

Zehnder Carma



Technical specification for air handling units

always the best climate

General

The flexible ventilation solutions in the Zehnder Carma product range are equipped with highly efficient heat recovery and are suitable for installation in various properties such as offices, schools, nurseries, shopping centres, apartment buildings, restaurants, etc., both in new buildings and in renovations.

The pre-installed, pre-configured ventilation unit allows for easy plug-and-play installation, and the control panel mounted on the ventilation unit ensures easy installation, configuration and operation of the unit.

The Zehnder Carma range is available in 7 sizes, 8 configurations and 5 operating modes.



User benefits

- There are 7 different unit sizes available, with volume flows from 200 m³/h to 8,000 m³/h. This means that the optimum unit size can always be selected.
- Diverse applications: The ventilation units can be installed either indoors or outdoors. The weather protection roof is always factory-fitted.
- Versatile mounting options: The ventilation units can be configured for horizontal and vertical installation as well as in a false ceiling.
- Various climate comfort options can be configured, such as electric pre-heating coil and/or optional electric or water-based post-heating coil. The ventilation unit can therefore be specifically adapted to the requirements of the building project.
- Aluminium counterflow heat exchangers with high energy efficiency up to 90 % (EN308) ensure extremely efficient system operation.
- Direct-driven, backwards-curved fans with very low energy consumption, equipped with EC motors and overheating protection allow for affordable and safe operation.



Touch screen remote control

LCD remote control

Features and functions

The wide range of unit versions allows for targeted adaptation to project-specific requirements. Depending on the selected configuration, the required components are integrated in the ventilation unit factory-fitted.

Bypass

The Zehnder Carma unit series has a modulating by-pass with the functionality to offer free cooling, night cooling with increased air performance and frost protection. In the SEASON version, the bypass provides summer/winter control in on/off mode using integrated thermostats.

Control

5 choices of air flow modulations for optimized energy consumption (RT2012, EN15232).

ECO: Fans speed adjustment through 2 airflow settings (LS-HS) in the EASY control

LOBBY: Air flow modulation with constant pressure mode, adjustable for each fan.

DIVA: Proportional modulation of each fan airflow depending on the CO₂ rate. CO₂ sensor integrated in the exhaust air inlet.

MAC2: Modulation in constant airflow for each fan (LS and HS) (except sizes 06 and 08). Pressure transmitters integrated inside the unit.

QUATTRO: Proportional modulation in constant airflow for each fan depending on the CO₂ rate (except sizes 06 and 08). Pressure transmitters and CO₂ sensor (exhaust air inlet) integrated in the unit. Settings of the LS, the HS and the CO₂ minimum rate (ppm) adjustable on site directly on the EASY control.

Components integrated in the unit ensure energy-efficient and safe system operation:

- Four integrated temperature sensors for recording the temperature of the supply air, extract air and outside air and for controlling the bypass. In the SMART and INFINITE unit versions with an additional temperature sensor for controlling the electric pre-heating coil.
- Integrated frost protection thermostat (THA) to protect the heating coil/coil in the PREMIUM and INFINITE BC unit versions.
- Safety thermostat with integrated manual reset (THS) to protect the electric pre- and post-heating coil in the SMART, PREMIUM and INFINITE unit versions.
- Time programmes for operation with two different volume flows, which can be programmed project-specifically (except SEASON).
- Time programmes for weeks, holidays and public holidays (except SEASON).

More User benefits

- Optimum air quality thanks to high-quality filters as standard (outdoor air ePM1 55 % (F7) / extract air ePM10 50 % (M5)). Second filter stage possible as an option in the outdoor air.
- A number of interfaces are already factory-fitted as standard, enabling flexible integration into the building management system (Modbus, BACnet and Web).
- Stable structure thanks to aluminium profiles and thermal breaks using polyamide build in spacers (class TB2 in accordance with EN1886).
- Low-noise operation due to double-walled, insulated panels with high-density thermal insulation (mineral wool 50 mm). Leakage classification T2 and L1 according to EN1886.
- Fully certified product as the entire Zehnder Carma unit series is Eurovent-certified and complies with the ErP2018 requirements.

- The outdoor air filter is monitored via a differential pressure box. The differential pressure is displayed on the control unit (potential-free contact for SEASON).
- Pressure sensor for constant-volume system operation with indicator on the main control panel (potential-free contact for SEASON).
- Lockable main switch on the front.
- Potential-free input for smoke detectors / fire dampers / central fire alarm systems to switch off the ventilation unit. "Fire alarm" is displayed on the control unit.
- The ventilation unit has an "External shut-off" digital input that has priority over all set operating modes. EASY control enables fresh air energy input and ensures the following functions:
 - FREE COOLING: If the outdoor temperature is below the room setpoint temperature in summer, the summer bypass opens gradually until it is completely open. Thus, cool outdoor air is directed into the building past the heat exchanger. If this function is not sufficient to reach the setpoint temperature, the optional cooling coil is enabled.
 - FREE HEATING: Mainly during the transition period, when the outdoor temperature is higher than the room temperature, the summer bypass opens gradually until it is completely open and the warm outdoor air can be supplied into the building. If this function is not sufficient to reach the setpoint temperature, the optional heating coil/coil is enabled.
 - Cold recovery: If the outdoor temperature is higher than the room temperature in summer or in the transitional period and the Zehnder Carma ventilation unit requires cool air, the bypass closes gradually until it is completely closed and the warm outdoor air cannot flow in directly. If this cold recovery is not sufficient to reach the setpoint temperature, the optional cooling coil is enabled.
 - Heat recovery: If the outdoor temperature is below the room temperature in winter or in the transitional period and the Zehnder Carma ventilation unit requires warm air, the bypass closes gradually until it is completely closed and the cold outdoor air cannot flow in directly. If this function is not sufficient to reach the setpoint temperature, the optional heating coil/coil is enabled.
 - NIGHT COOLING: With the Night Cooling function, the room temperature of the building can be lowered depending on the weather conditions of the last 24 hours. Between midnight and 7 a.m. (configurable period), the Night Cooling function is switched on if the outdoor temperature rises above 22 °C (configurable value) during the day (between 6 a.m. and 10 p.m.). The Night Cooling function operates at outdoor temperatures between 10 and 18 °C (configurable) and extract air temperatures above 18 °C (configurable).
- In addition, for the FIRST and PREMIUM unit versions equipped with EASY control, this function provides a specific volume flow setpoint for the selected operating mode.
- Fire safety: Zehnder Carma ventilation units have a fire protection system as standard, which controls the supply and extract fans in 5 modes that are available in the control parameters (function must be activated on site, not available for SEASON).
 - "Stop": Complete stop of the ventilation unit
 - "Continuous work": Starts the unit or runs it at high speed. The fire protection function takes priority over any other alarm.
 - "No specific reaction, runs automatically": Keeps the unit running with the settings entered locally (Stop/LS/HS).
 - "Supply fan only": Starts or keeps the supply fan at high speed (extract air off).
 - "Extract fan only": Starts the extract fan or keeps it at high speed (supply air off).
 The Zehnder Carma ventilation unit also has a digital "Remote run/stop" input that enables connection to a manual controller. In this case, the external controller takes precedence over the fire protection, which may be activated in one of the five modes described above. Regardless of the selected mode, "Fire alarm" is displayed on the EASY control unit screen when this function is activated.

Dehumidification

In combination with Zehnder Carma ventilation units, an external Combibox Concept module can be installed, equipped with a cooling coil (water or refrigerant) followed by a heating coil/coil (water or electric) (not possible for SEASON). In this case, the controller automatically controls the supply of heat and cooling necessary for dehumidification while maintaining an optimum supply air temperature. The cooling controller has priority over the dehumidification controller.

Series

The Zehnder Carma series, available in 7 unit sizes and 8 different configurations, covers volume flows from 200 m³/h to 8,000 m³/h. Depending on the selected operating mode, the ventilation units can be controlled in 2-stages or with modulating/demand control, with constant volume flow or pressure.

The Zehnder Carma series is available in 5 unit versions:

SEASON: Ventilation unit for use in moderate climate zones, for continuous air exchange in buildings, with heat recovery, summer/winter bypass operation, volume flow control by potentiometer.

FIRST: Ventilation unit without integrated coil/coil.

SMART: Ventilation unit with integrated electric pre-heating coil.

PREMIUM: Ventilation unit with integrated electric or water-based post-heating coil/coil.

INFINITE: Ventilation unit with integrated electric pre-heating coil and integrated electric or water-based post-heating coil/coil.

Set-up

- The construction consists of double-walled aluminium panels.
- Thermal separation by polyamide spacers integrated in the panels.
- Corners made of reinforced polyamide
- Outer sheet in RAL7035, inside galvanised sheet steel
- The enclosure meets class TB2 and T2 according to EN1886.
- The airtightness of the housing corresponds to class L1.
- High-density mineral wool in 50 mm thickness.
- Round unit connectors with lip seals to ensure air distribution tightness (ATEC CSTB no. 13-224-12), square unit connectors with Zehnder Carma 9070.
- Angles pressed into the construction for mounting on the floor (9008 to 9070) or ceiling (9008 to 9035).
- Control cabinet integrated in the ventilation unit with the electrical components and the control unit. Access via lockable inspection door with main control panel integrated from the outside and lockable main switch.
- Access to internal components via removable panels with safety interlocks.
- Integrated condensate tray including drain.
- Integrated, motorised and self-regulating bypass 100 %.
- Weather protection roof as standard for optional interior or exterior mounting

Filters

The Zehnder Carma unit is standard equipped with the CLEARMOTION device ensuring a High Indoor Air Quality and an economic solution for optimal efficiency at low consumption.

Outdoor air

The Zehnder Carma unit has a double slide with a bead seal to ensure watertightness.

It is equipped as standard with a high efficiency ePM1 55% (F7) with low pressure drop.

As an option, the Zehnder Carma can have a double filtration stage:

- To obtain a combination of ePM10 50 % (M5) + ePM1 55 % (F7)

- To obtain a combination of ePM1 55 % (F7) + ePM1 80 % (F9)

Extract air

Standard filter: ePM10 50% (M5)

The filters are always mounted upstream of the components to ensure their protection.

Mounted on slides for easy replacement with bead seal (fresh air filter) to ensure the waterproofness.

Installation

The ventilation units can be configured for horizontal and vertical installation (except models 9048 & 9070). Installation in false ceiling for models 9008 to 9035. With the largest unit version (Zehnder Carma 9070), there is the additional option of ordering the ventilation unit with supply air and extract air oriented downwards (configuration E and F). This enables variable installation on the roof.

Climate versions

Combibox concept chilled water module (CBX-BF) on all versions and use of changeover possible FIRST and SMART version.

Direct expansion module CBX-DX to R410A.

Module dehumidifying on versions FIRST and SMART.

EASY control built in to the Zehnder Carma for managing the heat modules described above.

Fans

The built-in freewheel fans with EC motor are powered directly. The fans are speed-controlled and have built-in overheating protection. EC technology is an efficient solution that ensures low energy consumption for regulation and monitoring and control of the operating point (regulation of discharge capacities from 10 to 100 %). Low noise level for improved acoustic comfort.

Heat exchanger

Static counterflow heat exchanger made of aluminium plates with a high level of efficiency and Eurovent certification. Efficiency above 90 % (EN308) for supply air: -10 °C/90 % and extract air 20 °C/50 %.

Automatic defrosting by modulating by-pass (except SEASON, on/off) and adapted modulation of the supply air volume in the FIRST and PREMIUM unit versions and by self-regulating electric pre-heating coil in the SMART and INFINITE unit versions.

Unit versions with different coils

The “EASY” control of the Zehnder Carma ventilation unit enables control of the different coil versions as standard (depending on the FIRST, SMART, PREMIUM or INFINITE unit versions):

Zehnder Carma	Integrated heat coil (S)			External coil module					
	Pre-heater	Post-heater		Cooling		Dehumidification (cooling + heating)			
	Electric	Electric	Water	Water	R410A	Water/ Water	Water/ Electric	R410A/ Water	R410A/ Electric
FIRST	-	-	-	CBX-BF ⁽²⁾	CBX-DX	CH	CE	DXH	DXE
SMART	■	-	-	CBX-BF ⁽¹⁾	CBX-DX	CH	CE	DXH	DXE
PREMIUM BC	-	-	■	CBX-BF	CBX-DX	-	-	-	-
PREMIUM BE	-	■	-	CBX-BF	CBX-DX	-	-	-	-
INFINITE BC	■	-	■	CBX-BF	CBX-DX	-	-	-	-
INFINITE BE	■	■	-	CBX-BF	CBX-DX	-	-	-	-

⁽¹⁾ Direct installation on the unit connector (except 9070) or for installation in the air duct (wall mounting brackets with round connections are optionally available)

⁽²⁾ Can be used as heating coil and cooling coil. Additional accessories required.

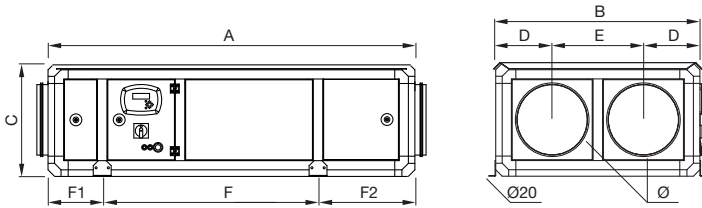
The Zehnder Carma series meets all the requirements of the Bluetech concept. Compliance with Eurovent, ErP 2018/125/EC and EN 15232.

Dimensions

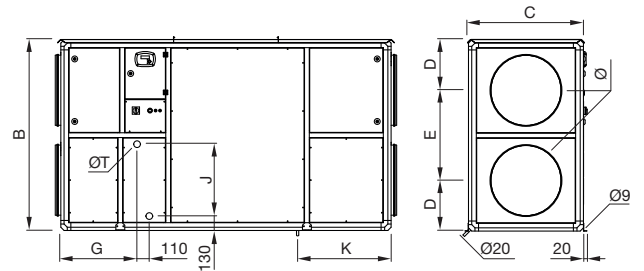
Zehnder Carma	Ø	A	B	C	D	E	F	F1	F2	G	J	K	T	SEASON	FIRST	SMART	PREMIUM	INFINITE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	Ø	kg	kg	kg	kg	kg
9008	315	2010	915	505	255	405	1097	362	517	500	245	540	1/2	210	215	217	218	220
9010	315	2010	915	505	255	405	1097	362	517	500	245	540	1/2	215	220	222	223	225
9016	400	2230	1115	605	305	505	1261	362	607	565	345	690	1/2	295	295	298	300	303
9023	450	2345	1315	705	355	605	1376	362	607	565	445	690	3/4	390	395	400	402	407
9035	500	2625	1515	805	405	705	1520	450	655	640	545	740	3/4	545	550	554	560	564
9048*	630	2970	1715	1030	455	805	1677	535	758	685	645	840	1"	715	720	727	735	742
9070	Dimensions in drawing (see below)												1"	895	900	915	930	945

* Only available in vertical configuration.

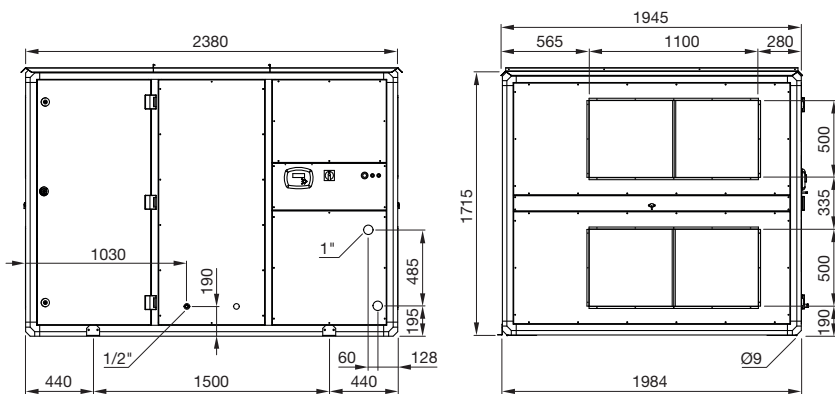
Horizontal installation Zehnder Carma 9008 to Zehnder Carma 9035



Vertical installation Zehnder Carma 9008 to Zehnder Carma 9048



Vertical installation Zehnder Carma 9070

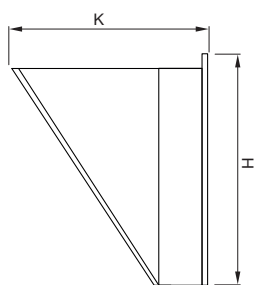


Connection accessories

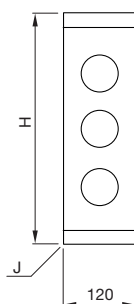
Zehnder Carma	Weather protection hood Weight kg	K mm	H mm	J mm	Multi-leaf damper Weight kg
9008	4	340	362	362	8
9010	4	340	362	362	8
9016	5	440	462	462	10
9023	7	540	562	562	13
9035	10	640	662	662	15
9048	13	740	762	762	17
9070	9	540	562	1162	14

J = Breite

Weather protection hoods

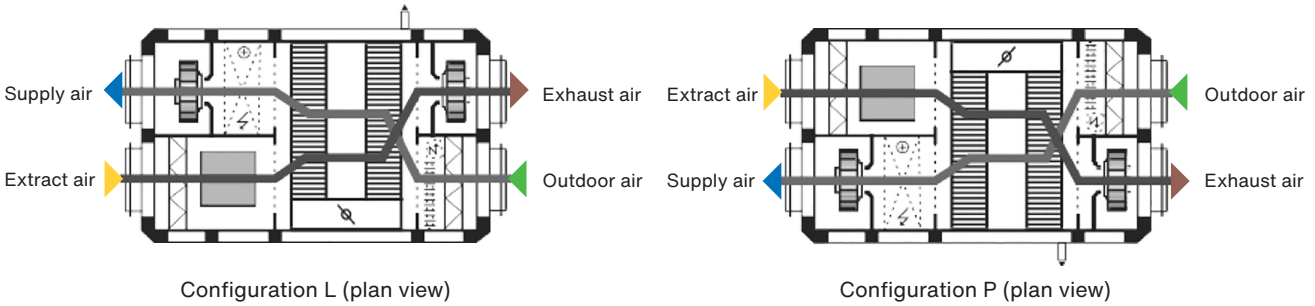


Multi-leaf dampers

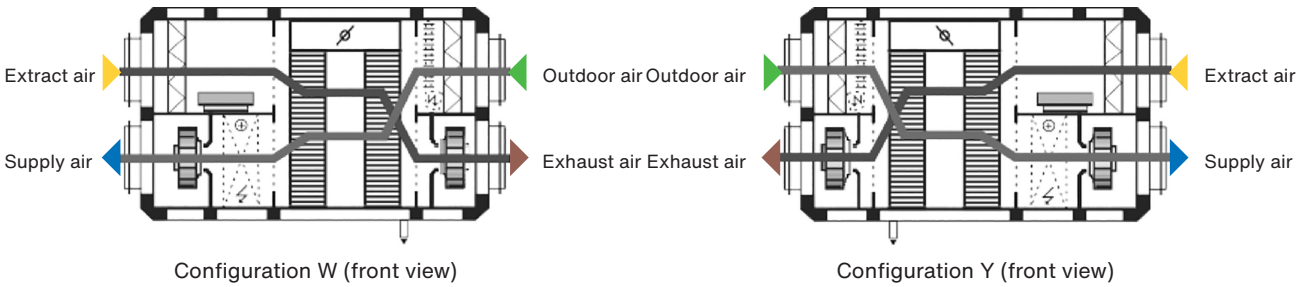


Installation and unit versions

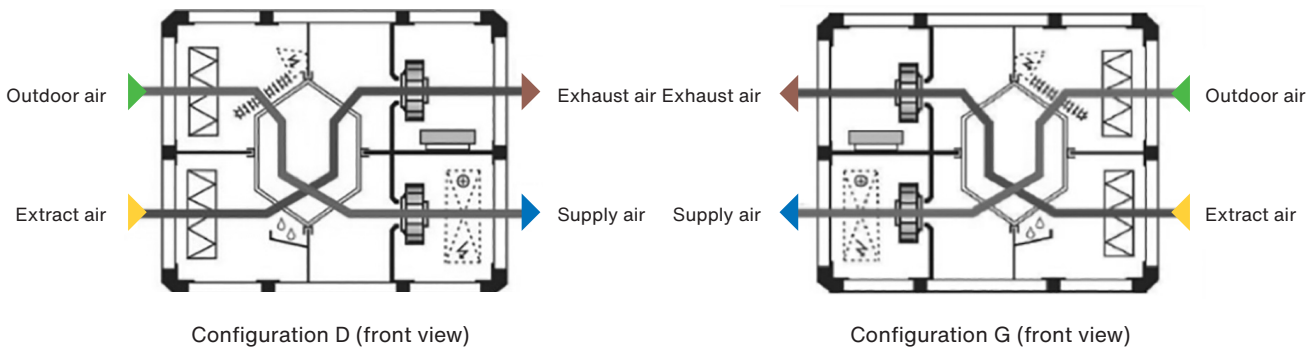
Horizontal installation (not possible with Zehnder Carma 9048 and 9070)



