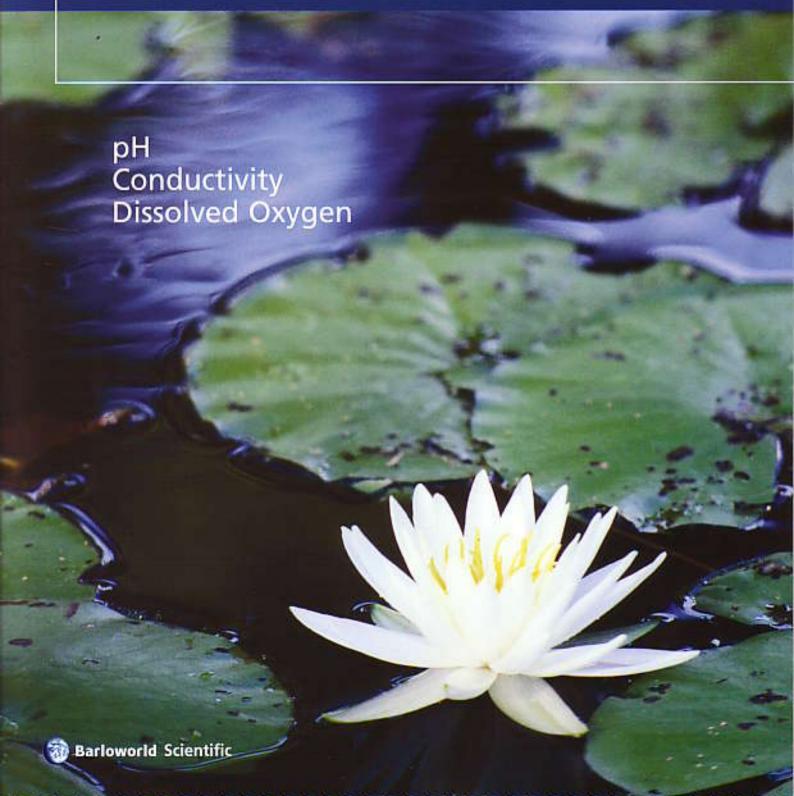
<u>JENWAY</u>

Portable Electrochemistry Products



Measuring up...

Easy operation
Results Storage
Ergonomic Design
Multi-parameter displays
Environmentally protected casework

... to your requirements

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Enterprise 350 & 370 pH 430 Combined pH & Conductivity 470 Conductivity/TDS 970 Dissolved Oxygen





The Jenway portable electrochemistry range is designed to provide the user with flexibility in a multitude of applications. They are ideal for use in the field, on manufacturing sites and around process plants as well as in routine and research laboratory analysis.

Enterprise Portables Models 350, 370, 430, 470 & 970

The Enterprise range offers five simple yet powerful portable instruments that cover the requirements of most general pH, Conductivity and Dissolved Oxygen measurements.

Housed in tough protective cases they are operated via soft-touch, sealed keypads. The common operating procedures that are used throughout the range ensure your easy transition from one measurement type to another.

The multi-parameter display used on all Enterprise models is designed to clearly show the results of each measurement, together with sample temperature and other critical variables or pre-set values. Additional icons and prompts further help ensure easy, intuitive operation.

The display features a back-light facility which may be used in poor light conditions.

Enterprise units are powered by two AA (MN1500, AM3, LR6) batteries giving up to 500 hours operation*. A battery life indicator is displayed to guard against unexpected battery failure during long field trips.

Premier Portables Models 3150, 4150 & 9150

The Premier range offers six models that cover the measurement of pH, Ion concentration, Conductivity and Dissolved Oxygen. Each is housed in an environmentally sealed case that conforms to the rigorous standards of IP67 for ingress protection. Shielded, screw-on connectors are used for all compatible electrodes and probes to ensure that the environmental integrity and security is maintained at this critical interface.

The simple keypad is used to navigate the menu system and set the various operating and calibration parameters. Automatic calibration and stability indication is available on all models, plus the storage of up to 100 results in the non-volatile internal memory.

All models in the Premier range are powered by three AA (MN1500, AM3, LR6) batteries whose condition is clearly shown on the multi-parameter display. A selectable auto-switch off period can be set to ensure battery life is maximised.

