



wir bewegen Zukunft

HYDROGEN IN AUTOMATION

Solutions for Fuel Cell and Electrolyzer



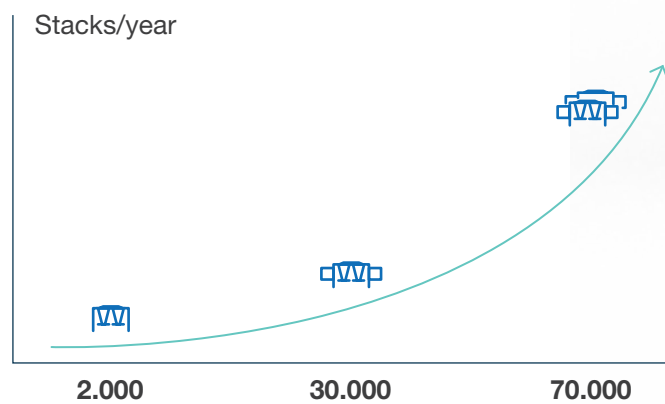
UP TO
70.000
STACKS PER YEAR

Assembly lines for the future: Powerd by VAF

Our assembly lines for fuel cells and electrolyzers offer flexible application from pilot lines through to highly automated systems. They were developed with simplicity and scalability in mind.

The individual lines are developed and built by our experts to meet the customer's requirements.

VAF assembly lines are an ideal solution for manufacturing fuel cells and electrolyzers. They offer a great deal of flexibility at high speed and can be flexibly scaled. We are thus able to map the entire process chain quickly, cost-effectively and reliably.

