HF-PLACE · Pick and place

The module you add when the board grows.

Place sits between paste and reflow. One place module is enough for a short line. Add another when the job needs it. The rest of the line stays the same.



Render of the Place module design model (build123d, ray-traced in Blender). Not a photograph; the interior is simplified.

What the module does

- **Two nozzles, one head**
  A dual-nozzle head with independent Z and θ per nozzle, contact sensing and a programmable placement force of 0.3 to 2.0 N. A 10-slot nozzle changer is checked by camera.
- **30 smart feeder slots at the front**
  F8 feeders for 8 mm tape load from the front. Feeders are swapped while the module is paused, behind an interlocked hood.
- **Vision at every step**
  The design checks the tape pocket before the pick, aligns the part on the fly with an up-looking camera, and verifies the part after placement. Vacuum curves flag a bad pick.
- **More than one, when you need it**
  A short line has a single place module. A longer line adds place modules between paste and reflow, and the job planner balances the parts across them.
- **Parts that are not on tape**
  Planned cassettes take cut strips, waffle trays and loose parts next to the tape feeders.

Where it sits in the line

Paste
Paste is put on the board and checked.

→

Place × N
Components go on the pasted board. Add modules as the board grows.

→

Reflow
The board is soldered, then it leaves the line.

Status

HyprFab is in design (Phase 0: design model, simulator, test rigs). No module has been fabricated, measured or certified. The values in this brief are design targets. They become specifications only once they are measured on the reference board.

Pre-release information. Design targets, not measured performance. Subject to change without notice. Renders show the design model, not a product. HyprFab is a working name. © 2026 Newmatik GmbH, Am Markt 1, 55619 Hennweiler, Germany.

Design targets for version 1

Measured on the HyprFab reference board once hardware exists: 100 × 80 mm, 150 parts of 15 types, smallest part 0402. Until then each value is a target.

PARAMETER	DESIGN TARGET	NOTE
Placement rate	**1,500 CPH**	On the reference board, job level. Stretch goal 2,500 CPH.
Placement accuracy (chips)	**±50 µm at 3σ**	To be proven on the gantry test rig first.
Smallest part	**0402**	0201 is a stretch goal.
Largest part	**30 × 30 mm, 12 mm tall**	20 mm part height is a stretch goal.
Feeder slots	**30 × F8 (8 mm tape)**	Wider tapes use more slots with later feeders. Documented fallback: 24 slots.
Reels	**14 × 7″ inside**	Up to 16 more on a front reel rack (accessory).
Board size	**50 × 50 to 300 × 250 mm**	0.6 to 3.2 mm thick. Smaller boards ride on a carrier.
Placement force	**0.3 to 2.0 N**	Programmable, with contact sensing at the tip.
Rated input	**≤ 400 W, single-phase**	Design limit for the module.

Built on the common platform

- **One chassis**
  Paste, place and reflow share the same enclosed sheet-metal chassis, conveyor and controller.
- **Open board hand-over**
  Modules pass boards and board data with IPC-HERMES-9852, the open line standard.
- **No cloud required**
  The line is designed to run locally: no account, no cloud service and no internet connection needed.

Not yet proven

- Placement accuracy without linear encoders. A gantry test rig is the gate before tooling.
- The 12 mm feeder body. If its prototype fails, the fallback is 24 slots at 15 mm.
- The placement rate. At 1,500 CPH the line takt has no margin until a board is run.

Tell us about the boards.

The number of place modules follows the work. There is no shop and no price list.

hyprfab.com/contact
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Sources: HyprFab engineering repository (newmatik/hyprfab, revision 0d65461): interface contract HLI 0.5 (draft), master plan v0.2, Place module design v0.1. **Pre-release information.** Design targets, not measured performance. Subject to change. © 2026 Newmatik GmbH.