

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

**pH calibration parameters Lot No.2304221+2304227 (BioLector® Pro, filter module ID-221/-421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	70.04	69.93	69.83	69.73	69.63	69.53	69.42
φ max	29.78	29.70	29.62	29.53	29.45	29.36	29.28
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	5.91	5.90	5.89	5.89	5.88	5.87	5.86

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	69.32	69.22	69.12	69.01	68.91	68.81	68.71
φ max	29.20	29.11	29.03	28.95	28.86	28.78	28.69
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH <sub>0</sub>	5.86	5.85	5.84	5.83	5.83	5.82	5.81

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	68.60	68.50	68.40	68.30	68.20	68.09	67.99
φ max	28.61	28.53	28.44	28.36	28.28	28.19	28.11
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH <sub>0</sub>	5.80	5.80	5.79	5.78	5.77	5.77	5.76

**pH sensor properties**

Dynamic range	pH 3.60 - 7.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30-4.80; ± 0.1 pH at pH 4.80-6.45; ± 0.25 pH at pH 6.45-6.90 batch calibration
Response time (t90)	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 LG1-2239-01 (at least stable for 7 days with CertiPUR-buffer) <b>pH sensors are light-sensitive; please protect them from direct light!</b>

**pH calibration**

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 2.00 ± 0.01 / pH 3.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.31 (pH Ser. 3305, gain 8)
Date of calibration	2023-03-21

**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](http://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.2304221+227 (BioLector® Pro, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	70.07	70.04	70.02	70.00	69.98	69.96	69.94
ϕ cal100	41.19	41.04	40.88	40.72	40.57	40.41	40.25

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	69.91	69.89	69.87	69.85	69.83	69.81	69.78
ϕ cal100	40.10	39.94	39.78	39.63	39.47	39.31	39.16

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	69.76	69.74	69.72	69.70	69.67	69.65	69.63
ϕ cal100	39.00	38.84	38.69	38.53	38.37	38.22	38.06

**DO sensor properties**

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O <sub>2</sub> (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O <sub>2</sub> per day (sampling interval of 6 min)
Response time (t <sub>90</sub> )	< 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 RF-230250061 (at least stable for 7 days with CertiPUR-buffer) <b>DO sensors are light-sensitive; please protect them from direct light!</b>

**DO calibration**

Calibration	1.0 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = LG1-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH2)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.39 (DO Ser. 4302-RD, gain 4)
Date of calibration	2023-03-21

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
Steris Process Run ID	2324-3482
Date of sterilization	2023-03-09

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