

# 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.
- Adsorption 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

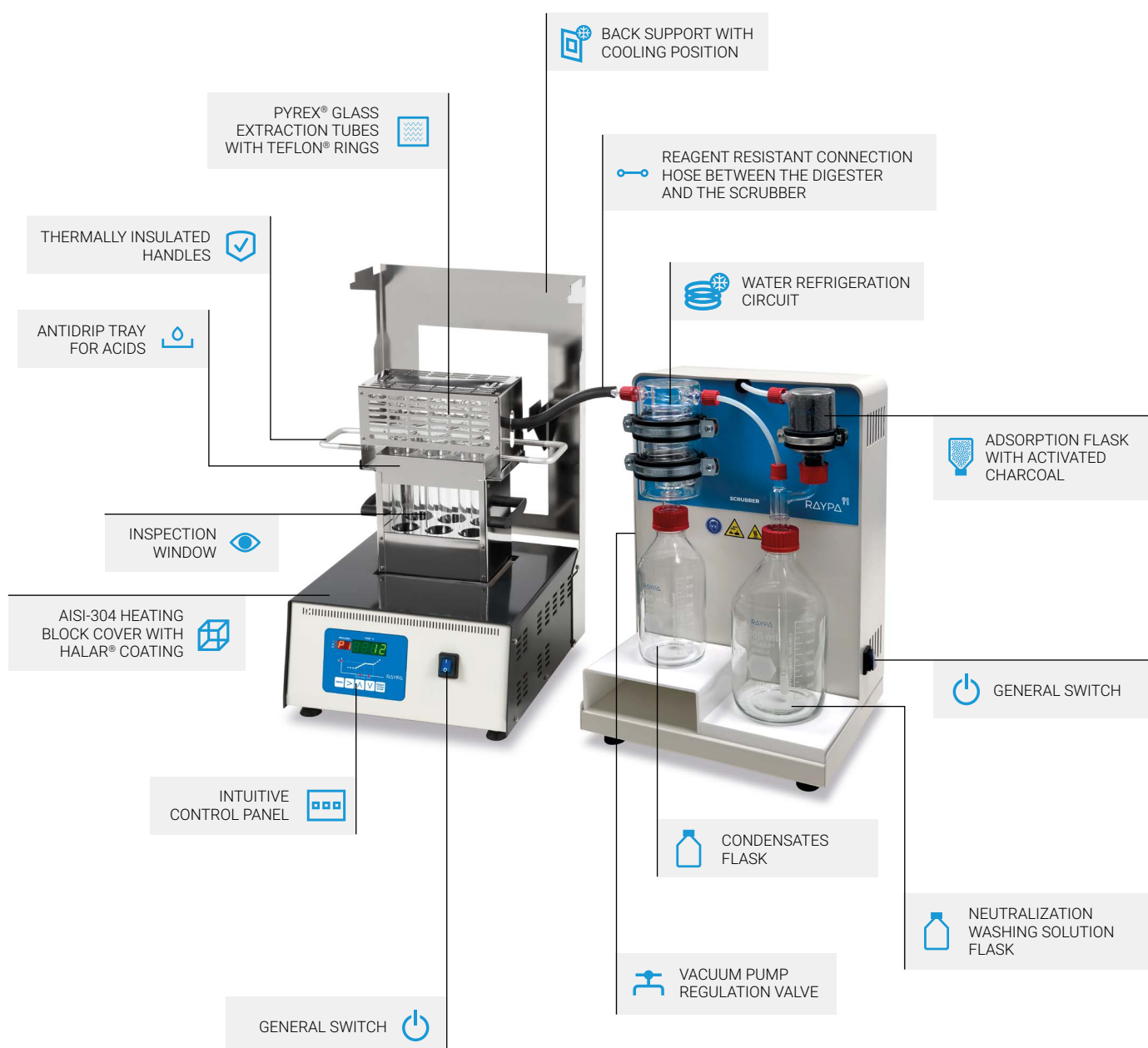
- Scrubber unit with included vacuum pump.
- Refrigeration unit.
- Condensates flask of 1L.
- Neutralization flask of 2L.
- Adsorption flask.
- Complete Teflon® gasket set.
- Complete fluorinated elastomer tubing set.
- Set of 2 trays to support Condensates and Neutralization flasks.

