Pleasure in the air

Gaggenau ventilation and planning

GAGGENAU

Enjoy the difference
Also with ventilation

At Gaggenau we have been developing ventilation appliances for private kitchens since 1960. Our work is heavily based on professional standards. We also combine experience gathered from professional practice with knowledge of the modern lifestyle of home chefs. The result is uncompromising, absolutely flawless air extraction in kitchens that is custom-tailored to the full spectrum of construction requirements. Individual, quiet, effective.

In terms of quality, our top-class materials and complex processing ensure that your every wish can come true. And the performance of Gaggenau ventilation appliances is hard to surpass. High quality, quiet fans and intelligent planning ensure that ambitious home chefs enjoy fresh air when working in the kitchen. The difference is Gaggenau.

Contents

The product groups

Kitchen vapours contain not only aromas and moisture, but also tiny grease particles. Trapping these particles is one of the biggest challenges for an effective ventilation appliance, along with eliminating odours. The fact that kitchens are meanwhile increasingly being integrated into living areas in the home is one reason why good ventilation appliances are more important today than ever before. That is why in addition to searching for better ideas for providing clean air, we also strive to conceive more attractive ones.

Convincing technology, aesthetic perfection and high quality materials sum up what Gaggenau has always stood for: design, quality and tradition.

Sophisticated product design always considers the effect within the room. Our eight different types of ventilation offer an ideal solution for different spatial conditions and personal preferences.

We differentiate here between the almost invisible systems – such as ceiling ventilation, downdraft ventilation and table ventilation – and those specifically designed to lend a design accent to a room. Almost every model is available as an air extraction appliance or recirculation version – all of which are highly effective.

The ventilation 400 series boasts a variety of design options and allows the focus to remain on what matters most in the kitchen – on producing meals that are sure to impress. Its quiet and efficient technology is combined with a sculptural design. Different models ensure the right technical fit for every spatial situation.

Ceiling ventilation AC 402

The ceiling ventilation is practically invisible. It can be integrated into the ceiling of a room or positioned unobtrusively in kitchen furniture. It consists of ventilation modules that can be combined in a host of different ways to meet any individual wish and blend in with any room. This is a solution that ensures maximum headroom and field of vision, leaving no obstacles to relaxed communication around the cooktop.

Table ventilation AL 400

The table ventilation extracts cooking vapours where they originate: right at the cooktop. This makes it magnificently effective and particularly suitable for very large rooms and kitchen islands. The remote fan unit is concealed in the lower cabinet. It can also be installed in the plinth, an adjacent room or on the exterior wall to save space. Positioned behind the cooktop, the table ventilation leaves ample space over the cooktop and remains a background element thanks to its design. This type of ventilation can be used as a highly effective air recirculation solution or for air extraction.

Downdraft ventilation VL 414

The downdraft ventilation offers more than just invisibility. It extracts downwards from where it is integrated in the worktop, whether directly next to or between individual cooktops. The cooking vapours can thus be extracted before they can become mixed with the ambient air.

Wall-mounted hood AW 442

The wall-mounted hood is a classic, attractive ventilation appliance for every type of kitchen. Designers like to use it as a design element to focus attention directly above the cooking area. Wall-mounted hoods are thus also the perfect design solution where less space is available and the room is not big enough to accommodate a kitchen island in the centre.

Island hood AI 442

The island hood plays a key role as a design element in any cutting-edge kitchen. It extracts the air directly above the cooktop, is available in stainless steel and its free-floating installation makes it a distinctive part of the kitchen's architecture.

The ventilation 200 series provides clean air in any kitchen - remarkably effective and offering compelling design and functionality. Whether discreet like the downdraft ventilation or making a strong architectural statement like the island hoods, the 200 series models have three things in common: they are powerful, individual and efficient. The ventilation 200 series thus offers a model to suit every taste.

Ceiling ventilation AC 270

Ceiling ventilation AC 250

The ceiling ventilations in the striking 200 series offer two options: either discreet integration into the architecture of the kitchen or directly installed on the ceiling. Both ceiling ventilation options are operated by remote control, featuring three power levels, plus an intensive mode.

Wall-mounted hood AW 240

Classic lines, yet an eyecather, the wall-mounted hood with its box design impresses with an efficient rim extraction filter that is hidden behind a stainless steel screen.

Angled wall-mounted hood AW 250

The angled and vertical wall-mounted hoods are a striking design statement in the three colours Gaggenau Anthracite, Metallic and Silver, while their reduced noise belies their extreme effectiveness. This lack of noise and strong aesthetic does not compromise the performance in any way. The ventilation is fully capable of drawing in all the vapour you can create with three electronically controlled power levels and one intensive mode, made even more effective by simply opening the glass screen a little. The hoods' dimmable, ambient lighting is offered in a choice of four Gaggenau hues: Cool White, Neutral White, Warm White or Orange.

Flat kitchen hood AF 210

One of the first innovations that Gaggenau developed for ventilation was the flat kitchen hood, which is still very popular. It has the advantage of taking up very little space because it is mounted inside the upper cabinet, and, with the addition of the optional lowering frame, it becomes completely concealed within. With a touch of the handle bar, the screen automatically extends out.

The planning

The air output and air requirement are decisive factors in the planning of a ventilation appliance. The air requirement depends primarily on the planned cooktop, the space in question and the design and positioning of the ventilation appliance. The air requirement must be considered in relation to the corresponding air output that a ventilation appliance can deliver, without taking into account the effects of all ventilation appliance components.

This brochure will give you a detailed overview of the different types of ventilation, as well as of individual factors and general guidance on planning and safety.

You can use our planning tools to make your calculations. Further information is available at www.gaggenau.com.

The air requirement

The aim of good ventilation appliance planning is to ensure that the cooking vapours are extracted from the kitchen area as thoroughly and quickly as possible. The size of the kitchen and the corresponding air exchange rate based on the room volume are often used as a basis for planning. The air flow rate of the ventilation appliance should correspond to the calculated room volume.

The formula for optimal performance is: pleasant indoor climate (no draught) at an air exchange (cleaning and replacement) of 6–12 x room volume/h.

We recommend this method only when the distance between the ventilation appliance and the cooktop is more than 1.20 metres, i.e. for ceiling ventilation.

- In the air extraction mode, the air requirement for the air exchange rate is calculated with the factor 10.
- If special cooking appliance such as grill, Teppan Yaki, wok or deep fryer are used, you should calculate with the factor 12.
- In the air recirculation mode, the air requirement for the air exchange rate is generally calculated with the factor 12.

