

CONTROL COMPANY



CONTROL COMPANY



Traceable[®] Conductivity Guide

----- ISO 17025 ACCREDITED (A2LA)

----- ISO GUIDE 34 ACCREDITED (A2LA)

----- ISO 9001 QUALITY-CERTIFIED (DNV)



3rd Level— Control Company is an ISO Guide 34 Accredited Certified Reference Material (CRM) Producer

2nd Level— Control Company is an ISO 17025 Accredited Calibration Laboratory

1st Level— Control Company is ISO 9001 Quality Certified

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Control Company is ISO 9001 Quality Certified

- ▲ Control Company is ISO 9001 Quality Certified. This quality ISO 9001 certification provides the assurance that Control Company produces only the finest and most reliable products. It is worldwide recognition of superb quality for innovative products. ISO 9001 Certification provides you with the assurance that an independent auditor has checked the quality in our methods, our procedures, our testing, our production, and our record keeping.
- ▲ In addition, ISO 9001, in contrast to other ISO 9000 certifications, requires that the design phase of every product be included in the quality requirements. Quality is designed into every product beginning with the first drawing. Control Company was among the earliest companies to achieve this recognition. Control Company is ISO 9001 certified by DNV (Det Norske Veritas.) (DNV Certificate No. CERT-01805-2006-AQ-HOU-RAB).

2nd Level—
Control Company is an ISO 17025 Accredited Calibration Laboratory

- ▲ Control Company is an ISO 17025 calibration laboratory accredited by A2LA. Traceable® products are provided with a Traceable® Calibration Certificate indicating ISO 17025 accreditation. The Traceable® Certificate insures that each user is supplied with an accurate instrument individually tested to be traceable to NIST (National Institute of Standards and Technology), a U.S. Government agency within the Commerce Department. The Traceable® Certificate complies with military standard ANSI/ NCSL Z540-1.
- ▲ A2LA is widely recognized internationally through bilateral and multilateral agreements and through its participation in the International Laboratory Accreditation (ILAC) and Multilateral Recognition Arrangement (MRA). Through Control Company's A2LA Accreditation, Traceable® Certificates are internationally recognized by National Laboratories, Accreditation Agencies, governments, and tens of thousands of companies, universities, and hospitals in over 75 countries throughout Europe, the Middle East, North America, South America, Asia, and Africa. Control Company is an ISO Guide 17025 Calibration Laboratory accredited by American Association for Laboratory Accreditation (A2LA Certificate No. 1750.01).

3rd Level—
Control Company is an ISO Guide 34 Accredited Certified Reference Material (CRM) Producer

- ▲ Control Company is an ISO Guide 34 Accredited Certified Reference Material (CRM) Producer. This accreditation provides the highest achievable level of quality assurance, documentation, and accuracy for chemical standards. All standards are directly traceable to NIST (National Institute of Standards and Technology) and/or a National Standards Laboratory.
- ▲ Certified Reference Materials are produced in our accredited manufacturing facility. Additional certifications include ISO 31 (certificate content), and ISO 35 (statistical analysis). Control Company is an ISO Guide 34 Certified Reference Material (CRM) Producer accredited by American Association for Laboratory Accreditation (A2LA Certificate No. 1750.02). In the United States, only Control Company has achieved this accreditation for conductivity standards.

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Traceable[®] Conductivity Standards Certified Reference Material (CRM)

Use Standards with all meters

Traceable[®] Conductivity Standards, a Certified Reference Material, are 100% compatible with all makes of instruments and probes. Traceable[®] Conductivity Standards are the most accurate available. Accuracy at 25°C is (± 0.25 microsiemens for 1, 5, 10 microsiemen solution or $\pm 0.25\%$ for other solutions) or the uncertainty shown on the certificate, whichever is greater. Each bottle is labeled for calibrating conductivity (microsiemens/micromhos), resistivity (ohms), and dissolved solids (parts per million).

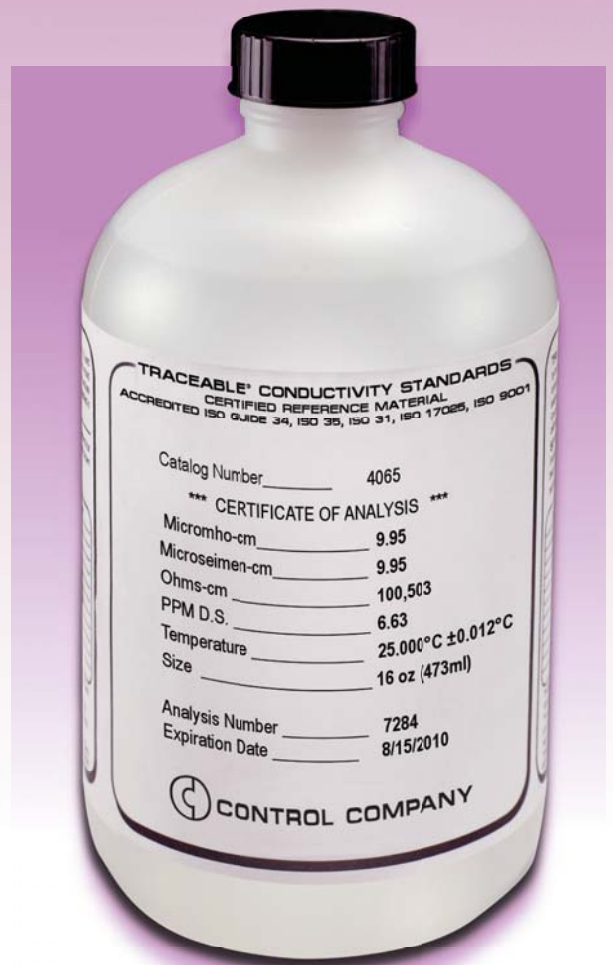
Methods supported

This certified reference material meets test requirements for Federal, State, and local agencies, CAP, ASTM, NCCLS, CLSI, ACS, CLIA, AOAC, EPA, APHA, AWWA, WEF, USGS, USP, and ISO. Traceable[®] Certified Reference Material complies with and is essential for use in these official methods: AOAC 973.40, EPA 120.1, Standard Method 2510 (APHA, AWWA, WEF), ISO 7888, DIN 38404, ASTM D1125, USGS I-1780, USP 645, and for A2LA/NVLAP accreditations/ISO 9000 certifications. Material may be used to calibrate all conductivity meters and to determine all conductivity cell constants.

