








- Fights the corrosion by acid condensation;
- Resistant to chemicals dissolved in the steam that condenses in the boiler;
- Equipped with air vent as required by standard **UNI 7129-05**;
- Quick and easy maintenance;
- Super compact.

### PRODUCTION RANGE

	Code	Description	Size
	<b>3286.05.00</b>	Acid condensation neutralising filter including: - fixing bracket - pair of hose connection elbow fittings DN20 - 2 neutralising loads of calcium carbonate (CaCO <sub>3</sub> ).	G3/4" x DN20

### PRODUCTION RANGE - ACCESSORIES

	Code	Description	Size
	<b>3287.05.16</b>	Pair of hose connection straight fittings, complete with flat seat gasket.	G3/4" x DN16
	<b>3287.05.20</b>		G3/4" x DN20
	<b>3288.05.16</b>	Pair of hose connection elbow fittings, complete with flat seat gasket.	G3/4" x DN16
	<b>3288.05.20 *</b>		G3/4" x DN20 *
	<b>3289.00.00</b>	Thermal insulation made up from expanded polyethylene half-shells with external anti-scratch coating. Fixing with existing bi-adhesive tape.	-
	<b>3290.00.00</b>	Neutralising refill of calcium carbonate (CaCO <sub>3</sub> ).	-

\* Hose connection fittings standard with acid condensation neutralising filter code **3286.05.00**

## DESCRIPTION

The installation of condensing boilers is rapidly spreading, also thanks to new regulatory requirements. However, these heat generators produce acidic condensate that must be neutralised before disposal so that they cannot cause damage to the system piping and to the environment.

By installing **NT1** downstream of the boiler, condensation is forced to pass inside the neutralising cartridge, which performs a toning in pH causing it to fall within the limits provided for, allowing the free drain without damaging the pipes, sinks or gutters.

**USE:** **NT1** should be assembled downstream of the boiler, on the condensation's drain pipe.  
Suitable for use in low-power boilers (**24 and 35 kW**).

**OPERATING PRINCIPLE:** The acid condensation produced by the condensing boiler is forced to pass inside the cartridge containing the neutralising medium, where it is turned to alkaline values (basic with  $\text{PH} > 7$ ).

### **MAINTENANCE INTERVENTIONS:**

The operating time of the medium varies according to the acidity, the amount of condensation to process and hours of operation of the boiler.

Periodically refill /replace the neutralising medium (when the pH value of the fluid discharge is less than 6).

The neutralising medium approximately last about **a season** with the boiler operating.

The level of neutralising medium product can be monitored thanks to the filter's transparent body.

**RBM recommends replacing the residual neutralising medium every year, at the end or beginning of the season, after the filter has been cleaned.**

### **EXHAUSTED NEUTRALISING MEDIUM DISPOSAL:**

The exhausted granulate can be disposed of with household waste.

## TO KNOW MORE

### **Condensation boilers and legal obligations:**

The **Ecodesign** regulation in force since *September 26, 2015* has introduced two fundamental innovations on the market, which are closely related:

- 1) An obligation on the part of boilers manufacturers to market only condensing boilers (from 26-09-2015).
- 2) The introduction of energy labelling of the system and its components (on the lines of the one in force for home appliances and the energy certification of buildings).

### **Condensation evacuation and disposal:**

Since installation of condensing boilers became mandatory (also in the substitutions in existing systems), more and more generators of this type will have to be installed.

With this type of boiler you must address the problem of evacuation and disposal of acid condensation, which happens as a product of hydrogenated fuel burning. Water vapor condenses in the condensation boiler, depending on the return temperature, level and excess air during combustion.

The standard UNI 7129-05 does not require special precautions for installation in units for residential use, because the condensation would be neutralised by products used in washing and other domestic sewage. However, it should be noted that for condensation discharging you can only use corrosion-resistant components and you should not use galvanised materials or materials containing copper (brass, bronze) for piping and fitting pieces.

It is also necessary that the exhaust systems are not composed of elements in lead (much used in the past), and that they have no coating related to cement such as concrete or fibrocement.

The PVC plastic materials, also, should not be joined through the use of silicones.

