



## **pH electrode for use in ultra-pure water**

- Specially developed for use in ultra-pure water
- Refillable glass electrodes for special requirements and high-precision measurements
- Improved durability through triple ceramic diaphragm
- Easy to install in stainless steel or polypropylene flow fittings



**LANGE** 

# Technical data

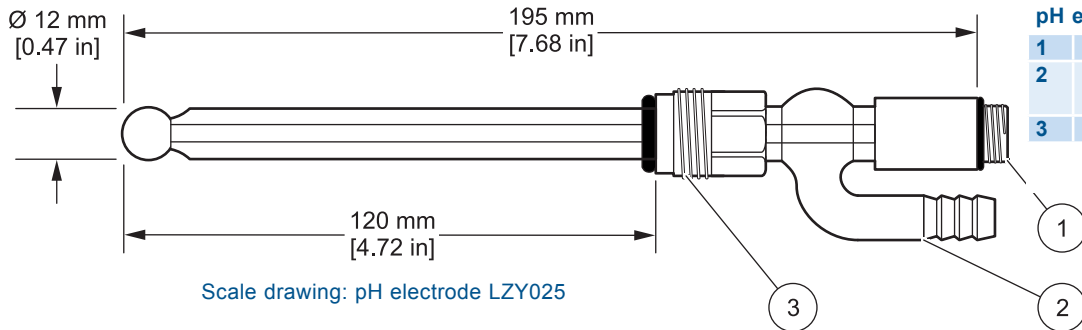
pH electrode	
Model/order no.	<b>LZY025</b>
Area of application	Ultra-pure water, boiler feed water, high-purity water with <100 uS/cm conductivity, condensate, drinking water, process water.
Measurement range	pH 0–12
Temperature range	-30 °C to +80 °C
Pressure range	6 bar
Response time $t_{98\%}$	< 30 seconds
Sterilizable	No
Electrolyte	KCl liquid
Refillable	Yes
Reference electrode	Ag/AgCl
Diaphragm	Triple ceramic
Electrode shaft material	Glass (Duran)
Sensor material	Glass
Temperature sensor	None
Dimensions	Refer to scale drawings
Weight	Approximately 0.15 kg
Installation length	120 mm
Shaft diameter	12 mm
Process connection	Pg13.5 thread
Cable connection	Plug head S7

KCl usage: 2 to 3 liters KCl/year

Model/order no.	Flow fittings		
	LZY032	LZY034	LZY038
Process connection	$\frac{3}{8}$ " NPT	G $\frac{3}{4}$ "	G $\frac{3}{4}$ "
Material	Stainless steel 1.4401		Polypropylene PP
Gasket	Made of Viton		
Tolerable operating temperature	160 °C		90 °C
Tolerable operating pressure	16 bar at 160 °C		6 bar at 20 °C
$p_{max}$ at $T_{max}$	25 bar at 20 °C		0.2 bar at 90 °C
Dimensions	Refer to scale drawings		
Weight	Approximately 1.5 kg		Approximately 0.25 kg
Flow	Recommended: 0.1–0.5 l/min (10 l/min maximum)		

Electrode holder		
Model/order no.	<b>C74451A1789B1</b>	<b>C74451A1789B2</b>
Process connection	DN 50 cone flange for connection to flow fitting	
Material	Polypropylene PP	Stainless steel 1.4401
Electrode type	For 3 electrodes with 12 mm shaft diameter	
Electrode shaft length	120 mm	
Electrode thread	Pg13.5 thread	
Tolerable operating temperature	90 °C	140 °C
Tolerable operating pressure	6 bar at 20 °C	10 bar at 140 °C
$p_{max}$ at $T_{max}$	4 bar at 90 °C	
Dimensions	Refer to scale drawings	
Weight	0.1 kg	0.5 kg