Double A2LA accreditation ISO 17025 and ISO Guide 34 plus ISO 9001

To assure accuracy an individually serial-numbered Traceable[®] Certificate is supplied to indicate traceability to standards provided by NIST (National Institute of Standards and Technology) and/or a National Standards Laboratory. Double A2LA accredited certification provides the highest achievable level of quality assurance, documentation, and accuracy. Certified Reference Materials are produced in an A2LA accredited ISO 17025 calibration laboratory by an A2LA accredited ISO Guide 34 reference material producer. Additional accreditations include ISO 31 (certificate content) and ISO 35 (statistical analysis), plus ISO 9001 (certified quality manufacturer).

Each bottle is supplied with step-by-step calibration instructions, individual temperature compensation chart, traceability information, and Traceable[®] Certificate. Supplied in a 16-ounce bottle.



Traceable [®] Conductivity Standards Certified Reference Material Accredited ISO Guide 34, ISO 35, ISO 31, ISO 17025, ISO 9001				
Cat. No. NIST/ISO Guide 34, ISO 17025/A2LA Cert	Cat. No. NIST/ISO Guide 34, ISO 17025/A2LA Cert/Individually Tested	Microsiemens/ Micromhos	Megohms	TDS/PPM
4274	4574	1	1	.66
4270	4570	5	0.2	3.3
4065	4565	10	0.1	6.6
4066	4566	100	0.01	66
4067	4567	1000	0.001	666
4173	4573	1413	0.00071	933
4068	4568	10000	0.0001	6666
4069	4569	100000	0.00001	66666
4161	4561	150000	0.000006	100000
4162	4562	200000	0.000005	133333

Traceable[®] One-Shot[™] Conductivity Standard (CRM) Certified Reference Material

Single-use conductivity standards calibrate all conductivity meters and probes for maximum accuracy. One-Shots[™] eliminate concern about external container contamination. Calibration is made in the standard's vial. Container fits all probes. Extra-large opening (1¾-inches diameter) and extra-large, 3½-inches depth allow probe calibration to take place in the standard's polyethylene container. One-Shot[™] Traceable[®] standards accommodate all conductivity probes and are ideal for lab or field conditions.

Use Standards with all meters

Traceable[®] Conductivity Standards, a Certified Reference Material, are 100% compatible with all makes of instruments and probes. Traceable[®] Conductivity Standards are the most accurate available. Accuracy at 25°C is (±0.25 microsiemens for 1, 5, 10 microsiemen solution or ±0.25% for other solutions) or the uncertainty shown on the certificate, whichever is greater. Each container is labeled for calibrating conductivity (microsiemens/micromhos), resistivity (ohms), and dissolved solids (parts per million).

Methods supported

This certified reference material meets test requirements for Federal, State, and local agencies, CAP, ASTM, NCCLS, CLSI, ACS, CLIA, AOAC, EPA, APHA, AWWA, WEF, USGS, USP, and ISO. Traceable[®] Certified Reference Material complies with and is essential for use in these official methods: AOAC 973.40, EPA 120.1, Standard Method 2510 (APHA, AWWA, WEF), ISO 7888, DIN 38404, ASTM D1125, USGS I-1780, USP 645, and for A2LA/NVLAP accreditations/ISO 9000 certifications. Material may be used to calibrate all conductivity meters and to determine all conductivity cell constants.

Double A2LA accreditation ISO 17025 and ISO Guide 34

To assure accuracy an individually serial-numbered Traceable[®] Certificate is supplied to indicate traceability to standards provided by NIST (National Institute of Standards and Technology) and/or a National Standards Laboratory. Double A2LA accredited certification provides the highest achievable level of quality assurance, documentation, and accuracy. Certified Reference Materials are produced in our A2LA accredited ISO 17025 calibration laboratory by an A2LA accredited ISO Guide 34 reference material producer. Additional accreditations include ISO 31 (certificate content) and ISO 35 (statistical analysis), plus ISO 9001 (certified quality manufacturer). Each container is supplied with step-by-step calibration instructions, individual temperature compensation chart, traceability information, and Traceable[®] Certificate. Supplied as a pack of six. Each One-Shot[™] contains 100 milliliters.



One-Shot [™] Traceable [®] Conductivity Standards, Six Pack Certified Reference Material Accredited ISO Guide 34, ISO 35, ISO 31, ISO 17025, ISO 9001				
Cat. No.	Quantity	Microsiemens/Micromhos	Megohms	TDS/PPM
4271	6/Pk	5	0.2	3.3
4175	6/Pk	10	0.1	6.6
4176	6/Pk	100	0.01	66
4177	6/Pk	1000	0.001	666
4174	6/Pk	1413	0.00071	933
4178	6/Pk	10000	0.0001	6666
4179	6/Pk	100000	0.00001	66666
4580	6/Pk	150000	0.000006	100000
4581	6/Pk	200000	0.000005	133333
4172	6/Pk	Assortment (one each of the above, except 4271, 4580, 4581)		

Traceable[®] Bench Conductivity Meter

Turn on, insert probe, read results

Fulfill all official lab analysis regulations for CAP, ASTM, NCCLS, CLSI, ACS, CLIA, AOAC, EPA, APHA, AWWA, WEF, USGS, USP, ISO, and Federal/State regulations by using the Bench Conductivity Meter. Simply turn on, insert probe into solution, and read accurate results. Unit automatically encompasses all ranges and selects the most appropriate for the current reading. Disable the auto-range function when user-defined ranges are desired. Control allows user to store four calibration points using solution standards. Ranges are: 0.01 to 200,000 microsiemens (micromhos), 0.001 to 20.000 megohms, 0.1 to 20,000 dissolved solids/parts per million, 2.0 to 42.0 salinity (oceanographic units). Accuracy is $\pm 0.3\%$ +1 digit.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable[®] Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). State-of-the-art microcomputer processor and unique software program allow four calibration points to ensure complete accuracy over the entire range. Readings are displayed in conductivity (microsiemens/micromhos), resistivity (megohms), total dissolved solids (milligrams per liter), salinity (oceanographic units), concentration (user specified units), and temperature (Celsius/Fahrenheit). K factor may be adjusted to match each probe. Specifically designed to measure conductivity in water analysis, biology, chromatography, food, and PC board rinsing.

