INSTRUCTION SHEET
CONDUCTIVITY PROBE

Introduction

This instruction sheet applies to Hach Conductivity Probe Models 51975-00 and 51975-03. These probes are designed for use with the *sens**ion**™5* Conductivity Meter.

Specifications

	Model 51975-00*	Model 51975-03*
Cell Constant	0.45 (±10%)	0.45 (±10%)
Range	0.01µS – 200 mS	0.01µS – 200 mS
Temperature Range (occasional use**)	0–100 °C	0–100 °C intermittent
Temperature Range (routine use***)	0–50 °C	0–50 °C
Length	155 mm	155 mm
Diameter	15 mm	15 mm
Immersion Depth	40 mm minimum	40 mm minimum
Cable Length	1 meter	3 meters
Connector	5-pin circular	5-pin circular
Warranty	12 months	12 months

* Both models provide automatic temperature compensation on the *sens**ion**5* Meter.

** Infrequent use where the probe is subjected to these conditions just long enough to obtain a proper reading.

*** Typical use following regular, frequent routines, but not continuous as with an in-line monitoring process.

Calibration

Perform the *Direct Calibration with a Known Standard* or the *Cell Constant Adjustment Calibration* procedure prior to use. Refer to the *sens**ion5** *Conductivity Meter Instruction Manual* for specific procedural steps. Frequent calibration is not normally necessary. Recalibrate only when the conductivity range of the sample is very different from the original calibration standard or if the probe has been damaged.

For best results, calibrate within the expected range of the sample. See *Table 1*.

Table 1

Range	Standard	Cat. No.
0 – 200 µS/cm	180 µS	23075-42
200 µS/cm – 2 mS	1000 µS	14400-42
2 mS – 20 mS	18,000 µS	23074-42
20 mS – 200 mS	53 mS	27143-49

Temperature Compensation

The Hach Conductivity Probe is equipped with a thermistor to allow automatic temperature compensation when attached to the *sens**ion5*** Conductivity Meter.

Operation

1. Insert the probe into the sample solution making sure the slot in the tip is fully immersed. Agitate the probe vertically. If the sample is not flowing or being stirred, make sure air bubbles are not trapped inside the slot.

2. Allow the readings to stabilize, then record the reading or store it in the meter memory. Refer to the *sens**ion5*** *Conductivity Meter Instruction Manual* for more information.

Maintenance and Cleaning

During normal use, rinse the probe thoroughly with deionized water between measurements to minimize the buildup of interfering substances on the probe element.

If the sample contains oils, greases, or fats, the probe may become coated. If this occurs, clean the probe with a strong detergent solution or dip it in a 1% hydrochloric acid solution. Rinse thoroughly with deionized water.

Do not perform mechanical cleaning or probe damage will result.

Storage

Rinse the probe with deionized water after each use. Air dry and store in a clean and dry environment.

Replacement Reagents and Apparatus

Description	Cat. No.
Probe, Conductivity,	
cell constant = 0.45, 4-wire, 1 m cable (included with meter)	51975-00
cell constant = 0.45, 4-wire, 3 m cable	51975-03
Conductivity Standards	
180 µS/cm, 90 mg/L TDS, (85.47 mg/L as NaCl), 100 mL	23075-42
1000 µS/cm, 500 mg/L TDS, (491 mg/L as NaCl), 100 mL	14400-42
1990 µS/cm, 995 mg/L TDS, (1000 mg/L as NaCl), 100 mL	2105-42
18,000 µS/cm, 9000 mg/L TDS, (10,246 mg/L as NaCl), 100 mL	23074-42
53000 µS/cm, 35 ppt salinity, 500 mL	27143-49

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