

A brand of



PRECISION  
SURFACING  
SOLUTIONS

# AC microLine®

DOUBLE-SIDE HIGH-PRECISION PROCESSING MACHINES

FINE GRINDING | LAPPING | POLISHING | HONING | DEBURRING



HIGHLY PRODUCTIVE SURFACE FINISHING

enhancing surface quality

# TWO SIDES – ONE GOAL

## ULTIMATE PRECISION FOR ALL MATERIALS AND INDUSTRIES

The Peter Wolters brand has been established in the market for high-performance precision machines and systems for the finest surface finishing of different materials for centuries. Our products are successfully used wherever the highest requirements with respect to surface quality, plane parallelism, flatness and dimensional accuracy must be realized efficiently.

We offer comprehensive experience and expertise from many industrial sectors, from custom and series production, from small businesses as well as from international corporations.

Our double-side batch processing machines from the AC microLine® series meet the highest technological standards and requirements. No matter whether it is fine grinding, lapping, honing, deburring or polishing: With the proven machines of the AC microLine® series, you can produce work pieces of unmatched precision down to microns.

The AC microLine® series offers the necessary performance and process reliability to be able to flexibly and economically react to changing requirements – now and in the future.



*The AC microLine® offers unbeatable precision and productivity, from the attractively equipped basic model to the high-end outfitting, for small and large work pieces.*





## MAXIMUM PRECISION FOR ALL PROCESSES

Processing with the AC microLine® machines occurs in batches where the work pieces are loaded into work piece carriers. During this process, the working wheels and inner pin rings are driver. This allows the work piece carriers to rotate on the pin ring via the external teeth.

This type of relative movement between the work piece and tool leads to a very uniform load of the tool surface as well as to an extremely flat material removal and a high surface quality of the work pieces.

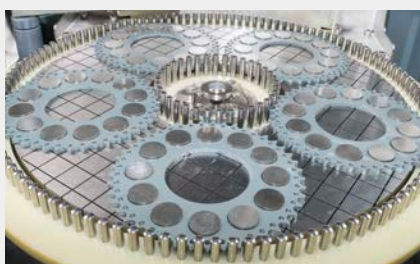


### F = FINE GRINDING

With fine grinding, we refer to the machining of work pieces with bonded CBN or diamond grain. The grinding wheels are optimally specified for the respective application.

### H = HONING

With honing, the working wheels also have bonded grain as the fine grinding process. Abrasive grain such as silicon carbide, corundum or aluminum oxide are used.



### L = LAPPING

Lapping is a machining process with loose grain contained in a medium, the lapping compound. During lapping, rolling grain is used, which can achieve very high surface qualities.

### P = POLISHING

During polishing the loose polishing grain contained in a paste or polishing emulsion mechanically engages with the surface of the material. This achieves the highest surface qualities.



### D = DEBURRING

During deburring of work pieces on an AC machine, brushes are used as working wheels. The individual threads of the tools contain abrasive material, such as silicon carbide, ceramics or diamond.

