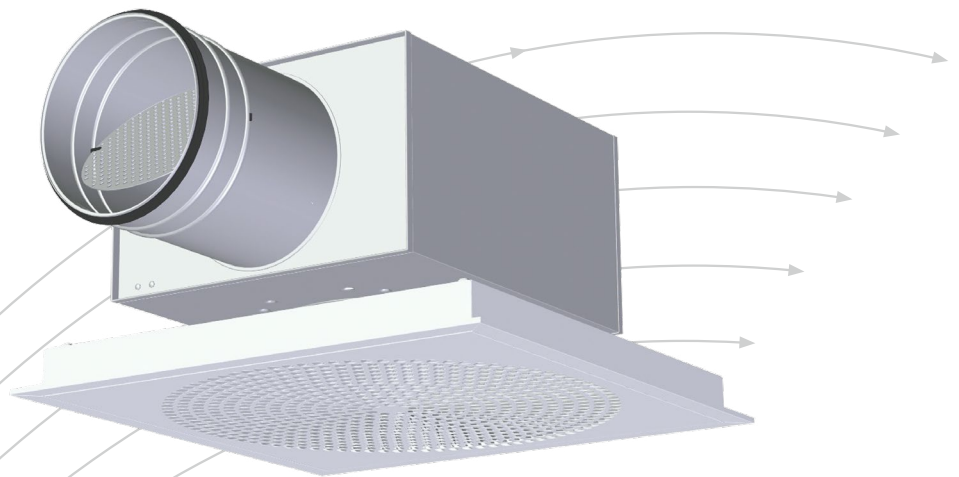


Orion-LØV

Square supply diffuser



- Design-protected LØV perforation
- Removable front panel
- Flush mounting
- Suitable for a range of ceiling systems
- Data provided with Luna plenum box installed
- Box lined with sound absorber in polyester

TROX[®] TECHNİK

 **Auranor**

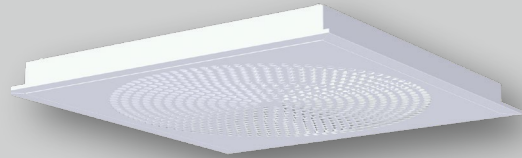
TROX Auranor AS

Auranorvegen 6
NO-2770 Jaren

Telephone +47 61 31 35 00

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

Orion-LØV



APPLICATION

Orion-LØV is a square supply diffuser for installation in modular ceiling systems. The unit offers excellent induction, and is suitable for both constant and variable air flow rates.

DESIGN

Orion-LØV features a removable front panel with LØV perforation. Rotational pattern is supplied as standard. The unit is equipped with a TA flange suitable for T-profile ceiling systems, but is also available with alternative flange designs, type: DC, DG, DS and EK (see fig. 2 and under order code).

The diffuser front can be supplied with an integrated motion sensor/temperature sensor of type X-Sense. This can be delivered in two versions:

- a) X-Sense: Digital output for motion sensor and PT-1000 element for temperature measurement.
- b) X-Sense MOD: Transmission of valves via Modbus.

The product data sheet for these can be found by following this link: https://www.trox.no/en/downloads/a0bd3e4491615db8/Orion-X-Sense-GB-.pdf?type=product_info

MATERIALS AND SURFACE COATING

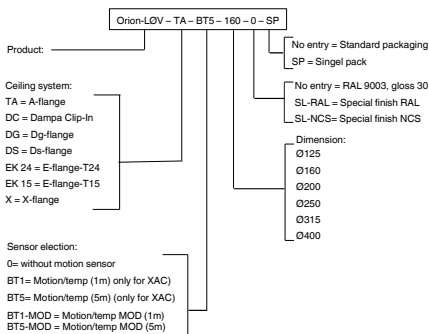
The front panel, ceiling plate and valve body are in a steel design, and the valve body is equipped with EPDM rubber gasket. Corner connection points are in plastic, and are fitted with holding magnets. All internal and external valve elements are in a RAL 9003 - gloss 30 finish. Other colours are available on request.

QUICK SELECTION

Orion-LØV Dim.	[m³/h]		
	25 dB(A)	30 dB(A)	35 dB(A)
125	106	125	147
160	181	211	246
200	237	278	326
250	347	403	468
315	472	551	644
400	620	757	925

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

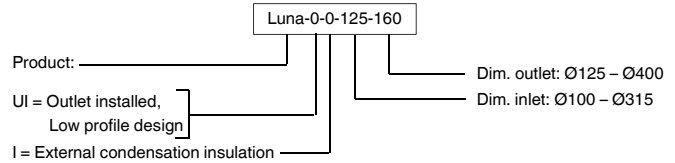
ORDER CODE, Orion-LØV (Orion-LOEV)



Example:
Orion-LØV-TA-BTS-160-0-0

Explanation:
Orion-LØV supply diffuser with A flange for T-profile ceiling systems, motion sensor in the diffuser front BTS (5m), connection diffuser Ø160, RAL 9003, single packed.

ORDER CODE, Luna



Example:

Luna-0-0-125-160

Explanation:

Luna box with inlet Ø125 and outlet Ø160.

