



## systemair TSOI-T-250-S Perforated Face Multidirectional Supply Extract Diffuser Instructions

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## TSOI-T-250-S

Item no. 423553

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### Description

## Function

The TSOI-T is a perforated face multidirectional ceiling diffuser with adjustable deflectors set internally. The diffuser is suitable for both supply and extract applications. As standard all side entry plenums are insulated and Top entry plenums are non insulated. Internal deflectors permit the diffuser to be set for Air pattern direction of 1 to 4 way. Diffuser and deflectors are as standard powder painted to RAL9010.



## Product Description

TSOI-T-ØD-S : Side-entry perforated plate supply diffuser

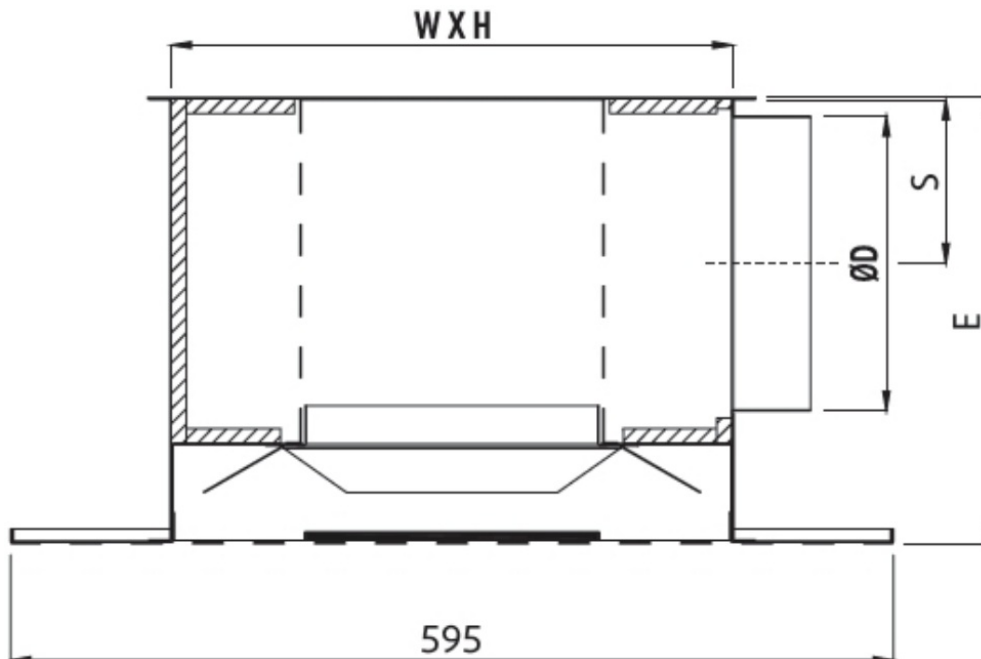
## Features

- Supply and extract functionality
- Suitable for cooled, isothermal or heated air
- Ideal for modular ceiling tile replacement
- High entrainment and mixing of surrounding air
- Short throw

## Selection Criteria

- Ceiling Height 2.7m
- Temperature Differential (Room/Supply air)  $\leq 10K$
- $L_t$ , throw velocities shown in the table are for 0.375m/s to achieve air velocity of 0.15m/s in the occupied zone.

## Dimensions



| Type | WxH     | D    | S   | E   |
|------|---------|------|-----|-----|
| 125  | 240×240 | 123  | 72  | 227 |
| 160  | 300×300 | 158  | 90  | 270 |
| 200  | 380×380 | 198  | 110 | 300 |
| 250  | 480×480 | 292* | 102 | 300 |
| 315  | 560×560 | 394* | 99  | 295 |

\* Inlet sizes 250 and 315 mm are Flat-Oval inlets

#### Ordering codes

|                                    | TSOI | T | ØD | S |
|------------------------------------|------|---|----|---|
| Product series                     |      |   |    |   |
| Plaster ceiling installation       | P    |   |    |   |
| T-Bar ceiling 595x595 installation | T    |   |    |   |
| Inlet size                         | 125  |   |    |   |
|                                    | 160  |   |    |   |
|                                    | 200  |   |    |   |
|                                    | 250* |   |    |   |
|                                    | 315* |   |    |   |
| Top entry plenum                   | T    |   |    |   |
| Side entry plenum                  | S    |   |    |   |

#### Documentation

 TSOI-T GB.pdf (348,08kB)

