

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

pH calibration parameters Lot No.2215121 (BioLector XT Microbioreactor, filter module ID-502)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ min	62.51	62.45	62.38	62.31	62.24	62.17	62.10
φ max	13.50	13.53	13.56	13.58	13.61	13.64	13.66
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.82	6.81	6.80	6.79	6.78	6.77	6.76

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ min	62.03	61.96	61.89	61.82	61.75	61.69	61.62
φ max	13.69	13.72	13.74	13.77	13.80	13.82	13.85
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.75	6.74	6.73	6.71	6.70	6.69	6.68

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ min	61.55	61.48	61.41	61.34	61.27	61.20	61.13
φ max	13.88	13.90	13.93	13.96	13.98	14.01	14.04
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH ₀	6.67	6.66	6.65	6.64	6.63	6.61	6.60

pH sensor properties

Dynamic range	pH 4.85 - 8.20
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 5.35 - 5.60 ; ± 0.1 pH at pH 5.60 - 7.40 ; ± 0.25 pH at pH 7.40 - 7.70 (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 HP8-2148-01 (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 3.00 ± 0.02 / pH 4.00 ± 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_BOH1 ,T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)
Calibration device	Hardware ID: 03515297 (BLXT 0073)
Calibration phase offset	pH -1.88 (pH Ser. 3784, gain 7)
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.2215121 (BioLector XT Microbioreactor, filter module ID-528)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
A	-4124	-4043	-3961	-3879	-3798	-3716	-3634
B	32443	31795	31148	30501	29854	29207	28560
C	-29367	-28777	-28186	-27595	-27005	-26414	-25823

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
A	-3553	-3471	-3389	-3308	-3226	-3144	-3063
B	27913	27266	26619	25972	25325	24678	24031
C	-25233	-24642	-24051	-23460	-22870	-22279	-21688

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
A	-2981	-2899	-2818	-2736	-2654	-2573	-2491
B	23384	22737	22090	21443	20796	20149	19502
C	-21098	-20507	-19916	-19326	-18735	-18144	-17554

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 PSt3-HG-1921-01_5 (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_BOH1 , T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32C-BOH1)
Calibration device	Hardware ID: 03515297 (BLXT 0073)
Calibration phase offset	DO -360.64 (DO Ser. 4670, gain 7)
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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