DIMENSIONS AND WEIGHT, Orion-LØV

Orion-LØV	D	Weight valve [kg]
125	124	3,9
160	159	3,9
200	199	3,9
250	249	3,9
315	314	3,9
400	399	3,9

Table 2

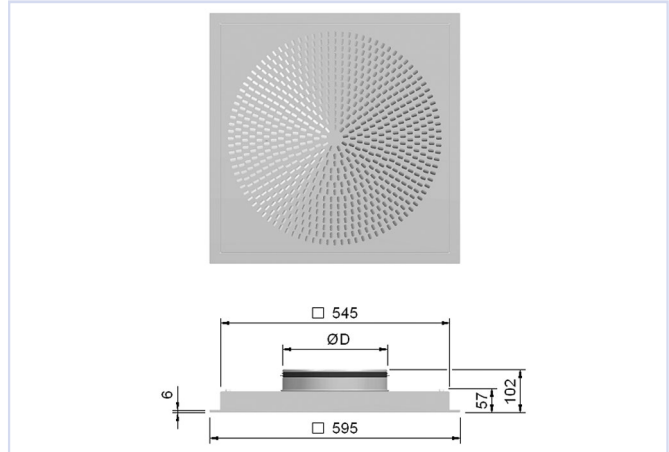


Fig. 1

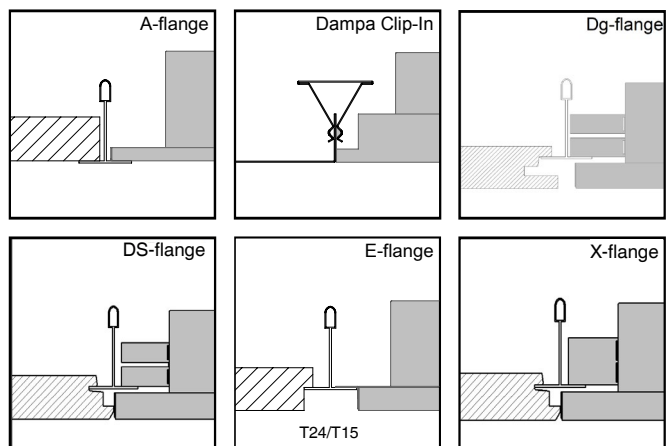
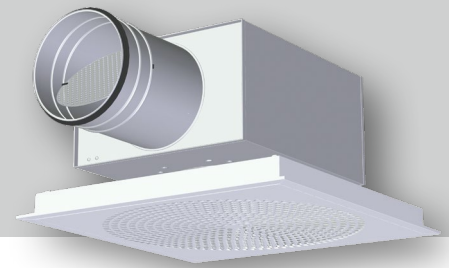


Fig. 2

Orion-LØV with Luna plenum box



APPLICATION

The Luna plenum box is recommended for improved sound attenuation, and works as an adjustment and measurement unit. Luna is a rectangular box fitted with a removable damper which provides access to the connecting duct. The damper can be secured in any position required.

DESIGN

The Luna plenum box features a damper and measuring outlet for commissioning. It is insulated with a sound absorber in polyester and is available with one or two dimensional changes between inlet and outlet. Furthermore, the box can be delivered with external condensation insulation. **A low-profile design [UI]** is also available, and **for this type a reduction in capacity of approx. 20% will apply.** The distance between valve and box can be increased by up to 35 cm without extending the wire and measuring tube.

MATERIALS AND SURFACE COATING

Luna is supplied a galvanised finish and with all four internal walls lined with sound absorber in polyester. The spigot is fitted with an EPDM rubber gasket..

QUICK SELECTION

Orion-LØV Dim.	Luna Dim.	[m³/h]		
		25 dB(A)	30 dB(A)	35 dB(A)
125	100-125	83	97	115
	125-125	76	90	108
160	100-160	86	130	162
	125-160	97	126	158
200	160-160	130	155	184
	125-200	104	151	198
250	160-200	166	198	234
	200-200	166	202	241
315	160-250	162	216	270
	200-250	216	270	328
400	250-250	274	317	367
	200-315	212	295	396
400	250-315	335	407	500
	315-315	396	446	518
400	250-400	353	472	594
	315-400	468	544	648

Table 3: The table provides air flow rates at given sound power levels and 30 Pa total pressure loss..

DIMENSIONS AND WEIGHT, Luna

Dim.	D	DA	B	H	H1	L	L1	L2	Weight (kg) w/Luna
100-125	99	127	220	122	228	325	292	127	2,3
100-160	99	162	220	122	228	360	309	145	2,4
125-125	124	127	250	147	253	360	334	145	2,4
125-160	124	162	250	147	253	360	334	145	2,9
125-200	124	202	250	147	253	400	354	165	3,1
160-160	159	162	340	182	288	403	390	167	4,1
160-200	159	202	340	182	288	403	390	167	4,2
160-250	159	252	340	182	288	453	415	192	4,6
200-200	199	202	380	222	328	453	457	190	5,7
200-250	199	252	380	222	328	453	457	190	5,7
200-315	199	317	380	222	328	515	487	222	6,1
250-250	249	252	390	272	378	515	537	222	7,4
250-315	249	317	390	272	378	515	537	222	7,4
250-400	249	402	500	272	378	600	579	265	9,1
315-315	314	317	500	337	443	600	654	255	10,7
315-400	314	402	500	337	443	600	644	265	10,7

