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.: 1116
Filter: HC

Date of calibration: 2011/10/14

pH calibration parameters

Buffer	150 mM Na-Phosphate buffer, *CertiPUR* 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	57.64	57.59	57.53	57.48	57.43	56.38	56.33
ϕ max	13.63	13.63	13.64	13.64	13.64	13.65	13.65
dpH	0.59	0.59	0.59	0.59	0.59	0.59	0.59
pHo	6.06	6.05	6.04	6.03	6.02	6.01	6.00
Temperature	**27°C**	**28°C**	**29°C**	**30°C**	**31°C**	**32°C**	**33°C**
ϕ min	57.28	57.23	57.18	57.12	57.07	57.02	56.97
ϕ max	13.65	13.65	13.66	13.66	13.67	13.67	13.67
dpH	0.59	0.59	0.59	0.59	0.59	0.59	0.59
pHo	5.99	5.98	5.97	5.96	5.95	5.94	5.93
Temperature	**34°C**	**35°C**	**36°C**	**37°C**	**38°C**	**39°C**	**40°C**
ϕ min	56.92	56.87	56.82	56.77	56.71	56.66	56.61
ϕ max	13.67	13.68	13.68	13.68	13.68	13.69	13.69
dpH	0.59	0.59	0.59	0.59	0.59	0.59	0.59
pHo	5.92	5.92	5.91	5.90	5.89	5.88	5.87

Sensor properties

Dynamic range	pH 4.00 - 8.25
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.01 pH at pH 4.65 - 7.00); ± 0.1 pH at > pH 7.00 - 7.70 & < pH 4.65 - 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_020305 (BL004)
Calibration phase offset	pH 255.6 (pH Ser.3020-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	73.30	73.30	73.30	73.31	73.31	73.31	73.32
ϕ cal100	45.73	45.48	45.23	44.98	44.73	44.49	44.24
Temperature	**27°C**	**28°C**	**29°C**	**30°C**	**31°C**	**32°C**	**33°C**
ϕ cal0	73.32	73.32	73.33	73.33	73.33	73.33	73.34
ϕ cal100	43.99	43.74	43.49	43.24	42.99	42.75	42.50
Temperature	**34°C**	**35°C**	**36°C**	**37°C**	**38°C**	**39°C**	**40°C**
ϕ cal0	73.34	73.34	73.35	73.35	73.35	73.36	73.36
ϕ cal100	42.25	42.00	41.75	41.50	41.25	41.00	40.76

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_020305 (BL004)
Calibration phase offset	DO 332.2 (DO Ser.4020-hc, gain 45)

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	31113563
Date of sterilization	2011/10/09

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