

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

pH calibration parameters Lot No.2318221 (BioLector XT Microbioreactor, filter module ID-521)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	70.88	70.76	70.64	70.53	70.41	70.29	70.17
φ max	25.62	25.51	25.39	25.28	25.17	25.06	24.95
dpH	0.70	0.70	0.70	0.70	0.70	0.70	0.70
pH ₀	5.96	5.95	5.94	5.93	5.93	5.92	5.91

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	70.05	69.93	69.82	69.70	69.58	69.46	69.34
φ max	24.84	24.73	24.62	24.50	24.39	24.28	24.17
dpH	0.70	0.70	0.70	0.71	0.71	0.71	0.71
pH ₀	5.90	5.89	5.88	5.87	5.86	5.85	5.84

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	69.23	69.11	68.99	68.87	68.75	68.64	68.52
φ max	24.06	23.95	23.84	23.72	23.61	23.50	23.39
dpH	0.71	0.71	0.71	0.71	0.71	0.71	0.71
pH ₀	5.83	5.82	5.81	5.81	5.80	5.79	5.78

pH sensor properties

Dynamic range	pH 3.60 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.30 - 4.80 ; ± 0.1 pH at pH 4.80 - 6.60 ; ± 0.25 pH at pH 6.60 - 7.10 (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 ± 0.02, 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: 03166168 BLXT0067
Calibration phase offset	pH -360.53 (pH Ser. 3513, gain 8)
Date of calibration	2024-01-12

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
- 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 BioLection software!

DO calibration parameters Lot No.2318221 (BioLector XT Microbioreactor, filter module ID-528)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-1888	-1845	-1802	-1759	-1716	-1673	-1630
B	14558	14219	13880	13542	13203	12864	12525
C	-12875	-12567	-12260	-11953	-11645	-11338	-11031

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-1587	-1544	-1501	-1458	-1415	-1372	-1329
B	12187	11848	11509	11170	10832	10493	10154
C	-10723	-10416	-10109	-9801	-9494	-9187	-8879

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1286	-1243	-1200	-1157	-1114	-1071	-1028
B	9815	9477	9138	8799	8460	8122	7783
C	-8572	-8265	-7957	-7650	-7343	-7035	-6728

DO sensor properties

Dynamic range	0 - 100 % oxygen
Resolution	Up to 0.1 % O ₂ (software)
Accuracy	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ per day (sampling interval of 6 min)
Response time (t ₉₀)	< 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-232551419 (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-MF32C-BOH2)
Calibration device	Hardware ID: 03166168 BLXT0067
Calibration phase offset	DO -360.66 (DO Ser. 4452, gain 4)
Date of calibration	2024-01-12

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
Steris Process Run ID	2324-4738
Date of sterilization	2024-12-22

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