

SECKLER

**Systematic solutions
with intelligence – SECKLER *modulo*.**
Modular handling systems for complex tasks.

The SECKLER *modulo* handling cell offers individual and fully automated unload/load solutions for your machine tool.

The SECKLER *modulo* guarantees fast cycle times; even under extreme conditions. The cell has a compact space-saving design, can be retrofitted very easily as it is designed with future modifications in mind, and is expandable at any time. This of course has a positive effect on delivery terms and investments!

All SECKLER *modulo* systems must comply to internal quality guidelines:

- + Functionality
(as little movement as possible)
- + Quality (best materials and highly qualified employees)
- + Stability
(proved with calculations)
- + Speed
(best part exchange times)
- + Flexible retooling
(wide range of applications)

The SECKLER *modulo* handling system is designed for demanding applications in production machines, and is the fruit of experience and contact with customers.



Reliability, versatility, perfect timing. Slick handling in any role. From SECKLER.

- + Compact, space-saving design
- + Modular system to shorten build times
- + Fast, consistent part exchange times
- + Constantly upgradeable, easily modified, always reusable
- + High productivity, operating 24 hours a day, 7 days a week...
- + High availability of systems
- + Tailored, customer-oriented solutions
- + Highly economical systems – rapid ROI
- + Technological details handled in the strictest confidence
- + CE marked and ISO 9001 certified

Space-saving design

The entire area of the cell can be reached with a SCARA arm and fitted with the necessary accessories. The control system is integrated in the lower part of the base frame.

Easy upgrades

The Plug & Go principle means you can start with basic equipment and one pallet drawer. You can then add a pallet conveyor or a stacking box for example at any later date.

Optimised build times

You can use the SECKLER *modulo* system to realise many projects more quickly. Build times can be significantly reduced with well-planned logistics and production processes.

Optimum quality assurance in component production

Despite their high productivity, SECKLER machines produce high-quality components every time. And the quality is obvious – with fewer rejects and fully automatic measuring systems that reveal the finest detail with micro precision.

Higher quality with lower cost

The purpose of an investment is to improve productivity. SECKLER can help you drive down costs per item even further, while improving the quality of components.

Systems that pay for themselves

SECKLER machines are reliable and easy to operate. A single person is able to control a number of machines at a time. Unmanned shifts are a further possibility. This increases the machine running time, speeding up the return on investment. Saving you money.

Description of a highly complex match grinding production cell

The system shown here is a highly complex production facility for the match grinding of high-precision items used in diesel injection industry.

The pistons are supplied on a bowl feeder. The body is transported into the *modulo* cell using pallets on pallet drawers. The SCARA arm picks the body from the pallet and the piston from the bowl feeder.

The body is placed on a pre-process gage, where the bore and seat depth are measured. The measured result is passed to the external grinder.

Station 1:

ID-Pre-process gage



Station 2:

Reading the data matrix code



Station 3:

Diameter match grinding



Leading by example. Exemplary processes. From SECKLER.



The data matrix code of the item is also read by a camera. The code identifies the item and is used by the SECKLER *modulo* control system to communicate with the database of the customer's host computer.

The piston is moved to the grinder. After grinding, the piston is measured on a post-process gage, deburred and washed. The body and the piston are then placed on a pallet as a pair.

The system can be upgraded with a robot to automatically assemble the pair.



