

# Analytical Instruments

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- ELEMENTAL ANALYZERS
- DIGESTION UNITS
- DISTILLATION UNITS
- SOLVENT EXTRACTORS
- FIBER ANALYZERS
- DIETARY FIBER ANALYZERS
- OXIDATION STABILITY REACTOR
- CONSUMABLES



## N/PROTEIN Elemental Analyzer

The Dumas technique is used for the quantitative determination of Nitrogen in chemical substances based on the combustion method first described by the French chemist Jean-Baptiste Dumas.

NDA 702 provides results in 3-4 minutes with a low detection limit (0.001 mgN, with Helium) and an excellent RSD% (<0.5% with EDTA standard), keeping low cost per analysis.

NDA 702



- Helium and Argon as carrier gas



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# CARBON / NITROGEN Elemental Analyzer

The determination of Carbon, Nitrogen, TOC and Carbon/Nitrogen ratio is a fundamental analysis in the agricultural and environmental industries. The VELP CN 802 is a versatile solution ideal for applications including soils, plants, fertilizers, food, feed, starches, wastewater, wastes, sediments and sludges.

The instrument assures low cost per analysis, rapid process results (from 3 to 5 min), high productivity and high sensitivity, analyzing samples ranging from micro to macro weights.

CN 802



■ Helium and Argon as carrier gas



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## CHNS-O Elemental Analyzers

CHNS-O analysis with EMA 502 Elemental Analyzer helps determine the structure of an unknown compound, as well as evaluate the structure and purity of a synthesized compound.

Easily set and perform your CHNS analysis and then switch to O mode thanks to the exclusive connection panel.

EMA 502



- Helium and Argon as carrier gas



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## DISTILLATION Units

The UDK Series Distillation Units are designed to meet the most challenging demands and requirements for diverse applications, according to international standards: Kjeldahl nitrogen TKN, proteins, ammoniacal nitrogen, nitric nitrogen (Devarda), phenols, TVBN and volatile acids, cyanides, and alcohol content.

Five different UDK models are available with different automation levels and the exclusive cloud connectivity to match any laboratory requirement of automation and throughput.



UDK 129



- Automatic Addition of NaOH

UDK 139



- Automatic Addition NaOH - H<sub>2</sub>O

UDK 149



- Automatic Addition NaOH - H<sub>2</sub>O - H<sub>3</sub>BO<sub>3</sub>
- Potentiometric titration

UDK 159



- Automatic Addition NaOH - H<sub>2</sub>O - H<sub>3</sub>BO<sub>3</sub>
- Colorimetric titration

UDK 169  
& AutoKjel

- Automatic Addition NaOH - H<sub>2</sub>O - H<sub>3</sub>BO<sub>3</sub>
- Colorimetric titration
- Autosampler



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## AUTOMATIC DIGESTION Units

Sample preparation is a crucial part of the Kjeldahl analysis in order to obtain accurate and precise results. The DKL Series digesters are fully automatic units where manual operations have been drastically reduced: lowering and lifting of the samples takes place automatically.



DKL 8



DKL 12



DKL 20



DKL 42/26



## SEMI-AUTOMATIC DIGESTION Units

DK Series semi-automatic digesters combine excellent accuracy and repeatability with maximum versatility. The DK digesters are traditional digesters, consisting of an aluminum heating block to offer high thermal homogeneity, heating up to 450 °C. The temperature of the block is constantly controlled by a microprocessor.

DK 6 - 6/48



DK 8



DK 18/26



DK 20



DK 42/26



## OXIDATION Stability Reactor

VELP OXITEST is the innovative solution for the study of lipid oxidation stability. With the OXITEST it is possible to analyze the whole sample without extensive sample preparation.

### AOCS Standard procedure Cd 12c-16

Accelerated Oxidation Test for the Determination of the Oxidation Stability of Foods, Oils and Fats using the OXITEST Oxidation Test Reactor

OXITEST



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## SOLVENT Extractors

The SER 148 and SER 158 solvent extractors perform fast solid-liquid extractions on a variety of sample types. The SER 148 Series is a semi-automatic solution with no compromises on operator safety (IP55) and solvent consumption also guaranteeing a limited cost per analysis. The SER 158 is a fully automated solvent extractor offering state-of-the-art technology, full safety, precision and smart data management. The HU 6 is the ideal solution for the acid and basic hydrolysis of food and feed samples prior to solvent extraction.



