

dom*semi*

Latest technology at the highest level



Highly precise 4-axis grinding center for the manufacturing of ISO standard indexable inserts with periphery and a protective chamfer

modern

Machine design

simple and reliable

The AGATHON DOM SEMI is the result of over 90 years of experience in building high-precision grinding machines. AGATHON grinding centers lead the way for the efficient production of indexable inserts achieving the tightest tolerances.



Product range

Cost-effective solution for the production of ISO standard inserts with one or more protective chamfers.

Design consistency

Newest technology with proven workpiece programming syntax. Tools and programs from your existing generations of AGATHON machines can be used.

Ergonomics

The accessibility to the grinding area as well as the handling area has been made considerably easier.

Easy maintenance

The machine is easily accessible from all sides, meets all current safety requirements and conforms to the latest CE standards.

Direct drives

High-torque direct drives guarantee high-speed travel of every machine axes.

Proven dressing

With the proven AGATHON dressing concepts consistent improved values are reached in regards to grinding wheel wear, stock removal and insert edge quality.

Productivity

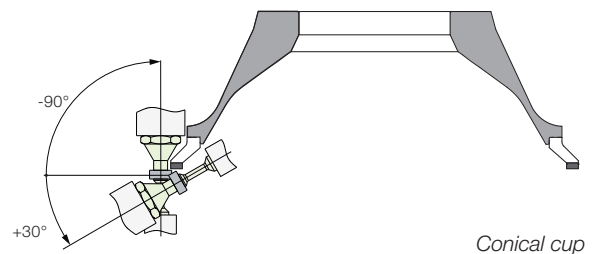
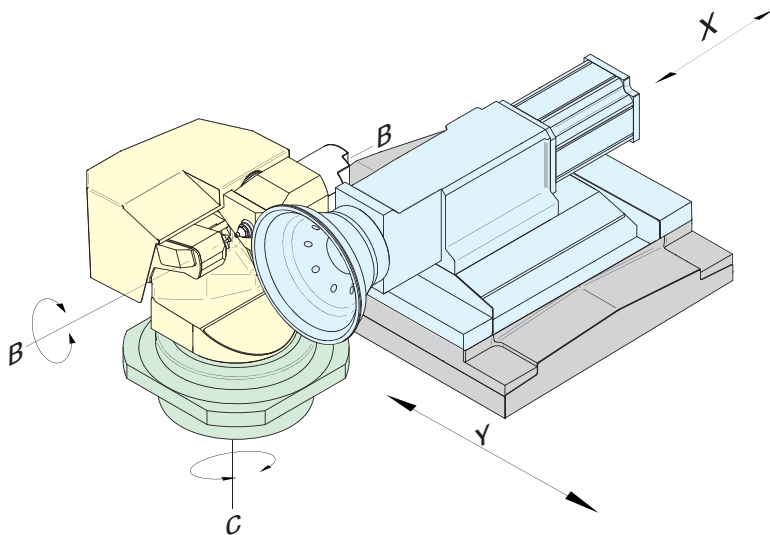
All integral precision components of the machine are manufactured entirely in-house. AGATHON grinding centers have the highest reputation, worldwide, for maximum reliability, precision and productivity.

