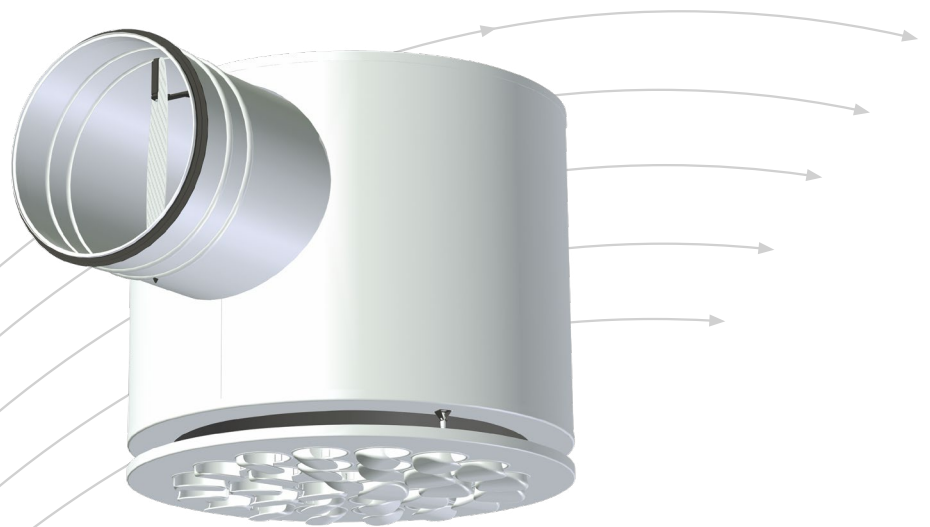# Tellus-Opus

Circular diffuser for open installation

- Front with adjustable Opus nozzles
- Excellent induction
- Adjustable slot height
- Box lined with sound absorber in polyester

TROX

Tellus-Opus

✕ APPLICATION

Tellus-Opus is a circular supply diffuser with adjustable nozzles for open installation. The diffuser is also available with pass-through function. With its adjustable Opus-nozzle solution, the flow pattern can be regulated and set as required.

✦ DESIGN

Tellus-Opus features a removable front panel with Opus nozzles 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 a measuring outlet and removable airflow adjustment damper. Also available as a pass-trough unit as shown in fig.2.

▨ MATERIALS AND SURFACE COATING

The diffuser is made of steel and comes in a RAL 9003 - gloss 30 finish. Black RAL 9005 and aluminium RAL 9006 are available on request. Other colours can be supplied, but without the nozzle-adjustment option. Opus-nozzles are in ABS plastic. The box is internally lined with a sound absorber in polyester, and the connection collar is fitted with an EPDM rubber gasket. For unpainted versions, the box is supplied in galvanised steel while the front plate is painted in RAL 9006.

⯈ QUICK SELECTION Tellus-Opus

Tellus Opus	m³/h		
ØD	25 dB(A)	30 dB(A)	35 dB(A)
100	76	108	151
125	112	155	216
160	166	223	295
200	245	342	454
250	356	472	616
315	533	713	936

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

⯈ QUICK SELECTION Tellus-Opus-D

Quick selection at maximum column height for Tellus Opus-D together with a Tellus Opus, as one unit.

HD	Tellus Opus HD + Tellus Opus as one unit		
ØD	25 dB(A)	30 dB(A)	35 dB(A)
200	234	349	529
250	378	540	799
315	572	756	990

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

⚖ DIMENSION AND WEIGHT, Tellus-Opus

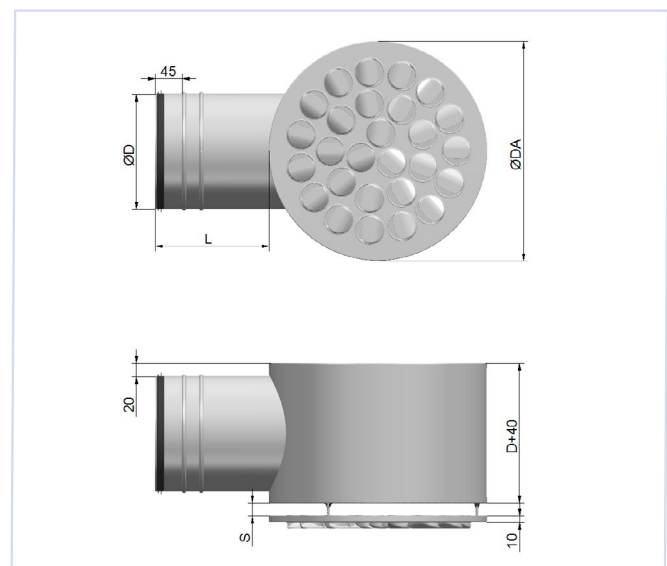| Dim	D	DA	H	L	S	Weight
100	99	243	172	131	11/15/22	2,5
125	124	243	210	152	11/15/22	2,6
160	159	282	262	170	13/20/27	3,3
200	199	380	322	196	13/20/27	4
250	249	416	397	238	12/26/36	5,5
315	314	525	494	282	12/26/36	7