SER 158 Series only

SER 158



- 3 or 6 positions
- Fully automatic solution

SER 148



- 3 or 6 positions
- Semi-automatic solution

HU 6



- 6 positions
- Acid and Basic Hydrolysis



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## FIBER Analyzers

The FIWE Series is used to determine the quantity of raw fiber according to Wendee, Van Soest and other Official Methods. FIWE is the semi-automatic solution. FIWE Advance is the fully automatic analyzer providing automatic reagent addition, Load&Go operation, an intuitive user interface and cloud connectivity.



FIWE Advance only

### FIWE Advance



- 6 positions
- Fully automatic solution

### FIWE



- 3 or 6 positions
- Semi-automatic solution

### COEX



- 6 positions
- Cold extractor for fat separation



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## DIETARY FIBER Analyzers

Dietary Fiber determination according to AOAC 985.29 enzymatic method, by digesting the sample with enzymes and final filtration. Dietary fiber extraction is carried out on foods intended for human nourishment.

GDE

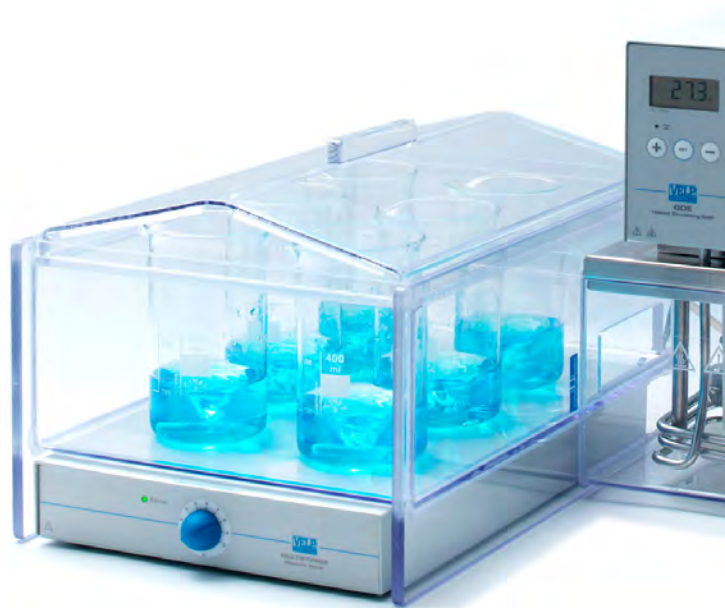


- 6 positions
- Enzymatic digestion system

CSF 6



- 6 positions
- Filtration Unit



# CONSUMABLES

VELP provides a wide range of genuine consumables designed to ensure optimum performance for Elemental Analyzers, Kjeldahl Analyzers and Solvent Extractors.

## ELEMENTAL ANALYZERS



High-quality quartz tubes, crucibles, tin foils; long-life and premium reagents and catalysts; calibration standards (EDTA, 9.57% N), o-rings, seals and fittings.

## KJELDAHL ANALYZERS



Genuine Catalyst tablets KjTabs™, Vreceiver™ Boric Acid powder formula with indicators and Nitrogen-free Weighing Boats for reliable Kjeldahl analysis.

## SOLVENT EXTRACTORS



Three different glass cup sizes, aluminum cup, cellulose thimbles and glass fiber thimbles; butyl, viton and vaflon seals; boiling stones.

# Laboratory Equipment

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- MAGNETIC STIRRERS
- HEATING MAGNETIC STIRRERS
- HEATING PLATES
- OVERHEAD STIRRERS
- VORTEXERS AND SHAKERS
- DISPERSERS
- COD THERMOREACTORS
- BOD AND RESPIROMETERS
- COOLED INCUBATORS
- FLOCCULATORS
- TURBIDIMETER
- OPEN CIRCULATING BATHS



## MAGNETIC Stirrers

Specially designed for chemical, biotechnological, pharmaceutical, microbiological and medical applications such as growing microorganisms, dissolving nutrients and solids and preventing suspended matter from setting during titration. VELP Scientifica's magnetic stirrers offer solutions for diversified laboratory applications and the highest safety standards available on the market, with sample volumes ranging from 250 ml to 50 L.



