

DASGIP BioLector

Calibration Data Sheet for *pH & DO optodes*

Please enter these **calibration parameters** and the **Lot.-No.** in the BioLector software!

Lot.-No.: 1109

Filter: STD

Date of calibration: 2011/07/21

pH calibration parameters

Buffer	150 mM Na-Phosphate buffer, <i>CertiPUR</i> buffer pH 4.01 (25°C), <i>CertiPUR</i> buffer pH 10.00 (25°C) (18 point calibration)						
Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.71	58.66	58.61	58.56	58.51	58.46	58.41
ϕ max	12.96	12.95	12.94	12.92	12.91	12.90	12.89
dpH	0.55	0.55	0.56	0.56	0.56	0.56	0.56
pHo	6.03	6.01	6.00	5.99	5.98	5.96	5.95
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	58.36	58.31	58.26	58.21	58.16	58.11	58.06
ϕ max	12.87	12.86	12.85	12.84	12.82	12.81	12.80
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pHo	5.94	5.93	5.91	5.90	5.89	5.88	5.86
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	58.01	57.96	57.91	57.86	57.81	57.76	57.71
ϕ max	12.78	12.77	12.76	12.75	12.73	12.72	12.71
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pHo	5.85	5.84	5.83	5.82	5.80	5.79	5.78

Sensor properties

Dynamic range	pH 4.0-7.9
Resolution	up to 0.01 pH (software)
Accuracy	± 0.10 pH (pH 4.5-7.5); ± 0.25 pH (> pH 7.5; < pH 4.5) (batch calibration)
Response time (t90)	at 25°C < 30s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 1 min)
Temperature range	5°C to 50°C
Compatibility	Aqueous solutions, ethanol, methanol (max. 10% v/v)
Cross-sensitivity	Reduced to ionic strength (salinity); a high concentration of fluorescent molecules in the visible range can interfere
Basic material	pH sensor HP8-1004-01

Calibration

Buffer	CertiPUR Reference Material Buffer solutions Set 2 Lot No.: HC701006 (pH 4.01 ± 0.015 / pH 10.00 ± 0.03, 25°C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40°C, 700 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_054290 (BL019)
Calibration phase offset	pH 255.6 (pH Ser.0086, gain 40)

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DO calibration parameters

Buffer	Sulfite system						
Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	74.32	74.34	74.36	74.38	74.40	74.42	74.44
ϕ cal100	46.35	46.14	45.92	45.70	45.49	45.27	45.06
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	74.46	74.48	74.50	74.52	74.54	74.56	74.58
ϕ cal100	44.84	44.63	44.41	44.19	43.98	43.76	43.55
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	74.60	74.62	74.64	74.66	74.68	74.70	74.72
ϕ cal100	43.33	43.12	42.90	42.68	42.47	42.25	42.04

Sensor properties

Dynamic range	0-100% air saturation (a.s.)
Resolution	Up to 0.1% O ₂ (software)
Accuracy	± 2% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.03% O ₂ within 30 days (sampling interval of 1 min)
Response time (t90)	< 30s
Temperature range	0-50°C
Cross-sensitivity to	Organic solvents, such as acetone, toluene, chloroform or methylene chloride Chlorine gas
Basic material	Oxygen sensor PSt3-HG-1042-01

Calibration

Calibration	0.5 M Sulfite system (Two-point calibration with oxygen-free environment (nitrogen, sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40°C, 1000 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_054290 (BL019)
Calibration phase offset	DO 332.4 (DO Ser.0164, gain 50)

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	31109809
Date of sterilization	2011/07/15