



DIGESTERS, DISTILLERS AND EXTRACTION SYSTEMS



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DIGESTION COMPACT SYSTEM “MBC”

FOR ADJUSTABLE TEMPERATURES UP TO 450 °C
 SIZE OF THE SAMPLE, IN SOLIDS: UP TO 5 g
 SIZE OF THE SAMPLE, IN LIQUIDS: UP TO 15 ml



KJELDAHL METHOD IS THE DIGESTION/MINERALISATION SYSTEM BY HUMIDITY, THE MOST ACCEPTED FOR THE DETERMINATION OF NITROGEN/PROTEIN IN ORGANIC SUBSTANCES SUCH AS : NOURISHING PRODUCTS, FEEDS, FERTILIZERS, VEGETABLE GRAIN, BEER, MEAT, SAUCES, WATER, PETROLEUM....

The compact system takes big advantage to the traditional method such as:

- Simultaneous digestion from 6 to 20 samples
- Quick and safe manipulation of samples
- Reduction of the digestion time
- Reduction of chemical products, energy and space in the laboratory
- Efficient fume removal systems

CODE	REF.	SET N° OF PLACES	Ø TUBES mm	EXT. MEASURES mm HEIGHT x WIDTH x DEPTH	TEMP °C	POWER W.	WEIGHT Kg.
16030006	MBC-6	6	42	170 x 285 x 250	450	1.500	7.5
16040012	MBC-12	12	42	170 x 340 x 305	450	2.000	11
16050020	MBC-20	20	42	170 x 340 x 415	450	2.500	16

THE "MBC" SYSTEM IS COMPOSED BY:

1 HEATING METALLIC BLOCK, 1 TUBE HOLDER GRID WITH SUPPORT, 1 FUMES COLLECTOR WITH SUPPORT,
1 TIME-TEMPERATURE REGULATION UNIT AND DIGESTION TUBES.

ACCESSORIES AND SPARE PARTS



HEATING METALLIC BLOCK FOR THE DIGESTION "MB"

Made of alluminium, with mechanized holes for the placement of digestion tubes. Perfectly isolated with ceramic fibre. Electrically heated with stainless steel heating element built in the block. It assures an homogeneous distribution of heat and energy savings.

Exterior case in stainless steel AISI-316.

Code 16070007 Metallic block ref. "MB-6" for 6 places.

Code 16080012 Metallic block ref. "MB-12" for 12 places.

Code 16090020 Metallic block ref. "MB-20" for 20 places.

TIME-TEMPERATURE REGULATOR

Table-top, independent from the heating block. Composed by an electronic time regulator with microprocessor with P.I.D. action, digital selection and reading of temperature. It has an adjustable temporiser which starts up when reaches the selected temperature, and disconnects the heating once the selected time has gone by.

Code 16060001 Digital time-temperature reading ref. "RTTD"



TUBE HOLDER GRID

Made in alluminium, with the side lids in stainless steel and handles in isolating material. The support is completely in stainless steel.

Code 16100006 Tube holder grid ref. "GP-6" for 6 places

Code 16140012 Tube holder grid ref. "GP-12" for 12 places

Code 16120020 Tube holder grid ref. "GP-20" for 20 places



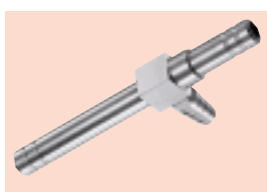
FUMES COLLECTOR

Made in "Pyrex®" glass and "Teflon®" washers. The case and the support are made in stainless steel.

Code 16130006 Fumes collector ref. "EG-6" for 6 places

Code 16140012 Fumes collector ref. "EG-12" for 12 places

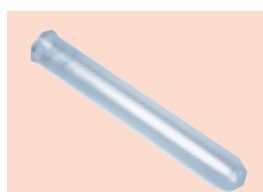
Code 16150020 Fumes collector ref. "EG-20" for 20 places



Metalic water jet pump in nickel-plated brass

Ref. 5700

Code 26505700



Distillation and digestion tube of pyrex glass Ø 42x300 mm.

Ref. TB-42300

Code 90160404

DISTILLERS FOR DETERMINATION OF NITROGEN-PROTEIN “DNP”

MANUAL DISTILLER: “DNP 1500”



CHARACTERISTICS

Epoxy resin oven painted external case, specially studied for its resistance to the attack of the chemical agents and to the corrosion in general.

