Specifications: AC 1000-F

DOUBLE WHEEL FINE GRINDING MACHINE m i c r o L i n e AC 1000-F
(Profibus)



WORKING WHEEL DIMENSIONS
Outer diameter: 1050 mm
Ring width: 290 mm
Max. workpiece height: 100 mm

PNEUMATICS
Load force: max. 1500 daN infinitely variable electronically controlled
Compressed air: 6 bar

ELECTRICAL EQUIPMENT
Drives: Servo drives with digital control

Upper wheel:	36 kW 0 - 250 min-1
Lower wheel:	36 kW 0 - 250 min-1
Internal workpiece drive:	6 kW 0 - 90 min-1
Operating voltage:	400 Volt
according to DIN IEC	38 +6% -10%
Frequency:	50 Hz
Control voltage:	230 Volt/24 Volt

SPACE REQUIREMENTS AND WEIGHTS
Basic machine without auxiliary units

Machine width:	approx. 2325 mm (3650 mm with control panel arm)
Machine height:	approx. 2400 mm
Machine depth:	approx. 3355 mm with control cabinet
Weight:	approx. 7000 kg without control cabinet

COATING
2-coloured, textured paint
Lower part RAL 5015 (blue)
Upper part RAL 9010 (white)

BASIC MACHINE EQUIPMENT

MACHINE BASE
in sturdy cast construction

MACHINE TOP PART (swivel arm)
also in sturdy cast construction, with panelling plates designed to swivel sideways

PNEUMATIC LOAD CONTROL
via programmable logic controller PLC (Siemens) in conjunction with a proportional valve
for electronically controlled stepless load build-up up to 1500 daN

INTERCEPTION DEVICE
for gentle positioning of the upper working wheel onto the work pieces

WEIGHING DEVICE
for automatic adjustment of the loading device, taking into account the wheel wear of the grinding wheel

DRIVES
Maintenance-free servomotors on the upper and lower working wheel and
the centre drive of the machine

COOLING OF THE WORKING DISCS
Coolant supply and discharge
Rotary distributor

FLUSHING DEVICE
for supplying cooling lubricant between the working wheels (grinding wheels)

SPRAYING DEVICE
for cleaning the working wheels by means of a spray arm

PROTECTIVE DEVICE
Sturdy design that encloses the entire area between the working wheels and the work drive system and acts as a protection as well as a splash protection guard

ELECTRICAL CONTROL CABINET
Freestanding on the rear of the machine

CNC CONTROL OF THE MACHINE
All work, control and regulation processes are handled by a PLC (Siemens S7 400).
processed. Data is exchanged via Profibus

CONTROL PANEL
with colour TFT display and membrane keypad for function keys, numeric keypad
and alphanumeric keypad and clearly arranged control elements

STANDARD TOOL SET

DOCUMENTATION
Operating instructions, 2 copies in German
Chapter "Safety" in German
Visualisation in German
Signage in German and symbols

BASIC SCOPE OF THE S7-400 CNC CONTROLLER
WITH VISUALISATION "WinCC"-Flexible

- Pressure control via proportional valve and force sensor
- Actual force display
- 7 load ranges
- Speed, direction of rotation freely load freely selectable
- Automatic swivelling on/off
- 6 dressing programmes with stored interception height
- Alternative table for optional programming of the functions:
=> Swivelling device, switching on the drives, media feed
- Parameter information of the current process in digital display and in analogue display (p-t diagram)
- Direct intervention for process optimisation possible
- Different ramp control for force
- adjustable start/stop delay times for the drives
- Output of error messages and labelling of the error areas
- Maintenance intervals
- Display of the total machining time
- Torque display for each drive
- Actual value display of the speeds for each drive
- Passwords for multiple user levels
- Set-up protection
- Programme memory with 60 programmes
- Selectable speed ramp-up ramp (n1..n3)
- RangeCare2 preparation

Ultra-fine measurement control consisting of:
- Special measuring method, measuring amplifier for feeding into the PLC
- Data visualisation on the display
- Accuracy bearing for the measuring anvil and adapter rings for height adjustment of the measuring probe

Charge counter
6-digit non-resettable
5-digit resettable

Pause function
Working functions are retained
- Protective bonnet is lowered
- Cooling lubricant flows
- Drives rotate

Constant stock removal through force control
Keeping the stock removal constant during a load in a machining process by controlling the force (including K-value adjustment)

Automatic force adjustment
Possibility to automatically change various process parameters after a machine run in order to keep the removal rate (µ/min) constant from load to load