Table 4

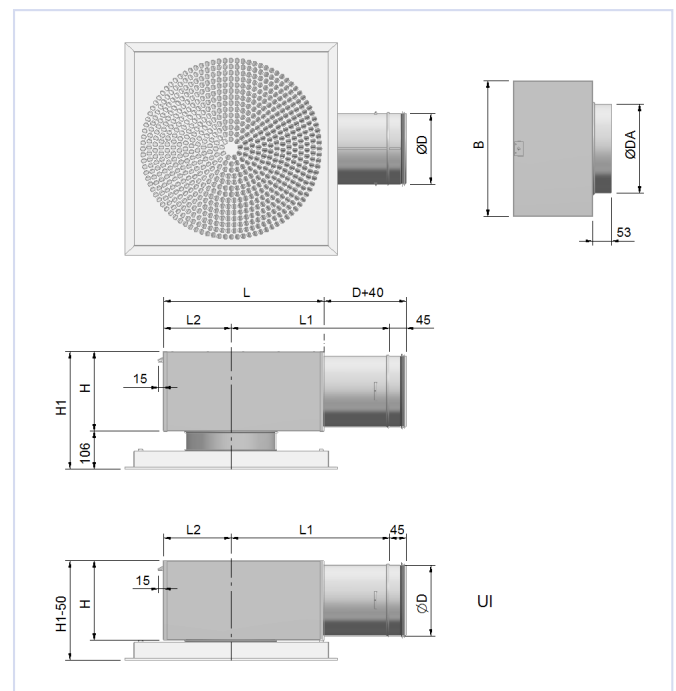


Fig. 3

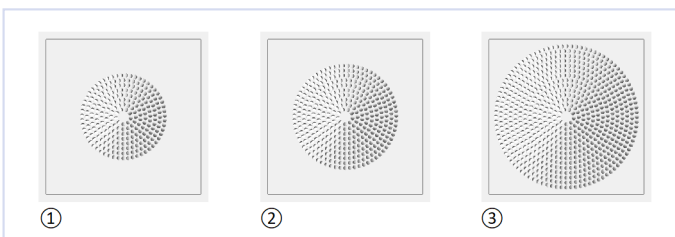


Fig. 4, Ventilation pattern depends on dimension.

- ① Valve pattern for dim. 125.
- ② Valve pattern for dim. 160 and 200.
- ③ Valve pattern for dim. 250, 315 and 400.

Orion-LØV

ACOUSTIC DATA

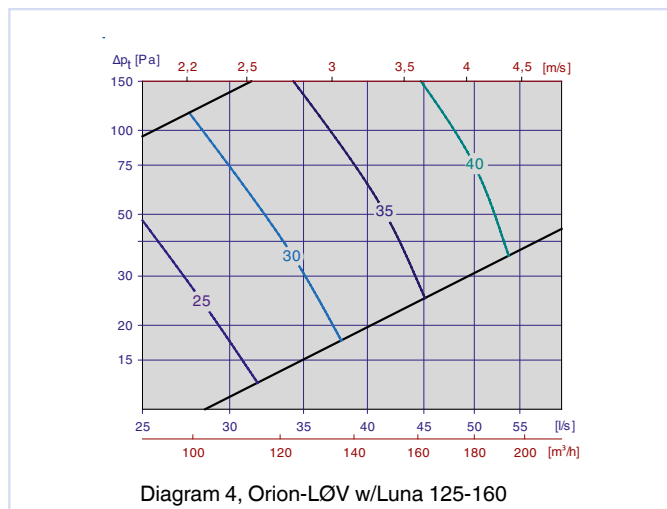
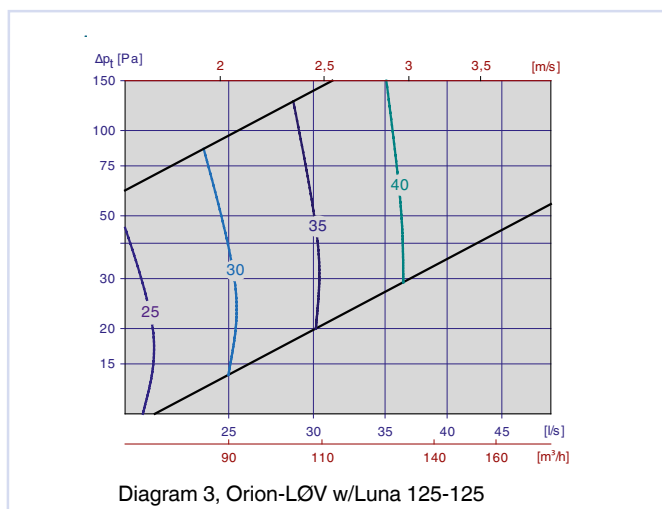
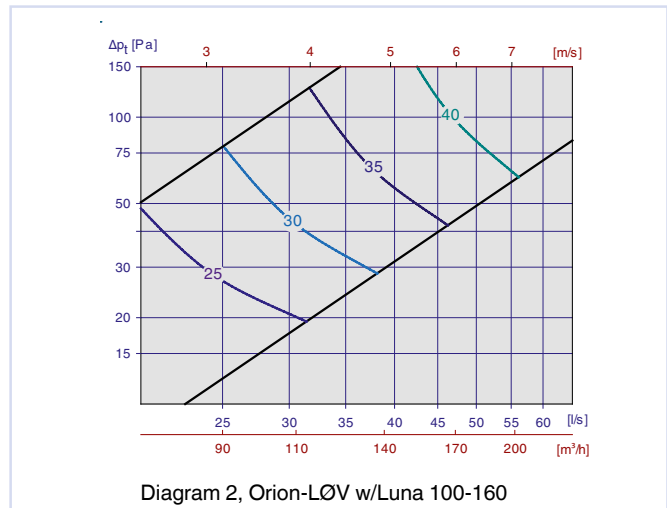
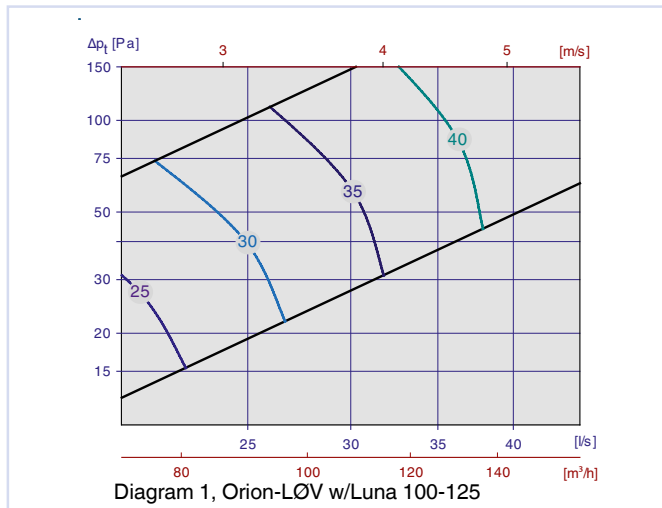
The diagrams provide a summary of the A-weighted sound power level from diffuser, L_{WA} . Correction factors in table 5, page 7, are used to calculate emitted sound power level at the respective frequencies, $L_W = L_{WA} + KO$. A room with absorption equivalent to 10m² Sabine will have a sound pressure level which is 4 dB below the sound power level emitted.

