

# VILPE® FLOW

315-630S FLOW exhaust vents for industrial buildings and multi-apartment complexes  
- an all-in-one solution



## 315-630S EXHAUST VENTS

DUCT SIZES: Ø 315, 400, 500 AND 630 MM  
EXCELLENT PERFORMANCE DATA  
EXCELLENT WATER SEPARATION  
MADE OF LIGHT AND DURABLE POLYETHYLENE  
CHEMICALLY RESISTANT

## VILPE warranty:

**10** year colour warranty    **20** year technical warranty

## READY-MADE PASS-THROUGHS

SIZES: 724 X 724 MM (Ø 315/400) AND 970 X 970 MM (Ø 500/630)  
QUICK AND EASY TO INSTALL  
MADE OF FILM-FACED PLYWOOD WITH SHEET METAL FLASHINGS FOR EXCELLENT WATER-TIGHTNESS  
UNCUT BASEPLATE ALLOWS ADJUSTMENT FOR THE VENTILATION DUCT  
100 MM INSULATION LAYER WITH FIRE CLASS A1  
FASTENERS AND SCREWS INCLUDED  
READY-MADE STEEL FLASHING AVAILABLE  
BUILT-IN SILENCER

> [VILPE.COM/FLOW](https://vilpe.com/flow)

**VILPE®**  
Innovative and Easy

## USE AND SIZE

The VILPE 315-630S FLOW exhaust vents and ready-made pass-throughs provide an excellent all-in-one solution for larger ventilation projects. The products can be used as exhaust vents in new or renovated industrial buildings, apartment buildings, hotels, sports halls, or in other large buildings with a ventilation unit. The VILPE 315-630S FLOW exhaust vents and pass-throughs come in duct sizes  $\varnothing$  315, 400, 500 and 630 mm, and are available in silver-grey, black-grey and black colour options. Both the exhaust vents and the pass-throughs can be found in MagiCAD.

## QUICK AND EASY INSTALLATION WITH READY-MADE PASS-THROUGH

You can either purchase a ready-made pass-through for the VILPE 315-630S FLOW exhaust vents, or install the vents using a custom-built pass-through. The VILPE 315/400S and 500/630S pass-throughs will save you time and effort, however, as they are both easy to install and a safe choice to ensure the vent is water-tight. Since the pass-through is ready-made, the work of waterproofing with sheet metal flashings is minimised – saving both installation time and costs. The smooth bottom of the pass-through is closed and removable, so the product can be adjusted to fit most projects when connecting the pipe junction to the pass-through. A cutout is made in the baseplate for the ventilation duct. The baseplate dimensions are 495 x 495 mm for 315/400S and 740 x 740 mm for 500/630S.

The exhaust vents would ideally be lifted onto the roof on pallets. If this is not possible, the vents can be moved using lifting slings attached through the upper gaps on the vents. Once on the roof, the vents can then be moved by hand. Since the exhaust vents are made of lightweight material, installing them is easier than installing similar, heavier products.

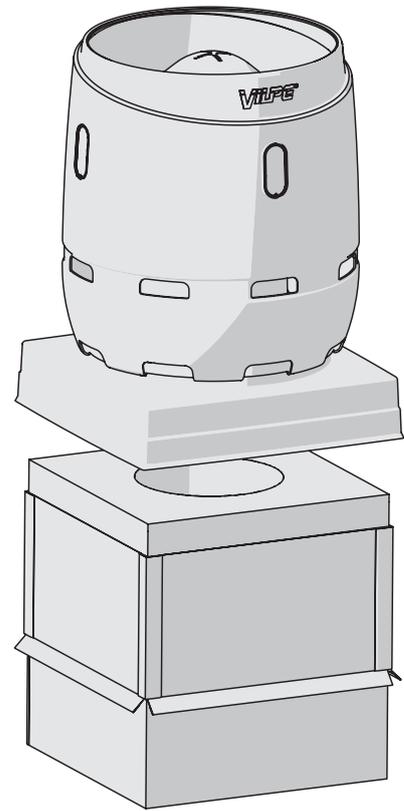
## MATERIAL AND CONSTRUCTION

The VILPE 315-630S FLOW exhaust vents are made of polyethylene, which is a light but durable material. Polyethylene is also chemically resistant and therefore does not corrode, unlike similar products made of metal. When properly attached according to the instruction manual, the 315-630S exhaust vents will endure wind gusts of up to 60 m/s. For proper attachment, the 500/630S exhaust vents must be fastened to the pass-through with L-brackets, which are included in the package.

