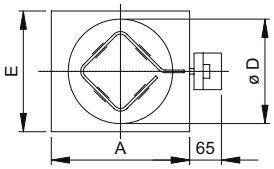
VAV TERMINAL BOXES

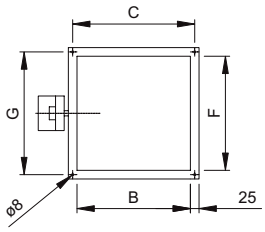
TYPE: BA • BT

Installation dimensions

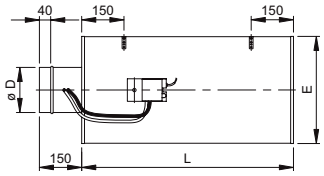
View inlet side



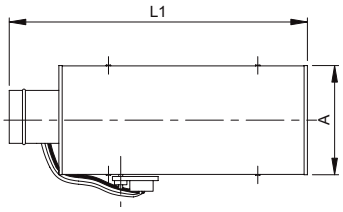
View outlet side



Side view



Top view



Size	operating range q (m³/h)		
	Min.	Max.	Nom.
125	90	150-440	500
160	145	300-720	1000
200	225	420-1130	1400
250	355	675-1765	2250
315	560	1080-2800	3600
355	715	1350-3560	4500
400	905	1800-4520	6000

See page 6 020 for a detailed selection diagram.

Size	A	B	C	Ø D	E	F	G	L	L_1
125	250	200	220	123	255	200	220	1200	1350
160	300	250	270	158	255	200	220	1200	1350
200	450	400	420	198	255	200	220	1200	1350
250	450	400	420	248	355	300	320	1500	1650
315	650	600	620	313	355	300	320	1500	1650
355	655	605	625	353	410	355	375	1800	1950
400	700	650	670	398	455	400	420	1800	1950

All dimensions in mm.

Application

The terminal boxes BA/BT are designed for single duct high velocity constant or variable flow rate applications and can be used both in supply (BT) and exhaust (BA).
The air flow rate control is pressure independent and achieved by a precision engineered damper which modulates in response to a differential pressure sensor and a motorised electronic velocity control device.
Direct communication is possible between the VAV boxes and the central control area.
The volume control and the complete shut-off of the VAV box are obtained by the same damper.
Taking into account the reduced pressure loss in the damper, the boxes need a minimum of inlet pressure which results in remarkable savings in the total energy requirements.

Technical information

Characteristics

- designed for flow rates from 75 up to 6000 m³/h
- available in 7 sizes
- standard equipped with silencer; secondary silencer available
- optionally, a heat exchanger can be mounted on the box outlet
- Casing air leakage rate complies with:
  - DIN V 24194 Teil 2 class III
  - EN NBN 1751 class A&B
  - EN13779 and NBN 12237 class A&B
  - specifications 105 of 1990 class A&B

VAV TERMINAL BOXES

TYPE: BA • BT

- Control damper leakage complies with: EN NBN 1751 class 1, 2 and 3

Controls

- each VAV box is equipped with an electronic velocity regulator and motor; together with the pressure differential sensor it guarantees a pressure independent variable or constant air flow
- all controls are mounted externally or easy access
- motor: Belimo Compact LMV-D2 MP power supply: 24 VAC/DC
  - control signal 0-10 VDC/2-10 VDC
  - integrated regulator
  - min.and max. air flow rates (VAV) to indicate by order; on site adjustment possible
  - In case of constant flow rate control (CAV), indicate requested constant flow rate
  - documentation and wiring diagram available upon simple request

Construction

- casing in galvanised steel sheet
- Internal accoustic and thermal gassfibre insulation, coated to prevent erosion
- air flow control damper in extruded aluminium with keyed shaft; internal pivot points have lubricant-free bearings
- differential pressure sensor in aluminium; connection sensor-controller by plastic tubes

How to order

VAV-box for supply, size 160 mm, left hand side construction, without reheating coil.

