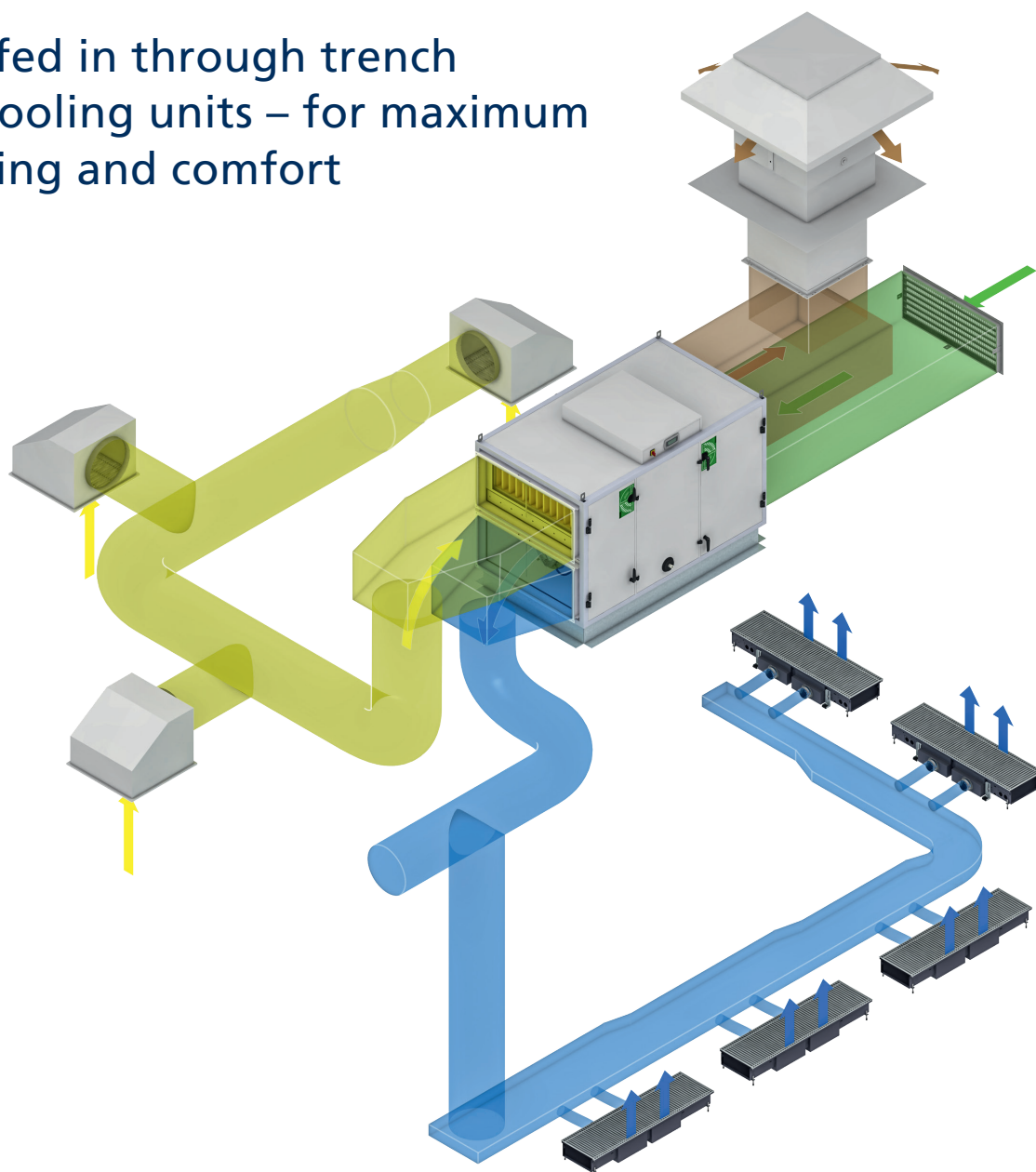




Supply air versions

of Katherm
trench heating/cooling units

Fresh air fed in through trench heating/cooling units – for maximum space saving and comfort