Vertical installation (not possible with Zehnder Carma 9070)



Vertical installation Zehnder Carma 9070



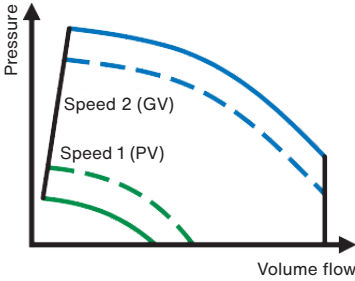
Electrical data

Zehnder Carma model	Output Electric motor (W)	Operating temp. (°C / °C)	Degree of protection	Thermal protection class	FIRST, PREMIUM BC, SEASON		INFINITE BC, SMART		PREMIUM BE			INFINITE BE		
					Supply voltage (V/Ph/Hz)	Current draw (A)	Supply voltage (V/Ph/Hz)	Current draw (A)	Supply voltage (V/Ph/Hz)	Model (POH el.)	Current draw (A)	Supply voltage (V/Ph/Hz)	Model (POH el.)	Current draw (A)
9008	2 x 220	-20 / 60	IP44/B	PTI	230/1/50	3,4	230/1/50	14,3	230/1/50	BE 025	14,3	230/1/50	BE 025	25,2
9010	2 x 480	-20 / 60	IP54/B	PTI	230/1/50	4,3	230/1/50	20,6	230/1/50	BE 025	15,2	230/1/50	BE 025	31,5
9016	2 x 480	-20 / 60	IP54/B	PTI	230/1/50	4,3	400/3+N/50	11,9	230/1/50 400/3+N/50	BE 037 BE 052	20,6 11,9	400/3+N/50	BE 052	19,5
9023	2 x 700	-20 / 40	IP54/B	PTI	230/1/50	6,0	400/3+N/50	15,7	230/1/50 400/3+N/50	BE 037 BE 067	22,3 15,7	400/3+N/50	BE 067	25,4
9035	2 x 2500	-20 / 40	IP54/B	PTI	400/3+N/50	7,7	400/3+N/50	19,6	400/3+N/50	BE 067 BE 137	17,4 27,2	400/3+N/50	BE 067 BE 137	29,3 39,1
9048	2 x 1950	-20 / 50	IP54/B	PTI	400/3+N/50	6,3	400/3+N/50	32,3	400/3+N/50	BE 067 BE 137	16,0 25,8	400/3+N/50	BE 067 BE 137	42,0 51,8
9070	2 x 2730	-20 / 60	IP54/F	PTI	400/3+N/50	8,4	400/3+N/50	44,1	400/3+N/50	BE 105 BE 157	23,6 31,1	400/3+N/50	BE 105 BE 157	59,4 66,9

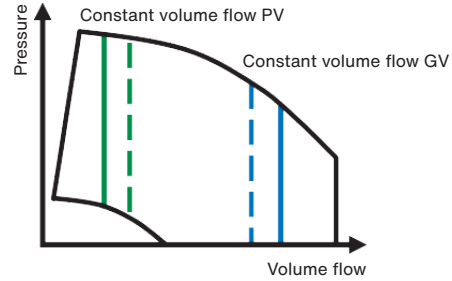
* IPT: Integrated Thermal Protection

Operating modes

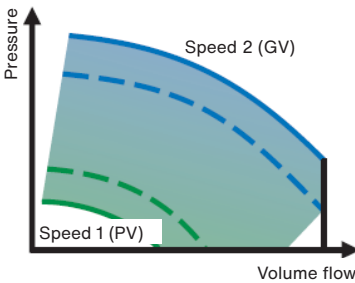
The Zehnder Carma ventilation unit has a factory-programmable controller as standard for configuring the operating modes described below:



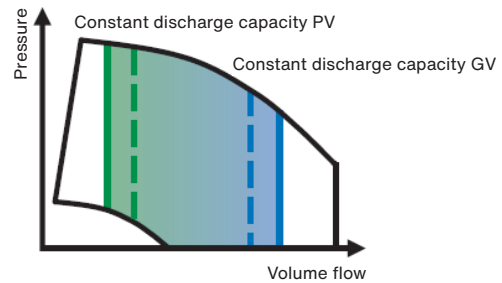
How Zehnder Carma ECO works
2 speeds (PV/GV) can be set per fan, except for SEASON (one speed adjustable via potentiometer)



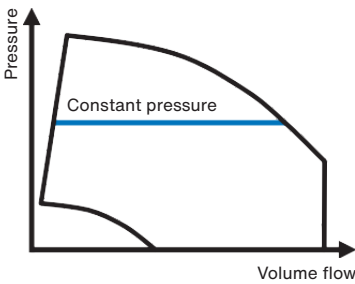
How the Zehnder Carma MAC2 EC works
2 constant volume flows can be set per fan (except Zehnder Carma 9008)



How Zehnder Carma DIVA works
Demand-dependent speed control per fan



How Zehnder Carma QUATTRO works
Demand-dependent constant volume flow control per fan (except Zehnder Carma 9008)



How Zehnder Carma LOBBY EC works
Constant pressure control per fan



Interior view of technical compartment "EASY" controller



Access door to the technical compartment "EASY" controller



Remote control with LCD display max. 100 m or 1,000 m with repeater (optional). Same functionalities as the front display of the Zehnder Carma ventilation unit, not compatible with SEASON



Touch screen with operating and maintenance level (up to 100 m), not compatible with SEASON

Integrated components

Equipment	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
EC fans with low consumption	●	●	●	●	●	●	●
Outdoor air, ePM1 55 % (F7)	●	●	●	●	●	●	●
Extract air filter, ePM10 50 % (M5)	●	●	●	●	●	●	●
Counterflow plate heat exchanger with high efficiency (>90 %), Eurovent certified	●	●	●	●	●	●	●
Internal bypass 100 %	●	●	●	●	●	●	●
Double-walled 50 mm, RAL7035	●	●	●	●	●	●	●
Round unit connectors with lip seals, except Carma 9070 (ATEC CSTB no. 13-224-12)	●	●	●	●	●	●	●
LCD main control panel mounted on the ventilation unit	-	●	●	●	●	●	●
Controller with communication via Modbus in RS485 or TCP/IP, BACnet IP, WEB TCP/IP (selection in menu)	-	●	●	●	●	●	●
Supply air temperature sensor	-	●	●	●	●	●	●
Extract air temperature sensor	-	●	●	●	●	●	●
Bypass defrost sensor	●	●	●	●	●	●	●
External temperature sensor	●	●	●	●	●	●	●
Pre-heater sensor	-	-	●	-	-	●	●
Frost protection thermostat, water coil	-	-	-	-	●	-	●
Safety thermostat, electric pre-heating coil	-	-	●	-	-	●	●
Safety thermostat, electric post-heating coil	-	-	-	●	-	●	-
Lockable main switch	●	●	●	●	●	●	●
Power cable feedthrough	●	●	●	●	●	●	●

● : Standard equipment or functions

■ : Optional equipment or functions. Supplied factory assembled and wired

◆ : Optional equipment or functions. Supplied unassembled

Unit functions

Functions	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
Defrosting through bypass	●	-	-	-	-	-	-
Defrosting in several phases: Bypass + coil/coil (SMART/INFINITE) + modulation of the supply air volume	-	●	●	●	●	●	●
Self-regulated electric pre-heating coil	-	-	●	-	-	●	●
Self-regulated electric post-heating coil	-	-	-	●	-	●	-
Self-regulating hot water coil	-	-	-	-	●	-	●
Internal bypass 100 %, self-regulating and modulating (0-100 %)	-	●	●	●	●	●	●
Free cooling controller	-	●	●	●	●	●	●
Night cooling controller with increased volume flow	-	●	●	●	●	●	●
Supply air temperature control	-	●	●	●	●	●	●
Extract air temperature control	-	●	●	●	●	●	●
Weekly time switch	-	●	●	●	●	●	●
Holiday and public holiday time switch	-	●	●	●	●	●	●
Pressure box for monitoring the supply air filter	●	●	●	●	●	●	●
Pressure sensor for airflow control (supply air and extract air)	●	●	●	●	●	●	●
Potential-free fire alarm input	-	●	●	●	●	●	●
Controller of the Combibox Concept dehumidification module	-	●	●	●	●	●	●

●: Standard equipment or functions

■: Optional equipment or functions. Supplied factory assembled and wired

◆: Optional equipment or functions. Supplied unassembled

Unit functions

Factory-installed control options	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
LOBBY EC: Constant pressure controller	-	■	■	■	■	■	■
DIVA EC: Demand-driven CO ₂ controller	-	■	■	■	■	■	■
MAC2 EC: Constant airflow control (two-stage)	-	■	■	■	■	■	■
QUATRO EC: Demand-driven airflow control	-	■	■	■	■	■	■

Additional options	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
Cooling module (water or R410A) Combibox Concept	-	◆	◆	-	◆	-	◆
Dehumidification module Combibox Concept	-	◆	◆	-	◆	-	◆
Changeover valve for changeover unit versions	-	◆	◆	◆	◆	◆	◆
TOUCH remote control (up to 100 m)	-	◆	◆	◆	◆	◆	◆
Room temperature control via TOUCH REMOTE CONTROL	-	◆	◆	◆	◆	◆	◆
1000 m repeater for LCD remote control	-	◆	◆	◆	◆	◆	◆
Wonderoom, connection box that communicates automatically with the Zehnder Carma	-	◆	◆	◆	◆	◆	◆

●: Standard equipment or functions

■: Optional equipment or functions. Supplied factory assembled and wired

◆: Optional equipment or functions. Supplied unassembled

Sound specifications

The Lp4m dB(A) measurement curves on the following pages correspond to the sound pressure level at a distance of 4 m in a semi-circular free field above a reflecting plane. The sound pressure applies to connected ducts on the supply air and extract air side.

The sound pressure Lp dB(A) for deviating distances can be determined using the distance factors below.

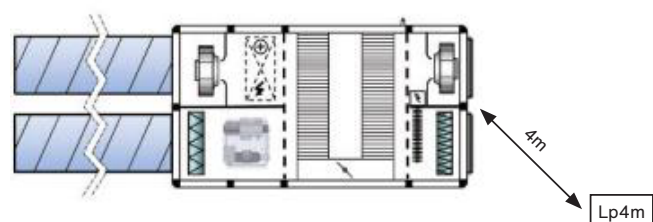
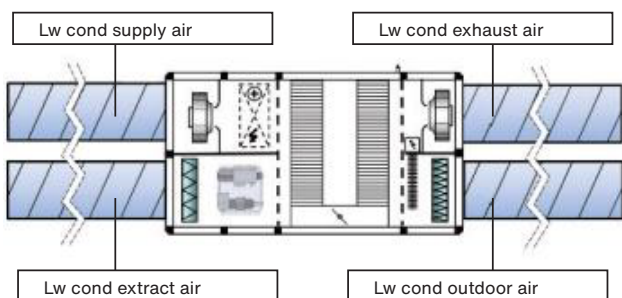
Spacing (m)	1,5	3	4	5	7	10
Distance factor dB(A)	9	3	0	-2	-5	-8

The “Lw cond supply air” curves shown on the following pages indicate the total sound power radiated into the duct on the supply air and exhaust air side. To determine the sound power in the frequency band, the values listed in the table must be taken into account.

Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Zehnder Carma 9008 dB(A)	-30	-18	-12	-7	-5	-6	-12	-18
Zehnder Carma 9010 dB(A)	-27	-16	-8	-8	-5	-7	-13	-20
Zehnder Carma 9016 dB(A)	-31	-19	-11	-8	-5	-6	-12	-19
Zehnder Carma 9023 dB(A)	-28	-26	-15	-9	-6	-4	-11	-14
Zehnder Carma 9035 dB(A)	-32	-20	-12	-7	-4	-7	-11	-19
Zehnder Carma 9048 dB(A)	-35	-20	-13	-7	-4	-7	-11	-18
Zehnder Carma 9070 dB(A)	-39	-29	-12	-7	-4	-7	-11	-16

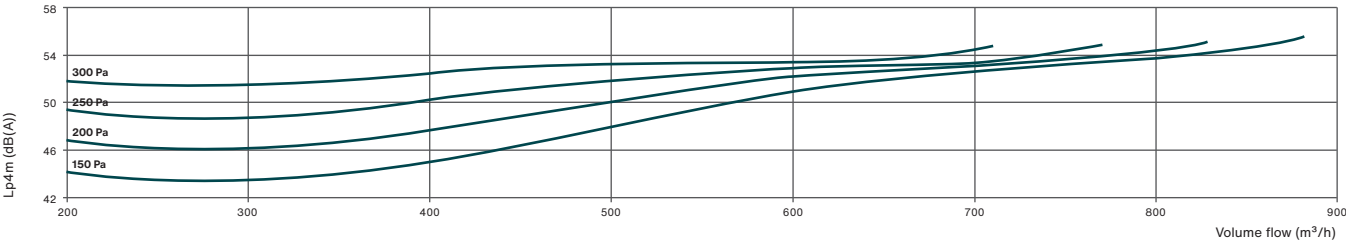
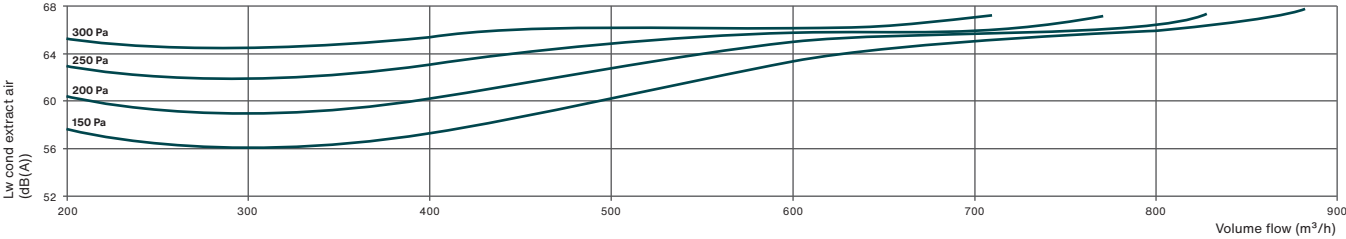
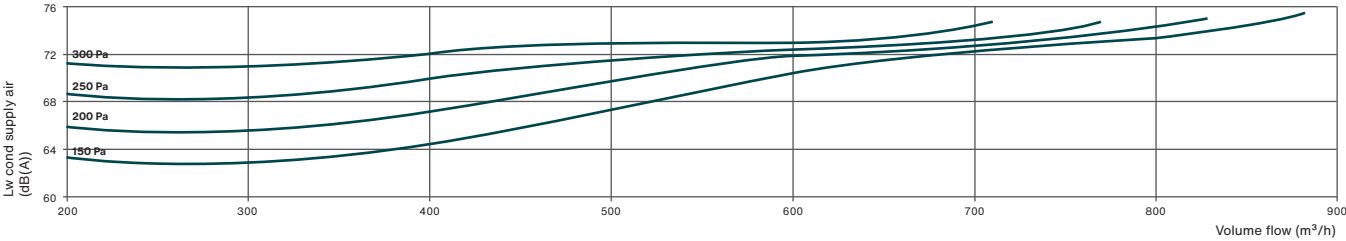
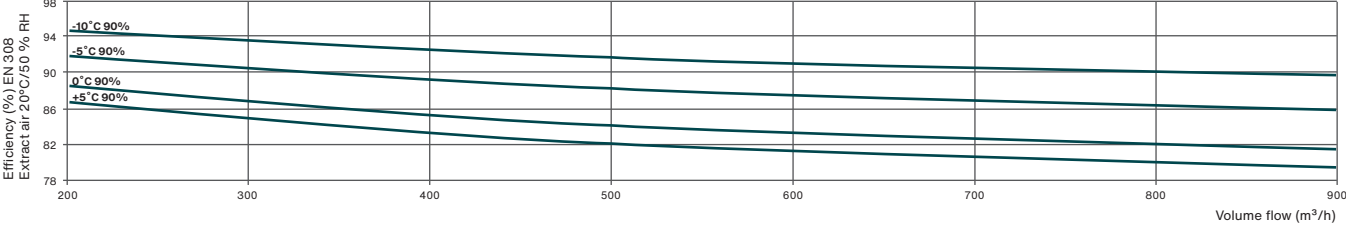
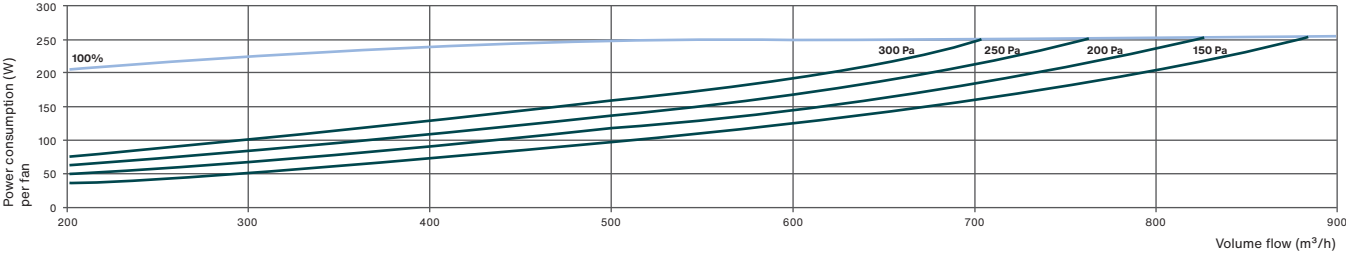
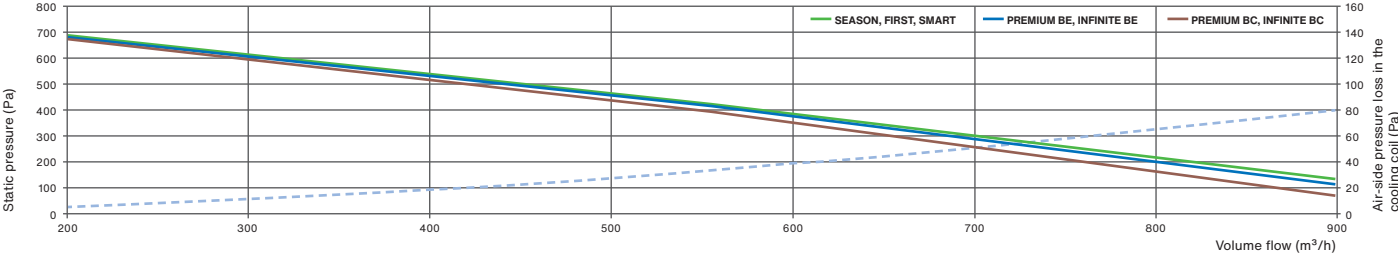
The “Lw cond extract air” curves shown on the following pages indicate the total sound power radiated into the duct on the extract air and outdoor air side. To determine the sound power in the frequency band, the factors listed in the table must be taken into account.

Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Zehnder Carma 9008 dB(A)	-22	-12	-8	-6 -5	-10	-16	-23	
Zehnder Carma 9010 dB(A)	-18	-11	-6	-6	-8	-10	-15	-23
Zehnder Carma 9016 dB(A)	-21	-13	-7	-6	-6	-8	-14	-21
Zehnder Carma 9023 dB(A)	-19	-20	-9	-6	-6	-8	-12	-15
Zehnder Carma 9035 dB(A)	-21	-13	-7	-5	-8	-9	-15	-21
Zehnder Carma 9048 dB(A)	-24	-12	-8	-5	-8	-8	-13	-21
Zehnder Carma 9070 dB(A)	-32	-23	-6	-6	-8	-8	-13	-17



Note:
 Tolerance = general values +/- 3 dB(A)
 Acoustic spectrum +/- 5 dB(A)

Technical data Zehnder Carma 9008 ventilation unit



Performance data for Zehnder Carma 9008 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions								
Water temp. °C / °C	Air inlet temperature °C	Volume flow m³/h	300	400	500	600	700	800
90 / 70	11	Performance (kW) / supply air (°C)	4,9 / 60	6,0 / 56	7,1 / 53	8,0 / 51	8,8 / 49	9,6 / 47
		Water quantity (l/h) / water pressure loss (kPa)	220 / 5	270 / 5	310 / 6	350 / 8	390 / 9	420 / 11
	15	Performance (kW) / supply air (°C)	4,6 / 61	5,7 / 57	6,6 / 55	7,5 / 52	8,3 / 50	9,0 / 49
		Water quantity (l/h) / water pressure loss (kPa)	200 / 5	250 / 4	290 / 5	330 / 7	370 / 8	400 / 10
80 / 60	11	Performance (kW) / supply air (°C)	4,1 / 52	5,1 / 49	5,9 / 46	6,7 / 44	7,4 / 43	8,1 / 41
		Water quantity (l/h) / water pressure loss (kPa)	180 / 6	220 / 6	260 / 5	290 / 6	330 / 7	350 / 8
	15	Performance (kW) / supply air (°C)	3,8 / 53	4,7 / 50	5,5 / 48	6,2 / 46	6,9 / 44	7,5 / 43
		Water quantity (l/h) / water pressure loss (kPa)	170 / 5	210 / 5	240 / 7	270 / 5	300 / 6	330 / 7
60 / 50	11	Performance (kW) / supply air (°C)	3,1 / 42	3,8 / 40	4,5 / 38	5,1 / 36	5,6 / 35	6,1 / 34
		Water quantity (l/h) / water pressure loss (kPa)	270 / 5	330 / 8	390 / 10	440 / 13	490 / 13	540 / 15
	15	Performance (kW) / supply air (°C)	2,8 / 43	3,5 / 41	4,0 / 39	4,6 / 38	5,1 / 37	5,5 / 36
		Water quantity (l/h) / water pressure loss (kPa)	240 / 7	300 / 6	350 / 8	400 / 10	440 / 13	480 / 12
45 / 40	11	Performance (kW) / supply air (°C)	2,1 / 32	2,6 / 31	3,1 / 29	3,5 / 28	3,8 / 27	4,2 / 27
		Water quantity (l/h) / water pressure loss (kPa)	364 / 5	448 / 7	532 / 10	602 / 12	672 / 13	728 / 15
	15	Performance (kW) / supply air (°C)	1,8 / 33	2,3 / 32	2,6 / 31	3,0 / 30	3,3 / 29	3,6 / 28
		Water quantity (l/h) / water pressure loss (kPa)	322 / 6	392 / 6	462 / 8	518 / 9	574 / 11	630 / 13

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m³/h)	800		800			800				800		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE025 Heating coil				INFINITE BE025 Pre-heater + Heating coil		
Performance (kW)	-		2,5			2,5				2,5 + 2,5		
Temperature on output from the unit (°C)	16,4	15,8	16,4	15,8	17,9	25,8	25,2	26,4	29,2	25,8	25,2	29,6

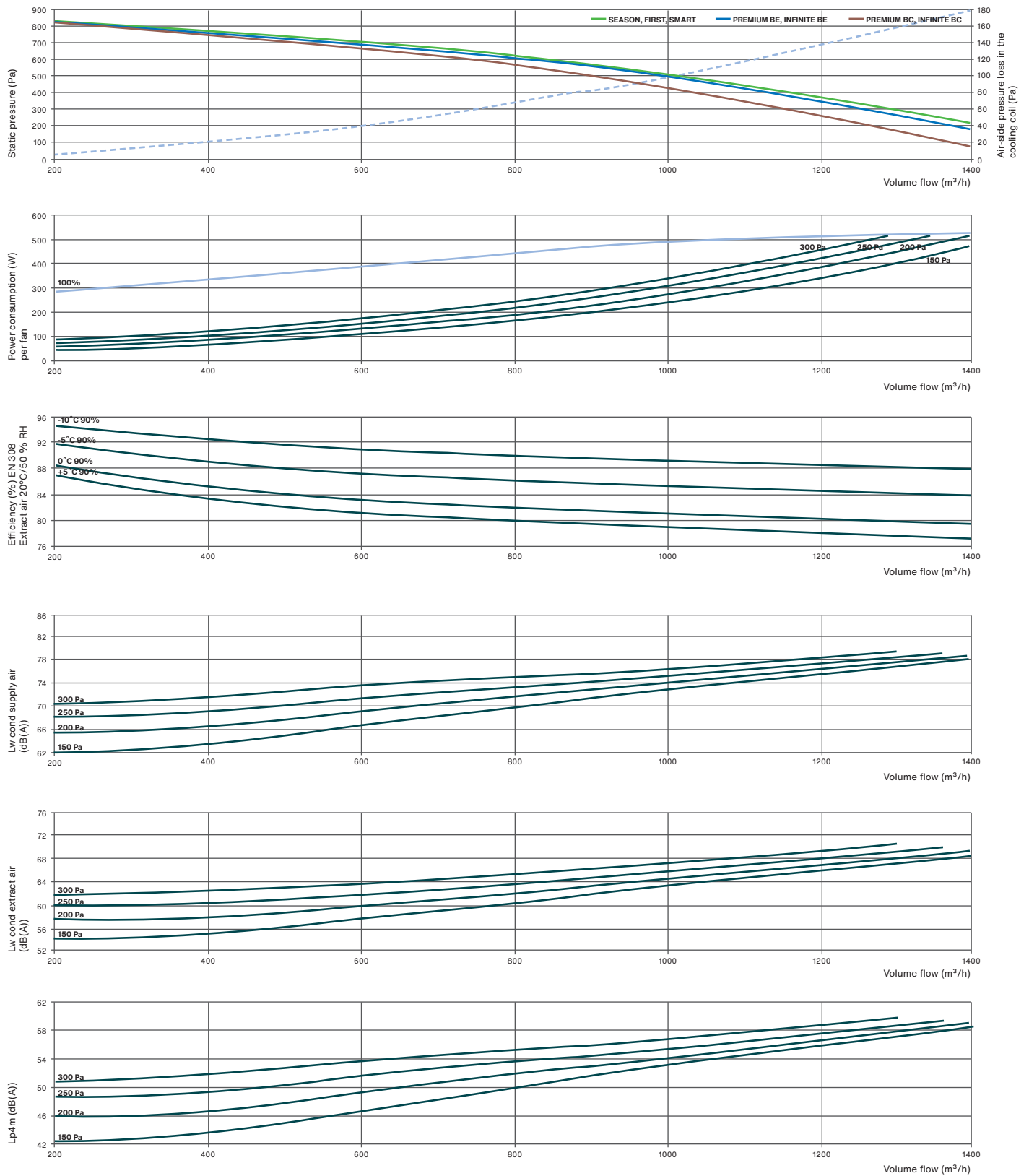
* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9008 cooling coil

CBX 4 BF			Cold water coil module					
Water temp. °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	300	400	500	600	700	800
7 / 12	15	Performance (kW) / supply air (°C-% RH)	2,5 / 14,4-88	3,1 / 15,3-86	3,7 / 16,1-84	4,2 / 16,7-82	4,6 / 17,2-81	5,1 / 17,1-80
		Water quantity (l/h) / water pressure loss (kPa)	430 / 7	530 / 7	630 / 9	710 / 11	800 / 12	870 / 14
	11	Performance (kW) / supply air (°C-% RH)	1,9 / 13,7-91	2,4 / 14,5-89	2,8 / 15,1-88	3,1 / 15,5-87	3,5 / 16-86	3,8 / 16,3-85
		Water quantity (l/h) / water pressure loss (kPa)	330 / 4	400 / 6	470 / 5	530 / 7	590 / 8	650 / 10
	15	Performance (kW) / supply air (°C-% RH)	1,5 / 13,4-92	1,8 / 14,1-90	2,1 / 14,6-88	2,3 / 15-87	2,3 / 15,1-92	2,6 / 15,5-90
		Water quantity (l/h) / water pressure loss (kPa)	250 / 6	300 / 4	350 / 5	400 / 6	400 / 6	440 / 7
6 / 11	15	Performance (kW) / supply air (°C-% RH)	2,7 / 13,6-88	3,4 / 14,6-85	4,0 / 15,4-84	4,5 / 16,1-82	5,0 / 16,6-81	5,5 / 17,1-79
		Water quantity (l/h) / water pressure loss (kPa)	460 / 8	580 / 8	680 / 11	770 / 11	860 / 14	940 / 16
	11	Performance (kW) / supply air (°C-% RH)	2,1 / 12,9-91	2,6 / 13,7-89	3,1 / 14,3-88	3,5 / 14,9-86	3,9 / 15,3-85	4,2 / 15,7-84
		Water quantity (l/h) / water pressure loss (kPa)	360 / 5	450 / 7	520 / 7	590 / 8	660 / 10	720 / 12
	15	Performance (kW) / supply air (°C-% RH)	1,7 / 12,6-91	2,0 / 13,3-90	2,4 / 13,9-88	2,7 / 14,3-87	3,0 / 14,7-86	3,3 / 15-85
		Water quantity (l/h) / water pressure loss (kPa)	280 / 3	350 / 5	410 / 6	460 / 8	510 / 6	560 / 7
45 / 40	11	Performance (kW) / supply air (°C-% RH)	2,6 / 37	3,2 / 35	3,9 / 34	4,4 / 33	5,0 / 32	5,5 / 31
		Water quantity (l/h) / water pressure loss (kPa)	448 / 3	560 / 5	672 / 5	770 / 6	854 / 8	952 / 9
	15	Performance (kW) / supply air (°C-% RH)	2,2 / 37	2,8 / 36	3,3 / 35	3,8 / 34	4,3 / 33	4,7 / 33
		Water quantity (l/h) / water pressure loss (kPa)	392 / 3	490 / 4	574 / 5	658 / 5	742 / 6	812 / 7

CBX 4 BX			Reversible direct evaporator (R410A)					
Water temperature °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	300	400	500	600	700	800
7	32-40	Performance (kW)	2,7	3,3	3,8	4,3	4,8	5,2
		Supply air (°C-% RH)	13,8-88	14,9-85	15,7-84	16,5-82	17,1-81	17,6-79
	27-50	Performance (kW)	2,1	2,6	3,0	3,4	3,8	4,1
		Supply air (°C-% RH)	12,9-91	13,7-89	14,4-88	15,0-86	15,5-85	15,9-84
	25-50	Performance (kW)	1,7	2,1	2,5	2,8	3,0	3,3
		Supply air (°C-% RH)	12,4-91	13,1-89	13,7-88	14,2-87	14,7-86	15,0-85
5	32-40	Performance (kW)	3,0	3,7	4,3	4,9	5,4	5,8
		Supply air (°C-% RH)	12,4-87	13,6-85	14,6-83	15,4-81	16,1-80	16,7-79
	27-50	Performance (kW)	2,5	3,0	3,6	4,0	4,4	4,8
		Supply air (°C-% RH)	11,4-91	12,4-89	13,2-87	13,9-86	14,5-85	15,0-84
	25-50	Performance (kW)	2,1	2,5	3,0	3,3	3,7	4,0
		Supply air (°C-% RH)	10,9-91	11,8-89	12,5-87	13,1-86	13,6-85	14,0-84
40 Condensate temperature	11	Performance (kW)	2,4	3,0	3,6	4,1	4,6	5,1
		Supply air (°C)	34,8	33,5	32,5	31,6	30,7	30
	15	Performance (kW)	2,1	2,6	3,1	3,6	4,0	4,4
		Supply air (°C)	35,4	34,4	33,4	32,6	31,9	31,3

Technical data Zehnder Carma 9010 ventilation unit



Performance data for Zehnder Carma 9010 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions								
Water temp. °C / °C	Air inlet temperature °C	Volume flow m ³ /h	400	600	800	1000	1200	1400
90 / 70	11	Performance (kW) / supply air (°C)	6,0 / 56	8,0 / 51	9,6 / 47	11,1 / 44	12,4 / 42	13,5 / 40
		Water quantity (l/h) / water pressure loss (kPa)	270 / 5	350 / 8	420 / 11	490 / 12	540 / 14	590 / 17
	15	Performance (kW) / supply air (°C)	5,7 / 57	7,5 / 52	9,0 / 10	10,4 / 46	11,6 / 44	12,6 / 42
		Water quantity (l/h) / water pressure loss (kPa)	250 / 4	330 / 7	400 / 10	460 / 12	510 / 13	560 / 15
80 / 60	11	Performance (kW) / supply air (°C)	5,1 / 49	6,7 / 44	8,1 / 41	9,3 / 39	10,3 / 37	11,3 / 35
		Water quantity (l/h) / water pressure loss (kPa)	220 / 6	290 / 6	350 / 8	410 / 10	450 / 13	490 / 12
	15	Performance (kW) / supply air (°C)	4,7 / 50	6,2 / 46	7,5 / 43	8,6 / 41	9,5 / 39	10,4 / 37
		Water quantity (l/h) / water pressure loss (kPa)	210 / 5	270 / 5	330 / 7	380 / 9	420 / 11	460 / 13
60 / 50	11	Performance (kW) / supply air (°C)	3,8 / 40	5,1 / 36	6,1 / 34	7,0 / 32	7,9 / 31	8,6 / 29
		Water quantity (l/h) / water pressure loss (kPa)	330 / 8	440 / 13	540 / 15	620 / 19	690 / 24	750 / 28
	15	Performance (kW) / supply air (°C)	3,5 / 41	4,6 / 38	5,5 / 36	6,4 / 34	7,1 / 33	7,8 / 32
		Water quantity (l/h) / water pressure loss (kPa)	300 / 6	400 / 10	480 / 12	560 / 16	620 / 20	680 / 23
45 / 40	11	Performance (kW) / supply air (°C)	2,6 / 31	3,5 / 28	4,2 / 27	4,8 / 25	5,4 / 24	5,9 / 24
		Water quantity (l/h) / water pressure loss (kPa)	448 / 7	602 / 12	728 / 15	840 / 19	938 / 23	1022 / 27
	15	Performance (kW) / supply air (°C)	2,3 / 32	3,0 / 30	3,6 / 28	4,1 / 27	4,6 / 26	5,0 / 26
		Water quantity (l/h) / water pressure loss (kPa)	392 / 6	518 / 9	630 / 13	714 / 14	798 / 18	868 / 21

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m ³ /h)	980		980			980				980		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE025 Heating coil				INFINITE BE025 Pre-heater + Heating coil		
Performance (kW)	-		3,75			2,5				3,75 + 2,5		
Temperature on output from the unit (°C)	16,2	15,6	16,3	15,7	17,6	23,9	23,3	19,5	26,9	24,0	23,4	27,2

