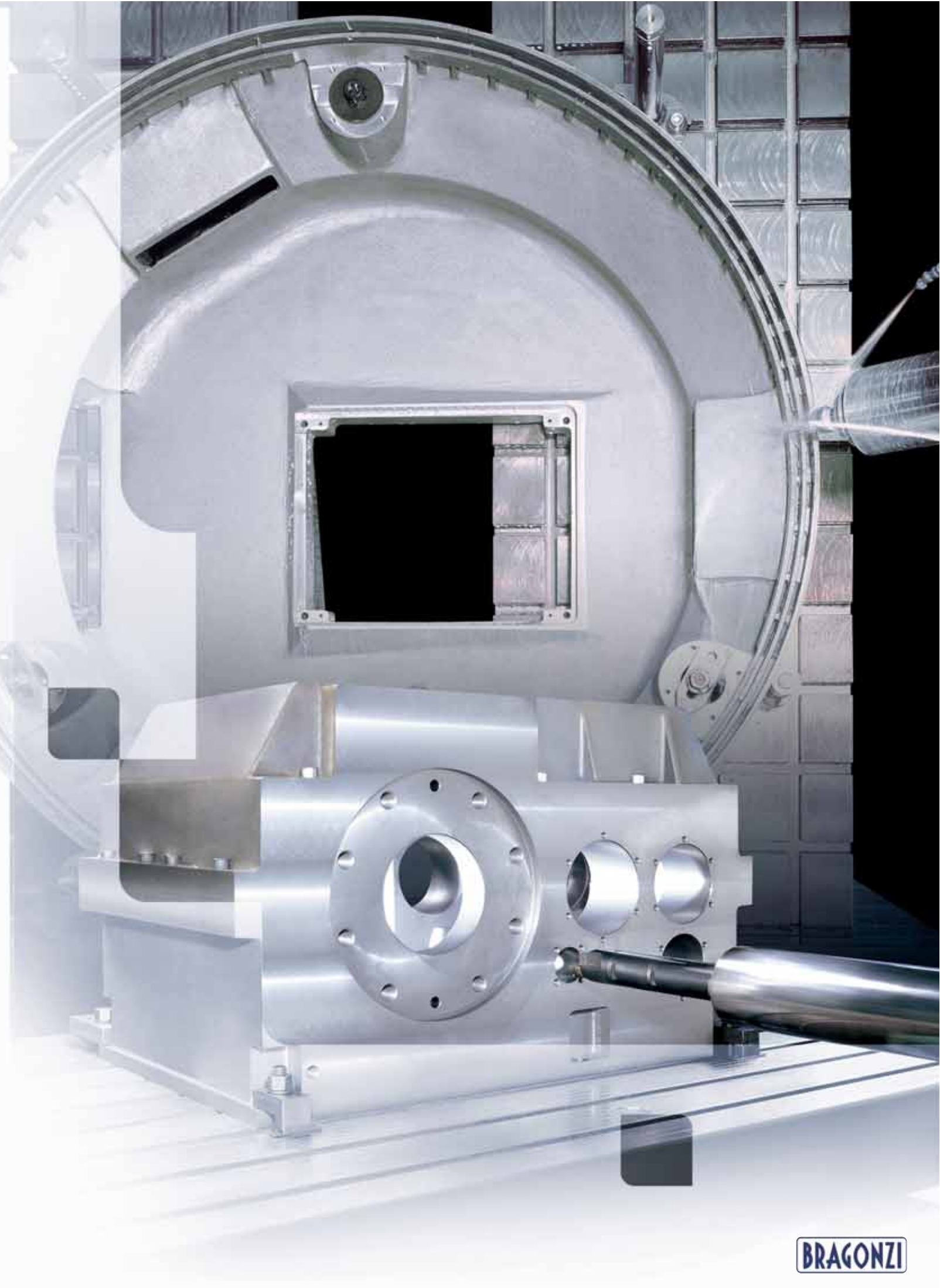
The high chip removal capacity together with the high precision and rigidity are guaranteed by the technical choices made during the

design and construction stages and a result of the several years' experience and tradition of Bragonzi.

