

PROXXON CAD/CAM software for WINDOWS®



Brief description of software and hardware

For optimum performance the software is precisely harmonized with the CNC machine. The CNC control unit controls the step motors of the machine and is connected to your PC via RS 232 interface (or a USB adapter).

Powerful micro processors and accordingly dimensioned step motors and phases ensure that the motors always provide enough power for any machining processes.

Two freely usable output relays in the casing of the control unit provide facilities for control of additional functions, e.g. a working lamp.

Complete with connecting cables with suitable plugs.

Simple creation of work piece geometry

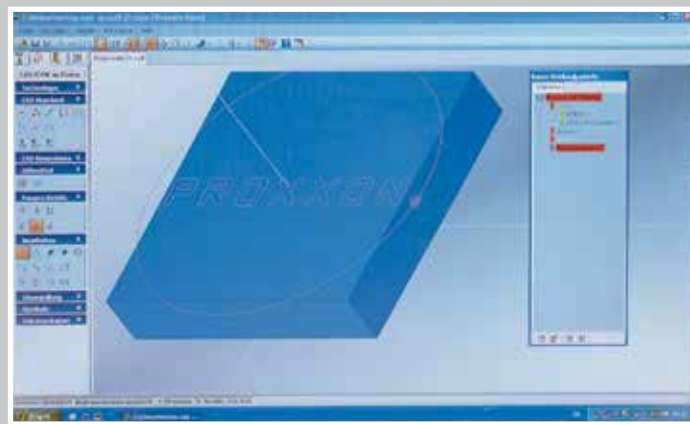
The CAD window is displayed when the programme starts. The work piece contour is created in the familiar WINDOWS® environment. Numerous auxiliary aids help during programme operation, which supports both coordinate entry (absolute and relative) in addition to mouse use.

Technology information is allocated to every drawing element. This makes, for example, different processing speeds and manual tool replacement possible.

Read-in of existing files in .dxf format is possible as well.

Automatic generation of CAM data

The finished drawing of the tool is converted, by a mouse click, into the instruction set for the machine. So, machining can be started immediately. The instruction set generated in this way is in accordance with DIN/ISO 66025 and can be manually edited and exported. Conversely, the system also permits importing or complete self writing of data sets.



Simple creation of work piece geometry in the PC.

Manual work

The handwheels are replaced with the step motors of the CNC machine. Nevertheless, manual machining is possible with the help of cursor buttons, since the step motors can be operated manually.

CNC simulation

If requested, the travel distances of the tool are simulated in the graphic window. In this way, faults in the programming can be recognised in time.

Software installation

The PC software is supplied on a CD ROM. The problem-free installation is effected under WINDOWS® as usual.

Technical data

PD 400/CNC

	PD 400/CNC	FF 500/BL-CNC
Drive	Condenser motor with 550W	Brushless motor with 400W. 230V. 50/60Hz.
Spindle drive X-axis	Recirculating ball spindle with 2.0mm inclination, flank diameter 8mm. Step motor with 1.8A and 50Ncm dwell moment; travel distance: approx. 70mm	Recirculating ball spindle with 4mm inclination, flank diameter 12mm. Step motor with 2.2A und 1.27Nm dwell moment; travel distance: approx. 290mm
Spindle drive Y-axis		Recirculating ball spindle with 4mm inclination, flank diameter 12mm. Step motor with 2.2A and 1.27Nm dwell moment; travel distance: approx. 100mm
Spindle drive Z-axis	Recirculating ball spindle with 4.0mm inclination, flank diameter 12mm. Step motor with 1.8A und 50Ncm dwell moment; travel distance: approx. 300mm	Recirculating ball spindle with 4mm inclination, flank diameter 12mm. Step motor with 2.2A and 1.27Nm dwell moment; travel distance: approx. 200mm
Spindle revolutions	80 – 160 – 330 – 660 – 1,400 – 2,800/min Selectable with switch (two-stage) and by placing drive belt.	Variable speed pre-selection from 200 – 4,000rpm
Drive connection	via RS 232 interface (or: use of a USB adapter), connecting cables to PC included in scope of delivery	via RS 232 interface (or: use of a USB adapter), connecting cables to PC included in scope of delivery
Sizes	L 900 x W 400 x H 300mm	work table 370 x 350mm, table 400 x 125mm, total height approx. 780mm
Weight of machine	approx. 45kg	approx. 47kg

Useful accessories



Dividing attachment UT 400/CNC 4th axis to the PROXXON MICRO Miller FF 500/BL-CNC. For perfect 3D processing!



For individual parts or small series production. For manufacturing divisions, gear wheels and (including irregular) profiles.