1) VAV terminal unit:

B	T	L	0	0	B	5	0	1	6	0	-	-	-	-

size

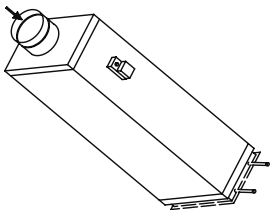
Control Belimo LMV-D2 MP

0: without water coils
2: 2 rows
3: 3 rows

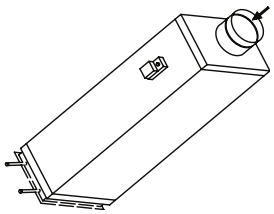
0: -
W: hot water
E: electric

L: left hand side construction
R: right hand side construction

T: supply
A: return



Right hand side construction



Left hand side construction

2) Secondary silencer :

U	F	B	-	-	-	-	0	1	6	0	-	-	-	-

size VAV unit

Specifications description

Example:

VAV box in galvanised steel sheet, equipped with electronic Belimo (LMV-D2 MP) controller, built-in aluminium pressure sensor and integrated silencer. Internal insulation is standard. The aluminium single blade damper has lubricant-free bearings.

Type **BT . . . B5**
Size … mm

Accessories

Water coils:

- made out of copper tubes and aluminium fins - fin pitch = 3,2 mm
- mounted in a galvanised frame, with flanges, and can be bolted on the VAV box outlet; this way the coils are easy to remove without damaging the VAV box
- the coils have standard female screw-thread.
- coils are available with 2 or 3 rows and designed for hot water up to 115°C at a working pressure of 16 bar and tested to a pressure of 30 bar at 20°C
- coils are always delivered separately, not mounted

Silencers:

- to reduce the noise on the low pressure side, a secondary silencer can be added to the VAV box
- this silencer is made out of galvanised steel sheet with internal acoustic insulation. Complete with flanges for bolting on to VAV box and ductwork from the VAV box.

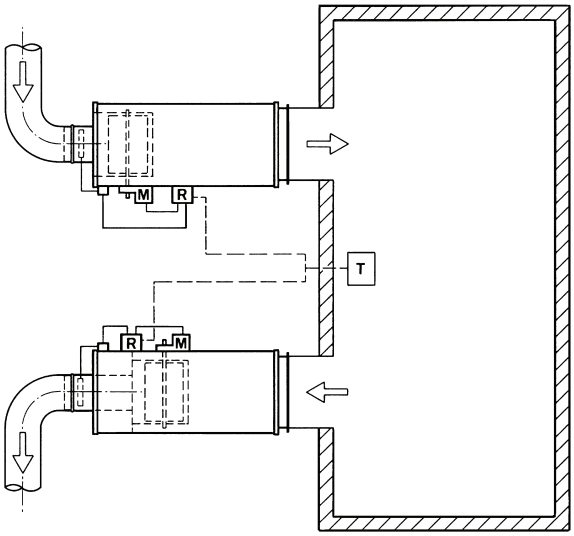
Fixing

- for easy connection to low velocity ductwork, rectangular outlets are fitted with 25 mm flange
- equipped with 4 mounting straps
- controls can be mounted on the right or left side of the box, position to be confirmed at time of order

VAV TERMINAL BOXES

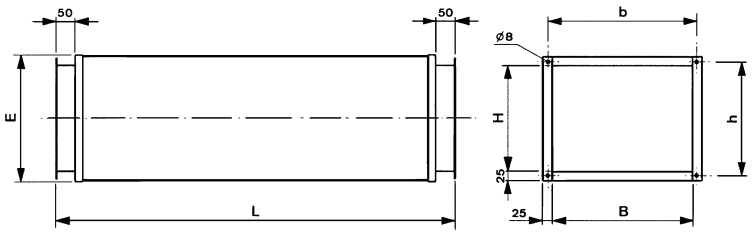
TYPE: BA • BT

Controls : example : Supply - Return terminal units

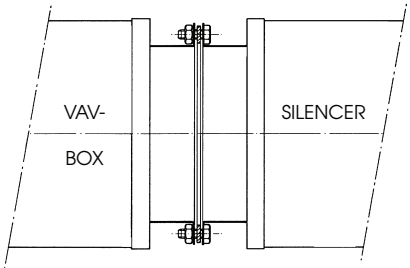


The classic VAV-system (Variable Air Volume) belongs to the so called "air-only" group of design. This means that all the thermal performance required is achieved through the supply air.
The temperature controller (T) measures the actual temperature in the room, compares it with the temperature set-point and feeds this information (air volume demand) to the VAV air volume controller (R).
In this way the matching to the actual thermal load of the room is obtained by regulating (varying) the volume of the supply air remains constant and the volume of the air delivered by the fan is reduced.
The application of these systems allows individual room control as well as zone control, including supply-air and/or exhaust-air follow-up.
This solution meets the tough demands set by experienced designers : independency of supply pressure fluctuations, minimal supply pressure required, accurate room pressure conditions, possibility for override need-based controls, master slave combinations, etc.

