

CNVA
Active floor convector

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GENERAL DESCRIPTION

The SCHAKO floor convectors CNVA as decentralised air-conditioners enable energy-efficient and comfortable air-conditioning of offices, public buildings, sales rooms and living spaces.

The CNVA floor convectors are particularly suitable for rooms with large glass facades reaching down to the floor in buildings where false ceilings are not provided and no radiators must be visible.

To meet the increasing energy consumption requirements, the standard equipment of all CNVA floor convectors includes highly efficient and safe EC fans (electronic commutation). Thus, they meet already today the requirements of tomorrow.

Due to their specific design, the CNVA floor convector series is optimised to provide short-circuit protection and includes three model series with three different device sizes (H=106, H=150 and H=190 mm). Each device size consists of three different standard device lengths: 1150, 2000, 2750 mm. In total, there are 15 standard variants which can be ordered.

The device variant H=106 as a 2-pipe variant is intended only for heating operation.

The device variants H=150 and H=190 can be used as 2-pipe variant either for heating operation or cooling operation, as desired, or as 4-pipe variant for heating operation and cooling operation.

As standard, the device variants H=150 and H=190 are equipped with condensate pans, and the heat exchangers can be swivelled upwards for cleaning the pan when equipped with a suitable flexible connection (when ordered). Furthermore, the fans can also be removed without the need for tools for cleaning the pan.

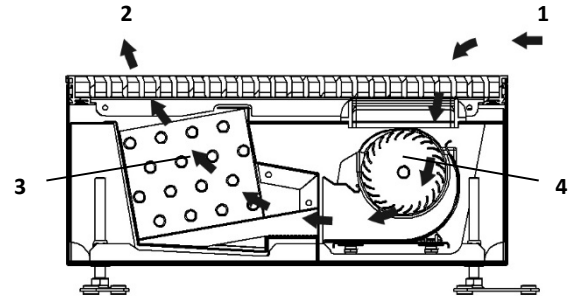
The CNVA is controlled by means of water-side straight through valves, proportional or ON/OFF valve drives and by means of infinitely variable (0-10V) fan speeds.

ADVANTAGES/CUSTOMER BENEFITS

- No cold air drop in winter and no heat build-up in summer at the facade.
- Compact dimensions, low height and low width.
- Height-adjustable screws can be actuated from inside, thus allowing adjustment at a later stage.
- High performance for compensation of high thermal loads.
- Low sound immission.
- Minimum energy consumptions, thanks to ECM fans.
- A complete delivery with valves and actuator pre-mounted ex works is possible.
- Special models for architectural adjustment.
- For performing maintenance activities, the heat exchanger with flexible connections can be swivelled upwards and almost all internal parts, including the fan, can be removed completely without tools.

OPERATION

The room air (1) to be air-conditioned is taken into the convector by the fan (4) via the slip-resistant grille and the filter, cooled or heated via the heat exchanger (3) and supplied again to the room (2) via the tread-resistant grille.



- | | |
|--------------|------------|
| 1 Room air | 3 Register |
| 2 Supply air | 4 EC fan |

Figure1: Schematic diagram of the mode of operation

HEATING



Figure 2: Schematic diagram of the jet path. Heating

COOLING

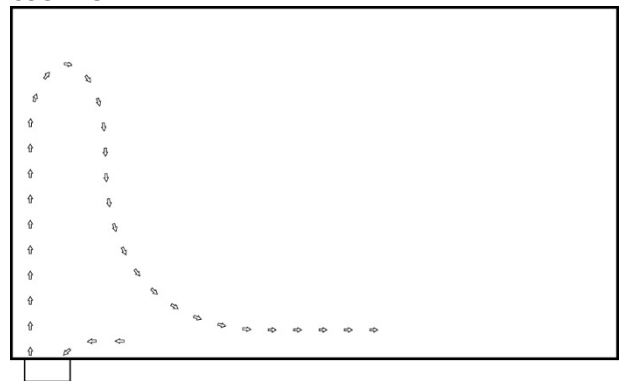


Figure 3: Schematic diagram of the jet path. Cooling

DESCRIPTION OF THE EQUIPMENT

MODELS

Housing

- Made of galvanised sheet steel, painted on the inside and outside to RAL 9005 (black), with pre-marked connection openings for electrical and hydraulic connections on the right (-W2/-W4) and left (-W1/-W3), respectively.
- Upper frame made of extruded anodised aluminium profiles E6/Ev1 (-G1). Other colours on request.
- Spacer bridges made of galvanised sheet steel RAL 9005.

Tread-resistant louvre grid

- Extruded anodised aluminium profile. Painting optional:
 - Linear grille aluminium natural colour anodised E6/EV1(-L1)
 - Linear grille aluminium black anodised E6/EV6 (-L2)
 - Linear grille aluminium bronze anodised E6/C33 (-L3)
 - Roll-down grille aluminium natural colour anodised E6/EV1 (-R1)
 - Roll-down grille aluminium black anodised E6/EV6 (-R2)
 - Roll-down grille aluminium bronze anodised E6/C33 (-R3)

Heat exchanger

- Heat exchanger as 2-pipe system (standard) for heating or cooling, or optionally as 4-pipe system for cooling and heating (4-pipe CNVA 150 and CNVA 190 only).
- Painted to RAL 9005 (black).
- Galvanised steel frame.
- Aluminium ribs.
- 3/8" copper pipes.
- Female fittings 1/2" Eurocone.
- Manual ventilation system.

Fan

- Cross flow fan with electronically commuted direct current motors (ECM).
- Actuator signal 0...10 V DC.
- Power supply 24 V DC.
- Fastening with high-speed connection without tools.

Filter

- Consisting of a synthetic filter medium in a plastic frame of filter class G1 according to standard EN 779:2012.
- Fire classification B1 according to standard DIN 4102.
- Self-extinction class V2 according to UL94.

Adjustable legs

- Adjustable height 60 mm for technical grade floors (-07). With decoupling rubber and fastening holders on room side. 120 mm adjustment also possible (-13).

Condensate pan

- Made of stainless steel. For types H=150 and H=190.
- With insulation to prevent condensation and drain hose made of plastic, diameter 18 mm (outside)/16 mm (inside).

Perforated sheet

Made of galvanised sheet steel, painted to RAL 9005 (black) as cover and protection of electrical and hydraulic connections.

Electrical junction box

Junction box with standard electrical connecting plate (-S0). Optionally with electronic control plate (-S1).

CONSTRUCTION

CNVA-106	device height 106 mm and width 270 mm
CNVA-150	device height 150 mm and width 350 mm
CNVA-190	device height 190 mm and width 350 mm
CNVA-...-N1	Nominal length 1150 mm (1 fan group)
CNVA-...-N2	Nominal length 2000 mm (2 fan groups)
CNVA-...-N3	Nominal length 2750 mm (3 fan groups)
CNVAZ...H0	Dummy piece without heat exchanger
CNVAZ...H5	Corner piece without heat exchanger

	H=106*	H=150	H=190
NL = 1150 mm	-H2	-H2/-H4	-H2/-H4
NL = 2000 mm	-H2	-H2/-H4	-H2/-H4
NL = 2750 mm	-H2	-H2/-H4	-H2/-H4

*For heating only (without condensate pan). Remaining types for heating or cooling (-H2) or heating and cooling (-H4).

Table 1. Possible models

ACCESSORIES (AT AN EXTRA CHARGE)

- Dummy pieces and corner pieces with different angles for perfect adjustment to the room geometry (CNVAZ).
- Primary air connecting pieces for the air duct are available in different diameters, optionally with rubber lip seal.
- Flexible metal hoses made of INOX AISI 316 stainless steel with female or male 1/2" thread (spigot nut) (-1). Additionally with shut-off valve, control valve and ON/OFF and proportional drives.
- Condensate pump with a max. delivery rate of 15 l/h and low sound level (<21 dB(A)) (-K1/-K2) CNVA 150 and CNVA 190 only.
- Control board for control 0...10 V DC (-S1).
- Band design equipment without endpieces (-E0) or with an end piece on either side of the device (-ER/EL).
- Housing outside provided with polyester powder coating for protection against corrosion (-A2), or with acoustic impact sound insulation of 3 mm made of polyethylene (-A3).
- Protective mounting cover made of tread-resistant wooden press boards (-M2).
- Cuts in dummy elements round or rectangular (-A1 bis-A4).
- Bevel cuts in dummy element or extension (-A5/-A6).
- Soundproofing bulkhead in dummy element (-S1).
- Room thermostat RDG160T with outputs 0...10 V DC (not compatible with the control board (-S1)).

CONSTRUCTION AND DIMENSIONS

WIDTH AND HEIGHT

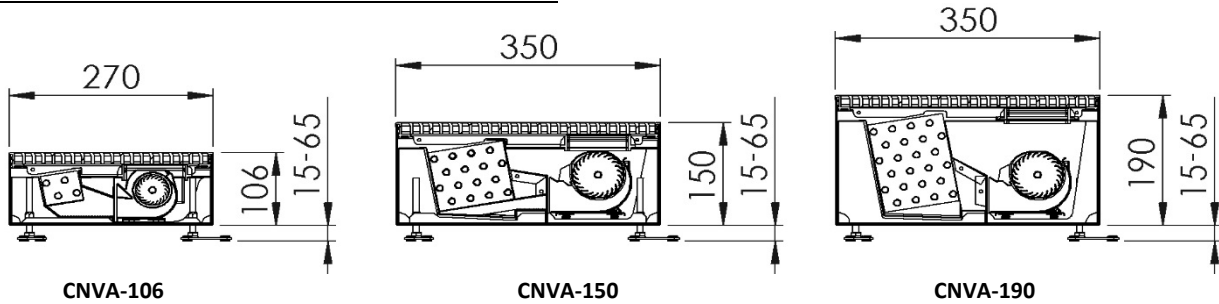
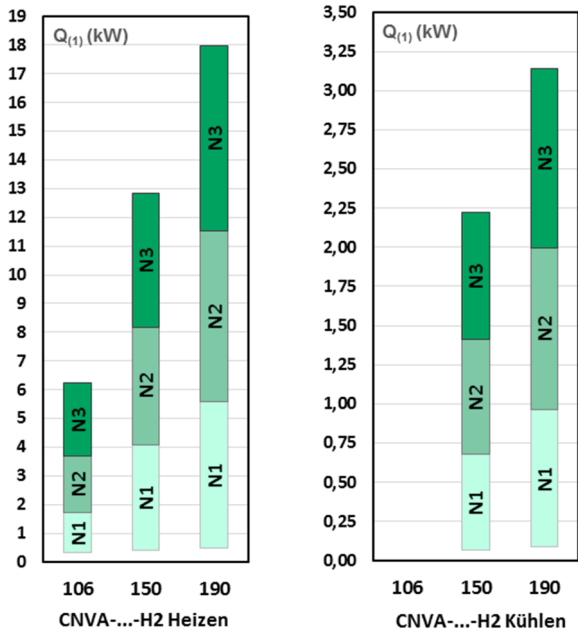


Figure 4: Width and Height of the CNVA

HEAT EXCHANGER QUICK SELECTION

CNVA-...-H2



CNVA-...-H4

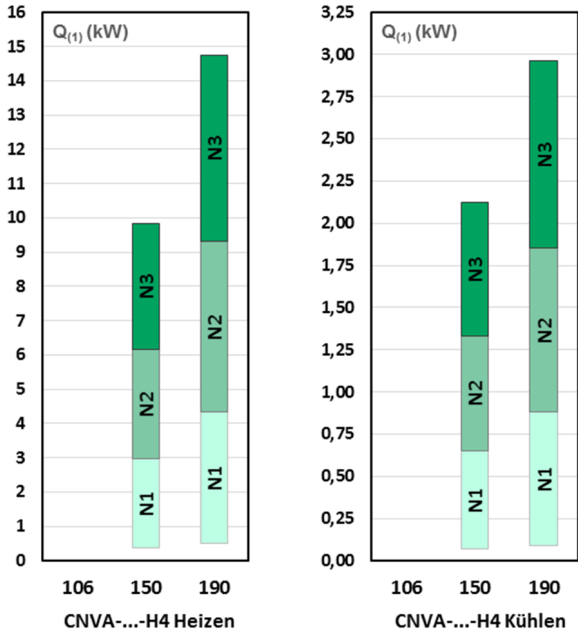


Diagram 1: Heat exchanger quick selection

NOMINAL LENGTH

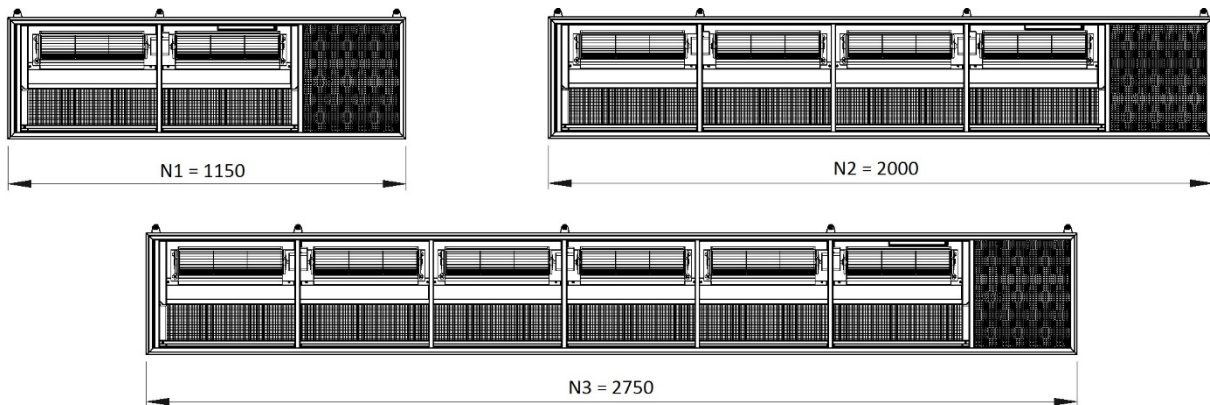


Figure 5: Nominal length (NL) of the CNVA

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

HOUSING POSITION

The position of the heat exchanger in the housing depends on the position of the connections and the total length, the following options being possible:

1. Standard model

Total length (LG) = Nominal length (NL):

- Heat exchanger on the right whenever connections are on the left (-S).
- Heat exchanger on the left whenever connections are on the right (-S).

2. Model

Total length (LG) > Nominal length (NL)

Heat exchanger on the right (-R) in all connection positions.

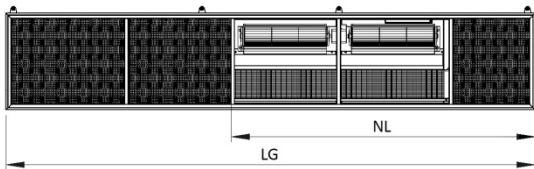


Figure 6: CNVA-...R

Heat exchanger on the left (-L) in all connection positions.

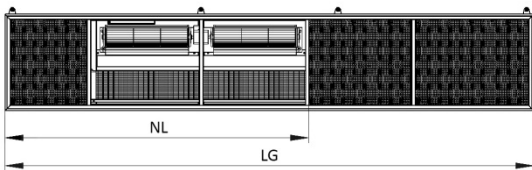


Figure 7: CNVA-...L

Heat exchanger in the centre (-M) in all connection positions.

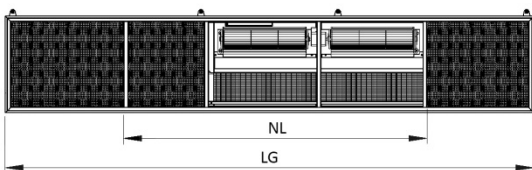


Figure 8: CNVA-...M

The total length (LG) must be entered with 4 digits. Greatest length = 3000 mm.

