

DECO

Fan Coil Units



Biddle



COMFORTABLE INDOOR CLIMATE

A pleasant work and living environment is determined to a large degree by the quality of the indoor climate. The Biddle DECO fan coil unit gives you optimum control of the indoor climate by heating, cooling and/or ventilating the room.

The DECO is a quiet unit, which can be positioned in the room to ensure the discharged air stream is distributed evenly across the room without causing a nuisance to the people in it.

Biddle DECO fan coil units allow people to control the climate per room. Users can simply regulate the room temperature and the fresh air themselves to ensure optimum climate comfort.

COMFORT WHERE YOU NEED IT

The Biddle fan coil unit features an innovative adjustable discharge grille (Multi Vector Technology), which is made up of a number of stacked sheets with a hole pattern. Using this discharge grille, the direction of the air can be regulated. To cool a room, the air is

blown into the room differently than when heating it. The grille enables the user to direct the air to or from the place where he or she is working, thus providing “comfort where you need it”.

COMPREHENSIVE RANGE

The DECO fan coil unit is available in 5 unit sizes: Deco 50, DECO 75, DECO 100, DECO 125 and DECO 150. The air flow rates of these types range from 140 – 1800 m³/h. The DECO can heat, cool or ventilate the room and is available with and without casing. The model with casing is available as a wall model (F) or as a ceiling model (C) and can be free standing or suspended.

The units available are:

- **STYLISH MODEL (S):**
with curved plastic side covers
- **BUSINESS MODEL (B):**
with straight metal side covers

The recessed model is easy to integrate into the wall (F) or ceiling void (C).

APPLICATIONS

The Biddle DECO fan coil units are suitable for use in refurbished or newly built offices, meeting rooms, hotels, schools, care centres, hospitals, server rooms and retail outlets. The DECO is available in a variety of styles and designs, making it suitable for a wide range of applications.

STANDARD COLOUR COMBINATIONS

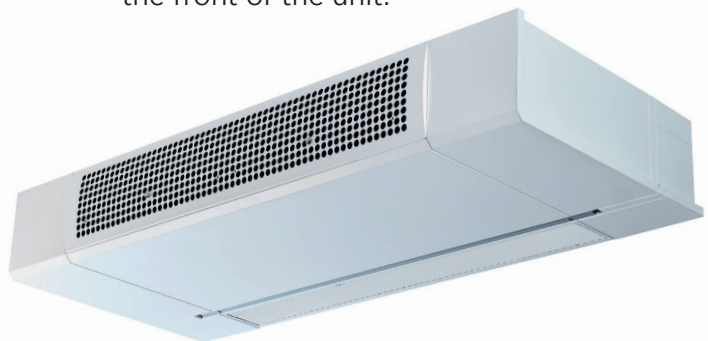
Fan coil units with casing are available in two colours. Next to the conventional white colour, the unit is available in titanium. Unless a specific colour is chosen, the unit comes standard in white. Other colours are of course available at an extra charge.

MAINTENANCE AND CLEANING

All fan coil units that have an airside or combined controller are delivered ready to use, so they are fast and easy to install. All models come standard with a removable G2 filter. This filter prevents dust in the inlet air from settling on the battery or fans.

The filter is hidden from view using a filter frame, which is easy to remove. The filter is fast and easy to clean with a vacuum cleaner.

- The filter can be withdrawn from the front of the unit.



MODEL OPTIONS

The DECO is available in a wide range of different models:

TYPE CODE: DECO 75-H1C3-R-FS12

Unit	
50	140 - 605 m ³ /h
75	180 - 860 m ³ /h
100	275 - 1180 m ³ /h
125	300 - 1400 m ³ /h
150	390 - 1800 m ³ /h
Coil type	
H1, H2, H4	Water heating
C2, C3, C4	Water cooling
H1C3	Water heating and - cooling
HE	Electric heating
1,2,3,4	Number of rows
Water connections	
R	Right
L	Left
HE	Electrical connection on the left side
Model type	
FS	Floor model: stylish
FB	Floor model: business
CS	Ceiling model: stylish
CB	Ceiling model: business
FR	Recessed floor model
CR	Recessed ceiling model
2 - 12	See figure: model types

MODEL TYPES:

Figure 1.	Recirculation	Ventilation	Recirculation/Ventilation
Free-standing			
Floor model (FS or FB)			
Free-hanging			
Ceiling model (CS or CB)			
Recessed			
Floor model (FR)			
Recessed			
Ceiling model (CR)			

All models are available as top discharge types Only the recessed model has the possibility of a discharge plenum for front discharge.

△ inspection side

→ air direction



STANDARD FEATURES

Units with casing come with:

- ◉ Adjustable discharge grille
- ◉ Removable air filter
- ◉ Integrated condensate draining pump (only in ceiling model with cooling mode)
- ◉ Integrated frost-protection device and damper control (only in ventilation model)
- ◉ Condensate tray (only in models with cooling mode)

Recessed units come with:

- ◉ Removable air filter
- ◉ Frost-protection device (only in ventilation model)
- ◉ Condensate tray (only in models with cooling mode)

ACCESSORIES

- ◉ Air side controller
- ◉ Air- and waterside controller
- ◉ Control panel
- ◉ CO2 sensor
- ◉ Low-voltage cables (different lengths)
- ◉ Ventilation module for coupling to an exhaust fan
- ◉ Sound - damping air inlet section
- ◉ Wall sleeve
- ◉ Wall grate
- ◉ Roof cap
- ◉ Discharge plenum for recessed models
- ◉ Flexible connection sleeves with or without duct connecting flange
- ◉ Wall and ceiling grilles
- ◉ Condensate draining pump (standard in encased ceiling model with cooling mode, optional in floor model)

Custom alterations or modifications to the unit can be made if required.

CONTROLS

Model DECO is available with three types of control, in order to make it suitable for every project.

◉ BASIC (WITHOUT CONTROL)

The fan coil unit (only the recirculation model) is provided with a transformer and is wired in a fixed speed.

◉ AIRSIDE CONTROL

This plug & play controller regulates the fan speed (3 speeds) to achieve the desired room temperature.

◉ COMBINED AIR - AND WATERSIDE CONTROLLER

This plug & play controller regulates both the fan speed and the discharge air temperature to achieve the desired room temperature. The ventilation unit is delivered with the combined controller.



CONTROLLER WITH LCD DISPLAY

The control panel has various soft-touch keys and a clear LCD display. The desired room temperature can be set using the control panel, after which you can choose to have the controller regulate the climate either automatically or using one of the three fan speeds. Next to this functionality, the control panel features an integrated weekly timer, which can be used to switch the unit automatically on and off each day of the week. The keys of the control panel can be blocked using a key lock to prevent unwanted use.

One single control panel allows the user to interconnect and operate a maximum of ten units. The maximum length of the control cables within a control system is 100 metres. The control panel offers menus for different purposes, including operation, installation and service menus as well as a menu for setting the weekly timer.

AUTOMATIC OR MANUAL OPERATION

The control panel allows the user to select either automatic or manual operation of the DECO.

WEEKLY TIMER

The DECO comes standard with a weekly timer, which allows the user to automatically switch the unit on and off per day of the week.

CO₂ SENSOR

The ventilation units can be equipped with a sensor to read the CO₂ level in the room. The sensor ensures that the CO₂ value preset in the control panel is maintained by automatically increasing or reducing the supply of fresh air.

INTEGRATED FROST PROTECTION AND AIR VALVE CONTROL

The ventilation units have a controller-integrated frost protection thermostat and air valve control. The frost protection reduces the risk of the battery freezing (preset at 5°C). In the event of a power interruption or failure, the air valve automatically switches to the recirculation mode.

READY TO USE

Units with an airside or combined controller are delivered ready to use. The power cable (1.5m), which has a moulded-on, earthed plug, is connected to the terminal box in the side of the unit.

Via the connector plate and the interfaces in the terminal box, components such as slave units, control panel and in- and outputs can be connected to the PCB.



The control panel is inclusive room thermostat.

SPECIFICATIONS

CASING

The casing is made up of a front plate and side covers, and is available in different colours. The front plate is made of zinc plated sheeting with a hard epoxy polyester powder coating. The round sides are made of plastic, the straight sides of zinc plated sheeting. The structural parts are made of galvanised sheeting with extra strengthening to minimise distortion and vibrations. Where necessary, the models are insulated to reduce sound and heat transmission.

HEATING (LPHW) COOLING (LPCW) COILS

The high-efficiency coils are made up of 3/8" copper pipes and aluminium fins. The coils are available with 2 or 4 rows of pipes. The maximum operating pressure is 6 bar at 90°C. Then, a maximum operating pressure of 10 bar at 90°C applies. The permissible difference ($\Delta p/kP$) is as follows:

Kvs value	2-way valve	3-way valve
1	380	170
1.6	380	170
2.5	110	140
3.5	110	-
4	-	140

FAN / MOTOR ASSEMBLY

One or more (depending on type) dual-inlet, vibration-free suspended centrifugal fans, driven by a rotor motor on ball bearings. The fan casing and the impeller are made of zinc coated plate steel. The motor is manufactured according to DIN 40050, Protection Class IP44, and Insulation Class B. The motors have, as a standard, thermal contacts in the windings. These thermal contacts will break the circuit when the maximum permissible motor temperature is exceeded.

ELECTRIC HEATING COIL

The electric heating coil is made up of aluminium fins. The power is controlled by the electronic control unit, which is fitted with an overload protection system. When the unit is switched off, the fans will continue to rotate until the fins have cooled off sufficiently.

WEIGHTS OF VARIOUS MODELS

Model	Type	DECO 50	DECO 75	DECO 100	DECO 125	DECO 150
With casing - stylish (type FS and CS)	Recirculation	39	52	62	75	84
	Ventilation	41	55	65	79	88
	Recirculation/Ventilation	41	55	65	79	88
With casing - business (type FB and CB)	Recirculation	43	56	66	79	89
	Ventilation	45	59	69	83	92
	Recirculation/Ventilation	45	59	69	83	92
Recessed (type FR and CR)	Recirculation	29	40	47	57	64
	Ventilation	31	42	50	61	68
	Recirculation/Ventilation	31	42	50	61	68

The weights of the various fan coil models are represented in kg.