Each model in the Premier range is supplied complete with the relevant electrode with built in ATC, batteries and operating manual. Premier Portables Models 3205, 4200 & 9200

Three models in the Premier range (3205, 4200 and 9200) pack the power of advanced laboratory meters into this rugged handheld format with additional measurement modes and bidirectional RS232 interfacing.

To ensure full traceability all readings stored in the 100 result, non-volatile memory are tagged with the time and date settings from the internal real time clock.

The expanded menus for set-up and operation can also be viewed in a number of different languages - English, French, German, Italian and Spanish.

To enable the down load of stored results these Premier meters are fitted with an Infra-red serial output. By simply resting the unit on the optional Interface Cradle results can be output to the serial printer or other data capture device.

To provide additional flexibility comprehensive ranges of pH, Ion Selective electrodes and Conductivity cells are detailed on pages 10 and 11. Additional accessories including carry case options and data handling equipment are listed on page 12.

Enterprise & Premier pH

Enterprise 350 pH & 370 pH/mV

The 350 offers simple yet professional performance for the operator who requires reliable results from trusted technology. With its single pH input and manual temperature compensation the Model 350 is easy to use, but also offers such advanced features as the 32 reading non-volatile memory.

The custom back-lit liquid crystal display simultaneously shows the pH reading and the manually set temperature compensation value that is simply adjusted with the up and down arrow keys. A one or two point calibration can be selected and, for ease of operation, automatic buffer recognition can be used. In special applications this can be overridden enabling calibration to be set at any two points. across the full pH range.

The 370 has all the above features but with the addition of Automatic Temperature Compensation (ATC) via the temperature probe supplied. When connected the secondary display shows the actual temperature, which is the value used for the ATC. If disconnected, the secondary display reverts to a manually adjustable temperature compensation value. The Model 370 also has a mV mode for Redox (ORP) measurement and electrode condition monitoring.



The 3150 is supplied with an electrode that includes pH, reference and temperature sensing elements. This ensures that automatic temperature compensated pH measurements can be made using a single electrode. Electrodes for the Premier range are fitted with a screw on connector that is waterproof to IP67 standards.

Navigation keys enable easy access to the operating and set up menus, while the CAL key enables a fully automatic calibration to be carried out with the minimum number of key presses. Automatic buffer recognition can be used or can be overridden so calibration can be set at any two points across the full pH range.

Both mV and relative mV modes can be selected to enable Redox (ORP) measurements to be made as well as giving the ability to check and monitor electrode performance.

The memory key gives access to the 100 reading nonvolatile memory, each stored reading automatically going to the next available memory location. During storage manual selection can be enabled so the reading can be saved in an alternative free memory location or can overwrite an existing reading in the memory.





Model 350 Enterprise pH meter supplied with epoxy combination electrode (924 001), pH 4, 7 & 10 buffer sachets, batteries 350 201

350 241

(fitted) & operating instructions are supplied as above in carrying case.

Model 350 Enterprise pH meter supplied as above in carrying case.

Model 370 Enterprise pH/mV/Temp meter supplied with epoxy combination electrode (924 001), ATC probe, 3 sachets of pH 4, 7 & 10 buffer, batteries (fitted) & operating instructions.

Model 370 Enterprise pH/mV/Temp meter supplied as above in carrying case. 370 201

370 241

Enterprise & Premier pH

Premier 3205 pH/lon

The 3205 is a powerful 'laboratory grade' pH/lon meter in a rugged portable format. The pH and mV modes are complimented by Ion Concentration modes for use with Ion Selective Electrodes (ISE).

Calibration in the Ion concentration mode can be made using from 1-5 standard solutions and the values appended with a variety of concentration units.

An additional dedicated Ion mode has been incorporated to work with six common ISE's. By selecting the relevant ion from the menu the 3205 will give temperature compensated results based on the individual response of these electrodes.

The real time clock allows time and date tagged storage of results while the optional interface cradle enables these to be down loaded to a printer or other data display device (refer page 9).

A full range of combination ISE's is available. These have a suitable reference junction integrated with the ion selective sensor. For more complex applications a range of mono ISE's is available with a complimentary range of reference electrodes suited to a wide variety of sample types.



When an electrode is not connected a captive dust cover can be fitted to the socket to protect and maintain the waterproof integrity of this critical interface.

