BUCKUHLY

DEEP-HOLE DRILLING CENTERS

MADE
IN
GERMANY

"THERE IS NO **MACHINE** UNLESS YOU **BUILD** IT.

Markus Uhly

PAGE 4 About BUCKUHLY

The story of Markus Uhly and Markus Buck

PAGE 6 Contacts

Markus Uhly, Markus Buck, Petra Berck, Marcel Weisbach, Andreas Beck & Ralf Herbel

PAGE 8 Features

No foundations, small space requirements, high table load, maximal degree of automation

PAGE 12 TB Standard Series

Stable, easy-to-operate CNC deep drilling machine with cross table design

PAGE 14 TBF Compact Series

Stable, precise and efficient CNC deep drilling and milling centre with cross table design

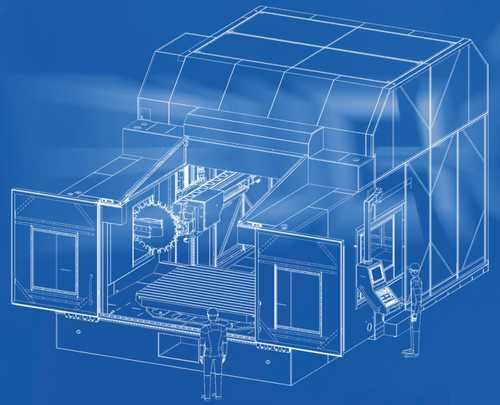
PAGE 16 TBFZ-G Gantry Series

Universal, high-performance and innovative CNC deep drilling and milling centre with gantry design.

PAGE 22 Data Comparison

Overview of the technical information of all product series

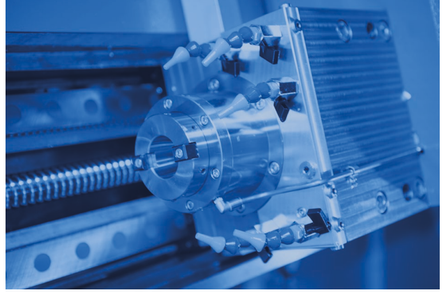
ABOUT BUCKUHLY



In 2003 Markus Buck stopped producing BUCK deep drilling milling machines himself. He looked for a suitable business to become a qualified partner with that demonstrated areas of service, spare part production, retrofitting and transfer of machines. The foundation stone for a collaboration with Markus Uhly had been laid. In 2006, the first overhaul took place, a retrofit of a BUCK deep drilling machine at the Uhly establishment. In the following years, the demand for new BUCK deep drilling machines grew, and the idea of manufacturing them enthused Markus Uhly. The BUCKUHLY idea was born.

The outdated concept from 2000 was completely reworked, newly devised and reconstructed by the UHLY team. With the aim of short transport links and manufacturing independence, we wanted to guarantee flawless productions quality delivered on time. The decision made in 2012 meant that already in the following year four new machines in two different series were delivered.

Today three series in eleven designs as well as numerous application possibilities are produced. The frames are made using a hybrid design.



The result: extreme rigidity and long term precisions. Therefore, no machine requires foundations. Quick assembly, a small footprint and efficient access to the workpieces despite the very heavy weight of the workpieces are the key words that drive the team around Markus Uhly day to day.

The machine control was redesigned, too. Now BUCKUHLY machines possess programming that has been specially adapted by UHLY. The control has been adjusted exactly to the processing technology. As a result, the user has numerous information displays and text description in several help menus at their disposal, combined with special machining cycles. The programming of the CAD/CAM interface is also supported in-house. Through the adjustment of CAD/CAM systems your very own application specialists are on hand to implement machine kinematics and the best machining strategy.

Development, start-up, training, maintenance and telephone support are carried out by UHLY staff. They are also happy to answer any questions about the application technology.

CONTACTS

Ready for a challenge

We are an innovative business with level decision making.
We act in a customer-oriented and practical way.
As a result, we combine our expertise in technology and manufacturing, sales, purchasing, consultancy and distribution.

Markus Uhly

Manager of Uhly GmbH

Manufacturer

+49 (0) 63 59 - 93 87 - 0

markus.uhly@uhly-technik.de

Markus Buck

Manager of BSV Buck

Marketing / Sales

+49 (0) 98 28 - 9 11 97 71

m.buck@bsv-buck.de

Petra Berck

Sales

+49 (0) 63 59 - 93 87 - 12

petra.berck@uhly-technik.de

Marcel Weisbach

Control technology / Development

+49 (0) 63 59 - 93 87 - 25

marcel.weisbach@uhly-technik.de

Andreas Beck

Project manager / Construction

+49 (0) 63 59 - 93 87 - 16

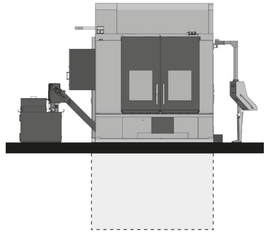
andreas.beck@uhly-technik.de

Ralf Herbel

Purchasing

+49 (0) 63 59 - 93 87 - 17

ralf.herbel@uhly-technik.de



No foundations

BUCKUHLY machines can be independently set up. They do not need to be prepared months in advance in order to fit into the existing infrastructure. After delivery, these machines are ready to use within seven working says and can be fully integrated into production. The machine distinguishes itself by its gantry body, through which no force or vibration travels to the surrounding areas. All of the components necessary for machine operation are integrated into the gantry design. Our machines are not supported with foundations, they are the foundations.