CONSTRUCTIVE FEATURES

Type	H=106	H=150		H=190			
H (mm)	106	150		190			
W (mm)	270	350		350			
Heat exchanger	(-H2)	(-H2)	(-H4)	(-H2)	(-H4)		
NL=1150 mm	Weight (kg)	19	24		29		
	Amount of water (l)	Heating	0.233	0.90	0.24	1.35	0.47
		Cooling	-	5	0.68	8	0.91
NL=2000 mm	Weight (kg)	30	42		51		
	Amount of water (l)	Heating	0.450	1.78	0.49	2.66	0.95
		Cooling	-	2	1.36	8	1.86
NL=2750 mm	Weight (kg)	40	61		75		
	Amount of water (l)	Heating	0.670	2.66	0.71	3.98	1.39
		Cooling	-	2	2.02	8	2.71

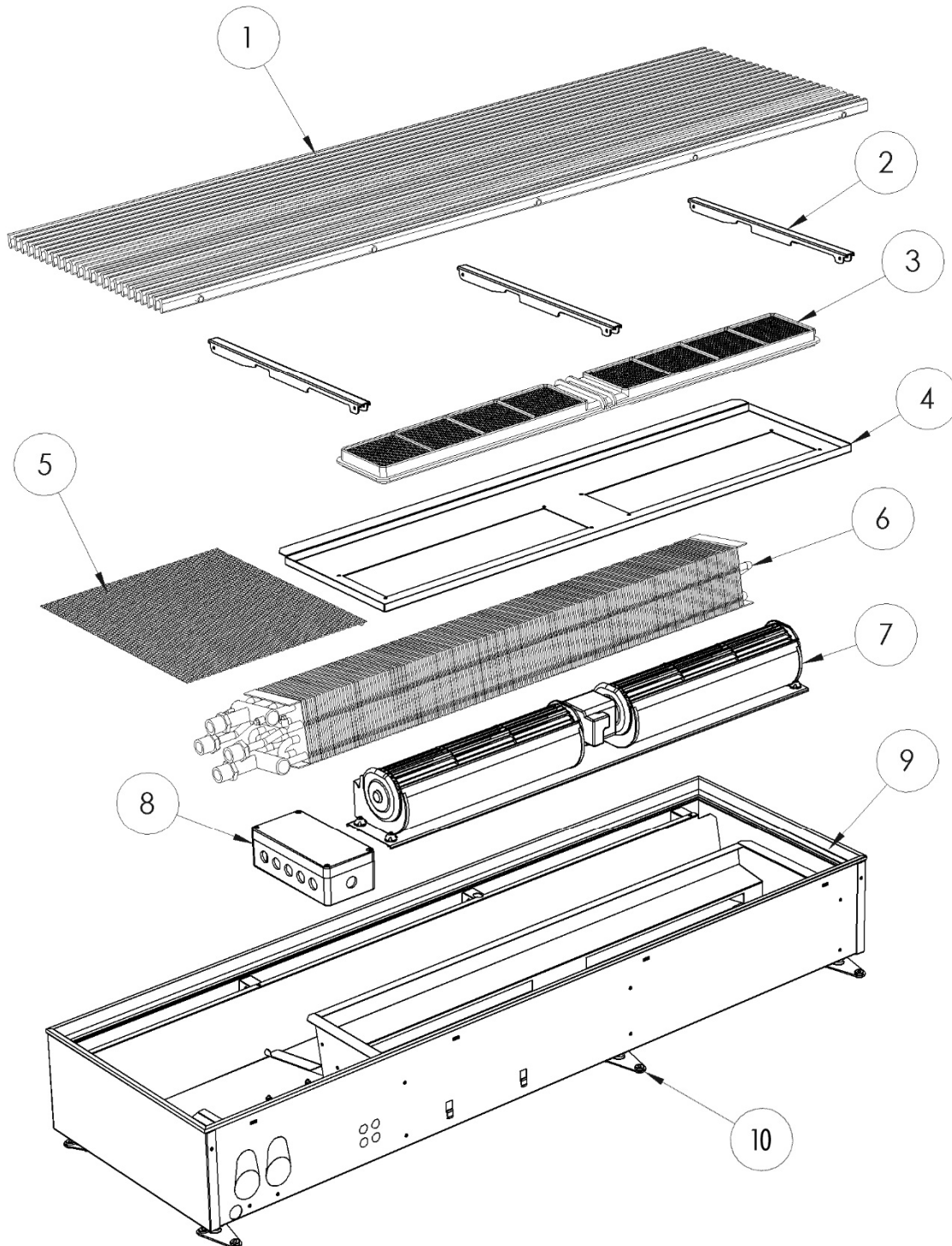
Table 2: Constructive features

ATTENTION

For all dimensional data, the dimensions of projecting fastening elements have not been taken into account.

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

EXPLODED DRAWING



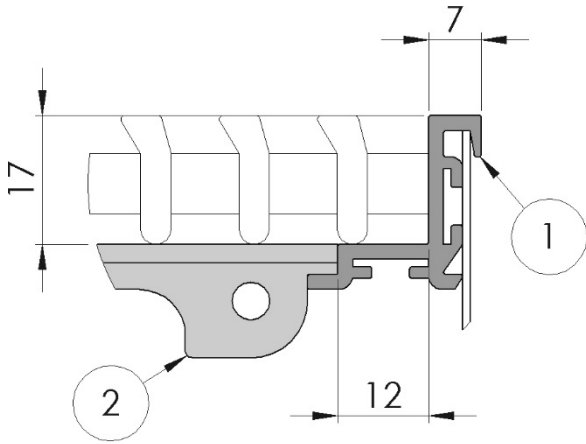
- 1. Tread-resistant louvre grid
- 2. Spacer bridges
- 3. Filter
- 4. Filter frame
- 5. Cover plate

- 6. Heat exchanger
- 7. EC fan
- 8. Junction box
- 9. Housing
- 10. Adjustable legs

Figure 9: Exploded drawing of the CNVA

ACCESSORIES

GRILLES AND PROFILES



- 1. Frame profile / Grille layer
- 2. Pole brace

Figure 10: Profile view

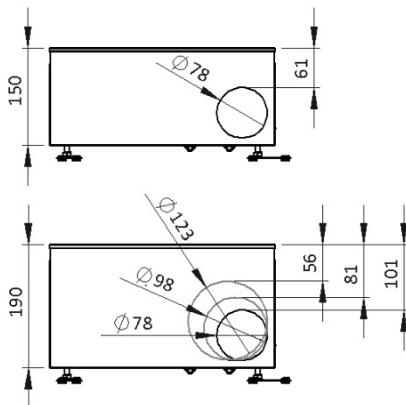


Figure 11: possible connections for primary air connecting piece

Type	DN78	DN98	DN123
H=106	Rectangular connecting piece is available by order		
H=150	✓	X	X
H=190	✓	✓	✓

✓ = possible

X = not possible

Table 3: possible connections for primary air connecting piece

RUBBER LIP SEAL (GLD)

Rubber lip seal for the primary air connecting piece for airtight connection between device and line.

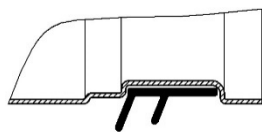


Figure 12 : Rubber lip seal

PRIMARY AIR CONNECTING PIECE

Additional connecting piece for primary air entry with air diffuser plate (connection to room side).

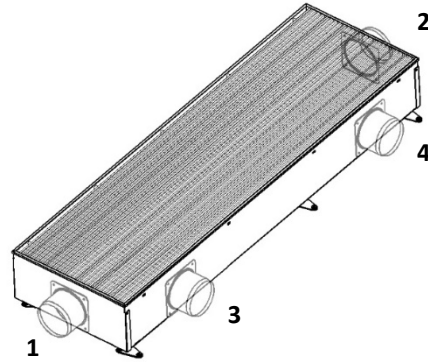


Figure 13: Primary air connection pipe for CNVA

Primary air connecting piece position

- Without primary air connecting piece (-0)
- Lateral left primary air connecting piece (-1)
- Lateral right primary air connecting piece (-2)
- Primary air connecting piece left front side (room side) (-3)
- Primary air connecting piece right front side (room side) (-4)
- Primary air connecting piece centre dummy piece (-5)
- Two primary air connecting pieces centre dummy piece (-6)

CONNECTIONS

CONNECTION SIDE (-W1, -W2, -W3, -W4)

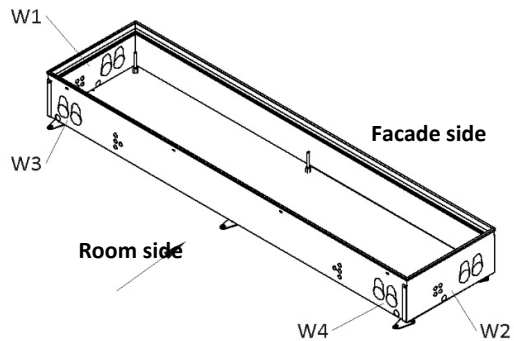


Figure 14: Connection side

Number of water connections

- With 2 water connections (-H2) for all types.
- With 4 water connections (-H4) for types H=150 and H=190.

Connection side

- Lateral left connection side (-W1).
- Lateral right connection side (-W2).
- Connection side left front side (-W3).
- Connection side right front side (-W4).

ATTENTION

The position of the water connections and the position of the primary air connecting piece without additional length must not be the same.

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

Construction subject to change
 No return possible

Type H=106

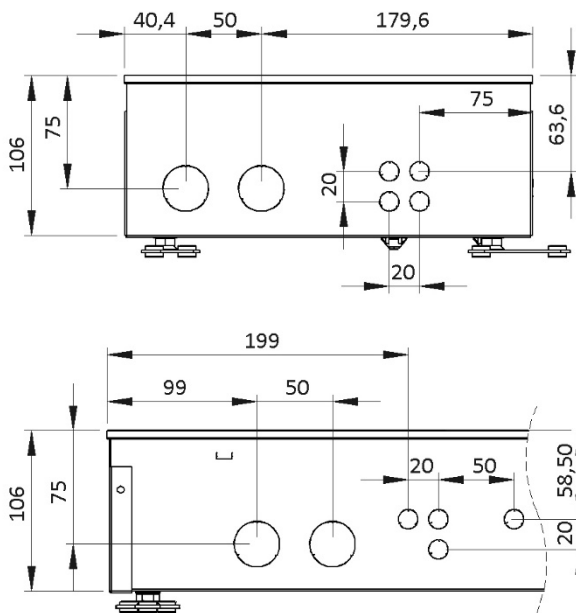


Figure 15: Connection position for type H=106

Type H=190

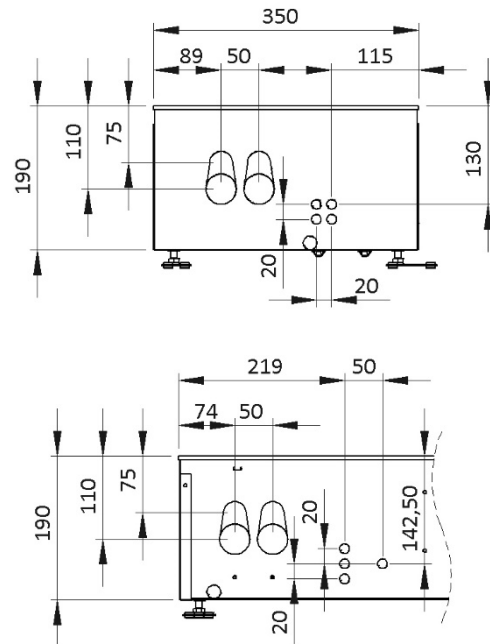


Figure 17: Connection position for type H=190

Type H=150

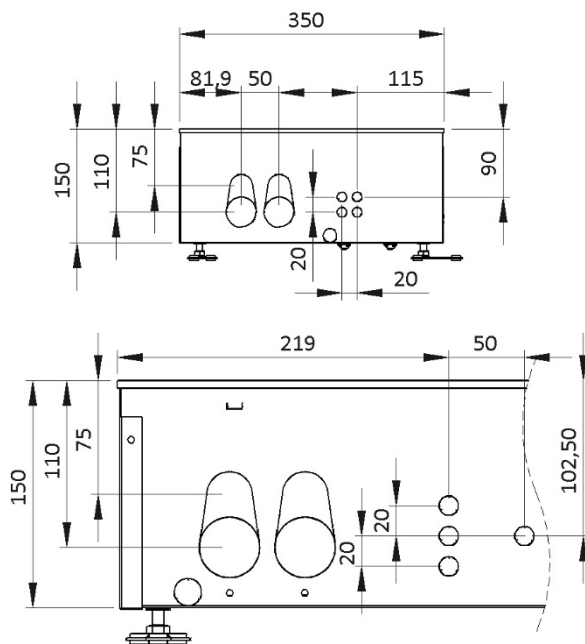


Figure 16: Connection position for type H=150

DIMENSIONS OF THE WATER CONNECTIONS

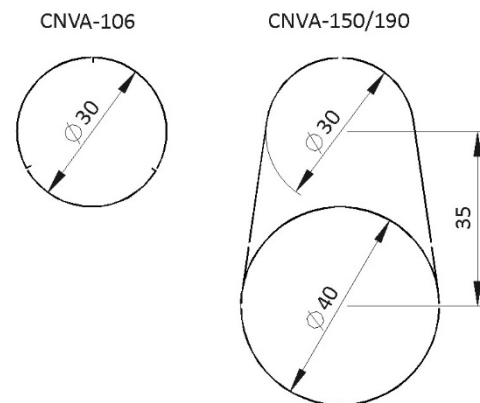


Figure 18: Dimensions of the water connections

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

ACTUATORS

Model STA

- Actuating power 100 N.
- Simple installation.
- Standard version prewired.
- Motion and position indicator.
- Two-/ three-wire connection.
- Pulse width modulation (PDM).
- STA23: Actuator thermal, operating voltage AC 230 V, actuator signal 2-point.
- STA73: Actuator thermal, operating voltage AC/DC 24 V, actuator signal 2-point or PDM.
- Normally Closed (NC).



Figure 19: STA

Model SABNM

- SABNM-LOG: Actuator thermal, operating voltage DC 24 V, control 0...10 V DC.

Model SSA

- Actuating power 100 N.
- Automatic detection of the valve stroke.
- Direct mounting.
- Manual adjustment and position indicator.
- Standard version prewired.
- Three-wire connection.
- SSA61: Operating voltage 24 V AC/DC, actuator signal 0...10 V.



Figure 20: SSA

ATTENTION

The STA23 drive is not compatible with the control board (-S1).

VALVES


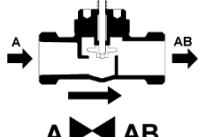
Type	DN (mm)	Connection	Kvs (m³/h)	ps (kPa)		Kvs (m³/h) bypass	p _{max} (kPa)	
				STA	SSA		STA	SSA
 VVP46	VVP469.10-0.63	10	G ^{1/2} B	0.63	250	225	-	200
	VVP469.10-1.0			1				
	VVP469.10-1.6			1.6				
	VVP469.15-2.5	15	G ^{3/4} B	2.5	250	225	200	
VVP469.20-4.0	20	G1B	4	250	225	200		

Table 4: Technical data of valves

Valve model	Valve flow in control mode		Valve tappet	
	Input A	Output AB	retracts	extends
Use 	variable	variable	A → AB closes	A → AB opens

NOTE
If details are missing from the order, the variant printed in bold will be confirmed!

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

ROOM TEMPERATURE CONTROLLER RDG160T (OPTIONAL)

- Operating voltage AC 24 V
- LCD display with back lighting
- For 2-pipe system and 4-pipe system
- Operating modes: Comfort, Economy and Protected
- Auto time mode with 8 programmable time switches (RDG160T)
- 2-point or DC 0...10 V control outputs
- 1-speed, 3-speed or DC fan output
- Fan speed automatic or manual
- 3 multifunctional inputs for key card contact, external room sensor / return sensor (QAH11.1, QAA32), heating / cooling switchover, window contact on/off, presence detector, dew point monitor, electrical heater activated, fault contact, supply air temperature sensor
- Automatic or manual heating / cooling mode switchover
- Adjustable commissioning and control parameters
- Minimum and maximum setpoint limits
- Receiver for infrared remote control (RDG160T)
- Switch-on/off weekly switching programme (RDG160T)
- NX communication (RDG160KN)



Figure 21: RDG160T

If several CNVAs are operated in parallel, the load limit for control and power must be taken into account. If the CNVAs are equipped with switching valves SSA61 and STA23/63/73, a maximum of 10 CNVAs can be controlled and monitored by a thermostat.