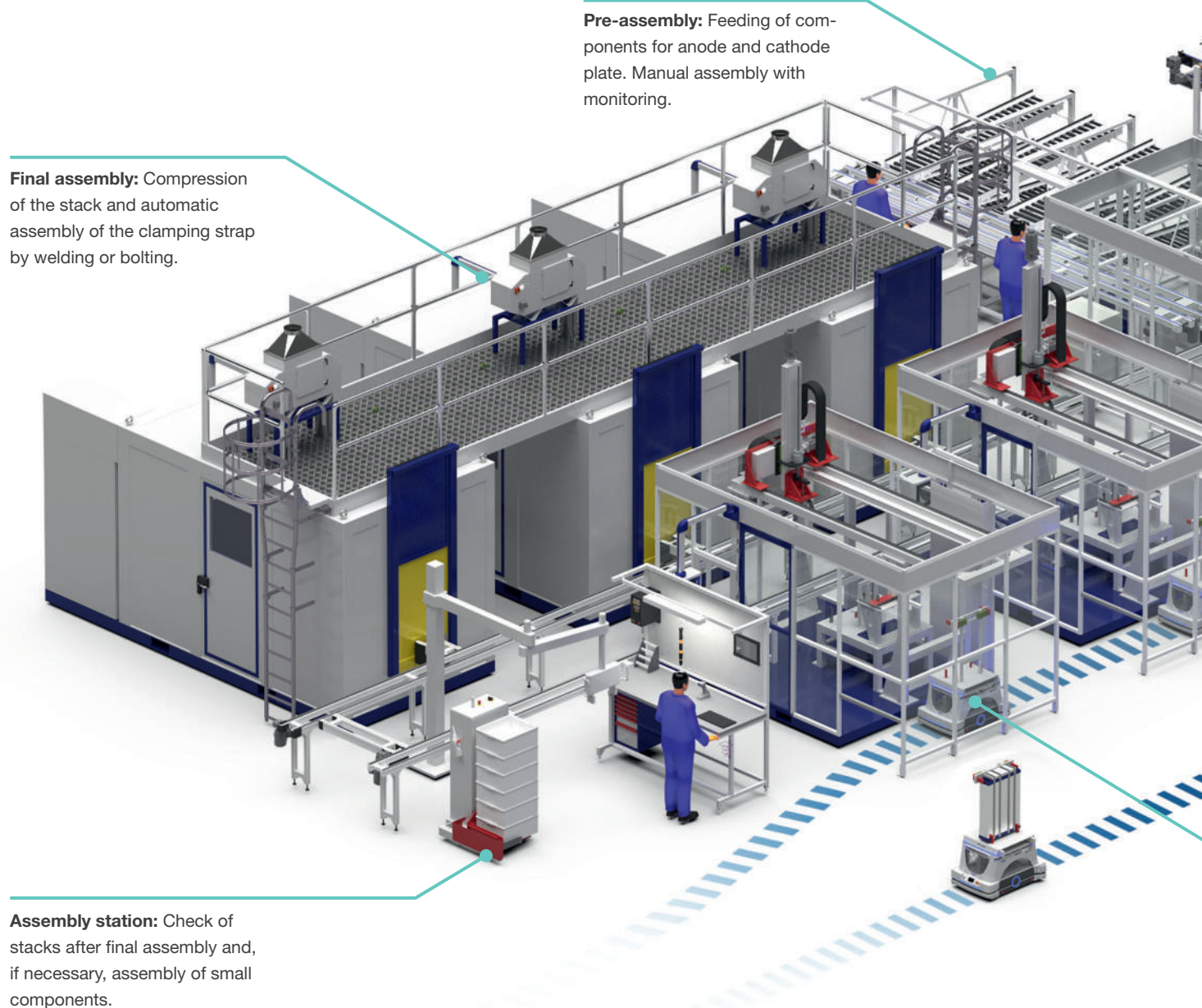




High volume production for fuel cell stacks

End assembly
production line
fuel cell
Contact us!

The line maps the entire stack production process chain. The line can be scaled freely by adding further system elements.

