

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

**pH calibration parameters Lot No.2212221 and 2212227 (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	68.39	68.29	68.18	68.08	67.98	67.87	67.77
$\phi$ max	21.79	21.72	21.65	21.57	21.50	21.43	21.35
dpH	0.70	0.70	0.70	0.70	0.70	0.70	0.70
pH <sub>0</sub>	5.94	5.93	5.92	5.90	5.89	5.88	5.87

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	67.67	67.56	67.46	67.36	67.25	67.15	67.05
$\phi$ max	21.28	21.20	21.13	21.06	20.98	20.91	20.84
dpH	0.70	0.70	0.70	0.70	0.70	0.70	0.70
pH <sub>0</sub>	5.85	5.84	5.83	5.82	5.80	5.79	5.78

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	66.94	66.84	66.74	66.63	66.53	66.43	66.32
$\phi$ max	20.76	20.69	20.61	20.54	20.47	20.39	20.32
dpH	0.70	0.70	0.70	0.70	0.70	0.70	0.70
pH <sub>0</sub>	5.77	5.75	5.74	5.73	5.72	5.70	5.69

**pH sensor properties**

Dynamic range	pH 3.90 - 8.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.65 - 5.15 ; ± 0.1 pH at pH 5.15 - 7.45 ; ± 0.25 pH at pH 7.45 - 7.90 (batch calibration)
Response time (t <sub>90</sub> )	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 LG1-2212-01 (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-MF32C-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	pH -360.63 (pH Ser. 3513, gain 8)
Date of calibration	2022-09-14

**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.2212221 and 2212227 (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	70.56	70.54	70.52	70.50	70.48	70.47	70.45
φ cal100	41.11	40.90	40.69	40.48	40.27	40.06	39.85

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	70.43	70.41	70.39	70.37	70.35	70.33	70.31
φ cal100	39.64	39.43	39.23	39.02	38.81	38.60	38.39

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	70.29	70.27	70.25	70.23	70.21	70.19	70.17
φ cal100	38.18	37.97	37.76	37.55	37.34	37.13	36.92

### 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-222756995 (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-MF32C-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	DO -360.94 (DO Ser. 4452, gain 4)
Date of calibration	2022-09-14

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	1078918
Date of sterilization	2022-09-07

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