# SINGLE POSITION

## ANALOG



**MST**  
Up to 1100 rpm - 5 L



**MICROSTIRRER**  
Up to 1100 rpm - 5 L



**MSL 8**  
Up to 1500 rpm - 8 L



**ESP**  
Up to 1100 rpm - 5 L

## ILLUMINATED



**AMI**  
Up to 1100 rpm - 5 L

## DIGITAL



**MST Digital**  
Up to 1500 rpm - 5 L



**MSL 8 Digital**  
Up to 1500 rpm - 8 L



**MSL 25 Digital**  
Up to 1500 rpm - 25 L



**MSL 50 Digital**  
Up to 1000 rpm - 50 L

# MULTIPOSITION



**MULTISTIRRER 6**  
Stainless Steel Top - 0.4 L (x6)



**MULTISTIRRER 15**  
Stainless Steel Top - 0.25 L (x15)



**AMI 4**  
Up to 1100 rpm - 5 L (x4)



**MULTISTIRRER 6 Digital**  
Stainless Steel Top - 0.4 L (x6)



**MULTISTIRRER 15 Digital**  
Stainless Steel Top - 0.25 L (x15)

## HEATING MAGNETIC Stirrers

Hot plate stirrers are suitable for a great variety of applications when mixing and heating is required. VELP always provides the best instrument to fulfill any lab requirement, from basic applications to cloud controlled thermoregulation.





## ROUND TOP



**ARE 6**  
Aluminum Alloy plate - 370 °C - 20 L



**AREX 6**  
CerAlTop™ plate - 370 °C - 20 L



**AREX 6 Digital PRO**  
CerAlTop™ plate - 370 °C - 20 L



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**AREX 6 Connect PRO**  
CerAlTop™ plate - 370 °C - 20 L



**ARE 5**  
Aluminum Alloy plate - 310 °C - 15 L



**AREX 5**  
CerAlTop™ plate - 310 °C - 20 L



**AREX 5 Digital**  
CerAlTop™ plate - 310 °C - 20 L

## SQUARE TOP



**HSC 7**  
Ceramic plate - 400 °C - 15 L



**AREC 7**  
Ceramic plate - 550 °C - 15 L



**AREC.X 7**  
Ceramic plate - 550 °C - 15 L



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**AREC 7 Connect**  
Ceramic plate - 550 °C - 20 L

## MULTIPOSITION



**AM4**  
Aluminum Alloy plate - 370 °C - 15 L (x4)



**AM4 Digital PRO**  
CerAlTop™ plate - 370 °C - 20 L (x4)



**MULTI-HS 6 Digital**  
CerAlTop™ plate - 120 °C - 0.4 L (x6)



**MULTI-HS 15 Digital**  
CerAlTop™ plate - 120 °C - 0.25 L (x15)

## OVERHEAD Stirrers

VELP Scientifica offers a complete range of overhead stirrers with state-of-the-art stirring power and smart features for a wide range of applications. VELP overhead stirrers can work continuously, even in challenging environments.

Many reliable solutions are available for different requirements in terms of viscosity and volume. OHS Advance models offer unique features and cloud connectivity.

### CONTROLLER Advance & Digital

The VELP CONTROLLER Advance and Digital are the innovative solutions to control brushless motors of process reactors. Digital interface, maximum precision, timer and torque monitoring make VELP CONTROLLER the state-of-the-art solution for reactors of up to 100 L volume.



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CONTROLLER Advance



CONTROLLER Digital



# TORQUE (Ncm)

ANALOG

15/20



ES  
Up to 15 L  
Up to 1.000 mPa\*s

40



LS  
Up to 25 L  
Up to 25.000 mPa\*s

60

80



LH  
Up to 40 L  
Up to 50.000 mPa\*s

100



PW  
Up to 70 L  
Up to 100.000 mPa\*s

120

200

DIGITAL



OHS 20 Digital  
Up to 25 L  
Up to 10.000 mPa\*s



DLS  
Up to 25 L  
Up to 25.000 mPa\*s



OHS 60 Digital  
Up to 40 L  
Up to 50.000 mPa\*s



DLH  
Up to 40 L  
Up to 50.000 mPa\*s



OHS 100 Digital  
Up to 100 L  
Up to 70 mPa\*s



OHS 200 Digital  
Up to 100 L  
Up to 100.000 mPa\*s



OHS 40 Digital  
Up to 25 L  
Up to 25.000 mPa\*s



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OHS 60 Advance  
Up to 40 L  
Up to 50.000 mPa\*s



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OHS 100 Advance  
Up to 100 L  
Up to 70 mPa\*s



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OHS 200 Advance  
Up to 100 L  
Up to 100.000 mPa\*s









OVERHEAD STIRRERS

## Vortexers and Shakers

Vortex mixers are suitable for mixing substances in any shape or size of test tube thanks to the orbital movement of the rubber cup. Manual, continuous and IR sensor operating modes meet the multiple needs of every laboratory with high safety standards.

VELP's unique IR sensor system activates vibration without the need to apply pressure. The ergonomic and highly innovative design along with the zinc base ensures excellent stability on the bench, usable on many surfaces.