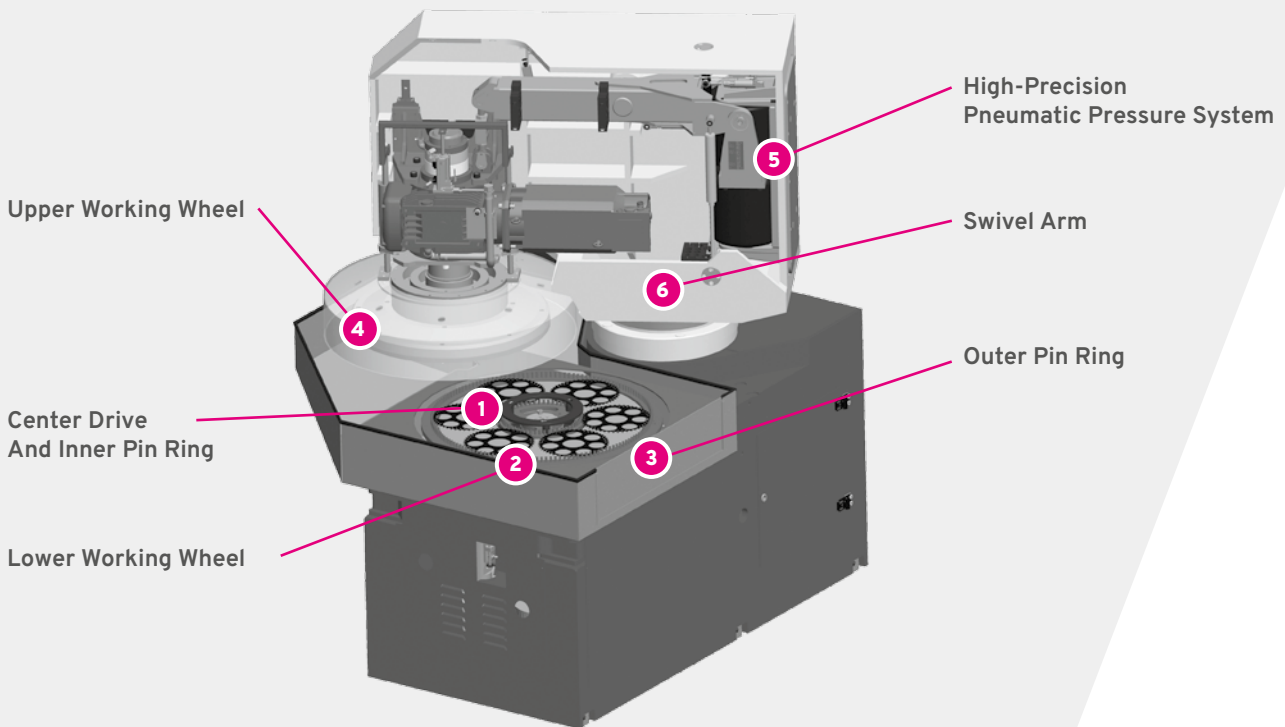
# INNOVATION CONSISTENTLY IMPLEMENTED

## GROUNDBREAKING MACHINE CONCEPT FOR YOUR SUCCESS

The highly productive double-side machines from the AC microLine® series are designed according to the latest technology and impress with the integrated concept. Due to its modular design, this combines excellent operability with the precision of the latest control, drive and measurement technology. Quickly removable machine trim guarantees the best accessibility. The upper

working wheel that automatically swivels out after the end of the process optimizes the ergonomic accessibility to the working area for loading and unloading the work pieces.

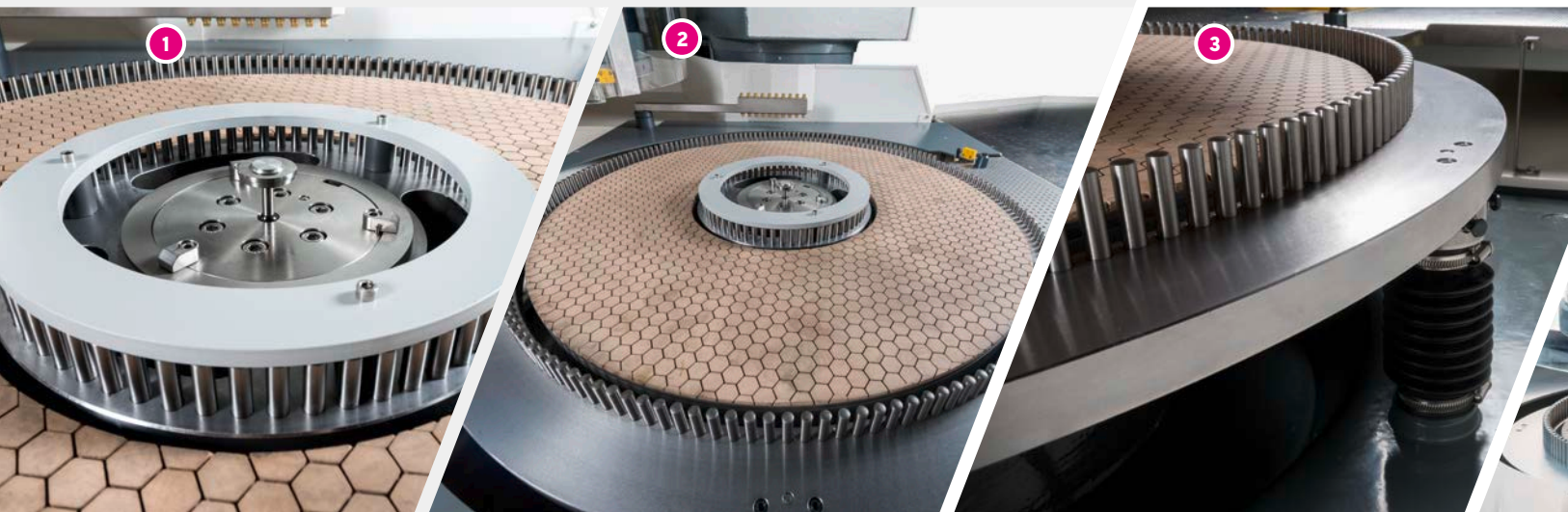
Durability, reliability, diversity of applications – from delicate to solid work pieces – the AC microLine® series sets standards in terms of productivity and precision.



