PLANT
ENGINEERING®
2025
PRODUCT
OF THE YEAR

WINNERS
Innovative. Sustainable.
High-Performing.

These are the products bringing us to the future.

Celebrating Manufacturing Innovation

Now in its 37th year, the *Plant Engineering* Product of the Year program continues to be the premier award recognizing the most innovative and impactful new products across manufacturing and non-manufacturing industries. This annual reader-choice program highlights advancements that are transforming plant operations and driving industry progress.

The 2025 Winners eBook features 26 outstanding products across nine categories, plus one exceptional product honored with the Most Valuable Product award – the highest distinction in the program. Eligible products were introduced to the North American market in 2024 and nominated by their manufacturers or marketing agencies.

Nominees were presented in a separate ebook and included on an online voting ballot. Voters evaluated entries based on technological advancement, service to the industry and market impact, casting votes in categories where they held expertise. This rigorous selection process ensures that the winners represent the most significant innovations shaping the future of plant engineering. The following pages showcase the products setting new standards for excellence in the industry.

Table of Contents

PLANT ENGINEERING 2025 PRODUCT OF THE YEAR

PLC Relay with Circuit Breaker

Phoenix Contact's PLC-INTERFACE family now includes relays with an integrated circuit breaker. The PLC-CB combines a relay interface and electronic fuse protection in a slim 6.2 mm width. Compatible with the PLC-INTERFACE series, it's suitable for new and retrofit installations. Multicolored LEDs indicate status: green for OK, yellow for current at or above 80% of the set nominal current and red for errors. An active diagnostic output (FB terminal) provides reliable status messages to the higher-level control system.

Users can configure nominal current (1 to 6 amps) and shutdown behavior using dual in-line package (DIP) switches. The device offers two shutdown modes: Fuse Mode, which trips and requires manual reset, and Hiccup Mode, which attempts automatic restarts before requiring a reset. The PLC-CB combines relay switching and fuse protection in a space-saving design.
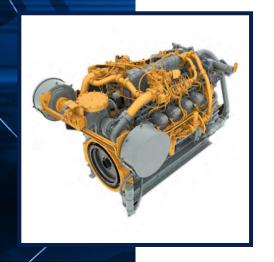
PRODUCT CATEGORIES:
Relays

PRODUCT INDUSTRIES:
Automotive (OEMs, suppliers); electrical equipment; machine building; packaging

phoenixcontact.com

(717) 944-1300

Email Phoenix Contact

PLANT ENGINEERING 2025 PRODUCT OF THE YEAR

Asset Management

Cat Dynamic Gas Blending Gen 2 Kit

The Cat Dynamic Gas Blending (DGB) Gen 2 Kit modernizes Cat 3512C Tier 2 power solutions, lowering greenhouse gas emissions and reducing total cost of ownership. It achieves up to 70% average diesel displacement, with 85% peak displacement, doubling the efficiency of traditional fumigated technologies. The DGB Gen 2 Kit features advanced cylinder technology for improved combustion efficiency and a port injection system that promotes faster response times while reducing unburned gas. Additionally, the kit enables real-time performance optimization for each cylinder.

Caterpillar

www.cat.com

🛡 View all of the product & company details **here!**

Asset Management

VibWorks LT

VibWorks LT is a cutting-edge, entry-level vibration data collector for industrial maintenance. Using advanced AI, it provides real-time data collection and analysis to enhance maintenance decision-making with minimal setup and training. Its robust design and customizable reporting ensure comprehensive monitoring and easy documentation. VIBEWISE, an integral part of the VibWorks ecosystem, leverages machine learning algorithms to provide predictive maintenance insights. It analyzes historical and real-time data to forecast potential equipment failures, offering actionable recommendations to optimize maintenance schedules and improve overall machinery reliability. VibWorks LT aims to transform industrial condition monitoring by offering high-quality data acquisition at an affordable price.