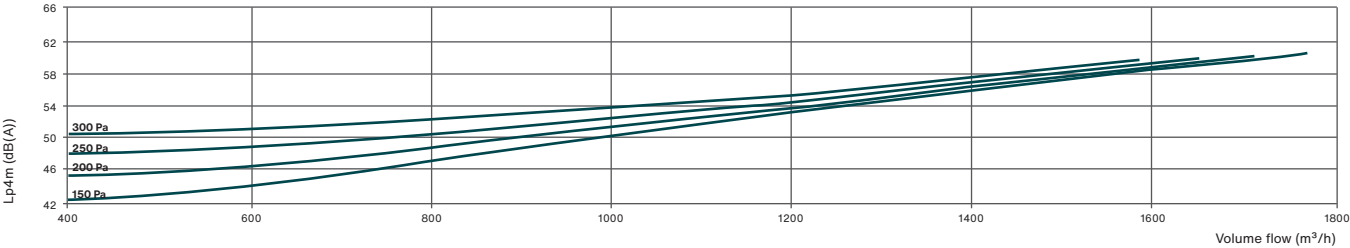
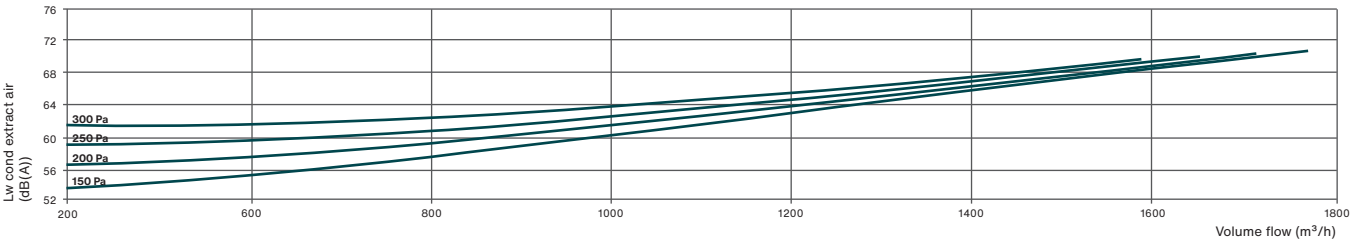
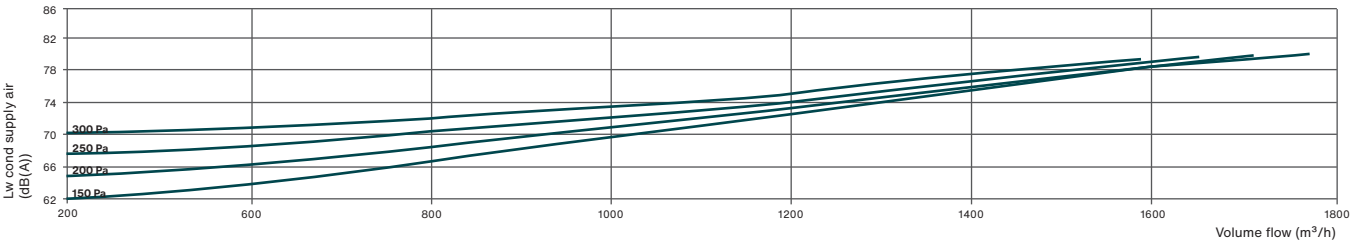
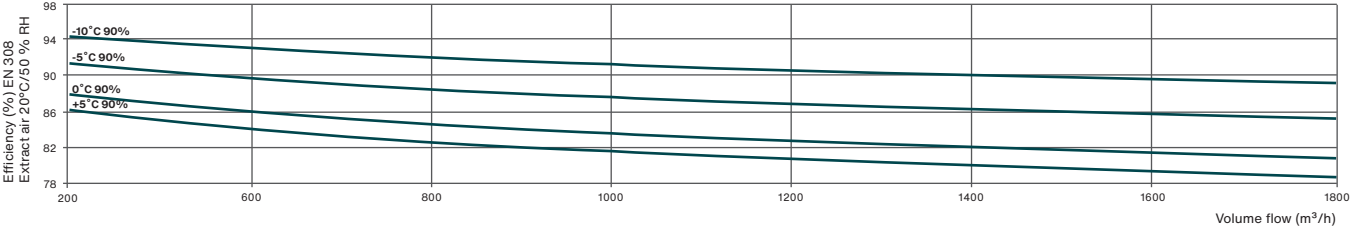
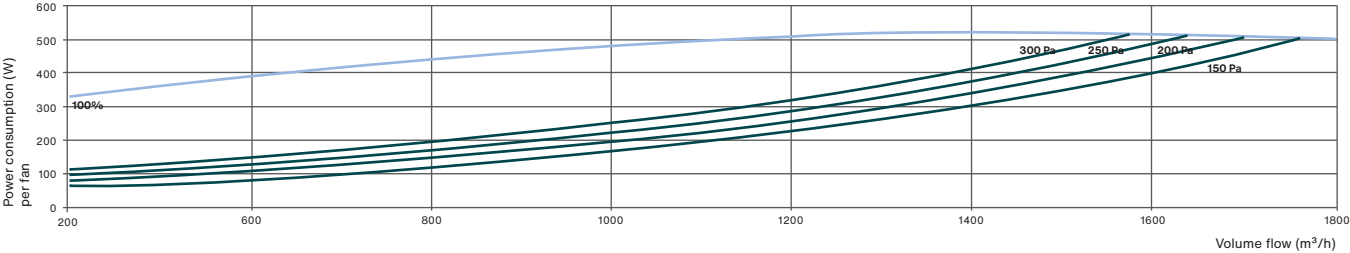
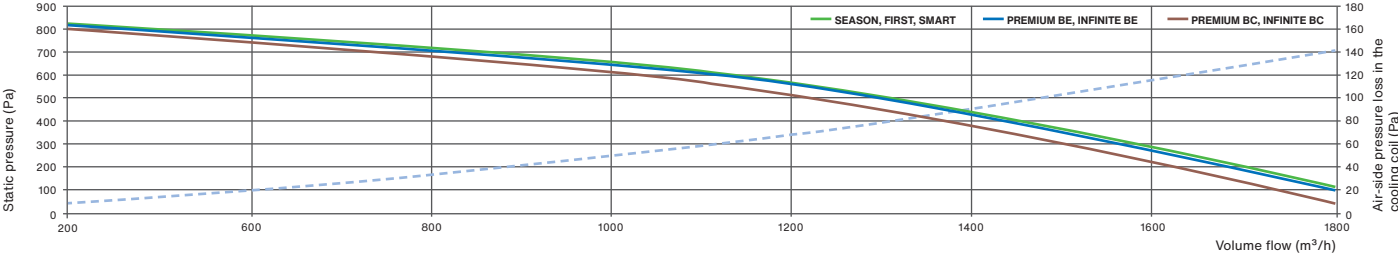
* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9010 cooling coil

CBX 4 BF			Cold water coil module					
Water temp. °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	400	600	800	1000	1200	1400
7 / 12	15	Performance (kW) / supply air (°C-% RH)	3,1 / 15,3-86	4,2 / 16,7-82	5,1 / 17,7-80	5,9 / 18,5-78	6,6 / 19,1-76	7,2 / 19,7-75
		Water quantity (l/h) / water pressure loss (kPa)	530 / 7	710 / 11	870 / 14	1010 / 18	1130 / 21	1240 / 24
	11	Performance (kW) / supply air (°C-% RH)	2,4 / 14,5-89	3,1 / 15,5-87	3,8 / 16,3-85	4,4 / 16,9-83	4,9 / 17,4-82	5,3 / 17,8-81
		Water quantity (l/h) / water pressure loss (kPa)	400 / 6	530 / 7	650 / 10	750 / 12	840 / 13	920 / 15
	15	Performance (kW) / supply air (°C-% RH)	1,8 / 14,1-90	2,3 / 15-87	2,6 / 15,5-90	3,0 / 16,2-86	3,3 / 16,7-83	3,7 / 17,2-81
		Water quantity (l/h) / water pressure loss (kPa)	300 / 4	400 / 6	440 / 7	510 / 6	570 / 8	630 / 9
6 / 11	15	Performance (kW) / supply air (°C-% RH)	3,4 / 14,6-85	4,5 / 16,1-82	5,5 / 17,1-79	6,4 / 17,9-77	7,2 / 18,6-76	7,9 / 19,2-74
		Water quantity (l/h) / water pressure loss (kPa)	580 / 8	770 / 11	940 / 16	1100 / 21	1230 / 24	1350 / 29
	11	Performance (kW) / supply air (°C-% RH)	2,6 / 13,7-89	3,5 / 14,9-86	4,2 / 15,7-84	4,9 / 16,4-83	5,5 / 16,9-82	6,0 / 17,3-81
		Water quantity (l/h) / water pressure loss (kPa)	450 / 7	590 / 8	720 / 12	830 / 13	930 / 16	1030 / 19
	15	Performance (kW) / supply air (°C-% RH)	2,0 / 13,3-90	2,7 / 14,3-87	3,3 / 15-85	3,2 / 15,6-90	3,6 / 16,1-86	3,9 / 16,6-84
		Water quantity (l/h) / water pressure loss (kPa)	350 / 5	460 / 8	560 / 7	540 / 7	610 / 9	680 / 10
45 / 40	11	Performance (kW) / supply air (°C-% RH)	3,2 / 35	4,4 / 33	5,5 / 31	6,4 / 30	7,2 / 29	8,0 / 28
		Water quantity (l/h) / water pressure loss (kPa)	560 / 5	770 / 6	952 / 9	1106 / 10	1246 / 13	1386 / 15
	15	Performance (kW) / supply air (°C-% RH)	2,8 / 36	3,8 / 34	4,7 / 33	5,5 / 31	6,2 / 30	6,9 / 30
		Water quantity (l/h) / water pressure loss (kPa)	490 / 4	658 / 5	812 / 7	952 / 9	1078 / 10	1190 / 11

CBX 4 BX			Reversible direct evaporator (R410A)					
Water temperature °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	400	600	800	1000	1200	1400
7	32-40	Performance (kW)	3,3	4,3	5,2	5,9	6,4	5,7
		Supply air (°C-% RH)	14,9-85	16,5-82	17,6-79	18,5-78	19,3-76	19,9-82
	27-50	Performance (kW)	2,6	3,4	4,1	4,6	5,1	5,5
		Supply air (°C-% RH)	13,7-89	15,0-86	15,9-84	16,6-83	17,2-82	17,7-81
	25-50	Performance (kW)	2,1	2,8	3,3	3,2	3,6	4,0
		Supply air (°C-% RH)	13,1-89	14,2-87	15,0-85	15,4-91	16,0-87	16,5-84
5	32-40	Performance (kW)	3,7	4,9	5,8	6,6	7,3	7,8
		Supply air (°C-% RH)	13,6-85	15,4-81	16,7-79	17,7-77	18,6-76	19,3-74
	27-50	Performance (kW)	3,0	4,0	4,8	5,4	6,0	6,4
		Supply air (°C-% RH)	12,4-89	13,9-86	15,0-84	15,8-82	16,4-81	17,0-80
	25-50	Performance (kW)	2,5	3,3	4,0	4,5	5,0	5,4
		Supply air (°C-% RH)	11,8-89	13,1-86	14,0-84	14,7-83	15,3-81	15,8-80
40 Condensate temperature	11	Performance (kW)	3,0	4,1	5,1	6,0	6,7	7,5
		Supply air (°C)	33,5	31,6	30	28,8	27,8	26,9
	15	Performance (kW)	2,6	3,6	4,4	5,1	5,8	6,4
		Supply air (°C)	34,4	32,6	31,3	30,3	29,4	28,6

Technical data Zehnder Carma 9016 ventilation unit



Performance data for Zehnder Carma 9016 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions							
Water temp. °C / °C	Air inlet temperature °C	Volume flow m ³ /h	600	900	1200	1500	1800
90 / 70	11	Performance (kW) / supply air (°C)	9,6 / 59	12,9 / 54	15,7 / 50	18,1 / 47	20,3 / 45
		Water quantity (l/h) / water pressure loss (kPa)	430 / 7	570 / 9	690 / 12	800 / 14	890 / 17
	15	Performance (kW) / supply air (°C)	9,1 / 60	12,1 / 55	14,7 / 52	17,0 / 49	19,0 / 47
		Water quantity (l/h) / water pressure loss (kPa)	400 / 6	530 / 8	650 / 11	750 / 14	840 / 16
80 / 60	11	Performance (kW) / supply air (°C)	8,2 / 52	10,9 / 47	13,2 / 44	15,2 / 41	17,0 / 39
		Water quantity (l/h) / water pressure loss (kPa)	360 / 5	480 / 6	580 / 9	670 / 12	750 / 15
	15	Performance (kW) / supply air (°C)	7,6 / 53	10,1 / 48	12,2 / 45	14,1 / 43	15,8 / 41
		Water quantity (l/h) / water pressure loss (kPa)	330 / 5	440 / 8	540 / 8	620 / 10	690 / 13
60 / 50	11	Performance (kW) / supply air (°C)	6,1 / 41	8,2 / 38	10,0 / 36	11,5 / 34	12,9 / 32
		Water quantity (l/h) / water pressure loss (kPa)	530 / 8	710 / 14	870 / 18	1010 / 23	1130 / 27
	15	Performance (kW) / supply air (°C)	5,5 / 43	7,4 / 40	9,0 / 37	10,4 / 36	11,7 / 34
		Water quantity (l/h) / water pressure loss (kPa)	480 / 7	650 / 12	790 / 15	910 / 19	1020 / 24
45 / 40	11	Performance (kW) / supply air (°C)	4,2 / 32	5,6 / 30	6,8 / 28	7,9 / 27	8,8 / 26
		Water quantity (l/h) / water pressure loss (kPa)	520 / 8	700 / 14	850 / 18	980 / 23	1100 / 28
	15	Performance (kW) / supply air (°C)	3,6 / 33	4,8 / 31	5,9 / 30	6,8 / 29	7,6 / 28
		Water quantity (l/h) / water pressure loss (kPa)	450 / 8	600 / 11	730 / 15	840 / 17	940 / 21

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m ³ /h)	1500		1500			1500				1500		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE037 Heating coil		PREMIUM BE052 Heating coil		INFINITE BE052 Pre-heater + Heating coil		
Performance (kW)	-		5,25			3,75		5,25		5,25 + 5,25		
Temperature on output from the unit (°C)	16,3	15,7	16,3	15,7	17,6	23,8	23,2	22,3	30,4	26,8	26,2	30,7

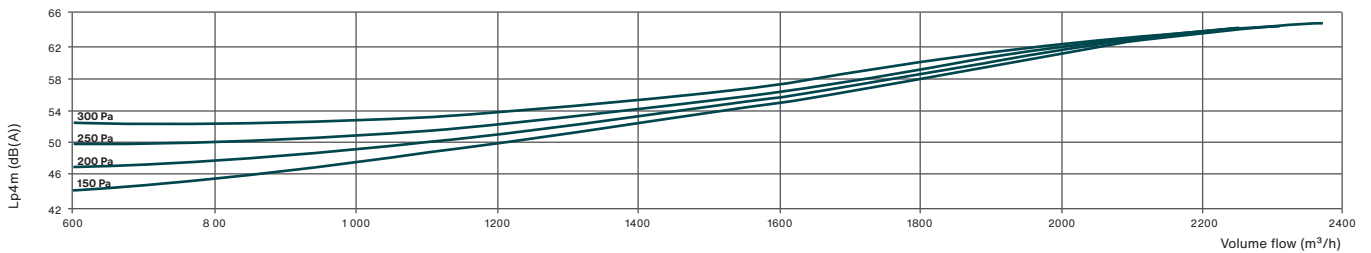
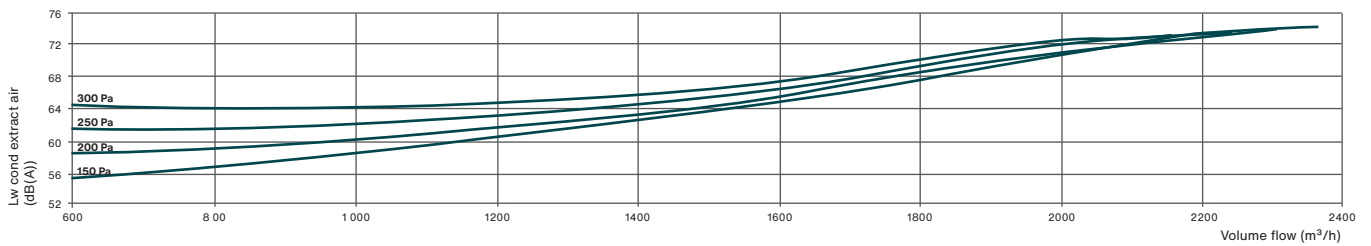
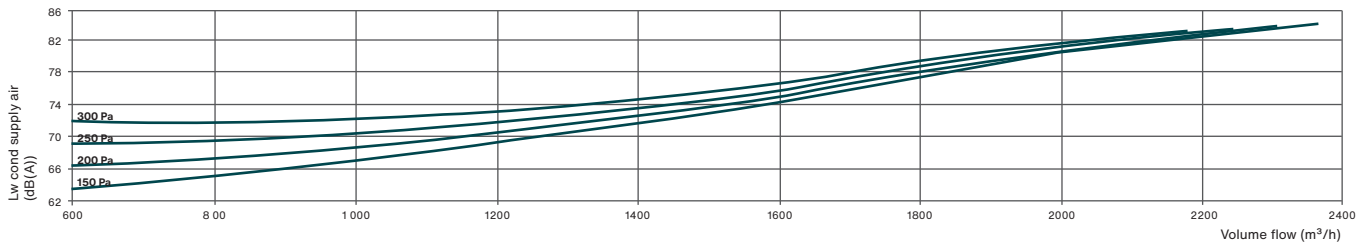
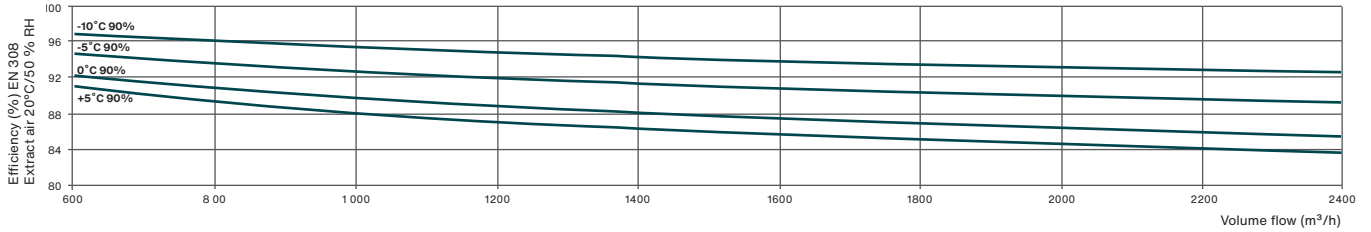
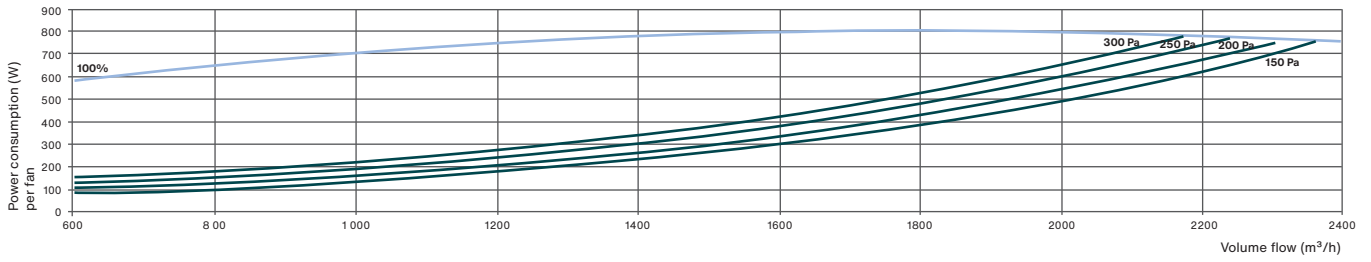
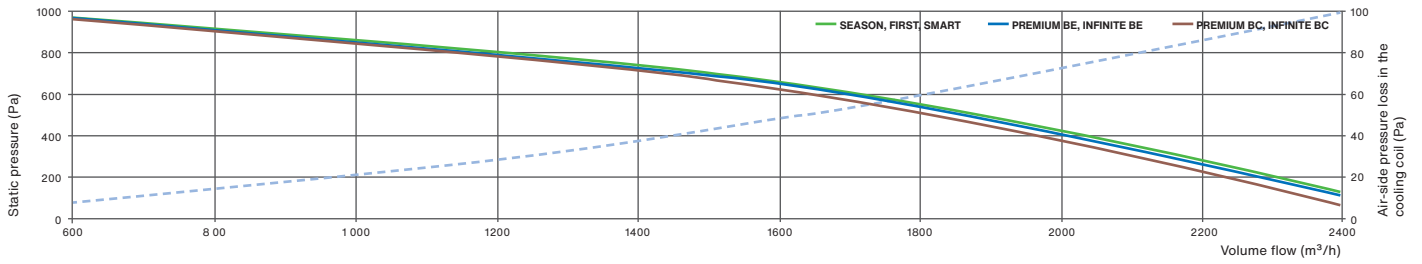
* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9016 cooling coil

