

Zehnder Flatpower™

Technical specification

always the best climate

Application

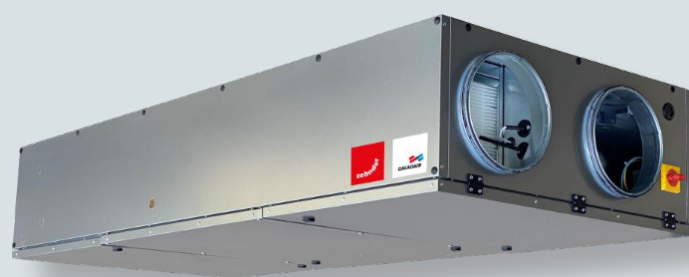
Self-regulating heat recovery unit, high efficiency and performance, for tertiary and industrial applications such as offices, schools, care homes, shopping malls, catering facilities, multi-family housing, etc.

Monobloc unit, compact and extra-flat for installation in false ceilings via an included a patented mounting frame. Access from below to all components, including filter change.

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

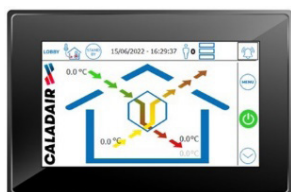
Aluminium counterflow heat exchanger with over 90% efficiency (EN308), compliant ErP Directive 2009/125/EC and with French regulation RE2020.

Air filtration and temperature management for optimal comfort and IAQ.



Top Benefits

- Access to all components from below via hinged panels.
- Ideal solution for false ceilings installation, with patented mounting system.



Range

The Flatpower™ range is available in 5 sizes which cover airflows from 100 m³/h to 2 400 m³/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 10°C.

PREMIUM : unit equipped with a heating coil, either electric (BE), water changeover (CO) or direct expansion (DXR).

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

4 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.

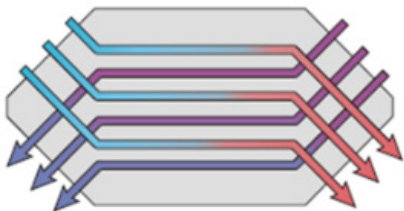
DIVA : proportional fan speed modulation on CO2 levels.

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).

More benefits

- Condensates drain trays for heat exchanger and coils (CO and DXR), as well as heat exchanger, are removable for easy commissioning.
- 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 mm mineral wool). Thermal class T3 and airtightness class L1 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.

Constitution

The Flatpower™ range features the self-supporting Eurovent certified AIRSLIM™ model box (L1/D2/T3/TB3/F9) in accordance with EN1886.

- 10/10th double-skin panels and 25 mm of M0 (A2-S1) high-density 60kg/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).
- EASY 5.0 technical cabinet (electrical and control components) accessible from a sliding panel for easy maintenance.
- Lockable main power cut-off switch and power cable pass-through integrated near the exhausted air side.
- Access to all components and filters from below via opening panels.
- Condensate drain trays for heat exchanger and coils (CO/DXR) are inclined and removable.
- 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 Flatpower™ 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])

Extract Air

ePM10 filter 50% [M5]

Filters are always mounted on slides for easy replacement.

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 exhaust 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.

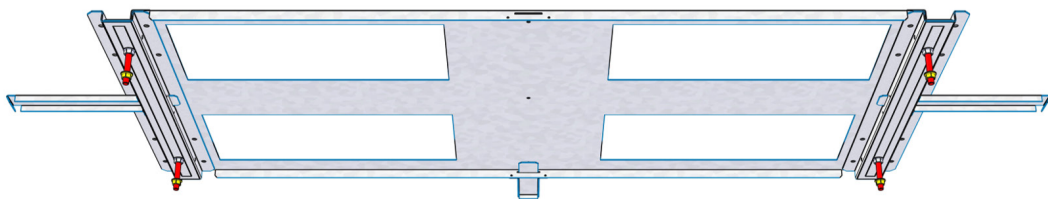
Fire safety function (except SEASON) to control supply and extract fans according to 5 available modes in the control parameters (function can be activated on site). A pictogram of a fire alarm is displayed on the screen:

- 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 Flatpower™ 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 Flatpower™ has no roof. It must be installed exclusively indoors, on a ceiling (with or without false ceiling). It is designed for suspended mounting using threaded rods, thanks to a patented mounting frame which also serves as a mounting pattern. For maintenance, access to all internal components is via the bottom of the unit via 3 independent, hinged doors for access to the interior.



Climatic versions

The Flatpower™ 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:

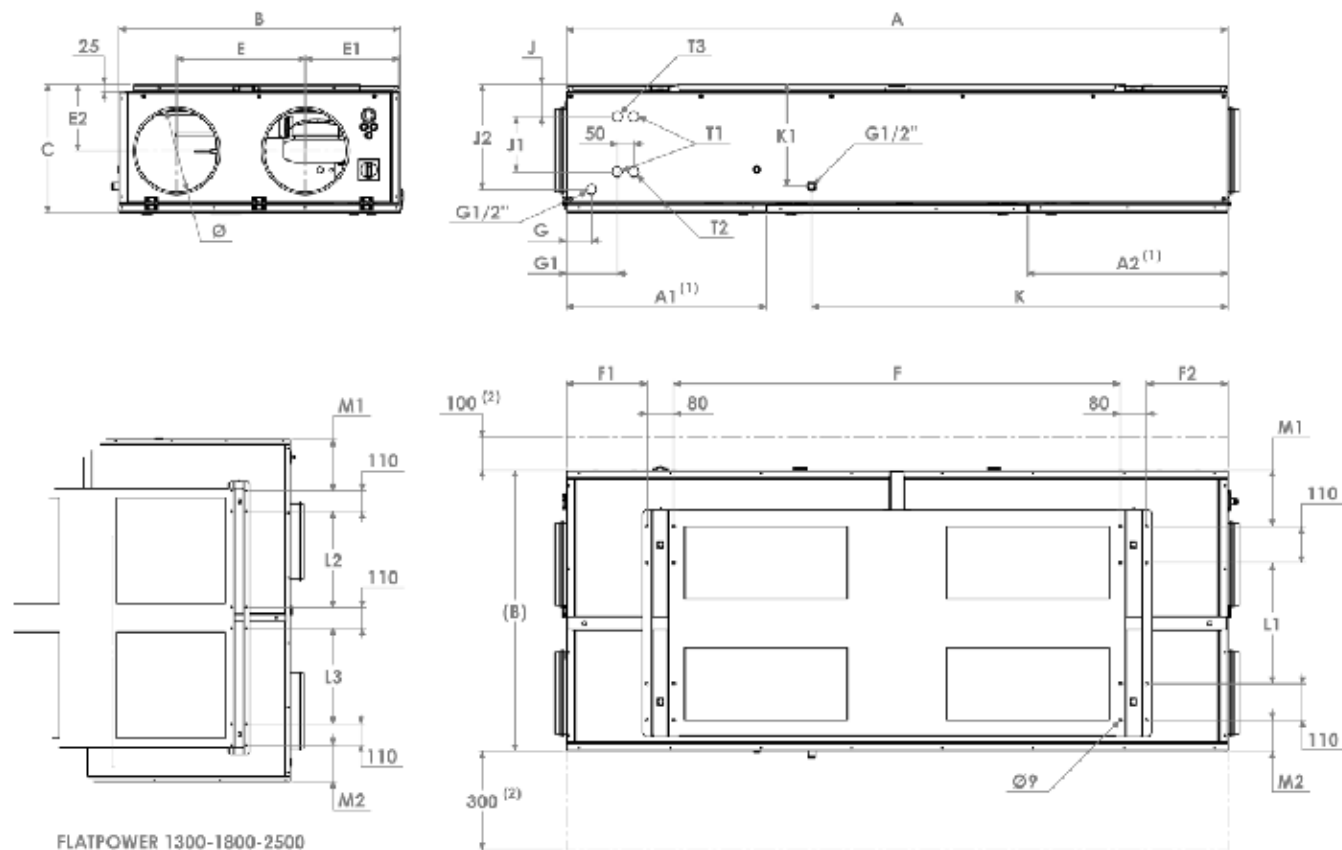
- Cold water module (CBX-BF) on all versions and changeover possible on FIRST and SMART versions.
- CBX-DX R410A direct expansion module.

Unit versions with different coils

Zehnder Flatpower™	Integrated coil (S)								External module					
	Preheating	Heating			Cooling		Changeover (Hot/Cold)		Heating		Cooling		Changeover (Hot/Cold)	
	Electric	Electric	Water	R410A	Water	R410A	Water	R410A	Water	DX	Water	DX	Water	DX
SEASON	-	-	-	-	-	-	-	-	-	-	-	-	-	-
FIRST	-	-	-	-	-	-	-	-	BC	DXR	BF	DX	BF	DXR
SMART	■	-	-	-	-	-	-	-	BC	DXR	BF	DX	BF	DXR
PREMIUM BE	-	■	-	-	-	-	-	-	-	-	BF	DX		
PREMIUM CO	-	-	-	-	-	-	■	-	-	-	-	-	-	-
	-	-	■	-	-	-	-	-	-	-	BF	DX	-	-
	-	-	-	-	■	-	-	-	BC	DXR	-	-	-	-
PREMIUM DXR	-	-	-	-	-	-	-	■	-	-	-	-	-	-
	-	-	-	■	-	-	-	-	-	-	BF	-	-	-
	-	-	-	-	-	■			BC	-	-	-	-	-
INFINITE BE	■	■					-	-						
INFINITE CO	■	-	-	-	-	-	■	-	-	-	-	-	-	-
	■	-	■	-	-	-	-	-	-	-	BF	DX	-	-
	■	-	-	-	■	-	-	-	BC	DXR	-	-	-	-
INFINITE DXR	■	-	-	-	-	-	-	■	-	-	-	-	-	-
	■	-	-	■	-	-	-	-	-	-	BF	-	-	-
	■	-	-	-	-	■			BC	-	-	-	-	-

Dimensions characteristics

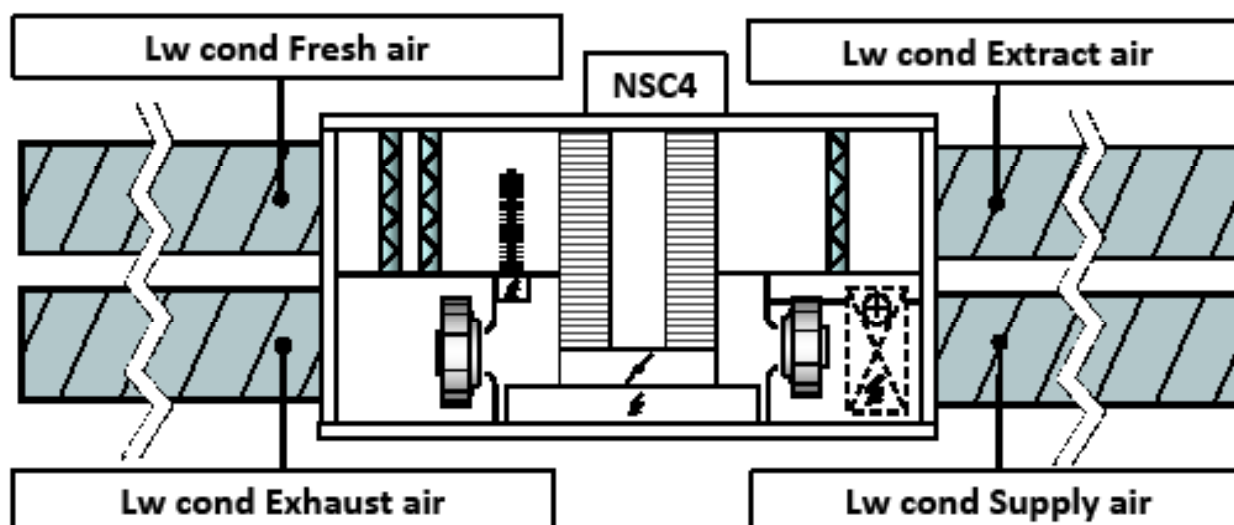
Flatpower™ Model	Ø	A	A1	A2	B	C	E	E1	E2	F	F1	F2	G	G1
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm
600	250	2005	610	610	855	390	390	290	205	1355	245	245	80	155
900	315	2245	640	640	1040	485	495	325	255	1595	245	245	75	155
1300	355	2355	885	595	1295	485	600	405	255	1445	520	230	325	430
1800	400	2435	885	595	1295	565	600	405	290	1525	520	230	325	430
2500	400	2435	885	595	1815	565	900	545	290	1525	520	230	330	430
Flatpower™ Model	J	J1	J2	K	K1	L1	L2	L3	M1	M2	Ø T1	Ø T2 OUT	Ø T3 IN "	
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	"	"		
600	110	170	320	1265	310	365	-	-	172	95	1/2"	1/2"	3/8"	
900	110	250	415	1420	405	550	-	-	172	95	1/2"	1/2"	3/8"	
1300	110	250	420	1330	405	-	348	348	172	95	1/2"	5/8"	1/2"	
1800	110	330	495	1415	485	-	348	348	172	95	1/2"	5/8"	1/2"	
2500	110	330	500	1415	485	-	510	510	272	194	1/2"	3/4"	5/8"	



