

DASGIP BioLector

Calibration Data Sheet for *pH & DO optodes*

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

Lot.-No.: 1115
Filter: STD

Date of calibration: 2011/10/08

pH calibration parameters

Buffer	150 mM Na-Phosphate buffer, <i>CertiPUR</i> buffer: pH 3.00, pH 4.01, pH 9.00, pH 10.00 (25°C) (20 point calibration)						
Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	55.37	55.29	55.21	55.14	55.06	54.98	54.90
φ max	13.93	13.91	13.89	13.88	13.86	13.85	13.83
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pHo	5.93	5.92	5.92	5.91	5.91	5.90	5.89
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	54.82	54.74	54.66	54.58	54.50	54.42	54.35
φ max	13.81	13.80	13.78	13.77	13.75	13.73	13.72
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pHo	5.89	5.88	5.87	5.87	5.86	5.86	5.85
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	54.27	54.19	54.11	54.03	53.95	53.87	53.79
φ max	13.70	13.69	13.67	13.65	13.64	13.62	13.61
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pHo	5.84	5.84	5.83	5.82	5.82	5.81	5.81

Sensor properties

Dynamic range	pH 4.00 - 8.20
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.01 pH at pH 4.60 - 6.75; ± 0.1 pH at > pH 6.75 - 7.60 & < pH 4.60 - 4.00 (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 HP8-1125-01

Calibration

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 3.00 ± 0.01 / pH 4.01 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20°C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40°C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_041A7A (BL018)
Calibration phase offset	pH 255.6 (pH Ser.0086, gain 50)

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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	74.95	74.88	74.81	74.75	74.68	74.61	74.54
ϕ cal100	44.81	44.60	44.39	44.19	43.98	43.77	43.56
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	74.47	74.41	74.34	74.27	74.20	74.13	74.07
ϕ cal100	43.35	43.14	42.93	42.72	42.51	42.30	42.09
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	74.00	73.93	73.86	73.79	73.73	73.66	73.59
ϕ cal100	41.88	41.67	41.46	41.25	41.04	40.84	40.63

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-1113-01

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, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_041A7A (BL018)
Calibration phase offset	DO 332.1 (DO Ser.0164, gain 55)

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	31113154
Date of sterilization	2011/09/29