Example:

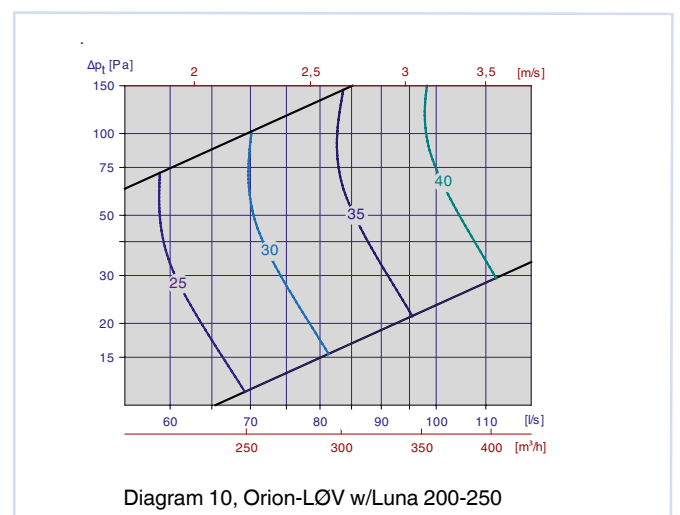
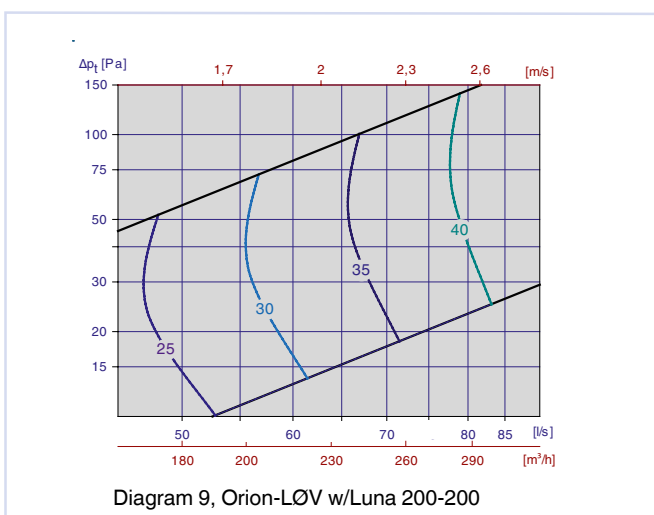
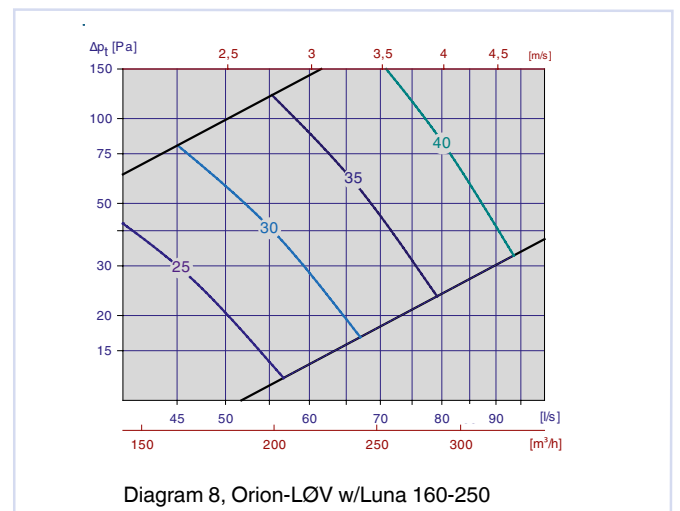
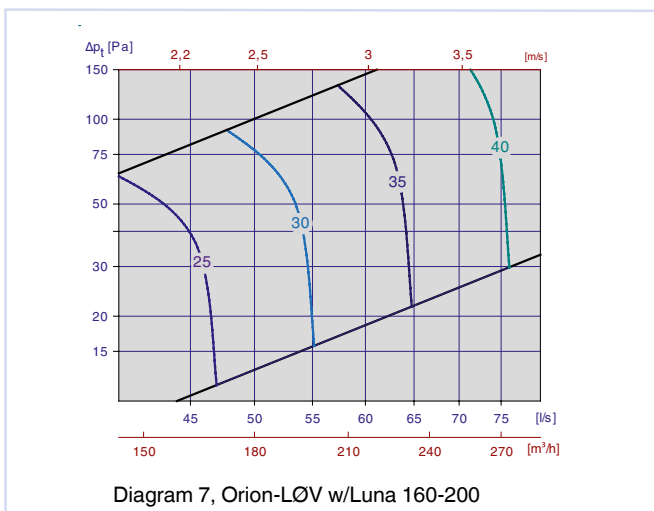
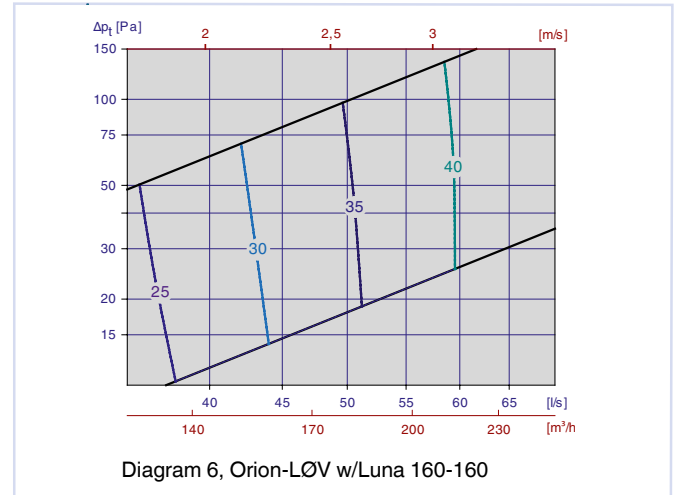
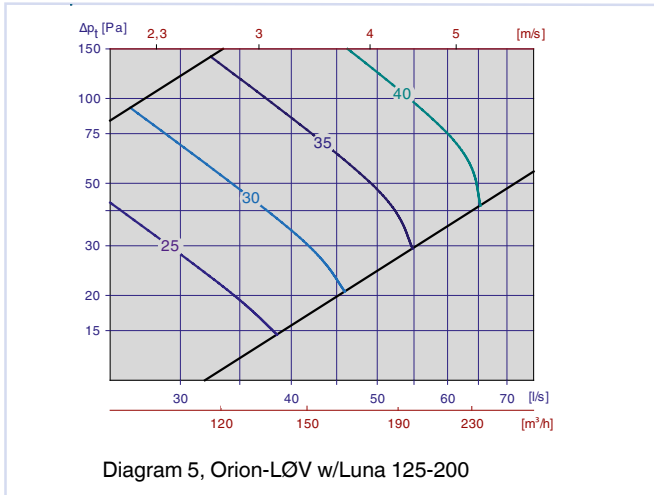
Orion-LØV with Luna Ø160-200 - desired volume flow 55 l/s.
From diagram 7 we find that $L_{WA} = 30$ dB(A) with open damper and 16 Pa total pressure loss. We aim to find the following:

- Emitted sound power level at 250 Hz
- A-weighted sound pressure level in an office.
- A-weighted sound pressure level in an office at 50 Pa total pressure drop, (i.e. 34 Pa choking with the unit's damper)
 - The correction factor is 0 dB. Emitted sound power level at 250 Hz is thus: $L_W = L_{WA} + KO = 30 + (0) = 30$ dB
 - If we assume a room absorption equivalent to 10m² Sabine, A-weighted sound pressure level will be: $30 - 4 = 26$ dB(A)
 - Following the line for 55 l/s in the diagram up to 50 Pa total pressure loss provides a reading of 31 dB(A). Sound pressure level will thus be: $31 - 4 = 27$ dB(A)