(1) Clearance to opening panels.
(2) Minimum clearance require.

Flatpower™ Model	FIRST SEASON SMART	PREMIUM BE	PREMIUM CO PREMIUM DXR	INFINITE BE	INFINITE CO INFINITE DXR
	kg	kg	kg	kg	kg
600	172	174	176	176	178
900	240	244	247	245	248
1300	297	300	306	300	308
1800	321	323	327	329	333
2500	418	423	431	425	433

Mounting and unit versions



View from above

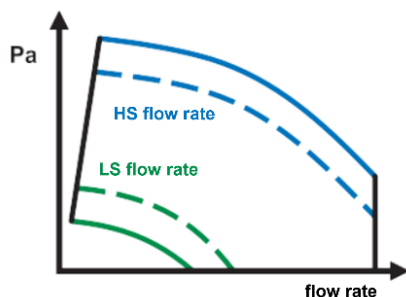
Electrical characteristics

Electrical performance data				
Flatpower™ Model	Motor power input	Temp. Use	Protection class	Thermal protection*
	(W)	(°C / °C)		
600	2x 169W	-20/60	IP 54/B	ITP
900	2x 220W	-20/60	IP 54/B	ITP
1300	2x400W	-20/40	IP 44/B	ITP
1800	2x400W	-20/40	IP 44/B	ITP
2500	2x400W	-20/40	IP 44/B	ITP
Flatpower™ Model	SEASON / FIRST / PREMIUM CO / PREMIUM DXR		SMART / INFINITE CO / INFINITE DX	
	Power supply voltage	Current protection	Power supply voltage	Current protection
	(V / Ph / Hz)	(A)	(V / Ph / Hz)	(A)
600	230/1/50	2.8	230/1/50	7.1
900	230/1/50	3.4	230/1/50	14.3
1300	230/1/50	9.2	230/1/50	24.4
1800	230/1/50	9.2	230/1/50	25.5
2500	230/1/50	9.2	230/1/50	32.0
Flatpower™ Model	PREMIUM BE		INFINITE BE	
	Power supply voltage	Current protection	Power supply voltage	Current protection
	(V / Ph / Hz)	(A)	(V / Ph / Hz)	(A)
600	230/1/50	8.2	230/1/50	12.6
900	230/1/50	11.0	230/1/50	21.9
1300	230/1/50	20.1	230/1/50	35.3
1800	230/1/50	25.5	400/3+N /50	15.4
2500	230/1/50	32.0	400/3+N/50	19.8

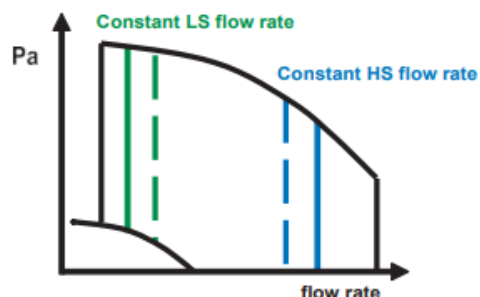
Airflow modulation

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

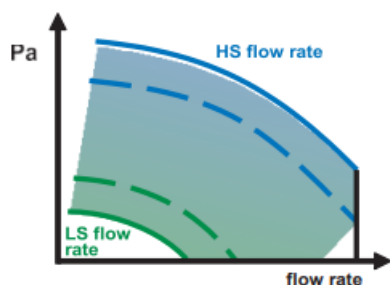
ECO : 2 speed settings (LS/HS) per fan.



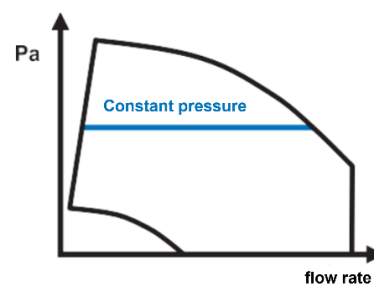
MAC 2 : 2 constant airflows.



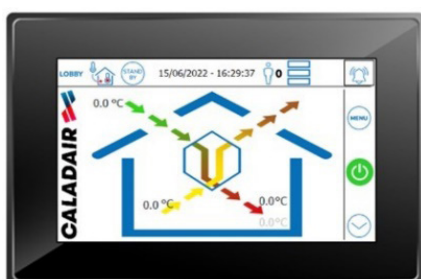
DIVA: proportional fan speed modulation on CO2 levels.



LOBBY : constant pressure airflow modulation on each fan.



EASY 5.0 : MASTER touchscreen control in the Flatpower™ control cabinet, which can be remoted as a wall-mounted control for setting clocks, airflows, temperature (self-regulating and modulating internal bypass, hot coil for BC versions or electric for BE versions, night-cooling), monitoring and checking errors...



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 CO	PREMIUM DXR	INFINITE BE	INFINITE CO	INFINITE DXR
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	●	●	●	●	●	●	●	●	●
Inclined and removable condensate trays (CO/ DXR coils and heat exchanger)	●	●	●	●	●	●	●	●	●
25 mm double skin, 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.

