Zehnder Silvertop™

Technical specification

always the best climate

Application

Self-regulating heat recovery unit, high efficiency and performance, for tertiary and industrial applications such as offices, schools, care homes, shopping malls, catering facilities, multi-family housing, etc.

Monobloc communicating unit for inside installation in a technical room.

All internal components are factory mounted and programmed according to the chosen configuration. It's our PLUG&PLAY - SET& FORGET™ concept !

Aluminium counterflow heat exchanger with over 90% efficiency (EN308), compliant ErP Directive 2009/125/EC and with French regulation RE2020.

Air filtration and temperature management for optimal comfort and IAQ.

Benefits for the user

- 6 different unit sizes are available, with airflows ranging from 100 m^3/h to 5500 m^3/h, so you can always choose the optimum unit size.
- Top-mounted duct connections for easy installation in small technical rooms. With their small footprint, Zehnder Silvertop units can also be easily integrated into corridor niches, storage rooms, dressing rooms, etc.
- Optimal inside air quality thanks to possible dual filtration on fresh air (ePM1 55% [F7] + ePM10 50% [M5] or ePM1 80%[F9]). Included ePM10 50% [M5] filter for exhausted air.
- Silent operation is ensured by double-skinned panels with high-density thermal insulation (25 or 50 mm mineral wool). Thermal class T3 and airtightness class L1(M) [-400Pa] in accordance with EN 1886.
- User interfaces installed as standard with remoting possibility. Flexible and easy connection to BMS with on-board communication protocols (Modbus, BACnet and Web)
- Eurovent (N°21.03.72) and VDI 6022 certified solution, compliant with the requirements of the ErP 2018 directive

Range

The Silvertop™ range is available in 6 sizes which cover airflows from 100 m^3/h to 5 500 m^3/h and in 5 versions :

FIRST : unit used for temperate climatic zones, with dynamic temperature management to optimize energy consumption and comfort.
SMART : unit equipped with an electric preheater for outdoor temperature compensation down to -10°C.
PREMIUM : unit equipped with a heating coil, either electric (BE) or hot water (BC).
INFINITE : unit equipped as standard with an electric preheater and a heater for outdoor temperatures down to -20°C.
SEASON : unit used for temperate climatic zones, designed for air renewal in buildings with energy recovery, summer/winter bypass function, airflow adjustment by potentiometer.

Airflow modulation

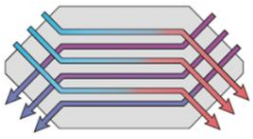
5 airflow modulation solutions with EASY 5.0 control ensure optimum energy consumption (RE 2020, EN 15232).

ECO : 2 speed settings (LS/HS) per fan.
MAC 2 : 2 constant airflows.
DIVA : proportional fan speed modulation on CO_2 levels.
QUATTRO : proportional airflow modulation on CO_2 levels.
LOBBY : constant pressure airflow modulation on each fan.

Counterflow heat exchanger

High efficiency counterflow aluminum plate heat exchanger.

Eurovent-certified in accordance with the AAHE program, efficiency over 90% (EN 308).



Automatic frost prevention via 100% self-regulating and modulating internal bypass (except SEASON, On/Off), via self-regulating electric preheater for SMART and INFINITE versions, and possible fresh airflow modulation (included controller option).

Constitution

The Silvertop™ range features the self-supporting Eurovent certified AIRSLIM™ and AIRTOP™ model boxes (L1(M) [-400Pa]/D2/T3/TB3/F9) in accordance with EN1886.

- 10/10th double-skin panels and 25 or 50 mm of M0 (A2-S1) high-density 60 kg/m3 mineral wool insulation.
- Exterior panels in RAL 9007 coated steel with protective film and interior in galvanized steel
- Unit fitted as standard with dual seal round spigot on intake and outlet panels to guarantee network sealing. Complaint with French CSTB ATEx n°13-224-V2).
- Crimped feet integrated to the frame for handling and ground fixing.
- EASY 5.0 technical cabinet (electrical and control components) accessible via hinged opening panels, with front panel fitted with IP65 LCD display and internal components. Lockable main power cut-off switch, power cable pass-through and potentiometer integrated on the top panel.
- Hydraulic connection outlets (PREMIUM BC and INFINITE BC versions) on top. Condensate drain connection outlets at bottom with inclined, removable drain tray.
- 100% internal bypass, self-regulating and modulating, except SEASON which is equipped with thermostat for summer/winter by-pass management and with on/off switch.

Filters

As standard, the Silvertop™ unit features factory-mounted filters that ensure an optimal indoor air quality.

Fresh Air

ePM1 filter 55% [F7] + optional double filtration stage (ePM10 50% [M5] or ePM1 80% [F9])

Extracted Air

ePM10 filter 50% [M5]

Filters are always mounted on slides for easy replacement, and ahead for components protection.

Fan motor

DC motor with high-efficiency electronic commutation (EC), thermal protection and integrated speed control. EC technology is an eco-friendly™ solution which brings low energy consumption and allows operating point monitoring, managing and controlling (airflow modulation from 10 to 100%). Low noise level for greater acoustic comfort.

Equipment and functions

The FIRST SMART, PREMIUM and INFINITE versions are supplied as standard with an EASY 5.0 control system, communicating via MODBUS, BACNET or WEB (choice of language can be activated on site). It includes a PG 5.0 touchscreen control (IP54 protection class) for simple and direct access to parameters and functions.

EASY 5.0 can be optionally fitted with an USER room remote touch control EDT2, featuring a user interface and display for the main functions (temperature control, restart, fault...) (remote control up to 100 m).

- Internal timers for scheduled operation with 2 different airflows, programmable as required on site.
- Weekly and vacation schedule.
- Fresh air filter pressure switch with error feedback on the touchscreen control (dry contact relay for SEASON).
- Airflow pressure switch for each fan, with error feedback on the touchscreen control (dry contact relay for SEASON).
- Lockable main power cut-off switch and power cable pass-through integrated in the supplied air duct.

100% internal bypass, equipped with automatically controlled servomotors by the integrated control system, providing FREE-COOLING, FREE-HEATING and NIGHT-COOLING functions. For the SEASON version, the 100% bypass provides summer/winter management in On/Off mode via integrated thermostats.

- **FREE COOLING** : in summer, when the outdoor temperature is lower than the set indoor temperature, the bypass opens progressively until it is fully open. In this way, fresh air is supplied to the building, bypassing the heat exchanger. If this function is not sufficient to reach the set temperature, the optional cooling coil is activated.
- **FREE HEATING** : Mainly in the off-season, when the outside temperature is higher than the set inside temperature, the bypass opens gradually until it is fully open and warm fresh air can be supplied to the building. If this function is not sufficient to reach the set temperature, the optional heating coil is activated.
- **NIGHT COOLING** : the Night Cooling function lowers the building's indoor temperature according to the weather conditions of the last 24 hours. For example, between midnight and 7 a.m. (adjustable time range), the Night Cooling function is activated if the outdoor temperature has exceeded 22°C (adjustable value) during the day (between 6 a.m. and 10 p.m.). The Night Cooling function is activated if the outdoor temperature is between 10 and 18°C (adjustable value) and the extract air temperature is above 18°C (adjustable value).

4 temperature control modes to guarantee optimal energy consumption (RT2012, EN15232).

- **Constant supply air temperature** : Keeps the supply temperature at the setpoint.
- **Supply air temperature adjustable according to outdoor temperatures** : Outdoor conditions considered.
- **Constant extract air temperature** : Extract temperature management acting in cascade on the supply temperature.
- **Extracted air temperature adjustable according to outdoor temperatures** : Outdoor conditions considered.

Fire safety function (except SEASON) to control supply and extract fans according to 5 available modes in the control parameters (function can be activated on site). A pictogram of a fire alarm is displayed on the screen:

- **Stop** : Complete unit shutdown.
- **Continue** : Continuous start-up or operation of the unit without taking time schedules into account.
- **Under normal start/stop conditions** : Maintains the unit according to the schedule and parameters set on site.
- **Supply only** : Start or maintain supply air fan (extract at stop).
- **Extract only :** Start or maintain extract air fan (supply at stop).

Moreover, the Silvertop ™ features an "External Stop" digital input that enables a manually operated control (to be connected on site). In this case, the external control takes priority over any fire safety activated by one of the 5 modes above.

Installation

The Silvertop™ unit has no roof. It must only be installed inside a technical room.

Compact dimensions and small depth, top connection by round spigots with seals (except size 52) for simple, quick, airtight and economical installation (0 transformation parts).

Climatic version

The Silvertop™ features finishes to ensure optimal climatic comfort (except SEASON). These features are managed automatically by the "EASY 5.0" control system. The sensors needed to regulate the coils and fans built into the unit are factory-mounted, wired and tested to make the Flatpower™ a true PLUG&PLAY - SET& FORGET™ unit:

- Temperature sensors (x4) integrated into the unit: supply, extract, frost prevention by bypass, outdoor temperature and, for SMART and INFINITE versions, a sensor for the electric preheater.
- Integrated anti-frost thermostat (THA) to protect the hot coil on PREMIUM/INFINITE CO. versions.
- Integrated overheating safety thermostat (THS) with manual reset to protect preheater and heating coils on SMART, PREMIUM BE, INFINITE BE and INFINITE CO versions.

The "EASY 5.0" control can manage the CBX-BF and CBX-DX external modules:

- Cold water module (CBX-BF) on all versions and changeover possible on FIRST and SMART versions.
- CBX-DX R410A direct expansion module.

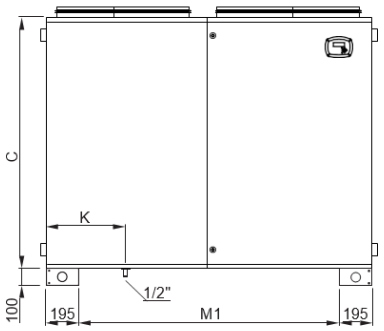
Unit versions with different coils

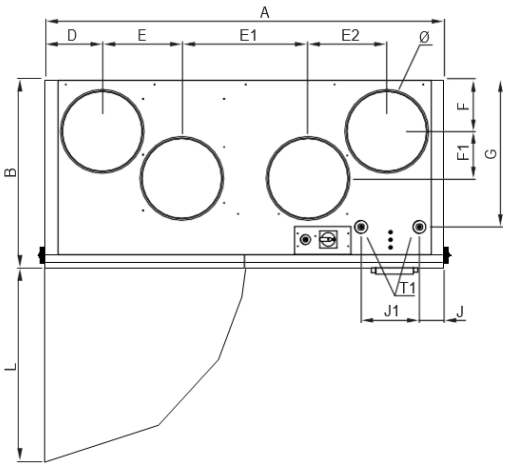
Zehnder Silvertop™	Integrated coil (S)			External module				
	Preheating	Heating		Heating	Cooling		Changeover (cooling + heating)	
	Electric	Electric	Water	Water	Water	R410A	Water/Water	R410A/ Water
SEASON	-	-	-	-	CBX-BF	CBX-DX	-	-
FIRST	-	-	-	CBX-BC	CBX-BF	CBX-DX	CBX-CH	CBX-DXH
SMART	■	-	-	CBX-BC	CBX-BF	CBX-DX	CBX-CH	CBX-DXH
PREMIUM BE	-	■	-	-	CBX-BF	CBX-DX	-	-
PREMIUM BC	-	-	■	-	CBX-BF	CBX-DX	-	-
INFINITE BE	■	■	-	-	CBX-BF	CBX-DX	-	-
INFINITE BC	■	-	■	-	CBX-BF	CBX-DX	-	-

