



AQUASEARCHER™

Model Comparison Guide



Ingeniously Practical

AQUASEARCHER™ Model Comparison Cheat Sheet



AB41PH
New High Resolution
(0.001 pH) Basic-Level
pH meter



**AB33PH, AB33EC,
& AB33M1**

REPLACING



**ST3100, ST3100C,
& ST3100M**



AB23PH

REPLACING



ST2100



ST2200

REPOSITIONING



ST2100



AB23EC
New Entry-Level
Conductivity Meter

AQUASEARCHER™ AB41PH Benchtop Meter

AB41PH vs ST5000			
Model		AB41PH	ST5000 pH
pH	Measuring Range	-2.000 to 20.000 pH	-2.000 to 20.000 pH
	Resolution	0.1/0.01/0.001 pH	0.1/0.01/0.001 pH
	Selectable Resolution	Yes	Yes
	Accuracy	± 0.002 pH	± 0.002 pH
	Pre-Defined Buffer Groups	5	8 Predefined Groups & 1 Self-defined Group
ORP, Redox	Measuring Range	± 2000.0mV	± 2000.0mV
	Resolution	0.1 mV	1/0.1/0.01 mV
	Accuracy	±0.3 mV	± 1 mV
	Units	mV, RmV	mV, RmV
Temperature	Measuring Range	-10.0 to 125.0 °C	-30 to 130 °C
		14°F to 257°F	-22 to 266 °F
	Resolution	0.1 °C, 0.1 °F	0.1 °C, 0.1 °F
	Accuracy	± 0.3 °C, ±0.3 °F	± 0.1 °C, ±0.1 °F
Calibration		1 point cal	n/a
Calibration	Calibration Points	Up to 5 points	Up to 9 points
	Calibration Result Indicator	Slope/offset & Face	Slope/offset & Face
	Calibration Type	Linear	Segmented
Display		6.5 in backlit LCD screen with capacitive touch	4.3 in, Color touch screen
Memory Capacity	Measurement	1000 sets	1000 sets
	Calibration	10 most recent calibration results	10 x 10 calibration results
Output		RS232, USB	RS232, USB
i-Steward	Calibration Due Alarm	Yes	n/a
	Electrode Check System (ECS)	Yes	n/a
	Calibration Log list	Yes	n/a
Dimension	LxWxD (mm)	210 x 142 x 51	220 x 175 x 78
	LxWxD (in)	8.3 x 5.6 x 2.0	8.7 x 6.9 x 3.1
Net Weight	(kg)	0.49	0.55
	(lbs)	1.1	1.2

AQUASEARCHER™ AB33PH Benchtop Meter

AB33 Series vs ST3100			
Model		AB33PH	ST3100 pH
pH	Measuring Range	-2.00 to 16.00 pH	-2.00 to 16.00 pH
	Resolution	0.1/0.01 pH	0.01 pH
	Selectable Resolution	Yes	No
	Accuracy	± 0.01 pH	± 0.01 pH
	Pre-Defined Buffer Groups	3	3
ORP, Redox	Measuring Range	± 2000.0 mV	± 1999 mV
	Resolution	1 mV	1 mV
	Accuracy	± 1 mV	± 1 mV
	Units	mV, RmV	mV
Conductivity	Measuring range	n/a	n/a
	Resolution	n/a	n/a
	Accuracy	n/a	n/a
	Reference Temperature	n/a	n/a
	Cell Constants	n/a	n/a
TDS	Measuring range	n/a	n/a
	Resolution	n/a	n/a
	Accuracy	n/a	n/a
	TDS Factor Range	n/a	n/a
Resistivity	Measuring range	n/a	n/a
	Resolution	n/a	n/a
	Accuracy	n/a	n/a
Practical Salinity	Measuring range	n/a	n/a
	Resolution	n/a	n/a
	Accuracy	n/a	n/a
Temperature	Measuring Range	-5.0 to 110°C, 23°F to 230°F	-5.0 to 110°C, 23°F to 230°F
		Resolution	0.1 °C, 0.1 °F
	Accuracy	± 0.5 °C, ±0.5 °F	± 0.5 °C, ±0.5 °F
	Calibration	No	No
Calibration	Calibration points	Up to 3 points	Up to 3 points
	Calibration Result Indicator	Slope/offset & Face	Face
	Calibration mode	Linear	Linear
Display		6.5 in backlit LCD screen with capacitive touch	3.5 in backlit LCD screen, membrane keypads
Memory Capacity	Measurement	1000 sets	99 sets
	Calibration	Last calibration result	Last calibration result
Output		RS232, USB	RS232
i-Steward	Calibration Due Alarm	Yes	n/a
	Electrode Check System (ECS)	Yes	n/a
	Calibration Log list	n/a	n/a
Dimension	LxWxD (mm)	210 x 142 x 51	220 x 175 x 78
	LxWxD (in)	8.3 x 5.6 x 2.0	8.7 x 6.9 x 3.1
Net Weight	(kg)	0.5	0.75
	(lbs)	1.1	1.7