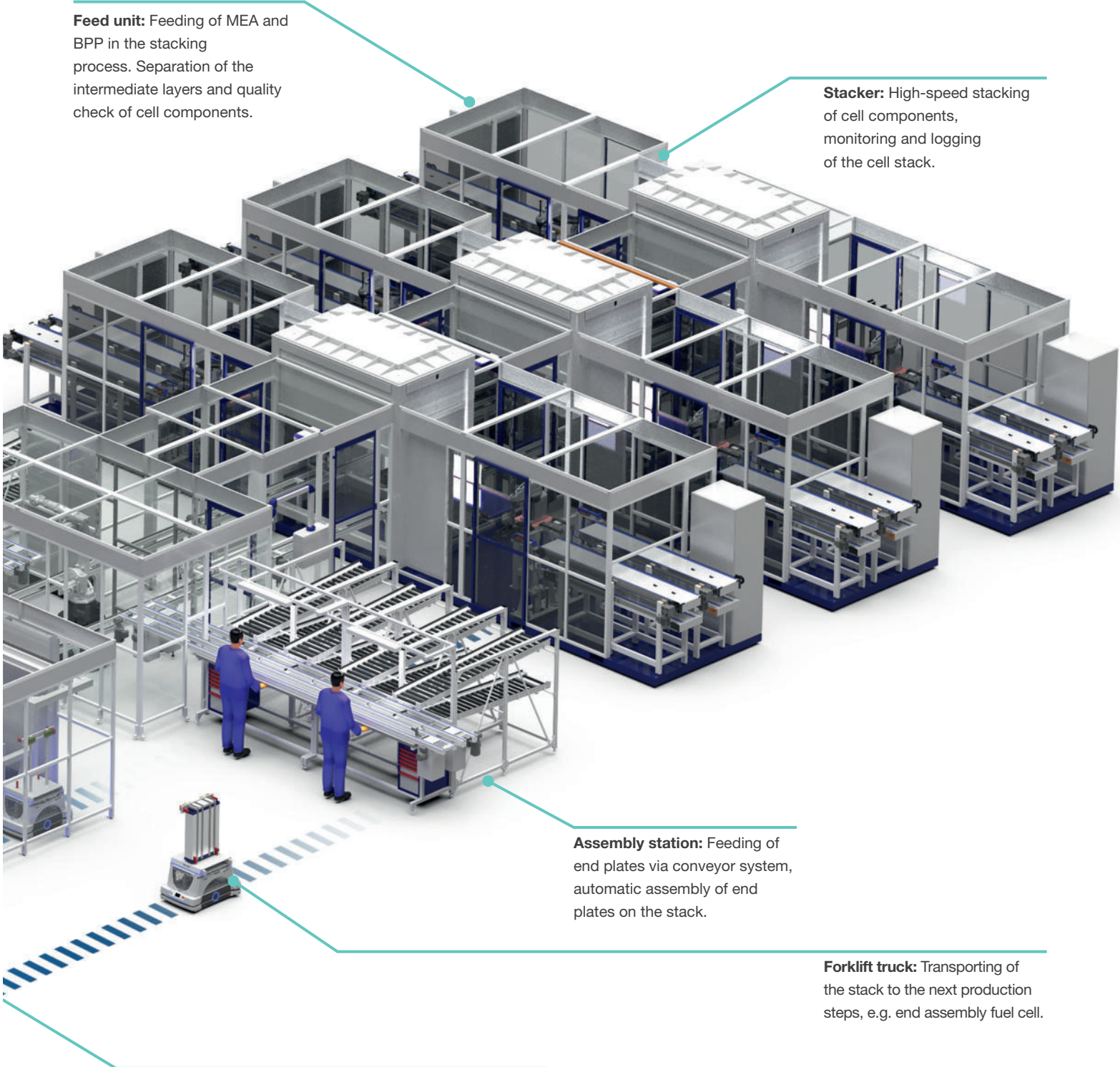


Feeding of MEA/BPP

Stacking

End plate assembly

Compression



Feed unit: Feeding of MEA and BPP in the stacking process. Separation of the intermediate layers and quality check of cell components.

Stacker: High-speed stacking of cell components, monitoring and logging of the cell stack.

Assembly station: Feeding of end plates via conveyor system, automatic assembly of end plates on the stack.

Forklift truck: Transporting of the stack to the next production steps, e.g. end assembly fuel cell.

Measuring station: Quality check of the stack with regard to leak testing and measuring accuracy, transfer of the stacks to automated guided vehicle

