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to precision

BENZINGER
PRÄZISIONSMASCHINEN

GOFuture



Control:

Your choice of Siemens Sinumerik 840D sl or Fanuc 310 is-A are available for controls.

As a standard, the operator is supported by a graphic programming surface (Siemens ShopTurn or Fanuc ManualGuide).

Tele-service and network connection are optionally available.

The control console is pivotable and can therefore be turned for adjustment to an optimal position. In parked position it rests against the machine cladding to save space.



The machine concept allows the use of well-known automation solutions.

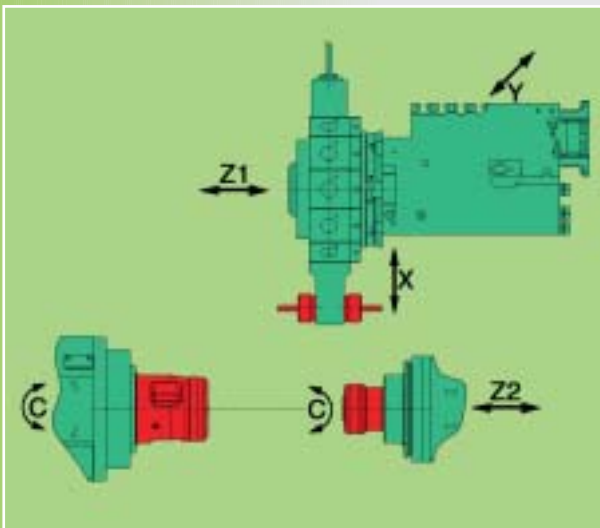
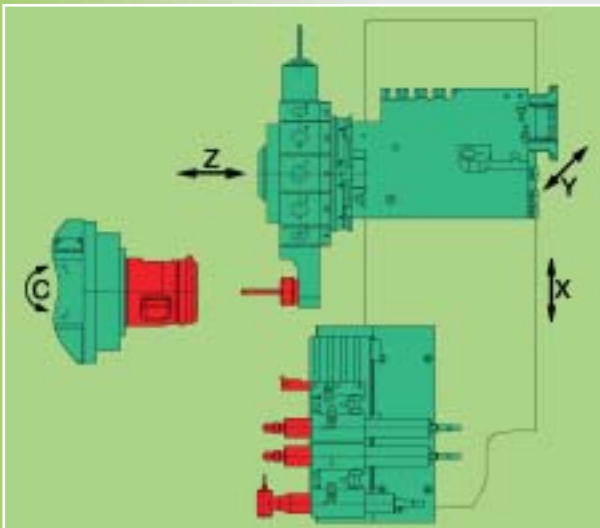
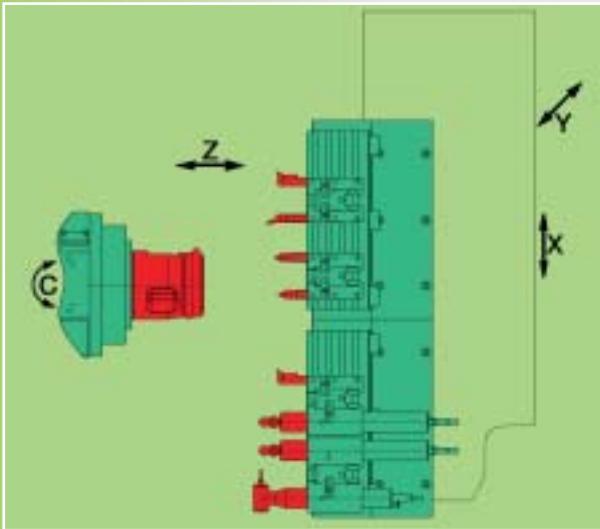
Pivot-loading systems (image) or integrated loading (image) assure the shortest changing times.

For palletising and/or for downstream duties, robot cells or portal systems are used.

**Special solutions:**

Thanks to the large path of movement, all proven BENZINGER special solutions can be best realized with this machine concept. From the high-precision circular milling (image) to the diamond-cutting through additional bore and milling spindles or grinding spindles, up to inside thread cutting and gear hobbing (image), all units can be mounted on the transverse carriage. In addition, the user has the possibility of inserting different technologies on a clamp together with linear tools and the turret.





Everything with the machine series **GOFuture** revolves around customer needs, the highest precision, and solutions for your specific cases of application.

In order to also fulfil these requirements in the future, the machine series **GOFuture** combines high-performance, highly-precise, modern technology into its compact installation surface. Specially-designed machine components like the machine string and the carriage, paired with high-precision-cut guide rails and circular racks give the machine optimal dampening qualities and superior machine rigidity. Combined with digital drives with the most modern control systems, the machine also fulfils the highest demands on precision and reliability.

Spindle bores are offered at 32 and 42 mm, where as both the main and the opposed spindles are thermo-symmetrically integrated. Both spindles are designed as so-called motor spindles with their own cooling circuit.

The machine is offered in three variants, beginning with two single-spindle solutions with linear tool design or turret, as well as a variant with opposed spindle.

A usable overall stroke of 370 mm in X-direction (only possible without opposed spindle) offers a high measure of flexibility and design of the most diverse tools or additional installations. The turret version can be additionally expanded for linear arranged tools.

An extremely rigid and amply designed Y-axis with 80 mm stroke is available for all three variants, even in combination with the leaner tool design.