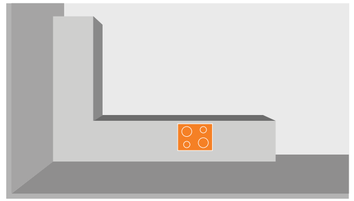
If the distance between the ventilation appliance and the cooktop is less than 1.20 metres, the factors listed below must be taken into account to ensure that most of the cooking vapours are trapped as soon as they rise from the cooktop:

- The cooking appliances
- The size and architecture of the kitchen
- The type of ventilation appliance
- The distance to the cooktop
- The operation mode
- The supporting factors
- The remote fan units

On the following pages we'll explain the individual points in detail. Your Gaggenau contact will answer any further questions you may have.

The cooking appliances

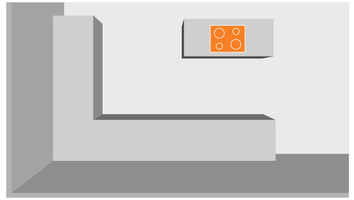
The selection of the cooktop is the decisive factor. Different cooktops produce different types and quantities of cooking vapours. This is why the choice of cooktop is the key to determining the correct air output for the ventilation appliance to be used. The wider the cooktop, the greater the output of the ventilation appliance. The ventilation appliance must have sufficient power reserves, especially when plans call for installing special Vario cooking appliances such as the deep fryer, Teppan Yaki, wok or grill. This is because a greater quantity of cooking vapours can be expected with such appliances. We therefore also recommend that these special cooking appliances be installed in the middle of the cooktop configuration and not on the outside edges.



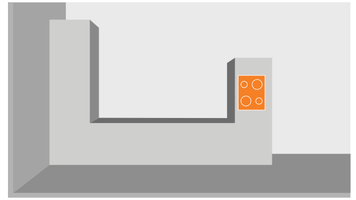
Example of a kitchen floor plan with the cooking position installed against a wall

The size and architecture of the kitchen

Our first consideration is the size of the kitchen and whether the room in question is enclosed or opens onto the living space. A rule that applies here is: the larger the room, the greater the movement of air which increases the air requirement. This effect is intensified in open kitchens, in kitchens with kitchen islands or kitchen peninsulas and in kitchens whose users cook frequently and with several other people. In other words, the effect is different in enclosed kitchens with areas of up to 10 m2 than in larger kitchens or in kitchens that open onto living spaces. And we differentiate between wall installations and islands or peninsulas.



Example of a kitchen floor plan with a kitchen island



Example of a kitchen floor plan with a kitchen peninsula

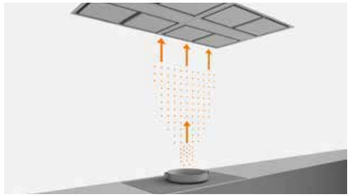
The type of ventilation appliance

Each type of ventilation appliance has specific characteristics that affect the air requirement.

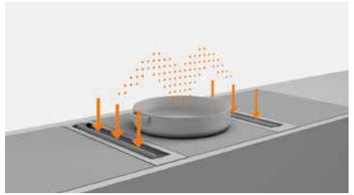
Ventilation appliances, such as downdraft ventilation and table ventilation, extract air right at the cooktop. This prevents rising cooking vapours from spreading into the ambient air. As a rule, less air output is needed with these types than with ventilation appliances where the distance to the cooktop is 80 cm or more. One or more downdraft ventilation appliances must be used depending on the width of the cooktop.

Recommendation
For each downdraft ventilation one remote fan unit is recommended. Maximum cooktop width between two downdraft ventilations (VL): 60 cm.

For all other types of ventilation, the ventilation appliance selected should always be wider than the cooktop below it. The rule of thumb here is: the greater the distance to the cooktop, the wider and more powerful the chosen ventilation appliance. This is modified according to the size of the vapour collection area. After all, cooking vapours always spread to the sides as they rise.



Ceiling ventilation



Downdraft ventilation

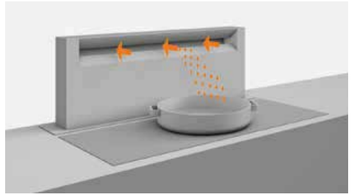
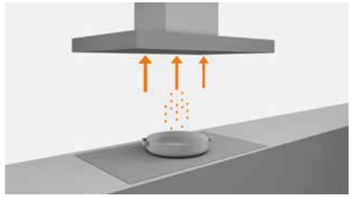
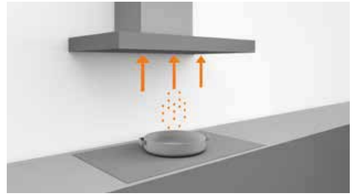


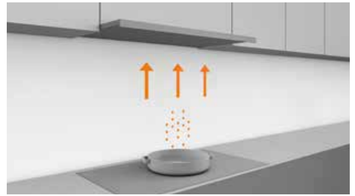
Table ventilation



Island hood



Wall-mounted hood

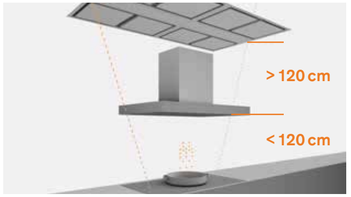


Flat kitchen hood

Angled wall-mounted hood

The distance to the cooktop

The minimum distance between the worktop and the lower edge of the respective ventilation appliance is specified in the planning instructions of our Models and Dimensions and on our website at www.gaggenau.com. It is imperative that this is adhered to. The extraction capacity reduces as the distance increases. This must also be considered during planning.



The distance of the ventilation appliance to the cooktop is essential for the methods used to determine the air requirement

Up to a distance of approximately 1.20 m between the ventilation appliance and the cooktop, it can be assumed for proper planning that the majority of the resulting cooking vapours will be extracted directly. In this case, the choice of cooktop is the decisive factor for calculating the required air flow rate.

As the distance increases, it becomes more likely that the cooking vapours will no longer be completely captured by the ventilation appliance, but will also be distributed in the room. In this case, the ventilation appliance must ensure air exchange within the entire room. Ventilation appliances with a follow-up function, which continue to run even after cooking, are advantageous in this context. The air requirement for this should be calculated using the room volume (see page 10).

