GB0409
05.20

LØV-A

Circular exhaust valve

- Removable front panel
- Flush mounting
- Data provided with Luna plenum box
- Box lined with sound absorber in polyester

TROX® TECHNIK

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LØV-A

APPLICATION
LØV-A is a circular exhaust valve for ceiling mounting. It is suitable for installation in fixed ceilings.

DESIGN
LØV-A features a removable front panel with perforation.

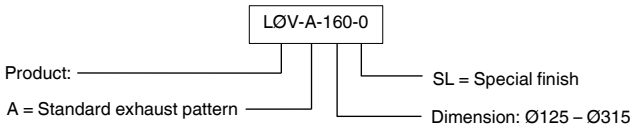
MATERIALS AND SURFACE COATING
Both the valve front and the ceiling plate are in a steel design. The valve body is in aluminium and is fitted with an EPDM rubber gasket at the connection collar. All internal and external valve elements are in a RAL 9003 - gloss 30 finish. Other colours are available on request.

QUICK SELECTION

LØV-A	[m³/h]			
Dim.	25 dB(A)	30 dB(A)	35 dB(A)	40 dB(A)
125	184	230	288	360
160	259	328	425	540
200	475	594	738	918
250	720	882	1080	1296
315	828	1026	1242	1620

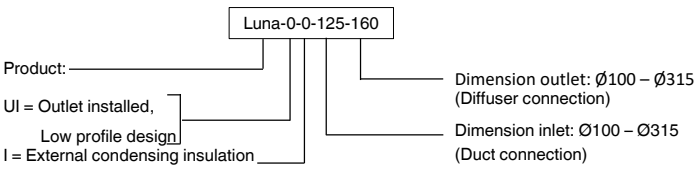
Table 1: The table shows air flow rates at given sound power levels.

ORDER CODE, LØV-A (LOEV-A)



Example:
LØV-A-160-0
Explanation:
LØV-A, dimension Ø160

ORDER CODE, Luna



Example:
Luna-0-0-125-160
Explanation:
Luna plenum box with duct connection dim. Ø125 and diffuser connection dim. Ø160.

DIMENSIONS AND WEIGHT, LØV-A
Cut-out dimensions: ØG+5

Dim.	A	B	C	G	E	F	I	Weight valve [kg]
125	322	124	230	282	65	115	75	0,9
160	420	159	320	380	70	120	80	1,5
200	460	199	350	420	70	120	80	1,9
250	570	249	470	530	70	120	80	2,7
315	570	314	470	530	70	120	80	2,7

Table 2

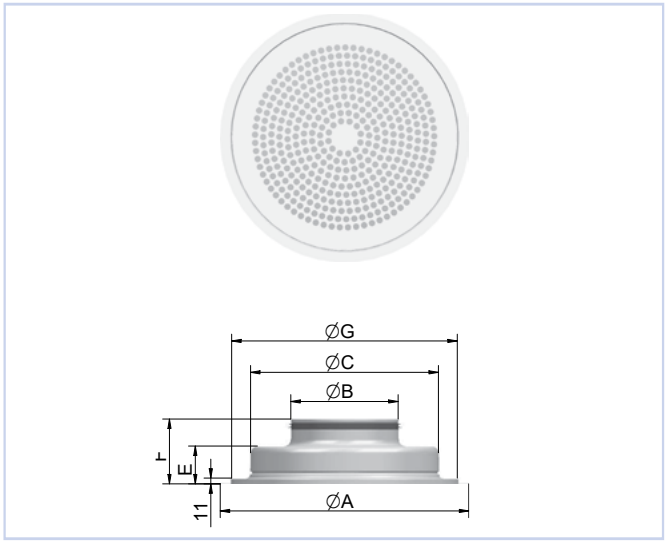


Fig. 1

LØV-A 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 with a removable damper providing access to the connecting duct. The damper can be secured in any position required.

DESIGN

Luna plenum box features a damper and measuring outlet for commissioning. The box is lined with sound absorber in polyester, and is available in the same dimension or one scale up between inlet and outlet (see table 4). Can be supplied with external condensation insulation. **A low-profile version [UI]** is also available, **and for this design 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 in a galvanised finish, and with all four internal walls lined with sound absorber in polyester. The connection collar is fitted with EPDM rubber gasket.