Dragging steam distillation.

Electric steam generator (without electrodes).

Generator level control with automatic shut-down for lack of water.

Closed circuit water pump 10 liters capacity tank.

Automatic stop at the end of distillation.

Pump for soda addition, with 10 liters capacity tank.

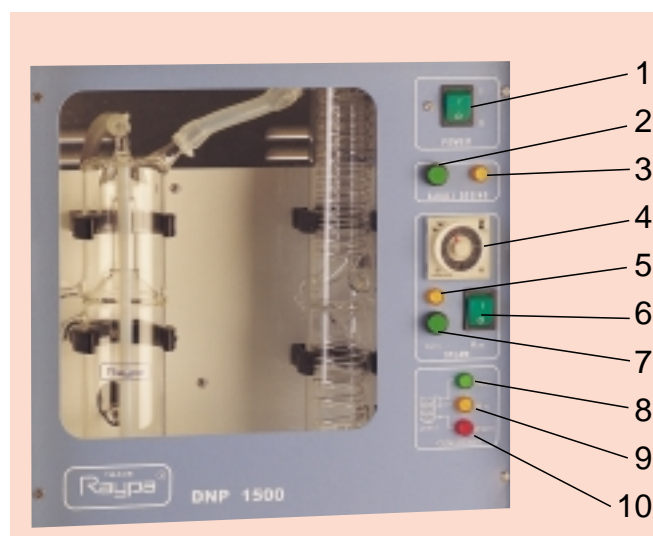
Distillation time: 4 minutes approx. (100 ml)

Reproducibility: $\pm 1\%$.

Water consume for cooling: 70 l/h.

CONTROL PANNEL

- 1.- Mains switch.
- 2.- Switch for addition of Sodium Hydroxide NaOH.
- 3.- Pilot-light indicator of addition of Sodium Hydroxide NaOH.
- 4.- Distillation time adjustable timer.
- 5.- Distillation pilot-light indicator.
- 6.- Switch for manual/automatic functioning.
- 7.- Start up switch for distillation.
- 8.- Steam generator maximum level pilot-light.
- 9.- Steam generator minimum level pilot-light.
- 10.- Alarm pilot-light for lack of water



CODE	REF.	WATER TANK	SODA TANK	EXT. MEASURES mm. HEIGHT x WIDTH x DEPTH	APROX. DIST. TIME	POWER W	WEIGHT Kg.
16160015	DNP-1500	10 L.	10 L.	740 x 385 x 340	4 min.	1.500	23

SEMI-AUTOMATIC DISTILLER : “DNP 2000”



CHARACTERISTICS

Epoxy resin oven painted external case, specially studied for its resistance to the attack of the chemical agents and to the corrosion in general.

Dragging steam distillation.

Electric steam generator, (without electrodes).

Generator level control with automatic shut-down for lack of water.

Closed circuit water pump 10 liters capacity tank.

Automatic shut-down at the end of distillation.

Water pump with 10l. capacity tank for the addition of soda. Automatic distillation, once the cycle has started, the soda addition, distillation, sample's suction and stop at the end of the cycle is executed automatically.

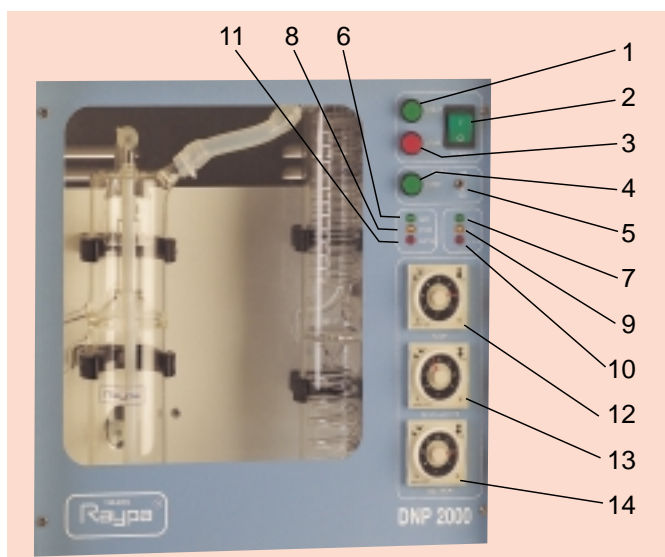
Independent adjusts for soda quantity, time of distillation and sample's suction.