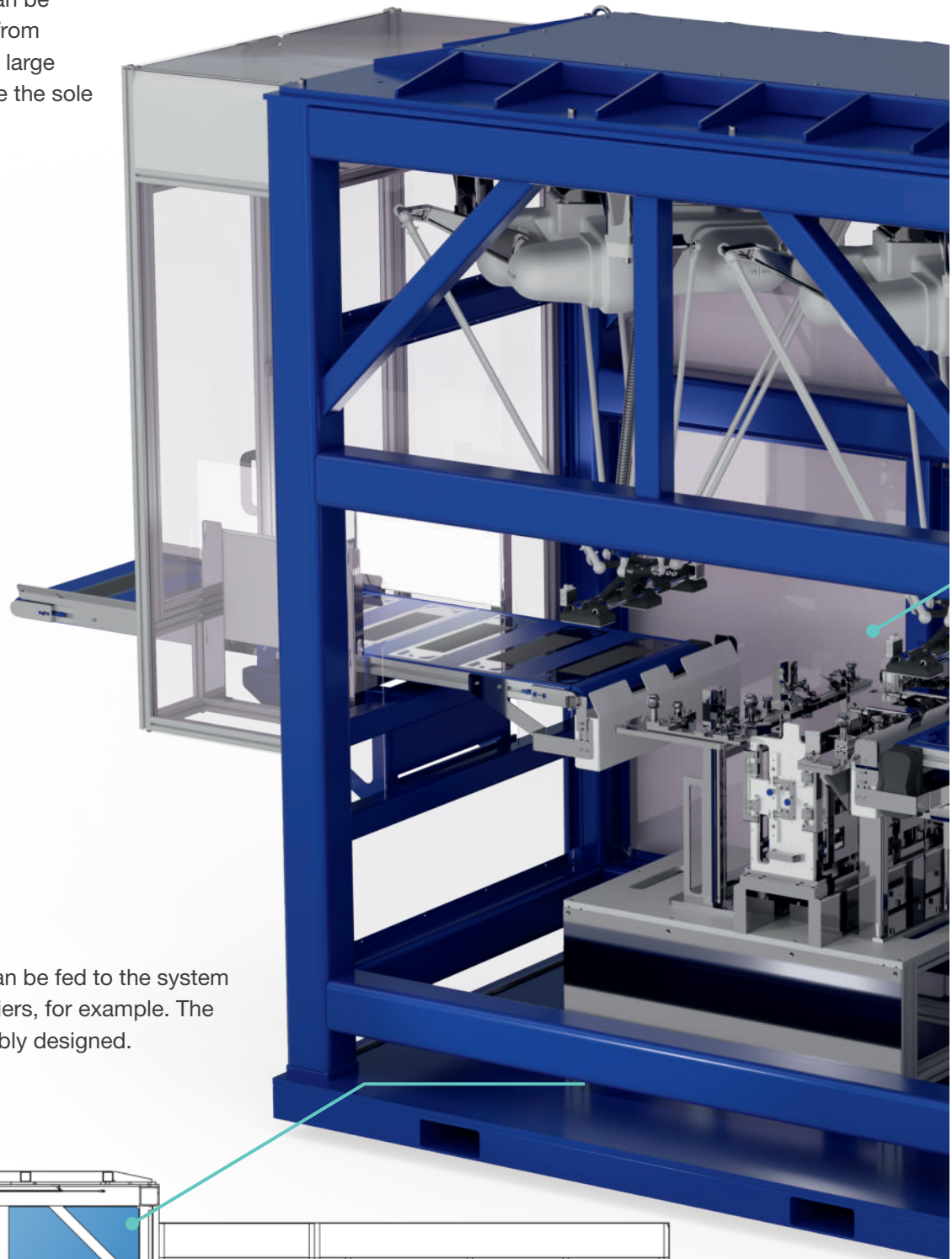
Assembly of clamping strap

Leak testing & measuring

