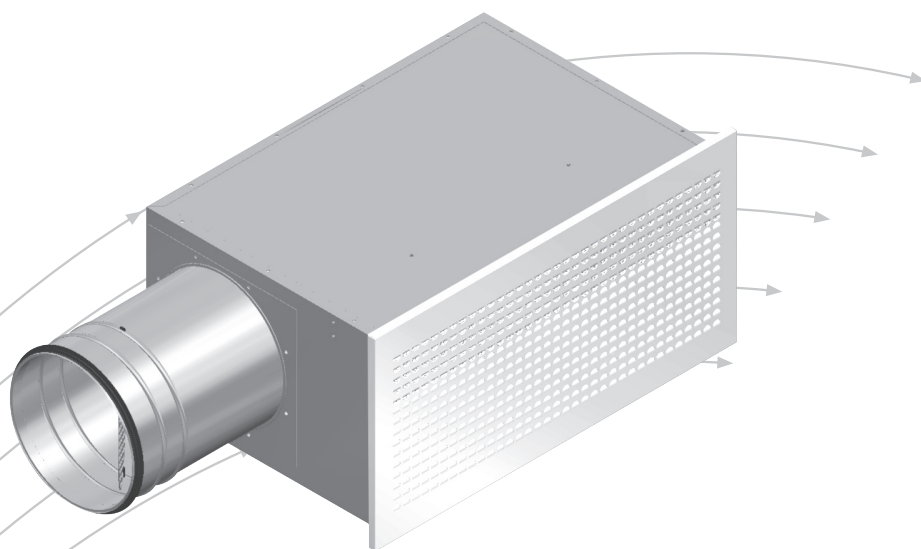


TLK

Wall diffuser



- Different front panel options
- Box with damper and measuring outlet
- Removable front panel
- Adjustable mounting frame
- Box lined with sound absorber in polyester

TROX[®] TECHNİK

 **Auranor**

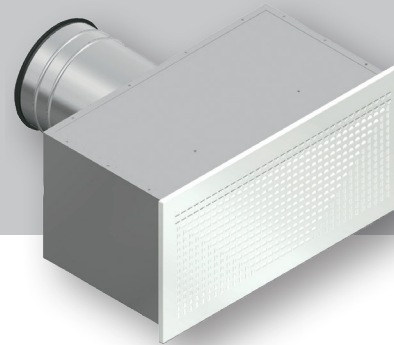
TROX Auranor Norge AS

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Auranorvegen 6
NO-2770 Jaren

e-mail: firmapost@auranor.no
www.trox.no

TLK-B



APPLICATION

TLK is a rectangular supply diffuser for wall mounting, and is ideal for office premises requiring rear-spigot air connection. With a choice of front panels, most room types can be supplied with a flow pattern adapted to size, width, interior, lighting etc.

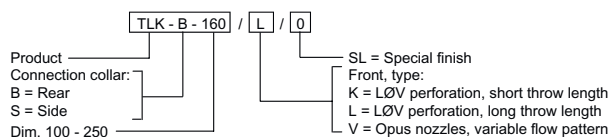
DESIGN

The TLK comes with a choice of three removable front panels - two with LØV perforation for short and long throw length (K and L), and one with Opus nozzles for variable flow pattern (V). With an adjustable mounting frame between the box and the front, the system can be adapted to the thickness of the wall. The box is equipped with removable damper, measuring outlet and a sound absorber in polyester. Available with rear spigot.

MATERIALS AND SURFACE COATING

The K and L type front panels are made of steel with a RAL 9003 - gloss 30 finish. Other colours are available on request. The V type diffuser front features Opus nozzles in ABS plastic, is made of steel and comes in a RAL 9003 - gloss 30 finish. Other colours are also available, but without the adjustable nozzle option. The box is supplied in a galvanised finish, and is internally lined with sound absorber in polyester. EPDM rubber gasket on connection collar.

ORDER CODE, TLK box and front



Example:
TLK-B-160 / L / 0
Explanation:
TLK box with rear connection dim. Ø160. Front with LØV perforation, long throw length.

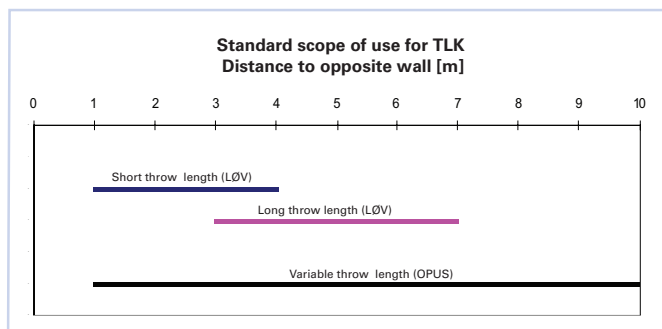


Fig. 1: Scope of use TLK

QUICK SELECTION TLK-B-K/L

TLK-B-K/L Dim.	m³/h (30Pa)		
	25 dB(A)	30 dB(A)	35 dB(A)
100	58	130	-
125	79	169	-
160	173	277	-
200	220	295	410
250	270	482	691

QUICK SELECTION TLK-B-V

TLK-B-V Dim.	m³/h (30Pa)		
	25 dB(A)	30 dB(A)	35 dB(A)
100	61	97	-
125	108	151	187
160	184	292	378
200	252	328	432
250	284	403	569

Table 1, show air flow rates at 30 Pa total pressure loss.
Sound level is L_{WA} .