Technical Specification

Model	Enterprise 350	Enterprise 370	Premier 3150	Premier 3205
pH		270	3130	
Range	-2 to 16.00	-2 to 16.00	-2 to 16.00	-2 to 16.00
Resolution	0.01	0.01	0.01	0.01
Accuracy	±0.02	±0.02	±0.02	±0.02
mV	20.00		2000	
Ranges	2	±1999	£1999	±1999
Resolution	Ş	-1	1	1
Accuracy		±1	±1	+1
Input impedance	10 [™] ohms	10% ohms	10" chms	10°ohms
Temperature	TO. CHING	TO OHING	TO CHIND	10.011113
Ranges	G -	-10 to 105°C	-10 to 105°C	-10 to 105°C
nariyes		14 to 221 F	14 to 221°F	14 to 221"F
Resolution			50 P P P P P P P P P P P P P P P P P P P	A CONTRACTOR OF THE PROPERTY O
TO LOCAL CONTROL OF STREET	35	0.1°C/1°F	0.1°C/1°F	0.1°C/1°F
Accuracy	T. Latte Alexand	±0.5°C/±1°F	±0.5°C/±1°F	±0.5°C/±1°F
ATC/MTC ranges	0 to100°C (MTC)	0 to 100°C	0 to 100°C	0 to 100°C
Auto buffer recog.	4, 7, 9.22, 10.00	4, 7, 9.22, 10.00	4, 7, 10.00	4, 7, 10.00
	manual override	manual override	manual override	manual override
Calibration pH	1 or 2 point	1 or 2 point	1 or 2 point	1 or 2 point
Concentration	3 0	-		Multipoint 1 to 5 points
Activity	4	74		1x10° to 9.99x10°
				(int. or exp.)
Concentration units	(*)	17		activity, %, ppm,
PARTICULAR DESIGNATION		24 02		mgfl, moles and none
Dedicated ion	3	-		Ammonium, calcium,
POLICIA NO TALL				chloride, fluoride & nitrate
Clock	343			24 hour, hrs/min/sec or
Count				day of month/month/year,
				leap year corrected
Power	2AA cells	2AA cells	3AA cells	3 AA cells
Size (lxwxd) (mm)	175x75x35	175x75x35	200x80x60	200×80×60
Weight (g)	250g	2509	370g	370g

538 001

Enterprise & Premier Conductivity/TDS

430 Enterprise Combined pH/Conductivity

The 430 provides pH and conductivity measurements in one meter, using a novel design that allows measurement of both parameters in real-time. This eliminates the need to switch between ranges as the multi-parameter display shows the pH, conductivity and temperature readings

The dual-sensor probe enables alternative pH electrodes to be fitted, so extending the range of applications this versatile meter can resolve and saving costs when only one part may need to be replaced. For ease of operation the probe head holds both sensors together so onehanded sampling is possible and only a single connection to the meter is required.

simultaneously.

The automatic pH calibration with built in buffer recognition can be overridden for non-standard values. The automatic conductivity calibration can be made against standard solutions or by setting the cell constant specified.

Conductivity measurements can be made quickly and easily using the default settings. When required, the reference temperature can be set to 18, 20 or 25°C and the temperature co-efficient set from 0 to 4%/°C. When using the alternative TDS range the E/C ratio can be set from 0.5 to 0.8 to ensure conformance with all operating procedures.

Enterprise 470 Conductivity/TDS

The wide measuring range is complemented by the autoranging function that ensures results are displayed with the highest resolution that can be achieved. Calibration can be carried out automatically against standard solutions at 10μS, 84μS, 1413μS and 12.88mS or a manual calibration can be made against any other standard value. For rapid set up without solutions the K value of the cell in use can be

Standard conductivity measurements can be made quickly and easily using the default settings but for more complex applications a full range of adjustments can be made. The reference temperature can be set to 18, 20 or 25°C and the temperature co-efficient set from 0 to 4%/°C. When using the alternative TDS range the E/C ratio can be set from 0.5 to 0.8 to ensure conformance with all operating procedures.

A simple, dual-function memory bar enables up to 32 readings to be stored and recalled from the non-volatile internal memory.

