



Rev. 04/2024

NT1™

Acid condensation neutralising filter
for condensation boilers.

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Acid condensation neutralising filter for condensation boilers.

+ Fights corrosion caused by acid condensation

Resistant to chemicals dissolved in the water vapour that condenses in the boiler


Equipped with air vent as required by standard UNI 7129-05

Easy and quick maintenance




Super compact



PRODUCTION RANGE

Code	Description	Size
 3286.05.00	Acid condensation neutralising filter including: <ul style="list-style-type: none"> • fastening collar • Pair of DN20 elbow hose connection fittings • 2 acid condensate neutralising charges 	G3/4" x DN20

PRODUCTION RANGE - ACCESSORIES

Code	Description	Size
 3287.05.16	Pair of hose connection straight fittings, complete with flat seat gasket.	G3/4" x DN16
3287.05.20		G3/4" x DN20
 3288.05.16	Pair of hose connection elbow fittings, complete with flat seat gasket.	G3/4" x DN16
3288.05.20 *		G3/4" x DN20 *
 3289.00.00	Thermal insulation made up from expanded polyethylene half-shells with external anti-scratch coating. Fixing with existing bi-adhesive tape.	-
 3290.00.00	Neutralising bioceramic compound based on MgO.	-

* 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 neutraliser cartridge, which performs a toning in pH causing it to fall within the limits provided for, allowing the free drain without damaging the pipes 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 condensation boiler is forced

to pass inside the cartridge containing the neutralising load, where it is turned to alkaline values (basic with PH > 7).

MAINTENANCE INTERVENTIONS:

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

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

The neutraliser load should approximately last about **a season** with the boiler operating.

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

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

EXHAUSTED NEUTRALISING CHARGE 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 vapour 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.

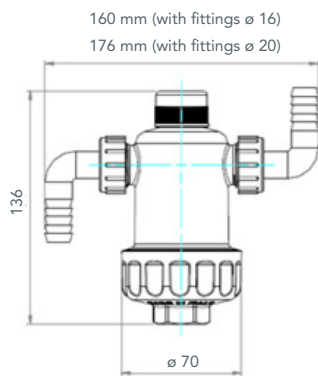
Resorting to such measures allows avoiding two effects, related to the pressure changes of the sewer system:

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.

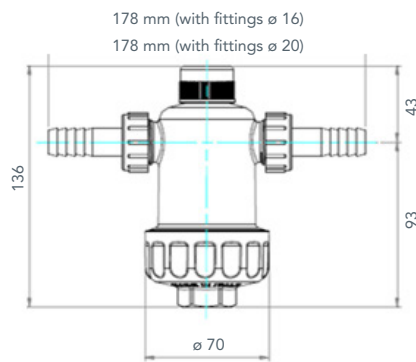
CONSTRUCTION FEATURES

Cartridge body	Transparent PA polyamide
Hose connection caps / fittings	PA polyamide
Wall fastening collar	Polymer
Neutralising load holding net	AISI 304 stainless steel
Neutralising load	Neutralising bioceramic compound based on MgO
Hydraulic seals	EPDM PEROX