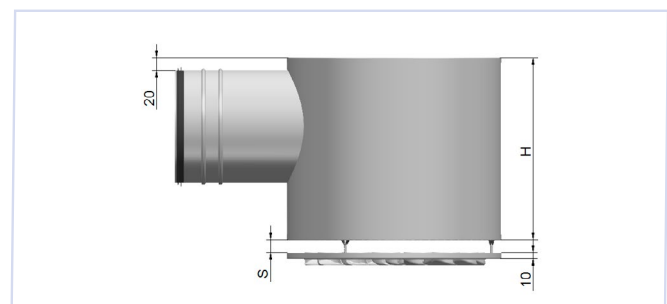Table 3

Fig. 1, Tellus-Opus-L

Fig. 2, Tellus-Opus-H
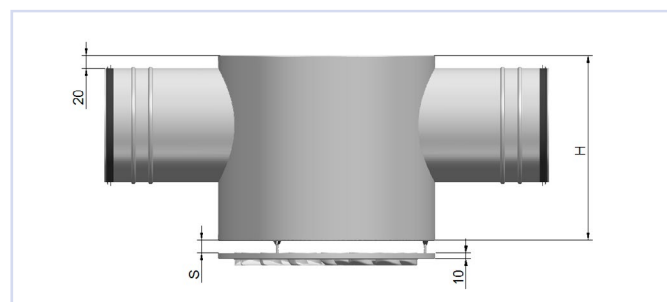
Fig. 3, Tellus-Opus-H-D

Tellus-Opus

ORDER CODE, Tellus-Opus

Order code
Tellus-Opus- H- 200- 0
1   2   3   4

1 Type
Tellus-Opus

2 Design
H High profil design*
L Low 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-Opus- H- 200- 0:

Type	Tellus-Opus
Design	High
Dimension	ø200
Exposed surface	Standard RAL 9003

🔊 ACOUSTIC DATA

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

Example:
An office requires an air supply of 120 l/s, and for this purpose a Tellus Opus 200 low profile design, with max slot height is used. Room attenuation is 6 dB, and the damper is to be choked 23 Pa. According to diagram 12, LWA = 30 dB(A) with open damper and 17 Pa total pressure loss.

We aim to find:
a) A-weighted sound power level in the occupied zone with open damper and actual room attenuation.
b) Emitted sound power level from diffuser at 250 Hz damper open.
c) A-weighted sound power level from the diffuser with the damper choked to the desired operating point.

Solution:
a) With a room attenuation equivalent to 6 dB, the sound pressure in the room is: 30 – 6 = 24dB(A)
b) According to table 5, the correction factor for 250 Hz is +3dB, LW at 250 Hz is: LWA + KO = 30 + 3 = 33 dB(A)
c) Damper choked 23 Pa will give 40 Pa, and the diagram shows an increase on LWA up to about 33 dB(A),

📏 CALCULATION DIAGAM for Tellus-Opus-D

Diagram 1, Tellus-Opus-100-min. slot height

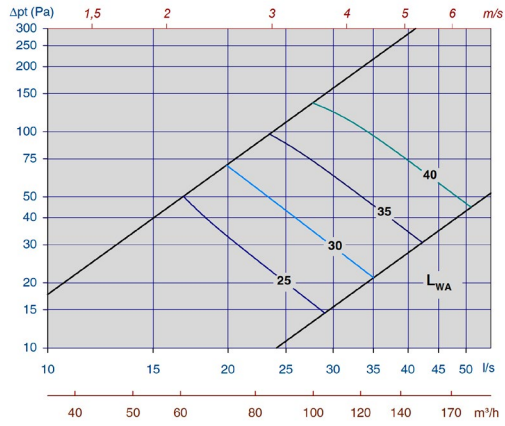Diagram 2, Tellus-Opus-100-midt.sph.
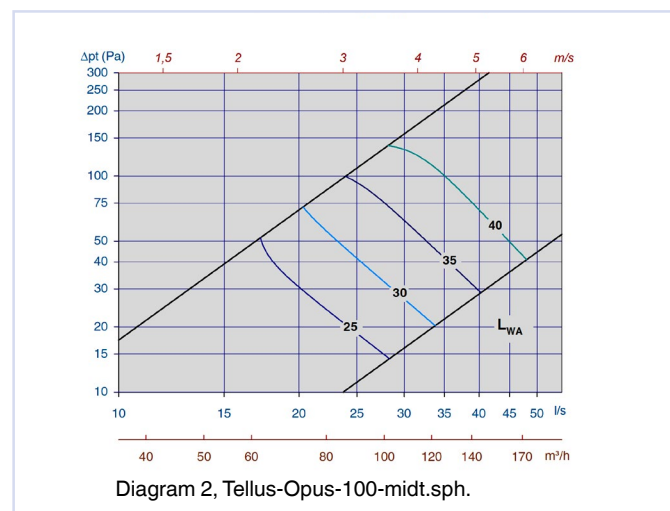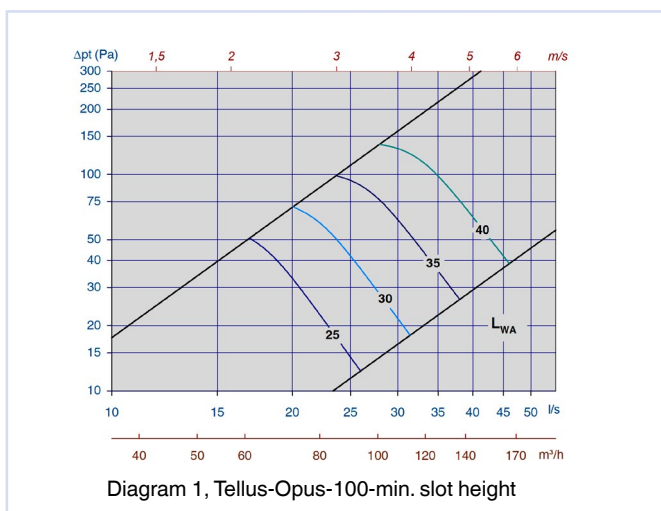
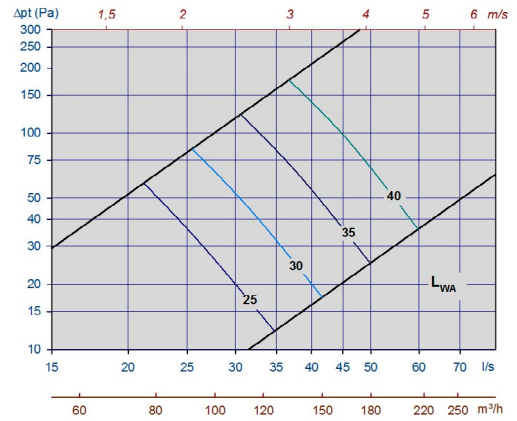Diagram 3, Tellus-Opus-100-max.sph.
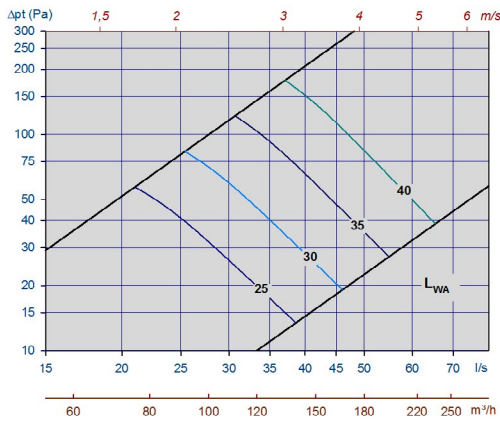