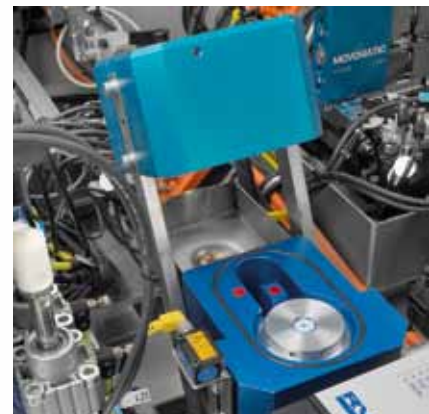
Station 4:
OD-Post-process gage



Station 5:
OD-deburring



Station 6:
Washing the piston

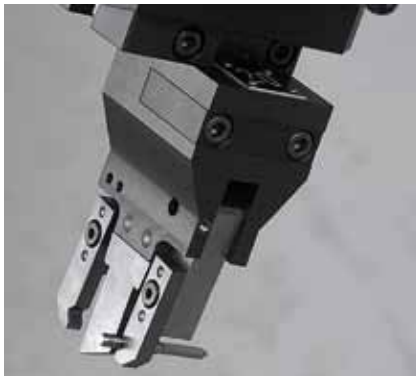


One of the great strengths of SECKLER *modulo* is the sophisticated modular concept, offering a range of tried-and-tested compatible modules. The modules can be used to create reliable systems ready for all kinds of production jobs in a very short time.

The SECKLER *modulo* handling cell consists of a robust base frame and an ergonomically designed, transparent full-width enclosure. Part exchange is done by a SCARA palletising axis or an additional linear carriage with gripper module. In the basic version, the cell has two pallet drawers and one combination drawer for rejects and SPC (Statistical Process Control).

Various interchangeable gripper modules are available for handling, including V grippers, swivel arm loaders, double gripper heads, quick-change grippers and gripper heads for rotationally symmetrical and cubic parts.

SECKLER *modulo* can also be fitted with a pallet stacking box or easily upgraded to connect to a pallet conveyor.



Quick-change gripper



V gripper



Operator panel



Swivel arm loader



Double gripper head



SCARA arm with double gripper

For the love of detail. Modular perfection. From SECKLER.

The system is using a Siemens controller with graphical user interface. The AC servo drives are also made by Siemens. A mobile handbox is provided in addition to the touch screen panel.

Production data management is available as an option, with a connection to the customer database.

The basic equipment consists of the following:

- + Base frame with gantry
- + Enclosure
- + SCARA palletising axis
- + Pallet drawers
- + Combination drawer for rejects and SPC
- + Siemens controller with touch screen and mobile handbox

Additional peripheral modules are available:

- + Single-lane pallet conveyor for different pallet sizes
- + In- and outlet conveyor
- + Sequencer and discharge conveyor
- + Pallet stacking box
- + Bowl feeder
- + Supply and discharge chutes

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Twin cell: extending by interlinking more than one modulo cell



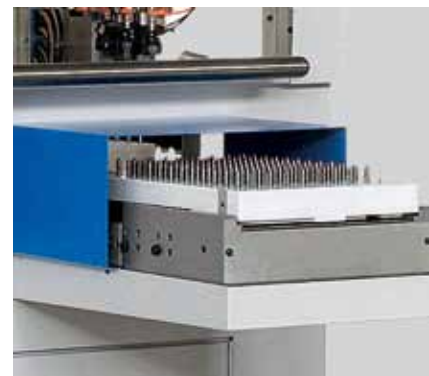
Combination drawer for rejects/SPC



Pallet drawer



Pallet stacking box



Pallet conveyor

The SECKLER *modulo 300* has been developed for handling items weighing up to approx. 1 kg.

We developed the SECKLER *modulo 500* in response to the lasting success of SECKLER *modulo 300* and the growing customer interest in a larger version.

SECKLER *modulo 300*

Part diameter:	1 – 30 mm
Part length:	1 – 150 mm
Part weight:	< 1 kg
Repeating accuracy:	+/- 0.02 mm
Pallet size:	400 x 300 mm

Base frame size/cell area:

XS:	1000 x 1100 mm / 1.1 m ²
S:	1300 x 1100 mm / 1.43 m ²
M:	1600 x 1100 mm / 1.76 m ²
L:	1900 x 1100 mm / 2.09 m ²
XL:	2200 x 1100 mm / 2.42 m ²

