

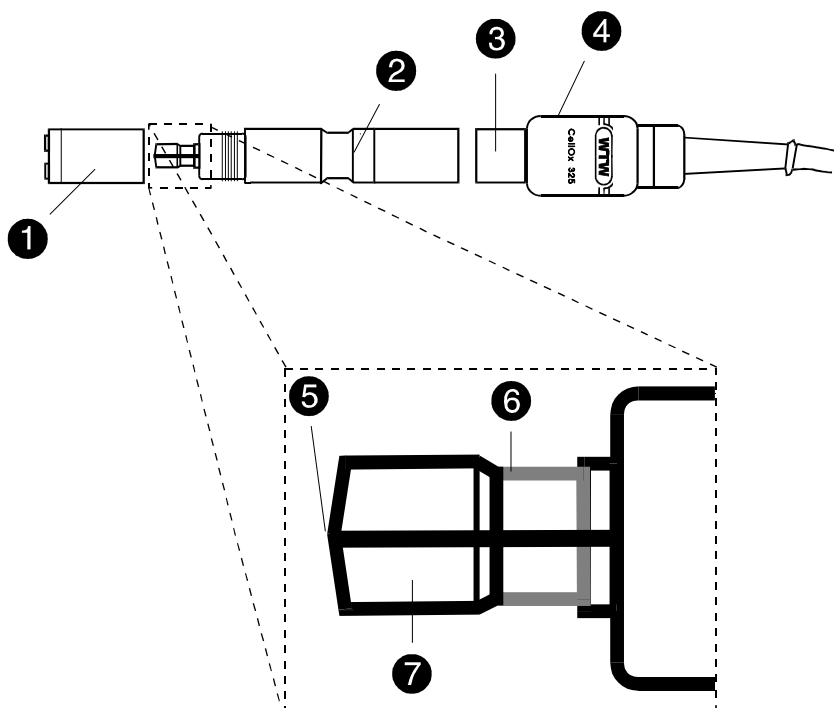
# Sonda za raztopljeni kisik *Oxygen sensor*

## CelIOx 325



## Sestava sonde za merjenje raztopljenega kisika CelloX 325

### *Construction of the oxygen sensor CelloX 325*



- |   |                                   |   |
|---|-----------------------------------|---|
| ① | Membrana WP 90                    | <i>Membrane head</i>                    |
| ② | Temperaturni senzor               | <i>Temperature sensor</i>               |
| ③ | Telo                              | <i>Shaft</i>                            |
| ④ | Glava senzorja                    | <i>Closing head</i>                     |
| ⑤ | Delovna elektroda (zlata katoda)  | <i>Working electrode (gold cathode)</i> |
| ⑥ | Števna elektroda (svinčena anoda) | <i>Counter electrode (lead anode)</i>   |
| ⑦ | Izolator                          | <i>Isolator</i>                         |

## Priprava na merjenje

### *Putting into operation / Readiness for measurement*

Senzor priključite na inštrument.  
Senzor je takoj pripravljen za merjenje.  
**Polarizacija senzorja ni potrebna..**

*Connect sensor to the meter.  
The sensor is immediately ready for measurement.  
A polarization of the sensor is not required.*

## Priporočeno področje uporabe

### *Recommended ranges of application*

Reke, jezera, komunalna odpadna voda, BPK meritve.

*At site-measurement in rivers, lakes, wastewater and BOD-measurement.*

## Kalibracija / Calibration

Za kalibracijo pogledite v navodila za inštrument.

*For calibration please refer to operation manual of the instrument.*

## Merjenje / Measurement

Pazite na potreben minimalni pretok vode na membrani sonde.:

preverite pretok vode na senzorju,  
po potrebi senzor z roko počasi premikajte v vodi,  
na senzorju uporabite nastavek za mešanje (glej pribor)..

*Take care of necessary minimum flow, e.g.:  
The flow velocity of the water is sufficient.  
Pull sensor slowly by hand through the water.  
Attach a flow accessory to the sensor.*

## Čiščenje zunanosti *Cleaning (Exterior cleaning)*

### Vrsta onesnaženja Postopek čiščenja

Vodni kamen Potopite sondo za 1 minuto v očetno kislino (25%).