QUICK SELECTION

LØV-A	Luna	[m^3/h]			
Dim.	Dim.	25 dB(A)	30 dB(A)	35 dB(A)	40 dB(A)
125	100-125	65	115	187	-
	125-125	112	162	216	-
160	125-160	90	144	234	-
	160-160	187	259	353	-
200	160-200	173	241	346	500
	200-200	299	418	540	-
250	200-250	234	342	475	-
	250-250	407	522	688	871
315	250-315	425	558	713	936
	315-315	684	871	1076	-

Table 3: The table shows air flow rates at given sound power levels and 50 Pa total pressure loss.

DIMENSIONS AND WEIGHT, Luna

Dim.	D	DA	B	H	H1	H2	L	L1	L2	Weight (kg) w/Luna
100–125	99	127	220	122	260	138	325	292	127	2,3
125–125	124	127	250	147	285	138	360	334	145	2,4
125–160	124	162	250	147	290	143	360	334	145	2,9
160–160	159	162	340	182	325	143	403	390	167	4,1
160–200	159	202	340	182	325	143	403	390	167	4,2
200–200	199	202	380	222	365	143	453	457	190	5,7
200–250	199	252	380	222	365	143	453	457	190	5,7
250–250	249	252	390	272	415	143	515	537	222	7,4
250–315	249	317	390	272	415	143	515	537	222	7,4
315–315	314	317	500	337	480	143	600	654	255	11

Table 4

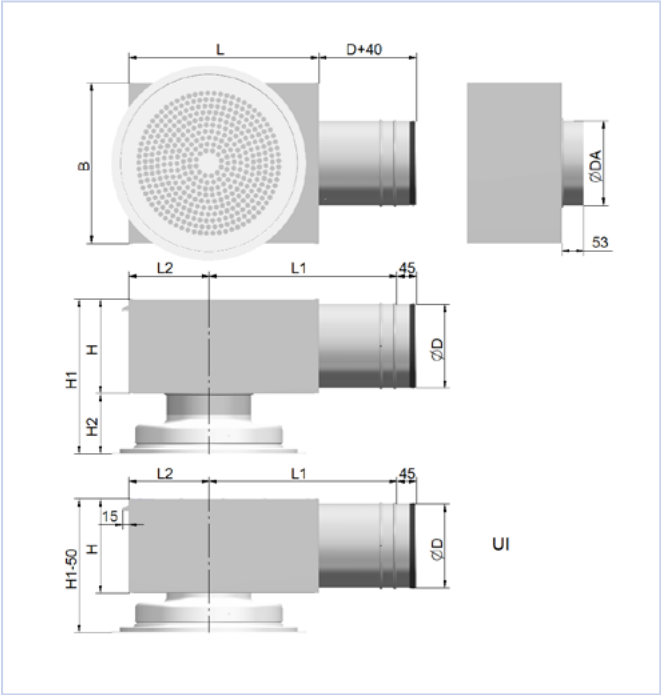


Fig. 2

LØV-A

ACOUSTIC DATA

The diagrams provide a summary of the A-weighted sound power level from valve, L_{WA}. Correction factors in table 7, 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 10m^2 Sabine will be 4 dB below the sound power level emitted.

Example:
Office premises require draw-out of indoor air at 65l/s, and for this purpose a LØV-A exhaust valve with Luna plenum box dimension 125-160 is used. Room attenuation is 6 dB, and the exhaust valve damper is to be choked 20 Pa.

We aim to find:
a)Emitted sound power level from valve 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 valve at 250 Hz, damper choked.

Solution:
LØV-A with Luna Ø125-160. Desired air flow rate: 65 l/s.

