بسم الله الرحمن الرحيم

ދިވެހިރާއްޖެގެ ޤާތިލު ބަންދުކުރުން
ފާރު، ދިވެހިރާއްޖެ

ދިވެހިރާއްޖެ ވެރިރަށްތަކުގެ ބަންދުކުރުން
THE MALDIVES NATIONAL UNIVERSITY

ނަންބަރ: MNU-CA-PAMD/2020/53 (26 ނޮވެम्बަر 2020) ގެ ތިރީގައި ބަންދުކުރާ ބިڊ

ބަންދުކުރެވޭ ބިڊ

ބިڊ ނަންބަރ:	MNU-CA-PAMD/2020/53	ތާریخ:	26 ނޮވެम्बަر 2020
ބިڊ ހުށަހެޅުން ބަންދުވާ ތާریخ:	-	ވަގުތު:	-
ބިڊ ހުށަހަޅާ ތާریख:	08 ޑިސެम्बަر 2020	ވަގުތु:	11:00
ބަންދުކުރެވޭ ބިڊ ހުށަހަޅާ ތަން:	-		
ބިڊުގެ ނަން:	ދިވެހިރާއްޖެގެ ބަންދުކުރާ ބިڊ ތެރެއިން ބިڊ ބަންދުކުރާ ބަންދުތަކުން ބަންދުކުރެވިފައިވާ ބަންދުތަކުން ބަންދުކުރެވۭ ބިڊ.		

1. ބަންދުކުރެވۭ ބިڊ:

ބިڊ ބަންދުކުރެވۭ ބިڊ ތިރީގައި ބަންދުކުރެވިފައިވާ ބަންދުތަކުން. ބަންދުކުރެވۭ ބިڊ ތިރީގައި ބަންދުކުރެވۭ.

No.	Item	Test Parameter	Specifications	
1	combo pH/EC/TDS/Temp meter (high ranger)	pH, Conductivity, Temperature, Total dissolved solids (high range)	**TDS measuring range** **conductivity measuring range** **pH measuring range**	**0.00-10.00 ppt, accuracy: 2%, resolution: 0.01 µS/cm (full scale)** 0.00-20.00 mS/cm, accuracy: 2%, resolution: 0.01 µS/cm 0.00-14.00, accuracy: 0.05, resolution: 0.01
2	combo pH/EC/TDS/Temp meter (low ranger)	pH, Conductivity,Temperature Total dissolved solids (low range)	RH Range 0.00 to 14.00 pH Resolution 0.01 pH Accuracy ±0.05 pH Conductivity Range 0 to 3999 µS/cm Resolution 1 µS/cm Accuracy ±2% F.S. TDS Range 0 to 2000 mg/L (ppm) Resolution 1 ppm (mg/L) Accuracy ±2% F.S. Temperature Range 0.0 to 60.0°C / 32.0 to 140.0°F Resolution 0.1°C / 0.1°F Accuracy ±0.5°C /±1°F	

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			Calibration EC/TDS Calibration - automatic, one point at 1413 µS/cm or 1382 ppm (mg/L) pH Calibration - automatic, one or two-point with two sets of standard buffers (pH 4.01 / 7.01 / 10.01 or 4.01 / 6.86 / 9.18)
3	waterproof portable dissolved oxygen and BOD meter	Dissolved Oxygen (DO) Biological Oxygen Demand (BOD)	**DO Range** **0.00 to 50.00 ppm (mg/L); 0.0 to 600.0% saturation** **DO Resolution** 0.01 ppm (mg/L); 0.1% saturation **DO Accuracy** ±1.5% of reading ±1 digit **DO Calibration** automatic one or two point at 100% saturation (8.26 mg/L) and 0% saturation (0 mg/L). **Atmospheric Pressure Range** 450 to 850 mmHg **Atmospheric Pressure Resolution** 1 mmHg **Atmospheric Pressure Accuracy** ± 3 mmHg within ±15% from the calibration point **Atmospheric Pressure Calibration** one point at any in range pressure value **Temperature Range** -20.0 to 120.0°C (-4.0 to 248.0°F) **Temperature Resolution** 0.1°C (0.1°F) **Temperature Accuracy** ±0.2°C; ±0.4°F (excluding probe error) **Temperature Calibration** one or two point at any in range temperature value **Temperature Compensation** automatic from 0 to 50°C (32 to 122°F) **Measurement Modes** direct DO; BOD (biochemical oxygen demand); OUR (oxygen uptake rate); SOUR (specific oxygen uptake rate) **Barometric Compensation** automatic from 450 to 850 mmHg **Salinity Compenstaion** automatic from 0 to 70 g/L **Electrode/Probe** HI764073 polarographic DO probe with protective sleeve, internal temperature sensor, DIN connector and 4m (13') cable (included) **Log-on-demand** up to 400 samples **PC Connectivity** opto-isolated USB with optional HI 92000 software and micro USB cable **Battery Type/Life** 1.5V AA batteries (4) / approximately 200 hours of continuous use without backlight (50 hours with backlight) **Auto-off** user selectable: 5, 10, 30, 60 min or can be disabled **Environment** 0 to 50°C (32 to 122°F); RH 100% (IP67) **Dimensions** 185 x 93 x 35.2 mm (7.3 x 3.6 x 1.4") **Weight** 400 g (14.2 oz.)
4	portable salinity and sodium content meter	Salinity	**NaCl** **0.150 to 1.500 g/L NaCl 1.50 to 15.00 g/L NaCl 15.0 to 150.0 g/L NaCl 150 to 300 g/L NaCl** °C -20.o to 120.0°C (-4.0 to 248.0°F) **Resolution** NaCl 0.001 g/L NaCl 0.01 g/L NaCl 0.1 g/L NaCl 1 g/L NaCl °C 0.1°C (0.1°F)