QUICK SELECTION TLK-S-K/L

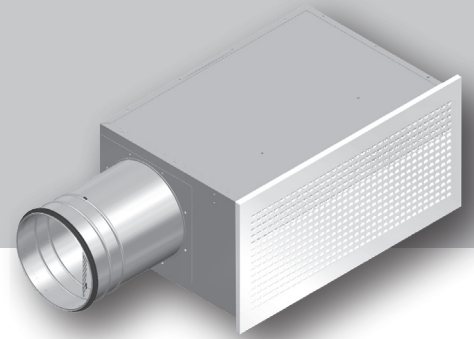
TLK-S-K/L Dim.	m³/h (30Pa)		
	25 dB(A)	30 dB(A)	35 dB(A)
100	54	126	-
125	115	184	-
160	223	281	-
200	277	353	-
250	504	648	756

QUICK SELECTION TLK-S-V

TLK-S-V Dim.	m³/h (30Pa)		
	25 dB(A)	30 dB(A)	35 dB(A)
100	61	101	137
125	108	148	187
160	220	302	385
200	252	317	389
250	374	486	605

Table 2, show air flow rates at 30 Pa total pressure loss.
Sound level is L_{WA} .

TLK-S



DIMENSIONS AND WEIGHT, TLK

TLK Dim.	D	BF	HF	BK	HK	DB	DS	A	Weight [kg]	
									Box	Front
100	99	460	180	418	148	300	275	20	5,0	1,0
125	124	510	205	470	173	300	300	20	5,9	1,3
160	159	560	255	520	223	300	335	22	7,1	1,7
200	199	580	295	540	263	300	375	22	8,7	2,1
250	249	840	367	800	337	300	425	28	10	3,7

Table 3

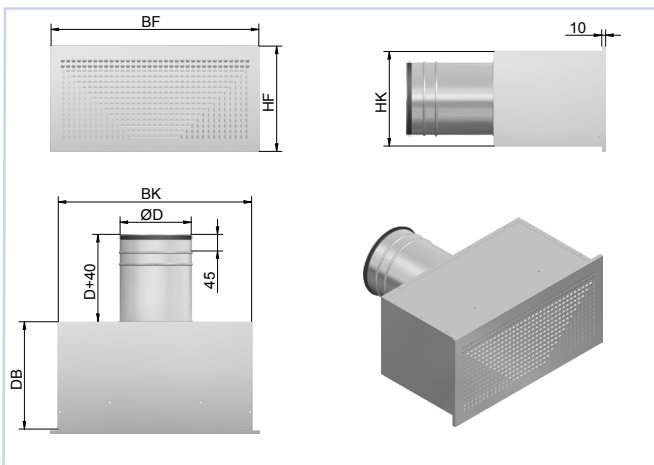


Fig. 2, TLK-B

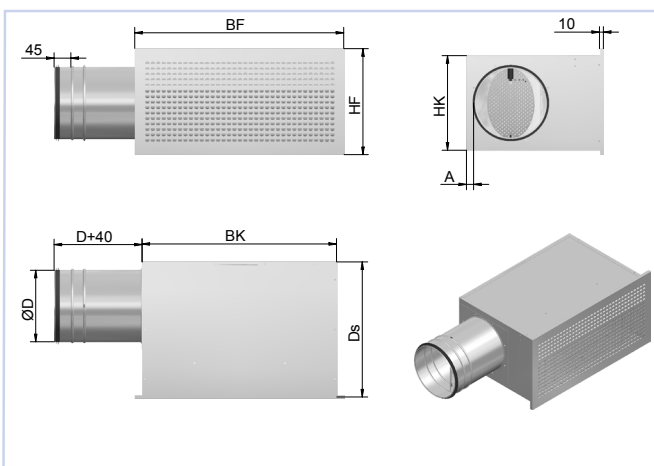


Fig. 3, TLK-S

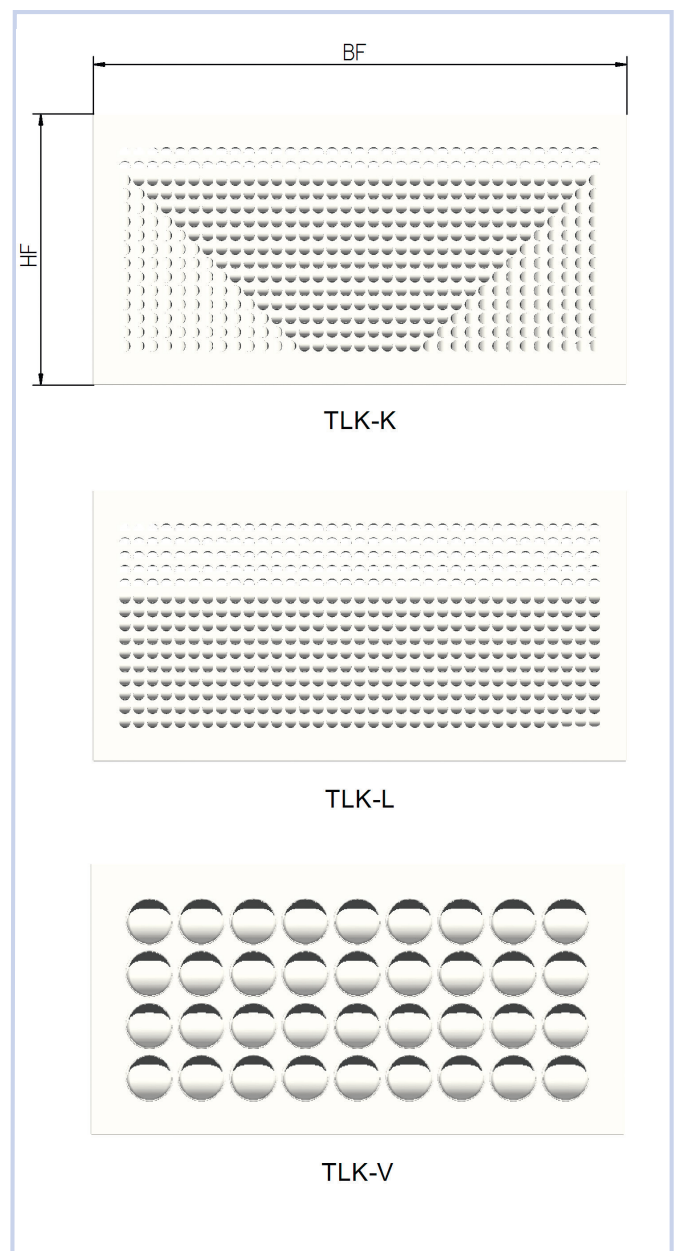


Fig. 4, Front panels

TLK

ACOUSTIC DATA

The diagrams provide a summary of the A-weighted sound power level from diffuser, L_{WA} . Correction factors in table 5, page 8, 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 10 m² Sabine will be 4 dB below the sound power level emitted.