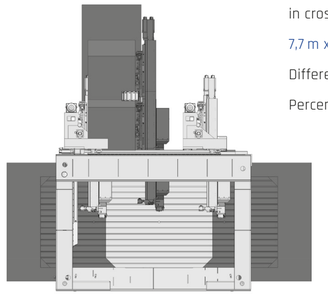
Advantages:

+ No new hall statics
+ No external services
+ No cutting off of the hall foundations
+ No excavations
+ No core drillings
+ Ground level machine construction

Small space requirements

BUCKUHLY machine concepts distinguish themselves through their optimal use of space. Compared with the conventional cross table and travelling pillar constructions or a combination of both, a doubling of the amount of space used occurs. In other words, our machines require ca. 50 % less space.

- Gantry construction
- Cross table construction



Sample measurements of a machine with gantry body:
4,9 m x 5,4 m = 26,46 m²
in cross table configuration:
7,7 m x 7,0 m = 53,9 m²
Difference: 103 %
Percentage room saved: 49 %

B-Axis / CNC 360° rotary table

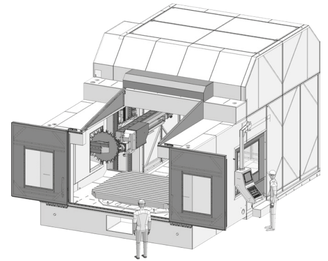
The BUCKUHLY rotary table distinguishes itself through an extreme and uniquely high level stiffness. The workpiece forms a unit with the table and the machine bed, matching exactly with regards to flatness. Due to our aerostatic operating principle, the rotary tables can position workpieces that weigh up to 30.000 kg precisely and continuously without frictional resistance. No rolling or inclining movements even with unfavourable centres of gravity, asymmetric table loading or processing on a maximum height from the table location.

Simply put, the processing and handling know no limits in the tension or manufacturing strategy.

Maximal degree of automation

The BUCKUHLY machine design combines stability, functionality, precision and operation perfectly. This combination allows deep hole drilling and milling at the highest level. Horizontal processing (shavings are cleared out by gravity), no shaving build-up/congestion and tool breakage, no vibrations due to jamming of shaving accumulation.

This part is included in the middle of the machine body and the gantry formation carries out the processing strategies. No unnecessary dynamic from the movement of the part needs to be compensated for. The four-sided processing combined with the horizontal position of the gantry construction allows the production of deeply drilled holes and milling on a jig boring machine level.



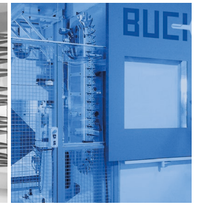
Standard Equipment

+ 3D path control Heidenhain iTNC/TNC
+ Deep drilling and machining cycles
+ Multiple workpiece supports
+ Chip conveyor
+ High pressure-coolant system with fine filtration
+ Machine casing with integrated oil feedback (apart from TB series)

Expertise

BUCKUHLY not only offers you machines, but the total deep drilling competence. We offer you both customer and workpiece specific analysis as well as advice on tool technology and application use on-site. The unique diversity of the model ranges offers the most suited and best solution to economic deep drilling and milling processing for any cubic area of workpieces. Because of our highly technical and innovative competences we are also able to develop machine solutions tailored to the customer.