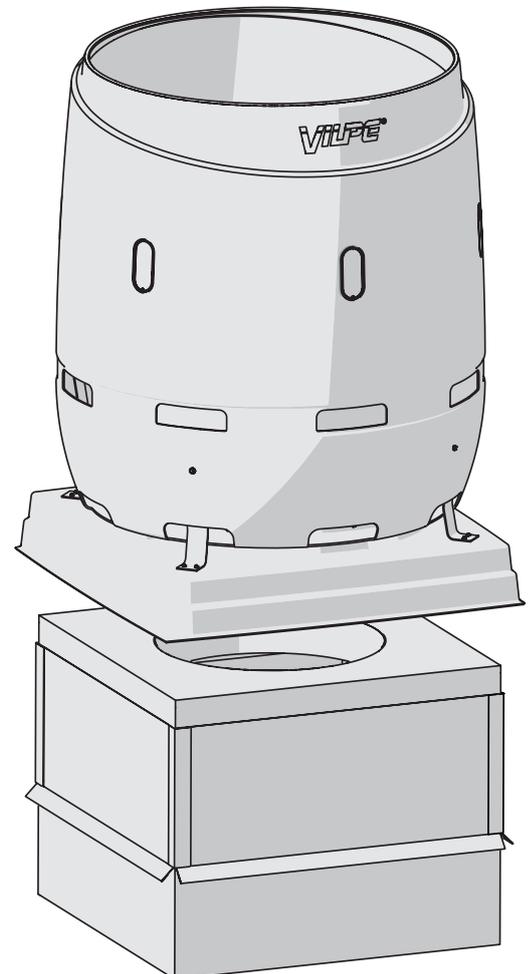
The pass-through is made of plywood and insulated with a 100 mm layer of stone wool. Inside, the pass-through is covered with a perforated sheet metal layer, which works as a silencer. Painted steel flashings, which cover the outside of the plywood, ensure water-tight attachment to the roof material on low-pitched roofs. The painted steel flashing set is sold separately.

### Low weight

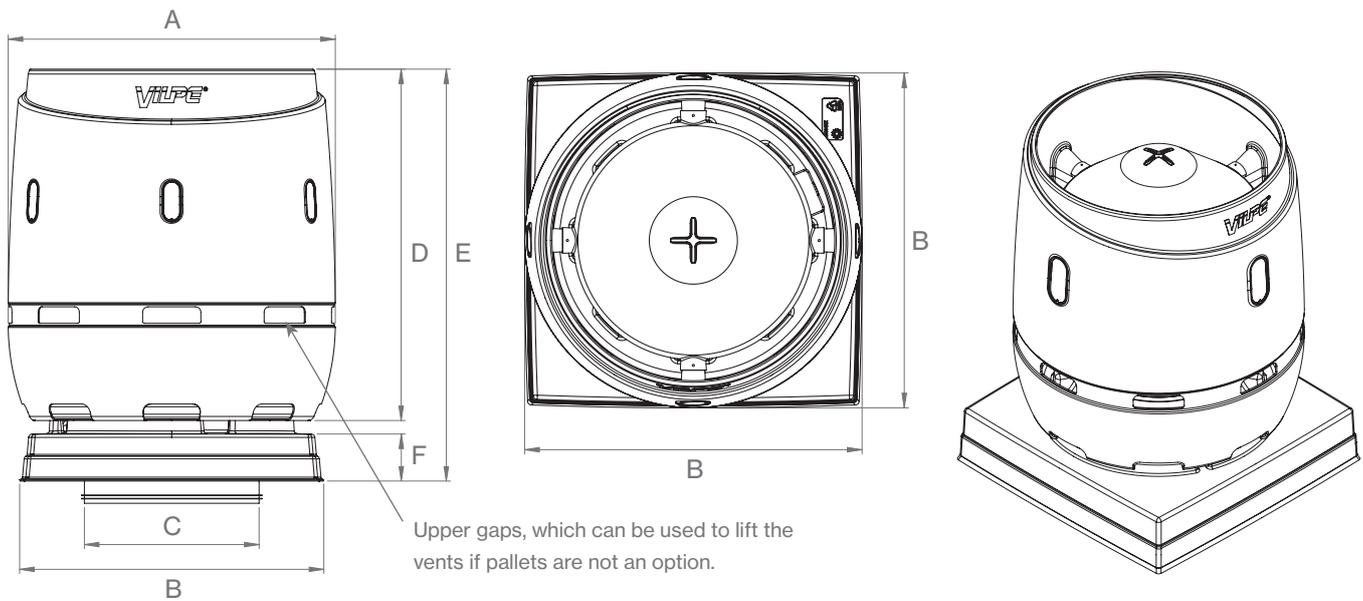
The VILPE 315-630S FLOW exhaust vents are lightweight compared to similar metal products on the market. For instance, the 315S and 400S exhaust vent roof cowls (without the installation sets) weigh only 17 kg each, and the 500S and 630S vent cowls weigh 44 kg each. Paired with the installation sets, the 315S and 400S exhaust vents weigh 23 kg, and the 500S and 630S vents weigh 53 kg. Similarly, the VILPE 315/400S FLOW pass-throughs weigh 53 kg, and its 500/630S counterparts weigh 80 and 77 kg.