Technical Specification

IP65

Model	Enterprise 430
pH/Conductivity	430
рН	
Ranges	0 to 14
Resolution	0.01
Accuracy	±0,02
Conductivity	
Ranges	5 switched
	0 to 199.9m5
Resolution	0.01µS to 0.1mS
Accuracy	±0.5% ±2 digits
TDS	
Ranges	5 switched
	0 to 199,9g/l
Resolution	0.01mg/f to 0.1g/l
Accuracy	±0.5% ±2 digits
Temperature	
Ranges	·9.9 to 99.9°C/14 to 22
Resolution	0.1°C/1°F
Accuracy	±0.5°C/±1°F
ATC & Manual ranges	0 to 99.9°C/32 to 212°C
Cell constant	0.01 to 19.99
EC ratio (TDS)	0.50 to 0.80
Reference temperature	18, 20, 25°C
Temperature coefficient	0.00 to 4%/°C

4, 7, 9,22, 10,05

12 88mS

244 cels

250g

175×75×35

10µ5, 84µ5, 1413µ5,



Auto buffer recog.

Size (lowxd) (mm)

Weight (g)

Auto std recog.

Model 430 Enterprise pH/Conductivity meter supplied with combined pH/Conductivity probe, pH 4, 7 & 10 buffer sachets,

batteries (fitted) & operating instructions.

Model 430 Enterprise pH/Conductivity meter supplied in carry case with combined pH/Conductivity probe, pH 4, 7 & 10 buffer sachets, batteries (fitted) & operating instructions.

Model 470 Conductivity/TDS meter supplied with epoxy cell K=1 (027 298), batteries (fitted) and operating instructions. Model 470 Conductivity/TDS meter supplied in carry case with epoxy cell K=1 (027 298), batteries (fitted) and operating instructions

430 201

430 241

470 201 470 241

Enterprise & Premier Conductivity/TDS

Premier 4150 & 4200 Conductivity/TDS

Making selections from a simple menu bar on the display of the Model 4150 enables easy set up and operation. On this model the reference temperature can be set to 18, 20 or 25°C and the temperature co-efficient from 0 to 4%/°C, with the zero setting turning off the temperature compensation to conform to certain pharmacopoeia standards.

Calibration against the specified cell constant or by using standard solutions is possible for both the conductivity and TDS ranges.

The Model 4200 has ranges for TDS, Salinity and Resistivity as well as conductivity. A 'pure water' setting enables the non-linear temperature compensation required for accurate measurement of low conductivity water samples.

The simple navigation keys enable easy set up and operation from the enhanced menu selections that may be viewed in a number of languages. All stored results have a date and time stamp for full traceability, they can also be downloaded to a printer or other data display device using the optional interface cradle.



Technical Specification

Model	Enterprise	Premier	Premier
Conductivity	470	4150	4200
Ranges	6 switched	5 switched	5 switched
	0 to 1999mS*	0 to 199.9m5	0 to 199.9m5
Resolution	0.01µS to 1mS+	0.01µS to 0.1mS	0.01µ5 to 0.1m5
Accuracy	±0.5% ±2 digits	±0.5% ±2 digits	±0.5% ±2 digits
TDS			
Ranges	6 switched	5 switched	5 switched
	0 to 1999g/1*	0 to 199.9mg/l	0 to 199.9mg/l
Resolution	0.01mg/l to 1g/l*	0.01mgf to 1gf	0.01mg/to 1gf
Accuracy	±0.5% ±2 digits	±0.5% ±2 digits	±0.5% ±2 digits
ASSAULT	*only with cell constant >5	200 C 200 C 200 C	Control of the Contro
C Ratio	0.5-0.8	0.5-0.8	0.5-0.8
Temperature	The state of the s		1. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4. 4.
Ranges	-10 to 105°C/14 to 221°F	-10 to 105°C/14 to 221°F	-10 to 105°C/14 to 221°F
Resolution	0.1°C/1°F	0.1°C/1°F	0.1°C/1°F
Accuracy	±0.5°C/±1°F	±0.5°C/=1°F	±0.5°C/±1°F
Salinity	7741 E E I	2007.073111	E0.7 CIET
lange			0 to 99.9nd
Resolution	22.	- 33	0.101
Accuracy	1	29	0 to 35 ±1/35 to 99 ±3
Resistivity			0.02.22.20.20.20.20
lange	-		0 to 20Mohms
lesolution:		2	0.01Mohms
Accuracy		7	±0.5±2 digits
ATC & Manual ranges	0 to 100°C/32 to 212°F	0 to 100°C/32 to 212°F	
Tell constant	0.01 to 19.99		0 to 100°C/32 to 212°F
leference temperature	18, 20, 25°C settable	0.015 to 19.99	0.015 to 19.99
emperature coefficient		18, 20, 25°C settable	18, 20, 25°C settable
	0.00 to 4%/°C linear	0.00 to 4%/°C Inear	0.00 to 4%/°C linear, pure water
Auto std recog.	10µS, 84µS, 1413µS,	10µ\$, 84µ\$, 1413µ\$,+	10µ5, 84µ5, 1413µ5,
	12.88m5	12.88mS	12.88m5
Jock		53	24 hour, hrs/min/sec or
			day of month/month/year,
	21041094680		leap year corrected
lower	2AA cels	3AA cells	3 AA cells
ize (brooid) (mm)	175x75x35	200x80x60	200x80x60
Neight (g)	250g	3700	370a

