

## Jet nozzles

▶ Acoustically and technically  
optimised ▶ ▶

TJN Jet nozzle



## ► Good air quality for large internal spaces ►►



*TROX jet nozzles at the IAA trade fair in Frankfurt, Germany*



*TJN without swirl unit for discharge range reduction*



*TJN with swirl unit for discharge range reduction*

### **Acoustically and technically optimised**

Jet nozzles are the preferred solution where the supply air has to travel large distances from the point of discharge to the occupied zone.

The new TJN jet nozzles have been developed from the successful TROX DUK jet nozzles. The new product type is not only aesthetically attractive but also more energy efficient; plus it offers improved acoustic properties. The complete jet nozzle is made of high-grade polymer and available in RAL white aluminium or pure white. The versatile jet nozzles create a comfortable climate in large internal spaces even under the most diverse temperature conditions.

### **Innovative swirl unit reduces the discharge range**

The swirl unit, which is available as an option and can be easily attached, is a technical innovation. It enables a two-step reduction of the discharge range to 80% or 60% and is hence ideal for smaller spaces. The remarkable acoustic optimisation is achieved by air control blades with unique saw tooth edges.

### **Defined setting of the swivel angle**

The swivel angle for the supply air flow, or jet, can be adjusted in 5° increments within a range from +30° to -30°, or even be limited. Due to this innovative feature the TJN jet nozzle can be set precisely to the required swivel angle, and the targeted comfort criteria are actually achieved.



*Self-adjusting drive with preset swivel angle*



### Self-adjusting nozzle with shape memory alloy

Shape memory alloys (SMA), also called memory metals, 'remember' their original shape and return to that pre-deformed shape when heated. The deformation, or change of shape, is based on a temperature-dependent change of the crystal lattice. The compact shape memory actuator is placed directly in the airflow of the jet nozzle such that it can react to changes in the supply air temperature.

The effect of the SMA is such that the swivel angle of the jet nozzle is automatically adjusted within a temperature range of about 18 °C to 28 °C, and the comfort criteria in the occupied zone are ensured. The adjustment happens much faster than with conventional expansion materials. Neither an actuator drive nor extensive wiring is required.

### Advantages of the TJN jet nozzle

- Up to 6 dB less noise than with DUK jet nozzles due to optimised nozzle contours
- Jet angle can be adjusted, limited, and fixed
- Two-step reduction of the discharge range for smaller spaces
- High-grade polymer in RAL white aluminium or pure white
- Simple installation due to bayonet fixing at the discharge ring
- Self-adjusting variant with short response time due to actuator made of shape memory alloy
- Flat external motor ensures compact installation and increased energy efficiency
- Integration with measurement and control system is possible
- Five sizes, each available for duct (rectangular or circular) or direct connection
- All variants are also available with outer casing for visible areas



*Self-adjusting variant with SMA actuator*



*Easily attachable swirl unit for discharge range reduction*



*Energy-efficient due to external actuator*



Circular



20 to 1000 l/s • 72 to 3600 m<sup>3</sup>/h



ø 160, 200, 250, 315, 400 mm

*TROX jet nozzles  
in the Hamburg airport, Germany*



**TROX<sup>®</sup> TECHNIK**  
The art of handling air

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