

ASMPT enabling the
digital world



SIPLACE CA2

High-speed chip assembly directly from wafer
and SMT placement in one machine

SMT AND DIE BONDING: SIPLACE CA2

THE HYBRID SIPLACE CA2 HIGH-SPEED PLATFORM REVOLUTIONIZES SiP PRODUCTION

Only consistent miniaturization and increasingly complex electronics make things like smart devices, autonomous driving and the 5G communication standard possible. The key technology is System in Package (SiP) because it combines ICs and SMT components into a compact, highly innovative system.

As a hybrid combination of a SMT placement machine and a die bonder, the new SIPLACE CA2 can process SMDs supplied from changeover tables and feeders as well as dies taken directly from a sawn wafer in a single workstep. By integrating the complex die bonding process into the SMT line it eliminates the need for special machines in production. Reduced personnel deployment, high connectivity and integrative data utilization make the new SIPLACE CA2 the perfect match for the Intelligent Factory.

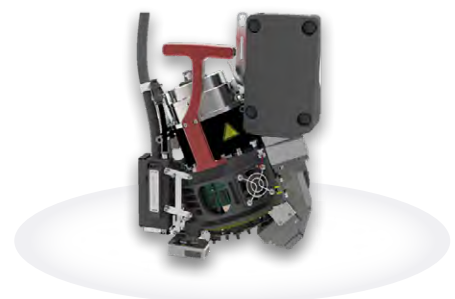
Placement directly from the wafer: more cost-effective and sustainable

Direct placement from the wafer eliminates the entire die taping process. The result: less replenishment or splicing, less effort to feed material to the line. Eliminating the tape feed for the sensitive dies also reduces handling risk and increases production resiliency. All of these factors add up to a significant reduction in costs. At the same time, taping waste is eliminated, making the manufacturing more environmentally friendly and sustainable overall, while increasing ROI.



Flexible combination

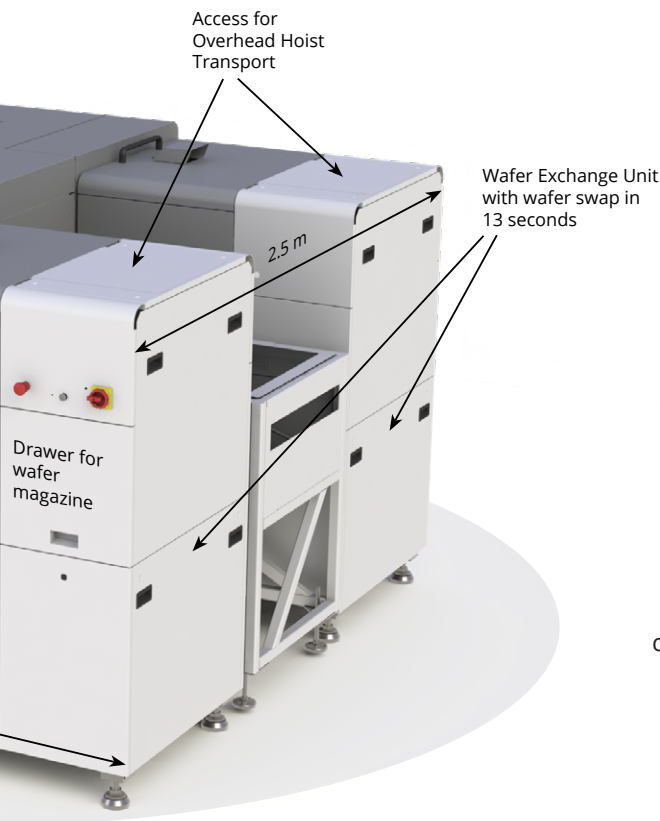
SMT and die bonding in one line simplify your process flow and improve material logistics.



Placement Head CP20

- Component spectrum: 0201 metric to 8.2 mm × 8.2 mm × 4 mm
- Touchless pickup and placement
- Placement force: 0.5 N – 4.5 N
- Extremely fast: Up to 38,000 cph
- Extremely precise: Up to $\pm 10 \mu\text{m}$ @ 3 σ

MULTITALENT COMBINES TWO WORLDS IN ONE MACHINE



Maximum productivity

Processes SMT components and dies directly from the wafer with die-attach and flip-chip processes in the same work step.

Cost-saving

No taping cost, no associated quality cost of the die taping process and no efforts for tape-waste disposal. Left In Left Out conveyor feature allows for single-sided substrate handling.