According to diagram 3, L_{WA} = 30 dB(A) with damper open and 28 Pa total pressure loss.

a) Table 7 shows that the correction factor for open damper at 250 Hz is 2dB. L_W at 250 Hz is thus: $L_{WA} + KO = 30 + 2 =$ 32 dB
b) With a room attenuation equivalent to 6 dB, the sound pres sure level in the room is: 30 - 6 = 24 dB(A)
c) 20 Pa choking provides 48 Pa, and the diagram shows an increase in L_{WA} of 5 dB. The sound pressure level is thus: 24 + 5 = 29 dB(A)
d) Table 7 shows a correction factor of 3dB for closed damper at 250 Hz. L_W at 250 Hz is thus: $L_{WA} + KO = 30 + 3 =$ 33 dB

CALCULATION DIAGRAMS

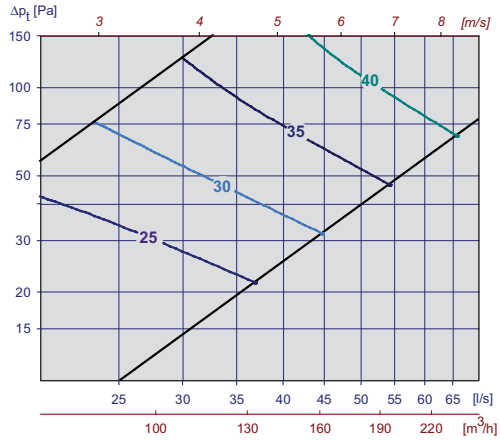


Diagram 1, LØV-A w/Luna 100-125

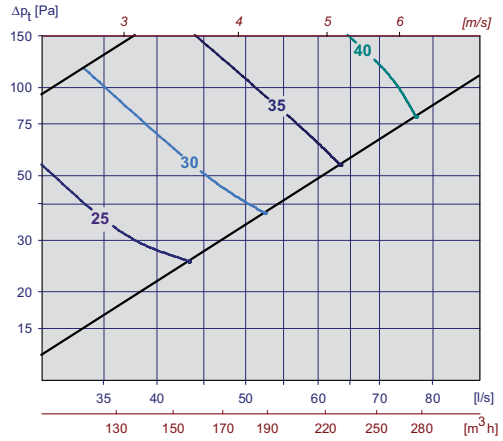


Diagram 2, LØV-A w/Luna 125-125

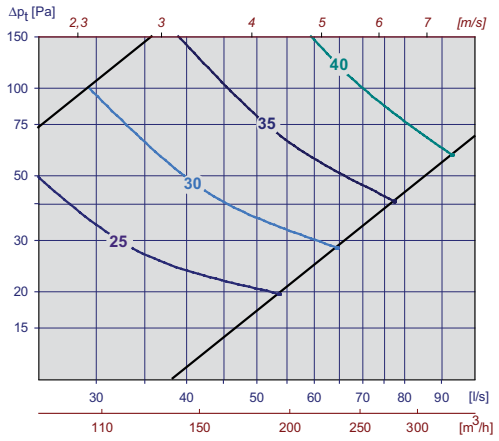


Diagram 3, LØV-A w/Luna 125-160

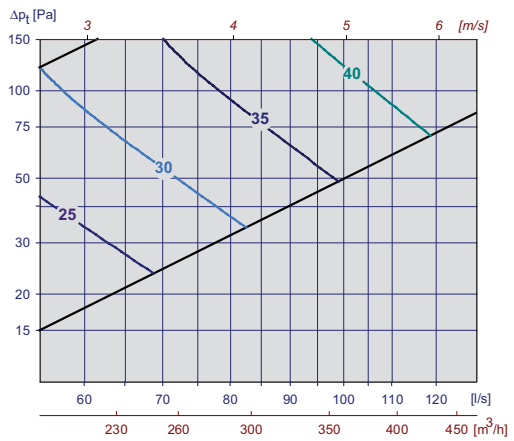


Diagram 4, LØV-A w/Luna 160-160

LØV-A

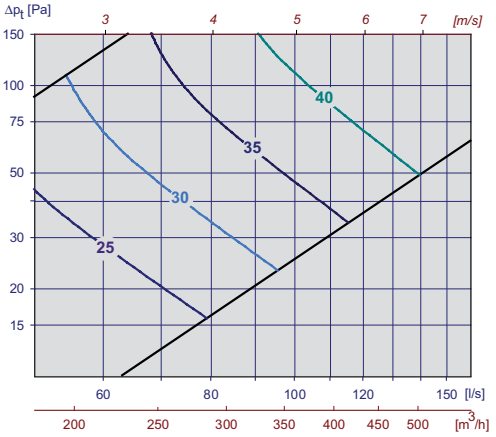


Diagram 5, LØV-A w/Luna 160-200