*The 315/400S FLOW exhaust vent and the 315/400S FLOW pass-through are pictured above. The picture below shows the 500/630S FLOW exhaust vent with corresponding pass-through.*

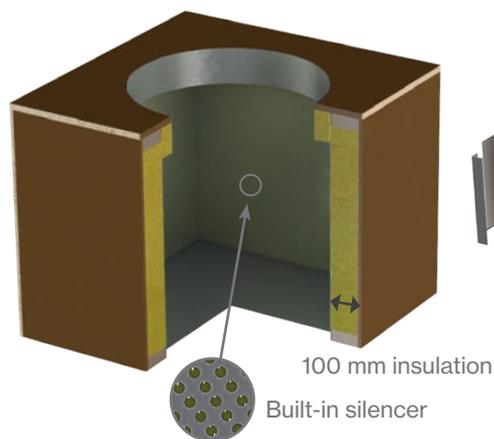
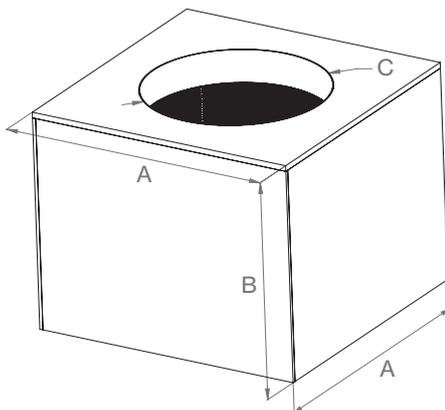


## DIMENSIONS



Product name	Dimensions (mm)						Product weight (kg)	Cowl weight* (kg)	Installation set weight* (kg)
	A	B	C	D	E	F			
VILPE 315S FLOW EXHAUST VENT + INSTALLATION SET	Ø 800	800	Ø 315	865	1065	171	23	17,4	5,7
VILPE 400S FLOW EXHAUST VENT + INSTALLATION SET	Ø 800	800	Ø 400	865	1065	173	23	17,4	5,7
VILPE 500S FLOW EXHAUST VENT + INSTALLATION SET	Ø 1180	1097	Ø 500	1277	1497	170	53	44	9
VILPE 630S FLOW EXHAUST VENT + INSTALLATION SET	Ø 1180	1097	Ø 630	1277	1497	170	53	44	9

\* Included in product weight



Product name	Dimensions (mm)			Weight (kg)
	A	B*	C	
VILPE 315S FLOW PASS-THROUGH	724	800	Ø 316	53
VILPE 400S FLOW PASS-THROUGH	724	800	Ø 401	53
VILPE 500S FLOW PASS-THROUGH	970	801	Ø 501	80
VILPE 630S FLOW PASS-THROUGH	970	801	Ø 631	77
VILPE 315/400 FLOW STEEL FLASHING SET FOR PASS-THROUGH	720	400		5,9
VILPE 500/630 FLOW STEEL FLASHING SET FOR PASS-THROUGH	966	400		7,7

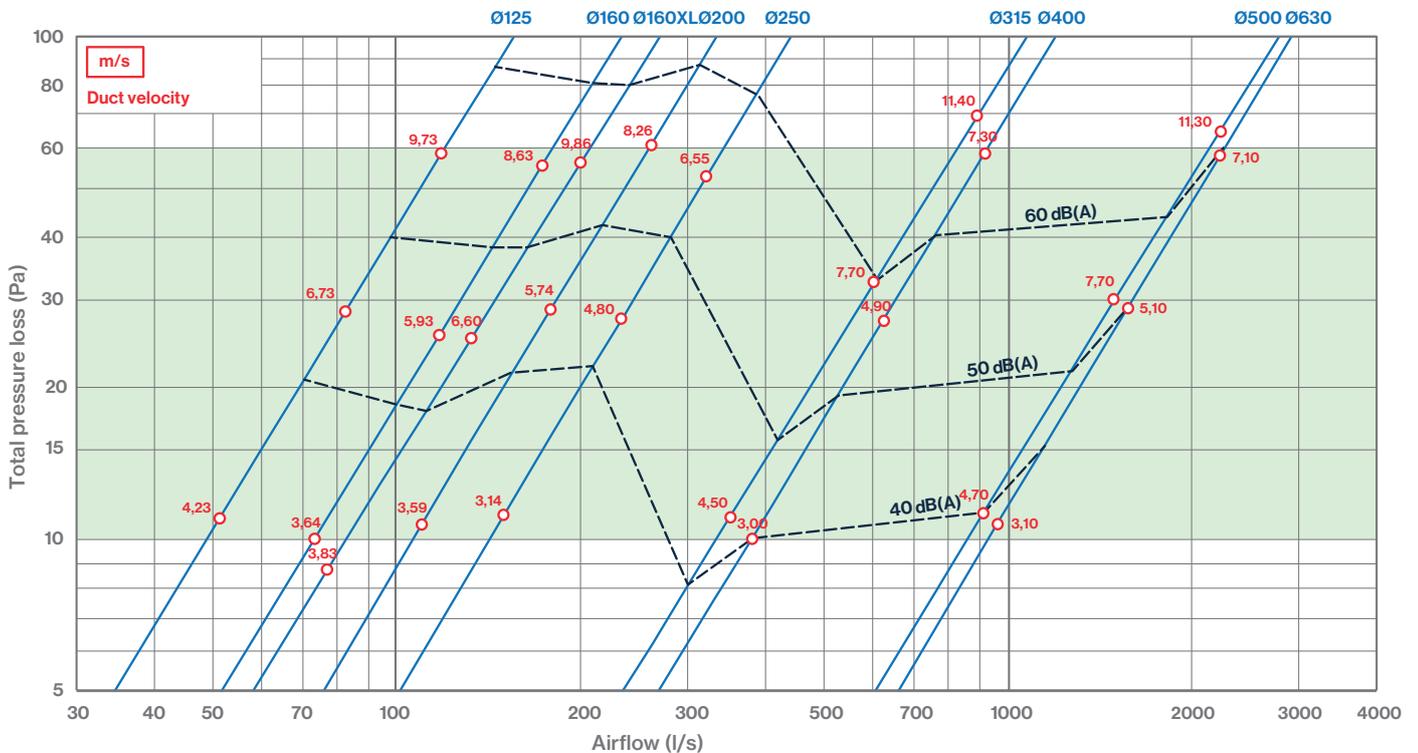
\* VILPE 315-630S FLOW pass-throughs are also available in customised height options. Our sales team is happy to provide more details.