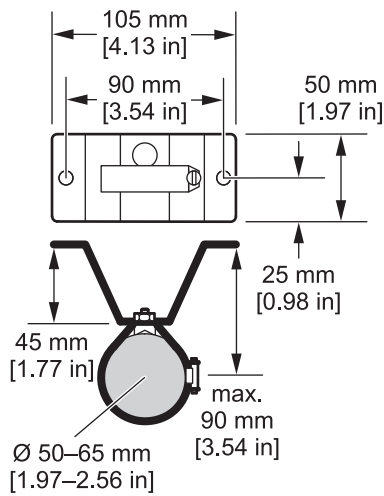
# Scale drawings



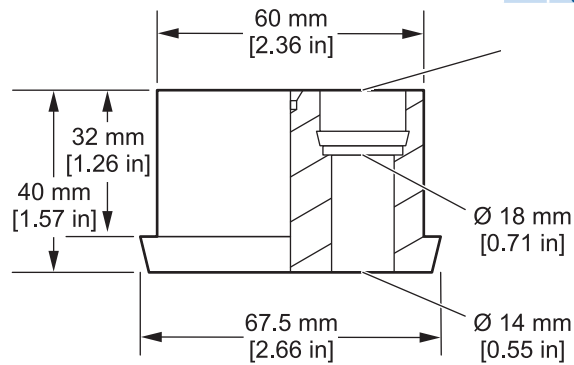
Scale drawing: pH electrode LZY025

## pH electrode LZY025

- |   |                               |
|---|-------------------------------|
| 1 | Plug head S7                  |
| 2 | Refill opening<br>Electrolyte |
| 3 | Pg13.5 thread                 |



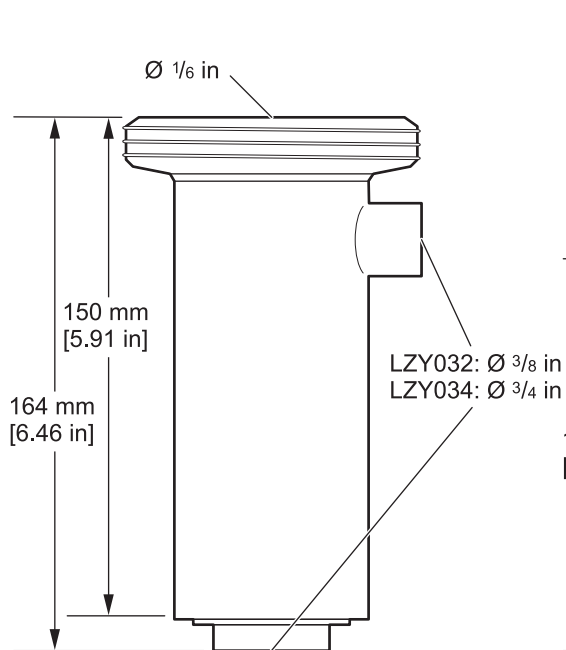
Scale drawing: mount  
C74451A1789D1



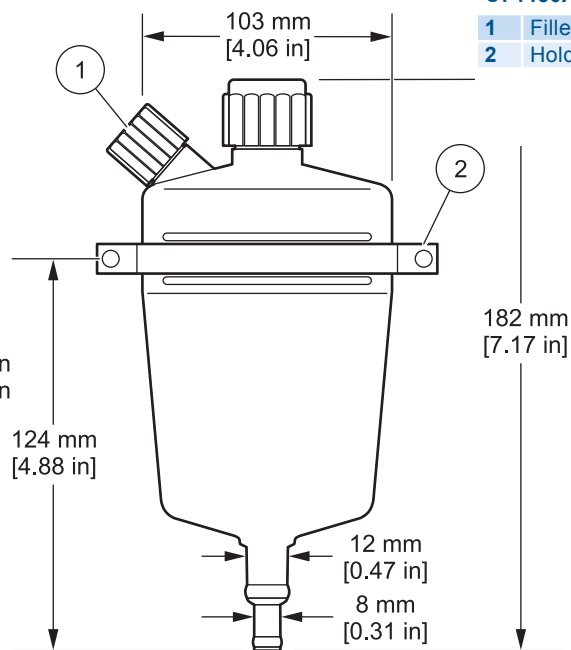
Scale drawing: electrode holder  
C74451A1789B1/C74451A1789B2