Despite the extremely compact design, the machine is endowed with relatively large dimensions for this overall size. This is advantageous with the dynamics of the machine (1g acceleration, 45 m/min rapid motion). Significantly more essential, however, are the very high dampening and the overall rigidity of the machine resulting from this. Attributes that are indispensable for chipping in the high-precision range.

As a result of the modular design, together with our series **Take5**, the machine additionally has amply-dimensioned guides and drives. A further plus factor to be considered is the precision of the machine.

For automation of the machine, there is the possibility of equipping the machine with different automation solutions from Benzinger along with the use of diverse bar loaders. Of course the machine can also be automated through different robotic solutions.

The customer-specific adaptations realised thus far can be used even better and more efficiently in the **GOFuture**. Regardless of whether it involves NC-controlled circular milling, gear hobbing equipment, grinding spindles, planing devices, automations of different specifications, etc., the **GOFuture** is always a suitable foundation for the optimal realization of your wishes.

The **GOFuture** combines high precision with compact storage spaces, just as you would expect from Benzinger.

The **GOFuture** machine series is designed for different application areas.



Linear tool design with additional grinding spindle

GOFuture B2 with turret:

A disc-type turret of the size VDI 25 with 12 stations on the X-carriage with 370 mm stroke is the standard design. Optionally, the turret can also be designed with individual plate drive for all 12 stations for driven tools. Here it involves a star turret of the same size.

In both cases additional linear tools and different additional aggregates (circular milling, milling spindles, grinding spindles, gear hobbing equipment, etc.) can be built on.

The variant B2 is likewise best suited for working either manual insertion, bar machining, or with automatic piece handling.

GOFuture B1 with linear tool design:

A large number of tools can be designed on 370 mm X-stroke. They thereby realize the shortest cycle times, because the tool change time is extremely short. Through the reduction of interfaces and a direct tool design, you attain the highest measure of rigidity in design and, in addition, a superior dampening of the tools.

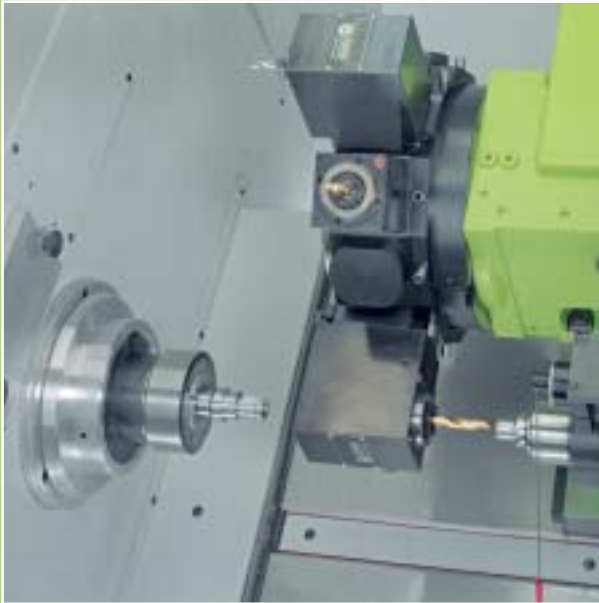
Different acceptance systems are available as linear tool holders that are either flexibly clamped on a T-nut plate or can be formed as fixed blocks with single-purpose machines, in which the tool shank acceptance is worked in directly.

Regardless of whether you work through manual insertion, bar machining, or automatic piece handling, on the X-carriage you can configure different additional equipment.

The linear machine can optionally be equipped with a Y-axis with fully usable X-stroke. Thus the tool change times are significantly reduced. In comparison to conventional machines with linear tool design considerably more tools can be built. The use of additional high-frequency spindles for boring or milling also becomes more flexible because a Y-axis is now also available here.



Turrets in the star design size VDI 25 with 12-fold individual plate drive and additional linear tool built on with 3 high-frequency spindles.



GOFuture B3 with opposed spindle:

This variant is designed for complete machining in series, for complex and high-precision work-pieces that must be completely finished in a machine. Equipped with fixed main spindle and an opposed spindle, movable in the Z-direction. Tool acceptance from the main spindle to the opposed spindle even from profiled work-pieces with rotating spindle. The star turret, VDI 25 with 12 tool positions with individual position drive, comes built on a compound slide for use on the main and opposed spindles. The optional Y-axis likewise available with 80 mm stroke. Corresponding interfaces. Automation systems and integrated piece unloading technology ensure fully-automatic continuous operation. In addition, combined tool holders are available, in which tools can be clamped both to the left and to the right or above one another. They thereby increase the number of insertable tools.

Unloading technology: ►

The longitudinally-movable tool unloading equipment is programmable in the longitudinal stroke and can thus be used on the main and opposed spindles. In addition, intermediate and waiting positions can be realised. The gripper unit can be selectively equipped with prism or formed jaws, as well as with a collecting pan. The work-pieces are transported to an outlet channel in the right lateral door and accepted there by a container or optional unloading belt. Monitoring of the clamping device for secured work-piece unloading (optional).



◀ Tool calibration:

The microscope serves for determining the tool correction data in the machine.

For this, the microscope is placed in the protected holder and the tool to be measured is positioned in the reticule of the lens. The correction data is now transmitted to the control at the touch of a button.