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# Orion pH Electrodes

## Orion KNIpHE®



Orion 71-20  
KNIpHE pH Electrode  
Stainless steel cutting blade surrounding a special combination pH electrode.  
(Available as a kit, see key (3) below)  
Recommended Use:  
For pH determinations in meats and meat by-products where glass electrodes alone may break  
Orion #  
7120BN(2) (6)  
7121BN Replacement KNIpHE pH Electrode  
712001 Replacement Blade  
712002 Protective Sheath

## Orion No Cal®



Orion 51-07/09  
Combination electrode with Epoxy Body  
Recommended Use:  
Use: Field pH measurement where stability and high performance is desired and when a pH electrode that doesn't require calibration is needed  
Orion #  
5107NC (4)  
5109NC (5)  
5107BNMD (7)

New

## Orion Economy Line



Orion 91-05/06  
Combination with epoxy body.  
Non-refillable  
Recommended Use:  
Routine pH for rugged use, schools, field and plant applications.  
Orion #  
910500 (1)  
9106BNWP



Orion 91-35/36  
Combination with epoxy body.  
Non-refillable. Flat surface  
Recommended Use:  
Routine pH for food, agar gel plates.  
Orion #  
913500 (1)  
913600 (2)  
See also ROSS Ultra® 81-35U on page 5 and AquaPro below



Orion 91-25/26  
Combination with epoxy body.  
Non-refillable flask electrode  
Recommended Use:  
Routine pH for use in long-necked flasks and other tall vessels.  
Orion #  
912500 (1)  
912600 (2)



Orion 91-15/16  
Combination with epoxy body.  
Non-refillable, semi-micro  
Recommended Use:  
Routine pH for use in test tubes, small samples.  
Orion #  
911500 (1)  
911600 (2)

## Orion Tris Calomel Line



Orion 7102BN  
Glass-Body Combination Calomel pH Electrode with screw cap connector  
Recommended Use:  
Routine pH measurements in all biotech samples. Ideal for use with and in Tris-buffers.  
Orion #  
7102BN (3)  
See also ROSS Ultra® 8102BNUWJP on page 3 and AquaPro below



Orion 7103BN  
Glass-Body Semi-Micro Combination Calomel pH Electrode with screw cap connector  
Recommended Use:  
Small samples, test tubes, same as 71-02. Minimum sample volume: 0.2-0.4 mL.  
Orion #  
7103BN (3)  
See also ROSS Ultra® 8103BNUWJP on page 3 and AquaPro below



Orion 7110BN  
Glass-Body Micro Combination Calomel pH Electrode with screw cap connector  
Recommended Use:  
Very small samples, microtiter plates. Same as 71-02. Minimum volume 0.1 mL.  
Orion #  
7110BN (3)  
711002  
Micro Flow Cell For 7110BN Calomel pH Electrode  
See also Micro Electrodes on page 10

## Orion AquaPro Professional



Orion 9102AP  
AquaPro Combination Low Maintenance™ double junction with glass body  
Recommended Use:  
General purpose pH, double junction, no sample contact with Ag.  
Orion #  
9102AP (1)



Orion 9103APWP  
AquaPro Combination Low Maintenance double junction, glass semi-micro  
Recommended Use:  
Small samples, test tubes. Minimum sample volume 0.2-0.4 mL.  
Orion #  
9103APWP (1)



Orion 9104APWP  
AquaPro Combination Low Maintenance double junction with glass body, "hard nose" bulb  
Recommended Use:  
Rugged durable lab use, double junction, no sample contact with Ag.  
Orion #  
9104APWP (1)



Orion 9115APWP  
AquaPro Combination Low Maintenance double junction, epoxy semi-micro  
Recommended Use:  
Small samples, test tubes. Aqueous solutions only. Minimum sample volume 0.2-0.4 mL.  
Orion #  
9115APWP (1)



Orion 9135APWP  
AquaPro Combination Low Maintenance double junction, epoxy flat-surface  
Recommended Use:  
pH of moist, surface, both solid and semi-solid such as agar gel plates, meats, bread dough and similar samples. Small samples in micro sample dish.  
Orion #  
9135APWP (1)



Orion 9156APWP  
Combination Low Maintenance double junction with epoxy body  
Recommended Use:  
Routine pH. Rugged durable lab or field use, double junction.  
Orion #  
9156APWP (1)

