GB0603
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Tellus-LØV

Circular diffuser
for exposed installation

- Design-protected LØV perforation
- Excellent with low temperatures
- Adjustable slot height
- Box lined with sound absorber in polyester
- Available for high-profile design
- Optional with centered spread pattern for large installation hights

TROX Auranor AS

Auranorvegen 6
NO-2770 Jaren

Telephone +47 61 31 35 00

e-mail: office-no@troxgroup.com
www.trox.no/en

Tellus-LØV

APPLICATION

Tellus-LØV is a circular supply diffuser for exposed installation. It offers excellent induction and is suitable for both constant and variable air flow rates. The diffuser is also available with pass-through function.

DESIGN

Tellus-LØV features a removable front panel with LØV perforation and adjustable slot height. Rotational pattern is supplied as standard. Other flow patterns are available on request. The box is insulated with a sound absorber in polyester and is equipped with measuring outlet and removable airflow adjustment damper. Available in high-profile or low-profile design.
The high-profile version is also available in pass-through design as shown in fig. 3.

MATERIALS AND SURFACE COATING

The diffuser is made of steel with a RAL 9003 - gloss 30 finish. Other colours are available on request. It is internally lined with a sound absorber in polyester, and the connection collar is fitted with an EPDM rubber gasket. In the unpainted version, the box is supplied in galvanised steel while the front plate is painted in RAL 9006.

QUICK SELECTION, Tellus-LØV-H/L

Tellus-LØV	[m³/h]		
Dim.	25 dB(A)	30 dB(A)	35 dB(A)
100	61	101	151
125	108	144	194
160	169	227	292
200	259	331	428
250	378	468	594
315	590	763	954

Table 1: The table shows air flow rates at given sound power levels and 30 Pa total pressure loss.

QUICK SELECTION, Tellus-LØV-H/D

Quick selection for maximum slot height of Tellus-LØV type D together with Tellus-LØV-H, as a unit

Tellus-LØV HD	[m³/h]		
Dim.	25 dB(A)	30 dB(A)	35 dB(A)
200	270	382	547
250	360	468	788
315	594	871	1260

Table 2, The table shows air flow rates at given sound power levels and 30 Pa total pressure loss

DIMENSIONS AND WEIGHT, Tellus-LØV

Dim.	D	DA	H	L	S	Weight [kg]
100	99	243	172	131	11/15/22	2,5
125	124	243	210	152	11/15/22	2,6
160	159	282	262	170	13/20/27	3,3
200	199	380	322	196	13/20/27	4
250	249	416	397	238	12/26/36	5,5
315	314	525	494	282	12/26/36	7