Inner Pin Ring  
And Measuring Control

Lower Working Wheel

Outer Pin Ring With  
Electric Height Adjustment



## COMPLETE DEPENDABILITY, UNMATCHED POWER

All AC microLine® machines are based on proven core components, such as a high-precision pneumatic pressure system, contactless micro-measuring sensor, powerful drive technology and the Siemens PLC control. The software has been developed in-house which makes it possible to intuitively operate the machine entirely by menus. The complete upper part of the machine can be swiveled out for optimal access to the working area.

The machines are available with different epicyclic workholder drive systems, drive powers and wheel speeds to match the widest possible range of work pieces. This ensures an optimal machine configuration for every application.

The AC microLine® is available with the well-known, proven and tested additional components, such as gap

formation, the leveling device and fine grinding media supply or lapping or polishing media dosing. Accessories, such as the measuring sensors and post-process measurement provide data for the statistical process control and offer process reliability when machining critical work pieces.

DataCare®, the self-developed analysis tool, records all data of the control system and is therefore the perfect platform for analytical process evaluation, optimization and error analysis.

Choose from our comprehensive AC microLine® portfolio – and find the customized solution for any of your requirements.

### UPPER WORKING WHEEL WITH SAFETY GUARD

The safety guards of the AC microLine® machine series are made of transparent plexiglas standardly. All safety guards are designed in a split way. With just a few steps, they can be removed to ensure optimal access to the upper working wheel.

### SWIVEL ARM

From the AC 535 to the AC 2000, the machines are equipped with a swivel arm. After the process ends, the upper working wheel swivels out. This function allows very good access to the process area and simplifies the loading and unloading for the operator.

### HIGH-PRECISION PRESSURE SYSTEM

The process of the upper working wheel as well as the pressure build-up and the force regulation in the process occur through a pneumatically-controlled system. The entire pressure control occurs through the machine control system and is continuously controlled and visualized.

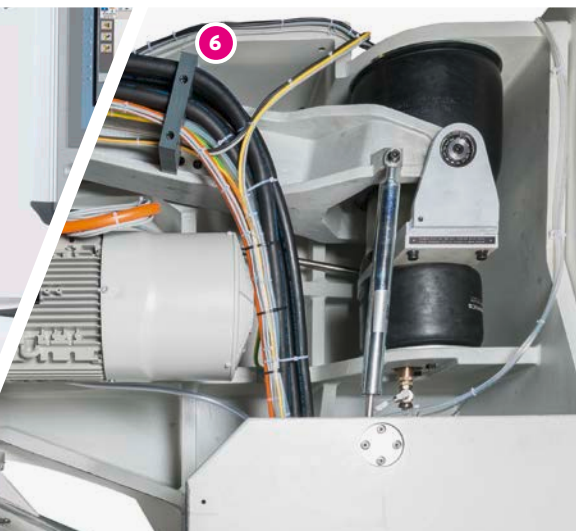
*Upper Working Wheel  
With Safety Guard*