α : 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 CO	PREMIUM DXR	INFINITE BE	INFINITE CO	INFINITE DXR
ECO : 2 speed settings (LS/HS) per fan	—	α	α	α	α	α	α	α	α
MAC 2 : 2 constant airflow per fan. Integrated pressure sensor	—	α	α	α	α	α	α	α	α
DIVA : proportional modulation for each fan speeds	—	α	α	α	α	α	α	α	α
LOBBY : constant-pressure airflow modulation for each fan	—	α	α	α	α	α	α	α	α
FURTHER OPTIONS	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM CO	PREMIUM DXR	INFINITE BE	INFINITE CO	INFINITE DXR
Summer / Winter thermostat	—	☒	☒	☒	☒	☒	☒	☒	☒
USER room remote touch control (EDT2)	—	☒	☒	☒	☒	☒	☒	☒	☒
Room temperature management via touchscreen room controller	—	☒	☒	☒	☒	☒	☒	☒	☒

● : Equipment or function as standard.

α : Equipment or function as an option. Supplied mounted and wired at the factory.

☒ : Equipment or function as an option. Supplied unmounted.

Acoustic characteristics

Softwair.fr™ 
CALADAIR MATRIX SOLUTION

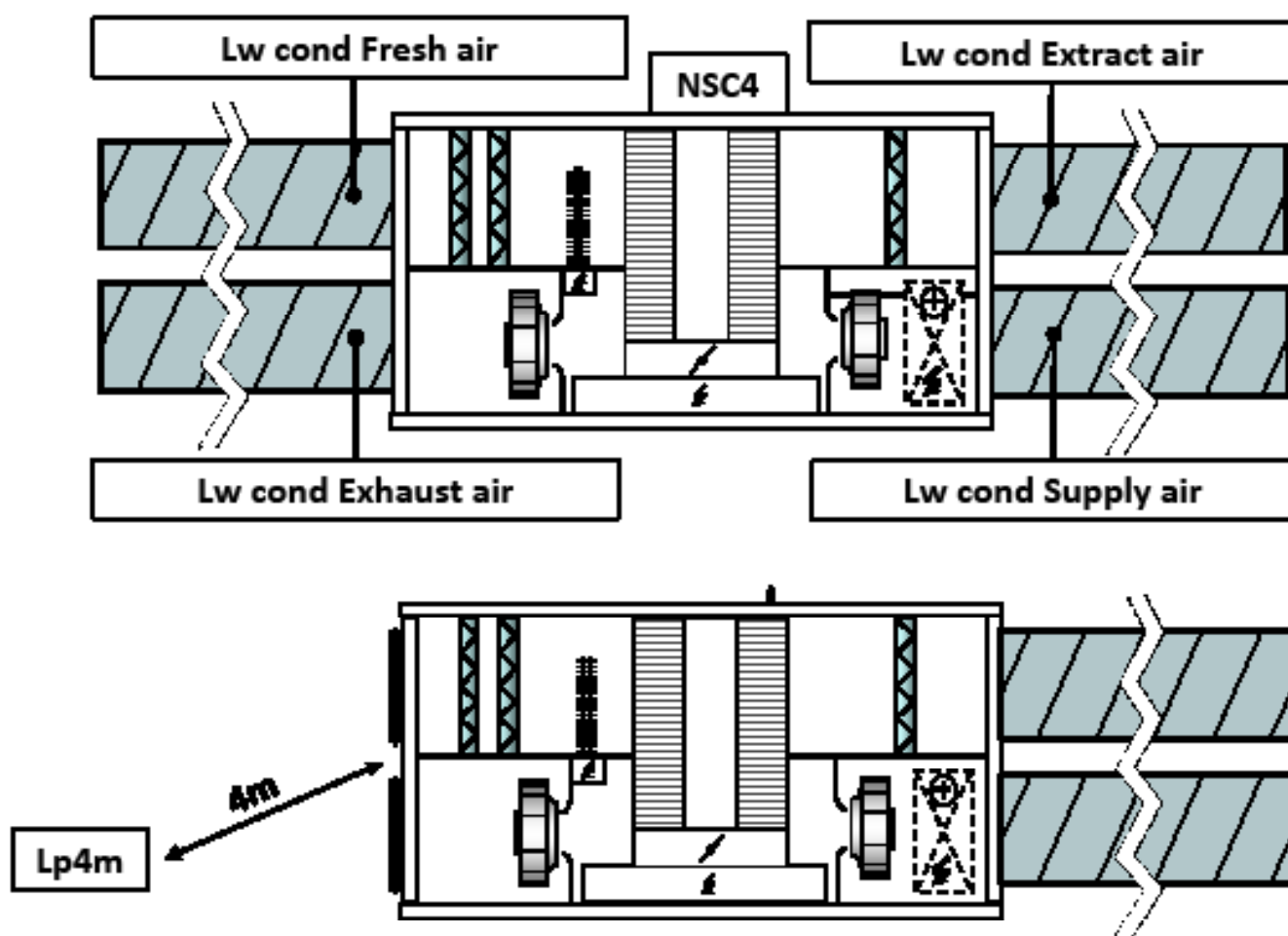
The information provided in this documentation are general information for the Flatpower™ range. All technical performances refer to the nominal airflow of each size. Therefore, it is recommended for your projects to dimension your units using the Softwair selection software, with Eurovent EN1886 certified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

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.