Secondary silencers



Nom.	E	B	H	b	h	L
125	255	200	200	220	220	1000
160	255	250	200	270	220	1000
200	255	400	200	420	220	1000
250	355	400	300	420	320	1500
315	355	600	300	620	320	1500
355	355	700	300	720	320	1500
400	355	850	300	870	320	1500

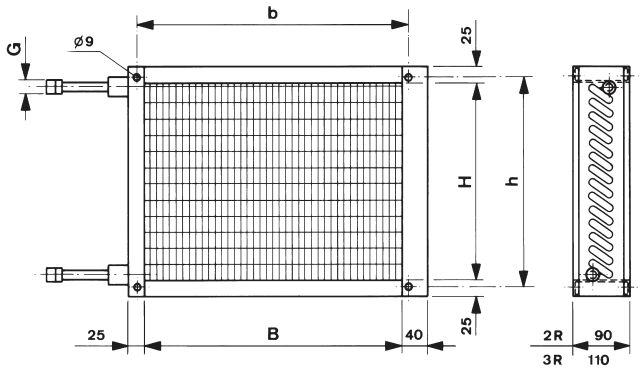


	dB/Okt.						
Size	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
125 160 200	-3	-7	-12	-15	-20	-20	-15
250 315 355 400	-4	-12	-20	-25	-23	-22	-15

All dimensions in mm.

VAV TERMINAL BOXES
TYPE: BA • BT

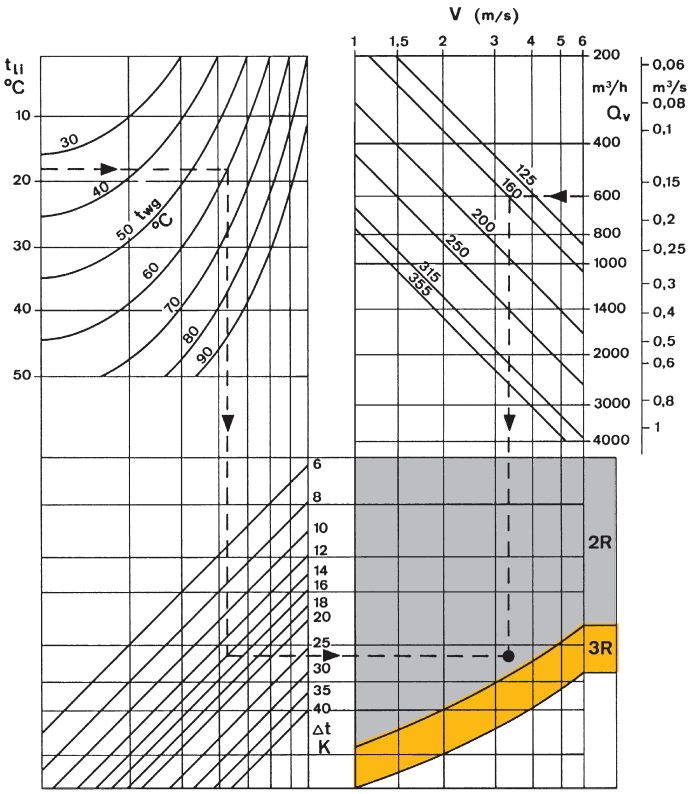
Water coils

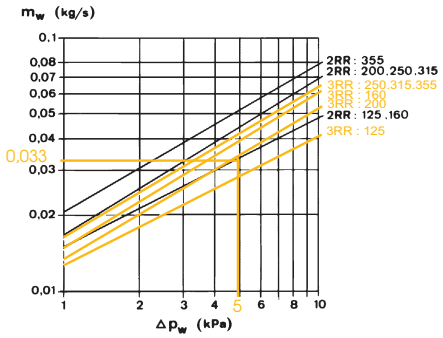


Ø Nom.	125	160	200	250	315	355	400
B	200	250	400	400	600	605	650
H	200	200	200	300	300	355	400
b	220	270	420	420	620	625	670
h	220	220	220	320	320	375	420
G 2R	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"
G 3R	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

All dimensions in mm

Selection chart reheating coil - example





Data:
- q_V = 600 m³/h in VAV terminal unit size 160mm
- air temperature in (t_{Li}) 18°C
- water temperature in: 70°C
- water temperature out: 50°C
- average water temperature (t_{wg}): 60°C
- requested air temperature differential: Δ 14°K.

