

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

**pH calibration parameters Lot No.2116121 (BioLector II/Pro Microbioreactor, filter module ID-202/402)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	64.22	64.15	64.08	64.01	63.93	63.86	63.79
$\phi$ max	13.65	13.64	13.64	13.64	13.63	13.63	13.63
dpH	0.58	0.58	0.58	0.58	0.58	0.58	0.58
pH <sub>0</sub>	6.33	6.32	6.31	6.30	6.29	6.28	6.27

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	63.72	63.65	63.58	63.50	63.43	63.36	63.29
$\phi$ max	13.62	13.62	13.61	13.61	13.61	13.60	13.60
dpH	0.58	0.58	0.58	0.57	0.57	0.57	0.57
pH <sub>0</sub>	6.26	6.25	6.24	6.23	6.22	6.21	6.20

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	63.22	63.14	63.07	63.00	62.93	62.86	62.79
$\phi$ max	13.60	13.59	13.59	13.59	13.58	13.58	13.58
dpH	0.57	0.57	0.57	0.57	0.57	0.57	0.57
pH <sub>0</sub>	6.19	6.18	6.17	6.16	6.15	6.14	6.13

### pH sensor properties

Dynamic range	pH 4.30 - 7.85
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.80 - 5.10 ; ± 0.1 pH at pH 5.10 - 7.05 ; ± 0.25 pH at pH 7.05 - 7.35 (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 HP8-1811-01_5 (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 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: 03166164 (BLXT Pilot 1)
Calibration phase offset	pH -1.81 (pH Ser. 3511, gain 7)
Date of calibration	2021-12-02

### 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.2116121 (BioLector II/Pro Microbioreactor, filter module ID-203/403)**

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	73.62	73.58	73.54	73.49	73.45	73.40	73.36
φ cal100	42.97	42.72	42.47	42.22	41.97	41.72	41.47

Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	73.31	73.27	73.23	73.18	73.14	73.09	73.05
φ cal100	41.22	40.97	40.71	40.46	40.21	39.96	39.71

Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	73.00	72.96	72.92	72.87	72.83	72.78	72.74
φ cal100	39.46	39.21	38.96	38.71	38.46	38.20	37.95

**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 Pst3-HG-1921-01_3 (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 = 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: 03166164 (BLXT Pilot 1)
Calibration phase offset	DO -360.63 (DO Ser. 4446, gain 7)
Date of calibration	2021-12-02

**Sterilization procedure**

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	972085
Date of sterilization	2021-11-25

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