Diagram 4, Tellus-Opus-125-min. slot height

Diagram 5, Tellus-Opus-125-midt.sph.

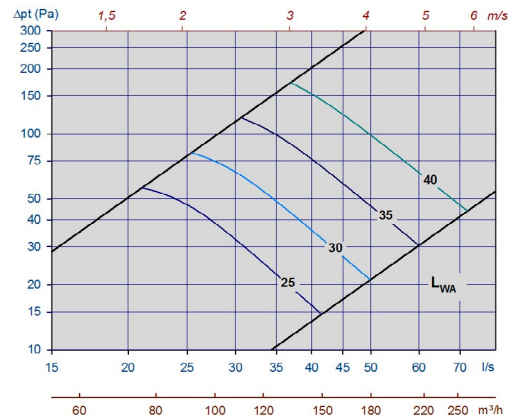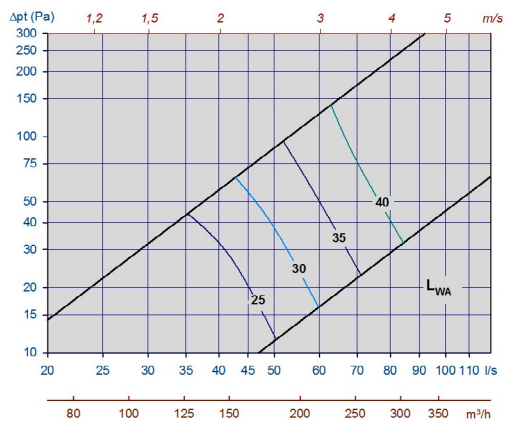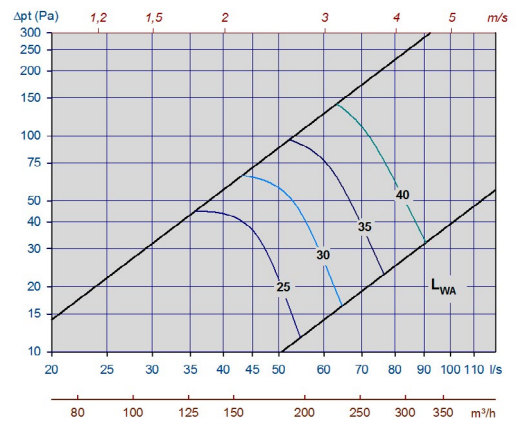Diagram 6, Tellus-Opus-125-max.sph.

Diagram 7, Tellus-Opus-160-min.sph.

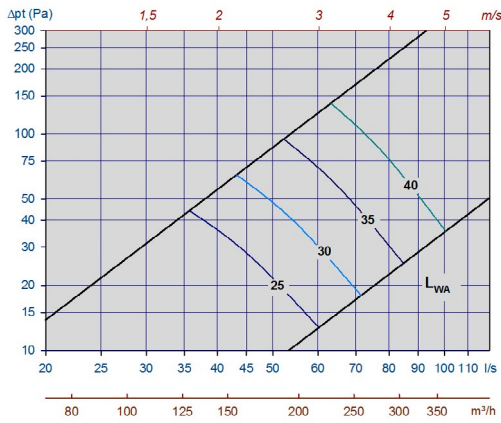Diagram 8, Tellus-Opus-160-mid. slot height