#### Diagram

| TSOI |     |                       | 4-Way Supply |     |     |     |     |
|------|-----|-----------------------|--------------|-----|-----|-----|-----|
| m³/h | I/S |                       | 125          | 160 | 200 | 250 | 315 |
| 100  | 28  | L <sub>t0.25</sub>    | 0.5          | 0.4 |     |     |     |
|      |     | Δ P <sub>t</sub> (Pa) | 8            | 3   |     |     |     |
|      |     | L <sub>WA</sub>       | –            | –   |     |     |     |
| 150  | 42  | L <sub>t0.25</sub>    | 0.8          | 0.6 |     |     |     |
|      |     | Δ P <sub>t</sub> (Pa) | 16           | 7   |     |     |     |
|      |     | L <sub>WA</sub>       | 35           | –   |     |     |     |
| 200  | 56  | L <sub>t0.25</sub>    | 1            | 0.8 | 0.7 |     |     |
|      |     | Δ P <sub>t</sub> (Pa) | 33           | 12  | 5   |     |     |
|      |     | L <sub>WA</sub>       | 43           | 29  | –   |     |     |

|      |     |                   |     |     |     |     |     |
|------|-----|-------------------|-----|-----|-----|-----|-----|
| 250  | 69  | $L_{t0.25}$       | 1.3 | 1   | 0.8 | 0.5 |     |
|      |     | $\Delta P_t$ (Pa) | 48  | 18  | 8   | 3   |     |
|      |     | $L_{WA}$          | 52  | 37  | –   | –   |     |
| 300  | 83  | $L_{t0.25}$       |     | 1.2 | 1   | 0.8 |     |
|      |     | $\Delta P_t$ (Pa) |     | 28  | 12  | 5   |     |
|      |     | $L_{WA}$          |     | 46  | 18  | –   |     |
| 400  | 111 | $L_{t0.25}$       |     |     | 1.3 | 1.1 | 0.9 |
|      |     | $\Delta P_t$ (Pa) |     |     | 20  | 9   | 4   |
|      |     | $L_{WA}$          |     |     | 39  | –   | –   |
| 500  | 139 | $L_{t0.25}$       |     |     | 1.6 | 1.4 | 1.2 |
|      |     | $\Delta P_t$ (Pa) |     |     | 32  | 13  | 6   |
|      |     | $L_{WA}$          |     |     | 45  | 33  | –   |
| 600  | 167 | $L_{t0.25}$       |     |     |     | 1.7 | 1.4 |
|      |     | $\Delta P_t$ (Pa) |     |     |     | 18  | 9   |
|      |     | $L_{WA}$          |     |     |     | 40  | 29  |
| 750  | 208 | $L_{t0.25}$       |     |     |     |     | 1.7 |
|      |     | $\Delta P_t$ (Pa) |     |     |     |     | 13  |
|      |     | $L_{WA}$          |     |     |     |     | 37  |
| 1000 | 278 | $L_{t0.25}$       |     |     |     |     | 23  |
|      |     | $\Delta P_t$ (Pa) |     |     |     |     | 24  |
|      |     | $L_{WA}$          |     |     |     |     | 48  |

$L_{t0.25}$  = Throw value (m) with terminal velocity of 0.25 m/s

$L_{WA}$  = Sound Power level in dB (A)

$\Delta P_t$  = Total pressure Drop (Pa)

With room height of 2.7m, average occupied room velocity of 0.15m/s can be achieved  
The diffusers and plenums are tested together as one unit

#### Selection Example

#### **Selection Criteria**

Ceiling Height 2.7 m

Temperature Differential (Room to Supply air)  $\Delta T$  of -10K

Air Velocity In The Comfort Zone  $V_t = 0.15$  m/s

#### **Result**

TSOI-T-ØD-S

Air Volume  $Q_v = 111$  l/s or 400 m<sup>3</sup>/h

Throw  $L_t = 1.1 \text{ m}$   
Pressure Drop  $\Delta P_t = 9 \text{ Pa}$   
Noise Level  $L_{WA} \approx < 25 \text{ dBA}$

#### Specification text

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Name: **TSOI-T-250-S** | Item no.: **423553**

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#### Get In Touch



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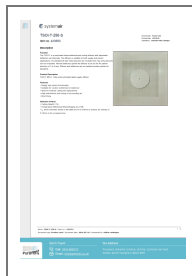


Email: [info@adremit.co.uk](mailto:info@adremit.co.uk)

#### Our Address

Puravent, Adremit Limited, Unit 5a, Commercial Yard, Settle, North Yorkshire, BD24 9RH

#### Documents / Resources



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TSOI-T-250-S, Perforated Face Multidirectional Supply Extract Diffuser, Multidirectional Supply Extract Diffuser, Supply Extract Diffuser, Extract Diffuser, TSOI-T-250-S, Diffuser

#### References

- [Text.name](#)