

pH and ORP

实验室电极



Hamilton Duracal Buffer Solution
pH 9.21 ± 0.02

Certified traceable to N.I.S.T. and
DKD is verifying the pH value of this
from this specific buffer solution to
N.I.S.T. National Institute of Standards and Technology
pH: Physikalisch-Technische Bundesanstalt
DKD: Deutscher Kalibrierdienst
European Cooperation for Accreditation

Temp	pH	Temp	pH
5	9.45	20	9.26
10	9.38	22	9.24
15	9.32	25	9.21
18	9.28	30	9.16

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Buffer used above 20°C are not guaranteed
Chemical buffer name: Hydrochloric acid
Certificate download: www.hamilton.com
Hamilton Bonaduz AG - Switzerland



Single Pore® Glass



目录

实验室电极介绍.....	3
电极选型表.....	4
实验室电极家族.....	6
电缆.....	8
pH计交叉参考.....	9
规格.....	10

为什么选择Hamilton 实验室电极

Hamilton电极是知名的高质量、长寿命、性能卓越的精密仪器，广泛应用于各个领域。专为帮助您在GLP环境中的日常工作而设计。

每根电极身上都有唯一的序列号，确保可追溯性。

Hamilton也提供最精确的实验室电极。我们的单孔玻璃技术经过PTB (Physikalisch-Technische Bundesanstalt, Germany) 认证并在对比研究中达到最佳精度。

实验室电极的优点还包括其他功能设计及电极头保护帽。

每支电极提供带毫伏示值的检测证书

设计优点

- ▶ 所有电极都印有唯一的序列号
- ▶ 符合人体工学的电极设计
- ▶ 经验证的可再充电解液的密封系统
- ▶ 内部蓝色缓冲液清晰指示电极与介质接触情况
- ▶ 电极头和电缆之间的高质量密封 (IP 68)

敏感膜保护套

- ▶ 方便拆卸的锁紧方式
- ▶ 安全密封
- ▶ 电解液无泄漏



Liq-Glass™ Family

- ▶ 用于日常实验室使用的复合pH电极
- ▶ 具有普遍适用性，在强酸性和强碱性
- ▶ 非常适合酸/碱滴定
- ▶ 序列号，证书

规格	
pH	0 ~ 14
温度	-10 ~ 100 °C
电解液	3M KCl (可再充的)
电极杆材质	玻璃
液接	陶瓷隔膜
参比系统	Everef

Liq-Glass Temp

PN 242055
PN 242056
PN 238406
PN 242054

Liq-Glass Temp BNC/Cinch
Liq-Glass Temp BNC
Liq-Glass Temp DIN
Liq-Glass Temp Lemo



温度传感器:

NTC 30 kOhm (PN 238406, 242055);
Pt1000 (P 242054, 242056)

连接电缆:



PN 242055: 1m BNC cable/1 x cinch plug



PN 242056: 1m BNC cable / 1 x 4 mm banana plug



PN 238406: 1m DIN cable/1 x 4 mm banana plug



PN 242054: 1m LEMO cable/2 x 2 mm banana plug
(2 adapters for 4 mm banana plug included)

Polilyte Lab Family

- ▶ 免维护，坚固的复合pH电极，使用方便
- ▶ 适用于乳液和悬浮液的测量
- ▶ 单孔技术避免隔膜堵塞
- ▶ 序列号，证书

规格	
pH	0 ~ 14
温度	-10 ~ 80 °C
电解液	Polisolve (免维护)
电极杆材质	玻璃
液接	单孔
参比系统	Everef-B

Polilyte Lab Temp

PN 242059
PN 242060
PN 242058
PN 242062

Polilyte Lab Temp BNC/Cinch
Polilyte Lab Temp BNC
Polilyte Lab Temp DIN
Polilyte Lab Temp Lemo



温度传感器:

NTC 30 kOhm (PN 242058, 242059);
Pt1000 (PN 242060, 242062)

连接电缆:



PN 242059: 1m BNC cable/1 x cinch plug



PN 242060: 1m BNC cable / 1 x 4 mm banana plug



PN 242058: 1m DIN cable/1 x 4 mm banana plug



PN 242062: 1m LEMO cable/2 x 2 mm banana plug
(2 adapters for 4 mm banana plug included)

FlushTrode™**PN 238060**

- ▶ 易清洁的复合pH电极与套筒隔膜
- ▶ 非常适合粘性的样品，低电导率介质或含有蛋白质介质（例如，化妆品）
- ▶ 对于样品中含有蛋白质，电解质应使用protelyte™ (PN 238038)
- ▶ 序列号，证书