## Orion Redox/ORP and ORP Triode™



Orion 9179BNMD  
Epoxy Low Maintenance ORP Triode  
Recommended Use:  
Measurement of oxidation/reduction potential and temperature in water/wastewater, metal plating, and biotech.  
Orion #  
9179BNMD (7)  
9179 (1) (8)



Orion 9180BNMD  
Epoxy Refillable ORP Triode  
Recommended Use:  
Measurement of oxidation/reduction potential and temperature in water/wastewater, metal plating, and biotech.  
Orion #  
9180BNMD (7)  
9180 (1) (8)



Orion 9678BNWP  
Epoxy Sure-Flow® Combination Redox/ORP  
Recommended Use:  
For measurement of reduction/oxidation potential and Redox titrations.  
Orion #  
9678BNWP (1)  
967800 (2)



Orion 9778BNWP  
Glass Combination Redox/ORP  
Recommended Use:  
For measurement of reduction/oxidation potential and Redox titrations.  
Orion #  
9778BNWP (1)  
977800 (2)  
9778SC (3)

# Orion pH Electrode Specifications

Orion KNIpHE®	Orion No	Orion Tris Calomel Line	Orion Double Junction Ag/AgCl Tris Line*			Orion D/J KNIpHE®*			
	71-20	51-07/09	7102BN	7103BN	7110BN	9102DJWP	9110DJWP	9156DJWP	9120APWP
pH Range	0-14	-2.000 to 16.00	0-14	0-14	0-14	0-14	0-14	0-14	0-14
Temp. Range	0-60 °C	0-100 °C	0-90 °C	0-90 °C	0-90 °C	0-60 °C	0-60 °C	0-60 °C	0-60 °C
Internal Ref.	Calomel	Patent pending, Double Junction	Calomel	Calomel	Calomel	Ag/AgCl Double Junction	Ag/AgCl Double Junction	Ag/AgCl Double Junction	Ag/AgCl Double Junction
Junction	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic	Ceramic
Dimensions	215 mm x 25 mm cap dia 16 mm	120 mm x 12 mm	110 mm x 12 mm (5 mm section is 90 mm long, cap dia 16 mm)	210 mm x 7 mm, cap dia 16 mm	150 mm x 5 mm, 7 mm section is 150 mm long, cap dia 16 mm				

Orion Economy Line					
	91-05/06	91-35/36	91-25/26	91-15/16	91-45
pH Range	0-14	0-12	0-12	0-14	0-14
Temp. Range	0-80 °C	0-80 °C	0-80 °C	0-100 °C	0-80 °C
Internal Ref.	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl refillable	Ag/AgCl
Junction	Wick	Wick	Wick	Wick	Wick
Dimensions	120 mm x 12 mm, cap dia 16 mm	110 mm x 12 mm, cap dia 16 mm	165 mm x 6 mm (6mm section is 95mm long)	150 mm x 6 mm	120 mm x 12 mm, cap dia 16 mm

Orion AquaPro Professional							
	9102AP	9103APWP	9104APWP	9107APMD	9115APWP	9135APWP	9156APWP
pH Range	0-14	0-14	0-14	0-14	0-14	0-14	0-14
Temp. Range	0-60 °C	0-60 °C	0-60 °C	0-60 °C	0-60 °C	0-60 °C	0-60 °C
Internal Ref.	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Double Junction Open	Double Junction Open	Double Junction Open	Double Junction Epoxy/Open	Double Junction Epoxy/Open	Double Junction Epoxy/Open	Double Junction Epoxy/Open

Orion Redox/ORP and ORP Triode™				
	9179BNMD	9180BNMD	9678BNWP	9778BNWP
Temp. Range	0-90 °C	0-80 °C	0-80 °C	0-100 °C
Internal Ref.	Ag/AgCl	Ag/AgCl	Ag/AgCl	Ag/AgCl
Junction	Wick	Wick	Sure-Flow	Ceramic

## Key for page 8

- (1) BNC connector, 1 m cable (2) U.S. Standard connector, 1 m cable (3) Screw cap connector, requires separate cable  
 (5) E Din Connector (6) 7120BN KNIpHE Electrode Kit includes: pH Electrode, Electrode Handle, Removable blade, One bottle of Filling Solution and Instruction Manual See page 13 for Orion pH electrode cleaning kits  
 (7) BNC Connector MiniDIN Connector for Orion Star™ Series meters 1m cable (8) Same as key 4 on page 7

\* Images not available