ATTENTION

The room temperature controller RDG160T is not compatible with the control board (-S1).

The alarm signal of the condensate pump can be controlled in the RDG160T. This is done by connecting it to D1, X1 or X2. To have the alarm signals of several CNVAs monitored by a thermostat, the signal must be connected either in series or in parallel.

REGULATION AND CONTROL SYSTEM

ELECTRICAL JUNCTION BOX

All convectors are equipped with an electrical junction box with degree of protection IP65, including an electrical connecting plate with spring clamps (-S0) or alternatively with a control board likewise with spring clamps for three operating modes (-S1)



Figure 22: Electrical junction box

CONNECTING PLATE (STANDARD)

Standard electrical terminal board for centralised wiring of all inputs and outputs of the device.

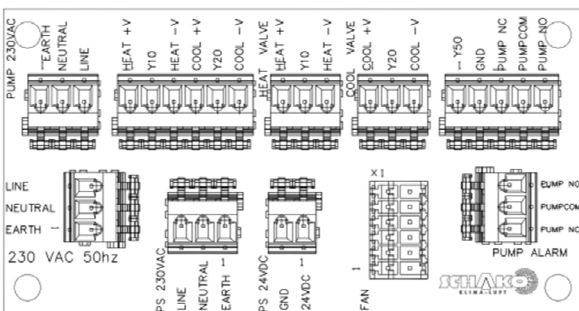


Figure 23: Connecting plate

CONTROL BOARD (OPTIONAL)

Electric card for controlling the convector by means of 0...10 V DC signals.

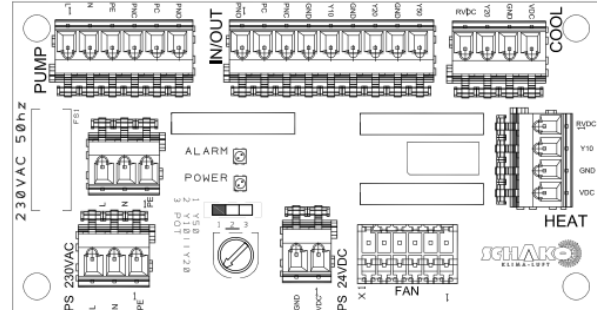


Figure 24

The control board has three operating modes, which can be selected by means of switches.

Operating mode 1

Control of the floor convector with three signals 0...10 V DC for heat exchanger with 2- and 4-pipe convectors:

- Signal Y10 -> activates and controls heating
- Signal Y20 -> activates and controls cooling (4-pipe)
- Signal Y50 -> controls fan speed proportionally

Operating mode 2

Control of the floor convector with two signals 0...10 V DC for heat exchanger with 2- and 4-pipe convectors:

- Signal Y10 -> activates and controls heating and also the fan proportionally
- Signal Y20 -> activates and controls cooling and also the fan proportionally (4-pipe)

Operating mode 3

Control of the floor convector with two signals 0...10 V DC for heat exchanger with 2- and 4-pipe convectors:

- Signal Y10 -> activates and controls heating and the fan in steps according to the potentiometer setting
- Signal Y20 -> activates and controls cooling and the fan in steps according to the potentiometer setting (4-pipe)

The valve settings for the heat exchanger (heating/cooling) can be 24 V DC ON / OFFS or proportional.

CONTROL BOARD /DRIVE COMPATABILITY

Actuators		Standard (-S0)	Control board (-S1)
ON/OFF	STA 23	✓	X
	STA 73	✓	✓
Proportional	SABNM	✓	✓
	SSA 61	✓	✓

✓ = possible STA/SABNM = thermal actuator
 X = not possible SSA = motorised actuator

Table 6: Compatibility between control board and drive.

(For further information, please refer to the installation instructions)

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

MODELS

CONNECTING PIECE FOR BAND DESIGN

Possible design with end piece on both sides (-E2), without end piece (-E0), right only (-ER) or left only (-EL).

Connecting pieces for band design.
 At the ends without end pieces

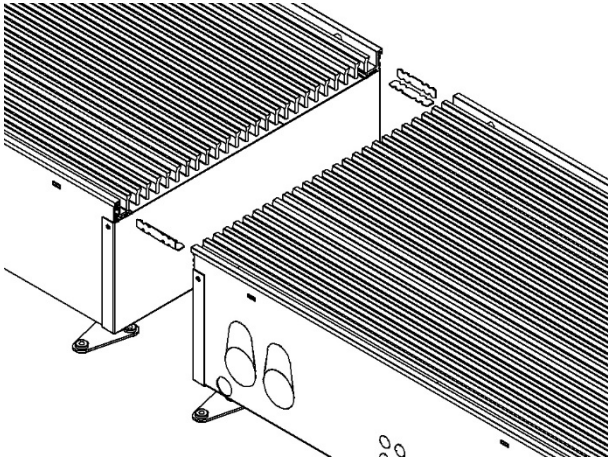


Figure 25: Connecting piece for band design

INSULATION

Thermal and acoustic insulation made of 3-mm polyethylene on the outside of the housing (-A3). Recommended for installation in false floors.

DIMENSIONS OF THE GRILLE INSERT WITH AND WITHOUT END PIECE

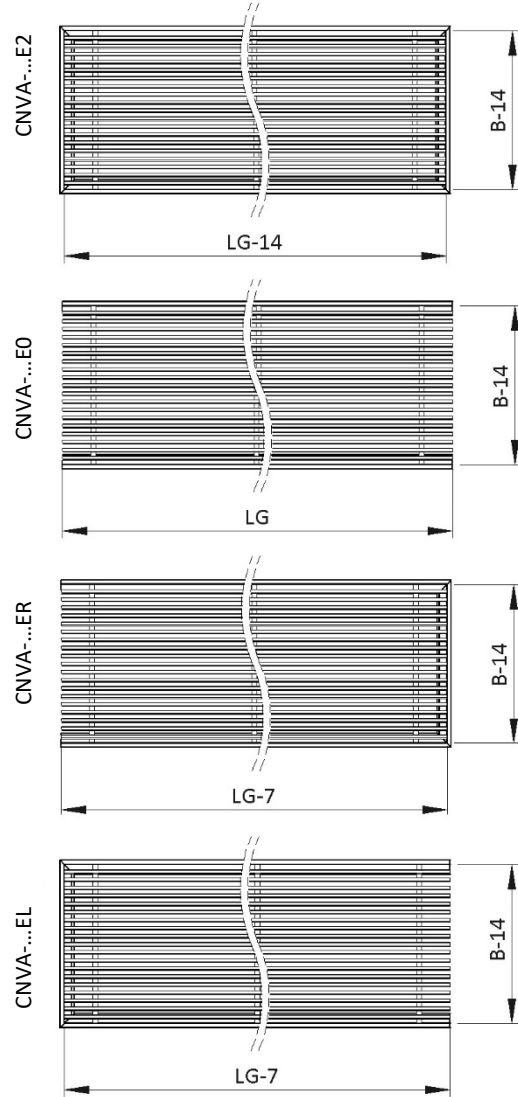


Figure 26: Total length of the tread-resistant grilles with or without end piece

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

ADJUSTABLE LEGS

Dimensions of the adjustable legs

- L=70 mm (-07), adjustable legs for adjusting the device height up to 60 mm. Fastening point on room side.
- L=130 mm (-13), adjustable legs for adjusting the device height up to 120 mm. (Limited to device dimensions of type H=106). Fastening point on room side.
- Threaded rod DIN913 M8 (S=4mm)

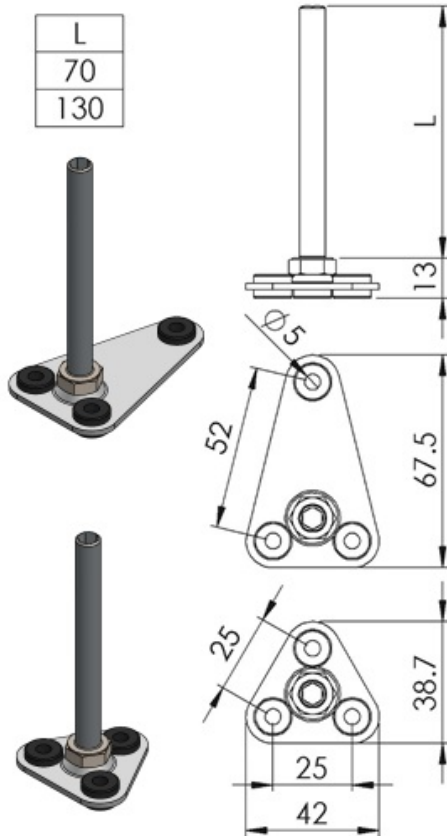


Figure 27: Dimensions of the adjustable legs

PROTECTIVE MOUNTING COVER

As standard, the device is delivered with a cover of stable cardboard for protection against dirt and damage during transport and up to commissioning (-M1).

Optionally, a protective mounting cover made of tread-resistant wooden press boards (-M2) is also available.

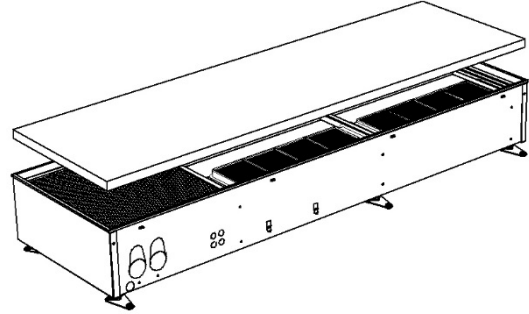


Figure 28: Protective cover made of stable cardboard

CONDENSATE PUMP

Pump and small sensor housing for emptying the water of condensation formed in the cooling register.

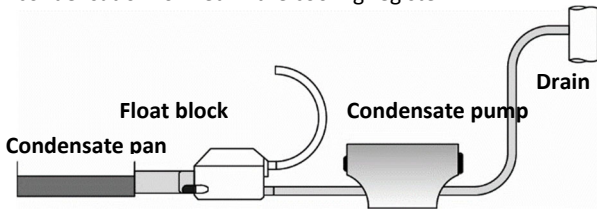


Figure 29: Condensate pump

Technical data

Max. delivery rate	15 l/h
Max. delivery height	2 m
Maximum pressure	10 m
Electric power	19 W
Power supply	220-240 V
Alarm	NO/NC 5 A
Overheating protection	70 °C
operating ratio	100%
Protection class	IP64
Dimensions	Pump block: 85x28x48 mm Float block: 78x38x37 mm

Table 7: Technical data for condensate pump

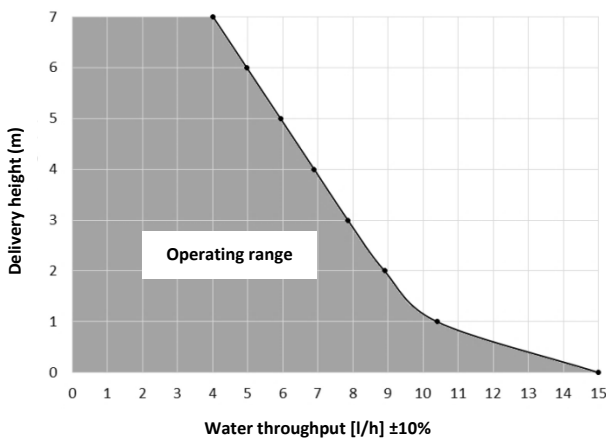


Figure 30: Working range of condensate pump

Circuit diagram

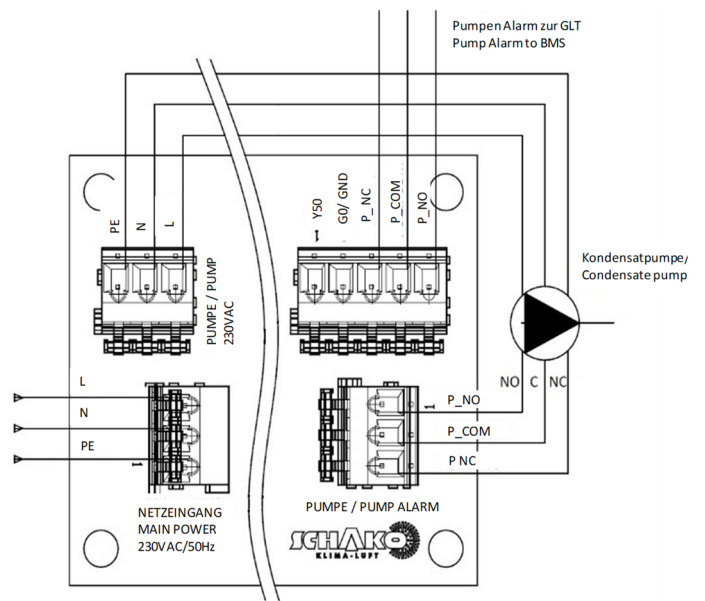


Figure 31: Circuit diagram of condensate pump with connecting plate (-S0)

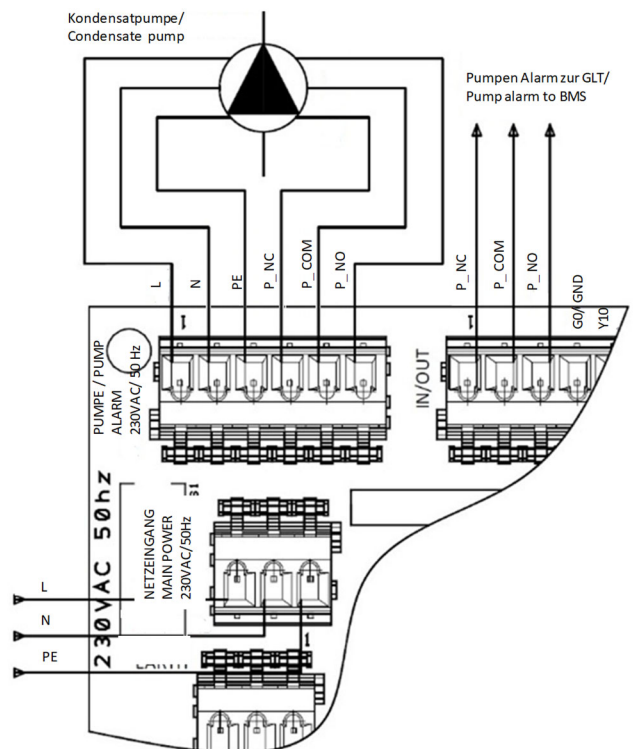


Figure 32: Circuit diagram of condensate pump with control board (-S1)

C N V A - 1 5 0 H 2 N 1 S 1 1 5 0 G 1 0 0 P 0 0 W 1 0 S 0 E 2 A 1 0 7 M 1 K 0

CNVAZ (ACCESSORIES)

SPECIAL GRILLE

Dummy element without interior parts (housing only) for adjustment to various corners, columns or other architectural elements.

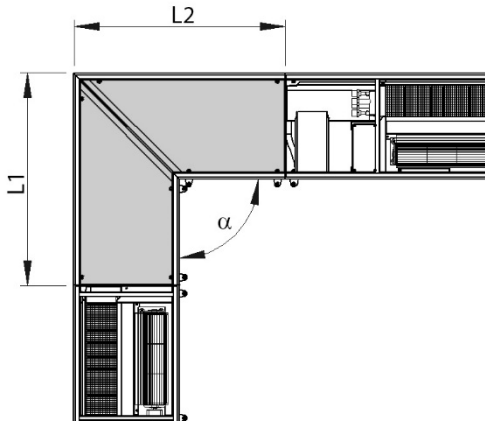


Figure 33: Model / Variant

The dummy and corner pieces are determined on the basis of 2 lengths and 1 angle.

- Length 1: LG dummy piece 0600 – 3000 mm. Side length 1 for corner piece=convector width + 300 mm min. side length 1 for corner piece=convector width + 500 mm max.
- Length 2: For dummy piece, enter 0000. Side length 1 for corner piece=convector width + 300 mm min. side length 1 for corner piece=convector width + 500 mm max.
- The angle α for the corner piece must be specified by 3 digits, e.g. dummy piece 180. Corner piece 035 – 325.