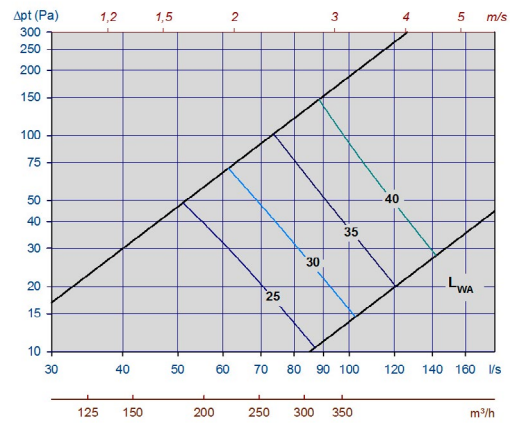Diagram 9, Tellus-Opus-160-max. slot height
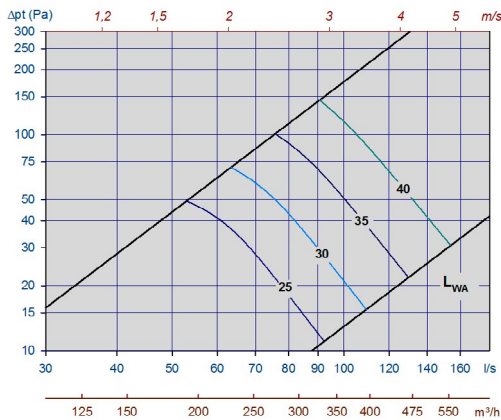

Diagram 10, Tellus-Opus-200-min. slot height
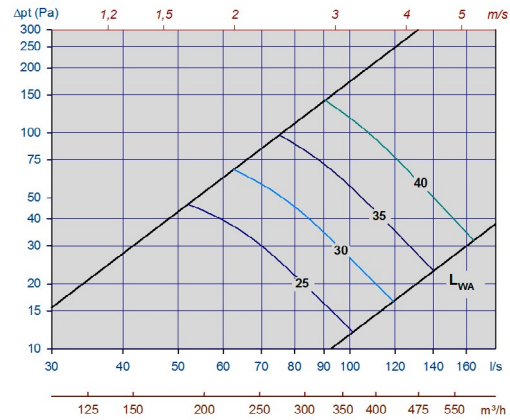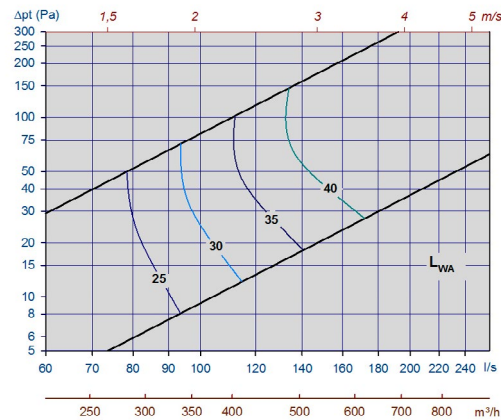

Diagram 11, Tellus-Opus-200-midt.sph.

Diagram 12, Tellus-Opus-200-max. slot height

Diagram 13, Tellus-Opus-250-min.sph.

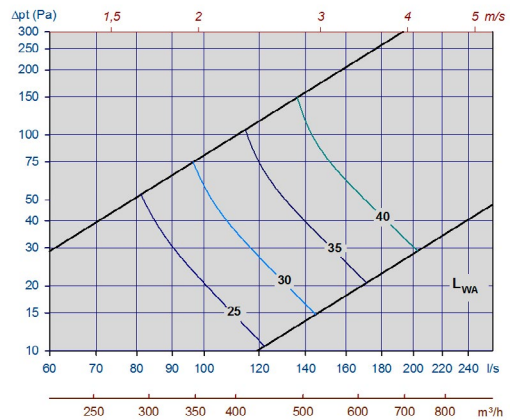Diagram 14, Tellus-Opus-250-mid. slot height.

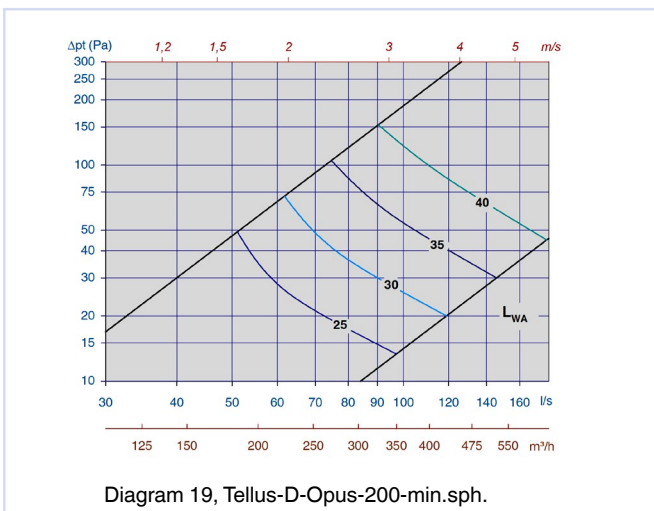Diagram 15, Tellus-Opus-250-max. slot height

Diagram 16, Tellus-Opus-315-min. slot height

Diagram 17, Tellus-Opus-315-mid. slot height

Diagram 18, Tellus-Opus-315-max.sph.

Diagram 19, Tellus-D-Opus-200-min.sph.

Diagram 20, Tellus-D-Opus-200- mid. slot height

Diagram 21, Tellus-D-Opus-200-max.sph.

Diagram 22, Tellus-D-Opus-250-min. slot height

Diagram 23, Tellus-D-Opus-250-midt.sph.

Diagram 24, Tellus-D-Opus-250-max.sph.