Table 3

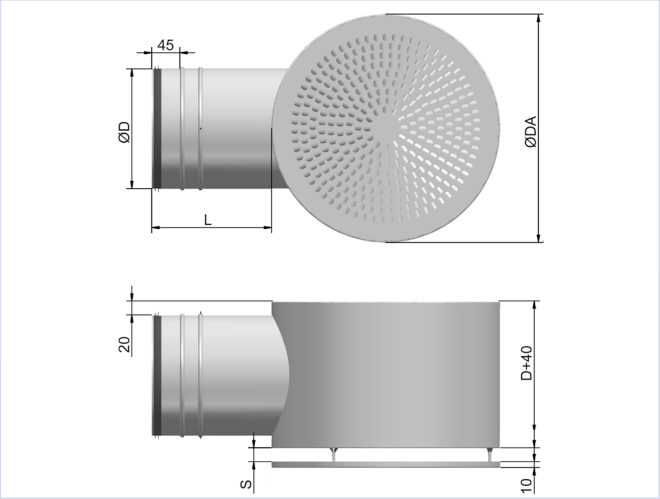

Fig. 1, Tellus-LØV-L

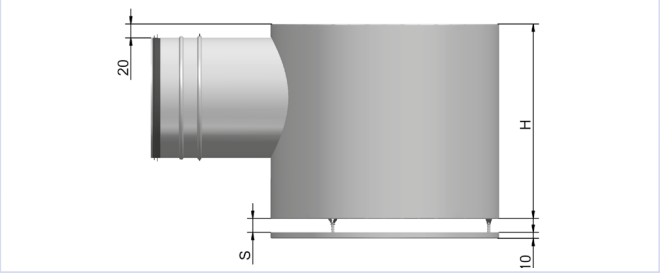

Fig. 2, Tellus-LØV-H

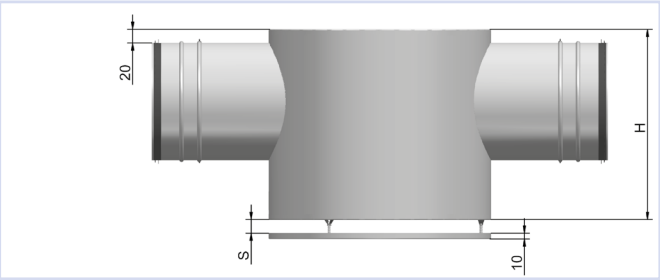

Fig. 3, Tellus-LØV-H-D

Tellus-LØV

ORDER CODE, Tellus-LØV (LOEV)

Order code

Tellus-LØV- H- 200- 0
1 2 3 4

1 Type
Tellus-LØV LØV pattern
Tellus-LØV-S LØV downward pattern

2 Design
H High profil design*
L Lov profil design

*D=continuous connection ø200-ø315

3 Dimension
Ø100- Ø315

4 Exposed surface
0 Standard RAL 9003
UL Uncoated
SL-RAL Special coated RAL
SL-NCS Special coated NCS

Exampel: Tellus-LØV- H- 200- 0:

Type	Tellus-LØV
Design	High profil design
Dimension	ø200
Exposed surface	Standard RAL 9003

ACOUSTIC DATA

The diagrams provide a summary of the A-weighted sound power level from diffuser, L_{WA}. Correction factors in table 5, page 6, are used to calculate emitted sound power level at the respective frequencies, $L_W = L_{WA} + KO$. The sound pressure level in a room with absorption equivalent to 10m² Sabine will be 4 dB below the sound power level emitted.

Installation directly in bend will result in a sound level increase of 2-3 dB compared to 6xØD-length duct end.

All diagrams assume maximum slot height.

Example:
An office requires an air supply of 75 l/s, and for this purpose a high-profile Tellus-LØV 160 is used. Room attenuation is 6 dB, and the diffuser damper is to be choked 20 Pa. According to diagram 3, L_{WA} = 32 dB(A) with open damper and 21 Pa total pressure loss.

We aim to find:
a) Emitted sound power level from diffuser at 250 Hz, damper open.
b) A-weighted sound pressure level with damper open.
c) A-weighted sound pressure level with damper choked.
d) Emitted sound power level from diffuser at 250 Hz, damper choked.

a) According to table 4, the correction factor for choked damper at 250 Hz is +2 dB and L_W for 250 Hz is thus: $L_{WA} + KO = 32 + 2 =$ <u>34 dB</u>
b) With a room attenuation equivalent to 6 dB, the sound pres sure level in the room is: 32 - 6 = <u>26 dB(A)</u>
c) Damper choked 20 Pa will give 41 Pa, and the diagram shows an increase in L_{WA} of 3 dB. The sound pressure level is thus: 26 + 3 = <u>29 dB(A)</u>.
d) According to table 1, the correction factor for 250 Hz is -1 with damper closed and +2 with damper open. The factor required for our working point position is thus 0. The operating point in the diagram is located on the L_W 35 dB curve, emitted sound power level at 250 Hz is: $L_W = L_{WA} + KO = 35 + 0 = 35$ dB(A)

