

# JENWAY

## Ion Meters

For some ions the only method to accurately determine low concentrations is via an ion meter in combination with an ion-specific electrode (ISE). Jenway offers a large selection of ISEs and buffers to enable concentrations from as little as  $1 \times 10^{-9}$  to  $9.99 \times 10^9$  to be measured.

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# Ion Meters

## 3205 Premier Portable Ion/pH Meter

- Combined pH and ion portable, waterproof meter
- Ammonium, calcium, chloride, fluoride and nitrate ion measurements
- Up to 2 point pH and 5 point ion calibration
- Automatic buffer recognition
- Fully GLP compliant
- RS232 interface using optional cradle
- 6 language options

The 3205 portable ion meter is dedicated to the rapid, easy and reliable determinations of ammonium, calcium, chloride, fluoride and nitrate ions with concentrations displayed in mg/l, ppm, %, moles, activity or no units. When performing dedicated ion analysis appropriate ATC parameters will be automatically selected and when combined with the very stable electrode readings all calibrations can be performed in the laboratory prior to analysis in the field. Although customised for dedicated ion analysis the 3205 can also perform measurements of pH, mV and other, non-dedicated ion measurements.

### Technical Specification

#### pH

Range	-2.00 to 16.00
Resolution	0.01
Accuracy	±0.02
Auto buffer recognition	4, 7 and 10.05 (with manual override)
Calibration	User selectable 1 or 2 point

#### mV

Range	±1999
Resolution	1mV
Accuracy	±1mV

#### Temperature

Range	-10 to 105°C
Resolution	0.1°C
Accuracy	±0.5°C
ATC range	0 to 100°C

#### Ion

Activity	Multipoint calibration 1 to 5 points 1x10 <sup>-9</sup> to 9.99x10 <sup>9</sup> in integer or exponential format
Concentration units	activity, %, ppm, mg/l, moles, none
Dedicated ions	Ammonium, Calcium, Chloride, Fluoride and Nitrate
Clock	24 hour, hours/min/sec or day of month, month and year. Leap year corrected
Outputs	RS232 via interface cradle
Connector	Waterproof
Power	3 AA batteries
Size (l x w x d)	200 x 80 x 60mm
Weight	370g

### Ordering Information

#### Part Code Description

539 501	3205 pH and ion meter supplied with pH/temperature probe (027 227), buffer sachets, waterproof connector to S7 electrode lead (013 161), waterproof connector to BNC electrode lead and batteries
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3205



3345

## 3340 and 3345 Bench Ion Meters

- 1 to 5 point ion calibration
- Dual channel ion/ion or ion/pH
- Automatic temperature compensation ion and pH measurements
- Fully GLP compliant
- Direct potentiometry (3340 and 3345)
- Full support of incremental methods (3345 only)

The 3340 and 3345 laboratory pH/ion meters offer a host of valuable features whilst retaining simplicity of operation through the use of structured menus. Both models will store up to 100 readings all of which can be recalled on the LCD screen or down loaded to a printer or PC. Details of the last calibration results are time and date stamped, thus satisfying the requirements of GLP quality assurance protocols.

The 3345 offers additional flexibility with two additional modes of ion analysis: the known addition/subtraction mode allows the determination of ion concentrations much closer to the lower detection limits of the electrodes, whilst multiple sample addition/subtraction allows measurements to be performed in dense and concentrated matrices.

### Technical Specification

<b>pH</b>	1, 2 or 3 point calibration
Range	-2.000 to 19.999
Resolution	0.1, 0.01, 0.001
Accuracy	±0.003
Automatic buffer recognition	4, 7 and 10.05 (with manual override)
<b>mV</b>	
Range	±1999
Resolution	0.1mV
Accuracy	±0.2mV
<b>Temperature</b>	
Range	-10 to 105°C
Resolution	0.1°C
Accuracy	±0.5°C
ATC Range	0 to 100°C
<b>Ion</b>	Multipoint calibration 1 to 5 points
Activity	1x10 <sup>-9</sup> to 9.99x10 <sup>9</sup>
Concentration units	Activity, %, ppm, mg/l, M or none
Clock	24 hour, leap year corrected
GLP	Calibration reminder interval (1 to 999 hrs) Timed printout interval
Outputs	Analogue and RS232
Connectors	2 x BNC (ion/pH), 5-pin DIN (temperature), 2mm pin (separate reference electrode)
Power	9V AC 230V
Size (l x w x d)	275 x 240 x 150mm
Weight	1.2kg

# Ion Meters Accessories

## Ordering Information

Part Code	Description
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547 001	3340 dual channel ion meter supplied with glass combination pH electrode (924 005), swing arm electrode holder, ATC probe (027 232), buffer sachets and UK power supply
548 001	3345 dual channel ion meter supplied with glass combination pH electrode (924 005), swing arm electrode holder, BNC to S7 leadless connector (013 173) for connection to ISEs, ATC probe (027 232), buffer sachets and UK power supply

