

Fig. 1: GENO®-Neutra N-70

Designated application

GENO®-Neutra N-14, N-70 and N-210 systems are designed for the neutralisation (increase of the pH-value to more than 6.5) of condensed water originating from gas-fired heat generators (condensing boilers) and/or exhaust systems made of stainless steel, plastic, graphite, glass and ceramics according to ATV-DVWK-A 251, DVGW-VP114 and DIN 4716-2 up to the specified capacity.

Function

The condensed water flows into the sedimentation zone of the neutralisation system. The condensed water is then distributed via the integrated filter plate and flows through the granulate filling. The granulate is thus solubilised and the condensed water neutralised. Afterwards, the condensed water flows to the drain.

The amount of neutralisation granulate contained in the scope of delivery corresponds to the initial filling required for maximum capacity and is designed for a service life of 12 months (refer to Technical Specifications).

Design

The neutralisation systems consist of a neutralisation tank with hose connections for inlet and outlet. In the neutralisation tank, a sedimentation zone for impurities, a zone for the neutralisation granulate filling and a collection zone for condensed water are aligned in direction of the flow. In case of the N-210, the filling amount of the neutralisation granulate can be adapted to the boiler capacity as needed.

In case of the N-14 and N-70, an overflow orifice is provided above the outlet piece, so that the condensate may escape at a pre-defined point in case of any obstructions in the condensate discharge.

The neutralisation systems may be equipped with an optional overflow warning switch – refer to accessories.

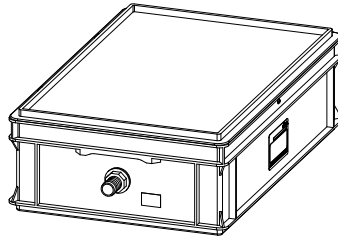


Fig. 2: GENO®-Neutra N-210

Scope of delivery

1 neutralisation system GENO®-Neutra N-14, N-70 resp. N-210 as compact system

1 pack of pH measuring strips

3 hose clamps

5 m DN 20 hose for N-14 and N-70, DN 25 for N-210

1 inlet hose connection D 20 (only for N-210); D 20 hose is available as an option – refer to accessories

Neutralisation granulate GENO®-Neutralit Hz

3 kg for N-14

8 kg for N-70

24 kg for N-210

1 operation manual

Completely packed in cardboard box

Accessories

Overflow warning switch

Order no. 410 680

GENO® alarm delay relay

Order no. 410 285

5 m spiral-wound hose DN 20

Order no. 410 764e

5 m spiral-wound hose DN 25

Order no. 410 774e

Waste water pumping system AH-300

Order no. 420 150

Consumables

Maintenance set for N-14

Order no. 410 801

Maintenance set for N-70

Order no. 410 802

Maintenance set for N-210

Order no. 410 803

GENO®-Neutralit Hz - 8 kg

Order no. 410 011

pH measuring strips - 3 pcs

Order no. 170 173

GENO®-Neutra N-14
GENO®-Neutra N-70
GENO®-Neutra N-210

Installation conditions

Please observe the technical specifications of the system, the rules for the discharge of condensate according to worksheet ATV-DVWK-A 251 as well as the local directives.

The installation site must be frost-proof and protect the system from chemicals, dyes, solvents and vapours, high radiation temperatures and direct sunlight.

Take into consideration that in standard operation the condensed water is accumulated to the level of the outlet connection of the neutralisation system. If the condensed water shall completely drain from the heat generator or the chimney, the erection areas respectively the outlets for the condensed water must be provided for accordingly. A drain connection (min DN 40) must be available for the discharge of the condensed water and discharge without backwater must be ensured.

If no floor drain is available at the installation site, an alarm system must be installed. In case of a disturbance, this alarm device must clearly indicate the alarm and if necessary prevent the system from overflowing resp. consequential damage by switching off the heat generator. For an overflow warning switch, please refer to accessories

Concentrations of iron, manganese, aluminium and zinc contained in the condensate may clog the neutralisation granulate and therefore considerably affect the function of the neutralisation system. If need be, the applicability should be checked by means of tests, and if necessary, regular cleaning of the system with replacement of the granulate must be arranged for.

In case of condensed water with an extremely high content of impurities, we recommend removing the impurities upstream of the neutralisation system by means of a filter.

Obligatory neutralisation acc. to ATV-DVWK-A 251

Excerpt derived from chapter 4.1.3 of the August 2003 edition

Nominal heat output	Neutralisation for firing systems and motors without catalytic converter is required for		
	Gas	Heating oil DIN 51603-1, low on sulphur	Heating oil DIN 51603-1
< 25 kW	no 1), 2)	no 1), 2)	yes
25 to 200 kW	no 1), 2),3)	no 1), 2),3)	yes
> 200 kW	yes	yes	yes

However, a neutralisation is nevertheless required

- 1) if the domestic waste water is discharged to small sewage plants
- 2) in case of buildings and lots whose drainpipes do not meet the material requirements stipulated in paragraph 5.3,
- 3) in case of buildings which do not meet the requirements for sufficient blending as per paragraph 4.1.1.

