



Lab Solutions



# Environment Line

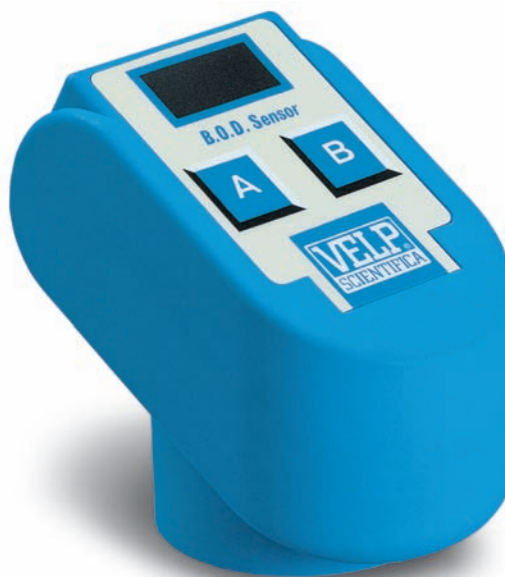
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Lab Solutions

## BOD Determination Systems



**BOD Sensor**

### **BOD determination systems**

BOD (Biological Oxygen Demand) determination is one of the most important parameters in the biological treatment of wastewater.

In conformity with international regulations concerning the safety of workers and the safeguard of the environment, VELP Scientifica has developed an innovative ecological system (mercury-free) for determining the BOD with microprocessor using manometric technology.

### **Innovative design**

The BOD Sensor has an ergonomic structure designed and optimized to ensure ease of handling and reading. It is manufactured using the most modern and advanced construction techniques and is fitted directly to the bottle containing the sample.

### **Innovative applied electronics**

The BOD Sensor is equipped with advanced microelectronics. A microprocessor-controlled pressure transducer transfers the BOD value to the display. The BOD Sensor automatically stores 5 BOD measurements at 24-hour intervals so that analyses can also be performed over weekends. It is also possible to obtain a direct reading of the BOD value on the display at any time, even after five days. The BOD Sensor does not require any electrical connection.

The alterations man makes on the natural environment require a growing number of analytical tests in order to be able to assess their current state and determine which interventions have to be adopted so as to reinstate acceptable conditions.

The quality of water, an essential resource for life, calls for particularly systematic research work.

Velp Scientifica manufactures instruments that make the analyst's job easier by providing accurate and reproducible results.

Research, innovation and technology are resources we use in order to develop equipment that ensures reproducible results and simple though effective use.

## Environment Line

### **Features and Benefits**

- Direct reading of values in mg/l (without factor)
- BOD measurement without mercury filled manometers
- Easy, precise and immediate reading of values by a display, preventing possible errors in data transcription
- Operation without any need of controls
- Memorization of 5 BOD measurements at 1 day intervals
- Possibility of continued incubation up to 21-28 days (BOD last)
- 4 measurement scales (90.0, 250, 600, 999 mg/l) and higher values after sample dilution
- Alarm for values out of scale



**BOD Sensor System 6**

**BOD Sensor System 10**



Can be connected to



Cooled Incubators



FOC 225E

FTC 90I

FOC 225I

### Cooled Incubators

Velp Scientifica offers 2 size incubators: 90 liter and 220 liter with adjustable temperatures from 3°C to 50°C and +/-0,5°C accuracy.

### Fields of application:

BOD determination incubation of microorganisms cultures, preservation of samples and all those uses requiring precise and constant temperature.

Velp's refrigerated thermostats and incubators are CFC-free (Chloro Fluoro Carbons), meeting environmental regulations.

### Features and Benefits

Auto Tuning allows a very stable, homogeneous internal temperature even when the room temperature varies  
Software is available upon request, allowing to connect the incubator to a computer for data logging

Innovative Auto-Tuning System



FTC 90

Electronic temperature control ensures a constant temperature of 20°C, the internal temperature is displayed on an external thermometer, optimum stability and homogeneity of the internal temperature. Usable internal volume 64 liters.



FTC 90E - FTC 90I

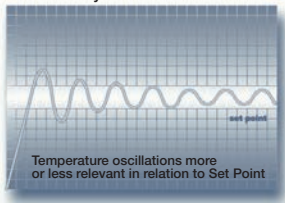
The temperature can be set from 3 to 50°C, temperature setting and display have 0.1°C precision, AUTO-TUNING electronic thermoregulation system. Usable internal volume 64 liters.