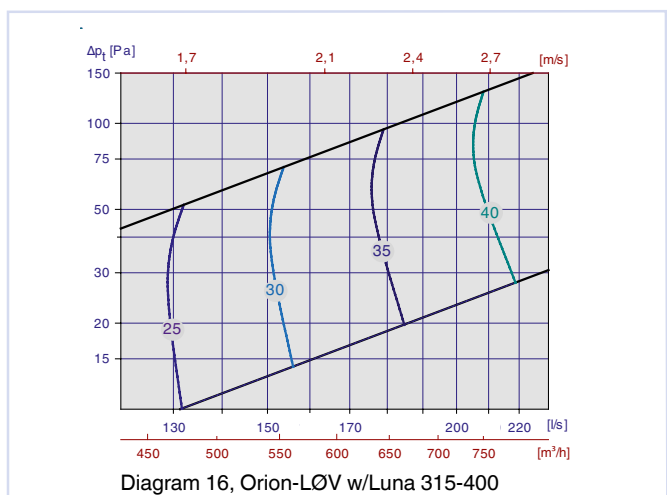
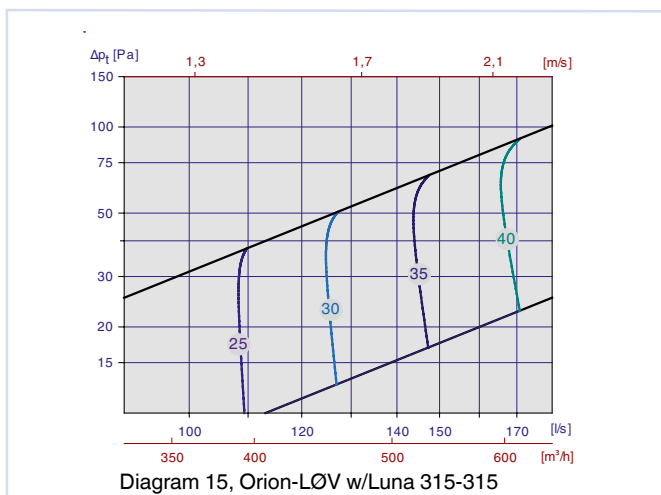
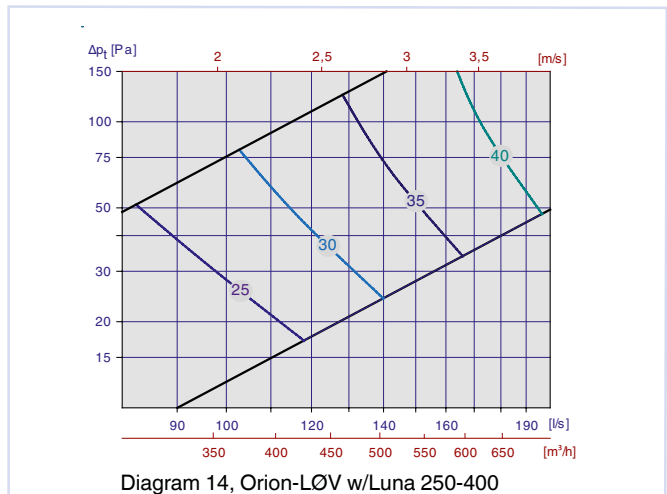
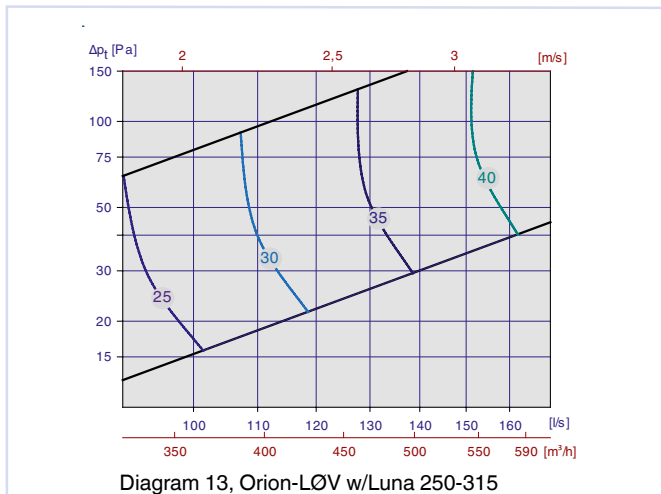
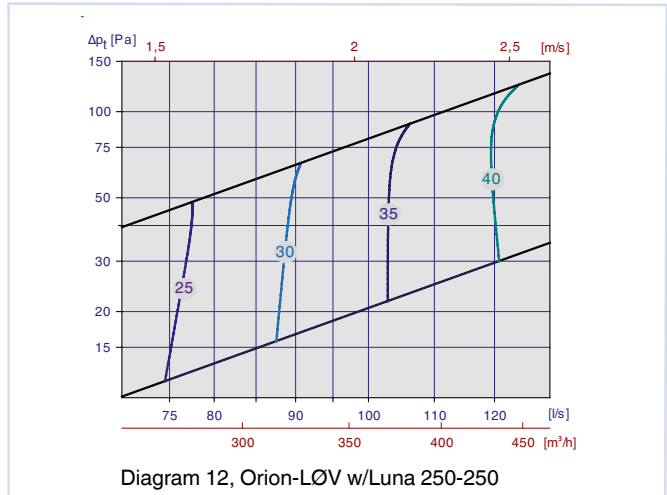
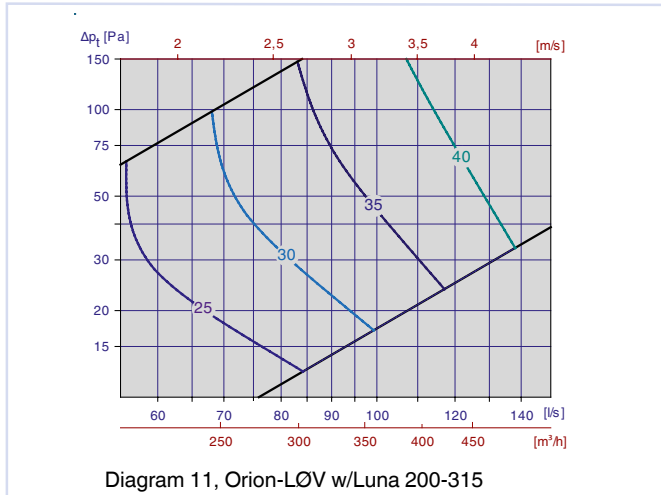
CALCULATION DIAGRAMS



