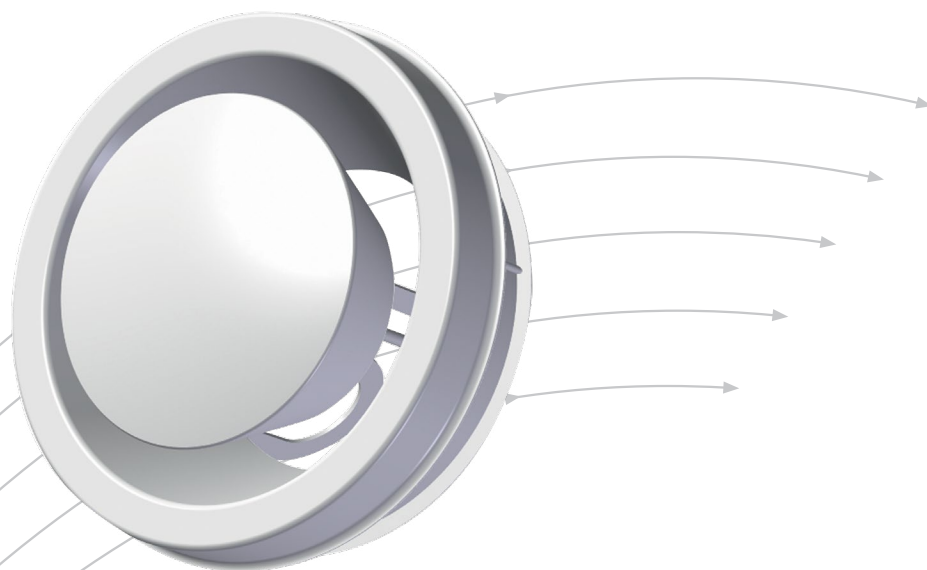


# DSO

## Extract air terminal device



- Broad adjustment range
- Easy commissioning

**TROX<sup>®</sup> TECHNIK**

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# DSO



## APPLICATION

DSO is an extract air terminal device for ceiling or wall mounting. The Gitter-F is mounted on the outside of the DSO, preventing access to the valve. The Gitter-F is optional.

## DESIGN

DSO features an adjustable centre cone for air flow rate commissioning. Supplied with mounting frame, DKT, for circular duct. The Gitter-F comes with security screws, and access to the valve is achieved with special tools.

## MATERIALS AND SURFACE COATING

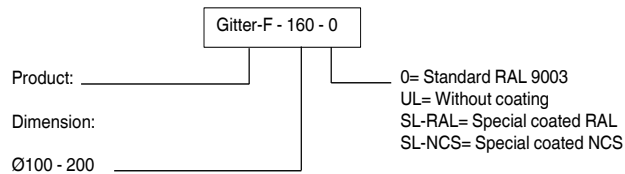
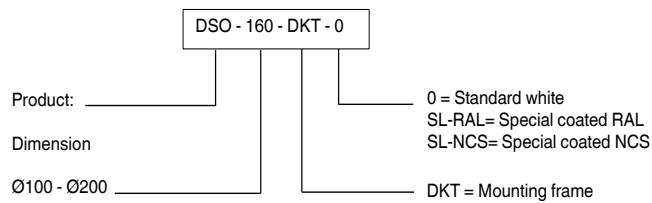
DSO is made of steel, and comes in a RAL 9003 - gloss 30 finish. Other colours are available on request. DKT is fitted with a rubber gasket on the connection collar.

The Gitter-F is made of steel and painted in RAL 9003-gloss 30. Other colors are available upon request.

DSO Dim.	Cone position - s [mm]	[m <sup>3</sup> /h]		
		30 dB(A)	35 dB(A)	40 (dB)
100	+5	79	97	122
125	+5	126	148	176
160	+5	166	202	234
200	+15	187	223	263

Table 1: The table shows air flow rates at given sound power levels.