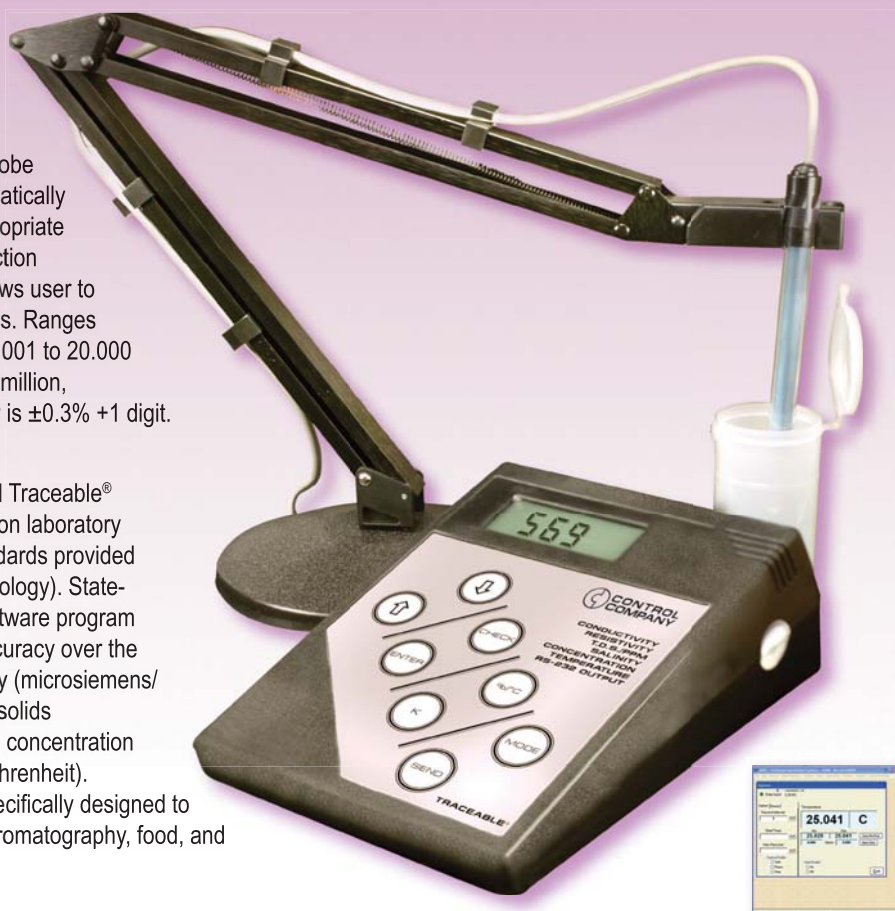
Computer output

Computer output may be downloaded to a data logger or computer for analyzing or reporting at a later time. Makes hard copy results a breeze—no more, hand-scrawled notes to decipher. Supplied probe contains platinum electrodes and a solid-state thermistor for automatic/manual temperature compensation. Readings are automatically referenced to the international standard of 25°C. Temperature compensation is automatic (2% per °C), user-designated (0.000 to 5.000% per °C), or absolute. Exclusive temperature compensation disable function fulfills USP-NF (United States Pharmacopoeia, National Formulary, 645 Conductivity Measurement) requirement.

ABS plastic housing withstands the roughest lab environments. Unit comes with 115 VAC adapter, probe replatinizing current, a probe holder arm, battery, and Traceable[®] Certificate. Supplied glass probe is 5¼ x ½ inches diameter with a cable length of 59 inches. Size is 8¼ x 6 x 3½ inches and weight is 1½ pounds. Replacement battery Cat. No. 1112.

Cat. No. 4163 Traceable[®] Bench Conductivity Meter with probe

Cat. No.	Accessories
4062	Replacement Conductivity Probe—Glass, K=1, probe range is 0.05 to 200,000 microsiemens (micromhos).
4061	Accessory Probe—Unbreakable Epoxy, K=1, probe range is 1.0 to 200,000 microsiemens (micromhos).
4054	Accessory Conductivity Glass Flow-Through Cell with volume of 4 ml, K=1
4055	Accessory Micro-Sampler/Flow-Through Cell with volume of 2 ml, K=0.2
8095	Computer Data Acquisition System —Powerful and easy to use computer data capture/data logging program works with Traceable [®] Instruments with computer output. Records interval readings from 1 to 10,000 seconds; displays minimum/maximum readings; and utilizes an alarm mode that permits the user to be notified visually, audibly, and by email when an alarm is triggered. Data is stored to a file that can be printed in any report or spreadsheet format. Networking server/client capability allows the captured data to be monitored on a remote workstation and/or by email. It is designed to work with Windows [®] 98/Me/NT/2000/XP/Vista. Includes a CD, a 6-foot cable (supplied USB and serial connections) that plugs into the instrument and computer. Accessory extension cables expand cable length to 300 feet.



