

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

**pH calibration parameters Lot No.2304221+227 (BioLector XT Microbioreactor, filter module ID-521)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.99	69.84	69.68	69.52	69.37	69.21	69.06
φ max	25.22	25.11	24.99	24.88	24.76	24.65	24.53
dpH	0.63	0.63	0.63	0.63	0.63	0.63	0.63
pH <sub>0</sub>	5.90	5.89	5.89	5.88	5.87	5.86	5.85

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.90	68.75	68.59	68.43	68.28	68.12	67.97
φ max	24.42	24.30	24.19	24.07	23.96	23.84	23.73
dpH	0.63	0.63	0.63	0.63	0.63	0.63	0.63
pH <sub>0</sub>	5.85	5.84	5.83	5.82	5.81	5.80	5.80

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	67.81	67.65	67.50	67.34	67.19	67.03	66.88
φ max	23.61	23.50	23.38	23.27	23.15	23.04	22.92
dpH	0.63	0.63	0.63	0.63	0.63	0.63	0.63
pH <sub>0</sub>	5.79	5.78	5.77	5.76	5.76	5.75	5.74

**pH sensor properties**

Dynamic range	pH 3.55 - 7.50
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.20 - 4.65 ; ± 0.1 pH at pH 4.65 - 6.45 ; ± 0.25 pH at pH 6.45 - 6.90 (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 LG1-2239-01 (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-MF32C-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	pH -360.53 (pH Ser. 3513, gain 8)

**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.2304221+227 (BioLector XT Microbioreactor, filter module ID-528)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-1756	-1728	-1700	-1671	-1643	-1615	-1586
B	13486	13265	13044	12823	12602	12381	12160
C	-11865	-11667	-11468	-11270	-11071	-10873	-10674

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-1558	-1530	-1501	-1473	-1445	-1416	-1388
B	11938	11717	11496	11275	11054	10833	10612
C	-10476	-10277	-10079	-9880	-9682	-9483	-9285

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1360	-1331	-1303	-1275	-1247	-1218	-1190
B	10391	10169	9948	9727	9506	9285	9064
C	-9086	-8888	-8689	-8490	-8292	-8093	-7895

**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-230250061 (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	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-MF32C-BOH2)
Calibration device	Hardware ID: 03166164 (BLXT Pilot 1)
Calibration phase offset	DO -360.66 (DO Ser. 4452, gain 4)
Date of calibration	2023-03-18

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
Steris Process Run ID	2324-3482
Date of sterilization	2023-03-09

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