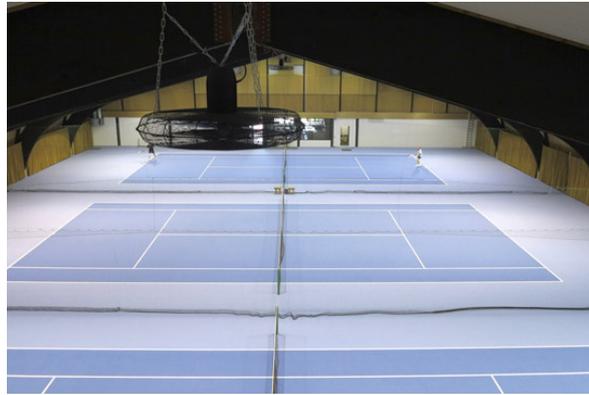


Planning instructions

Destratification in tennis halls



Character

You can equalize the room temperature in high halls and rooms with the help of our ceiling fans by pushing down the hot air you provide. Air stratification with temperature differences with 10 and more degrees will be entirely eliminated and you can reduce the fuel costs up to 30%.

Furthermore, this works against the heat loss at the ceiling (transmission). The low temperature difference between the inside temperature at the ceiling and the outer temperature has a direct proportional impact on the transmission. E.g.: If you have an outer temperature of 0°C and a reduced temperature from 34°C to 22°C at the ceiling, the transmission is reduced by 35%.

A third advantage of the recirculation is the fast and equal heating of the complete room. Previous cold sections are distributed immediately with warm air. The staff appreciates the constant and comfortable temperature in the complete room. If the hall is used temporarily, the pre-heat time can be reduced strongly (or stretch the night reduction), this produces further economies.

Other advantages are the prevention of mould and rust as well as having a dry floor.

Please note the following advices to ensure an optimal operation:

Choice of type

For recirculation of hot air in tennis halls – hall height up to 10m, dropping of the side, two basic fans are suitable:

1. Open ceiling fan in white 03.210 or black 03.211



Advantages:

- extra silent
- low power consumption

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Destratification in tennis halls

2. Closed ceiling fan 03.291 (completely assembled), or 03.293 (flat packed, lower volume for export)

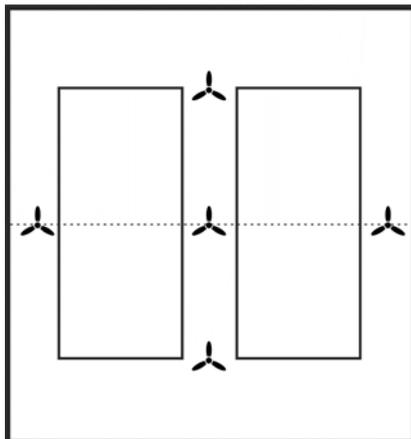


Advantages:

- Visual protection
- The blade movements are less recognized
- No light reflections on the blades
- Ball protection
- Less installation effort as fewer devices are required
- High power-reserves e.g. for a fresh breeze in summer and for quick preheating

Number of ceiling fans and position

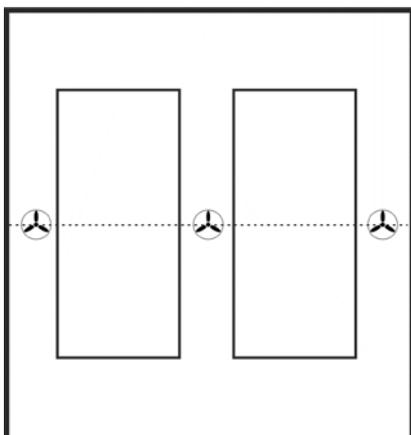
2-field-tennis hall with open ceiling fans



Device suggestion:

- 5 x Ceiling Fan 03.210 white or 03.211 black
- 2 x Speed controller, stepless 1,5A 03.403
(two devices for two mounting heights)
- 1 x Controller recirculation hot air 03.431