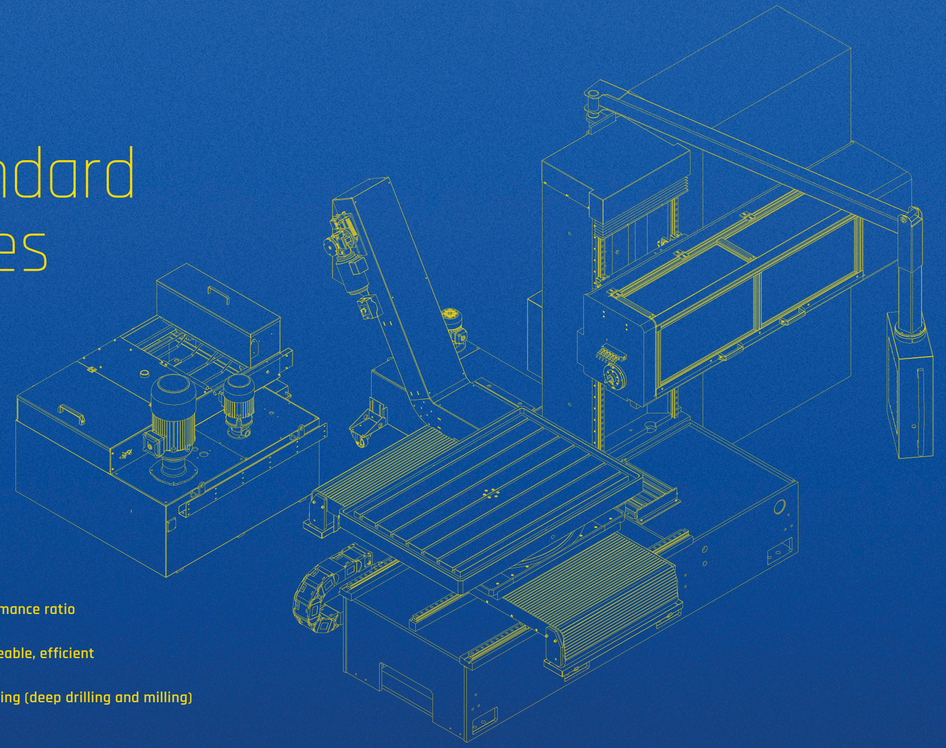


The Gantry Series

The highlight of BUCKUHLY machine design, developed from a mould maker and completed to become a high-performance product. The gantry form of Durcrete workmanship stands for the highest rigidity, constant high precision and thermal stability with a small footprint. This leading design allows a foundation-free machine set-up. Equipped with the most modern Heidenhain control and driving technology, the Gantry Series allows a highly effective and economic 4-sided deep drilling and milling. Equipped with automation technology, auxiliary process time savings of more than 60% are possible and a reduction in production time of more than 30% is also possible. Ideal for use of medium-sized and large, as well as complex components. Because of its practice-oriented development, this series is ideal for use in tool and mold construction.

TB
Standard Series

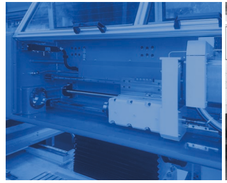


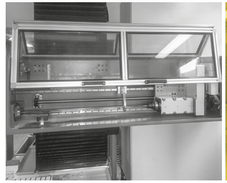
+ Best price-performance ratio
+ Compact, manageable, efficient
+ Complete machining (deep drilling and milling)

TB 1050

The TB Standard Series captivates through a very stable welded construction, combined with high precision and stability for deep drilling – easy to operate and yet powerful. The upcoming machining tasks such as cool, oil or air drilling are effectively and economically carried out.

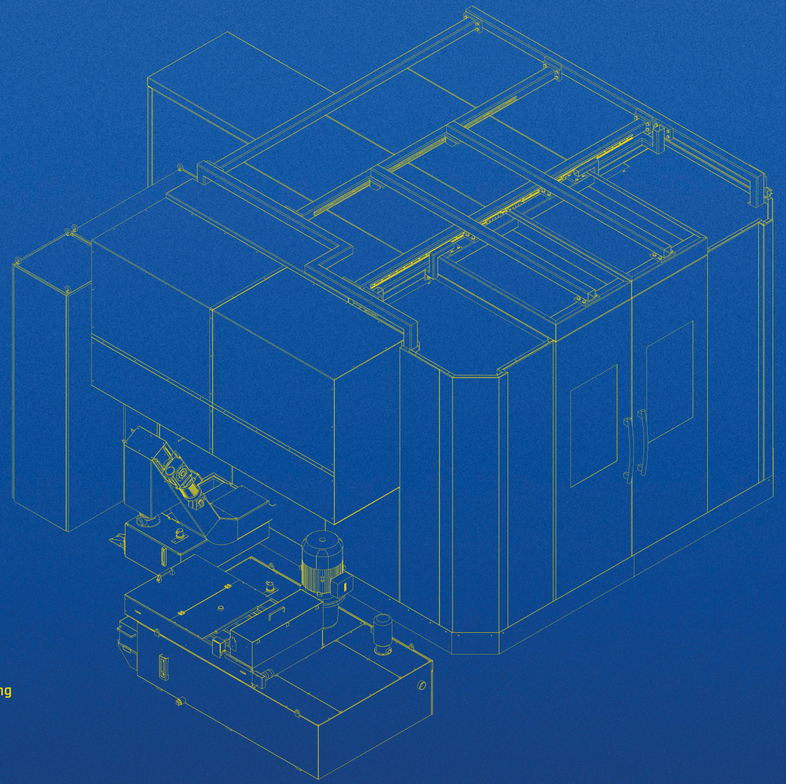
The well thought-out machine design allows deep hole drilling, lowering, reaming and milling on one setting. Equipped with state-of-the-art Heidenhain TNC 620 control as well as chip conveyor and highly efficient cooling system. Ideal for use in small and medium-sized components.





Machine type	TB 1050
Drill diameter	3-25 mm with single-lip drilling
Drill depth in one move (mm)	810 with additional drill 1.200
Tapping	Up to M20 – larger when milling
Tool changer	Manual
Shaft absorption	SK 40 or HSK 63
Driving power	5,5 kW / duty cycle 100
Measuring range X (horizontal)	1.050 mm
Measuring range Y (vertical)	800 mm
Table load	Up to 2.500 kg
Table size	1.000 x 1.500 mm
CNC rotary table	0-360° manual

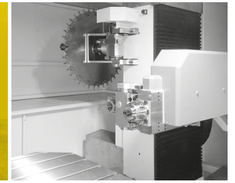
TBF
Compact Series



+ Universal compact construction
+ Precise and efficient
+ 4-sided complete machining (deep drilling and milling)
+ Up to 6 axes with automatic zero offsetting