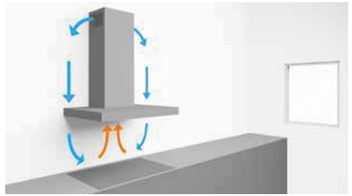
The operation mode

All Gaggenau ventilation appliances can be operated in air extraction and air recirculation modes. Your choice of ventilation appliance type depends entirely on aesthetic preferences and installation conditions in the room.

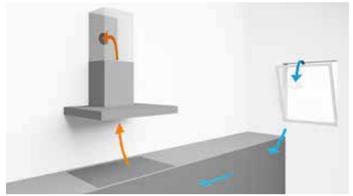
Air recirculation mode
In air recirculation mode, cooking vapours and grease particles are purified by the grease filter and the air is fed back into the room. The activated charcoal filter removes the entrained odour particles prior to feeding the air back into the room. It should be noted that the additional activated charcoal filter leads to reduced air performance in comparison with air extraction mode. The larger the surface area of the activated charcoal filter, the more comparable the ventilation appliance is to an air extraction solution in terms of its air output and noise level.

Air extraction mode
Cooking vapours, grease particles and odorous substances are purified by the grease filter and fed into the atmosphere. Sufficient supply air ensures optimal air flow and therefore a good indoor climate. Underpressure allows fresh air to flow through open windows and adjacent rooms. In air extraction mode, the actual air performance is essentially dependent on the ducting in addition to the fan power. Further safety-relevant information can be found on page 31.

Good to know
Irrespective of the operating mode, all Gaggenau ventilation appliances initially guide kitchen vapours through a grease filter, which retains grease particles and protects the ventilation appliance and air pipe from grease deposits. All grease filters from Gaggenau are easy to remove and can be cleaned in the dishwasher.



Air recirculation mode



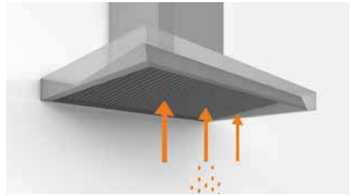
Air extraction mode

	Air recirculation mode	Air extraction mode
Advantages	• Easy installation • No heat loss in winter • No loss of cooling in summer	• More effective air purification • More power
Disadvantages	• Slightly higher noise level • Activated charcoal filter needs to be changed once or twice each year • Activated charcoal filter reduces the air flow rate by approximately 20 to 30 percent	• Heat loss in winter • Loss of cooling in summer • More complex installation

The supporting factors

The Gaggenau rim extraction filter, an existing vapour collection area and a wider ventilation appliance are factors that reduce the air requirement. It is therefore important for you to carefully consider your choice of corresponding appliances at the planning stage, if possible.

The vapour collection area
For Gaggenau ceiling ventilations, when using canopy extractors or the wall-mounted and island hoods AW 442/AI 442 with integrated vapour collection area, a vapour collection area at least 10 cm deep around the filter surface helps to prevent the cooking vapours from spreading under the ceiling or furniture cavity.



Vapour collection area

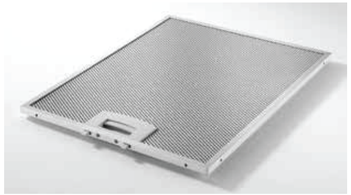
Filter systems: Grease filter

In all of Gaggenau's ventilation appliances, the air with grease and odour particles first passes through a grease filter, which absorbs up to 97 percent of the grease from the air. This allows it to protect the inside of the ventilation appliance and the air extraction pipe from deposits. It can be easily cleaned in the dishwasher.

Metal grease filter
Grease separation is between 83 and 95 percent. The filter can be easily removed for cleaning.

Baffle filter
The Gaggenau baffle filters of the 400 series are included in both the wall and the island hoods. Maximum space is achieved for ensuring the efficiency of the vapour collection area thanks to the slanted position of the filter. The filter also generates excellent results in absorbing grease. The baffle filter comprises three parts that can be easily taken apart and cleaned in the dishwasher. Grease absorption is approximately 86 to 95 percent.

Rim extraction filter
The full-surface metal grease filter with its integrated stainless steel screen creates a more peaceful appearance. Grease absorption of 87 to 97 percent corresponds to the standard for metal grease filters. Condensate formation is reduced due to the flow-optimised filter system. The filter can be removed as a unit and cleaned in the dishwasher.



Metal grease filter

Baffle filter

Rim extraction filter

Filter systems: Odour filter

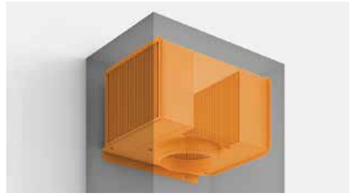
Activated charcoal filter
For ventilation appliances in air recirculation mode, the filter purifies the cooking vapours before the air is released back into the kitchen.

Activated charcoal filter with increased surface
In air recirulation mode, the activated charcoal filter absorbs the odour components immediately thanks to the increased surface and ensures an odour reduction of 95 percent. It is especially indicated with the preparation of fish and seafood dishes due to its special impregnation.

The activated charcoal filter has an extended change intervall of up to 30 times. It is regenerable in the oven at 200 °C.

Activated charcoal filter

Regenerable activated charcoal filter AA 270



Activated charcoal filter with increased surface 400 series

Activated charcoal filter with increased surface 200 series

External remote fan units for 400 series

Powerful fan module with highly efficient direct current motor (BLDC) to combine the motorless units of the 400 series. Thanks to the variety of remote fan units, the modular system allows for installation in the cabinet, plinth, cellar, ceiling and in outdoor areas.

Remote fan unit AR 400 142
The remote fan unit AR 400 142 can alternatively be used for cabinet installation in an adjoining room such as a cellar. Installation at home. Air extraction mode.

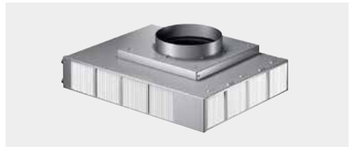
Remote fan unit AR 400 143
The remote fan unit AR 400 143 is suitable for spacesaving installation; AW 442/AI 442 is suitable for chimney installation. Air extraction mode/air recirculation mode with accessories.

Remote fan unit AR 401 142
Installation in outdoor areas makes it possible to reduce noise levels in the kitchen. Installation on the outer wall. Air extraction mode.

