

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

**pH calibration parameters Lot No.2213301+2213307 (BioLector II/Pro Microbioreactor, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	68.51	68.63	68.75	68.86	68.98	69.10	69.22
$\phi$ max	14.09	14.11	14.14	14.17	14.19	14.22	14.25
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.38	5.37	5.37	5.36	5.36	5.35	5.35

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	69.33	69.45	69.57	69.69	69.81	69.92	70.04
$\phi$ max	14.27	14.30	14.33	14.35	14.38	14.40	14.43
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.34	5.34	5.33	5.32	5.32	5.31	5.31

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	70.16	70.28	70.39	70.51	70.63	70.75	70.86
$\phi$ max	14.46	14.48	14.51	14.54	14.56	14.59	14.62
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.30	5.30	5.29	5.29	5.28	5.28	5.27

**pH sensor properties**

Dynamic range	pH 4.00 - 6.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.25-4.40; ± 0.1 pH at pH 4.40-6.10; ± 0.25 pH at pH 6.10-6.25 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 pH51-211650290 (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 ± 0.02 / pH 3.00 ± 0.02 / pH 7.00 ± 0.02 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower (Round Well) Plate (MTP-(R)48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.09 (pH Ser. 3288, gain 6)
Date of calibration	2022-10-12

**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.2213301+2213307 (BioLector II/Pro Microbioreactor, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	70.39	70.37	70.36	70.35	70.33	70.32	70.31
φ cal100	40.46	40.32	40.19	40.06	39.93	39.80	39.67

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	70.29	70.28	70.27	70.25	70.24	70.23	70.21
φ cal100	39.54	39.41	39.27	39.14	39.01	38.88	38.75

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	70.20	70.19	70.17	70.16	70.15	70.13	70.12
φ cal100	38.62	38.49	38.35	38.22	38.09	37.96	37.83

**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-222756996 (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 = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower (Round Well) Plate (MTP-(R)48-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.39 (DO Ser. 4302-RD, gain 4)
Date of calibration	2022-10-12

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	1085201
Date of sterilization	2022-09-27

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