The standard UNI 7129-05 pays particular attention to cases where between the condensate collection system present in the boiler and the sewage outlet an acid condensation neutraliser is interposed. It requires the presence, in the installation, of two functional separations on the entire condensation drain system. It's good to know that a variation in the expulsion thrust of discharge smokes, or the blockage of the chimney, can cause pressure variations on the head height of the condensation drain siphon inside the boiler (negative pressure), with the risk of emptying and of discharge smokes inlet into the sewer. For this reason the standard require these separations. One of them is already present inside the boiler and is represented by the boiler siphon; the second one may take several configurations, as the same rule provides: the firenze siphon or the Imhoff tank for example, or more simply a collection container with atmospheric vent. The latter is located inside NT1 that, with its particular shape, complies with the requirements of the standard itself.

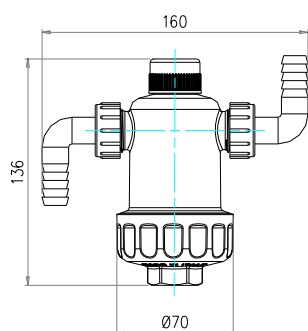
Resorting to such measures allows avoiding two effects, related to the pressure changes of the sewer system:

The first, caused by a depression, determines the syringe effect, which empties the siphon of the unit allowing the entrance of smokes into the sewer. The second results from the pressurisation of the sewage system, also following the emptying of the siphon, and would cause the waste water to enter the boiler.

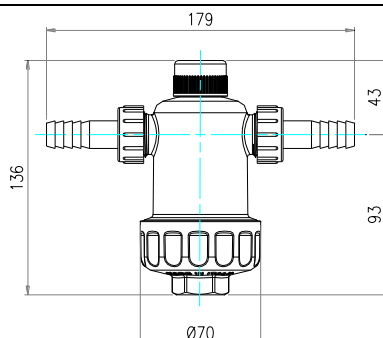
## CONSTRUCTION FEATURES

- |   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Body:</li> <li>• Hose connection caps / fittings:</li> <li>• Wall fixing bracket:</li> <li>• Neutralising medium holding net:</li> <li>• Neutralising medium:</li> <li>• Hydraulic seals:</li> </ul> | <ul style="list-style-type: none"> <li>Transparent PA polyamide</li> <li>PA polyamide</li> <li>Polymer</li> <li>AISI 304 stainless steel</li> <li>CaCO<sub>3</sub> (calcium carbonate)</li> <li>EPDM PEROX</li> </ul> |
|---|---|

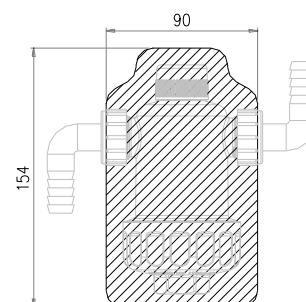
## DIMENSIONAL FEATURES



**Configuration 1:**  
Hose connection elbow fittings



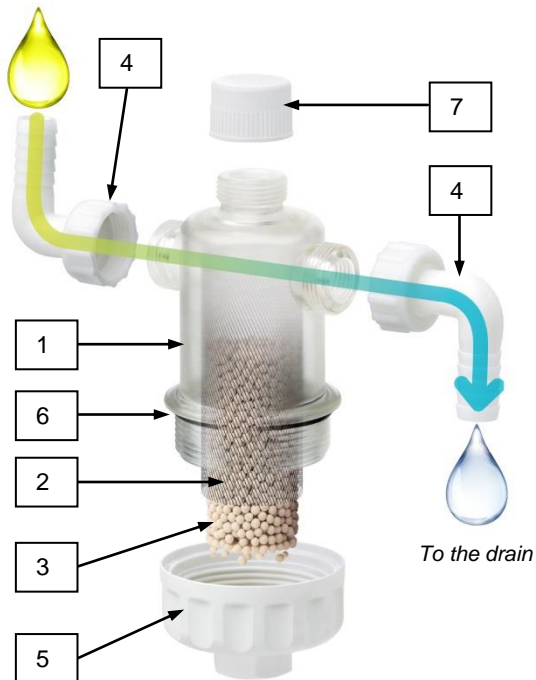
**Configuration 2:**  
Hose connection straight fittings