Example:

An office requires an air flow rate of 70 l/s, and for this purpose a TLK-S-160-K is used (LØV perforation and side spigot). Room attenuation is 4 dB, and the diffuser damper is to be choked 20 Pa. According to diagram 3, $L_{WA} = 26$ dB(A) with open damper and 24 Pa total pressure loss.

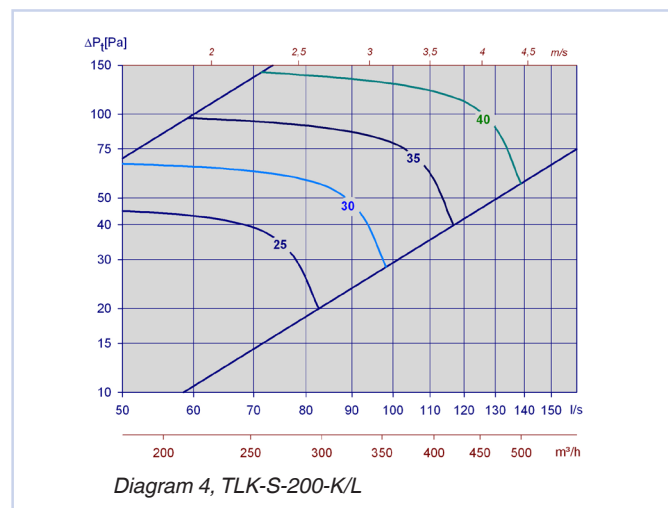
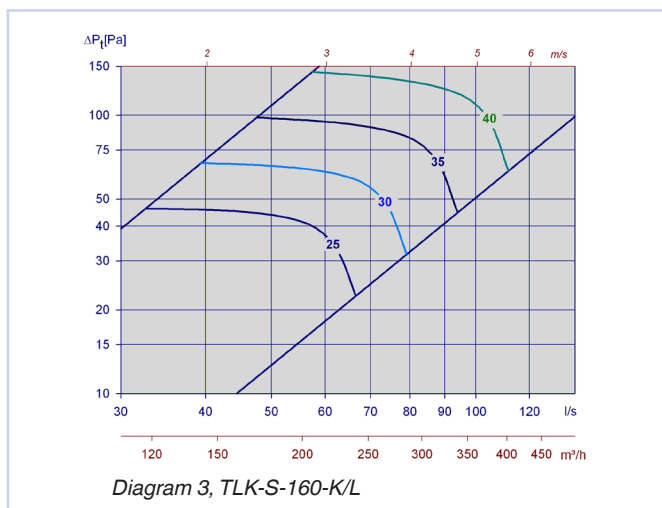
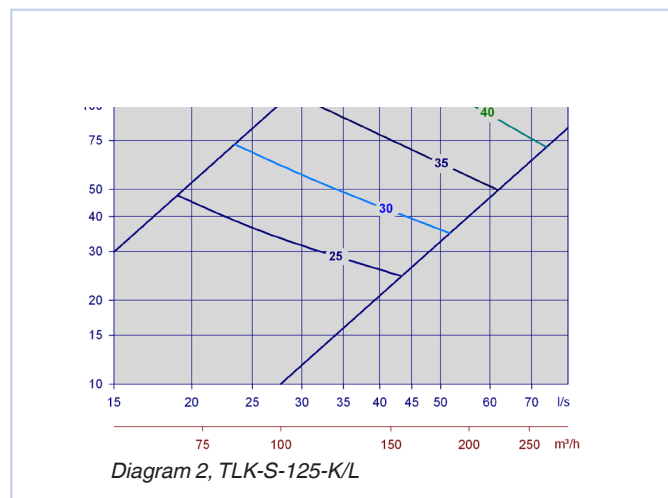
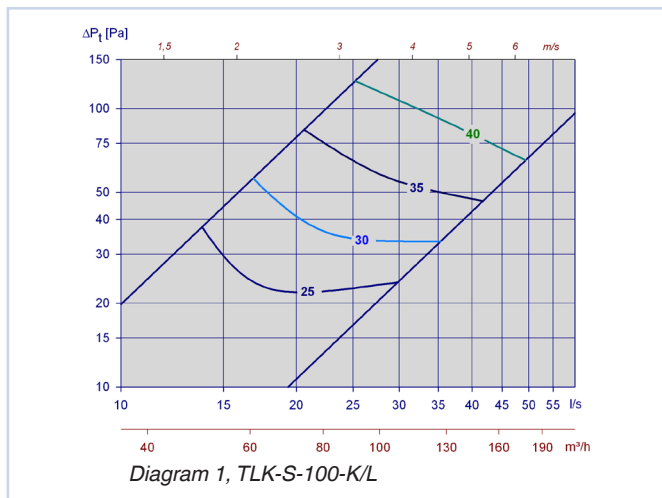
We aim to find:

- Emitted sound power level from diffuser at 250 Hz, damper open.
- A-weighted sound pressure level with damper open.
- A-weighted sound pressure level with damper choked.
- Emitted sound power level from diffuser at 250 Hz, damper choked.