CALCULATION DIAGRAMS

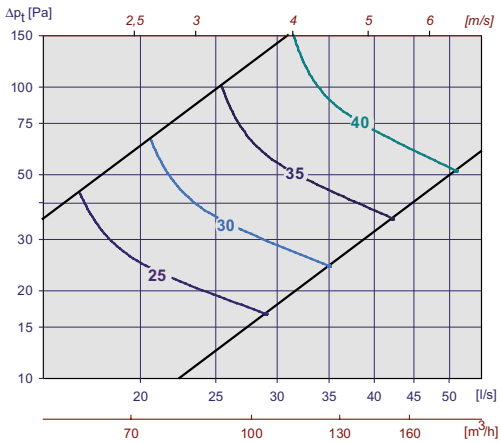

Diagram 1, Tellus-LØV-H/L Ø100

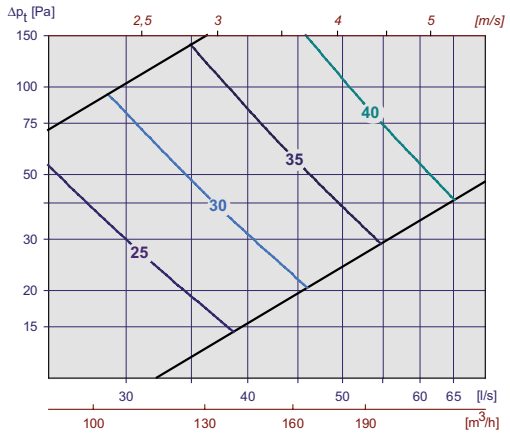

Diagram 2, Tellus-LØV-H/L Ø125

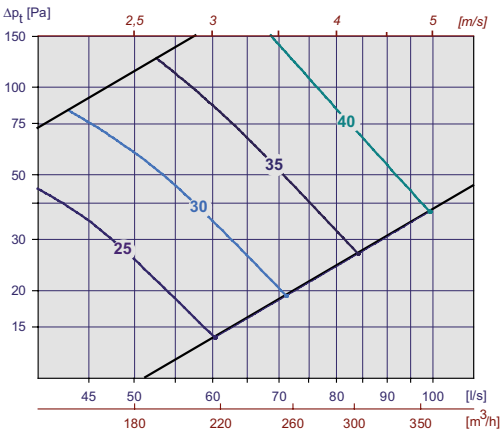

Diagram 3, Tellus-LØV-H/L Ø160

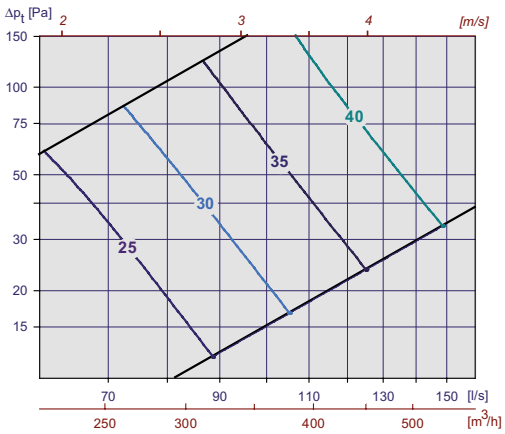

Diagram 4, Tellus-LØV-H/L Ø200

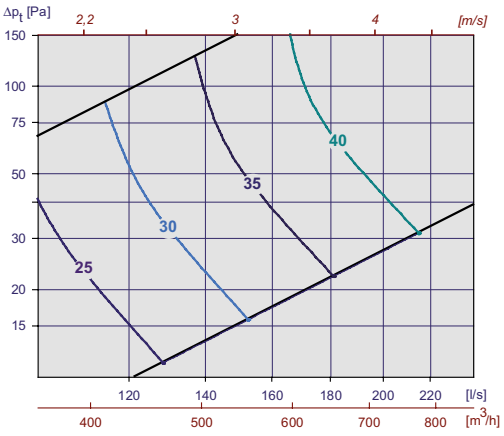

Diagram 5, Tellus-LØV-H/L Ø250

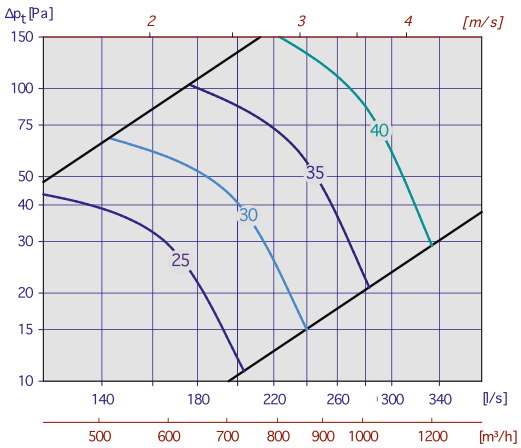

Diagram 6, Tellus-LØV-H/L Ø315

CALCULATION DIAGRAMS for Tellus-LØV-H-D, with pass-through function

The diagrams show the total sound power level emitted by two units in a series where the first is a Tellus-LØV-H-D as shown in fig. 3, page 2. To ensure equal air flow rates, the damper in the end unit has been choked.

