HF-F8 · 8 mm tape feeder

A feeder that knows what it carries.

The F8 is the 8 mm tape feeder for the HyprFab Place module. Each feeder has its own controller, identity and sensors. The module checks it by camera before it picks the first part.



The Place module, which takes up to 30 F8 feeders in a bank at the front. Render of the design model; the feeders are not shown in detail. Not a photograph.

What the feeder does

- **Picks on the sprocket**
  The part is picked where the sprocket holds the tape, so cut tape is usable to the last pocket.
- **Closed loop at the sprocket**
  A gearmotor drives the tape and an absolute angle sensor on the sprocket shaft closes the loop where it matters, so gear backlash does not move the pick point.
- **Active peel**
  The cover film is peeled by a driven roller, with the film tension measured and controlled.
- **Verified before the first pick**
  A DataMatrix and fiducial plate next to the pick window lets the camera confirm which feeder sits in which slot, and find the pocket. A feeder that fails the check is locked.
- **Signed firmware**
  Each feeder runs its own firmware, updated over the module bus with signed images.

At a glance

30
F8 slots in each Place module.

8 mm
Paper or embossed tape, 2 or 4 mm pocket pitch.

250k
Feeds without a peel failure, as a life target.

14-bit
Absolute angle sensor on the sprocket shaft.

Status

HyprFab is in design (Phase 0: design model, simulator, test rigs). No feeder has been built, measured or certified. The values in this brief are design targets. A feeder prototype must pass its life and jump tests before they become specifications.

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.

From reel to first pick

The planned set-up flow. The operator loads; the line plans, guides and checks.

1 · Plan
The job planner assigns parts to slots.

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2 · Guide
Slot and feeder light up for the part to load.

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3 · Scan
The reel label is checked against the BOM.

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4 · Bind
Part, lot and slot are bound on insertion.

→

5 · Verify
The camera checks the ID plate and the pockets.

Design targets for version 1

PARAMETER	DESIGN TARGET	NOTE
Tape	**8 mm, paper or embossed**	Clear tape too. Pocket pitch 2 or 4 mm; 8 mm by firmware.
Supply	**7″ reel or cut strip**	Reels in the module's reel bay or on the front reel rack.
Slots per Place module	**30**	Documented fallback: 24 slots.
Loading	**From the front, while paused**	Behind an interlocked hood. Swapping while running is planned for a later feeder.
Life	**≥ 250,000 feeds**	Without a peel failure. At least 5,000 insertions.

Around the feeder

- **Wider tapes later**
  12, 16 and 24 mm feeders are planned after version 1, on the same slots and protocol.
- **Cassettes and a loading dock**
  Cassettes for cut strips, waffle trays and loose parts, and a bench dock for threading tape.
- **An open protocol, planned**
  The feeder protocol is to be published with the rest of the project. The licences are proposed, not yet in force.

Not yet proven

- The narrow feeder body. If its prototype fails, the fallback is a wider body and 24 slots.
- The life target, on a 250,000-cycle endurance test.
- Small parts (0201) jumping out of the pocket, on a jump test.

Tell us about your parts.

Which tapes and packages do your boards use? Write to Newmatik.

hyprfab.com/contact
service@newmatik.com

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