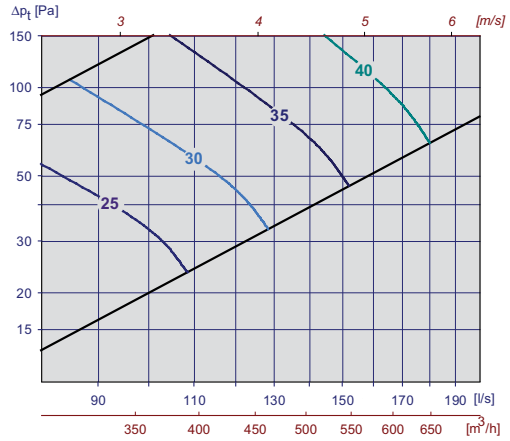


Diagram 6, LØV-A w/Luna 200-200

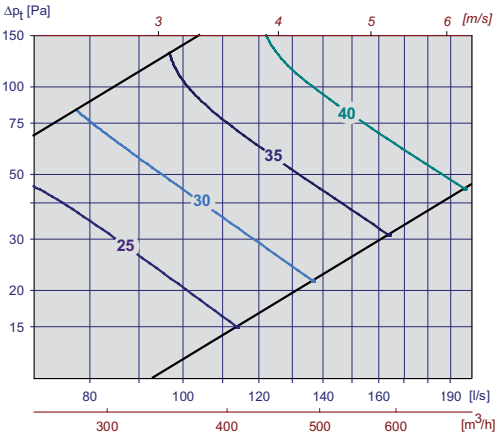


Diagram 7, LØV-A w/Luna 200-250

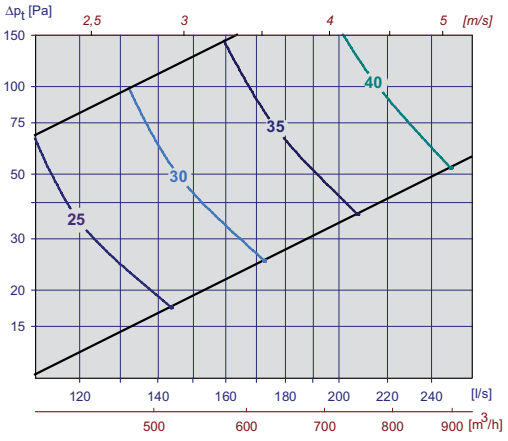


Diagram 8, LØV-A w/Luna 250-250

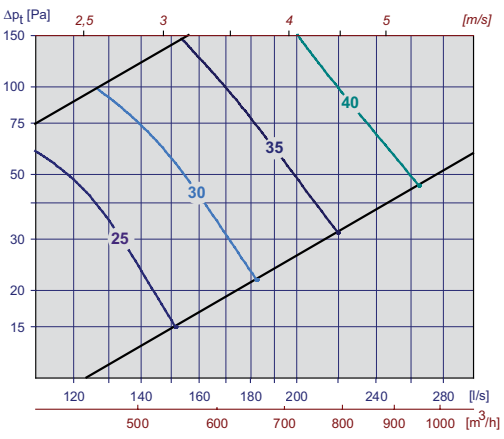


Diagram 9, LØV-A w/Luna 250-315

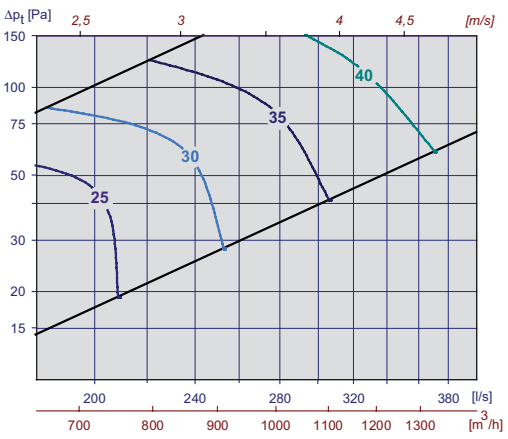


Diagram 10, LØV-A w/Luna 315-315

LØV-A

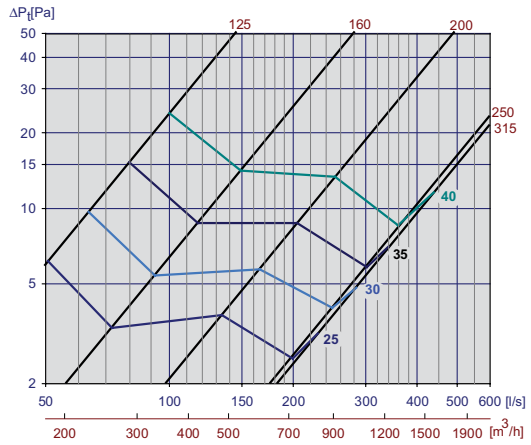


Diagram 11, capacity diagram for LØV-A at duct end.

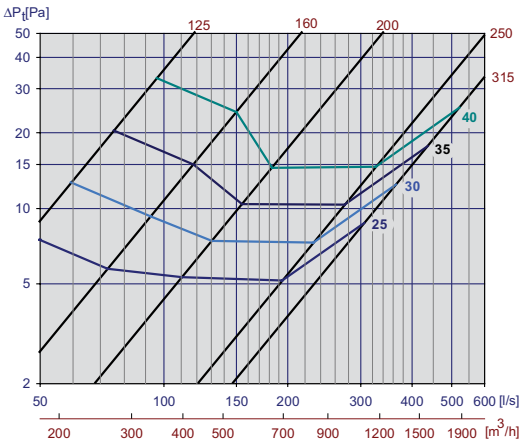


Diagram 12, capacity diagram for LØV-A in 90° bend.

Static sound attenuation incl. end reflection for LØV-A with Luna

LØV-A	Luna	Attenuation [dB]							
Dim.	Dim.	63	125	250	500	1k	2k	4k	8k
125	100-125	23	15	16	16	20	21	14	17
	125-125	21	14	14	15	20	17	12	16
160	125-160	20	13	12	14	20	14	9	14
	160-160	18	12	11	11	15	12	7	11
200	160-200	17	10	11	8	5	0	1	1
	200-200	16	9	10	9	6	5	8	4
250	200-250	16	8	9	10	12	9	10	6
	250-250	15	9	8	9	10	6	7	3
315	250-315	14	9	9	10	8	3	3	1
	315-315	11	7	6	8	5	2	4	2