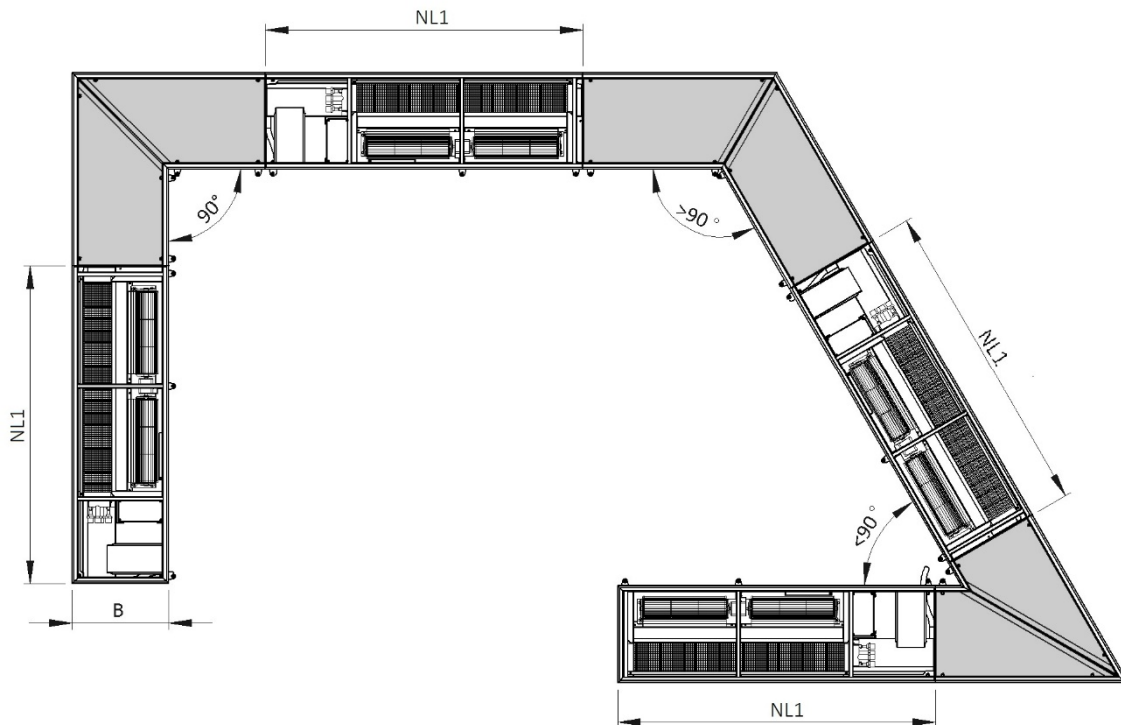


Figure 34: Special grille

C N V A Z 1 5 0 H 0 1 8 0 0 6 0 0 0 0 0 0 G 1 0 0 P 0 0 E 0 A 1 0 7 M 1 A 0 S 0

INSTALLATION

The CNVA series is suitable for horizontal mounting in false floors. The register should always be installed on the facade side. It is recommended installing the register as closely as possible to the facade.

Thanks to the legs adjustable from inside, the device can be aligned perfectly. On the side facing the room, the device is equipped with special fastening elements with decoupling rubber, to guarantee optimum fixing to the floor.

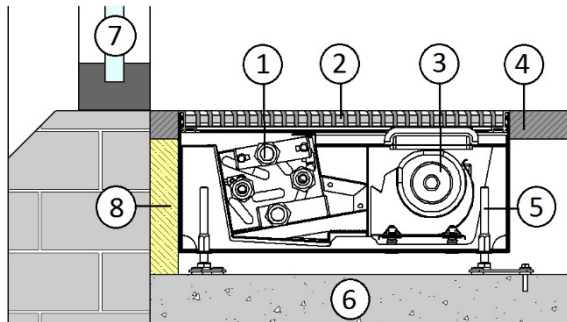


Figure 35: Detail of installation in double floor

- | | |
|-------------------|----------------------------|
| 1 Heat exchanger | 2 Louvre grid |
| 3 EC fan | 4 Floor covering |
| 5 Adjustable legs | 6 Raw concrete |
| 7 Facade | 8 Insulation |
| 9 Screed | 10 Impact sound insulation |

8* on-site

10* When installed in screed floor, SCHAKO recommends using an additional external insulation (-3)

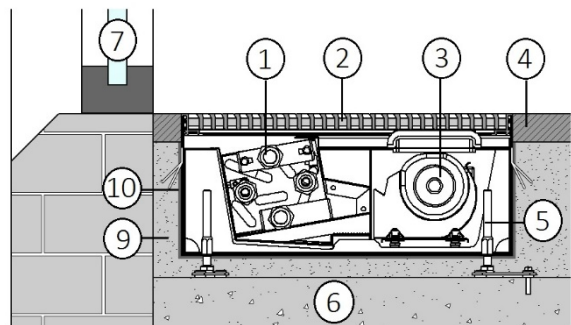


Figure 36: Detail of installation in screed floor

MAINTENANCE

The CNVA series is particularly maintenance-friendly. For performing maintenance activities, the heat exchanger with flexible connections can be swivelled upwards, and almost all internal parts, including the fan, can be removed completely without tools.

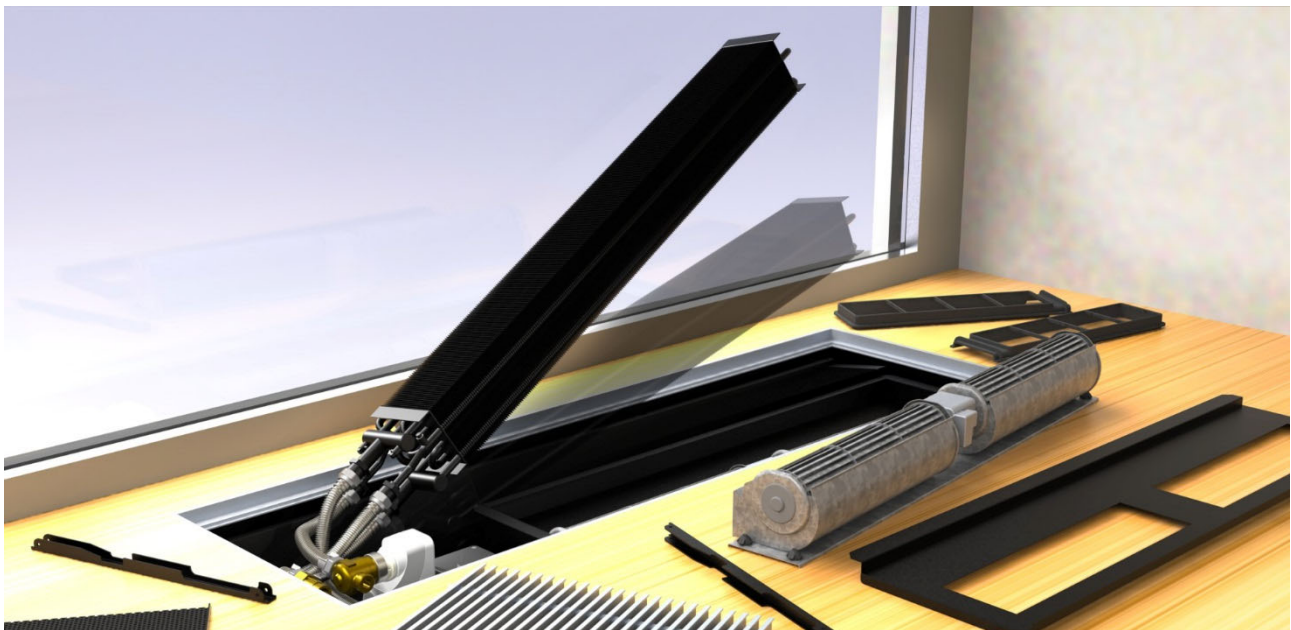
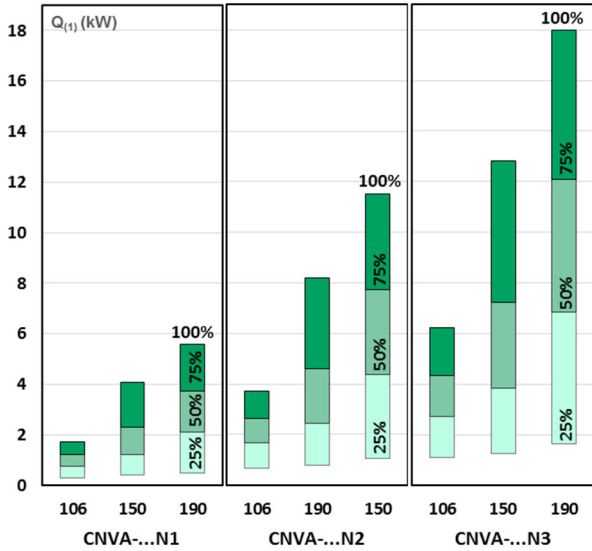


Figure 37: View of dismantled internal parts of CNVA

TECHNICAL DATA

QUICK SELECTION

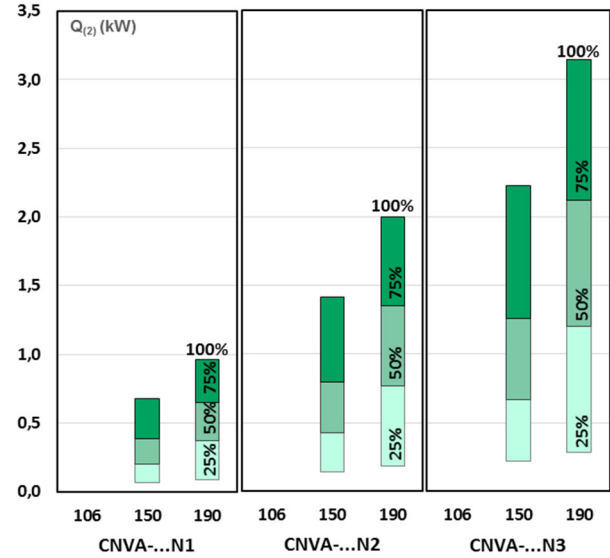
CNVA-... H2 - HEATING



(1) Heating: air (20°C/50%), water (75°C/65°C) according to DIN EN 16430

Diagram 2: Quick selection CNVA-...H2 – Heating

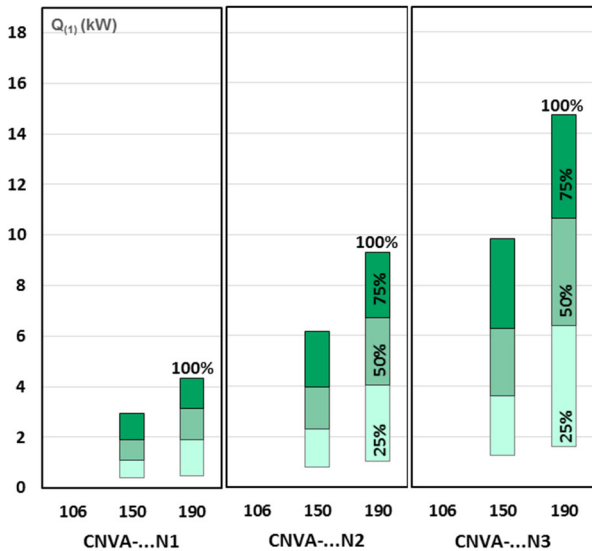
CNVA-... H2 – COOLING



(2) Cooling: Air (26°C/50%), water (16°C/18°C) according to DIN EN 16430

Diagram 4: Quick selection CNVA-...H2 – Cooling

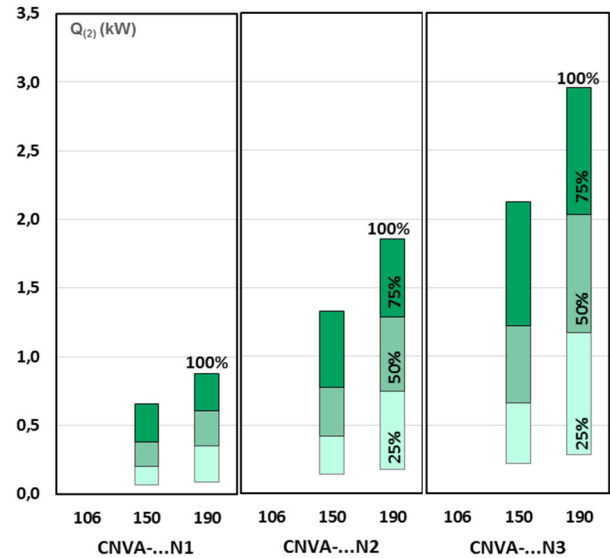
CNVA-...H4 – HEATING



(1) Heating: air (20°C/50%), water (75°C/65°C) according to DIN EN 16430

Diagram 3: Quick selection CNVA-...H4 – Heating

CNVA-...H4 – COOLING



(2) Cooling: Air (26°C/50%), water (16°C/18°C) according to DIN EN 16430

Diagram 5: Quick selection CNVA-...H4 – Cooling

CNVA-106...H2 - HEATING - 2-PIPE SYSTEM

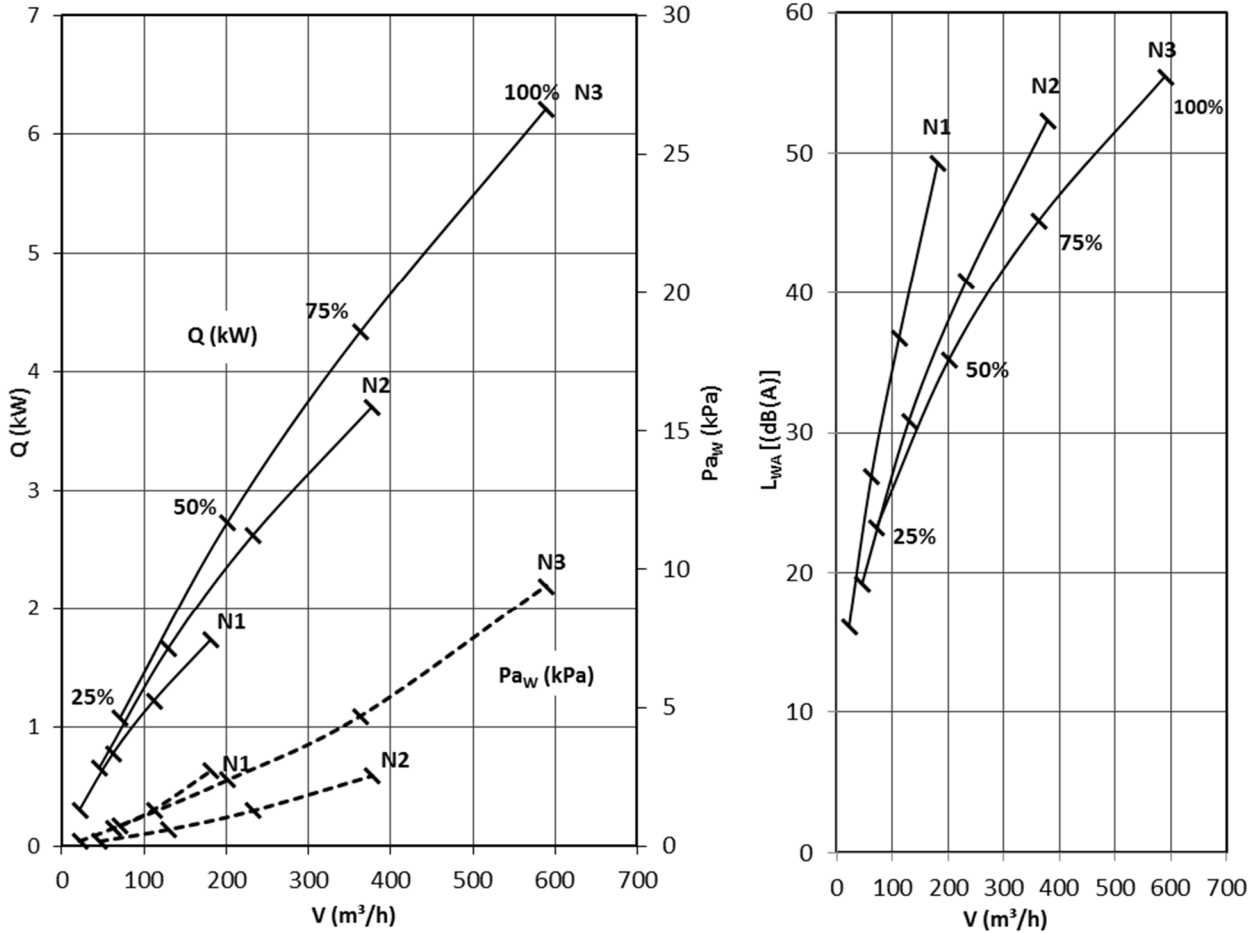


Diagram 6: Technical data CNVA-106...H2 Heating 2-pipe system

	NL (mm)	rpm %	V		Q ₍₁₎ t=50K (kW)	Pa _w (kPa)	V _w [l/h]	L _{WA} [dB(A)]
			(m³/h)	[l/s]				
106	1150	25%	22	6.1	0.31	0.19	26	16.2
		50%	62	17.2	0.78	0.65	66	27.0
		75%	112	31.1	1.22	1.32	104	36.8
		100%	181	50.3	1.74	2.72	148	49.4
	2000	25%	45	12.5	0.66	0.18	56	19.3
		50%	129	35.8	1.66	0.61	139	30.9
		75%	232	64.4	2.62	1.29	226	40.9
		100%	378	105.0	3.71	2.55	316	52.3
	2750	25%	71	19.7	1.08	0.74	92	23.3
		50%	202	56.1	2.73	2.39	234	35.3
		75%	363	100.8	4.33	4.68	370	45.2
		100%	589	163.6	6.22	9.41	532	55.5

