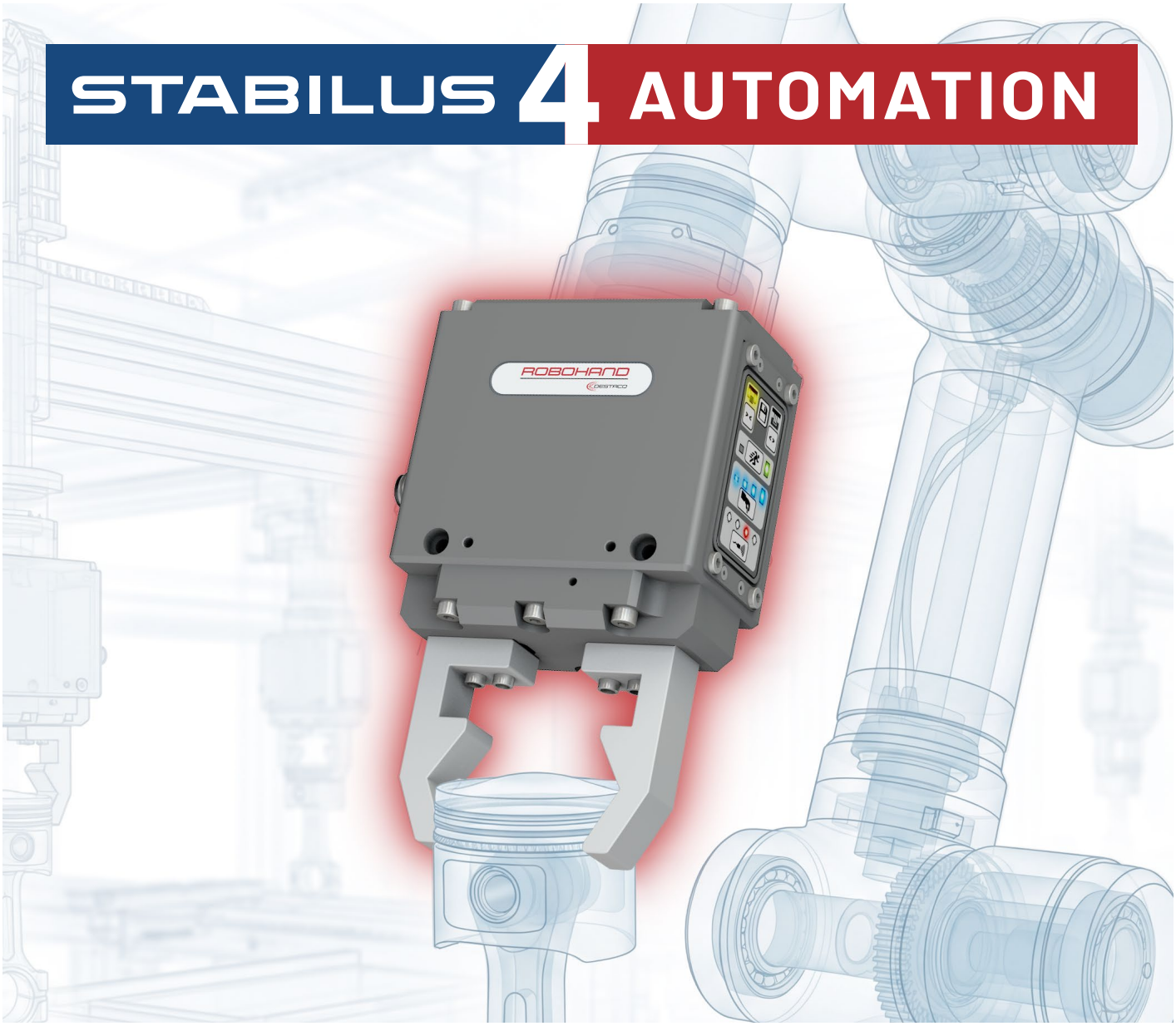
STABILUS

YOUR MOTION. OUR SOLUTION.

