



LVV - LVC - LVH

Fire rated air transfer grilles

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LVV / LVC / LVH



Introduction

The fire rated grilles, LVV-40, LVC-40, LVH-44, LVH-50 and LVH-54 are suitable for 90 minutes fire rated doors and partitions. The type LVV-40 is a grille made of straight slats which are placed straight. The type LVC-40 is a round grille. The slats are made of fire-foaming material. As standard, the slats are mounted parallel to the long side. The designation C, for the LVV-40CP, means that a frame is mounted around the grille. The designation A, for the LVV-40AP, is a counter-frame used for mounting in panels. The P in the type designation is a perforated plate.



The fire rated grilles of Waterloo BV have been tested in accordance with NEN 6069. Effectis test report is available.

Operation

The grilles are made of thermo-expanding material. Under normal circumstances, ventilation air goes allowed through freely. In case of fire, The grid blocks by expansion of the slots when heated above 100 degrees celsius.



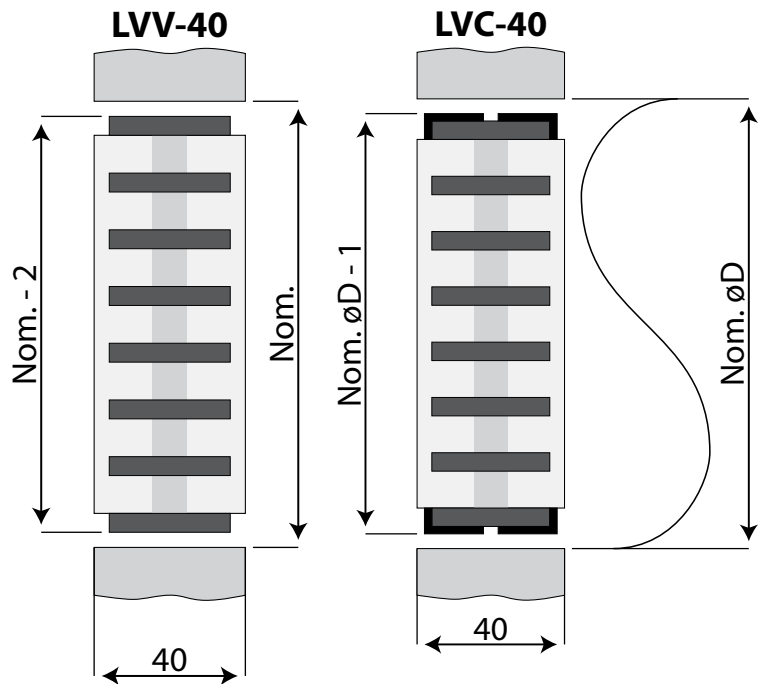
Technical data

LVV / LVC / LVH

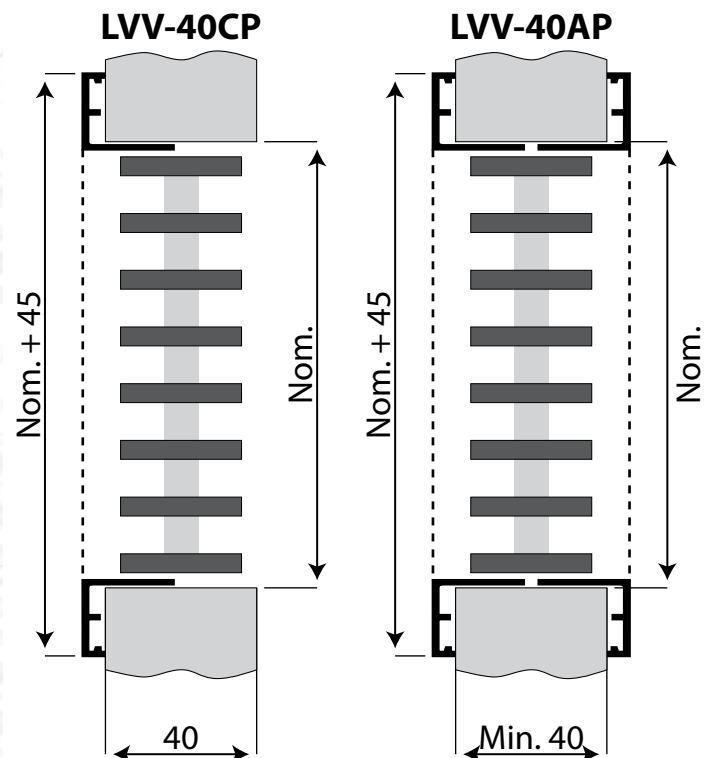


Product description:

- LVV-40** Grille with straight blades
- LVV-40CP** On 1 side provided with perforated plate.
- LVV-40AP** With perforated plate on both sides.
- LVC-40** Round grille
- LVH** Horizontal or vertical mounting.
Can be used in floors and ceilings.
Insensitive to moisture and can be used in exterior walls.



Montagehoogte:	< 1,0 m	1,0 - 1,5 m	1,5 - 2,5 m	> 2,5 m
Type rooster:				
LVV40 (rechthoekig)				
LVV40 (200x200 mm)		EI-90		
LVV40 (400x400 mm)	EI-120			
LVV40 (600x600 mm)	EI-120			
LVC40 (rond)				
LVC40 (150 mm)		EI-120		
LVC40 (450 mm)				EI-30
LVH44 (rechthoekig)				
LVH44 (200x200 mm)		EI-120		
LVH44 (350x350 mm)		EI-120		
LVH44 (600x600 mm)	EI-120			
LVH44 (dubbel)				
2x LVH44 (400x400 mm)				EI-120
2x LVH44 (600x600 mm)				EI-120
LVHC44 (rond)				
LVHC44 (150 mm)		EI-90		
LVHC44 (300 mm)			EI-90	
LVHC44 (450 mm)				EI-60
LVH50 (rechthoekig)				
LVH50 (200x200 mm)			EI-120	
LVH50 (400x400 mm)			EI-120	
LVH50 (600x600 mm)				EI-90
LVH50 (1200x1200 mm)				EI-120



Fire rated air transfer grilles



Field of application

Waterloo fire resistant ventilation grilles have been specially developed for ventilation openings in:

- Concrete, masonry and fire-resistant system walls.
- Ventilation ducts.
- Concrete floor constructions.
- Steel and wooden doors.

Characteristics

- 60 and 120 minutes fire resistant (depending on the type of grille).
- Maintenance-free.
- No mechanical parts.
- Easy to assemble.

Application

- Close fireproof.
- Walls, panels and doors.
- Airtransfer grille.

Advantages

- Large free area.
- Various mounting options.
- Efectis approved.

Finishes

- Grey pvc. Frame and perforated plate
- Grilles standard RAL 9010.
- Other colours available on request

Weights

LVV-40	24	kg/m ²	Face area
LVV-40CP	29	kg/m ²	Face area
LVV-40AP	34	kg/m ²	Face area

Mounting method

No addition	NF (no fixing)
Addition CP	SF (screw hixing)
Addition AP	PSF (screw hixing)

Dimensions

LVV-40 Minimum 100 x 100 mm, maximum 600 x 600 mm. In steps of 25 mm

LVH Minimum 70 x 70 mm, maximum 1200 x 2400 mm.
Dimensions per mm possible. Up to 600 x 600 mm, the diffusers can be provided with a perforated plate. Larger dimensions are produced in 600 x 600 mm modules.



Square or rectangular fire resistant ventilation grilles for vertical mounting LVV-40

Fire resistance: 120 minutes according to EN 1634-1.

Structure: Frame and slats made of plastic sleeves filled with thermoplastic material based on sodium silicate.

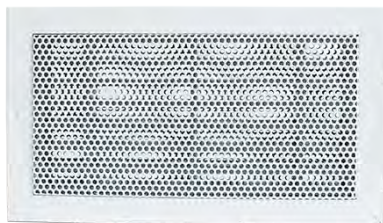
Grate thickness: 40 mm.