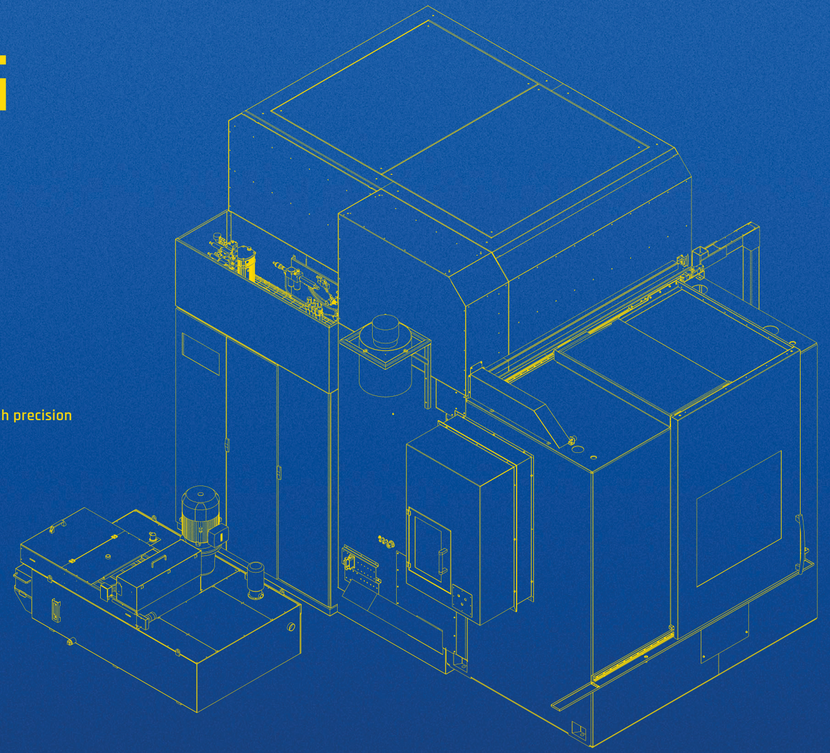
TBF 1050 / 1400

The TBF Compact Series is the further development and so far the optimal cross table design. Equipped with a productive deep drilling and milling cutter as well as the highly precise rotary table, this series allows a four-sided complete machining of complex components. The optional use of the A axis allows machining under two swung-in position angles. If desired, a single-lip deep hole drill with a 25 a time tool changer can be used. Ideal for use in small and medium-sized complex components.



Machine type	TBF 1050 / 1400
Drill diameter	3-32 mm with single-lip drilling
Drill depth in one move (mm)	1.000 with additional drill 1.400
Tapping	Up to M20 – larger when milling
Tool changer	25 times
Shaft absorption	SK 40 or HSK 63
Driving power	7,5 kW / duty cycle 100
Measuring range X (horizontal)	1.050 mm / 1.400 mm
Measuring range Y (vertical)	800 mm
Table load	Up to 5.000 kg
Table size	940 x 1.040 mm
CNC rotary table	CNC axis 0-360°

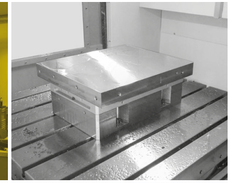
TBFZ-G
Gantry Series

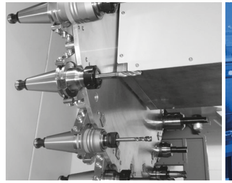


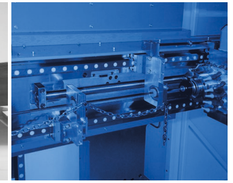
+ Unique machine design
+ Excellent stability and constant high precision
+ No foundation necessary
+ Small space requirement
+ 4-sided complete machining (deep drilling and milling)
+ Up to 6 axes with automatic zero offsetting
+ Extremely efficient and universal

The BUCKUHLY TBFZ-G 1200 machine has been designed for a machining strategy for complex workpieces with high demands of stability and precision. With a variety of machining options, the machine achieves very high automation and performance.

With a footprint of approx. 24 m², a machine weight of approx. 34 tonnes, areas measuring 1.000 x 1.000 x 9.000 mm (L/W/H) with a weight of 10.000 kg can be worked.