STABILUS 4 AUTOMATION



ELECTRIC GRIPPER

INCREASING AUTOMATION FLEXIBILITY

ADVANCED MOTION CONTROL KNOW-HOW

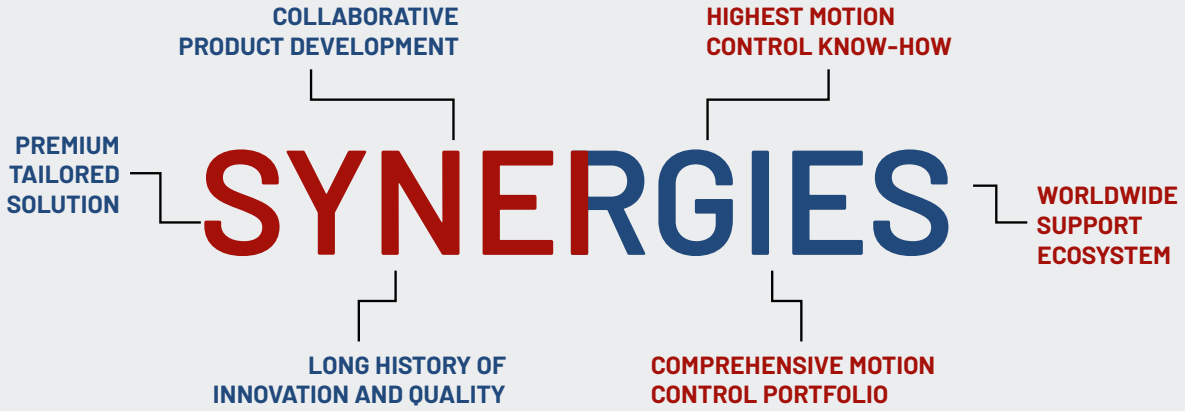
INCREASE VALUE.
BOOST PERFORMANCE.
REDUCE OPERATING COSTS.

STABILUS 4 AUTOMATION

Stabilus4Automation represents cutting-edge expertise in motion control. Customers benefit from comprehensive solutions from a single source, supported by a globally connected team of experienced application experts across a wide range of brands and industries.

Selected Stabilus expert brands combine their versatile, high-quality components with decades of application knowledge. Together, they enable the six synergies of Stabilus4Automation—offering developers and users a unique portfolio of advanced automation solutions that can be easily integrated worldwide from a single source.

Learn more about Stabilus4Automation here >



ACE A STABILUS COMPANY

DESTACO A STABILUS COMPANY

HAHN GASFEDERN A STABILUS COMPANY

OUR ELECTRIC SOLUTIONS FOR AUTOMATION

COMPARISON AT A GLANCE

	ELECTRIC	PNEUMATIC
Efficiency	✅ 80–95%	❌ 20–30%
Positioning	✅ Freely programmable	⚠️ mostly 2-point
Force Control	✅ Dynamic	⚠️ Limited
Infrastructure	✅ Power only	❌ Compressed air network required
Industry 4.0	✅ Native	⚠️ Retrofitting required
Initial Investment	⚠️ Higher	✅ Lower
High Force Density	⚠️ Limited	✅ Very good

With its portfolio of electric products, the Stabilus Group offers significant advantages over traditional pneumatic solutions.

This enables us to provide fully electric and scalable automation solutions from a single source.