Unique flexibility

Wafer system for up to 50 different wafers with a wafer swap time of less than 10 seconds ("full multi-die capability"). A wafer chuck, flux (linear) dipping unit (LDU) and 10 × 8 mm tape-and-reel feeder tracks can be used parallel to pick up from wafer.

Full traceability

Keep track of data for each die from its source on the wafer to its placement position on the circuit board ("full single-die-level traceability").

Consistent sustainability

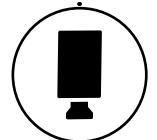
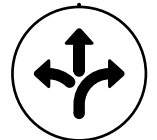
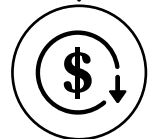
Processing dies directly from the diced wafer eliminates the entire die-taping process – and lots of tape waste.

Maximum performance

Thanks to die buffering and process parallelization, the SIPLACE CA2 can place up to 54,000 components per hour directly from wafer with an accuracy of up to 10 μm @ 3 σ.

Comprehensive quality management

Multiple high-end vision system reliably recognize even the smallest components and elements for comprehensive process control.



Wafer Exchange Unit

- Extremely flexible: Processes up to 50 different wafers
- Extremely fast: Wafer swap in only 13 seconds

More about
SIPLACE CA2



SIPLACE CA2

| SIPLACE CA2 | |
|--|---|
| Placement speed (benchmark) | SMT up to 76,000 cph Flip chip from wafer up to 51,000 cph Die attach from wafer up to 54,000 cph |
| Wafer swap | 13 seconds |
| Placement accuracy (3 σ) | 20 μm / 15 μm / 10 μm (can be selected on placement position and component shape level) |
| PCB dimensions (l x w) dual lane conveyor | 50 mm x 45 mm to 375 mm x 260 mm (20 μm) 50 mm x 45 mm to 375 mm x 430 mm (20 μm) (dual as single lane mode) 50 mm x 55 mm to 250 mm x 100 mm (15 μm) 50 mm x 55 mm to 250 mm x 100 mm (10 μm) |
| PCB dimensions (l x w) single lane conveyor | 75 mm x 55 mm to 620 mm x 700 mm (20 μm) 75 mm x 55 mm to 620 mm x 700 mm (15 μm) 75 mm x 55 mm to 620 mm x 700 mm (12 μm) (per 300 mm x 300 mm quadrant) 75 mm x 55 mm to 300 mm x 300 mm (10 μm) |
| Machine dimensions (l x w x h) | 2.56 m x 2.50 m x 1.85 m |
| Feeder slots | up to 80 x 8-millimeter tape-and-reel feeder or up to 2 x Multi Wafer System and 10 x 8-millimeter tape-and-reel feeder |
| Power consumption (average) | 1.9 kW |
| Air consumption | 120 NI/min (2 x SIPLACE CP20) |
| Certifications | CE, SEMI S2/S8, Clean room class ISO 7 |
| Data interfaces | IPC-HERMES-9852, IPC-CFX, IPC-SMEMA-9851, SECS/GEM |

| Placement head | SIPLACE CP20 |
|--------------------|--|
| Component range | from tape-and-reel: 0201m up to 8.2 mm x 8.2 mm from wafer: 0.3 mm x 0.3 mm up to 8.2 mm x 8.2 mm |
| Min. lead pitch | 70/50* μm |
| Min. lead width | 30/25* μm |
| Min. ball pitch | 100/50* μm |
| Min. ball diameter | 50/25* μm |

* with optional high-resolution camera (SST49)

ASMPT

ASMPT GmbH & Co. KG

Rupert-Mayer-Strasse 48 | 81379 Munich | Germany | Phone: +49 89 20800-22000 | Email: smt-solutions.de@asmpt.com

asmpt.com | smt.asmpt.com

Edition 5/02-2025 | All rights reserved. | Order No.: A22-ASMPT-A330-EN | Printed in Germany | © ASMPT GmbH & Co. KG

All information and illustrations in this brochure are provided "as is" and without any warranties of any kind, whether expressed or implied, including but not limited to, implied warranties of satisfactory quality, fitness for a particular purpose and/or correctness.

The contents of this brochure are for general information purposes only, do not constitute advice, and are subject to change without notice. ASMPT therefore makes no warranties or representations regarding the use of the content, details, specifications or information contained in this brochure in terms of their correctness, accuracy, adequacy, usefulness, timeliness, reliability or otherwise, in each case to the fullest extent permitted by law. Please contact ASMPT for the most current information. Any specific performance features and/or capabilities will only be binding if contractually agreed upon.

All product names are brands or trademarks of ASMPT or other suppliers. Unauthorised use by third parties may violate the rights of their owners.