

REDEFINING PRECISION IN SURFACE FINISHING



Automation Solutions for PETER WOLTERS Fine Grinding Machines

Loading Systems *AC microLine*[®] Range

High Production Precision Machining

Loading Systems for the AC *microLine*[®] Range

High-Tech Automation Components –

Customized Solutions for the highest Productivity and Precision

Ideas – Drive – Flexibility – Commitment. That's exactly what makes the PETER WOLTERS Group a world leader in the field of manufacturing Single- and Double-Wheel Fine Grinding, Lapping, Polishing, Flat Honing and Deburring Machines for flat work pieces.

PETER WOLTERS meets market requirements with a wide range of new, innovative products, offering its customers trend-setting solutions, since 1804. Products for Today and Tomorrow.

PETER WOLTERS Automation Solutions

It is the philosophy of PETER WOLTERS to offer products and systems for Fine Grinding machines to increase quality and productivity of your production line substantially.

The close cooperation with our customers helps us to understand our customers tasks, problems and demands. Our automation components for Fine Grinding machines of the PETER WOLTERS AC *microLine*[®] series are based on practical development thus giving maximum benefit to the user.

To realize customized application solutions, a large choice of modular existing and established solutions are available in hard- and software. The customer determines the degree of automation by selecting the necessary modules. The module technology enables cost and time effective engineering step-by-step even for complex systems.

PETER WOLTERS system solutions in hard- and software ensure that all automation components interlink perfectly.

Machine	AC 530-F	AC 640-F	AC 700-F	AC 1000-F	AC 1200-F	AC 1500-F	AC 2000-F
Manual loading table	x	x	x	x	x		
LT gap loading table	x	x	x				
Precision gap loading table	x		x				
Twin Loader rotary table			x	x	x		
Semi automation	x		x	x	x		
Carrier loading							x

	Work piece height [mm]	Work piece diameter [mm]	Gap loading	Gap unloading	Auxiliary process time [sec]
Manual loading table	> 2*	> 10*	no	no	90**
LT gap loading table	> 2*	> 5*	yes	yes	60** (90 for AC 640-F)**
Precision gap loading table	1–13*	> 4,5*	yes	yes	90**
Twin Loader rotary table	2–30 (AC 700)* 2–37 (AC 1000)*	> 13*	yes	yes	60**
Semi automation	2–30*	> 13*	yes	yes	60**
Carrier loading	5–220*	> 50*	yes	optional	150**

* Other dimensions upon request

** Reference point, depending on user and/or workpiece

(Technical data is subject to modification)

PETER WOLTERS Automation Solutions

All convincing details at a single glance:



a) AC 530-F
with manual loading table



b) AC 700-F
with LT gap loading table



c) AC 700-F
with precision gap loading table

a) Manual loading table	b) LT gap loading table	c) Precision gap loading table
<ul style="list-style-type: none"> - Cost-effective solution - Reduction of non-productive time - Better utilisation of machine capacity - Preparation of next batch while processing is in progress - Can be flexibly used for most diversified work pieces - No setup times when changing work pieces 	<ul style="list-style-type: none"> - Ergonomic state-of-the-art design - Extremely compact solution - Reduction of non-productive time - Better utilisation of machine capacity - Preparation of next batch while processing is in progress - Can be flexibly used for other diversified work pieces - Safe loading and unloading into and out of the "gap" - Carrier wheel movement by the driven inner pin ring - Optional variant for handling ground work pieces as bulk material 	<ul style="list-style-type: none"> - High-precision design for handling both extremely thin and extremely small parts - Reduction of non-productive time - Better utilisation of machine capacity - Preparation of next batch while processing is in progress - Can be flexibly used for most diversified work pieces - Safe loading and unloading into and out of the "gap" - Carrier wheel movement by the driven inner pin ring



e) AC 1000-F
with Twin Loader rotary table



d) AC 700-F
with semi automation



f) AC 2000-F
with carrier loading

d) Semi automation	e) Twin Loader rotary table	f) Carrier loading
<ul style="list-style-type: none"> - Reduction of non-productive time - Better utilisation of machine capacity - Machine operator is assisted by automated loading and unloading of carrier wheels - Tried and tested, patented loading and unloading concept to minimise non-productive time - Optimisation of tolerances due to constant process cycle - Preparation of next batch while processing is in progress - Can be flexibly used for other diversified work pieces - Safe loading and unloading into and out of the "gap" 	<ul style="list-style-type: none"> - Innovative modular automation concept - Automated simultaneous loading or unloading of two carrier wheels - Machine operator is assisted - Optimisation of tolerances due to constant process cycle - Preparation of next batch while processing is in progress - Can be flexibly used for most diversified work pieces - Safe loading and unloading into and out of the "gap" <p>Preparation for customer's working wheel loading:</p> <ul style="list-style-type: none"> - clearly defined mechanical and electrical interfaces - optional rotary indexing of individual carrier wheels at loading and unloading table - modular design allows even subsequent implementation of a carrier wheel loading automaton 	<p>Loading aid specially developed for large fine grinding systems:</p> <ul style="list-style-type: none"> - Handling of work pieces with a maximum weight of approx. 80 kg each - Protects the grinding tool - Pneumatic clamping of carrier wheel - Linear axis with servo drive - Semi-automatic as an option



