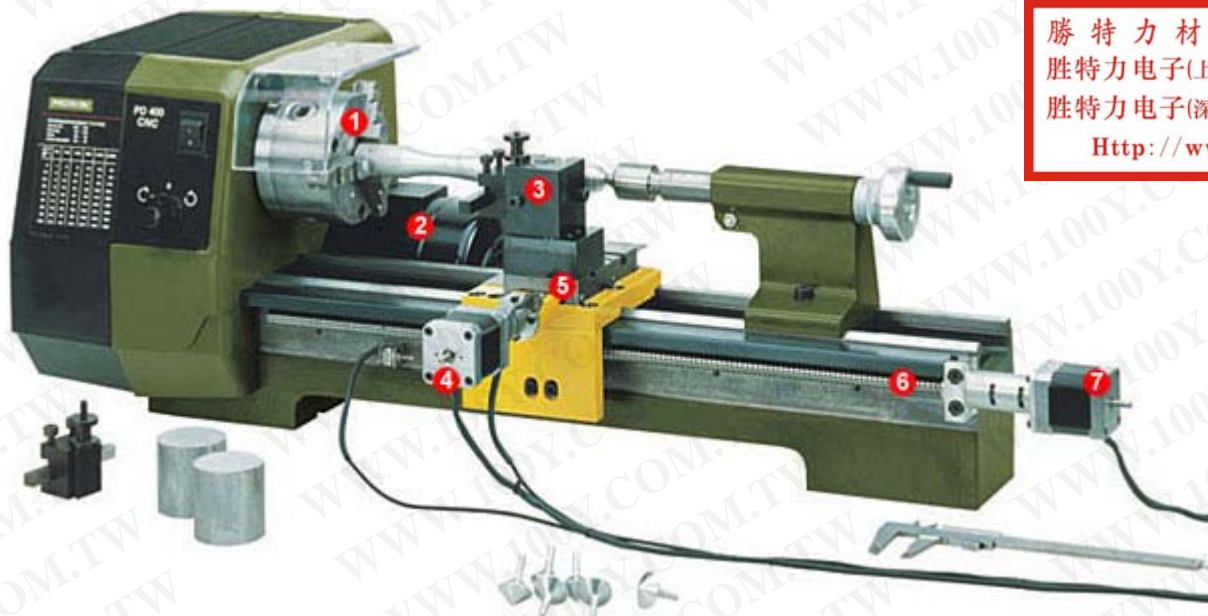**PROXXON MICROMOT System**

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

- 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 below).

Lathe system PD 400/CNC

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 (no backlash). 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 RÖHM 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).

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.

NO 24 500

Double roller bearing recirculating ball spindle paired with powerful step motor driven in micro-step guarantee high machining precision and repeat accuracy.

1. High quality RÖHM precision 3-jaw lathe chuck. With Ø 100mm.
2. Powerful condenser motor with 550W.
3. Multiple steel holder with height-adjustable holder elements.
4. Step motor 1.8A for travel distance 70mm.
5. Recirculating ball spindle for the X-axis with 2.0mm inclination.
6. Recirculating ball spindle for the Z-axis with 4mm inclination.
7. Step motor 1.8A for travel distance 300mm.

Note:
Since the mechanical design is practically identical to the PD 400, the accessories supplied for it can be used without restriction (and the PF 400 milling equipment).
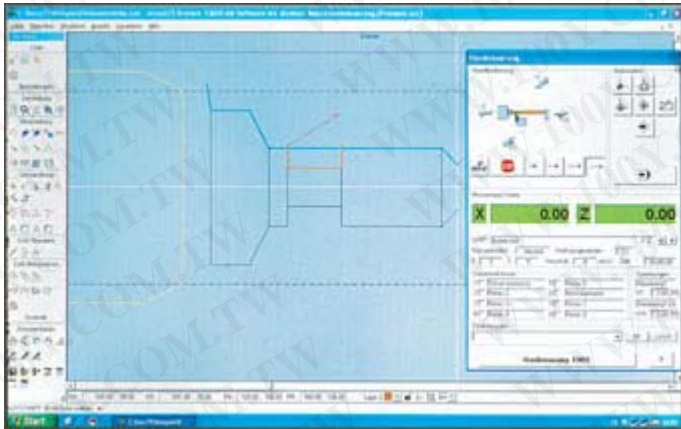
PROXXON CAD/CAM software for WINDOWS®

Brief description of software and hardware:

The software is harmonized with mechanics, motors and the control unit of the CNC machine, thus offering the optimum performance.