Computer Output

Performance Chart	
Range	
Microsiemens (micromhos)	0.01 to 20.00 0.1 to 200.0 1 to 2000 10 to 20000 100 to 200000
Megohms	0.001 to 2.000 0.01 to 20.00
Dissolved Solids/ppm	0.1 to 20.00 1 to 200 10 to 2000 100 to 20000
Salinity	2.0 to 42.0 salinity (oceanographic units)
Accuracy	$\pm 0.3\%$ +1 digit
Temperature	
Range	-22.0 to 266.0°F / -30.0 to 130.0°C
Resolution	0.1°
Accuracy	$\pm 0.3^{\circ}\text{C}$

Traceable® Portable Conductivity Meter

Quick answers, accurate results on demand

In an instant, Portable Conductivity Meter automatically selects the proper range and displays the exact answer without hassles. This auto-ranging feature may be turned off to accommodate user-entered ranges. All special calibration data is saved even when unit is turned off. Fulfills all government measurement requirements plus CAP, ASTM, NCCLS, CLSI, ACS, CLIA, AOAC, EPA, APHA, AWWA, WEF, USGS, USP, ISO, and Federal/State regulations. Range in microsiemens (micromhos) is 0.01 to 200,000, in megohms is 0.001 to 20.000, range in dissolved solids/parts per million is 0.1 to 20,000, and in salinity is 2.0 to 42.0 (oceanographic units). Accuracy is $\pm 0.3\%$ +1 digit.

Four calibration points

Four unique calibration points may be entered into memory utilizing solution standards. Settings are stored even when the unit is off. Results are displayed in conductivity (microsiemens) and (micromhos), resistivity (megohms), dissolved solids (parts per million), concentration (user-specified units), salinity (oceanographic units), and temperature ($^{\circ}\text{F}/^{\circ}\text{C}$).

Supplied instant-response probe contains platinum electrodes that deliver highly accurate readings. Internal solid-state thermistor (for automatic/manual temperature compensation) permits all readings to be referenced to the international standard of 25°C . Temperature compensation is automatic (2% per $^{\circ}\text{C}$), user-designated (0.000 to 5.000% per $^{\circ}\text{C}$), or absolute. K-factor may be adjusted to match each probe.

Exclusive temperature compensation disable function fulfills USP-NF (United States Pharmacopoeia, National Formulary, 645 Conductivity Measurement) requirement.

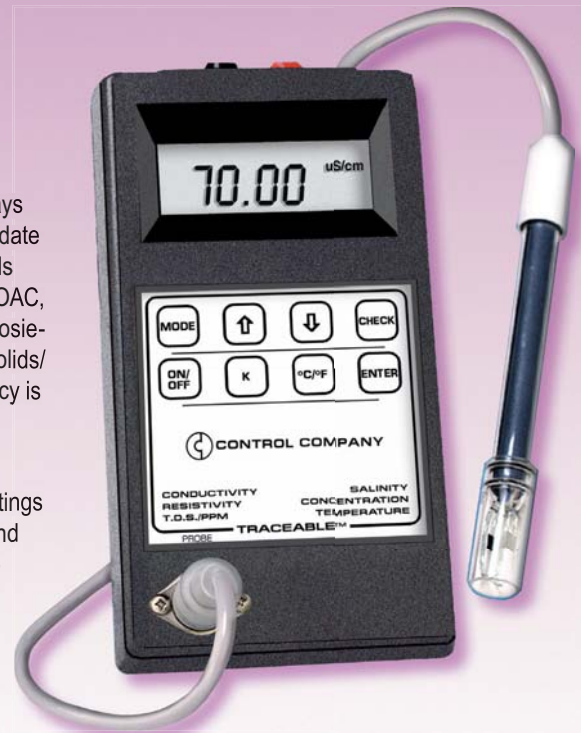
Use to check the purity of water from stills and demineralizers, to analyze seawater, and to make up solutions. Simply turn on, insert probe, and read—easiest unit ever designed for routine analysis, quality control, and research. Elimination of operator technique permits everyone in the lab to report identical readings. Tough, chemical-resistant ABS plastic housing assures a long life in severe lab or harsh plant environments. Large $\frac{1}{2}$ -inch-high LCD digits are easy to read. To assure accuracy an individually serial-numbered Traceable® Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology).

Permanent hard copy record

Recorder jack allows continuous monitoring and a permanent record. Arrow keys allow unit to be calibrated to solution standards. Supplied glass probe is $5\frac{1}{4} \times \frac{1}{2}$ inches in diameter with a cable length of 59 inches. Unit size is $3\frac{3}{4} \times 6\frac{3}{4} \times 1\frac{1}{2}$ inches. Weight is 16 ounces. Battery is supplied.

Cat. No. 4063 Traceable® Portable Conductivity Meter with probe

Cat. No.	Accessories
4062	Replacement Conductivity Probe—Glass, K=1 Probe range is from 0.05 to 200,000 microsiemens.
4061	Accessory Conductivity Probe—Unbreakable Epoxy, K=1 Probe range is from 1.0 to 200,000 microsiemens.
4054	Accessory Conductivity Glass Flow-Through Cell with volume of 4 ml, K=1
4055	Accessory Micro-Sampler/Flow-Through Cell with volume of 2 ml, K=0.2



Performance Chart	
Range	
Microsiemens (micromhos)	0.01 to 20.000 0.1 to 200 1 to 2000 10 to 20000 100 to 200000
Megohms	0.001 to 2.000 0.01 to 20.00
Dissolved Solids/ppm	0.1 to 20.0 1 to 200 10 to 2000 100 to 20000
Salinity	2.0 to 42.0 (oceanographic units)
Accuracy	$\pm 0.3\%$ + 1 digit
Temperature	
Range	-22.0 to 266.0°F -25.0 to 125°C
Resolution	0.01°
Accuracy	$\pm 0.3^{\circ}\text{C}$

Traceable[®] Expanded-Range Conductivity Meter

Accurate answers in five seconds

Conductivity meter automatically selects the proper range and displays the exact answer with ease. Unit fulfills requirements for CAP, ASTM, NCCLS, CLSI, ACS, CLIA, AOAC, EPA, APHA, AWWA, WEF, USGS, USP, ISO, and Federal/State regulations.