Enterprise & Premier Dissolved Oxygen

Enterprise 970 DO₂

The 970 measures Dissolved Oxygen as percentage saturation which can be calibrated to 100% for Air Saturation readings or to 20.9% for % Oxygen saturation. True concentration measurements can be made in the mg/l

Automatic temperature compensation for oxygen solubility and membrane permeability is embedded in the single polarographic sensor.

Sensor maintenance and membrane replacement is made easier by the use of ready-to-fit membrane caps that simply need filling with the KCI solution supplied.

Barometric and Salinity compensation can be digitally entered via the keypad when required.

A simple, dual-function memory bar enables up to 32 readings to be stored and recalled from the non-volatile internal memory.



Premier 9150 DO₂ & 9200 DO₂/BOD

Making selections from a single menu bar on the display of the 9150 enables easy set up and operation.

A choice of calibration to either 100% for Air Saturation readings or up to 20.9% for Oxygen Saturation can be made from the menus, while true concentration measurements can be made by selecting the mg/l range. Compensation for atmospheric pressure changes and for the salinity of samples may be entered too.

The 9200 has all the features of the 9150 with the addition of a range for BOD calculations that are made from sample readings that have been saved in the internal memory.

Comprehensive error checking of the entered and calculated data is carried out automatically to ensure the integrity of the results.

The simple navigation keys enable easy set up and operation from the enhanced menu selections that may be viewed in a number of languages.

All stored results have a date and time stamp for full traceablity. They can also be downloaded to a printer or other data display device using the optional interface cradle.



970 201 Model 970 Enterprise DO, meter supplied with DO, probe, (970 231) spare membranes & KCl, zero salts, batteries (fitted) and

Model 970 Enterprise DO, meter supplied in carry case with DO, probe, (970 231) spare membranes & KCI, zero salts, batteries

557 001 541 001

(fitted) and operating instructions.

Model 9150 Premier waterproof (IP67) DO, meter supplied with DO, probe (541 520), spare membranes & KCI, zero powder, membrane cover, membrane protective cap, batteries and operating instructions.

Model 9200 Premier waterproof (IP67) DO, meter supplied with DO, probe (541 520), spare membranes & KCI, zero powder, membrane cover, membrane protective cap, batteries and operating manual.