All angle positions can be approached by computer control. Easy horizontal and vertical construction. Driven by powerful step motor (2A) through toothed belts, and virtually free from play, adjustable worm gear.

The high transfer ratio (40:1) provides enormous torque.

Suitable for main spindle with 14mm drill hole and flange to suit face plates and for all lathe chucks from the PD 400 lathe system.

Smallest increment 0.003°. Recognition of reference position through light barrier.

NO 24 423

Note: The 4th axis is implemented in the MICRO Miller FF 500/BL-CNC software as standard. However, for all machines delivered before September 2009 the control unit (hardware side) needs to be equipped with the necessary driver stage. If you should be interested in an update of your control unit, please contact our service department for detailed information!

Thread cutting device for the lathe PD 400/CNC

A complete attachment kit with rotary encoder for the main spindle, belt pulleys, synchronous belts and all required accessory parts.

The software of the PD 400/CNC has already been programmed accordingly: Available are the standard male threads M 1 to M 42. Special threads of any type (e.g. inch threads) can be manufactured as well with different pitches and thread depths. Including detailed assembly instructions.

NO 24 506



MICROMOT-adapter

To be used for high-speed MICROMOT appliances in combination with the MICRO Miller FF 500/BL. And especially for use with the MICRO Miller FF 500/BL-CNC.

The standard milling head is exchanged for the adapter in just a few steps. Our 20mm collar enables to fasten all appliances of the MICROMOT 50 series, the MICROMOT precision drill grinder FBS 240/E and the MICROMOT professional drill/grinder IBS/E. Especially for applications that require high speeds for small milling cutters (example: milling electric printed boards). Also for micro drilling. Complete with fastening screws

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PROXXON



Lathe System PD 400/CNC MICRO Miller FF 500/BL-CNC

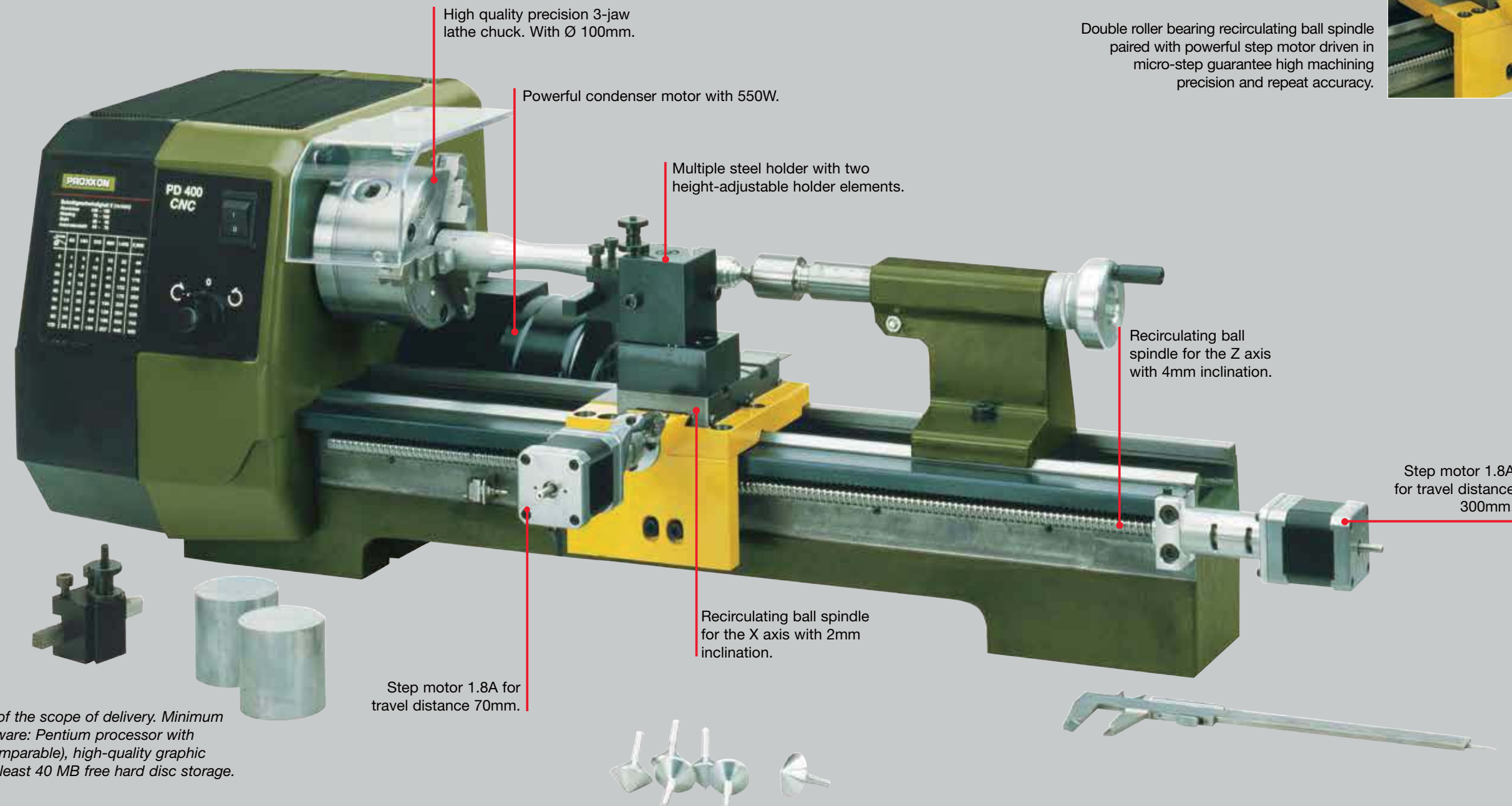
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Precision and high repeat accuracy for individual parts and small series manufacture. Made in Europe.