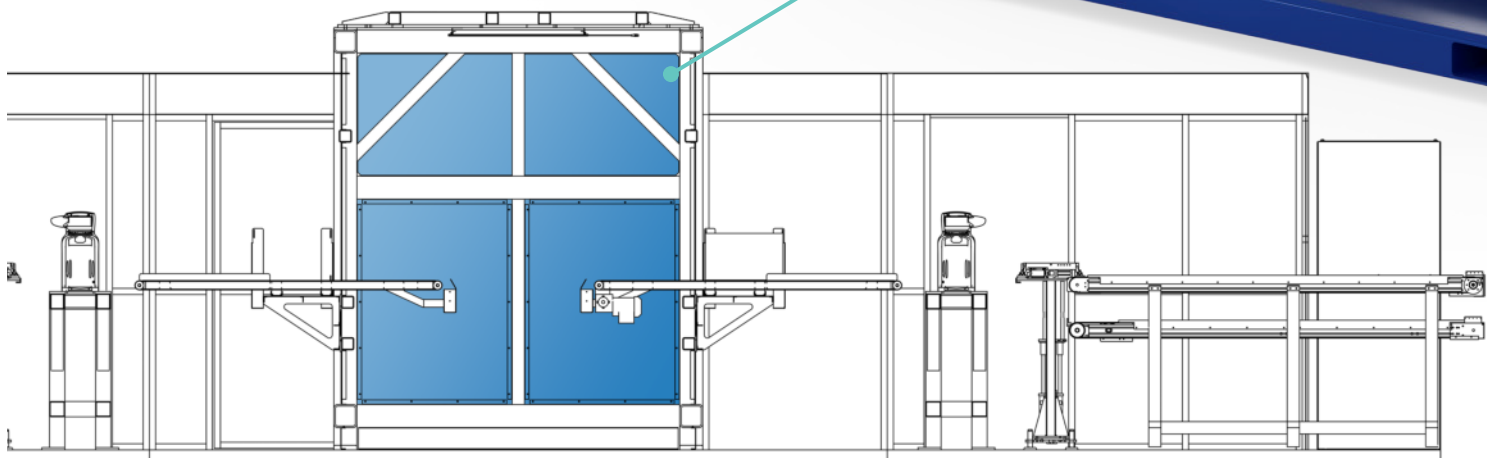
Unloading

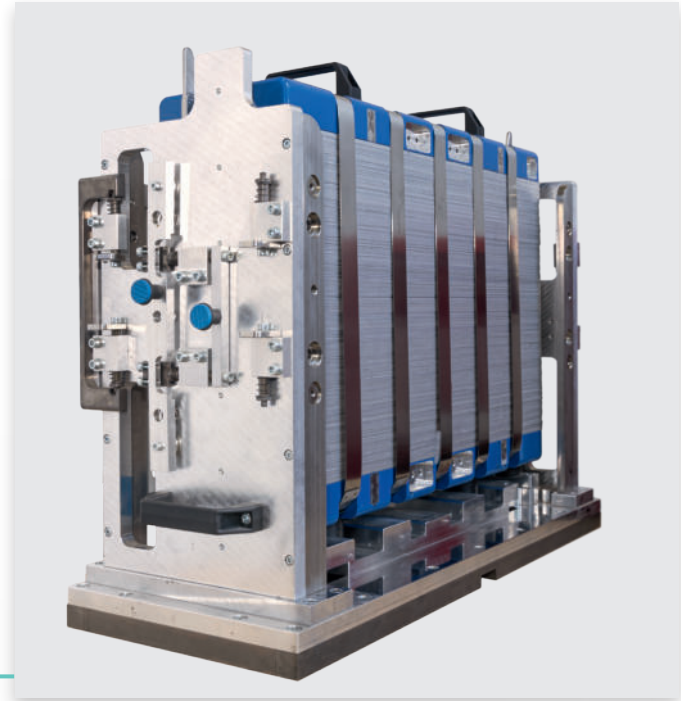
