

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

**pH calibration parameters Lot No.2206201 (BioLector II/Pro Microbioreactor, filter module ID-221/421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	72.07	72.00	71.92	71.84	71.76	71.68	71.61
$\phi$ max	23.47	23.41	23.35	23.29	23.23	23.17	23.11
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH <sub>0</sub>	5.99	5.98	5.96	5.95	5.94	5.93	5.92

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	71.53	71.45	71.37	71.29	71.22	71.14	71.06
$\phi$ max	23.06	23.00	22.94	22.88	22.82	22.76	22.70
dpH	0.71	0.71	0.72	0.72	0.72	0.72	0.72
pH <sub>0</sub>	5.91	5.90	5.88	5.87	5.86	5.85	5.84

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	70.98	70.90	70.83	70.75	70.67	70.59	70.51
$\phi$ max	22.64	22.59	22.53	22.47	22.41	22.35	22.29
dpH	0.72	0.72	0.72	0.72	0.72	0.72	0.72
pH <sub>0</sub>	5.83	5.82	5.80	5.79	5.78	5.77	5.76

### pH sensor properties

Dynamic range	pH 3.55 - 8.00
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.25 - 4.75 ; ± 0.1 pH at pH 4.75 - 6.70 ; ± 0.25 pH at pH 6.70 - 7.25 (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 LG1-2141-01 (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 ± 0.02 / pH 3.00 ± 0.02 / pH 9.00 ± 0.03 / pH 10.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	pH -360.79 (pH Ser. 3513, gain 8)
Date of calibration	2022-05-20

### 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.2206201 (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	70.59	70.57	70.55	70.53	70.52	70.50	70.48
ϕ cal100	41.35	41.11	40.87	40.63	40.40	40.16	39.92

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	70.46	70.44	70.42	70.40	70.38	70.37	70.35
ϕ cal100	39.68	39.45	39.21	38.97	38.73	38.49	38.26

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.33	70.31	70.29	70.27	70.25	70.23	70.22
ϕ cal100	38.02	37.78	37.54	37.30	37.07	36.83	36.59

**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-204150647 (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	Two-point calibration at an oxygen-free environment (1.0 M sulfite system) and an air-saturated environment (21% oxygen with QC buffer)
Settings	BioLector protocol = pH_DO_calibration_BOH2 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Flower Plate (MTP-48-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	DO -360.89 (DO Ser. 4452, gain 4)
Date of calibration	2022-05-20

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	1035388
Date of sterilization	2022-05-10

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