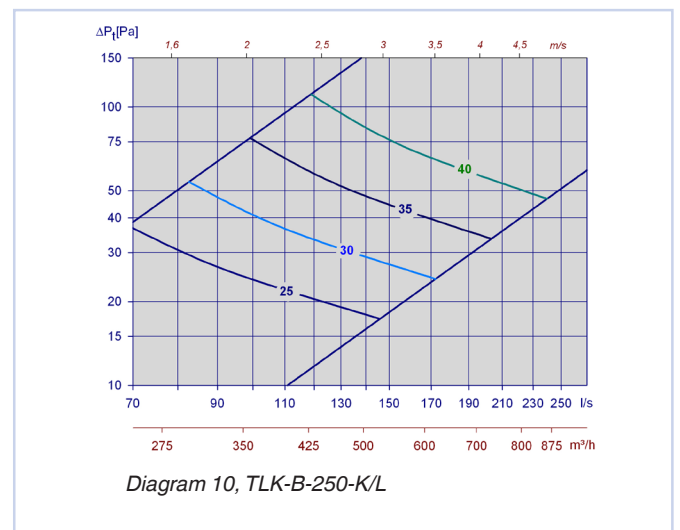
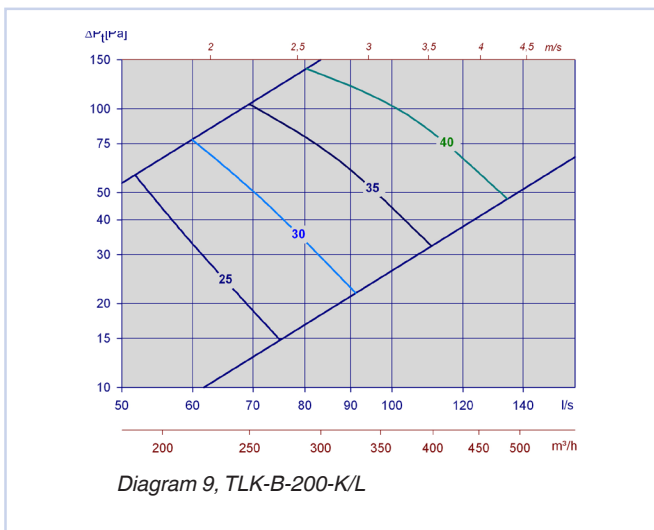
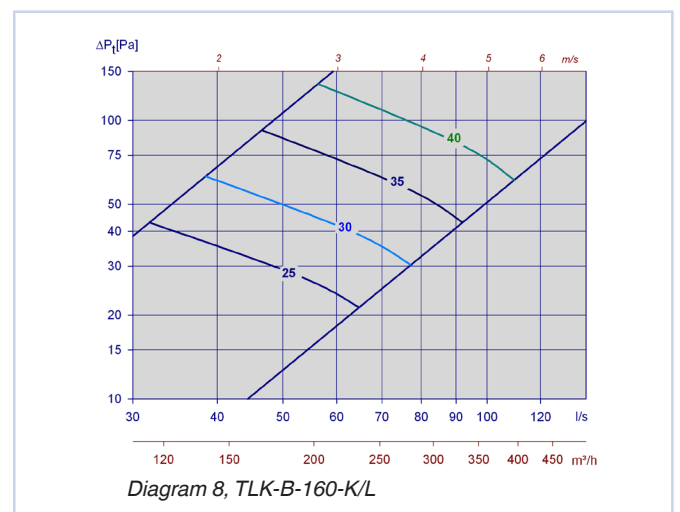
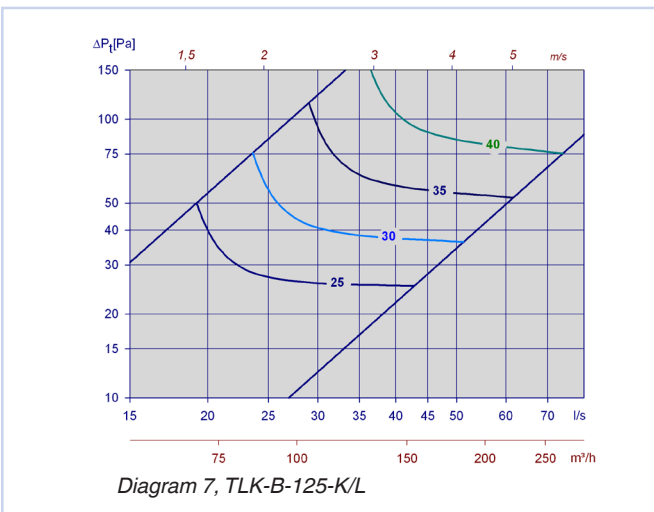
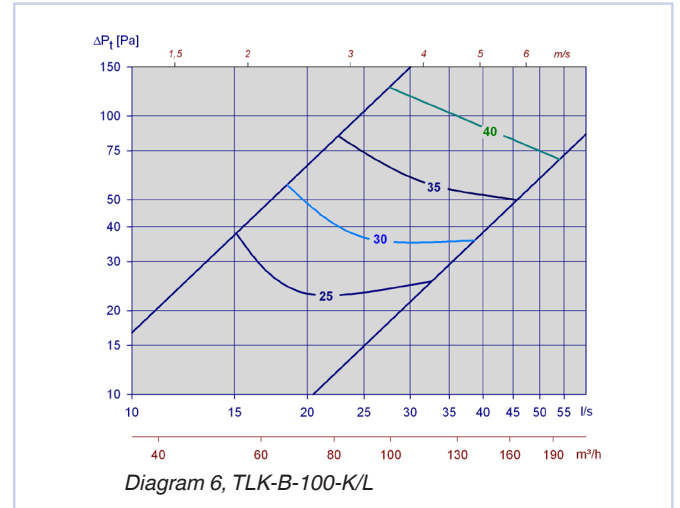
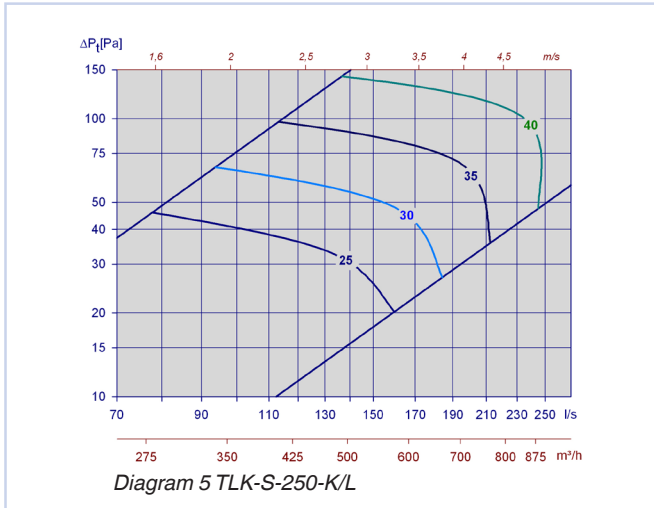
Solution:

- According to table 5, the correction factor for 250 Hz at open damper is between 0 and -7 dB depending on the damper position. We use (-1dB) for damper open.
 L_W 250 Hz is: $L_{WA} + KO = 26 + (-1) = 25$ dB.
- The absorption of 4 dB sound pressure level in the room: $26 - 4 = 22$ dB (A)
- With 20 Pa choking we are up to 44 Pa and the diagram shows 28 dB. The sound pressure level in this operating point is then $28 - 4 = 24$ dB(A).
- This operating point indicates that we use KO-factor -3dB.
 L_W 250 Hz then becomes: $L_{WA} + KO = 28 + (-3) = 25$ dB.

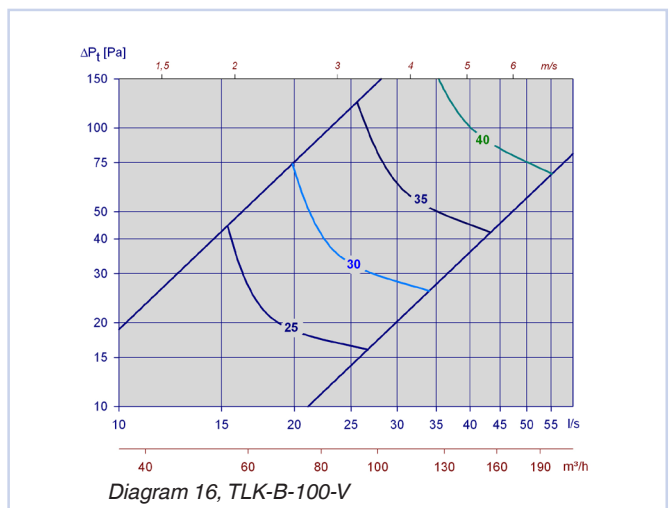
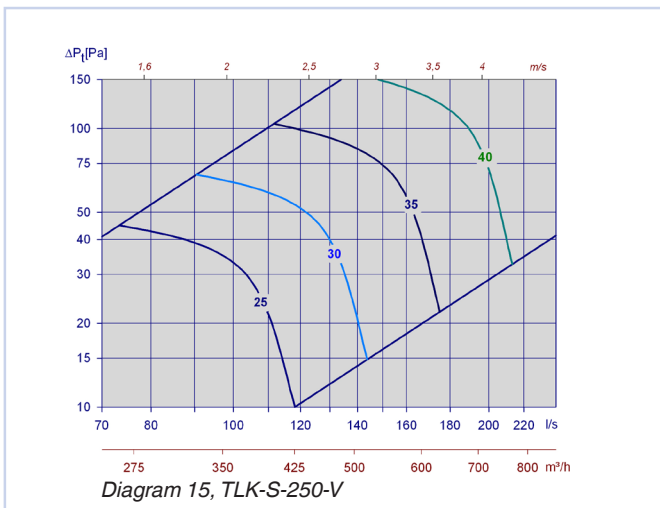
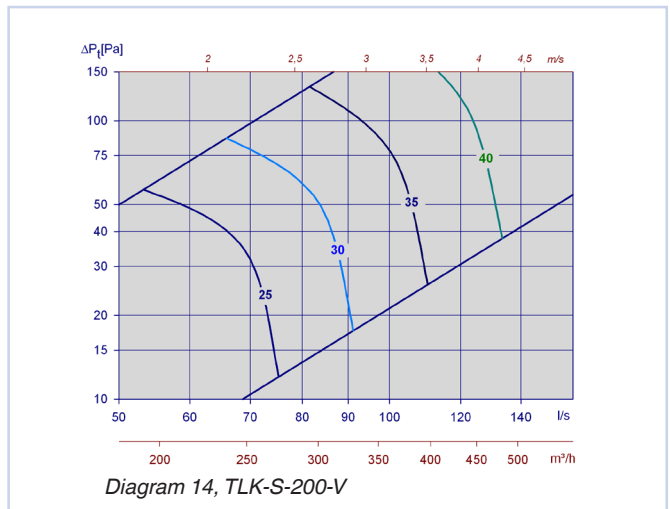
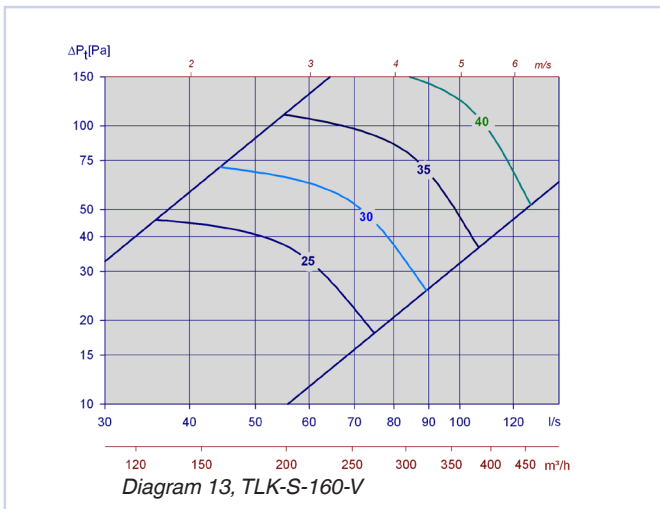
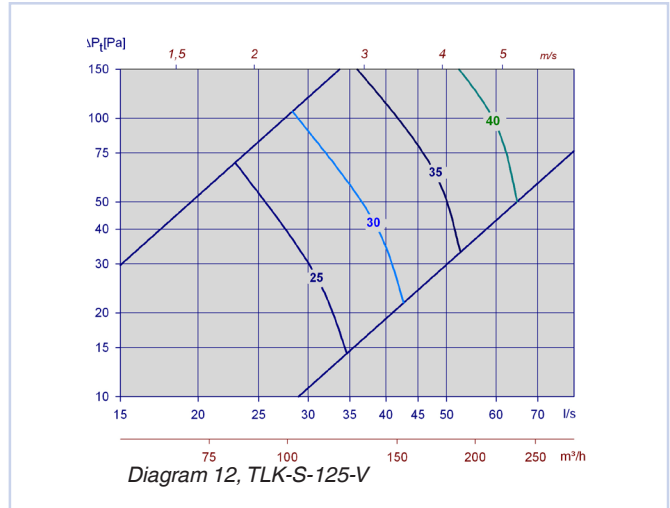
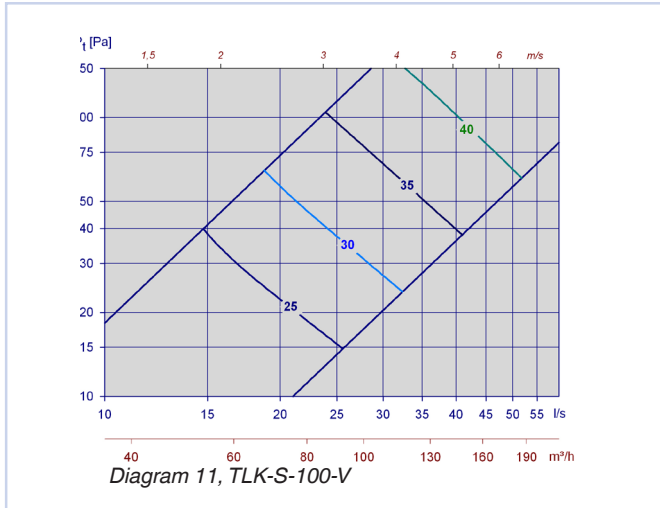
CALCULATION DIAGRAMS



