RAYPA

Leading
Lab Technologies

Food analysis

FUMES NEUTRALIZATION UNIT

SCRUBBER

EFFICIENT, VERSATILE AND DURABLE SCRUBBER WITH ACTIVE FUMES ASPIRATION AND NEUTRALIZATION

Fumes neutralization unit

INTENDED USE

+ **EXTRACTION AND NEUTRALIZATION OF HARMFUL FUMES**

TECHNICAL DESCRIPTION

• Closed fumes evacuation system assisted by a vacuum pump.
• Manually adjustable vacuum pump, with acoustic insulation and an adjustable absolute vacuum between 10mBar and 800mBar.
• Refrigeration circuit with cooling water that condensates the fumes produced during digestions.
• Washing solution flask neutralizes acid or basic condensates.
• Adsortion flask filtrates and neutralizes fumes by a filter of activated charcoal.
• External case made of stainless steel AISI-304 painted with epoxy resin. Glass objects made of Borosilicate 3.3. Tubes made of PVC (Cristalflex®), silicone and Teflon®. Pump made of PPS, EPDM and FPM. Gasket set made of Teflon®.

WORKING PRINCIPLE

• The gas produced during chemical reactions is extracted by the action of a vacuum pump. Firstly, the gas undergoes a phase of condensation that acts as preliminary extractor for steams and dragged liquids, avoiding warming or volume increasement in posterior wash-up solution.
• The acid or alkaline vapors are washed and neutralized in the next step. Moreover, most of the unwanted particles are retained through granules of activated charcoal. The used air in the process is conducted to an extractor or to the exterior.
• Ideal to use together with MBC digesters. Both systems are connected by a flexible hose that joins the Compact block digestion system (MBC Series) and the Fumes neutralization unit (Scrubber).