Masčobe / olja S toplo vodo in detergentom za gospodinjstvo.

Po opravljenem čiščenju izperite sondo z deionizirano vodo.

### *Impurity Cleaning procedure*

*Lime Immerse for 1 minute into acetic acid w = 25 %.*

*Grease/Oil Rinse with warm water and household cleaning solution.*

*Rinse thoroughly with deionized water.*

## Shranjevanje / *Storage*

Sondo hranite v kalibracijski celici.

Temperatura: -5°C do 50°C.

Vlažnost: Zrak v kalibracijski celici naj bo vlažen.

Položaj: poljuben

*Store the sensor in the calibration beaker.*

*Temperature: -5°C ... +50°C*

*Humidity: Keep air in calibration beaker moist*

*Position: any*

## Zamenjava elektrolita in membrane *Exchange of electrolyte solution and membrane head*

Ob dobavi nove sonde je sonda pripravljena za merjenje.

*WTW delivers the sensor ready to use.*

Zamenjava membrane je potrebna v primeru:

poškodovane membrane,  
zelo umazane membrane,  
iztrošenega elektrolita.

*An exchange is necessary in case of:  
damaged membrane,  
strongly contaminated membrane,  
used up electrolyte solution.*



**Pred vsakim vzdrževanjem sonde, sondo izključite z inštrument!**

***For all maintenance operations disconnect the sensor from the instrument!***



Elektrolit ELY/G je močno alkalen!

Pazite za elektrolit ni dostopen otrokom!

Uporabljajte zaščitna sredstva za zaščito rok in oči!

Ob morebitnem kontaktu s kožo ali očmi izpirajte z veliko količino vode!

V primeru kontakta z očmi poiščite zdravniško pomoč!

***The electrolyte solution ELY/G is strongly alkaline!***

***Keep out of reach of children!***

***Wear suitable gloves and eye/face protection!***

***After contact with eyes and skin wash immediately with plenty of water!***

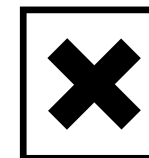
***In case of contact with eyes seek medical advice!***

ELY/G

XI

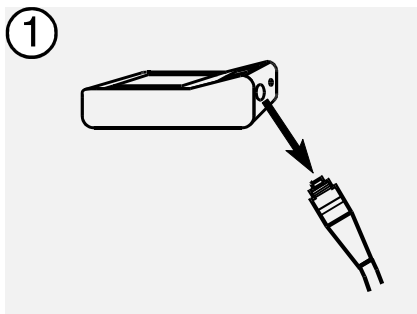
R: 36/38

S: 2-26-27-37/39



**Dražljivo**  
***Irritating***

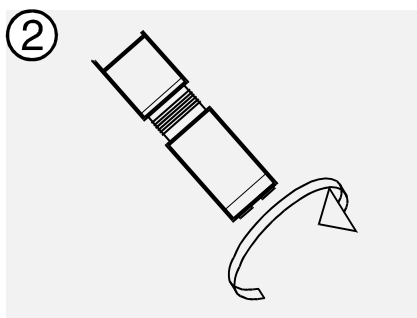
1



Senzor odklopite iz inštrumenta.

*Disconnect sensor from the instrument.*

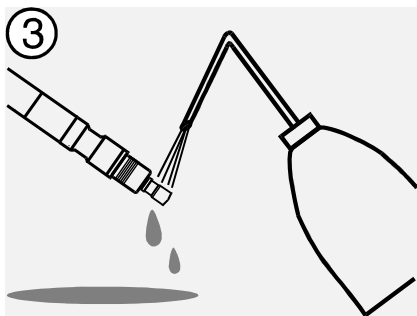
2



Odvijte pokrovček z membrano.