Dimensions characteristics

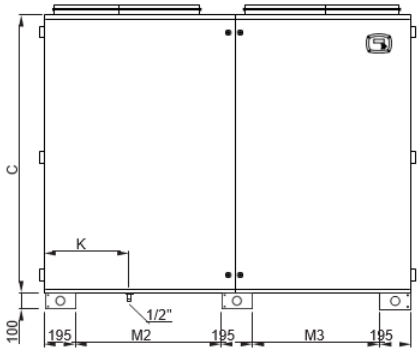
Zehnder Silvertop	Ø	A	B	C	D	D1	D2	E	E1	E2	F	F1	G	J	J1	K	L	M1	M2	M3	T1	SEASON SMART	PREMIUM SMART INFINITE	PREMIUM INFINITE
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	kg	kg
06	200	1105	570	1040	145	-	-	225	365	225	135	150	385	75	130	265	545	720	-	-	1/2"	175	180	185
08	250	1265	700	1150	170	-	-	235	415	270	160	225	485	75	180	275	625	880	-	-	1/2"	250	255	260
15	15	1590	750	1200	230	-	-	315	500	315	210	190	585	100	230	435	770	1200	-	-	1/2"	320	330	335
23	400	1735	1065	1340	270	-	-	330	535	330	250	420	755	100	230	440	855	1350	-	-	1/2"	490	500	510
35	450	1950	1210	1495	295	-	-	340	615	405	280	515	805	100	305	475	960	-	685	685	1/2"	635	650	660
52	-	2185	1520	1625	85	405	960	120	140	120	50	260	1115	100	380	525	1120	-	810	810	1"	875	890	905

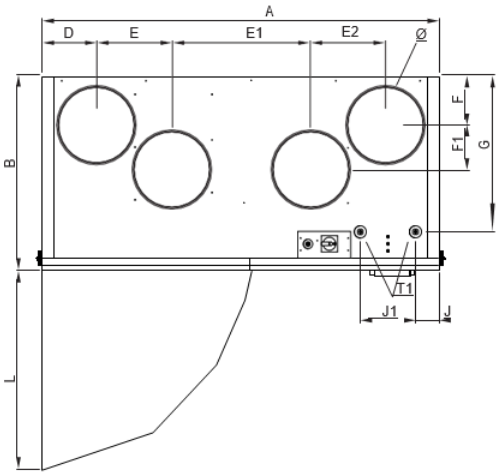
Zehnder Silvertop 06 to 23



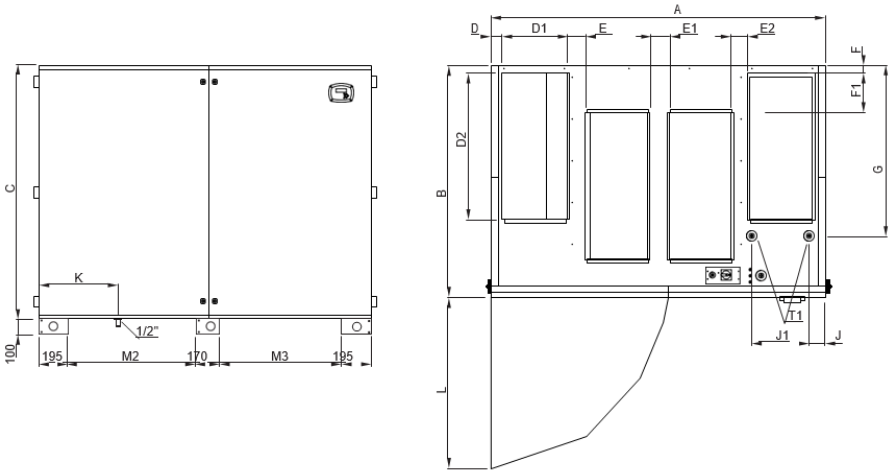


Zehnder Silvertop 35





Zehnder Silvertop 56



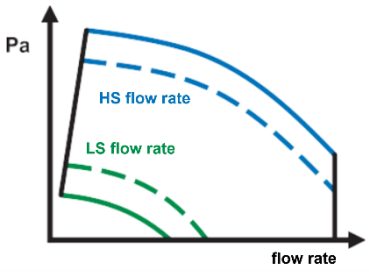
Electrical characteristics

					FIRST, PREMIUM BC,SEASON		INFINITE BC,SMART		PREMIUM BE		INFINITE BE	
Zehnder Silvertop™	Motor fan Power (W)	Operation temp. (°C / °C)	IP Motor fan /Class	Thermal protection*	Voltage (V/Ph/Hz)	Protection intensity (A)	Voltage (V/Ph/Hz)	Protection intensity (A)	Voltage (V/Ph/Hz)	Protection intensity (A)	Voltage (V/Ph/Hz)	Protection intensity (A)
06	2 x 169	-20 / 60	IP54/B	*	230/1/50	3,4	230/1/50	8,8	230/1/50	-	8,8	230/1/50
08	2 x 170	-20 / 60	IP54/B	*	230/1/50	4,0	230/1/50	14,8	230/1/50	-	14,8	230/1/50
15	2 x 480	-20 / 40	IP54/B	*	230/1/50	4,9	400/3+N/50	9,7	230/1/50	-	21,2	400/3+N/50
23	2 x 750	-20 / 40	IP54/B	*	230/1/50	7,2	400/3+N/50	13,0	400/3+N/50	-	13,0	400/3+N/50
35	2 x 1000	-20 / 50	IP54/B	*	400/3+N/50	3,8	400/3+N/50	21,2	400/3+N/50	-	19,0	400/3+N/50
52	2 x 1700	-20 / 40	IP54/B	*	400/3+N/50	5,8	400/3+N/50	27,4	400/3+N/50	-	23,1	400/3+N/50

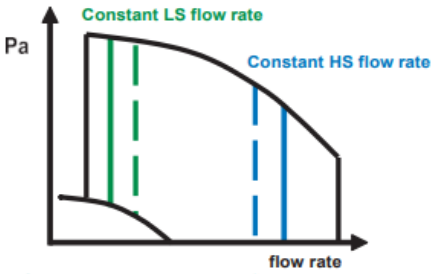
Airflow modulation

The Zehnder Silvertop™ unit is equipped as standard with a factory-programmable control, which allows you to configure the following operating modes:

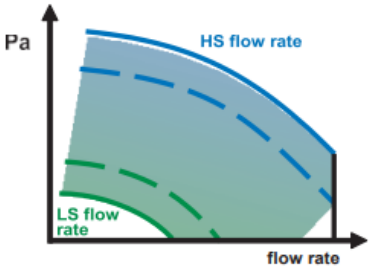
ECO : 2 speed settings (LS/HS) per fan.



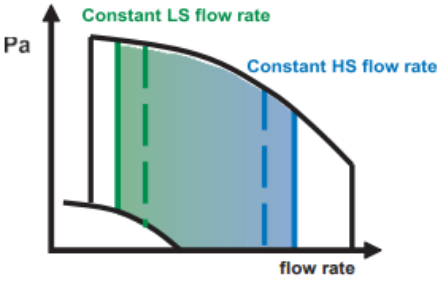
MAC 2 : 2 constant airflows.



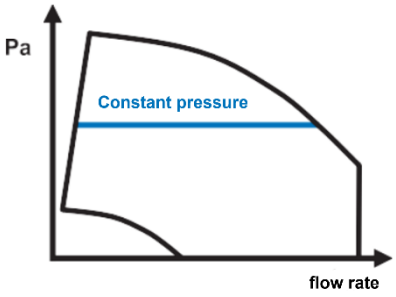
DIVA : proportional fan speed modulation on CO2 levels.



QUATTRO : proportional airflow modulation on CO2 levels.



LOBBY : constant pressure airflow modulation on each fan.



EASY 5.0 : MASTER touchscreen control close to the Silvertop™ power switch, which can be remote-controlled on the wall (second screen optional) to set clocks, airflows, setpoint temperatures, self-regulating internal bypass, night-cooling, fault(s) control and reading...

EDT2 : USER room remote touch control, temperature setpoint offset, 120 min restart, or information display (fan speed and status, operating mode, external forcing, temperature setpoint, and alarms).

General characteristics

Equipment	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
Low energy consumption EC motor fans	●	●	●	●	●	●	●
Fresh air filter, ePM1 55 % (F7)	●	●	●	●	●	●	●
Extract air filter, ePM10 50 % (M5)	●	●	●	●	●	●	●
High-efficiency (>90%) counterflow plate heat exchanger, EUROVENT-certified	●	●	●	●	●	●	●
100% internal by-pass	●	●	●	●	●	●	●
50 mm double skin (except sizes 06 and 08 in 25 mm), RAL9007	●	●	●	●	●	●	●
Dual seal round spigot (ATEC CSTB number 13-224-V2).	●	●	●	●	●	●	●
Communicative control via Modbus in RS485 or TCP/IP, BACnet IP, WEB TCP/IP (selectable)	-	●	●	●	●	●	●
Speed regulation potentiometer	●	-	-	-	-	-	-
Supply air temperature sensor	-	●	●	●	●	●	●
Extract air temperature sensor	-	●	●	●	●	●	●
By-pass frost prevention temperature sensor	●	●	●	●	●	●	●
Outdoor temperature sensor	●	●	●	●	●	●	●
Preheater temperature sensor	-	-	●	-	-	●	●
Water coil anti-frost thermostat (THA)	-	-	-	-	●	-	●
Electric preheater over-heating thermostat	-	-	●	-	-	●	●
Electric heater over-heating thermostat	-	-	-	●	-	●	-
Lockable main power cut-off switch	●	●	●	●	●	●	●
Power cable pass-through	●	●	●	●	●	●	●

● : Equipment or function as standard
■ : Equipment or function as an option. Supplied mounted and wired at the factory
◆ : Equipment or function as an option. Supplied unmounted

General characteristics

Functions	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
By-pass frost prevention	●	-	-	-	-	-	-
Frost prevention sequence : by-pass + coils (SMART/INFINITE) + fresh air modulation	-	●	●	●	●	●	●
Self-regulating electric preheater	-	-	●	-	-	●	●
Self-regulating electric heater	-	-	-	●	-	●	-
Self-regulating hot water coil	-	-	-	-	●	-	●
100% internal bypass, "all or nothing", automatic summer/winter mode management	●	-	-	-	-	-	-
100% internal bypass, self-regulating and modulating (0-100%)	-	●	●	●	●	●	●
Free Cooling management	-	●	●	●	●	●	●
Night Cooling management	-	●	●	●	●	●	●
Protection contre la surchauffe des ventilateurs	●	●	●	●	●	●	●
Fan overheating prevention	-	●	●	●	●	●	●
Supply air temperature management	-	●	●	●	●	●	●
Extract air temperature management	-	●	●	●	●	●	●
Weekly schedule	-	●	●	●	●	●	●
Holidays and vacation schedule	●	●	●	●	●	●	●
Fresh air filter pressure switch	●	●	●	●	●	●	●
Airflow pressure switch (supply + extract)	-	●	●	●	●	●	●

● : Equipment or function as standard
■ : Equipment or function as an option. Supplied mounted and wired at the factory
◆ : Equipment or function as an option. Supplied unmounted

General characteristics

Airflow modulation options	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
ECO : 2 speed settings (LS/HS) per fan	-	■	■	■	■	■	■
MAC 2 : 2 constant airflow per fan. Integrated pressure sensor	-	■	■	■	■	■	■
DIVA : proportional modulation for each fan speeds	-	■	■	■	■	■	■
QUATTRO : proportional airflow modulation on CO2 levels	-	■	■	■	■	■	■
LOBBY : constant-pressure airflow modulation for each fan	-	■	■	■	■	■	■

Further options	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
Summer / Winter thermostat	-	◆	◆	◆	◆	◆	◆
USER room remote touch control (EDT2)	-	◆	◆	◆	◆	◆	◆
Room temperature management via touchscreen room controller	-	◆	◆	◆	◆	◆	◆

● : Equipment or function as standard
■ : Equipment or function as an option. Supplied mounted and wired at the factory
◆ : Equipment or function as an option. Supplied unmounted

Softwair.fr™
CALADAIR MATRIX SOLUTION

The information provided in this documentation are general information for the Silvertop™ range. All technical performances refer to the nominal airflow of each size. Therefore, it is recommended for your projects to dimension your units using the Softwair selection software, with Eurovent EN1886 certified results.