LUDECA

ludeca.com

🛡 View all of the product & company details **here!**

Asset Management

GearGard for Low-voltage Switchgear

GearGard, a proactive monitoring solution for low-voltage switchgear, enhances the reliability and performance of Magnum PXR and Magnum DS systems. It continuously monitors key environmental factors including temperature, humidity, dewpoint, smoke and dust. Offering both local and remote monitoring capabilities, GearGard provides flexibility and peace of mind for operations teams. This easy-to-use system allows teams to determine their switchgear's operating environment, aligning with an NFPA 70B compliant electrical maintenance plan.

Eaton

www.eaton.com

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Automated Processes

DeltaV Real-Time Scheduling

DeltaV Real-Time Scheduling (RTS) optimizes production schedules by streamlining operations, enhancing resource utilization and reducing costs. RTS efficiently manages equipment, labor and materials with real-time visibility and advanced algorithms. The latest version introduces the BatchID Modeling Framework, boosting simulation speed by 3 to 5 times and Auto Teams Messaging for automated, logic-driven notifications via Microsoft Teams. Field Firming stabilizes schedules, while usability upgrades simplify Excel data integration, including redesigned menus and I/O Embedded Workbooks. Faster view loading, offline backups and improved workflows enhance efficiency, making RTS essential for modern manufacturing.

Emerson

View all of the product & company details **here!**

PLANT ENGINEERING 2025
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Automated Processes

PowerStream 1/8 NPT Liquid Atomizing Nozzles

EXAIR's 1/8 NPT PowerStream Liquid Atomizing Spray Nozzle is designed for spraying processes where space is limited. Producing a deflected flat fan pattern, it provides consistent and efficient spray for precise coverage in close quarters. Manufactured from 303 stainless steel, the PowerStream is suitable for washing, wetting, dust suppression, lubrication and part cooling. With a maximum operating pressure of 250 psi, the nozzle channels liquids against a precision-tuned, angled surface, creating a wide-angle, flat fan spray pattern at 75 degrees from nozzle orientation.

EXAIR

www.exair.com

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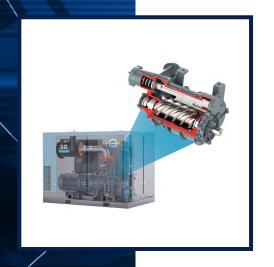
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Automated Processes

Rod Stripping Tool

The Rod Stripping Tool revolutionizes the preparation process for hygienic installations, delivering precision, consistency and safety. Designed to enhance efficiency and accuracy of Rocket Rod installations, this innovative tool eliminates guesswork and reduces contamination risk in sanitary environments. Featuring four clearly marked preset strip lengths, it allows users to quickly and accurately prepare Rocket Rods for various installation types, from single-point clamp connections to multi-tier racks. Each preset corresponds to common assemblies, ensuring compliance with strict food-grade standards.

Rocket Rack by Robroy Industries

rocket-rack.com

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Compressors & Compressor Controls

kaishanusa.com

Kaishan KRSV

The new Kaishan KRSV oil-flooded rotary screw vacuum pumps are fully packaged and ready for immediate use in any system or independent operation. These pumps feature a combined variable speed drive and variable discharge port airend, making them universally applicable and highly energy-efficient. Unlike most vacuum pumps with fixed ports operating at static compression ratios, the KRSV's variable discharge port ensures the most efficient compression ratio across all ranges and demands. This design delivers stable, optimal control for maximum energy savings.

Kaishan Compressor USA

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Compressors & Compressor Controls

TS260S

Sullair TS Series Two-Stage Rotary Screw Air Compressors

The Sullair TS Series, the company's most efficient air compressor to date, is currently the market's most efficient two-stage lubricated model. This redesigned series optimizes performance while maintaining reliability and durability. Features include a patent-pending over/under two-stage air end that reduces footprint, lift-off panels for easy access to serviceable components and a 10-inch enhanced Sullair Touch Screen Controller. The controller provides fingertip access to all compressor parameters. Most components are manufactured for second and third lives, supporting circular economy initiatives.

