

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

**pH calibration parameters Lot No.2204207 (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	72.63	72.55	72.46	72.38	72.29	72.21	72.13
$\phi$ max	23.67	23.60	23.54	23.47	23.40	23.34	23.27
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	5.98	5.97	5.96	5.95	5.94	5.93	5.91

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	72.04	71.96	71.88	71.79	71.71	71.63	71.54
$\phi$ max	23.20	23.14	23.07	23.00	22.94	22.87	22.80
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	5.90	5.89	5.88	5.87	5.86	5.85	5.83

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	71.46	71.38	71.29	71.21	71.13	71.04	70.96
$\phi$ max	22.73	22.67	22.60	22.53	22.47	22.40	22.33
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	5.82	5.81	5.80	5.79	5.78	5.77	5.75

### pH sensor properties

Dynamic range	pH 3.55 - 7.95
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 - 7.20 (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 = Round Well Plate (MTP-R48-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	pH -360.79 (pH Ser. 3513, gain 8)
Date of calibration	2022-04-21

### 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.2204207 (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	70.31	70.29	70.28	70.27	70.25	70.24	70.22
φ cal100	42.52	42.30	42.07	41.84	41.61	41.38	41.16

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	70.21	70.20	70.18	70.17	70.15	70.14	70.13
φ cal100	40.93	40.70	40.47	40.25	40.02	39.79	39.56

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	70.11	70.10	70.08	70.07	70.06	70.04	70.03
φ cal100	39.34	39.11	38.88	38.65	38.43	38.20	37.97

#### 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 (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 = Round Well Plate (MTP-R48-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	DO -360.89 (DO Ser. 4452, gain 4)
Date of calibration	2022-04-21

#### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	1020859
Date of sterilization	2022-04-01

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