ZNS/ZNW
AIR SUPPLY UNIT

Description:
The air supply unit consists of a wall air-intake ventilator with fixed louvres and a multileaf damper for airflow cut-off, executed either manually or automatically, by means of an actuator.

Intended use

The air supply unit consists of a wall air-intake ventilator with fixed louvres and a multileaf damper allowing air supply cut-off,either manually or automatically by means of an actuator.

Design

ZNS and ZNW units are fitted with standard ZS air intakes made of galvanised steel, equipped with protection steel netting. Other RAL colour painted versions and a stainless steel version of the air-intake ventilator are available upon special request.

Behind the air intake, there is an aluminium PS multileaf damper with louvres equipped with PVC seals. The damper gear consists of toothed wheels made of polypropylene. Optionally, ZNS and ZNW units may be fitted with other PW multileaf dampers chosen from the SMAY portfolio. The damper can be set manually or by means of an electric actuator. On the back of the damper there is an expanded mesh, which covers movable damper louvres. For the SL version, only the ZS shutter is painted. The air-intake ventilator and damper are connected by a duct element with a loose border made of galvanised steel as standard (the stainless steel version is optional).

Operating temperature:
- With a manual damper: from –20 ÷ +90 °C
- With a damper driven by an electric actuator: from -20 ÷ +50 °C

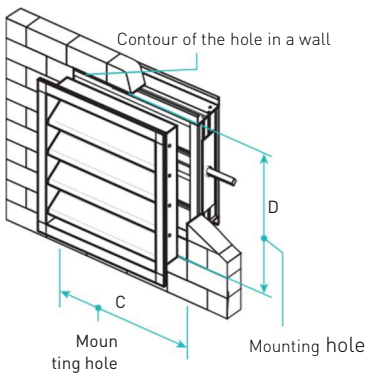

Figure 1. Isometric view of the ZNS assembly.

Dimensions

Dimension range:
- **ZNS**
  - Width C: 200–1400 mm
  - Height D: 320–1420 mm
- **ZNW**
  - Width C: 345–1645 mm
  - Height D: 390–1490 mm

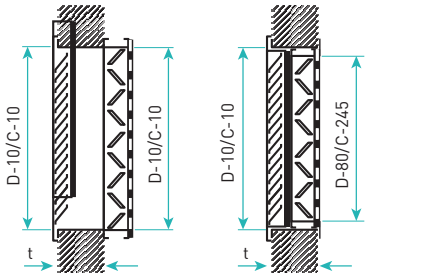

Figure 2. ZNS/ZNW unit dimensions.

Technical Data

Table 1. Effective area of ZNS [m²].

ZNS	C – Air supply units mounting hole width												
D – Mounting hole height	200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400
320	0.03	0.05	0.06	0.08	0.09	0.12	0.13	0.15	0.17	0.19	0.20	0.22	0.24
420	0.04	0.06	0.08	0.10	0.12	0.15	0.17	0.20	0.22	0.24	0.27	0.29	0.31
520	0.05	0.07	0.10	0.12	0.15	0.19	0.22	0.24	0.27	0.30	0.33	0.36	0.39
620	0.06	0.09	0.12	0.15	0.18	0.23	0.26	0.29	0.32	0.36	0.39	0.43	0.46
720	0.07	0.10	0.14	0.17	0.21	0.26	0.30	0.34	0.37	0.42	0.46	0.50	0.53
820	0.08	0.12	0.16	0.20	0.24	0.30	0.34	0.38	0.43	0.48	0.52	0.56	0.61
920	0.09	0.13	0.18	0.22	0.26	0.33	0.38	0.43	0.48	0.54	0.59	0.63	0.68
1020	0.10	0.15	0.20	0.24	0.29	0.37	0.42	0.48	0.53	0.59	0.65	0.70	0.76
1120	0.11	0.16	0.22	0.27	0.32	0.41	0.47	0.52	0.58	0.65	0.71	0.77	0.83
1220	0.12	0.18	0.23	0.29	0.35	0.44	0.51	0.57	0.63	0.71	0.78	0.84	0.91
1320	0.13	0.19	0.25	0.32	0.38	0.48	0.55	0.62	0.69	0.77	0.84	0.91	0.98
1420	0.14	0.20	0.27	0.34	0.41	0.52	0.59	0.66	0.74	0.83	0.90	0.98	1.05

Table 2. Effective area of ZNW [m²].

