

KOOLAIR

series

HVFS

Terminal units
with fan

ISO 9001

BUREAU VERITAS
Certification

Sistema de Gestión



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HVFS terminal units with fan

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HVFS terminal units with fan



The HVFS boxes include the following:

- Double-inlet fan with built-in single-phase motor, with adjustable speed drive.
- Differential pressure sensor at the primary air inlet.
- Actuator-Belimo NMV-D2M volume control damper, at the primary air inlet.
- Airtight volume control damper, manufactured of galvanized steel sheet, that runs at low pressure.
- Return air inlet with acoustic silencer at inlet.
- Fiberglass insulation with a thickness of 50 mm on the inner surface of the box enclosure.

Description

The HVFS terminal unit is a solution that fully adapts to installations in which it is desirable to retain the flexibility of a variable air volume (VAV) system, while also providing a constant air volume to specific areas (VAC).

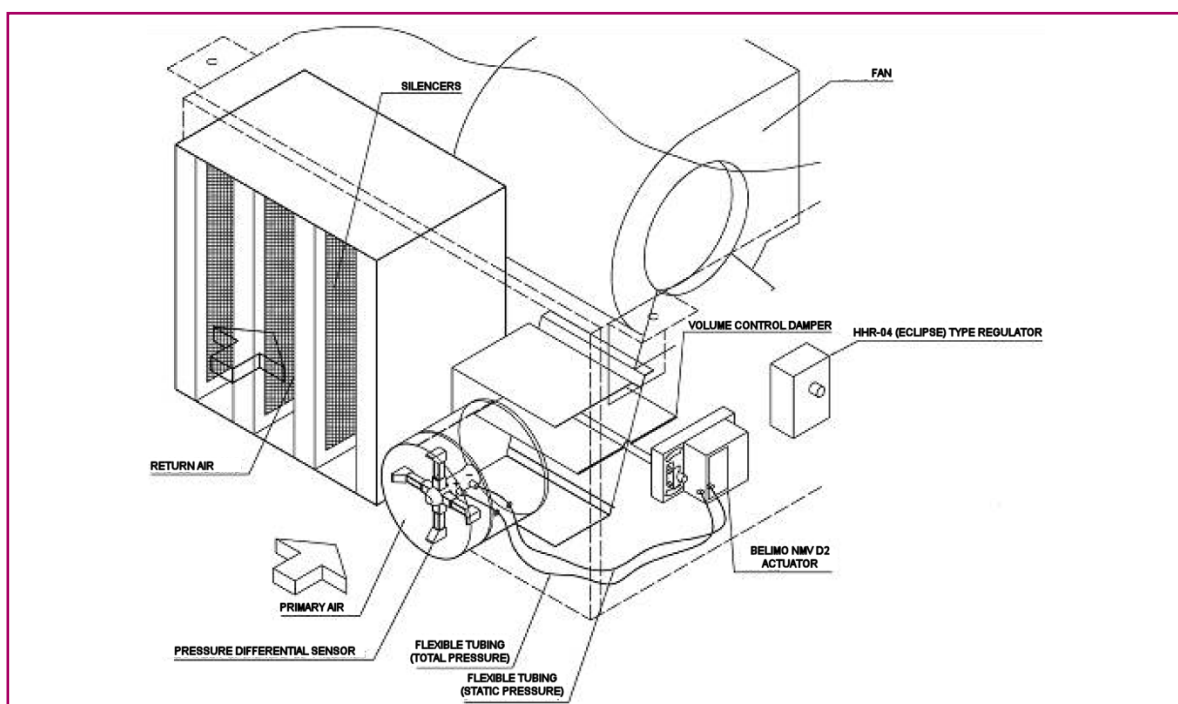
When the thermal demands in the conditioned space are highest, the flow rate supplied by the HVFS air terminal is 100% primary air, an action that is controlled by the volume control damper.

As the thermal needs of the conditioned space gradually decrease, the primary air intake to the air terminal also gradually decreases and the secondary air intake increases proportionally. The air flow supplied by the fan to the diffusers remains constant, whereas the temperature changes according to thermal demand.