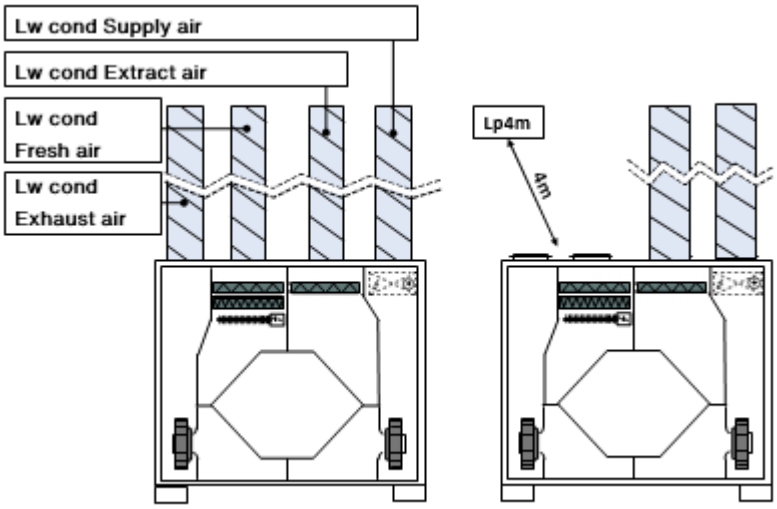
Acoustic characteristics

The Lp4m dB(A) curves correspond to the sound pressure level at 4m in a hemispherical open field on a reflecting plan, with the "fresh air" and "exhaust air" sides unconnected, and the "supply air" and " extract air" sides connected.

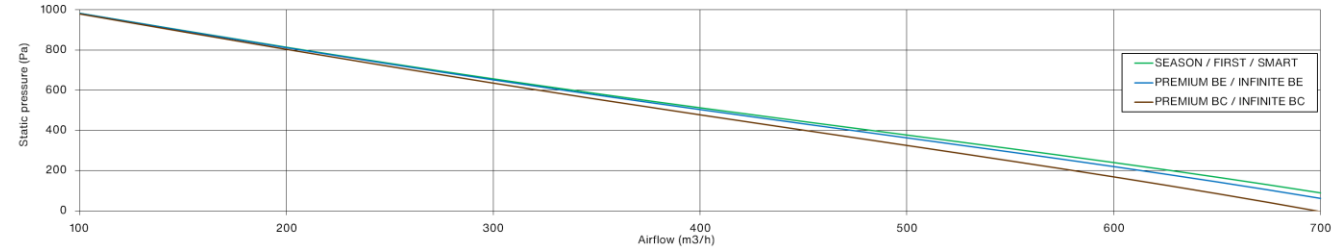
To obtain the global sound pressure level Lp dB(A), at a certain distance, add the values below to Lp4m.

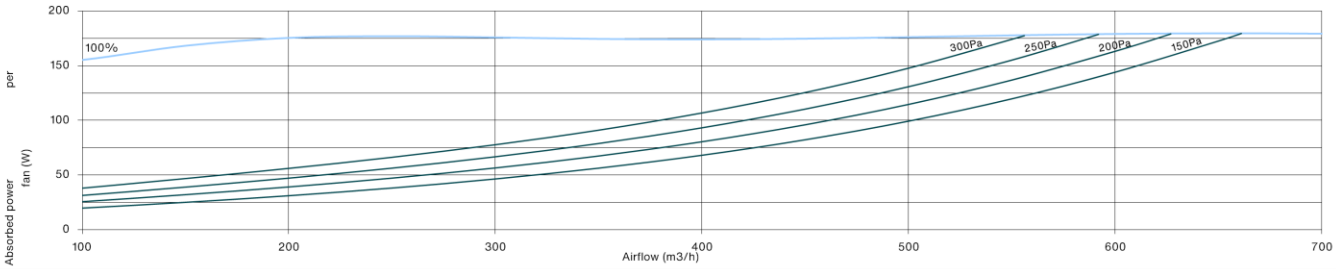
Distance (m)	1,5	3	4	5	7	10
Weighting distance dB(A)	9	3	0	-2	-5	-8

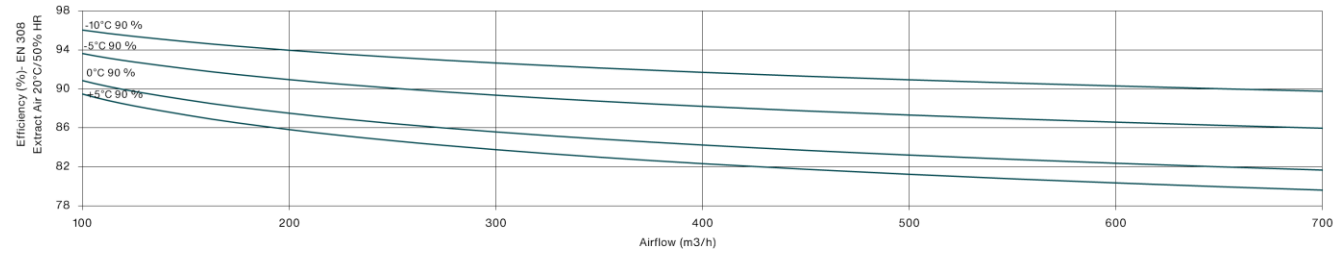
Tolerance : global value +/- 3 dB(A)
acoustic spectrum +/- 5 dB(A)