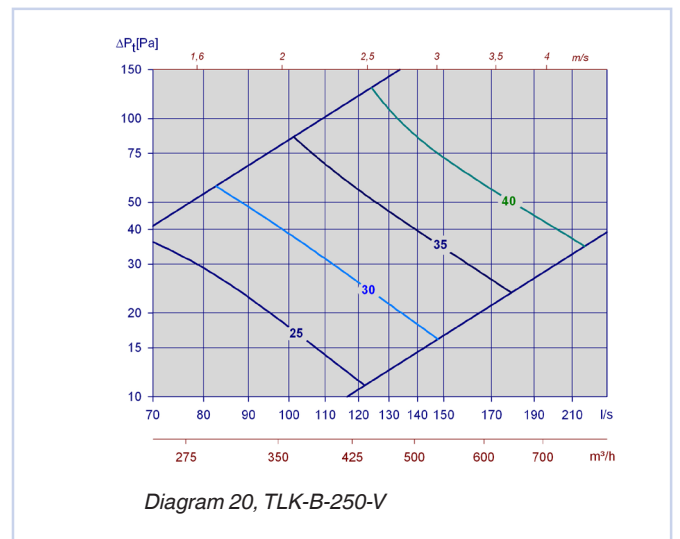
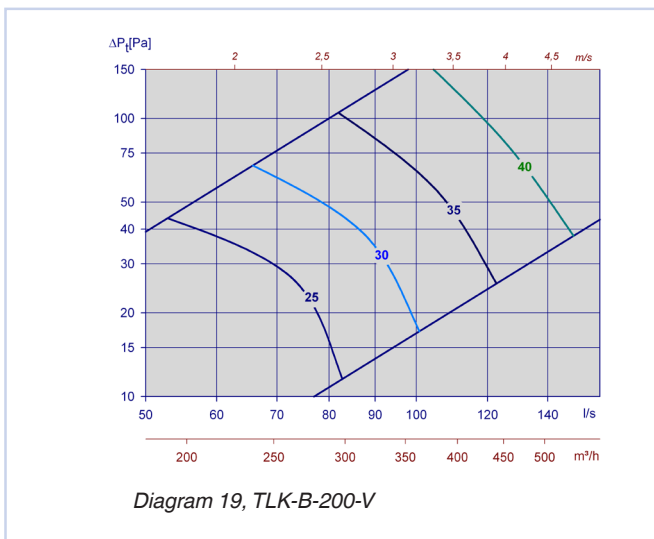
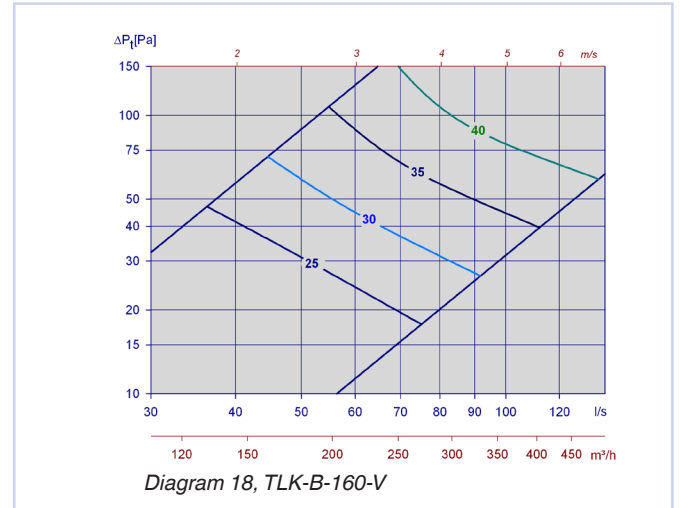
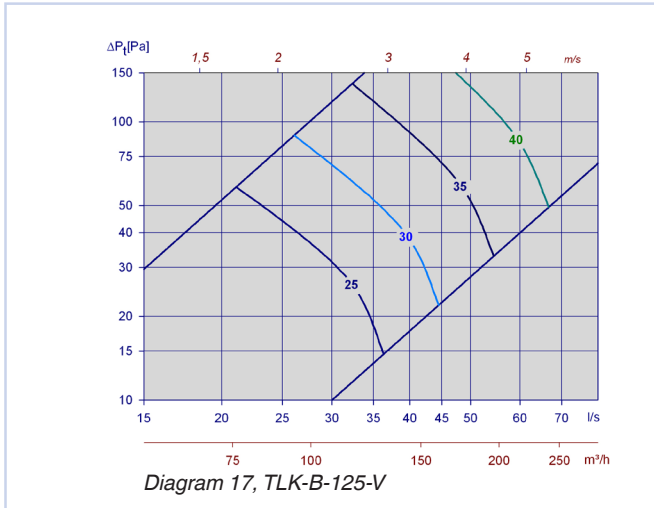
TLK