FOC 225E - FOC 225I

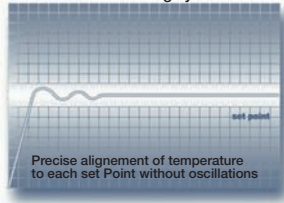
The temperature can be set from 3 to 50°C, temperature setting and display have 0.1°C precision, AUTO-TUNING electronic thermoregulation system. Usable internal volume 196 liters.

Traditional systems



Temperature oscillations more or less relevant in relation to Set Point

Innovative Auto-Tuning system



Precise alignment of temperature to each set Point without oscillations

## Heavy Metals Trace Determination

The unit is designed for digestion using "aqua regia" (king's water) of sludge coming from water treatment plants, soil, compost, wastewater or vegetable matter in accordance with DIN 38414.

Hot mineralization for the determination of mercury, cadmium, lead, chromium, copper, zinc, etc. is carried out without loss using water jacketed condensers.



TMD6

Model TMD6 mounted on DK6



**JLT4**

**FC6S**

Flocculators for laboratory and field use (Jar test and Leaching test).

VELP provides a wide selection of 4 and 6 places flocculators. Flocculators are designed both for optimizing the dosing of coagulants for separating pollutants in wastewater treatment plants thanks to the laboratory results obtained using the so-called Jar Test, and for running toxic substance leaching tests on solid wastes to be sent to the dump.

**Features and Benefits:**

- User Friendly
- Multiple stirrers with reproducible stirring speeds allow standard condition
- Electronic speed control: from 10 to 300 rpm with 1rpm resolution



**FP4**  
Portable unit

**Steam Distillation Units**

**Steam distillation unit fed with deionized water**

The distillation units UDK Series are designed for a diversified and flexible use that includes applications such as determination of ammoniacal nitrogen, proteic nitrogen, (Kjeldahl or direct alkaline distillation), nitric nitrogen (after reduction), phenols, volatile fatty acids, TKN determination in the environmental industry, cyanides, sulphur dioxide, alcohol content, Devarda nitrogen determination, according to official procedures.

**Features and Benefits:**

- Wide range of units with various levels of automation
- Reproducible and accurate results
- Highest performances based on the innovative titanium condenser