The HVFS boxes control the supply air temperature by varying the primary air intake (characteristic of a VAV system), while the supply flow to the rooms remain constant (characteristic of a VAC system).

The HVFSW and HVFSE air terminals include a hot-water or electric coil, respectively, when necessary to combat negative loads (winter), e.g., perimeter loads or in the cases of prolonged shutdown of the installation. In these cases, the primary air intake is low, ensuring a minimal ventilation air supply.

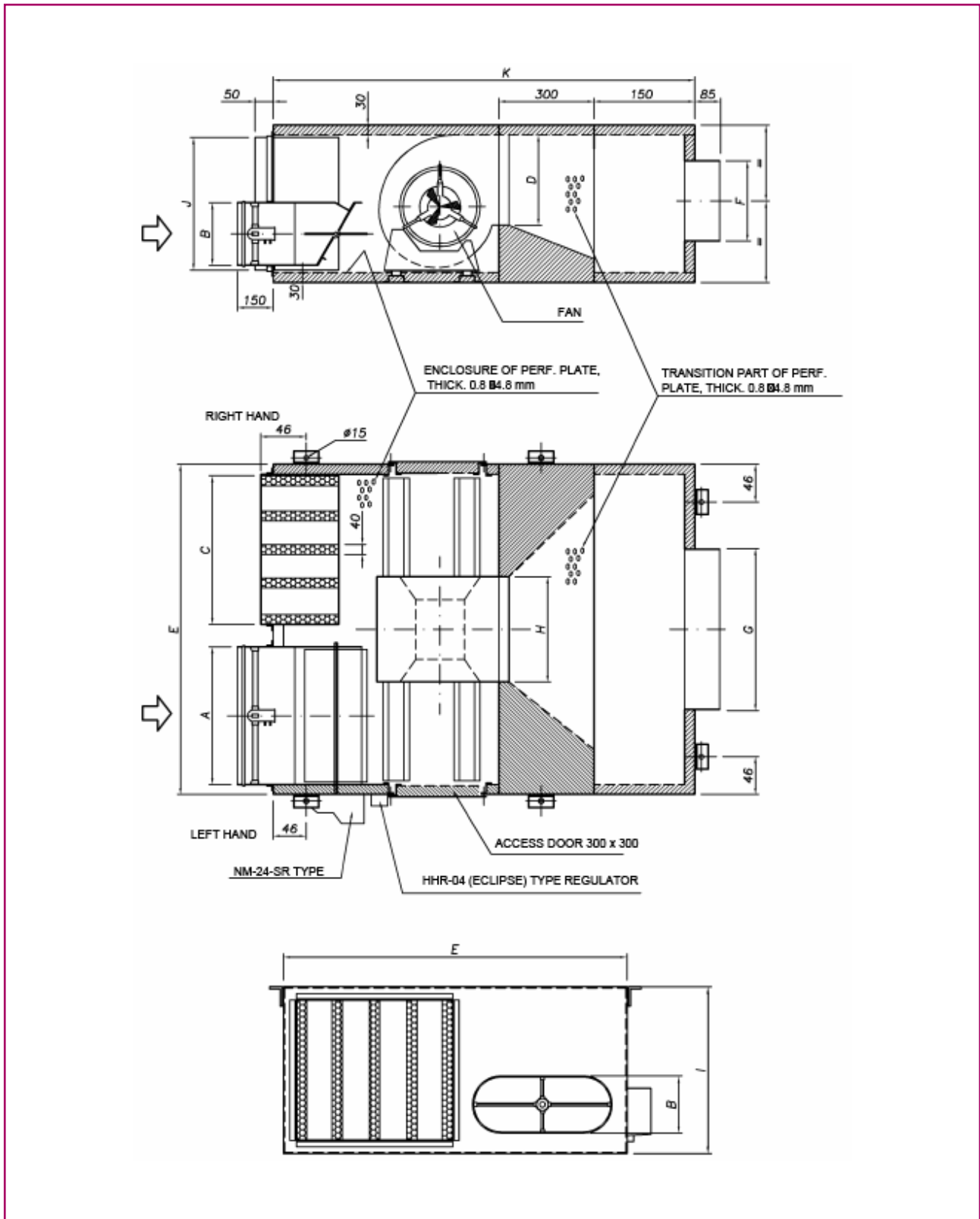
The HVFS terminal unit comes in 7 sizes, covering an air flow range of 300 to 6200 m³/h.



