

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

**pH calibration parameters Lot No.2205201+2205297 (BioLector II/Pro Microbioreactor, filter module ID-221/421)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	72.41	72.33	72.25	72.17	72.09	72.01	71.93
φ max	23.01	22.95	22.90	22.85	22.79	22.74	22.68
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH <sub>0</sub>	6.02	6.00	5.99	5.98	5.97	5.96	5.94

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	71.85	71.77	71.69	71.61	71.53	71.45	71.37
φ max	22.63	22.58	22.52	22.47	22.41	22.36	22.30
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH <sub>0</sub>	5.93	5.92	5.91	5.90	5.88	5.87	5.86

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	71.29	71.21	71.13	71.05	70.98	70.90	70.82
φ max	22.25	22.20	22.14	22.09	22.03	21.98	21.93
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH <sub>0</sub>	5.85	5.84	5.82	5.81	5.80	5.79	5.78

### pH sensor properties

Dynamic range	pH 3.60 - 7.95
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30 - 4.75 ; ± 0.1 pH at pH 4.75 - 6.70 ; ± 0.25 pH at pH 6.70 - 7.20 (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	2022-05-10

### 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.2205201+2205297 (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	70.76	70.73	70.71	70.69	70.67	70.65	70.62
ϕ cal100	41.96	41.74	41.52	41.30	41.08	40.86	40.65

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	70.60	70.58	70.56	70.54	70.52	70.49	70.47
ϕ cal100	40.43	40.21	39.99	39.77	39.55	39.33	39.11

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.45	70.43	70.41	70.38	70.36	70.34	70.32
ϕ cal100	38.89	38.67	38.45	38.23	38.01	37.79	37.58

**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-213550643+644 (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	2022-05-10

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	1029868
Date of sterilization	2022-04-26

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