NG
Filter Duct Housings

CLEAN AIR

POWER GENERATION

CLEAN ROOM

INDUSTRIAL

NG filter duct housings are solid-built housings, suitable for air flows of up to 12,000 m³/h. The housings can be used for the installation of various filter types, are fast and easy to assemble and available in several sizes.

The NG filter duct housing is suitable for installation in duct systems for the supply of ultra-clean air. The air flow can be horizontal or vertical as required and servicing is recommended from the sides and underneath.

The housing, mounted as closely as possible to the air outlet, allows air distribution by conventional means in the area to be kept clean. Special advantages of this filter arrangment lie in the fact that the filter can be changed from outside the clean air zone.

Typical fields of application for NG housings are:

- Sterile zones in hospitals
- Clean air zones and clean working areas in laboratories and industry (pharmaceutical, food and electronics)
- Waste air purification to maintain the maximum emission values etc.

KEY FACTS

- Mounted in close proximity to the air outlet: Filter change can occur outside of the clean air zone
- Filter gasket test groove: Simplifies maintenance and safety inspections
- Guide rails for filter installation: For ease of assembly
- Optional integrated pre-filter: For pre- and final filtration in one unit
- Pre-filter separately fastened with clamping springs: Changeable independently of final filter
- Units may be installed in multiple combinations: Removable side cover plate allows high flexibility
- Optional pressure drop indication equipment: For at-a-glance maintenance

NG
Design and Combinations

DESIGN

The NG filter duct housing is designed for the installation of Hepatex N or CR final filters with or without a pre-filter (Compatex FP). The housing is constructed using two epoxy powder coated welded frames, reinforced with four galvanised/powder-coated struts and fitted with removable galvanised or powder-coated cover plates with gaskets. Flanges on both sides are drilled according to DIN 24159.

The filters can be slid in sideways on two guide rails. The pre-filters are fastened by the means of clamping springs.

Clamping attachment for final filter consists of:
- Guide rails, galvanised/powder coated steel
- Centering rails, powder coated steel
- Threaded bars with nuts, cadmium plated steel/stainless steel AISI 304
- Surrounding sealing frame, with/without test groove, made of aluminium

Clamping attachment for pre-filter (optional) consists of:
- Centering and guide angle, stainless steel AISI 304
- 2 clamping and 2 press-on springs in stainless steel AISI 304
- Foam-rubber sealing, housing side

Unit supplied with optional pressure measuring connections for separate measurement of pre-filter and final filter.

For the separation of radioactive, toxic or pathogenic ultra-fine dust and for operation with differential pressure >1,000 Pa, NSC Housings should be used. They are specially designed for "safechange" of contaminated filters using the "barrier bag method".

COMBINATIONS

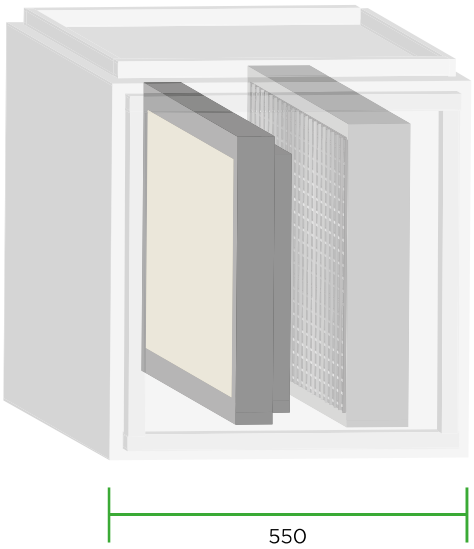
The single units can be easily combined to form larger units by removing the side cover-plate. We recommend the duct housing combinations to be assembled and sealed by us. For horizontal air flow a maximum of 2 units can be mounted side by side and a maximum of 3 units one above the other. For vertical air flow, any desired row length can be formed.

When combining units it has to be ensured that filter change is possible for each housing by side withdrawal. (Filters cannot be changed through the adjoining housing). For multiple stage filter installations NG housings may also be combined in series.