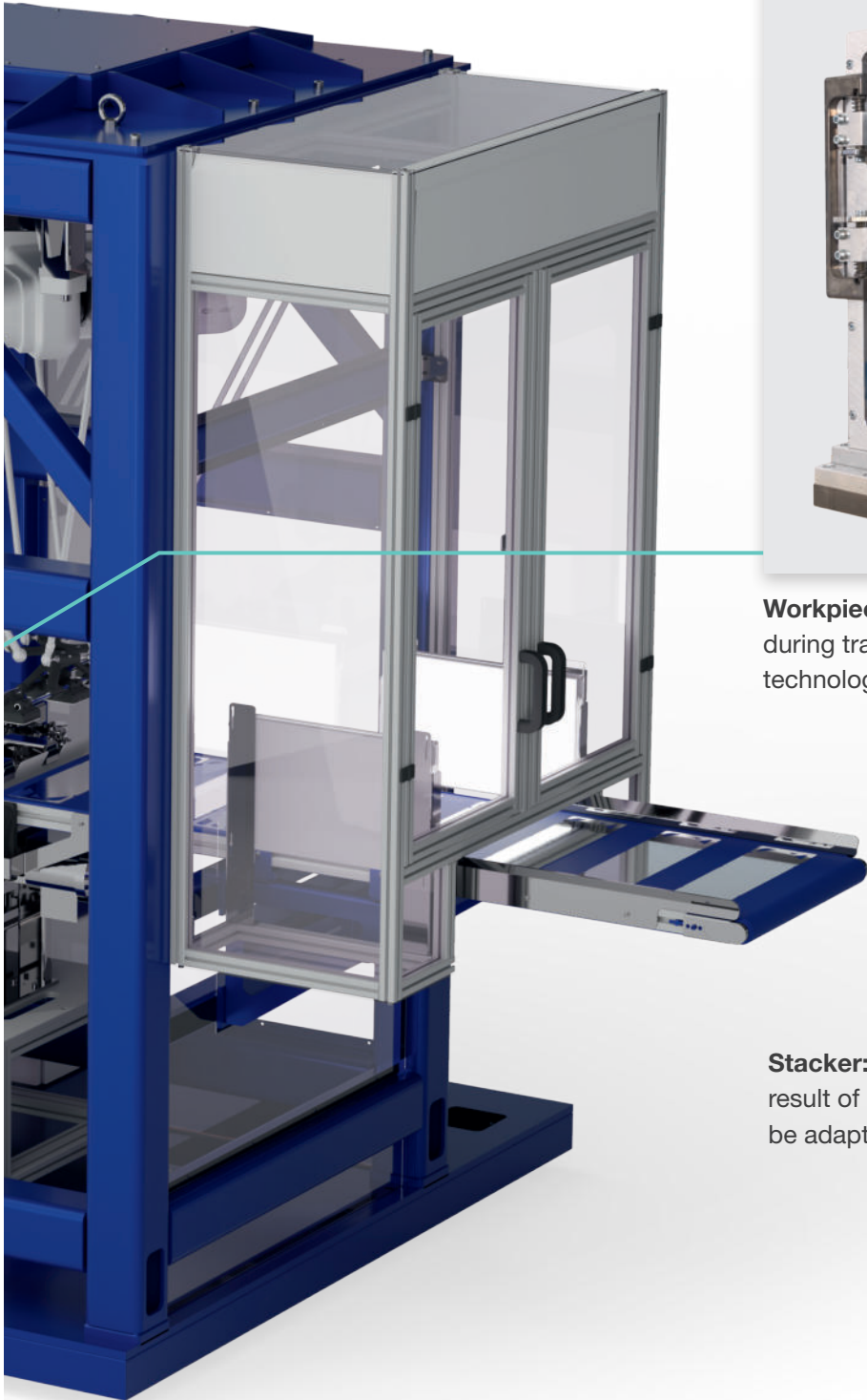
Fuel cells for e-mobility: High speed Stacking by VAF

