

## BDXN/BDYN

### Penthouse louvre Standard version Weatherproof vane

#### Available types

##### B D - N - O

- B** outside air
- D** penthouse louvre

#### - Material

- X** rolled sendzimir galvanised steel vane 60 mm
- Y** anodised aluminium vane 50 mm

- N** starter frame for upstand

#### - Mesh

- G** galvanised mesh (standard)
- S** stainless steel insect mesh

- O** not applicable

#### Available upstands

- BDONOD:** uninsulated, sendzimir galvanised steel
- BDONOR:** insulated, sendzimir galvanised steel
- BDONAD:** uninsulated, seawater-resistant aluminium
- BDONAR:** insulated, seawater-resistant aluminium

#### Available uninsulated grommets

- BDOKOD:** sendzimir galvanised steel, length 500 mm
- BDOKAD:** seawater-resistant aluminium, length 500 mm

#### SA-Select

Check SA-Select to create extended order codes and selection details online. **NB!** At this moment, SA-Select is only available in Dutch. But it is possible to create extended order codes and selection details online.

#### Use

The BD-N penthouse louvre is suitable for air supply or discharge. The penthouse louvre is available to extremely large dimensions in order to combine the air supply or discharge for several ventilation systems. It is also possible to have the penthouse louvre as a combined supply and discharge.

#### Characteristics

Standard fitted with hoisting rings.

#### Version

##### Penthouse louvre BDXN

Material:	sendzimir galvanised steel
Mesh:	19 x 19 mm, galvanised
Louvres:	sendzimir galvanised steel
Frame + penthouse:	sendzimir galvanised steel
Post-treatment:	none

##### Optional

Insect mesh*:	stainless steel 2 x 2 mm
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##### Penthouse louvre BDYN

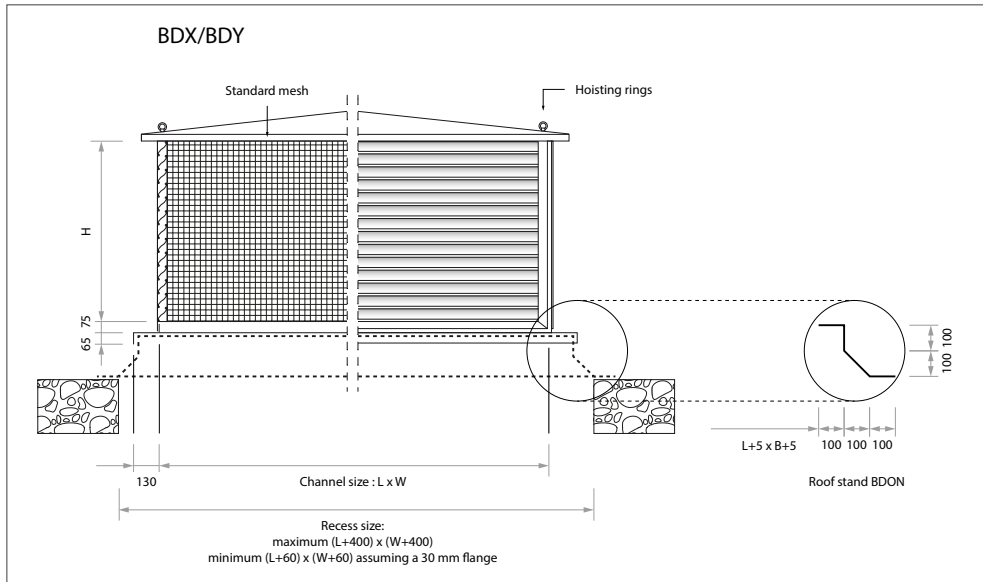
Material:	seawater-resistant aluminium
Mesh:	19 x 19 mm, galvanised
Louvres:	anodised aluminium
Frame + penthouse:	seawater-resistant aluminium
Post-treatment:	none

##### Optional

Insect mesh*:	stainless steel, 2 x 2 mm
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\*The use of insect mesh reduces the net free flow and this has consequences for the design details. They are available in [SA-Select](#).

## Dimensions



## Available dimensions and weights

W		L									
		600	800	1000	1200	1400	1600	1800	2000	2200	2400
600	H	500	600	600	700	700	700	700	700	700	800
	BDX kg	60	75	85	100	110	120	130	140	150	175
	BDY kg	25	35	40	50	55	60	65	70	75	90
800	H		700	700	800	800	900	900	900	900	900
	BDX kg		90	100	120	130	155	165	180	190	200
	BDY kg		45	50	60	65	80	85	90	95	105
1000	H			800	900	900	1000	1000	1000	1000	1100
	BDX kg			120	145	155	180	190	205	215	245
	BDY kg			60	75	80	90	100	105	110	130
1200	H				1000	1000	1100	1100	1200	1200	1200
	BDX kg				170	180	205	220	250	260	275
	BDY kg				85	90	105	115	130	140	145
1400	H					1100	1200	1200	1300	1300	1400
	BDX kg					205	235	250	280	295	325
	BDY kg					105	125	130	150	155	175
1600	H						1200	1300	1400	1400	1400
	BDX kg						250	280	310	325	345
	BDY kg						130	150	165	175	185
1800	H							1400	1400	1500	1600
	BDX kg							310	325	360	400
	BDY kg							165	175	195	215

## Note

- The listed dimensions are in mm.