## ORDER CODE, DSO AND GITTER-F



## DIMENSIONS AND WEIGHT, DSO

Dim.	D	A	weight [kg]
100	134	74	0,3
125	160	85	0,4
160	191	89	0,5
200	241	107	0,7

Table 2

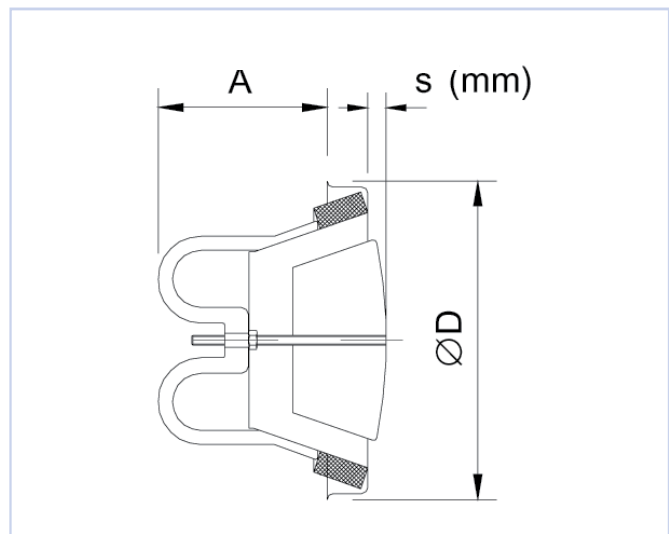


Fig. 1

Dim.	d	D <sub>2</sub>	Weight [kg]
100	99	125	0,10
125	124	150	0,12
160	159	185	0,18
200	199	225	0,24