：
 电缆： S7

规格	
pH	0 ~ 14
温度	-10 ~ 80°C
电解液	3M KCl (可再充的)
电极杆材质	玻璃
液接	套筒隔膜
参比系统	Everef

BioTrode™**PN 238140**

- ▶ 用于测量非常小体积的复合pH电极（例如，酶标板）
- ▶ 非常适合蛋白质含量高的场合，专门的Protelyte电解液可防止隔膜堵塞
- ▶ 长期稳定的everef系统
- ▶ 仅仅需要7毫米的浸入深度
- ▶ 序列号，证书
- ▶ 3毫米轴径

：
 电缆： S7

规格	
pH	0 ~ 14
温度	-10 ~ 100° C
电解液	Protelyte (可再充的)
电极杆材质	玻璃
液接	陶瓷隔膜
参比系统	Everef

SpinTrode™**PN 238197**

- ▶ 测量非常小量的复合pH电极（例如在NMR管中测量）
- ▶ 长期稳定的everef系统
- ▶ 仅仅需要7毫米的浸入深度
- ▶ 序列号，证书

温度传感器： 否
 连接电缆： S7 接头

规格	
pH	0 ~ 14
温度	-10 ~ 100°C
电解液	3M KCl (可再充的)
电极杆材质	玻璃
液接	陶瓷隔膜
参比系统	Everef

Polyplast™ Family

- ▶ 坚固的免维护复合pH电极
- ▶ 防碎塑料轴
- ▶ 很好地应用于水和污水处理
- ▶ 序列号，证书

规格	
pH	0 ~ 14
温度	0 ~ 60°C
电解液	Polisolve(免维护)
电极杆材质	塑料
液接	单孔
参比系统	Ag/AgCl

Polyplast Temp

PN 242051
PN 242050
PN 238404
PN 242052

Polyplast Temp BNC/Cinch
Polyplast Temp BNC
Polyplast Temp DIN
Polyplast Temp Lemo

温度传感器:

NTC 30 kOhm (PN 238404, 242051):
Pt 1000 (PN 242050, 242052)

连接电缆:



PN 242051: 1m BNC cable/1 x cinch plug



PN 242050: 1m BNC cable / 1 x 4 mm banana plug



PN 238404: 1m DIN cable/1 x 4 mm banana plug



PN 242052: 1m LEMO cable/2 x 2 mm banana plug
(2 adapters for 4 mm banana plug included)



电缆

Hamilton电缆都配有一个S7接头。该设备端接头必须根据相应pH计选择。
电缆的直径为3mm，标准长度分别为1m，3m和5m。



1m cable S7/BNC* PN 355173

3m cable S7/BNC* PN 355176

5m cable S7/BNC* PN 355178

1m cable S7/DIN PN 355174

3m cable S7/DIN PN 355177

5m cable S7/DIN PN 355179

1m cable S7/Lemo PN 355175

*所有的BNC插头有一个可移动的防护罩。
这有助于保护插头避免被液体溅到。

pH 电极

					电极杆材质	电极杆直径	电极杆下直径
BioTrode	0 to 14	0 to 100°C	Protelyte	Everef	Glass	12	3
Double Pore	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Glass	12	6
Double Pore Knick®	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	PEEK	12	6
FillTrode	0 to 14	0 to 60°C	Skylyte-CL	Everef	Plastic	12	12
FlaTrode	0 to 14	0 to 60°C	Skylyte-CL	Everef	Plastic	12	12
FlushTrode*	0 to 14	-10 to 80°C	3M KCL	Everef	Glass	12	12
FoodTrode	0 to 14	-10 to 100°C	Protelyte	Everef	Glass	12	12
Gel-Glass	0 to 14	-10 to 60°C	GEL	Ag/AgCl	Glass	12	12
Liq-Glass	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
Liq-Glass BNC	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
Liq-Glass DIN	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
Liq-Glass Temp BNC/Cinch	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
Liq-Glass Temp BNC	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
Liq-Glass Temp DIN	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
Liq-Glass Temp Lemo	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
Liq-Glass Knick®	0 to 14	-10 to 100°C	3M KCL	Everef	Glass	12	12
MiniTrode	0 to 14	0 to 100°C	3M KCL	Everef	Glass	12	3
Polilyte Lab	0 to 14	-10 to 80°C	Polisolve	Everef-B	Glass	12	12
Polilyte Lab Temp BNC/Cinch	0 to 14	-10 to 80°C	Polisolve	Everef-B	Glass	12	12
Polilyte Lab Temp BNC	0 to 14	-10 to 80°C	Polisolve	Everef-B	Glass	12	12
Polilyte Lab Temp DIN	0 to 14	-10 to 80°C	Polisolve	Everef-B	Glass	12	12
Polilyte Lab Temp Lemo	0 to 14	-10 to 80°C	Polisolve	Everef-B	Glass	12	12
Polyplast	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Polyplast BNC	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Polyplast Temp BNC/Cinch	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Polyplast Temp BNC	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Polyplast Temp DIN	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Polyplast Temp Lemo	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Polyplast Knick®	0 to 14	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Single Pore Glass	0 to 14	0 to 100°C	Skylyte-CL	Everef	Glass	12	12
SlimTrode	0 to 14	0 to 100°C	3M KCL	Everef	Glass	12	6
SpinTrode	0 to 14	0 to 100°C	3M KCL	Everef	Glass	12	3
TipTrode	0 to 14	0 to 100°C	Protelyte	Everef	Glass	12	6