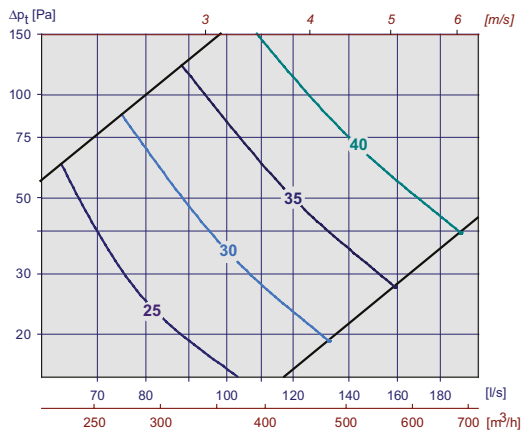

Diagram 7, Tellus-LØV-H-D-200 and Tellus-LØV-H-200

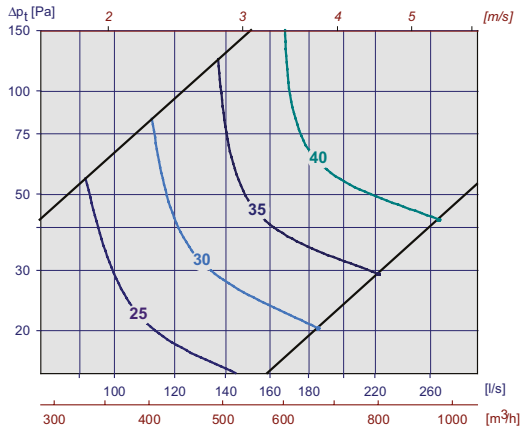

Diagram 8, Tellus-LØV-H-D-250 and Tellus-LØV-H-250

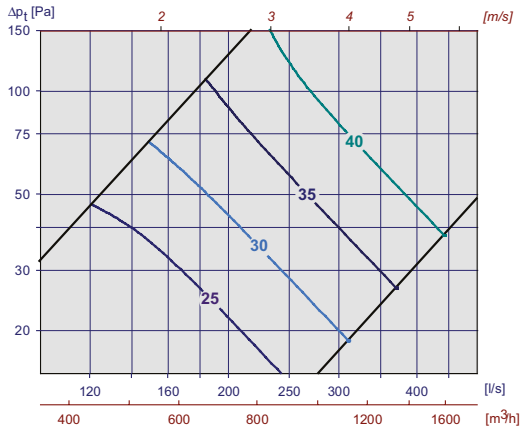

Diagram 9, Tellus-LØV-H-D-315 and Tellus-LØV-H-315

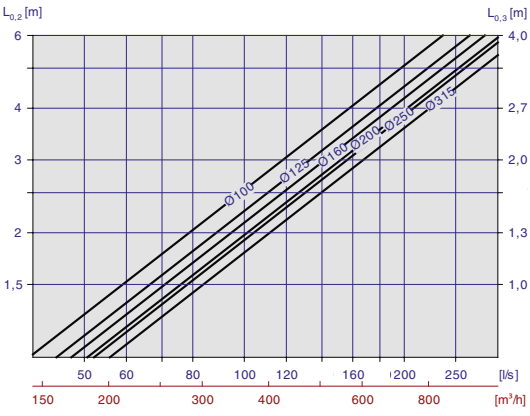

Diagram 10, throw lengths Tellus-LØV-H

Tellus–LØV	Attenuation [dB]							
Dim.	63	125	250	500	1k	2k	4k	8k
100	24	15	9	11	13	12	10	13
125	21	12	7	13	14	12	13	13
160	20	10	8	13	13	13	11	16
200	17	6	8	12	11	9	5	5
250	15	8	8	11	10	11	10	9
315	17	7	10	11	10	12	13	15