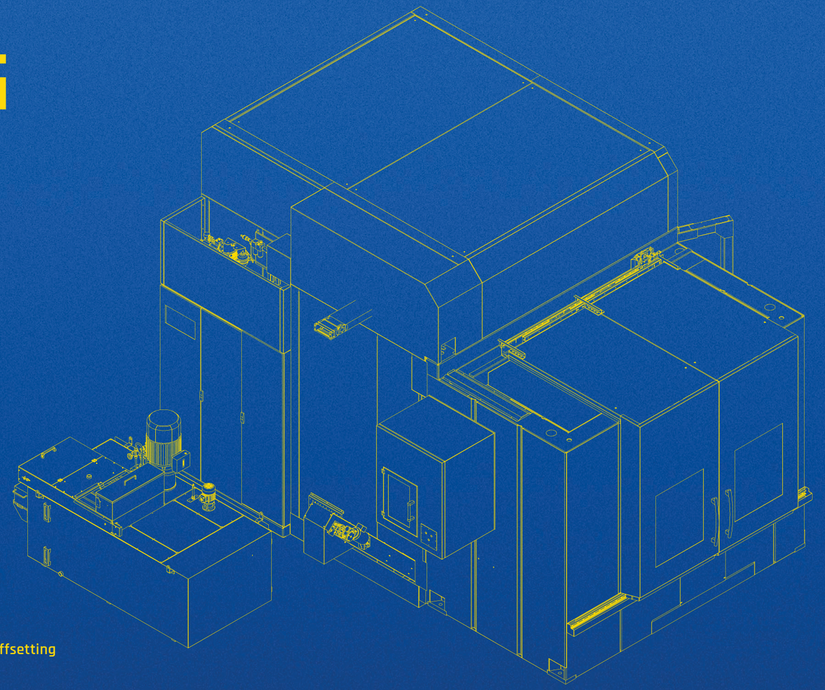






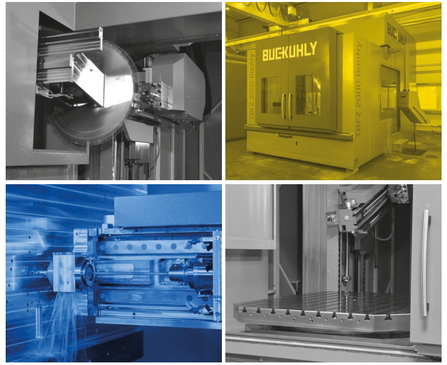
Machine type	TBFZ-G 1200
Drill diameter	3-32 mm with single-lip drilling/BTA
Drill depth in one move (mm)	1.000 with additional drill 1.500
Tapping	Up to M24 – larger when milling
Tool changer	25 / 40 / 60 times
Shaft absorption	SK 40 / 50 or HSK 63 / 100
Driving power	10 kW / duty cycle 100
Measuring range X (horizontal)	1.200 mm
Measuring range Y (vertical)	1.000 mm
Table load	Up to 10.000 kg
Table size	1.100 x 1.200 mm
CNC rotary table	CNC axis 0-360°

TBFZ-G
Gantry Series



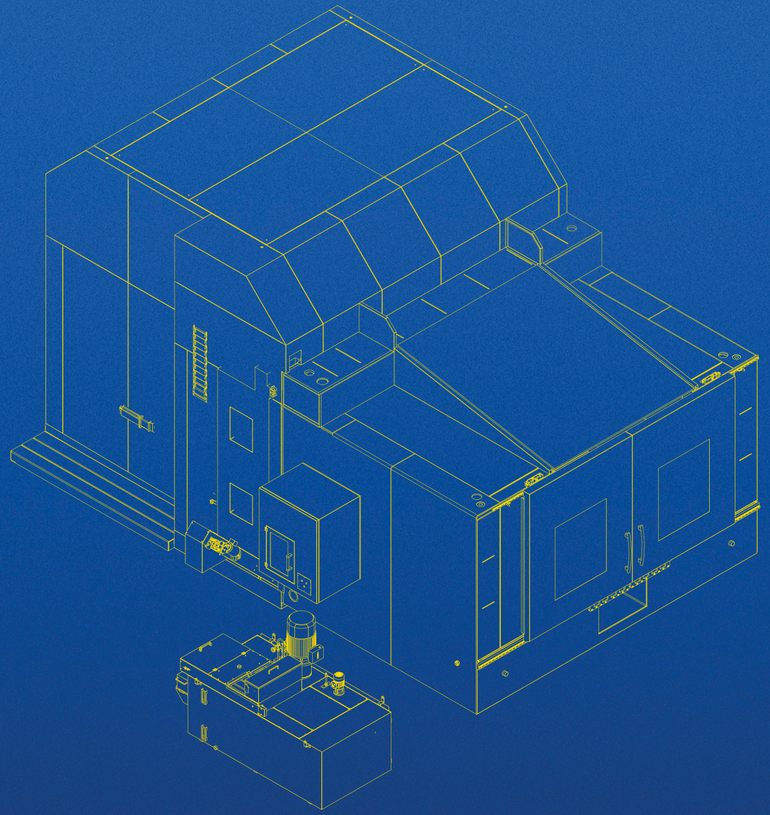
+ Unique machine design
+ Excellent stability and constant high precision
+ No foundation necessary
+ Small space requirement
+ 4-sided complete machining (deep drilling and milling)
+ Up to 6 axes with automatic zero offsetting
+ Extremely efficient and universal

The BUCKUHLY TBFZ-G 2000 machine is designed for mid- and large-sized workpieces. With a footprint of 40 m² and a machine weight of 38 tonnes, workpieces measuring 1.800 x 1.500 x 1.200 mm (L/W/H) with a table load of up to 15.000 kg can be worked. Numerous options additionally allow a very high degree of automation in this medium to large segment.