CBX 4 BF			Cold water coil module				
Water temp. °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	600	900	1200	1500	1800
7 / 12	15	Performance (kW) / supply air (°C-% RH)	4,8 / 15,1-86	6,5 / 16,5-82	7,9 / 17,5-79	9,1 / 18,3-78	10,3 / 18,9-76
		Water quantity (l/h) / water pressure loss (kPa)	820 / 9	1110 / 16	1350 / 20	1570 / 25	1760 / 30
	11	Performance (kW) / supply air (°C-% RH)	3,7 / 14,2-89	4,9 / 15,3-87	5,9 / 16,1-85	6,8 / 16,7-83	7,7 / 17,2-82
		Water quantity (l/h) / water pressure loss (kPa)	630 / 7	840 / 10	1020 / 14	1170 / 16	1310 / 19
	15	Performance (kW) / supply air (°C-% RH)	2,8 / 13,8-90	3,7 / 14,8-87	3,9 / 15,3-91	4,6 / 16-87	5,1 / 16,5-84
		Water quantity (l/h) / water pressure loss (kPa)	480 / 4	630 / 7	670 / 8	780 / 8	880 / 10
6 / 11	15	Performance (kW) / supply air (°C-% RH)	5,2 / 14,4-85	7,0 / 15,8-82	8,5 / 16,9-79	9,9 / 17,7-77	11,1 / 18,4-76
		Water quantity (l/h) / water pressure loss (kPa)	890 / 11	1200 / 16	1460 / 24	1700 / 29	1910 / 35
	11	Performance (kW) / supply air (°C-% RH)	4,0 / 13,4-89	5,4 / 14,6-86	6,6 / 15,5-84	7,6 / 16,1-83	8,5 / 16,7-81
		Water quantity (l/h) / water pressure loss (kPa)	690 / 9	930 / 12	1130 / 15	1300 / 19	1460 / 24
	15	Performance (kW) / supply air (°C-% RH)	3,2 / 13-89	4,2 / 14,1-87	5,1 / 14,8-85	5,9 / 15,4-83	5,5 / 15,9-88
		Water quantity (l/h) / water pressure loss (kPa)	550 / 5	720 / 9	880 / 10	1010 / 14	940 / 12
45 / 40	11	Performance (kW) / supply air (°C-% RH)	4,9 / 35	6,7 / 33	8,3 / 32	9,7 / 30	10,9 / 29
		Water quantity (l/h) / water pressure loss (kPa)	610 / 6	830 / 8	1030 / 12	1200 / 14	1360 / 18
	15	Performance (kW) / supply air (°C-% RH)	4,2 / 36	5,8 / 34	7,1 / 33	8,3 / 32	9,4 / 31
		Water quantity (l/h) / water pressure loss (kPa)	530 / 5	720 / 8	880 / 9	1030 / 12	1170 / 13

CBX 4 BX			Reversible direct evaporator (R410A)				
Water temperature °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	600	900	1200	1500	1800
7	32-40	Performance (kW)	5,7	7,7	9,3	10,7	12,0
		Supply air (°C-% RH)	12,7-92	14,1-89	15,3-87	16,2-85	17,0-83
	27-50	Performance (kW)	4,5	6,1	7,4	8,5	9,5
		Supply air (°C-% RH)	11,9-94	13,1-92	14,0-90	14,8-89	15,4-87
	25-50	Performance (kW)	3,7	4,9	6,0	6,9	7,7
		Supply air (°C-% RH)	11,6-94	12,6-92	13,4-90	14,0-89	14,5-88
5	32-40	Performance (kW)	6,4	8,7	10,5	12,1	13,5
		Supply air (°C-% RH)	11,2-91	12,8-88	14,1-86	15,1-84	16,0-83
	27-50	Performance (kW)	5,3	7,1	8,6	9,9	11,1
		Supply air (°C-% RH)	10,4-94	11,8-91	12,8-90	13,7-88	14,4-87
	25-50	Performance (kW)	4,4	5,9	7,2	8,3	9,3
		Supply air (°C-% RH)	10,0-94	11,2-92	12,1-90	12,9-88	13,5-87
40 Condensate temperature	11	Performance (kW)	5,0	7,0	8,8	10,4	11,9
		Supply air (°C)	36	34,3	32,9	31,7	30,7
	15	Performance (kW)	4,3	6,0	7,6	8,9	10,2
		Supply air (°C)	36,5	35	33,8	32,8	31,9

Technical data Zehnder Carma 9023 ventilation unit



Performance data for Zehnder Carma 9023 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions							
Water temp. °C / °C	Air inlet temperature °C	Volume flow m ³ /h	600	1200	1600	2000	2400
90 / 70	11	Performance (kW) / supply air (°C)	13,3 / 61	17,9 / 56	21,8 / 52	25,3 / 49	28,5 / 46
		Water quantity (l/h) / water pressure loss (kPa)	590 / 4	790 / 6	960 / 8	1110 / 11	1250 / 12
	15	Performance (kW) / supply air (°C)	12,5 / 62	16,8 / 57	20,5 / 53	23,8 / 51	26,7 / 48
		Water quantity (l/h) / water pressure loss (kPa)	550 / 4	740 / 7	900 / 7	1050 / 10	1180 / 11
80 / 60	11	Performance (kW) / supply air (°C)	11,2 / 53	15,1 / 49	18,3 / 45	21,2 / 43	23,8 / 41
		Water quantity (l/h) / water pressure loss (kPa)	490 / 3	660 / 6	810 / 6	930 / 8	1050 / 10
	15	Performance (kW) / supply air (°C)	10,4 / 54	14,0 / 50	17,0 / 47	19,7 / 44	22,1 / 43
		Water quantity (l/h) / water pressure loss (kPa)	460 / 5	610 / 5	750 / 7	860 / 7	970 / 9
60 / 50	11	Performance (kW) / supply air (°C)	8,4 / 42	11,3 / 39	13,9 / 37	16,1 / 35	18,1 / 34
		Water quantity (l/h) / water pressure loss (kPa)	740 / 7	990 / 9	1210 / 12	1400 / 16	1580 / 17
	15	Performance (kW) / supply air (°C)	7,6 / 44	10,3 / 41	12,5 / 38	14,5 / 37	16,3 / 35
		Water quantity (l/h) / water pressure loss (kPa)	670 / 6	900 / 8	1090 / 11	1270 / 13	1430 / 16
45 / 40	11	Performance (kW) / supply air (°C)	5,8 / 33	7,8 / 30	9,5 / 29	11,0 / 27	12,4 / 26
		Water quantity (l/h) / water pressure loss (kPa)	1008 / 7	1344 / 9	1652 / 12	1918 / 15	2142 / 19
	15	Performance (kW) / supply air (°C)	5,0 / 34	6,7 / 32	8,2 / 30	9,5 / 29	10,6 / 28
		Water quantity (l/h) / water pressure loss (kPa)	868 / 5	1162 / 7	1414 / 10	1638 / 12	1848 / 15

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m ³ /h)	1500		1500			1500				1500		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE037 Heating coil		PREMIUM BE067 Heating coil		INFINITE BE067 Pre-heater + Heating coil		
Performance (kW)	-		6,75			3,75		6,75		6,75 + 6,75		
Temperature on output from the unit (°C)	17,2	16,8	17,2	15,9	18,7	22,1	21,7	20,5	28,4	26,0	24,7	29,7

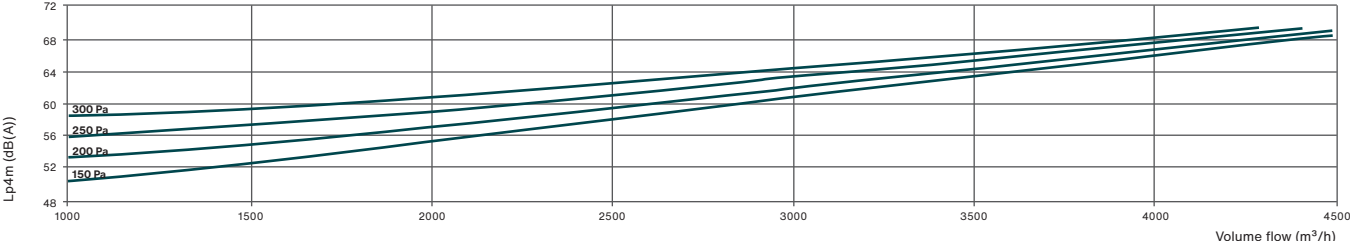
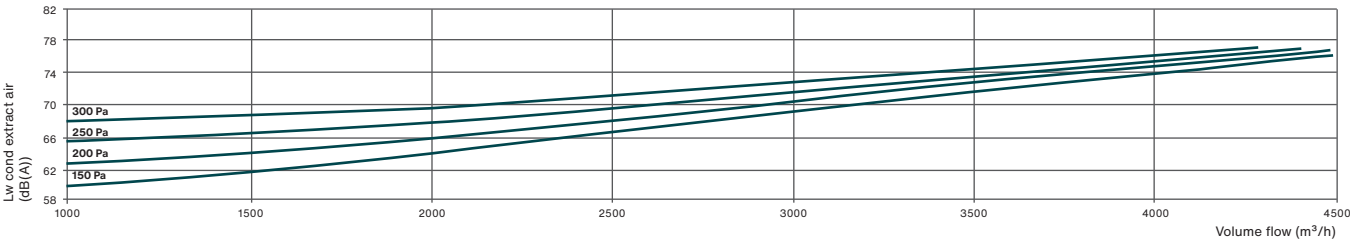
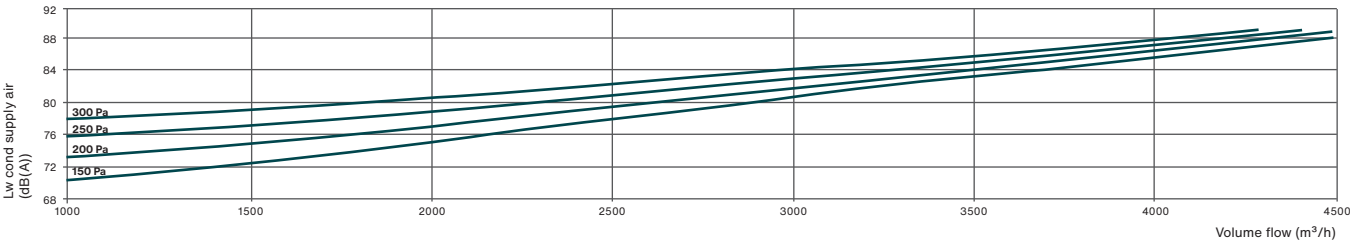
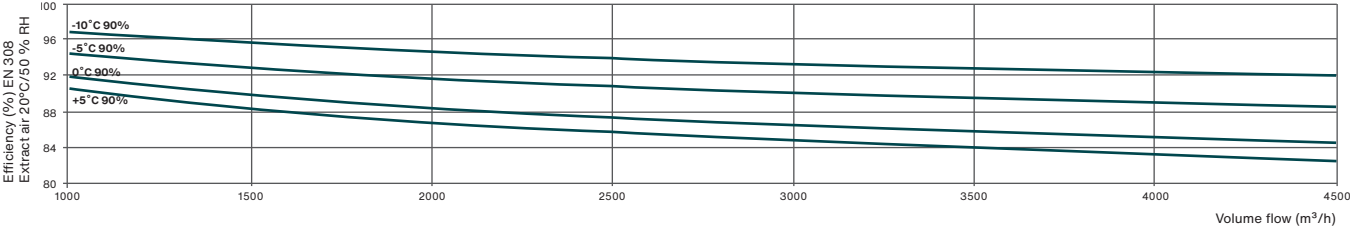
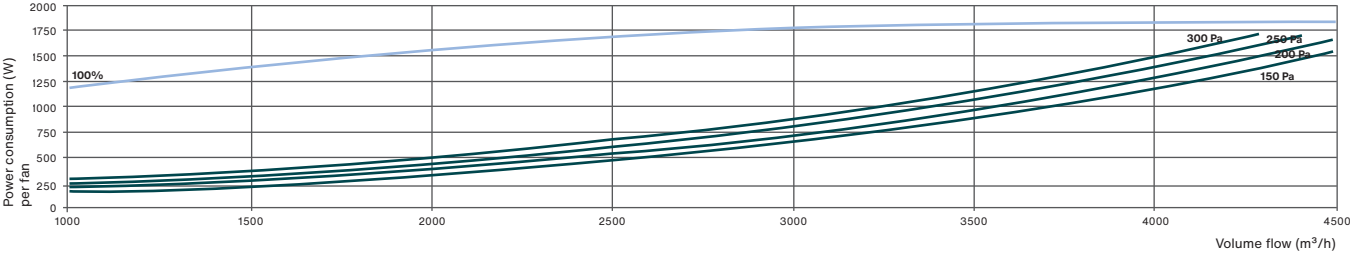
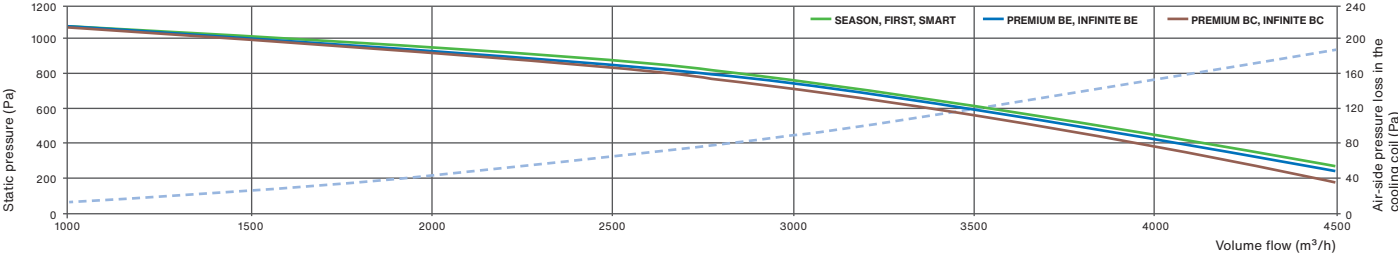
* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9023 cooling coil

CBX 4 BF			Cold water coil module				
Water temp. °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	600	1200	1600	2000	2400
7 / 12	15	Performance (kW) / supply air (°C-% RH)	6,7 / 14,4-87	9,1 / 15,8-84	11,2 / 16,8-81	13,0 / 17,6-79	14,7 / 18,3-78
		Water quantity (l/h) / water pressure loss (kPa)	1150 / 7	1560 / 10	1910 / 15	2230 / 20	2510 / 24
	11	Performance (kW) / supply air (°C-% RH)	5,1 / 13,7-91	6,9 / 14,8-88	8,4 / 15,6-86	9,8 / 16,2-84	11,0 / 16,7-83
		Water quantity (l/h) / water pressure loss (kPa)	880 / 5	1180 / 8	1440 / 11	1670 / 12	1880 / 15
	15	Performance (kW) / supply air (°C-% RH)	3,9 / 13,4-91	5,2 / 14,3-88	6,4 / 15-86	6,5 / 15,4-91	7,3 / 16-87
		Water quantity (l/h) / water pressure loss (kPa)	670 / 5	900 / 6	1090 / 8	1110 / 8	1250 / 8
6 / 11	15	Performance (kW) / supply air (°C-% RH)	7,2 / 13,7-87	9,8 / 15,1-83	12,1 / 16,2-81	14,1 / 17-79	15,9 / 17,7-77
		Water quantity (l/h) / water pressure loss (kPa)	1240 / 8	1680 / 12	2070 / 17	2410 / 23	2720 / 27
	11	Performance (kW) / supply air (°C-% RH)	5,7 / 12,9-90	7,6 / 14,1-88	9,3 / 14,9-86	10,9 / 15,6-84	12,2 / 16,1-83
		Water quantity (l/h) / water pressure loss (kPa)	970 / 7	1310 / 9	1600 / 11	1860 / 14	2090 / 18
	15	Performance (kW) / supply air (°C-% RH)	4,5 / 12,6-91	6,0 / 13,6-88	7,3 / 14,3-86	8,4 / 14,9-84	9,5 / 15,4-83
		Water quantity (l/h) / water pressure loss (kPa)	770 / 4	1030 / 7	1250 / 8	1450 / 11	1630 / 11
45 / 40	11	Performance (kW) / supply air (°C-% RH)	6,8 / 36	9,3 / 34	11,6 / 33	13,6 / 31	15,5 / 30
		Water quantity (l/h) / water pressure loss (kPa)	1176 / 4	1624 / 6	2016 / 9	2366 / 10	2688 / 13
	15	Performance (kW) / supply air (°C-% RH)	5,9 / 37	8,1 / 35	10,0 / 34	11,8 / 33	13,4 / 32
		Water quantity (l/h) / water pressure loss (kPa)	1022 / 5	1400 / 6	1736 / 7	2044 / 10	2324 / 10

CBX 4 BX			Reversible direct evaporator (R410A)				
Water temperature °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	600	1200	1600	2000	2400
7	32-40	Performance (kW)	8,0	10,9	13,3	15,5	17,4
		Supply air (°C-% RH)	11,9-93	13,3-90	14,4-88	15,4-86	16,1-85
	27-50	Performance (kW)	6,4	8,7	10,7	12,3	13,8
		Supply air (°C-% RH)	11,3-95	12,5-93	13,3-91	14,1-90	14,7-88
	25-50	Performance (kW)	5,2	7,1	8,6	10,0	11,2
		Supply air (°C-% RH)	11,0-95	12,0-93	12,7-91	13,4-90	13,9-89
5	32-40	Performance (kW)	9,0	12,2	15,0	17,4	19,5
		Supply air (°C-% RH)	10,3-93	11,9-90	13,2-88	14,2-86	15,1-84
	27-50	Performance (kW)	7,4	10,1	12,3	14,4	16,0
		Supply air (°C-% RH)	9,7-95	11,0-92	12,1-91	12,9-89	13,6-88
	25-50	Performance (kW)	6,2	8,4	10,3	12,0	13,5
		Supply air (°C-% RH)	9,4-95	10,5-93	11,4-91	12,2-90	12,8-88
40 Condensate temperature	11	Performance (kW)	6,9	9,7	12,2	14,5	16,7
		Supply air (°C)	36,6	35,1	33,8	32,7	31,7
	15	Performance (kW)	5,9	8,3	10,5	12,5	14,3
		Supply air (°C)	37	35,7	34,6	33,6	32,8