## Selection details

BD-N

Table 1.1: Supply (with L x W = 1600 x 1600 mm)

		2	3	4	5	6	7	m/s
BDXN steel	$\Delta p_s$	6	12	22	39	54	71	Pa
	$L_{pA}$	22	32	40	48	52	56	dB(A)
BDYN aluminium	$\Delta p_s$	7	17	27	44	69	86	Pa
	$L_{pA}$	24	36	42	48	55	58	dB(A)

Table 1.2: Discharge (with L x W = 1600 x 1600 mm)

		2	3	4	5	6	7	m/s
BDXN steel	$\Delta p_s$	6	12	22	39	54	71	Pa
	$L_{pA}$	19	29	37	45	49	59	dB(A)
BDYN aluminium	$\Delta p_s$	6	14	23	37	58	72	Pa
	$L_{pA}$	21	33	39	45	52	55	dB(A)

Table 2: Required passage surface

air volume		m/s					
m <sup>3</sup> /s	m <sup>3</sup> /h	2	3	4	5	6	7
		m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>	m <sup>2</sup>
0.60	2160	0.30	0.20	0.15	0.12	0.10	0.09
0.80	2880	0.40	0.27	0.20	0.16	0.13	0.11
1.00	3600	0.50	0.33	0.25	0.20	0.17	0.14
1.50	5400	0.75	0.50	0.38	0.30	0.25	0.21
2.00	7200	1.00	0.67	0.50	0.40	0.33	0.29
2.50	9000	1.25	0.83	0.63	0.50	0.42	0.36
3.00	10800	1.50	1.00	0.75	0.60	0.50	0.43
4.00	14400	2.00	1.33	1.00	0.80	0.67	0.57
5.00	18000	2.50	1.67	1.25	1.00	0.83	0.71
6.00	21600	3.00	2.00	1.50	1.20	1.00	0.86
8.00	28800	4.00	2.67	2.00	1.60	1.33	1.14
10.00	36000		3.33	2.50	2.00	1.67	1.43
15.00	54000			3.75	3.00	2.50	2.14
20.00	72000				4.00	3.33	2.86
25.00	90000					4.17	3.57
30.00	108000						4.29

Preferred range

Table 3: Passage and penthouse louvre height

W		L									
		600	800	1000	1200	1400	1600	1800	2000	2200	2400
600	H	500	600	600	700	700	700	700	700	700	800
	m <sup>2</sup>	0.36	0.48	0.60	0.72	0.84	0.96	1.08	1.20	1.32	1.44
800	H		700	700	800	800	900	900	900	900	900
	m <sup>2</sup>		0.64	0.80	0.96	1.12	1.28	1.44	1.60	1.76	2.00
1000	H			800	900	900	1000	1000	1000	1000	1100
	m <sup>2</sup>			1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40
1200	H				1000	1000	1100	1100	1200	1200	1200
	m <sup>2</sup>				1.44	1.68	1.92	2.16	2.40	2.64	2.88
1400	H					1100	1200	1200	1300	1300	1400
	m <sup>2</sup>					1.96	2.24	2.52	2.80	3.08	3.36
1600	H						1200	1300	1400	1400	1400
	m <sup>2</sup>						2.56	2.88	3.20	3.52	3.84
1800	H							1400	1400	1500	1600
	m <sup>2</sup>							3.24	3.60	3.96	4.32

### Note

- The listed dimensions are in mm.

Table 4: Sound correction for different dimensions

W	L									
	600	800	1000	1200	1400	1600	1800	2000	2200	2400
	dB	dB	dB	dB	dB	dB	dB	dB	dB	dB
600	-9	-7	-6	-6	-5	-4	-4	-3	-3	-2
800		-6	-5	-4	-4	-3	-2	-2	-2	-1
1000			-4	-3	-3	-2	-2	-1	-1	0
1200				-2	-2	-1	-1	0	0	1
1400					-1	-1	0	0	1	1
1600						0	1	1	1	2
1800							1	1	2	2

#### Note

- The maximum inflow speed is limited at 4 m/s in connection with the weatherproof limit.
- However, blow-through means the weatherproofness of penthouse louvres is not solely dependent on the inflow speed. It is recommended to fit a drainage option in the connecting duct.
- The given height is the optimum height. Lowering the penthouse louvre produces too much reduction in the passage. Increasing it produces an inefficient cost increase.
- $L_{pA} = L_{WA} - 10$  dB.
- The sound pressure  $L_{pA}$  is given for a penthouse louvre dimension of  $L \times W \times H = 1600 \times 1600 \times 1200$  mm. For correction with a different dimension, please refer to the sound correction table 4.
- The listed dimensions are in mm.

#### Selection example

- Determine the speed by using table 1.1 or 1.2 and the pressure loss and sound production that is deemed permissible.
- In combination with the air volume, table 2 is used to determine the required passage.
- Table 3 then provides the possible penthouse louvre dimensions.
- If the penthouse louvre has a dimension other than  $L \times W = 1600 \times 1600$  mm, correct the sound production in accordance with table 4.