**UDK132**



**DK6**



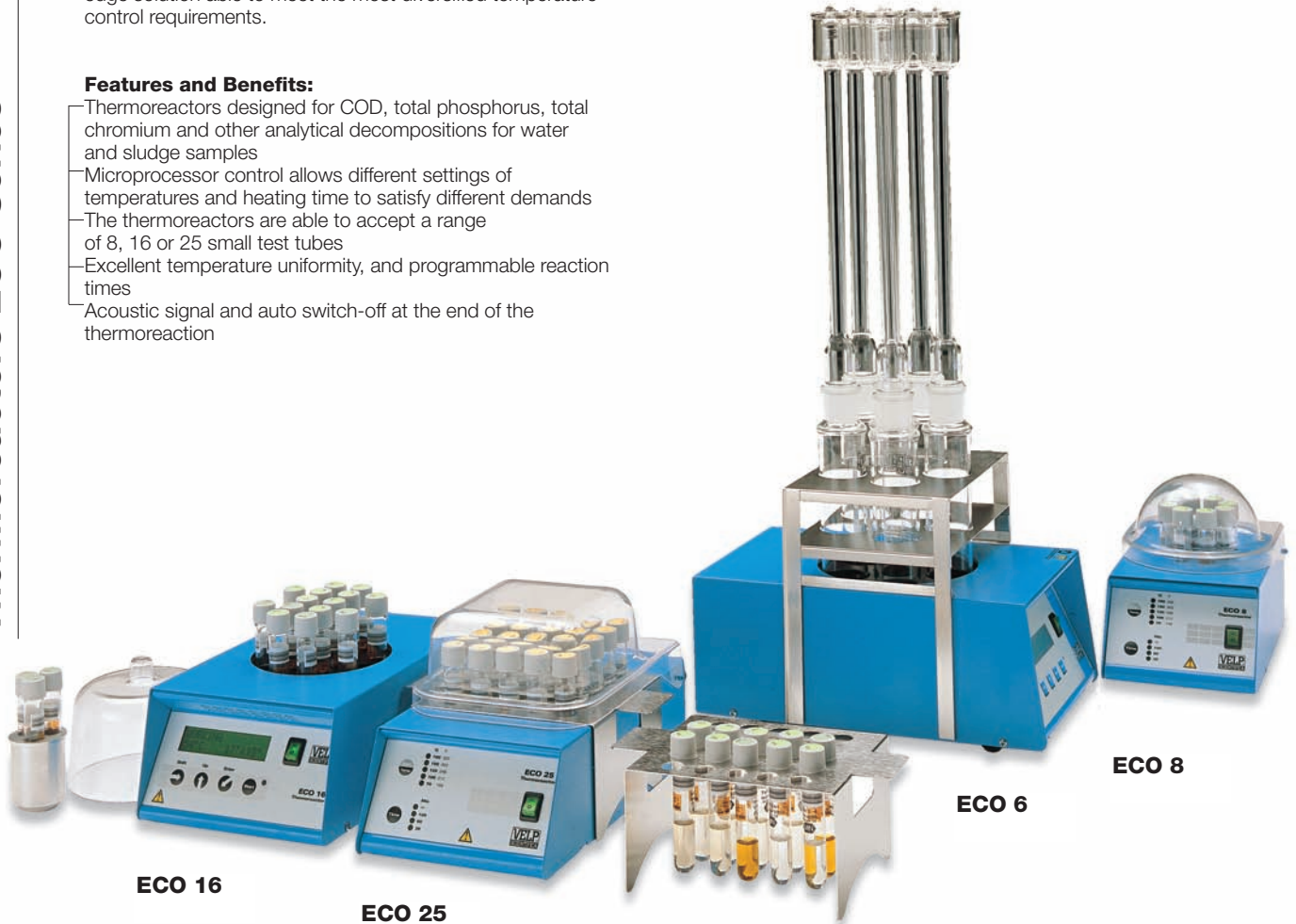
## Thermoreactors ECO Series

### Programmable and Preset Thermoreactors for applications such as COD tests

Velp Scientifica programmable thermoreactors are a cutting edge solution able to meet the most diversified temperature control requirements.

#### Features and Benefits:

- Thermoreactors designed for COD, total phosphorus, total chromium and other analytical decompositions for water and sludge samples
- Microprocessor control allows different settings of temperatures and heating time to satisfy different demands
- The thermoreactors are able to accept a range of 8, 16 or 25 small test tubes
- Excellent temperature uniformity, and programmable reaction times
- Acoustic signal and auto switch-off at the end of the thermoreaction



ECO 16

ECO 25

ECO 6

ECO 8

## Turbidimeter

The portable turbidimeter TB1 measures the turbidity of aqueous samples simply and accurately providing results directly in Nephelometric Turbidity Units (NTU). The TB1 is supplied complete with sets of 4 calibration standards (800, 100, 20 and 0.02 NTU), NIST traceable.

#### Features and Benefits

- Test range 0-1000 NTU
- Waterproof
- User friendly
- Comes with a complete package of accessories



Turbidimeter TB1

## Radiation Detector

This detector is an industrial standard model of a Geiger-Müller tube with a thin mica output window.



Radiation detector

## Overhead Mixer

ROTAX 6.8 can be used for all applications where mixing by overturning is required. The instrument is designed for evaluating the solubility of pollutants, sludge, sediments and solid wastes in water.

#### Standards:

The ROTAX 6.8 overhead mixer complies to DIN 38414 and UNI 10802.