Available Types NG		
Size	Full (1/1)	Half (1/2)
Type	K	T
Filter Fastening	Yes	No
Fastening Material	Galvanised sheet steel parts with cadmium-plated bolts	Epoxy-coated sheet steel parts with stainless steel bolts

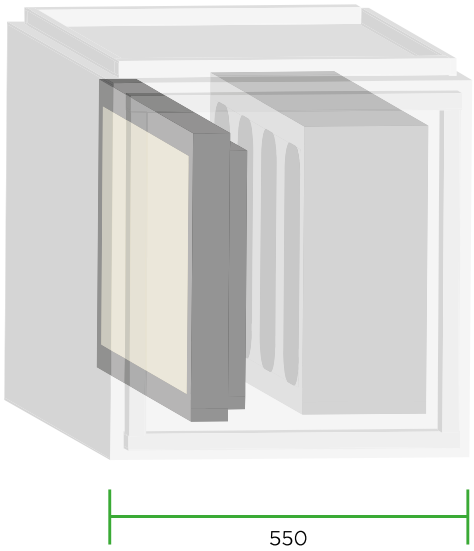
NG
Available Types

NG-K



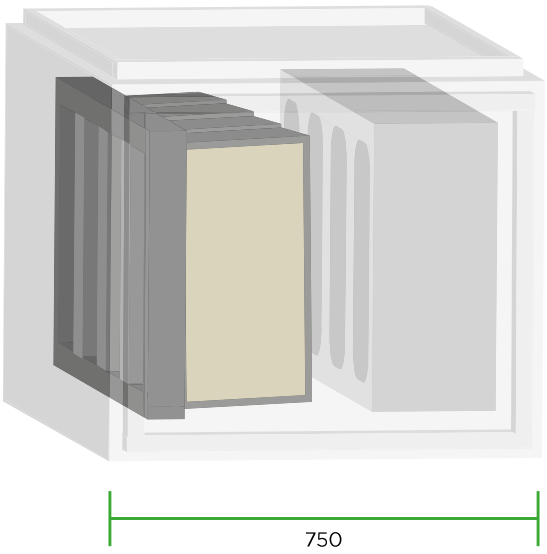
Micratex FP-P | Hepatex CR

NG-K



Micratex FP-P | Hepatex N

NG-T



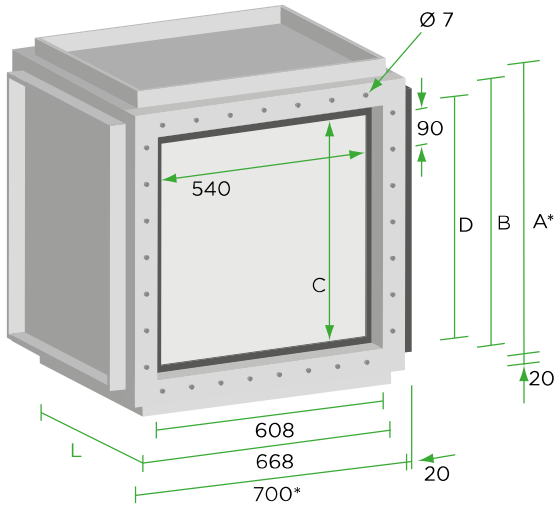
Compatex FP | Hepatex N

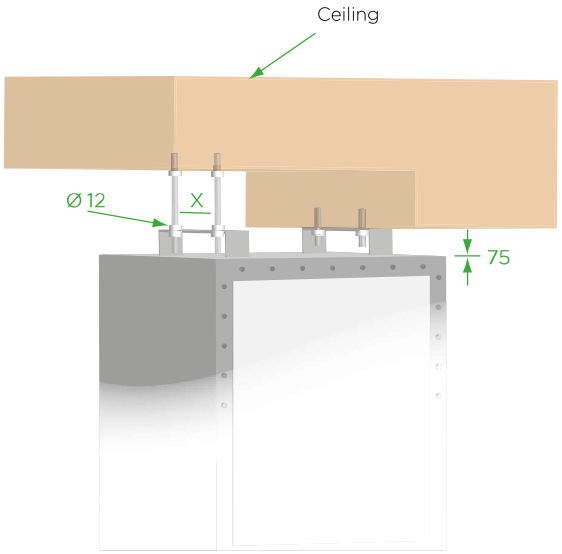
Filter Size	mm
NG "1/1"	610 x 610
NG "1/2"	305 x 610
Suitable Filters	**Qualities**
Hepatex CR	E11 – U17
Hepatex N	F7 – U15
Micratex FP-P	F6 – E12
Compatex FP *	F6 – H13
Carbotex AFP	AZ, AS, AA

* Compatex FP filters can be installed together with Hepatex N filters either in two NG-K-housings in series arrangement or in a NG-T-housing (additional fitting necessary).