Table 3

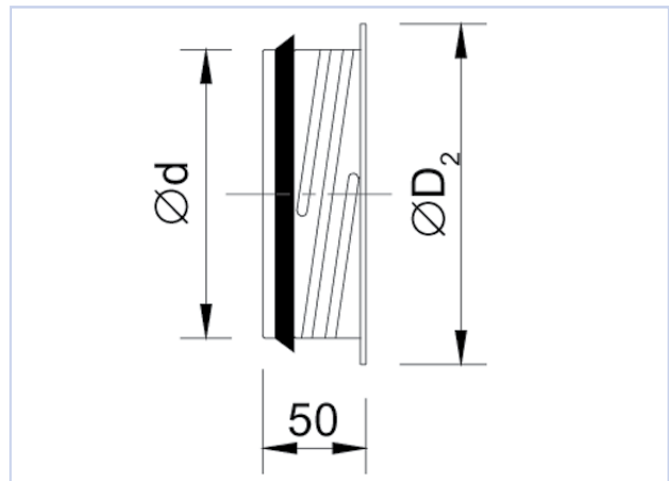


Fig. 2

# DSO

## DIMENSIONS AND WEIGHT GITTER-

Dim.	B	L	H
100	201	201	45
125	201	201	45
160	250	250	45
200	295	295	45

Table 4

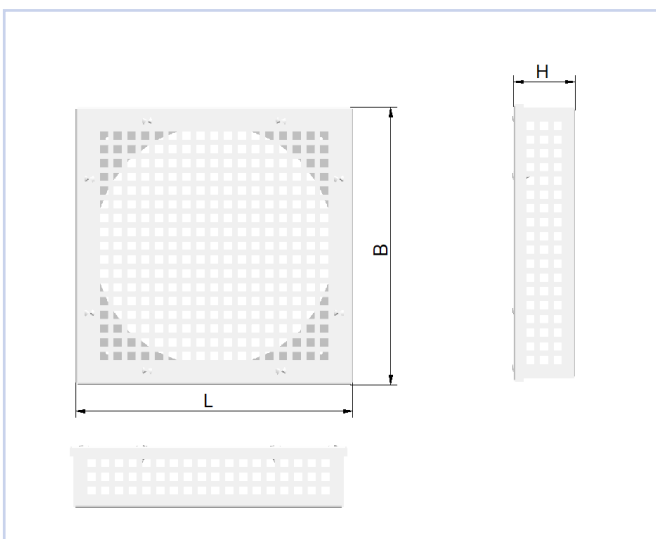


Fig.3

## CALCULATION DIAGRAMS

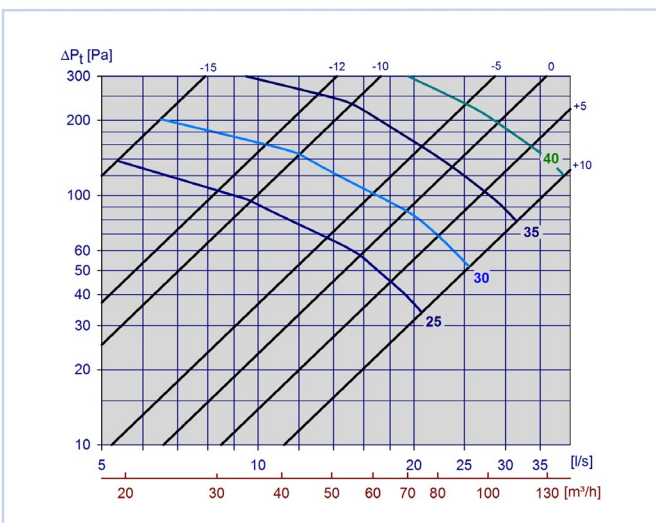


Diagram 1, DSO Ø100

## ACOUSTIC DATA

The diagrams provide a summary of the A-weighted sound power level from diffuser,  $L_{WA}$ . Correction factors in table 5 are used to calculate emitted sound power level at the respective frequencies,  $L_w = L_{WA} + KO$ . A room with absorption equivalent to  $10m^2$  Sabine will have a sound pressure level which is 4dB below the sound power level emitted.

Example:

Office premises require an indoor air extraction of 25 l/s, and for this purpose a DSO Ø100 extract air terminal device is used.

Room attenuation is 6dB, and the centre cone is to be choked to 80 Pa total pressure loss.

We aim to find:

- Emitted sound power level from the valve at 250 Hz, at chosen working point.
- A-weighted sound pressure level in the room with the centre cone in +10 position.
- A-weighted sound pressure level in the room with centre cone choked.

Solution:

DSO Ø100, required air flow rate 25 l/s. According to diagram 1 the emitted sound power will read  $L_{WA} = 29dB(A)$  for position +10 mm, with a total pressure loss of 50Pa.

a) Table 1 shows that the correction factor for open damper at 250 Hz is -2dB.  $L_w$  at 250 Hz is thus:

$$L_{WA} + KO = 29 + (-2) = 27dB$$

b) A room attenuation equivalent to 6dB provides a sound pressure level in the room of:  $27 - 6 = 21dB(A)$

c) With 30 Pa choking we reach 80 Pa, and the diagram shows an increase in  $L_{WA}$  of 5dB. The sound pressure level is thus:  $21 + 5 = 26dB(A)$

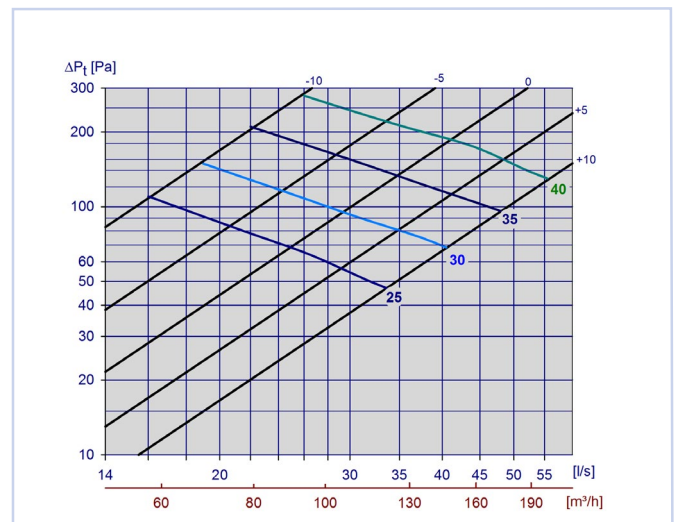
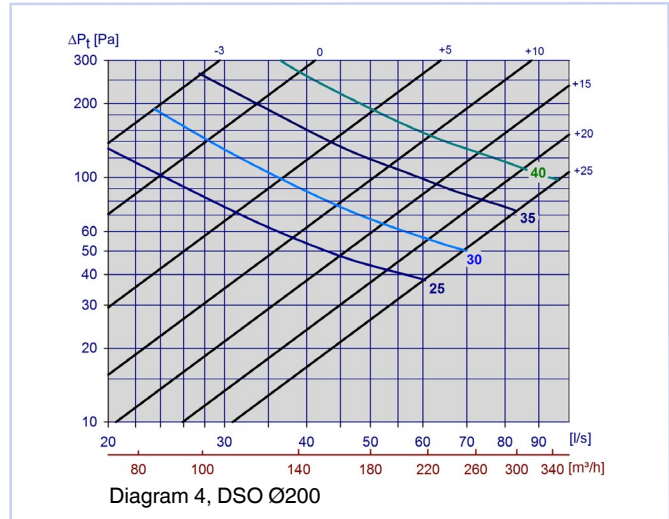
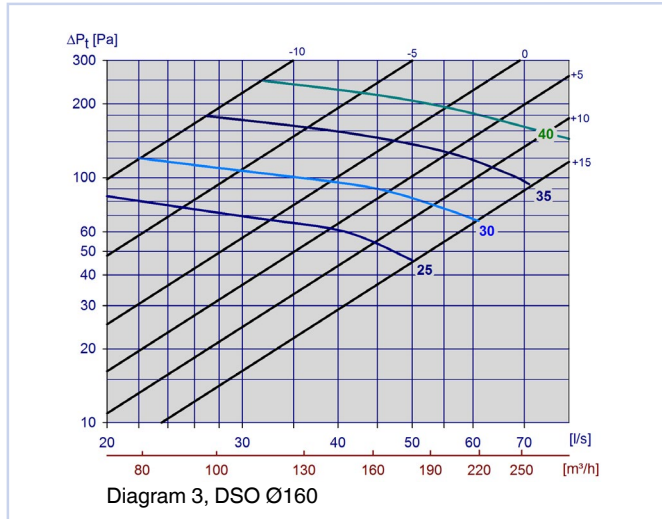