Thanks to the modular construction of the stacker, everything can be mapped, from small scale (from 2,000 units/year) through to large scale. Your requirements are the sole limiting factor.



Feed unit: MEA and BPP can be fed to the system by means of small load carriers, for example. The loading method can be flexibly designed.





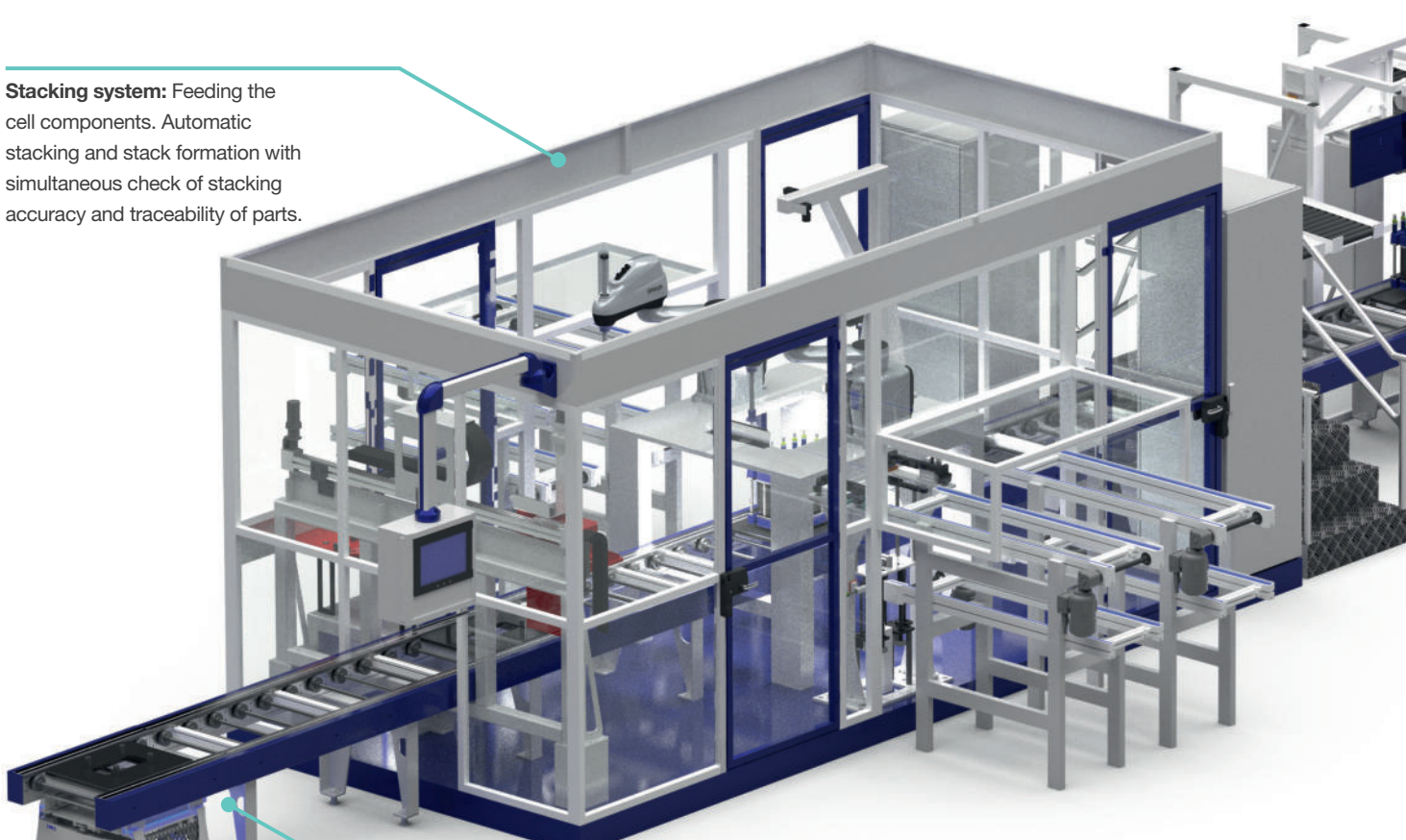
Workpiece carrier: The stack retains its tolerances during transport thanks to the workpiece carrier control technology.

