

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

**pH calibration parameters Lot No.2204211+2204217 (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	72.47	72.37	72.28	72.19	72.10	72.01	71.92
φ max	23.56	23.50	23.43	23.36	23.29	23.23	23.16
dpH	0.68	0.68	0.68	0.68	0.69	0.69	0.69
pH <sub>0</sub>	5.96	5.94	5.93	5.92	5.91	5.90	5.89

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	71.83	71.74	71.64	71.55	71.46	71.37	71.28
φ max	23.09	23.02	22.96	22.89	22.82	22.75	22.69
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	5.88	5.87	5.86	5.84	5.83	5.82	5.81

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	71.19	71.10	71.01	70.91	70.82	70.73	70.64
φ max	22.62	22.55	22.48	22.42	22.35	22.28	22.21
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH <sub>0</sub>	5.80	5.79	5.78	5.77	5.76	5.75	5.73

### pH sensor properties

Dynamic range	pH 3.60 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.25 - 4.70 ; ± 0.1 pH at pH 4.70 - 6.70 ; ± 0.25 pH at pH 6.70 - 7.15 (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 = MF_pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	pH -360.79 (pH Ser. 3513, gain 8)
Date of calibration	2022-04-20

### 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

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

**DO calibration parameters Lot No.2204211+2204217 (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	70.60	70.58	70.56	70.55	70.53	70.51	70.50
φ cal100	42.06	41.84	41.62	41.40	41.18	40.96	40.74

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	70.48	70.46	70.45	70.43	70.41	70.40	70.38
φ cal100	40.52	40.30	40.08	39.86	39.64	39.42	39.20

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	70.36	70.34	70.33	70.31	70.29	70.28	70.26
φ cal100	38.98	38.76	38.54	38.32	38.10	37.88	37.66

**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 = MF_pH_DO_calibration_BOH2 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	DO -360.89 (DO Ser. 4452, gain 4)
Date of calibration	2022-04-20

**Sterilization procedure**

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

**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