PAC

OptiDist 2

The Next Generation of the Industry-Leading Atmospheric Distillation Benchmark

COMPATIBLE WITH PACE

Next Generation **Built-In Performance**

The OptiDist 2 sets a new benchmark in atmospheric distillation, redefining precision, reliability, and long-term value for modern laboratories. Re-engineered from the ground up, it builds on the proven legacy of the original OptiDist while introducing advanced built-in innovations that elevate every aspect of performance, usability, and operator experience. At the core of its redesign is a patent-pending solid-state thermosiphon cooling system that delivers exceptionally fast, uniform, and efficient condenser temperature control, completely eliminating moving parts for unmatched reliability and minimal maintenance. Combined with the patented dual optimizer for precise heater system regulation, intelligent process monitoring, and refined control algorithms, OptiDist 2 ensures every distillation run achieves consistent, repeatable, and highly accurate results, empowering laboratories to operate with greater confidence, efficiency, and throughput while elevating the standard for distillation performance.

Building on Excellence

For years, the original OptiDist has been recognized as the industry standard in atmospheric distillation, trusted worldwide for its accuracy, reliability, and long-term stability. Building on that proven foundation, the OptiDist 2 represents the next evolution of distillation excellence.

Every component has been re-engineered and refined to deliver faster analysis, higher precision, and enhanced automation, setting a new benchmark for performance and ease of use. With its innovative design, intelligent control systems, and maintenance-free cooling technology, the OptiDist 2 not only upholds the legacy of its predecessor but surpasses it in every way, redefining what laboratories can expect from a modern distillation system.

Reimagined for the Demands **of Modern Laboratories**

Outstanding Repeatability & Reproducibility

- Patented dual optimizer delivers adaptive temperature control for consistent, repeatable results, even when analyzing unknown or challenging samples.
- Patented thermosiphon cooling system provides rapid, uniform, and precise temperature regulation without moving parts, ensuring long-term reliability and measurement precision.
- Factory-calibrated sensors (PT100, pressure, receiver, condenser) are fully compliant with ISO 17025 requirements, guaranteeing traceable accuracy and verified performance.

Unbeatable Reliability & Uptime

- Automatic heater lift and chamber door streamline operation while minimizing wear, extending component life and long-term reliability.
- Modular chassis design enables fast access for maintenance and straightforward field servicing, reducing downtime and simplifying support.
- Integrated condenser blocking detection prevents overheating, safeguards components, and enhances overall operational safety.

Enhanced Safety & Compliance Assurance

- Automatic fire detection and suppression compatible with CO_2 or N_2 for continuous protection.
- Automatic flask detection identifies potential breakage, reducing handling errors.
- QR code verification ensures correct heater plate installation for safe, compliant operation.
- Enhanced flask cooling protects operators and speeds glass handling.
- Integrated VOC extraction system maintains a cleaner, safer laboratory environment.

Unequaled Ease of Use & Connectivity

- 10.4” capacitive touchscreen with intuitive interface provides guided workflows & diagnostics.
- Highly visible status light provides clear, at-a-glance feedback across the lab.
- Backwards compatibility with OD1 flasks, cylinders, and PT100 sensors for seamless integration.
- Network-ready design supports IRIS, PACe, printer, and data export for easy connectivity.
- Dynamic condenser control supports crude oil testing.

A Proven Legacy, Re-Engineered for What's Next

OptiDist 2 builds on the proven foundation of the original OptiDist with thoughtful improvements across every key system. Each feature has been refined or re-engineered to deliver tangible advantages in performance, reliability, safety, and usability, showing how careful innovation turns a trusted legacy into a next-generation solution.

	Feature	Original OptiDist	OptiDist 2	Advantage
All-In-One Functions	VOC	Optional VOC add-on	**Integrated VOC extraction**	Built-in system, no add-ons required
	Chasis	Original design, limited visibility	**Redesigned with visible color-coded status light and peripheral support**	Clear lab monitoring and real-time status reporting
	Oven	Manual door operation	**Automatic door operation**	Greater reliability and operator safety
	Heater Assembly	Manual heater lift	**Fully automatic lift synchronized with oven door**	Faster setup, consistent results, safer handling
Optimized Throughput & Reliability	Dual Optimizer	Single optimizer, limited adaptability	**Dual optimizer technology for varied samples**	Fewer reruns, faster workflows, higher confidence
	Cooling System	Compressor cooling	**Patented thermosiphon system with no moving parts**	Faster turnaround, precise performance, lower maintenance
	Calibration & Traceability	Optional calibration certificates	**Factory-calibrated sensors, ISO 17025-ready**	Full traceability and verified accuracy
	User Interface	Small standard display	**10.4" capacitive touchscreen with expanded diagnostics**	Easier navigation, smarter feedback, minimal training
	Connectivity	Limited network capability	**Network-ready for IRIS and PACe with printer integration**	Seamless data sharing and lab management
Safety & Uptime	Maintenance	Manual servicing required	**Modular design for quick servicing**	Less downtime, faster service, higher uptime
	Consumables Compatibility	Proprietary consumables	**Compatible with original OptiDist consumables**	Seamless upgrade, no waste or retraining
	Safety Features	Add-ons required (e.g., VOC extraction, light indicator)	**Fire, flask material, and condenser blockage detection**	Enhanced operator and equipment protection

