



MARTEK[®] MARK 24

DEGAS CATION CONDUCTIVITY SYSTEM

MARTEK INSTRUMENTS INC. MANUFACTURERS OF WATER QUALITY INSTRUMENTATION

...for accurate, continuous, in situ monitoring of degassed cation conductivity and pH in ultrapure water

- Measures and displays Specific, Cation, Degassed Cation Conductivities, and Calculated pH
- Large, colorful screen displays up to four sample points simultaneously
- User-friendly interface and easy-to-use menus in seven languages
- Up to eight analog current outputs
- Up to six alarm and control relays
- Multiple digital communication protocols
- NEMA 4X, IP66 waterproof rated analyzer case allows field-compatible upgrades via USB data port
- Portable stand available

The Martek Mark 24 Degas Cation Conductivity System provides accurate, on-line determination of specific, cation, and degassed conductivity as well as calculated pH measurements in ultrapure water processes. Calibrated to ASTM and NIST standards, the Martek Mark 24 Degas System displays data in direct engineering units on a large colorful display while offering both digital and analog output signals for external recorders and other data acquisition equipment.

As a steam constituent, carbon dioxide can form carbonic acid and carbonate on dissolution in water. This can severely affect not only cycle corrosion, but mask early condensate pH and conductivity measurements in cycle regions where condensation sets in. The most important paths for CO₂ ingress are air and cooling water

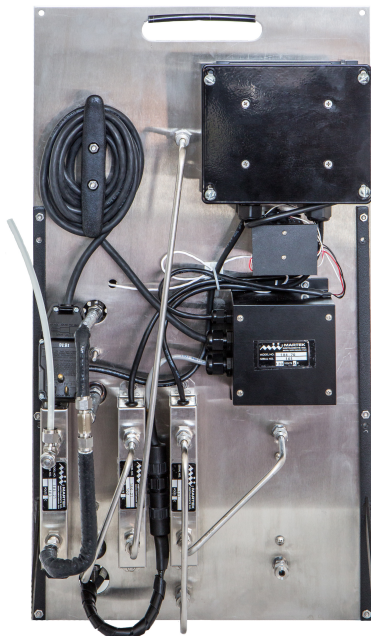


inleakage, makeup water, ion exchange resins, and plant cycle additives. By precise heating of the process solution to near-boiling after a cation column, carbon dioxide and other low molecular organics are volatized and removed providing a degassed cation conductivity measurement that results in a more realistic assessment of the process chemistry.

The Martek Mark 24 Degas Cation Conductivity Systems's ability to provide real-time data make it the ideal analytical tool for monitoring high purity processes in nuclear and high-performance fossil fuel power plants; condensate polishing systems and demineralizers; semiconductor and pharmaceutical manufacturing plants; and other industrial applications.

MARTEK MARK 24 DEGAS CONDUCTIVITY SPECIFICATIONS

Parameter	Range	Resolution	Accuracy
Temperature	0 - 100° C	0.01° C	±0.1° C
Conductivity	0 - 1.000 µS/cm 0 - 10.00 µS/cm 0 - 100.0 µS/cm	0.001 µS/cm 0.01 µS/cm 0.1 µS/cm	+0.01 µS/cm ±0.1 µS/cm +1.0 µS/cm
Calculated pH	0-14 pH	0.01 pH	±0.1 pH



A cooled condensate sample stream is fed to the Martek Mark 24 Degas System. The sample flow is controlled by a flow meter and directed to a conductivity sensor that measures the specific conductivity of the inlet stream. Next, the sample passes through a cation exchange column then is fed through a second conductivity sensor that measures the cation conductivity. Finally, the sample is sent to the boiler where it is heated to near boiling to allow carbon dioxide and other gasses to be vented off through an expansion chamber. The hot sample stream is directed through a third conductivity sensor that measures the degassed conductivity. The effluent from this last sensor then goes to drain. In addition, the specific and cation conductivity measurements can be used to provide a calculated pH measurement eliminating the need for additional, costly instrumentation.

Power	100-240 VAC, 50/60 Hz, 0.4A Max @ 25° C. Optional 24VDC
Recorder Output	Two isolated, assignable, current loops per sensor (standard). Full featured PID control for conductivity or pH.
Digital Protocol	MODBUS RTU, DeviceNet, Profibus DP/V1, Ethernet/IP
Alarm Output	Three Form C Relays (standard): 5A, 250 V. Additional three Form C Relays optional
Environmental	Ambient operating temperature range: -20 to 60 °C
Approvals	Analyzer: CE: EN6100 -4-2, -4-3, -4-4, -4-5, -4-6, -4-11
Warranty	Analyzer: Two years
Panel Dimensions	14.0 inches (35.6 cm) x 26.0 inches (66.0 cm) x 6.0 inches (15.2 cm) WHD
Weight	30 lbs (13.6 kg)
Mounting	Panel (a stand is available allowing for portable applications)
Wetted Parts	Type 316 Stainless Steel, Teflon, Delrin, Acrylic
Connections	All inlets use 0.25 inch Type 316 Stainless Steel Swagelock fittings

ORDERING INFORMATION

P/N 184-70 Mark 24 Degas System

NOTE: All prices FOB Factory. Specifications and prices subject to change without prior notice.
Warranty subject to certain conditions. For complete warranty information, contact the factory.



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