Technical data Zehnder Carma 9035 ventilation unit



Performance data for Zehnder Carma 9035 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions								
Water temp. °C / °C	Air inlet temperature °C	Volume flow m³/h	1500	2100	2700	3300	3900	4500
90 / 70	11	Performance (kW) / supply air (°C)	23,2 / 57	29,4 / 53	34,8 / 50	39,6 / 47	44,0 / 45	48,0 / 43
		Water quantity (l/h) / water pressure loss (kPa)	1020 / 5	1290 / 6	1530 / 8	1750 / 8	1940 / 10	2110 / 11
	15	Performance (kW) / supply air (°C)	21,8 / 58	27,6 / 54	32,6 / 51	37,2 / 49	41,2 / 47	45,0 / 45
		Water quantity (l/h) / water pressure loss (kPa)	960 / 5	1220 / 5	1440 / 7	1640 / 7	1820 / 9	1980 / 10
80 / 60	11	Performance (kW) / supply air (°C)	19,5 / 50	24,7 / 46	29,2 / 43	33,2 / 41	36,8 / 39	40,1 / 38
		Water quantity (l/h) / water pressure loss (kPa)	860 / 4	1080 / 6	1280 / 6	1460 / 8	1620 / 7	1760 / 8
	15	Performance (kW) / supply air (°C)	18,1 / 51	22,9 / 48	27,0 / 45	30,7 / 43	34,0 / 41	37,1 / 40
		Water quantity (l/h) / water pressure loss (kPa)	800 / 3	1000 / 5	1190 / 5	1350 / 7	1490 / 8	1630 / 7
60 / 50	11	Performance (kW) / supply air (°C)	14,7 / 40	18,6 / 38	22,1 / 35	25,2 / 34	28,0 / 32	30,5 / 31
		Water quantity (l/h) / water pressure loss (kPa)	1280 / 6	1630 / 8	1930 / 10	2200 / 13	2440 / 16	2670 / 17
	15	Performance (kW) / supply air (°C)	13,3 / 41	16,8 / 39	20,0 / 37	22,7 / 36	25,2 / 34	27,5 / 33
		Water quantity (l/h) / water pressure loss (kPa)	1160 / 5	1470 / 8	1740 / 9	1990 / 11	2210 / 13	2410 / 15
45 / 40	11	Performance (kW) / supply air (°C)	10,1 / 31	12,8 / 29	15,1 / 28	17,2 / 27	19,1 / 26	20,8 / 25
		Water quantity (l/h) / water pressure loss (kPa)	1750 / 6	2212 / 7	2618 / 10	2982 / 13	3318 / 16	3626 / 18
	15	Performance (kW) / supply air (°C)	8,7 / 32	11,0 / 31	13,0 / 29	14,8 / 28	16,4 / 28	17,9 / 27
		Water quantity (l/h) / water pressure loss (kPa)	1498 / 6	1904 / 7	2254 / 8	2562 / 10	2842 / 12	3108 / 14

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m³/h)	3500		3500			3500				3500		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE037 Heating coil		PREMIUM BE135 Heating coil		INFINITE BE067 Pre-heater + Heating coil		INFINITE BE135 Pre-heater + Heating coil
Performance (kW)	-		8,25			6,75		13,5		8,25 + 6,75	8,25 + 13,5	
Temperature on output from the unit (°C)	17,1	16,5	13,9	18,8	22,9	22,3	23,4	31,7	23,0	23,0	25,5	33,3

* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9035 cooling coil

CBX 4 BF			Cold water coil module					
Water temp. °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	1500	2100	2700	3300	3900	4500
7 / 12	15	Performance (kW) / supply air (°C-% RH)	13,8 / 13-92	17,9 / 14,1-89	21,6 / 14,9-87	25,0 / 15,6-86	28,0 / 16,2-84	30,9 / 16,7-83
		Water quantity (l/h) / water pressure loss (kPa)	2370 / 9	3070 / 12	3710 / 17	4280 / 20	4810 / 25	5300 / 29
	11	Performance (kW) / supply air (°C-% RH)	10,6 / 12,5-94	13,7 / 13,4-92	16,5 / 14,1-91	18,9 / 14,6-89	21,2 / 15,1-88	23,3 / 15,5-87
		Water quantity (l/h) / water pressure loss (kPa)	1820 / 5	2350 / 9	2820 / 10	3250 / 13	3630 / 16	3990 / 18
	15	Performance (kW) / supply air (°C-% RH)	8,2 / 12,4-94	10,5 / 13,1-92	12,6 / 13,7-91	14,4 / 14,2-90	16,1 / 14,6-89	17,6 / 14,9-88
		Water quantity (l/h) / water pressure loss (kPa)	1410 / 5	1800 / 5	2150 / 7	2470 / 9	2750 / 10	3010 / 11
6 / 11	15	Performance (kW) / supply air (°C-% RH)	14,9 / 12,1-91	19,3 / 13,3-89	23,3 / 14,2-87	26,9 / 14,9-85	30,3 / 15,6-84	33,4 / 16,1-83
		Water quantity (l/h) / water pressure loss (kPa)	2550 / 10	3310 / 14	3990 / 18	4620 / 23	5190 / 28	5730 / 32
	11	Performance (kW) / supply air (°C-% RH)	11,7 / 11,7-94	15,1 / 12,6-92	18,2 / 13,3-90	20,9 / 13,9-89	23,5 / 14,4-88	25,9 / 14,9-87
		Water quantity (l/h) / water pressure loss (kPa)	2000 / 6	2590 / 10	3110 / 12	3590 / 16	4030 / 18	4430 / 21
	15	Performance (kW) / supply air (°C-% RH)	9,3 / 11,5-94	12,0 / 12,3-92	14,3 / 12,9-91	16,4 / 13,5-89	18,4 / 13,9-88	20,2 / 14,3-87
		Water quantity (l/h) / water pressure loss (kPa)	1590 / 4	2050 / 7	2450 / 9	2810 / 10	3150 / 12	3460 / 15
45 / 40	11	Performance (kW) / supply air (°C-% RH)	13,7 / 38	18,1 / 37	22,1 / 35	25,7 / 34	29,1 / 33	32,2 / 32
		Water quantity (l/h) / water pressure loss (kPa)	2394 / 4	3150 / 7	3836 / 8	4466 / 11	5054 / 14	5600 / 15
	15	Performance (kW) / supply air (°C-% RH)	11,9 / 39	15,7 / 37	19,1 / 36	22,2 / 35	25,1 / 34	27,8 / 34
		Water quantity (l/h) / water pressure loss (kPa)	2072 / 5	2730 / 5	3318 / 8	3864 / 8	4368 / 10	4830 / 13

CBX 4 BX			Reversible direct evaporator (R410A)					
Water temperature °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	1500	2100	2700	3300	3900	4500
7	32-40	Performance (kW)	14,3	18,3	21,6	24,6	27,1	29,4
		Supply air (°C-% RH)	12,6-91	13,9-89	14,9-87	15,8-85	16,5-84	17,1-83
	27-50	Performance (kW)	11,5	14,7	17,4	19,8	21,8	23,6
		Supply air (°C-% RH)	11,8-94	12,9-92	13,7-90	14,4-89	15,0-88	15,5-87
	25-50	Performance (kW)	9,4	12,0	14,1	16,1	17,8	19,3
		Supply air (°C-% RH)	11,4-94	12,3-92	13,0-91	13,6-89	14,1-88	14,5-87
5	32-40	Performance (kW)	16,1	20,5	24,3	27,5	30,4	32,8
		Supply air (°C-% RH)	11,1-91	12,6-89	13,8-87	14,8-85	15,6-84	16,3-82
	27-50	Performance (kW)	13,2	16,9	20,0	22,8	25,2	27,2
		Supply air (°C-% RH)	10,4-93	11,5-91	12,5-90	13,3-89	14,0-88	14,5-87
	25-50	Performance (kW)	11,2	14,2	16,8	19,1	21,2	23,0
		Supply air (°C-% RH)	9,9-94	10,9-92	11,8-90	12,5-89	13,0-88	13,5-87
40 Condensate temperature	11	Performance (kW)	12,5	16,5	20,1	23,5	26,6	29,5
		Supply air (°C)	35,9	34,5	33,3	32,2	31,4	30,6
	15	Performance (kW)	10,7	14,2	17,3	20,2	22,8	25,3
		Supply air (°C)	36,4	35,2	34,1	33,2	32,5	31,8

Performance data for Zehnder Carma 9035 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions									
Water temp. °C / °C	Air inlet temperature °C	Volume flow m³/h	1500	2100	2700	3300	3900	4500	
90 / 70	11	Performance (kW) / supply air (°C)	23,2 / 57	29,4 / 53	34,8 / 50	39,6 / 47	44,0 / 45	48,0 / 43	
		Water quantity (l/h) / water pressure loss (kPa)	1020 / 5	1290 / 6	1530 / 8	1750 / 8	1940 / 10	2110 / 11	
	15	Performance (kW) / supply air (°C)	21,8 / 58	27,6 / 54	32,6 / 51	37,2 / 49	41,2 / 47	45,0 / 45	
		Water quantity (l/h) / water pressure loss (kPa)	960 / 5	1220 / 5	1440 / 7	1640 / 7	1820 / 9	1980 / 10	
80 / 60	11	Performance (kW) / supply air (°C)	19,5 / 50	24,7 / 46	29,2 / 43	33,2 / 41	36,8 / 39	40,1 / 38	
		Water quantity (l/h) / water pressure loss (kPa)	860 / 4	1080 / 6	1280 / 6	1460 / 8	1620 / 7	1760 / 8	
	15	Performance (kW) / supply air (°C)	18,1 / 51	22,9 / 48	27,0 / 45	30,7 / 43	34,0 / 41	37,1 / 40	
		Water quantity (l/h) / water pressure loss (kPa)	800 / 3	1000 / 5	1190 / 5	1350 / 7	1490 / 8	1630 / 7	
60 / 50	11	Performance (kW) / supply air (°C)	14,7 / 40	18,6 / 38	22,1 / 35	25,2 / 34	28,0 / 32	30,5 / 31	
		Water quantity (l/h) / water pressure loss (kPa)	1280 / 6	1630 / 8	1930 / 10	2200 / 13	2440 / 16	2670 / 17	
	15	Performance (kW) / supply air (°C)	13,3 / 41	16,8 / 39	20,0 / 37	22,7 / 36	25,2 / 34	27,5 / 33	
		Water quantity (l/h) / water pressure loss (kPa)	1160 / 5	1470 / 8	1740 / 9	1990 / 11	2210 / 13	2410 / 15	
45 / 40	11	Performance (kW) / supply air (°C)	10,1 / 31	12,8 / 29	15,1 / 28	17,2 / 27	19,1 / 26	20,8 / 25	
		Water quantity (l/h) / water pressure loss (kPa)	1750 / 6	2212 / 7	2618 / 10	2982 / 13	3318 / 16	3626 / 18	
	15	Performance (kW) / supply air (°C)	8,7 / 32	11,0 / 31	13,0 / 29	14,8 / 28	16,4 / 28	17,9 / 27	
		Water quantity (l/h) / water pressure loss (kPa)	1498 / 6	1904 / 7	2254 / 8	2562 / 10	2842 / 12	3108 / 14	

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m³/h)	3500		3500			3500				3500		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE037 Heating coil		PREMIUM BE135 Heating coil		INFINITE BE067 Pre-heater + Heating coil	INFINITE BE135 Pre-heater + Heating coil	
Performance (kW)	-		8,25			6,75		13,5		8,25 + 6,75	8,25 + 13,5	
Temperature on output from the unit (°C)	17,1	16,5	13,9	18,8	22,9	22,3	23,4	31,7	23,0	23,0	25,5	33,3

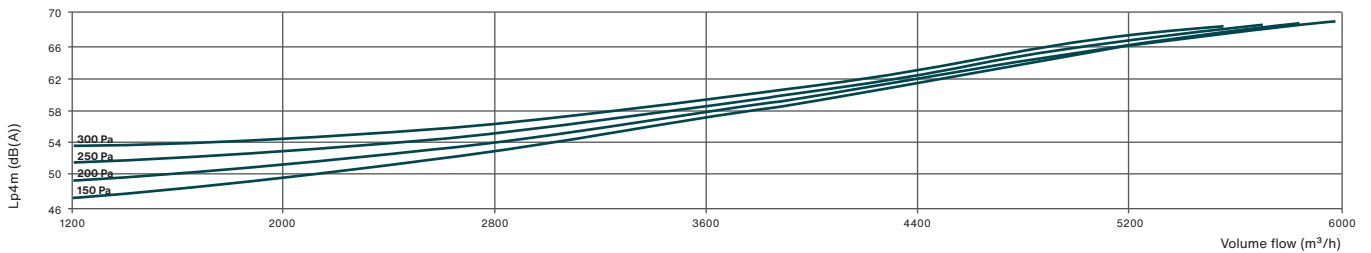
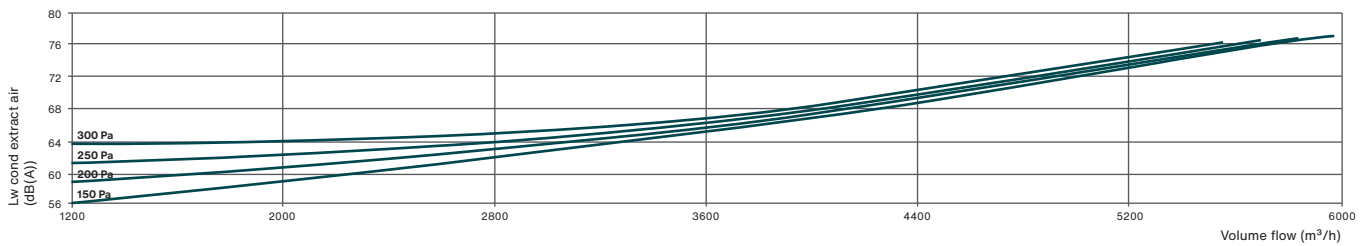
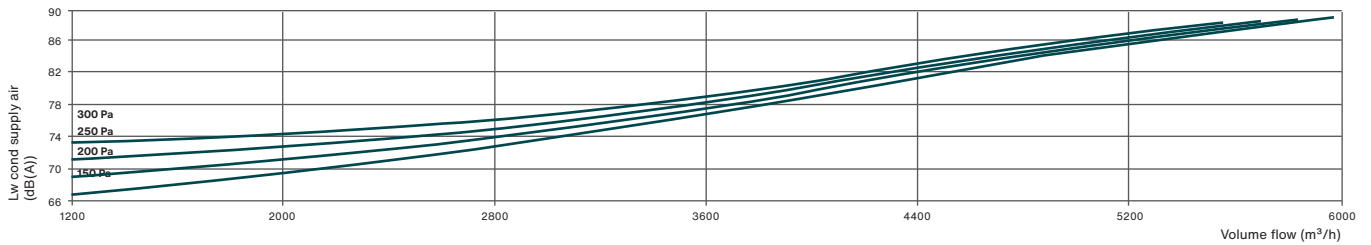
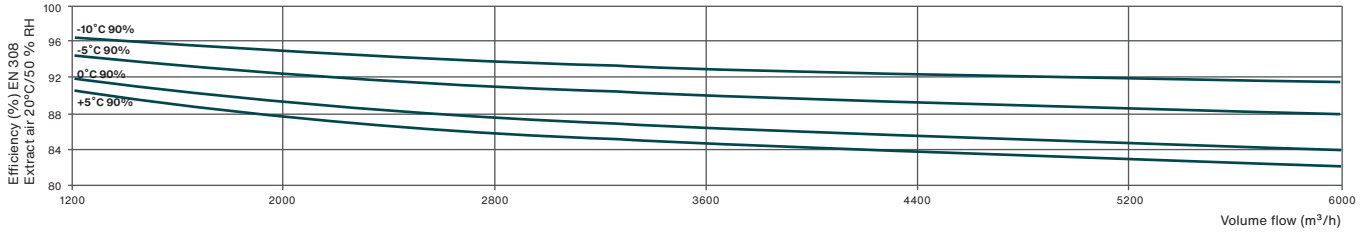
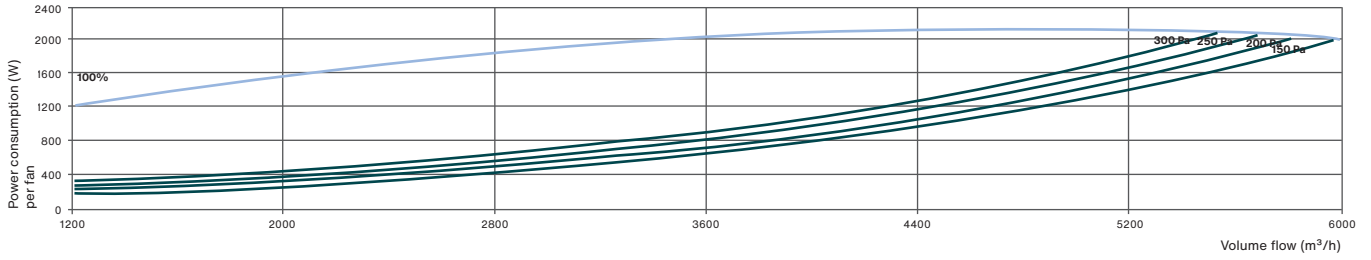
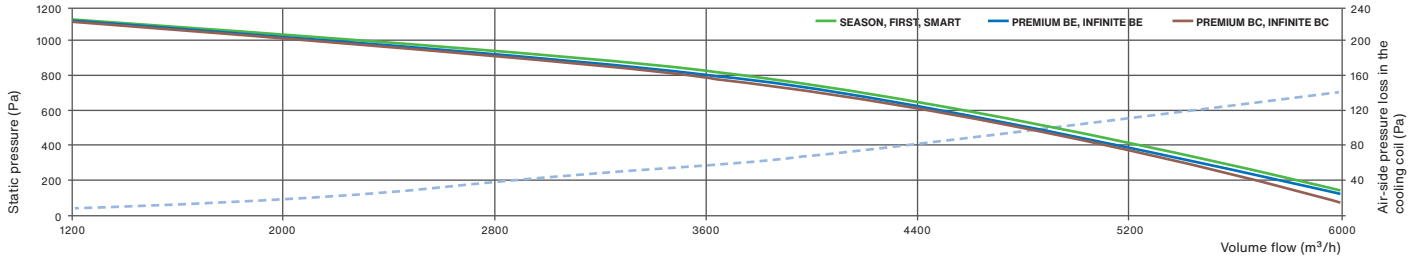
* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9035 cooling coil