AQUASEARCHER™ AB33M1 Benchtop Meter

AB33 Series vs ST3100			
Model	AB33M1	ST3100M	
pH	Measuring Range	-2.00 to 20.00 pH	-2.00 to 20.00 pH
	Resolution	0.1/0.01 pH	0.01 pH
	Selectable Resolution	Yes	n/a
	Accuracy	± 0.01 pH	± 0.01 pH
	Pre-Defined Buffer Groups	5	4
ORP, Redox	Measuring Range	±2000.0 mV	±2000.0 mV
	Resolution	0.1mV	0.1mV
	Accuracy	±0.5 mV	±1 mV
	Units	mV, RmV	mV, RmV
Conductivity	Measuring range	0.01 µS/cm to 19.99 µS/cm 20 µS/cm to 199.9 µS/cm 200 µS/cm to 1999 µS/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 500.0 mS/cm	0.01 µS/cm to 19.99 µS/cm 20 µS/cm to 199.9 µS/cm 200 µS/cm to 1999 µS/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 199.9 mS/cm
	Resolution	0.01 µS/cm minimum; auto range	0.01µS/cm minimum; auto range
	Accuracy	± 0.5 % Reading ± 2 LSD	± 0.5 % F.S
	Reference Temperature	20 °C, 25 °C	20 °C, 25 °C
	Cell Constants	0.01 to 10.00 cm-1	Not adjustable
	Temperature Compensation	Linear (0 to 10.0%/°C), off	Linear (0 to 10.0%/°C), off
TDS	Measuring range	0.1mg/L to 199.9 g/L	0.1mg/L to 199.9 g/L
	Resolution	0.01 mg/L minimum, auto range	0.01 mg/L minimum, auto range
	Accuracy	± 0.5 % Reading ± 2 LSD	± 0.5 % F.S
	TDS Factor Range	Linear, 0.01 to 10.00, default 0.5	Linear, 0.01 to 10.00, default 0.5
Resistivity	Measuring range	2 to 100 MΩ-cm	0 to 20 MΩ-cm
	Resolution	0.01 Ω-cm auto ranging	0.01 Ω-cm auto ranging
	Accuracy	± 0.5 % Reading ± 2 LSD	± 0.5 % Reading ± 2 LSD
Practical Salinity	Measuring range	0 to 100 psu	0 to 100 psu
	Resolution	0.01 psu minimum, auto ranging	0.01 psu minimum, auto ranging
	Accuracy	± 0.5 % Reading ± 2 LSD	± 0.5 % F.S
Temperature	Measuring Range	-5.0 to 110.0°C, 23.0°F to 230.0°F	-5.0 to 110.0°C, 23.0°F to 230.0°F
	Resolution	0.1 °C, 0.1 °F	0.1 °C, 0.1 °F
	Accuracy	± 0.3 °C, ±0.3 °F	± 0.3 °C, ±0.3 °F
	Calibration	No	No
Calibration	Calibration points	Up to 5 points for pH; 1 point cell constant calibration; 6 standards available(10, 84, 146.5, 500, 1413 µS/cm, 12.88mS/cm)	Up to 3 points for pH; 1 point cell constant calibration; 5 standards available(10, 84, 500, 1413 µS/cm, 12.88mS/cm)
	Calibration Result Indicator	Slope/offset & Cell Constant & Face	Face & Cell Constant
	Calibration mode	Linear	Linear
Display		6.5 in backlit LCD screen with capacitive touch	3.5 in backlit LCD screen, membrane keypads
Memory Capacity	Measurement	1000 sets	99 sets
	Calibration	Last calibration result	Last calibration result
Output		RS232, USB	RS232
i-Steward	Calibration Due Alarm	Yes	n/a
	Electrode Check System (ECS)	n/a	n/a
	Calibration Log list	n/a	n/a
Dimension	LxWxD (mm)	210 × 142 × 51	220 × 175 × 78
	LxWxD (in)	8.3 × 5.6 × 2.0	8.7 × 6.9 × 3.1
Net Weight	(kg)	0.49	0.75
	(lbs)	1.1	1.7