Modular All-in-One Design

The OptiDist 2 features a fully modular, all-in-one design that simplifies operation, maintenance, and upgrades. Each component is easily accessible, allowing quick access for maintenance and easy field servicing.

info.paclp.com/optidist-2

01

Heater Assembly

- Patented dual optimizer
- Bar code tracking of flasks
- QR code plate detection
- Electromechanical lift

02

Chassis

- Refreshed modular design
- Extended peripheral support
- Backwards compatible with consumables

03

Touchscreen Interface

- 10.4” capacitive display
- Redesigned interface
- Enhanced diagnostics
- Networkable to IRIS & PACe

04

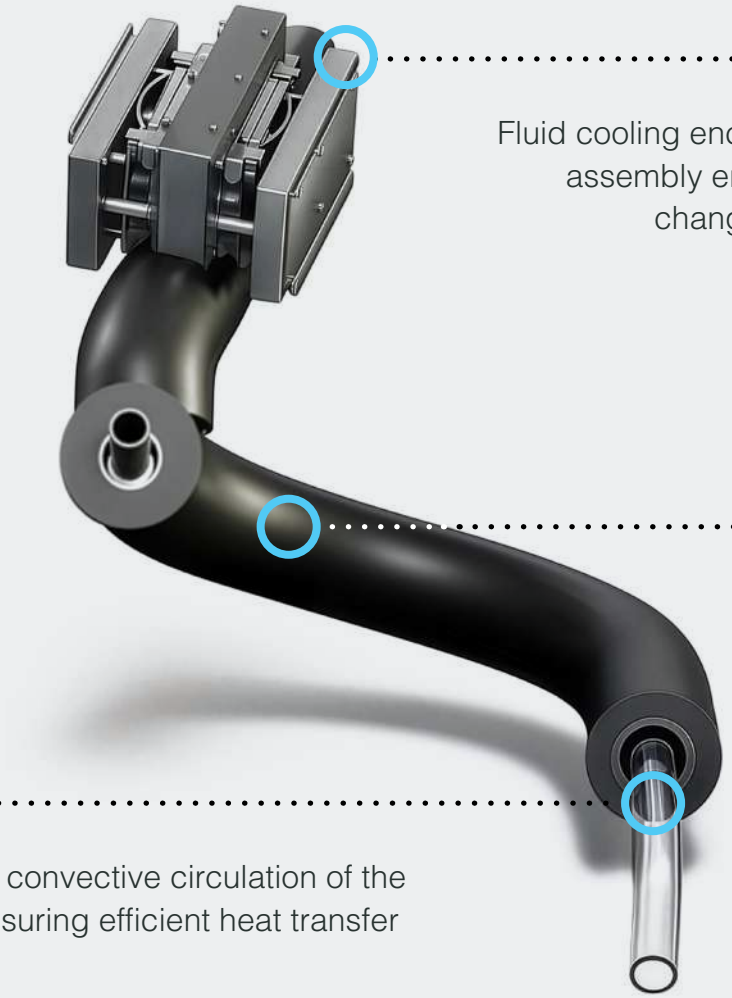
Receiving Chamber

- Peltier cooling system
- Improved door latch system
- Improved receiver stand and drip management