# Temperature Probes and Connectors

## Ordering Information

Product Code	Description
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013 161	Premier to S7 leadless electrode connector
027 232	ATC/temperature probe
013 173	BNC to S7 connector

# Printers

## Ordering Information

Product Code	Description
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543 001	40 column serial printer with interface cable, paper, ribbon and UK power adapter
542 001	Interface cradle supplied with interface cable kit (542 009)
060 287	Paper roll
060 288	Printer ribbon

# Miscellaneous

## Ordering Information

Product Code	Description
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033 162	3205 carry case
544 008	Dust cover
903 200	Swing arm electrode holder
555 001	Bench stirrer, powered by ion meter



Printer

## Ion Selective Electrodes

A large number of standard ion selective electrodes (ISEs) are available for use with the Jenway ion meters. The available options include easy to use combined electrodes, separate ion-specific and reference electrodes for increased flexibility or for challenging applications the Jen-Flow Plus combination electrodes.

Ion	Combination Part Code	Mono Part Code
Ammonia	924 328	-
Ammonium	924 302	924 500
Barium	924 307	924 501
Bromide	924 308	924 502
Cadmium	924 309	924 503
Calcium	924 301	924 504
Carbonate	924 311	924 505
Chloride	924 304	924 506
Copper	924 313	924 507
Cyanide	924 314	924 508
Fluoride	924 305	924 509
Iodide	924 316	924 510
Lead	924 317	924 511
Magnesium	924 326	924 522
Mercury	924 318	924 512
Nitrate	924 300	924 513
Perchlorate	924 321	924 515
Potassium	924 322	924 516
Silver	924 323	924 517
Sodium	924 329	924 521
Sulphide	924 324	924 518
Thiocyanate	924 325	924 519
Water Hardness	924 327	924 523

Note: ISEs are supplied without the connecting lead and the mono electrodes require a reference electrode to complete the system.

## Jen-Flow Plus Combination Electrodes

- Drift-free readings with complex samples
- Fast response
- Longer lifetime
- Robust, solid state sensing and reference elements
- Easy to clean and maintain

### Ordering Information

Part Code	Description
924 702	Ammonium Jen-Flow Plus combination electrode
924 701	Calcium Jen-Flow Plus combination electrode
924 704	Chloride Jen-Flow Plus combination electrode
924 705	Fluoride Jen-Flow Plus combination electrode
924 700	Nitrate Jen-Flow Plus combination electrode
924 722	Potassium Jen-Flow Plus combination electrode

Each Jen-Flow Plus electrode is supplied with connecting lead and 10ml of fill solution.

## Reference electrodes for Mono ISEs

### Ordering Information

Part Code	Description
924 016	Single junction, calomel, glass bodied reference electrode
924 017	Double junction, AgCl, glass bodied reference electrode
924 036	Single junction, AgCl, glass bodied reference electrode

# Ion Meters

## Ion Selective Electrode Consumables

Ion	ISAB	Standard			
		1000ppm	100ppm	10ppm	1ppm
Ammonium	025 129	025 120	025 143	025 142	
Barium	025 099	025 069			
Bromide	025 089	025 053			
Cadmium	025 096	025 063			
Calcium	025 097	025 065	025 145	025 144	
Carbonate	025 132	025 126			
Chloride	025 088	025 051	025 147	025 146	
Cupric	025 093	025 057			
Cyanide	025 091	025 134			
Fluoride	025 107	025 087	025 150	025 149	025 148
Iodide	025 090	025 055			
Lead	025 094	025 059			
Magnesium	025 169	025 167			
Mercury	025 128	025 118			
Nitrate	025 098	025 067	025 152	025 151	
Perchlorate	025 130	025 122			
Potassium	025 127	025 073			
Silver	025 095	025 061			
Sodium	025 101	025 101			
Sulphide	025 092	025 136			
Thiocyanate	025 106	025 085			
Water Hardness	025 100	025 071			

## Jen-Flow Plus Electrode Consumables

### Ordering Information

Part Code	Description
025 184	Ammonium fill solution (30ml)
025 183	Calcium fill solution (30ml)
024 185	Chloride fill solution (30ml)
024 186	Fluoride fill solution (30ml)
025 182	Nitrate fill solution (30ml)
025 187	Potassium fill solution (30ml)

## Ion Selective Electrode Kits

### Ordering Information

Part Code	Description
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 of 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead
924 404	Chloride electrode kit comprising chloride ISE, 1 bottle of 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead
924 405	Fluoride electrode kit comprising fluoride ISE, 1 bottle of 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead
924 400	Nitrate electrode kit comprising nitrate ISE, 1 bottle of 1000ppm calibration standard, 1 bottle ISAB and BNC to S7 lead