Table 4, Static sound attenuation incl. end reflection, Tellus-LØV

	KO [dB]															
Tellus-LØV	Damper closed								Damper open							
Dim.	63	125	250	500	1K	2K	4K	8K	63	125	250	500	1K	2K	4K	8K
100	-5	-6	2	-3	-7	-10	-10	-12	1	-3	3	-1	-7	-10	-17	-23
125	-5	-5	1	-5	-8	-8	-7	-11	-1	0	3	-3	-6	-10	-17	-23
160	-5	-4	-1	-8	-10	-7	-6	-9	0	0	2	-4	-4	-9	-17	-24
200	-5	-2	-1	-7	-9	-7	-6	-10	0	2	2	-3	-5	-10	-18	-25
250	-4	0	-4	-7	-9	-8	-6	-6	2	3	-1	-2	-5	-8	-17	-25
315	-5	-3	-8	-9	-10	-6	-5	-8	2	2	-3	-2	-5	-9	-18	-23

Table 5, Correction factor [KO], Tellus-LØV

	KO [dB]															
Tellus-LØV	Damper closed								Damper open							
Dim.	63	125	250	500	1K	2K	4K	8K	63	125	250	500	1K	2K	4K	8K
200	0	-1	-3	-5	-8	-7	-8	-9	2	3	1	-2	-5	-11	-18	-21
250	1	-3	-5	-5	-8	-8	-6	-8	1	2	-2	-2	-5	-10	-16	-19
315	-1	-7	-9	-12	-11	-7	-4	-6	3	4	-1	-1	-5	-12	-18	-20

Table 6, Correction factor [KO], Tellus-LØV-H-D

Diagram 7, LØV-R m/Luna160-160

Diagram 8, LØV-R m/Luna160-200

FLOW PATTERN Tellus-LØV

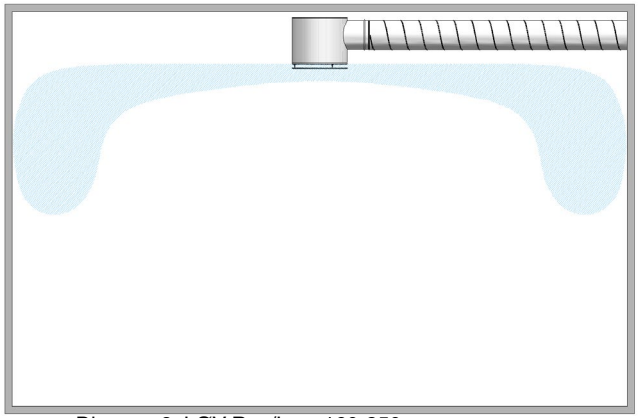

Diagram 9, LØV-R m/Luna160-250

Fig. 4 Flow pattern, rotation

FLOW PATTERN Tellus-LØV-S

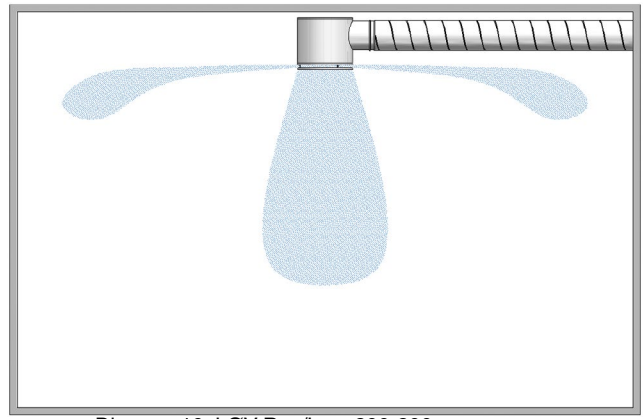

Diagram 10, LØV-R m/Luna200-200

Fig. 5 Flow pattern with centered pattern

7

THROW LENGTHS Tellus-LØV-S

Jet velocities for TLG-LØV-S have been measured at a vertical angle. For isothermal conditions, the vertical throw length can be found by using diagram 15.
In the event of overheated air (heating), diagrams 13 and 14 are used to find the jet reversal point for respectively 5° or 10° overheating relative to the indoor air temperature.

