

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

### pH calibration parameters Lot No. 1517

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
$\phi$ min	58.42	58.33	58.24	58.15	58.06	57.97	57.88
$\phi$ max	18.62	18.61	18.60	18.58	18.57	18.56	18.55
dpH	0.53	0.53	0.53	0.53	0.53	0.53	0.52
pH <sub>0</sub>	6.65	6.64	6.63	6.62	6.61	6.60	6.59
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
$\phi$ min	57.79	57.70	57.61	57.52	57.43	57.34	57.25
$\phi$ max	18.54	18.53	18.52	18.51	18.50	18.49	18.48
dpH	0.52	0.52	0.52	0.52	0.52	0.52	0.52
pH <sub>0</sub>	6.58	6.57	6.56	6.55	6.55	6.54	6.53
Temperature	34°C	35°C	36°C	37°C	38°C	39°C	40°C
$\phi$ min	57.16	57.07	56.98	56.88	56.79	56.70	56.61
$\phi$ max	18.46	18.45	18.44	18.43	18.42	18.41	18.40
dpH	0.52	0.51	0.51	0.51	0.51	0.51	0.51
pH <sub>0</sub>	6.52	6.51	6.50	6.49	6.48	6.47	6.46

### pH sensor properties

Dynamic range	pH 4.05 - 8.65
Resolution	Up to 0.01 pH (software)
Accuracy	± 0.1 pH at pH 4.60 - 5.50; ± 0.02 pH at pH 5.50 - 7.15; ± 0.2 pH at pH 7.15 - 8.05 (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) <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 ± 0.01 / 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	2015/11/09

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### DO calibration parameters Lot No. 1517

Temperature	20°C	21°C	22°C	23°C	24°C	25°C	26°C
ϕ cal0	64.01	64.22	64.43	64.64	64.86	65.07	65.28
ϕ cal100	43.93	43.72	43.51	43.30	43.09	42.88	42.68
Temperature	27°C	28°C	29°C	30°C	31°C	32°C	33°C
ϕ cal0	65.49	65.70	65.91	66.12	66.34	66.55	66.76
ϕ cal100	42.47	42.26	42.05	41.84	41.64	41.43	41.22
Temperature	34°C	345C	36°C	37°C	38°C	39°C	40°C
ϕ cal0	66.97	67.18	67.39	67.60	67.82	68.03	68.24
ϕ cal100	41.01	40.80	40.59	40.39	40.18	39.97	39.76

### DO sensor properties

Dynamic range	0 - 100 % air saturation (a.s.)
Resolution	Up to 0.1 % O <sub>2</sub> (software)
Precision (CV)	± 5% dissolved oxygen (batch calibration)
Drift at 0% oxygen	< 0.03% O <sub>2</sub> 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) <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 (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	2015/11/09

### Sterilization procedure

Sterilization	Gamma irradiation (15 kGy)
BGS-certificate No	177043
Date of sterilization	2015/10/17

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