Hitachi Global Air Power

america.sullair.com

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PLANT ENGINEERING 2025
PRODUCT OF THE YEAR

Compressors & Compressor Controls

P650 Centrifugal Air Compressor

FS-Elliott's P650, the latest addition to the Polaris line, delivers ISO 8573-1 Class 0, oil-free air with cutting-edge aerodynamic design for exceptional performance and energy efficiency. The compressor features an intuitive Regulus control system with programmable logic controllers and a touchscreen human-machine interface, ensuring effortless operation and precise monitoring. It also integrates heat of compression drying technology, providing significant energy savings while enhancing system efficiency. Backed by a 2-year full package warranty and a 5-year SteadAir airend warranty, the P650 offers unmatched reliability.

FS-Elliott

www.fs-elliott.com

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Control Systems

samos PRO MOTION Controller

Wieland Electric's compact samos PRO MOTION safety controller integrates motion monitoring in its base module, offering safe standstill, speed, direction and position monitoring. It features six TÜV-certified motion function blocks for simplified setup, allowing easy monitoring of vertical and slow-moving axes with configurable speed and position windows. Designed for high availability and safety, it ensures reliable operation even in vibrating environments. The controller offers increased safety through redundancy and shaft break detection. The samosPLAN6 software provides an intuitive, license-free configuration tool with a comprehensive library of TÜV-certified function blocks for common, application-specific safety functions.

Wieland Electric

www.wieland-electric.com

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Control Systems

MX-System

The MX-System is a flexible, space-saving and intelligent automation hardware platform that replaces conventional control cabinets. This IP67-rated modular system reduces machine footprint, installation time and maintenance efforts in factories and plants. It streamlines engineering, assembly, installation and maintenance work for various applications, benefiting machine builders, systems integrators and operations staff. A complete MX-System can be set up and tested in just one hour, compared to at least 24 hours for a comparable control cabinet. This innovative solution significantly improves efficiency in industrial automation processes.

Beckhoff

www.beckhoff.com

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Electrical, Power & Lighting
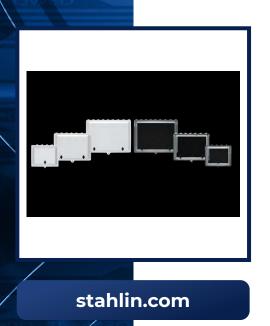
robroystainless.com

Food Grade Stainless Liquid Tight Transition Fitting

The patent-pending Robroy Stainless Food Grade Liquid Tight Transition Fittings set a new benchmark in hygienic electrical raceway design for hazardous and sanitary environments. Engineered to connect food-grade liquid-tight fittings to conduit bodies, these fittings ensure smooth transitions between liquid-tight flexible metal conduit and rigid conduit while maintaining environmental system ratings and hygienic compliance. Made from 316 stainless steel, they resist corrosion, rust and contaminants, making them ideal for washdown environments. Extended male NPT threads provide a secure, flush connection, eliminating harborage points and ensuring long-lasting, sanitary protection for critical electrical systems.

Robroy Stainless by Robroy Industries

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PLANT ENGINEERING 2025 PRODUCT OF THE YEAR

Electrical, Power & Lighting

SolarShield HMI Cover Expansion

Stahlin's patented SolarShield HMI Covers redefine HMI screen protection with unmatched durability and innovation. Designed for demanding industrial and commercial environments, these non-metallic covers shield screens from UV rays, harsh weather and contaminants. Now available in expanded sizes — 10 by 8 inch, 16 by 11 inch and 20 by 14 inch — they offer flexibility for various applications. Available in opaque and clear options, they enhance visibility and protection in industries such as oil and gas, water/wastewater and food processing. With impact-resistant polycarbonate construction, NEMA 4/4X compliance and secure sealing, SolarShield HMI Covers deliver long-lasting performance and reliability in tough conditions.