*Unscrew membrane head.*

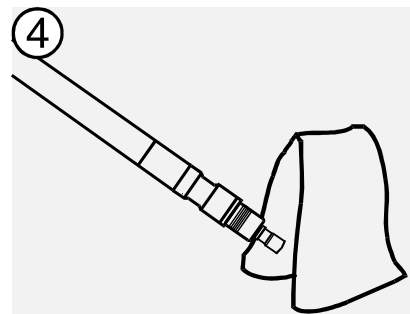
3



Glavo senzorja izperite z deionizirano vodo.

*Rinse sensor head with deionized water.*

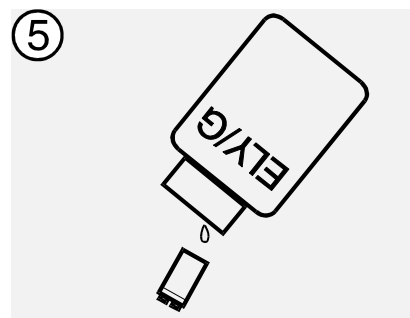
4



S papirnato brisačo pazljivo očistite svinčeno anodo.

*Clean counter electrode carefully with a paper towel and dry it.*

5



Novo membrano navlažite z nekaj kapljicami elektrolita ELY/G

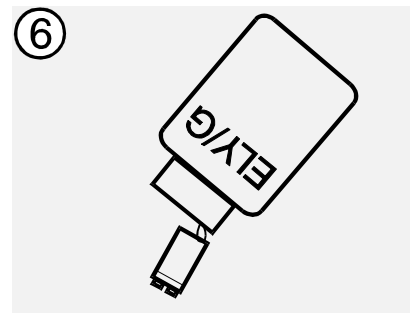
*Moisten new membrane with some drops of electrolyte solution ELY/G.*



Upoštevajte opozorilo!

*Observe warning!*  
Warnhinweis beachten!

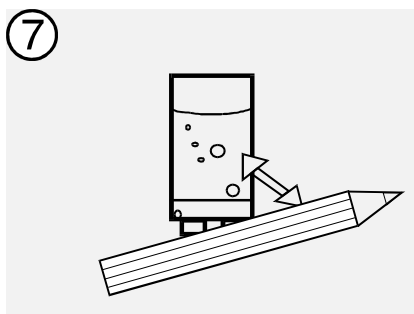
6



Pokrovček z membrano napolnite z elektrolitom.

*Fill membrane head with electrolyte solution.*

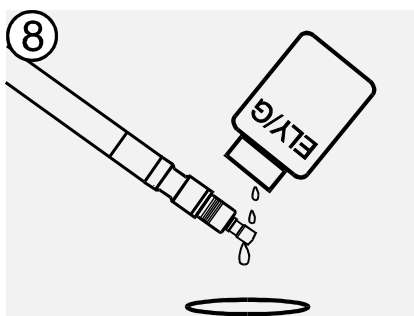
7



S trkanjem odstranite zračne mehurčke.

*Remove existing air bubbles by careful knocking.*

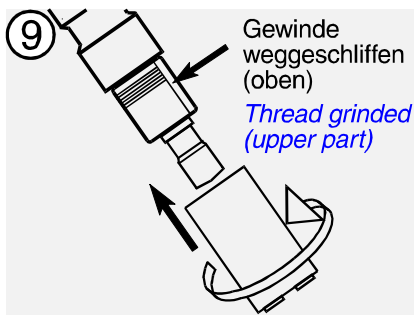
8



Glavo senzorja izperite z elektrolitom.

*Rinse sensor head with electrolyte solution.*

9



Gewinde weggeschliffen (oben)  
*Thread grinded (upper part)*

Privijte pokroček z membrano na senzor.

Sondo držite nagnjeno.

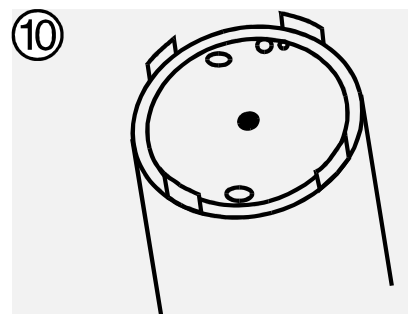
Odvečen elektrolit izteka z vrha pokrovčka.

