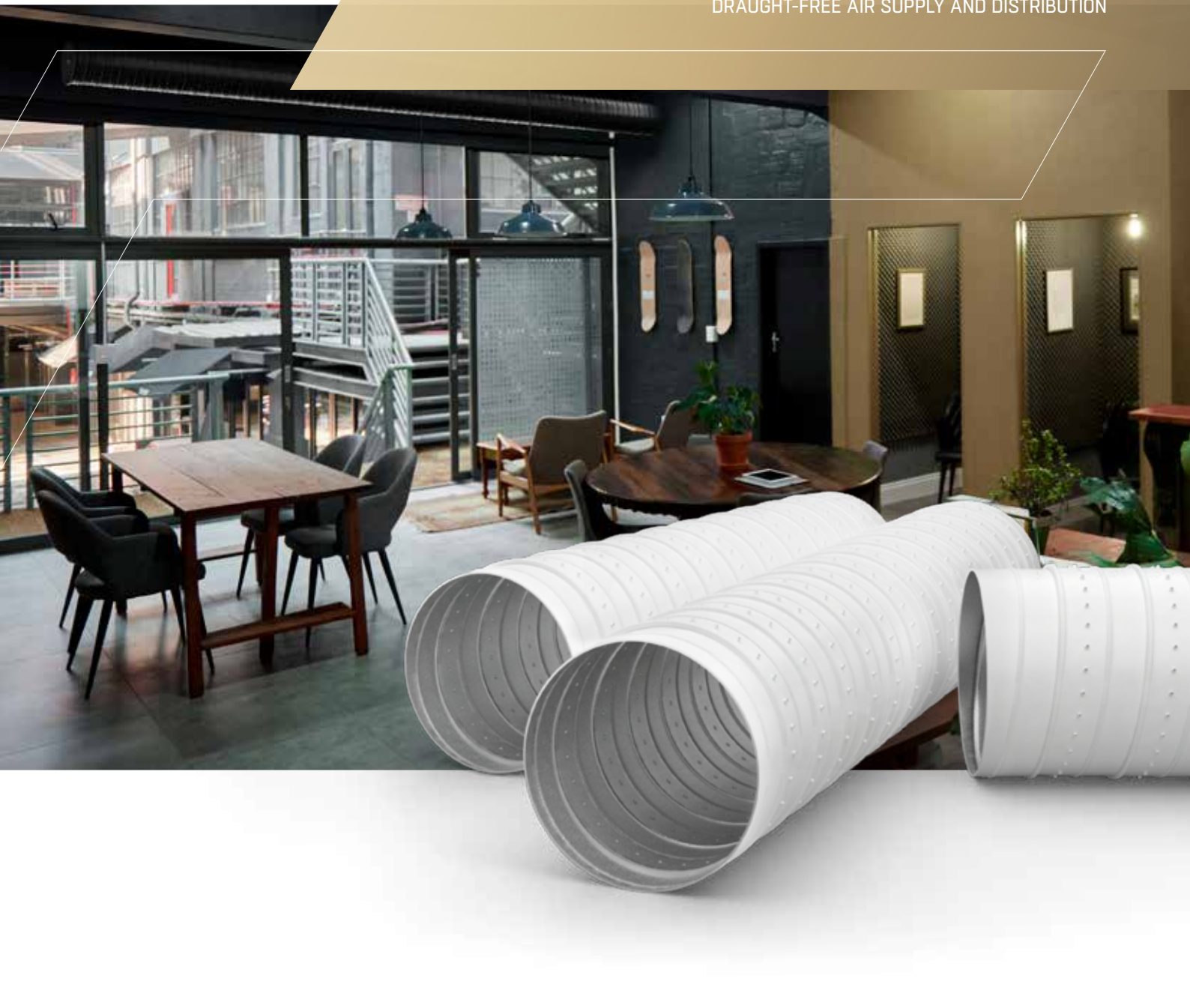
FläktGroup®

AIR MANAGEMENT & ATDs

AIR DISTRIBUTION SYSTEM

ACTIVENT™

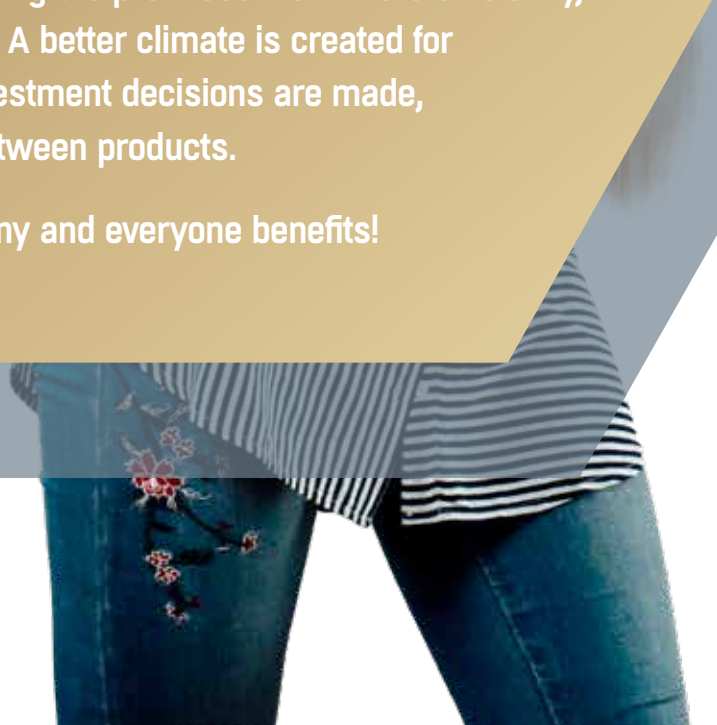
» AN EFFICIENT AND EASY SYSTEM FOR DRAUGHT-FREE AIR SUPPLY AND DISTRIBUTION



A good indoor climate adds up to good economy

With effective ventilation, the indoor temperature stays constant. Contaminant and noise levels are constantly low. People occupying the premises work more efficiently, their stamina is increased and they feel better. A better climate is created for decisionmaking – in offices where difficult investment decisions are made, or in retail stores when consumers choose between products.

A good indoor climate adds up to good economy and everyone benefits!



THE ACTIVENT SECRET LIES IN THE JET NOZZLES

Supply air needs to reach a certain velocity to mix effectively with room air. Air is supplied through Activent's jet nozzles at a velocity of about 5 m/s, the same as a fresh breeze. Due to the low velocity, very cool air can be introduced in the room without draughts. Air must be distributed quietly, however. Activent jet nozzles have rounded edges and produce little noise. **The sound level for an Activent nozzle air bank is normally only 20–25 dB(A).**

The Activent air terminal device looks like a duct with lines of small nozzles. The air is supplied evenly along the whole device length through these nozzles. They create a pressure drop that is sufficient to make the air terminal device function as a pressure chamber. This means that the same static pressure prevails throughout the device length, thereby enabling the same amount of air being flown out of every nozzle. The jets of air coming from the nozzles draw surrounding air with them, so that a large mass of air starts a slow movement.