# DIMENSIONING AND PERFORMANCE

## Performance of FLOW exhaust vents

Performance of our whole VILPE FLOW exhaust vent range, with the pipe size in blue. Part of the data displayed here has been extrapolated.

The recommended range has been marked in green.



Total pressure loss for FLOW exhaust pipes at different airflows. Noise levels 40, 50 and 60 (dB(A)) are marked in dark blue and duct velocity in red.

### Low pressure loss generates substantial energy savings

One of the most important technical qualities of the VILPE 315-630S FLOW exhaust vents is their low pressure loss. When products with low pressure loss are used in ventilation projects, the energy efficiency of the buildings in which they are installed is significantly improved. For instance, the low pressure loss of the VILPE 315-630S FLOW generates up to €1000+ worth of energy savings over a period of five years.

These energy calculations can be further viewed at [vilpe.com/flow](http://vilpe.com/flow)



Silver-grey VILPE 315/400S FLOW exhaust vents installed on a pitched roof. The pass-throughs in the picture are built by the customer.

## Exhaust performance data

315S FLOW		1	2	3	4	5	6	7	8	9	10
q <sub>VD</sub>	dm <sup>3</sup> /s	230	263	304	352	419	502	597	740	890	1095
v	m/s	3.0	3.4	3.9	4.5	5.4	6.4	7.7	9.5	11.4	14.1
p <sub>TD</sub>	Pa	4.8	6.2	8.3	11.1	15.6	22.3	31.4	47.9	68.7	103
ζ <sub>TD</sub>	-	0.91	0.91	0.91	0.90	0.90	0.90	0.89	0.89	0.88	0.87
L <sub>W63</sub>	dB	38.4	42.0	44.2	47.9	51.0	54.6	58.1	62.0	65.5	70.3
L <sub>W125</sub>	dB	44.7	49.2	52.9	56.2	60.0	63.7	67.6	72.9	77.4	82.1
L <sub>W250</sub>	dB	32.8	39.8	46.4	51.9	56.8	61.3	65.4	69.6	73.8	79.3
L <sub>W500</sub>	dB	*	22.5	29.2	35.9	43.5	51.1	57.4	63.7	68.7	73.5
L <sub>W1000</sub>	dB	*	*	*	24.3	31.4	38.4	45.4	54.1	60.8	67.5
L <sub>W2000</sub>	dB	*	*	*	*	*	28.1	35.4	43.4	49.8	57.0
L <sub>W4000</sub>	dB	*	*	*	*	*	*	*	36.5	43.6	50.8
L <sub>W8000</sub>	dB	*	*	*	*	*	*	*	*	33.3	41.2
L <sub>W</sub>	dB	45.9	50.3	54.2	58.0	62.1	66.2	70.2	75.1	79.6	84.6
L <sub>WA</sub>	dB (A)	*	35.8	40.5	45.1	49.9	54.4	59.5	64.9	69.8	75.1