Solution:
- Air velocity through coil: 3,5 m/s
- the intersection of the 2 lines in the 2-rowed coil area (2R)
- Waterflow (mass) m_w (kg/s) $= \dfrac{q_V \text{ (l/s)} \times \Delta t \text{ (air)}}{\Delta t \text{ (water)} \times 3{,}5 \times 10^3}$

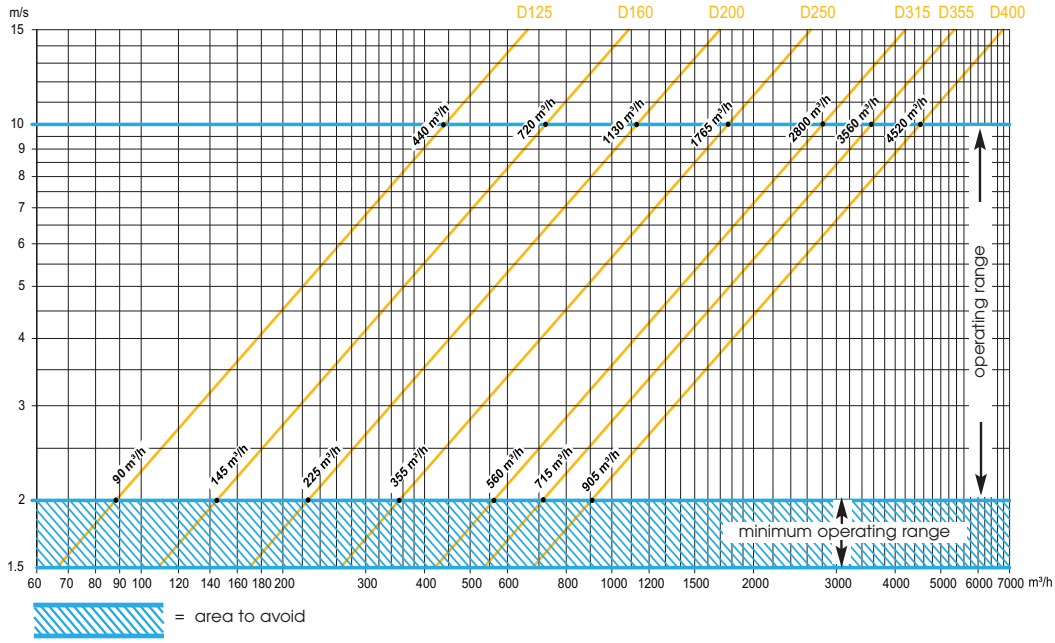
$$= \frac{167 \times 14}{20 \times 3{,}5 \times 10^3} = 0{,}033$$

- Pressure drop water side: Δp_w = 5 kPa

VAV TERMINAL BOXES

TYPE: BA • BT

Selection diagram



VAV TERMINAL BOXES

TYPE: BA • BT

Air Generated Noise - Supply

SIZE	q_v		p_s = 100 Pa (L_w)								p_s = 200 Pa (L_w)							
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
125	200	0,056	37	33	24	18	<	<	<	15	40	35	25	20	16	<	<	18
	300	0,083	40	36	27	22	17	<	<	18	42	38	30	24	19	15	<	20
	400	0,111	44	39	31	26	20	<	<	21	46	41	34	28	22	17	15	23
	500	0,139	46	42	35	30	24	<	<	24	48	44	38	31	25	18	15	26
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
160	200	0,056	37	33	26	18	<	<	<	15	41	35	27	20	17	16	<	17
	400	0,111	38	33	29	20	<	<	<	17	41	35	30	26	17	<	<	18
	600	0,167	45	39	35	27	18	<	<	23	48	41	36	29	21	18	18	24
	800	0,222	51	44	40	30	25	17	15	28	53	46	41	32	26	21	20	29
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
200	600	0,167	39	33	28	24	16	15	18	17	41	35	28	26	18	16	18	18
	800	0,222	43	34	31	22	17	15	18	18	44	37	33	27	20	17	20	20
	1000	0,278	46	40	35	27	19	16	19	22	48	41	36	29	21	18	20	22
	1400	0,389	52	45	41	31	25	18	20	28	54	47	42	33	26	22	22	29