AQUASEARCHER™ AB33EC Benchtop Meter

AB33 Series vs ST3100			
Model	AB33EC	ST3100C	
pH	Measuring Range	n/a	n/a
	Resolution	n/a	n/a
	Selectable Resolution	n/a	n/a
	Accuracy	n/a	n/a
	Pre-Defined Buffer Groups	n/a	n/a
ORP, Redox	Measuring Range	n/a	n/a
	Resolution	n/a	n/a
	Accuracy	n/a	n/a
	Units	n/a	n/a
Conductivity	Measuring range	0.001µS/cm to 19.99 µS/cm 20 µS/cm to 199.9 µS/cm 200 µS/cm to 1999 µS/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 1000 mS/cm	0.01µS/cm to 19.99 µS/cm 20 µS/cm to 199.9 µS/cm 200 µS/cm to 1999 µS/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 1000 mS/cm
	Resolution	0.001 µS/cm minimum; auto range	0.01 µS/cm minimum; auto range
	Accuracy	± 0.5 % Reading ± 2 Least Significant Digit	± 0.5 % of Measured Value ± 0.3 °C
	Reference Temperature	20 °C, 25 °C	20 °C, 25 °C
	Cell Constants	0.01 to 10.00 cm-1	Not adjustable
	Temperature Compensation	Linear (0 to 10.0%/°C), off	Linear (0 to 10.0%/°C), off
TDS	Measuring range	0.1 mg/L to 200 g/L	0.1 mg/L to 199.9 g/L
	Resolution	0.01 mg/L minimum, auto range	0.01 mg/L minimum, auto range
	Accuracy	± 0.5 % Reading ± 2 LSD	± 0.5 % of Measured Value ± 0.3 °C
	TDS Factor Range	Linear, 0.01 to 10.00, default 0.5	Linear, 0.04 to 10.00, default 0.5
Resistivity	Measuring range	1 to 100 MΩ-cm	n/a
	Resolution	0.01 Ω-cm auto ranging	n/a
	Accuracy	± 0.5 % Reading ± 2 LSD	n/a
Practical Salinity	Measuring range	0 to 100 psu	0 to 99.9 psu
	Resolution	0.01 psu minimum, auto ranging	0.01 psu minimum, auto ranging
	Accuracy	± 0.5 % Reading ± 2 LSD	± 0.5 % of Measured Value ± 0.3°C
Temperature	Measuring Range	-5.0 to 110.0°C, 23.0°F to 230.0°F	0.0 to 100.0 °C, 32.0 °F to 212.0 °F
	Resolution	0.1 °C, 0.1 °F	0.1 °C, 0.1 °F
	Accuracy	± 0.3 °C, ±0.3 °F	± 0.5 °C, ±0.5 °F
	Calibration	No	No
Calibration	Calibration points	1 point cell constant calibration; 6 standards available (10, 84, 146.5, 500, 1413 µS/cm, 12.88mS/cm)	1 point cell constant calibration; 4 standards available (10, 84, 1413 µS/cm, 12.88mS/cm)
	Calibration Result Indicator	Cell Constant & Face	N/A
	Calibration mode	Linear	Linear
Display		6.5 in backlit LCD screen with capacitive touch	3.5 in backlit LCD screen, membrane keypads
Memory Capacity	Measurement	1000 sets	99 sets
	Calibration	Last calibration result	Last calibration result
Output		RS232, USB	RS232
i-Steward	Calibration Due Alarm	Yes	n/a
	Electrode Check System (ECS)	n/a	n/a
	Calibration Log list	n/a	n/a
Dimension	LxWxD (mm)	210 × 142 × 51	220 × 175 × 78
	LxWxD (in)	8.3 × 5.6 × 2.0	8.7 × 6.9 × 3.1
Net Weight	(kg)	0.49	0.75
	(lbs)	1.1	1.7