970 241

Enterprise & Premier Dissolved Oxygen

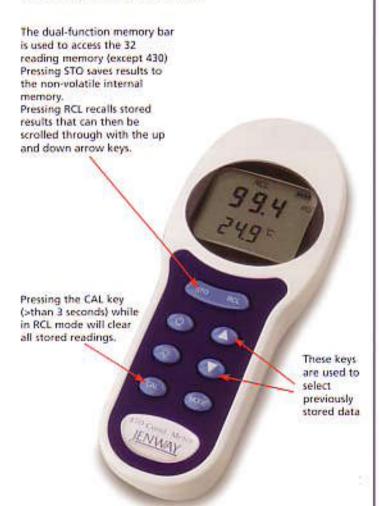
Technical Specification

Model	Enterprise	Premier	Premier
Dissolved Oxygen	970	9150	9200
Ranges	-5 ta 199%, -5 ta 25.0%, -5 ta 19.99mg1	0 to 199%, 0 to 25%; 0 to 19.99mg/l	0 to 199%, 0 to 25%,
Resolution	1%, 0.1%, 0.01mg/t	1%, 0:1%, 0:01mg/l	1%, 0.1%, 0.01mg/l
Accuracy	±2% within 10°C of cal, temp.	±2% within 10°C of cal. temp	±2% within 10°C of cal. temp
Temperature			
Ranges	-10 to 105°C/14 to 221°F	-10 to 60°C/14 to 140°F	-10 to 60°C/14 to 140°F
Resolution	0.1°C/1°F	0.1°C/1°F	0.1°C/1°F
Accuracy	±0.5°C/±1°F	±0.5°C/±1°F	±0.5°C/±1°F
ATC	0 to 60°C/32 to 140°F	-18 to 60°C/14 to 148°F	-10 to 60°C/14 to 140°F
Clock	27	50	24 hour, hrs/min/sec or day of month/month/ year, leap year corrected
Power	2AA cells	3AA oells	3 AA cells
Size (bwod) (mm)	175x75x35	200x80x60	200x80x60
Weight (g)	250g	370a	370a

Results Storage Enterprise

The Enterprise range has the ability to store up to 32 readings for later recall onto the display (except 430).

The stored data is retained in the event of battery failure and during battery replacement.



Premiers

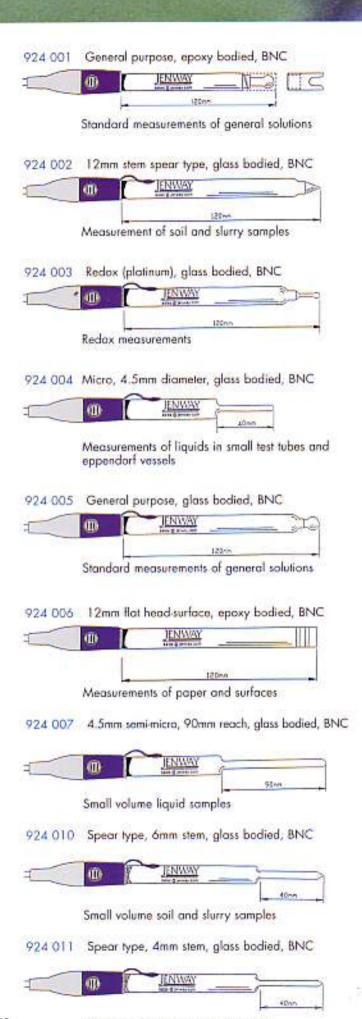
The top of the range Premier models (3205, 4200 and 9200) can output stored data using the interface cradle accessory. This data can be printed out by the serial printer or downloaded to other data capture devices. For these accessory items refer page 12.

Up to 100 readings can be stored by pressing the memory key; the data stored can then be recalled to the display.

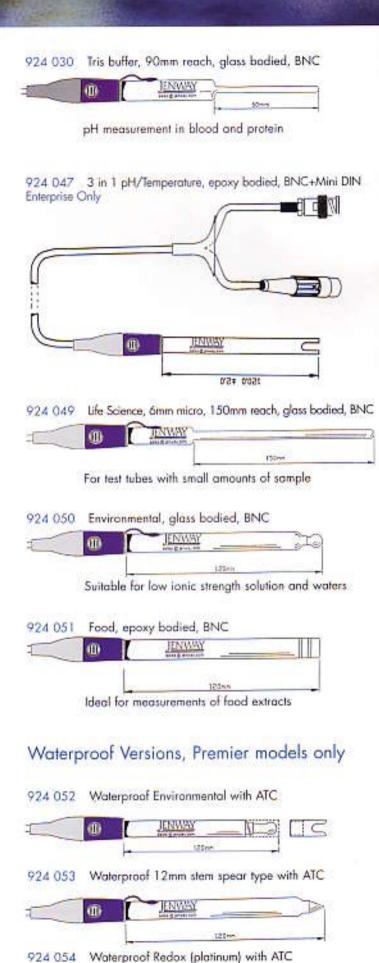


This illustration shows the Model 4200 being used with the interface cradle (542 001). The interface cable kit (542 009) is used for connecting between the cradle and 40 column serial printer (543 001).

Electrodes, Accessories and Consumables

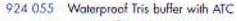


Small volume sail and slurry samples



120 mm

Electrodes, Accessories & Consumables



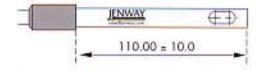


924 056 Waterproof Food electrode with ATC

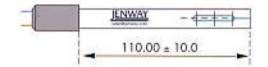


Conductivity Cells

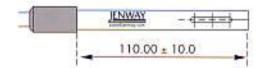
027 233 . Epoxy bodied waterproof cell K-1 (model 4150)



027 235 Epoxy bodied waterproof cell K=0.1 (model 4150)



027 236 Epaxy bodied waterproof cell K=10 [model 4150]



027 237 Glass bodied waterproof cell K-1 (model 4150)



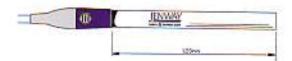
027 298 Epoxy bodied cell K=1 [mini-DIN] [model 470].