Air distribution principles that are simple but effective

Activent's operating principle is simple and natural: cool air must be supplied at ceiling level, where it is mixed with room air and sinks gently down toward people in the occupancy zone. The Activent nozzle ducts extend throughout the premises and supply air over a wide area, ensuring a supply of clean, cool air throughout the space, and leaving no pockets or areas unventilated. Air is distributed draught-free, with little disturbing noise.

KEY BENEFITS OF THE ACTIVENT SYSTEM

- Thorough and effective ventilation of entire room
- Even temperature in the whole occupied zone
- Wide range of regulation – suitable for VAV-installations
- Great cooling effect with small air flows
- Low air velocity in the occupied zone
- Simple ductwork, because duct and air terminal device are the same
- Quick adjustment

High cooling effect at low cost

One important feature of Activent distinguishes it from other ventilation systems: it can supply very cool air without causing draughts, providing two major benefits:

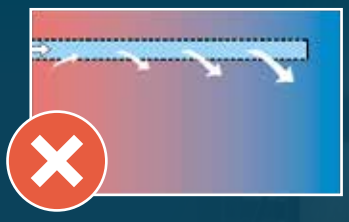
1. The system can meet tough cooling requirements. Only supply air is used to cool the premises. Installation costs are also reduced, since no additional water-borne cooling system is needed, such as cooling baffles.