h) Customer-specific loading systems

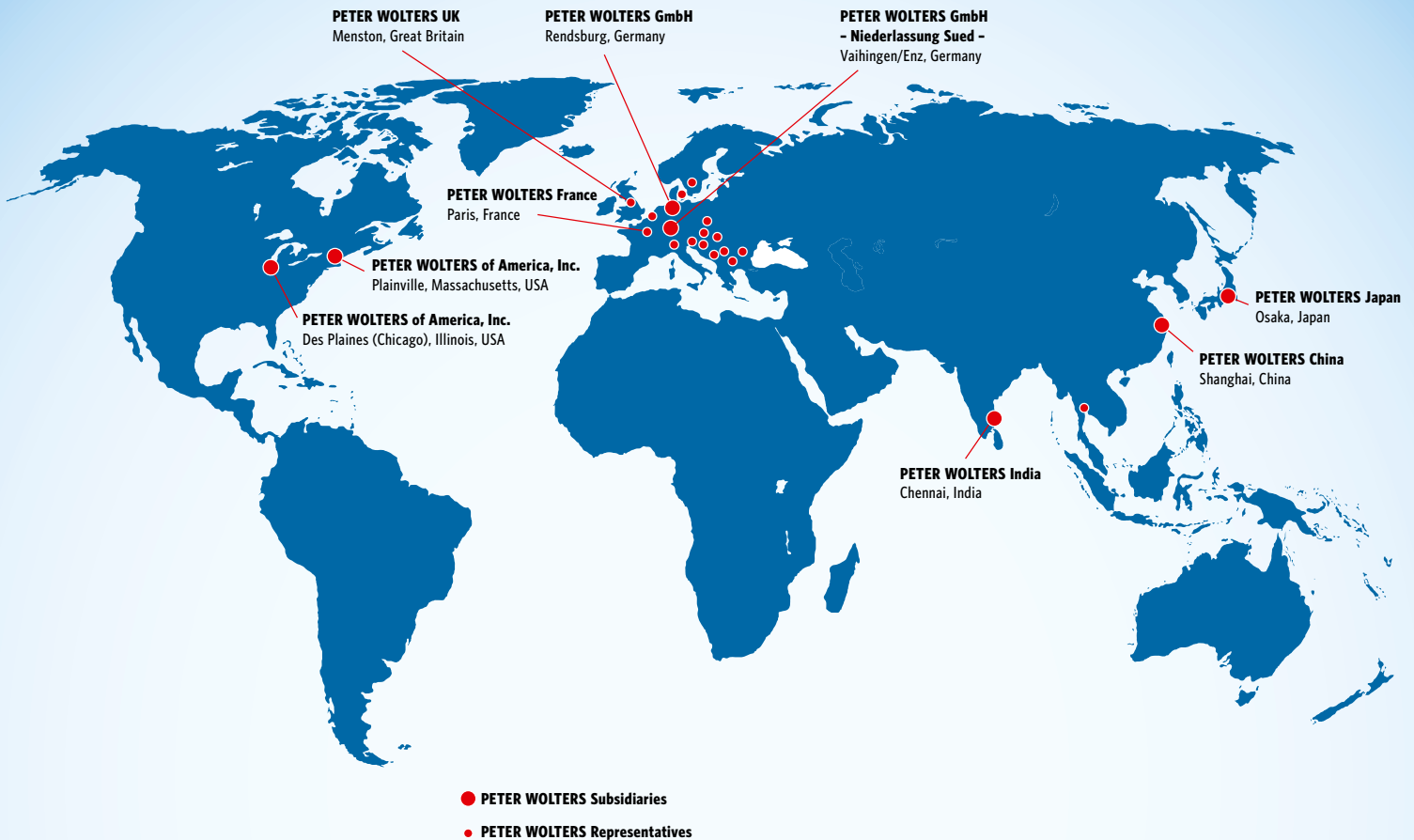


g) Customer-specific loading systems



i) Customer-specific loading systems

g) Customer-specific loading systems	h) Customer-specific loading systems	i) Customer-specific loading systems
<ul style="list-style-type: none"> - Tried and tested automation concept for work pieces with a thickness of 0.7 mm and more - Automated loading and unloading of carrier wheels - Machine operator is assisted - Optimisation of tolerances due to constant process cycle <p>Optional equipment:</p> <ul style="list-style-type: none"> - Carrier wheel loading automaton for bulk material parts - Measuring of incoming work pieces and rejection of bad parts - Post process measurement of work pieces for documenting the processing quality and controlling the machine process 	<p>Twin Loader rotary table extended by customer-specific work piece handling system:</p> <ul style="list-style-type: none"> - Provision of work pieces in storage pipes - Automatic loading of carrier wheels - Automatic loading and unloading of Twin Loader with Scara robot - Post process measurement with work piece classification, documentation of processing quality and machine process control - Transfer conveyor to a PETER WOLTERS type FE 700-R de-burring system <p>Result:</p> <ul style="list-style-type: none"> - Reduction of non-productive time - Increased throughput - Unmanned system operation - High profitability - Highest work piece precision 	<p>Robot-assisted loading unit extended by customer-specific workpiece handling system:</p> <ul style="list-style-type: none"> - Provision of work pieces in magazines - Removal of work pieces with pick-and-place system - and inserting into work piece carrier - joint handling of work piece carrier and work pieces with combined vacuum/magnetic gripper on 5-axis robot - Chronological unloading until final placement in the work piece magazines <p>Result:</p> <ul style="list-style-type: none"> - Reduction of non-productive time - Increased throughput - Unmanned system operation - High profitability - Highest work piece precision



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