027 801 Epoxy bodied cell K=0.1 (mini-DIN) (model 470)



027 802 Epoxy badied cell K=10 [mini-DIN] [model 470]



Ion Selective Electrode Kits

- 924 402 Ammonium electrode kit comprising Ammonium ISE, 1 bottle 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead.
- 924 401 Calcium Electrode Kit comprising Calcium ISE, 1 bottle 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead.
- 924 404 Chloride Electrode Kit comprising Chloride ISE, 1 bottle 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead.
- 924 405 Fluoride Electrode Kit comprising Fluoride ISE, 1 bottle 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead.
- 924 400 Nitrate Electrode Kit comprising Nitrate ISE, 1 bottle 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead.

A comprehensive range of Combination and Mono Ion Selective Electrodes is available. Details on request.

Consumables

pH Buffer Sachets & Solutions

025 179	pH 4 buffer sachets (pack of 10)	
025 180	pH 7 buffer sachets (pack of 10)	

025 181 pH 10 buffer sachets (pack of 10)

025 037 pH 4 coloured buffer solution (red) (500ml)

025 038 pH 7 coloured buffer solution (yellow) (500ml) 025 039 pH 10 coloured buffer solution (blue) (500ml)

025 162 pH 9.22 buffer solution (500ml)

025 163 pH 2 buffer solution (500ml)

Miscellaneous

025 160 3M KCI electrode fill solution

025 161 Electrode cleaning solution (pH)

025 157 Redox standard (200mV) (500ml)

025 158 Redox standard (300mV) (500ml)

025 159 Redox standard (465mV) (500ml)

Conductivity Standards (500ml)

025 139 Calibration standard 10µS

025 138 Calibration standard 1413µS

025 156 Calibration standard 12.88mS

025 164 Calibration standard 84uS

025 165 TDS standard 1382ppm

Dissolved Oxygen

983 030 Vial of zero salts

541 553 KCl solution (30ml)

541 550 Membrane kit and KCI (9150/9200)

542 019 Membrane kit and KCI (970)

541 620 BOD Probe (for use with model 9200)

Accessories

Where applications demand the measurement of pH with conductivity or dissolved oxygen the Enterprise range can be supplied in carry cases for I, 2 or 3 units, making portable electrochemistry kits for all your requirements.

399 241

Enterprise Electrochemical Kit comprising Models 370 pH meter, 470 Conductivity meter and 970 DO: meter, supplied in carry case. Accessories included - epoxy combination pH electrode, ATC probe, buffer sachets, conductivity cell with ATC K=1, DO; probe, spare membranes & KCl, zero salts, batteries (fitted) and operating instructions.





Enterprise Individual Product Carry Cases

033 267 Carry case - Model 350 033 268 Carry case - Models 370 & 430

033 269 Carry case - Model 470 033 270 Carry case - Model 970

Accessories - Premier Portables

Models

3150 & 3205

033 162 Carry case

027 229

Reference electrode with ATC

Models 4150 & 4200

033 174

Carry case

Models 9150 & 9200

033 175

Carry case

522 016

BOD bottle attachment 2.5°

522 017

BOD bottle attachment 3.0°

522 018

BOD bottle attachment 6.0°

Common Premier Accessories

013 161

Detachable electrode lead (Premier to S7)

538 014

Adapter lead (BNC to Premier)

For use with Models 3205, 4200 & 9200 anly

543 001

40 column printer

542 001

Interface cradle

542 009

Interface cable kit

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Essex CM6 3LB UK tel: 01371 820122 fax: 01371 821083

email: sales@jenway.com website: www.jenway.com Techne Inc. 3 Terri Lane Suite 10 Burlington NJ 08016 USA

tel: 609-589-2560 fax: 609-589-2571 toll free: 800 225-9243 Jenway Middle East Overseas Limited

P.O. Box 27842 Engomi 2433 Nicosia Cyprus tel: 357 22 660423 fax: 357 22 660424

e-mail: jenwayme@spidernet.com.cy