*Swiveled Out  
Swivel Arm*



*High-Precision  
Pneumatic Pressure System*





# AUTOMATION SOLUTIONS

## PERFECT WORKFLOWS AND TOP PERFORMANCE

We continuously work on opportunities and ways to improve your production processes and your productivity. Our intelligent automation solutions for the machines of the AC microLine® series are based on practical developments with high benefits for the user.

A variety of modular, ready-made and tested hardware and software solutions are available for the realization of your requirements.

You determine the degree of automation by selecting the modules required. The modular technology creates clear conditions in terms of clarity during project planning and allows for a gradual establishment of the degree of automation.

With our system solutions that have been proven under hardest conditions, we ensure that our automation components can be combined with each other perfectly.



GAP LOADING TABLES

Do you want to optimally use your AC microLine® machine? Our gap loading tables make it possible to prepare the follow-up batch already during the process time and they can be flexibly used for different work pieces.



TWIN LOADER AND ROBOT CELL

The Twin Loader impresses with the automatic and simultaneous loading and unloading of two work piece carriers from your AC microLine® machine. When combined with a robot cell, it ensures maximum productivity.



CUSTOMER-SPECIFIC AUTOMATION

Would you like to implement your own ideas for automation? In cooperation with our partners, we also offer customer-specific solutions for the automation of our AC microLine® machines, which are individually tailored to your requirements.





## TAILOR-MADE SERVICE SOLUTIONS

### CAREFREE PACKAGE FOR MAXIMUM PRODUCTIVITY

Our responsibility does not end when your machine is delivered. We take care of you throughout your machine's service life: with coordinated solutions and service packages, consumables and spare parts – for the machine's entire service life.

#### SERVICE

- Maintenance
- Repairs
- Upgrades
- Application training
- Process improvements

#### SUPPORT

- Process development
- Contract processing
- Remote maintenance (RangeCare®)
- Express service



#### RETROFITTING

- General overhaul
- New control unit
- The latest software version & visualization
- The latest machine technology
- Replacement of wear parts

#### SPARE PARTS

- Solution for obsolete components
- Quick availability of spare parts
- Customized consignment stocks possible

#### CONSUMABLES

- Lapping and polishing compound
- Deburring tools
- Polishing pads
- Fine grinding and lapping wheels
- Work piece carriers





# THE AC microLine® LEADS TO SUCCESS

## OUR COMPETITIVE ADVANTAGES STRENGTHEN YOUR MARKET POSITION

### THE HIGHLIGHTS OF THE AC microLine® SERIES

- Swiveling upper working wheel for optimal access to the working area
- Optimal surface quality, flatness, thickness tolerance and plane parallelism with tightest tolerances on the work piece
- High-precision contactless measuring control for maximum switch-off accuracies
- Wide machine portfolio – from the AC 400 to the AC 2000, always suitable for customer-specific work piece sizes and output quantities
- Modular machine concept - flexible configurations for all customer requirements
- Patented cooling labyrinth in the working wheel carriers for extreme temperature stabilization over the entire tool surface

### YOUR ADVANTAGES AT A GLANCE

MACHINE FEATURES	CUSTOMER BENEFIT / COMPETITIVE ADVANTAGE
Different machine versions for fine grinding, lapping, polishing, honing and deburring	Ideal machine adaptation to the process requirements
Robust design with cast iron base frame	Excellent vibration damping
Bearings with the highest accuracy levels	High rigidity and precision
Leading process and technology expertise	Customized process development ensures the highest level of productivity
Three separately controllable drives (upper wheel, lower wheel and inner pin ring)	Optimal surface quality, flatness, thickness tolerance and plane parallelism can be achieved with tightest tolerances on the work piece
Remote maintenance solution RangeCare® via mobile communications or VPN	Short-term online service support
Different degrees of automation	Unit cost reduction, shortened loading and unloading times as well as non-productive times, consistent work piece qualities
High-precision pneumatic pressure system of the upper working wheel	Excellent machining results due to compliance with the freely programmable process parameters





## AT HOME IN DEMANDING INDUSTRIES

Ever-shorter development cycles, increasingly complex production processes and massive competitive pressure: Only those companies that achieve high quality standards and precision, maximum productivity, low production costs and short processing times are successful.