DESTACO ERDH (ELECTRIC ROBOHAND PARALLEL GRIPPER)

Electric parallel gripper from the Robohand series with 4 programmable sensors and integrated speed and force control. No compressed air supply required at the robot; the integrated backlatch locking mechanism maintains gripping force even without power > **clean, streamlined robot installation with just a single cable to the PLC.**

Learn more here >

DESTACO SMART CLAMP

The 92W Electric Power Clamp replaces pneumatic clamps with smart, air-free electric clamping solutions featuring integrated control > **flexible workpiece clamping in multiple positions, no external sensors required, and up to 85% lower energy costs and CO_2 emissions compared to pneumatic systems.**

Learn more here >

STABILUS POWERISE

The electrically adjustable linear actuator replaces passive gas springs, for example on flaps and doors, **enabling precise positioning, variable speed profiles, and intelligent control for automotive and industrial applications.**

Learn more here >

INCREASING AUTOMATION FLEXIBILITY
WITH DESTACO'S eRDH SERIES ELECTRIC PARALLEL GRIPPERS
THE NEW REALITY FOR MANUFACTURING ENGINEERS

Manufacturing engineers today are expected to deliver highly automated production systems that can adapt quickly to new products, changing volumes, and frequent design updates. It is no longer enough to automate a single product and run it unchanged for years. **Instead, automation must be designed from the start to accommodate:**

- **Multiple product variants**
- **Shorter product lifecycles**
- **Frequent changeovers**
- **Pressure to reduce cost, floor space, and complexity**

That reality puts a spotlight on a seemingly simple component: the gripper. Every automated operation—pick and place, machine loading, assembly, packaging—depends on a gripper interacting with the part. When that gripper is hard to adjust, changeovers become longer, product changes are painful, and the overall flexibility of the automation suffers.

Traditional pneumatic grippers are proven and robust, but they often fall short when you need quick reconfiguration, integrated sensing, and easy tuning of force and speed.

The Destaco's eRDH Series Electric Parallel Gripper was developed precisely to address those challenges. It combines an electric drive, integrated sensors, and a keypad based user interface in a compact, all inclusive package. **The result is a gripper that can be configured in under a minute, supports multiple part variants without hardware changes, and fits naturally into today's flexible automation architectures—whether on fixed stations, robot arms, or mobile platforms.**

Pneumatic grippers still have a strong place in industry. They are simple to understand, deliver high forces, and integrate easily where compressed air is available. However, when you look at them through the lens of flexibility, several limitations appear.

ERDH IN A NUTSHELL: ELECTRIC GRIPPING FOR FLEXIBLE AUTOMATION

CORE CHARACTERISTICS OF THE eRDH SERIES:

- **Electric parallel gripper with strokes up to 16 mm [0.63 in]**
- **Total grip force up to 1250 N [281 lbf] (model dependent)**
- **24 VDC power with ultra low consumption**
- **Approx. 25 mA idle / 1.8 A peak**
- **Self locking jaw technology: maintains grip upon power loss**
- **Single M12, 8 pin cable for power and discrete signals**
- **Integrated keypad for configuration (no software or tools required)**
- **Four teachable jaw positions (built in sensing, no external switches)**

WHERE CONVENTIONAL GRIPPERS LIMIT FLEXIBILITY

Pneumatic grippers still have a strong place in industry. They are simple to understand, deliver high forces, and integrate easily where compressed air is available. However, when you look at them through the lens of flexibility, several limitations appear.

Typical limitations of pneumatic grippers in flexible environments:

- Adjustability requires hardware changes
- Sensor add ons increase complexity
- Changeovers are slow and manual
- Dependence on compressed air

These layers of hardware and adjustment work fine in a stable, single product environment. They become obstacles when changeovers are frequent or when several different products must run on the same cell. The time to adjust stops and sensors, the need for different fingers or grippers, and the potential for misadjustment all work against the goal of rapid, repeatable changeovers.

From a manufacturing engineer's standpoint, the core question is straightforward:**"How do I deploy gripping solutions that are as easy to reconfigure as the robot program or the PLC recipe—without redesigning hardware every time a new part appears?"**

The eRDH Series is Destaco's answer to that question. It is an electric parallel gripper family that brings actuation, sensing, configuration, and diagnostics together in one unit.

What makes the eRDH particularly interesting for flexible automation is not only the mechanical capability, but the degree of configuration engineers have at their fingertips. This gripper offers four teachable jaw positions, four selectable grip force levels, adjustable jaw speed, and the choice between internal and external gripping – all configured directly on the gripper via the intuitive keypad.