TECHNICAL DATA

DECO 50

INSTALLATION DATA

Electric supply	V/ph/Hz	230/1/50
Max. running current	A	0.35
Max. consumed power	W	90

GENERAL SELECTION DATA

	Speed	1	2	3	4	5	6
Tapping voltage	V	70	90	115	130	170	230
Power consumption, fans	A	0.14	0.19	0.24	0.26	0.29	0.34
Input power, fans	W	10	20	30	35	50	75
Air displacement	m ³ /h	140	205	315	350	450	605
Sound level	dB(A)	15	24	33	38	45	51

HEATING

	Speed	H1 LPHW 80/60°C						H2 LPHW 80/60°C						H4 LPHW 50/30°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	140	205	315	350	450	605	140	205	315	350	450	605	140	205	315	350	450	605
Air inlet temp.	°C	-10						-10						-10					
Heating capacity	kW	2.7	3.6	5	5.3	6.2	7.4	3.6	5	7	7.6	9.1	11.2	2.5	3.5	5.2	5.7	7	8.9
Discharge temp.	°C	42	37	32	31	27	23	59	54	49	48	44	39	37	36	34	33	31	29
Water flow rate	l/h	120	160	217	233	271	325	159	217	306	331	399	492	107	151	223	244	302	385
Water pressure drop	kPa	3.2	5.3	9.2	10.4	13.5	18.7	1.6	2.7	4.9	5.7	7.9	11.4	0.3	0.5	0.9	1.1	1.6	2.5
Air inlet temp.	°C	0						0						0					
Heating capacity	kW	2.3	3.1	4.2	4.5	5.3	6.3	3.1	4.2	5.9	6.4	7.7	9.5	1.9	2.7	3.9	4.3	5.3	6.7
Discharge temp.	°C	46	42	37	36	32	29	60	56	52	51	47	43	37	36	34	34	32	31
Water flow rate	l/h	102	135	184	198	230	277	134	183	258	280	338	417	81	115	168	184	228	290
Water pressure loss	kPa	2.4	4	6.9	7.8	10.1	14.1	1.2	2	3.7	4.2	5.9	8.5	0.2	0.3	0.6	0.7	1	1.5
Air inlet temp.	°C	10						10						10					
Heating capacity	kW	1.9	2.6	3.5	3.8	4.4	5.3	2.5	3.5	4.9	5.3	6.4	7.9	1.3	1.8	2.7	2.9	3.6	4.6
Discharge temp.	°C	49	46	42	41	38	35	61	58	54	53	51	47	37	36	34	34	33	32
Water flow rate	l/h	84	112	153	164	191	230	110	151	213	231	279	345	56	80	116	127	157	199
Water pressure drop	kPa	1.7	2.9	4.9	5.6	7.8	14.1	0.8	1.4	2.6	3	4.2	6.1	0.1	0.2	0.3	0.4	0.5	0.8
Air inlet temp.	°C	20						20						20					
Heating capacity	kW	1.5	2	2.8	3	3.5	4.2	2	2.8	3.9	4.2	5.9	6.3	0.7	1	1.5	1.6	2	2.5
Discharge temp.	°C	53	50	46	45	43	41	63	60	57	56	54	51	35	35	34	34	33	32
Water flow rate	l/h	67	90	122	132	153	185	88	121	170	185	223	276	31	44	63	69	85	106
Water pressure drop	kPa	1.2	1.9	3.3	3.8	5	6.9	0.6	1	1.8	2	2.8	4.1	0	0.1	0.1	0.1	0.2	0.3

COOLING

	Speed	C2 LPCW 6/12°C						C3 LPCW 6/12°C						C4 LPCW 6/12°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	140	205	315	350	450	605	140	205	315	350	450	605	140	205	315	350	450	605
Air inlet temp.	°C	27						27						27					
Relative humidity	%	48						48						48					
Cooling capacity total	kW	0.9	1.2	1.6	1.7	2	2.4	1	1.4	1.9	2	2.5	3	1	1.5	2.1	2.3	2.8	3.5
Sensible capacity	kW	0.7	0.9	1.3	1.4	1.7	2.1	0.7	1	1.5	1.6	2	2.5	0.8	1	1.6	1.7	2.1	2.8
Discharge temp.	°C	13	14	15	15	16	17	11	12	13	13	14	14	11	11	12	12	13	13
Water flow rate	l/h	124	167	226	243	285	341	142	195	273	296	355	434	151	211	302	329	400	498
Water pressure drop	kPa	1.4	2.3	3.9	4.5	5.6	8.1	0.9	1.5	2.7	3.1	4.3	6	0.6	1	1.9	2.3	3.2	4.7

* The control system limits the air discharge temperature to 50°C. This limitation is not included in the selection data.

** Water pressure loss, exclusive three- or two-way valve. For sft-values of three- or two-way valve, see page 22.

TECHNICAL DATA

DECO 75

INSTALLATION DATA

Electric supply	V/ph/Hz	230/1/50
Max. running current	A	0.82
Max. consumed power	W	180

GENERAL SELECTION DATA

	Speed	1	2	3	4	5	6
Tapping voltage	V	60	80	100	115	155	230
Power consumption, fans	A	0.29	0.37	0.44	0.49	0.54	0.62
Input power, fans	W	20	30	45	55	80	140
Air displacement	m ³ /h	180	275	420	515	680	860
Sound level	dB(A)	14	26	34	39	46	51

HEATING

	Speed	H1 LPHW 80/60°C						H2 LPHW 80/60°C						H4 LPHW 50/30°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	180	275	420	515	680	860	180	275	420	515	680	860	180	275	420	515	680	860
Air inlet temp.	°C	-10						-10						-10					
Heating capacity	kW	3.7	5.1	7	8.1	9.5	11	4.8	6.9	9.7	11.4	14	16.6	3.2	4.8	7.1	8.6	10.9	13.2
Discharge temp.	°C	45	40	34	32	27	24	61	57	52	49	45	41	38	37	35	34	33	31
Water flow rate	l/h	163	225	307	353	418	484	210	304	426	499	615	727	140	209	308	369	470	572
Water pressure drop	kPa	7.4	13	22.4	28.7	38.5	49.9	3.4	6.5	11.8	15.6	22.5	30.1	0.6	1.1	2.2	3.1	4.7	6.6
Air inlet temp.	°C	0						0						0					
Heating capacity	kW	3.2	4.4	6	6.9	8.1	9.4	4.1	5.9	8.2	9.7	11.9	14.1	2.5	3.7	5.4	6.5	8.3	10
Discharge temp.	°C	49	44	39	37	33	30	62	59	54	52	48	45	38	37	36	35	34	32
Water flow rate	l/h	138	191	261	301	356	413	177	257	361	423	522	617	106	159	234	280	357	434
Water pressure loss	kPa	5.5	9.7	16.8	21.6	29.1	37.8	2.5	4.8	8.8	11.6	16.8	22.6	0.4	0.7	1.4	1.9	2.9	4.1
Air inlet temp.	°C	10						10						10					
Heating capacity	kW	2.6	3.6	4.9	5.7	6.8	7.9	3.3	4.8	6.8	8	9.9	11.7	1.7	2.6	3.8	4.5	5.8	7
Discharge temp.	°C	52	48	44	42	39	36	63	60	56	54	52	49	38	37	36	35	34	33
Water flow rate	l/h	125	159	217	250	297	344	146	212	298	350	432	512	75	112	164	196	249	302
Water pressure drop	kPa	4	7	12.1	15.6	21.1	27.4	1.8	3.5	6.3	8.3	12.1	16.3	0.2	0.4	0.7	1	1.5	2.1
Air inlet temp.	°C	20						20						20					
Heating capacity	kW	2.1	2.9	4	4.6	5.5	6.3	2.7	3.9	5.5	6.4	7.9	9.4	1	1.5	2.1	2.5	3.2	3.9
Discharge temp.	°C	55	51	48	46	44	42	64	62	59	57	55	52	36	36	35	35	34	33
Water flow rate	l/h	92	127	174	201	230	278	117	170	239	281	347	412	43	63	92	109	138	167
Water pressure drop	kPa	2.7	4.8	8.3	10.7	14.4	18.8	1.2	2.3	4.3	5.7	8.2	11.1	0.1	0.1	0.3	0.4	0.5	0.8

COOLING

	Speed	C2 LPCW 6/12°C						C3 LPCW 6/12°C						C4 LPCW 6/12°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	180	275	420	515	680	860	180	275	420	515	680	860	180	275	420	515	680	860
Air inlet temp.	°C	27						27						27					
Relative humidity	%	48						48						48					
Cooling capacity total	kW	1.2	1.7	2.4	2.7	3.3	3.8	1.4	2	2.8	3.3	4	4.8	1.4	2.1	3	3.6	4.6	5.5
Sensible capacity	kW	0.9	1.3	1.8	2.1	2.7	3.2	1	1.4	2	2.5	3.1	3.8	1	1.5	2.2	2.6	3.4	4.1
Discharge temp.	°C	12	13	14	14	15	16	11	11	12	12	13	14	10	11	11	11	12	12
Water flow rate	l/h	176	247	340	393	474	549	196	283	402	472	582	688	205	302	438	520	652	781
Water pressure drop	kPa	3.4	6.2	10.8	13.9	19.3	25	2	3.8	7	9.4	13.6	18.2	1.3	2.6	5	6.7	10	13.7

* The control system limits the air discharge temperature to 50°C. This limitation is not included in the selection data.

** Water pressure loss, exclusive three- or two-way valve. For sft-values of three- or two-way valve, see page 22.

TECHNICAL DATA

DECO 100

INSTALLATION DATA

Electric supply	V/ph/Hz	230/1/50
Max. running current	A	0.82
Max. consumed power	W	180

GENERAL SELECTION DATA

	Speed	1	2	3	4	5	6
Tapping voltage	V	70	90	115	130	170	230
Power consumption, fans	A	0.33	0.41	0.51	0.56	0.63	0.69
Input power, fans	W	25	40	60	70	105	155
Air displacement	m ³ /h	275	405	635	700	900	1180
Sound level	dB(A)	15	24	34	38	46	51