Rotax 6.8

Model	Code No 230V		Code No 115V		Power W	Temp. °C	Weight kg	Dimensions mm (WxHxD)	Accessories
	50 Hz	60 Hz	50 Hz	60 Hz					
ECO 6	F10100120		F10110120		700	from room temp. to 200	5.6	198x132x319	1,2,3,4,5,6,7
ECO 8	F101A0127		F101A0127		140	70-100-120-150-160	2	135x95x230	16,17
ECO 16	F10100126		F10110126		550	from room temp. to 160	3.8	168x110x269	16,17,23
ECO 25	F101A0125		F101A0125		400	70-100-120-150-160	3.6	155x95x275	16,17,26
BMS 6	F10220131	F10230131		F10240131	2		7	350x360x210	28
BOD Sensor	F102B0133*						0.08	55x71x73	27,28
BOD Sensor Set	F102B0134*						0.4	75x235	27,28
BOD Sensor System 6	F10220136	F10230136		F10240136	2		2.3	350x300x150	27,28
BOD Sensor System 10	F10220137	F10230137		F10240137	2		3	432x300x165	27,28
FTC 90	F10300140				150	20 prefixed	24.5	550x590x600	29
FTC 90 E	F10300143				250	3 - 50	29	550x590x600	24,25,29
FOC 225 E	F10300141				350	3 - 50	40	540x1300x560	24,25,29,30
FTC 90 I	F10400143				250	3 - 50	30	550x590x600	24,25,29
FOC 225 I	F10400141				350	3 - 50	40	540x1300x560	24,25,29,30
FC4S	F105A0111				18		12.5	645x347x260	8,9,10,11,12,34,35,36
FC6S	F105A0112				23		18	935x347x260	8,9,10,11,12,34,35,36
FP4	F105A0117				6		4.8	250x320x250	8,9,13,31,32,33
JLT 4	F105A0108				11		13	645x347x260	8,9,10,11,12,34,35,36
JLT 6	F105A0109				11		17	935x347x260	8,9,10,11,12,34,35,36
ROTAX 6.8	F10600118		F10610118		100		30	665x520x470	14,15,18,19
TMD 6	F107C0146**		F107C0146**				5	225x810x126	
TB1 turbidimeter	R109B12150						0.2	60x50x155	20,21,22
Radiation detector	R10800340**						0.22	70x210x48	
DK6	F30100182		F30110182		1100	from room temp. to 450	10	293x152x339	37,38,39,40
UDK132	F30200189				2100		28	330x775x470	37

\* 2 lithium batteries

\*\* No Voltage



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Number	Description	Code No	Number	Description	Code No
1	Test tubes COD Ø 42x200 mm, 200 ml , 3 pcs/box	A00000145	21	Sample vials - pack of 3 vials	CE0012030
2	Air refrigerators with ground cone	A00001041	22	Silicone oil – 10 ml	CE0012050
3	PTFE sheaths for 29/32 cones	A00001042	23	Safety shield	A00001051
4	Stainless steel handle for 6 test tubes Ø 42 mm	A00001043	24	Serial cable RS232	A00000005
5	Articorodal reducer Ø 42 mm with 3 holes Ø16 mm	A00001044	25	Incubator software	A00000020
6	Antisplash bell	A00001045	26	Test tube extractor	A00001039
7	Articorodal reducer Ø 42 mm with 1 hole Ø 22 mm	A00001046	27	BOD Sensor Check	A00000135
8	Plastic beaker 1000 ml	A00001000	28	Control Test Tablets	A00000136
9	Glass beaker 1000 ml	A00001001	29	IQ/OQ Manual FOC 225 / FTC 90	A00000076
10	Transparent plastic Imhoff cone	A00001002	30	Shelf for FOC225	10001074
11	Glass graduated Imhoff cone	A00001003	31	USA plug for power supply 40001099	10003083
12	Stand for two Imhoff cones	A00001004	32	UK plug for power supply 40001099	10003084
13	Carrying case	A00001005	33	AU plug for power supply 40001099	10003085
14	Polyethylene bottle, 2 liters	A00001021	34	USA cord set for power supply 40001301	10003722
15	Polyethylene bottle, 1 liter	A00001022	35	UK cord set for power supply 40001301	10003723
16	Set of 20 glass test tubes Ø 16 mm	CM0091680	36	AU cord set for power supply 40001301	10003724
17	Holder for 12 round glass cells	CA0091636	37	Test tubes Ø 42x300 mm, 300 ml, 3 pcs/box	A0000144
18	Complementary part holding 8 bottles 1 liter (n°2 pieces)	A00001023	38	Glassware handle with heat shields, DK6	A00001111
19	Glass bottle with round glass cap, 2 liters	A00001024	39	Suction cap, DK6	A00001096
20	Calibration set (includes 800, 100, 20.0 & 0.02 NTU standard)	CE0012020	40	Support system, DK6	A00001206

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