TLK



TLK



TLK

Static sound attenuation incl. end reflection, TLK

TLK			Attenuation [dB]							
Dim.	Front	Connection	63	125	250	500	1k	2k	4k	8k
100	K/L	S	28	15	12	10	10	10	9	12
125	K/L	S	20	10	9	8	7	6	6	9
160	K/L	S	22	12	11	10	10	9	8	12
200	K/L	S	21	9	11	8	7	6	5	7
250	K/L	S	14	9	7	9	10	8	9	9
100	K/L	B	25	12	10	8	9	7	5	5
125	K/L	B	28	15	12	10	10	10	9	12
160	K/L	B	20	10	9	8	7	6	6	9
200	K/L	B	22	12	11	10	10	9	8	12
250	K/L	B	15	8	5	7	8	4	3	4
100	V	S	27	18	17	13	17	16	15	16
125	V	S	24	13	14	11	15	14	13	13
160	V	S	21	12	13	9	11	9	10	7
200	V	S	20	11	14	9	13	11	8	12
250	V	S	16	10	9	9	12	12	13	8
100	V	B	23	11	10	8	10	11	10	8
125	V	B	22	10	9	9	11	11	9	7
160	V	B	24	13	14	11	15	14	13	13
200	V	B	21	12	13	9	11	9	10	7
250	V	B	15	9	8	8	11	10	9	3

Table 4

Correction factor [KO], TLK with Løv K/L front pattern and new type Opus-nozzels

TLK		KO [dB]															
TLK	Dim.	Open damper								Closed damper							
		63	125	250	500	1k	2k	4k	8k	63	125	250	500	1k	2k	4k	8k
K/L bak	100	3	-1	1	-5	-8	-8	-11	-10	3	-1	0	-6	-9	-12	-6	-7
	125	5	-2	1	-3	-5	-13	-14	-9	3	-6	-4	-8	-11	-12	-5	-4
	160	2	-2	0	-3	-5	-12	-13	-10	-1	-7	-6	-10	-14	-12	-4	-5
	200	4	-2	0	-3	-5	-13	-13	-9	3	-7	-6	-10	-14	-11	-4	-5
	250	1	-2	0	-3	-4	-12	-15	-12	-3	-8	-8	-14	-15	-10	-4	-5
K/L side	100	3	-1	1	-5	-8	-8	-11	-10	3	-1	0	-6	-9	-12	-6	-7
	125	3	-1	1	-5	-6	-8	-13	-10	2	-5	-5	-10	-14	-14	-5	-3
	160	1	-3	-1	-4	-5	-11	-13	-10	-4	-9	-7	-10	-14	-11	-4	-5
	200	1	-3	-1	-4	-5	-11	-13	-10	-4	-9	-7	-10	-14	-11	-4	-5
	250	4	0	-3	-4	-3	-14	-15	-11	0	-4	-8	-12	-14	-11	-5	-3
Opus-B	100	7	3	2	-3	-7	-13	-13	-9	6	0	0	-3	-8	-11	-8	-7
	125	4	2	2	-3	-6	-14	-14	-10	0	-3	-3	-6	-11	-13	-5	-5
	160	7	1	1	-4	-6	-11	-12	-9	3	-5	-5	-9	-14	-12	-4	-5
	200	7	3	1	-3	-6	-15	-15	-11	6	0	-4	-9	-13	-11	-4	-6
	250	6	3	2	-3	-6	-16	-14	-10	-1	-6	-6	-12	-14	-10	-4	-5
Opus-S	100	6	1	2	-4	-6	-12	-13	-10	5	-3	-1	-4	-7	-10	-8	-8
	125	5	1	2	-3	-6	-14	-13	-9	1	-1	-2	-6	-11	-12	-5	-5
	160	4	0	0	-3	-5	-11	-14	-12	5	-1	-6	-9	-14	-11	-5	-5
	200	7	4	0	-2	-6	-15	-14	-10	4	1	-4	-7	-12	-11	-5	-5
	250	7	5	0	-2	-6	-16	-14	-10	2	-1	-5	-10	-13	-11	-4	-5