NEW TECHNOLOGY

Patented Thermosiphon Design for **Outstanding Cooling Performance**

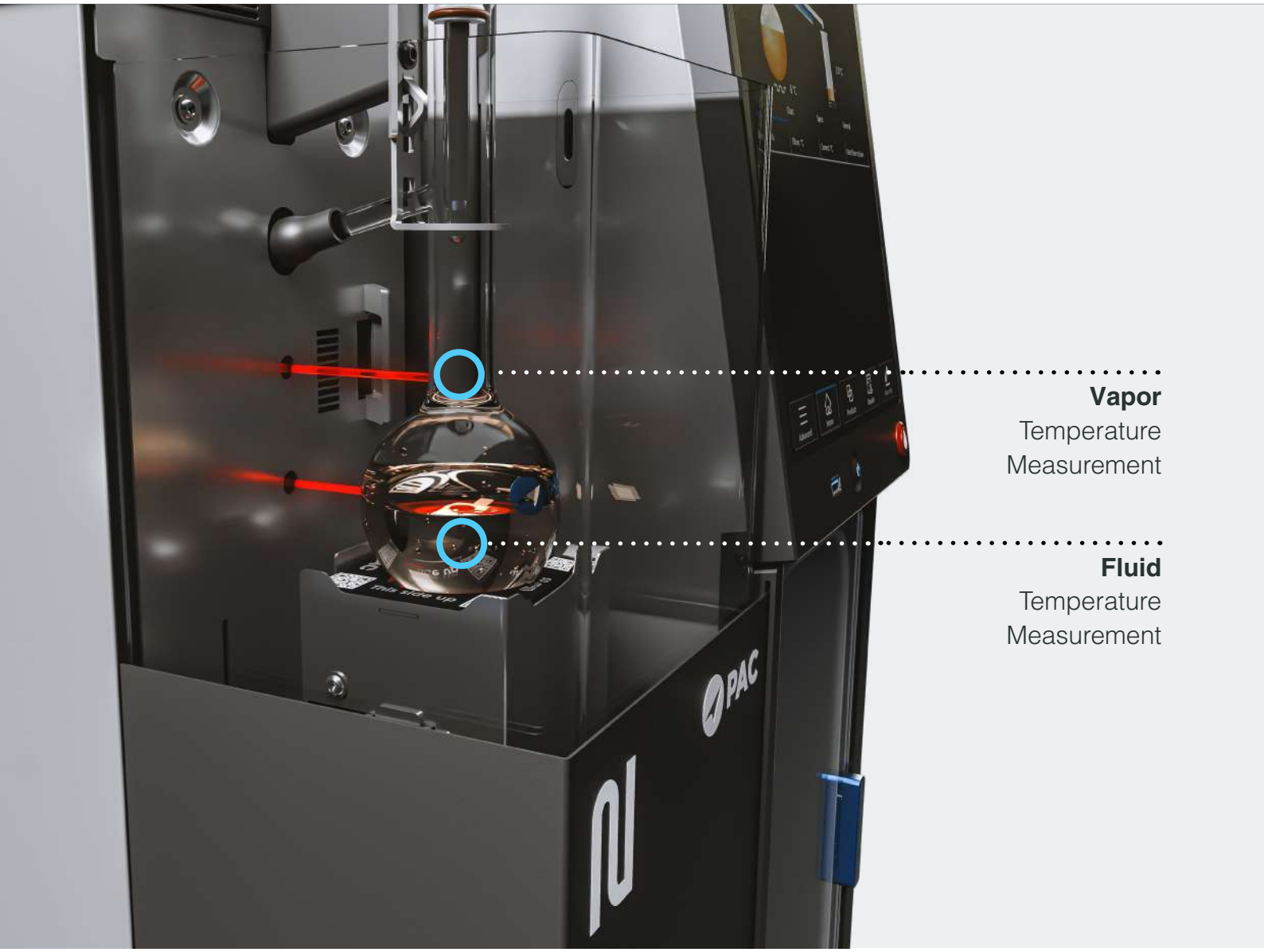
Introducing the new thermosiphon cooling system for OptiDist 2, designed to deliver outstanding cooling performance with minimal maintenance. This innovative system features a sealed condenser cooling element with no moving parts, utilizing passive convective circulation of the working fluid for enhanced reliability. The design closely mimics the original manual bath method while providing better precision than traditional solid-state cooling. Secondary cooling is achieved through efficient and dependable Peltier modules, ensuring consistent performance. The liquid cooling system provides well-balanced cooling and a minimal thermal gradient across the condenser. Additionally, the thermosiphon eliminates the need for a booster heater, making it highly efficient and cost-effective.



Sealed System
Fluid cooling encapsulates the condenser assembly ensuring rapid response to changing distillation conditions

No Moving Parts
Ensuring long-term reliability and reduced maintenance

Liquid Cooling
Utilizes passive, convective circulation of the working fluid, ensuring efficient heat transfer



NEW TECHNOLOGY

Patented Dual Optimizer for **Reliable Results with Every Sample**

The patented dual optimizer continuously monitors and precisely controls the initial heating phase using a proprietary algorithm that requires no operator input. This intelligent system enhances distillation performance by closely tracking both the flask fluid and vapor temperatures, ensuring optimal rate and stability throughout the process.