**Insulated neutralising filter**

## COMPONENTS DESCRIPTION

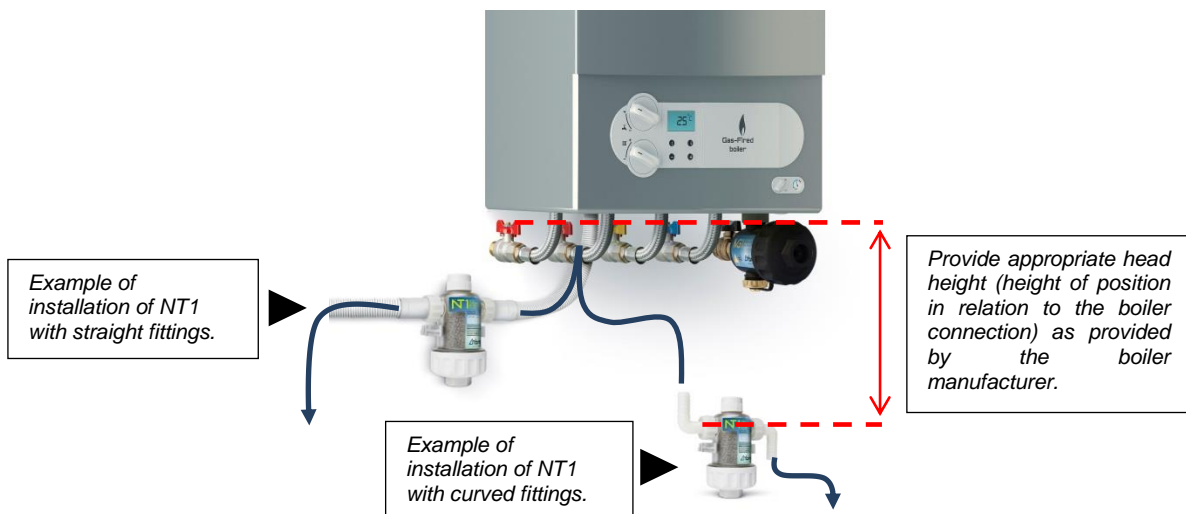
From the boiler



Pos.	Description
1	Body in transparent PA
2	Neutralising medium holding net in AISI 304 stainless steel
3	Neutralising medium carbonate $\text{CaCO}_3$
4	Hose connection fittings in natural PA (straight fittings also available)
5	Lower closure cap in natural PA
6	Seals in EPDM PEROX
7	Atmospheric vent - flat seal

## INSTALLATION

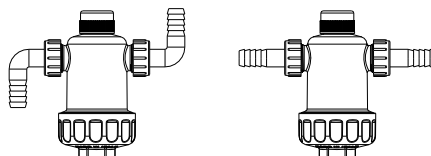
**NT1** should be assembled downstream of the boiler, on the condensation's drain pipe. Suitable for use in low-power boilers (**24** and **35 kW**).



- 1) Identify the acid condensation discharge pipe of the boiler where NT1 will be installed.
- 2) Install the filter on the discharge pipe according to one of the reported setups by using the hose connection fittings.
- 3) Secure the filter to the wall with the designated bracket.
- 4) Remove the atmospheric vent from the filter.
- 5) Introduce the load of  $\text{CaCO}_3$ .
- 6) Place back the atmospheric vent.
- 7) Ensure NT1 has been installed correctly and the seals are in the right position.

### WARNINGS:

- Install NT1 in a **vertical position**.
- For installations on outdoor boilers with a condensation drain on the gutter, use the designated insulation (cod. **3289.00.00**).