The HVFS terminal units are serviced from the outside, with no need to remove the unit; the fan motor assembly may be removed through the lower panel, and the control elements from one side of the unit.

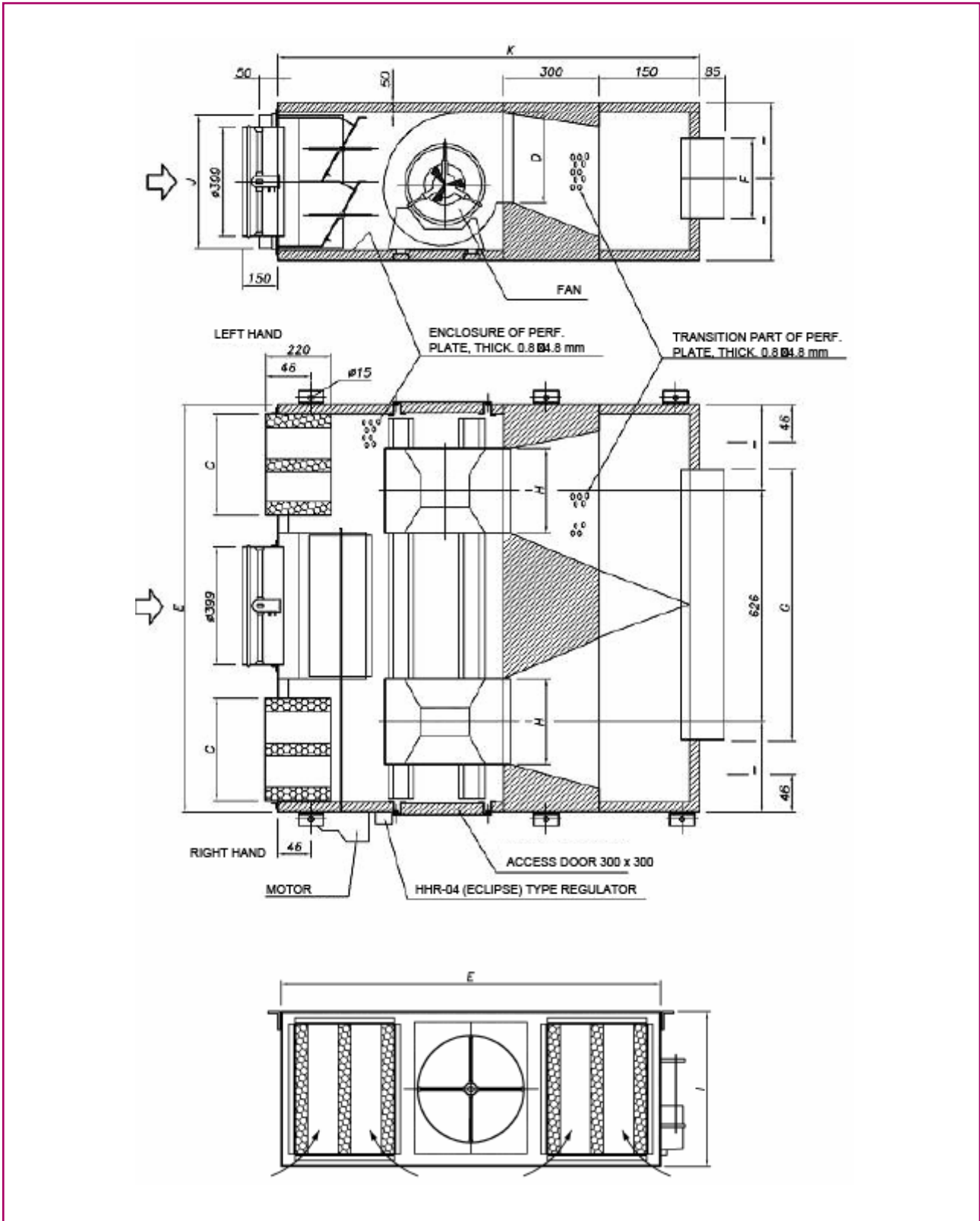
Versions. Dimensions

HVFS BOX 300 to 1500



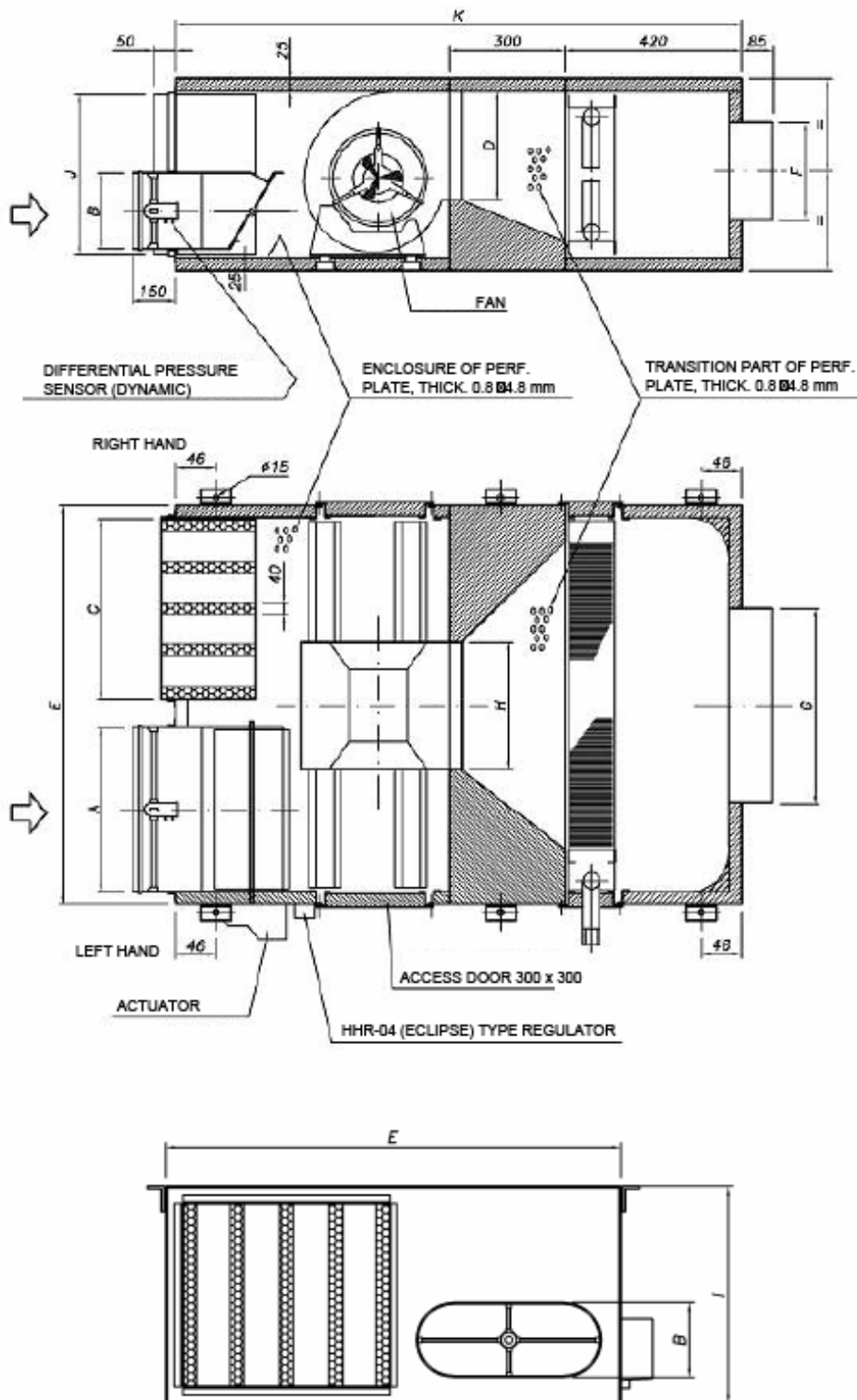
Versions. Dimensions

HVFS BOX 2000 to 3000



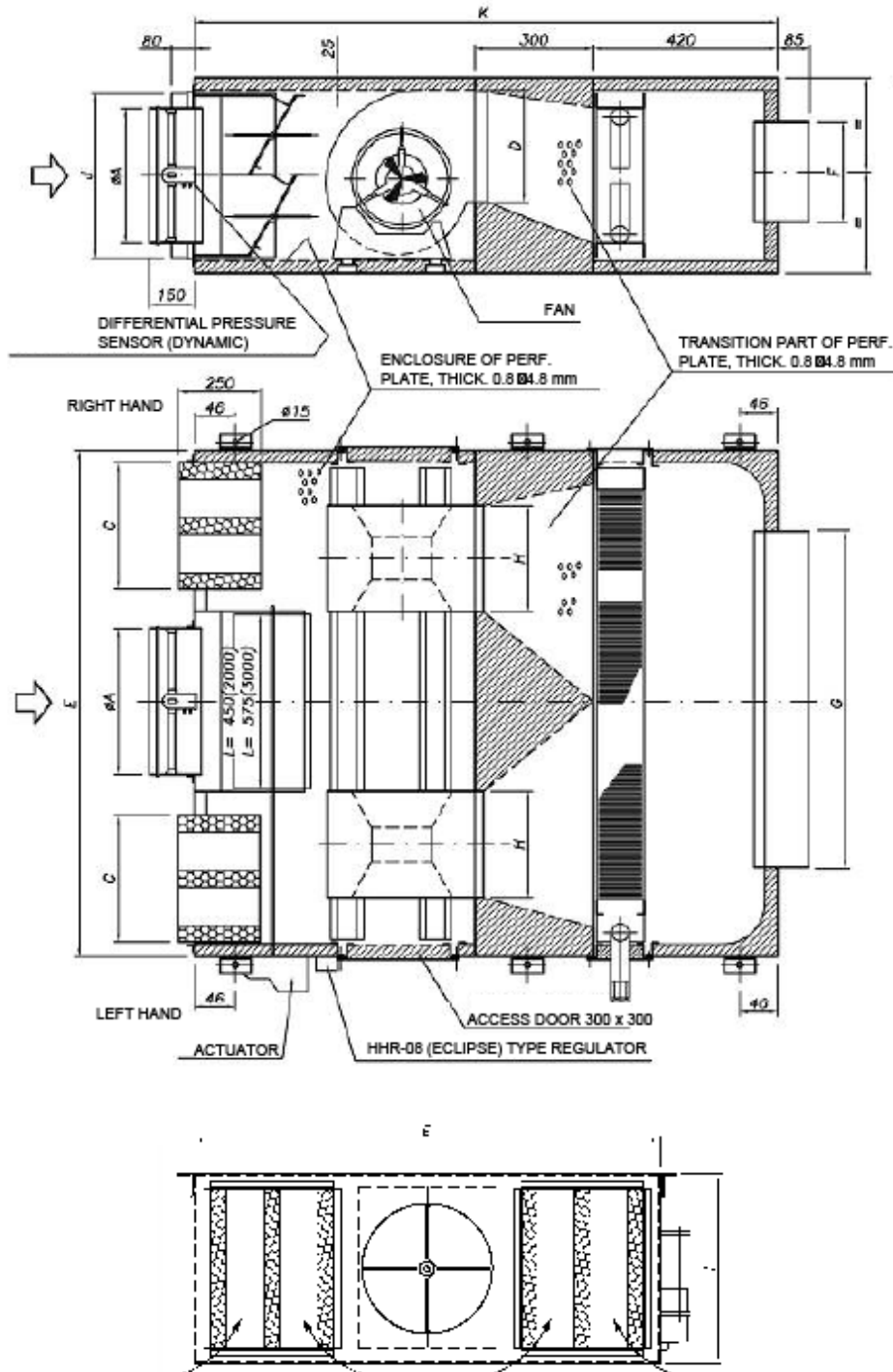
Versions. Dimensions

HVFSW BOX 300 to 1500



Versions. Dimensions

HVFSW BOX 2000 to 3000



Versions. Dimensions

Dimension table - HVFS 300 to 1500 boxes

MODEL	A	B	C	D	E	F	G	H	I	J	K