HEATING

	Speed	H1 LPHW 80/60°C						H2 LPHW 80/60°C						H4 LPHW 50/30°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	275	405	635	700	900	1180	275	405	635	700	900	1180	275	405	635	700	900	1180
Air inlet temp.	°C	-10						-10						-10					
Heating capacity	kW	5.4	7.2	10	10.6	12.3	14.6	7.1	9.8	14	15.1	18.2	22.1	4.9	6.9	10.4	11.3	14	17.5
Discharge temp.	°C	42	38	32	31	27	23	59	55	49	48	44	40	37	36	34	33	31	29
Water flow rate	l/h	237	317	437	466	541	641	312	430	615	663	799	967	210	300	448	488	605	755
Water pressure drop	kPa	2.5	4.2	7.4	8.4	10.9	14.6	1.2	2.1	4	4.6	6.4	8.9	0.2	0.4	0.8	0.9	1.3	1.9
Air inlet temp.	°C	0						0						0					
Heating capacity	kW	4.6	6.1	8.5	9	10.5	12.4	6	8.3	11.9	12.8	15.4	18.7	3.7	5.3	7.8	8.5	10.5	13.2
Discharge temp.	°C	46	42	37	36	32	29	60	57	52	51	47	44	37	36	34	34	32	31
Water flow rate	l/h	201	268	371	396	460	545	263	363	520	560	676	819	159	227	338	368	456	568
Water pressure loss	kPa	1.9	3.2	5.6	6.3	8.2	11	0.9	1.6	3	3.4	4.7	6.6	0.1	0.2	0.5	0.5	0.8	1.2
Air inlet temp.	°C	10						10						10					
Heating capacity	kW	3.8	5.1	7	7.5	8.7	10.3	4.9	6.8	9.8	10.6	12.7	15.5	2.6	3.7	5.4	5.9	7.3	9
Discharge temp.	°C	49	46	42	41	38	35	62	58	54	53	51	48	37	36	34	34	33	32
Water flow rate	l/h	166	222	307	328	382	453	217	299	429	463	559	678	111	158	234	254	314	390
Water pressure drop	kPa	1.4	2.3	4	4.5	5.9	7.9	0.6	1.1	2.1	2.4	3.4	4.8	0.1	0.1	0.2	0.3	0.4	0.6
Air inlet temp.	°C	20						20						20					
Heating capacity	kW	3	4.1	5.6	6	7	8.3	4	5.5	7.8	8.4	10.2	12.4	1.4	2	3	3.2	3.9	4.8
Air outlet temp.	°C	53	50	46	45	43	41	63	60	57	56	54	51	35	35	34	34	33	32
Water flow rate	l/h	133	178	246	263	306	363	173	241	343	370	447	542	62	87	127	138	169	209
Water pressure drop	kPa	0.9	1.5	2.7	3.1	4	5.4	0.4	0.8	1.4	1.6	2.3	3.2	0	0	0.1	0.1	0.1	0.2

COOLING

	Speed	C2 LPCW 6/12°C						C3 LPCW 6/12°C						C4 LPCW 6/12°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	275	405	635	700	900	1180	275	405	635	700	900	1180	275	405	635	700	900	1180
Air inlet temp.	°C	27						27						27					
Relative humidity	%	48						48						48					
Cooling capacity total	kW	1.7	2.3	3.2	3.4	4	4.7	2	2.7	3.8	4.1	5	6	2.1	2.9	4.3	4.6	5.6	6.8
Sensible capacity	kW	1.3	1.8	2.6	2.8	3.4	4.1	1.4	2	3	3.2	4	4.9	1.5	2.1	3.2	3.5	4.3	5.4
Discharge temp.	°C	13	14	15	15	16	16	11	12	13	13	14	14	11	11	12	12	13	13
Water flow rate	l/h	245	330	455	485	571	672	279	386	549	591	709	853	297	417	608	658	801	979
Water pressure drop	kPa	1.1	1.8	3.2	3.6	4.8	6.4	0.7	1.2	2.2	2.5	3.4	4.8	0.5	0.8	1.6	1.8	2.6	3.6

* The control system limits the air discharge temperature to 50°C. This limitation is not included in the selection data.

** Water pressure loss, exclusive three- or two- way valve. For sft-values of three- or two-way valve, see page 22.

TECHNICAL DATA

DECO 125

INSTALLATION DATA

Electric supply	V/ph/Hz	230/1/50
Max. running current	A	1.2
Max. consumed power	W	270

GENERAL SELECTION DATA

	Speed	1	2	3	4	5	6
Tapping voltage	V	60	80	100	115	155	230
Power consumption, fans	A	0.42	0.57	0.68	0.77	0.86	0.97
Input power, fans	W	25	45	65	85	125	215
Air displacement	m ³ /h	300	440	660	840	1070	1400
Sound level	dB(A)	14	23	32	37	45	51

HEATING

	Speed	H1 LPHW 80/60°C						H2 LPHW 80/60°C						H4 LPHW 50/30°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	300	440	660	840	1070	1400	300	440	660	840	1070	1400	300	440	660	840	1070	1400
Air inlet temp.	°C	-10						-10						-10					
Heating capacity	kW	6.2	8.2	11.1	13.1	15.2	18	8	11.1	15.4	18.5	22.2	26.9	5.4	7.7	11.2	13.8	17.1	21.4
Discharge temp.	°C	45	40	35	32	28	24	61	57	52	49	45	41	38	37	35	34	33	31
Water flow rate	l/h	270	361	486	575	664	787	349	487	673	812	975	1181	232	334	482	598	737	923
Water pressure drop	kPa	3.8	6.4	10.8	14.5	18.7	25.3	1.8	3.2	5.7	7.9	10.9	15.2	0.3	0.5	1.1	1.5	2.2	3.3
Air inlet temp.	°C	0						0						0					
Heating capacity	kW	5.2	7	9.4	11.2	12.9	15.3	6.7	9.4	13	15.7	18.8	22.9	4.1	5.9	8.5	10.5	12.9	16.1
Discharge temp.	°C	48	44	39	37	33	30	62	59	54	52	49	45	38	37	35	34	33	32
Water flow rate	l/h	229	306	413	489	566	671	294	411	569	687	825	1002	176	253	366	453	558	698
Water pressure loss	kPa	2.9	4.8	8.1	10.9	14.1	19.1	1.3	2.4	4.2	5.9	8.1	11.4	0.2	0.3	0.6	0.9	1.4	2
Air inlet temp.	°C	10						10						10					
Heating capacity	kW	4.3	5.8	7.8	9.3	10.7	12.7	5.5	7.7	10.7	13	15.6	18.9	2.9	4.1	5.9	7.3	9	11.2
Discharge temp.	°C	51	48	44	42	39	36	63	60	57	54	52	49	37	37	36	35	34	33
Water flow rate	l/h	189	254	342	406	470	558	242	339	470	569	683	830	12	177	255	315	388	484
Water pressure drop	kPa	2.1	3.4	5.8	7.9	10.2	13.8	0.9	1.7	3	4.2	5.8	8.2	0.1	0.2	0.3	0.5	0.7	1.2
Air inlet temp.	°C	20						20						20					
Heating capacity	kW	3.5	4.6	6.3	7.5	8.6	10.3	4.4	6.2	8.6	10.4	12.5	15.2	1.6	2.3	3.3	4	4.9	6.1
Discharge temp.	°C	54	51	48	46	44	42	64	62	59	57	55	52	36	36	35	34	34	33
Water flow rate	l/h	152	204	275	326	378	449	194	271	376	455	548	666	70	100	142	174	213	264
Water pressure drop	kPa	1.4	2.3	4	5.4	7	9.4	0.6	1.1	2	2.8	3.9	5.6	0	0.1	0.1	0.2	0.2	0.4

COOLING

	Speed	C2 LPCW 6/12°C						C3 LPCW 6/12°C						C4 LPCW 6/12°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	300	440	660	840	1070	1400	300	440	660	840	1070	1400	300	440	660	840	1070	1400
Air inlet temp.	°C	27						27						27					
Relative humidity	%	48						48						48					
Cooling capacity total	kW	2	2.7	3.7	4.4	5.1	6.1	2.2	3.1	4.3	5.2	6.3	7.6	2.4	3.3	4.7	5.8	7	8.6
Sensible capacity	kW	1.5	2	2.9	3.5	4.2	5.1	1.6	2.3	3.2	4	4.9	6.1	1.7	2.7	3.4	4.3	5.3	6.6
Discharge temp.	°C	12	13	14	15	15	16	11	11	12	13	13	14	10	11	11	12	12	13
Water flow rate	l/h	286	388	525	623	732	866	320	445	622	751	900	1088	337	476	678	829	1007	1238
Water pressure drop	kPa	1.7	2.9	5	6.7	8.9	12	1	1.8	3.3	4.6	6.3	8.8	0.7	1.2	2.3	3.3	4.6	6.6

* The control system limits the air discharge temperature to 50°C. This limitation is not included in the selection data.

** Water pressure loss, exclusive three- or two- way valve. For sft-values of three- or two-way valve, see page 22.

TECHNICAL DATA

DECO 150

INSTALLATION DATA

Electric supply	V/ph/Hz	230/1/50
Max. running current	A	1.2
Max. consumed power	W	270

GENERAL SELECTION DATA

	Speed	1	2	3	4	5	6
Tapping voltage	V	70	90	115	130	170	230
Power consumption, fans	A	0.5	0.62	0.77	0.84	0.94	1.03
Input power, fans	W	35	55	85	105	155	230
Air displacement	m ³ /h	390	610	880	1050	1350	1800
Sound level	dB(A)	15	24	34	38	46	51

HEATING

	Speed	H1 LPHW 80/60°C						H2 LPHW 80/60°C						H4 LPHW 50/30°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	390	610	880	1050	1350	1800	390	610	880	1050	1350	1800	390	610	880	1050	1350	1800
Air inlet temp.	°C	-10						-10						-10					
Heating capacity	kW	7.9	11.1	14.5	16.3	19	22.7	10.3	15	20.2	23.1	27.9	34.2	7	10.6	14.9	17.4	21.6	27.5
Discharge temp.	°C	44	38	34	31	27	24	60	56	51	49	45	41	38	36	35	34	33	31
Water flow rate	l/h	347	486	634	716	831	996	452	658	884	1014	1223	1500	302	460	642	751	934	1188
Water pressure drop	kPa	7	12.7	20.2	25	32.5	44.7	3.3	6.4	10.7	13.6	19	27.1	0.5	1.1	2	2.7	3.9	6
Air inlet temp.	°C	0						0						0					
Heating capacity	kW	6.7	9.4	12.3	13.9	16.2	19.4	8.7	12.7	17.1	19.6	23.7	29.1	5.3	8.1	11.3	13.2	16.4	20.8
Discharge temp.	°C	48	43	39	37	33	30	62	58	54	52	49	45	38	37	35	35	34	32
Water flow rate	l/h	294	413	539	610	709	850	381	556	748	859	1037	1274	230	349	488	570	709	900
Water pressure loss	kPa	5.2	9.5	15.2	18.8	24.6	33.8	2.4	4.7	8	10.2	14.2	20.4	0.3	0.7	1.3	1.7	2.4	3.7
Air inlet temp.	°C	10						10						10					
Heating capacity	kW	5.6	7.8	10.2	11.6	13.5	16.2	7.2	10.5	14.1	16.2	19.6	24.1	3.8	5.7	7.9	9.2	11.4	14.5
Discharge temp.	°C	51	47	43	42	39	36	63	59	56	54	52	48	38	37	36	35	34	33
Water flow rate	l/h	244	343	448	507	590	709	314	460	619	711	860	1058	162	246	341	399	495	627
Water pressure drop	kPa	3.8	6.8	11	13.6	17.8	24.6	1.7	3.4	5.7	7.3	10.2	14.7	0.2	0.4	0.7	0.9	1.3	2
Air inlet temp.	°C	20						20						20					
Heating capacity	kW	4.5	6.3	8.2	9.3	10.9	13	5.7	8.5	11.3	13	15.8	19.4	2.1	3.2	4.4	5.2	6.4	8
Discharge temp.	°C	54	51	48	46	44	41	64	61	58	57	55	52	36	36	35	35	34	33
Water flow rate	l/h	196	275	361	408	476	572	252	371	497	570	690	850	92	139	191	223	275	347
Water pressure drop	kPa	2.6	4.7	7.5	9.3	12.2	16.8	1.2	2.3	3.9	4.9	6.9	10	0.1	0.1	0.2	0.3	0.5	0.7

COOLING

	Speed	C2 LPCW 6/12°C						C3 LPCW 6/12°C						C4 LPCW 6/12°C					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	390	610	880	1050	1350	1800	390	610	880	1050	1350	1800	390	610	880	1050	1350	1800
Air inlet temp.	°C	27						27						27					
Relative humidity	%	48						48						48					
Cooling capacity total	kW	2.6	3.7	4.9	5.6	6.6	7.9	2.9	4.3	5.8	6.7	8.1	9.9	3.1	4.6	6.4	7.4	9	11.3
Sensible capacity	kW	1.9	2.8	3.8	4.4	5.3	6.6	2.1	3.1	4.3	5	6.2	7.8	2.2	3.3	4.6	5.4	6.7	8.6
Discharge temp.	°C	12	13	14	14	15	16	11	11	12	13	13	14	10	11	11	11	12	13
Water flow rate	l/h	376	536	704	797	943	1129	420	618	835	959	1159	1421	442	662	911	1057	1295	1617
Water pressure drop	kPa	3.2	6	9.7	12	16	22.3	1.9	3.8	6.4	8.2	11.4	16.4	1.3	2.6	4.5	5.9	8.4	12.4

* The control system limits the air discharge temperature to 50°C. This limitation is not included in the selection data.