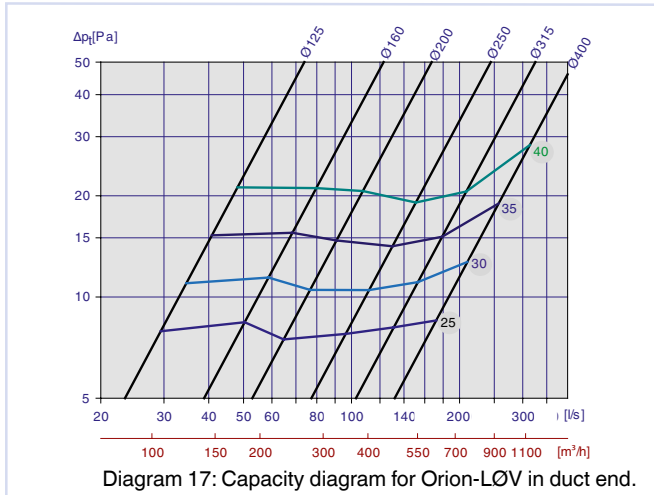
Orion-LØV



Orion-LØV



Orion-LØV



Orion-LØV	Luna	KO [dB]															
		Damper closed								Damper open							
		63	125	250	500	1k	2k	4k	8k	63	125	250	500	1k	2k	4k	8k
125	100-125	4	2	0	-3	-7	-10	-8	-20	5	4	1	-2	-6	-11	-13	-21
	125-125	7	2	-2	-4	-7	-11	-9	-7	7	2	-2	-3	-6	-11	-13	-9
160	100-160	4	1	1	-3	-8	-11	-7	-19	4	2	2	-2	-6	-11	-13	-21
	125-160	5	-1	-2	-5	-10	-11	-4	-16	6	3	0	-2	-5	-10	-14	-21
200	160-160	6	1	-1	-3	-5	-9	-9	-19	7	1	-1	-3	-5	-10	-13	-21
	125-200	6	0	0	-5	-11	-11	-4	-16	7	3	2	-3	-6	-12	-12	-19
250	160-200	5	1	-1	-5	-8	-8	-6	-17	9	2	0	-3	-5	-11	-13	-20
	200-200	8	3	-1	-3	-6	-10	-11	-19	6	1	-2	-3	-5	-9	-14	-22
315	160-250	4	-2	-2	-9	-12	-8	-4	-16	6	2	1	-2	-6	-12	-13	-21
	200-250	6	1	-1	-4	-7	-8	-7	-17	5	1	0	-3	-5	-10	-12	-20
400	250-250	5	1	-1	-3	-5	-10	-10	-20	7	2	-2	-4	-4	-10	-14	-22
	200-315	7	-1	-4	-9	-12	-7	-4	-15	7	-1	-4	-9	-12	-7	-4	-15
400	250-315	4	0	-2	-6	-8	-9	-5	-16	6	2	0	-3	-5	-11	-12	-20
	315-315	5	2	-1	-3	-4	-10	-12	-20	6	1	-2	-3	-4	-10	-13	-20
400	250-400	9	1	-3	-8	-9	-8	-5	-15	8	3	1	-3	-5	-11	-13	-21
	315-400	6	3	-1	-4	-6	-9	-8	-19	7	3	0	-3	-5	-10	-12	-19

Table 5, Correction factor [KO], Orion-LØV with Luna

Orion-LØV	Attenuation [dB]							
Dim.	63	125	250	500	1k	2k	4k	8k
125	24	15	8	2	2	2	3	4
160	19	13	6	1	2	1	3	3
200	18	13	4	2	2	2	1	1
250	15	11	4	3	3	2	2	4
315	14	10	3	2	3	3	4	3
400	12	6	4	3	2	1	2	3

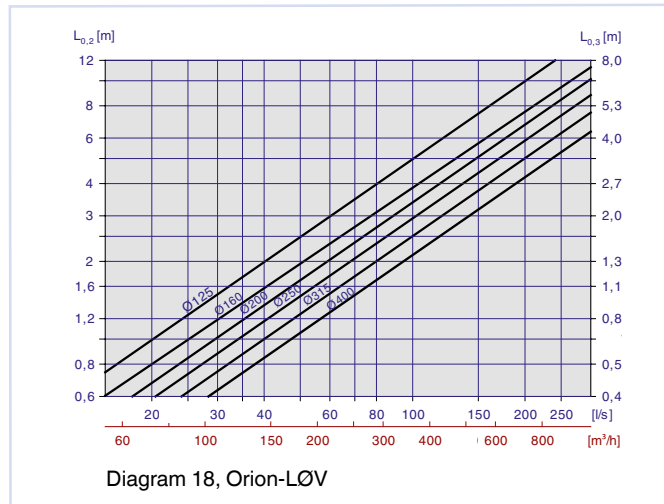
Table 6, Static sound attenuation incl. end reflection, Orion-LØV