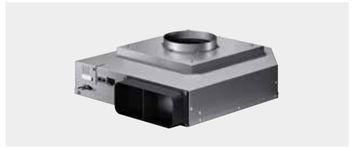
Remote fan unit AR 403 122
For compact and space-saving installation in a plinth of at least 10 cm in height. Installation in the plinth. Air extraction mode.

Remote fan unit AR 413 122
For compact and space-saving installation in a plinth of at least 10 cm in height. Installation in the plinth. Air recirculation mode with integrated filter.


Remote fan unit AR 400 142


Remote fan unit AR 413 122


Remote fan unit AR 400 143


Remote fan unit AR 403 122


Remote fan unit AR 401 142

Checklist for selecting the right external remote fan unit for 400 series ventilation appliances


• AC 402 181


• AC 482 181
• AC 462 181
• AC 472 181




• AR 400 142 • AR 401 142 • AR 403 122


• AL 400 191 • AL 400 121





• AR 400 142 • AR 401 142 • AR 403 122 • AR 413 122*



• VL 414 111 • AA 490 111






• AR 400 142 • AR 401 142 • AR 403 122 • AR 413 122* • AR 410 110*


• AI 442/AW 442




• AR 400 142 • AR 401 142 • AR 400 143

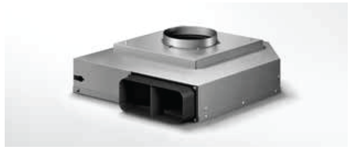
*Recirculation Duct

External remote fan units for 200 series

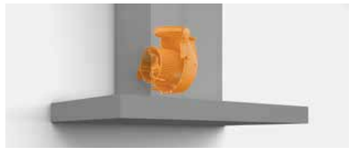
Powerful remote fan unit to combine with the motorless downdraft ventilation VL 040/VL 041 of the 200 series.

Remote fan unit AR 403 121
For compact and space-saving installation in a plinth of at least 10 cm in height. Installation in the plinth. Air extraction mode.

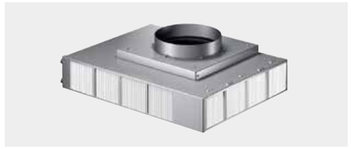
Remote fan unit AR 413 121
For compact and space-saving installation in a plinth of at least 10 cm in height. Installation in the plinth. Air recirculation mode with integrated filter.



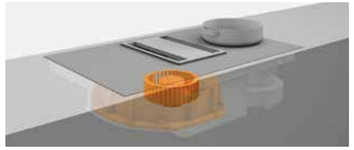
Remote fan unit AR 403 121



Integrated fan



Remote fan unit AR 413 121



Integrated fan CV 282

Integrated remote fan unit for 200 series

The fan is integrated in the chimney for the hoods of the 200 series.

The remote fan unit of the flex induction cooktop with integrated ventilation system is placed directly under the appliance.

Checklist for selecting the right external remote fan unit for 200 series ventilation

Free hanging lift hood
• AC 270 101

Integrated
• AC 250 121

Surface mounted
• AC 230 101*

• VL 200 120*

• AR 400 142

• AR 401 142

• AR 403 122

• AR 413 122+

• AR 410 110

• AI 240 191 / AW 240 191

• AW 250 192
• AW 250 172

• AW 270 192*

• AF 200 160*

• AF 210 161
• AF 210 191

• AC 200 161*
• AC 200 181*
• AC 200 191*

*Currently not available +Recirculation Duct

The air output

The air output of the entire ventilation appliances must be specified to correspond to the air requirement. The following factors affect the air output:

- The performance characteristics of the chosen ventilation appliances.
- The duct system.
- The installation.

In addition, it is advisable to plan for sufficient power reserves to ensure that the ventilation appliances do not have to constantly work at the highest power level. This helps to reduce noise while simultaneously improving energy efficiency.

On the following pages we will explain the individual factors in detail. On our website we also provide a planning tool – “Rodun” – for calculating the air output.

Further information can be found at www.gaggenau.com.

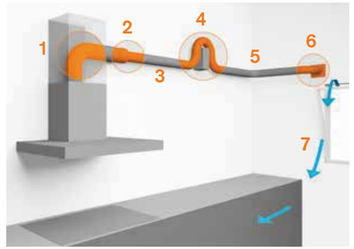
The performance characteristics of the ventilation appliances

The performance characteristics of a ventilation appliance are the result of optimal coordination of the following factors: the construction itself, the filter that is used and the fan. Gaggenau ventilation appliances are equipped with very powerful fans, or they can be combined with correspondingly powerful remote fan units for air extraction or air recirculation. These fans are also extremely resistant to pressure. They overcome possible pressure losses in a duct system and work very effectively at a low noise level.

The fan output is supported by features, such as the rim extraction or vapour collection area, which boost the effectiveness of the ventilation appliances.

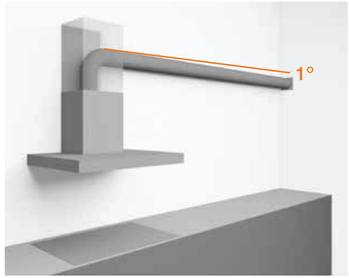
The duct system

Intelligently selecting and installing the duct system not only has a very positive effect on the output of the ventilation appliances; it also minimises the noise generated. It is therefore decisive for the efficiency of the entire ventilation appliance. This applies especially to air extraction solutions, but also to air recirculation solutions with external remote fan units. A good guideline here is: the duct diameter should be as large and constant as possible, while the ducting should be as short and straight as possible. The wall outlet must correspond to the duct diameter.



The seven main factors responsible for loss of extraction rate and a simultaneous noise increase are:

1 Bend immediately after exhaust opening
2 Narrowing of the cross-section
3 Selected pipe diameter is too small
4 Use of pipe elbows
5 Piping routes are too long
6 Wall boxes
7 Insufficient air supply



Ideal piping meets the following criteria:

- Settling section of 30 cm after the exhaust opening, only then attach the necessary elbows (see pages 29 to 30).
- Additional elbow for pipe bends.
- Keep piping as short as possible.
- Aim for as large a pipe diameter as possible.
- Avoid cross-section narrowing. If cross-section narrowing is unavoidable, then taper as late as possible.
- Smooth interior pipe surface.
- Wall boxes with fins, no close-mesh grid, low counter-pressure.
- Guarantee air supply.