400S FLOW		1	2	3	4	5	6	7	8	9	10
q <sub>VD</sub>	dm <sup>3</sup> /s	294	331	381	439	510	620	760	920	1136	1395
v	m/s	2.3	2.6	3.0	3.5	4.1	4.9	6.0	7.3	9.0	11.1
p <sub>TD</sub>	Pa	6.0	7.6	10.0	13.3	18.1	26.8	40.2	59.0	89.8	135
ζ <sub>TD</sub>	-	1.81	1.82	1.82	1.82	1.83	1.84	1.83	1.83	1.83	1.83
L <sub>W63</sub>	dB	*	*	*	*	*	49.9	55.0	60.9	67.0	72.2
L <sub>W125</sub>	dB	43.3	48.3	52.3	55.3	59.1	62.6	65.9	69.4	73.7	77.2
L <sub>W250</sub>	dB	30.1	36.7	45.2	51.1	55.4	60.8	65.3	68.4	72.5	76.9
L <sub>W500</sub>	dB	*	21.1	28.5	35.0	42.9	52.1	59.0	64.4	70.0	73.8
L <sub>W1000</sub>	dB	*	*	*	22.5	30.3	38.2	46.1	55.2	61.8	69.2
L <sub>W2000</sub>	dB	*	*	*	*	*	27.5	36.0	43.4	51.0	58.5
L <sub>W4000</sub>	dB	*	*	*	*	*	*	28.5	36.8	44.9	51.9
L <sub>W8000</sub>	dB	*	*	*	*	*	*	*	*	34.9	43.0
L <sub>W</sub>	dB	*	49.1	53.3	56.9	60.9	65.2	69.3	73.0	77.6	81.8
L <sub>WA</sub>	dB (A)	*	34.8	39.8	44.4	49.2	54.6	60.0	64.5	69.8	74.6

500S FLOW		1	2	3	4	5	6	7	8
q <sub>VD</sub>	dm <sup>3</sup> /s	649	769	917	1086	1266	1510	1820	2212
v	m/s	3.3	3.9	4.7	5.5	6.4	7.7	9.3	11.3
p <sub>TD</sub>	Pa	5.7	8.0	11.4	15.9	21.5	30.5	43.8	64.0
ζ <sub>TD</sub>	-	0.88	0.87	0.87	0.87	0.86	0.86	0.85	0.84
L <sub>W63</sub>	dB	43.9	47.5	51.4	55.2	58.6	61.9	66.6	71.5
L <sub>W125</sub>	dB	42.9	48.4	53.1	57.2	60.8	64.6	69.3	74.6
L <sub>W250</sub>	dB	30.3	37.4	44.9	50.2	55.0	60.0	64.4	68.9
L <sub>W500</sub>	dB	*	29.7	34.8	40.7	47.2	53.4	59.2	64.8
L <sub>W1000</sub>	dB	*	*	*	28.2	33.9	40.3	47.1	54.8
L <sub>W2000</sub>	dB	*	*	*	*	26.3	33.5	40.6	47.4
L <sub>W4000</sub>	dB	*	*	*	*	*	*	35.3	43.0
L <sub>W8000</sub>	dB	*	*	*	*	*	*	*	33.8
L <sub>W</sub>	dB	46.6	51.2	55.8	59.9	63.6	67.5	72.3	77.3
L <sub>WA</sub>	dB (A)	*	34.8	40.1	45.1	49.9	54.9	60.1	65.4

630S FLOW		1	2	3	4	5	6	7	8	9
q <sub>VD</sub>	dm <sup>3</sup> /s	834	977	1144	1348	1584	1867	2210	2701	3195
v	m/s	2.7	3.1	3.7	4.3	5.1	6.0	7.1	8.7	10.3
p <sub>TD</sub>	Pa	8.1	11.2	15.3	21.3	29.4	40.8	57.0	85.4	120
ζ <sub>TD</sub>	-	1.90	1.89	1.89	1.90	1.90	1.89	1.89	1.89	1.90
L <sub>W63</sub>	dB	*	42.5	46.7	50.4	53.7	58.1	61.9	67.7	72.5
L <sub>W125</sub>	dB	43.9	48.6	52.3	56.4	59.4	62.5	65.7	70.4	74.6
L <sub>W250</sub>	dB	32.4	38.6	45.8	51.0	56.4	61.0	64.8	68.9	72.7
L <sub>W500</sub>	dB	26.2	30.8	35.0	40.1	47.0	52.7	58.8	64.9	69.5
L <sub>W1000</sub>	dB	*	*	*	30.1	35.6	41.2	46.7	54.1	59.8
L <sub>W2000</sub>	dB	*	*	*	*	28.3	35.2	41.1	47.9	53.1
L <sub>W4000</sub>	dB	*	*	*	*	*	*	35.6	43.9	50.0
L <sub>W8000</sub>	dB	*	*	*	*	*	*	*	35.2	41.9
L <sub>W</sub>	dB	45.4	50.0	54.1	58.3	62.0	65.9	69.6	74.5	78.8
L <sub>WA</sub>	dB (A)	*	35.1	39.9	44.9	50.0	54.7	59.5	64.8	69.3