Orion-LØV	KO [dB]							
Dim.	63	125	250	500	1k	2k	4k	8k
125	-3	-4	-3	-2	-5	-10	-15	-11
160	2	-6	-3	-3	-4	-9	-15	-11
200	3	-5	-4	-2	-6	-12	-13	-8
250	-2	-6	-6	-4	-3	-9	-16	-14
315	2	-4	-5	-3	-4	-10	-15	-11
400	6	-2	-2	-3	-6	-12	-12	-7

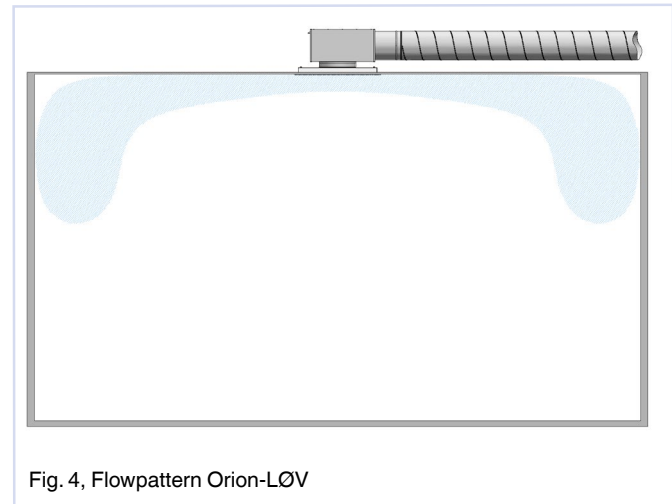
Table 7, Correction factor [KO], Orion-LØV

Orion-LØV

THROW LENGTH



FLOW PATTERN



Orion-LØV	Luna	Attenuation [dB]							
Dim.	Dim.	63	125	250	500	1k	2k	4k	8k
125	100-125	24	11	13	12	18	20	14	12
	125-125	20	11	13	11	15	12	11	14
160	100-160	22	9	10	8	18	14	10	11
	125-160	18	11	14	12	16	11	12	14
	160-160	12	11	11	10	19	10	14	16
200	125-200	14	11	12	12	18	11	14	15
	160-200	14	11	12	13	19	11	14	16
	200-200	11	9	10	11	14	11	10	13
250	160-250	11	10	11	10	12	8	9	10
	200-250	11	10	11	10	12	12	11	11
	250-250	14	10	11	12	13	11	12	14
315	200-315	13	9	10	12	13	10	12	14
	250-315	9	8	11	14	12	13	13	14
	315-315	8	8	11	16	12	13	11	14
400	250-400	8	7	11	12	13	13	13	14
	315-400	6	5	9	11	10	11	10	12

Table 8, Static sound attenuation incl. end reflection, Orion-LØV

Orion-LØV

INSTALLATION

Orion-LØV can be installed in a range of modular ceiling systems as well as in fixed ceilings. If a Luna plenum box is used, the unit is attached to the rear of the support bracket by means of threaded rod or strap (fig. 6).

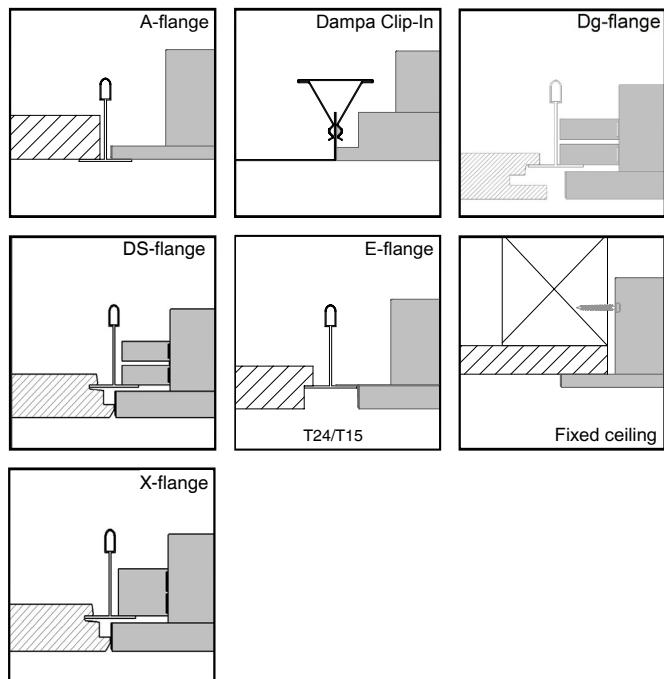


Fig. 5: Installation



Fig. 6: Installation

Orion-LØV is developed and manufactured by:

COMMISSIONING

During commissioning, the diffuser front must be fitted. The measuring tube is pulled through the perforation at the front, and 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 are provided on the label inside the diffuser, or can be found in our commissioning guide at our website: www.trox.no

MAINTENANCE

The valve should be cleaned by using a damp cloth. When cleaning the duct network, the diffuser front must be removed in order to gain access to the duct. If Luna is used, the diffuser plate and damper must 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

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