

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

**pH calibration parameters Lot No.2207311 (BioLector Pro Microbioreactor, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	66.45	66.60	66.74	66.88	67.02	67.16	67.30
$\phi$ max	14.23	14.27	14.31	14.34	14.38	14.42	14.46
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.38	-0.38
pH <sub>0</sub>	5.41	5.40	5.39	5.39	5.38	5.38	5.37

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	67.44	67.58	67.72	67.86	68.00	68.15	68.29
$\phi$ max	14.50	14.54	14.57	14.61	14.65	14.69	14.73
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.36	5.36	5.35	5.34	5.34	5.33	5.33

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	68.43	68.57	68.71	68.85	68.99	69.13	69.27
$\phi$ max	14.76	14.80	14.84	14.88	14.92	14.96	14.99
dpH	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38	-0.38
pH <sub>0</sub>	5.32	5.31	5.31	5.30	5.29	5.29	5.28

**pH sensor properties**

Dynamic range	pH 3.90 - 6.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.20-4.40; ± 0.1 pH at pH 4.40-6.05; ± 0.25 pH at pH 6.05-6.25 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 pH51-21650284 (at least stable for 7 days with CertiPUR-buffer) <b>pH sensors are light-sensitive; please protect them from direct light!</b>

**pH calibration**

Buffer	CertiPUR Reference Material Buffer solutions Set (pH 2.00 ± 0.02 / pH 3.00 ± 0.02 / pH 7.00 ± 0.02 / pH 8.00 ± 0.03, 20 °C); 150 mM Citrat-Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2022-06-23

**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.2207311 (BioLector Pro Microbioreactor, filter module ID-228/-428)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	70.39	70.37	70.35	70.33	70.32	70.30	70.28
ϕ cal100	41.36	41.19	41.01	40.84	40.66	40.49	40.32

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	70.26	70.24	70.23	70.21	70.19	70.17	70.15
ϕ cal100	40.14	39.97	39.79	39.62	39.45	39.27	39.10

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	70.13	70.12	70.10	70.08	70.06	70.04	70.03
ϕ cal100	38.93	38.75	38.58	38.40	38.23	38.06	37.88

**DO sensor properties**

Dynamic range	0 - 100 % air saturation (a.s.)
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-221155394 (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	1.0 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = pH51-RF-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = Microfluidic Flower Plate (MTP-MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	DO -360.44 (DO Ser. 4302-RD, gain 4)
Date of calibration	2022-06-23

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	1048503
Date of sterilization	2022-06-17

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