AQUASEARCHER™ AB23PH Benchtop Meters

AB23 Series vs ST2100			
Model		AB23PH	ST2100 pH
pH	Measuring Range	0.00 to 14.00 pH	0.00 to 14.00 pH
	Resolution	0.01 pH	0.01 pH
	Selectable Resolution	No	No
	Accuracy	± 0.01 pH	± 0.01 pH
	Pre-Defined Buffer Groups	2	2
ORP, Redox	Measuring Range	± 1999 mV	± 1999 mV
	Resolution	1 mV	1 mV
	Accuracy	± 1 mV	± 1 mV
	Units	mV	mV
Temperature	Measuring Range	0.0 to 100.0 °C, 32.0 °F to 212.0 °F	0.0 to 100.0 °C, 32.0 °F to 212.0 °F
		Resolution	0.1 °C, 0.1 °F
	Accuracy	± 0.5 °C, ±0.5 °F	± 0.5 °C, ±0.5 °F
	Calibration	No	No
Reading		Auto-Stop, Continuous	Continuous
Calibration	Calibration Points	Up to 3 points	Up to 2 points
	Calibration Result Indicator	Face	Face
	Calibration Type	Linear	Linear
Display		5 in backlit LCD screen, membrane keypads	3.5 in LCD screen, membrane keypads
Memory Capacity	Measurement	99 sets	n/a
	Calibration	Last calibration result	Last calibration result
Output		n/a	n/a
i-Steward	Calibration Due Alarm	n/a	n/a
	Electrode Check System (ECS)	n/a	n/a
	Calibration Log list	n/a	n/a
Dimension	LxWxD (mm)	210 × 142 × 51	220 × 175 × 78
	LxWxD (in)	8.7 × 6.9 × 3.1	8.3 × 5.6 × 2.0
Net Weight	(kg)	0.38	0.75
	(lbs)	1.7	1.7

STARTER™ 2200 Benchtop Meter

ST2200 vs ST2100			
Model		ST2200	ST2100
pH	Measuring Range	0.00 to 14.00 pH	0.00 to 14.00 pH
	Resolution	0.01 pH	0.01 pH
	Selectable Resolution	No	No
	Accuracy	± 0.01 pH	± 0.01 pH
	Pre-Defined Buffer Groups	2	2
ORP, Redox	Measuring Range	± 1999 mV	± 1999 mV
	Resolution	1 mV	1 mV
	Accuracy	± 1 mV	± 1 mV
	Units	mV	mV
Temperature	Measuring Range	0.0 to 100.0 °C, 32.0 °F to 212.0 °F	0.0 to 100.0 °C, 32.0 °F to 212.0 °F
		Resolution	0.1 °C, 0.1 °F
	Accuracy	± 0.5 °C, ±0.5 °F	± 0.5 °C, ±0.5 °F
	Calibration	No	No
Reading		Auto-Stop, Continuous	Continuous
Calibration	Calibration Points	Up to 3 points	Up to 2 points
	Calibration Result Indicator	Face	Face
	Calibration Type	Linear	Linear
Display		5 in backlit LCD screen, membrane keypads	3.5 in LCD screen, membrane keypads
Memory Capacity	Measurement	99 sets	n/a
	Calibration	Last calibration result	Last calibration result
Output		n/a	n/a
i-Steward	Calibration Due Alarm	n/a	n/a
	Electrode Check System (ECS)	n/a	n/a
	Calibration Log list	n/a	n/a
Dimension	LxWxD (mm)	210 × 142 × 51	220 × 175 × 78
	LxWxD (in)	8.7 × 6.9 × 3.1	8.3 × 5.6 × 2.0
Net Weight	(kg)	0.38	0.75
	(lbs)	1.7	1.7