HVFS-300	-	Ø 158	325	104	605	250	250	215	320	255	1150
HVFS-500	-	Ø 198	390	260	790	250	300	232	480	415	1150
HVFS-750	277	198	390	260	790	250	300	300	480	415	1150
HVFS-1000	379	198	425	260	915	250	350	300	480	415	1150
HVFS-1500	442	198	475	289	1100	250	500	333	560	455	1180

MODEL	DAMP.	FAN	FLOW RATE m ³ /h
HVFS-300	400	DDMP 133/190	510
HVFS-500	800	DDMP 146/190	850
HVFS-750	1200	DDMP 7/7	1270
HVFS-1000	1600	DDMP 9/9	1700
HVFS-1500	2000	DDMP 9/9	2500

Dimension table - HVFS 2000-3000 boxes

MODEL	B	C	D	E	F	G	H	I	J	K
HVFS-2000	Ø 348	262	260	1200	250	475	300	480	415	1180
HVFS-3000	Ø 400	262	289	1220	300	800	333	560	455	1180

MODEL	DAMP.	FAN	POL.	W	FLOW RATE m ³ /h
HVFS-2000	450	2 x DDMP 10/10	6	240	-
HVFS-3000	575	2 x DDMP 10/10	6	370	-

Dimension table - HVFSW 300 to 1500 boxes

MODEL	A	B	C	D	E	F	G	H	I	J	K
HVFSW-300	-	Ø 158	325	104	605	250	250	215	320	255	1350
HVFSW-500	-	Ø 198	390	260	790	250	300	232	480	415	1450
HVFSW-750	277	198	390	260	790	250	300	300	480	415	1450
HVFSW-1000	379	198	425	260	915	250	350	300	480	415	1450
HVFSW-1500	442	198	475	289	1100	250	500	333	480	455	1450

MODEL	DAMP.	FAN			REHEAT COIL	FLOW RATE m ³ /h
		POLES	POT.	MODEL		
HVFSW-300	400		175 W	DDMP 133/190	2	510
HVFSW-500	800	6	130 W	DDMP 146/190	2	850
HVFSW-750	1200	6	240 W	DDMP 7/7	2	1200
HVFSW-750	1200	6	240 W	DDMP 7/7	2	1200
HVFSW-1000	1600	6	240 W	DDMP 9/9	2	1600
HVFSW-1500	2000	6	370 W	DDMP 9/9	2	2500

Dimension table - HVFSW 2000-3000 boxes

MODEL	A	C	D	E	F	G	H	I	J	K
HVFSW-2000	Ø 348	262	260	1140	250	475	300	480	415	1450
HVFSW-3000	Ø 400	262	289	1220	300	800	333	480	455	1450

MODEL	DAMP.	FAN			REHEAT COIL	FLOW RATE m ³ /h
		POLES	POT.	MODEL		
HVFSW-2000	L=450	6	240 W	2 x DDMP 10/10	2	3400
HVFSW-3000	L=575	6	370 W	2 x DDMP 10/10	2	5000

Technical data

Radiated noise. Sound power level dB(A). Minimum pressure (air inlet)