(1) Heating: Air (20°C/50%), water (75°C/65°C) according to DIN EN 16430

Table 8: Performance data – CNVA-106...H2 Heating 2-pipe system

CNVA-150...H2 - HEATING - 2-PIPE SYSTEM

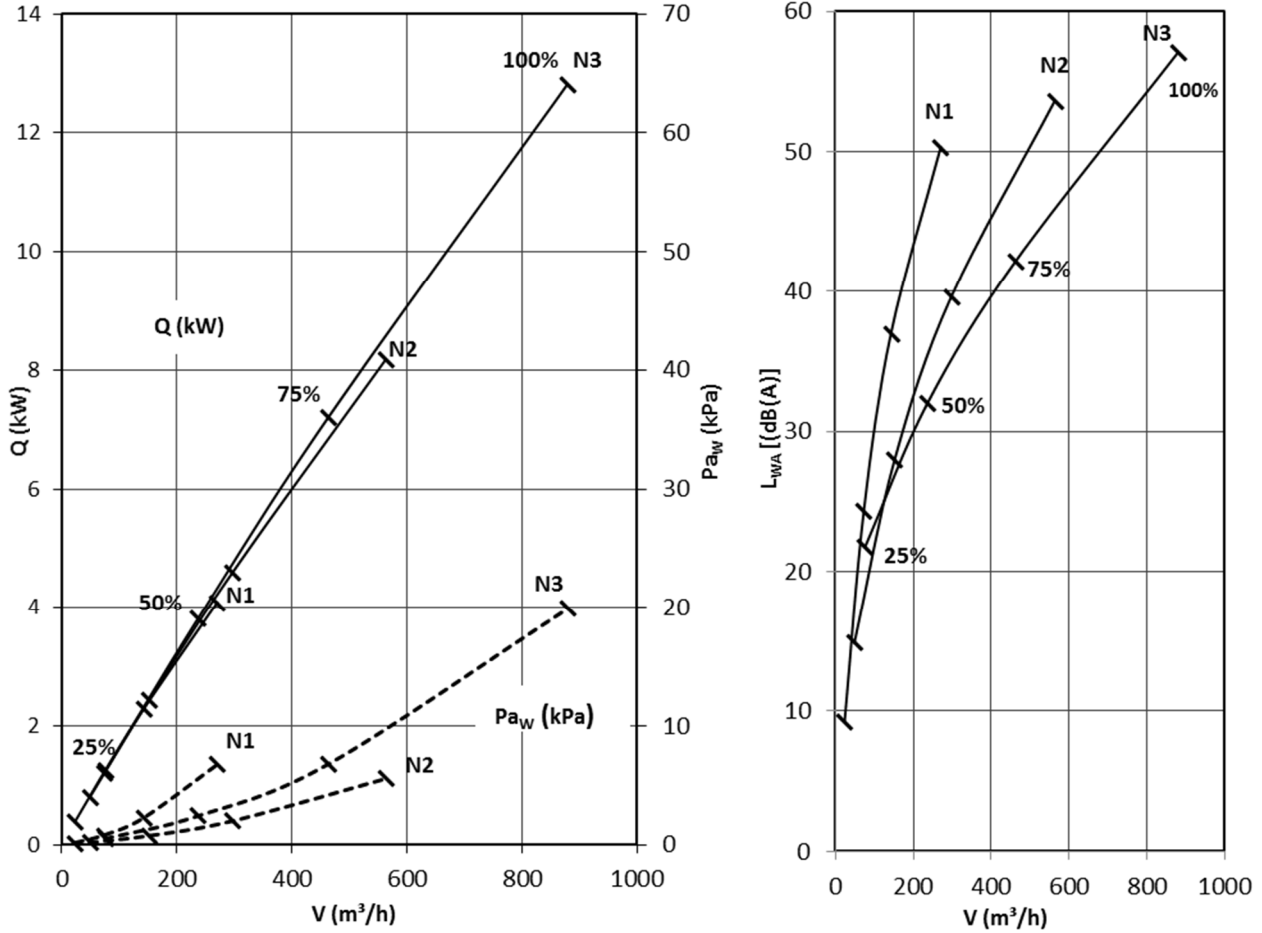


Diagram 7: Technical data CNVA-150...H2 Heating 2-pipe system

	NL (mm)	rpm %	V		Q ₍₁₎ t=50K (kW)	Pa _w (kPa)	V _w [l/h]	L _{WA} [dB(A)]
			(m ³ /h)	[l/s]				
150	1150	25%	23	6.4	0.40	0.17	34	9.3
		50%	73	20.3	1.21	0.81	104	24.4
		75%	143	39.7	2.29	2.29	196	37.0
		100%	270	75.0	4.09	6.78	350	50.3
	2000	25%	49	13.6	0.80	0.19	69	14.9
		50%	152	42.2	2.44	0.78	209	28.0
		75%	297	82.5	4.60	2.03	395	39.6
		100%	563	156.4	8.18	5.62	702	53.6
	2750	25%	76	21.1	1.25	0.56	108	21.8
		50%	237	65.8	3.82	2.48	328	32.1
		75%	464	128.9	7.21	6.85	620	42.2
		100%	879	244.2	12.82	19.96	1102	57.0

(1) Heating: Air (20°C/50%), water (75°C/65°C) according to DIN EN 16430

Table 9: Performance data – CNVA-150...H2 Heating 2-pipe system

CNVA-150...H2 - COOLING - 2-PIPE SYSTEM

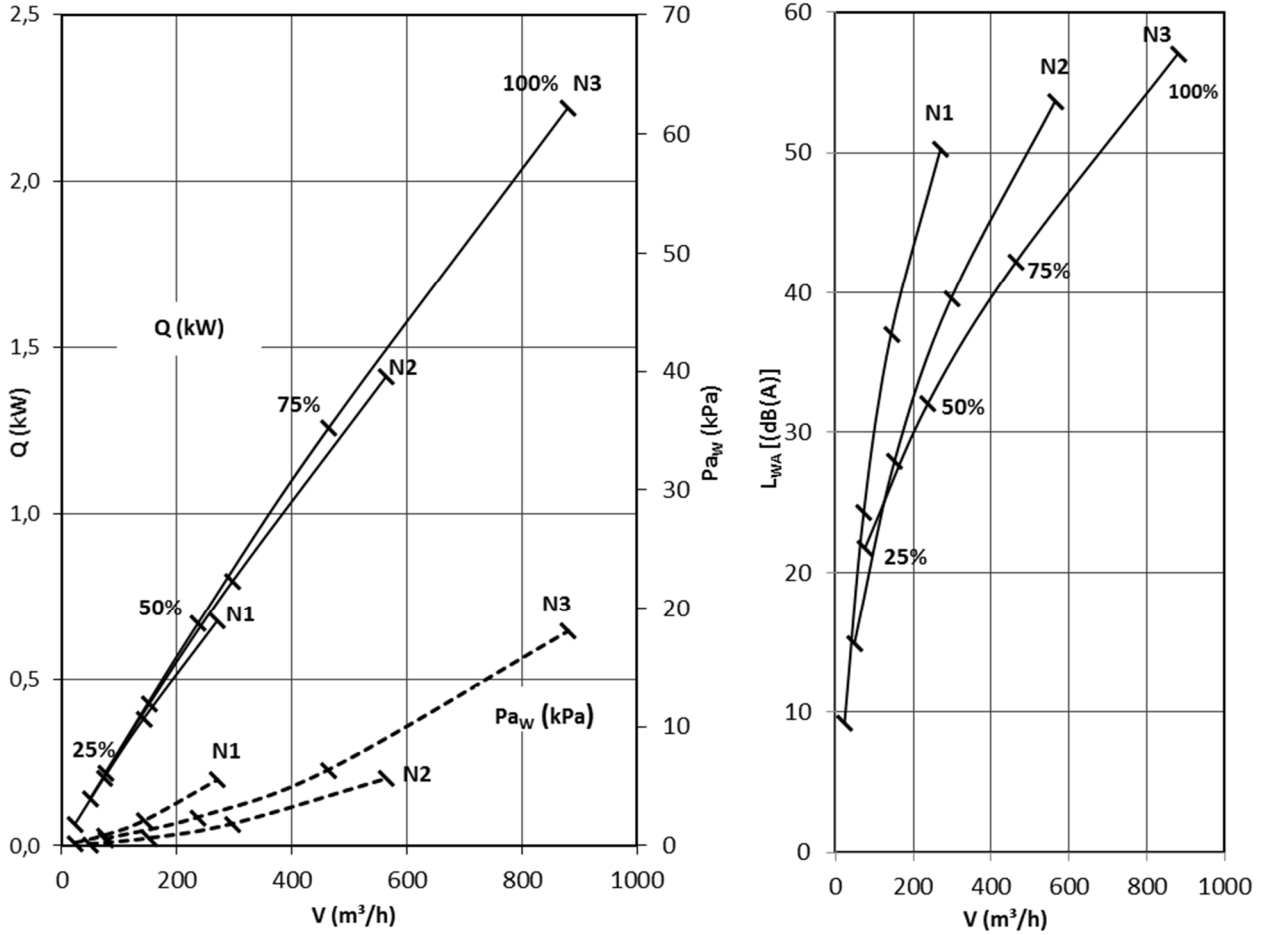


Diagram 8: Technical data CNVA-150...H2 Cooling 2-pipe system

	NL (mm)	rpm %	V		Q _{(2) t=50K (kW)}	Pa _w (kPa)	V _w [l/h]	L _{WA} [dB(A)]
			(m³/h)	[l/s]				
150	1150	25%	23	6.4	0.07	0.22	28	9.3
		50%	73	20.3	0.20	0.84	87	24.4
		75%	143	39.7	0.38	2.11	165	37.0
		100%	270	75.0	0.68	5.60	291	50.3
	2000	25%	49	13.6	0.14	0.13	60	14.9
		50%	152	42.2	0.43	0.64	182	28.0
		75%	297	82.5	0.80	1.87	343	39.6
		100%	563	156.4	1.41	5.69	606	53.6
	2750	25%	76	21.1	0.22	0.57	94	21.8
		50%	237	65.8	0.67	2.40	287	32.1
		75%	464	128.9	1.26	6.41	541	42.2
		100%	879	244.2	2.22	18.12	954	57.0

(2) Cooling: Air (26°C/50%), water (16°C/18°C) according to DIN EN 16430

Table 10: Performance data – CNVA-150...H2 Cooling 2-pipe system

CNVA-150...H4 - HEATING - 4-PIPE SYSTEM

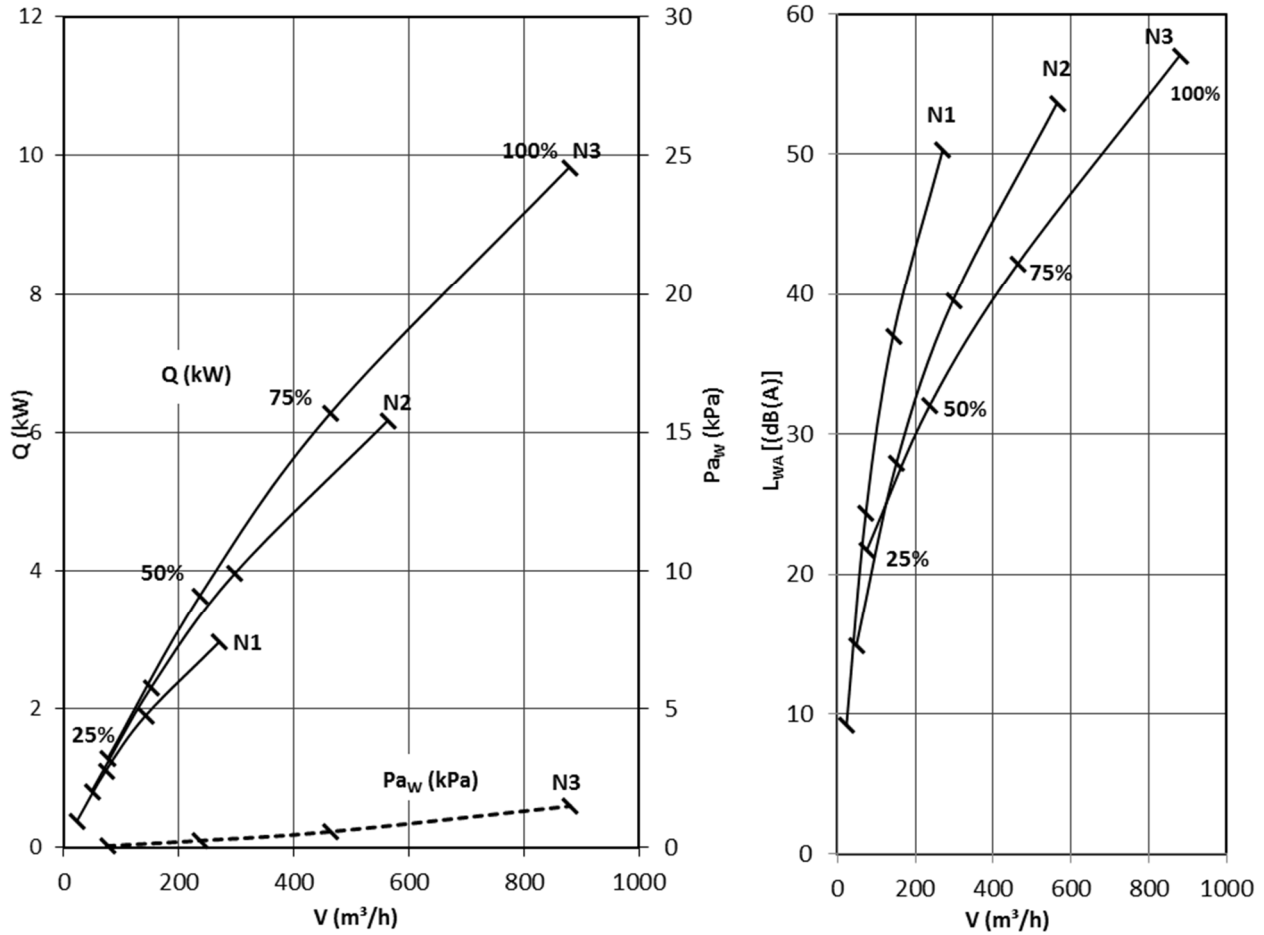


Diagram 9: Technical data CNVA-150...H4 Heating 4-pipe system

	NL (mm)	rpm %	V		Q ₍₁₎ t=50K (kW)	Pa _w (kPa)	V _w [l/h]	L _{WA} [dB(A)]
			(m³/h)	[l/s]				
150	1150	25%	23	6.4	0.39	0.00	33	9.3
		50%	73	20.3	1.11	0.00	95	24.4
		75%	143	39.7	1.90	0.00	163	37.0
		100%	270	75.0	2.96	0.00	253	50.3
	2000	25%	49	13.6	0.81	0.00	70	14.9
		50%	152	42.2	2.31	0.00	197	28.0
		75%	297	82.5	3.96	0.00	339	39.6
		100%	563	156.4	6.17	0.00	527	53.6
	2750	25%	76	21.1	1.28	0.07	109	21.8
		50%	237	65.8	3.64	0.26	311	32.1
		75%	464	128.9	6.28	0.58	537	42.2
		100%	879	244.2	9.84	1.49	841	57.0