Free passage: Approximately 70%.



Construction :

This all-purpose damper can be relied upon to function in extremes of climate and environment. It can suffer considerable abuse during and after installation without losing effectiveness in the control of fire and hot gases. Contaminants do not readily adhere to it and therefore an efficient airflow can be expected throughout its working life. The LVH44 range dampers can be assembled in multi-modules in order to protect large apertures. steel frame with double-sided thermal break provided with thermo-expansive lamellae based on graphite, sealed in a metal film. The slats are supported by steel guide channels.



orientation

LVV-40 products can only be mounted vertically (as shown in the illustration).

Materials:

The gate closes thanks to the expansion of the slats when heated above 160 degrees Celsius. Therefore, the grid is particularly suitable for use in components subjected to high temperatures.

The edge of the grid must be equipped with fire kit FSS International.

For protection, the fire ventilation grille must be fitted with grilles covering steel or aluminum.

Suitable for use in walls, doors and fireproof floors, in interior or exterior construction.

The composite intumescent material selected for the LVH44 range consists of graphite particles that are contained in a carrier that is impervious to the effects of water. The material when activated by heat produces a very durable barrier to the spread of fire and hot gases, whilst providing good insulation performance.

Intumescent slats are formed by wrapping intumescent material in metal foil, creating a 4mm thick section. Steel channels, 5.5mm wide, support the outer edges of the slat and are themselves located into notches in both the front and back steel frames. The two piece outer frame is arranged to give a thermal break between the front and back and is made from 1.00mm. galvanized mild steel. Each damper size is manufactured 2mm less than a nominal aperture size to provide clearance when installed in an aperture of the same nominal dimensions. e.g. a 198mm x 198mm nominal size damper will suit a 200mm x 200mm aperture.



LVV-40

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LVV-40CP



LVV-40CP			Fire resistant transfer grille													
m3/h	l/s		155 x 105	205 x 105	405 x 105	205 x 155	305 x 155	405 x 155	405 x 205	505 x 205	605 x 205	505 x 305	605 x 305	505 x 405	605 x 405	
50	14	Ps	7	4	2	3	2									
		Lp	21	16	11	12	9									
75	21	Ps	14	8	3	4	2	2								
		Lp	29	22	13	15	12	10								
100	28	Ps	27	14	4	6	3	3	2	2						
		Lp	37	29	17	20	14	12	9	8						
150	42	Ps		34	8	13	6	4	3	2	1					
		Lp		41	22	28	20	15	13	10	8					
200	56	Ps			14	25	11	6	4	3	2	2	1			
		Lp			29	35	24	18	15	12	12	10	8			
250	69	Ps			23	39	16	10	5	4	3	2	2	1		
		Lp			34	43	30	23	18	15	13	11	10	9		
300	83	Ps			33		25	13	7	5	3	3	2	2	1	
		Lp			40		35	27	20	17	16	13	11	10	8	
350	97	Ps					35	19	10	6	5	4	3	2	2	
		Lp					41	31	23	20	18	14	12	12	11	
400	111	Ps						25	13	9	7	5	3	3	2	
		Lp						36	26	22	19	16	14	14	13	
450	125	Ps						32	17	12	8	6	4	3	3	
		Lp						39	30	24	21	17	16	15	14	
500	139	Ps							22	13	9	7	5	4	3	
		Lp							34	26	22	19	17	16	15	
600	167	Ps							31	20	13	8	7	6	4	
		Lp							38	31	26	21	19	18	16	
750	208	Ps								31	21	14	10	7	6	
		Lp								39	32	26	22	20	18	
1000	278	Ps									39	25	18	13	10	
		Lp									43	35	30	26	23	
1250	347	Ps										37	27	21	15	
		Lp										42	36	32	28	
1500	417	Ps											38	30	23	
		Lp											44	38	32	
1750	486	Ps												42	29	
		Lp												45	38	
2000	556	Ps													40	
		Lp														43

LVV-40AP

[illegible]

LVC-40

[illegible]

