

# FAQ

## Tailored Air Distribution

Question:

### Can you use warm air in a fabric duct?

Answer:

**Yes – fabric ducts handle warm-air distribution effectively when you account for air buoyancy and design the system accordingly.**

#### / Warm-air limitations

Warm air is lighter than cold air and therefore less dense. This means it naturally rises toward the ceiling, making it challenging to deliver heat evenly at the occupant level. Without sufficient momentum, the warm air will travel only a short distance before accumulating overhead, creating a temperature gradient where the floor area remains cooler.

#### / Temperature difference

The buoyancy effect intensifies with larger temperature differences ( $\Delta T$ ) between supply air and room air. As  $\Delta T$  increases, warm air accelerates upward faster, shortening its horizontal throw. Designers must understand the specific  $\Delta T$  to select the right diffuser type and fan pressure to achieve the desired throw distance and maintain comfort in the occupied zone.

#### / The solution

Knowing the mounting height and  $\Delta T$  allows us to choose between fabric diffusers with small perforations for low-to-medium ceilings and directional fabric nozzles for higher installations. We calculate the necessary air pressure and nozzle size to ensure the warm air reaches occupants before rising. Proper selection prevents stratification and delivers consistent heating performance.

Prihoda offers a comprehensive design service – including diffuser placement, pressure requirements, and diffuser type recommendations – tailored to each project. Every system is made to order based on your space's geometry, ceiling height, and heating needs.

## Key terms:

fabric ducting, heating, air distribution, warm air, temperature difference, throw distance, fabric nozzles



to learn more about how our fabric ducting systems deliver warm air effectively and evenly, visit our [Air Distribution page](#) or contact us via [info@prihoda.com](mailto:info@prihoda.com)



Engineered air distribution



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