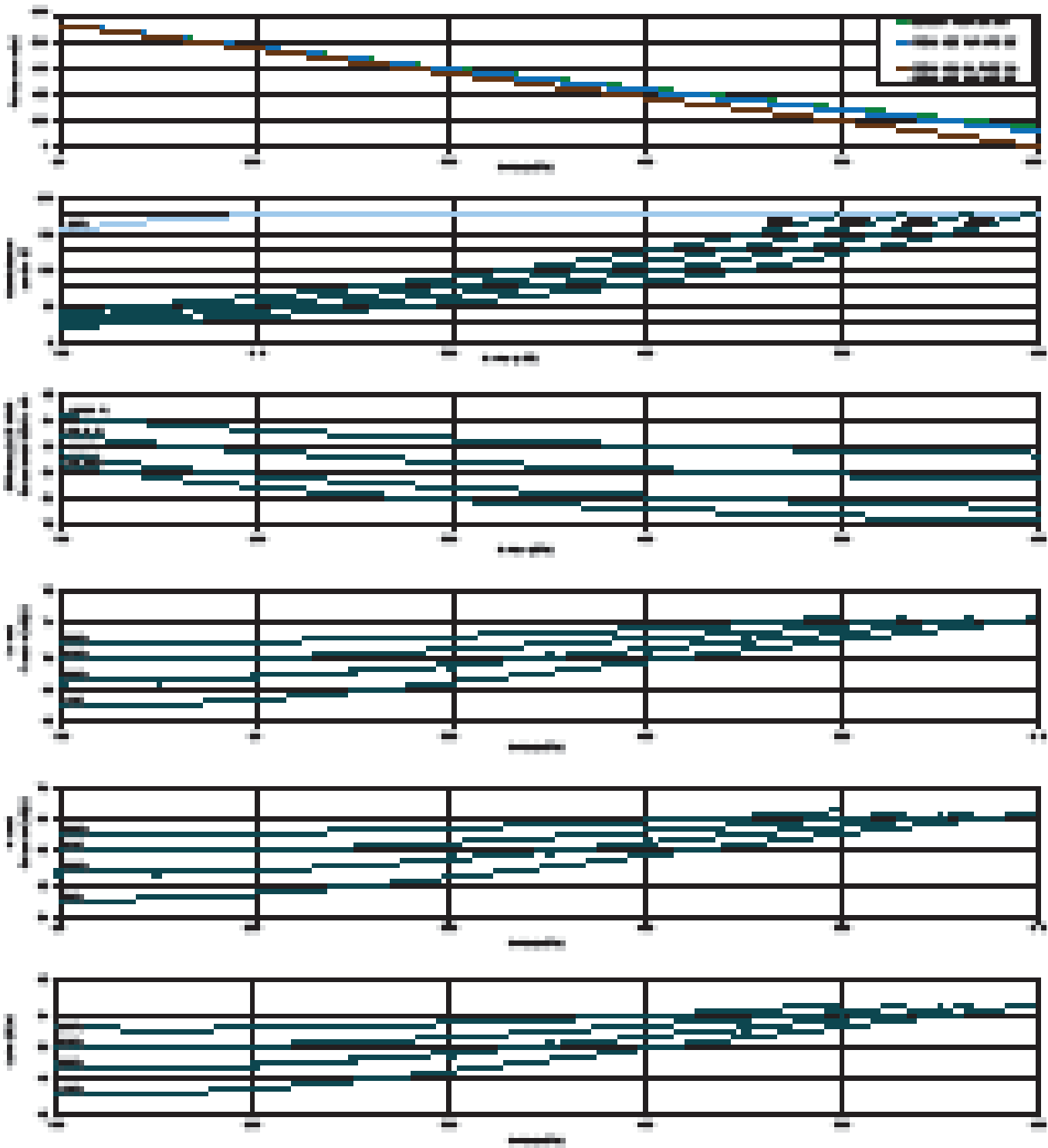
To obtain the global sound pressure level Lp dB(A), at a certain distance, add the values below to Lp4m.

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 Flatpower™ 600



Reversible water coil performance characteristics Zehnder Flatpower™ 600

CO for PREMIUM and INFINITE versions			Changeover coil					
Water Temp. °C / °C	Air entry Temp. °C	Airflow m ³ /h	100	200	300	400	500	600
80 / 60	11	Power (kW) / Supply air (°C)	1,8 / 65	3,2 / 58	4,3 / 54	5,3 / 50	6,2 / 48	6,9 / 46
		Waterflow (l/h) / Water DP (kPa)	80 / 1	140 / 3	190 / 6	230 / 6	270 / 5	300 / 6
	15	Power (kW) / Supply air (°C)	1,7 / 65	2,9 / 59	4,0 / 55	4,9 / 52	5,7 / 49	6,4 / 47
		Waterflow (l/h) / Water DP (kPa)	70 / 1	130 / 3	170 / 5	210 / 5	250 / 4	280 / 5
60 / 50	11	Power (kW) / Supply air (°C)	1,3 / 51	2,4 / 46	3,2 / 43	4,0 / 41	4,6 / 39	5,3 / 37
		Waterflow (l/h) / Water DP (kPa)	120 / 3	210 / 5	280 / 5	350 / 8	410 / 11	460 / 13
	15	Power (kW) / Supply air (°C)	1,2 / 51	2,1 / 47	2,9 / 44	3,6 / 42	4,2 / 40	4,8 / 39
		Waterflow (l/h) / Water DP (kPa)	110 / 2	190 / 6	250 / 5	310 / 7	370 / 9	410 / 11
45 / 40	11	Power (kW) / Supply air (°C)	1,0 / 39	1,7 / 36	2,3 / 34	2,9 / 32	3,4 / 31	3,8 / 30
		Waterflow (l/h) / Water DP (kPa)	170 / 5	290 / 6	400 / 11	500 / 14	580 / 18	660 / 23
	15	Power (kW) / Supply air (°C)	0,8 / 40	1,5 / 37	2,0 / 35	2,5 / 34	2,9 / 32	3,3 / 31
		Waterflow (l/h) / Water DP (kPa)	140 / 4	260 / 5	350 / 8	430 / 12	500 / 14	570 / 18
7 / 12	32 - 40	Power (kW) / Supply air (°C)	0,9 / 13,2-91	1,6 / 15,4-86	2,1 / 16,8-82	2,5 / 17,8-80	2,9 / 18,5-78	3,3 / 19,2-76
		Waterflow (l/h) / Water DP (kPa)	160 / 5	270 / 6	360 / 10	430 / 15	500 / 16	560 / 20
	27 - 50	Power (kW) / Supply air (°C)	0,7 / 12,7-94	1,2 / 14,5-89	1,6 / 15,6-87	1,9 / 16,4-85	2,2 / 17,0-83	2,4 / 17,4-82
		Waterflow (l/h) / Water DP (kPa)	120 / 3	200 / 6	270 / 6	320 / 9	370 / 11	420 / 13
	25 - 50	Power (kW) / Supply air (°C)	0,5 / 12,6-94	0,9 / 14,1-90	1,2 / 15,0-87	1,3 / 15,6-90	1,5 / 16,2-86	1,7 / 16,8-83
		Waterflow (l/h) / Water DP (kPa)	90 / 2	150 / 5	200 / 6	220 / 7	250 / 5	280 / 7
6 / 11	32 - 40	Power (kW) / Supply air (°C)	1,0 / 12,3-91	1,7 / 14,6-85	2,3 / 16,1-82	2,7 / 17,2-79	3,2 / 18,0-77	3,6 / 18,7-76
		Waterflow (l/h) / Water DP (kPa)	170 / 6	290 / 7	390 / 12	470 / 17	550 / 19	610 / 24
	27 - 50	Power (kW) / Supply air (°C)	0,8 / 11,9-93	1,3 / 13,7-89	1,7 / 14,9-86	2,2 / 15,7-84	2,4 / 16,4-83	2,7 / 16,9-82
		Waterflow (l/h) / Water DP (kPa)	130 / 4	220 / 7	300 / 7	360 / 10	420 / 14	460 / 17
	25 - 50	Power (kW) / Supply air (°C)	0,6 / 11,7-94	1,0 / 13,3-90	1,3 / 14,3-87	1,6 / 15,1-85	1,6 / 15,6-89	1,8 / 16,2-86
		Waterflow (l/h) / Water DP (kPa)	100 / 2	170 / 6	230 / 7	280 / 7	270 / 6	310 / 8