2. Reduced air flow. Because cooler air contains more cooling energy, Activent can meet cooling needs with reduced air flows. And when air flows are low, air handling units and ducts can be sized smaller. Less fan power is needed, reducing electricity costs.

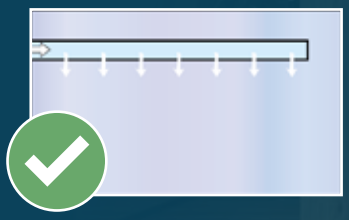
Activent is suitable for a wide range of applications – offices, industrial, retail, restaurants, schools or gyms as long as the minimum ceiling height is 270 cm. Installation is quick and easy.

Draught-free comfort

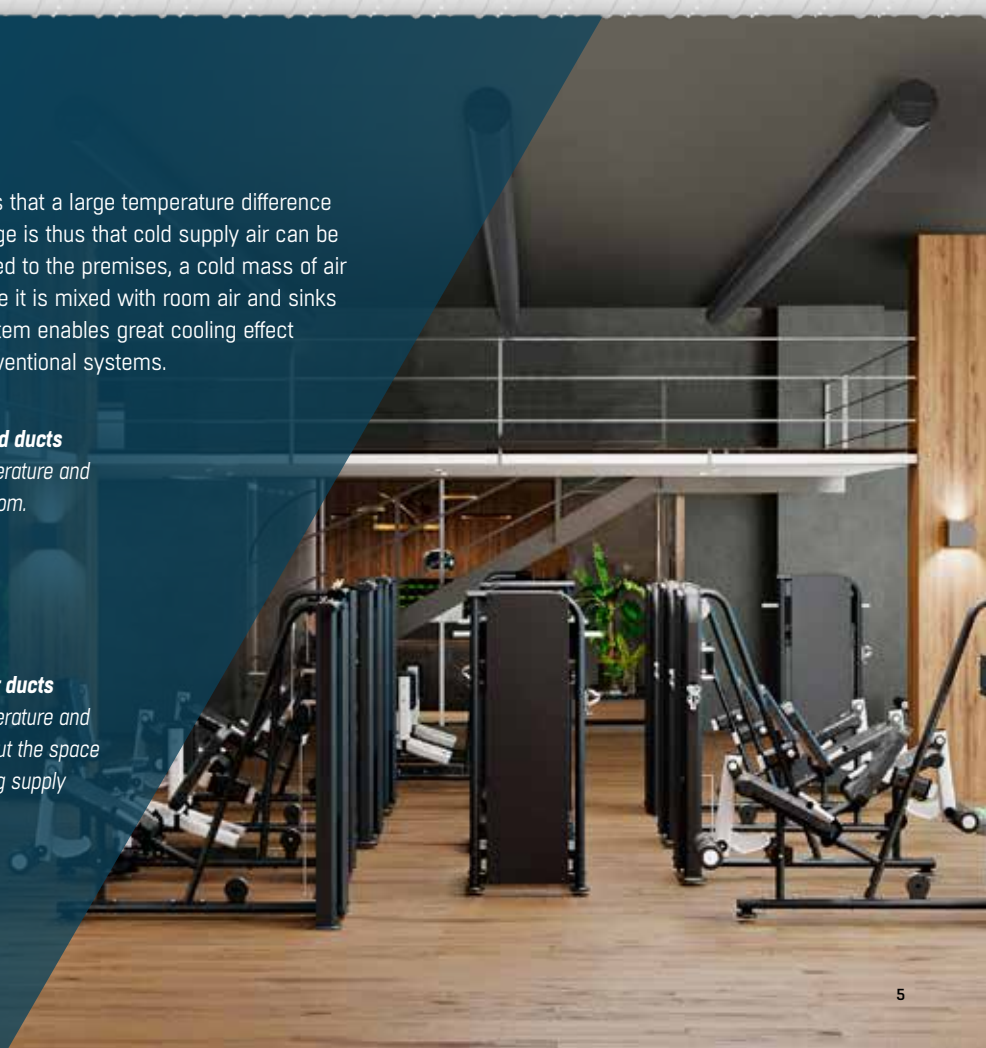
With Activent, the air is mixed effectively, which means that a large temperature difference between supply and room air is possible. The advantage is thus that cold supply air can be used without causing draught. When cold air is supplied to the premises, a cold mass of air is formed around the Activent air terminal device where it is mixed with room air and sinks gently down toward occupancy zone. The Activent system enables great cooling effect with no draught and with smaller air flows than in conventional systems.



