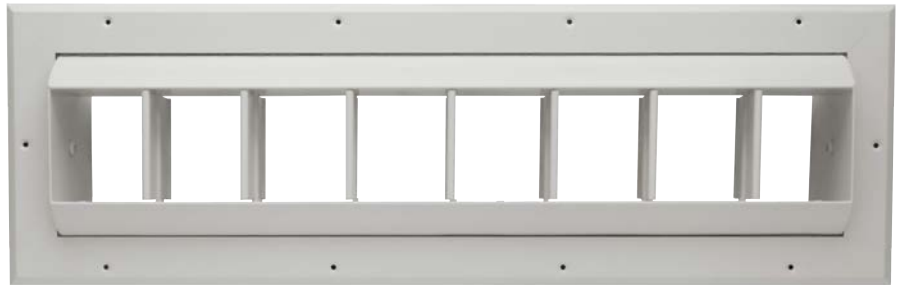


# Jet nozzles

## Type DJ



### High capacity drum jet diffuser for long throw, supply air applications

Single ventilation grilles for long throw, supply air applications

- Suitable for exposed duct mounting or sidewall installations.
- Volume flow rate range 138 – 2000 l/s or 500 – 7200 m<sup>3</sup>/h
- Grille face made of aluminium with powder-coat finish
- Front border, 38 mm with couterpunch fixing holes
- Aerodynamically efficient profile results in low noise levels and pressure drop
- Manual discharge angle adjustment for optimum air direction control

Optional equipment and accessories

- Grille face in RAL CLASSIC colours
- Attachments for volume flow rate balancing and air direction control

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### Product variants

#### DJ



#### DJD



### Description

#### Application

- Ventilation nozzle type DJ as supply air variant for comfort and industrial zones
- Adjustable vertical air discharge angle ( $\pm 30^\circ$ ) suitable for long throw applications
- Adjustable vertical guide vanes for air direction control and throw length reduction
- For constant volume flows
- For supply air to room air temperature differences from  $-12$  to  $+10$  K
- For installation in walls and rectangular ducts

#### Variants

- DJ: Single nozzle
- DJD: Single nozzle with adjustable front blades

#### Parts and characteristics

- Rectangular profile border sections
- Adjustable vertical discharge angle ( $\pm 30^\circ$ )
- Adjustable vertical guide vanes for air direction control and throw length reduction

#### Nominal sizes

##### Single grille

- Nominal lengths: 261mm, 337mm, 490mm, 540mm, 642mm, 667mm, 794mm, 921mm
- Nominal height: 170mm, 271mm

#### Attachments

- OB, VED: For volume flow rate balancing

#### Accessories

- OB/DM: Duct mounted opposed blade damper (supplied loose)
- VED/DM: Duct mounted volume equalising deflector (supplied loose)

#### Materials and surfaces

- Border and blades made of aluminium
- PC: Border and blades powder-coated, RAL..., BS...

**Construction features**

- 38 mm wide profiled border
- Adjustable vertical guide vanes for directional air discharge and throw length control

**Installation and commissioning**

- Installation preferably in walls or rectangular ducts
- Stub duct required for rectangular ductwork installation
- DJ nozzle should be installed using counterpunch border holes, fixed with screws

**Standards and guidelines**

- Sound power level of the air-regenerated noise measured according to EN ISO 5135

**Maintenance**

- Maintenance-free as construction and materials are not subject to wear
- Inspection and cleaning to VDI 6022

**Technical data**

<b>Nominal length</b>	261mm up to 921mm
<b>Nominal height</b>	170 mm, 271 mm
<b>Minimum volume flow rate</b>	138 – 1000 l/s or 500 – 3600 m <sup>3</sup> /h
<b>Maximum volume flow rate, with L<sub>WA</sub> max. 45 dB(A) without attachments</b>	378 – 1683 l/s or 1360 – 6060 m <sup>3</sup> /h
<b>Supply air to room air temperature difference</b>	-12 to +10 K

Volume flow rates for single nozzle for supply air.