AQUASEARCHER™ AB23EC Benchtop Meters

AQUASEARCHER™ Benchtop Meters

AB23EC vs AB33EC vs ST3100C				
Model		AB23EC	AB33EC	ST3100C
Conductivity	Measuring range	0.01 μS/cm to 19.99 μS/cm 20 μS/cm to 199.9 μS/cm 200 μS/cm to 1999 μS/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 199.9 mS/cm	0.001 μS/cm to 19.99 μS/cm 20 μS/cm to 199.9 μS/cm 200 μS/cm to 1999 μS/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 1000 mS/cm	0.01 μS/cm to 19.99 μS/cm 20 μS/cm to 199.9 μS/cm 200 μS/cm to 1999 μS/cm 2.00 mS/cm to 19.99 mS/cm 20.0 mS/cm to 1000 mS/cm
	Resolution	0.01 μS/cm minimum; auto range	0.001 μS/cm minimum; auto range	0.01 μS/cm minimum; auto range
	Accuracy	± 1 % Reading ± 3 Least Significant Digit	± 0.5 % Reading ± 2 Least Significant Digit	± 0.5 % of Measured Value ± 0.3 °C
	Reference Temperature	20 °C, 25 °C	20 °C, 25 °C	20 °C, 25 °C
	Cell Constants	Not adjustable	0.01 to 10.00 cm ⁻¹	0.01 to 10.00 cm ⁻¹
	Temperature Compensation	Linear (0 to 10.0%/°C), off	Linear (0 to 10.0%/°C), off	Linear (0 to 10.0%/°C), off
TDS	Measuring range	0.1 mg/L to 199.9 g/L	0.1 mg/L to 200 g/L	0.1 mg/L to 199.9 g/L
	Resolution	0.01 mg/L minimum, auto ranging	0.01 mg/L minimum, auto ranging	0.01 mg/L minimum, auto ranging
	Accuracy	± 1 % Reading ± 3 LSD	± 0.5 % Reading ± 2 LSD	± 0.5 % of Measured Value ± 0.3 °C
	TDS Factor Range	Linear, 0.04 to 10.00, default 0.5	Linear, 0.01 to 10.00, default 0.5	Linear, 0.04 to 10.00, default 0.5
Resistivity	Measuring range	n/a	1 to 100 MΩ-cm	n/a
	Resolution	n/a	0.01 Ω-cm auto ranging	n/a
	Accuracy	n/a	± 0.5 % Reading ± 2 LSD	n/a
Practical Salinity	Measuring range	0 to 99.9 psu	0 to 100 psu	0 to 99.9 psu
	Resolution	0.01 psu minimum, auto ranging	0.01 psu minimum, auto ranging	0.01 psu minimum, auto ranging
	Accuracy	± 1 % Reading ± 3 LSD	± 0.5 % Reading ± 2 LSD	± 0.5 % of Measured Value ± 0.3 °C
Temperature	Measuring Range	0.0 to 100.0 °C, 32.0 °F to 212.0 °F	-5.0 to 110.0 °C, 23.0 °F to 230.0 °F	0.0 to 100.0 °C, 32.0 °F to 212.0 °F
	Resolution	0.1 °C, 0.1 °F	0.1 °C, 0.1 °F	0.1 °C, 0.1 °F
	Accuracy	± 0.5 °C, ± 0.5 °F	± 0.3 °C, ± 0.3 °F	± 0.5 °C, ± 0.5 °F
	Calibration	No	No	No
Calibration	Calibration points	1 point cell constant calibration; 4 standards available(10, 84, 1413 μS/cm, 12.88mS/cm)	1 point cell constant calibration; 4 standards available(10, 84, 1413 μS/cm, 12.88mS/cm)	1 point cell constant calibration; 4 standards available(10, 84, 1413 μS/cm, 12.88mS/cm)
	Calibration Result Indicator	n/a	n/a	n/a
	Calibration mode	Linear	Linear	Linear
Display		5 in backlit LCD screen, membrane keypads	5 in backlit LCD screen, membrane keypads	3.5 in backlit LCD screen, membrane keypads
Memory Capacity	Measurement	99 sets	99 sets	99 sets
	Calibration	Last calibration result	Last calibration result	Last calibration result
Output		n/a	n/a	RS232
i-Steward	Calibration Due Alarm	n/a	n/a	n/a
	Electrode Check System (ECS)	n/a	n/a	n/a
	Calibration Log list	n/a	n/a	n/a
Dimension	LxWxD (mm)	210 × 142 × 51	210 × 142 × 51	220 × 175 × 78
	LxWxD (in)	8.7 × 6.9 × 3.1	8.7 × 6.9 × 3.1	8.7 × 6.9 × 3.1
Net Weight	(kg)	0.38	0.38	0.75
	(lbs)	0.8	0.8	1.7



About OHAUS Corporation

Headquartered in Parsippany, NJ, OHAUS Corporation manufactures an extensive line of weighing scales, lab equipment and lab instruments that meet the weighing, sample processing and measurement needs of multiple industries. We are a global leader in the laboratory, industrial and education markets, as well as a host of specialty markets, including the food preparation, pharmacy and jewelry industries. An ISO 9001:2008 manufacturer, OHAUS lab balances, industrial scales, lab equipment and lab instruments are precise, reliable and affordable, and backed by industry-leading customer support.

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The management system governing the manufacture of this product is ISO 9001:2015 certified.

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