Ordinary perforated ducts *distribute the temperature and air unevenly in a room.*

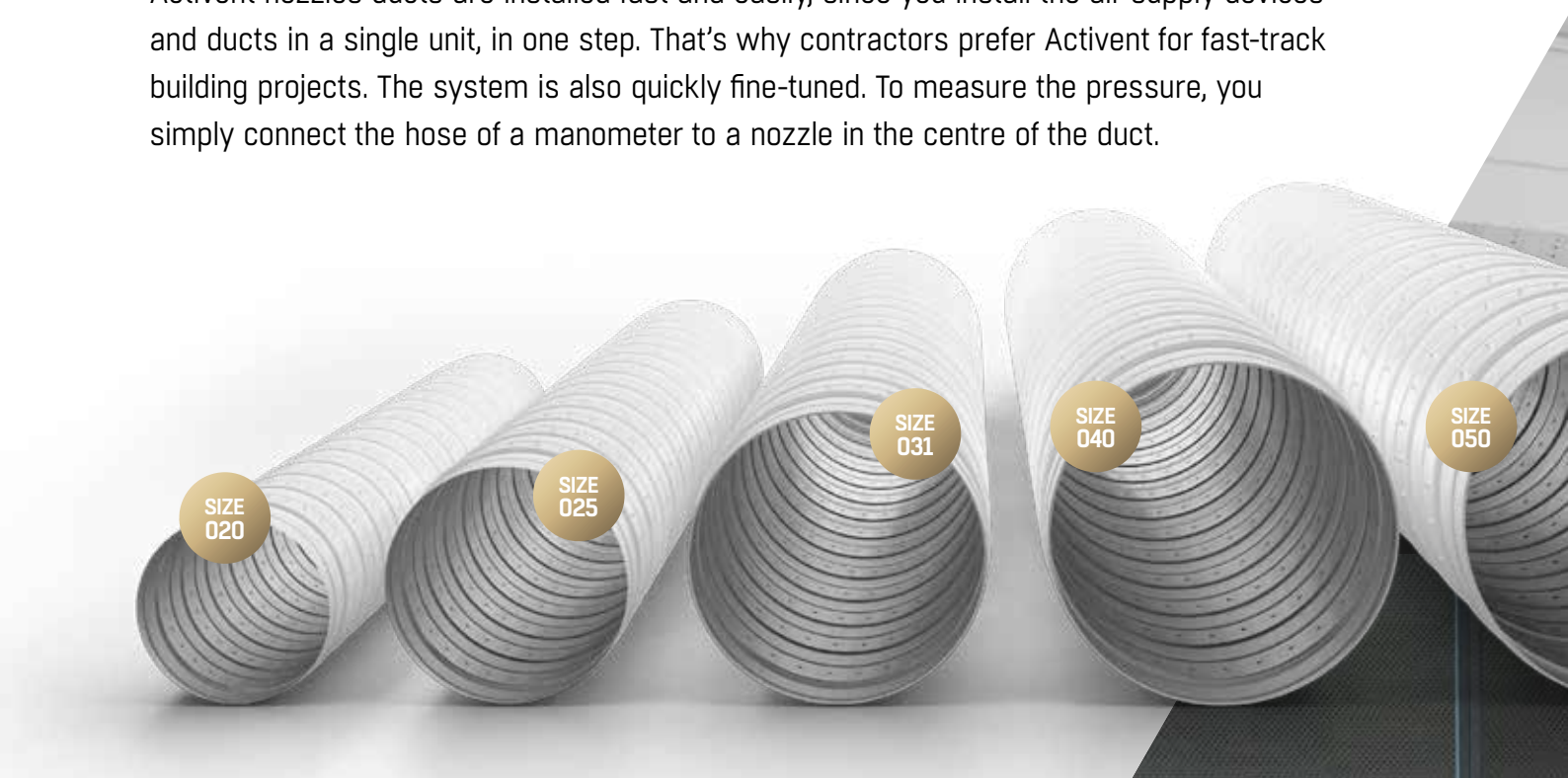


Activent nozzle air ducts *distribute the temperature and air evenly throughout the space by effectively mixing supply air with room air.*