The dual optimizer's adaptive control enhances precision and efficiency in every run. By maintaining thermal balance and minimizing overshoot, it ensures quick stabilization and consistent performance. This intelligent system reduces wear, shortens analysis time, and delivers the repeatability and reproducibility laboratories rely on.

COMPATIBLE WITH PACe

OptiDist 2 empowers labs by leveraging the power of PACe to enhance productivity and overall throughput.

Unbeatable Instrument Uptime

Receive real-time alerts from every instrument connected to PACe, to a desktop, tablet, or mobile device. This will allow you to see optimization opportunities in throughput and instrument irregularities for efficient decision-making without manually visiting each instrument.

Maximize Lab Throughput

Around-the-clock status monitoring to reach the desired annual throughput and to identify hidden instrument capacities.

Services, Support, and Training

Our individualized instrument service programs help our customers ensure maximum quality and repeatability while complying with standards and regulatory requirements.

In addition to service programs, we also offer individual services for preventative maintenance, calibration, and relocation services. Our service repair centers, located around the world, are ISO-9001 accredited. All work is performed by skilled certified service technicians.

PAC offers a wide selection of training and educational programs to support our customers throughout the range of industries that our instruments serve. Our training programs may occur in one of our PAC facilities worldwide or at the customer's facility. We also offer webinars of some of our key technologies online.

Protect Your Investment

To protect your lab's investment, OptiDist 2 is fully compatible with OptiDist consumables, including PT100 temperature sensors, measuring cylinders, vapor probe consumables, and flasks. That means your team can transition without discarding stock. You'll save budget, simplify procurement, and avoid downtime, all while unlocking the speed, accuracy, and reliability of the OptiDist 2's next-generation distillation technology.

Technical Information

Equipment Specifications

User Interface	Large TFT-LCD (Thin Film Transistor Liquid Crystal Display) touchscreen with solvent protection
Heating System	Low-mass, low-voltage heating system with automatic positioning
	Unique optimizer function fully automates initial heating parameters and heat regulation
	Vapor probe, centering device, and heater plate size verified by QR code
Condenser System	Temperature range 0°C to 60°C
	Constant temperature or special programmable temperature profile
	Accuracy: ± 0.5°C at 25°C (± 0.9°F at 77°F)
Receiver Chamber	Temperature range 10°C to 60°C
	Instant playback on power-up
	100 mL measuring cylinder
	“Measuring cylinder in place” and “door open” sensors
	Measuring instrument: Pt100 temperature sensor
	Accuracy: ± 0.5°C at 25°C (± 0.9°F at 77°F)
	Receiver volume calibration follows the same methodology as the original OptiDist
Cooling System	Peltier based CFC-free cooling unit
	Factory-sealed cooling circuit with 12% ethylene glycol and 88% distilled water as heat exchange fluid
Security	Built-in fire extinguisher with fire sensor
Connectivity	USB A: Optional external printer, barcode scanner, or USB memory device for data transfer and system updates
	RJ45: Ethernet connection
	IRIS and LIMS Collector: Fully compatible drop-in replacement preserving all original OptiDist functionality
	Hose nozzle. Inlet connection for extinguisher gas source
Optional Equipment	IRIS, USB, PDF, and printer output with local and network connectivity; supports up to 20 units per shared printer.
	Bar code reader
	Automatic dry point kit for 125 mL or 200 mL
	CRM reference materials

Measurement Specifications

Distillation Speed	2 to 10 mL/min, programmable
	Automatically records the distillation rate displayed on the screen during the test
Vapor Temperature	Range: 0°C to 450°C (32°F to 840°F)
	Accuracy: Class A IEC 751 Pt100 sensor
	Built-in calibration memory with 10-point calibration table and automatic probe ID detection; calibration history
	Standard two point calibration; additional points available upon request
Sample Volume	Optical measurement system compatible with smoke-producing samples in the receiver
	Range: 0% to 103% of charge volume
	Resolution: 0.03 mL (internal)
	Accuracy: ± 0.1 mL
Ambient Pressure	Integrated pressure sensor
	Range: 70 to 110 kPa (525 to 825 mmHg)
	Calibration: Single point compared to reference barometer
Heating Element Temperature	Thermocouple K

