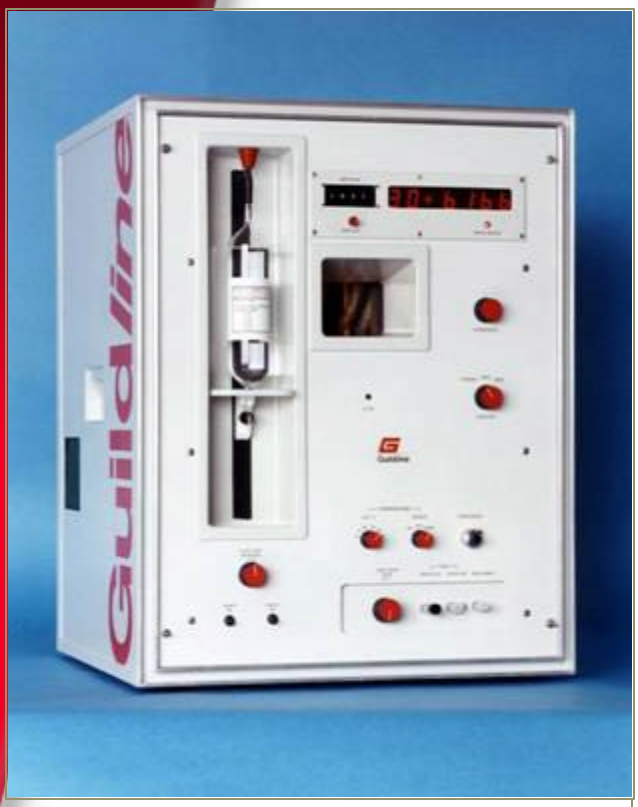
GUILDLINE INSTRUMENTS

Model 8400B

"Autosal" Laboratory Salinometer

Refinements Make "The Industry Standard" Better Than Ever



Guildline Model 8400B "Autosal" Laboratory Salinometer is the result of many refinements to the "Industry Standard". This Salinometer employs a unique continuous flow system, where the sample water is drawn under low air pressure from the original sample bottle. A high stability temperature control bath and heat exchanger maintain this sample at a precisely defined temperature during analysis, avoiding the need for temperature compensation. The accuracy of better than 0.002 Equivalent Practical Salinity Units (PSU) has been achieved by improvements in the temperature stability of the bath.

The unique continuous sample flow system offers a marked improvement in speed and convenience over the conventional salinometer method requiring several discrete sample volumes for flushing and measurement.

Only 50 millimeters of sample water are required to achieve a final reading, including flushing. Semi-automatic operation gives the final digital readout of conductivity ratio in less than one minute, with a resolution of better than 0.0002 Equivalent PSU.

The 8400B has a redesigned sample bottle holder, which provides for easy attachment of original sample bottles. There is a bottle data logging facility built in as standard, which provides output of conductivity ratio, bottle number, bath temperature and standardization reference number.

Bath temperature is selectable from 18 ^{0}C to 33 ^{0}C in 3 ^{0}C steps. There is a window for viewing sample water under test flowing through the conductivity cell. Operating controls include conductivity range select, display function switch for zero, standby or read, bath temperature control check, standard seawater standardization set, temperature bath drain and fill controls, and a sample flow rate control which permits deep cold water samples to be measured immediately.

8400B Features

- *Accuracy <0.002 Salinity*
- *Range 0.005 to 42 in Salinity*
- *Improved temperature stability*
- *No temperature compensation required*
- *Small samples & rapid measurements*
- *Data logging standard*
- *Improved maintainability*

The 8400B "Autosal" provides incredibly accurate salinity measurements in under a minute using just 50ml of sample water

The 8400B has many improvements in the design and layout of the instrument. Particular care has been taken to improve the power supply with better input filtering and a new cable harness. There is a heater failure lamp included on the front panel, and a front sub-panel reduces wear on the internal hoses, when the front door is opened for maintenance. There are also significant changes internally to improve ease of maintenance, such as access to the pumps.

8400B "Autosal" Laboratory Salinometer

8400B general specifications

Measurement Range: 0.0001:1.15 Conductivity Ratio
0.004 to 76mS/cm
0.005 to 42 Equivalent Practical Salinity Units (PSU)

Accuracy: < ± 0.0001 Conductivity Ratio, @ same set point temperature as standardization and within -2 ^{0}C and +4 ^{0}C of ambient.
By calculation & substitution in the Bennett equation or the UNESCO tables,
< ± 0.002 Equivalent PSU.

Short Term Stability: < ± 0.00005 for 24 hours without restandardization

Maximum Resolution: < 0.00001 Conductivity Ratio
< 0.0002 mS/cm @ 15 ^{0}C and 35 PSU
< 0.0002 Equivalent PSU

Sample Volume: Maximum required – 100 milliliters (starting from fresh water in the cell), including flushing volume. About 50 milliliters for 3 Equivalent PSU difference in samples.

Scale Suppression: Linear scale of conductivity ratio having 22 steps from 0 to 2.2, where 2.0 corresponds to seawater of 35 Equivalent PSU. Maximum reading is 2.29999, corresponding to approximately 42 Equivalent PSU.

Bath Temperature: Selectable from 18 ^{0}C to 33 ^{0}C in 3 ^{0}C steps, accuracy ±0.02 ^{0}C, stability ± 0.001^{0}C per day.
Selected temperature should be within (ambient +4) ^{0}C and (ambient -2) ^{0}C.

Outputs: TTL compatible BCD outputs of numerical display readings and thumbwheel switch bottle logger.

Maintenance: Cell easily cleanable by bottle brush. Can be removed for cleaning and replaced without change in calibration.

Water Bath Volume: 4.4 U.S. gallons (16.8 liters).

Power Required: 115 or 230 volts ± 10%, 50/60 Hz, 400 watts maximum

Temperature: Operating: 16 ^{0}C to 37 ^{0}C Storage: -40 ^{0}C to 70 ^{0}C

Dimensions: H 678 mm (26.7 in); W 533 mm (21 in); D 559 mm (22 in)

Weight: Bath Empty: 50 kg (110 lbs) Bath Full: 70 kg (150 lbs)

8400B Ordering Information

8400B	"Autosal" Laboratory Salinometer
TM8400B	Technical Manual (included)
	Certificate of Calibration (included)
	Report of Calibration (extra charge)

Accessories:

84001	Conductivity Cell
84004	Thermistor Kit
84006	Pump Motor Replacement Kit
84007	Maintenance Kit
84105	External Sample Pump

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