SIZE	q_v		p_s = 500 Pa (L_w)								p_s = 750 Pa (L_w)							
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
125	200	0,056	43	39	30	25	22	20	17	21	44	43	32	26	22	20	19	26
	300	0,083	47	41	34	26	23	19	18	24	48	44	35	28	24	20	18	27
	400	0,111	50	45	38	32	26	22	20	27	51	47	40	33	27	24	22	30
	500	0,139	53	48	42	36	28	23	21	31	54	50	44	37	30	25	22	33
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
160	200	0,056	43	40	31	22	22	21	19	22	43	40	32	24	24	22	21	22
	400	0,111	45	40	33	27	22	23	20	22	46	41	36	29	24	23	24	25
	600	0,167	53	45	40	35	29	26	25	28	54	47	42	37	31	27	28	30
	800	0,222	58	50	46	38	32	28	30	34	58	52	47	39	34	28	31	35
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
200	600	0,167	47	40	36	30	23	20	25	24	49	43	38	32	24	23	27	26
	800	0,222	49	44	40	33	27	20	23	28	50	46	42	36	29	24	27	30
	1000	0,278	55	46	44	35	28	22	24	32	56	49	44	38	30	27	28	32
	1400	0,389	59	53	48	39	31	29	31	36	60	55	49	41	34	29	32	38

SIZE	q_v		p_s = 100 Pa (L_w)								p_s = 200 Pa (L_w)							
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
250	1400	0,389	46	38	31	26	19	16	20	20	50	41	35	29	22	20	25	23
	1600	0,440	47	42	35	28	22	18	21	23	50	44	38	32	26	25	25	25
	1800	0,500	50	44	35	28	22	19	21	26	52	46	39	32	26	25	28	28
	2000	0,556	53	46	39	31	25	21	23	27	54	46	40	33	28	26	28	28
	2400	0,667	56	50	43	37	30	25	26	32	57	51	45	38	32	29	31	33
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
315	1200	0,333	45	37	29	23	16	15	<	18	48	41	32	25	20	20	18	22
	1800	0,500	45	38	31	25	19	15	18	20	48	42	33	27	23	20	21	24
	2400	0,667	48	41	34	27	22	20	19	24	51	45	37	30	27	24	23	28
	3000	0,833	52	46	36	30	25	18	18	28	54	48	42	34	30	28	29	31
	3600	1,000	55	49	40	34	28	21	21	31	57	51	46	37	34	32	31	33
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
355	1500	0,417	45	38	29	24	19	17	15	20	48	42	32	26	23	22	20	24
	2000	0,556	49	37	28	25	20	17	15	23	52	43	33	27	25	23	21	26
	2600	0,722	52	40	31	26	22	20	19	27	55	44	33	28	26	25	25	30
	3600	1,000	55	43	33	29	25	22	21	30	57	48	36	32	30	27	27	32
	4500	1,250	57	50	38	34	29	20	20	33	59	53	40	36	34	30	29	36
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
400	2600	0,722	47	36	26	24	20	17	<	21	50	41	32	26	24	23	22	23
	3600	1,000	53	41	32	26	23	20	20	27	56	46	34	29	26	25	25	31
	4500	1,250	54	44	34	30	25	23	22	28	57	48	37	32	29	27	27	32
	6000	1,667	57	51	38	35	31	24	23	34	60	54	40	37	35	30	30	37