flexible

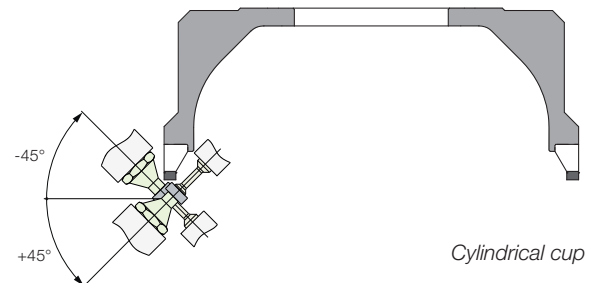
DOM SEMI equipment and Axis overview

accurate and stable

Axis overview



Conical cup



Cylindrical cup

| Travel ranges / Speeds | B axis | C axis | X axis | Y axis |
|-----------------------------------|------------------------------------|---------------------|------------------------|------------------------|
| Travel speed (Vmax) | 500° s ⁻¹ ¹⁾ | 90° s ⁻¹ | 300 mm s ⁻¹ | 500 mm s ⁻¹ |
| Travel distance | ∞ | -90° to +45° | 145 mm | max. 153 mm |
| Swiveling range (conical cup) | | -90° to +30° | | |
| Swiveling range (cylindrical cup) | | -45° to +45° | | |
| Resolution of measuring system | 0.0001° | 0.0001° | 0.1 µm | 0.1 µm |

The stated travel and swivel ranges are maximum values and may vary considerably depending on the application (grinding geometry).

¹⁾ Vmax for continuous use 300° s⁻¹

optimized

Handling

fast and accessible

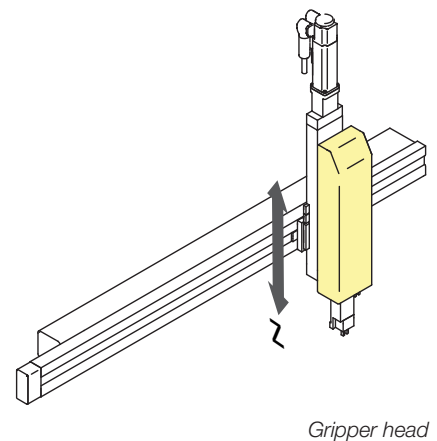
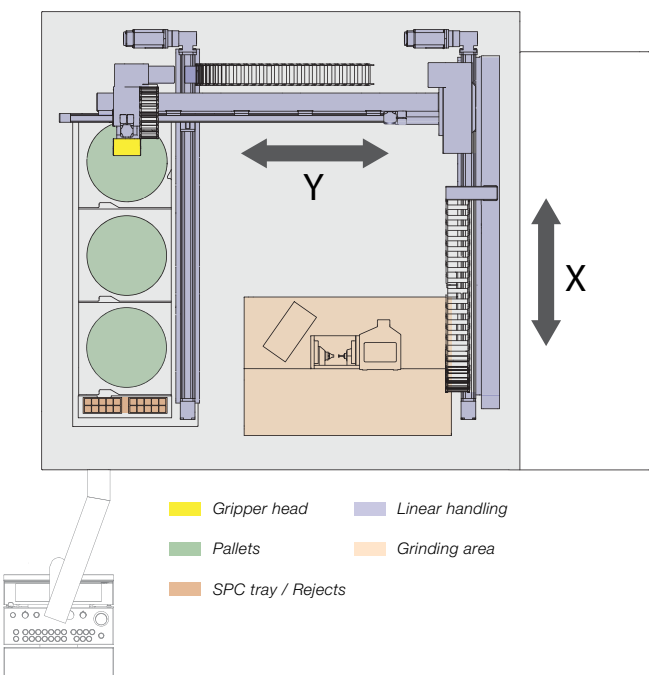
The DOM SEMI is equipped with a linear handling system of the latest generation.

3-axis linear handling

The newly developed 3-axis linear handling system transports blank inserts from up to 3 workpiece pallets for machining into the grinding area and returns the finished ground workpieces. Optimized for speed and combining the best achievable positioning accuracy, the also newly developed gripper unit shortens the workpiece loading time to an absolute minimum which contributes to the high productivity of the DOM SEMI.

Various proven gripper systems that are compatible with AGATHON Plus-series are the pre-requisite for the careful but efficient workpiece handling.