Stahlin Enclosures by Robroy Industries

stahlin.com

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Electrical, Power & Lighting

Onboard Charging for Lithium-ion Forklifts

Onboard charging allows lift trucks to use standard electrical outlets, eliminating the need for dedicated charging infrastructure. This flexibility makes lithium-ion forklifts suitable for a wider range of operations, including agricultural and construction sites with intermittent charging availability and lower-hour applications like retail and light manufacturing. Businesses can now rent electric forklifts without altering their electrical infrastructure and recharge via generator where power is unreliable or unavailable.
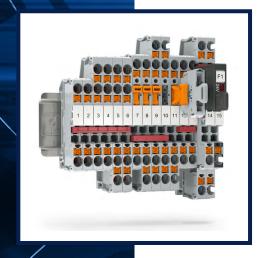
Hyster Company

www.hyster.com

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I/O & Networking

FLEX 5000 I/O Modules

The enhanced Allen-Bradley FLEX 5000 EtherNet/IP adapter, supporting Rockwell Automation's new Logix SIS, delivers up to SIL 3 for high availability in process and hybrid safety applications. This solution enables continuous operation and maximizes output in demanding industrial environments. The adapters provide concurrent communications support, allowing different safety controllers to maintain separate network paths to the same safety I/O module. This capability facilitates seamless failover, protecting against downtime and minimizing operational disruptions.

Allen-Bradley

**www.rockwell
automation.com**

View all of the product & company details **here!**

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I/O & Networking

XT 2.5 Terminal Blocks

Phoenix Contact's new XT 2.5 terminal blocks feature a front Push-X connection for fast, easy wiring. The portfolio includes feed-through and multi-conductor terminal blocks, plus function versions for disconnect knives, plug-in fuses and components. Push-X technology enables quick connection of solid, stranded or ferruled conductors and cross-sections, either manually or automatically. As one of the market's fastest connection technologies, Push-X increases control cabinet wiring efficiency. The factory-opened clamping space further reduces installation time.

Phoenix Contact

www.phoenix contact.com/en-us

View all of the product & company details **here!**

I/O & Networking

ArmorBlock 5000 I/O Blocks

The Allen-Bradley ArmorBlock 5000 I/O blocks, featuring integrated IO-Link and On-Machine capabilities, offer a scalable, decentralized design solution that enhances manufacturing efficiency and agility. Recent firmware and Add-on Profile updates improve user experience and performance in demanding industrial settings. New module capabilities, including generic IO-Link profile, Process Data only mode and automatic IODD file downloads, streamline workflows and accelerate IO-Link device integration. These enhancements optimize operational productivity and flexibility.

Allen-Bradley

www.rockwell automation.com

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Safety & Security

ATEX Stainless Steel Cabinet Coolers

EXAIR's new 316 Stainless Steel ATEX Cabinet Cooler Systems protect sensitive electronics in ATEX classified areas. These UL-tested, CE-compliant systems meet requirements for use on purged and pressurized electrical enclosures within Zones 2 and 22. With cooling capacities up to 5,600 BTUH, they prevent overheating in enclosures exposed to explosive atmospheres, both indoors and outdoors. The systems produce and circulate cold air inside enclosures, safeguarding against high-temperature faults and costly shutdowns.

EXAIR

www.exair.com

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Safety & Security
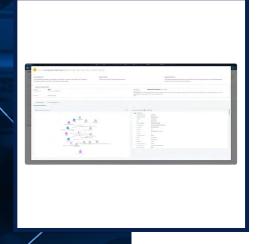

www.luneta.com

Air-Lock

Air-Lock protects oil drums from contaminant ingression during storage. Temperature changes often breach drum seals, allowing contaminated air to enter the drum headspace, harming additive packages, increasing oxidation and raising filtration costs. Air-Lock's patented design prevents contamination by increasing headspace air pressure, creating a barrier against contaminants. It features a yellow fluorescent indicator to show a good seal and maintained pressure. This innovative solution offers confidence in stopping contamination.

Luneta

View all of the product & company details **here!**

Safety & Security

Arc Embedded

Arc Embedded, the first operational technology and internet of things security sensor embedded in Mitsubishi Electric programmable logic controllers (PLCs), offers unprecedented process-level visibility and protection for industrial automation equipment. This innovative technology provides real-time, AI-powered monitoring and threat detection at the PLC level, automatically identifying anomalies, unauthorized access and potential security incidents before they escalate. Users gain comprehensive insights into backplane communications, module health, configuration changes and firmware integrity. By transforming existing industrial control systems into secure-by-design assets, Arc Embedded strengthens operational resilience and maintains process integrity without disrupting critical networks.