This applies particularly to the structure of the headstock made in cast iron NiCrCu submitted to double heat treatment, to the spindle-line rotating on high precision ball bearings and to the modular design that allows a wide range of configurations.

The spindle is made of nitrited steel with 1000 Vickers hardness and superfinished with casehardened tool holder and it is also equipped with internal high pressure cooling and air system for cone cleaning.

Not lastly, the reliability of two-speed gearbox range with electrical or hydraulic coupling and forced lubrication at stabilized temperature.



Versatility and automation for all production types.

Tool magazine and pallet change

The wide range of auxiliary devices for the Bragonzi horizontal milling and boring centres also guarantees productivity and efficiency.

Palletisation systems are available with a double table support.

Tool change devices with chain magazine (up to 120 positions), with tool search carried out in masked time, as well as probe and tracing systems for measuring directly on the part or tool, complete the high level of automation for machining.

Auxiliary heads

The versatility of the Bragonzi machines is guaranteed by the possibility to choose different powered auxiliary heads for boring and facing operations, as well as universal heads especially developed to carry out specific milling operations. The auxiliary heads can be manufactured, according to the use and dimension, with manual or automatic orientation and with the high-pressure coolant feed when using specific tools during drilling.





Controlling production, ergonomics and safety.

The wide range of latest generation numeric controls perfectly integrates in the offer of quality and performances, which characterise the entire production range of Bragonzi machines.

Special attention has been given to the operator's comfort and safety with protected and watertight cabins designed

for easy workpiece access and equipped with exhaust suction systems,

active coolant filtering systems and swarf conveyor systems.