ZNW	C – Mounting hole width											
D – Mounting hole height	345	445	545	645	745	845	945	1045	1145	1245	1345	1445
390	0.04	0.06	0.07	0.09	0.11	0.14	0.16	0.18	0.20	0.23	0.25	0.27
490	0.05	0.07	0.09	0.12	0.14	0.18	0.20	0.23	0.25	0.29	0.31	0.34
590	0.06	0.08	0.11	0.14	0.17	0.21	0.25	0.28	0.31	0.34	0.38	0.41
690	0.07	0.10	0.13	0.17	0.20	0.25	0.29	0.32	0.36	0.40	0.44	0.48
790	0.08	0.11	0.15	0.19	0.23	0.29	0.33	0.37	0.41	0.46	0.50	0.54
890	0.09	0.13	0.17	0.21	0.26	0.32	0.37	0.42	0.46	0.52	0.57	0.61
990	0.10	0.14	0.19	0.24	0.29	0.36	0.41	0.46	0.51	0.58	0.63	0.68
1090	0.10	0.16	0.21	0.26	0.31	0.40	0.45	0.51	0.57	0.64	0.69	0.75
1190	0.11	0.17	0.23	0.29	0.34	0.43	0.50	0.56	0.62	0.69	0.76	0.82
1290	0.12	0.19	0.25	0.31	0.37	0.47	0.54	0.60	0.67	0.75	0.82	0.89
1390	0.13	0.20	0.27	0.33	0.40	0.51	0.58	0.65	0.72	0.81	0.88	0.96
1490	0.14	0.21	0.29	0.36	0.43	0.54	0.62	0.70	0.77	0.87	0.95	1.03

SL SO RAL

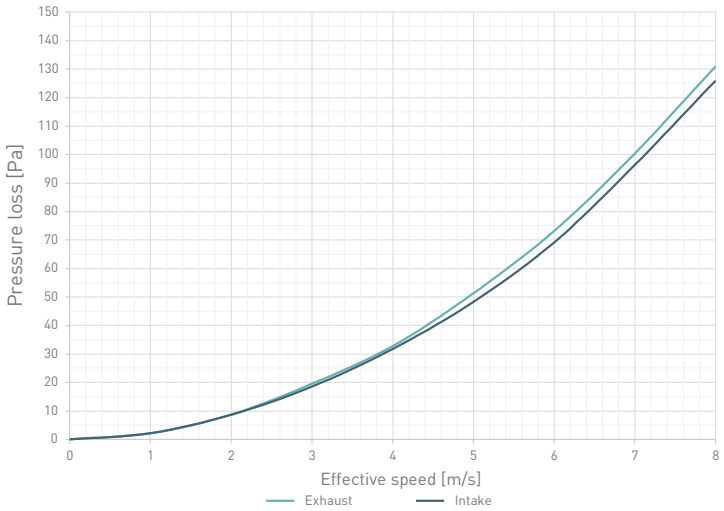

Diagram 1. Pressure losses for the ZNS/ZNW units.

Table 3. ZNS standard dimensions and weight [kg].