(1) Heating: Air (20°C/50%), water (75°C/65°C) according to DIN EN 16430

Table 11: Performance data – CNVA-150...H4 Heating 4-pipe system

CNVA-150...H4 - COOLING - 4-PIPE SYSTEM

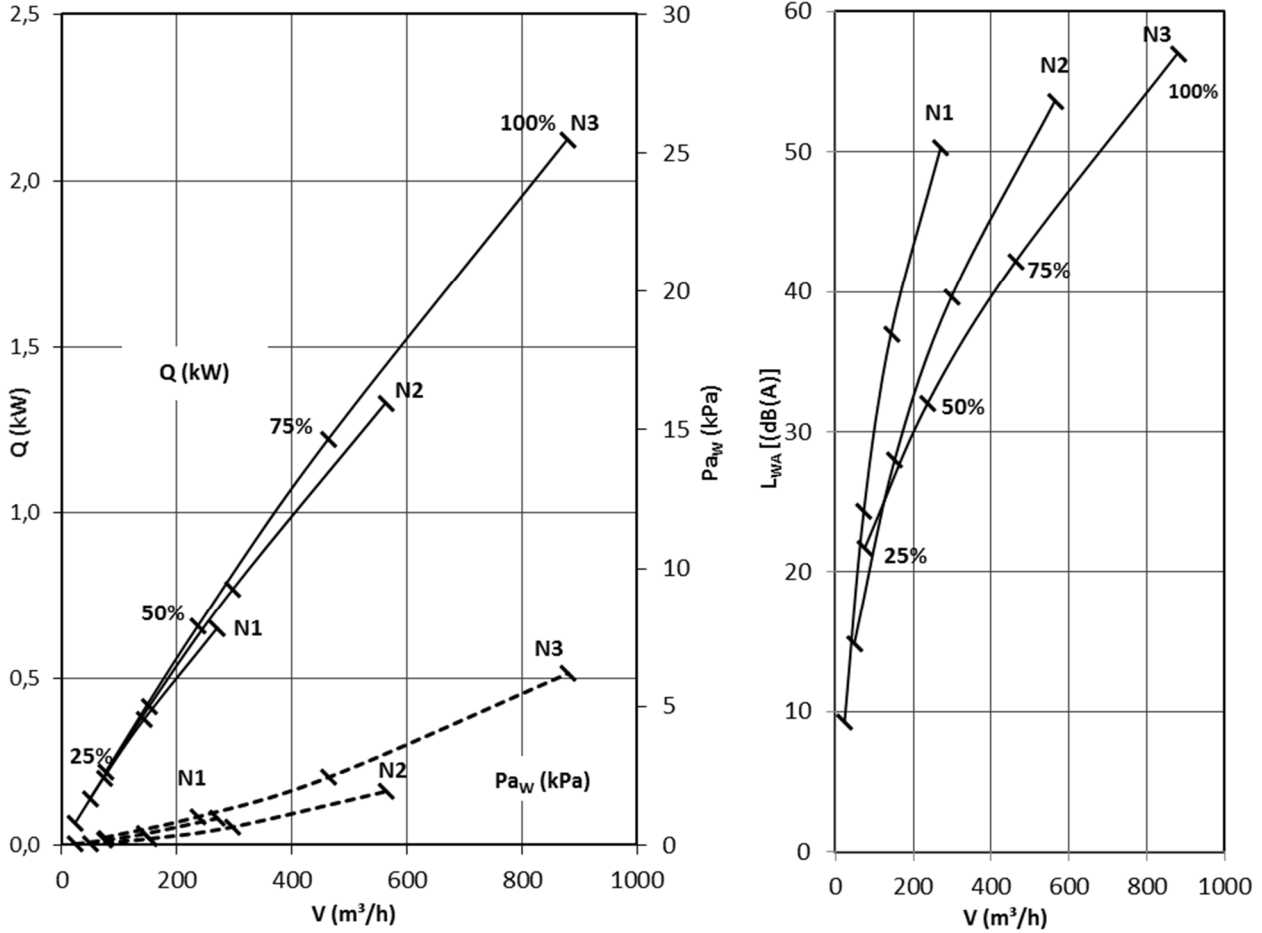


Diagram 10: Technical data CNVA-150...H4 Cooling 4-pipe system

	NL (mm)	rpm %	V		Q ₍₂₎ t=9K (kW)	Pa _w (kPa)	V _w [l/h]	L _{wa} [dB(A)]
			(m³/h)	[l/s]				
150	1150	25%	23	6.4	0.07	0.05	28	9.3
		50%	73	20.3	0.20	0.19	85	24.4
		75%	143	39.7	0.38	0.42	157	37.0
		100%	270	75.0	0.65	0.99	272	50.3
	2000	25%	49	13.6	0.14	0.05	60	14.9
		50%	152	42.2	0.42	0.24	179	28.0
		75%	297	82.5	0.77	0.67	333	39.6
		100%	563	156.4	1.33	1.96	576	53.6
	2750	25%	76	21.1	0.22	0.28	93	21.8
		50%	237	65.8	0.66	1.02	283	32.1
		75%	464	128.9	1.22	2.45	528	42.2
		100%	879	244.2	2.13	6.21	913	57.0

(2) Cooling: Air (26°C/50%), water (16°C/18°C) according to DIN EN 16430

Table 12: Performance data – CNVA-150...H4 Cooling 4-pipe system

CNVA-190...H2 - HEATING - 2-PIPE SYSTEM

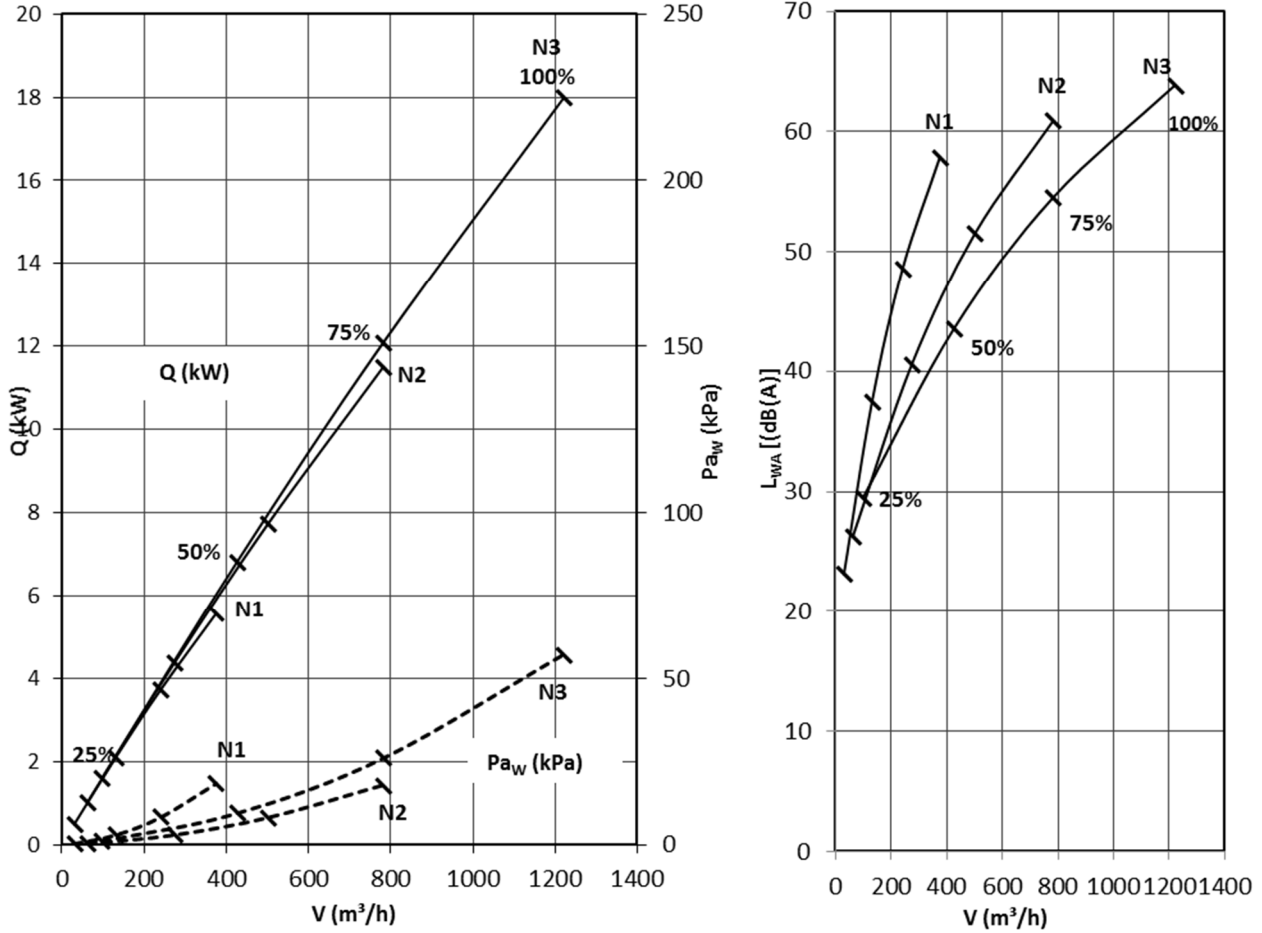


Diagram 11: Technical data CNVA-190...H2 Heating 2-pipe system

	NL (mm)	rpm %	V		Q _{(1) t=50K (kW)}	Pa _{w (kPa)}	V _{w [l/h]}	L _{WA [dB(A)]}
			(m³/h)	[l/s]				
190	1150	25%	30	8.3	0.50	0.37	43	23.2
		50%	131	36.4	2.10	3.03	180	37.5
		75%	241	66.9	3.73	8.39	319	48.5
		100%	376	104.4	5.57	18.57	476	57.9
	2000	25%	63	17.5	1.04	0.40	90	26.3
		50%	274	76.1	4.37	3.04	378	40.5
		75%	501	139.2	7.73	8.19	668	51.5
		100%	783	217.5	11.51	17.82	995	60.9
	2750	25%	98	27.2	1.62	1.22	139	29.5
		50%	427	118.6	6.83	9.61	589	43.6
		75%	783	217.5	12.10	26.14	1043	54.5
		100%	1221	339.2	17.99	57.19	1555	63.9

(1) Heating: Air (20°C/50%), water (75°C/65°C) according to DIN EN 16430

Table 13: Performance data – CNVA-190...H2 Heating 2-pipe system

CNVA-190...H2 - COOLING - 2-PIPE SYSTEM

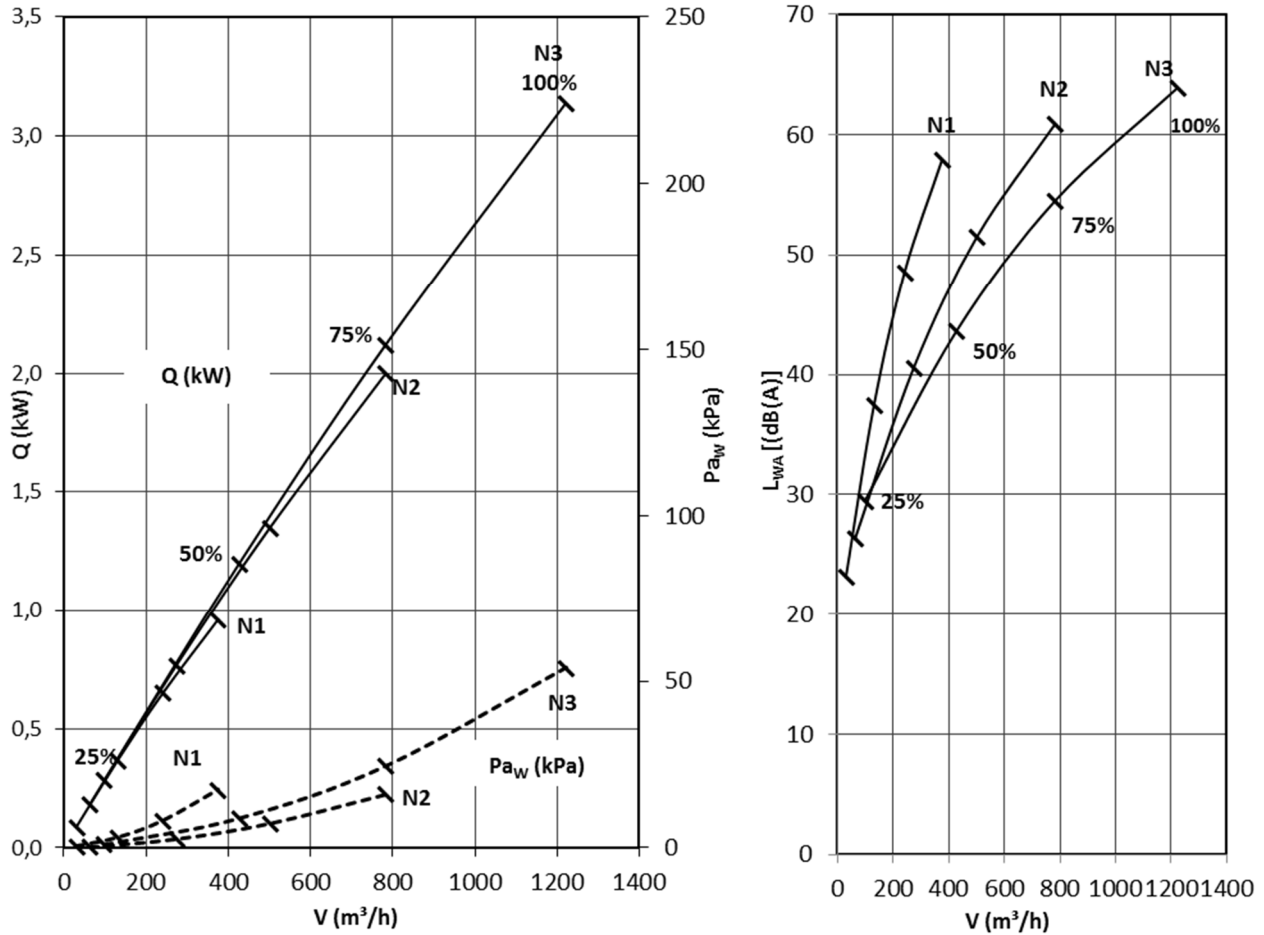


Diagram 12: Technical data CNVA-190...H2 Cooling 2-pipe system

	NL (mm)	rpm %	V		Q ₍₂₎ t=9K (kW)	Pa _w (kPa)	V _w [l/h]	L _{WA} [dB(A)]
			(m³/h)	[l/s]				
190	1150	25%	30	8.3	0.09	0.40	36	23.2
		50%	131	36.4	0.37	2.99	152	37.5
		75%	241	66.9	0.65	8.01	263	48.5
		100%	376	104.4	0.96	17.37	379	57.9
	2000	25%	63	17.5	0.18	0.38	77	26.3
		50%	274	76.1	0.77	2.81	329	40.5
		75%	501	139.2	1.35	7.46	579	51.5
		100%	783	217.5	2.00	16.06	855	60.9
	2750	25%	98	27.2	0.28	1.13	122	29.5
		50%	427	118.6	1.20	9.00	517	43.6
		75%	783	217.5	2.12	24.59	912	54.5
		100%	1221	339.2	3.14	53.97	1354	63.9