Perfect water tester

Use this meter to check the purity of water from stills, deionizers, and reverse osmosis, to test laboratory glassware rinsing, to measure total dissolved solids, and to make solutions. Specifically designed to measure conductivity in water analysis, biology, chromatography, food, electronics, dairies, and PC board rinsing. Labs wanting to maintain accreditation must perform a periodic check of water purity. Unit is 100% compatible with all accreditation analysis requirements.

Simply turn on, insert probe, and simultaneously read result and temperature. Easiest unit ever designed for routine analysis and quality control. Elimination of operator technique permits everyone in the lab to report identical readings. Tough, chemical-resistant ABS plastic housing assures a long life in severe lab or harsh plant environments. Large 1/2-inch-high LCD is easy to read.

Unit permits auto-range or user selected five unique ranges. Complete range is 0.00 to 200,000 microsiemens (micromhos) and 0.0 to 100,000 dissolved solids/parts per million. Accuracy is \pm (1% of full scale +1 digit). Switchable temperature range is 0.0 to 80.0°C (32.0 to 176.0°F) with a resolution of 0.1° and an accuracy of 0.6°C. Backlit dual display shows answer and temperature simultaneously. Memory stores up to five unique calibration settings, one in each range. Arrow keys allow fast calibration to solution standards. All calibration data is saved even when unit is turned off. Instant-response glass probe contains platinum electrodes for precise readings. Solid-state thermistor (for automatic/manual temperature compensation) permits all readings to be referenced to the international standard of 25°C. Automatic (2% per °C) temperature compensation or user may set temperature coefficient from 0.000 to 10.000% per °C. Temperature compensation disable function fulfills USP-NF (United States Pharmacopoeia, National Formulary, 645 Conductivity Measurement) requirement. K-factor may be adjusted to match each probe. Total dissolved solids factor is adjustable from 0.4 to 1.

To assure accuracy an individually serial-numbered Traceable[®] Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). HOLD button freezes the reading on the display. Computer output permits connecting to a computer. Probe is 6 x 1/2 inches in diameter with a cable length of 39 3/4 inches. Size is 2 3/4 x 6 3/4 x 1 1/4 inches. Weight is 6 1/2 ounces. Probe, batteries, and rigid carrying case are supplied. Replacement battery Cat. No. 1105.

Cat. No. 4360 Traceable[®] Expanded-Range Conductivity Meter with probe

Cat. No.	Accessories
4361	Replacement Conductivity Probe—Glass/Platinum, K=1 Probe range is from 0 to 200,000 microsiemens
4362	Accessory Conductivity Probe—Unbreakable Epoxy, K=1 Probe range is from 0 to 200,000 microsiemens
8045	Accessory Computer Data Acquisition with serial and USB cables with software on CD
4363	Accessory 9V Adaptor

Traceable[®] Conductivity Meter

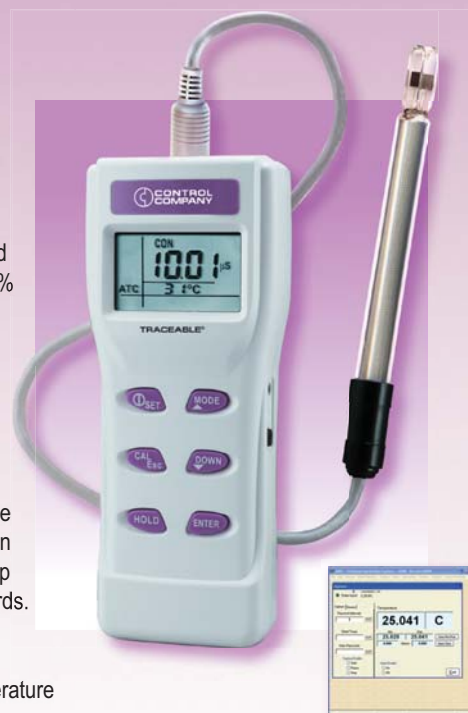
Traceable[®] Conductivity for pure water

To assure accuracy, a certificate is provided to indicate instrument traceability to standards provided by NIST (National Institute of Standards and Technology). Use to verify the purity of water from stills, deionizing, and reverse osmosis equipment. Range in microsiemens (micromhos) is 0.1 to 200.0, in megohms is 2.00 to 20.00. Accuracy is \pm 0.4%. Range is from ultra pure to tap water. Adjustment permits calibration to solution standards.

Easy to use

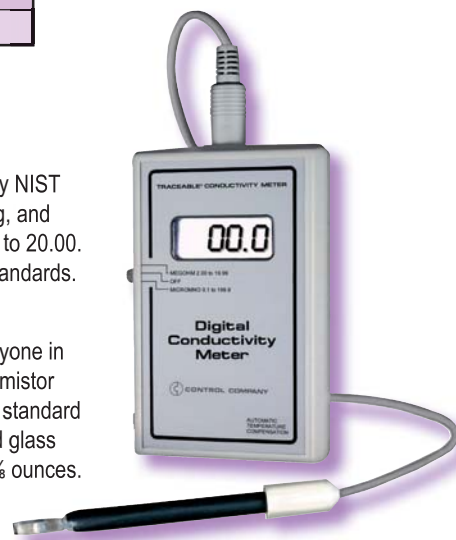
Ideal for routine analysis, quality control, and research. Elimination of operator technique permits everyone in the lab to report identical readings. Supplied probe contains platinum electrodes and a solid-state thermistor (for automatic temperature compensation). Readings are automatically referenced to the international standard of 25°C. An external electronic calibration plug for 10 microsiemens (micromhos) is supplied. Supplied glass probe is 5 1/2 x 1/2 inches diameter with a cable of 59 inches. Size is 3 1/4 x 4 1/2 x 1 1/2 inches. Weight is 8 7/8 ounces. Replacement battery Cat. No. 1112.

