

Please enter these calibration parameters and the Lot No. into the BioLecton software!

pH calibration parameters Lot No.2312101 (BioLector I Microbioreactor, filter module ID-102/-302)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	54.59	54.51	54.43	54.35	54.27	54.19	54.11
φ max	9.81	9.82	9.83	9.84	9.85	9.86	9.87
dpH	0.51	0.51	0.51	0.51	0.51	0.51	0.51
pH ₀	6.45	6.44	6.44	6.43	6.43	6.42	6.42

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	54.03	53.96	53.88	53.80	53.72	53.64	53.56
φ max	9.89	9.90	9.91	9.92	9.93	9.94	9.95
dpH	0.51	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.42	6.41	6.41	6.40	6.40	6.39	6.39

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	53.48	53.40	53.33	53.25	53.17	53.09	53.01
φ max	9.96	9.97	9.99	10.00	10.01	10.02	10.03
dpH	0.50	0.50	0.50	0.50	0.50	0.50	0.50
pH ₀	6.38	6.38	6.37	6.37	6.36	6.36	6.35

pH sensor properties

Dynamic range	pH 4.60 - 7.90
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 5.05-5.35; ± 0.1 pH at pH 5.35-7.15; ± 0.25 pH at pH 7.15-7.45 batch calibration
Response time (t ₉₀)	At 25 °C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 6 min)
Temperature range	5 °C to 50 °C
Compatibility	Aqueous solutions, ethanol, methanol (max. 5 % v/v)
Sensor stability	Sensor material can be degraded by some microorganisms
Cross-sensitivity	Reduced to ionic strength (salinity); high concentration of fluorescent molecules in the visible range can interfere (GFP, (e)YFP); complex media can cause a pH-shift (peptone, yeast extract)
Basic material	pH sensor HP8-2211-01 (at least stable for 7 days with CertiPUR-buffer) pH sensors are light-sensitive; please protect them from direct light!

pH calibration

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 3.00 ± 0.02 / pH 4.00 ± 0.02 / pH 9.00 ± 0.03 / 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 = Flower Well Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	pH 255.90 (pH Ser. 3403, gain 55)
Date of calibration	2023-08-18

Contact us

If you have any questions, contact Beckman Coulter Customer Support Center:

- Worldwide, find out in our website at: www.beckman.de/support/technical
- In the USA and Canada, call us at 1-800-369-0333
- Outside the USA and Canada, contact your local Beckman Coulter representative

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DO calibration parameters Lot No.2312101 (BioLector I Microbioreactor, filter module ID-103/-303)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	73.13	73.11	73.08	73.05	73.02	72.99	72.97
ϕ cal100	43.39	43.15	42.91	42.67	42.43	42.19	41.96

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	72.94	72.91	72.88	72.86	72.83	72.80	72.77
ϕ cal100	41.72	41.48	41.24	41.00	40.76	40.52	40.28

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	72.74	72.72	72.69	72.66	72.63	72.61	72.58
ϕ cal100	40.04	39.80	39.56	39.33	39.09	38.85	38.61

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O ₂ (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ per day (sampling interval of 6 min)
Response time (t ₉₀)	< 30 s
Temperature range	5 – 50°C
Sensor stability	Sensor material can be degraded by some microorganisms
Cross-sensitivity to	Organic solvents, such as acetone, toluene, chloroform or methylene chloride, Chlorine gas; high concentration of fluorescent molecules in the visible range can interfere (mCherry, tdTomato, dsRed, Nile red); complex media can cause a DO-shift
Basic material	Oxygen sensor PSt3-HG-1921-01_5 (at least stable for 7 days with CertiPUR-buffer) DO sensors are light-sensitive; please protect them from direct light!

DO calibration

Calibration	1.0 M Sulfite system (Two-point calibration with oxygen-free environment (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 = Flower Well Plate (MTP-48-BOH1)
Calibration device	Hardware ID: BL092-CX-4A7394
Calibration phase offset	DO 332.50 (DO Ser. 3402, gain 70)
Date of calibration	2023-08-18

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
Steris Process Run ID	2324-3217
Date of sterilization	2023-08-07

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