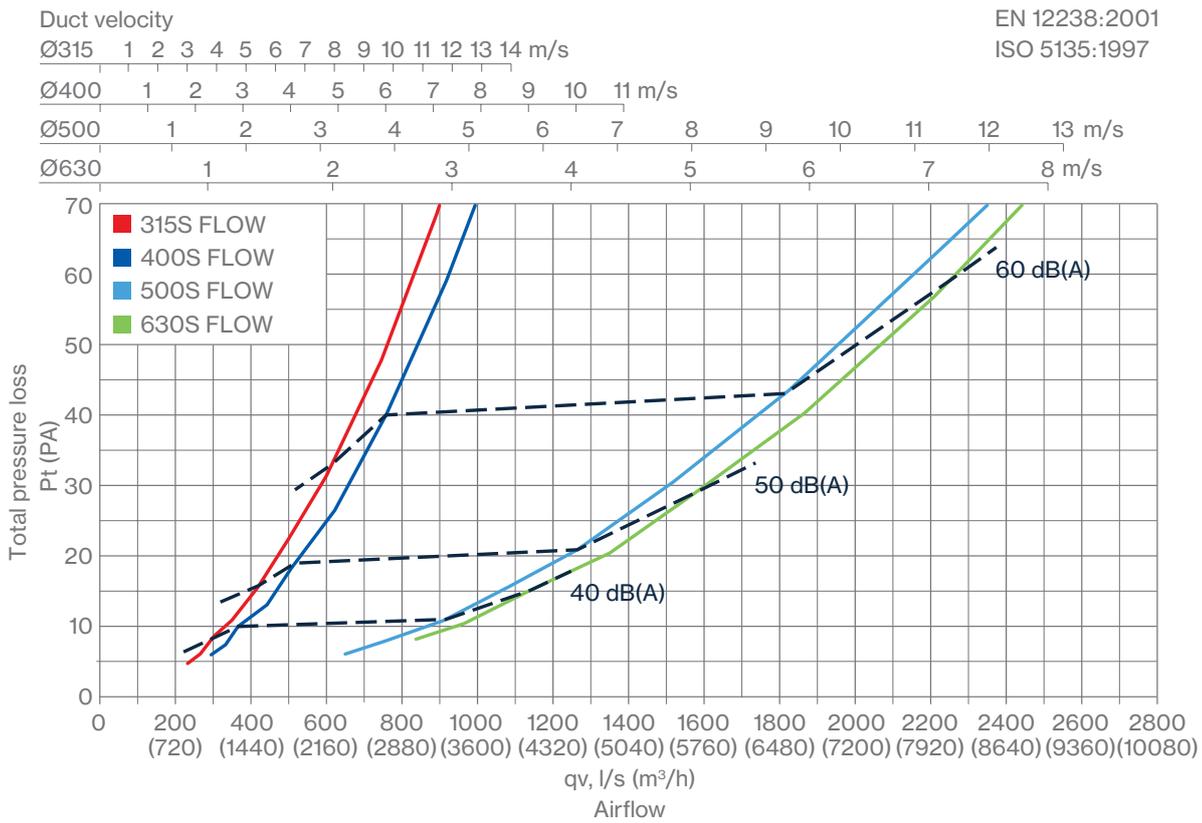
## Noise level correction

Distance (m)	Noise level distance correction (dB(A))
5	-22
10	-28
15	-32
20	-34
30	-38
40	-40
50	-42
60	-44
80	-46
100	-48
120	-50
140	-51
160	-52