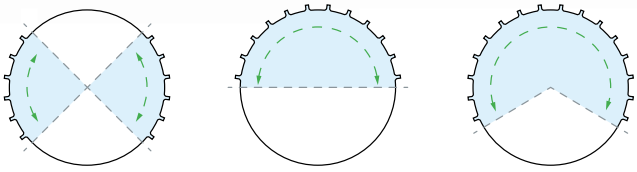


Easy to select and easy to install in all types of buildings

Activent nozzles ducts are installed fast and easily, since you install the air supply devices and ducts in a single unit, in one step. That's why contractors prefer Activent for fast-track building projects. The system is also quickly fine-tuned. To measure the pressure, you simply connect the hose of a manometer to a nozzle in the centre of the duct.

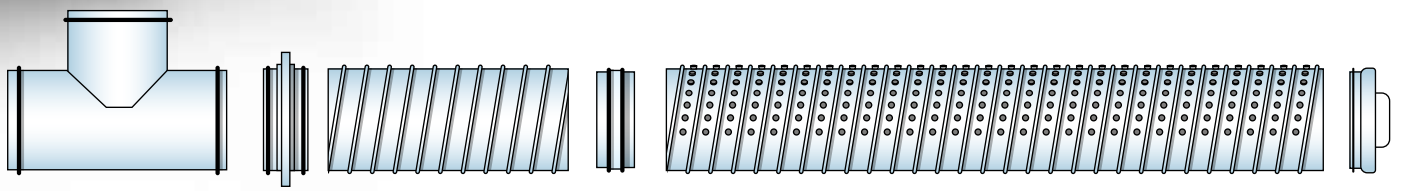


The Activent system consists of an air terminal device, a "nozzle duct", that is available in five sizes: **020**, **025**, **031**, **040** and **050**. The size marking indicates the diameter of the nozzle duct in cm.

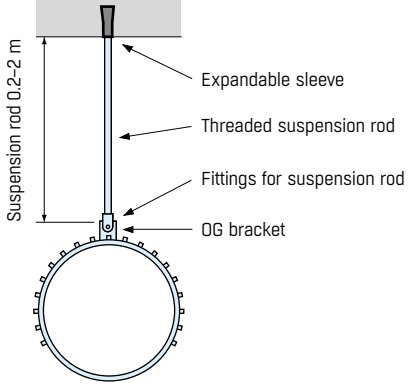


If the duct is viewed in cross-section, the air supply nozzles are arranged in sectors of varying width, ranging from 60 degree sectors to the encircling of entire duct. The most common nozzle sectors are 2x90°, 180° and 240° as shown in the picture above.

The system includes fittings such as extension ducts, end caps, T-ducts and sleeves. All of these are available in the same colours as the nozzle duct. A range of specially designed parts is also available, such as brackets for suspending the nozzle ducts from the ceiling and suspension rods.



Activent projects can be completed with a range of fittings, such as T-piece, extension ducts, sleeves and end caps. All fittings are available in a colour matching the duct's colour. End caps can be ordered as cleanout doors with a handle for easy removal during duct cleaning. Activent ducts longer than 3 m are supplied in several sections. For example, a 5 m long duct is supplied in 2 m + 3 m lengths.



SIZING YOUR ACTIVENT SYSTEM

Activent come in many configurations, but to get you started in planning your Activent system, here is an example of typical air flows for different diameters and lengths of Activent.

Activent 020-240°	Activent 025-240°	Activent 031-240°	Activent 040-240°	Activent 050-240°
2 m.....50 l/s	3 m.....100 l/s	4 m.....200 l/s	6 m.....480 l/s	8 m.....700 l/s
3 m.....80 l/s	4 m.....120 l/s	5 m.....250 l/s	7 m.....560 l/s	9 m.....780 l/s
4 m.....105 l/s	5 m.....165 l/s	6 m.....300 l/s	8 m.....650 l/s	10 m.....900 l/s

FläktGroup®

EXCELLENCE IN SOLUTIONS

FläktGroup is the European market leader for smart and energy efficient Indoor Air and Critical Air solutions to support every application area. We offer our customers innovative technologies, high quality and outstanding performance supported by more than a century of accumulated industry experience. The widest product range in the market, and strong market presence in 65 countries worldwide, guarantee that we are always by your side, ready to deliver Excellence in Solutions.

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