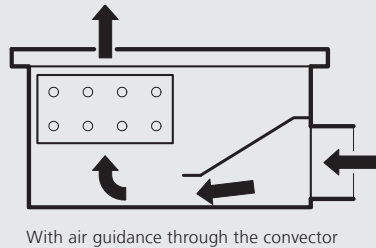
Almost all **Katherm trench heating units** can be fitted with a **supply air function** for specific projects. Primary air, pre-conditioned by a central ventilation unit, can be introduced into a room through various supply air duct collars, perfectly combining heating, cooling and a supply of fresh air. The space requirement is thus minimised and comfort in the building maximised.

Supply air versions

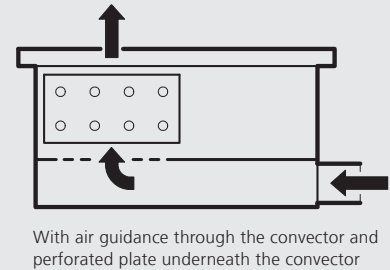
of Katherm trench heating units

Katherm NK with natural convection and increased output through convection with conditioned supply air

With lateral supply air duct collars

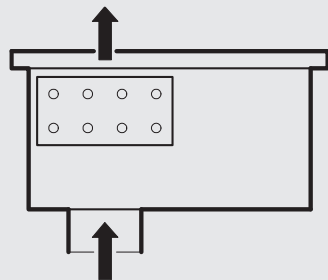


With air guidance through the convector

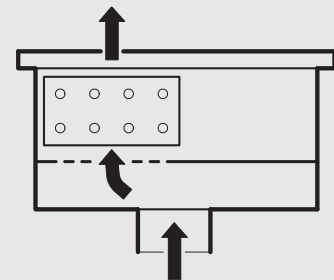


With air guidance through the convector and perforated plate underneath the convector

With supply air duct collar from below

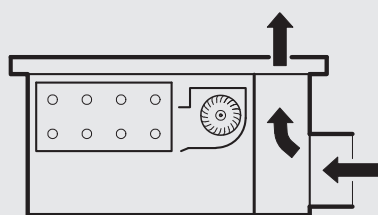


With air guidance through the convector

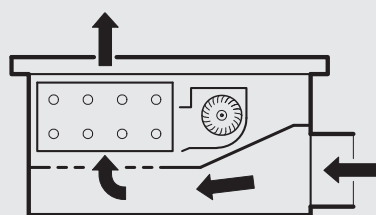


With air guidance through the convector and perforated plate underneath the convector

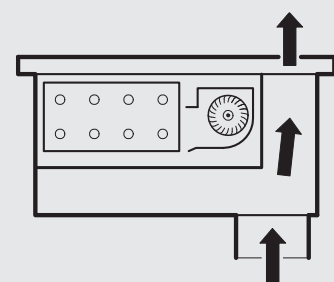
Katherm QK with fan-assisted convection and supply of fresh air



With air guidance through a separate discharge duct

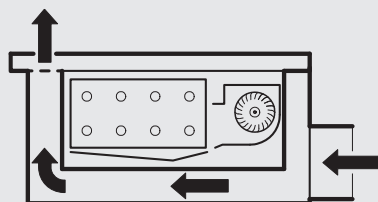


With air guidance through the convector and perforated plate underneath the convector



With air guidance through a separate discharge duct

Katherm HK for heating and cooling with fresh air supply separate from the air flow from the fan *

