

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

**pH calibration parameters Lot No.2117321 and 2117327 (BioLector Pro Microbioreactor, filter module ID-424)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	64.67	64.85	65.03	65.21	65.38	65.56	65.74
$\phi$ max	10.17	10.19	10.22	10.24	10.27	10.29	10.32
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.52	5.51	5.50	5.49	5.49	5.48	5.47

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	65.92	66.09	66.27	66.45	66.63	66.80	66.98
$\phi$ max	10.34	10.37	10.39	10.42	10.44	10.47	10.49
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.46	5.46	5.45	5.44	5.43	5.43	5.42

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	67.16	67.34	67.51	67.69	67.87	68.05	68.23
$\phi$ max	10.51	10.54	10.56	10.59	10.61	10.64	10.66
dpH	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39	-0.39
pH <sub>0</sub>	5.41	5.40	5.40	5.39	5.38	5.37	5.37

### pH sensor properties

Dynamic range	pH 3.30 - 6.50
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 3.80-4.05; ± 0.1 pH at pH 4.05-5.75; ± 0.25 pH at pH 5.75-6.05 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 pH51-202850559 (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 (Round Well) Plate (MTP-(R)MF32-BOH3)
Calibration device	Hardware ID: BL-09-000F-0032
Calibration phase offset	pH -360.10 (pH Ser. 3288, gain 6)
Date of calibration	2021-12-21

### 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



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

**DO calibration parameters Lot No.2102321 and 2102327 (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	69.84	69.83	69.82	69.81	69.80	69.79	69.78
φ cal100	40.34	40.17	40.00	39.83	39.66	39.49	39.32

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	69.77	69.76	69.75	69.74	69.73	69.72	69.71
φ cal100	39.15	38.98	38.81	38.64	38.46	38.29	38.12

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	69.71	69.70	69.69	69.68	69.67	69.66	69.65
φ cal100	37.95	37.78	37.61	37.44	37.27	37.10	36.93

### 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-213550641 (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	0.5 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 (Round Well) Plate (MTP-(R)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	2021-12-21

### Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	979401
Date of sterilization	2021-12-14

### 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