(2) Cooling: Air (26°C/50%), water (16°C/18°C) according to DIN EN 16430

Table 14: Performance data – CNVA-190...H2 Cooling 2-pipe system

CNVA-190...H4 - HEATING - 4-PIPE SYSTEM

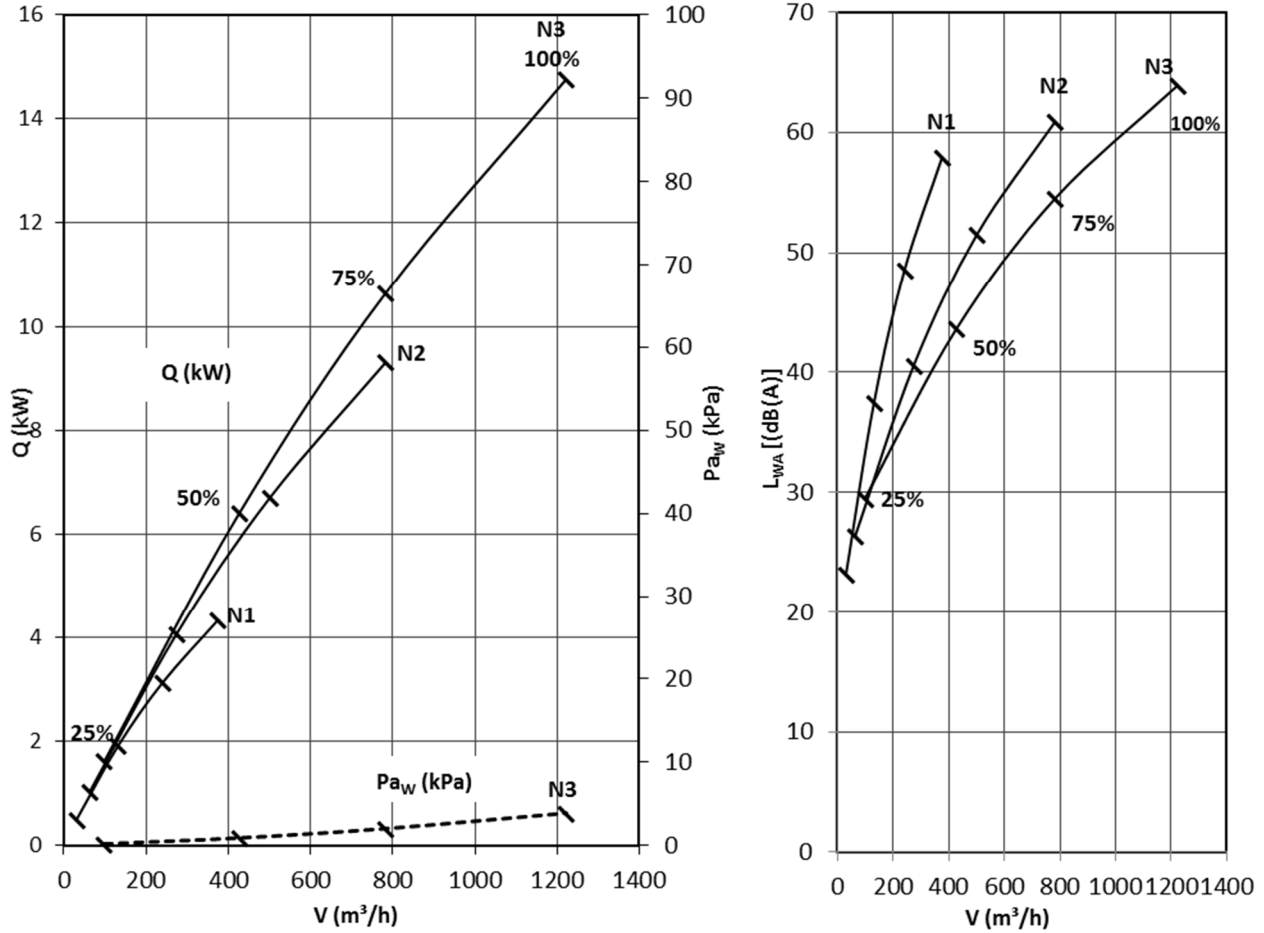


Diagram 13: Technical data CNVA- H4 190 Heating 4-pipe system

	NL (mm)	rpm %	V		Q ₍₁₎ t=50K (kW)	Pa _w (kPa)	V _w [l/h]	L _{WA} [dB(A)]
			(m³/h)	[l/s]				
190	1150	25%	30	8.3	0.49	0.00	42	23.2
		50%	131	36.4	1.91	0.00	163	37.5
		75%	241	66.9	3.13	0.00	270	48.5
		100%	376	104.4	4.34	0.00	369	57.9
	2000	25%	63	17.5	1.03	0.00	88	26.3
		50%	274	76.1	4.06	0.02	346	40.5
		75%	501	139.2	6.70	0.61	573	51.5
		100%	783	217.5	9.30	2.07	780	60.9
	2750	25%	98	27.2	1.62	0.16	138	29.5
		50%	427	118.6	6.40	0.90	548	43.6
		75%	783	217.5	10.64	2.02	913	54.5
		100%	1221	339.2	14.75	3.88	1250	63.9

(1) Heating: Air (20°C/50%), water (75°C/65°C) according to DIN EN 16430

Table 15: Performance data – CNVA-190...H4 Heating 4-pipe system

CNVA-190...H4 - COOLING - 4-PIPE SYSTEM

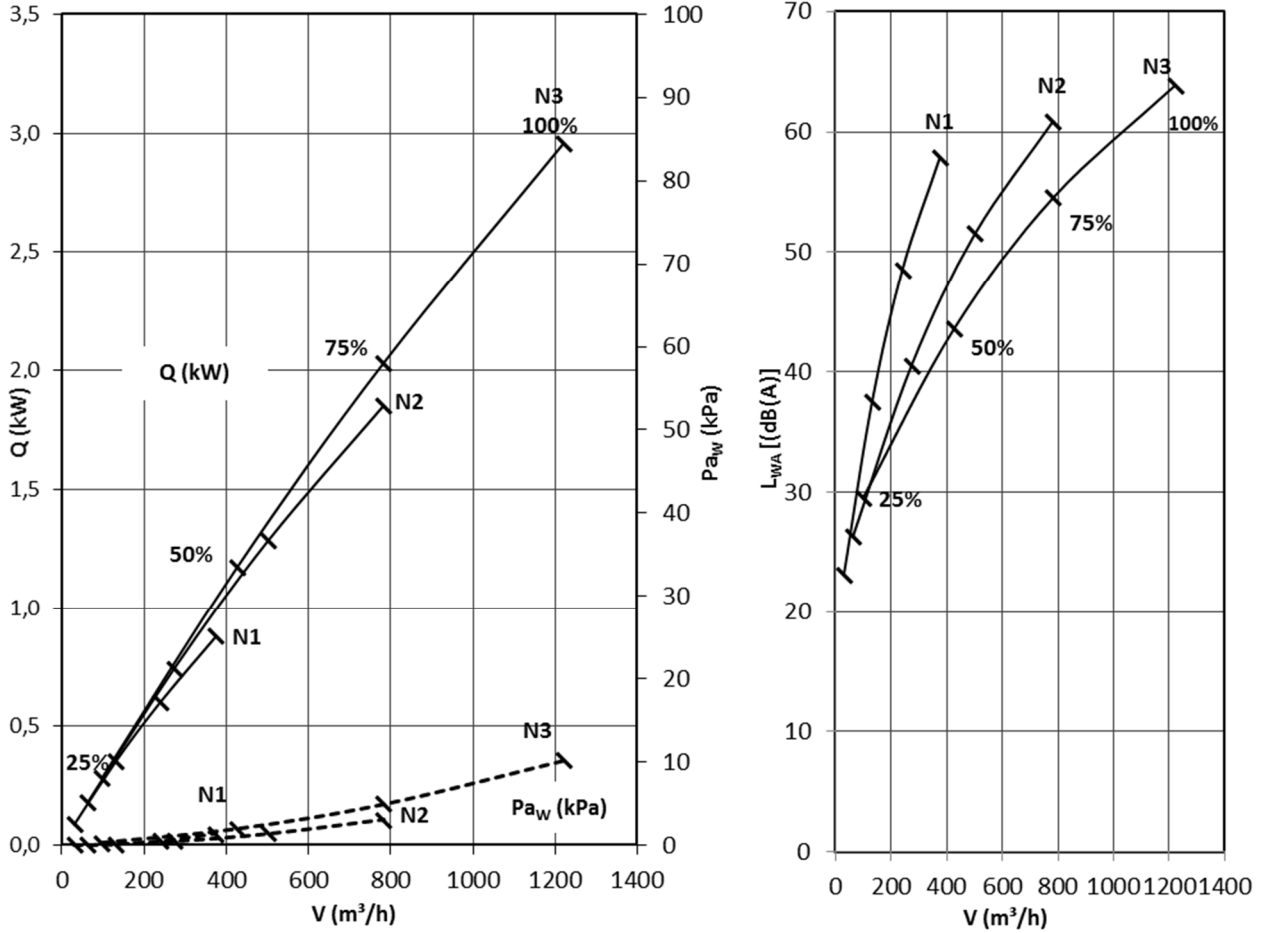


Diagram 14: Technical data CNVA-190...H4 Cooling 4-pipe system

	NL (mm)	rpm %	V		Q ₍₂₎ t=9K (kW)	Pa _w (kPa)	V _w [l/h]	L _{wa} [dB(A)]
			(m³/h)	[l/s]				
190	1150	25%	30	8.3	0.09	0.00	37	23.2
		50%	131	36.4	0.35	0.12	151	37.5
		75%	241	66.9	0.60	0.51	261	48.5
		100%	376	104.4	0.88	1.36	376	57.9
	2000	25%	63	17.5	0.18	0.07	77	26.3
		50%	274	76.1	0.74	0.53	321	40.5
		75%	501	139.2	1.28	1.41	553	51.5
		100%	783	217.5	1.85	3.06	796	60.9
	2750	25%	98	27.2	0.29	0.31	122	29.5
		50%	427	118.6	1.17	1.98	504	43.6
		75%	783	217.5	2.03	4.94	874	54.5
		100%	1221	339.2	2.96	10.20	1265	63.9

(2) Cooling: Air (26°C/50%), water (16°C/18°C) according to DIN EN 16430

Table 16: Performance data – CNVA-190...H4 Cooling 4-pipe system

LEGEND

NL	(mm)	= Nominal length
LG	(mm)	= Total length
B	(mm)	= Width
H	(mm)	= Height
V	(m ³ /h) [l/s]	= Volumetric flow
Q	(kW)	= Total thermal capacity
V _w	[l/h]	= Water flow volume
Pa _w	(kPa)	= Water-side pressure loss
U/min	(%)	= Fan speed
L _{WA}	(dB(A))	= A-weighted sound power level
t	(°C)	= Temperature difference between room air and average water supply temperature of the register
DN	(mm)	= Diameter, nominal width
K _{VS}	(m ³ /h)	= Nominal flow value of the cold water through the fully open valve (H100) at a differential pressure of 100 kPa (1 bar)
p _s	(kPa)	= Maximum allowed differential pressure for the valve
p _{max}	(kPa)	= Maximum allowed differential pressure for the actuator of the valve

ORDER CODE CNVA

01	02	03	04	05	06	07	08	09
Type	Height	Model / Variant	Nominal length (NL)	Housing position	Total length (LG)	Grille layer / Frame	Tread-resistant grille insert	Connecting piece diameter
Example								
CNVA	-150	-H2	-N1	-S	-1150	-G1	-00	-P0

10	11	12	13	14	15	16	17	18
Primary air connecting piece	Connection position	Water connection	Control	End piece	External coating	Adjusting legs	Mounting guard	Condensate pump
Example								
-0	-W1	-0	-S0	-E2	-A1	-07	-M1	-K0

NOTE

If details are missing from the order, the **STANDARD** model will be confirmed and delivered.

* = if no details are given, processing is impossible.

** = if details are missing from the order, the valve variant VVP469.10-1.0 will be confirmed and delivered.

SAMPLE

CNVA - 150 - H2 - N1 - S - 1150 - G1 - 00 - P0 - 0 - W1 - 0 - S0 - E2 - A1 - 07 - M1 - K0

In plain text

Active floor convector type CNVA | height 150 mm | 2-pipe model | nominal length 1150 mm | housing position standard | total length 1150 mm | frame aluminium natural colour | without grille insert | without primary air connecting piece | connection left front side | without water connection | with IP65 junction box, terminal strip, internally prewired | with 2 end pieces | housing painted internally and externally to RAL 9005 | adjusting legs with 70 mm of adjustable height | cardboard insert, not tread-resistant | without condensate pump

ORDER DETAILS

01 - Type

CNVA = Active floor convector

02 - Height *

106 = H=106 mm, B=270 mm, only heating (H2)

150 = H=150 mm, B=350 mm

190 = H=190 mm, B=350 mm

03 - Model / Variant

H2 = 2-pipe register - cooling or heating - **STANDARD**

H4 = 4-pipe register - only H=150/190 mm - cooling + heating

04 - Nominal length N1

N1 = 1150 mm - **STANDARD**

N2 = 2000 mm

N3 = 2750 mm

05 - Housing position

S = **STANDARD**, LG = NL

M = Heat exchanger / register centre, LG > NL

L = Heat exchanger / register left, LG > NL

R = Heat exchanger / register right, LG > NL

06 - Total length (LG) *

1150 = 1150 mm

--- The total length (LG) must be entered with 4 digits.

--- Smallest length = Nominal length NL

--- Greatest length = 3000 mm

07 - Grille layer / Frame

G1 = Aluminium natural colour anodised E6/EV1 - **STANDARD**

G2 = Aluminium black anodised E6/EV6

G3 = Aluminium bronze anodised E6/C33

08 - Tread-resistant grille insert

00 = Without grille - **STANDARD**

L1 = Linear grille aluminium natural colour anodised E6/EV1

L2 = Linear grille aluminium black anodised E6/EV6

L3 = Linear grille aluminium bronze anodised E6/C33

R1 = Roll-down grille aluminium natural colour anodised E6/EV1

R2 = Roll-down grille aluminium black anodised E6/EV6

R3 = Roll-down grille aluminium bronze anodised E6/C33

09 - Connecting piece diameter - with/without rubber lip seal

P0 = without primary air connecting piece - **STANDARD**

P1 = Rectangular connecting piece, only type H=106 mm

P2 = Connecting piece DN 78, without rubber lip seal, H=150 or H=190 mm

P3 = Connecting piece DN 98, without rubber lip seal, only H=190 mm

P4 = Connecting piece DN 123, without rubber lip seal, only H=190 mm

P5 = Connecting piece DN 78, with rubber lip seal, only H=150 and H=190 mm

P6 = Connecting piece DN 98, with rubber lip seal, only H=190 mm

P7 = Connecting piece DN 123, with rubber lip seal, only H=190 mm

10 – Primary air connecting piece / Position

- 0 = Without primary air connecting piece - **STANDARD**
- 1 = With primary air connecting piece, lateral left
- 2 = With primary air connecting piece, lateral right
- 3 = With primary air connecting piece, room side left
- 4 = With primary air connecting piece, room side right

11 - Connection position

- W1 = lateral left - front side - **STANDARD**
- W2 = lateral right - front side
- W3 = left front side - room side
- W4 = right front side - room side

12 - Water connection

- 0 = Without water connection - **STANDARD**
- 1 = 2-pipe valve set delivered loose
- 2 = 4-pipe valve set delivered loose
- 3 = With water connection, flexible
- 4 = With straight-through valve **, shut-off valve without actuator, NL+100 mm
- 5 = With straight-through valve **, shut-off valve and actuator thermal 24 V 2P, NL+100 mm
- 6 = With straight-through valve **, shut-off valve and actuator thermal continuously 24 V, NL+100 mm
- 7 = With straight-through valve **, shut-off valve and actuator continuously 24 V (motorised), NL+100 mm

13 - Control

- S0 = Electric junction box IP65, with terminal strip, internally prewired - **STANDARD**
- S1 = Electric junction box IP65, with control board, internally prewired

14 - End piece

- E0 = Band design, centre part without end piece
- ER = Band design with right end piece
- EL = Band design with left end piece
- E2 = Single item with 2 end pieces - **STANDARD**

15 - External coating

- A1 = Housing internally and externally painted - RAL 9005 - **STANDARD**
- A2 = Housing painted on the outside - special paint - as rust protection containing polyester powder (on request)
- A3 = With impact sound insulation 3 mm, bonded over the entire surface

16- Adjusting legs

- 07 = Adjusting legs 70 mm - **STANDARD**
- 13 = Adjusting legs 130 mm

17 - Protective mounting cover

- M0 = Without protective mounting cover
- M1 = With cardboard insert, not tread-resistant - **STANDARD**
- M2 = With tread-resistant wooden insert

18 – Condensate pump

- K0 = Without condensate pump - **STANDARD**
- K1 = With condensate pump, delivered loose, only H=150mm and H=190 mm
- K2 = With built-in condensate pump, only in connection with floor duct NL+200 mm, only height = 150 mm or height 190 mm

ORDER CODE CNVAZ

01	02	03	04	05	06	07
Type	Height	Model / Variant	Angle data for end piece / dummy element	Length 1	Length 2	Grille layer / Frame
Example						
CNVAZ	-150	-H0	-180	-0600	-0000	-G1

8	9	10	11	12	13	14	15	16
Tread-resistant grille insert	Connection piece diameter	Primary air connecting piece	End piece	External coating	Adjusting legs	Protective mounting cover	Cutouts	Soundproofing bulkhead
Example								
00	-P0	-0	-E0	-A1	-07	-M1	-A0	-S0

NOTE

If details are missing from the order, the **STANDARD** model will be confirmed and delivered.