Ceiling Mounted NG Housing

DIMENSIONS (mm)





Ceiling Mounted NG Housing

Type/Size	A	B	C	D	E	L	X	Weight **
NG-K-1/1	700	668	540	608	646	550	360	38 kg
NG-K-1/2	395	363	270	303	646/341	550	360	29 kg
NG-T-1/2	700	668	540	608	646	750	560	47 kg
NG-T-1/2	395	363	270	303	646/341	750	560	37 kg

*When combining several housings add 1 mm for the gasket
** Weight of the standard type without filter.

NG
Installation

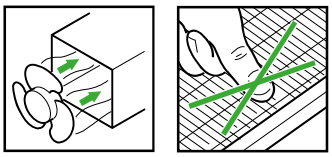
1. FITTING THE HOUSING

The NG housing can be used for horizontal as well as vertical air flows. The filters can be exchanged by removing the service cover-plate (quick fasteners with star knobs), in special cases also through the cover-plate on the opposite side (ordinary screws). The housing will be delivered with a service cover-plate, identified by a MANN+HUMMEL label and directional marker.

For the half-size housing the service cover-plate will have dimensions of 550 x 395 mm. The seal test groove and the pressure measuring connections (if existing) are located on the side of the service coverplate as well. When using the pressure measuring connections, pay attention to the removal of the protection caps and check the small tubes for blocking.

2. FITTING THE FILTER

Note – Prior to installing the filters, purge the complete ventilation system, including the empty NG Filter Duct Housing, for at least 24 h. **Caution – Do not touch the filter surfaces. Handle filters by the frame only.**



- Filters must be brought to the point of fitting in their original packaging and only removed from there, immediately prior to fitting.
- Visually inspect each filter for possible transport damage. Never fit a damaged filter but replace it by a new one.
- Clean the seal face of the NG Filter Duct Housing.
  Note – The main filter should be installed before the pre-filter. The main filter must be pushed in with its gasket side facing the frame with the aluminium test groove.
- Attach and tighten the rear clamps of the pre-filter before mounting the main filter.
- To install the main filter, first loosen the screws which are fastening the clamping profiles to a distance of the filter depth +20mm from the test groove.
- Now slide the filter into the housing up to its stop. Check the gasket position relative to the test groove and adjust if necessary.
- Turn the nuts so as to compress the gasket 1 – 2 mm.
- Slide in the pre-filter (if present) into the rear spring clips. Make sure that the gasket will not be damaged during this process.
- Now attach and tighten the front clamps.
- Check the cover-plate gasket (replace if necessary) and fasten the cover, considering the directional marker affixed to it.
- For housings with test groove connections a seal test has now to be carried out.

3. REMOVING THE FILTER

- Remove the service cover-plate.
- Loosen and remove the visible clamps of the pre-filter. Grip the pre-filter on the corners of the gasket side and pull it out. Note – The ultra-filter can only be removed when the pre-filter is demounted. If the filter change is carried out vertically downward, the ultra-filter has to be safe-guarded by a support before loosening the nuts.
- Loosen the nuts of the 2 clamping profiles, bringing them to a distance of approx. 20 mm from the filter. Detach the filter from the test groove and pull it out.

4. MAINTENANCE

The interval between filter changes depends on the air flow rate and the concentration of airborne particles in the unfiltered air. This interval should be determined by periodic pressure drop measurements, at least 4 times per year.

The filters are intended for very long term use, often 2 to 4 years. The filter cleanliness is determined by measuring the pressure drop.

Filters should be changed when this has reached approx. twice the initial value or, for reasons of hygiene, after 5 years at the latest. Filters should only be changed when the ventilation plant is switched off.

5. DISPOSAL

- Defective, unused filters can be disposed of in the same way as normal industrial refuse in accordance with local regulations.
- Filters soiled by exterior air can be disposed of in the same way as normal industrial refuse in accordance with local regulations.

WARNING
Filters soiled by bacterial, toxic and/or radioactive matter must be disposed of as hazardous waste in accordance with local regulations.

NG
Variations

ADDITIONAL EQUIPMENT – FACTORY INSTALLED

- Test groove
- Fastening device for pre-filter
  a) sheet steel parts galvanised, bolts cadmium plated.
  b) sheet steel parts epoxy coated, bolts stainless steel.
- Connection for measuring of pressure drop
  a) with pre-filter
  b) without pre-filter

ACCESSORIES

- 4 quick fasteners with star knob for servicing side
- Pair of counter-frames
  a) steel, powder coated
  b) stainless steel
- Floor or ceiling mounting rails
- U-tube manometer, range 0 – 1,000 Pa
- Seal test instrument

SPECIAL CONSTRUCTIONS

- NG-housings combined to larger units to customers requirements, factory assembled and sealed.
- NG-housings completely manufactured in stainless steel.