Diagram 25, Tellus-D-Opus-315-min. slot height

Diagram 26, Tellus-D-Opus-315-mid. slot height

Tellus-Opus

Diagram 27, Tellus-D-Opus-315-max.sph.
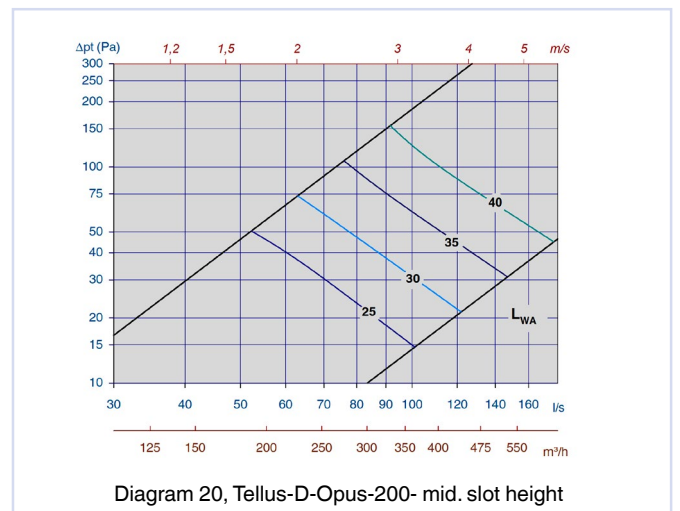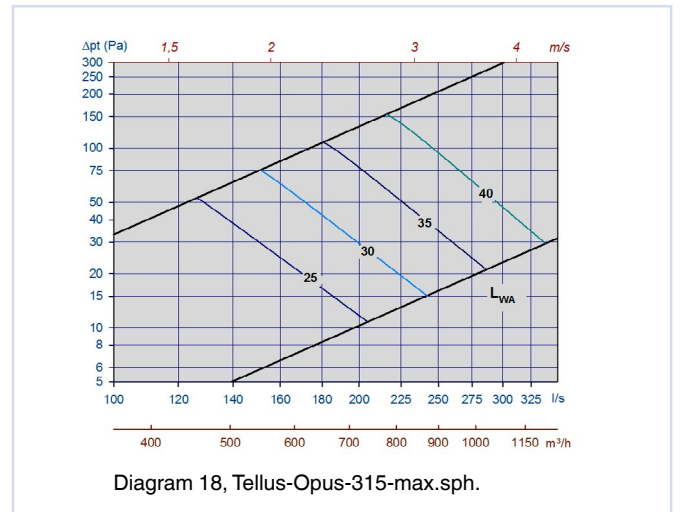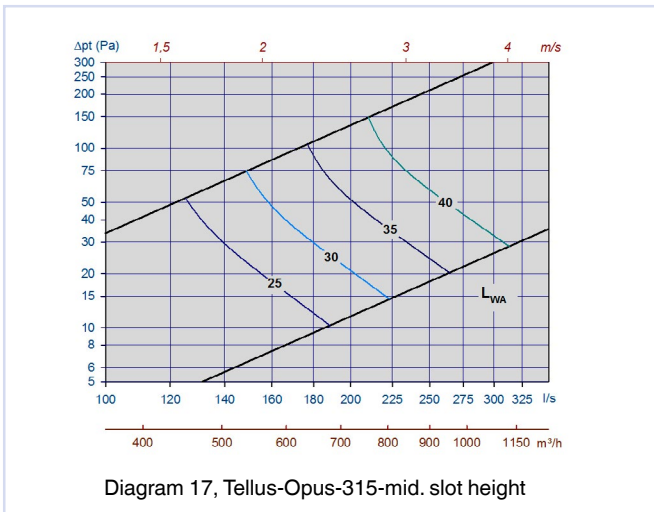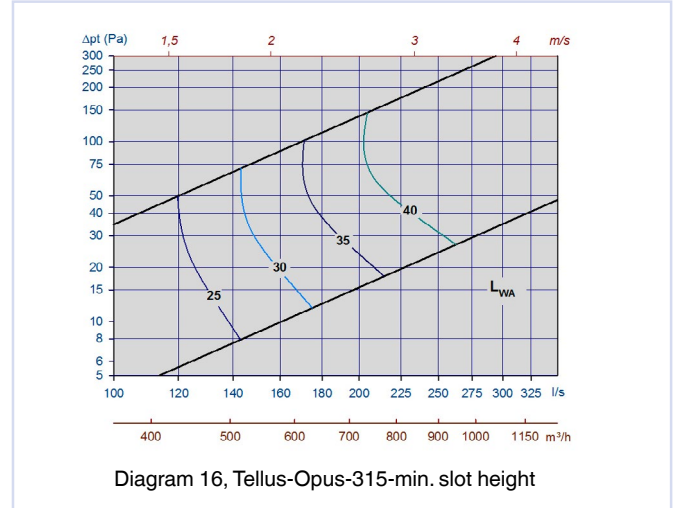