CBX 4 BF			Cold water coil module					
Water temp. °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	1500	2100	2700	3300	3900	4500
7 / 12	15	Performance (kW) / supply air (°C-% RH)	13,8 / 13-92	17,9 / 14,1-89	21,6 / 14,9-87	25,0 / 15,6-86	28,0 / 16,2-84	30,9 / 16,7-83
		Water quantity (l/h) / water pressure loss (kPa)	2370 / 9	3070 / 12	3710 / 17	4280 / 20	4810 / 25	5300 / 29
	11	Performance (kW) / supply air (°C-% RH)	10,6 / 12,5-94	13,7 / 13,4-92	16,5 / 14,1-91	18,9 / 14,6-89	21,2 / 15,1-88	23,3 / 15,5-87
		Water quantity (l/h) / water pressure loss (kPa)	1820 / 5	2350 / 9	2820 / 10	3250 / 13	3630 / 16	3990 / 18
	15	Performance (kW) / supply air (°C-% RH)	8,2 / 12,4-94	10,5 / 13,1-92	12,6 / 13,7-91	14,4 / 14,2-90	16,1 / 14,6-89	17,6 / 14,9-88
		Water quantity (l/h) / water pressure loss (kPa)	1410 / 5	1800 / 5	2150 / 7	2470 / 9	2750 / 10	3010 / 11
6 / 11	15	Performance (kW) / supply air (°C-% RH)	14,9 / 12,1-91	19,3 / 13,3-89	23,3 / 14,2-87	26,9 / 14,9-85	30,3 / 15,6-84	33,4 / 16,1-83
		Water quantity (l/h) / water pressure loss (kPa)	2550 / 10	3310 / 14	3990 / 18	4620 / 23	5190 / 28	5730 / 32
	11	Performance (kW) / supply air (°C-% RH)	11,7 / 11,7-94	15,1 / 12,6-92	18,2 / 13,3-90	20,9 / 13,9-89	23,5 / 14,4-88	25,9 / 14,9-87
		Water quantity (l/h) / water pressure loss (kPa)	2000 / 6	2590 / 10	3110 / 12	3590 / 16	4030 / 18	4430 / 21
	15	Performance (kW) / supply air (°C-% RH)	9,3 / 11,5-94	12,0 / 12,3-92	14,3 / 12,9-91	16,4 / 13,5-89	18,4 / 13,9-88	20,2 / 14,3-87
		Water quantity (l/h) / water pressure loss (kPa)	1590 / 4	2050 / 7	2450 / 9	2810 / 10	3150 / 12	3460 / 15
45 / 40	11	Performance (kW) / supply air (°C-% RH)	13,7 / 38	18,1 / 37	22,1 / 35	25,7 / 34	29,1 / 33	32,2 / 32
		Water quantity (l/h) / water pressure loss (kPa)	2394 / 4	3150 / 7	3836 / 8	4466 / 11	5054 / 14	5600 / 15
	15	Performance (kW) / supply air (°C-% RH)	11,9 / 39	15,7 / 37	19,1 / 36	22,2 / 35	25,1 / 34	27,8 / 34
		Water quantity (l/h) / water pressure loss (kPa)	2072 / 5	2730 / 5	3318 / 8	3864 / 8	4368 / 10	4830 / 13

CBX 4 BX			Reversible direct evaporator (R410A)					
Water temperature °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	1500	2100	2700	3300	3900	4500
7	32-40	Performance (kW)	14,3	18,3	21,6	24,6	27,1	29,4
		Supply air (°C-% RH)	12,6-91	13,9-89	14,9-87	15,8-85	16,5-84	17,1-83
	27-50	Performance (kW)	11,5	14,7	17,4	19,8	21,8	23,6
		Supply air (°C-% RH)	11,8-94	12,9-92	13,7-90	14,4-89	15,0-88	15,5-87
	25-50	Performance (kW)	9,4	12,0	14,1	16,1	17,8	19,3
		Supply air (°C-% RH)	11,4-94	12,3-92	13,0-91	13,6-89	14,1-88	14,5-87
5	32-40	Performance (kW)	16,1	20,5	24,3	27,5	30,4	32,8
		Supply air (°C-% RH)	11,1-91	12,6-89	13,8-87	14,8-85	15,6-84	16,3-82
	27-50	Performance (kW)	13,2	16,9	20,0	22,8	25,2	27,2
		Supply air (°C-% RH)	10,4-93	11,5-91	12,5-90	13,3-89	14,0-88	14,5-87
	25-50	Performance (kW)	11,2	14,2	16,8	19,1	21,2	23,0
		Supply air (°C-% RH)	9,9-94	10,9-92	11,8-90	12,5-89	13,0-88	13,5-87
40 Condensate temperature	11	Performance (kW)	12,5	16,5	20,1	23,5	26,6	29,5
		Supply air (°C)	35,9	34,5	33,3	32,2	31,4	30,6
	15	Performance (kW)	10,7	14,2	17,3	20,2	22,8	25,3
		Supply air (°C)	36,4	35,2	34,1	33,2	32,5	31,8

Technical data Zehnder Carma 9048 ventilation unit



Performance data for Zehnder Carma 9048 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions								
Water temp. °C / °C	Air inlet temperature °C	Volume flow m ³ /h	2000	2800	3600	4400	5200	6000
90 / 70	11	Performance (kW) / supply air (°C)	32,3 / 59	41,3 / 55	49,1 / 52	56,2 / 49	62,6 / 47	68,4 / 45
		Water quantity (l/h) / water pressure loss (kPa)	1430 / 4	1820 / 4	2160 / 5	2470 / 6	2760 / 6	3020 / 7
	15	Performance (kW) / supply air (°C)	30,4 / 60	38,7 / 56	46,1 / 53	52,6 / 51	58,7 / 49	64,2 / 47
		Water quantity (l/h) / water pressure loss (kPa)	1340 / 4	1710 / 3	2030 / 4	2320 / 6	2590 / 7	2830 / 6
80 / 60	11	Performance (kW) / supply air (°C)	27,2 / 52	34,7 / 48	41,2 / 45	47,0 / 43	52,3 / 41	57,1 / 39
		Water quantity (l/h) / water pressure loss (kPa)	1200 / 3	1520 / 5	1810 / 4	2060 / 5	2300 / 6	2510 / 7
	15	Performance (kW) / supply air (°C)	25,3 / 53	32,1 / 49	38,1 / 47	43,5 / 45	48,4 / 43	52,9 / 41
		Water quantity (l/h) / water pressure loss (kPa)	1110 / 4	1410 / 4	1670 / 3	1910 / 4	2130 / 5	2320 / 6
60 / 50	11	Performance (kW) / supply air (°C)	20,5 / 42	26,2 / 39	31,2 / 37	35,7 / 35	39,8 / 34	43,5 / 33
		Water quantity (l/h) / water pressure loss (kPa)	1790 / 4	2290 / 6	2720 / 6	3120 / 8	3470 / 10	3800 / 12
	15	Performance (kW) / supply air (°C)	18,5 / 43	23,7 / 40	28,2 / 38	32,2 / 37	35,9 / 36	39,3 / 35
		Water quantity (l/h) / water pressure loss (kPa)	1620 / 3	2070 / 5	2460 / 7	2810 / 7	3130 / 8	3430 / 10
45 / 40	11	Performance (kW) / supply air (°C)	14,0 / 32	17,9 / 30	21,3 / 29	24,4 / 28	27,2 / 27	29,7 / 26
		Water quantity (l/h) / water pressure loss (kPa)	2436 / 4	3108 / 6	3696 / 6	4228 / 8	4718 / 10	5166 / 12
	15	Performance (kW) / supply air (°C)	12,1 / 33	15,4 / 31	18,3 / 30	20,9 / 29	23,3 / 28	25,4 / 28
		Water quantity (l/h) / water pressure loss (kPa)	2100 / 5	2674 / 4	3178 / 6	3626 / 8	4046 / 7	4424 / 9

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m ³ /h)	4800		4800			4800				4800		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE037 Heating coil		PREMIUM BE135 Heating coil		INFINITE BE067 Pre-heater + Heating coil		INFINITE BE135 Pre-heater + Heating coil
Performance (kW)	-		18			6,75		13,5		18 + 6,75		18 + 13,5
Temperature on output from the unit (°C)	17,0	16,4	17,0	16,4	18,4	21,2	20,6	20,3	27,8	21,2	25,6	28,9

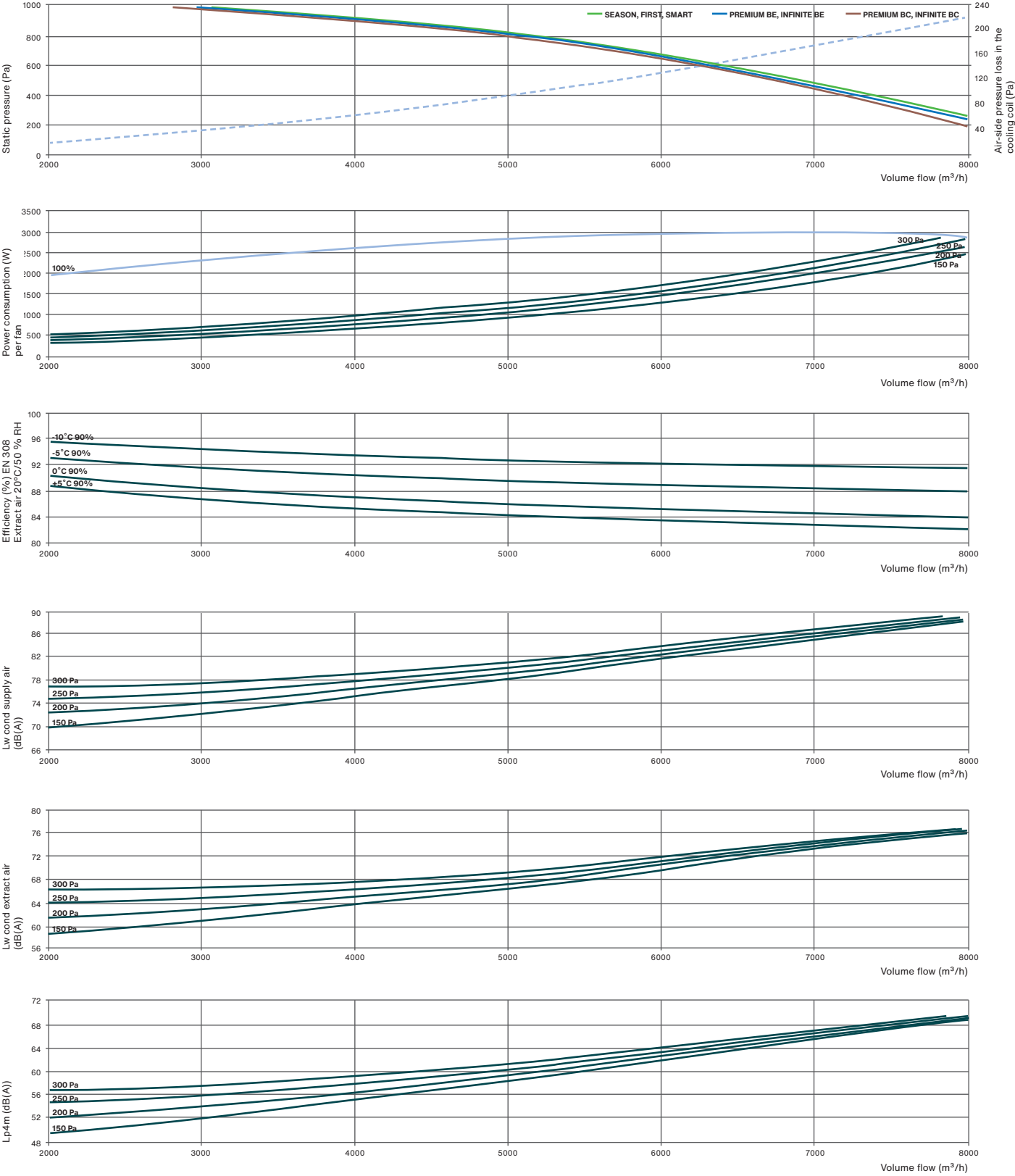
* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9048 cooling coil

CBX 4 BF			Cold water coil module					
Water temp. °C / °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	2000	2800	3600	4400	5200	6000
7 / 12	15	Performance (kW) / supply air (°C-% RH)	19,1 / 12,5-93	24,9 / 13,5-90	30,1 / 14,4-89	34,9 / 15-87	39,3 / 15,6-86	43,5 / 16,1-84
		Water quantity (l/h) / water pressure loss (kPa)	3270 / 7	4270 / 10	5160 / 13	5980 / 15	6740 / 19	7450 / 23
	11	Performance (kW) / supply air (°C-% RH)	14,7 / 12,1-95	19,1 / 13-93	23,0 / 13,6-92	26,6 / 14,2-90	29,9 / 14,6-89	32,9 / 15,1-88
		Water quantity (l/h) / water pressure loss (kPa)	2520 / 6	3270 / 7	3940 / 10	4550 / 11	5120 / 13	5630 / 14
	15	Performance (kW) / supply air (°C-% RH)	11,4 / 12-95	14,7 / 12,7-93	17,6 / 13,3-92	20,3 / 13,8-91	22,7 / 14,2-90	24,9 / 14,5-89
		Water quantity (l/h) / water pressure loss (kPa)	1960 / 4	2520 / 6	3020 / 6	3470 / 8	3890 / 9	4280 / 10
6 / 11	15	Performance (kW) / supply air (°C-% RH)	20,5 / 11,6-93	26,8 / 12,7-90	32,4 / 13,6-88	37,6 / 14,3-87	42,4 / 14,9-85	46,9 / 15,5-84
		Water quantity (l/h) / water pressure loss (kPa)	3510 / 8	4590 / 11	5560 / 15	6450 / 18	7280 / 22	8050 / 26
	11	Performance (kW) / supply air (°C-% RH)	16,1 / 11,2-95	21,0 / 12,1-93	25,3 / 12,8-91	29,3 / 13,4-90	33,0 / 13,9-89	36,4 / 14,4-88
		Water quantity (l/h) / water pressure loss (kPa)	2770 / 5	3590 / 8	4340 / 10	5020 / 13	5660 / 14	6240 / 17
	15	Performance (kW) / supply air (°C-% RH)	12,9 / 11,1-95	16,7 / 11,9-93	20,0 / 12,5-92	23,1 / 13-90	25,9 / 13,5-89	28,5 / 13,8-88
		Water quantity (l/h) / water pressure loss (kPa)	2210 / 5	2850 / 5	3430 / 7	3950 / 10	4440 / 10	4880 / 12
45 / 40	11	Performance (kW) / supply air (°C-% RH)	18,8 / 39	24,9 / 38	30,5 / 36	35,6 / 35	40,4 / 34	44,9 / 33
		Water quantity (l/h) / water pressure loss (kPa)	3262 / 5	4326 / 5	5292 / 8	6188 / 9	7028 / 11	7798 / 13
	15	Performance (kW) / supply air (°C-% RH)	16,4 / 39	21,6 / 38	26,4 / 37	30,8 / 36	35,0 / 35	38,8 / 34
		Water quantity (l/h) / water pressure loss (kPa)	2842 / 4	3752 / 4	4592 / 6	5362 / 8	6076 / 8	6748 / 10

CBX 4 BX			Reversible direct evaporator (R410A)					
Water temperature °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	2000	2800	3600	4400	5200	6000
7	32-40	Performance (kW)	19,9	25,6	30,4	34,6	38,3	41,5
		Supply air (°C-% RH)	12,0-92	13,2-90	14,3-88	15,2-87	15,9-85	16,5-84
	27-50	Performance (kW)	16,00	20,6	24,6	28,0	31,0	33,7
		Supply air (°C-% RH)	11,3-94	12,3-93	13,1-91	13,8-90	14,4-89	14,9-88
	25-50	Performance (kW)	13,2	16,9	20,2	23,0	25,5	27,8
		Supply air (°C-% RH)	10,9-95	11,8-93	12,5-91	13,1-90	13,6-89	14,0-88
5	32-40	Performance (kW)	22,2	28,5	33,9	38,6	42,7	46,1
		Supply air (°C-% RH)	10,5-92	12,0-90	13,1-88	14,1-86	14,9-85	15,7-84
	27-50	Performance (kW)	18,4	23,6	28,1	32,1	35,5	38,6
		Supply air (°C-% RH)	9,8-94	10,9-92	11,9-91	12,7-90	13,4-89	14,0-88
	25-50	Performance (kW)	15,5	20,0	23,8	27,2	30,2	32,8
		Supply air (°C-% RH)	9,3-94	10,3-93	11,2-91	11,9-90	12,5-89	13,0-88
40 Condensate temperature	11	Performance (kW)	17,1	22,7	27,8	32,6	37,0	41,2
		Supply air (°C)	36,5	35,2	34,1	33,1	32,3	31,5
	15	Performance (kW)	14,7	19,5	23,9	28,0	31,8	35,4
		Supply air (°C)	36,9	35,8	34,8	34	33,2	32,6

Technical data Zehnder Carma 9070 ventilation unit



Performance data for Zehnder Carma 9070 heating coil

BC for PREMIUM and INFINITE hot water coil unit versions								
Water temp. °C / °C	Air inlet temperature °C	Volume flow m³/h	3000	4000	5000	6000	7000	8000
90 / 70	11	Performance (kW) / supply air (°C)	43,9 / 55	52,4 / 50	59,6 / 47	65,9 / 44	71,5 / 42	76,5 / 40
		Water quantity (l/h) / water pressure loss (kPa)	1940 / 10	2310 / 14	2630 / 18	2900 / 20	3150 / 23	3370 / 26
	15	Performance (kW) / supply air (°C)	41,3 / 56	49,3 / 52	56,0 / 49	61,9 / 46	67,1 / 44	71,8 / 42
		Water quantity (l/h) / water pressure loss (kPa)	1820 / 9	2170 / 13	2470 / 16	2730 / 17	2960 / 20	3160 / 23
80 / 60	11	Performance (kW) / supply air (°C)	37,2 / 48	44,3 / 44	50,4 / 41	55,6 / 39	60,3 / 37	64,5 / 35
		Water quantity (l/h) / water pressure loss (kPa)	1630 / 8	1950 / 11	2210 / 13	2440 / 16	2650 / 17	2830 / 19
	15	Performance (kW) / supply air (°C)	34,6 / 49	41,2 / 46	46,8 / 43	51,6 / 41	55,9 / 39	59,8 / 37
		Water quantity (l/h) / water pressure loss (kPa)	1520 / 8	1810 / 9	2050 / 12	2270 / 14	2460 / 16	2630 / 18
60 / 50	11	Performance (kW) / supply air (°C)	27,8 / 39	33,3 / 36	37,9 / 34	41,9 / 32	45,5 / 30	48,7 / 29
		Water quantity (l/h) / water pressure loss (kPa)	2430 / 16	2910 / 21	3310 / 27	3660 / 32	3970 / 37	4260 / 41
	15	Performance (kW) / supply air (°C)	25,2 / 40	30,1 / 38	34,3 / 36	37,9 / 34	41,2 / 33	44,1 / 31
		Water quantity (l/h) / water pressure loss (kPa)	2210 / 14	2630 / 19	3000 / 22	3320 / 27	3600 / 31	3850 / 35
45 / 40	11	Performance (kW) / supply air (°C)	19,2 / 30	22,9 / 28	26,0 / 27	28,8 / 25	31,2 / 24	33,4 / 24
		Water quantity (l/h) / water pressure loss (kPa)	3332 / 16	3976 / 21	4522 / 26	4998 / 32	5432 / 37	5810 / 40
	15	Performance (kW) / supply air (°C)	16,6 / 32	19,8 / 30	22,5 / 28	24,8 / 27	26,9 / 27	28,8 / 26
		Water quantity (l/h) / water pressure loss (kPa)	2870 / 13	3430 / 17	3906 / 20	4312 / 24	4676 / 28	5012 / 32