The CNC control unit controls the step motors of the machine. The PC software provides the machine with the geometry information for travel of the tools (via RS 232 interface). This means that the control unit is the interface between software and the mechanics of the machine.

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. Including connection cables with suitable plugs and built-in power supply for connection to 220 - 240V.

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.

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.

Software installation

The PC software is supplied on a CD ROM. The problem-free installation is effected automatically under Windows®.

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.
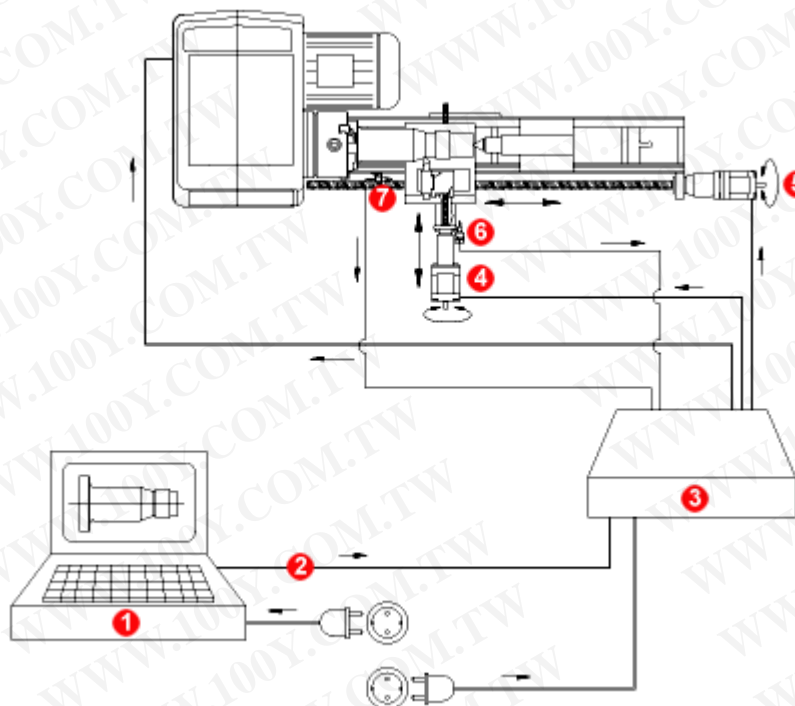
Simple creation of work piece geometry

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. Read-in of existing files in standard file formats (e.g. .dxf or .hpgl) is possible.

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

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.

Technical data:

Power supply	220 - 240V / 50/60Hz
Drive	condenser motor with 550W
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
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
6 spindle revolutions	80 - 160 - 330 - 660 - 1,400 - 2,800/min Selectable with switch (two-stage) and by placing drive belt.
Control of step motors	via CNC control unit (included in scope of delivery)
Software	on CD-ROM, installation under Windows 98, Windows 2000 and Windows XP
Drive connection	via RS 232 interface (or: use of a USB adapter), connecting cables to PC included in scope of delivery
Sizes	Machine: L 900 x W 460 x H 300mm Control unit: L 450 x W 270 x H 60mm
Total weight	Machine: approx. 45kg / Control unit: approx. 4kg

❶ Computer with software
❷ RS 232
❸ MCS-multicontroller
❹ Step motor (X-axis)
❺ Step motor (Z-axis)
❻ Switch X-axis
❼ Switch Z-axis