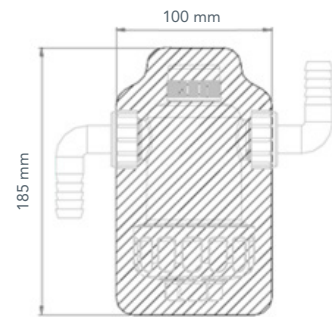
DIMENSIONAL FEATURES



Configuration 1:
Hose connection elbow fittings



Configuration 2:
Hose connection straight fittings



Insulated neutralising filter

COMPONENTS DESCRIPTION

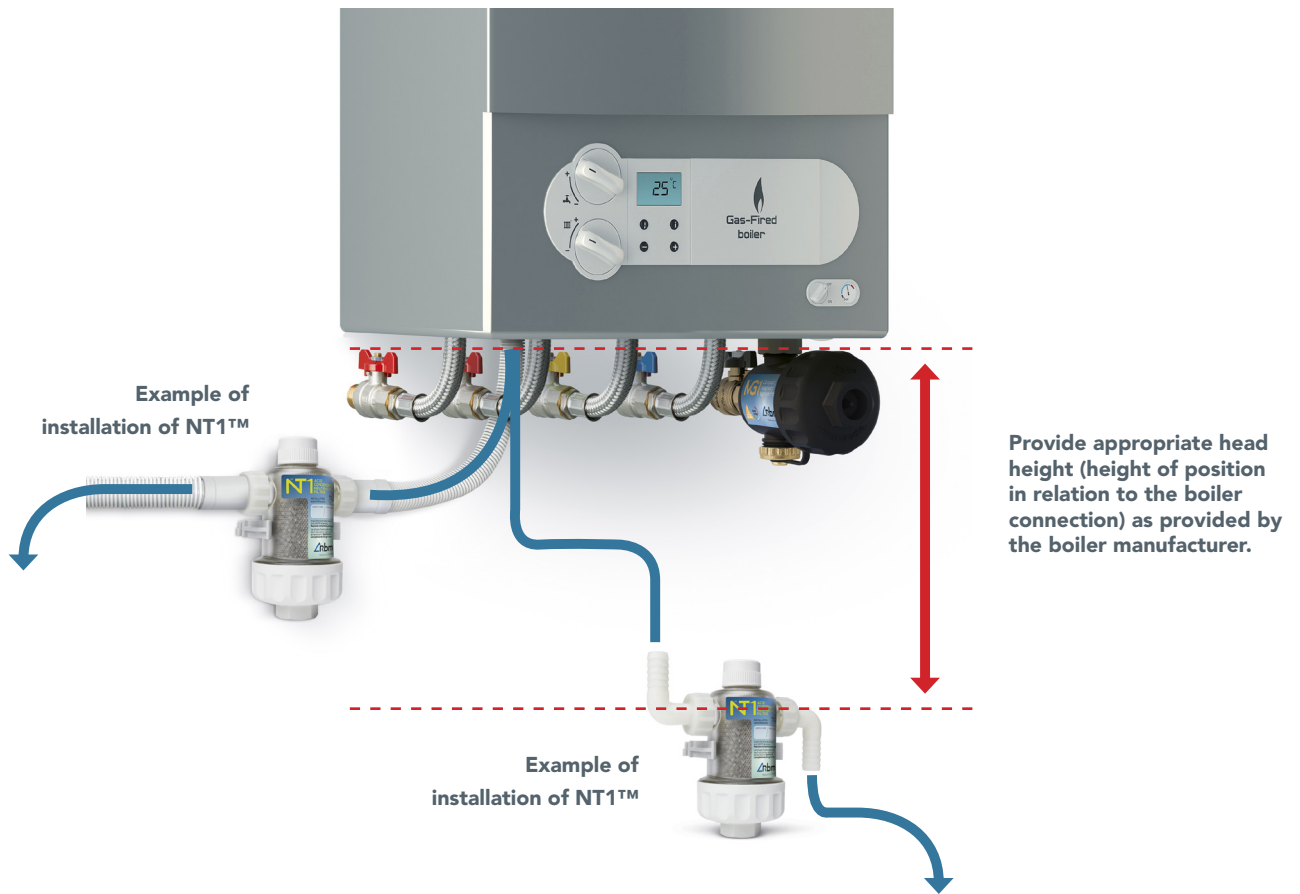
from the boiler



- ① Body in transparent PA
- ② Neutralising load holding net in AISI 304 stainless steel
- ③ Neutralising bioceramic compound based on MgO
- 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).