Electric coil performance characteristics Zehnder Flatpower™ 600

BE for unit versions						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*
(m³/h)	600		600			600				600		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		1			1,25				1 + 1,25		
Outlet temperature (°C)	16,5	15,4	16,1	10	15,2	22,8	21,7	16,9	23,6	22,4	16,3	23

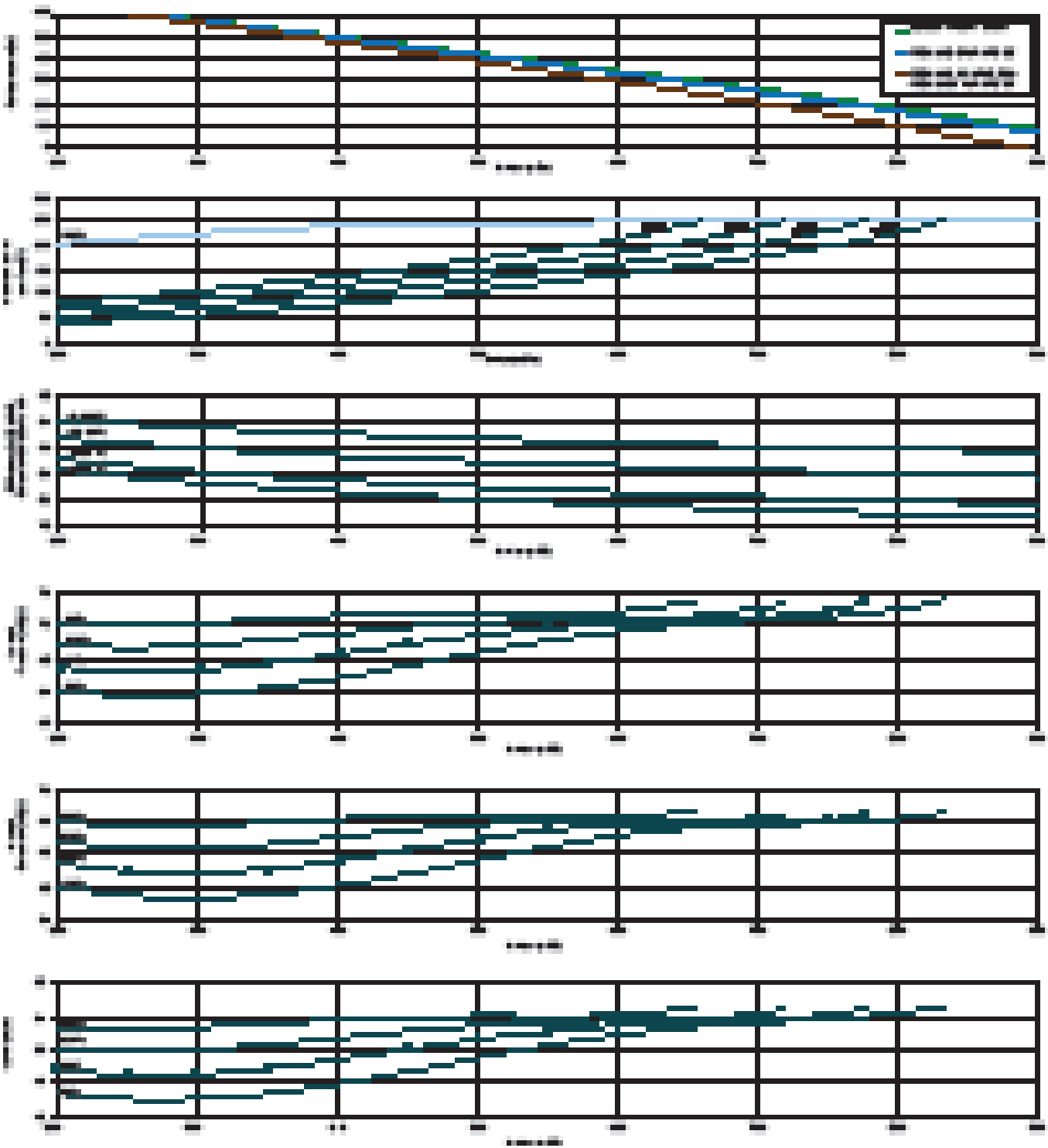
These data are provided for optimal control configuration according to the outdoor temperatures in question.
Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.

* In the event of a 20% reduction in volumetric airflow.