Test Methods & Certifications

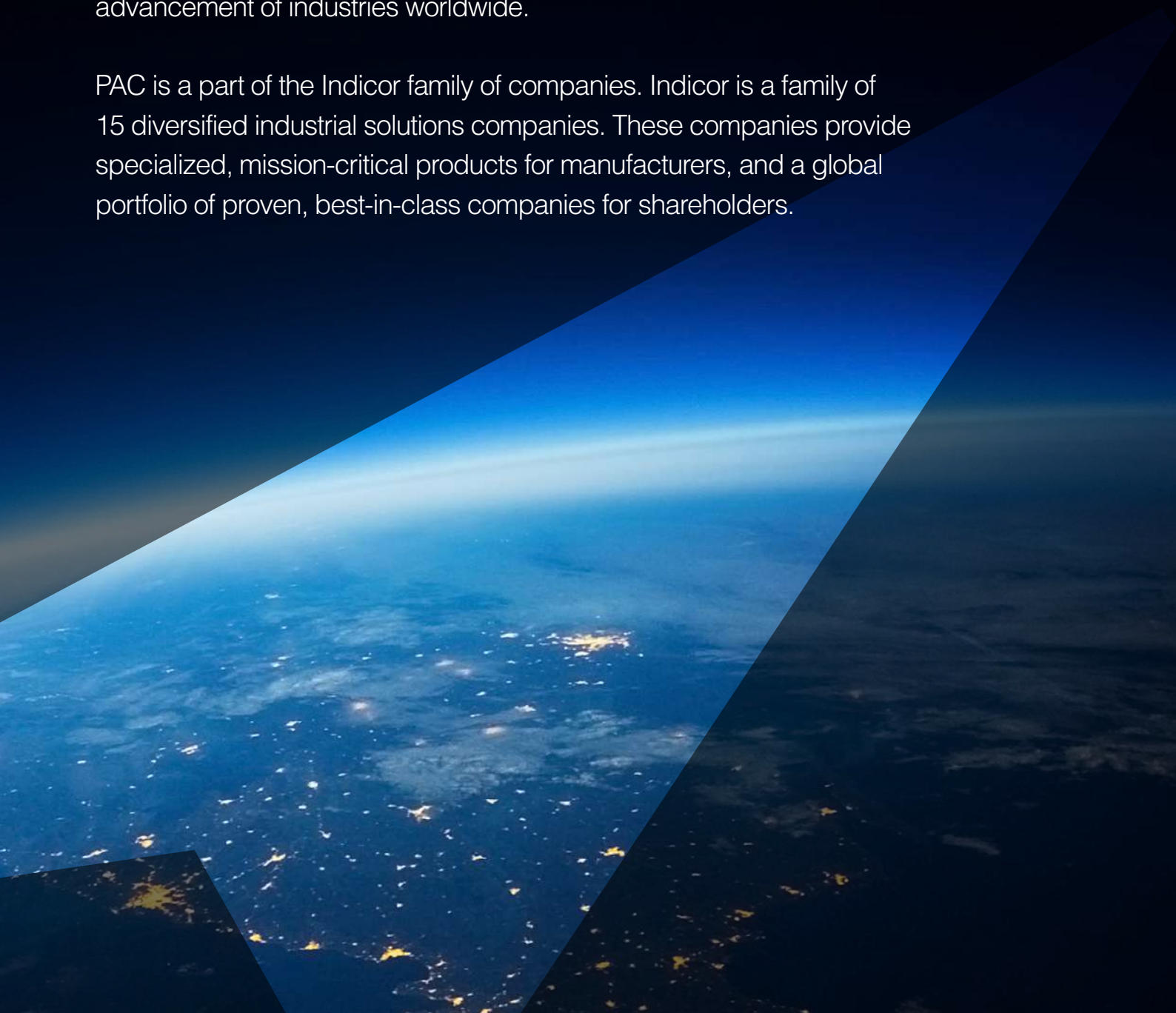
Standard Test Methods	ASTM D86 (Groups 1–4), D1078, D850, D524, D4350; IP195, IP123; DIN 51751; EN ISO 3405; JIS K2254; ISO 918; Crude Oil
Certifications	Complies with the limits for a Class A digital device, pursuant to Part 15 of the FCC rules
	Meets the requirements of the European Directives concerning health, hygiene, and safety
	The standards applied are listed in the “CE Declaration of Conformity”

About PAC

PAC empowers global customers across various industry sectors, enhancing their efficiency through innovative solutions by designing, manufacturing, and marketing advanced lab and online analytical instruments, along with a digital platform for real-time analytics.

With decades of knowledge and expertise, our instruments consistently deliver unmatched performance and value, backed by comprehensive global support consisting of 13 sales and support offices and a network of over 140 distributors, contributing to the safe and sustainable advancement of industries worldwide.

PAC is a part of the Indicor family of companies. Indicor is a family of 15 diversified industrial solutions companies. These companies provide specialized, mission-critical products for manufacturers, and a global portfolio of proven, best-in-class companies for shareholders.



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