** Water pressure loss, exclusive three- or two- way valve. For sft-values of three- or two-way valve, see page 22.

TECHNICAL DATA

DECO HE

INSTALLATION DATA

		DECO 50	DECO 100	DECO 150
Electric supply	V/ph/Hz	400/3N/50	400/3N/50	400/3N/50
Max. running current	A	10.4	16	23.8
Max. consumed power heating*	kW	7.1	10.7	15.9

* With electric heating, the heating capacity is 5% lower than the installed power.

GENERAL SELECTION DATA

	Speed	DECO 50						DECO 100						DECO 150					
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Tapping voltage	V	70	90	115	130	170	230	70	90	115	130	170	230	70	90	115	130	170	230
Power consumption, fans	A	0.14	0.19	0.24	0.26	0.29	0.34	0.33	0.41	0.51	0.56	0.63	0.69	0.5	0.62	0.77	0.84	0.94	1.03
Input power, fans	W	10	20	30	35	50	75	25	40	60	70	105	155	35	55	85	105	155	230
Air displacement	m ³ /h	140	205	315	350	450	605	275	405	635	700	900	1180	390	610	880	1050	1350	1800
Sound level	dB(A)	15	24	33	38	45	51	15	24	34	38	46	51	15	24	34	38	46	51

HEATING

	Speed	DECO 50						DECO 100						DECO 150					
		HE			400 V			HE			400 V			HE			400 V		
		1	2	3	4	5	6	1	2	3	4	5	6	1	2	3	4	5	6
Air displacement	m ³ /h	140	205	315	350	450	605	275	405	635	700	900	1180	390	610	880	1050	1350	1800
Available heating cap. ¹	kW	6.6						10						14.8					
Max. power consumption per phase	A	10.1						15.2						22.5					
Air inlet temperature	°C	-10						-10						-10					
Discharge temperature	°C	50	50	46	41	29	19	50	50	32	28	20	13	50	50	35	28	19	12
Real heating capacity	kW	3.1	4.6	6.6	6.6	6.6	6.6	6.2	9.1	10	10	10	10	8.8	13.7	14.8	14.8	14.8	14.8
Air inlet temperature	°C	0						0						0					
Discharge temperature	°C	50	50	50	50	41	30	50	50	44	40	31	23	50	50	47	39	30	23
Real heating capacity	kW	2.5	3.7	5.7	6.3	6.6	6.6	5	7.3	10	10	10	10	7	11	14.8	14.8	14.8	14.8
Air inlet temperature	°C	10						10						10					
Discharge temperature	°C	50	50	50	50	50	42	50	50	50	50	42	34	50	50	50	50	42	34
Real heating capacity	kW	1.9	2.8	4.4	4.8	6.2	6.6	3.8	5.6	8.8	9.7	10	10	5.4	8.4	12.2	14.5	14.8	14.8
Air inlet temperature	°C	20						20						20					
Discharge temperature	°C	50	50	50	50	50	50	50	50	50	50	45	45	50	50	50	50	50	45
Real heating capacity	kW	1.4	2.1	3.2	3.5	4.5	6.1	2.8	4.1	6.4	7	9	10	3.9	6.1	8.8	10.6	13.6	14.8

¹ At some fan speeds, the available heating capacity may be higher than the real heating capacity, as the control system limits the outlet air temperature to 50°C. * The DECO 75 and DECO 125 are not available as electrically heated units.

TECHNICAL EXPLANATION

CORRECTION COEFFICIENTS- HEATING CAPACITY

The heating capacities for the coil types H1 and H2 listed in the tables on pages 8 to 13 are based on a water temperature range of 80/60°C. The heating capacities for the coil type H4 are based on a water temperature range of 50/30°C. If water temperatures differ, the heating capacity is to be multiplied by the coefficients from the below tables. These coefficients are applicable to the heating capacities from the tables on pages 8 to 12 at an inlet air temperature of 20°C. The first table lists the correction coefficients for the coil types H1 and H2. The correction coefficients for the coil type H4 are listed in the second table.

CORRECTION COEFFICIENTS FOR HEATING CAPACITIES OF THE BATTERY TYPES H1 AND H2

H1/H2	Air inlet temperature			
	-10°C	0°C	10°C	20°C
90/70°C	2	1,8	1,5	1,2
80/60°C	1,8	1,5	1,2	1
70/50°C	1,5	1,3	1	0,8
60/40°C	1,3	1	0,8	0,5
50/30°C	1	0,8	0,5	0,3

CORRECTION COEFFICIENTS FOR HEATING CAPACITY OF THE BATTERY TYPE H4

H4	Air inlet temperature			
	-10°C	0°C	10°C	20°C
90/70°C	7,1	6,1	5,1	4,2
80/60°C	6,2	5,2	4,3	3,4
70/50°C	5,4	4,4	3,5	2,7
60/40°C	4,5	3,6	2,7	1,9
50/30°C	3,6	2,7	1,9	1

EXPLANATION

The correction coefficients are for the capacities listed in the tables on page 8 to 13. They give an indication of the capacity at deviating water temperatures and air conditions. For exact data, please seek the advice of a Biddle employee.

TECHNICAL EXPLANATION

CORRECTION COEFFICIENTS - COOLING CAPACITY

The cooling capacities for the coil types C2, C3 and C4 listed in the tables on pages 8 to 13 are based on a water temperature range of 6/12°C and on an inlet air temperature of 27°C at 48% R.H. If water temperatures and inlet air conditions differ, the cooling capacity is to be multiplied by coefficients from the table below.

CORRECTION FACTORS COOLING CAPACITY COIL TYPES C2, C3 AND C4

C2, C3 and C4 LPCW	Air inlet temperature	Relative humidity					
		40% R.H.		48% R.H.		60% R.H.	
		Q_t	Q_v	Q_t	Q_v	Q_t	Q_v
6/12°C	22°C	0,6	0,7	0,6	0,7	0,7	0,6
	24°C	0,7	0,8	0,7	0,8	0,9	0,7
	27°C	0,9	1	1	1	1,3	0,9
	28°C	0,9	1	1,1	1	1,5	0,9
10/16°C	22°C	0,4	0,4	0,4	0,4	0,4	1
	24°C	0,5	0,5	0,5	0,5	0,5	0,4
	27°C	0,6	0,7	0,6	0,7	0,8	0,5
	28°C	0,7	0,8	0,7	0,8	1	0,7
12/18°C	22°C	0,3	0,3	0,3	0,3	0,3	0,7
	24°C	0,4	0,4	0,4	0,4	0,4	0,3
	27°C	0,5	0,6	0,5	0,6	0,5	0,4

Q_t = total cooling capacity Q_v = sensible cooling capacity.

TECHNICAL EXPLANATION

WATER FLOW RATE

The water flow rates listed in the tables on pages 8 to 13 are based on a water temperature range of 82/71°C, 50/30°C or 60/40°C. If water flow rates differ from those listed in the tables on pages 8 to 13, the water flow rate may be roughly calculated using the opposite formula. Before doing so, the heating capacity must first be recalculated (see page 14).

- m_w = water flow rate [l/h]
- Q = capacity [kW]
- c_{pw} = specific heat of water (=4.18) [kJ/kg°C]
- ΔT_w = temperature difference water [°C]
- ρ_w = density of water at 90°C (=0.984) [kg/l]

$$m_w = \frac{Q}{\rho_w c_{pw} \Delta T_w} \cdot 3600 \text{ [l/h]}$$

WATER PRESSURE DROP

All water temperatures differ from those listed in the tables on pages 8 to 13, then the water pressure loss may be roughly calculated using the formula below. To do so, the water flow rate must first be calculated (see left).

- ΔP_{w1} = water pressure loss, table values [kPa]
- ΔP_{w2} = water pressure loss [kPa]
- m_{w1} = water flow rate, table values [l/h]
- m_{w2} = water flow rate calculated using formula [l/h]

$$\Delta P_{w2} = \Delta P_{w1} \left(\frac{m_{w2}}{m_{w1}} \right)^2 \text{ [kPa]}$$

SOUND

In the tables on pages 8 to 13, a sound level in the reverberation field is listed for all six speeds. These sound level values are based on the use of one fan coil unit in a reference room.

REFERENCE ROOM

For each type of fan coil unit, a room has been taken for expressing the noise level. The reference room (Vo) is chosen dependent on the size of the unit, such that the air circulation ratio in the room is equal to 2 at fan speed 4. The reference room is stated in the opposite table. As many offices have sound-absorbing ceilings, an average reverberation time of 0.5 second has been assumed.

Unit size	Reference room
DECO 50	175m ³
DECO 75	258m ³
DECO 100	350m ³
DECO 125	420m ³
DECO 150	525m ³

SOUND IN A DEVIATING ROOM AND WITH MULTIPLE UNITS

If a unit is used in a deviating room, or if multiple devices are used in a single room, the sound pressure level must be recalculated. This can be done using the formula below. The relevant table value can be found in the tables (general data).