Lathe System PD 400/CNC

- Z-axis and X-axis with recirculating ball spindles and two powerful step motors.
- Control unit for connecting to PC or laptop with activation of the main spindle and the step motors.
- Including user-friendly and WINDOWS® compatible software (see description on the back page).



Note:
PC or laptop are not part of the scope of delivery. Minimum requirements for the hardware: Pentium processor with 400 MHz frequency (or comparable), high-quality graphic card (64 MB RAM) and at least 40 MB free hard disc storage.

CNC control of z-axis and x-axis enables precise turning, facing and longitudinal turning of steel and non-ferrous metal.

Axes drive with powerful step motors and recirculating ball spindles. For facing and longitudinal turning, for turning balls, radii and any freely formed contours made of steel and non-ferrous metal. Work piece machining is effected automatically by software and can be reproduced as often as required. Otherwise the mechanical design is almost identical to the proven PROXXON Lathe PD 400: Solid, cross-braced cast iron bed with ground and wide legged prism guide for apron and tailstock ensure vibration-free working and optimum precision. High quality precision 3-jaw lathe chuck (Ø 100mm). 6 spindle speeds (80 – 2,800/min) are provided via belt drive. Including rotating centre MK 2 and tailstock chuck. With quick-change tool post with 2 holders (with stop and height adjustability).

The accessories supplied for the PROXXON Lathe PD 400 can be used without restriction. Complete with recirculating ball spindles, powerful step motors and the required limit switches, the CNC control unit, all necessary connecting cables and WINDOWS® compatible software on CD-ROM.

Detailed technical data are listed on the back page!

NO 24 500



Complete with CNC control unit and WINDOWS® compatible software.

MICRO Miller FF 500/BL-CNC

- With brushless direct drive: Quiet and vibration-free with high precision (accuracy 0.05mm).
- Variable speed pre-selection from 200 – 4,000rpm with digit speed display.
- Double roller bearing recirculating ball spindles at all 3 axes. With 3 powerful step motors for driving compound table and milling head.
- Including user-friendly software. Runs under WINDOWS® (see description on the next page).



4-digit speed display for optimum machining.

Milling head with aluminium base can be rotated to the left and right by 90° (with degree graduation).

The MICRO Miller FF 500/BL is also available as ready for CNC version.
Without control unit and without software. Three standard plugs (SUB-D 9POLE) are available to connect the control unit. Otherwise the mechanical design is identical to the MICRO Miller FF 500/BL-CNC.