Further recommendations:

- Please note the slightly sloping installation of the air extraction duct with an incline of 1° to avoid condensation return flow.
- In the event of junctions in an exhaust shaft, place the pipes in the direction of flow as much as possible.

The duct type

In Gaggenau's accessories catalogue, customers can select the type of duct appropriate to their needs, whether aluflex duct, round duct or a flat duct system. Depending on the duct type, they can choose from the nominal sizes DN 125, DN 150 and DN 200. For maximum output with minimal noise, the diameter should always be as large as possible.

For straight ducting, the use of plastic or metal ducts with smooth, level inner surfaces is recommended. These enable a laminar flow of air during extraction, without air turbulence.

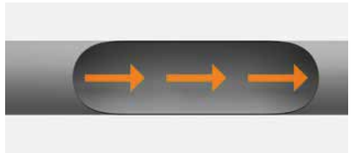
For sections that are not straight and for bends, flexible aluminium ducts are preferred because they make it possible to avoid hard edges. The distinct design with special guidance fins in elbows and connectors allows for a very low height for large nominal diameters and therefore ensures highly efficient air flow.

Where space limitations are a concern, the first choice is the Gaggenau flat duct system. This also applies in situations where there are many bends. In addition to the flat duct system, there are bends with guidance fins.

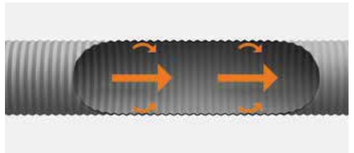
We strongly advise against using other flat ducts due to the high loss of power in pipe elbows, channel corners and connectors. As a general rule, it is not advisable to use spiral or corrugated hoses. Comparatively speaking, they exhibit the poorest flow conditions and also tend to flutter, which leads to noise production.

The duct diameter
It is also important to consider the duct diameter. In principle, the nominal size of the duct should equal the size of the ventilation air outlet. Generally, the larger the diameter, the fewer the output losses and the lower the noise level. Even with a hood whose connecting pieces have a nominal size of DN 150, it is advantageous to use ducting with a nominal size of DN 200 for longer stretches in order to minimise losses in the long air circulation.

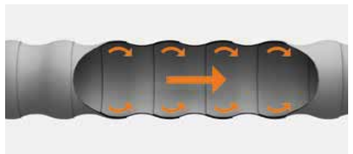
Ducts with diameters of less than 125 mm (DN 125) are not recommended because they have a very negative effect on the ventilation output and significantly increase noise.



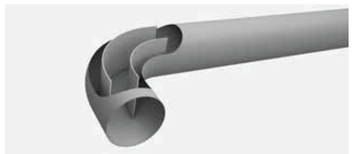
Smooth pipe: ideal



Aluflex pipe: good



Spiral hose: bad



Gaggenau flat duct system with guidance fins: highly efficient even when space is limited and bends are present

The installation

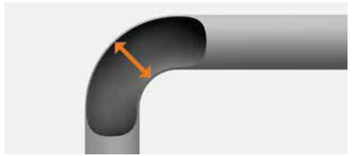
The choice of the appropriate duct type with the optimal nominal size and careful installation are decisive factors that influence the efficiency of the ventilation appliance. In general, the ducting should be kept as short as possible and have few bends and a large diameter.

Large duct diameters result in a lower flow velocity and thus far less turbulence. On the whole, there is an audible reduction in the noise generated by the ventilation appliance. Narrowing the cross-section, on the other hand, creates air turbulence, increases resistance and has a negative effect on the noise level and output of the ventilation appliance.

A straight stretch of ducting measuring approximately 30 cm in length must be installed immediately following either the air outlet opening of the ventilation appliance or the remote fan unit, in order to allow the laminar flow of the extracted air. Bends should only be installed after this stretch.

Bends should always be laid out with the greatest possible radius because air turbulence forms at sharp turns/curves, which is also where air flow breakaway can happen. Bends that allow good air flow can be achieved with flexible aluminium ducts or our flat duct system.

Any narrowing of the cross-section should be avoided



Round pipe elbow: flow-enhancing

The section of the pipe downstream of the air outlet should be at least 30 cm long

Angular pipe elbow: not flow-enhancing

The installation

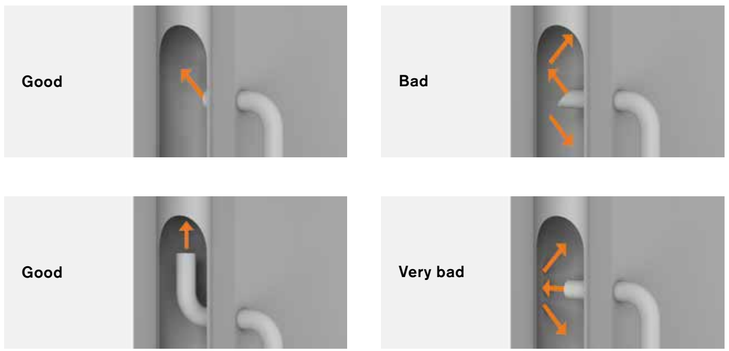
When connecting secondary channels to a main duct, attention must be paid to oblique angles. The ducts should also be positioned obliquely if possible when they open into an air extraction shaft.

When connecting several ventilation appliances to one common chimney, the cross-section of the main duct must be laid out to correspond to the number of appliances.

Air extraction ducts that run through unheated rooms should be well insulated to prevent condensation forming.

A condensation separator should be installed at the lower end of vertical stretches of ducting. Horizontal air extraction ducts should have a slope of at least 1° so that they can lead any condensed water away from the ventilation appliance. The condensation can either be channelled to an appropriate spot outdoors or collected in a reservoir where it can evaporate.

Air inlets and outlets should be as free of wind pressure as possible.



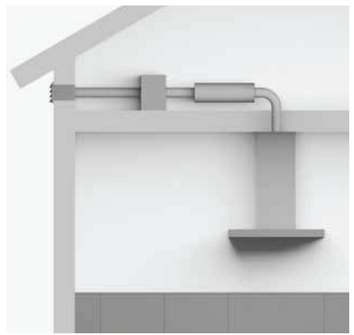
In the event of junctions in the exhaust shaft pipe, place in the direction of flow as much as possible

The sound damper

In order to reduce noise pollution in the cooking area, the fan can be fitted in an adjoining service room or outside of the building. The noise emissions of an external fan can indeed have an effect along the air extraction duct and against the flow direction right through to the ventilation appliance. To reduce noise transmission, a sound damper should be installed on an external fan. A sound damper can also be installed in the pipe system to reduce noise. This increases the flow resistance in the pipe system.