Machine type	TBFZ-G 2000
Drill diameter	3-60 mm in single-lip drilling/BTA
Drill depth in one move (mm)	1.500 with additional drill 1.900
Tapping	Up to M36 - larger when milling
Tool changer	20 / 40 / 60 / 80 times
Shaft absorption	SK 40 / 50 or HSK 63 / 100
Driving power	24 kW / duty cycle 100
Measuring range X (horizontal)	2.000 mm
Measuring range Y (vertical)	1.200 mm
Table load	Up to 15.000 kg
Table size	1.500 x 1.800 mm
CNC rotary table	CNC axis 0-360°

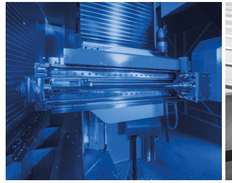
TBFZ-G
Gantry Series

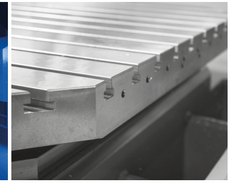


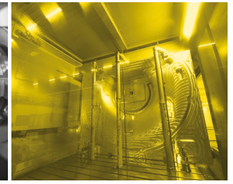
+ Unique machine design
+ Excellent stability and constant high precision
+ No foundation necessary
+ Smaller space requirement
+ 4-sided complete machining (deep drilling and milling)
+ Up to 6 axes with automatic zero offsetting
+ Extremely efficient and universal

The largest gantry machine of horizontal design has a swing circle of 3500 mm and a machine weight of 75 tonnes and is fully functional for very large workpieces after just a few days of installation and start-up. With a footprint of 70 m² areas measuring 3.000 x 2.300 x 1.500 mm (L/W/H), workpieces with a table load of 30.000 kg can be easily worked. Thanks to sturdiness, precision and stability, even large workpieces can be produced with the highest precision.

Eccentrically mounted workpieces can be positioned on the extremely stable rotary table. No foundations, no floor anchoring, no mechanical burden for the foundations and the building.

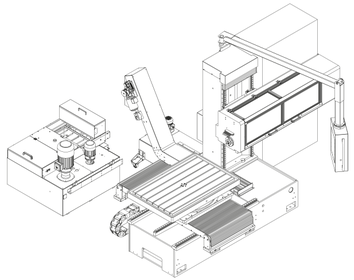


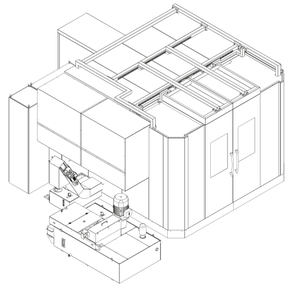




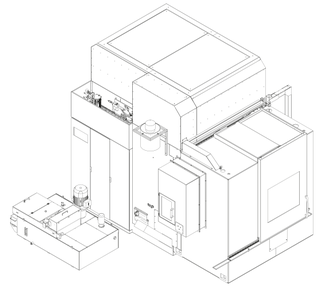
Machine type	TBFZ-G 3000
Drill diameter	3-60 mm in single-lip drilling/BTA
Drill depth in one move (mm)	2.000 with additional drill 2.500
Tapping	Up to M36 - larger when milling
Tool changer	20 / 40 / 60 / 80 / 100 times
Shaft absorption	SK 40 / 50 or HSK 63 / 100
Driving power	24 kW / duty cycle 100
Measuring range X (horizontal)	3.000 mm
Measuring range Y (vertical)	1.500 mm
Table load	Up to 30.000 kg
Table size	2.300 x 2.700 mm
CNC rotary table	CNC axis 0-360°

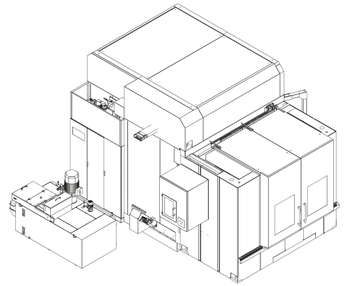
DATA COMPARISON

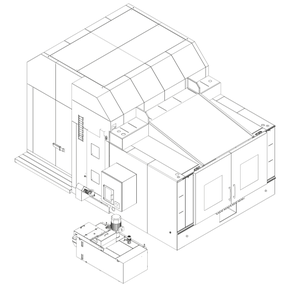




Machine type	TB 1050	TBF 1050 / 1400
Drill diameter	3-25 mm with single-lip drilling	3-32 mm with single-lip drilling
Drill depth in one move (mm)	810 with additional drill 1.200	1.000 with additional drill 1.400
Tapping	Up to M20 - larger when milling	Up to M20 - larger when milling
Tool changer	Manual	25 times
Shaft absorption	SK 40 or HSK 63	SK 40 or HSK 63
Driving power	5,5 kW / duty cycle 100	7,5 kW / duty cycle 100
Measuring range X (horizontal)	1.050 mm	1.050 mm / 1.400 mm
Measuring range Y (vertical)	800 mm	800 mm
Table load	Up to 2.500 kg	Up to 5.000 kg
Table size	1.000 x 1.500 mm	940 x 1.040 mm
CNC rotary table	0-360° manual	CNC axis 0-360°







TBFZ-G 1200	TBFZ-G 2000	TBFZ-G 3000
3-32 mm with single-lip drilling/BTA	3-60 mm in single-lip drilling/BTA	3-60 mm in single-lip drilling/BTA
1.000 with additional drill 1.500	1.500 with additional drill 1.900	2.000 with additional drill 2.500
Up to M24 - larger when milling	Up to M36 - larger when milling	Up to M36 - larger when milling
25 / 40 / 60 times	20 / 40 / 60 / 80 times	20 / 40 / 60 / 80 / 100 times
SK 40 / 50 or HSK 63 / 100	SK 40 / 50 or HSK 63 / 100	SK 40 / 50 or HSK 63 / 100
10 kW / duty cycle 100	24 kW / duty cycle 100	24 kW / duty cycle 100
1.200 mm	2.000 mm	3.000 mm
1.000 mm	1.200 mm	1.500 mm
Up to 10.000 kg	Up to 15.000 kg	Up to 30.000 kg
1.100 x 1.200 mm	1.500 x 1.800 mm	2.300 x 2.700 mm
CNC axis 0-360°	CNC axis 0-360°	CNC axis 0-360°