Workpiece turning station, ultrasonic washing system and blow-off station are available as options. Two small storage pallets for SPC inspection and rejects are in the same plane as the workpiece pallets.



enclosed and separated

Grinding area

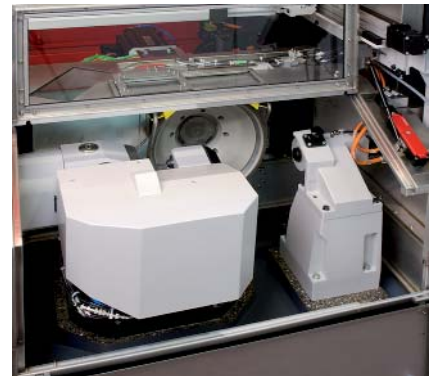
practical and safe

Grinding area

The grinding area of the AGATHON DOM SEMI is a separate enclosure within the handling area where the grinding process takes place. The enclosure is sealed against coolant leakage and has suction. This area can be opened with two doors for setting-up purposes. During automatic mode, after the grinding process has ended, a small sliding door opens to enable the gripper to load and unload the workpieces. Two large clear windows are part of the stainless steel enclosure allowing to monitor the grinding process at any time.



Separated grinding area



Separated grinding area (doors open)

Advantages of this concept:

- No contamination of the handling area created by coolant mist
- Short cycle times of the handling for workpiece loading and unloading
- Workpiece pallets can be removed from the handling area and replaced with new ones, without interrupting the grinding process
- Additional noise dampening

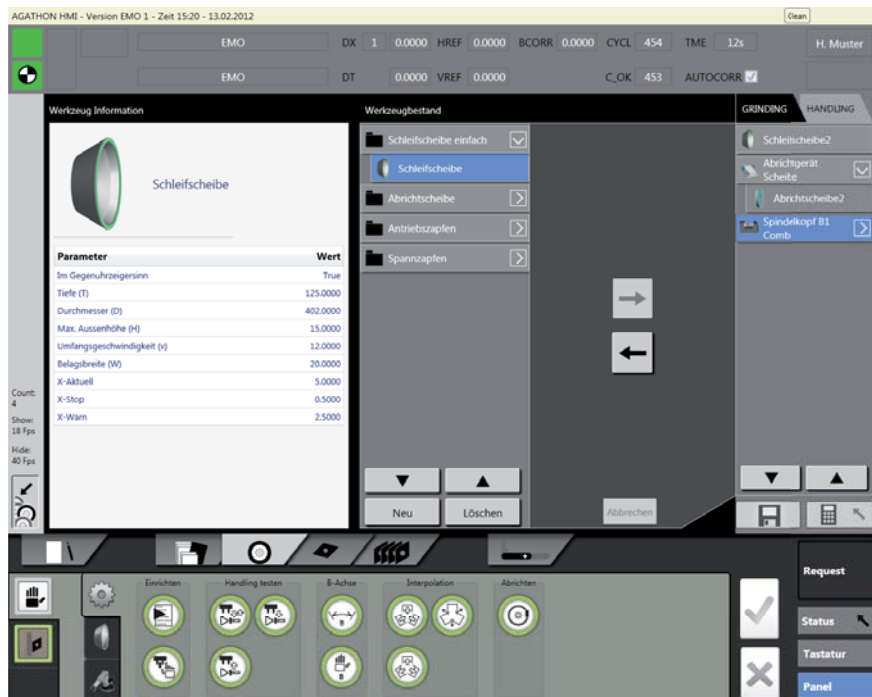
innovative

Hardware and Software

look and feel

User interface

For the DOM SEMI, AGATHON has designed the new user interface, in which our long term experience as well as the demands and needs of our customers have been incorporated.



User interface

Machine control panel, touch screen

The input devices - touch screen, machine control panel and hand-held operating unit - are optimized for easy operation. The user interface is designed for touch screen operation. During production operation, the screen display switches to the monitoring of the relevant measurement and statistical values.

Control unit

The DOM SEMI is equipped with a Bosch Rexroth MTX.



Operating unit

Teach

The handling teaching is done by utilizing the identical user interface with which all other functions of the machine are also programmed.