Cat. No. 4070 Traceable[®] Conductivity Meter with probe



Computer Output

Performance Chart	
Range	
Microsiemens (micromhos)	0.00 to 19.99 0.0 to 199.9 0 to 1999
Millisiemens (millimhos)	0 to 19.99 0 to 199.9
Dissolved Solids	0.00 to 9.99 ppm 0.0 to 99.9 ppm 0 to 999 ppm 0 to 9.99 ppt 0 to 99.9 ppt
Accuracy	\pm 1% +1 digit



Traceable[®] Pens for Conductivity, Dissolved Solids, and Salinity

Three units provide for conductivity, conductivity/total dissolved solids, and salinity. Meters fulfill requirements for CAP, ASTM, NCCLS, CLSI, ACS, CLIA, AOAC, EPA, APHA, AWWA, WEF, USGS, USP, ISO, and Federal/State regulations.

Easy to use and waterproof

Simply turn on, insert, and simultaneously read result and temperature. Easiest unit ever designed for routine analysis and quality control. Elimination of operator technique permits everyone in the lab to report identical readings. Tough, chemical-resistant, waterproof ABS plastic housing assures a long life in severe lab or harsh plant environments. Large ½-inch-high LCD digits are easy to read. Dual display shows reading and temperature. HOLD button freezes the reading on the display.

Calibration using solution standards

Arrow keys allow fast setting to calibration standards. Calibration data is saved even when unit is turned off. Instant-response probe and solid-state thermistor provide precise readings. Temperature compensation permits readings to be automatically referenced to the international standard of 25°C or user may set programmable temperature coefficient. To assure accuracy an individually serial-numbered Traceable[®] Certificate is provided from our ISO 17025 calibration laboratory accredited by A2LA. It indicates traceability to standards provided by NIST (National Institute of Standards and Technology). Waterproof unit is 6½ x 1¾ x 1¼ inches, weight is 2¼ ounces. Replacement battery Cat. No. 1039.

Cat. No. 4365 Traceable[®] Conductivity Meter

Cat. No. 4366 Traceable[®] Conductivity/Total Dissolved Solids Meter

Cat. No. 4367 Traceable[®] Salinity Meter



Cat. No.	4365	4366	4367
Description	Traceable [®] Conductivity	Traceable [®] Conductivity/ Total Dissolved Solids	Traceable [®] Salinity
Conductivity Range	0 to 1999 microsiemens 0 to 19.99 millisiemens	0 to 1999 microsiemens 0 to 19.99 millisiemens	–
Dissolved Solid Range	–	0 to 1999 parts per million 0 to 19.99 parts per thousand	–
Salinity Range (NaCL)	–	–	0.00 to 1.00% 1.01 to 7.00%
Resolution	1 microsiemen	1 microsiemen/1 part per million	0.01%
Accuracy	±1% full scale + 1 digit	±1% full scale + 1 digit	±2% full scale + 1 digit
Temperature Range	0.0 to 50.0°C/32.0 to 122.0°F	0.0 to 50.0°C/32.0 to 122.0°F	0.0 to 50.0°C/32.0 to 122.0°F
Temperature Resolution	0.1°	0.1°	0.1°
Temperature Accuracy	±0.5°	±0.5°	±0.5°
Settable Temp. Coefficient	0.0 to 4.0% per °C	0.0 to 4.0% per °C	–
Automatic Temp Compensation	20° and 25°	20° and 25°	25°
Total Dissolved Solids Factor	–	0.4 to 1.00	–
Use with Calibration Standards	400 microsiemens to 19.99 millisiemens	400 microsiemens to 19.99 millisiemens 400 ppm to 19.99 ppt	0.20 to 7.00%

Traceable® Dual-Display Conductivity Meter



Two displays simultaneously show conductivity readings and temperature measurements. Measures conductivity in three ranges: 0.1 to 199.9 microsiemens (micromhos) (0.1 microsiemen resolution), 0.001 to 1.999 millisiemens (millimhos) (0.001 millisiemen resolution), and 0.01 to 19.99 millisiemens (millimhos) (0.01 millisiemen resolution). Accuracy is $\pm(2\%$ of full scale plus 1 digit). Solid-state thermistor (for automatic/ manual temperature compensation) permits all readings to be referenced to the international standard of 25°C. Automatic (2% per °C) temperature compensation or user may set temperature coefficient from 0.0 to 5.0% per °C. Resolution is 0.1 and accuracy is $\pm 0.8^\circ\text{C}$.

Traceable to NIST for accuracy

To assure accuracy an individually serial-numbered Traceable® Certificate is provided to indicate instrument traceability to NIST (National Institute of Standards and Technology) from our ISO 17025 calibration laboratory.

Calibrate using solution standards

Keys adjust probe's K (constant) factor and permit calibration to solution standards. Easy-to-read, jumbo-size digits are 1 $\frac{3}{8}$ inches high. Computer output allows connection to a computer or data logger for monitoring and storing results. At the touch of a button the instrument recalls highest, lowest, and average readings. A data HOLD button freezes the display to capture readings. Unit is supplied with epoxy probe (cable length is 40 inches), Traceable® Certificate, 9-volt alkaline battery, and computer output. Size is 7 x 3 x 1 $\frac{1}{4}$ inches and weight is 9 $\frac{1}{2}$ ounces.

Cat. No. 4169 Traceable® Dual-Display Conductivity Meter with probe



Computer Output

Cat. No.	Description
4136	Computer Data Acquisition System —Powerful and easy to use computer data capture/data logging program works with Traceable® Instruments with computer output. Records interval readings from 1 to 10,000 seconds; displays minimum/maximum readings; and utilizes an alarm mode that permits the user to be notified visually, audibly, and by email when an alarm is triggered. Data is stored to a file that can be printed in any report or spreadsheet format. Networking server/client capability allows the captured data to be monitored on a remote workstation and/or by email. It is designed to work with Windows® 98/Me/NT/2000/XP/Vista. Includes a CD, a 6-foot cable (supplied USB and serial connections) that plugs into the instrument and computer. Accessory extension cables expand cable length to 300 feet.