2-field tennis hall with closed ceiling fans



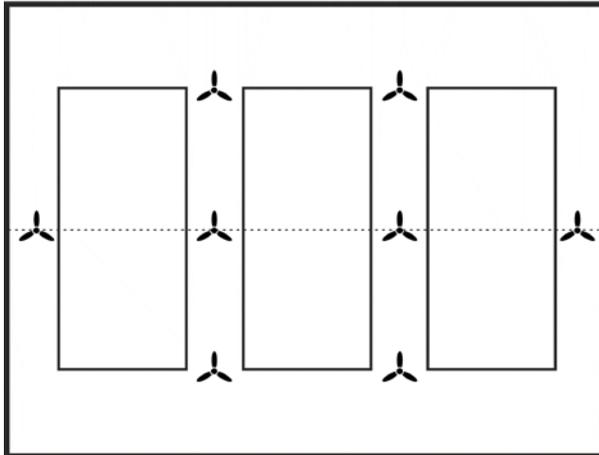
Device suggestion:

- 3 x Ceiling Fan 03.291 or 03.293 (flat packed)
- 1 x Speed controller, transformer regulator 5A 03.425
- 1 x Controller recirculation hot air 03.431

Planning instructions

Destratification in tennis halls

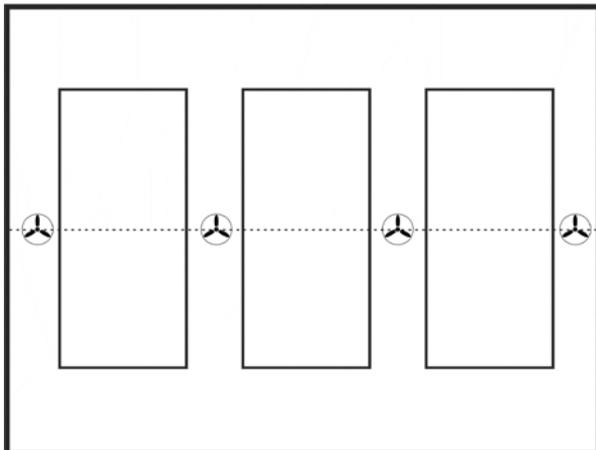
Triple-field tennis hall with open ceiling fans



Device suggestion:

- 8 x Ceiling fan 03.210 white or 03.211 black
- 2 x Speed controller, stepless 3A 03.404
(two devices for two mounting heights)
- 1 x Controller recirculation hot air 03.431

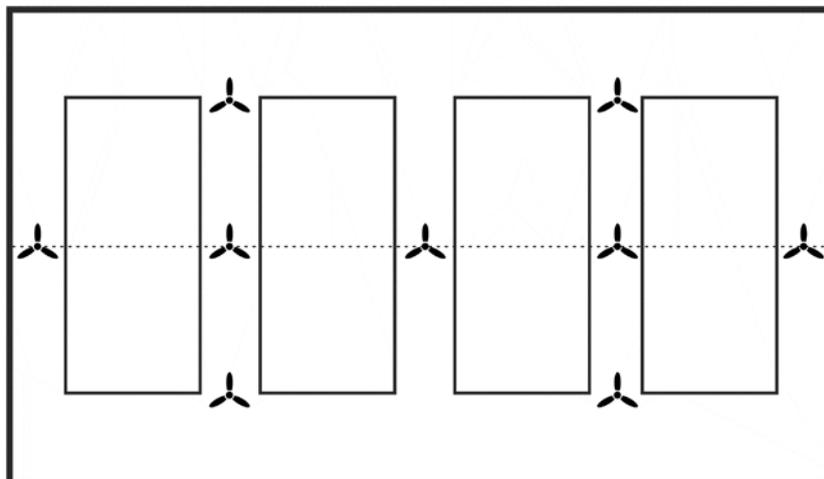
Triple-field tennis hall with closed ceiling fans



Device suggestion:

- 4 x Ceiling fan 03.291 or 03.293 (flat packed)
- 1 x Speed controller, transformer regulator 5A 03.425
- 1 x Controller recirculation hot air 03.431
- Additionally on site:
1 x Commercial contactor for power expansion 03.431