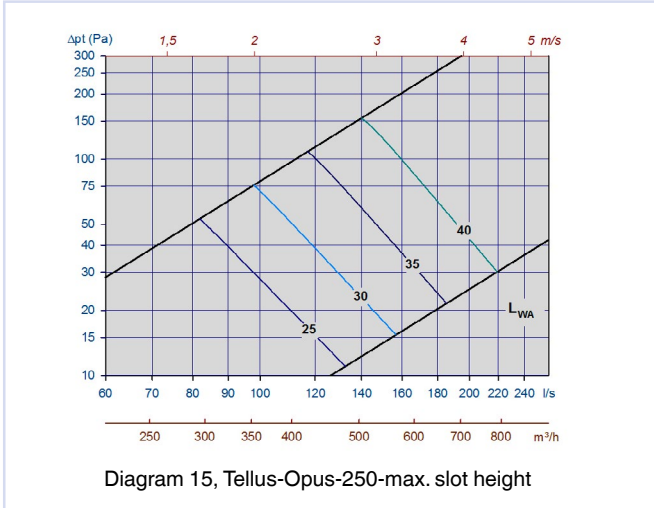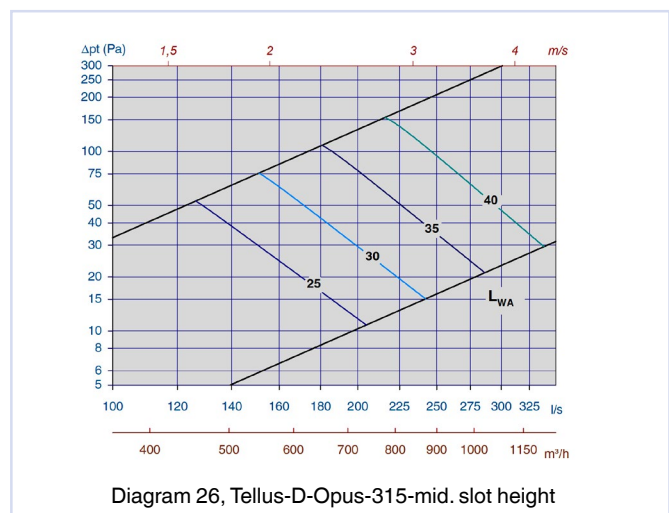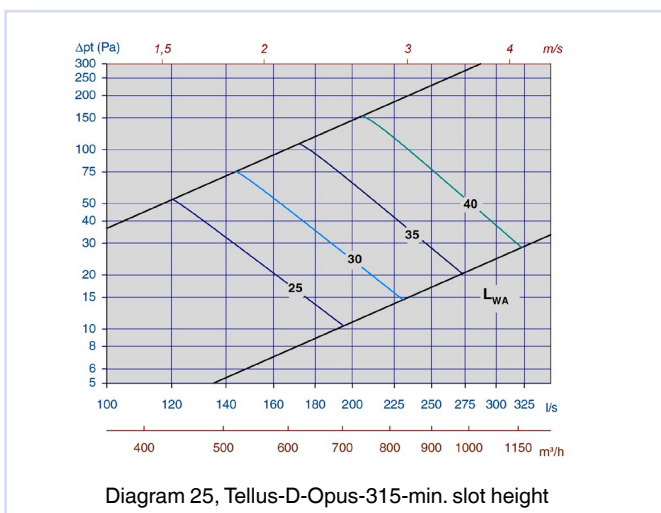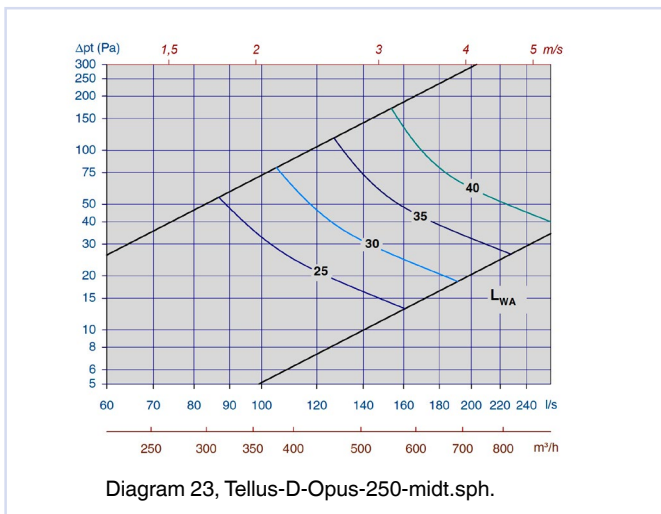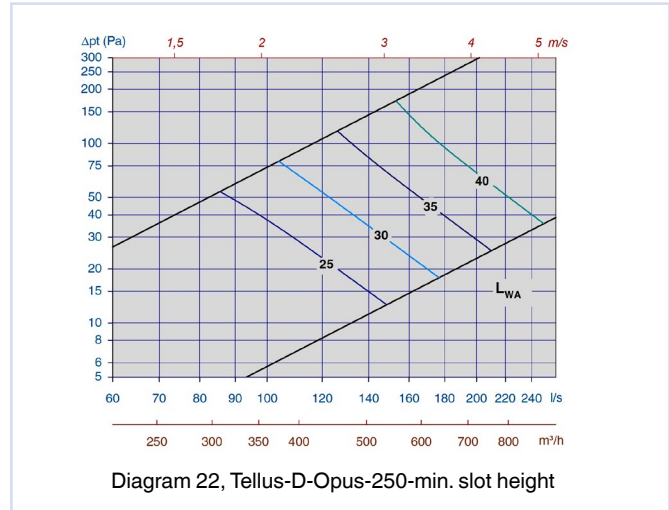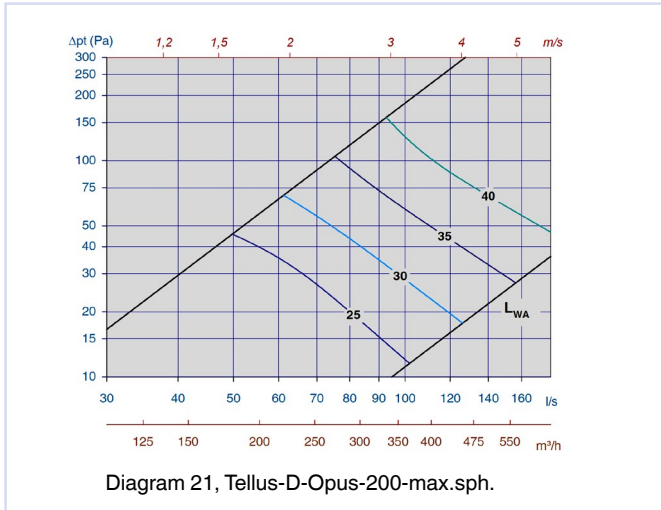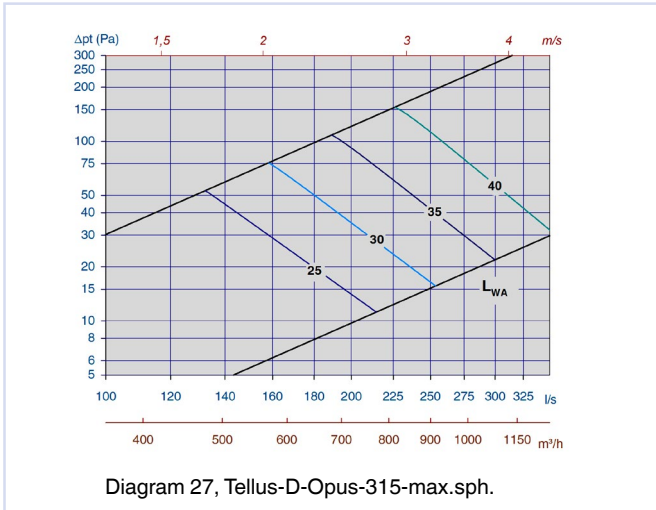
Tellus-Opus