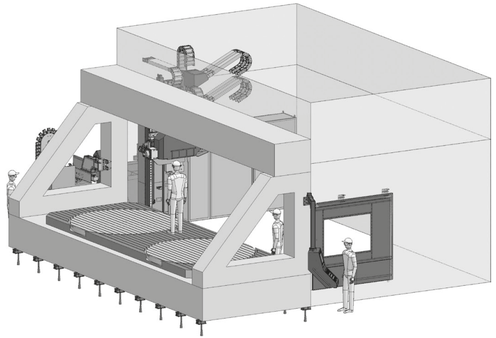
OUTLOOK

TBFZ-G 7000 Design - Available in 2018

The unique gantry machine design knows no limits!

Motivated by the constantly growing market and customer requirements, BUCKUHLY is now in the position to implement necessary machine designs in practice both quickly and with the highest level of expertise.

The BUCKUHLY TBFZ-G 7000 has a table capacity of 7.000 x 3.000 x 2.000 mm (L/W/H). This machining table can accommodate workpieces weighing up to 70.000 kg and is designed for machining of large workpieces. This machine has two fully fledged CNC 360° rotary tables integrating pendulum machining with a capacity of 30.000 kg for each table. With this additional machine design, our gantry series achieves once again maximal performance and flexibility.