4-field-tennis halls with open ceiling fans



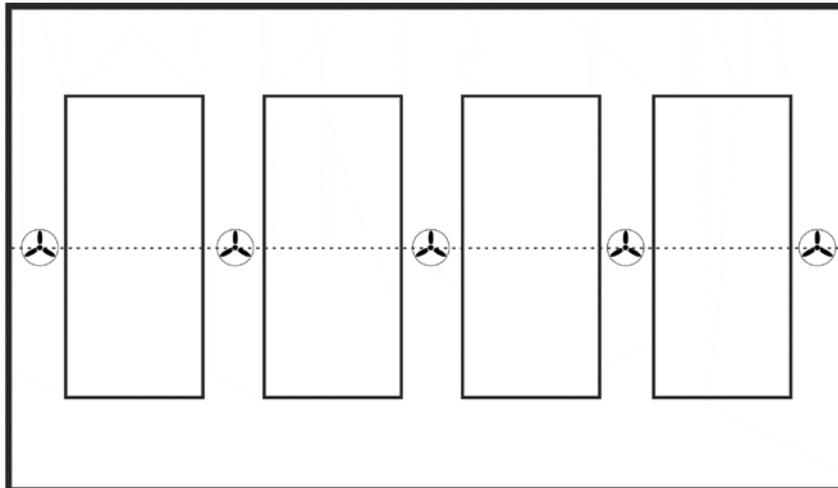
Device suggestion:

- 9 x Ceiling fan 03.210 white or 03.211 black
- 2 x Speed controller, stepless 3A 03.404
(two devices for two mounting heights)
- 1 x Controller recirculation hot air 03.431

Planning instructions

Destratification in tennis halls

4-field-tennis halls with closed ceiling fans



Device suggestion:

5 x Ceiling fan 03.291 or 03.293 (flat packed)
 2 x Speed controller, transformer regulator 5A 03.425
 1 x Controller recirculation hot air 03.431
 Additionally on site:
 1 x Commercial contactor for power expansion 03.431

Optimization of the existing hall heating

After installing the fans, the energy-saving effect will be set automatically by the heating thermostat in the occupied area (without changes to your hall heating). In addition, there may be the following approaches for further optimization:

1. Adjust night reduction or preheating times

The fans ensure that the warm air reaches the bottom immediately and that it warms up much faster in the occupied area. You also save energy by adjusting the night reduction or preheating times.

2. Open / remove heating channels or blinds

The fans are distributing the warm air evenly in the hall - ideally from top to bottom. So you may be able to remove heating channels and blinds or open them wider, which slow down the air flow and heat up unnecessarily.

3. Increase the proportion of circulating air

Up to now, your warm-air hall heating system may have been designed for a low air temperature to minimize temperature stratification, possibly with a correspondingly high proportion of outside air.

With the fans, however, there is no longer a problem with temperature stratification.

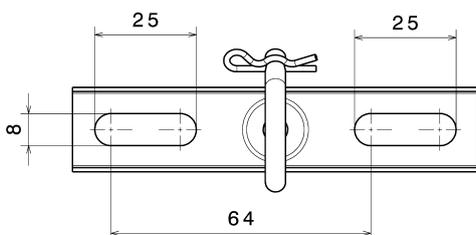
You may be able to increase the proportion of circulating air and the blow-out temperature with the following advantages: You heat with more preheated air from the hall. You have less heat loss due to overpressure in the hall.

Talk to your heating engineer about these optimization options.

Planning instructions

Destratification in tennis halls

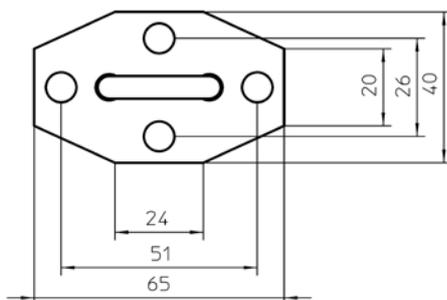
Planning for mounting the devices



Img. 11

Models 03.210 - 03.211:

You'll find enclosed to the fans one ceiling j-hook with safety pin (Img. 11). To mount the extra safety wire with the noose at the ending, you'll need a suitable fixation for the kind of ceiling.



Four holes 7mm

Img. 12

Models 03.291 – 03.293:

You'll find enclosed to the fans 3 ceiling j-hooks (Img. 12) with safety pin and 3 chains with 1m length.

The ceiling j-hooks are installed preferably at the ceiling in the corners of a triangle whose sides are 120cm till 150cm long. Alternatively you can choose the three fastening points at a straight line with a distance of 80-100cm.

Main switch of the ceiling fan area

The activation of the whole fan area can be realized via an own main switch, via the main switch of the heating system and/or via time switch.

Planning instructions

Destratification in tennis halls

Cabling

The drawing shows some main parts only.



Subject to alterations
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