### Function

#### Functional description

Adjustable drum jet diffusers for the ventilation of large indoor spaces such as halls and assembly rooms. Air discharge with long throw distance and excellent acoustic properties. For horizontal air discharge with a manually adjustable vertical discharge angle of +/- 30° and manually adjustable air pattern control blades for air jet dispersion and throw length control.

TROX type DJ consists of an aluminium drum, with brush strips to provide a low friction, airtight seal. Can be mounted within main duct, stub duct or into walls.

In cooling mode it is necessary to take account of the jet deviation towards the occupied zone, which increases as the supply air to room air temperature difference increases and the discharge velocity decreases. In heating mode the supply air jet deviates towards the ceiling.

Manual setting of vertical discharge angle based on cooling or heating operation should be completed during commissioning.

### Principal dimensions

#### L [mm]

Nominal length of the ventilation grille

#### H [mm]

Nominal height of the ventilation grille

#### m [kg]

Weight

### Nomenclature

#### $L_{WA}$ [dB(A)]

Sound power level of the air-regenerated noise

#### $l_s$ [m]

Distance from single grille or horizontal run section (throw distance)

#### $\dot{V}$ [m³/h] and [l/s]

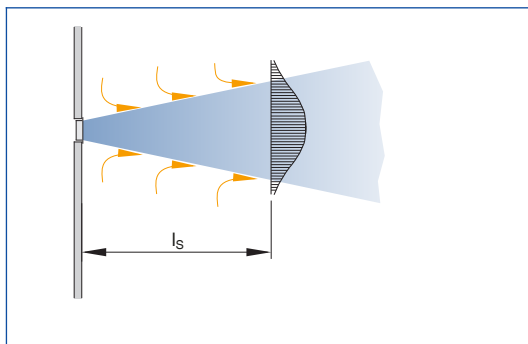
Volume flow rate

#### $\Delta p_t$ [Pa]

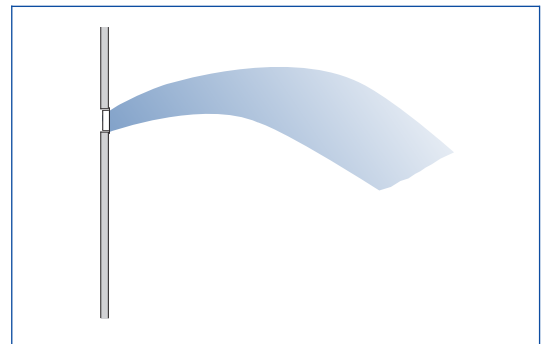
Total differential pressure

### Air pattern

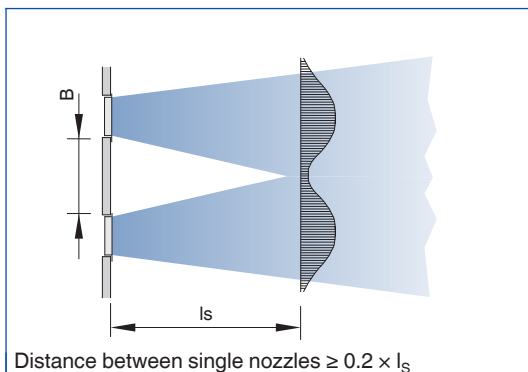
#### Air pattern, isothermal air



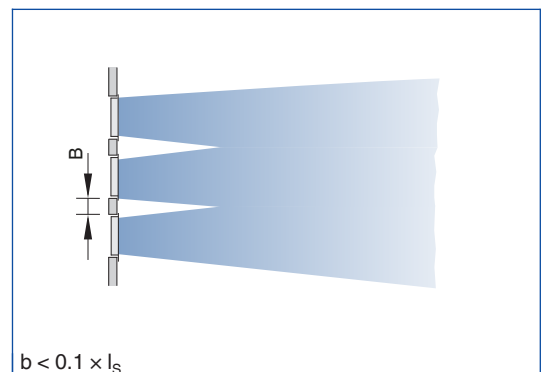
#### Air pattern in cooling mode, with vertical discharge angle adjustment



#### Air pattern without ceiling effect, group of grilles, top view



#### Air pattern, group of grilles, top view



Several single grilles arranged in a row and with not much distance between them have the same effect as a continuous horizontal run.