The wall outlet

Suitable wall outlets are available for clean, efficient and discreet conveyance of the piping through exterior walls. The passage should always be greater than, or equal to, the nominal diameter of the pipe type.



External fan

400 Series – Table ventilation

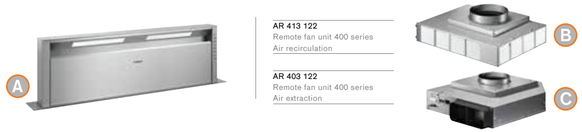
Installation option one – ducted or recirculated

1 x AL 400 with AR 403 122 (air extraction) / AR 413 122 (air recirculation)

Connection to the front with flat duct or aluflex pipe, DN 150; cabinet installation

Combination

1 x AL 400 table ventilation combined with
1 x AR 403 122 / AR 413 122 remote fan unit



AR 413 122
Remote fan unit 400 series
Air recirculation

AR 403 122
Remote fan unit 400 series
Air extraction

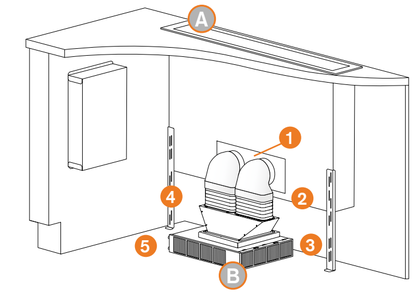
List of accessories – recirculated

1: 1 x AD 754 045 (connection pieces for round duct, 2 x DN 150)
2: 2 x AD 852 042 (Flat duct adapter round 90°)
3: 1 x AD 704 049 (Air collector box DN 150 flat duct)*
4: 1 x AD 853 010 (Flat duct system flex pipe)
5: 1 x AD 990 090 (adhesive tape for bonding the ducts)

List of accessories – ducted

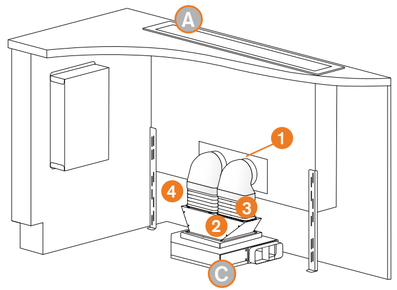
1: 1 x AD 854 043 (connecting pieces for flat duct downward, 2 x DN 150)
2: 1 x AD 704 049 (air collector box for AL 400)*
3: 1 x AD 853 010 (Flat duct Flexduct, DN 150)
4: 1 x AD 990 090 (Adhesive tape for bonding the ducts)

Recirculated (A+B)



For appliance and installation measurements refer to Gaggenau Models and Dimensions

Ducted (A+C)



For ducting externally, additional accessories required.
Contact your Gaggenau representative.

400 Series – Table ventilation

Installation option two – ducted

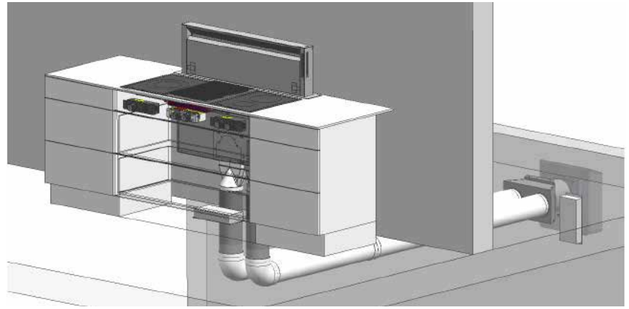
1 x AL 400 Table ventilation with AR 401 142 (air extraction)

Connection downward with flat and round duct, DN 150; installation on outside wall

Combination

1 x AL 400 table ventilation combined with
1 x AR 401 142 remote fan unit

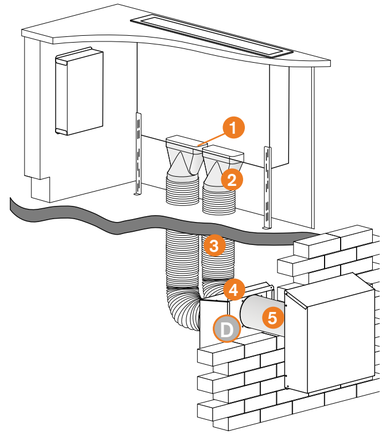
AR 401 142
Remote fan unit 400 series
Air extraction



For ducting externally, additional accessories required. Contact your Gaggenau representative.

List of accessories – ducted

1: 1 x AD 854 043 (connecting pieces for flat duct downwards, 2 x DN 150)
2: 2 x AD 852 041 (flat duct transition round 90°)
3: 2 x AD 751 010 (aluflex pipe round, DN 150); possibly additional ducts depending on the exhaust air ducting (aluflex or Naber round duct, DN 150)
4: 1 x AD 704 048 (air collector box for AL 400)
5: 1 x AD 702 052 (telescopic wall duct, DN 200)



400 Series – Downdraft ventilation

Installation option one – ducted or recirculated

1 x VL 414 Downdraft ventilation with AR 413 122 (air recirculation) / AR 403 122 (air extraction)

Flat duct with 2 x 90° duct bends or flat duct with 1 x 90° duct bend

Combination

1 x downdraft ventilation in combination with
1 x AR 413 122 remote fan unit or AR 403 122 remote fan unit.

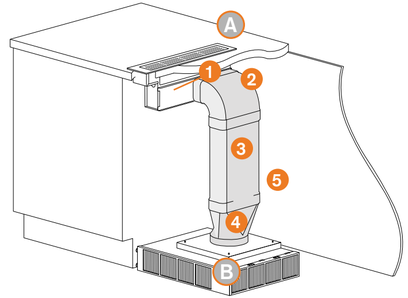
List of accessories – recirculated

1: 1 x AD 854 046 (connecting piece for VL 414, DN 150)
2: 1 x AD 852 030 (flat duct with vertical 90° duct bend)
3: 1 x AD 852 010 (flat duct)
4: 1 x AD 852 041 (flat duct adapter round)
5: 1 x AD 990 090 (adhesive tape for sealing the ducts)

List of accessories – ducted

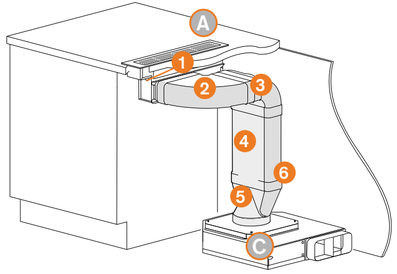
1: 1 x AD 854 046 (connecting piece for VL 414, DN 150)
2: 1 x AD 852 031 (flat duct with horizontal 90° duct bend)
3: 1 x AD 852 030 (flat duct with vertical 90° duct bend)
4: 1 x AD 852 010 (flat duct)
5: 1 x AD 852 041 (flat duct adapter round)
6: 1 x AD 990 090 (adhesive tape for sealing the ducts)

Recirculated (A+B)



For appliance and installation measurements refer to Gaggenau Models and Dimensions

Ducted (A+C)



For ducting externally, additional accessories required.
Contact your Gaggenau representative.