- L_p = sound pressure [dB(A)]
- T = reverberation time in deviating room [s]
- T_o = reverberation time [s] (see table)
- V = volume deviating room [m³]
- V_o = volume reference room [m³] (see table)
- n = number of units

$$L_p = \text{table value} + \left(10 \cdot \log \left(\frac{T}{T_o} \right) - 10 \cdot \log \left(\frac{V}{V_o} \right) + 10 \cdot \log (n) \right) \text{ [dB(A)]}$$

Sample calculation: Wanted: the noise level in the reverberation field if three DECO 75 fan coil units are used at speed 3 in a room featuring a reverberation time of 0.6 second and a volume of 600m³.

$$34 + \left(10 \cdot \log \left(\frac{0.6}{0.5} \right) - 10 \cdot \log \left(\frac{600}{258} \right) + 10 \cdot \log (3) \right)$$

$$= 34 + (0.8 - 3.7 + 4.8) = 35,9 \text{ dB(A)}$$

TECHNICAL EXPLANATION

OVERVIEW OF SOUND DATA

Unit size		Sound pressure level*	Sound power level**								
Type	Speed		in dB(A)	Per octave band in the medium frequency in dB (ref 1 x 10 ⁻¹² W)							
		Lp	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz	Lw
DECO 50	1	15	30.3	32.4	30.7	25.4	16.3	8.9	0	0	26.3
	2	23.8	33.7	39.7	37.4	34.5	28.6	23.7	10.3	0	35.3
	3	33.3	38.9	47.5	44.5	43.1	39.2	6.9	25.9	14.5	44.8
	4	37.9	41.5	51.6	48.5	46.6	44.2	42.4	33.5	23	49.4
	5	45.4	47.2	58.1	55	53.1	51.2	50.9	45	36.1	56.9
	6	50.6	51.2	62.6	60	57.6	56.7	55.9	51.5	44.1	62.1
DECO 75	1	14.1	34.1	33.8	29.7	27.6	15.4	11.7	0	0	27.2
	2	26.5	40.5	42.3	44.5	38.5	30.1	23.7	12	0	39.6
	3	34	45.8	48.9	45.5	46.6	41.7	36.9	27.4	12.2	47
	4	38.6	47.9	53.4	50	50.6	46.7	42.4	35	21.4	51.7
	5	46.2	53.5	59.9	56	57.1	54.7	51.4	46	34.5	59.3
	6	50.8	58	64.9	61	61.1	58.7	56.9	52	43	63.9
DECO 100	1	14.8	35.6	35.1	32.2	29.4	19.8	12.4	0.8	0	29.3
	2	24.1	39.1	42.4	38.9	38.5	32.1	27.2	13.3	1.6	38.6
	3	33.7	44.2	50.2	46	47.1	42.7	40.4	28.9	18.1	48.2
	4	38.3	46.9	54.2	50	50.6	47.7	45.9	36.5	26.6	52.8
	5	45.8	52.5	60.7	56.5	57.1	54.7	54.4	48	39.6	60.3
	6	51	56.5	65.2	61.5	61.6	60.2	59.4	54.5	47.6	65.5
DECO 125	1	13.7	35.7	34.9	30.5	29.6	19.7	10.4	0	0	29
	2	23.4	39.7	42.3	40.9	39	30.8	23.9	9	0	38.7
	3	31.8	43.3	49.3	46	46.1	42.2	37.3	25.8	13.6	47.1
	4	36.8	46.5	52.9	50.5	50.6	47.2	43.9	34	20.6	52.1
	5	45	51.7	59.9	57	57.1	55.7	53.4	47	36.1	60.3
	6	51.4	56.7	66.4	62.5	63.1	61.7	60.4	55	46.6	66.7
DECO 150	1	15	36.9	37.3	33.7	31.4	21.3	13.9	2.9	0	31.2
	2	24.2	40.4	44.6	40.4	40.5	33.6	28.7	15.3	2.2	40.4
	3	33.8	45.5	52.4	47.5	49.1	44.2	41.9	30.9	18.6	50
	4	38.3	48.2	56.4	51.5	52.6	49.2	47.4	38.5	27.1	54.5
	5	45.8	53.8	62.9	58	59.1	56.2	55.9	50	40.1	62
	6	51	57.8	67.4	63	63.6	61.7	60.9	56.5	48.2	67.2

* The noise levels are based on the reverberation field in a reference room (see page 16).

** The value <0 indicates that the relevant value is below the threshold of hearing.

TECHNICAL EXPLANATION

SOUND-DAMPING AIR INLET SECTION

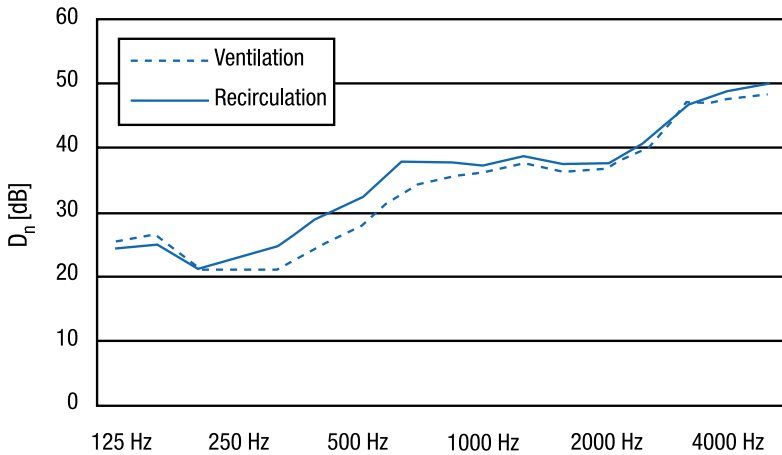
To reduce the noise, a sound-damping air inlet section can be installed in units that feature outside-air inlet. The section reduces both the outside noise coming in, such as traffic noise, and the inside noise going out, such as bar noise. The inner side of the sound-damping inlet section is finished with a sound-absorbing open-cell foam coat. The sound damping values have been measured according to NEN 20140 at the laboratory of the Groningen-based firm Van Dorsser BV (The Netherlands).

DAMPING VALUE - SOUND POWER LEVEL [DB]

Mode	Dn*, referenced to 10m ²						Total LW
	Per octave band in the medium frequency						
	125Hz	250Hz	500Hz	1000Hz	2000Hz	4000Hz	
Damper actuator in ventilation mode	25	21	28	36	37	48	29
Damper actuator in recirculation mode	24	23	33	37	37	49	31

* Dn is damping valve

DAMPING VALUE - SOUND LEVEL DIFFERENTIAL PER OCTAVE



The values from the table below can be used for a simplified calculation.

DAMPING VALUE - SOUND POWER LEVEL [DB(A)]











Mode	R _{A,netto} *				
	DECO 50	DECO 75	DECO 100	DECO 125	DECO 150
Damper actuator in ventilation mode	6	8	10	11	11
Damper actuator in recirculation mode	8	10	12	13	13
Wall duct [m ²]	0.061	0.093	0.12	0.16	0.19

* R_{A,netto} is the sound reduction per type of sound-damping air inlet section.

TECHNICAL EXPLANATION

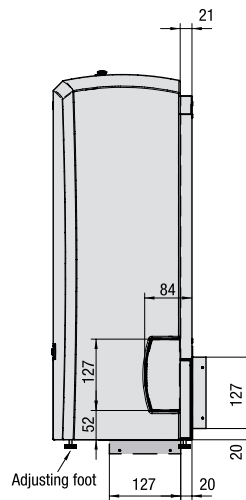
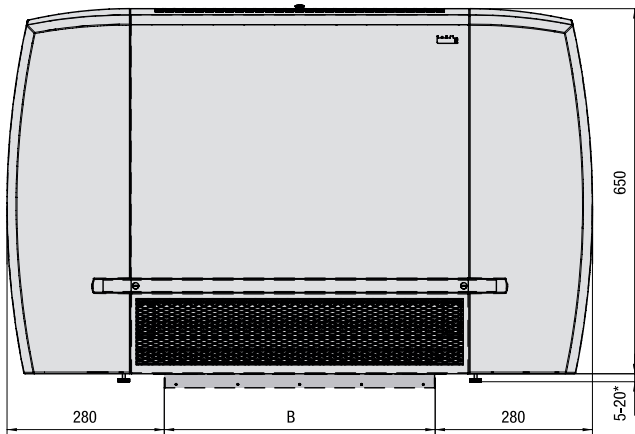
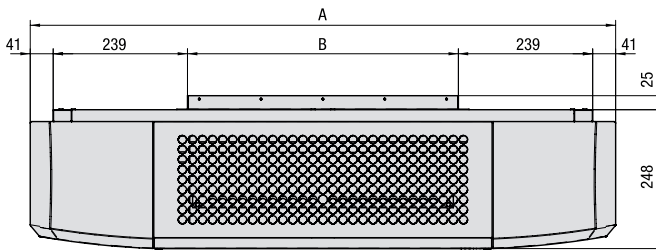
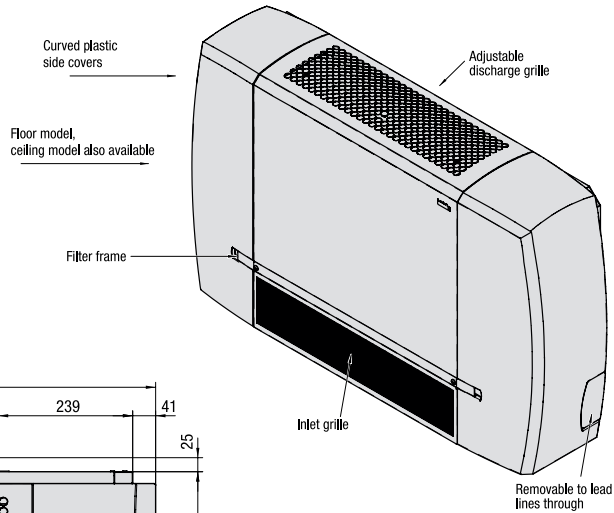
DIMENSIONAL SKETCHES OF STYLISH MODEL (S)

Depicted model DECO 50-HIC3-R-FS10

Recirculation	Ventilation	Recirculation/ Ventilation
 FS2	 FS6	 FS8
 FS10	 FS12	
 CS2	 CS6	 CS8
 CS10	 CS12	

See page 4, figure 1.

△ = inspection side → = air direction



Unit size	A	B
DECO 50	1042	482
DECO 75	1292	732
DECO 100	1542	982
DECO 125	1792	1232
DECO 150	2042	1482

All dimensions in mm. *Adjusting size for adjusting feet. Only the floor model comes with adjusting feet.