Reversible direct expansion coil performance characteristics Zehnder Flatpower™ 600

DXR for unit versions	R410A coil
Please refer to Softwair selection software	

Selection curves Zehnder Flatpower™ 900



Reversible water coil performance characteristics Zehnder Flatpower™ 900

CO for PREMIUM and INFINITE versions			Changeover coil				
Water Temp. °C / °C	Air entry Temp. °C	Airflow m ³ /h	200	400	600	800	900
80 / 60	11	Power (kW) / Supply air (°C)	3,6 / 65	6,3 / 58	8,5 / 53	10,4 / 50	11,3 / 48
		Waterflow (l/h) / Water DP (kPa)	160 / 4	280 / 3	370 / 6	460 / 8	500 / 7
	15	Power (kW) / Supply air (°C)	3,4 / 65	5,8 / 59	7,9 / 54	9,7 / 51	10,5 / 50
		Waterflow (l/h) / Water DP (kPa)	150 / 3	260 / 3	350 / 5	420 / 7	460 / 8
60 / 50	11	Power (kW) / Supply air (°C)	2,7 / 51	4,7 / 46	6,4 / 43	7,8 / 40	8,5 / 39
		Waterflow (l/h) / Water DP (kPa)	230 / 5	410 / 7	550 / 9	680 / 14	740 / 16
	15	Power (kW) / Supply air (°C)	2,4 / 51	4,2 / 47	5,8 / 44	7,1 / 41	7,7 / 41
		Waterflow (l/h) / Water DP (kPa)	210 / 4	370 / 6	500 / 8	620 / 11	670 / 13
45 / 40	11	Power (kW) / Supply air (°C)	1,9 / 39	3,3 / 36	4,6 / 34	5,6 / 32	6,1 / 31
		Waterflow (l/h) / Water DP (kPa)	330 / 5	580 / 10	790 / 16	980 / 24	1060 / 28
	15	Power (kW) / Supply air (°C)	1,7 / 40	2,9 / 37	4,0 / 35	4,9 / 33	5,3 / 33
		Waterflow (l/h) / Water DP (kPa)	290 / 4	500 / 8	690 / 14	850 / 19	920 / 22
7 / 12	32 - 40	Power (kW) / Supply air (°C)	1,8 / 13,1-90	3,1 / 15,4-85	4,2 / 16,8-81	5,1 / 17,8-79	5,5 / 18,2-78
		Waterflow (l/h) / Water DP (kPa)	320 / 5	540 / 11	720 / 18	870 / 23	940 / 26
	27 - 50	Power (kW) / Supply air (°C)	1,4 / 12,6-93	2,4 / 14,4-89	3,2 / 15,6-86	3,8 / 16,3-84	4,1 / 16,7-83
		Waterflow (l/h) / Water DP (kPa)	240 / 7	410 / 8	540 / 11	660 / 15	710 / 17
	25 - 50	Power (kW) / Supply air (°C)	1,1 / 12,5-93	1,8 / 14,0-89	2,4 / 15,0-86	2,5 / 15,6-90	2,7 / 15,9-88
		Waterflow (l/h) / Water DP (kPa)	190 / 6	310 / 5	410 / 8	430 / 9	470 / 11
6 / 11	32 - 40	Power (kW) / Supply air (°C)	2,0 / 12,3-90	3,4 / 14,7-84	4,5 / 16,2-81	5,5 / 17,2-78	6,0 / 17,7-77
		Waterflow (l/h) / Water DP (kPa)	340 / 6	580 / 12	780 / 19	950 / 27	1020 / 31
	27 - 50	Power (kW) / Supply air (°C)	1,6 / 11,8-93	2,6 / 13,7-88	3,5 / 14,9-86	4,3 / 15,7-84	4,6 / 16,1-83
		Waterflow (l/h) / Water DP (kPa)	270 / 4	450 / 10	600 / 13	730 / 19	790 / 19
	25 - 50	Power (kW) / Supply air (°C)	1,2 / 11,6-93	2,1 / 13,3 -89	2,7 / 14,3-86	3,3 / 15,0-84	3,6 / 15,4-83
		Waterflow (l/h) / Water DP (kPa)	210 / 5	350 / 6	470 / 11	570 / 12	610 / 13

Electric coil performance characteristics Zehnder Flatpower™ 900

BE for unit versions						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*
(m³/h)	900		900			900				900		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		2,5			1,75				2,5 + 1,75		
Outlet temperature (°C)	15,5	16,9	13,8	17,6	22,7	21,3	16,4	23,0	22,7	19,7	24,9	24,8

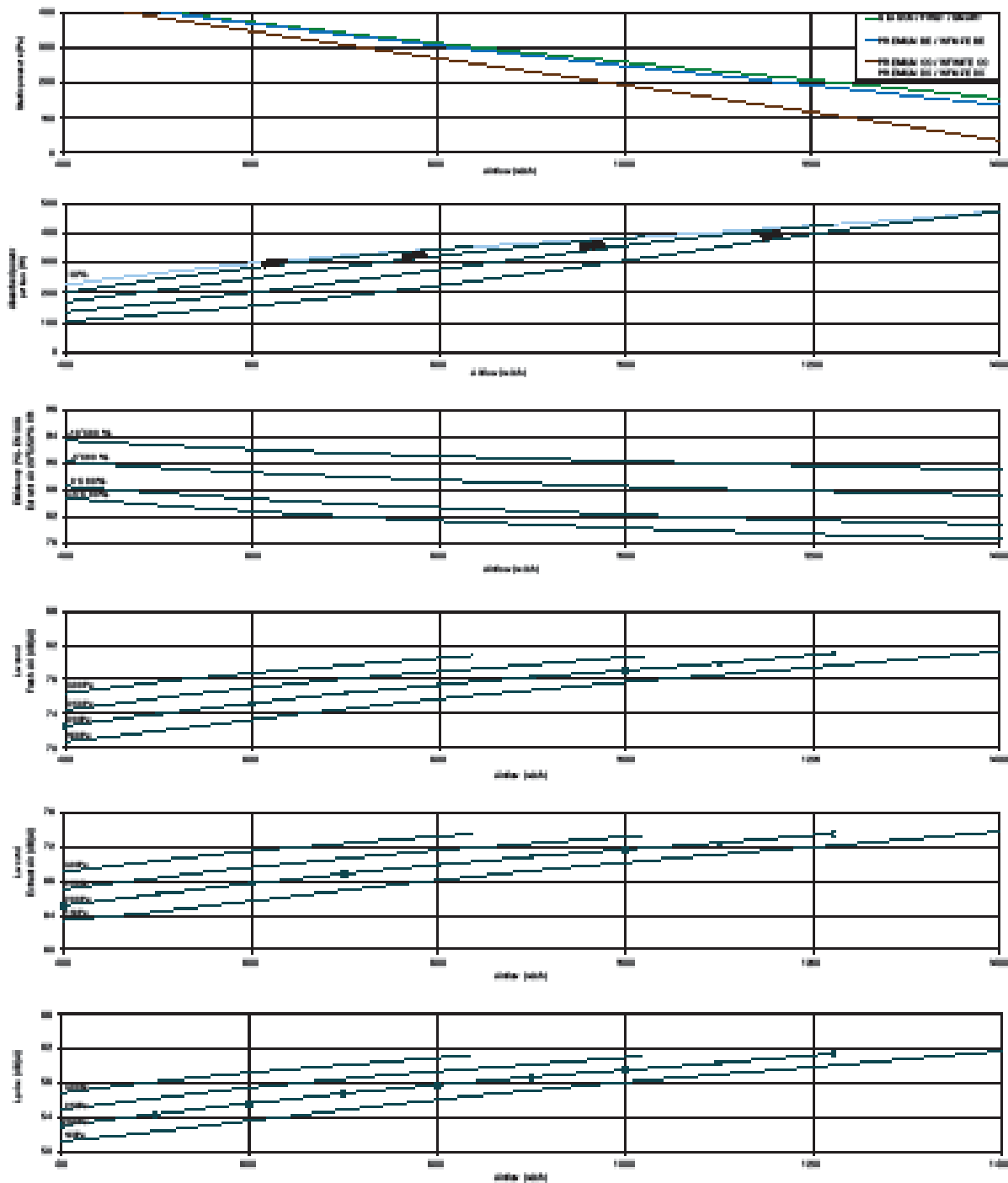
These data are provided for optimal control configuration according to the outdoor temperatures in question.
Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.