# PERFORMANCE

## Exhaust performance

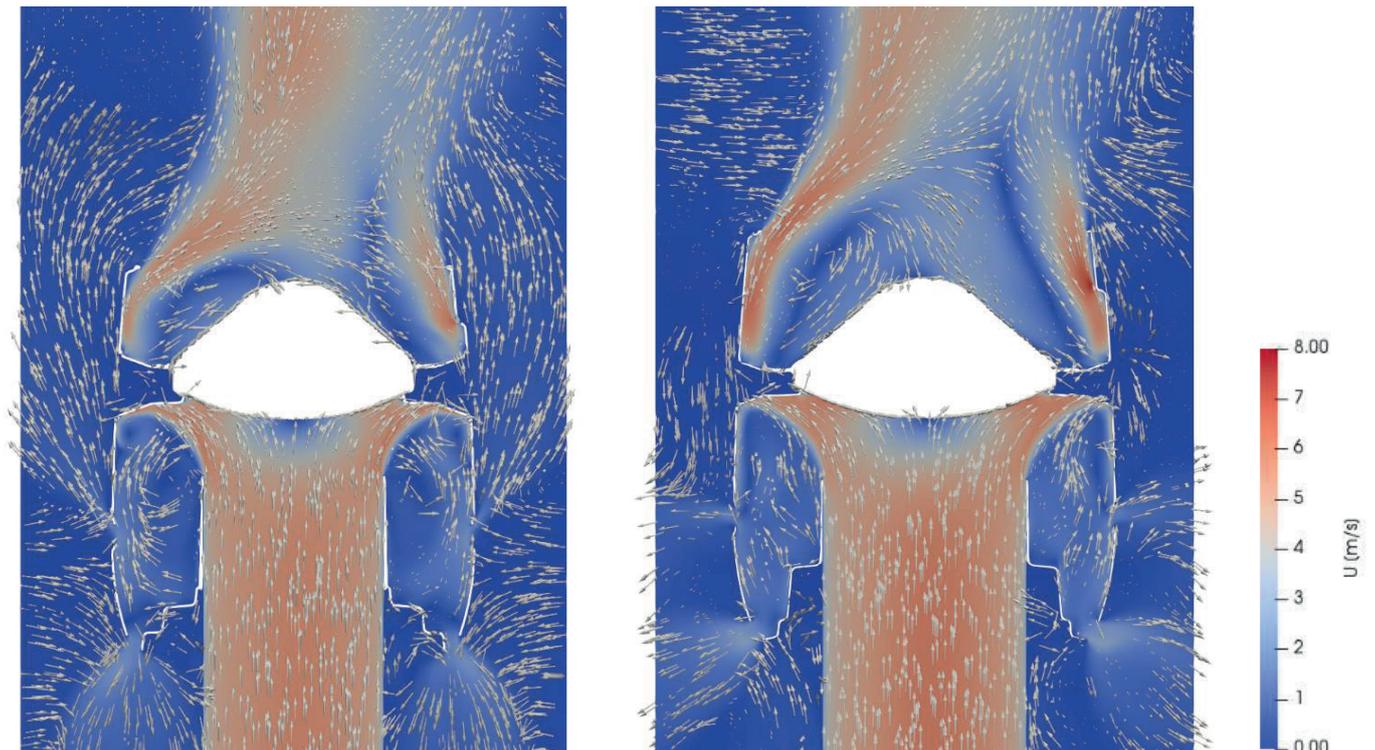


Total pressure loss for 315-630S FLOW exhaust pipes at different airflows. Noise levels 40, 50 and 60 (dB(A)) are marked in dark blue.

## AIRFLOW SIMULATION

Airflow simulation for 315/400S FLOW

Airflow simulation for 500/630S FLOW

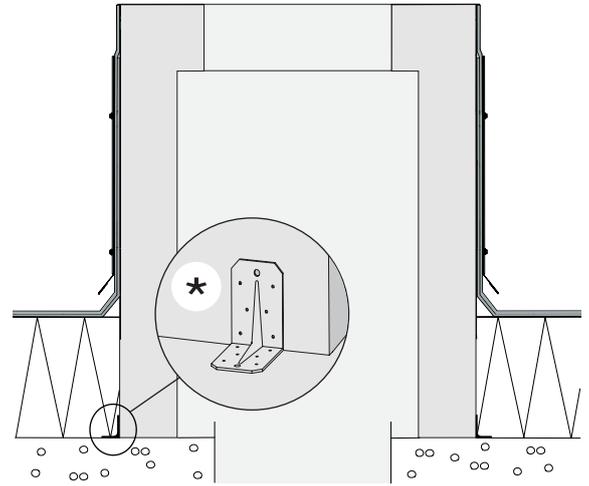


Source: VTT Technical Research Centre of Finland Ltd, report VTT-CR-00727-19

## INSTALLATION ON FLAT ROOFS

The VILPE 315-630S FLOW pass-throughs and exhaust vents are installed on flat roofs using steel angle brackets. The pass-throughs must be securely attached. We recommend that you always follow the instructions from your construction engineer.

More information about installation on flat roofs can be found in the installation manual, which is included in the product package. Steel angle brackets are not included in package.



*Pictured above: A VILPE FLOW pass-through installed on a flat roof with steel angle brackets\*.*

## INSTALLATION ON PITCHED ROOFS

The VILPE 315-630S FLOW pass-throughs and exhaust vents can also be installed on pitched and low-pitched roofs provided they are securely attached. Below is an example of how a pass-through can be attached to a pitched roof structure with steel angle bars. We recommend that you always follow the instructions from your construction engineer. Steel angle bars are not included in the product package.

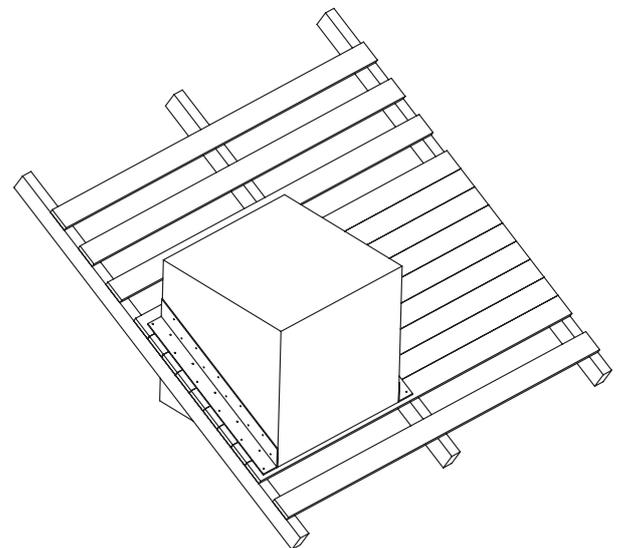
### Example of installation on a pitched roof

Follow the instructions of the roof material manufacturer to determine the spacing of the battening boards. Extra battening boards can be installed around the pass-through.

Follow national building codes when determining the height above the roof surface at which the product can be installed.