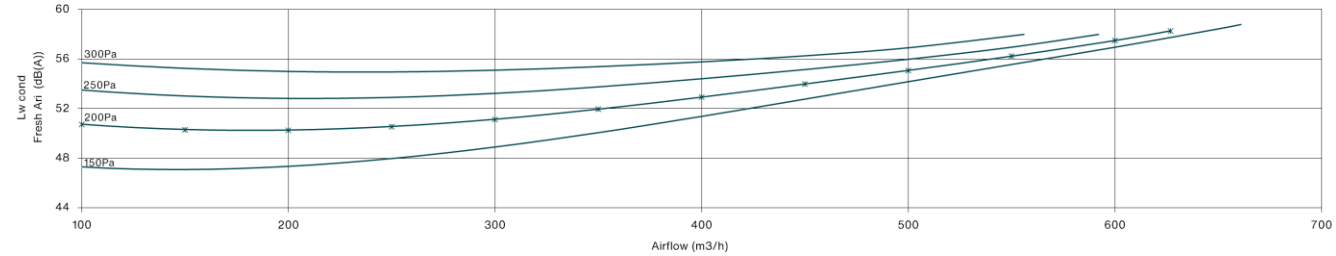


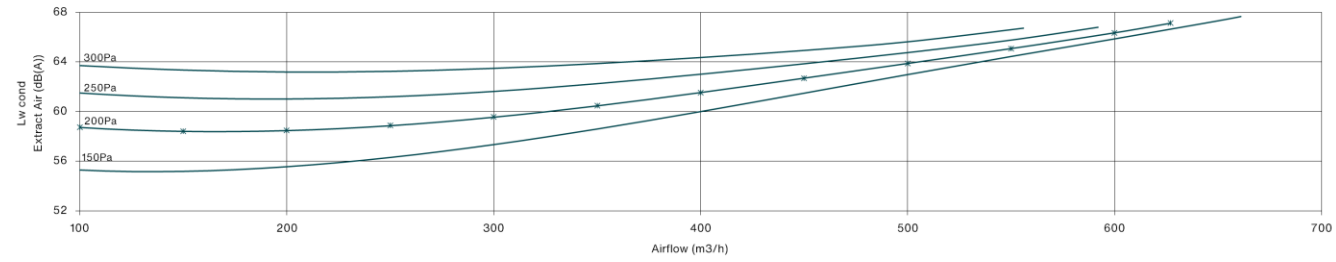
Selection curves Zehnder Silvertop™ 06

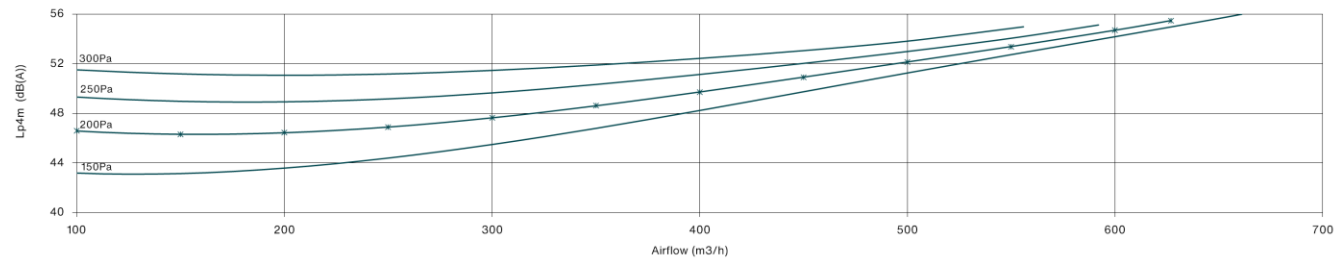












Hot water coil performance characteristics Zehnder Silvertop™ 06

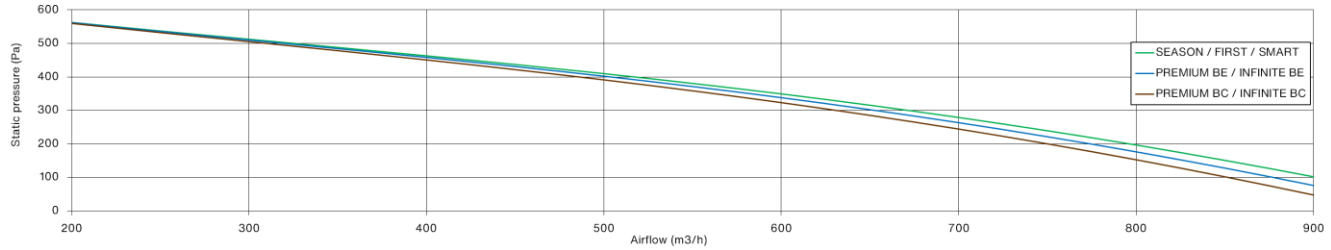
BC for PREMIUM and INFINITE version								Hot water coil
Water Temp. °C / °C	Air entry Temp. °C	Airflow m3/h	100	200	300	400	500	600
80/60	11	Power (kW) / Supply air (°C)	1,6 / 56,7	2,6 / 48,7	3,4 / 43,9	4,0 / 40,5	4,6 / 38,0	5,1 / 36,0
		Waterflow (l/h) / Water DP (kPa)	69 / 1,3	113 / 3,2	148 / 5,2	177 / 7,3	202 / 9,2	225 / 11,2
	15	Power (kW) / Supply air (°C)	1,5 / 57,6	2,4 / 50,0	3,1 / 45,6	3,8 / 42,4	4,3 / 40,1	4,8 / 38,2
		Waterflow (l/h) / Water DP (kPa)	64 / 1,2	105 / 2,8	137 / 4,6	164 / 6,4	188 / 8,1	209 / 9,8
60/50	11	Power (kW) / Supply air (°C)	1,2 / 45,0	1,9 / 39,2	2,5 / 35,7	3,0 / 33,3	3,5 / 31,4	3,9 / 29,9
		Waterflow (l/h) / Water DP (kPa)	101 / 2,8	168 / 6,9	220 / 11,4	265 / 15,8	303 / 20,2	337 / 24,5
	15	Power (kW) / Supply air (°C)	1,1 / 45,9	1,8 / 40,6	2,3 / 37,4	2,8 / 35,2	3,2 / 33,5	3,5 / 32,1
		Waterflow (l/h) / Water DP (kPa)	92 / 2,3	152 / 5,8	200 / 9,5	240 / 13,2	275 / 16,9	306 / 20,5
45/40	11	Power (kW) / Supply air (°C)	0,8 / 35,2	1,4 / 31,2	1,8 / 28,8	2,2 / 27,0	2,5 / 25,7	2,8 / 24,7
		Waterflow (l/h) / Water DP (kPa)	143 / 5,4	239 / 13,7	315 / 22,6	379 / 31,7	435 / 40,6	485 / 49,4
	15	Power (kW) / Supply air (°C)	0,7 / 36,1	1,2 / 32,6	1,6 / 30,5	1,9 / 21,3	2,2 / 27,8	2,4 / 26,9
		Waterflow (l/h) / Water DP (kPa)	125 / 4,3	208 / 10,7	274 / 17,6	330 / 24,6	378 / 31,5	421 / 38,3

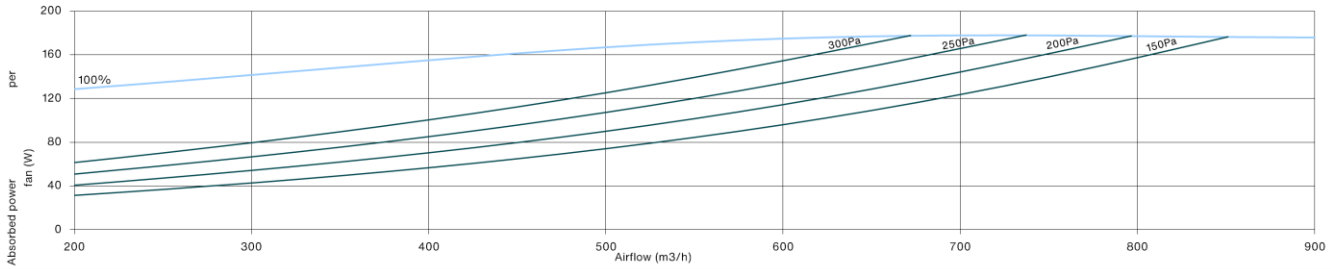
Electric coil performance characteristics Zehnder Silvertop™ 06

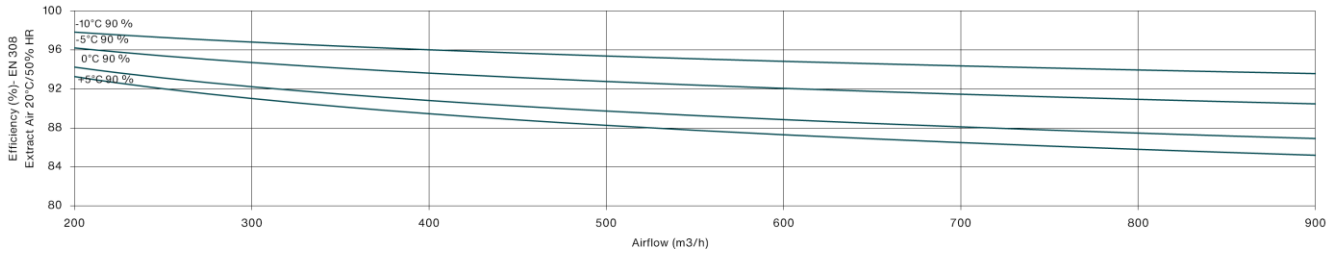
BE for unit version												Electric coil
Fresh airflow	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m^3/h)	600		600			600				600		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		1,25			1,25				1,25 + 1,25		
Outlet temperature (°C)	16,5	16,2	16,6	13,5	18,2	22,7	22,4	18,6	25,7	22,8	19,7	26,1

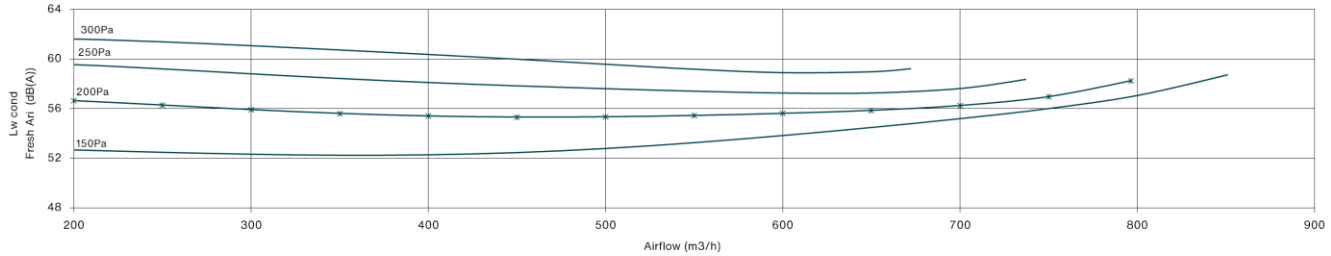
These data are provided for optimal control configuration according to the outdoor temperatures in question. Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.
* In the event of a 20% reduction in volumetric airflow.

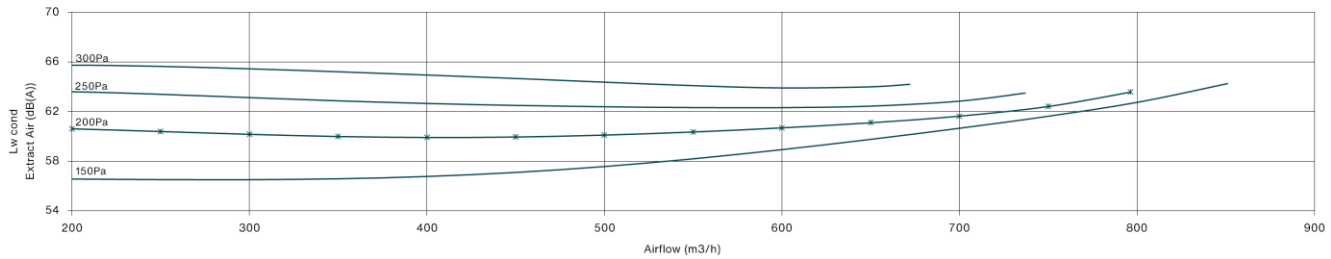
Selection curves Zehnder Silvertop™ 08

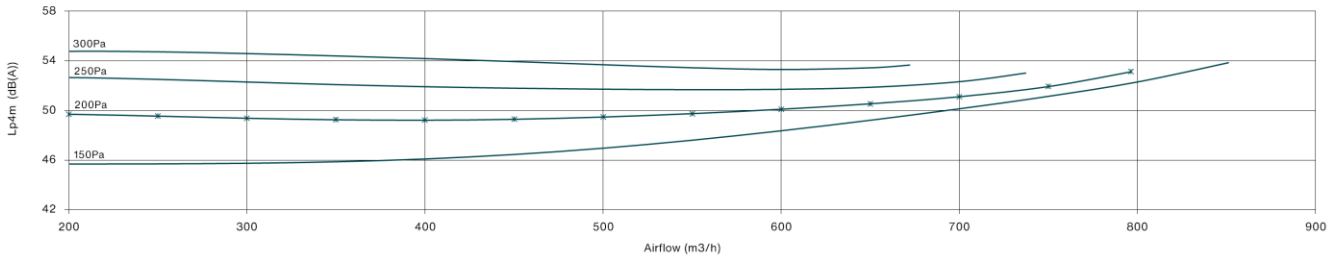












Hot water coil performance characteristics Zehnder Silvertop™ 08

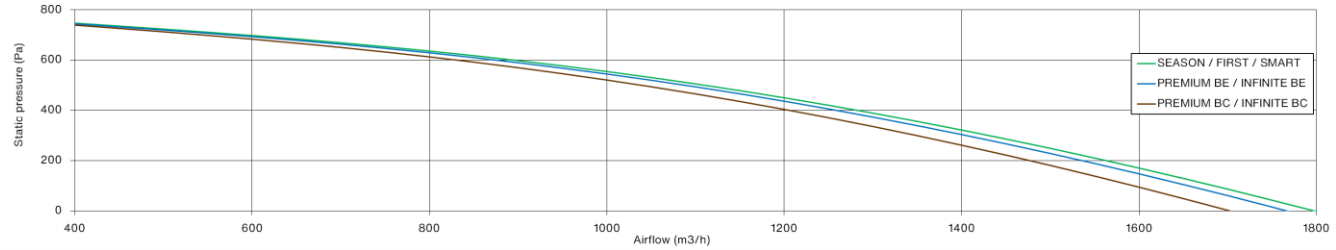
BC for PREMIUM and INFINITE version									Hot water coil
Water Temp. °C / °C	Air entry Temp. °C	Airflow m3/h	200	300	400	500	600	700	800
80/60	11	Power (kW) / Supply air (°C)	3,0 / 54,8	4,0 / 50,0	4,9 / 46,7	5,6 / 44,0	6,3 / 41,9	7,0 / 40,1	7,6 / 38,6
		Waterflow (l/h) / Water DP (kPa)	131 / 1,0	175 / 1,6	214 / 2,3	247 / 3,0	278 / 3,8	306 / 4,5	331 / 5,2
	15	Power (kW) / Supply air (°C)	2,8 / 55,7	3,7 / 51,3	4,5 / 48,2	5,2 / 45,7	5,9 / 43,7	6,5 / 42,1	7,0 / 40,7
		Waterflow (l/h) / Water DP (kPa)	122 / 0,8	163 / 1,4	199 / 2,0	230 / 2,7	258 / 3,3	284 / 3,9	307 / 4,5
60/50	11	Power (kW) / Supply air (°C)	2,2 / 43,6	3,0 / 40,3	3,7 / 37,8	4,3 / 35,9	4,8 / 34,3	5,3 / 33,0	5,7 / 31,9
		Waterflow (l/h) / Water DP (kPa)	194 / 2,1	261 / 3,5	319 / 5,1	370 / 6,6	416 / 8,2	459 / 9,8	498 / 11,4
	15	Power (kW) / Supply air (°C)	2,0 / 44,6	2,7 / 41,5	3,3 / 39,3	3,9 / 37,6	4,3 / 36,1	4,8 / 35,0	5,2 / 33,9
		Waterflow (l/h) / Water DP (kPa)	176 / 1,7	237 / 2,9	289 / 4,2	335 / 5,5	377 / 6,9	415 / 8,2	450 / 9,5
45/40	11	Power (kW) / Supply air (°C)	1,6 / 34,3	2,2 / 32,0	2,6 / 30,3	3,1 / 28,9	3,5 / 27,8	3,8 / 26,9	4,1 / 26,1
		Waterflow (l/h) / Water DP (kPa)	276 / 4,1	372 / 7,0	456 / 10,1	530 / 13,3	597 / 16,5	659 / 19,8	715 / 23,0
	15	Power (kW) / Supply air (°C)	1,4 / 35,3	1,9 / 33,3	2,3 / 31,8	2,7 / 30,6	3,0 / 29,6	3,3 / 28,8	3,6 / 28,1
		Waterflow (l/h) / Water DP (kPa)	240 / 3,2	324 / 5,4	397 / 7,8	461 / 10,3	519 / 12,8	572 / 15,3	621 / 17,8