	DIGITAL		ANALOG		
	MULTIPOSITION		SINGLE POSITION		
PULSE / CONTINUOUS VORTEXER	 <p>MULTI-TX5 Digital Up to 2500 rpm Integrated timer</p>				
IR / CONTINUOUS VORTEXER		 <p>TX4 Up to 3000 rpm Integrated timer</p>	 <p>ZX4 Up to 3000 rpm</p>	 <p>WIZARD Up to 3000 rpm</p>	
TOUCH / CONTINUOUS VORTEXER			 <p>RX3 Constant 3000 rpm</p>	 <p>ZX3 Up to 3000 rpm</p>	 <p>CLASSIC Up to 3000 rpm</p>
OVERHEAD SHAKER	 <p>ROTAX 6.8 Up to 30 rpm</p>				

## DISPERSERS

VELP Dispensers are the ideal solution for homogenizing, dispersing, mixing and grinding cosmetics, food samples, pharmaceutical products and biological tissues (cells, animal and plant tissues).

Choose from a wide range of VEP dispersing tools, manufactured with high-quality stainless steel to ensure excellent mechanical properties and chemical resistance.

OV 625 Digital



- Up to 25000 rpm

OV 725 Digital



- Up to 25000 rpm
- Timer
- Tool maintenance indicator



# COD Thermoreactors

Chemical Oxygen demand is an important parameter for water and wastewater characterization, to test pollution levels.

Thermoreactors for COD analysis and sample preparation to determine both metallic and non-metallic elements in organic and inorganic materials such as minerals, alloys, animal feeds, soils, sediments and organic tissues.

ECO 6



- 6 positions
- LED display

ECO 8



- 8 positions
- 4 analysis times

ECO 16



- 16 positions
- LED display

ECO 25



- 25 positions
- 4 analysis times



## BOD and RESPIROMETERS

VELP solutions for BOD and Respirometric analysis provide a precise, reliable and compact solution to laboratories of water and wastewater quality control, organic waste treatment plants, renewable energy production end environmental labs studying the effects of plastic and other pollutants in water and soils.

Together with wireless data transmission to the PC, the RESPIROMETRIC Sensor features exclusive connectivity to the VELP Hermes Cloud Platform and has a wide application range since it is suitable for aerobic and anaerobic degradation analysis.





## STANDARD

## BOD



BOD Sensor System  
6 - 10 positions - Results on display

## AEROBIC

## PLASTIC ANALYSIS

## SOIL ANALYSIS

## ANAEROBIC

## BMP

## CONNECTIVITY



RESPIROMETRIC Sensor  
System - BOD  
6 positions - Results on display  
and RESPIROSoft™



RESPIROMETRIC Sensor  
System for Plastic Analysis  
6 positions - Results on display  
and RESPIROSoft™



RESPIROMETRIC Sensor  
System for Soil Analysis  
Results on display and  
RESPIROSoft™



RESPIROMETRIC Sensor  
System MAXI - BMP  
6 positions - Results on display  
and RESPIROSoft™

## COOLED Incubators

For those applications where the monitoring of the sample is extremely important, VELP has developed a line of incubators that offer the possibility of visually examining the content without interfering with the thermal cycle in progress.

VELP refrigerated thermostats guarantee premium connectivity and high performance in temperature control with the Auto-Tuning System.

FOC Connect provide Data logging, insights, immediate notifications and alerts, remote control of the processes and enhanced service support with VELP Ermes.



# STANDARD

## 109 L TOTAL VOLUME



FTC 120  
20°C constant



FOC 120 E Connect  
From 3 to 50 °C

## 169 L TOTAL VOLUME



FOC 200 E Connect  
From 3 to 50 °C

## ILLUMINATED

# INTERNAL TRANSPARENT DOOR



FOC 120 I Connect  
From 3 to 50 °C



FOC 200 I Connect  
From 3 to 50 °C



FOC 200 IL Connect  
From 3 to 50 °C

# FLOCCULATORS

VELP Scientifica has developed a complete line of instruments to support the lab technician working in the environmental sector and for the separation of pollutants in wastewater treatment plants in particular.

## FP4



- 4 positions
- Portable flocculator

## FC4S AND FC6S



- 4 or 6 positions
- Individual speed and time setting

## JLT 4 AND JLT 6



- 4 or 6 positions
- Programmable speed and time
- Digital



## OTHER LABORATORY EQUIPMENT Solutions



### TURBIDIMETER

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#### TBI

- Portable and impermeable
- Results in NTU (Nephelometric Turbidity Units)

### OCB Open Circulating Baths

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#### OCB

- Timer and digital display
- Excellent temperature homogeneity up to 105°C