### Sizing with the help of this catalogue

This catalogue provides convenient quick sizing tables for ventilation nozzles. The volume flow rates apply to available nominal sizes with maximum sound power level of the air-regenerated noise of 30 to 45dB(A) with an open damper unit (unrestricted airflow).

Throw length [ $l_s$ ] provided in metres to a maximum time average velocity [ $V_L$ ] of 0.25m/s without deflection blades.

For reduced throw applications, vertical deflection blades should be used. Refer to correction factors for adjustment to the figures below.

### Technical data

The tables give supply air volume flow rates for all nominal sizes.

Volume flow rates apply to available nominal sizes with maximum sound power level of the air-regenerated noise of 30dB(A) to 45dB(A) with an open damper unit (unrestricted airflow).

Throw length [ $l_s$ ] provided to a maximum time average air velocity [ $V_L$ ] of 0.25m/s without deflection blades.

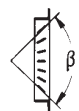
### Supply air

Nominal size	Aerodynamic Data					
	$A_{eff}$	$\dot{V}$		$\Delta p_t$	$L_{WA}$	$L_{S 0.25}$
	$m^2$	l/s	$m^3/h$	Pa	dB(A)	m
906	0.0174	170	612	64	30	15
		235	846	111	35	25
		290	1044	159	40	33
		375	1350	246	45	43
1206	0.0235	220	792	62	30	15
		290	1044	101	35	26
		355	1278	145	40	35
		465	1674	235	45	46
1806	0.0354	310	1116	49	30	19
		400	1440	76	35	29
		500	1800	113	40	38
		655	2358	182	45	48
2406	0.0473	395	1422	43	30	21
		505	1818	67	35	32
		635	2286	101	40	41
		820	2952	160	45	52

Nominal size	Aerodynamic Data					
	$A_{eff}$	$\dot{V}$		$\Delta p_t$	$L_{WA}$	$L_{S 0.25}$
	$m^2$	l/s	$m^3/h$	Pa	dB(A)	m
2010	0.0692	505	1818	36	30	18
		640	2304	55	35	28
		830	2988	86	40	37
		1065	3834	133	45	48
2510	0.0864	615	2214	34	30	19
		775	2790	52	35	29
		955	3438	77	40	39
		1265	4554	131	45	50
3010	0.1046	715	2574	33	30	20
		905	3258	49	35	29
		1155	4158	76	40	39
		1495	5382	120	45	50
3510	0.1218	805	2898	26	30	20
		1005	3618	39	35	29
		1300	4680	61	40	38
		1680	6048	96	45	49

### Throw length correction

Throw length correction based on vane divergence							
Vane angle [ $\beta$ ]	0°	5°	10°	20°	30°	40°	60°
Correction factor [ $K_f$ ]	x 1.0	x 0.9	x 0.82	x 0.68	x 0.6	x 0.52	x 0.4



Order code

DJ

<b>DJ – OB / 2406 / P3 / RAL 9010 / 20% Gloss</b>			
1	2	3	4

**1 Type**

- DJ** Adjustable jet nozzle  
**DJD** DJ c/w Adjustable horizontal blades

**2 Attachments**

- No entry: none  
**OB** Opposed blade damper  
**VED** Volume equalising deflector  
**OB/DM** Duct mounted opposed blade damper (supplied loose)  
**VED/DM** Duct mounted volume equalising deflector (supplied loose)

**3 Size**

- 906 (261x170)  
 1206 (337x170)  
 1806 (490x170)  
 2406 (642x170)  
 2010 (540x271)  
 2510 (667x271)  
 3010 (794x271)  
 3510 (921x271)