BUILT IN FLEXIBILITY FEATURES

FOUR TEACHABLE JAW POSITIONS – NO EXTERNAL SENSORS

The four teachable jaw positions are a central flexibility feature. Instead of bolting external sensors around the gripper to detect open, close, and intermediate positions, the eRDH has four integrated "virtual sensors" that you configure by moving the jaws and teaching each location with the keypad.

What this enables:

- Define full open, full close, and intermediate positions as needed
- Use sensor outputs to confirm part presence or correct position
- Re teach positions in seconds when part sizes or recipes change

In practice, the same gripper can be used for multiple part families by simply adjusting these taught positions rather than changing stops or hardware.

When a new variant is introduced, a technician can:

- Teach new open and close positions,
- Save the configuration,
- Update the PLC logic.

There is no need to mount additional sensors, fabricate brackets, or run new cables. This directly reduces changeover time and removes a common source of errors.

SELECTABLE GRIP FORCE LEVELS

Grip force is another dimension where the eRDH supports flexibility. Rather than having a single, fixed gripping force, the eRDH allows you to select one of four force levels via the keypad.

Benefits for engineers:

- Match grip force to part material and fragility
- Handle robust metal parts and delicate plastics on the same station
- Avoid over clamping and reduce risk of part damage
- Adjust for new parts or materials without hardware changes

A station with a conventional gripper might need different jaws or even a different gripper to accommodate a wider range of parts. With eRDH, you can instead tune force as part of the product recipe.

ADJUSTABLE JAW SPEED

Jaw speed is equally important. High volume applications benefit from fast open and close motions to minimize cycle time, but delicate or precision assemblies often need slower, more controlled moves.

With eRDH, speed is a parameter, not a fixed property.

- Speed can be set on the gripper via the keypad
- You can optimize for throughput or gentleness as needed
- When products change, speed can be re tuned without changing valves or hardware

This gives you a simple, direct way to keep cycle time competitive while protecting sensitive components.

INTERNAL AND EXTERNAL GRIPPING IN ONE DEVICE

Some applications require gripping parts from the outside; others need to hold parts by expanding inside a bore. The eRDH series allows switching between external and internal gripping modes using the same hardware.

For engineers, this adds another layer of flexibility:

- Support OD and ID gripping with one gripper family
- Reuse the same gripper as fixture concepts evolve
- Minimize the number of specialized grippers needed in inventory

Instead of specifying separate devices for internal and external gripping, you can often cover both use cases with the eRDH and simple configuration changes.

KEYPAD INTERFACE AND LOCKOUT

The user experience around configuration has a big impact on how practical flexibility feels on the shop floor. The eRDH's front mounted keypad is designed to make configuration straightforward and quick.

Keypad capabilities include:

- Teaching four jaw positions
- Selecting grip force level
- Setting speed
- Choosing internal or external grip mode
- Saving configurations
- Locking the keypad to prevent changes

Configuration changes only take effect when the save button is pressed, which helps prevent accidental modifications. Once a configuration is finalized, a keypad lockout feature allows engineers to prevent unauthorized or unintended changes—providing flexibility during setup and stability during production. For commissioning and troubleshooting, local manual actuation via the keypad makes it easy to move the jaws without running a full machine cycle.

SELF LOCKING JAWS FOR SAFETY AND FLEXIBILITY

The self locking jaw design of the eRDH maintains grip force even when power is lost. If the 24 V supply is interrupted, the gripper continues to hold the part.

This simplifies life for engineers in several ways:

- Makes the gripper suitable for mobile and battery powered platforms
- Reduces the need for additional mechanical latches or safety clamps
- Helps prevent dropped parts in overhead or safety critical applications

Built in self locking contributes to both safety and flexibility, enabling more creative machine layouts without extra hardware.