*Screw membrane head on the shaft.*

*Hold sensor inclined.*

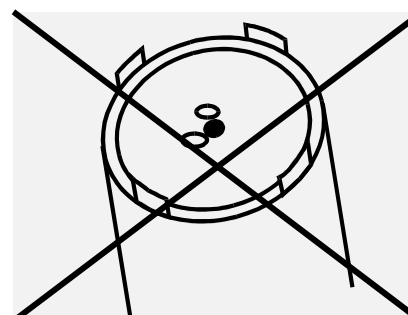
*Excessed electrolyte solution is pressed out through thread slot.*

10



Elektrolit mora biti brez večjih zračnih mehurčkov. Majhni zračni mehurčki ne motijo.

*The filling should possibly be free of air bubbles. Small air bubbles don't interfere.*



Ponovno napolnite elektrolit samo v primeru:

prisotnosti velikih zračnih mehurčkov,  
prisotnosti zračnih mehurčkov na zlati katodi,  
v primeru merjenja pri višjih tlakih.

*Refilling only in case of:*

*Greater air bubbles,  
Air bubbles at the gold cathode,  
Measurements at high water pressure.*



Senzor je pripravljen za merjenje po približno 30. do 50. minutah.

**Priporočilo:**

Pri meritvah zelo nizkih koncentracij počakajte čez noč.

*The sensor is ready for operation after approx. 30 to 50 minutes.*

**Recommendation:**

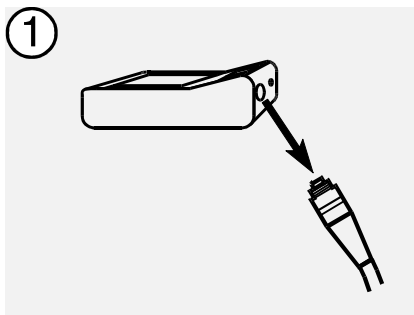
*For measurements in agents with very low oxygen concentrations rest the sensor over night.*

## Čiščenje elektrod *Cleaning of the electrodes*



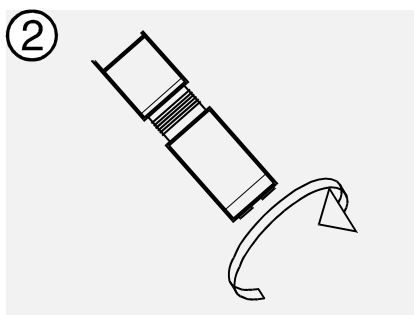
Čiščenje elektrod je potrebno v primeru, ko se pojavi napaka pri kalibraciji in napake ni možno odpraviti z zamenjavo membrane in elektrolita.

*A cleaning is only necessary in case of low- or over-slopes (sensor cannot be calibrated), which cannot be eliminated by exchange of membrane head and the electrolyte solution.*



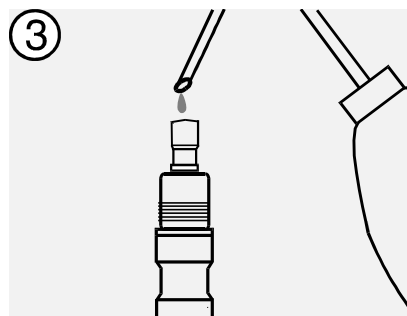
Senzor odklopite z inštrumenta..

*Disconnect sensor from the instrument.*



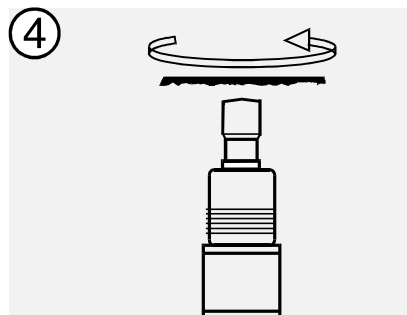
Obvijte pokrovček z membrano..