VAV TERMINAL BOXES

TYPE: BA • BT

SIZE	q_v		p_s = 500 Pa (L_w)								p_s = 750 Pa (L_w)							
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
250	1400	0,389	55	46	42	37	29	29	31	31	55	48	42	38	34	33	33	31
	1600	0,440	55	47	42	37	30	29	33	30	55	49	44	39	35	33	34	32
	1800	0,500	56	49	43	39	33	31	35	32	57	52	45	40	36	34	38	35
	2000	0,556	58	52	44	40	34	33	36	35	59	54	47	42	37	36	39	37
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
315	1200	0,333	52	45	35	31	27	26	25	27	54	47	37	34	29	28	27	30
	1800	0,500	53	46	38	31	28	28	30	29	56	50	41	36	32	32	34	33
	2400	0,667	56	50	42	36	33	31	30	33	58	52	45	39	35	34	34	35
	3000	0,833	59	54	47	39	36	34	33	37	61	56	49	42	38	37	36	39
	3600	1,000	62	57	50	40	39	37	37	40	64	60	51	44	41	39	39	43
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
355	1500	0,417	55	48	36	31	29	30	28	30	58	51	38	33	32	31	30	33
	2000	0,556	49	37	28	25	20	17	15	23	52	43	33	27	25	23	21	26
	2600	0,722	61	52	40	34	30	29	28	35	63	54	44	37	32	31	30	38
	3600	1,000	62	55	44	38	34	30	29	38	64	58	48	40	36	32	32	41
	4500	1,250	66	60	51	43	40	37	38	44	67	61	54	45	42	38	40	45
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
400	2600	0,722	57	49	38	31	29	28	27	32	58	52	40	33	30	29	28	33
	3600	1,000	62	53	40	35	32	28	27	37	63	55	44	37	32	29	28	39
	4500	1,250	63	53	44	39	33	29	29	38	64	58	47	40	35	32	32	40
	6000	1,667	65	59	50	43	40	36	36	42	67	60	51	44	42	37	37	43

Casing radiated Noise - Supply

SIZE	q_v		p_s = 100 Pa (L_w)								p_s = 200 Pa (L_w)							
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
125	200	0,056	41	34	23	17	15	<	<	15	45	35	25	18	15	15	<	18
	300	0,083	44	38	27	21	16	15	<	20	47	38	30	22	17	20	18	21
	400	0,111	47	40	30	25	18	19	<	22	51	41	34	26	20	23	20	25
	500	0,139	51	43	36	29	21	19	16	25	53	44	38	30	23	24	20	27
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
160	200	0,056	37	35	26	20	20	16	<	16	41	37	28	23	25	21	15	20
	400	0,111	39	35	27	21	23	19	15	17	40	35	29	28	24	20	17	20
	600	0,167	45	40	34	28	26	21	20	22	48	41	36	31	29	23	22	24
	800	0,222	49	44	40	32	30	20	19	27	52	46	42	34	33	26	24	30
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
200	600	0,167	43	38	30	29	25	22	21	20	46	40	31	32	28	24	22	23
	800	0,222	46	40	34	28	25	21	21	22	49	42	35	32	29	24	24	24
	1000	0,278	50	44	38	31	28	23	22	25	53	46	39	35	31	26	25	28
	1400	0,389	56	49	42	36	35	24	23	31	59	52	44	39	35	28	26	35

SIZE	q_v		p_s = 500 Pa (L_w)								p_s = 750 Pa (L_w)							
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
125	200	0,056	48	39	34	30	25	26	22	23	49	42	36	31	28	25	25	24
	300	0,083	52	41	38	31	26	25	23	26	53	45	41	33	30	25	25	29
	400	0,111	55	45	42	37	29	28	25	29	56	47	44	41	34	28	27	29
	500	0,139	58	48	46	41	31	29	26	34	60	50	47	42	37	30	28	33
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
160	200	0,056	44	41	32	29	27	27	23	22	45	42	34	30	30	29	25	23
	400	0,111	45	40	33	29	30	28	24	22	47	41	36	31	31	30	27	24
	600	0,167	53	45	41	37	37	31	29	28	53	46	42	40	38	32	30	32
	800	0,222	58	50	47	40	40	33	33	35	58	51	47	43	41	37	34	36
	m^3/h	m^3/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
200	600	0,167	52	45	39	36	33	27	29	28	53	47	41	40	34	30	30	32
	800	0,222	54	49	43	39	37	28	28	32	54	50	44	42	37	33	32	32
	1000	0,278	60	51	47	41	35	30	29	35	61	53	47	43	37	35	34	35
	1400	0,389	63	58	51	44	41	36	36	41	64	59	51	46	42	37	35	41