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			Accuracy (@20°C)	NaCl	±5% of reading (NaCl)
				°C	±0.2°C (±0.4°F) (excluding probe error)
			Calibration		automatic, one or two point at 0.30 g/L (HI 7085), 3.00 g/L (HI 7083), 30.0 g/L (HI 7081)
			Temperature Compensation		fixed at 25°C (77°F)
			Electrode		FC 300B glass body sodium ion electrode with BNC connector and 1 m (3.3') cable (not included)
			Temperature Probe		HI 7662 stainless steel temperature probe with 1 m (3.3') cable
			Input Impedance		10^{12} Ohm
			Battery Type / Life		1.5V AAA (3) / approx. 200 hours of continuous use
			Environment		0 to 50°C (32 to 122°F); RH max 100%
			Dimensions		185 x 72 x 36 mm (7.3 x 2.8 x 1.4'')
			Weight		300 g (10.6 oz.)
5	Salinity and Sodium Content Portable Meter	Probe for Salinity meter	**Type**	**glass; combination**	
			Measurement Range	Sodium (Na+) 1.0M to 1 x 10-5M, 22,990 to 0.23 mg/L (ppm)	
			Optimum pH Range	pH 9.75 to 14	
			Temperature Range	0 to 80 °C	
			Approximate Slope	+57	
			Diameter	12 mm	
			Overall Length	120 mm	
			Body Material	glass	
			Cable	coaxial; 1 m (3.3')	
			Connection	BNC	
			Warranty	6 months	
6	Stereomicroscope	Microscopy for life sciences and industrial applications; Biological samples and environmental samples including planktons and micro plastics, material testing, geological specimens and earth sciences, Fibers and hair in forensic testing	Greenough Stereo Microscopes S9 Series, S9 D with documentation port		
7	Microscope Camera for item 6	Microscope Camera for item 6	20 MP color CMOS camera (for Greenough Stereo Microscope)		
			Model Name/Number	**DMC5400**	
			Sensor Size	1"	
			Interface	USB 3.0	
			Brand	Leica	
			Pixel Size	2.4micrometre x 2.4micrometre	
			Exposure Time Range	1 ms to 10 s	

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			No. of Pixels	20.5 megapixel
			Live Image Formats	Aspect Ratio 3/2
			Bit Depth Image	3 x 8 bit &
			Readout Noise	4e-
			Saturation Capacity	15'000 e-
			Quantum Efficiency	67%536 nm
			Cooling	None
			Gain	1x to 10x
			Article Number	12 730 531

Consumables List

No.	Item	Test Parameter	Specifications
8	Sodium Standard Solution for Conductivity meter calibration	Conductivity/ Salinity	Standard for EC meter HI7080/HI8080 and HI7087/HI8087 if you are going to measure samples with low sodium content (below 2.3 g/L) HI7080/ HI8080 and HI7086/HI8086 to measure samples with high sodium content (over 2.3 g/L). **Concentration** **2.3 g/L sodium** **Package** bottles **Size** 500 mL **Quantity** 1 **Certificate of Analysis** No **Concentration** **23 g/L sodium** **Package** Bottles **Size** 500ml **Quantity** 1 **Certificate** No

2. ލ ތަންދާސްތަކުން ބުނާ ހުންނަންވާ ތަކެތި ތިރީގައި

- ކުރެހުން/ބަދަލުކުރެވެ (ތިންވަން ހުންނަން ބަދަލުކުރަން ބުނާ ހުންނަން ދީން)
- ހުންނަންވާ ތަކެތީ ބަދަލެއް ڪڻڻ، ބަދަލުކުރާ ތަނުން ބުނެވެން، ވެސް ހިންދަންވާ ހުންނަންވާ
- ތަންދާސްތަކުން ހުންނަން ވަންދެން ވެސް (ތިންވަން ؟ڪڻڻ ؟ڪڻڻ ؟ڪڻڻ ؟ڪڻڻ)
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3. ވ. ބަންދުކުރުން ދުއަރުން

ވ. ބަންދުކުރުން ކަން ހުށަހެޅުމުން ބަންދުކުރާ ދުއަރުން ފުރަން ހުށަހެޅުން **15 (ފަހަރު) ދުވަހުގެ.** ވ.ދ.ދ.ބ. ތިން ބަންދުކުރެވިދާނެ.

4. ބަންދުވިން ؛ ؛ ؛

- ބަދަލު ހިންގަންވާ ހިންދަރުން ބަދަލުކުރެވެން ބޭނު�، ބަދަލުކުރެއްވި ބަދަލުގެ ތެރެއިން ބަދަލު ކުރެވިދާ ބަދަލު ހިންގަންވާ ހިންދަރުން ހަމައެއް ހިންގަންވާ ،
- ހިންދަރުގެ ބަދަލު ،ބ ،ؤ ،ؤ ،ؤ

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