*Unscrew membrane head.*



Glavo senzorja izperite z deionizirano vodo.

*Rinse sensor head with deionized water.*



Katodo spolirajte s **vlažnim** polirnim lističem.

*Polish impurities from the cathode with cathode cleaner (**wet** grinding foil) under light pressure.*



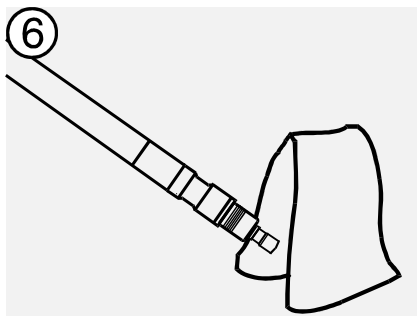
Ne uporabljajte brusnega papirja ali svinčnika.

*Don't use grinding paper or glass fibre pen!*



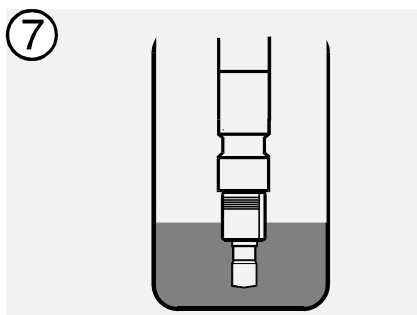
Glavo senzorja izperite z deionizirano vodo.

*Rinse sensor head with deionized water.*



Glavo senzorja očistite z papirnatno brisačo in odstranite belkasto oblogo.

*Wipe off counter electrode with fuzzy-free paper towel and remove carefully white coating.*



Senzor do nivoja števene elektrode potopite za 3 do 5 minut v čistilno raztopino RL/G

*Immerse sensor head up to the counter electrode into cleaning solution RL/G for 3 to 5 minutes.*



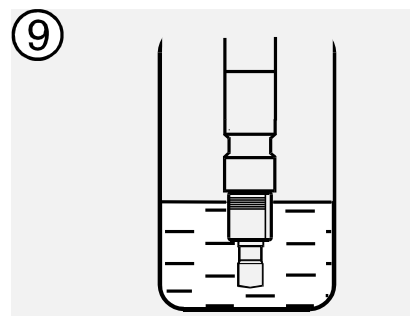
Upoštevajte varnostna opozorila na plastenki.

*Please note the safety guidelines on the bottle!*



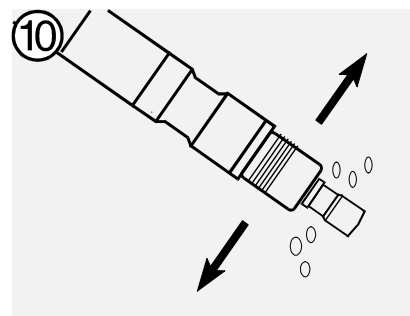
Glavo senzorja večkrat dobro izperite z deionizirano vodo.

*Rinse sensor head several times with deionized water.*



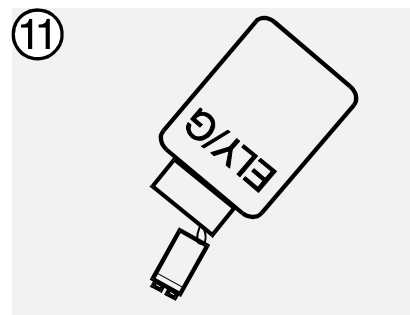
Sondo namočite za 10 minut v destilirano vodo.

*Water counter electrode for at least 10 min. in distilled water.*



S stresanjem odstranite vodne kapljice.

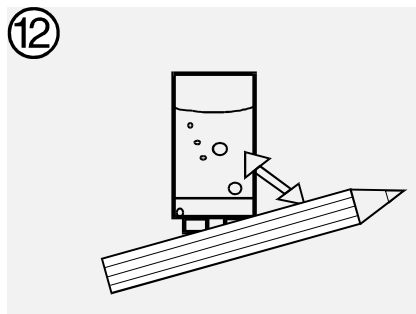
*Shake off carefully water drops.*



Pokrovček z membrano napolnite z elektrolitom.