Technical specifications/dimensions	GENO®-Neutra		
	N-14	N-70	N-210
Connection data			
Nominal diameter of inlet/outlet hose [DN]	20		25*
Min. drain connection [DN]	40		
Voltage-free fault contact (Accessory – overflow warning switch)	changeover contact, switching capacity 250 V / 6 A (ohmic load) electrical connection receptacles 6.3 x 0.8 mm		
Performance data			
Combustible/process (generation of condensate)	gas condensing boiler technology		
Max. neutralisation capacity [l/h]	14	70	210
At 0.14 l/kWh this corresponds to a max. boiler capacity of [kW]	100	500	1500
Filling volumes and consumption data			
Neutralisation granulate (8 kg, order no. 410 011)	GENO®-Neutralit Hz		
Filling volume of neutralisation granulate [kg]	3	8	24
Service life in case of standard condensate acc. to DVGW-VP-114, pH 3	12 months	12 months	12 months
Neutralisable condensate volume [m³]	16	63	190
This corresponds to ... hours of full boiler use [bVH]	1100	900	900
Service life in case of standard condensate, however, at a min. pH of 3.2	12 months	12 months	12 months
Neutralisable condensate volume [m³]	25	105	315
This corresponds to ... hours of full boiler use [bVH]	1800	1500	1500
Dimensions and weights			
Backwater level of condensate in standard operation [mm]	120		90
A Total height [mm]	165		185
B Height of inlet connection [mm]	110		80
C Height of outlet connection [mm]	110		80
D Length without hose connections [mm]	410		600
E Total length [mm]	421		680
F Width [mm]	230		400
G Overflow height (lower edge of orifice) [mm]	140		-
Operating weight, approx. [kg]	12	15	45
Shipping weight [kg]	7	12	33
Environmental data			
Condensate temperature [°C]	5 - 60		
Ambient temperature [°C]	5 - 40		
Test mark/Certification mark			
DVGW registration number	DG-4586CM0231		
Order no.	410 440	410 450	410 320

* In addition, a DN 20 inlet hose connection is included in the scope of delivery (DN 20 hose is optional, however)

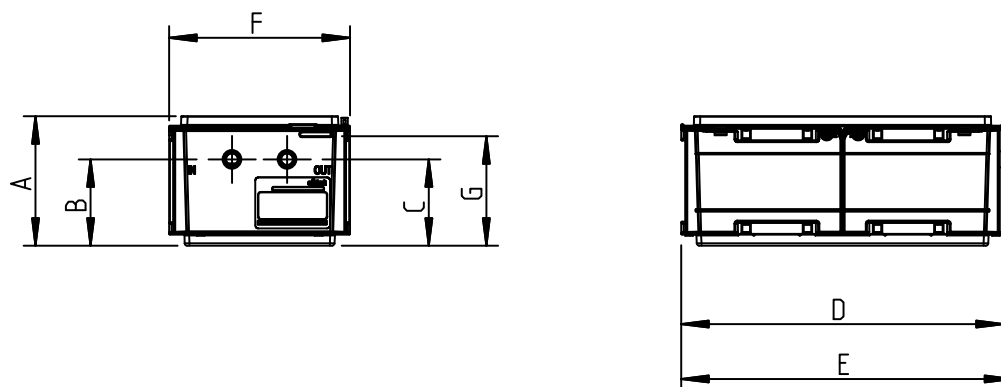


Fig. 3: Dimensional drawing N-14 and N-70

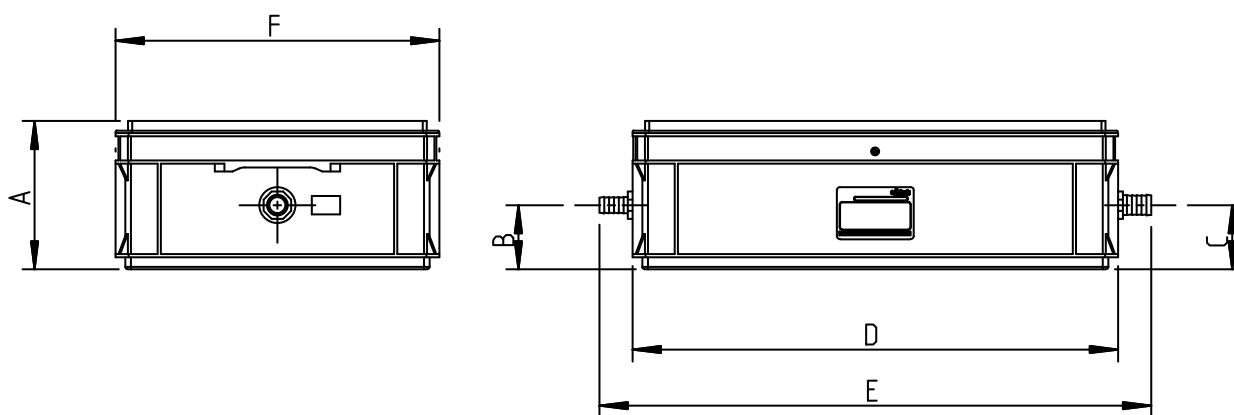


Fig. 4: Dimensional drawing N-210