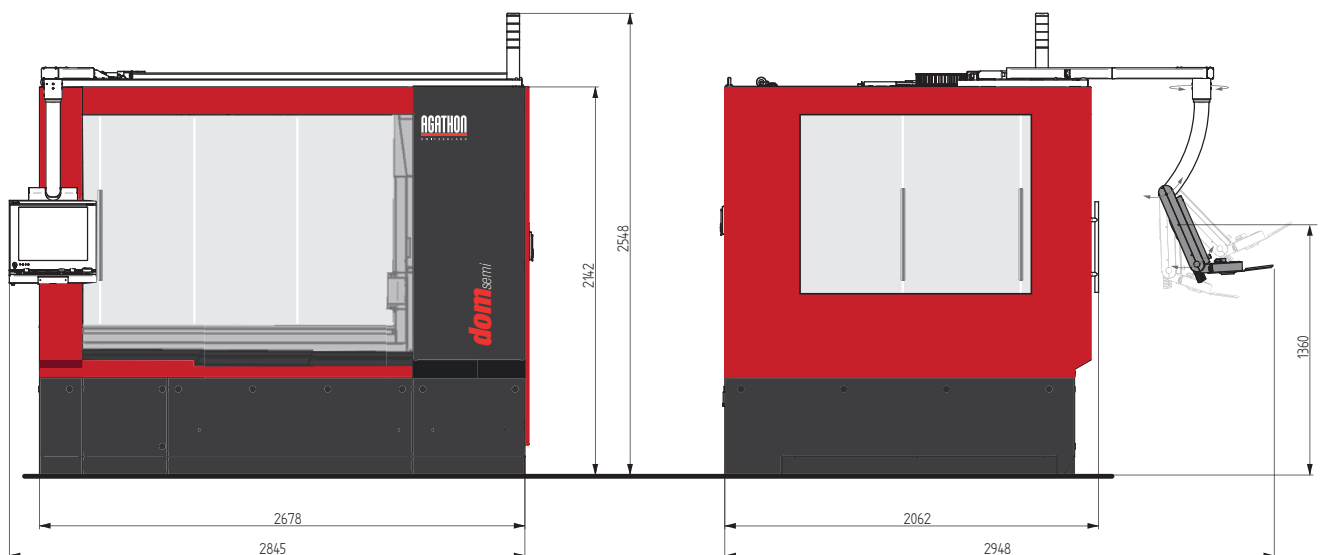
Users that are used to the current AGATHON user interface will learn very quickly. Process-oriented operating procedures make it easier for beginners learning the necessary commands. The proven programming syntax from the 400- and Plus-series is still applied.

general

Technical data

actual

Dimensions of the machine



Connection data

Data

| | |
|--|---|
| Control unit | Bosch Rexroth MTX with IndraControl L65 |
| Electrical connection | 3×400–480 V AC +10%...15% |
| Frequency | 50 HZ...60 Hz, ± 2% |
| Rated power | max. 40 KVA |
| Fuse of power supply | 63 A |
| Short-circuit current peaks (at least) | > 1 kA |
| Compressed air | 5–6 bar |
| Grinding wheel diameter | 350 mm |
| Power of grinding spindle motor | 15 KW |
| Maximum grinding wheel speed | 63 ms ⁻¹ |
| Smallest insert inscribed circle | 3.96 mm |
| Largest insert circumscribed circle (with meas. probe) | 60 mm |
| Clamping range | max. 24 mm |
| Adjustable operating unit | Inclination of keyboard 30° / inclination of panel ± 15° / swiveling 270° |
| Mineral cast base | Working height offset by 100 mm |
| Machine weight | approx. 5350 kg |

The machine is to be connected to a **TN network**.

TN = **T**erre **N**eutre, designation for electrical connection. Defines the connection of phase, neutral, earth, protective conductor (PE).

Dom 4545

DOM SEMI 6000.2 / Date: 22.10.2013 / Subject to technical modifications



Quality
Precision
Innovation ■

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