Safety device to avoid any wrong manipulation if the sample's tube has not been placed in the support.

Distillation time: 4 minutes aprox. (100ml).

Reproducibility: $\pm 1\%$.

Water consume for cooling: 70 l/h



CONTROL PANEL

- 1.- "START" switch to start the cycle.
- 2.- Mains switch.
- 3.- "STOP" switch to stop the cycle manually.
- 4.- Switch for the addition of Sodium Hydroxide NaOH.
- 5.- ON-OFF selector for the addition of Sodium Hydroxide NaOH.
- 6.- Addition cycle pilot-light indicator for Sodium Hydroxide NaOH.
- 7.- Steam generator maximum level pilot-light.
- 8.- Distillation cycle pilot-light.
- 9.- Steam generator minimum level pilot-light.
- 10.- Steam generator alarm pilot-light for lack of water.
- 11.- Suction cycle of the sample's pilot-light.
- 12.- Timer for the control of the quantity of Sodium Hydroxide NaOH.
- 13.- Timer for the control of the distilling time.
- 14.- Timer for the control of the sample's suction.

CODE	REF.	WATER TANK	SODA TANK	EXT. MEASURES mm. HEIGHT x WIDTH x DEPTH	APROX. DIST. TIME	POWER W	WEIGHT Kg.
16170020	DNP-2.000	10 L.	10 L.	740 x 385 x 340	4 min.	1.500	31

OENOLOGIC DISTILLER "ALCOTEST"



APPLICATIONS

OENOLOGY: Alcoholic grade, volatile acidity, sorbic acid.

DISTILLATION: Plaited esparto rope, dregs, marc of grapes.

PERFUMERY: % of Alcohol.

CHARACTERISTICS

ALCOTEST distiller, is a semi automatic distillation unit by means of dragging steam.

Electric steam generator (without electrodes).

Steam generator level control with automatic shut-down for lack of water.

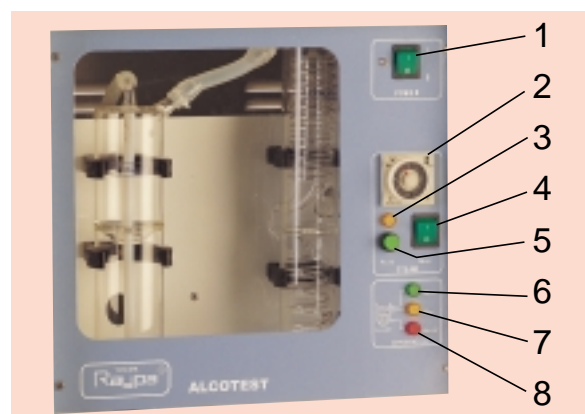
Water pump for the automatic feeding of the steam generator, with a 10 litres capacity tank.

Automatic shut-down at the end of distillation.

Includes: 1 tube Ø 42 x 300 mm., 1 tube Ø 80 x 300 mm.

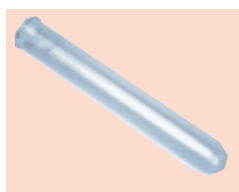
CONTROL PANEL

- 1.- Mains switch.
- 2.- Timer for the distillation time.
- 3.- Distillation pilot-light.
- 4.- Manual/Automatic functioning switch.
- 5.- Distillation start-up switch.
- 6.- Steam generator maximum level pilot-light.
- 7.- Steam generator minimum level pilot-light.
- 8.- Alarm pilot-light for lack of water.



CODE	REF.	WATER CONSUME REF.	WATER CONSUME C.C.	EXT. MEASURES mm HEIGHT x WIDTH x DEPTH	APROX. DIST. TIME.	POWER W	WEIGHT Kg.
16180015	ALCOTEST	75 l/h.	1.6 l/h.	740 x 385 x 340	7 min./200 ml.	1.500	27

ACCESSORIES AND SPARE PARTS FOR DISTILLERS

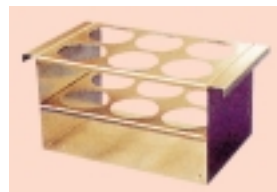


Distillation tube of glass
pírex Ø 42 x 300 mm.