+ Due to the pendulum machining, set-up times are non-existent

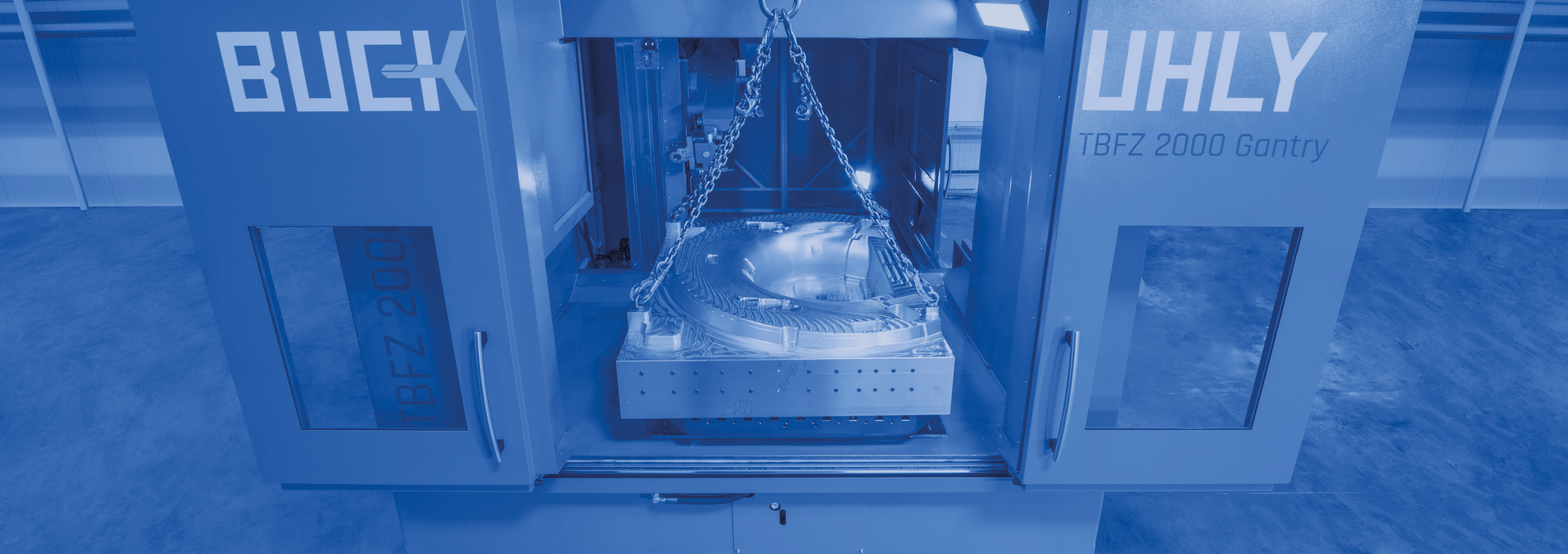
+ The total capacity rises to 70.000 kg

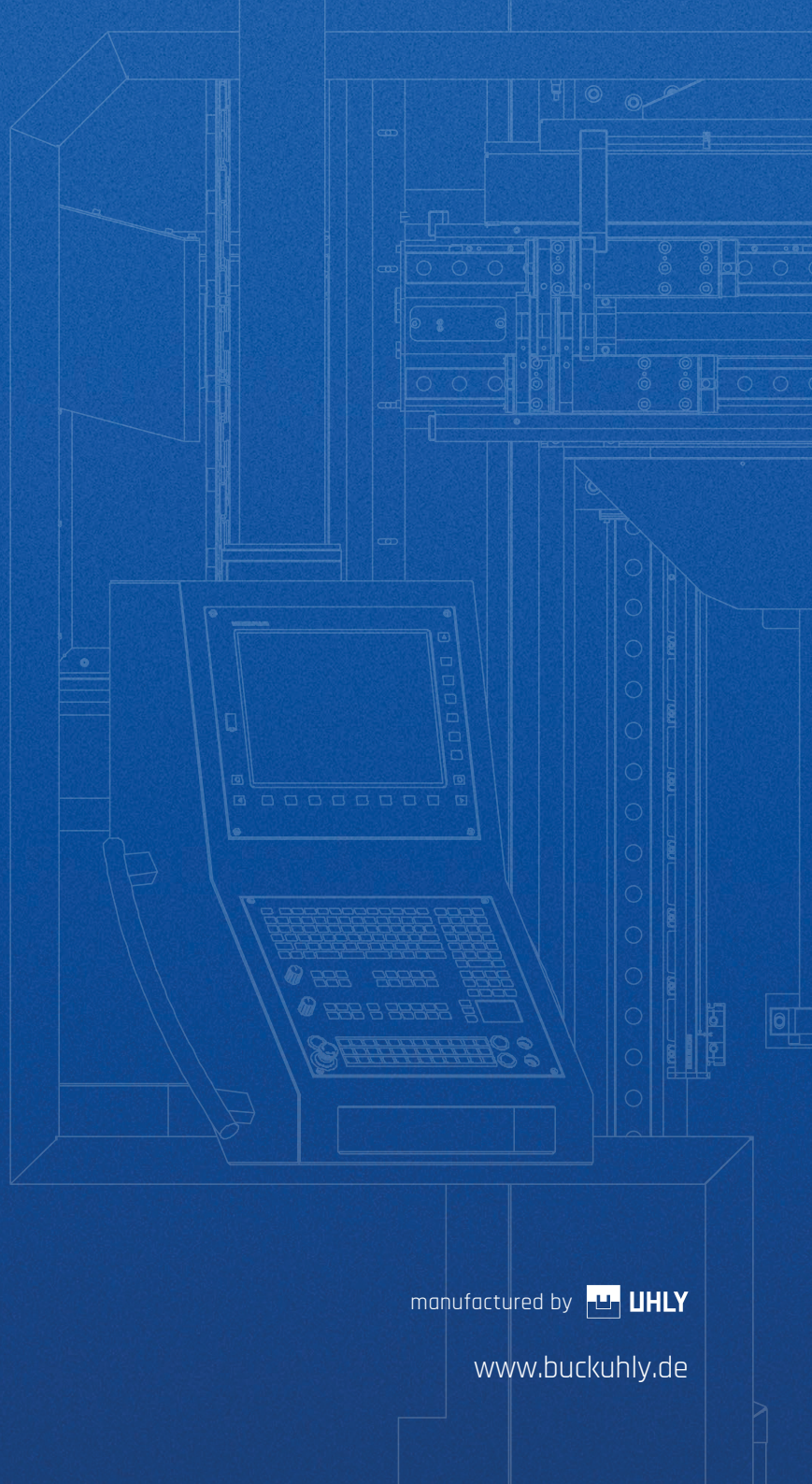
+ Fully integrated plate area 7.000 x 3.000 mm (L/W)

+ Two CNC rotary tables with optimal precision and rigidity

REFERENCES

Polar-Form Werkzeugbau GmbH	D-77933 Lahr, Black Forest	**TBF 1400 CNC**
Glaroform AG Werkzeug + Formenbau	CH-8752 Näfels	**TBFZ-G 1200**
Rohrer AG	CH-4313 Möhlin	**TB 1050**
Kiefer Werkzeugbau GmbH	D-74193 Schwaigern	**TB 1050**
TIRAD, s.r.o.	CZ-67526 Zeletava	**TBFZ-G 2000**
ORO MET d.o.o.	SI-6256 Kosana	**TBFZ-G 2000**
TiXBo GmbH	D-22045 Hamburg	**TB 1050, 2x TBF 1050**
Formy Tachov s.r.o.	CZ-34701 Tachov	**TBFZ-G 1200**
Heidler Hydraulikbau GmbH	D-35428 Langgöns-Oberkleen	**TBF 1050**
Ciupka Werkzeugbau	D-58513 Lüdenscheid	**TB 1050**
Haselbeck Formen- u. Werkzeugbau GmbH	D-94469 Deggendorf	**TBFZ-G 2000**
RIWOTEC GmbH	D-07422 Bad Blankenburg	**TB 1050**
MAXION Jänsch & Ortlepp GmbH	D-07381 Pößneck	**TBFZ-G 2000**
WFT Werkzeug- und Frästechnik GmbH	D-31073 Delligsen	**TBFZ-G 3000**
KiHA GmbH CNC Technik	D-58513 Lüdenscheid	**TBF 1400**


BUCK
TBFZ 200
UHLY
TBFZ 2000 Gantry



BUCKUHLY
DEEP-HOLE DRILLING CENTERS

Uhly GmbH
Obersülzer Str. 41
D-67269 Grünstadt

+49 (0) 63 59 - 93 87-0
+49 (0) 63 59 - 93 87-20
info@uhly-technik.de

manufactured by UHLY

www.buckuhly.de