Table 5

Static sound attenuation incl. end reflection for LØV-A without Luna

LØV-A	Attenuation (dB)							
Dim	63	125	250	500	1k	2k	4k	8k
125	22	14	8	1	1	1	2	3
160	18	11	7	0	1	0	1	3
200	17	10	3	0	1	0	1	2
250	14	9	2	0	0	0	1	2
315	14	5	1	0	0	0	0	1

Table 6

Correction factor [KO], LØV-A with Luna

		KO [dB]															
LØV-A	Luna	Damper closed								Damper open							
Dim.	Dim.	63	125	250	500	1K	2K	4K	8K	63	125	250	500	1K	2K	4K	8K
125	100-125	-3	4	0	-1	-8	-12	-9	-13	-2	4	1	-2	-8	-7	-13	-20
	125-125	-2	0	1	-2	-7	-10	-9	-12	4	4	0	-1	-6	-9	-17	-20
160	125-160	-2	1	3	-2	-9	-12	-9	-11	-2	3	2	-4	-9	-6	-14	-18
	160-160	1	0	-2	-4	-11	-6	-8	-9	5	3	-1	0	-8	-11	-17	-16
200	160-200	3	2	0	-5	-12	-7	-7	-9	4	2	-2	-6	-6	-5	-14	-19
	200-200	3	5	1	-3	-9	-8	-10	-12	3	5	-1	-2	-5	-10	-17	-19
250	200-250	1	4	2	-4	-9	-7	-11	-13	3	3	-2	-6	-4	-7	-14	-21
	250-250	1	2	-3	-5	-7	-6	-9	-13	5	5	-2	-3	-4	-11	-18	-22
315	250-315	-2	3	-1	-5	-8	-7	-8	-10	4	7	-2	-4	-4	-12	-16	-18
	315-315	3	2	-2	-7	-5	-6	-11	-15	4	5	0	-2	-5	-12	-17	-16