Stacker: The pick and place process is quicker as a result of integrated valve technology. The grippers can be adapted to different stack designs.

High automation for Hy technology: individual solutions for **electrolyzers**

The assembly line concept was developed with a scalable and modular design in mind. We are thus able to project the desired quantity while making optimal use of the available space.

Thanks to the high level of automation, a high output is achieved with the line concept.



Stacking system: Feeding the cell components. Automatic stacking and stack formation with simultaneous check of stacking accuracy and traceability of parts.

Workpiece carrier transfer:
Transfer to conveyor belt via industrial truck.

Other loading concepts are also possible upon request.

Feeding of cell components

Stacking

End plate assembly

Compression

Flexibility
Process reliability
Trusted

Stack transfer: Transfer of stack to automated guided vehicle via the gantry and start of next work steps.

Final assembly: Application of labels and leak testing of stack

Press: Stack is compressed and bolted. Distance and force monitoring for process. Bolts are manually tightened to torque using a screwdriver.

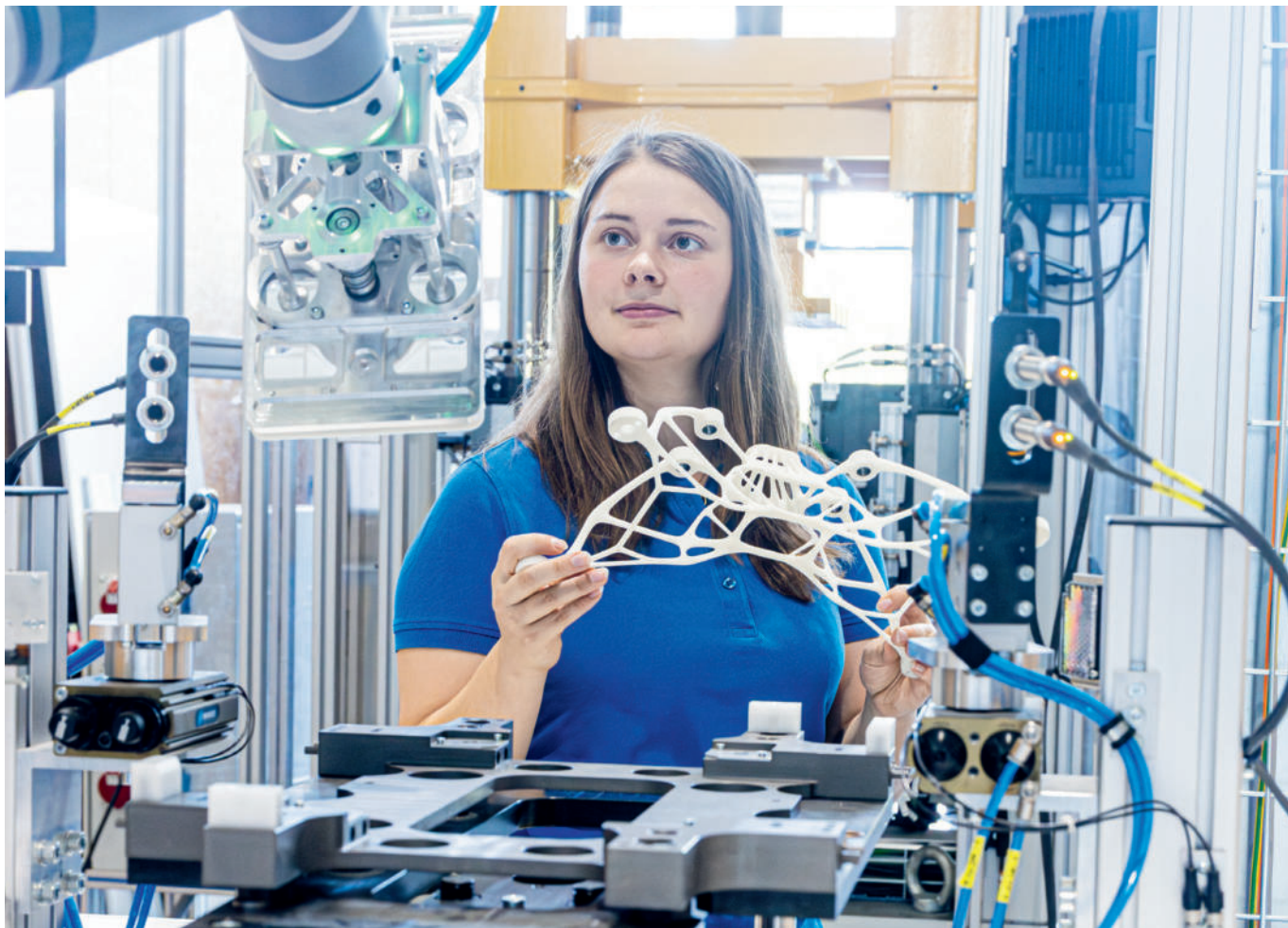
Assembly station: Assembly of small parts with optical monitoring. Integrated bolting technology with torque monitoring.



Stack end assembly

Leak testing & measuring

Unloading



Our technical center has more than 700 m² at its disposal



Our technical center

At our technical center, we support our customers in the qualification of the stacking process with gripper development as well as feasibility testing and comprehensive documentation reports. This enables us to optimize processes in terms of quality and cost-effectiveness.

Possibilities and service

- Process development and optimization
- Stacking tests
- Prototype testing

Laboratory equipment

- Fuel cell stacker
- Electrolyzer stacker
- Press
- Quality inspection tools



Who is VAF?

As a strong partner of internationally active automobile manufacturers, we specialize in the construction of complete assembly lines for the automatic production of classic components such as transmissions, chassis, and axles.

We are playing a pioneering role in automated component production for the car of the future. In a very short time, our team develops equipment, not only for the highly efficient production of fuel cell and electrolyzer stacks but also for batteries and electric motors. Several funding projects in new vehicle drives underscore the company's innovative strength.

With more than 450 employees and a production and assembly area of 21,000 m² supported by powerful in-house manufacturing, we are your innovative partner for automation solutions "Made in Baden-Württemberg".

Interested? Contact us!

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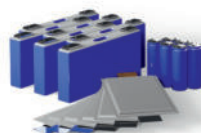
OUR PORTFOLIO FOR E-MOBILITY

ELECTRIC MOTOR



Stator and rotor assembly
Dip impregnation
Trickle impregnation

BATTERY



Cylindrical cell
Pouch cell
Prismatic cell

HYDROGEN



Fuel cell
Electrolyzer