* = if no details are given, processing is impossible.

SAMPLE

CNVAZ - 150 - H0 - 180 - 0600 - 0000 - G1 - 00 - P0 - 0 - E0 - A1 - 07 - M1 - A0 - S0

In plain text

Accessories for active floor convector | height 150 mm | dummy piece without heat exchanger | 180 degrees=dummy piece | length 1=600 mm without angle| frame aluminium natural colour anodised | without grille | without primary air connecting piece | without end pieces | housing painted on the inside and outside to RAL9005 | adjusting legs with 70 mm adjustable height | with cardboard insert, not tread-resistant

ORDER DETAILS CNVAZ

01 - Type

CNVAZ = Accessories for active floor convector CNVA

02 - Height *

106 = H=106 mm, B=270 mm, only heating (-H2)

150 = H=150 mm, B=350 mm

190 = H=190 mm, B=350 mm

03 - Model *

H0 = Dummy piece without heat exchanger

H5 = Corner piece without heat exchanger

04 - Angle data for corner piece / dummy element *

The angle data must be entered with 3 digits.

180 = Dummy piece

090 = End piece 035 - 325

05 - Length 1 *

0600 = in mm

--- The total length (LG) must be entered with 4 digits.

--- Length of dummy piece = 0600 mm to 3000 mm

--- Side length 1 for corner piece=convector width +300 mm min

--- Side length 1 for corner piece=convector width +500 mm max

06 - Length 2 *

0000 = in mm

--- The total length (LG) must be entered with 4 digits.

--- For dummy piece, please enter 0000

--- Side length 2 for corner piece=convector width +300 mm min

--- Side length 2 for corner piece=convector width +500 mm max

07 – Colour grille layer / frame

G1 = Aluminium natural colour anodised E6/EV1 - **STANDARD**

G2 = Aluminium black anodised E6/EV6

G3 = Aluminium bronze anodised E6/C33

08 - Tread-resistant grille insert

00 = Without grille - **STANDARD**

L1 = Linear grille aluminium natural colour anodised E6/EV1

L2 = Linear grille aluminium black anodised E6/EV6

L3 = Linear grille aluminium bronze anodised E6/C33

R1 = Roll-down grille aluminium natural colour anodised E6/EV1

R2 = Roll-down grille aluminium black anodised E6/EV6

R3 = Roll-down grille aluminium bronze anodised E6/C33

09 - Connecting piece diameter - with/without rubber lip seal

P0 = Without primary air connecting piece - **STANDARD**

P1 = Rectangular connecting piece, only type H=106 mm

P2 = Connecting piece DN 78, without rubber lip seal, H=150 or H=190 mm

P3 = Connecting piece DN 98, without rubber lip seal, only H=190 mm

P4 = Connecting piece DN 123, without rubber lip seal, only H=190 mm

P5 = Connecting piece DN 78, with rubber lip seal, only H=150 and H=190 mm

P6 = Connecting piece DN 98, with rubber lip seal, only H=190 mm

P7 = Connecting piece DN 123, with rubber lip seal, only H=190 mm

10 – Primary air connecting piece / Position

- 0 = Without primary air connecting piece - **STANDARD**
- 1 = With primary air connecting piece, lateral left
- 2 = With primary air connecting piece, lateral right
- 3 = With primary air connecting piece, room side left
- 4 = With primary air connecting piece, room side right
- 5 = With primary air connecting piece centre (dummy piece)
- 6 = With two primary air connecting pieces centre (dummy piece)

11 - End piece

- E0 = Band design, centre part without end piece - **STANDARD**
- ER = Band design with right end piece
- EL = Band design with left end piece
- E2 = Single item with 2 end pieces

12 - External coating

- A1 = Housing painted on the inside and outside - RAL 9005 - **STANDARD**
- A2 = Housing painted on the outside - special paint - as rust prevention containing polyester powder (on request)
- A3 = With impact sound insulation 3 mm, bonded over the entire surface

13- Adjusting legs

- 07 = Adjusting legs 70 mm - **STANDARD**
- 13 = Adjusting legs 130 mm

14 - Protective mounting cover

- M0 = Without protective mounting cover
- M1 = With cardboard insert, not tread-resistant - **STANDARD**
- M2 = With tread-resistant wooden insert

15 – Cuts / Bevel cuts

- A0 = Without cuts in dummy element- **STANDARD**
- A1 = With rectangular cuts in dummy element (linear grille)
- A2 = With rectangular cuts in dummy element (roll-down grille)
- A3 = With round cuts in dummy element (linear grille)
- A4 = With round cuts in dummy element (roll-down grille)
- A5 = With bevel cut in dummy element (linear grille)
- A6 = With bevel cut in dummy element (roll-down grille)

16 - Soundproofing bulkhead

- A0 = Without soundproofing bulkhead in dummy element - **STANDARD**
- S1 = Soundproofing bulkhead with centre covering, 2 bulkhead sheets made of galvanised sheet steel, coated in black and a centre covering made of 2-mm aluminium plate, natural colour anodised, bonded on the inside with 10 mm. Bulkhead sheets mounted in duct ex works, space in-between filled with insulating material to be provided on site.

SPECIFICATION TEXT

Tread-resistant high-performance floor convector model CNVA for forced convection. Consisting of a galvanised sheet steel construction with frame and grille layer made of extruded aluminium, standard anodised E6/EV1. All internal parts painted to RAL 9005, black.

2-pipe heat exchanger (standard); 4-pipe heat exchanger (optional), for cooling and heating, with frame made of galvanised sheet steel, copper pipes and aluminium ribs, suitable for water grade to VDI2035. The fan is driven by an efficient and electronically commuted EC motor (24 V DC), which is infinitely variable from 0-100% (0-10 V DC).

As standard, the floor convector SCHAKO 150/190 is equipped with a condensate pan made of stainless sheet steel painted in black. To optimise maintenance, the fan can be removed without the need for tools, and the heat exchanger can be swivelled upwards by about 45°.

The legs that are adjustable from the inside can also be adjusted from the room side in the mounting state and are fitted with decoupled fastening points for simple fastening of the convector.

As standard, all devices are provided with a stable cardboard insert during transport as protection against damage and dirt. The tread-resistant grille insert is available either as linear grille or roll-down grille as desired.

Product: SCHAKO type CNVA.

Models

Height / model H=with standard grille height without adjustable legs

- H=106 mm B=270 mm (-106), only heating / 2-pipe
- H=150 mm B=350 mm (-150)
- H=190 mm B=350 mm (-190)

Model / Variant

- 2-pipe register (-H2), cooling or heating
- 4-pipe register (-H4), for models H=150 and H=190, cooling and heating, with condensate pan

Nominal length (NL)

- Nominal length 1150 mm (-N1)
- Nominal length 2000 mm (-N2)
- Nominal length 2750 mm (-N3)

Housing position

- Heat exchanger / register standard (-S), LG = NL
- Heat exchanger / register centre (-M), LG>NL
- Heat exchanger / register left (-L), LG>NL
- Heat exchanger / register right (-R), LG>NL

Total length (LG) (*)

- The total length must always be entered with 4 digits.
- Smallest length > Nominal length
 - Greatest length = 3000 mm

Grille layer / Frame

- Grille layer aluminium natural colour anodised E6/EV1 (-G1)
- Grille layer aluminium black anodised E6/EV6 (-G2)
- Grille layer aluminium bronze anodised E6/C33 (-G3)

Tread-resistant grille insert

Construction subject to change
No return possible

- Without grille insert (-00)
- Linear grille aluminium natural colour anodised E6/EV1 (-L1)
- Linear grille aluminium black anodised E6/EV6 (-L2)
- Linear grille aluminium bronze anodised E6/C33 (-L3)
- Roll-down grille aluminium natural colour anodised E6/EV1 (-R1)
- Roll-down grille aluminium black anodised E6/EV6 (-R2)
- Roll-down grille aluminium bronze anodised E6/C33 (-R3)

Connecting piece diameter / with or without rubber lip seal

- Without primary air connecting piece (-P0)
- Rectangular connecting piece only type H=106 (-P1)
- DN 78 without rubber lip seal, only height 150 and height 190 (-P2)
- DN 98 without rubber lip seal, only height 190 (-P3)
- DN 123 without rubber lip seal, only height 190 (-P4)
- DN 78 with rubber lip seal, only height 150/190 (-P5)
- DN 98 with rubber lip seal, only height 190 (-P6)
- DN 123 with rubber lip seal, only height 190 (-P7)

Primary air connecting piece / Position

- Without primary air connecting piece (-0)
- Lateral left primary air connecting piece (-1)
- Lateral right primary air connecting piece (-2)
- Primary air connecting piece left front side (room side) (-3)
- Primary air connecting piece right front side (room side) (-4)

Connection position of the water connections

- Connection position lateral left (front side) (-W1)
- Connection position lateral right (front side) (-W2)
- Connection position left front side (room side) (-W3)
- Connection position right front side (room side) (-W4)

Water connections / Hydraulic connection

- Without water connections pre-equipped ex works (-0)
- 2-pipe valve set delivered loose, consisting of 1 straight-through valve, 1 lockshield valve with integrated pre-setting of the kv values (-1)
- 2-pipe valve set delivered loose, consisting of 1 straight-through valve, 1 lockshield valve with integrated pre-setting of the kv values (-2)
- With water connections pre-equipped ex works (flex) (-3)
- With mounted straight-through valve (**), shut-off valve without actuator NL+100 mm (-4)
- With mounted straight-through valve (**), shut-off valve and actuator thermal 24 V 2P NL+100 mm (-5)
- With mounted straight-through valve (**), shut-off valve and actuator thermal continuously 24 V NL+100 mm (-6)
- With mounted straight-through valve (**), shut-off valve and actuator continuously 24 V (motorised) NL+100 mm (-7)

Control

- Electric junction box IP65 with standard electric connecting plate and spring clamps (-S0)
- Electric junction box IP65 with electric control board and spring clamps (-S1)

End piece

- Band design centre part without end piece (-E0)
- Band design with right end piece (-ER)
- Band design with left end piece (-EL)
- Single item with 2 end pieces (-E2)

External coating

- Housing painted on the inside and outside to RAL 9005 (-A1)

- Housing painted on the outside rust prevention with polyester powder (-A2)
- Housing outside with 3-mm impact sound insulation (-A3)

Adjustable legs

- Adjustable height 70 mm (-07)
- Adjustable height 130 mm (-13) (limited to the device dimensions in type H=106)

Protective mounting cover

- Without protective mounting cover (-M0)
- With cardboard insert 7-mm corrugated board (-M1)
- With tread-resistant wooden insert (-M2)

Condensate pump

- Without condensate pump (-K0)
- With condensate pump delivered loose (-K1), type H=150 and H=190
- With built-in condensate pump, only in connection with extension of the floor duct NL+200 mm, only height 150 mm and height 190 mm (-K2)

CNVAZ accessories for CNVA (at an extra charge)

Height / Model (*)

- H=106 mm; B=270 mm (-106)
- H=150 mm; B=350 mm (-150)
- H=190 mm; B=350 mm (-190)

Model / Variant (*)

- Dummy piece without heat exchanger (-H0).
- Corner piece without heat exchanger (-H5)

Angle data for corner piece / dummy element (3 digits) (*)

- Dummy piece 180
- Corner piece 035 to 325

Length 1 (4 digits) (*)

- LG dummy piece 0600 – 3000 mm
- Side length 1 for corner piece=convector width +300 mm min
- Side length 1 for corner piece=convector width +500 mm max

Length 2 (4 digits) (*)

- For dummy piece, enter 0000
- Side length 1 for corner piece=convector width +300 mm min
- Side length 1 for corner piece=convector width +500 mm max

Grille layer / Frame

- Grille layer aluminium natural colour anodised E6/EV1 (-G1)
- Grille layer aluminium black anodised E6/EV6 (-G2)
- Grille layer aluminium bronze anodised E6/C33 (-G3)

Tread-resistant grille insert

- Without grille insert (-L0)
- Linear grille aluminium natural colour anodised E6/EV1 (-L1)
- Linear grille aluminium black anodised E6/EV6 (-L2)
- Linear grille aluminium bronze anodised E6/C33 (-L3)
- Roll-down grille aluminium natural colour anodised E6/EV1 (-R1)
- Roll-down grille aluminium black anodised E6/EV6 (-R2)
- Roll-down grille aluminium bronze anodised E6/C33 (-R3)

Connecting piece diameter / with or without rubber lip seal

- Without primary air connecting piece (-P0)
- Rectangular connecting piece, only type H=106 (-P1)
- Connecting piece DN 78 without rubber lip seal, only height 150 and height 190 (-P2)
- Connecting piece DN 98 without rubber lip seal, only height 190 (-P3)
- Connecting piece DN 123 without rubber lip seal, only height 190 (-P4)
- Connecting piece DN 78 with rubber lip seal, only height 150 and height 190 (-P5)
- Connecting piece DN 98 with rubber lip seal, height 190 (-P6)
- Connecting piece DN 123 with rubber lip seal, height 190 (-P7)

Primary air connecting piece / Position

- Without primary air connecting piece (-0)
- Lateral left primary air connecting piece (-1)
- Lateral right primary air connecting piece (-2)
- Primary air connecting piece left front side (room side) (-3)
- Primary air connecting piece right front side (room side) (-4)
- Primary air connecting piece centre dummy piece (-5)
- With two primary air connecting pieces centre dummy piece (-6)

End piece

- Band design centre part without end piece (-E0)
- Single item with 2 end pieces (-E2)
- Band design with right end piece (-ER)
- Band design with left end piece(-EL)

External coating

- Housing painted on the inside and outside to RAL 9005 (-A1)
- Housing painted on the outside rust prevention with polyester powder (-A2)
- Housing outside with 3-mm impact sound insulation (-A3)

Adjustable legs

- Adjustable height 70 mm (-07)
- Adjustable height 130 mm (-13) (limited to the device dimensions in type H=106)

Protective mounting cover

- Without protective mounting cover (-M0)
- With cardboard insert 7-mm corrugated board (-M1)
- With tread-resistant wooden insert (-M2)

Cuts / Bevel cuts

- Without cuts in dummy element (-A0)
- With rectangular cuts in dummy element (linear grille) (-A1)
- With rectangular cuts in dummy element (roll-down grille) (-A2)
- With round cuts in dummy element (linear grille) (-A3)
- With round cuts in dummy element (roll-down grille) (-A4)
- With bevel cut in dummy element (linear grille) (-A5)
- With bevel cut in dummy element (roll-down grille) (-A6)

Soundproofing bulkhead

- Without soundproofing bulkhead in dummy element (-S0)
- Soundproofing bulkhead with centre covering, 2 bulkhead sheets made of galvanised sheet steel, coated in black and a centre covering made of 2-mm aluminium plate, natural colour anodised. Bulkhead sheets mounted in duct ex works, space in-between filled with insulating material to be provided on site (-S1).