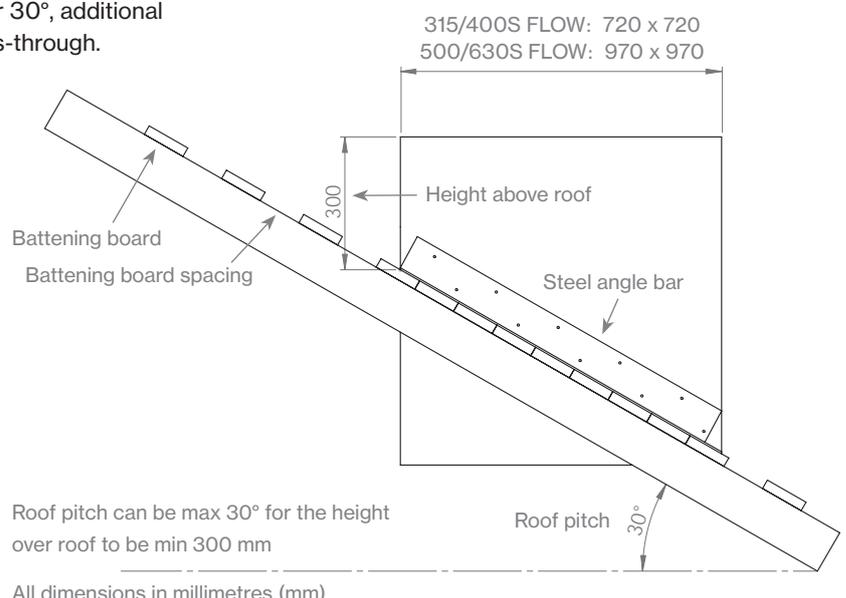
In this example, the pass-through has been installed 300 mm above the roof surface. Steel angle bars with dimensions of 70 x 70 x 7 mm have been fastened to the roof construction and to the pass-through as pictured on the right. The project's construction engineer will determine the necessary dimensions for the steel profile, fastening and additional securing of the product.

For the height above the roof to be at least 300 mm, the roof pitch cannot be more than 30°. If the roof pitch is over 30°, additional support must be added to the VILPE FLOW pass-through.



*Pictured above: A FLOW pass-through installed on a pitched roof. The pass-through is ready for the installation of roof material and waterproofing of the box.*

*On the right: Dimensions of a FLOW pass-through on a 30° pitched roof. The height of the pass-through box above the roof structure is 300 mm in this example.*



## PRODUCT CODES

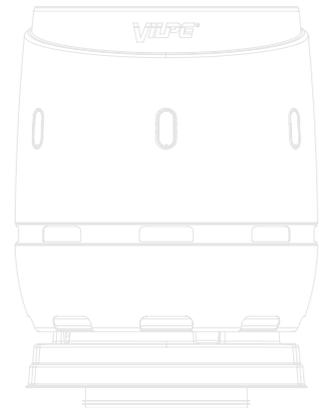
Product name	Colour option	Product code	Included in package
VILPE 315S FLOW EXHAUST VENT + INSTALLATION SET	Black	350402	Exhaust vent, galvanized steel connection pipe, S-installation set, screws
	Black-grey	350407	
	Silver-grey	350401	
VILPE 400S FLOW EXHAUST VENT + INSTALLATION SET	Black	350412	Exhaust vent, galvanized steel connection pipe, S-installation set, screws
	Black-grey	350417	
	Silver-grey	350411	
VILPE 500S FLOW EXHAUST VENT + INSTALLATION SET	Black	350432	Exhaust vent, galvanized steel connection pipe, S-installation set, steel anchors (4 pcs), screws
	Black-grey	350437	
	Silver-grey	350431	
VILPE 630S FLOW EXHAUST VENT + INSTALLATION SET	Black	350442	Exhaust vent, galvanized steel connection pipe, S-installation set, steel anchors (4 pcs), screws
	Black-grey	350447	
	Silver-grey	350441	
VILPE 315S FLOW PASS-THROUGH		350421	Pass-through with integrated silencer, screws
VILPE 400S FLOW PASS-THROUGH		350420	Pass-through with integrated silencer, screws
VILPE 500S FLOW PASS-THROUGH		350450	Pass-through with integrated silencer, screws
VILPE 630S FLOW PASS-THROUGH		350451	Pass-through with integrated silencer, screws
VILPE 315/400 FLOW STEEL FLASHING SET FOR PASS-THROUGH	Black	350423	Painted steel flashing set in black, corner covers, screws
VILPE 500/630 FLOW STEEL FLASHING SET FOR PASS-THROUGH	Black	350453	Painted steel flashing set in black, corner covers, screws

## COLOUR OPTIONS

### Colour options\*

-  Black
  -  Black-grey
  -  Silver-grey
- Inquire about specialised colour options from our sales team.
- \* Due to our printing techniques, actual product colours may differ from those shown in this brochure.*

The RAL colour codes are available on our website: [vilpe.com/colour](http://vilpe.com/colour)



## VILPE Oy

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VILPE's certified products are known for their superior quality. Designed and manufactured in Finland, our products have been developed to withstand the harshest Nordic weather conditions.



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