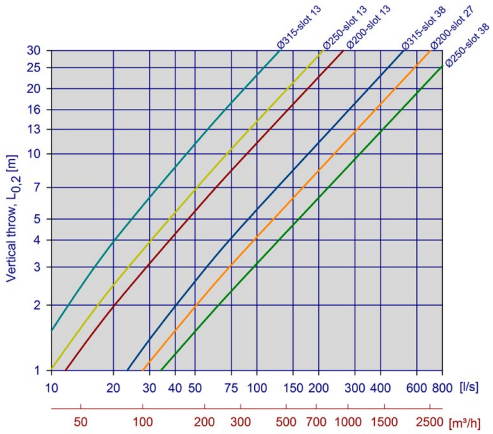

Diagram 11, throw lengths Tellus-LØV-S, -3gr.

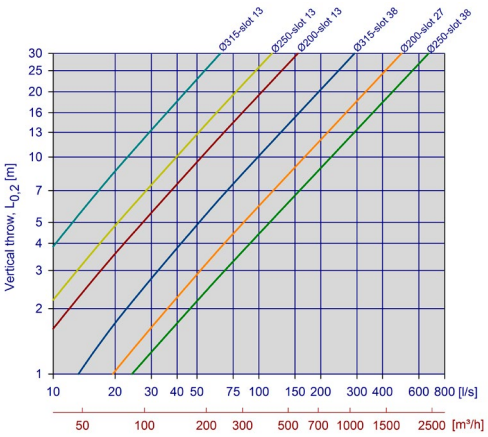

Diagram 12, throw lengths Tellus-LØV-S, -6gr.

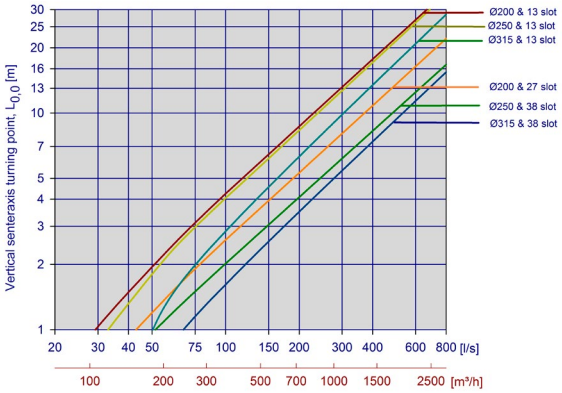

Diagram 13, throw lengths Tellus-LØV-S, +5gr.

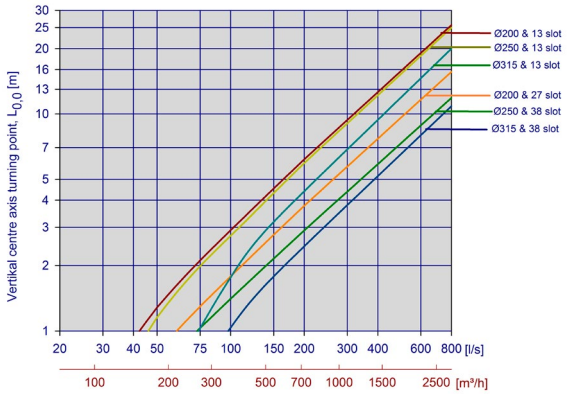

Diagram 14, throw lengths Tellus-LØV-S, +10gr.

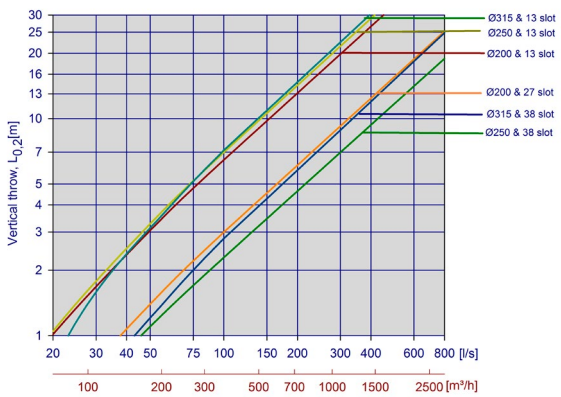

Diagram 15, throw lengths Tellus-LØV-S, isothermal

Tellus-LØV

INSTALLATION

The diffuser is mounted by attaching the threaded rod to the screw socket in the upper part of the box. This is an M8-threaded mounting point. Use of M6-treaded rod requires nut and washer inside the box.

