

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

pH calibration parameters Lot No.2215221 (BioLector XT Microbioreactor, filter module ID-521)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	69.34	69.24	69.14	69.04	68.94	68.84	68.74
φ max	21.54	21.48	21.43	21.37	21.31	21.25	21.19
dpH	0.69	0.69	0.69	0.69	0.69	0.69	0.69
pH ₀	5.87	5.86	5.85	5.83	5.82	5.81	5.80

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	68.64	68.54	68.44	68.34	68.24	68.14	68.04
φ max	21.13	21.07	21.01	20.96	20.90	20.84	20.78
dpH	0.69	0.69	0.69	0.68	0.68	0.68	0.68
pH ₀	5.78	5.77	5.76	5.75	5.74	5.72	5.71

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	67.94	67.84	67.74	67.64	67.54	67.44	67.34
φ max	20.72	20.66	20.60	20.54	20.49	20.43	20.37
dpH	0.68	0.68	0.68	0.68	0.68	0.68	0.68
pH ₀	5.70	5.69	5.67	5.66	5.65	5.64	5.63

pH sensor properties

Dynamic range	pH 3.50 - 7.60
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.15 - 4.60 ; ± 0.1 pH at pH 4.60 - 6.50 ; ± 0.25 pH at pH 6.50 - 6.95 (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 LG1-2212-01 (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-MF32C-BOH2)
Calibration device	Hardware ID: 03515297 (BLXT 0073)
Calibration phase offset	pH -360.45 (pH Ser. 3798, gain 8)
Date of calibration	2022-12-13

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

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DO calibration parameters Lot No.2215221 (BioLector XT Microbioreactor, filter module ID-528)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-1828	-1793	-1758	-1723	-1688	-1653	-1618
B	14053	13779	13505	13231	12957	12682	12408
C	-12376	-12129	-11882	-11635	-11388	-11140	-10893

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-1583	-1548	-1513	-1478	-1443	-1408	-1373
B	12134	11860	11586	11311	11037	10763	10489
C	-10646	-10399	-10152	-9905	-9657	-9410	-9163

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-1338	-1303	-1268	-1233	-1198	-1163	-1128
B	10215	9940	9666	9392	9118	8844	8569
C	-8916	-8669	-8421	-8174	-7927	-7680	-7433

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 222756998+999 (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: 03515297 (BLXT 0073)
Calibration phase offset	DO -360.77 (DO Ser. 4671, gain 4)
Date of calibration	2022-12-13

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
Steris Process Run ID	2324-3130
Date of sterilization	2022-12-06

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