DASGIP BioLector

Calibration Data Sheet for *pH & DO optodes*

BioLector Calibration Data

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

Lot.-No.: 1108
Filter: HC

Date of calibration: 2011/06/21

pH calibration parameters

Buffer	150 mM Na-Phosphate buffer, *CertiPUR* buffer pH 4.01 (25°C), *CertiPUR* 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	56.70	56.63	56.56	56.49	56.43	56.36	56.29
ϕ max	15.98	15.97	15.96	15.95	15.94	15.93	15.92
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pHo	6.32	6.31	6.29	6.28	6.27	6.26	6.24
Temperature	**27°C**	**28°C**	**29°C**	**30°C**	**31°C**	**32°C**	**33°C**
ϕ min	56.23	56.16	56.09	56.03	55.96	55.89	55.83
ϕ max	15.90	15.89	15.88	15.87	15.86	15.85	15.84
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pHo	6.23	6.22	6.20	6.19	6.18	6.17	6.15
Temperature	**34°C**	**35°C**	**36°C**	**37°C**	**38°C**	**39°C**	**40°C**
ϕ min	55.76	55.69	55.62	55.56	55.49	55.42	55.36
ϕ max	15.83	15.82	15.81	15.80	15.78	15.77	15.76
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.54
pHo	6.14	6.13	6.11	6.10	6.09	6.08	6.06

Sensor properties

Dynamic range	pH 4.0-8.0
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 < 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, 700 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_0A214C(BL040)
Calibration phase offset	pH 256.2 (pH Ser.3017-hc, gain 25)

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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	75.43	75.39	75.34	75.30	75.25	75.21	75.16
ϕ cal100	45.84	45.63	45.42	45.20	44.99	44.78	44.56
Temperature	**27°C**	**28°C**	**29°C**	**30°C**	**31°C**	**32°C**	**33°C**
ϕ cal0	75.12	75.07	75.03	74.98	74.94	74.89	74.85
ϕ cal100	44.35	44.13	43.92	43.71	43.49	43.28	43.07
Temperature	**34°C**	**35°C**	**36°C**	**37°C**	**38°C**	**39°C**	**40°C**
ϕ cal0	74.80	74.75	74.71	74.66	74.62	74.57	74.53
ϕ cal100	42.85	42.64	42.43	42.21	42.00	41.79	41.57

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-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, 1000 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flowerplate (MTP-48-BOH)
Calibration device	BioLector CX_0A214C(BL040)
Calibration phase offset	DO 332.4 (DO Ser.4017-hc, gain 45)

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	31108587
Date of sterilization	2011/06/18

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