Performance Chart	
Range	
Microsiemens (micromhos)	0.0 to 199.9
Millisiemens (millimhos)	0.001 to 1.999 0.01 to 19.99
Accuracy	$\pm(2\%$ of full scale plus 1 digit)
Temperature	32.0 to 140 °F 0.0 to 60.0 °C
Temperature Resolution	0.1
Temperature Accuracy	0.8°C



Traceable® Pure H₂O Tester

Meets all lab certification requirements

Specifically designed to test water from stills, demineralizers, deionizers, and reverse osmosis equipment. Meets all lab certification requirements for pure water analysis for CAP, ASTM, NCCLS, USP, and ACS. Single-purpose unit complies with all accreditation analysis requirements. Designed for labs obligated to maintain a periodic check of water purity. To assure accuracy, a Traceable® Certificate is provided to indicate instrument traceability to standards provided by NIST (National Institute of Standards and Technology) from our ISO 17025 calibration laboratory.

Accurate readings in an instant

Range is 0.1 to 20,000 microsiemens (micromhos) (from pure to raw water). Accuracy is $\pm 0.4\%$ of full scale. Simple operation eliminates errors and ensures everyone reports identical results. Supplied probe (cable length of 40 inches) provides an instant response. Internal, solid-state thermometer ensures all readings are automatically referenced to the international standard of 25°C. Size is 6 $\frac{1}{4}$ x 3 $\frac{3}{5}$ x 1 $\frac{1}{3}$ inches and weight is 11 ounces. Supplied ready to operate with carrying case, instructions, probe, 9-volt battery, and Traceable® Certificate. Replacement battery Cat. No. 1112.

Cat. No. 4168 Traceable® Pure H₂O Tester with probe

pH/Conductivity Universal Flow-Thru Adaptor

Flow-through adaptor is universally designed to accept all ½-inch (12 mm) diameter conductivity probes and pH electrodes. Allows constant monitoring of flowing fluids with a standard dip probe. Two O-rings provide a secure, leakproof seal.

Connectors accept tubing with a ¼-, ⅜-, ½- and ⅝-inch inside diameter. Cell volume depends on the positioning of the probe (approximately 2 to 4 ml). Flow rate may be from 0.001 to 50 milliliters per minute. Constructed of teflon (universally chemically inert), it may be in constant use at temperatures from -100 to 500°F. Size is 1-inch diameter x 2¼ inches.

Cat. No. 4167 pH/Conductivity Universal Flow-Thru Adaptor



Redi-Stor™ Conductivity Probe Storage Solution

Redi-Stor™ is the ideal solution for storing conductivity probes. It preserves probe's cleanliness, eliminates growths found when storing in water only, and maintains the probe for immediate use with no conditioning.

Cat. No. 4170 Redi-Stor™ Conductivity Probe Storage Solution

Electrode Holder

Pays for itself by speeding up batch sampling and reducing probe breakage. NASA Space Shuttle engineering assures smooth and effortless operation. Performs like a robot arm in zero gravity.

Ideal for multiple conductivity or pH readings

Fingertip control raises, lowers, and pivots (360 degrees) the perfectly balanced electrode holder wherever desired. Moves in all directions; holds electrodes safely and securely in any selected position. Electrode arm articulates at three points so electrodes always remain vertical.

Accepts all brands

Three holes accept any standard glass, reference, combination or other electrode—or conductivity probe, and a temperature probe. Weighted die-cast metal base and spring counterbalance permit fluid movement with superior stability. Beware of cheap, plastic look-a-likes that have jerky, uneven motions. Complete with 21-inch metal arm, 8-inch diameter metal base, and probe holder. Weight is 6 pounds.

Cat. No. 3090 Electrode Holder

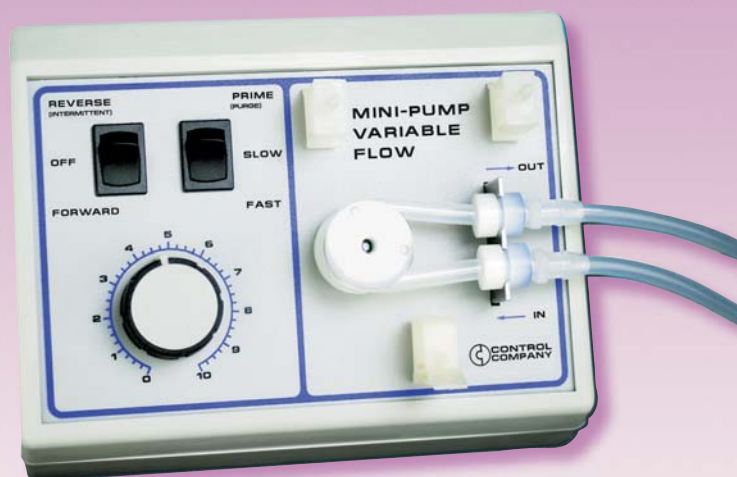


Variable-Speed Peristaltic Pump

Compact, variable-flow, bi-directional, self-priming, peristaltic pumps offer precise flow deliveries. Ideal for use with conductivity flow-thru cells, liquid chromatography, collecting fractions, pH/circulating fluids or buffers in baths, and moving corrosive materials. They provide outstanding flow control and flexibility for transferring and dosing liquids. Fluid contacts only the tubing for contamination-free pumping.

Flow rates are from 0.005 milliliters per minute to 600 milliliters per minute. Variable-speed flow control and five different tubing sizes provide fine resolution with a wide flow range. The revolution of one roller delivers a precisely measured volume specific to the tubing size and motor speed. May be used with up to 120 feet of tubing for remote sampling.