## Electrode holder C74451A1798B1/ C74451A1798B1

- |   |               |
|---|---------------|
| 1 | Pg13.5 thread |
|---|---------------|



Scale drawing: flow fitting LZY032/LZY034



Scale drawing: KCl supply vessel C74450A184A1

## KCl supply vessel C74450A184A1

- |   |             |
|---|-------------|
| 1 | Filler neck |
| 2 | Holder      |

# Order information

## Electrodes

Designation	Order number
pH electrode	LZY025
Pt1000 resistance thermometer (glass)	LZY029
Pt1000 resistance thermometer (stainless steel)	LZY473

## Accessories

Designation	Order number
Plug/cable combination type S7, 3 m	Z359016,10110
Plug/cable combination type S7, 5 m	LZY037
Plug/cable combination type S7, 10 m	Z359016,10120
Plug/cable combination type S7, 20 m	Z359016,10122
Connection box for cable extension for cable lengths < 25 m 5 terminals plus external screening Aluminum epoxy coated Protection class IP65	Z08350=A=8500
4-wire screened coaxial cable type 2654, order per meter	Z358048,00000
Stainless steel 1.4401 flow fitting with 1 gasket (Viton), process connection 3/8" NPT <sup>1</sup>	LZY032
Stainless steel 1.4401 flow fitting with 1 gasket (Viton), process connection G 3/4" <sup>1</sup>	LZY034
Polypropylene (PP) flow fitting with 1 gasket (Viton), process connection G 3/4" <sup>1</sup>	LZY038
KCl supply vessel for connection to pH electrode LZY025, 300 ml, comes with mount	C74450A184A1
Connection hose for KCl supply vessel, 2 m long	C74450A184D1
KCl solution 3M, 500 ml	C20C320
KCl in plastic bottle (1 kg)	LZY091
Wash bottle for KCl refill, 500 ml	62011
Stainless steel 1.4301 DN50 union nut, Rd 78 x 1/8" DIN405	LZY041
Polypropylene (PP) electrode holder <sup>2</sup>	C74451A1789B1
Stainless steel 1.4404 electrode holder <sup>2</sup>	C74451A1789B2
Stainless steel 1.4301 DN50 locking piece	LZY543
Wall mount component (angle bracket and hose clamp) for fittings with a 50-65 mm diameter	C74451A1789D1
Standard Viton gaskets (five-piece set) for DN 50 flow fittings	LZY042
Set of screws <sup>3</sup>	C74451A1789D2
Stainless steel 1.4301 hook wrench for union nut LZY041	LZY252

<sup>1</sup> Electrode holder and union nut must be ordered separately.

For additional flow fittings, refer to technical data sheet DOC053.53.90101.

<sup>2</sup> For installation of three electrodes with Pg13.5 threads, comes with stainless steel 1.4301 union nut and set of screws

<sup>3</sup> Set of screws comprises three pressure screws, shims, dummy plugs and gaskets

## Optional accessories

### SINGLET buffer solutions

Hermetically sealed in individual bags and color-coded; 25 ml\* each

Designation	Description	Quantity	Order number
pH 7.00 and pH 10.01	Yellow + blue	2 x 10 pieces	2769820
pH 4.01 and pH 7.00	Red + yellow	2 x 10 pieces	2769920
pH 4.01	Red	20 pieces	2770020
pH 7.00	Yellow	20 pieces	2770120
pH 10.01	Blue	20 pieces	2770220

\* Buffer traceable to NIST standard reference material, accuracy ±0.02 pH (25 °C); other concentrations available on request

### pH reagents

Designation	Order number
Buffer solution pH = 4.00, 500 ml	Z363130,00500
Buffer solution pH = 6.88, 500 ml	Z363131,00500
Buffer solution pH = 9.22, 500 ml	Z363132,00500



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