VAV TERMINAL BOXES

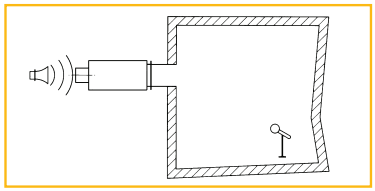
TYPE: BA • BT

SIZE	q_v		p_s = 100 Pa (L_W)								p_s = 200 Pa (L_W)							
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
250	1400	0,389	45	39	34	29	23	18	16	22	50	42	38	33	26	22	23	26
	1600	0,440	47	42	37	32	25	23	20	25	50	45	41	36	30	27	25	28
	1800	0,500	49	44	39	33	27	25	23	26	52	47	43	36	30	27	27	31
	2000	0,556	51	46	41	36	28	26	24	29	53	48	42	38	32	28	28	30
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
315	1200	0,333	45	38	31	28	22	19	17	20	48	42	34	30	25	22	28	24
	1800	0,500	47	40	33	30	25	22	21	22	48	43	35	32	28	22	21	26
	2400	0,667	49	45	36	33	29	26	23	26	51	46	39	35	33	26	23	28
	3000	0,833	52	48	39	35	31	27	26	30	54	49	44	39	35	30	28	32
	3600	1,000	55	50	42	39	34	30	28	32	57	52	48	42	39	34	31	36
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
355	1500	0,417	46	37	32	27	22	19	19	20	47	40	33	28	26	22	20	22
	2000	0,556	50	39	34	29	24	22	20	23	51	41	35	30	28	24	22	26
	2600	0,722	53	41	34	30	29	25	22	26	54	43	35	31	29	26	24	28
	3600	1,000	54	46	37	34	31	26	24	28	56	47	38	35	33	28	26	31
	4500	1,250	57	51	40	38	34	30	27	33	58	52	42	39	36	31	28	35
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
400	2600	0,722	48	35	29	27	24	20	18	22	49	39	33	28	27	23	22	23
	3600	1,000	54	43	35	29	28	25	24	28	55	44	35	31	29	26	24	29
	4500	1,250	53	47	37	34	30	27	25	29	56	47	39	35	32	28	26	31
	6000	1,667	57	52	42	39	36	32	29	35	59	53	42	40	37	31	28	36

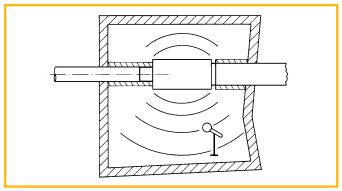
SIZE	q_v		p_s = 500 Pa (L_W)								p_s = 750 Pa (L_W)							
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
250	1400	0,389	55	47	45	41	33	31	30	33	56	49	46	48	36	33	33	34
	1600	0,440	55	48	45	41	34	31	31	33	56	49	47	42	37	34	33	35
	1800	0,500	56	50	47	44	37	34	34	36	56	52	48	44	38	35	35	36
	2000	0,556	58	53	47	43	38	33	33	36	58	54	49	45	40	39	37	37
	2400	0,667	60	57	52	47	40	39	38	40	61	57	53	49	45	42	39	41
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
315	1200	0,333	52	46	37	36	32	28	25	27	53	47	39	38	35	31	30	30
	1800	0,500	43	47	40	36	33	30	30	29	56	50	43	40	38	34	33	33
	2400	0,667	56	51	44	41	35	33	30	34	60	56	47	46	42	37	35	37
	3000	0,833	59	55	49	44	41	35	33	38	62	58	51	47	43	39	37	39
	3600	1,000	62	58	52	45	44	39	37	41	64	60	53	48	46	41	39	43
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
355	1500	0,417	54	47	37	33	31	29	25	29	56	49	41	35	32	30	27	31
	2000	0,556	57	49	40	35	32	30	26	32	59	52	45	37	34	32	28	34
	2600	0,722	60	52	42	37	33	30	27	36	61	54	49	40	36	32	28	37
	3600	1,000	61	55	46	41	34	31	28	38	62	57	52	44	39	34	32	40
	4500	1,250	63	58	51	45	42	36	34	41	64	59	54	47	43	37	36	42
	m³/h	m³/s	125	250	500	1000	2000	4000	8000	NR	125	250	500	1000	2000	4000	8000	NR
400	2600	0,722	57	48	40	33	31	27	24	32	56	50	43	35	32	30	25	33
	3600	1,000	62	52	42	38	34	27	25	37	61	54	47	40	35	28	26	37
	4500	1,250	63	52	46	42	34	30	28	38	62	57	50	44	38	34	34	40
	6000	1,667	64	58	52	45	42	35	32	41	64	58	51	46	43	42	38	41