400 Series – Downdraft ventilation

Installation option two – ducted

2 x VL 414 Downdraft ventilation with AR 401 142 (air extraction) on outside wall

Flat duct with 2 x 90° duct bends or flat duct with 2 x 90° duct bend

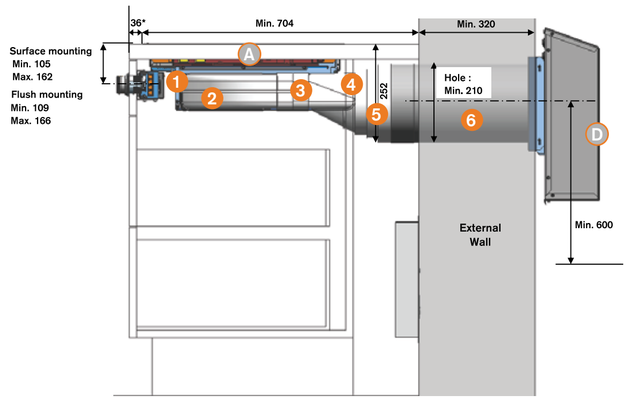
Combination

2 x downdraft ventilation in combination with
2 x AR 401 142 remote fan unit.

List of accessories – ducted externally

1: 2 x AD 854 046 (flat duct connecting piece for VL 414)
2: 2 x AD 852 031 (flat duct with horizontal 90° duct bend)
3: 1 x AD 852 010 (flat duct)
4: 2 x AD 852 041 (flat duct adapter round)
5: 2 x AD 702 042 (pipe adapter for small diameter)
6: 2 x AD 702 052 (telescopic wall-duct Ø 200mm)
7: 1 x AD 990 090 (adhesive tape for sealing the ducts)

Ducted Externally (A+D)



* Recommended distance. Distance can be adjusted

Glossary

Activated charcoal filter

This filter picks up and captures odour particles. In the case of air recirculation systems, the activated charcoal filter cleanses cooking vapours of odours before the air is redirected into the kitchen. It is especially indicated with the preparation of fish and seafood dishes due to its special impregnation. In order to keep the ventilation appliance effective, activated charcoal filters should be replaced about once a year, depending on individual cooking patterns.

Air extraction/Air recirculation

All Gaggenau ventilation appliances can be used for air extraction or air recirculation. In both cases, the air that is full of grease and odour particles first passes through a grease filter that protects the inside of the exhaust air duct against deposits.

Air extraction
In the air extraction version, the previously cleaned air is conducted through the wall and expelled outdoors or into a ventilation shaft. Air extraction systems operate by means of a constant exchange of air. The volume of air that is removed from the room must be replaced with the same volume of fresh air. An air extraction system is efficient provided the following conditions have been met:

A. The exhaust air must be removed as directly as possible, without any great deviations. (See pages 23 and 25, duct system and installation)

B. An adequate supply of fresh air from outside must be ensured. The necessary ventilation opening should be located as close to the ceiling as possible and, if feasible, on the side of the room opposite the hood.

The distance between the ventilation opening and the hood should be at least 1 metre in order to prevent gusts of air over the cooktop in the event of strong winds.

Air recirculation
In the air recirculation version, the odour particles are captured by an additional activated charcoal filter so that only odourless air is routed back into the kitchen. Ventilation appliances in air recirculation mode have a higher energy efficiency level than air extraction systems. This is because heated air stays in the room in winter and, conversely, cool air stays in the room in summer. In addition, they are generally easier to install, because in most cases there is no need for an extensive duct system.
As the surface area of the activated charcoal filter increases, the power and noise development of an air recirculation system becomes comparable to that of an air extraction system. The only thing an air recirculation solution does not do is remove humidity from the kitchen. If an air recirculation system is used for room ventilation (the distance between the ventilation appliance and the cooktop must be greater than 1.20 metres), special cooking appliances, such as the grill, Teppan Yaki, wok or deep fryer, should not be installed.

Ambient lighting

The dimmable ambient lighting offers background lighting that can be individually set. It is provided in a choice of four predefined Gaggenau hues: Cool White, Neutral White, Warm White or Orange.

Automatic screen extension

With a touch of the handle bar, the screen of the flat kitchen hood automatically extends out to its end position.

Automatic sensor

The power level is selected automatically according to vapour generation and shuts off if there are no longer any odours present.

Ceiling collar

For each type of duct there is an appropriate ceiling collar. Such collars also hide small gaps in ceilings that are not quite horizontal and have a slope of 1-2°. With the help of a ceiling collar, one-piece special ducts can be custom-installed even at height.

Condensation trap

A condensation trap should be installed at the lower end of long, vertical air extraction ducts. The condensation trap collects condensed water in a container above the ventilation appliance, where it evaporates.

Cooktop-based ventilation control

The cooktop based ventilation control allows for a control of the most relevant ventilation functions (e.g. power levels or workplace illumination) via the cooktop. This is made thanks to a WLAN module situated in both cooktop and ventilation. No internet connection is necessary.

Grease filter

As with all Gaggenau ventilation appliances, the air containing grease and odour particles first passes through a grease filter, which removes up to 96 per cent of the grease from the air. This prevents any deposits forming on the inside of the hood or ventilation pipes.

Baffle filter
The Gaggenau baffle filters of the 400 series are included in both the wall and the island hood. Maximum space is achieved for ensuring the efficiency of the vapour collection area thanks to the slanted position of the filter. The filter also generates excellent results in absorbing grease (approximately 86 to 95 percent).

