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.: 1109
Filter: HC

Date of calibration: 2011/07/20

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	58.29	58.26	58.23	58.20	58.17	58.14	58.11
ϕ max	10.19	10.21	10.23	10.26	10.28	10.31	10.33
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pHo	6.02	6.01	5.99	5.98	5.96	5.95	5.93
Temperature	**27°C**	**28°C**	**29°C**	**30°C**	**31°C**	**32°C**	**33°C**
ϕ min	58.08	58.05	58.02	57.99	57.96	57.93	57.90
ϕ max	10.35	10.38	10.40	10.42	10.45	10.47	10.49
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pHo	5.92	5.90	5.89	5.88	5.86	5.85	5.83
Temperature	**34°C**	**35°C**	**36°C**	**37°C**	**38°C**	**39°C**	**40°C**
ϕ min	57.87	57.84	57.81	57.79	57.76	57.73	57.70
ϕ max	10.52	10.54	10.56	10.59	10.61	10.63	10.66
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pHo	5.82	5.80	5.79	5.77	5.76	5.74	5.73

Sensor properties

Dynamic range	pH 4.0-7.8
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 255.9 (pH Ser.3012-hc, gain 15)

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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	75.02	74.96	74.90	74.84	74.78	74.71	74.65
ϕ cal100	46.79	46.58	46.37	46.15	45.94	45.73	45.51
Temperature	**27°C**	**28°C**	**29°C**	**30°C**	**31°C**	**32°C**	**33°C**
ϕ cal0	74.59	74.53	74.47	74.40	74.34	74.28	74.22
ϕ cal100	45.30	45.09	44.88	44.66	44.45	44.24	44.02
Temperature	**34°C**	**35°C**	**36°C**	**37°C**	**38°C**	**39°C**	**40°C**
ϕ cal0	74.16	74.09	74.03	73.97	73.91	73.85	73.78
ϕ cal100	43.81	43.60	43.38	43.17	42.96	42.75	42.53

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 332.3 (DO Ser.4012-hc, gain 45)

Sterilization procedure

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

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