Table 5

THROW LENGTHS

Throw lengths can be dimensioned in our simulation program, Aurasim.
aurasim.no

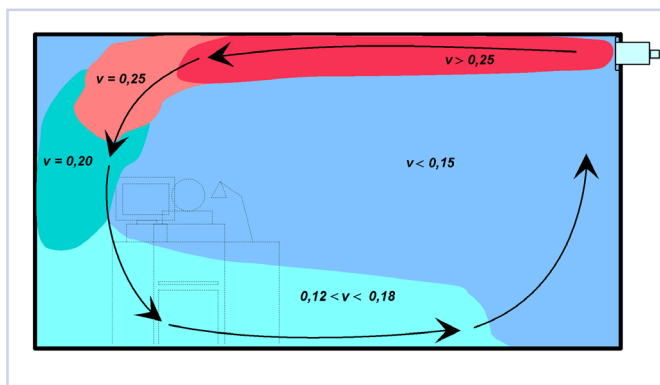


Fig. 5: Example of velocity distribution

FLOW PATTERN

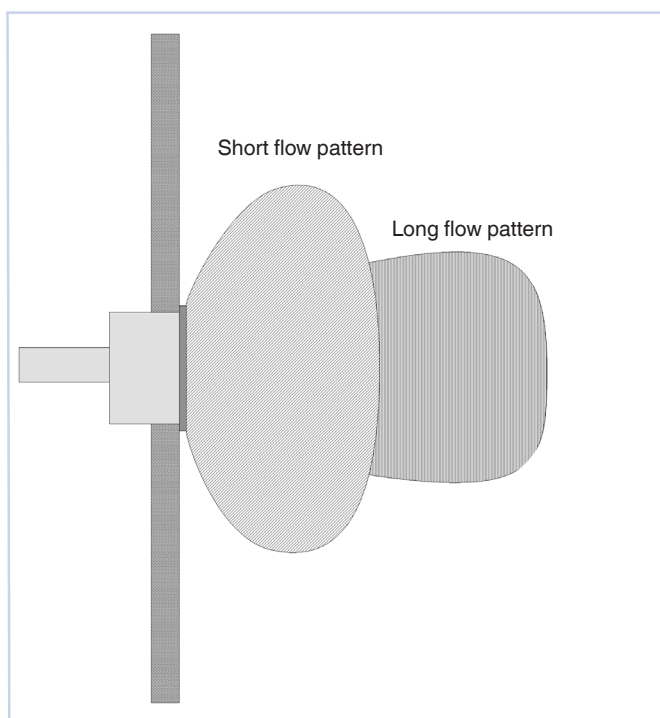


Fig.6: Example of flow pattern - front panel with LØV perforation

INSTALLATION

The box is to be fitted in the groove and screwed to the studding. Then the adjustable mounting frame is to be slid into place and screwed to the box. Finally, the front panel is to be eased into position.

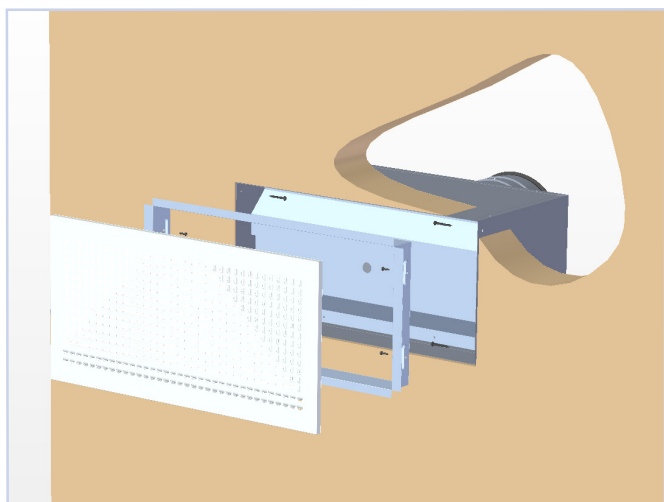


Fig. 7. Installation TLK-B

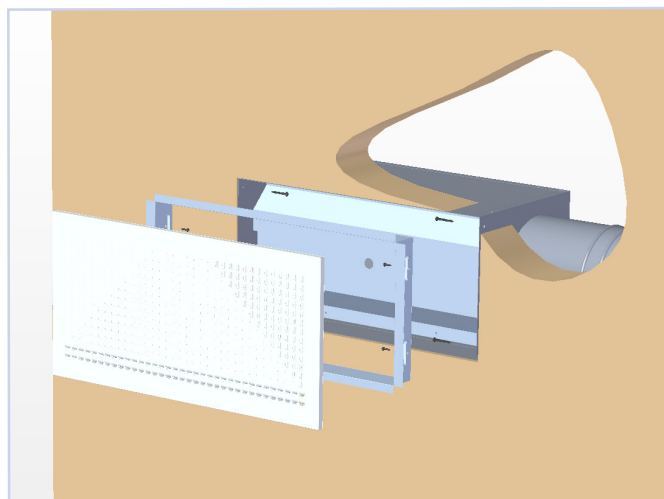


Fig. 8. Installation TLK-S

COMMISSIONING

For adjustment, the valve-front must be attached. Pull the measuring tube and regulating wire out through the recess at the front, see Fig. 9. The damper is secured by using a clamping nut on the wire, tighten the clamping nut properly so that the damper not change position. The K-factors for calculating air flow rate can be found on the label in the chamber, or in the adjustment guide on our website: www.trox.no.

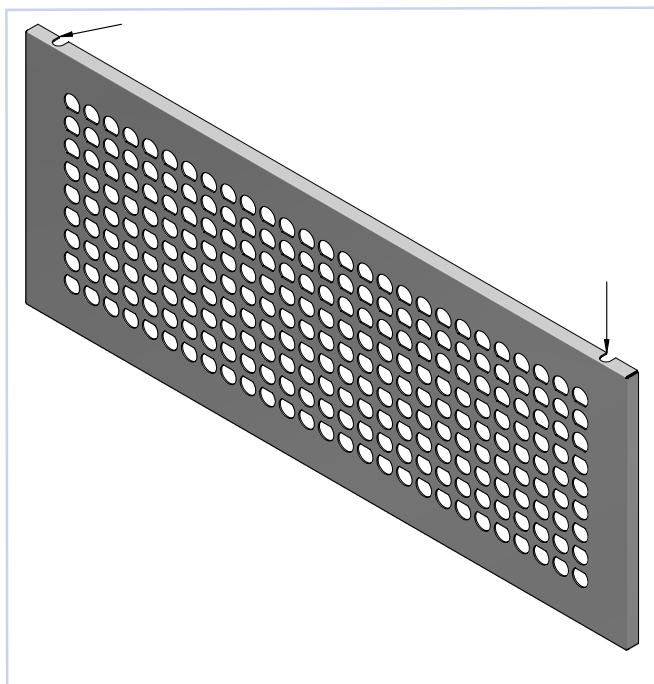


Fig. 9

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 free access to the duct.

ENVIRONMENT

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

TLK is developed and manufactured by:

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