

DASGIP BioLector

Calibration Data Sheet for *pH & DO optodes*

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

Lot.-No.: 1105

Filter: HC

Date of calibration: 2011/04/14

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	57.04	56.98	56.92	56.86	56.80	56.74	56.68
ϕ max	18.76	18.75	18.74	18.72	18.71	18.69	18.68
dpH	0.53	0.53	0.53	0.54	0.54	0.54	0.54
pHo	6.29	6.28	6.27	6.26	6.24	6.23	6.22
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	56.62	56.55	56.49	56.43	56.37	56.31	56.25
ϕ max	18.67	18.65	18.64	18.62	18.61	18.60	18.58
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pHo	6.21	6.20	6.18	6.17	6.16	6.15	6.14
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.19	56.13	56.07	56.01	55.95	55.89	55.83
ϕ max	18.57	18.56	18.54	18.53	18.51	18.50	18.49
dpH	0.54	0.54	0.55	0.55	0.55	0.55	0.55
pHo	6.13	6.11	6.10	6.09	6.08	6.07	6.05

Sensor properties

Dynamic range	pH 4.5-8.0
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.10 pH (pH 5-7.5); ± 0.25 pH (> pH 7.5) (batch calibration)
Response time (t90)	At 25°C < 30 s
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 HP8-0919-01

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, 1000 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_05B838(BL007)
Calibration phase offset	pH 255.8 (pH Ser.3010-hc)

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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	65.47	65.49	65.50	65.52	65.54	65.56	65.58
ϕ cal100	39.81	39.60	39.39	39.18	38.97	38.77	38.56
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	65.60	65.61	65.63	65.65	65.67	65.69	65.70
ϕ cal100	38.35	38.14	37.93	37.72	37.52	37.31	37.10
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	65.72	65.74	65.76	65.78	65.80	65.81	65.83
ϕ cal100	36.89	36.68	36.47	36.27	36.06	35.85	35.64

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)	< 30 s
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-0938-01

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_05B838(BL007)
Calibration phase offset	DO 332.3 (DO Ser.4010-hc)

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	301105208
Date of sterilization	2011/04/11