Noise level NR with 8dB room attenuation

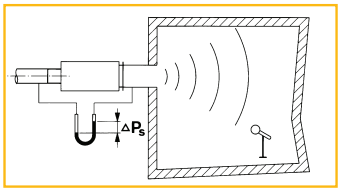
Measurement of insertion loss



Measurement of radiated noise



Measurement of air generated noise



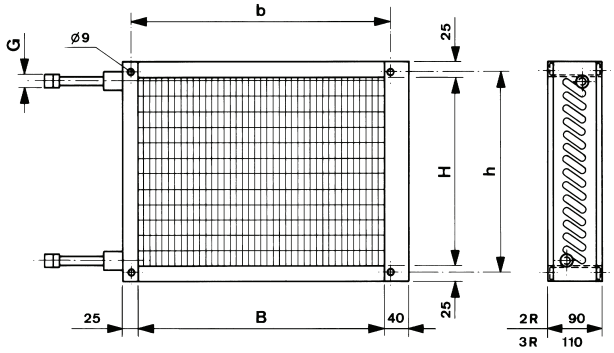
Insertion loss

Size	dB/Okt.						
	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
125 160 200	18	26	37	42	39	32	23
250 315 355 400	24	30	45	46	43	39	33

VAV TERMINAL BOXES

TYPE: BA • BT

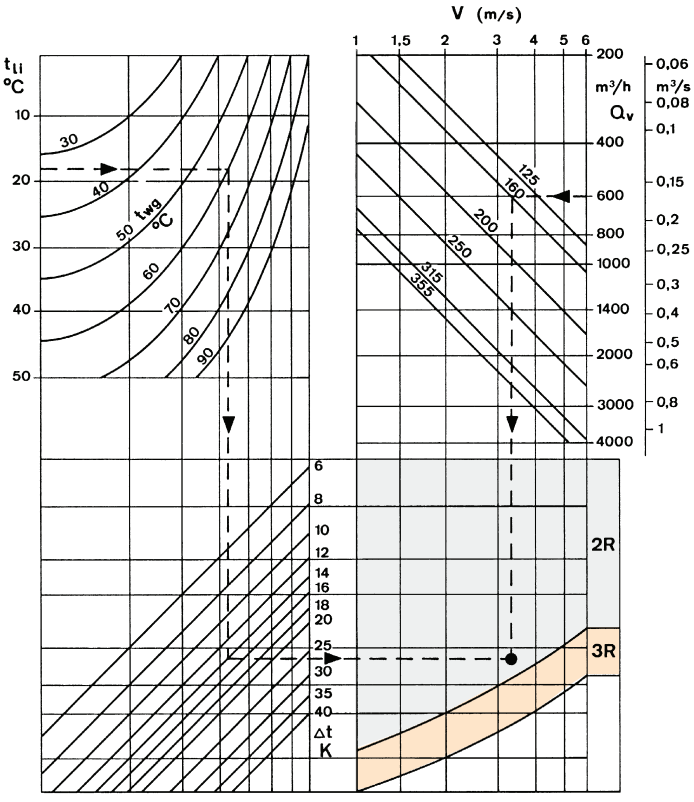
Water coils

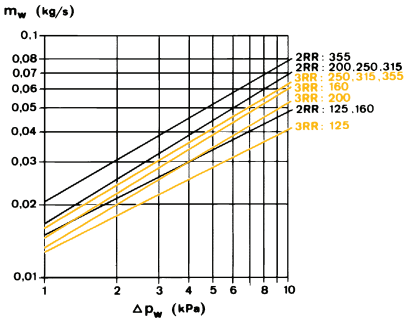


Ø Nom.	125	160	200	250	315	355	400
B	200	250	400	400	600	700	850
H	200	200	200	300	300	300	300
b	220	270	420	420	620	720	870
h	220	220	220	320	320	320	320
G 2R	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"
G 3R	1/2"	3/4"	3/4"	3/4"	3/4"	3/4"	3/4"

All dimensions in mm.

Selection chart reheat coil - example





Data :

- q_V = 600 m³/h in VAV terminal unit size 160 mm
- air temperature in (t_{Li}) 18°C
- mean water temperature (t_{wg}) : 60°C
- requested air temperature differential : Δ 14°K.

Solution :

- Air velocity through coil: 3,5 m/s
- the intersection of the 2 lines in the 2-rowed coil area (2R)
- Pressure drop water side :

$$\text{Waterflow (mass) } m_W \text{ (kg/s)} = \frac{q_V \text{ (l/s)} \times \Delta t \text{ (air)}}{t \text{ (water)} \times 3{,}5 \times 10^3}$$

$$= \frac{167 \times 14}{20 \times 3{,}5 \times 10^3}$$

$$= 0{,}033$$

$$\Delta p_w = 5 \text{ kPa}$$