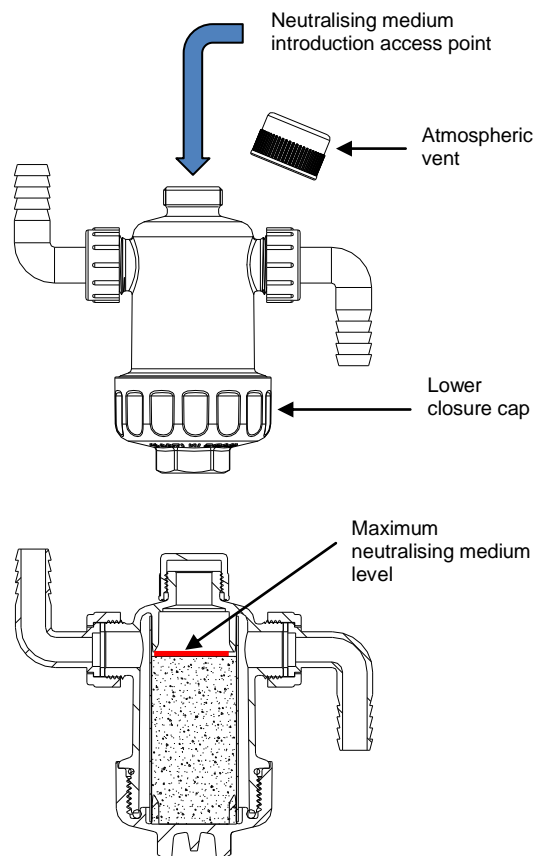
## MAINTENANCE INTERVENTIONS

The operating time of the neutralising medium varies according to the acidity, the amount of condensation to process and hours of operation of the boiler. The level of neutralising medium can be monitored thanks to the filter's transparent body. Top up as required.

**RBM recommends replacing the residual neutralising medium every year, at the end or beginning of the season, after the filter has been cleaned.**

### Instructions to top up the neutralising medium:

- 1) Remove the atmospheric vent from the filter.
- 2) Introduce the CaCO<sub>3</sub> load without going over the maximum filling level. **Only use original RBM spare parts (code 3290.00.00).**
- 3) Replace the O-Ring gasket if it is damaged.
- 4) Place back the atmospheric vent.



### Annual maintenance instructions:

- 1) Turn off the boiler and wait 10 min. to ensure all the condensation drips out.
- 2) Remove the connection of the pipes from the fittings.
- 3) Release the filter from the bracket.
- 4) Eliminate the condensation residue inside the filter.
- 5) Open the lower cap.
- 6) Take out the steel mesh and clean it.
- 7) Introduce the neutralising medium.
- 8) Reassemble in reverse order.

## SPECIFICATION ITEMS

### **SERIES 3286**

Acid condensation neutralising filter model *NT1*. 3/4" x DN20 connection. Body in plastic polymer. AISI 304 steel filtering cartridge. Seals in EPDM PEROX. Hose connection fittings in plastic polymer. UNI-EN-ISO 228 threaded connections Hose connection elbow fittings DN20. Wall fastening collar in polymer.

Fights corrosion caused by acid condensation; Resistant to chemicals dissolved in the steam that condenses in the boiler; Quick and easy maintenance; Super compact.

### **SERIES 3287**

Hose connection straight fitting, complete with flat seat gasket.

Made in PA polyamide. Seals in EPDM PEROX. Sizes available G3/4" x DN16 and G3/4" x DN20.

### **SERIES 3288**

Hose connection elbow fitting, complete with flat seat gasket.

Made in PA polyamide. Seals in EPDM PEROX. Sizes available G3/4" x DN16 and G3/4" x DN20.

### **SERIES 3289**

Thermal insulation made up from expanded polyethylene half-shells with external anti-scratch coating. Fixing with existing bi-adhesive tape. Fire behaviour Class 1. Density 33 kg/m<sup>3</sup>. Operating temperature -40 ÷ +90°C

### **SERIES 3290**

Neutralising medium - calcium carbonate (CaCO<sub>3</sub>).



RBM spa reserves the right to improve and change the described products and related technical data at any moment and without prior notice: always refer to the instructions attached with the supplied components; this sheet is an aid, should the instructions be extremely schematic. Our technical department is always at your disposal for any doubt, problem or clarification.

  
 RBM Spa  
 Via S. Giuseppe, 1  
 25075 Nave (Brescia) Italy  
 Tel. 030-2537211 Fax 030-2531798  
 E-mail: info@rbm.eu - www.rbm.eu