

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

**pH calibration parameters Lot No.2214211+2214217 (BioLector XT Microbioreactor, filter module ID-521)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.53	69.41	69.29	69.17	69.05	68.93	68.81
φ max	21.75	21.69	21.62	21.55	21.49	21.42	21.36
dpH	0.69	0.69	0.69	0.69	0.68	0.68	0.68
pH <sub>0</sub>	5.95	5.94	5.93	5.91	5.90	5.88	5.87

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.68	68.56	68.44	68.32	68.20	68.08	67.96
φ max	21.29	21.22	21.16	21.09	21.02	20.96	20.89
dpH	0.68	0.68	0.68	0.68	0.68	0.67	0.67
pH <sub>0</sub>	5.86	5.84	5.83	5.81	5.80	5.79	5.77

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	67.84	67.72	67.60	67.47	67.35	67.23	67.11
φ max	20.82	20.76	20.69	20.62	20.56	20.49	20.42
dpH	0.67	0.67	0.67	0.67	0.67	0.67	0.66
pH <sub>0</sub>	5.76	5.74	5.73	5.71	5.70	5.69	5.67

**pH sensor properties**

Dynamic range	pH 3.55 - 7.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.25 - 4.70 ; ± 0.1 pH at pH 4.70 - 6.55 ; ± 0.25 pH at pH 6.55 - 7.00 (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 BG1-2212-01 (at least stable for 7 days with CertiPUR-buffer)

**pH sensors are light-sensitive; please protect them from direct light!**

**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: 03515297 (BLXT 0073)
Calibration phase offset	pH -360.45 (pH Ser. 3798, gain 8)
Date of calibration	2022-12-09

**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.2214211+2214217 (BioLector XT Microbioreactor, filter module ID-528)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-2080	-2035	-1990	-1946	-1901	-1856	-1811
B	16076	15723	15370	15017	14664	14311	13958
C	-14250	-13930	-13611	-13291	-12971	-12652	-12332

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-1766	-1721	-1676	-1632	-1587	-1542	-1497
B	13605	13252	12899	12546	12193	11840	11487
C	-12013	-11693	-11373	-11054	-10734	-10415	-10095

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1452	-1407	-1362	-1317	-1273	-1228	-1183
B	11134	10782	10429	10076	9723	9370	9017
C	-9775	-9456	-9136	-8817	-8497	-8177	-7858

#### DO sensor properties

Dynamic range	0 - 100 % oxygen
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-222756998 (at least stable for 7 days with CertiPUR-buffer)

**DO sensors are light-sensitive; please protect them from direct light!**

#### DO calibration

Calibration	Three-point calibration at an oxygen-free environment (1.0 M sulfite system), an air-saturated environment (21% oxygen) and a pure (100%) oxygen environment (latter two 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: 03515297 (BLXT 0073)
Calibration phase offset	DO -360.77 (DO Ser. 4671, gain 4)
Date of calibration	2022-12-09

#### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	2324-3042
Date of sterilization	2022-11-14

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