FLEXIBILITY
DESIGNED FOR PRODUCTIVITY

SINGLE CABLE CONNECTION

From a controls perspective, the eRDH is designed to be straightforward:

- One M12, 8 pin, A coded connector
- 24 VDC power and 0 V
- Two discrete 24 V inputs for open and close
- Four discrete 24 V outputs representing the taught jaw positions

The gripper accepts standard PLC or robot discrete I/O signals. This single cable approach:

- **Simplifies wiring and routing through robot wrists and cable tracks**
- **Reduces potential wiring errors**
- **Makes troubleshooting easier when something goes wrong**

ENVIRONMENTAL PROTECTION AND PURGE OPTIONS

The eRDH is tested to IP67 according to IEC 60529:2013, making it resistant to dust and water ingress typical of many industrial environments. Purge ports are provided on both sides of the gripper body (supplied plugged) for applications where additional protection is desirable.

This robustness allows the same gripper family to be deployed across:

- **Packaging lines**
- **Machining cells**
- **Industrial assembly stations**

without extensive special measures for protection.

BUILT IN DIAGNOSTICS

Diagnostic capabilities are integrated into the device:

- LED indicators show configuration and fault states
- Fault detection outputs provide status to the PLC
- Auto recovery features help the gripper recover from certain fault conditions

For engineers responsible for uptime, this means **faster troubleshooting and clearer information when the system is being reconfigured or when new product variants are introduced.**

REAL WORLD FLEXIBILITY GAINS

MIXED MODEL ASSEMBLY LINES

In mixed model assembly, the same cell may handle several part numbers or optional content. A conventional pneumatic setup might require:

- Adjusting mechanical stops
- Repositioning sensors
- Modifying flow controls
- Swapping grippers or jaws

Changeovers can easily take tens of minutes and carry the risk of misadjustment.

With an eRDH gripper, changeover becomes primarily a parameter change:

- **Different part recipes select different jaw positions and force levels**
- **The underlying hardware stays in place**
- **Technicians can re teach positions as needed without new brackets or cabling**

This directly shortens changeover times and supports the kind of frequent product updates many plants now face.

MOBILE ROBOTICS AND WAREHOUSING

Mobile robots, AGVs, and AMRs benefit from electric gripping:

- 24 VDC supply and low power draw align with battery systems
- No need for compressed air on the vehicle
- Self locking jaws and IP67 design support variable tasks and environments
- Integrated sensing minimizes extra devices on the mobile base

As workflows and SKUs change in warehouses or logistics environments, **the same eRDH gripper can be reconfigured through software and keypad, rather than replaced or extensively re engineered.**

CNC MACHINING AND FLEXIBLE WORKHOLDING

In CNC machining and flexible fixtures, a robot equipped with an eRDH gripper can:

- Load and unload different part families
- Use internal or external gripping on the same gripper
- Use integrated position sensing to confirm part presence before machining

When part designs evolve or new components are introduced, **the gripper can often remain the same while positions and force levels are updated—reducing tooling redesign and downtime.**

CONCLUSION:
A PRACTICAL PATH TO MORE FLEXIBLE AUTOMATION

For manufacturing engineers, the challenge is to design automation that remains effective and economical as products, volumes, and processes evolve. The Destaco eRDH Series Electric Parallel Grippers address this challenge by shifting much of the "flexibility work" from hardware changes to simple configuration steps.

