

Press Release

Short version

CNC Fixed Headstock Automatic Lathe TNK42

TRAUB Automatic Turning – Quick, Accurate and Efficient



With the CNC automatic lathe TNK42, developed for high productivity and precision, TRAUB GmbH & Co. KG replaces the previous TRAUB TNK36, extending the successful CNC fixed/sliding headstock automatic lathes of the TNL18 and TNL32 series with a fixed headstock lathe in the larger diameter range. The user-friendly CNC control TRAUB TX8i-s and the use of innovative technologies and field-proven components combine to allow the production of both typical turned parts up to 250 mm in length and of geometrically complex workpieces in large and medium volumes.

The vertical design of the machine with a setup-friendly work area not only provides good conditions for unobstructed chip flow but also significantly better ergonomics which facilitates setup operations. The basis for this is a vertical cast machine bed mounted on a heavy machine base, whose damping properties are prerequisite for high-precision cutting. With two tool turrets, a main spindle with C-axis and 42 mm bar capacity (7,000 rpm, max. 29 kW and 65 Nm) and a swivel counter spindle with C-axis for extensive rear end



machining, the TNK42 offers high production rates at only 5,5 m² footprint (without bar loader).

The upper tool turret has 10 stations with slide travels of X=140 mm and Z=300 mm. All stations in the upper turret can be equipped with live tool holders on the TNK42. Turret indexing is designed as an NC rotary axis with a direct measuring system without mechanical lock, thereby allowing fast positioning of the turrets at any angle. This allows multiple tool assignments at each station, so that the upper tool carrier can be equipped with up to 20 tools.

The standard built-in Y-axis for the two turrets is formed by the interpolated movement of the CNC turret indexing H-axis and simultaneously the C-axis of the work spindle as well as the X-axis of the tool carrier. Through the combined motion in conjunction with the powerful tool drives (with max. 5 kW / 8 Nm / 12,000 rpm), the TNK42 provides a large Y-travel of +/- 50 mm = 100 mm for all turrets, e.g., to mill surfaces and grooves on workpieces or to drill axis-parallel off-center holes.

With the optionally available "Dual Drive" system for the upper turret, two separate drive trains ramp up the speed for the next tool while still cutting with the current tool. The new tool is then indexed to the machining position at full speed. This not only reduces secondary processing times, the live tool holders also experience a significantly longer service life.

Apart from its function as a lower tool turret with 9 stations and identical functionality as the upper tool turret, the lower cross-slide with travels of also X=140 mm and Z=300 mm serves as a swivel counter spindle for rear end machining of workpieces. The swivel movement of the counter spindle is achieved via the CNC turret indexing axis (H-axis). The TNK42 thus provides a counter spindle with a C-axis that can be moved in three axes (X/H/Z), allowing unrestricted counter spindle machining at 7,000 rpm (max. 12 kW and 22,5 Nm) and 42 mm spindle clearance.

Lost heat that is generated in the spindles, the control cabinet and the hydraulic unit is dissipated from the machine by a central fluid circuit. A water interface integrated into the TNK42 allows two solutions to heat dissipation: either connecting to a local cooling unit or to a central cooling system.

The CNC control TRAUB TX8i-s tailored to the TRAUB TNK42 is designed based on the TRAUB TX8i series and combines performance with high reliability. Your advantage: It is possible to use the components of the proven TX8i series. Customer requirements and user needs could therefore be optimally considered and incorporated into the development.

Data is displayed on a 15-inch LCD display and is entered directly via a separate ASCII keyboard. A 64-bit RISC processor and an additional PLC high-performance processor



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provide fast data processing and support short production times. The well-known TRAUB programming convenience was also implemented in the TNK42 and is fully available.

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CNC Production Lathe TNK42:
More speed and flexibility in production