Programme memory extension
Extension of the programme memory capacity from 60 to 120 storable programmes

Fine abrasive temperature monitoring
Monitoring device for the cooling lubricant temperature

Cooling water temperature monitoring
Monitoring device for the cooling water inlet and outlet temperature of the working wheels

Gap formation
For limited lifting of the upper working wheel

Alignment device
For horizontal alignment of the upper working wheel

Alarm traffic light
Indicates faults and end of cycle

Work drive system 10TS36/6
consisting of
- Outer pin ring
- Inner pin ring
- Height adjustment of the inner pin roller and cage assembly

Dressing discs TS 36_18
(1 set = 4 pieces)
for dressing the fine grinding discs

Set of CBN fine grinding wheels dia. 1050mm
Outer diameter: 1050 mm
Ring width: 290 mm
(1 set = 2 pieces)
CBN B151 in a 90' concentration
Coating thickness approx. 3.0 mm per disc

Steel ruler 1050-1 mm

Work piece carrier loading and unloading automation/ Twin loader
Automatic loading and unloading device with automatic further transport of the workpiece rotor discs;
Changing the traveller carrier; provided in pairs, consisting of the following components:
- Buffer table for storing 8 traveller discs
- Vertical loading and unloading unit
- Positioning control for buffer table
- Safety shielding
- Height adjustment
- Traveller disc tray with two-hand operation

Including
- Extended traveller disc support on the rotary table twinloader

Range Care®
System for online fault diagnosis, operator support and remote transmission of software updates or customised software adjustments
Remote transmission of software updates or customised software adaptations Enables access to the PLC and the machine's control panel, whereby access can be controlled by the operator at any time
Technical requirements on the part of the operator:
Provision of a telephone connection
Basic package:
Hardware and software for ISDN telephone connection

Following items do not belong to the scope of supply:
1/ filtration system
2/ chiller (for the grinding wheel & filtration system)
3/ de-installation of the machine
4/ transport to customer’s premises
5/ installation on-site the customer’s facility
6/ entire set-up procedure getting the machine up- and running

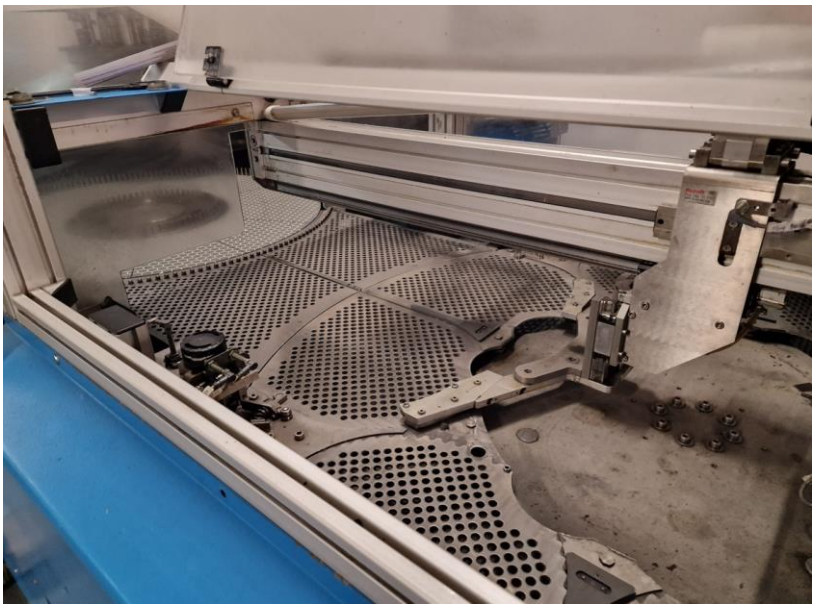
If these services are required, they could be offered by a professional service provider who is very familiar with the technical nature of Peter Wolters machines.

Liability for material defects and warranty:
The used machine will be sold by the company only in the condition in which it is at the time of the conclusion of the contract. The used machine will be sold under exclusion of liability for material defects and warranty. No liability is assumed for any consequential damage or loss of production.

Confirmation:
The machine is currently still under electrical power and can be used for a test machining. Furthermore, it is confirmed that the machine has produced flawless parts to date; and is in a technically flawless condition (according to its age). Viewings even inspections are possible at any time.

Further images showing the current status of the machine:

Loading device moving two work piece carrier same time into the machine



Machine with swivelled top wheel; direct view into the working area of the machine



View of the lower grinding wheel; bonded hexagonal pallets, which are then segmented (for better drainage of the grinding oil)