**4 Exposed surface**

- P3** Powder coat to RAL 9010:20% white (standard)  
**A3** Natural anodised (SAA)  
**P6** Special Finish - State colour RAL..., BS... Gloss level ...%

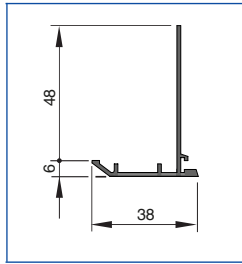
Order example

**DJ - OB / 2406 / P3 / RAL9010 / 20%**

<b>Construction style</b>	Rectangular Drum Jet Diffuser
<b>Accessories</b>	Opposed blade volume control damper
<b>Nominal Diffuser Neck Size</b>	642 x 170
<b>Exposed surface</b>	RAL 9010, white, gloss level 20 %

## Front border

## Front border DJ (38 mm)



Nominal Size	Nominal Length	Single Grille
mm	L mm	kg
906	261	1.5
1206	337	1.7
1806	490	2.0
2406	642	2.5

Nominal Size	Nominal Length	Single Grille
mm	L mm	kg
2010	540	5.5
2510	667	6.5
3010	794	7.0
3510	921	7.5

Weights apply to single nozzles without attachments

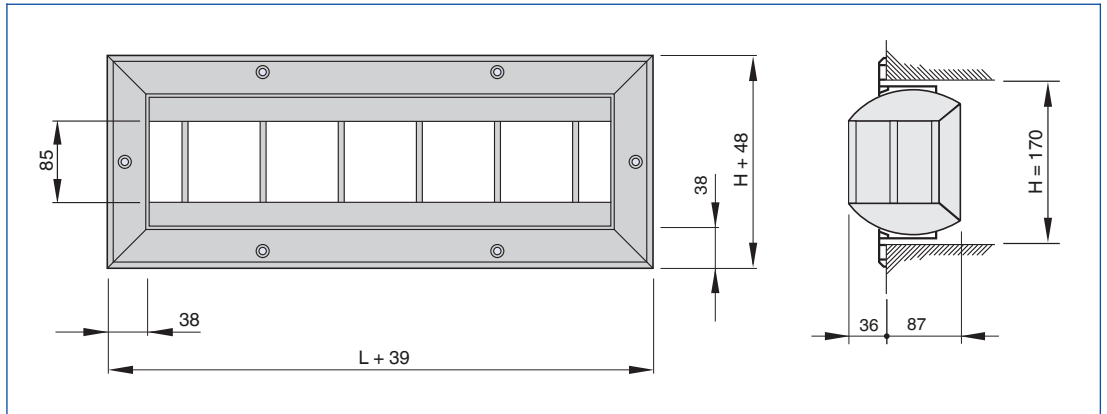
## Single grille

## DJ...\*06

L: Nominal length  
H: Nominal height

Cut out size;

H / L



## Single grille

## DJ...\*10

L: Nominal length  
H: Nominal height

Cut out size;