TECHNICAL EXPLANATION

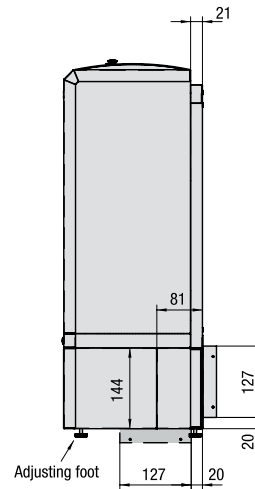
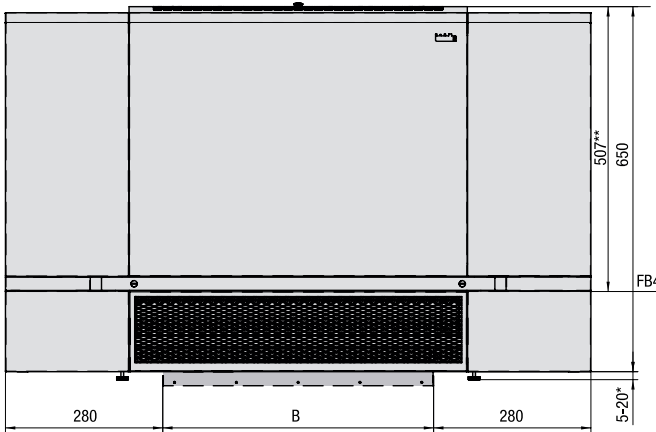
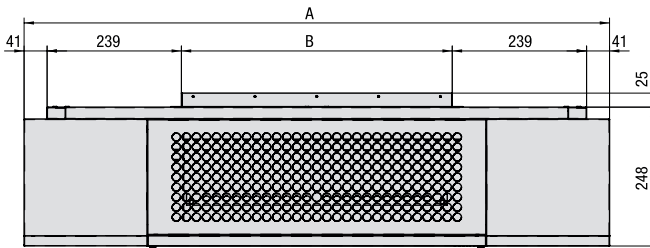
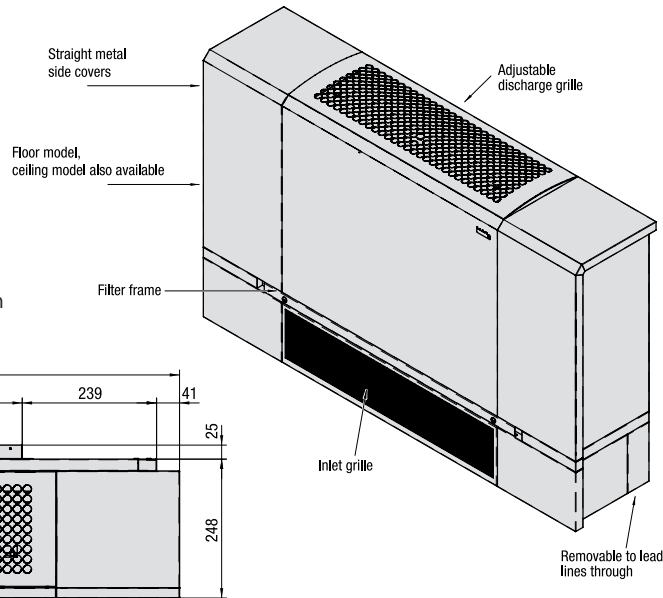
DIMENSIONAL SKETCHES OF BUSINESS MODEL (B)

Depicted model DECO 50-HIC3-R-FB10

Recirculation	Ventilation	Recirculation/ Ventilation
 FB2 FB4	 FB6 FB8	 FB10 FB12
 CB2	 CB6 CB8	 CB10 CB12

See page 4, figure 1.

△ = inspection side → = air direction



Unit size	A	B
DECO 50	1042	482
DECO 75	1292	732
DECO 100	1542	982
DECO 125	1792	1232
DECO 150	2042	1482

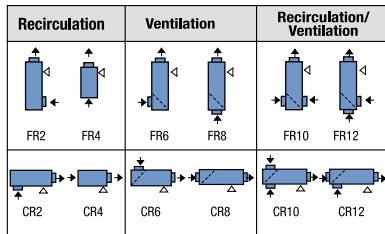
All dimensions in mm. *Adjusting size for adjusting feet. Only the floor model comes with adjusting feet.

**Applies only for encased floor model for recirculation, type FB4. The minimum distance between floor and unit will then be 120mm.

TECHNICAL EXPLANATION

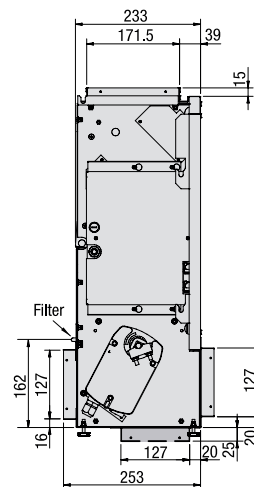
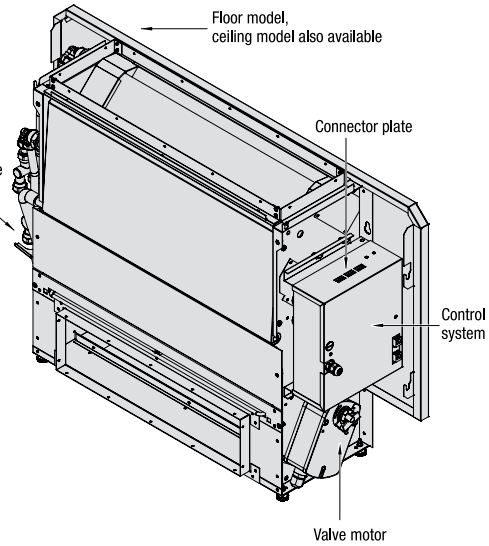
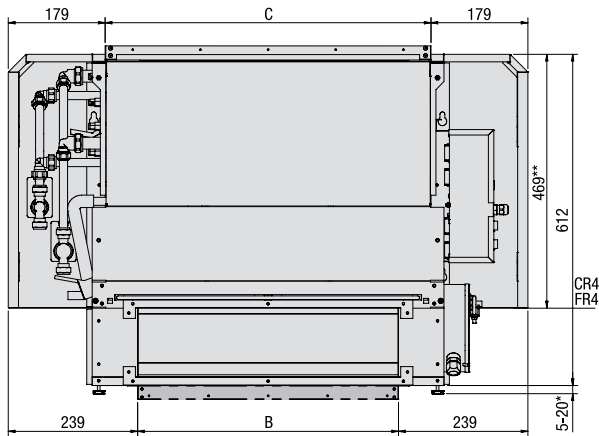
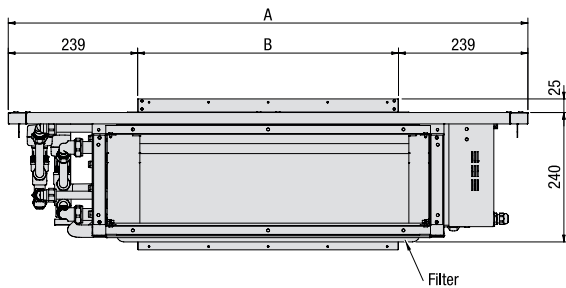
DIMENSIONAL SKETCHES OF RECESSED MODEL (R)

Depicted model DECO 50-HIC3-L-FR10



See page 4, figure 1.

△ = inspection side → = air direction



Unit size	A	B	C
DECO 50	960	482	602
DECO 75	1210	732	852
DECO 100	1460	982	1102
DECO 125	1710	1232	1352
DECO 150	1960	1482	1602

All dimensions in mm. *Adjusting size for adjusting feet. Only the floor model comes with adjusting feet.

**Applies only for recessed models for recirculation, types FR4 and CR4. The minimum distance between floor and unit will then be 120mm.

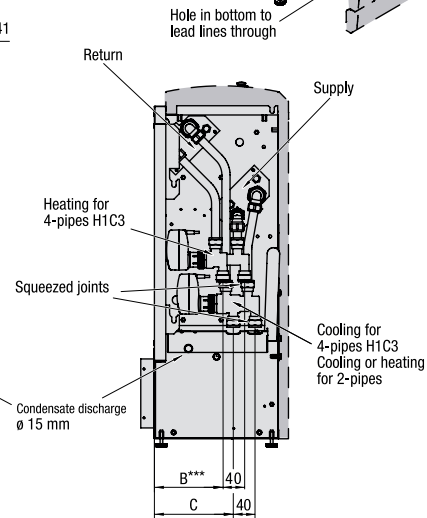
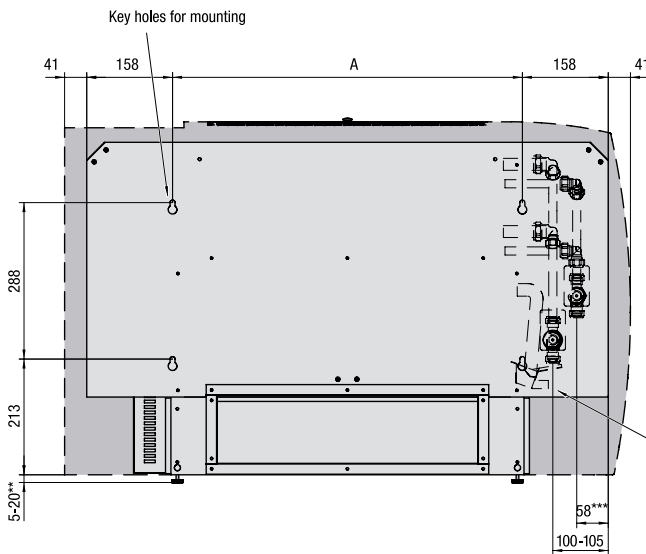
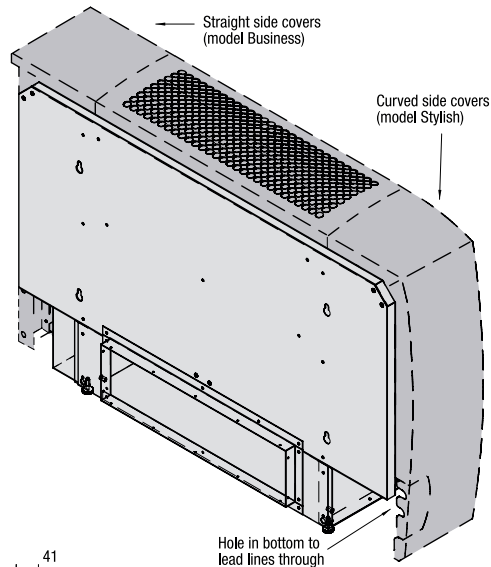
TECHNICAL EXPLANATION

DIMENSIONAL SKETCHES WATER CONNECTIONS

Depicted model DECO 50-HIC3-L-FR6

Unit size	A
DECO 50	644
DECO 75	894
DECO 100	1144
DECO 125	1394
DECO 150	1644

Coil types	B	C
H1, H2, C2	-	116
C3	-	124
H4, C4	-	133
HIC3	113	130



Unit size	Coil types											
	H1		H2		H4		C2		C3		C4	
	Kvs*	ø	Kvs*	ø	Kvs*	ø	Kvs*	ø	Kvs*	ø	Kvs*	ø
DECO 50	1	15	1,6	15	2,5	15	1,6	15	2,5	15	2,5	15
DECO 75	1	15	1,6	15	2,5	15	1,6	15	2,5	15	2,5	15
DECO 100	1,6	15	4/3,5	22	4/3,5	22	4/3,5	22	4/3,5	22	4/3,5	22
DECO 125	1,6	15	4/3,5	22	4/3,5	22	4/3,5	22	4/3,5	22	4/3,5	22
DECO 150	1,6	15	4/3,5	22	4/3,5	22	4/3,5	22	4/3,5	22	4/3,5	22

All dimensions in mm. With sizes B and C, minor deviations of 5mm at the most may occur.