ORP 电极

Liq-Glass ORP	± 2000 mV	-10 to 100°C	3M KCL	Everef	Glass	12	12
Polyplast ORP	± 2000 mV	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12
Polyplast ORP BNC	± 2000 mV	0 to 60°C	Polisolve	Ag/AgCl	Plastic	12	12

电极杆长度 (a)	敏感膜玻璃	敏感膜型	隔膜	隔膜数量	最小插深 (mm)	电极头	温度电极
60 mm	HF glass	Cylindrical	Ceramic	1	7	S7	No
35 mm	HF glass	Spear	Single Pore	2	15	S7	No
35 mm	V glass	Spear	Single Pore	2	15	Fixed cable with DIN plug	No
120 mm	HF glass	Flat	Ring	1	4	S7	No
120 mm	HF glass	Flat	Ring	1	1	S7	No
120 mm	HF glass	Cylindrical	Ground sleeve	1	30	S7	No
120 mm	HF glass	Cylindrical	Ceramic	3	20	S7	No
120 mm	HF glass	Cylindrical	Ceramic	1	15	S7	No
120 mm	HF glass	Cylindrical	Ceramic	1	15	S7	No
120 mm	HF glass	Cylindrical	Ceramic	1	15	Fixed cable with BNC plug	No
120 mm	HF glass	Cylindrical	Ceramic	1	15	Fixed cable with DIN plug	No
120 mm	HF glass	Cylindrical	Ceramic	1	15	Fixed cable with BNC plug/1x Cinch	NTC 30 kOhm
120 mm	HF glass	Cylindrical	Ceramic	1	15	Fixed cable with BNC plug/1 x 4 mm banana plug	Pt1000
120 mm	HF glass	Cylindrical	Ceramic	1	15	Fixed cable with DIN plug/1 x 4 mm banana plug	NTC 30 kOhm
120 mm	HF glass	Cylindrical	Ceramic	1	15	Fixed cable with Lemo plug/2 x 2 mm banana plug**	Pt1000
110 mm	HF glass	Cylindrical	Ceramic	1	15	Fixed cable with DIN plug/1 x 4 mm banana plug	Pt1000
60 mm	HF glass	Cylindrical	Ceramic	1	7	S7	No
120 mm	HF glass	Cylindrical	Single Pore	1	15	S7	No
120 mm	HF glass	Cylindrical	Single Pore	1	15	Fixed cable with BNC plug/1x Cinch	NTC 30 kOhm
120 mm	HF glass	Cylindrical	Single Pore	1	15	Fixed cable with BNC plug/1 x 4 mm banana plug	Pt1000
120 mm	HF glass	Cylindrical	Single Pore	1	15	Fixed cable with DIN plug/1 x 4 mm banana plug	NTC 30 kOhm
120 mm	HF glass	Cylindrical	Single Pore	1	15	Fixed cable with Lemo plug/2 x 2 mm banana plug**	Pt1000
120 mm	V glass	Cylindrical	Single Pore	1	10	S7	No
120 mm	V glass	Cylindrical	Single Pore	1	10	Fixed cable with BNC plug	No
120 mm	V glass	Cylindrical	Single Pore	1	10	Fixed cable with BNC plug/1x Cinch	NTC 30 kOhm
120 mm	V glass	Cylindrical	Single Pore	1	10	Fixed cable with BNC plug/1 x 4 mm banana plug	Pt1000
120 mm	V glass	Cylindrical	Single Pore	1	10	Fixed cable with DIN plug/1 x 4 mm banana plug	NTC 30 kOhm
120 mm	V glass	Cylindrical	Single Pore	1	10	Fixed cable with Lemo plug/2 x 2 mm banana plug**	Pt1000
110 mm	V glass	Cylindrical	Single Pore	1	10	Fixed cable with DIN plug/1 x 4 mm banana plug	Pt1000
120 mm	H glass	Cylindrical	Single Pore	1	15	S7	No
100 mm	HF glass	Cylindrical	Ceramic	1	15	S7	No
180 mm	HF glass	Cylindrical	Ceramic	1	7	S7	No
25 mm	HF glass	Spear	Ceramic	1	17	S7	No

a	mm						
120 mm	Platin	Cylindrical	Ceramic	3	15	S7	No
120 mm	Platin	Cylindrical	Single Pore	1	10	S7	No
120 mm	Platin	Cylindrical	Single Pore	1	10	Fixed cable with BNC plug	No



HAMILTON®

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