Metal grease filter
The filter can be easily removed for cleaning in the dishwasher.

Rim extraction filter
The full-width metal grease filter with its integrated stainless steel cover ensures a more understated look. The grease absorption of 87 to 97 percent is equivalent to that of a metal grease filter. Less condensation is formed thanks to the flow-optimised filter system. The filter can be removed as a unit and cleaned in the dishwasher.

Grease filter saturation indicator

A signal on the control panel reminds the user when it is time to clean the grease filter. In the case of ceiling ventilation, an acoustic signal sounds every time the appliance is switched off. Soiled filters lose their effectiveness and raise the noise level of the ventilation appliance.

Halogen light

The uniform cooktop lighting of the ventilation appliance is switched on and off by means of automatic and gentle brightening or fading out. The illumination can be dimmed manually from its maximum strength for cooking or to create atmospheric background lighting.

Infrared remote control

All of the AC 400 ceiling ventilation's functions, from the desired power level to the lighting, can be conveniently operated using the infrared remote control.

Intensive mode

Three power settings and an intensive mode can be activated via individual control buttons on the ventilation appliances. Depending on the particular model and setting, the intensive mode automatically reverts to the previously selected power setting after five to ten minutes of operation.

Interval ventilation

When interval ventilation is activated, the ventilation appliance automatically switches back to the previously selected power level automatically for six minutes in each hour of operation. This enables extraction of stale air from the room at regular intervals, even during the night – after parties, for example, or when nobody is at home for extended periods. This is recommended especially after intensive cooking or in kitchens without windows. The ventilation appliance switches on automatically every hour to purify the air in the room.

LED lighting

You can set the brightness yourself on the cooktop thanks to dimmable LED lighting – depending on whether you want to enjoy subtle lighting in the kitchen or need perfect illumination on your cooktop. It is durable and energy-saving.

Lowering frame

Flat kitchend hoods become completely concealed in the upper cabinet thanks to their patented lowering frame. With a touch of the handle bar, the hood is softly lowered and the vapour screen extends out. After use, the hood is pushed back in its upper position.

Motorless extractor hood

See remote fan unit.

Noise generation

The two main sources of noise in a ventilation appliance are the motor and the air flow. Motor noise is generated by the operation of the extractor at the necessary rpm. Thanks to the type of motor control system and the form of the ventilator and the housing, Gaggenau ventilation appliances generate motor noise practically only when they are being operated at level 1. And even then the noise is barely perceptible.

Different conditions apply to the volume of the noise generated by the air flow. The air flow noise becomes louder with increasing air output. This noise can be minimised using the largest possible duct diameters and appropriate duct types. The value of a specific Gaggenau feature, such as the vapour collection area, is also evident here, as under some circumstances the appliance can be operated at a lower power level.

Noise level

The noise level is a value measured and calculated under laboratory conditions and is specified in dB(A) re1pW. This specification is intended solely for the purpose of comparing information in the catalogues from various manufacturers and cannot be determined in the same way in a real kitchen situation.

One-way flap

See wall outlets/telescopic ducts.

Pipe connector/adapter

Connectors are available for all commonly used nominal pipe sizes to connect pipes with the same or different diameter.

Remote fan unit/motorless ventilation appliance

If the construction design permits, installation of a motorless ventilation appliance together with an external fan is recommended. The fan can be mounted either outside the building or in an adjacent space such as an attic or a cellar. It can also be installed in a lower cabinet. This has the advantage of keeping motor noise out of the kitchen or at least dampening it. Furthermore, more power is available, depending on the ventilation type VL 414/VL 040/VL 041 that is used. The fan is operated via the ventilation appliance controls.

Rim extraction filter

See grease filter.

Run-on function

Just the thing for effective room ventilation. Once activated, the function ensures that the ventilation appliance runs on for up to ten minutes after use on any setting, before automatically switching itself off. Switching on the ventilation appliance prior to cooking is recommended as is allowing it to run for some time after cooking is over.

Sound dampers

When installing ventilation appliances with separate remote fan units, noise can be reduced by installing a sound damper duct between the two appliances. The sound damper is most effective when installed in a curved arrangement.

Vapour collection area

For Gaggenau ceiling ventilation, when using canopy extractors or wall-mounted and island hoods AW 442/ AI 442 with an integrated vapour collection area, a vapour collection area of at least 10 cm in depth around the filter surface helps to reduce the spread of cooking vapour under the cover or the furniture cavity.

Wall outlets/telescopic ducts

At the point where the air extraction ducts open to the outdoors, these louvered screens prevent water and wind from getting into the exhaust air duct and an integrated one-way flap prevents cold air from entering. A drip edge prevents dirt from accumulating on the building facade. Telescopic ducts can be adjusted in line with the thickness of the outer wall. Their crosssections should correspond to those of the exhaust air duct. Telescopic ducts and air extraction ducts should never lead out to the side of the building most exposed to the elements. The back pressure exerted by wind and rain can have an adverse effect on the functioning of the ventilation appliances.

Gaggenau exclusive ventilation service

The exact installation of your Gaggenau ventilation appliances must be verified by your kitchen designer or architect on an individual basis.

Gaggenau offer a dedicated ventilation service, where based on your kitchen design and layout our ventilation team can create drawings for the ideal installation for your home. This service is available to Gaggenau customers and their kitchen designer or architect on request. Please contact your Gaggenau representative with your requirements.

Toll free number - 1800 266 1683
E-mail: service.in@gaggenau.com
(Monday to Saturday: 8am to 8pm)
www.gaggenau.in

The drawings throughout this document are examples only. Please refer to the technical installation drawings in the Gaggenau Models and Dimensions. The technical drawings are not based on customer data and are merely for installation recommendation.

The difference is Gaggenau.

Important Notes:

Certain appliances shown in this catalogue may not be available in India. Model numbers and specifications are for reference only and subject to change without prior notice. Please contact your local Gaggenau retailer for the latest information.

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All descriptions and installation diagrams are intended as a guide only. For additional technical information, full dimensional and installation details, please refer to the instruction manual supplied with the appliance.

BSH Household Appliances Manufacturing Pvt. Ltd.
Arena House, 2nd Floor, Main Building,
Plot No. 103, Road No. 12, MIDC,
Andheri (E), Mumbai- 400 093.

Toll free number - 1800 266 1683
E-mail: service.in@gaggenau.com
(Monday to Saturday: 8am to 8pm)

www.gaggenau.in