Size	Q [l/s]	Q [m³/h]	63	125	250	500	1k	2k	4k	8k
300	86,1	310	<	<	21	20	<	<	<	<
	113,9	410	<	22	26	24	<	<	<	<
	141,7	510	<	26	30	28	22	20	<	<
	169,4	610	<	29	33	31	25	23	21	<
500	141,7	510	<	<	22	20	<	<	<	<
	188,9	680	<	23	27	25	<	<	<	<
	236,1	850	<	27	30	28	23	20	<	<
	283,3	1020	<	30	33	31	26	24	21	<
750	211,1	760	7	<	22	20	<	<	<	<
	283,3	1020	<	23	27	25	20	<	<	<
	352,8	1270	<	27	31	29	23	21	<	<
	425	1530	<	30	34	32	26	24	22	<
1000	283,3	1020	<	<	22	20	<	<	<	<
	377,8	1360	<	23	27	25	<	<	<	<
	472,2	1700	<	27	30	29	23	21	<	<
	566,7	2040	<	30	34	32	26	24	21	<
1500	425	1530	<	21	24	22	<	<	<	<
	566,7	2040	<	25	29	27	22	<	<	<
	708,3	2550	<	29	33	31	25	23	21	<
	850	3060	21	32	36	34	29	26	24	22
2000	566,7	2040	<	22	25	24	<	<	<	<
	755,6	2720	<	26	30	28	23	20	<	<
	944,4	3400	<	30	34	32	27	24	22	<
	1133,3	4080	22	33	37	35	30	27	25	23
3000	850	3060	<	25	29	27	21	<	<	<
	1133,3	4080	<	30	34	32	26	24	22	<
	1416,7	5100	23	34	38	36	30	28	25	23
	1700	6120	26	37	41	39	33	31	28	26

Regenerated noise. Sound power level dB(A). Minimum pressure (air inlet)

Size	Q [l/s]	Q [m³/h]	Octave bands [Hz]							
			63	125	250	500	1k	2k	4k	8k
300	86,1	310	<	<	27	26	<	<	<	<
	113,9	410	<	21	32	30	<	<	20	23
	141,7	510	<	24	35	34	22	<	24	27
	169,4	610	<	27	38	37	25	<	27	30
500	141,7	510	<	<	27	26	<	<	<	<
	188,9	680	<	21	32	31	<	<	20	23
	236,1	850	<	25	36	35	22	<	24	27
	283,3	1020	<	28	39	38	25	20	27	30
750	211,1	760	<	<	27	26	<	<	<	<
	283,3	1020	<	22	32	31	<	<	21	24
	352,8	1270	<	25	36	35	23	<	25	28
	425	1530	<	28	39	38	26	20	28	31
1000	283,3	1020	<	<	27	26	<	<	<	<
	377,8	1360	<	21	32	31	<	<	21	23
	472,2	1700	<	25	36	35	23	<	24	27
	566,7	2040	<	28	39	38	26	20	27	30
1500	425	1530	<	<	30	29	<	<	<	21
	566,7	2040	<	24	35	33	21	<	23	26
	708,3	2550	<	28	38	37	25	<	27	30
	850	3060	<	31	41	40	28	22	30	33
2000	566,7	2040	<	20	31	30	<	<	<	22
	755,6	2720	<	25	36	35	22	<	24	27
	944,4	3400	<	29	39	38	26	20	28	31
	1133,3	4080	<	32	43	41	29	23	31	34
3000	850	3060	<	24	34	33	21	<	23	26
	1133,3	4080	<	28	39	38	26	20	28	31
	1416,7	5100	<	32	43	42	30	24	31	34
	1700	6120	20	35	46	45	33	27	34	37

<: Sound power level <20 dB(A)

Technical data

Overall radiated and regenerated sound levels.

For minimal air inlet pressure

Size	Q [l/s]	Q [m ³ /h]	Sound pressure level in dB(A)	
			Radiated noise (dB(A))	Regenerated noise (dB(A))
300	86,1	310	25	30
	113,9	410	30	35
	141,7	510	34	39
	169,4	610	37	42
500	141,7	510	26	30
	188,9	680	30	35
	236,1	850	34	39
	283,3	1020	37	42
750	211,1	760	26	31
	283,3	1020	31	36
	352,8	1270	35	39
	425	1530	38	43
1000	283,3	1020	26	31
	377,8	1360	31	35
	472,2	1700	34	39
	566,7	2040	38	42
1500	425	1530	28	33
	566,7	2040	33	38
	708,3	2550	37	42
	850	3060	40	45
2000	566,7	2040	29	34
	755,6	2720	34	39
	944,4	3400	38	43
	1133,3	4080	41	46
3000	850	3060	33	38
	1133,3	4080	38	42
	1416,7	5100	41	46
	1700	6120	45	49

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