ZNS		C – Air supply units mounting hole width												
		200	300	400	500	600	700	800	900	1000	1100	1200	1300	1400
D – Mounting hole height	320	8.9	11.1	13.3	15.4	17.6	19.7	22.0	24.1	26.3	28.5	30.7	32.9	35.1
	420	10.7	13.2	15.6	18.0	20.6	23.0	25.5	28.0	30.5	32.9	35.3	37.8	40.3
	520	12.5	15.2	17.9	20.8	23.6	26.3	29.1	31.8	34.5	37.3	40.0	42.9	45.6
	620	14.2	17.4	20.3	23.5	26.4	29.5	32.5	35.6	38.7	41.7	44.8	47.8	50.8
	720	16.1	19.4	22.8	26.1	29.4	32.7	36.1	39.4	42.7	46.1	49.4	52.7	56.0
	820	17.9	21.5	25.2	28.7	32.4	36.0	39.6	43.2	46.9	50.4	54.1	65.0	61.3
	920	19.7	23.6	27.6	31.5	35.3	39.3	43.2	47.1	51.0	54.9	58.8	62.7	66.7
	1020	21.5	25.7	29.9	34.1	38.3	42.5	46.7	50.8	55.0	59.3	63.4	67.7	71.8
	1120	23.2	27.7	32.2	36.7	41.2	45.7	50.2	54.7	59.2	63.7	68.1	72.6	77.1
	1220	25.0	29.9	34.6	39.4	44.3	49.0	53.8	58.5	63.3	68.0	72.9	77.6	82.3
	1320	27.0	32.0	37.1	42.2	47.2	52.2	57.3	62.2	67.4	72.4	77.5	82.5	87.6
	1420	28.8	34.1	39.5	44.8	50.0	55.5	60.8	66.2	71.4	76.8	82.2	87.5	92.8

Table 4. ZNW standard dimensions and weight [kg].

ZNW		C – Mounting hole width											
		345	445	545	645	745	845	945	1045	1145	1245	1345	1445
D – Mounting hole height	390	5.9	7.4	8.9	10.5	12.1	13.6	15.1	16.8	18.3	19.8	21.3	23.0
	490	7.0	8.8	10.7	12.4	14.2	16.1	17.9	19.6	21.5	23.3	25.1	26.9
	590	8.1	10.2	12.3	14.3	16.4	18.5	20.6	22.6	24.7	26.8	28.9	30.9
	690	9.3	11.6	13.9	16.3	18.6	20.9	23.3	25.6	27.9	30.2	32.6	34.9
	790	10.4	13.0	15.6	18.2	20.8	23.4	25.9	28.5	31.2	33.7	36.3	38.9
	890	11.5	14.4	17.3	20.1	22.9	25.8	28.6	31.5	34.4	37.1	40.0	42.9
	990	12.7	15.8	18.9	22.0	25.1	28.2	31.4	34.5	37.5	40.6	43.7	46.9
	1090	13.9	17.2	20.6	24.0	27.3	30.7	34.0	37.3	40.7	44.1	47.4	50.8
	1190	15.0	18.6	22.2	25.9	29.5	33.1	36.7	40.3	43.9	47.5	51.3	54.9
	1290	16.1	20.0	23.9	27.7	31.7	35.6	39.4	43.3	47.1	51.0	55.0	58.8
	1390	17.3	21.4	25.6	29.7	33.8	37.9	42.1	46.3	50.4	54.6	58.7	62.8
	1490	18.4	22.9	27.2	31.6	36.0	40.4	54.8	49.2	53.6	58.0	62.4	66.8

The data from the table applies to standard air supply units with a PS damper: T3 and for a wall thickness t = 300 mm.

Installation

ZNS and ZNW units are mounted to the building structure with screws through holes in the louvre frame (holes to be prepared on site). Examples of installation are shown below.

In the case of the ZNW unit version with a damper controlled by an electric actuator, actuator servicing is possible only from the inside of the duct. If the installation plan takes into account another part of the duct connected to the ZNW unit, it is recommended to use a duct segment that will provide service access to the damper actuator after its removal.

ZNS

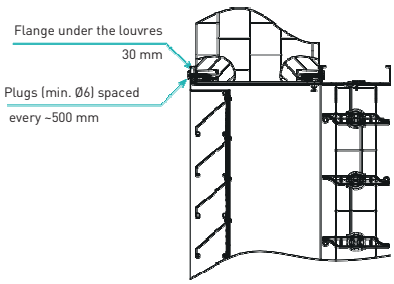

Figure 3. Installation in brickwork/concrete wall.