Ref. TB-42300 - Code 90160404

Distillation tube of glass
pírex Ø 80 x 300 mm.

Ref. TB-80300 - Código 90160508



Tube holder grid for
6 tubes Ø 42 x 300 mm.

Ref. GRA-640 - Code 90160104

Tube holder grid for
6 tubes Ø 80 x 300 mm.

Ref. GRA-680 - Código 90160208

FIBER EXTRACTION SYSTEM "FIBERTEST"



EXTRACTION EQUIPMENT FOR CONTENT DETERMINATION OF RAW FIBER (WEENDE, WIJSTROM), DIET FIBER, DETERGENT FIBER ACID AND NEUTRAL (VAN SOEST), LIGNINE, HEMICELULOSE AND RELATED PARAMETERS.

Measurement range: 0.1- 100%.

Reproducibility: $\pm 1\%$ for a fiber level of 1 -30%

Size of the sample: 0.5-3 gr.

CHARACTERISTICS

Equipment for 6 samples simultaneously.

High reproducibility of results and conditions.

Up to 36 analysis/day (WEENDE method)

There is no transference or loss of sample.

Total extraction and filtering.

Essay very versatile, because the samples can always be taken out, dried and weighted in every extraction phase.

It is fully supplied with 6 porosity glass crucibles P-2, crucible-holder grid, heater cover and manipulator support.

CODE	REF.	N° OF SAMPLES	SAMPLE SIZE	EXT. MEASURES mm HEIGHT x WIDTH x DEPTH	RELATIVE PRECISION	POWER W	WEIGHT Kg.
16010006	F-6	6	0.5-3 g	590 x 680 x 310	0.1 %	1.500	35

ACCESSORIES AND SPARE PARTS



Porosity crucible P-2

Ref. CR-P2

Code 90160702



Circular hot plate
Ø 150 mm.

Ref. PCC-150

Code 22010015

"SOXTEST" FAT EXTRACTION SYSTEM

EXTRACTION EQUIPMENT WITH SOLVENTS FOR THE FAT AND SOLUBLE MATERIALS DETERMINATION IN: FOOD, FEEDS, FLOORS, DETERGENTS, POLYMERS, PAPER PULP, FIBERS, RUBBER, TEXTILE, PETROCHEMICAL PRODUCTS, PHARMACEUTICALS...



- Same reproduction as the traditional technique.
- Shorter extraction time compared to Soxhlet.
- Equipment designed for 6 samples simultaneously.
- Easy and rational manipulation.
- Safe solvent recuperation system (between 60 and 70%).
- Temperature range: from 30°C to 200°C.
- Extraction speed: between 30 and 60 minutes, depending on the sample.
- Maximum volume of the sample: 25 ml.
- Reproductivity: $\pm 1\%$ relative or better.

CHARACTERISTICS

The equipment is composed by two units, CONTROL UNIT and EXTRACTION UNIT.

CONTROL UNIT

Completely independent from the extractor unit. Assembled on a table top case with start up mains switch, electronic regulator to digital microprocessor for the temperature control on the plate, pilot-lights and adjustable safety thermostat.

EXTRACTION UNIT

Heating plate system, electric, with regulation unit and independent control of the extraction unit. Compact design in metallic case, with adjustable device for the extraction vessels to the heating plate and to the coolers
Teflon taps joined to the coolers to recover solvents.
Adjustable clock of 0-60 minutes with acoustic signal.

CODE	REF.	SET N° OF SAMPLES	EXT. MEASURES mm HEIGHT x WIDTH x DEPTH	RELATIVE REPRODUC.	POWER W	WEIGHT Kg.
16020006	SX-6	6	590 x 680 x 310	$\pm 1\%$	1.500	40

The equipment is fully supplied with: 18 extraction vessels, 3 vessel-holder grid, 1 box of 25 units thimbleful \varnothing 26mm, 18 magnetic adapters, 7 supports for thimbleful-holder, 3 thimbleful grids and 1 extraction vessels tongs.



Extraction vessel
Ref. CEX
Code 90160801



25 Units box of thimbleful
 \varnothing 26 mm.
Ref. CD2526
Code 90160926