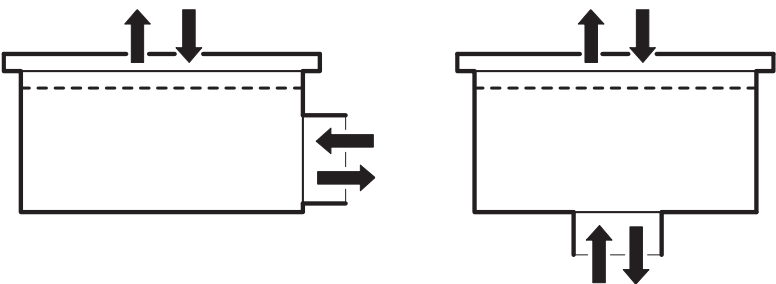


With air guidance through separate supply air modules

* Guarantees no adverse impact on output or condensation

Ventilation-only trenches

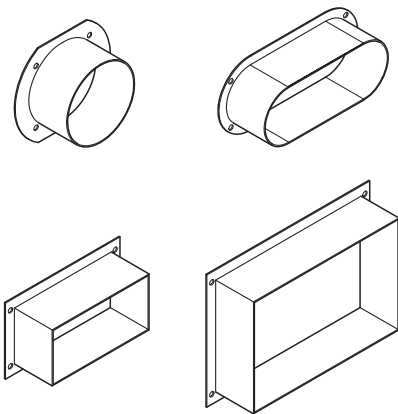
Across all trench versions, empty trenches with supply air duct collars can be integrated into other trench models to introduce supply air. Alternatively, these trenches can also be used as pure extract air trenches.



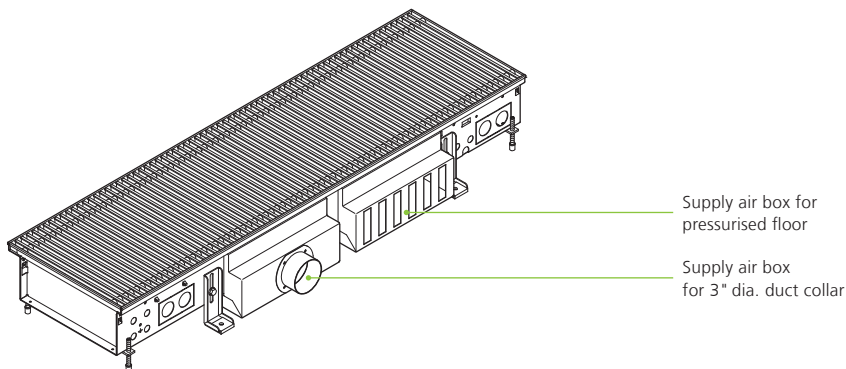
Supply air duct collar options

Dimensions	Max. air volume / duct collar
	[CFM]
2" dia.	12
2.5" dia.	20
3" dia.	32
4" dia.	50
5" dia.	78
6" dia.	112
2" x 5"	37
2" x 4"	22
4" x 6"	95

(other sizes on request)



Alternatively, supply air can also be fed to the unit through a pressurised floor.



The drawing shows a Katherm HK with supply air box for duct collar and pressurised floor (by way of example).

Don't overlook comfort!

Comfort also plays a key role in air conditioning. When designing a project with Kampmann trench heating units, we'll help you to consider and comply with current directives such as Ashrae Standard 62.1 and EN ISO 7730. In principle we recommend adopting the following values:



For heating:

Outlet temperature: 70 - 79 F

(but not lower than room temperature)

Outlet speed: < 300 FPM

Distance of supply air trench to the workplace: > 1.5'



For cooling:

Outlet temperature: 61 - 72 F

Outlet speed: < 240 FPM

Distance of supply air trench to the workplace: > 3'

Further parameters

Relative humidity and degree of turbulence are two other aspects that need to be considered. Generally, a reduction in outlet temperature, increased air speed and increased relative humidity have an adverse effect on comfort. A rough analysis of comfort, taking into account conditions on site, can be provided on request.

Additional information:

- > The supply air models can be used for cooling, heating or simply for air exchange using preconditioned primary air.
- > Every supply air trench is a tailor-made solution, designed individually for each specific project.
- > A duct connection at the end is also possible with appropriate trench dimensions and sufficient space in the air outlet area
- > If in line with the design, hit & miss dampers can also be integrated in the duct collars, which serve to regulate the air volumes in each zone (available on request).
- > The upper limit of the air volume in the duct collar is calculated from the maximum air speed and should not exceed 600 FPM to avoid additional sound emissions.
- > The resulting air-side pressure losses vary depending on air volumes fed in and the air supply system used. The pressure losses are calculated individually for each project.

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