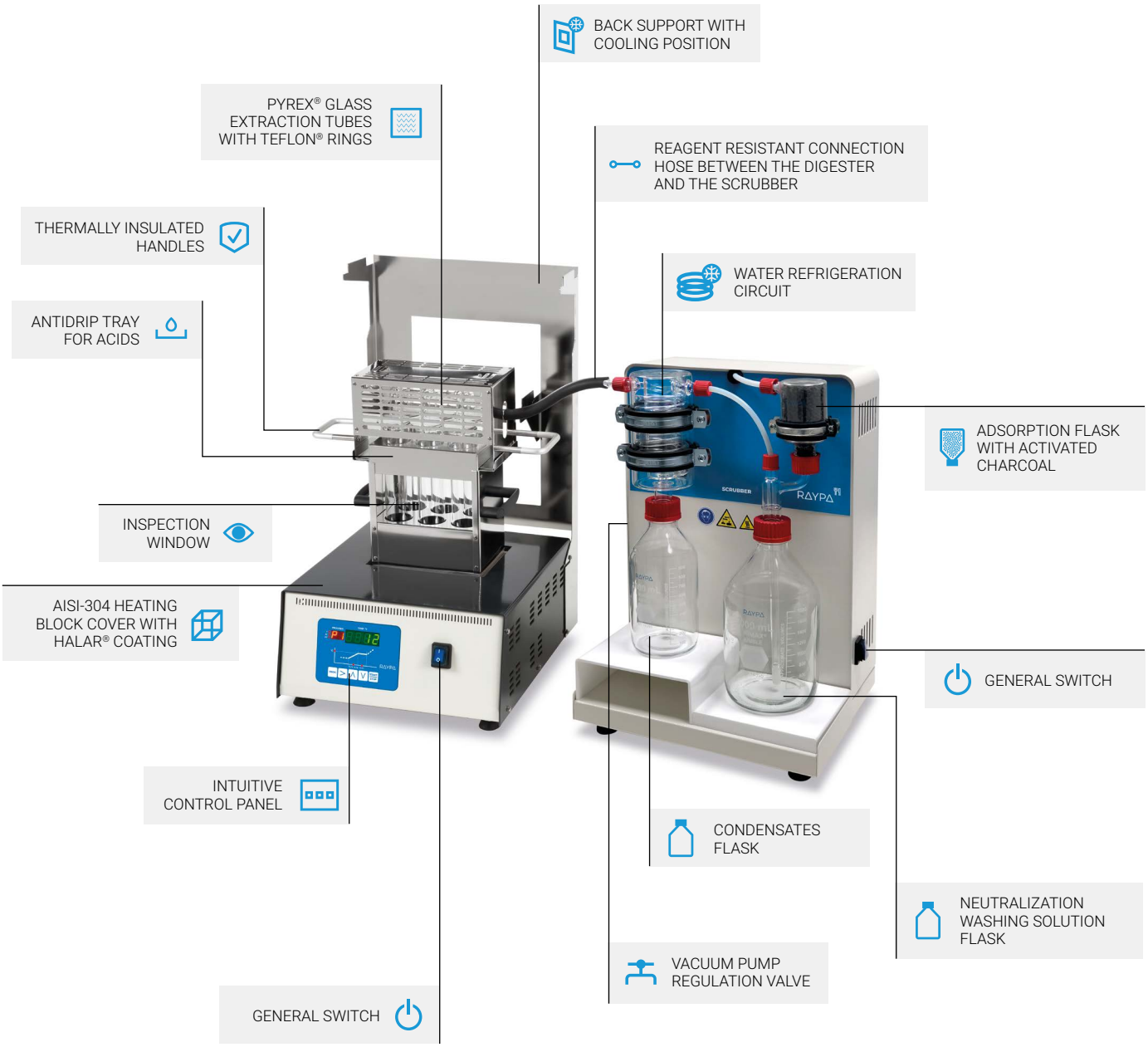
SUPPLIED WITH THE FOLLOWING COMPONENTS

• Scrubber unit with included vacuum pump.
• Refrigeration unit.
• Condensates flask of 1L.
• Neutralization flask of 2L.
• Adsorption flask.
• Complete Teflon® gasket set.
• Complete fluorinated elastomer tubing set.
• Anti-drip tray for neutralization flask.
• Support for condensates flask.

TECHNICAL SUMMARY OF SCRUBBER

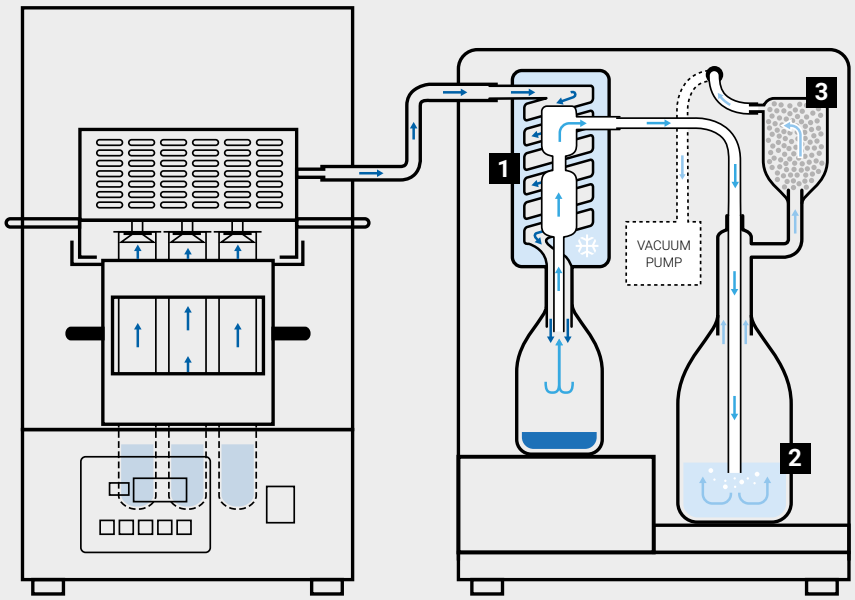
General information	Type	Closed fumes evacuation system with vacuum pump
Included processes	Aspiration	Adjustable vacuum pump
	Condensation	Circulating water through refrigeration circuit
	Neutralization	Washing alkaline or acid solution
	Filtration and adsorption	Activated charcoal
Performance data	Vacuum pump maximum vacuum mBar	10
	Scrubber water consumption (depending on exhaust fumes) L/min	3 - 5

MAIN FEATURES OF OUR SOLUTION FOR DIGESTIONS WITH FUMES NEUTRALIZATION



Fumes neutralization unit

SCRUBBER CONNECTED WITH OUR COMPACT BLOCK DIGESTION SYSTEM FOR A KJELDAHL DIGESTION

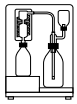


1. Condensation
2. Neutralization
3. Adsorption

Our SCRUBBER is offered as a stand alone equipment but it is primarly offered together with our Compact block digestion system (MBC Series), for more information of our MBC Series please visit our website.

The exhaust fumes that enter the SCRUBBER undergo a phase of condensation that acts as a preliminary extractor for steams and dragged liquids, avoiding warming or volume increasement in the posterior wash-up solution. The acid or alkaline vapors are then washed and neutralized in the next step. In the final step, most of the remaining particles are retained through granules of activated charcoal.

THECHNICAL DATA



Dimensions and performance

Reference		**SCRUBBER**
Dimensions L x D x H mm		375 x 310 x 540
Power W		100
Weight Kg		13
Voltage* V		230
Frequency Hz		50/60
Environment conditions	Operating temperature	between 5ºC and 40ºC
	Operating humidity	between 30% and 80%

* Also available with a voltage of 115 V.

Regulations

Our Fumes neutralization unit, SCRUBBER, is designed to comply with the strictest international directives and standards, including the following:

- **EN-61010-1** Safety requirements for electrical equipment for measurement, control and laboratory use. Part 1: General requirements.
- **EN-61326** Electrical equipment for measurement, control and laboratory use. EMC Requirements.
- **2014/35/UE** Low voltage.
- **2014/30/UE** Electromagnetic compatibility.

Main fields of application

FOOD AND FEED INDUSTRY

ENVIRONMENTAL ANALYSIS

PHARMACEUTICAL INDUSTRY

CHEMICAL ANALYSIS

+ info

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Installation guide available, please contact us.

REV 06.2021

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