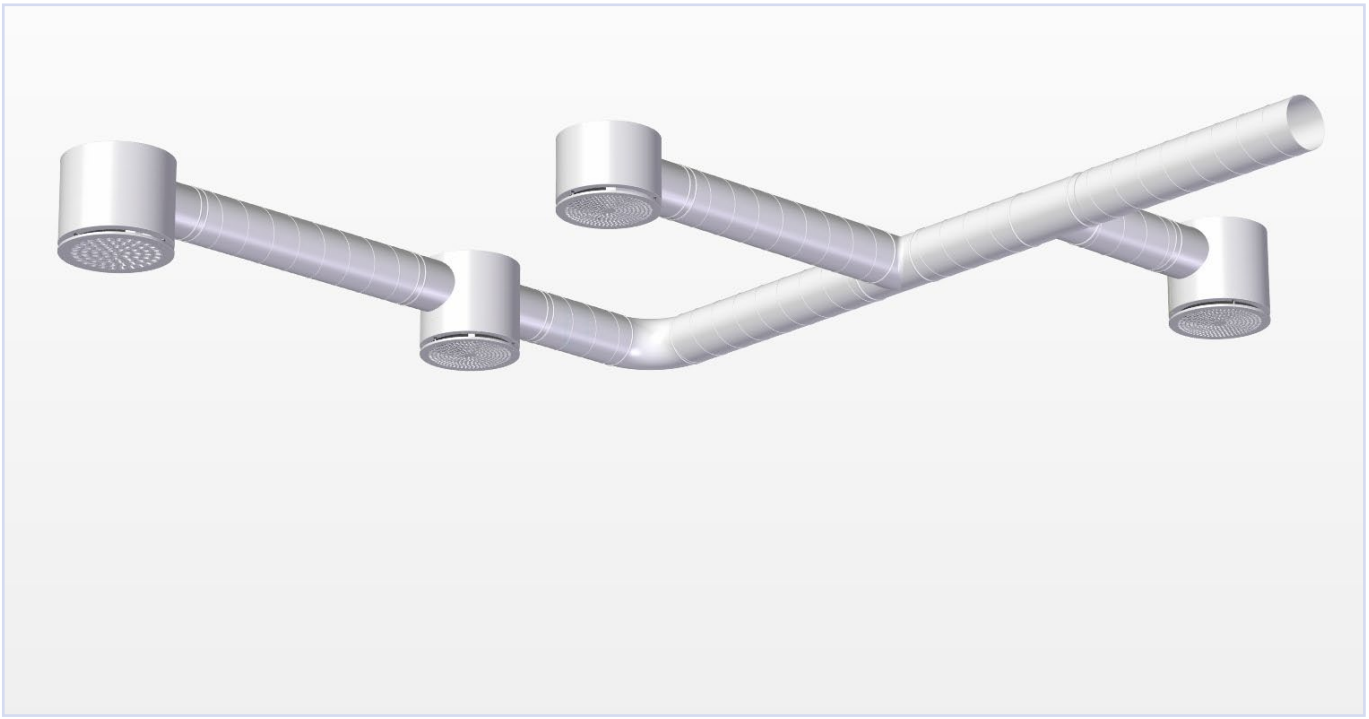

Fig. 6: Installation

COMMISSIONING

During commissioning, the diffuser front must be in place. Measuring tube and adjustment wire are pulled through the slot. The damper is secured by using a clamping nut on the wire, tighten the clamping nut properly so the damper not change position. Correction factors for calculation of air flow rates can be found on the label inside the diffuser, or in our adjustment guide at our website: www.trox.no

MAINTENANCE

The diffuser is to be cleaned with a damp cloth. When cleaning the duct network, the diffuser front and damper are to be removed in order to gain access to the duct.

ENVIRONMENT

Enquiries regarding product declaration can be directed to our sales team, or information can be found at www.trox.no

Tellus LØV is developed and manufactured by:

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

Head Office:
TROX Auranor AS, Auranorvegen 6,2770 Jaren
Telephone: +47 61 31 35 00 **www.trox.no**