Tubing may be used with fluid temperatures from -80 to 500°F (-62 to 260°C). Use with food, pharmaceuticals, and other critical solutions. The tubing may be sterilized by autoclave. Unit pumps liquids and gases. Pumping dry does not harm the pump. Pump has a purge/prime switch for high-speed emptying/filling. It also reverses at the touch of a switch for ease in draining tubing. Three rollers reduce flow pulsation, prevent siphoning, and eliminate the need for check valves. There are no valves to clog, no seals to leak. The 120-VAC CSA-approved wall power supply ensures that a safe 12 volts drive the pump motor. Comes with a battery connector for portable use with any 9 or 12-volt battery. Pump draws so little power it will run for five months on a car battery. Supplied with silicone tubing, and polypropylene fittings/nipples, 115-VAC wall power supply, and an accessory battery connector (battery not supplied). Packaged in a chemical-resistant ABS plastic case. Size is $6\frac{5}{8} \times 4\frac{3}{4} \times 4\frac{1}{2}$ inches and weight is $1\frac{1}{4}$ pounds. One-year warranty.



- Cat. No. 3384** Variable-Speed Peristaltic Pump
Ultra-Low Flow 0.005 to 0.900 ml/minute
- Cat. No. 3385** Variable-Speed Peristaltic Pump
Low Flow 0.03 to 8.20 ml/minute
- Cat. No. 3386** Variable-Speed Peristaltic Pump
Medium Flow 0.4 to 85.0 ml/minute
- Cat. No. 3389** Variable-Speed Peristaltic Pump
Medium/High Flow 4.0 to 600 ml/minute

Variable-Flow Chemical Transfer Pump

Designed specifically for pulseless fluid transfer at variable flow rates. Pumps from $4\frac{1}{4}$ fluid ounces to $\frac{5}{8}$ gallon (120 to 2,250 milliliters) per minute. Pumps fluids with a viscosity to 200 centipoises. Suction lift is 10 feet wet, 4 inches dry. May be used with fluid temperatures from -40 to 200°F (-40 to 93°C). Barbed inlet/outlet ports use any type of tubing with an inside diameter (nominal $\frac{3}{16}$ inches).

Direct-drive engineering provides maximum motor power to the pump. Continuous-sweep variable control provides precise, seamless speed control. The chemical-resistant, wetted parts are Dupont Delrin[®], 304 stainless steel, Viton, and Dupont Teflon[®]. Pump has a purge/prime switch for high-speed emptying/filling. It also reverses for ease in draining tubing. May be used with up to 120 feet of tubing for remote sampling.

Pump comes ready to use with 115 VAC UL-rated wall power supply. Packaged in a chemical-resistant ABS plastic case. Size is $8 \times 4\frac{3}{4} \times 4\frac{1}{2}$ inches and weight is $3\frac{1}{4}$ pounds.

Cat. No. 3388 Variable-Flow Chemical Transfer Pump



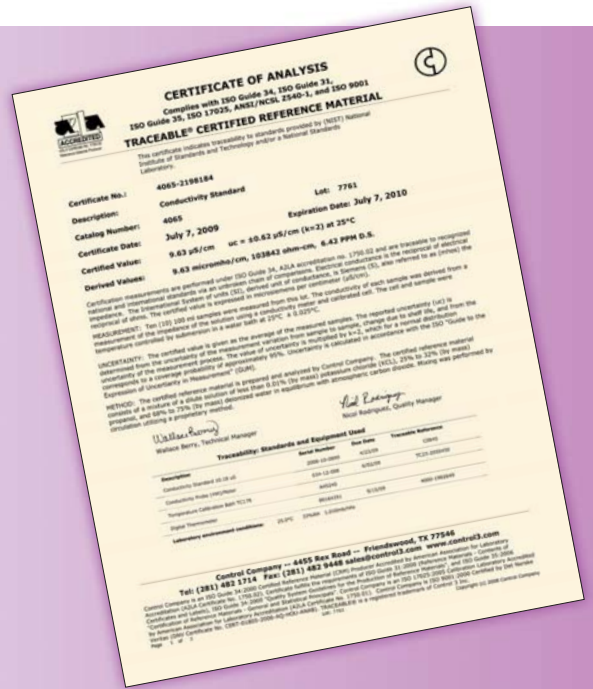
Traceable® Conductivity

All Traceable® products are provided with a Traceable® Calibration Certificate from our ISO 17025 calibration laboratory and ISO Guide 34 Certified Reference Material Producer. Conductivity certificates are accredited by the American Association for Laboratory Accreditation (A2LA).

A2LA is widely recognized internationally through bilateral and multilateral agreements and through its participation in the International Laboratory Accreditation (ILAC) and Multilateral Recognition Arrangement (MRA). Through Control Company's A2LA Accreditation, Traceable® Certificates are internationally recognized by accreditation agencies and governments in over 75 countries throughout the world.

Traceable® Certificate indicates the product is traceable to standards provided by the National Institute of Standards and Technology (NIST), a U.S. Government agency within the Commerce Department. The Traceable® Certificate complies with ANSI/NCSL Z540-1.

A Traceable® Certificate includes all of the information to meet today's stringent accreditation demands, CLIA requirements, government specifications, and ISO 9000 certifications.



ISO 9001 Quality-Certified

Control Company is an ISO 9001 Quality-Certified company. This provides you with the assurance that you are supplied with only the finest and most reliable products. Control Company is recognized worldwide for superb quality and innovative products. We are one of the world's market leaders for digital equipment. Control Company is pleased to offer you the extra confidence that ISO 9001 Certification brings to every Control product. (DNV Certificate No. CERT-01805-2006-AQ-HOU-RAB).

ISO 17025 Calibration Laboratory Accredited

Control Company is an ISO 17025 calibration laboratory accredited by The American Association for Laboratory Accreditation (A2LA) meeting the requirements of ISO/IEC 17025 and ANSI/NCSL Z540-1. This ensures that you are supplied accurate instruments, individually tested to be traceable to NIST, and a Traceable® Certificate (A2LA Certificate No. 1750.01).

ISO Guide 34 Accredited Certified Reference Material (CRM) Producer

Control Company is an ISO Guide 34 Accredited Certified Reference Material (CRM) Producer. This accreditation provides the highest achievable level of quality assurance, documentation, and accuracy for chemical standards. All standards are directly traceable to NIST (National Institute of Standards and Technology) and/or a National Standards Laboratory (A2LA Certificate No. 1750.02).



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