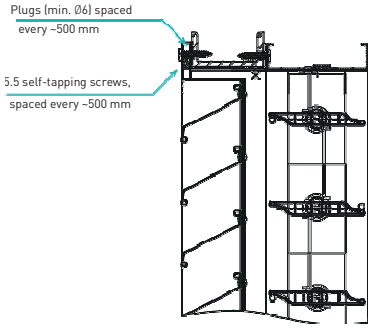

Figure 4. Installation in a steel structure.

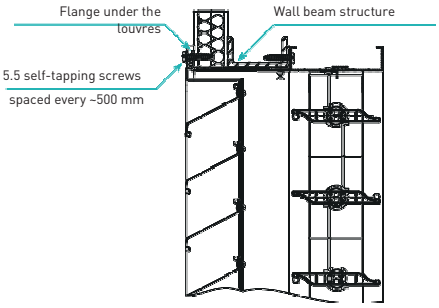

Figure 5. Installation in a wall made of composite panels.

ZNW

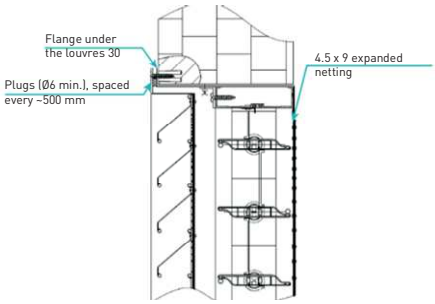

Figure 6. Installation in brickwork/concrete wall.

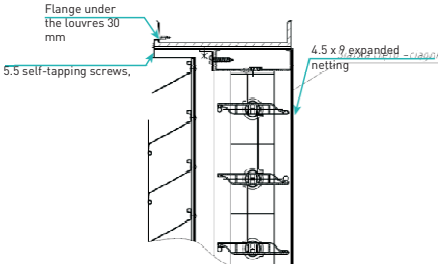

Figure 7. Installation in a steel structure.

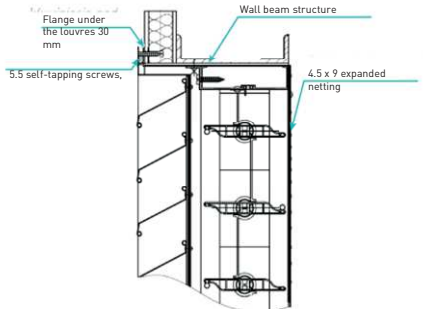

Figure 8. Installation in a wall made of composite panels.

ZNS/ZNW – Air supply unit

When ordering, please provide information according to the following pattern:

ZN<X> - <C> x <D> - <T> - <P> <RAL> / <ADD>

Where:

X	Installation version	
	S	– Damper mounted on a wall
	W	– Damper inside a mounting hole
C	Mounting hole width in mm	
D	Mounting hole height in mm	
T	Baffle thickness in mm	
P	Finish*	
	S0	– **ZS air-intake ventilator frame and louvres made of galvanised steel**
	SL	– ZS air-intake ventilator frame and louvres made of painted steel
	SN	– ZS frame and louvres, connecting duct and PWII-N damper made of stainless steel, grade 1.4301 (304 according to AISI, 0H18N9 according to PN)
RAL	Colour according to the RAL colour chart	
ADD	Specify additional accessories here, as below:	

Accessories

PS-T<N>	PS Aluminium damper with louvres with PVC seals	
PWII-..-T<N>	Damper: PWII-U; PWII-N; PWII-0; PWIIS;	
N	Drive type*	
	1	– Electric actuator**
	3	– Actuator base not included in Smay delivery
	4	**– Manual mechanism**

* Optional sizes – if none, default values will be used

** Please specify in addition: supply voltage (24 V or 230 V), actuator operating principle (with spring return or close/open), operation of return spring (when normally open, after loss of voltage the spring closes the damper; when normally closed, after loss of voltage the spring opens the damper)

Example of product marking: **ZNS-1000x1000-300-SL9006/PS-T1** (24 V, with return spring, when normally open, after loss of voltage the spring closes the damper).