

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

pH calibration parameters Lot No. 1820 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.20	58.11	58.02	57.93	57.84	57.75	57.65
ϕ max	16.20	16.18	16.17	16.15	16.13	16.11	16.09
dpH	0.55	0.55	0.55	0.55	0.55	0.54	0.54
pH ₀	6.59	6.57	6.56	6.55	6.54	6.53	6.52
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.56	57.47	57.38	57.29	57.20	57.11	57.02
ϕ max	16.07	16.05	16.03	16.01	15.99	15.97	15.95
dpH	0.54	0.54	0.54	0.54	0.54	0.54	0.53
pH ₀	6.51	6.50	6.49	6.48	6.47	6.46	6.45
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	56.93	56.84	56.75	56.65	56.56	56.47	56.38
ϕ max	15.93	15.91	15.89	15.87	15.85	15.84	15.82
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.53
pH ₀	6.44	6.43	6.42	6.41	6.40	6.39	6.38

pH sensor properties

Dynamic range	pH 4.00 - 8.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.25 pH at pH 4.50 - 5.25; ± 0.1 pH at pH 5.25 - 7.25; ± 0.25 pH at pH 7.25 - 8.00 (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 HP8-1427-02_4 (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 ± 0.01 / pH 4.00 ± 0.015 / pH 9.00 ± 0.01 / pH 10.00 ± 0.03, 20 °C); 150 mM Na-Phosphate buffer (16 solutions)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	pH 255.5 (pH Ser.3083-hc, gain 45)
Date of calibration	2018/07/13

EUROPE

m2p-labs GmbH
Arnold-Sommerfeld-Ring 2 | 52499 Baesweiler | Germany
Phone +49-2401-805-330 | Fax: +49-2401-805-333
info@m2p-labs.com | support@m2p-labs.com

USA

m2p-labs, Inc.
400 Oser Ave, Suite 1650 | Hauppauge, NY 11788 | USA
Phone +1-631-501-1878 | Fax +1-631-501-1060
infoUS@m2p-labs.com | supportUS@m2p-labs.com

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DO calibration parameters Lot No. 1820 (BioLector®)

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
φ cal0	72.54	72.50	72.46	72.42	72.38	72.35	72.31
φ cal100	43.55	43.31	43.06	42.82	42.58	42.33	42.09
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
φ cal0	72.27	72.23	72.19	72.15	72.11	72.07	72.03
φ cal100	41.85	41.60	41.36	41.11	40.87	40.63	40.38
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
φ cal0	71.99	71.95	71.91	71.87	71.83	71.79	71.75
φ cal100	40.14	39.90	39.65	39.41	39.17	38.92	38.68

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.5 % O ₂ (software)
Precision (CV)	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.5% O ₂ per day (sampling interval of 6 min)
Response time (t90)	< 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-1742-01 (at least stable for 7 days with CertiPUR-buffer) DO sensors are light-sensitive; please protect them from direct light!

DO calibration

Calibration	0.5 M Sulfite system (Two-point calibration with oxygen-free environment (sodium sulfite) and air-saturated environment)
Settings	BioLector protocol = pH-DO-calibration, T = 20-40 °C, 800 rpm, 1000 µL/well, shaking diameter 3 mm, MTP-type = FlowerPlate (MTP-48-BOH)
Calibration device	BioLector CX_110335 (BL092)
Calibration phase offset	DO 332.4 (DO Ser.4084-hc, gain 48)
Date of calibration	2018/07/13

Sterilization procedure

Sterilization	Beta irradiation (20 kGy)
BGS-certificate No	518330
Date of sterilization	2018/07/01

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Phone +49-2401-805-330 | Fax: +49-2401-805-333
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USA

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Phone +1-631-501-1878 | Fax +1-631-501-1060
infoUS@m2p-labs.com | supportUS@m2p-labs.com