

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

pH calibration parameters Lot No. 1515

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ min	58.29	58.20	58.12	58.04	57.95	57.87	57.78
ϕ max	19.16	19.14	19.13	19.11	19.09	19.08	19.06
dpH	0.57	0.57	0.57	0.57	0.56	0.56	0.56
pH ₀	6.55	6.54	6.53	6.52	6.51	6.50	6.49
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ min	57.70	57.62	57.53	57.45	57.37	57.28	57.20
ϕ max	19.04	19.03	19.01	18.99	18.98	18.96	18.94
dpH	0.56	0.56	0.56	0.56	0.56	0.56	0.56
pH ₀	6.48	6.47	6.47	6.46	6.45	6.44	6.43
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ min	57.12	57.03	56.95	56.86	56.78	56.70	56.61
ϕ max	18.92	18.91	18.89	18.87	18.86	18.84	18.82
dpH	0.56	0.56	0.56	0.55	0.55	0.55	0.55
pH ₀	6.42	6.41	6.40	6.40	6.39	6.38	6.37

pH sensor properties

Dynamic range	pH 3.95 – 8.55
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.55 – 5.55; ± 0.02 pH at pH 5.55 – 6.95; ± 0.2 pH at pH 6.95 – 7.95 (batch calibration)
Response time (t90)	At 25 °C < 30 s
Drift at pH = 7	< 0.005 pH per day (sampling interval of 1 min)
Temperature range	5 °C to 50 °C
Compatibility	Aqueous solutions, ethanol, methanol (max. 5 % v/v)
Sensor stability	sensor material can be destructed 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_2 (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 30)
Date of calibration	2015/08/17

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DO calibration parameters Lot No. 1515

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	64.21	64.38	64.55	64.72	64.89	65.06	65.23
ϕ cal100	42.91	42.68	42.45	42.21	41.98	41.75	41.52
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	65.40	65.57	65.74	65.91	66.07	66.24	66.41
ϕ cal100	41.29	41.06	40.83	40.60	40.37	40.14	39.91
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	66.58	66.75	66.92	67.09	67.26	67.43	67.60
ϕ cal100	39.68	39.45	39.21	38.98	38.75	38.52	38.29

DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O ₂ (software)
Precision (CV)	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.03% O ₂ within 30 days (sampling interval of 1 min)
Response time (t90)	< 30 s
Temperature range	0 – 50°C
Sensor stability	sensor material can be destructed 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-1426-03_2 (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 (nitrogen, 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 40)
Date of calibration	2015/08/17

Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	153787
Date of sterilization	2015/08/07

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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