Nozomi Networks

**www.nozomi
networks.com**

🛡 View all of the product & company details **here!**

dodgeindustrial.com

OPTIFY Breather

The OPTIFY Breather, a next-generation desiccant breather, integrates with the OPTIFY condition monitoring platform for remote breather status monitoring. This innovation enhances gearbox reliability and streamlines maintenance to maximize uptime. Its advanced sensor technology provides precise measurements, including saturation rate and direction, battery life and internal gearbox airflow temperature. Unlike typical maintenance practices that focus on mitigating contamination issues, the OPTIFY Breather prevents contaminants from entering the gearbox. This connected solution is engineered to eliminate contamination and extend gearbox life.

Dodge Industrial

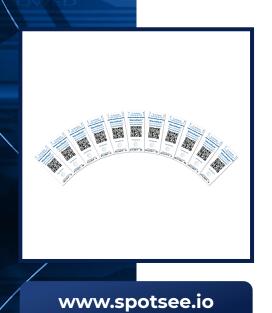🛡 View all of the product & company details **here!**

Sensors

www.cognex.com

In-Sight L38

The In-Sight L38, the world's first AI-powered 3D vision system, revolutionizes automation with fast deployment, ease of use and reliable performance. It features point-and-click training with step-by-step guidance and example-based learning that solves applications in minutes using just 5 to 10 labeled images. Advanced AI detects subtle variations and provides precise 3D measurements, while a patented speckle-free laser ensures high-contrast imaging with minimal noise. The universal software platform supports all In-Sight products for seamless expansion. This comprehensive system solves a range of inspection, measurement and guidance applications, ensuring high quality standards for every product.

Cognex

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Sensors

WarmMark QR

WarmMark QR is a single-use, battery-free time-temperature visual indicating sensor designed to transform cold chain monitoring. Using SpotSee's patented process, it tracks time-temperature excursions with ±1°C accuracy and a 2-year shelf life, making it ideal for pharmaceuticals, vaccines and food safety. Made from 87% sustainable and 90% recyclable materials, it supports sustainability goals while reducing waste. Its smartphone-readable functionality enables seamless, app-free integration with the SpotSee Cloud for actionable insights.

SpotSee

www.spotsee.io

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Software, Test & Measurement

Orbit Fleet Management Software

Orbit is a new fleet management software from Boston Dynamics, designed for managing asset-intensive facilities through real-time and predictive intelligence. Currently available for Spot, with plans to integrate Stretch and Atlas soon, Orbit acts as a central platform that helps make sense of the data collected by robots throughout facilities. It turns that data into insights that feed customer systems, enabling fleet management, site awareness and data centralization and analysis.

Boston Dynamics

bostondynamics.com

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RAM-5 Chiller Tube Cleaner

The RAM-5DC-ID chiller tube cleaner features the Reverse Stop Assembly Speed-Feed Gun, enhancing cleaning efficiency for contractors and facility engineers. Its speed-feed technology quickly fires the shaft into the tube and automatically stops the brush in the optimal position when retracted. The trigger system executes cleaning up to four times faster than traditional methods. The RAM-5DC-ID includes a Forward Stop Assembly, intuitive controls for shaft and brush rotation speed and quick-connect shaft and brush connections. This makes it the fastest solution for cleaning tubes in chillers, condensers, evaporators and heat exchangers.

Goodway Technologies

www.goodway.com

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Software, Test & Measurement

LP COMBI 2.5

Phoenix Contact's new LP COMBI plug connectors provide a versatile, compact solution for various applications. Featuring a lever-actuated design, they enable easy, tool-free connections for ferruled or stranded wires with minimal effort. Available pre-assembled or as individual connectors, they can be clipped together to meet specific application needs. Assembly is simple — just plug pre-configured conductors into the connectors. Optional latching accessories and a sturdy connection to the plug-in zones ensure the connectors remain secure while minimizing stress on the wires.

Phoenix Contact

**www.phoenix
contact.com/en-us**

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