H / L

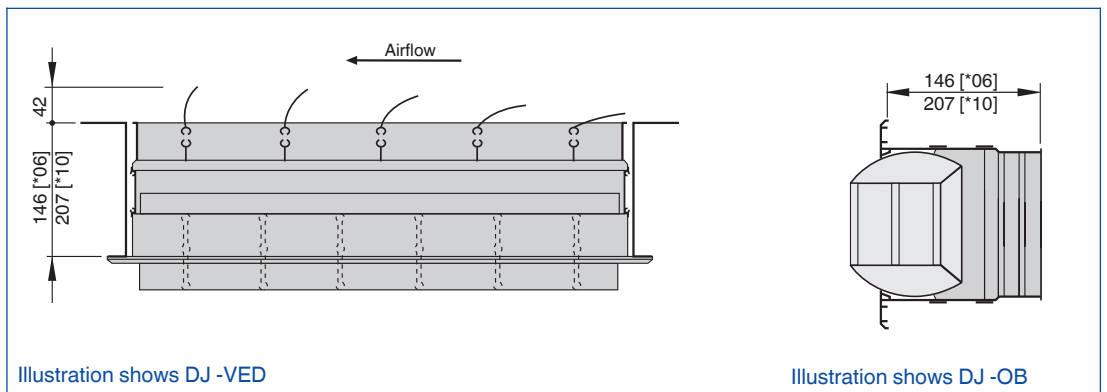
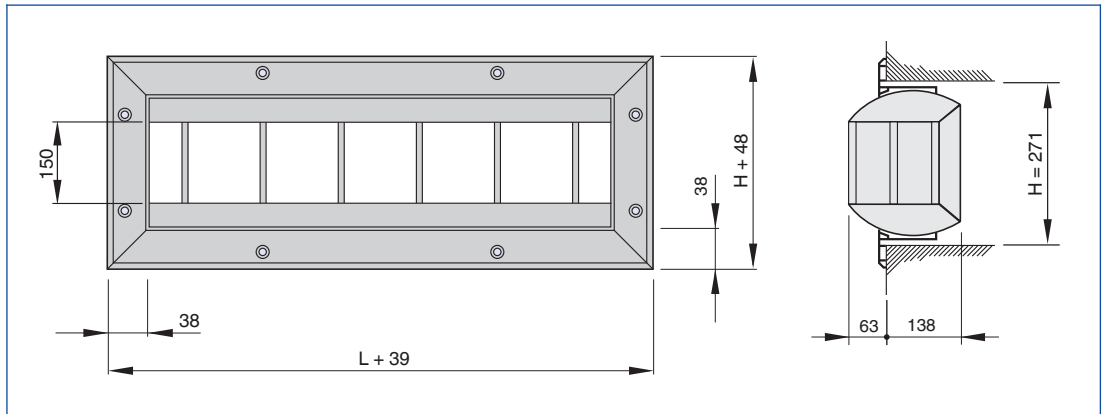


Illustration shows DJ -VED

Illustration shows DJ -OB

### Standard text

This specification text describes the general properties of the product.

Adjustable drum jet diffusers for the ventilation of large indoor spaces such as halls and assembly rooms. Air discharge with long throw distance and excellent acoustic properties.

For horizontal air discharge with a manually adjustable vertical discharge angle of +/- 30° and manually adjustable air pattern control blades for air jet dispersion and throw length control. Sound power level of the air-regenerated noise measured according to EN ISO 5135.

### Special characteristics

- Rectangular profile border sections
- Adjustable vertical discharge angle (±30°)
- Adjustable vertical guide vanes for air direction control and throw length reduction

### Materials and surfaces

- Border and blades made of aluminium
- PC : Border and blades powder-coat RAL9010:20%
- A3 : Natural anodised (SAA)
- P6: Border and blades powder-coated, RAL CLASSIC colour

### Technical data

- Nominal lengths: 261mm, 337mm, 490mm, 540mm, 642mm, 667mm, 794mm, 921mm
- Nominal height: 170mm, 271mm
- Minimum volume flow rate (supply air): 138 – 1000 l/s or 500 – 3600 m<sup>3</sup>/h
- Maximum volume flow rate (supply air), at L<sub>WA</sub> max. 45 dB(A) without attachments: 378 – 1683 l/s or 1360 – 6060 m<sup>3</sup>/h
- Supply air to room air temperature difference: -12 to +10 K

### Sizing data

- $\dot{V}$  \_\_\_\_\_ [l/s]
- $\Delta p_t$  \_\_\_\_\_ [Pa]
- L<sub>WA</sub> Air-regenerated noise \_\_\_\_\_ [dB(A)]

### Order options

#### 1 Type

- DJ** Adjustable jet nozzle  
**DJD** DJ c/w Adjustable horizontal blades

#### 2 Attachments

- No entry: none  
**OB** Opposed blade damper  
**VED** Volume equalising deflector  
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- P3** Powder coat to RAL 9010:20% white (standard)  
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