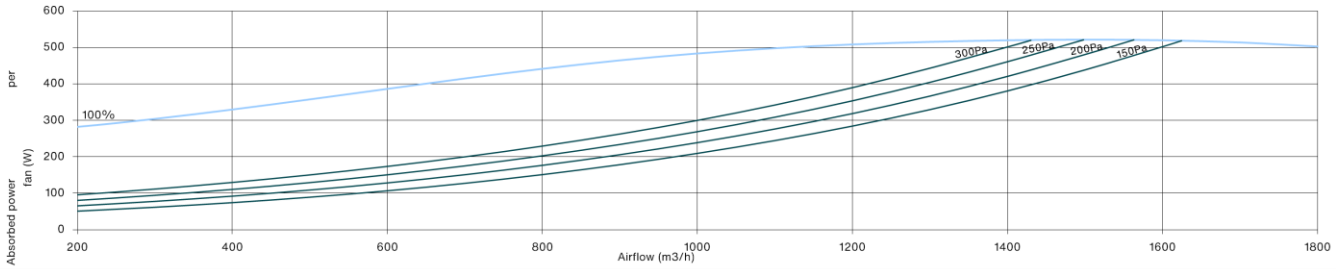
Electric coil performance characteristics Zehnder Silvertop™ 08

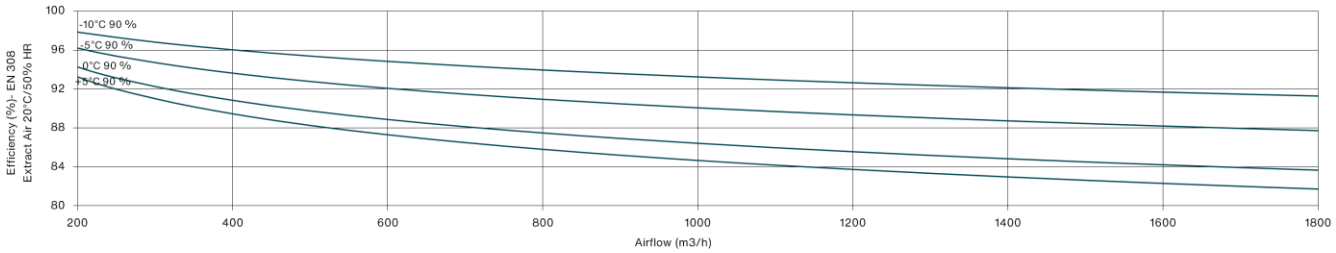
BE for unit version												Electric coil
Fresh airflow	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m^3/h)	800		800			800				800		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		2,5			2,5				2,5 + 2,5		
Outlet temperature (°C)	17,5	17,2	17,5	16,8	19,0	26,9	26,6	22,3	30,4	26,9	26,2	30,7

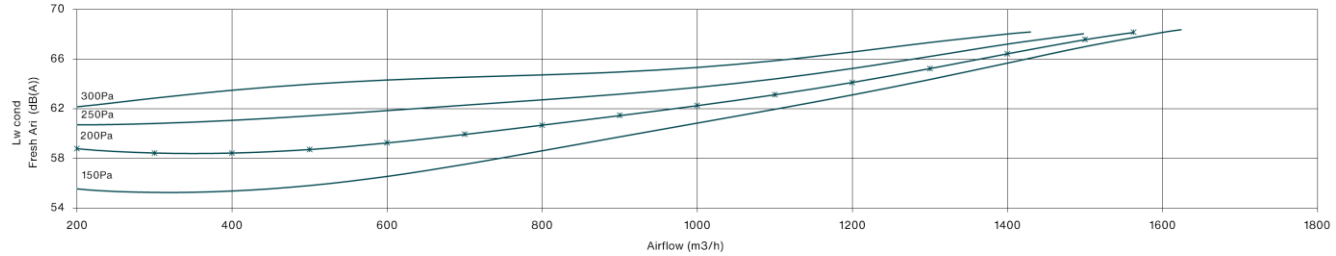
These data are provided for optimal control configuration according to the outdoor temperatures in question.
Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.
* In the event of a 20% reduction in volumetric airflow.

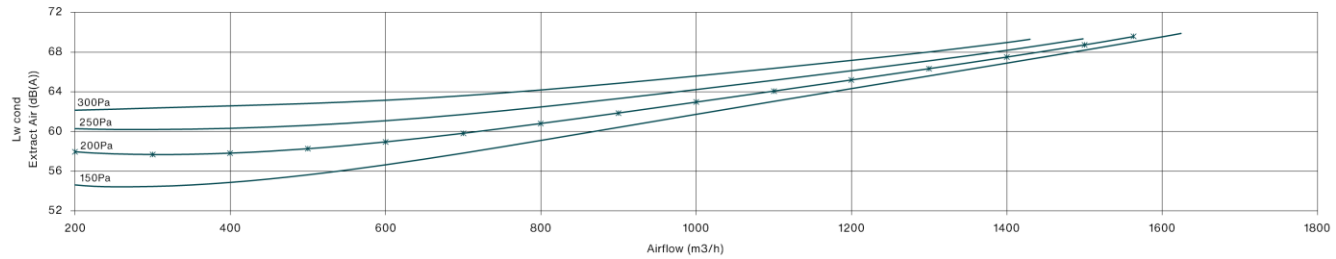
Selection curves Zehnder Silvertop™ 15

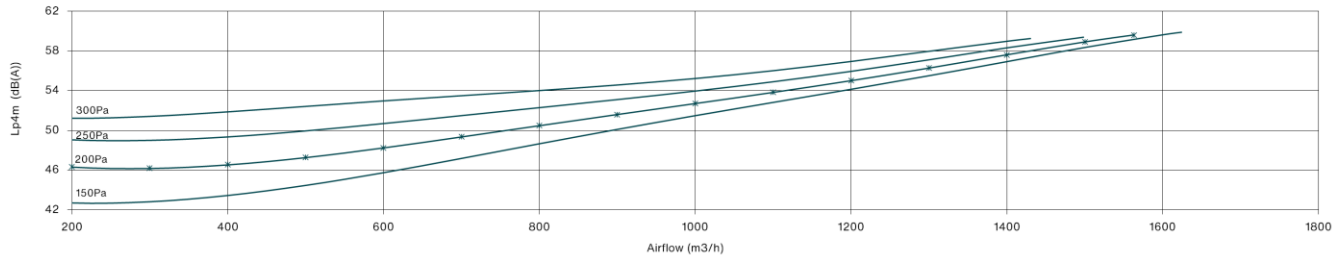












Hot water coil performance characteristics Zehnder Silvertop™ 15

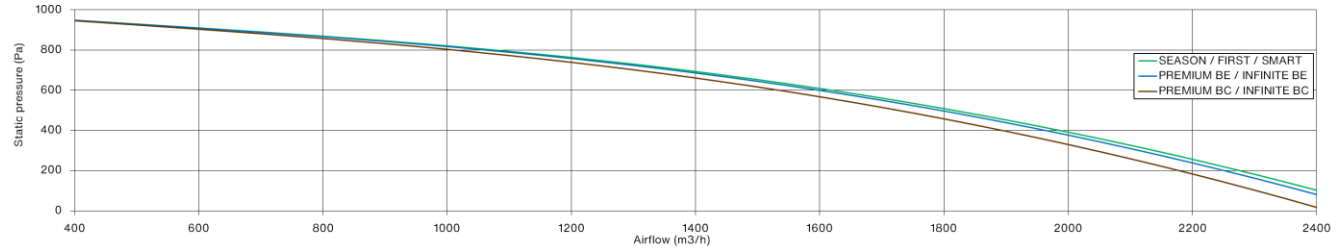
BC for PREMIUM and INFINITE version									Hot water coil
Water Temp. °C / °C	Air entry Temp. °C	Airflow m3/h	500	700	900	1100	1300	1500	1700
80/60	11	Power (kW) / Supply air (°C)	6,4 / 48,6	8,0 / 44,6	9,4 / 41,7	10,7 / 39,4	11,8 / 37,5	12,8 / 36,0	13,7 / 34,6
		Waterflow (l/h) / Water DP (kPa)	281 / 1,9	352 / 2,9	413 / 3,9	467 / 4,9	516 / 5,8	561 / 6,8	601 / 7,7
	15	Power (kW) / Supply air (°C)	6,0 / 49,9	7,5 / 46,2	8,8 / 43,5	9,9 / 41,3	10,9 / 39,6	11,9 / 38,1	12,7 / 36,9
		Waterflow (l/h) / Water DP (kPa)	261 / 1,7	327 / 2,5	384 / 3,4	434 / 4,2	479 / 5,1	520 / 5,9	558 / 6,7
60/50	11	Power (kW) / Supply air (°C)	4,8 / 39,2	6,1 / 36,3	7,1 / 34,2	8,1 / 32,5	8,9 / 31,1	9,7 / 29,9	10,4 / 29,0
		Waterflow (l/h) / Water DP (kPa)	419 / 4,1	527 / 6,3	620 / 8,5	702 / 10,7	777 / 12,9	845 / 15,1	907 / 17,2
	15	Power (kW) / Supply air (°C)	4,4 / 40,6	5,5 / 37,9	6,5 / 36,0	7,3 / 34,4	8,1 / 33,2	8,8 / 32,1	9,4 / 31,2
		Waterflow (l/h) / Water DP (kPa)	380 / 3,5	477 / 5,3	561 / 7,1	636 / 8,9	703 / 10,7	764 / 12,5	821 / 14,3
45/40	11	Power (kW) / Supply air (°C)	3,5 / 31,2	4,4 / 29,2	5,1 / 27,7	5,8 / 26,5	6,5 / 25,5	7,0 / 24,7	7,6 / 24,0
		Waterflow (l/h) / Water DP (kPa)	599 / 8,3	755 / 12,7	889 / 17,2	1009 / 21,7	1118 / 26,2	1217 / 30,6	1308 / 35,0
	15	Power (kW) / Supply air (°C)	3,0 / 32,6	3,8 / 30,8	4,5 / 29,5	5,1 / 28,5	5,6 / 27,6	6,1 / 26,9	6,6 / 26,3
		Waterflow (l/h) / Water DP (kPa)	521 / 6,4	656 / 9,8	773 / 13,3	876 / 16,7	970 / 20,2	1056 / 23,6	1134 / 26,9