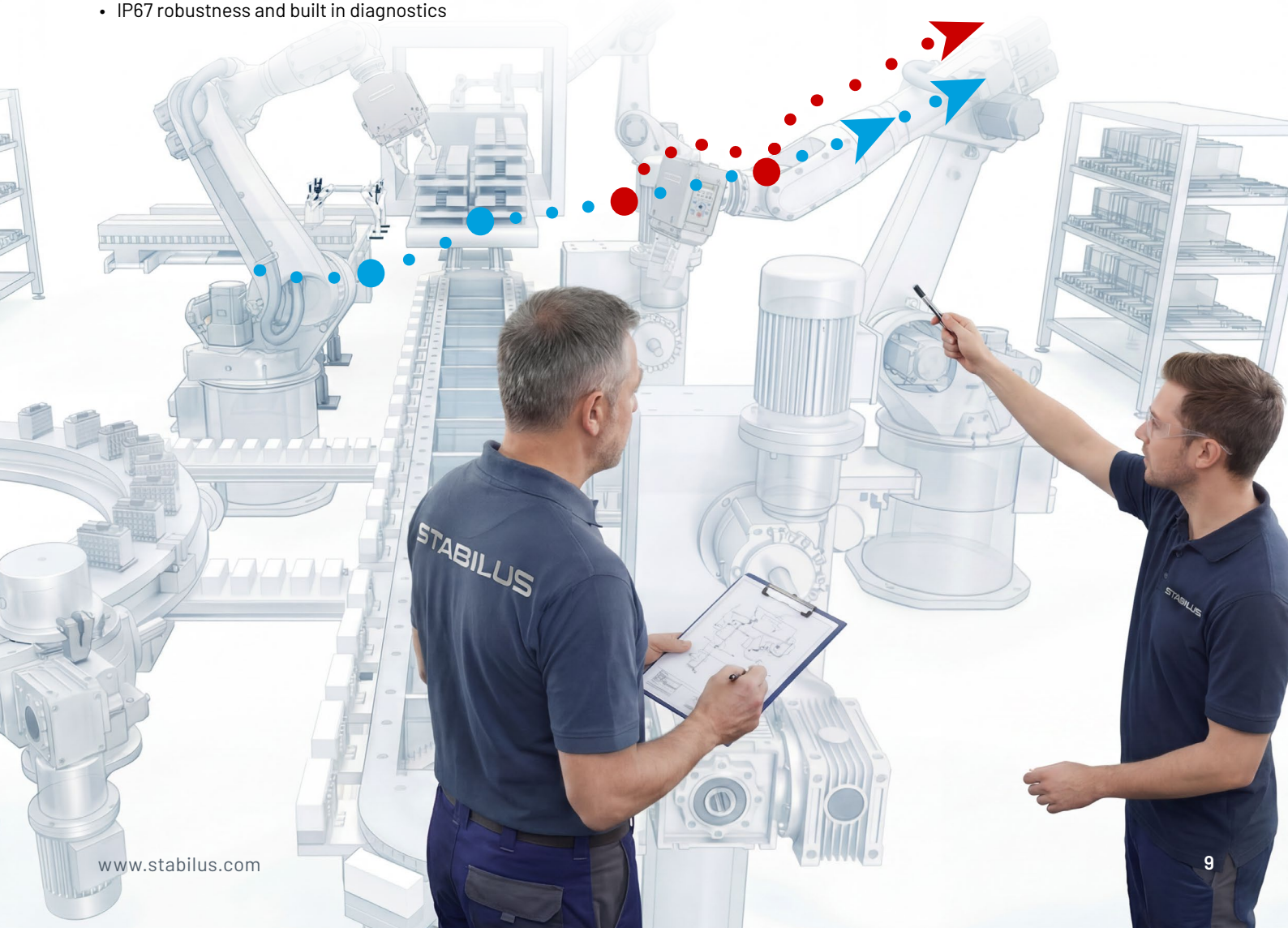
In summary, the eRDH offers:

- Configurable gripping behavior: force, speed, internal/external mode
- Four teachable jaw positions without external sensors
- Intuitive keypad configuration and keypad lockout
- Self locking jaws that maintain grip on power loss
- Single cable, 24 VDC integration with standard PLC/robot I/O
- IP67 robustness and built in diagnostics

By consolidating actuation, sensing, and configuration into a single device, the eRDH helps you:

- Shorten commissioning and changeover times
- Reduce hardware complexity and the number of dedicated grippers
- Expand the range of parts and processes a single cell can handle

In practical terms, that means automation which is not just automated, but adaptable—ready for the next product without forcing you to start over at the hardware level.



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- Personalized consulting
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