* Kvs values for 3- and 2-way valves. Where values vary, the 3-way valve is mentioned first, followed by the 2-way valve.

** Adjusting size for adjusting feet. Only the floor model comes with adjusting feet.

*** Size for H1-connection if HIC3 is used.

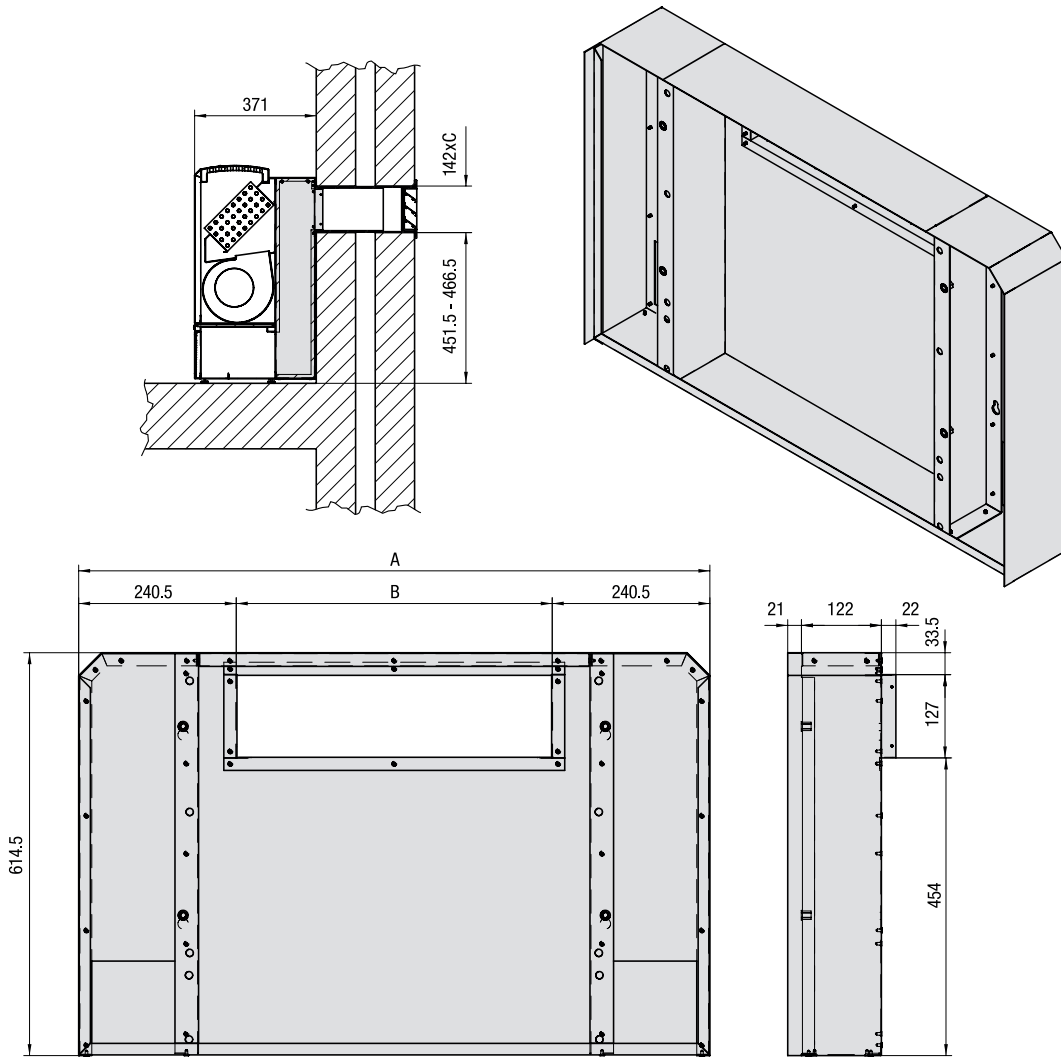
- pipe diameter squeezed joint DN 15: 15 mm, DN 20: 22 mm.

- pipe connection can be made to both the left- and the right-hand side of the unit.

TECHNICAL EXPLANATION

DIMENSIONAL SKETCHES OF ATTENUATED AIR INLET SECTION

Depicted DECO 50



Unit size	A	B	C
DECO 50	963	482	503
DECO 75	1213	732	753
DECO 100	1463	982	1003
DECO 125	1713	1232	1253
DECO 150	1963	1482	1503

All dimensions in mm. Available for Ceiling and Wall models. Holes for mounting are situated at the back site of the unit (see page 22).

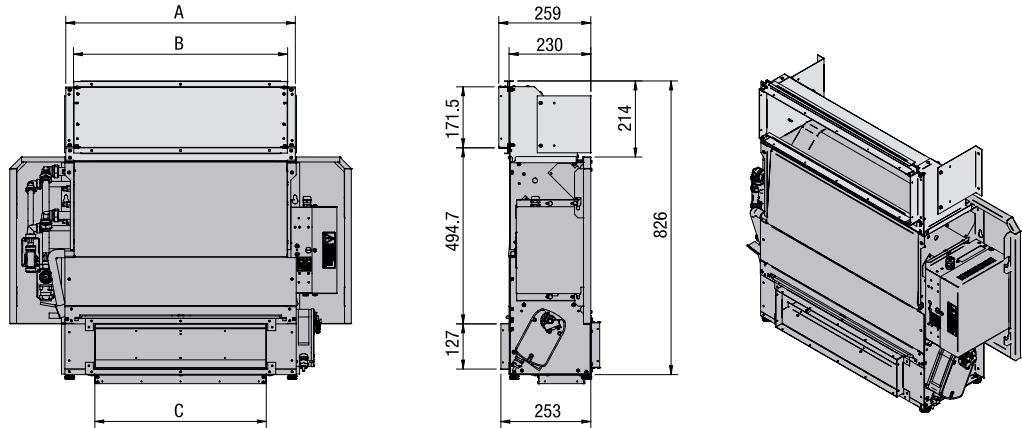
TECHNICAL EXPLANATION

DIMENSIONAL SKETCHES DISCHARGE SECTION AND PLENUM

Depicted DECO 50-H1C3-L-FR10

DISCHARGE SECTION*

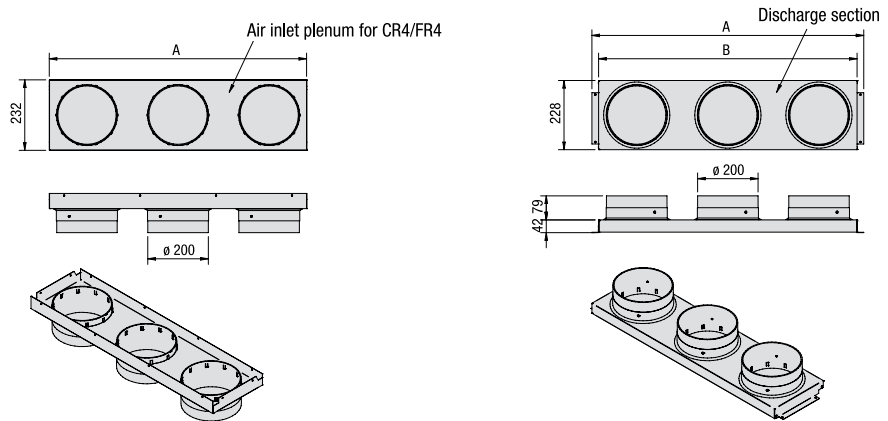
Material: zinc coated plate steel



Unit size	A	B	C
DECO 50	645	602	482
DECO 75	895	852	732
DECO 100	1145	1102	982
DECO 125	1395	1352	1232
DECO 150	1645	1602	1482

AIR INLET AND DISCHARGE PLENUM

Material: zinc coated plate steel



Air inlet plenum for FRC/CR4			
Unit size	A	Spouts	C
DECO 50	597	2	300
DECO 75	847	3	300
DECO 100	1097	4	270
DECO 125	1347	5	275
DECO 150	1597	6	265

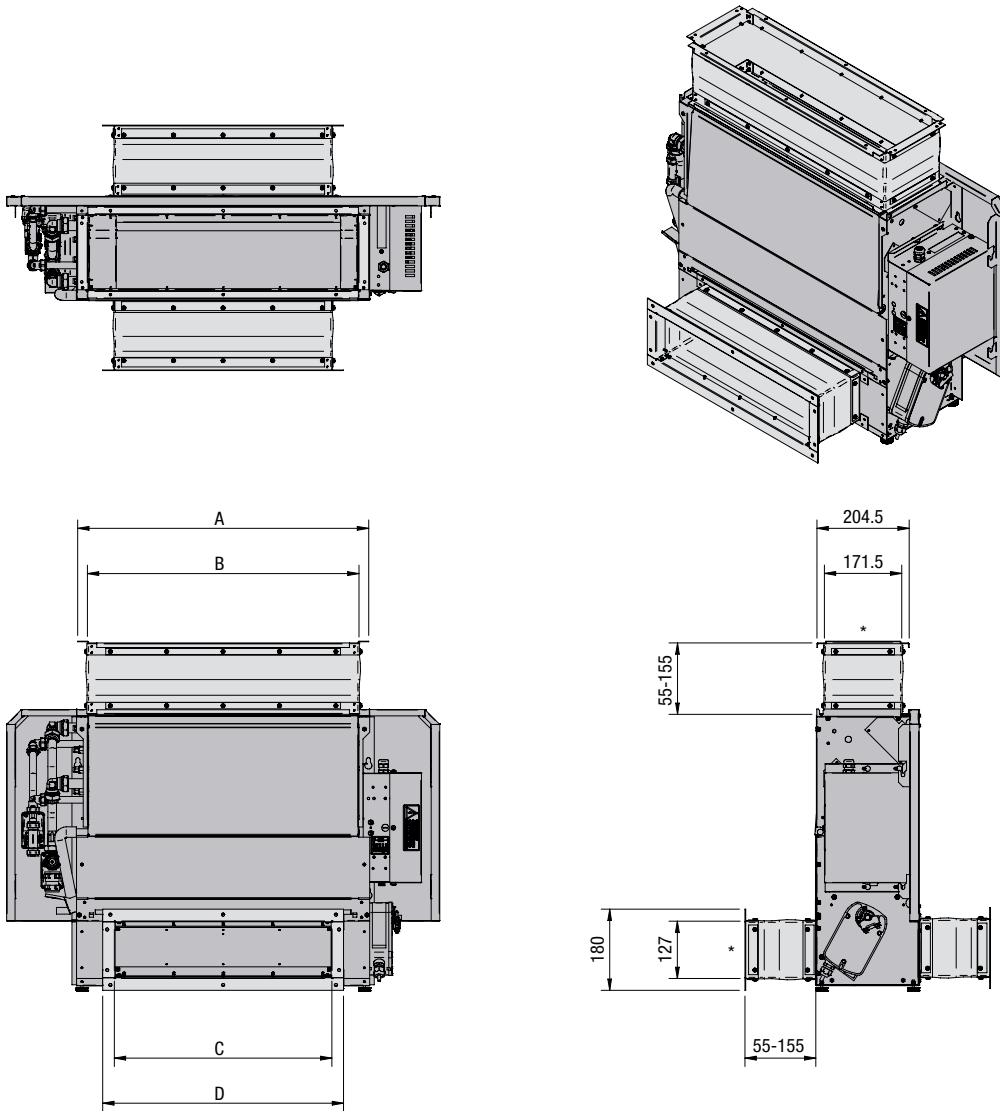
Discharge plenum				
Unit size	A	B	Spouts	C
DECO 50	645	601	2	300
DECO 75	895	851	3	300
DECO 100	1145	1101	4	270
DECO 125	1395	1351	5	275
DECO 150	1645	1601	6	265

All dimensions are in mm. *The discharge section is used in recessed models to switch from top discharge to front discharge.
 * The discharge section may be used with a flexible connection sleeve (see page 26) or a grille (page 26).