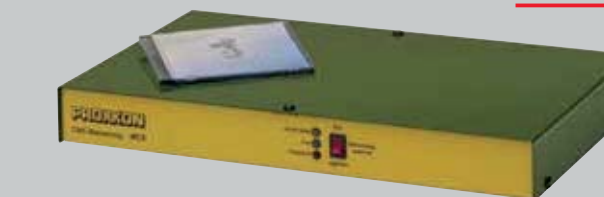
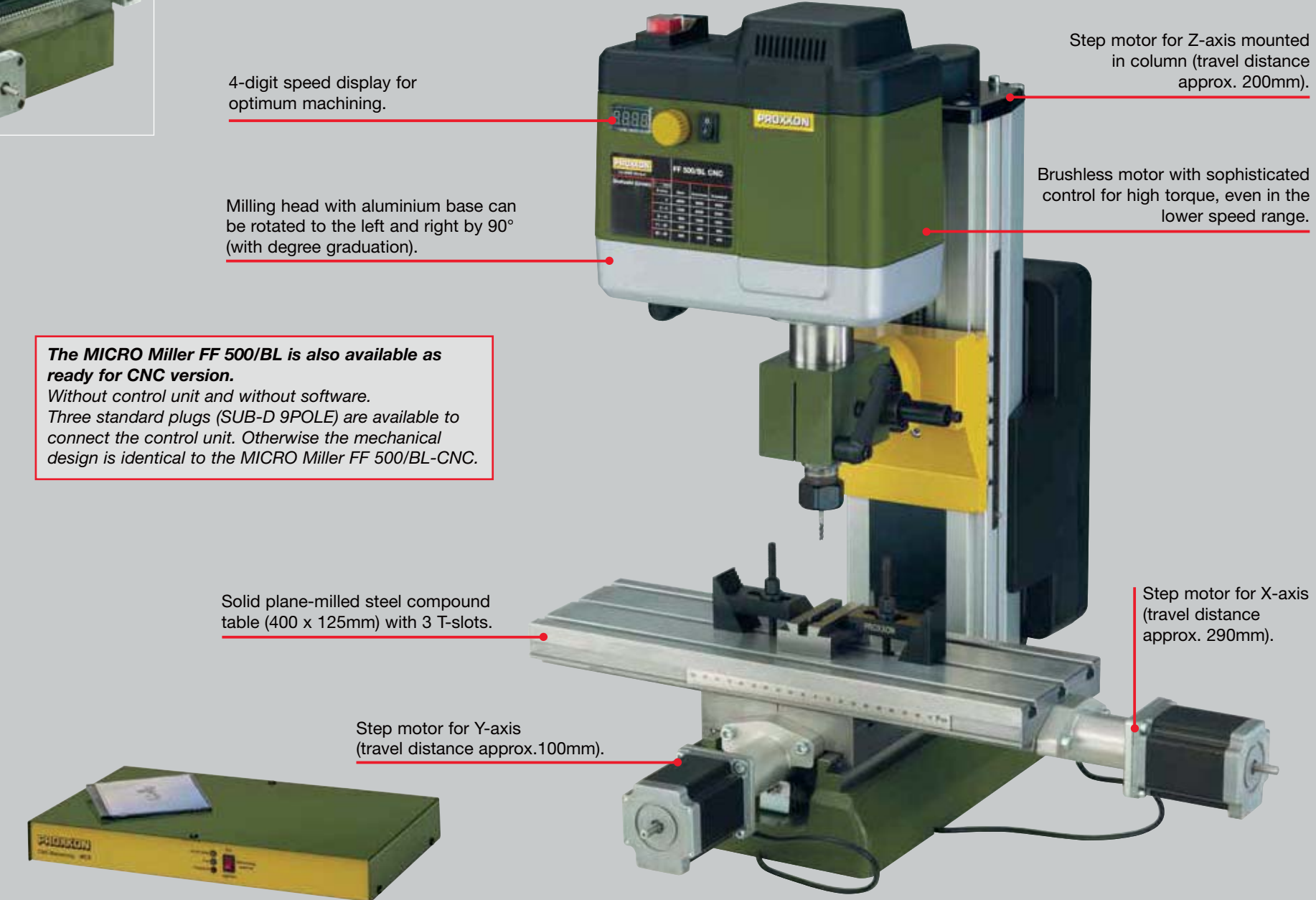
Solid plane-milled steel compound table (400 x 125mm) with 3 T-slots.

Step motor for Y-axis (travel distance approx. 100mm).

Step motor for Z-axis mounted in column (travel distance approx. 200mm).

Brushless motor with sophisticated control for high torque, even in the lower speed range.

Step motor for X-axis (travel distance approx. 290mm).



Thanks to CNC control of 3 tool axes machining of steel and non-ferrous metals is possible in all dimensions. This also applies to larger work pieces!

The mechanical design is almost identical to the MICRO Miller FF 500/BL (see MICROMOT catalogue): Base of vibration-damping cast steel. Stable column with dovetail sideway. Milling head can be pivoted to the left and right by 90°. Additional sleeve feed (30mm) using drilling lever with scale ring (1 graduation line = 1mm). Work piece fixing using steel collets. The accessories supplied for the PROXXON MICRO Miller FF 500/BL can be used without restriction. This also applies to the dividing attachment UT 400/CNC for the 4th axis! Complete with CNC control unit, CNC programme software, all connecting cables, one each steel collets 6 – 8 – 10 and 12mm and detailed manual. **Detailed technical data are listed on the next page!**

NO 24 360

MICRO Miller FF 500/BL-CNC-ready

As described, but without control unit and without software. An interesting offer for users who already have a control unit. Three standard plugs (SUB-D 9POLE) are available to connect the control unit.

NO 24 364

Note:
Dividing attachment UT 400/CNC: The 4th axis to the MICRO Miller FF 500/BL-CNC is depicted on the back page!