Control system:	Siemens PC627
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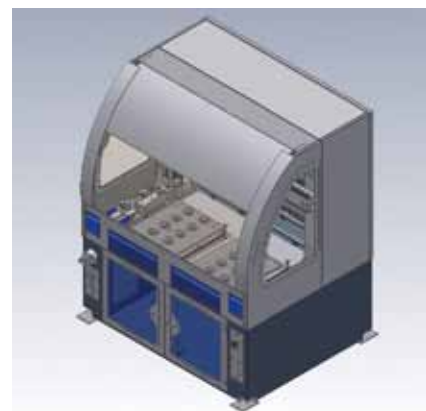
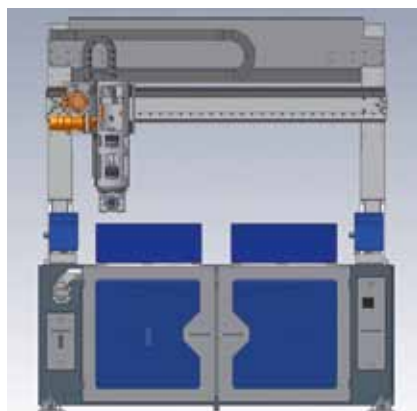
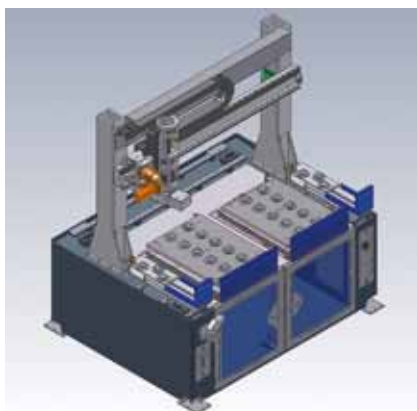
Handling every need together. *modulo 300 and modulo 500. From SECKLER.*



The SECKLER *modulo 500* is suitable for handling items up to 5 kg. The tried and tested modular design of the SECKLER *modulo 300*, with all its benefits, has been transferred in full to the 500 series. Both series operate under the same basic principle, and the same peripheral equipment and accessories are available for both.

SECKLER *modulo 500*

Part diameter:	20 – 150 mm
Part length:	50 – 500 mm
Part weight:	< 5 kg
Repeating accuracy:	+/- 0.05 mm
Pallet size:	600 x 400 mm 800 x 600 mm 1200 x 800 mm
Base frame size/cell area:	2100 x 1600 mm / 3.36 m ²
Control system:	Siemens PC627



Unity through diversity. Add-on modules. From SECKLER.

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The SECKLER *modulo* system is completed by a supplementary range of accessory modules, including measuring stations, blower and cleaning stations and brushing and deburring units.

In particular, the following additional functions are available as modular units for SECKLER *modulo* systems:

- + Blowing, washing, cleaning
- + Assembling, mounting
- + Measuring
(pre-process, post-process)
- + Orienting, aligning
- + Deburring, brushing
- + Flip over station
- + Labelling
- + Database connections

Rotary indexing bench with measuring station



Orienting station with camera



Post-process station



Reading the data matrix code



Washing station



Twin deburring station

Rising to the occasion. At the customer's service. From SECKLER.

Comprehensive documentation

To help with commissioning, customers are provided with comprehensive documentation specific to their particular system, in the standard languages of German, English, French or Italian. Other languages on request.

The documentation includes CAD design drawings, lists of components and spare parts, CE-compliant instructions, maintenance plans and suggested replacement parts to be kept in stock.

The complete manual is at any time accessible on the PC-controller.

Thorough training

SECKLER's job does not end when the system is put into operation.

Whenever a system is handed over, the customer's personnel receive intensive and thorough training for smooth operation and technical maintenance. Mechanical, electrical and software training is provided to allow customers to diagnose problems quickly themselves.

Perfect customer service

The show must go on. That is why SECKLER Customer Service uses expert service engineers to ensure that all the systems we supply are always fit for use.

If a fault arises, support can also be provided via remote diagnostics; often avoiding the need for an engineer to attend. SECKLER also offers service agreements for preventive maintenance, retrofitting and modernisation.



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