Static sound attenuation incl. end reflection, Tellus-Opus

Tellus Opus	Damping (dB)							
Dim	63	125	250	500	1k	2k	4k	8k
100	21	12	6	13	14	11	15	14
125	20	11	7	13	14	12	14	12
160	20	8	9	12	12	10	9	7
200	18	5	9	12	12	11	13	11
250	14	6	11	12	12	13	16	16
315	12	6	12	11	12	12	17	17

Table 4

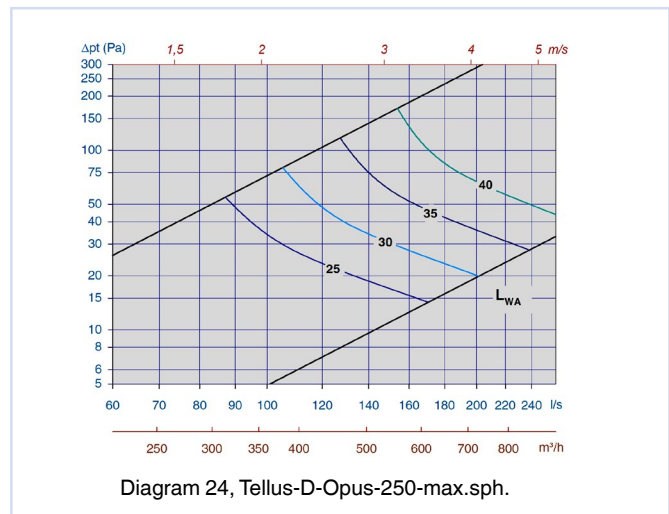Correction factor [KO], Tellus-Opus

Tellus Opus	KO (dB)															
	Damper open								Damper closed							
Dim.	63	125	250	500	1k	2k	4k	8k	63	125	250	500	1k	2k	4k	8k
100	3	0	3	-1	-9	-12	-14	-16	-5	-5	-3	-6	-10	-8	-5	-8
125	-2	1	3	-1	-8	-12	-13	-15	-5	-7	-4	-9	-13	-10	-4	-6
160	-5	3	3	-3	-7	-11	-12	-17	-6	-3	-4	-10	-10	-8	-5	-7
200	-6	3	3	-4	-5	-11	-14	-19	-8	-2	-3	-10	-11	-8	-5	-7
250	-2	2	2	-3	-5	-11	-13	-17	-5	4	-5	-11	-12	-10	-5	-5
315	-2	2	2	-3	-5	-11	-13	-17	-5	4	-5	-11	-12	-10	-5	-5

Table 5

Correction factor [KO], Tellus-Opus-D

Type HD	KO (dB)															
	Damper open								Damper closed							
Dim.	63	125	250	500	1k	2k	4k	8k	63	125	250	500	1k	2k	4k	8k
200	-6	3	3	-4	-5	-11	-14	-19	-8	-2	-3	-10	-11	-8	-5	-7
250	-2	2	2	-3	-5	-11	-13	-17	-5	4	-5	-11	-12	-10	-5	-5
315	-2	2	2	-3	-5	-11	-13	-17	-5	4	-5	-11	-12	-10	-5	-5