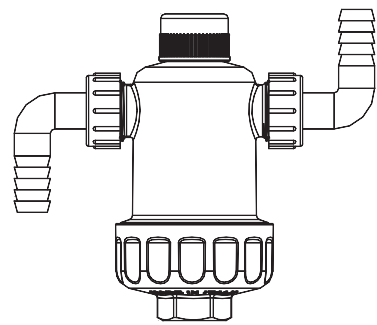


1. Identify the acid condensation discharge pipe of the boiler where **NT1™** will be installed.
2. Install the filter on the discharge pipe according to one of the reported setups by using the hose connection fittings.
3. Secure the filter to the wall with the designated collar.
4. Remove the atmospheric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

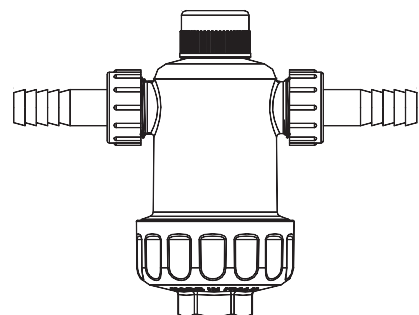
WARNINGS:

- 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**).

Elbow fittings



Straight fittings



MAINTENANCE INTERVENTIONS

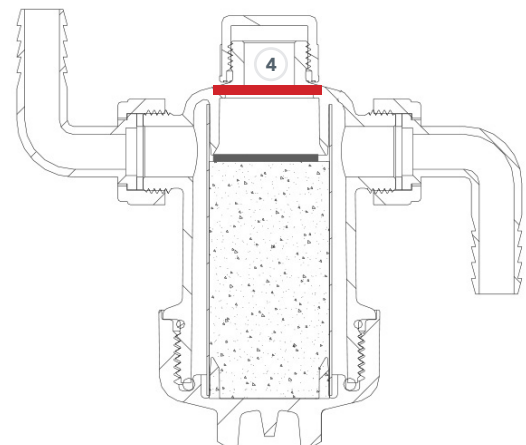
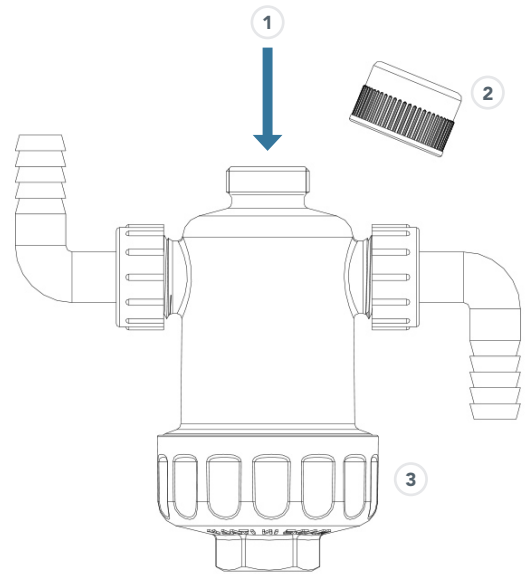
The operating time of the neutralising load varies according to the acidity, the amount of condensation to process and hours of operation of the boiler.

The level of granulated product can be monitored thanks to the filter's transparent body. Top up as required.

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

Instructions to top up the neutralising load:

1. Remove the atmospheric vent from the filter.
2. Introduce the neutralising 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 bioceramic compound based on MgO
8. Reassemble in reverse order.

- 1 Neutralising load introduction access point
- 2 Atmospheric vent
- 3 Lower closure cap
- 4 Maximum neutralising load level

SPECIFICATIONS

SERIES 3286

Acid condensation neutralising filter model NT1™. 3/4" x DN20 connection. Body in plastic polymer. AISI 304 steel filtering cartridge. EPDM PEROX seals. 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 water vapour that condenses in the boiler; Easy and quick maintenance; Super compact.

SERIES 3287

Hose connection straight fitting, complete with flat seat gasket.
Made in PA polyamide. EPDM PEROX seals. 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. EPDM PEROX seals. 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/m³. Operating temperature -40 ÷ +90 °C

SERIES 3290

Neutralising bioceramic compound based on MgO.

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