Machines of the AC microLine® series can be found around the world in almost any industry for good reason, from automotive to tool and mold manufacturing, hydraulic motors and pumps as well as linear guides up to the semiconductor industry. Designed for maximum precision, a high level of reliability and cost-reducing efficiency, our AC microLine® series is the decisive key to your competitive advantage.



# WE GET YOUR PROCESSES UP TO SPEED FROM CONSULTATION TO A TURNKEY SYSTEM SOLUTION

## COMPREHENSIVE SOLUTIONS FROM ONE PROVIDER

Our customers in high-tech industries have one thing above all else: complex requirements and specific needs. We provide the right solution, no matter for which task or industry, which material or market.

From the first idea to the production support, as your competent partner we provide you with comprehensive system solutions that adapt to your specific production requirements. As standardized as possible, as customized as necessary, and everything from a single source.

### MACHINE

The machine portfolio of the AC microLine® series ranges from small compact machines to systems with a working wheel diameter of 2000 mm. All machine sizes can be equipped with different drive powers and working pressures individually for the respective application.

### PROCESS

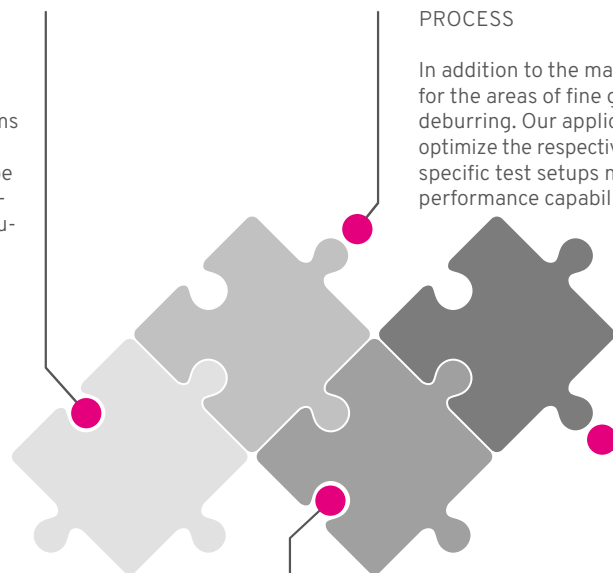
In addition to the machines, we offer process development for the areas of fine grinding, honing, lapping, polishing and deburring. Our application specialists work continuously to optimize the respective technologies and processes. Customer-specific test setups make it possible to demonstrate the performance capability of our machines.

### ANCILLARY UNITS

Ancillary units are an important factor for a successful process. For example, we deliver optimal filtration and cooling systems for the customer process. The complete solution from a single source.

### SERVICE

Our global service not only offers spare parts, repairs and maintenance contracts for your systems. The offer reaches well beyond training, machine upgrades and complete overhauls of entire systems.





# THE PRECISION SURFACING SOLUTIONS GROUP

## HIGH-PRECISION SURFACE SUPERFINISHING DOWN TO MICRONS



Seven strong brands, one promise: efficient, technologically-leading machine and process solutions for fine grinding, flat, deep and profile grinding, bore honing, lapping, polishing and deburring. We are on your side with passion and commitment for technical excellence and a unique portfolio of machines and expertise from a single source.

With our global network with over 800 highly-qualified employees at seven production locations and several service branches, we are always close to you. Trust our decades of experience as a market leader. Together we will find tailor-made solutions for your production requirements and needs.





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