Diagram 2, DSO Ø125

# DSO



Static sound attenuation incl. end reflection for DSO

DSO Dim.	Attenuation [dB]							
	63	125	250	500	1k	2k	4k	8k
100	23	18	14	12	12	14	5	6
125	21	17	12	11	12	11	7	6
160	19	14	12	11	11	14	5	7
200	15	13	11	11	13	12	7	7

Table 5

DSO Dim.	KO [dB]							
	63	125	250	500	1k	2k	4k	8k
100	-1	-4	-2	0	-2	-5	-9	-23
125	-2	-5	-4	-2	-5	-2	-8	-24
160	0	-2	-1	-2	-1	-8	-12	-25
200	-2	-3	-4	-4	-1	-5	-9	-26

Table 6

## INSTALLATION

A separate mounting frame (DKT) is attached to the duct with blind rivets or self-drilling screws. Then the valve is twisted securely into the mounting frame. The assembly principle is shown in Figure 4.

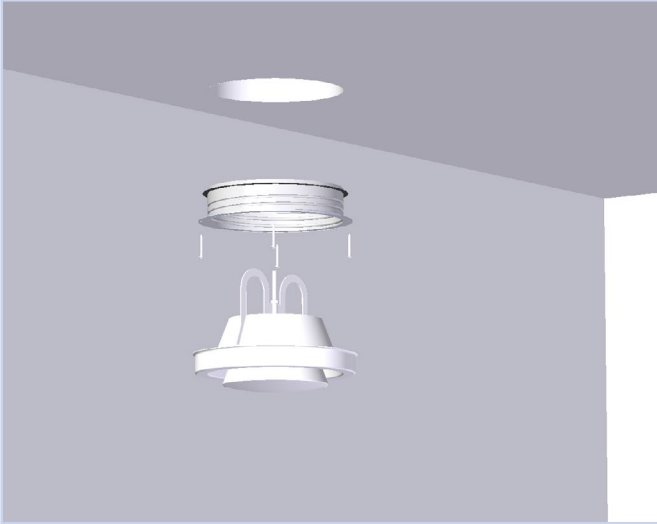


Fig. 4: Installation



Fig.5, installation of Gitter-F

## COMMISSIONING

The air flow rate is adjusted by turning the centre cone. It is fixed in place by tightening the lock nut at the rear of the centre bolt. Valve commissioning is carried out by measuring the pressure difference at the back of the centre cone, and calculating the air flow rate according to correction factor for valve dimension and centre cone position. Correction factors are provided on a label attached to the valve and can also be found in our commissioning guide available at our website: [www.trox.no](http://www.trox.no).

## MAINTENANCE

The valve can be cleaned by using a damp cloth. When cleaning the duct network, the valve must be removed in order to gain access to the ducting.

## ENVIRONMENT

Enquiries regarding product declaration can be directed to our sales team, or information can be found at [www.trox.no](http://www.trox.no).

The company reserves the right to make amendments without prior notice.