*Fill membrane head carefully with electrolyte solution.*

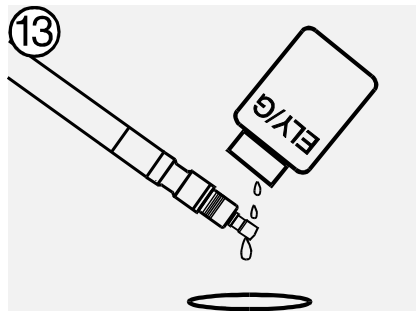
12



S trkanjem odstranite zračne mehurčke.

*Remove existing air bubbles by careful knocking.*

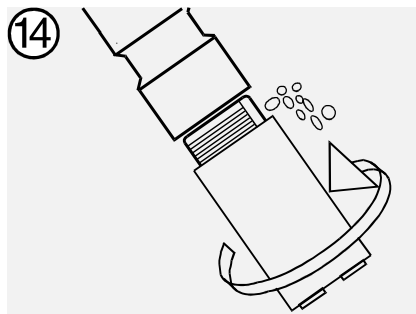
13



Glavo senzorja izperite z elektrolitom.

*Rinse sensor head with electrolyte solution.*

14



Privijte pokroček z membrano na senzor.

Sondo držite nagnjeno.

Odvečen elektrolit izteka z vrha pokrovčka.

*Screw membrane head on the shaft.*

*Hold sensor inclined.*

*Excessed electrolyte solution is pressed out through thread slot.*



Senzor je pripravljen za merjenje po približno 30. do 50. minutah.

**Priporočilo:**

Pri meritvah zelo nizkih koncentracij počakajte čez noč.

*The sensor is ready for operation after approx. 30 to 50 minutes.*

**Recommendation:**

*For measurements in agents with very low oxygen concentrations rest the sensor over night.*

		<b>Oznaka Model</b>	<b>Kat.št. O.-No.</b>
Zemenljive membrane (3 kosi)	<i>Exchange membrane heads (3 pieces)</i>	WP 90/3	202 725
Elektrolit	<i>Electrolyte solution</i>	ELY/G	205 217
Čistilna raztopina	<i>Cleaning solution for lead counter electrode</i>	RL/G	205 204
Polirni lističi	<i>Grinding foil</i>	SF 300	203 680
OxiCal-kalibracijska celica	<i>OxiCal-calibration beaker</i>	OxiCal-SL	205 362
Kit za vzdrževanje (vsebuje WP 90/3, ELY/G, RL/G in SF 300)	<i>Accessory kit</i>	ZBK 325	202 706



**Mikro+Polo Servis**

**Rešujemo težave.**



Kolektiv servisa Mikro+Polo sestavljamo posamezniki s širokim obsegom znanj s področij strojništva, elektrotehnike, elektronike in računalništva. Imamo dolgoletne izkušnje s področij tehnične podpore za medicinsko, laboratorijsko, Hi-Tech, industrijsko in merilno opremo.

Naš osnovni namen je **REŠEVATI VAŠE TEŽAVE** in s tem skrbeti za nemoten potek dela v vaših organizacijah. To počnemo s ponosom in veseljem.

#### **DEJAVNOSTI SERVISA:**

inštalacije | redno in izredno vzdrževanje | deinštalacije odsluženih aparatov in opreme  
demonstracije delovanja opreme | nastavitve parametrov in modifikacije | kalibracija

#### **Servisiramo tudi opremo, ki je niste kupili pri nas!**

Prilagajamo se potrebam strank in po njihovih željah izvajamo projekte povezane z laboratoriji, industrijo in spremljajočo opremo.

V sklopu servisnega oddelka vam ponujamo tudi storitve našega akreditiranega kalibracijskega laboratorija.

V primeru težav pokličite naš **SERVISNI CENTER** na telefonsko številko: **+386 (0)2 614 33 57** ali nam pišite na e-pošto: **service@mikro-polo.si**