TECHNICAL EXPLANATION

DIMENSIONAL SKETCHES FLEXIBLE CONNECTION SLEEVES

Depicted DECO 50-H1C3-L-FR10



Unit size	A	B	C	D
DECO 50	645	602	482	534
DECO 75	895	852	732	784
DECO 100	1145	1102	982	1034
DECO 125	1395	1352	1232	1284
DECO 150	1645	1602	1482	1534

All dimensions in mm. Material: PVC-coated polyester tissue (bisonyl)

* Available with or without duct connection flange (made of zinc plated sheet steel). Connection sleeves are delivered unit-mounted.

TECHNICAL EXPLANATION

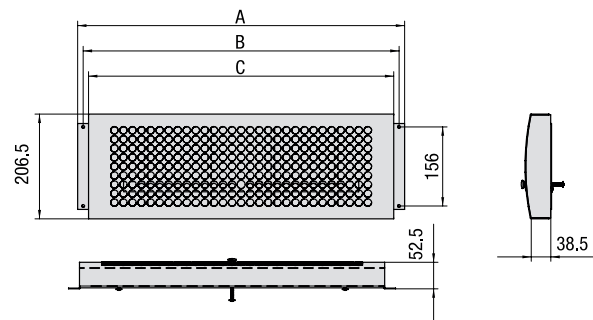
DIMENSIONAL SKETCHES OF WALL AND CEILING GRILLES

Depicted for model DECO 50

ADJUSTABLE DISCHARGE GRILLE

Material: painted zinc plated sheet steel

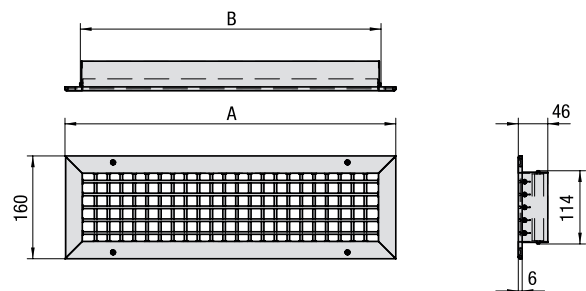
Unit size	A	B	C
DECO 50	645	623	602
DECO 75	895	873	852
DECO 100	1145	1123	1102
DECO 125	1395	1373	1352
DECO 150	1645	1623	1602



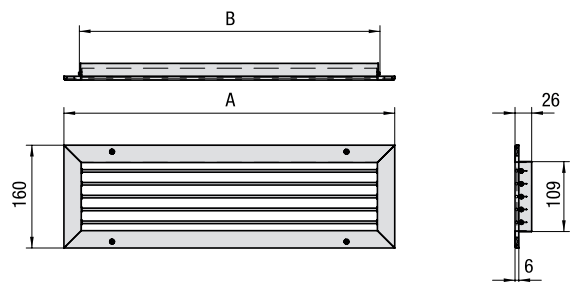
FIN GRILLES

Material: natural-coloured, extruded, anodised aluminium, includes a fixing frame with recessed holes. Available in three types:

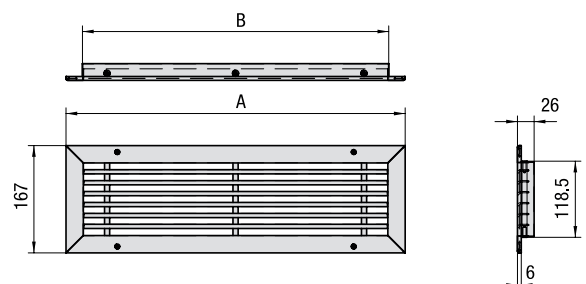
Double adjustable grille		
Unit size	A	B
DECO 50	515	469
DECO 75	765	719
DECO 100	1015	969
DECO 125	1265	1219
DECO 150	1515	1469



Single adjustable grille		
Unit size	A	B
DECO 50	515	469
DECO 75	765	719
DECO 100	1015	969
DECO 125	1265	1219
DECO 150	1515	1469



Fixed grille		
Unit size	A	B
DECO 50	528	477
DECO 75	778	727
DECO 100	1028	977
DECO 125	1278	1227
DECO 150	1528	1477



All dimensions in mm.

These grilles can be used for both in- and outlet sides. On the outlet side, the grille is mounted onto the unit using a flange.

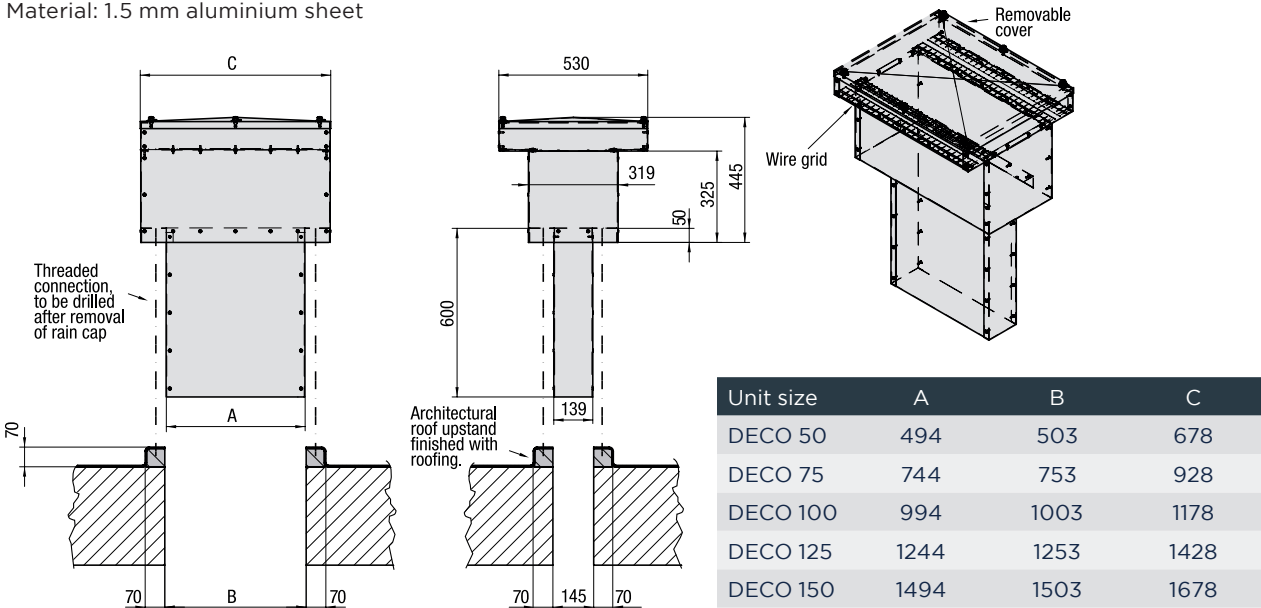
TECHNICAL EXPLANATION

DIMENSIONAL SKETCHES WALL AND ROOF DUCTS

Depicted model DECO 50

ROOF CAP AND ROOF DUCT

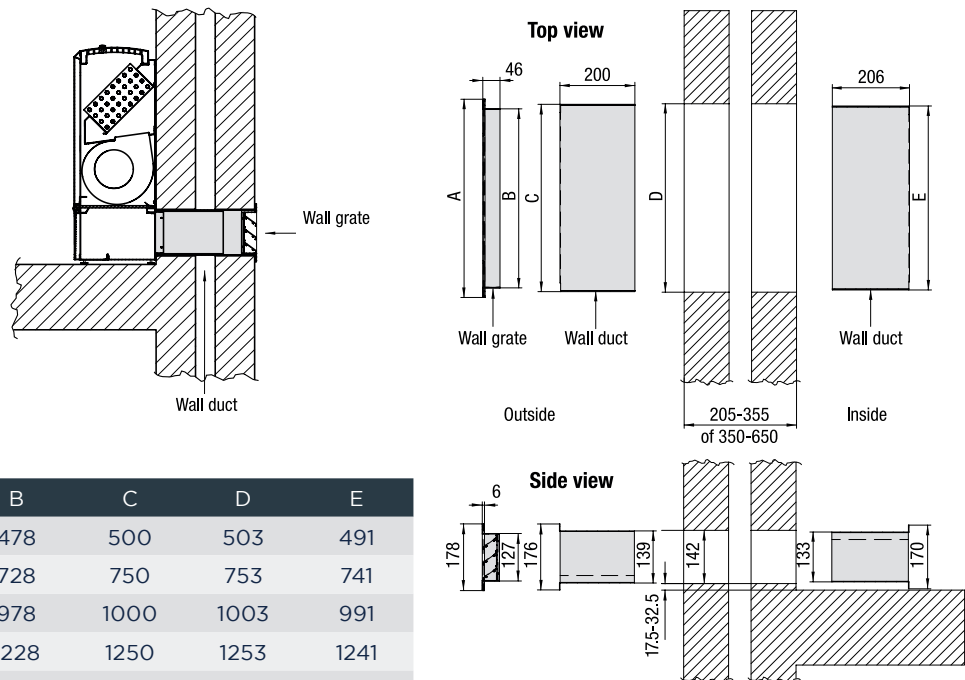
Material: 1.5 mm aluminium sheet



All dimensions in mm.

WALL DUCT AND WALL GRATE

Material: zinc coated plate steel



All dimensions in mm.

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Biddle

Every effort has been made to ensure descriptions are correct at the time of print.
Errors and omissions excepted. DECO|V2|09|2021