## TECHNICAL SUMMARY OF SCRUBBER

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

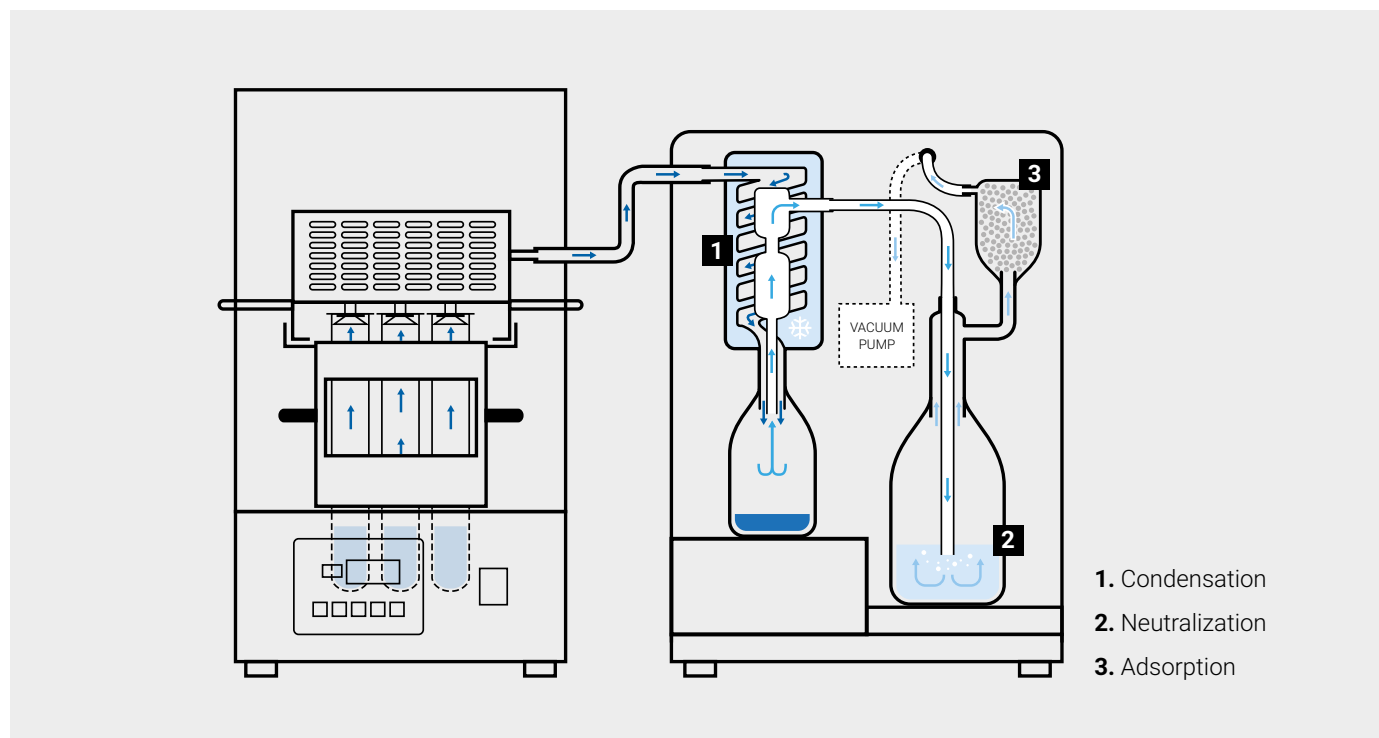


## MAIN FEATURES OF OUR SOLUTION FOR DIGESTIONS WITH FUMES NEUTRALIZATION



## Fumes neutralization unit

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

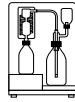


Our SCRUBBER is offered as a stand alone equipment but it is primarily offered together with our Compact block digestion system (MBC Series), for more information of our MBC Series please visit our website.

The exhaust fumes that enter the SCRUBBER undergo a phase of condensation that acts as 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 5°C and 40°C
	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.

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