



DIGITAL pH METER

MODEL: PA-12B

PRICE CODE NO. 56-0025

SPECIFICATIONS:

RANGE	0.00 TO 14.00 pH
RESOLUTION	.01 pH
ACCURACY	±.015 pH
MANUAL TEMP. COMPENSATION	0 TO 100°C
AMBIENT AIR TEMPERATURE, DISPLAY OPERATING RANGE	-10°C TO 88°C +14°F TO 190°F
TEMPERATURE STORAGE RANGE	-55°C TO 90°C -67°F TO 194°F

GENERAL INFORMATION

The Model PA-12B is a completely portable pH instrument in durable plastic case which measures only 4¾" x 2½" x 1½" (12.06 x 6.35 x 3.81 cm). The Model PA-12B weighs only 5 oz. (140 gm) and measures pH over the full range of 0-14 pH units. The display is Liquid Crystal having four numerals which measure .5 inches (1.27 cm) in height.

When looking at the front of the instrument, the electrode connector is at the top. Two rubber booted push-button switches operate the unit. The right hand switch provides pH measurements and the left hand switch, labeled "BAT", provides the battery voltage when pressed simultaneously with the pH switch. At the bottom of the case are found the controls for temperature on the left and calibration adjust on the right side.

The PA-12B comes with the battery installed, and it is only necessary to calibrate before testing with buffer solution in the 2 oz. bottle provided.

OPERATION INSTRUCTIONS

The Model PA-12B instrument is furnished with a new Electrode, Price Code No. 56-0412 which is a plastic encased and shock resistant probe. The probe comes with the tip mounted in a small plastic bottle of tap water allowing instant use and which prevents salting out of the probe tip.

WARNING:

Probe damage will result if fluids are tested at temperatures above 100°C.

Connect the electrode to the instrument finger tight to prevent the electrode cable from turning in the housing. DO NOT OVER-TIGHTEN.

For pH measurements, proceed as follows.

1. Measure temperature of buffer solution.
2. Set temperature control knob to correspond with the buffer solution temperature.
3. Remove electrode from plastic bottle, rinse in demineralized water and dry. Immerse the tip to a depth of at least 1" in the buffer solution. For greatest accuracy, the buffer solution should be within 2 pH units of the sample to be measured, and the temperature of the test sample should correspond with that of the buffer solution.
4. Press the pH test switch and wait 10 to 15 seconds or until the display stabilizes. Refer to the buffer table which follows, and obtain the pH value at the temperature of the buffer solution just measured. Adjust calibrate knob until display indicates the pH value indicated in the table on Page 2.
5. Remove probe from buffer solution and rinse in distilled water. Adjust the temperature control knob to correspond with the temperature of the test sample. Place probe tip in sample, press pH Test Button and wait 10 to 15 seconds or until the display stabilizes. The display now indicates the pH of the test sample.

BATTERY TEST

Low battery voltage is indicated for the PA-12B when the digital display indicates below 6.75 volts with both the battery test and pH buttons simultaneously depressed.

To replace the battery, remove the four screws on the back of the instrument case. Replace with a 9 volt transistor battery or an alkaline battery for longer battery life.

BUFFER SOLUTION

Buffer solution for standardizing the instrument to the electrode, prior to use, is provided with each instrument when shipped from SERFILCO. Additional quantities are available in 2 oz. plastic bottles by ordering direct from SERFILCO, Price Code No. 56-0404. Solutions stored for more than one year should be checked against fresh buffers. Note: Deterioration is greatest for high pH buffers.

All buffer solutions change pH with temperature. Page 2 is pH vs. temperature tabulation for the three standard buffers.

	PHTHALATE	PHOSPHATE	CARBONATE
°C	pH	pH	pH
0	4.00	7.12	10.32
5	-	-	10.25
10	4.00	7.06	10.18
15	-	-	10.12
20	4.00	7.02	10.06
25	4.01	7.00	10.01
30	4.02	6.99	9.97
35	-	-	9.93
40	4.04	6.98	9.89
45	-	-	9.86
50	4.06	6.97	9.83
60	4.09	6.98	-
70	4.13	6.99	-
80	4.16	7.00	-
90	4.21	7.02	-
95	4.23	7.03	-

CAUTION: pH 10.01 buffer - absorption of atmospheric CO₂ will lead to degradation of product.

ELECTRODES

It is most important that the electrode be kept clean. It is advisable to rinse with demineralized water after use, and before reinserting in the plastic bottle. If the electrode is coated with oil, wash with a detergent followed by a demineralized water rinse.

Electrode comes with a permanent fill of reference solution. The probe will last for several years under normal usage before replacement is necessary. Price Code No. 56-0412 is same replacement electrode. If a refillable electrode is desired Price Code No. 56-0413 should be ordered. This probe requires periodic refilling with fill solution Price Code No. 56-0406.

ACCESSORIES	PRICE CODE NUMBER
Fill solution - Silver/silver chloride - 2 oz.	56-0406
Buffer solution - 7.0 pH - 2 oz.	56-0404
7.0 pH - 1 pint	56-0405
4.0 pH - 2 oz.	56-0421
4.0 pH - 1 pint	56-0423



SERFILCO[®], LTD.

1777 Shermer Road
Northbrook, IL 60062-5360
Telex: 289557 SERFCUR

708-559-1777
800-323-5431
FAX: 708-559-1995

DISTRIBUTED BY

EASTERN

One Lark Avenue 717-656-2161
Leola, PA 17540 FAX: 717-656-0477
Telex: 285564 ASMUR

WESTERN

5005 S. Hampton Street 213-588-0801
Los Angeles, CA 90058 FAX: 213-588-6826