Table 6

THROW LENGTH

Diagram 28, Throw lenght rotation, Tellus-Opus

SPREADING PATTER
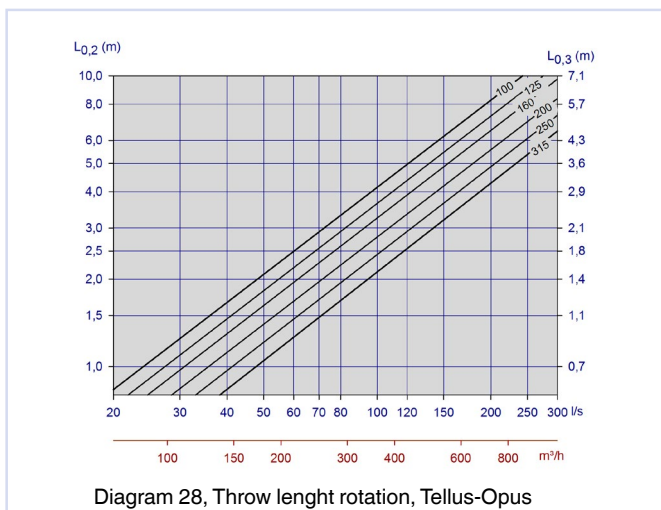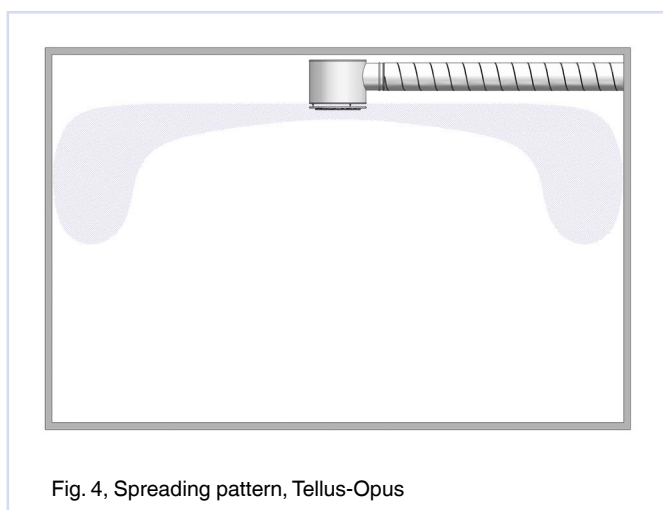
Fig. 4, Spreading pattern, Tellus-Opus

INSTALLATION

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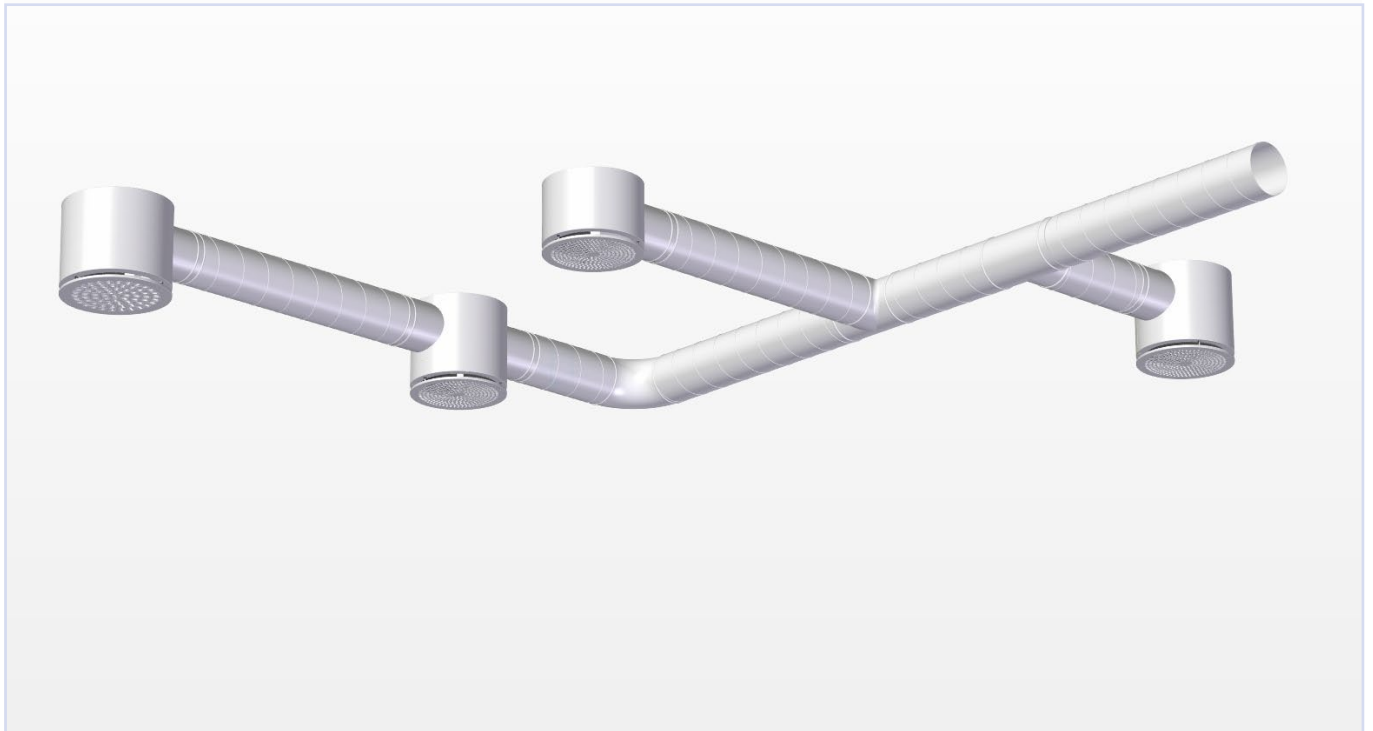

Fig. 5, installation

MAINTENANCE

The diffuser can be cleaned by using 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 our website: www.trox.no

COMMISSIONING

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

Tellus-Opus is developed and manufactured by:

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