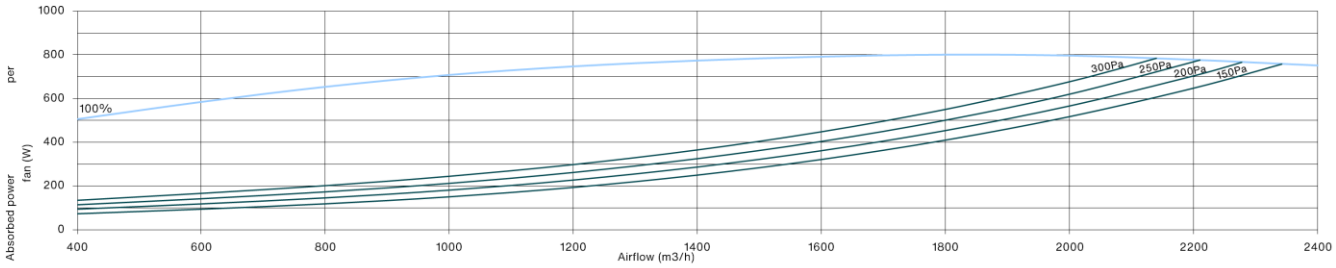
Electric coil performance characteristics Zehnder Silvertop™ 15

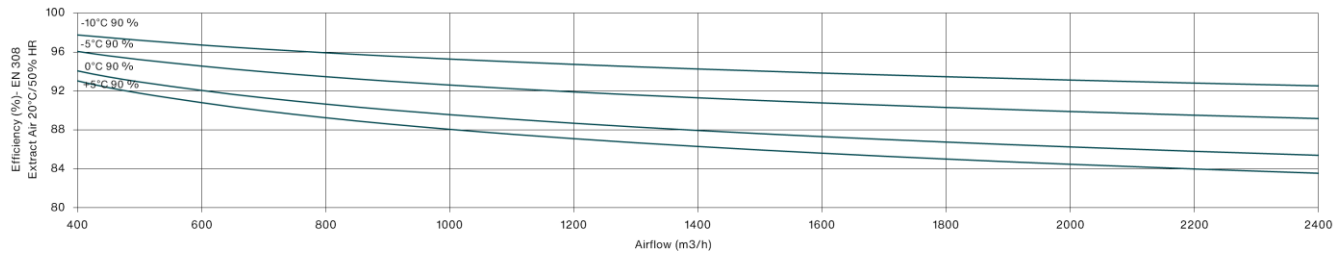
BE for unit version												Electric coil
Fresh airflow	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m^3/h)	1500		1500			1500				1500		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		5,25			3,75				5,25 +3,75		
Outlet temperature (°C)	16,9	16,6	16,9	17,1	18,3	24,1	24,1	20,1	27,6	24,4	24,6	27,7

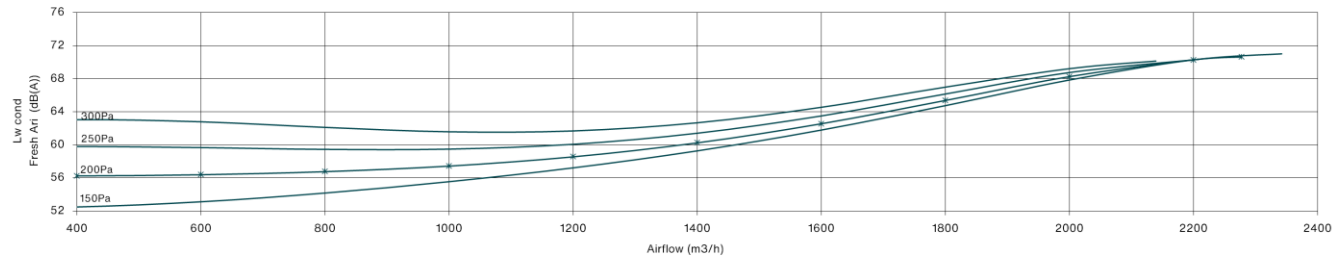
These data are provided for optimal control configuration according to the outdoor temperatures in question. Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.
* In the event of a 20% reduction in volumetric airflow.

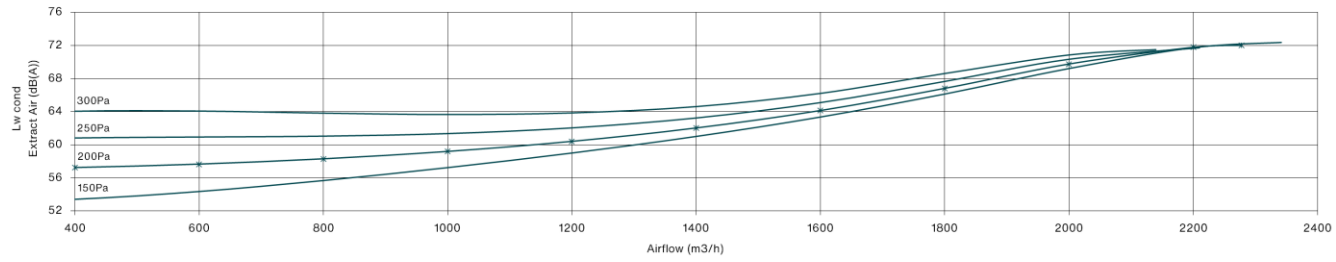
Selection curves Zehnder Silvertop™ 23

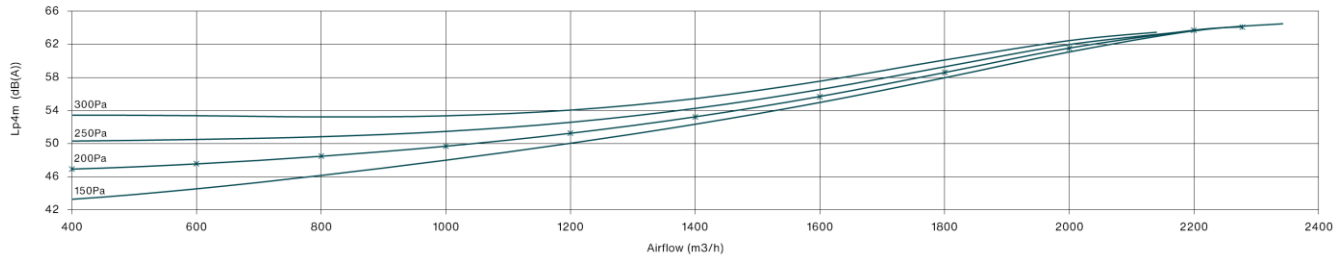












Hot water coil performance characteristics Zehnder Silvertop™ 23

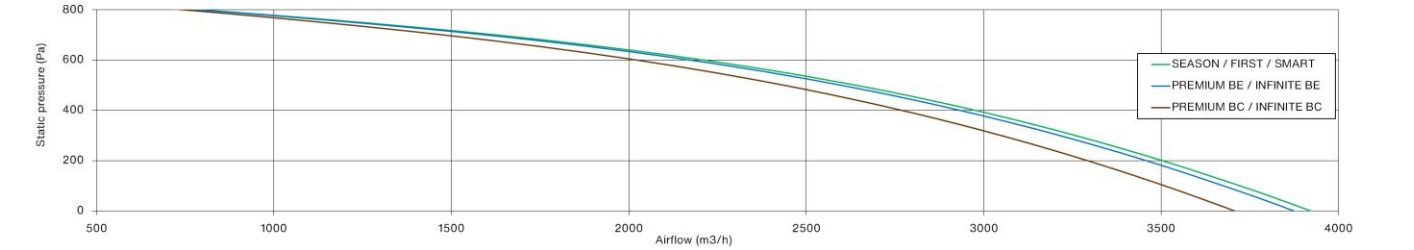
BC for PREMIUM and INFINITE version									Hot water coil
Water Temp. °C / °C	Air entry Temp. °C	Airflow m3/h	600	1000	1400	1800	2200	2600	3000
80/60	11	Power (kW) / Supply air (°C)	8,1 / 50,5	11,4 / 44,5	14,1 / 40,5	16,4 / 37,7	18,4 / 35,5	20,2 / 33,8	21,8 / 32,3
		Waterflow (l/h) / Water DP (kPa)	355 / 1,9	501 / 3,7	620 / 5,5	720 / 7,2	808 / 9,0	887 / 10,6	957 / 12,3
	15	Power (kW) / Supply air (°C)	7,5 / 51,7	10,6 / 46,1	13,1 / 42,4	15,3 / 39,8	17,1 / 37,8	18,8 / 36,1	20,3 / 34,8
		Waterflow (l/h) / Water DP (kPa)	330 / 1,7	466 / 3,2	575 / 4,8	669 / 6,3	750 / 7,8	823 / 9,3	888 / 10,7
60/50	11	Power (kW) / Supply air (°C)	6,1 / 40,6	8,6 / 36,2	10,7 / 33,3	12,4 / 31,2	14,0 / 29,6	15,4 / 28,3	16,6 / 27,2
		Waterflow (l/h) / Water DP (kPa)	527 / 4,2	749 / 8,1	929 / 12,0	1083 / 16,0	1218 / 19,9	1338 / 23,8	1446 / 27,5
	15	Power (kW) / Supply air (°C)	5,5 / 41,8	7,8 / 37,8	9,7 / 35,2	11,3 / 33,3	12,7 / 31,9	13,9 / 30,7	15,0 / 29,7
		Waterflow (l/h) / Water DP (kPa)	478 / 3,5	679 / 6,7	841 / 10,0	980 / 13,3	1102 / 16,5	1210 / 19,7	1308 / 22,8
45/40	11	Power (kW) / Supply air (°C)	4,4 / 32,2	6,2 / 29,1	7,7 / 27,1	9,0 / 25,6	10,1 / 24,5	11,1 / 23,5	12,1 / 22,8
		Waterflow (l/h) / Water DP (kPa)	752 / 8,4	1072 / 16,3	1334 / 24,4	1557 / 32,6	1753 / 40,6	1928 / 48,5	2086 / 56,2
	15	Power (kW) / Supply air (°C)	3,8 / 33,4	5,4 / 30,8	6,7 / 29,0	7,8 / 27,7	8,8 / 26,7	9,7 / 25,9	10,5 / 25,2
		Waterflow (l/h) / Water DP (kPa)	654 / 6,5	932 / 12,5	1158 / 18,8	1352 / 25	1521 / 31,2	1673 / 37,2	1809 / 43,1