Table 7

	KO[dB]							
LØV-A	LØV-A in duct end							
Dim.	63	125	250	500	1k	2k	4k	8k
125	-4	-2	-1	2	-2	-11	-14	-17
160	-3	-1	-1	3	-3	-10	-13	-15
200	-3	-3	-2	3	-3	-9	-12	-15
250	-2	-2	-2	1	-2	-8	-12	-14
315	-2	-2	-3	2	-2	-9	-11	-12

Tabell 8, Correction factor [KO] LØV-A in duct end.

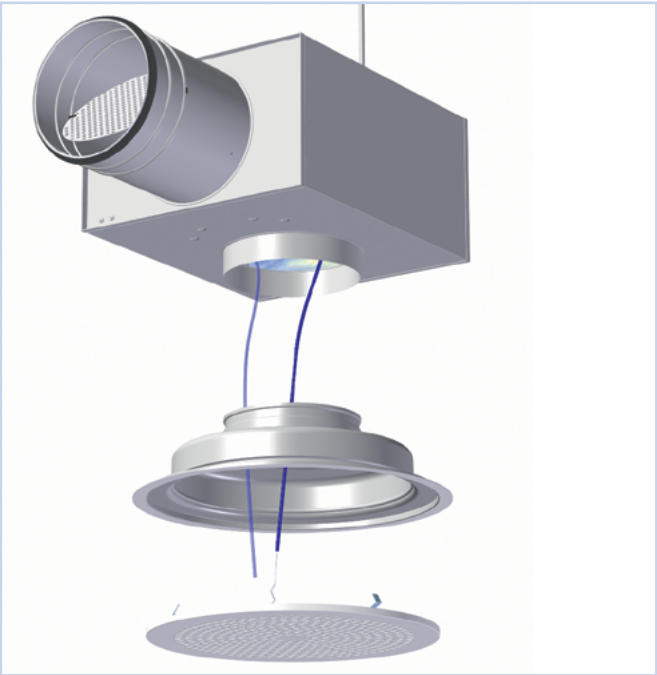


Fig. 4: Installation

INSTALLATION

When mounted in fixed ceiling or inserted in ceiling plate, LØV-A is attached by means of two mounting brackets (fig. 3).If a Luna plenum box is used, it is attached to the rear of the support bracket by means of threaded rod or strap (fig. 4).

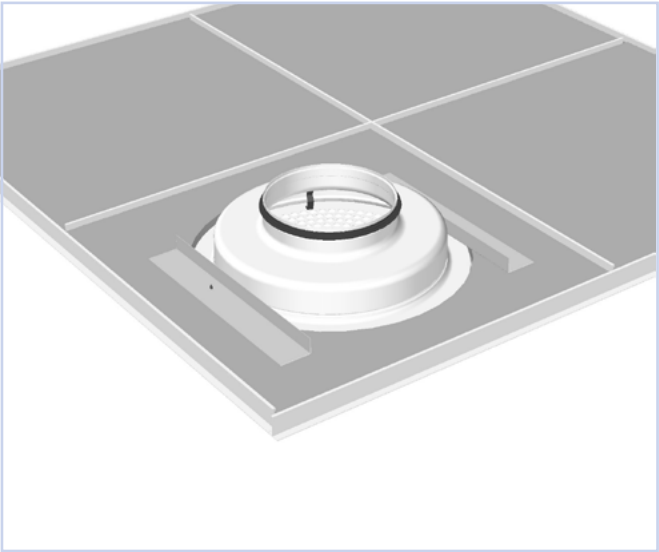


Fig. 3: Installation

COMMISSIONING

During commissioning, the valve front must be fitted. Measuring tube and adjustment wire are pulled through the perforation at the front.
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 valve, or can be found in our commissioning guide at our website: www.trox.no.

MAINTENANCE

The valve is to be cleaned with a damp cloth. When cleaning the duct network, the valve front must be removed in order to gain access to the duct. In Luna is used, diffuser plate 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 www.trox.no

LØV-A is designed and manufactured by:

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

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