BE for SMART, PREMIUM and INFINITE electrical coil unit versions												
Outdoor air	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m³/h)	7000		7000			7000				7000		
Unit version	FIRST, SEASON		SMART Pre-heater			PREMIUM BE105 Heating coil		PREMIUM BE157 Heating coil		INFINITE BE105 Pre-heater + Heating coil		INFINITE BE157 Pre-heater + Heating coil
Performance (kW)	-		24,75			10,5		15,75		24,75 + 10,5		24,75 + 15,75
Temperature on output from the unit (°C)	16,9	16,3	16,9	16,3	18,3	21,4	20,8	18,8	25,5	21,4	23,8	26,7

* If the volume flow is reduced by 20 %

Performance data for Zehnder Carma 9070 cooling coil

CBX 4 BF			Cold water coil module					
Water temp. °C / °C	Air inlet temperature °C-%r.F.	Volume flow m ³ /h	2000	2800	3600	4400	5200	6000
7 / 12	15	Performance (kW) / supply air (°C-% RH)	27,8 / 12,9-93	34,7 / 13,7-91	41,1 / 14,5-89	47,0 / 15,1-88	52,5 / 15,6-86	57,7 / 16,1-85
		Water quantity (l/h) / water pressure loss (kPa)	4760 / 5	5950 / 5	7050 / 7	8060 / 9	9000 / 11	9890 / 12
	11	Performance (kW) / supply air (°C-% RH)	21,2 / 12,5-95	26,4 / 13,2-93	31,2 / 13,8-92	35,5 / 14,3-91	39,5 / 14,7-90	43,3 / 15,1-89
		Water quantity (l/h) / water pressure loss (kPa)	3640 / 4	4530 / 5	5350 / 6	6080 / 6	6770 / 7	7420 / 8
	15	Performance (kW) / supply air (°C-% RH)	16,3 / 12,4-95	20,2 / 13-93	23,7 / 13,5-92	26,8 / 13,9-91	29,7 / 14,3-90	32,5 / 14,6-89
		Water quantity (l/h) / water pressure loss (kPa)	2790 / 3	3460 / 4	4060 / 4	4600 / 5	5100 / 6	5570 / 7
6 / 11	15	Performance (kW) / supply air (°C-% RH)	29,8 / 12-92	37,5 / 12,9-90	44,4 / 13,7-89	50,8 / 14,3-87	56,8 / 14,9-86	62,4 / 15,4-85
		Water quantity (l/h) / water pressure loss (kPa)	5120 / 6	6420 / 6	7610 / 8	8710 / 11	9740 / 13	10700 / 14
	11	Performance (kW) / supply air (°C-% RH)	23,4 / 11,6-95	29,2 / 12,4-93	34,5 / 13-92	39,4 / 13,5-91	43,9 / 14-90	48,1 / 14,4-89
		Water quantity (l/h) / water pressure loss (kPa)	4010 / 4	5000 / 5	5910 / 5	6750 / 7	7520 / 8	8250 / 10
	15	Performance (kW) / supply air (°C-% RH)	18,5 / 11,4-95	23,0 / 12,1-93	27,0 / 12,7-92	30,7 / 13,1-91	34,2 / 13,5-90	37,4 / 13,9-89
		Water quantity (l/h) / water pressure loss (kPa)	3170 / 3	3930 / 5	4630 / 5	5270 / 6	5860 / 5	6410 / 6
45 / 40	11	Performance (kW) / supply air (°C-% RH)	27,9 / 39	35,4 / 37	42,3 / 36	48,9 / 35	55,0 / 34	60,7 / 34
		Water quantity (l/h) / water pressure loss (kPa)	4844 / 4	6146 / 4	7364 / 5	8484 / 5	9548 / 6	10556 / 7
	15	Performance (kW) / supply air (°C-% RH)	24,2 / 39	30,7 / 38	36,7 / 37	42,2 / 36	47,5 / 35	52,4 / 35
		Water quantity (l/h) / water pressure loss (kPa)	4200 / 3	5334 / 4	6370 / 4	7336 / 5	8246 / 5	9100 / 5

CBX 4 BX			Reversible direct evaporator (R410A)					
Water temperature °C	Air inlet temperature °C-% r.F.	Volume flow m ³ /h	2000	2800	3600	4400	5200	6000
7	32-40	Performance (kW)	29,8	37,1	43,3	49,0	53,9	58,2
		Supply air (°C-% RH)	12,0-92	13,0-90	14,0-89	14,7-87	15,4-86	16,0-85
	27-50	Performance (kW)	24,1	30,0	35,1	39,6	43,6	47,4
		Supply air (°C-% RH)	11,3-94	12,1-93	12,8-92	13,5-90	14,0-90	14,5-89
	25-50	Performance (kW)	19,8	24,6	28,7	32,5	35,9	39,0
		Supply air (°C-% RH)	10,9-95	11,6-93	12,3-92	12,8-91	13,2-90	13,6-89
5	32-40	Performance (kW)	33,3	41,4	48,3	54,5	60,0	64,9
		Supply air (°C-% RH)	10,5-92	11,7-90	12,8-88	13,6-87	14,4-86	15,1-85
	27-50	Performance (kW)	27,6	34,3	40,0	45,3	49,8	54,1
		Supply air (°C-% RH)	9,8-94	10,7-92	11,6-91	12,3-90	13,0-89	13,5-88
	25-50	Performance (kW)	23,3	28,9	33,9	38,3	42,4	45,8
		Supply air (°C-% RH)	9,3-94	10,2-93	10,9-91	11,6-90	12,1-89	12,6-89
40 Condensate temperature	11	Performance (kW)	25,5	32,6	39,1	45,2	51,0	56,4
		Supply air (°C)	36,4	35,3	34,4	33,5	32,7	32,1
	15	Performance (kW)	22,0	28,0	33,6	38,9	43,8	48,4
		Supply air (°C)	36,9	35,9	35,1	34,3	33,7	33,1

Unit name

1	2	3	4	5
Zehnder Carma	9008	L - P - W - Y D - E - F - G	SEASON FIRST SMART PREMIUM BC / BExxx INFINITE BC / BExxx	ECO MAC DIVA QUATTRO LOBBY

1: Highly efficient, self-regulating ventilation unit with heat recovery repetition

2: Size of the ventilation unit (examples):

9008: Efficiency 90 % at 800 m3/h

9035: Efficiency 90 % at 3,500 m3/h

3: Configuration of the ventilation unit:

L - P = horizontal installation (except 9048 and 9070),

W - Y = vertical installation (except 9070),

D - E - F - G = vertical installation (only 9070)

4: Unit version of the ventilation unit:

SEASON = Ventilation unit without controller, with potentiometer for speed control.

Bypass 100 % summer/winter in on/off mode

FIRST = Self-regulating ventilation unit without integrated coil

SMART = Self-regulating ventilation unit with electric pre-heating coil

PREMIUM BC = Ventilation unit with water-operated post-heating coil and associated controller

PREMIUM BExxx = Ventilation unit with electric post-heating coil and associated controller

INFINITE BC = Ventilation unit with electric pre-heating coil and water-operated post-heating coil and associated controller

INFINITE BExxx = Ventilation unit with electric pre-heating coil and electric post-heating coil and associated controller

For BE unit versions, xxx corresponds to the desired performance of the electric post-heating coil according to the technical data tables (page 168):

BE025 = 2.50 single-phase

BE037 = 3.75 single-phase

BE052 = 5.25 three-phase

BE067 = 6.75 three-phase

BE082 = 8.25 three-phase

BE105 = 10.5 three-phase

BE135 = 13.5 three-phase

BE157 = 15.75 three-phase

(Since the electrical output of the pre-heating coil is determined by the size of the ventilation unit, it is not specified in the designation.)

5: Operating modes:

ECO = Choice of 1 or 2 speeds per fan

MAC = Choice of 1 or 2 constant volume flows per fan

DIVA = Demand-dependent ventilation between 2 speeds per fan

QUATTRO = Demand-dependent constant airflow control per fan

LOBBY = Ventilation with constant pressure per fan (see p. 172)












Note: Neither the unit version of a Zehnder Carma ventilation unit nor the type of coil or its performance can be changed on site.

Example: A FIRST unit version cannot be converted into a PREMIUM unit version.







Zehnder Carma 9035 L PREMIUM BE067 cannot be converted to Zehnder Carma 9035 L PREMIUM BE137 or Zehnder Carma 9035 L PREMIUM BC.

Options




Climate

	Humidity sensor (for duct installation) Signal 0-10 V (Not compatible with SEASON unit)
	SUMMER/WINTER reversing thermostat For FIRST and SMART unit versions in conjunction with a Combibox Concept external module
	Cold water module (CBX BF) Duct installation or direct installation on the ventilation unit - except 9070 which is duct installation only (see Combibox Concept documentation). Not compatible with SEASON unit
	Cold water module (CBX FC) Duct installation or direct installation on the ventilation unit - except 9070 which is duct installation only (see Combibox Concept documentation). Not compatible with SEASON unit
	Direct vaporisation module R410A (CBX DX) Duct installation or direct installation on the ventilation unit - except 9070 which is duct installation only (see Combibox Concept documentation). Not compatible with SEASON unit
	Direct vaporisation module R410A (CBX FX) Duct installation or direct installation on the ventilation unit - except 9070 which is duct installation only (see Combibox Concept documentation). Not compatible with SEASON unit
	Humidity sensor for room installation (HR 010 SA) Signal 0-10 V (Not compatible with SEASON unit)
	Dehumidification module Duct installation (see Combibox Concept documentation). Not compatible with SEASON unit
	Multi-leaf damper Frost protection. Leakage classification 4
	ON/OFF actuator Controlled via EASY controller (except SEASON)
	Magnetic valve set PREMIUM/INFINITE BC unit versions







Control

	TOUCH control unit Not compatible with SEASON unit. Max. 100 m
	LED control unit Not compatible with SEASON unit. Max. 100 m
	Repeater Not compatible with SEASON unit. Remote control/display repeater which can be used when there is a need for remote display. Using the RS485 port it can address up to 6 connected units (wired).
	Multifunctional connection box For combination with the LOBBY flow rate modulation unit versions (constant pressure). In addition to controlling the distribution, the controller communicates with the Zehnder Carma ventilation unit (except SEASON), especially for the Free Cooling / Night Cooling functions.
	Monofunctional connection box (SYSTEM TOP) On/off connection box to be connected with the LOBBY discharge capacity modulation unit versions (constant pressure).
	Monofunctional connection box (SYSTEM DIVA) Modulating connection box to be connected with the LOBBY discharge capacity modulation unit versions (constant pressure).





Safety and control

	Pressure boxes for filter monitoring (DEP) Extract air filter (IP54)
	Liquid manometer (MANO)
	Smoke detector (CDAD) (IP54)

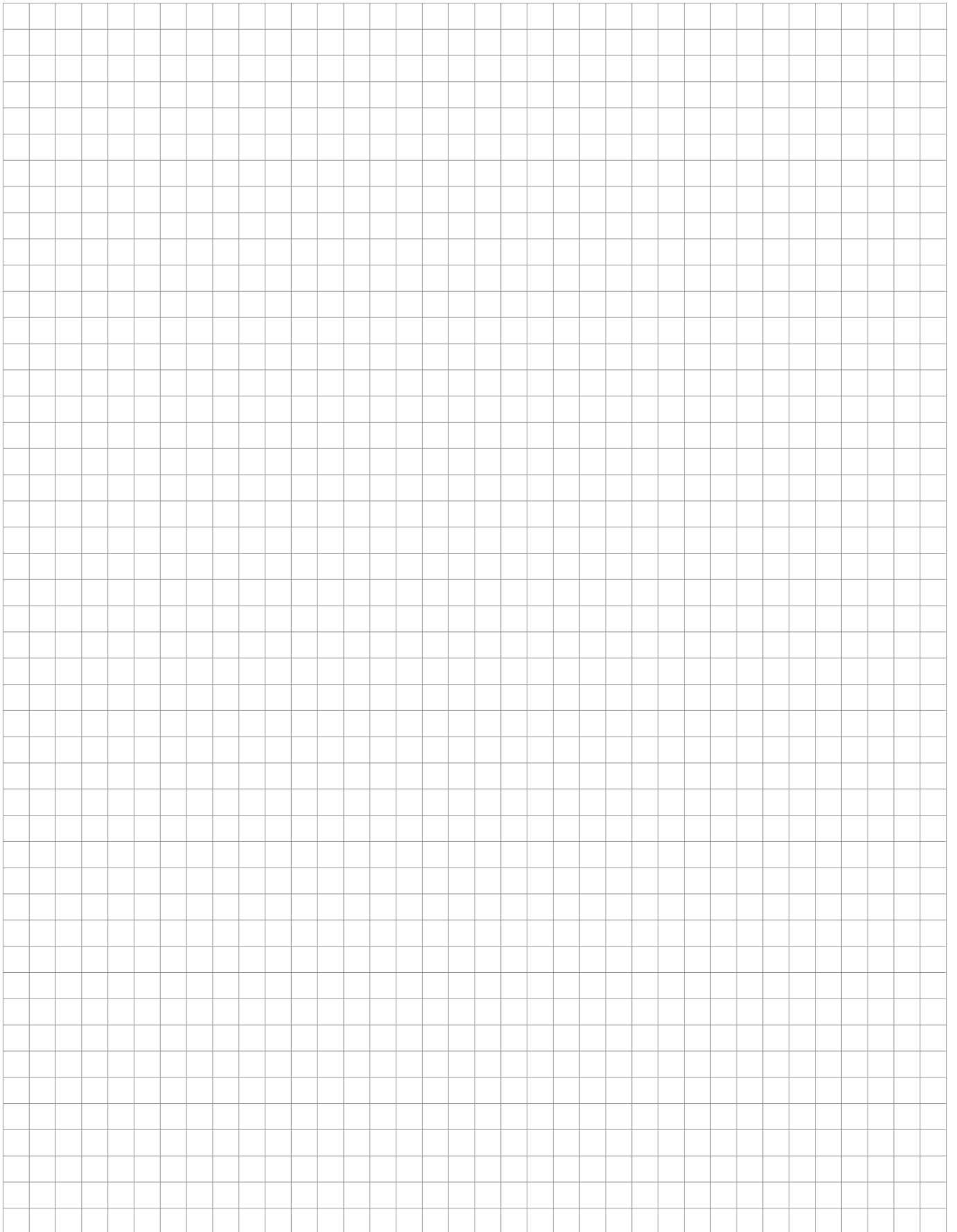
Airflow control

	External control unit (POT VF) Potentiometer only with SEASON (IP54)
	Comfort remote control (CDC2V2) STOP/PV/GV 2 fan housing (IP54)
	Comfort remote control (CDC PVGV2) PV/GV 2 fan housing (IP54)
	Presence detector (360 TOR SA) ON/OFF or PV/GV (Not compatible with SEASON unit)
	Trigger box (BD) TBTS 24 or 48 Vcc housing (IP67)
	Comfort remote control (CDC1V2) START/STOP 2 fan housing (IP54)

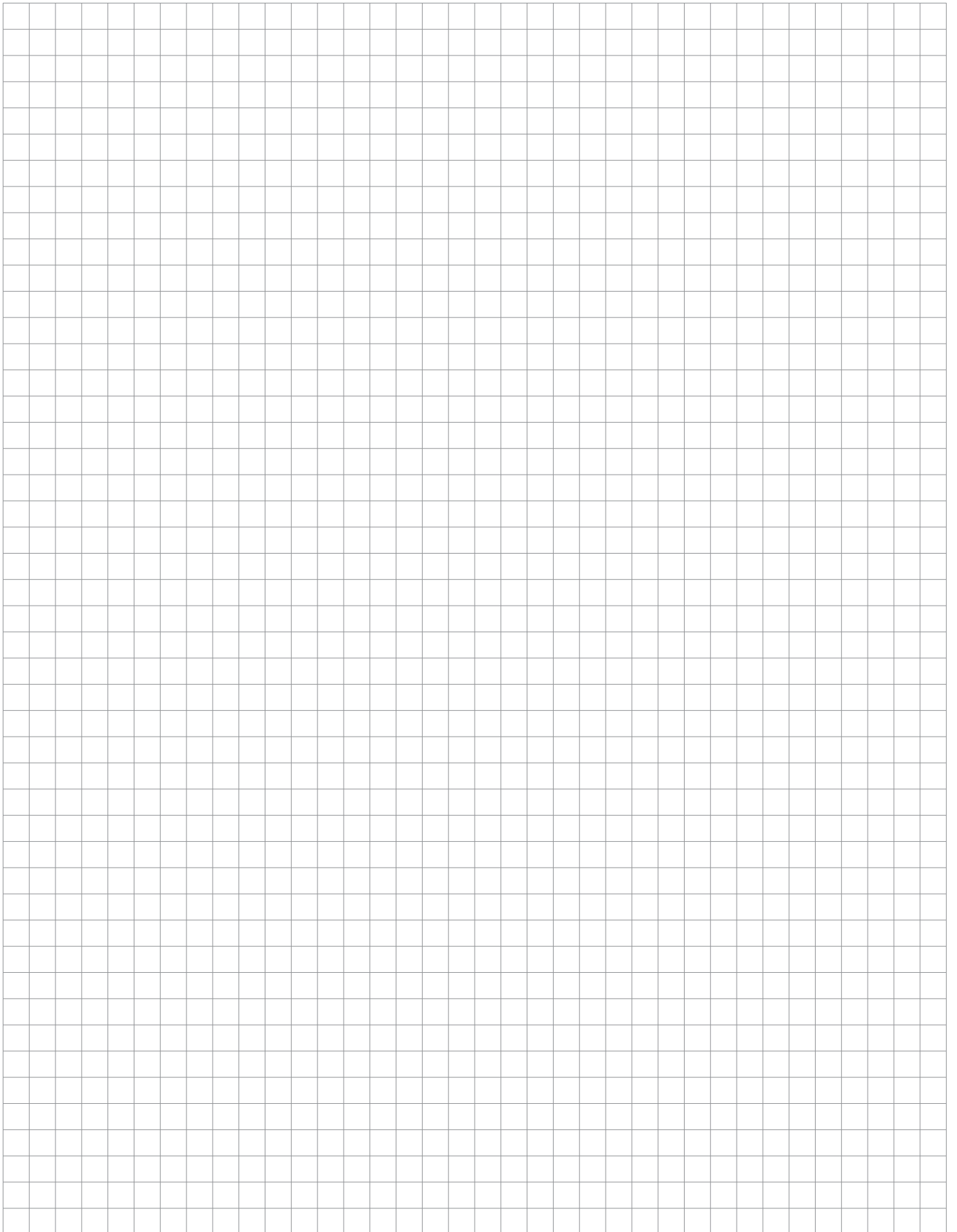
Installation

	Flanged collar (MTS M0) Circular except Zehnder Carma 9070
	Rectangular flanged collar (MTS M0)
	Support feet (PCB) Set of 4 (100 mm high). For floor installation, frame included as standard for Zehnder Carma 9070.
	Weather protection hood (AGC) Galvanised steel, supplied ready for installation

Notes



Notes





Company
1st line of address ▪ Town ▪ Country
email ▪ web