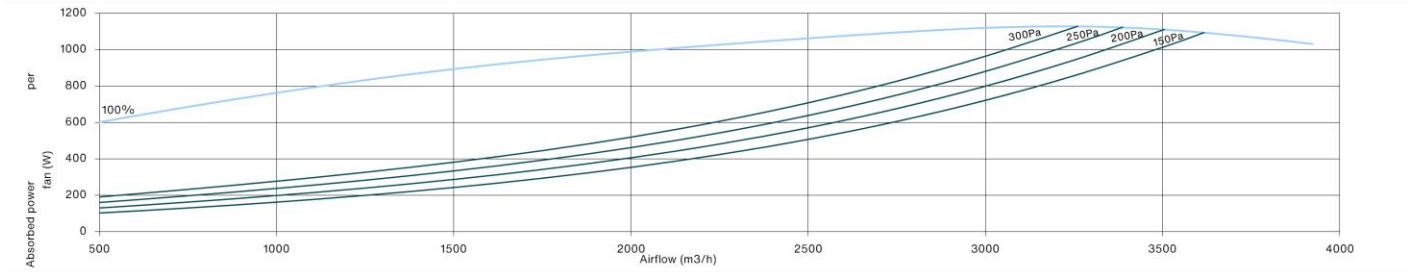
Electric coil performance characteristics Zehnder Silvertop™ 23

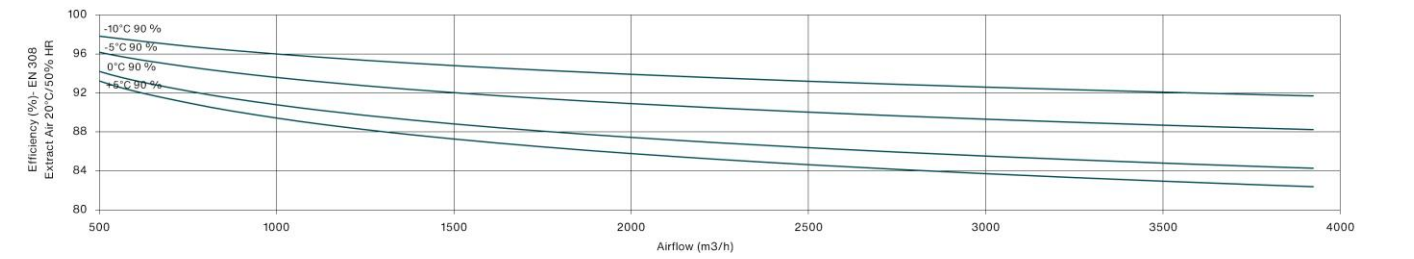
BE for unit version												Electric coil
Fresh airflow	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m^3/h)	2300		2300			2300				2300		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		6,75			6,75				6,75 + 6,75		
Outlet temperature (°C)	17,1	16,9	17,1	16,1	18,6	25,9	25,7	21,5	29,4	25,9	24,9	29,6

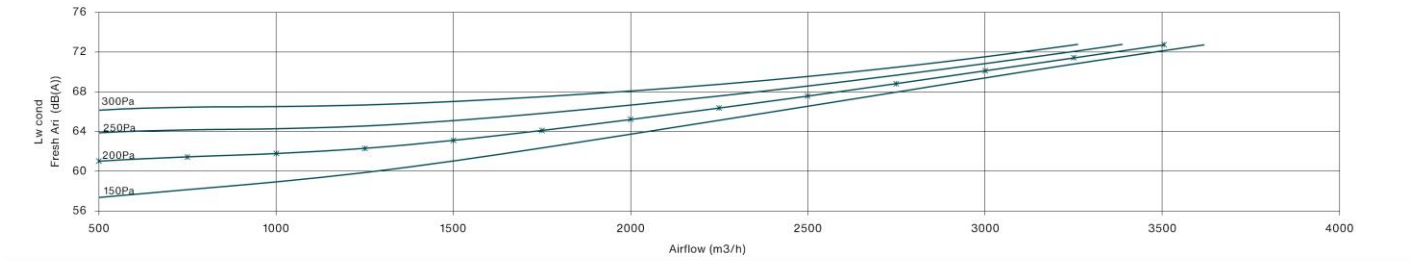
These data are provided for optimal control configuration according to the outdoor temperatures in question. Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.
* In the event of a 20% reduction in volumetric airflow.

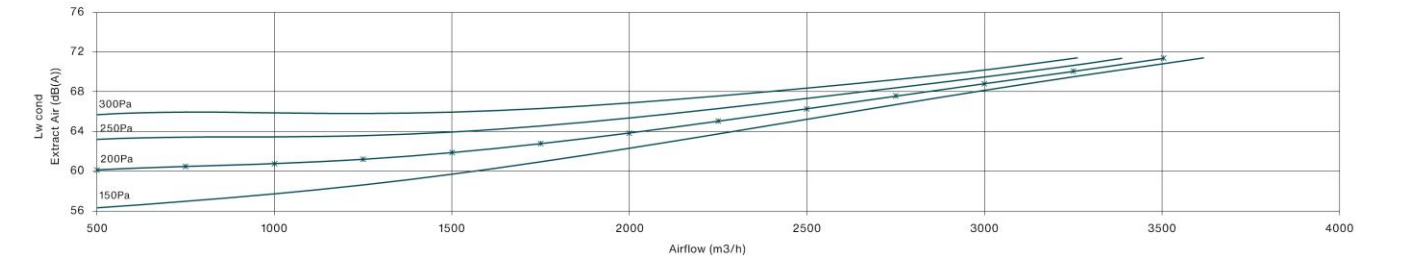
Selection curves Zehnder Silvertop™ 35

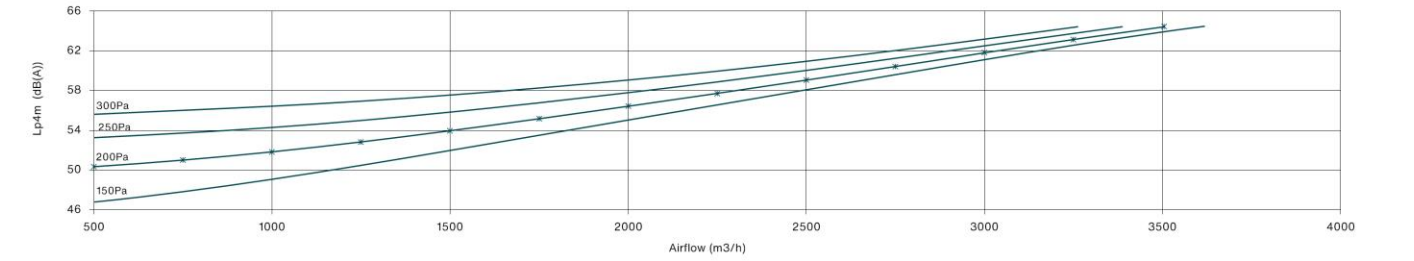












Hot water coil performance characteristics Zehnder Silvertop™ 35

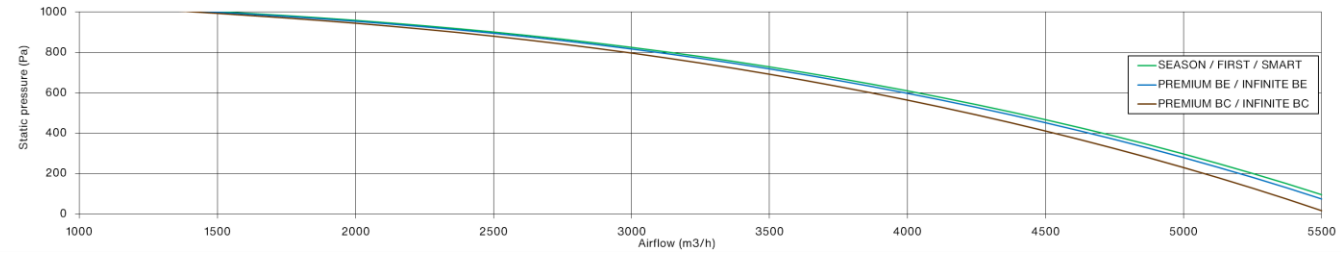
BC for PREMIUM and INFINITE version									Hot water coil
Water Temp. °C / °C	Air entry Temp. °C	Airflow m3/h	1000	1400	1800	2200	2600	3000	3400
80/60	11	Power (kW) / Supply air (°C)	12,7 / 48,3	15,9 / 44,3	18,7 / 41,4	21,1 / 39,1	23,3 / 37,2	25,3 / 35,7	27,1 / 34,3
		Waterflow (l/h) / Water DP (kPa)	558 / 2,5	683 / 3,7	819 / 5,0	925 / 6,2	1021 / 7,4	1108 / 8,6	1188 / 9,8
	15	Power (kW) / Supply air (°C)	11,9 / 49,7	14,8 / 45,9	17,4 / 43,2	19,6 / 41,1	21,6 / 39,6	23,5 / 37,9	25,2 / 36,7
		Waterflow (l/h) / Water DP (kPa)	519 / 2,2	649 / 3,2	761 / 4,3	859 / 5,4	948 / 6,5	1029 / 7,5	1103 / 8,6
60/50	11	Power (kW) / Supply air (°C)	9,6 / 38,9	12,0 / 36,0	14,1 / 33,9	15,9 / 32,2	17,6 / 30,8	19,2 / 29,7	20,6 / 28,7
		Waterflow (l/h) / Water DP (kPa)	830 / 5,3	1042 / 8,1	1225 / 10,9	1387 / 13,6	1533 / 16,4	1666 / 19,1	1788 / 21,8
	15	Power (kW) / Supply air (°C)	8,7 / 40,3	10,9 / 37,7	12,8 / 35,7	14,4 / 34,2	16,0 / 33,0	17,3 / 31,9	18,6 / 31,0
		Waterflow (l/h) / Water DP (kPa)	753 / 4,5	945 / 6,7	1110 / 9,1	1256 / 11,4	1388 / 13,7	1508 / 15,9	1619 / 18,1
45/40	11	Power (kW) / Supply air (°C)	6,9 / 31,0	8,6 / 29,0	10,2 / 27,5	11,5 / 26,3	12,7 / 25,3	13,8 / 24,5	14,9 / 23,8
		Waterflow (l/h) / Water DP (kPa)	1185 / 10,6	1491 / 16,2	1756 / 21,8	1991 / 27,5	2203 / 33,1	2396 / 38,7	2574 / 44,1
	15	Power (kW) / Supply air (°C)	6,0 / 32,5	7,5 / 30,7	8,8 / 29,3	10,0 / 28,3	11,1 / 27,4	12,0 / 26,7	12,9 / 26,1
		Waterflow (l/h) / Water DP (kPa)	1032 / 8,2	1297 / 12,5	1527 / 16,9	1730 / 21,2	1914 / 25,6	2081 / 29,8	2235 / 34,0