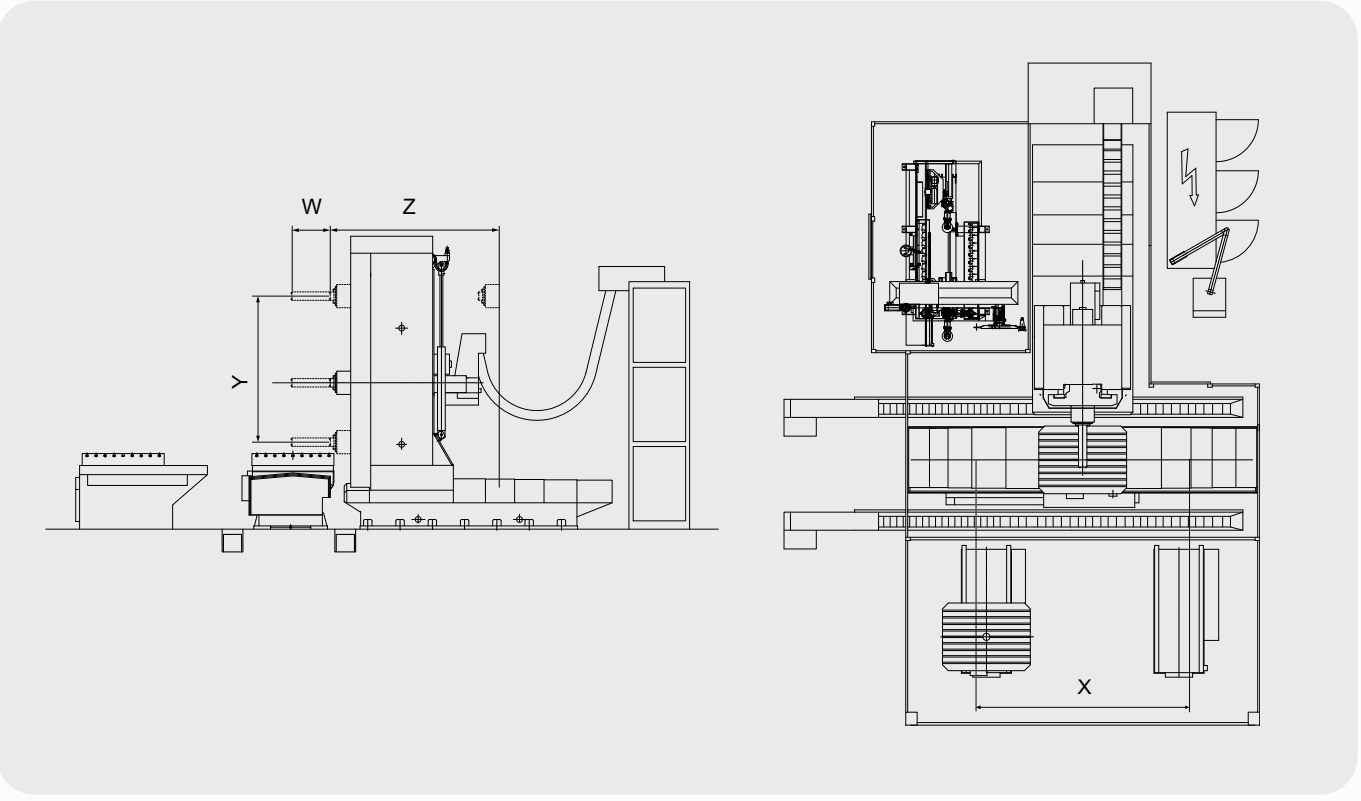


TECHNICAL FEATURES

		T SERIES		TC SERIES	
		100T-110T	130T	110TC	130TC-150TC
Working Area					
X-Axis (Table)	mm	2000-2350-2650-3100	3500-4000-5000	2650-3100	3500-4000-5000
Y-Axis (Headstock)	mm	1100-1500	2000-2500	1500-1800	2000-2500-3000
Z-Axis (Column)	mm	1000-1400	1500-2000-2500	1400	1500-2000-2500
Rapid Feed					
X, Y and Z Axes	mm/min	20000	12000	20000	20000
Rotary Table					
Pallet Sizes	mm	1300x1100	1500x2000	1500x1200	1500x2000
	mm	1500x1200	1600x2300	1600x1800	1600x2300
	mm		1800x2500		1800x2500
Table Capacity (opt.)	daN	3000-6000	15000 (30000)	6000 (8000)	15000 (30000)
Testa mandrino					
Spindle Taper		ISO 50 / DIN 69871	ISO 50 / DIN 69871	ISO 50 / DIN 69871	ISO 50 / DIN 69871
Boring Spindle Diameter	mm	100 - 110	130	110	130 - 150
W-Axis (Boring Spindle)	mm	550	750	550	800 - 1000
W-Axis Rapid Feed	mm/min	10000	10000	10000	10000
Spindle Power (S1/S2)	kW	22	37 / 56	28	37 / 56 - 52 / 60
Torque High Range/Low Range	Nm	347 / 1102	442 / 1621	182 / 1377	350 / 1900 - 600 / 2450
Max. Spindle Speed	rpm	3000	3000	3000	3000 (3500)
Spindle Gear Ranges		2	2	2	2
Installation Data					
Weight	daN	20000	33000	25000	33000

Above specifications and features are not binding and may be modified without notice.

WORKING AREA





Bragonzi is a leading machine tool manufacturer with extensive design experience and autonomous production capacity.

The essential integration of these two important technological factors guarantees the high quality and reliability of Bragonzi milling and boring centres. This starts precisely from the manufacturing of the iron castings in its own onsite foundry, a true centre of excellence at the Bragonzi production plant, which boasts over 80 years of activity and a strong tradition in manufacturing of very complex workpieces, produced with a high degree of specialisation, quality, duration and mechanical/thermal resistance.

The recent years has seen the company strengthen its market position thanks to the attention it dedicates to the design choices and product development, the technologies utilised and the complete verticalisation of its manufacturing process, with direct control of all the production phases. These choices have thus allowed Bragonzi to establish itself with users and leading industrial groups throughout the world in different application sectors.

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