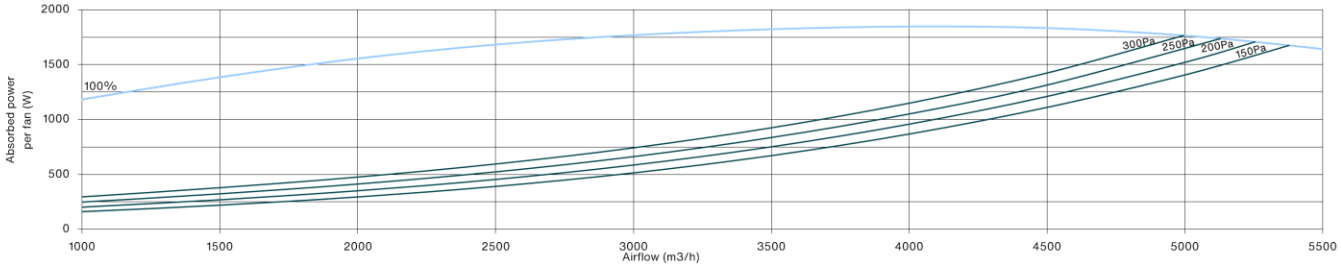
Electric coil performance characteristics Zehnder Silvertop™ 35

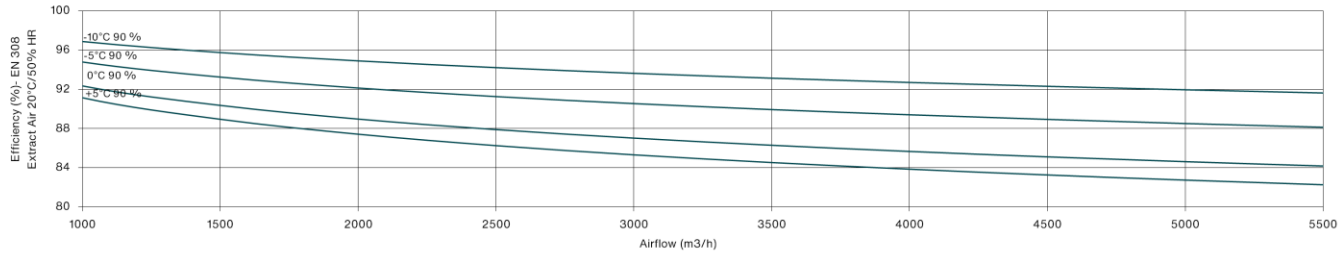
BE for unit version												Electric coil
Fresh airflow	0 °C	-5 °C	-10 °C	-15 °C	-15 °C*	0 °C	-5 °C	-10 °C	-10 °C*	-10 °C	-15 °C	-15 °C*
(m^3/h)	3500		3500			3500				3500		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		12,0			10,5				12,0 + 10,5		
Outlet temperature (°C)	17,0	16,7	17,0	17,1	18,4	26,0	25,7	21,6	29,6	26,0	26,1	29,6

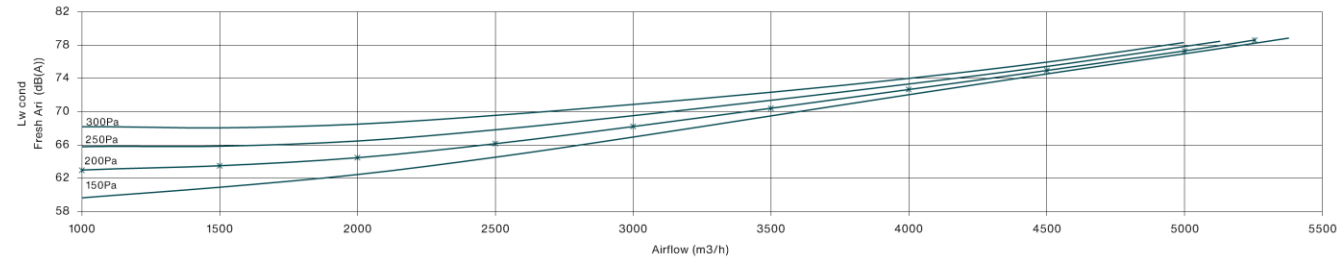
These data are provided for optimal control configuration according to the outdoor temperatures in question. Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.
* In the event of a 20% reduction in volumetric airflow.

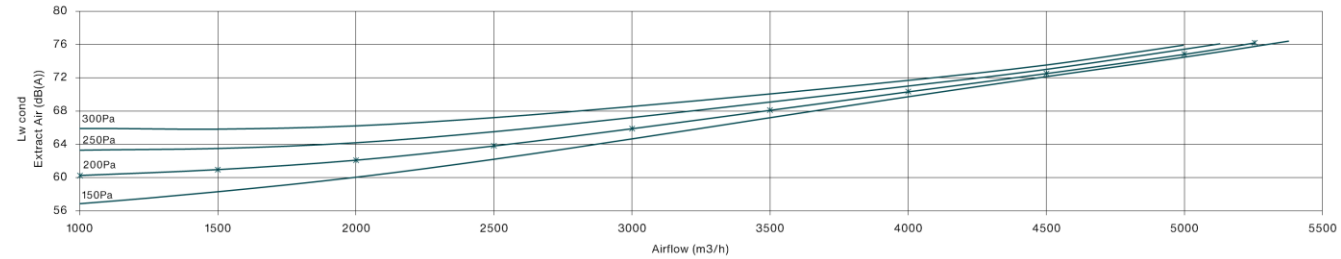
Selection curves Zehnder Silvertop™ 52

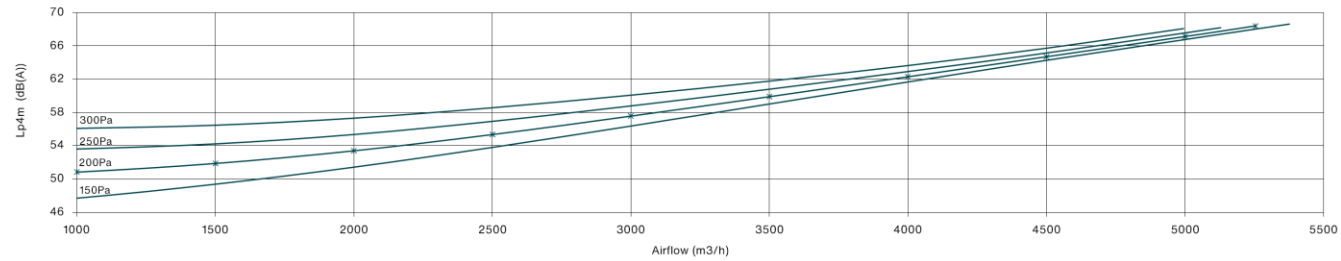












Hot water coil performance characteristics Zehnder Silvertop™ 52

BC for PREMIUM and INFINITE version								Hot water coil
Water Temp. °C / °C	Air entry Temp. °C	Airflow m3/h	1200	2000	2800	3600	4400	5200
80/60	11	Power (kW) / Supply air (°C)	17,1 / 52,7	24,4 / 46,7	30,3 / 42,7	35,4 / 39,8	39,9 / 37,5	43,9 / 35,7
		Waterflow (l/h) / Water DP (kPa)	749 / 1,3	1068 / 2,6	1326 / 3,8	1552 / 5,1	1749 / 6,4	1925 / 7,6
	15	Power (kW) / Supply air (°C)	15,9 / 53,8	22,7 / 48,2	28,2 / 44,4	32,9 / 41,7	37,1 / 39,6	40,8 / 38,0
		Waterflow (l/h) / Water DP (kPa)	697 / 1,2	993 / 2,2	1235 / 3,4	1442 / 4,5	1624 / 5,5	1787 / 6,6
60/50	11	Power (kW) / Supply air (°C)	12,8 / 42,1	18,3 / 37,8	22,8 / 34,9	26,8 / 32,8	30,2 / 31,1	33,3 / 29,7
		Waterflow (l/h) / Water DP (kPa)	1109 / 2,9	1592 / 5,6	1987 / 8,4	2327 / 11,2	2627 / 14,0	2896 / 16,8
	15	Power (kW) / Supply air (°C)	11,6 / 43,2	16,6 / 39,3	20,7 / 36,6	24,2 / 34,7	27,4 / 33,2	30,1 / 32,0
		Waterflow (l/h) / Water DP (kPa)	1007 / 2,4	1443 7 4,7	1801 / 7,0	2108 / 9,3	2379 / 11,7	2622 / 14,0
45/40	11	Power (kW) / Supply air (°C)	9,1 / 33,3	13,1 / 30,2	16,5 / 28,2	19,3 / 26,7	21,8 / 25,5	24,1 / 24,6
		Waterflow (l/h) / Water DP (kPa)	1579 / 5,7	2275 / 11,1	2847 / 16,9	3340 / 22,6	3775 / 28,3	4167 / 34,0
	15	Power (kW) / Supply air (°C)	8,0 / 34,4	11,4 / 31,7	14,3 / 30,0	16,8 / 28,6	19,0 / 27,6	20,9 / 26,8
		Waterflow (l/h) / Water DP (kPa)	1376 / 4,4	1979 / 8,6	2475 / 13,0	2902 / 17,5	3279 / 21,9	3618 / 26,2

Electric coil performance characteristics Zehnder Silvertop™ 52

BE for unit version												Electric coil
Fresh airflow	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)	5200		5200			5200				5200		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		15,0			12,0				15,0 + 12,0		
Outlet temperature (°C)	16,9	16,6	16,9	15,7	18,4	23,8	23,5	19,5	26,9	23,8	22,7	27,1

These data are provided for optimal control configuration according to the outdoor temperatures in question. Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.
* In the event of a 20% reduction in volumetric airflow.

Options

Climatic

Kit 3 way valve 24V IP54 ref. DN15
PREMIUM BC /INFINITE BC versions

Circular damper antifreeze 24V ref. RC4A
Frost prevention. Airtight class 4

Chilled water module Combibox ref. CBX BF
Duct installation (see COMBIBOX CONCEPT™ documentation for descriptions). SEASON version not compatible

DX module Combibox R410A ref. CBX DX
Duct installation (see COMBIBOX CONCEPT™ documentation for descriptions). SEASON version not compatible

Filter F9 ePM1 80%

Filter M5 ePM10 50%

Controller

Wall touch screen MASTER ref. EASY 5.0
Version SEASON not compatible

Wall-mounted touch screen USER ref. EDT2 100ML
SEASON version not compatible

Security and control

Air pressure switch ref. DEP
Extract air filter (IP54)

Liquid manometer J ref. 0-1000 Pa VDI6022 DISPOSITIF

Smoke detection ref. CDAD
(IP54)

Trigger box ref. BD TBTS 24/48 Vcc
24 or 48 Vdc low-voltage box (IP67)

Airflow modulation

Potentiometer 0-10 V ref. POT 230
Potentiometer only for SEASON (IP54)

2 speed comfort remote control ref. CDC 2V2
OFF/LS/HS, 2 fans, box (IP54)

2 speed comfort remote control ref. CDC PVGV2
LS/HS, 2 fans, box (IP54)

Présence sensor ref. 360 TOR SA
ON/OFF or LS/HS
(SEASON version not compatible)

2 speed comfort remote control ref. CDC 1V2
ON/OFF, 2 fans, box (IP54)

Installation

Flexible sleeve ref. MTS M0
Fire Class: M0
Male (network side) / Female (unit side) diameters)

Anti-vibration plot réf. PAV 40-60
Set of 4 (100 mm high). For floor mounting

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