* In the event of a 20% reduction in volumetric airflow.

Reversible direct expansion coil performance characteristics Zehnder Flatpower™ 900

DXR for unit versions	R410A coil
Please refer to Softwair selection software	

Selection curves Zehnder Flatpower™ 1300



Reversible water coil performance characteristics Zehnder Flatpower™ 1300

CO for PREMIUM and INFINITE versions			Changeover coil				
Water Temp. °C / °C	Air entry Temp. °C	Airflow m ³ /h	400	600	800	1000	1200
80 / 60	11	Power (kW) / Supply air (°C)	6,8 / 62	9,4 / 58	11,6 / 54	13,7 / 52	15,5 / 50
		Waterflow (l/h) / Water DP (kPa)	300 / 4	410 / 8	510 / 9	600 / 12	680 / 15
	15	Power (kW) / Supply air (°C)	6,4 / 63	8,7 / 58	10,8 / 55	12,7 / 53	14,4 / 51
		Waterflow (l/h) / Water DP (kPa)	280 / 4	380 / 7	480 / 8	560 / 10	630 / 13
60 / 50	11	Power (kW) / Supply air (°C)	5,0 / 49	7,0 / 46	8,7 / 43	10,2 / 42	11,6 / 40
		Waterflow (l/h) / Water DP (kPa)	440 / 9	610 / 12	760 / 19	890 / 23	1010 / 28
	15	Power (kW) / Supply air (°C)	4,6 / 49	6,3 / 47	7,9 / 44	9,3 / 43	10,5 / 41
		Waterflow (l/h) / Water DP (kPa)	400 / 7	550 / 10	690 / 15	810 / 19	920 / 24
45 / 40	11	Power (kW) / Supply air (°C)	3,6 / 38	5,0 / 36	6,2 / 34	7,3 / 33	8,3 / 32
		Waterflow (l/h) / Water DP (kPa)	620 / 14	860 / 22	1080 / 33	1270 / 43	1450 / 54
	15	Power (kW) / Supply air (°C)	3,1 / 38	4,3 / 37	5,4 / 35	6,4 / 34	7,3 / 33
		Waterflow (l/h) / Water DP (kPa)	540 / 11	750 / 19	940 / 26	1110 / 35	1260 / 42
7 / 12	32 - 40	Power (kW) / Supply air (°C)	3,5 / 13,9-87	4,8 / 15,3-84	5,9 / 16,3-81	6,9 / 17,1-79	7,9 / 17,7-78
		Waterflow (l/h) / Water DP (kPa)	610 / 15	830 / 24	1020 / 35	1190 / 45	1350 / 56
	27 - 50	Power (kW) / Supply air (°C)	2,7 / 13,1-91	3,7 / 14,2-88	4,6 / 15,1-86	5,3 / 15,7-84	6,0 / 16,2-83
		Waterflow (l/h) / Water DP (kPa)	470 / 12	640 / 16	780 / 22	910 / 29	1030 / 36
	25 - 50	Power (kW) / Supply air (°C)	2,1 / 12,8-91	2,9 / 13,8-88	3,5 / 14,5-86	4,1 / 15,0-85	4,6 / 15,5-83
		Waterflow (l/h) / Water DP (kPa)	370 / 8	490 / 10	600 / 15	700 / 19	780 / 22
6 / 11	32 - 40	Power (kW) / Supply air (°C)	3,8 / 13,1-87	5,2 / 14,5-83	6,4 / 15,6-81	7,5 / 16,5-79	8,5 / 17,2-77
		Waterflow (l/h) / Water DP (kPa)	650 / 17	890 / 28	1100 / 40	1280 / 51	1450 / 64
	27 - 50	Power (kW) / Supply air (°C)	3,0 / 12,3-90	4,1 / 13,5-88	5,0 / 14,4-86	5,8 / 15,1-84	6,6 / 15,6-83
		Waterflow (l/h) / Water DP (kPa)	510 / 11	700 / 20	860 / 26	1000 / 34	1130 / 41
	25 - 50	Power (kW) / Supply air (°C)	2,4 / 12,0-91	3,2 / 13,1-88	4,0 / 13,8-86	4,6 / 14,4-84	5,2 / 14,9-83
		Waterflow (l/h) / Water DP (kPa)	410 / 10	560 / 13	680 / 19	790 / 22	890 / 28

Electric coil performance characteristics Zehnder Flatpower™ 1300

BE for unit versions						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*
(m³/h)	1300		1300			1300				1300		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		3,5			2,5				3,5 + 2,5		
Outlet temperature (°C)	16,8	15,4	16,8	13,7	17,5	22,7	21,2	16,4	23,0	22,6	19,5	24,7

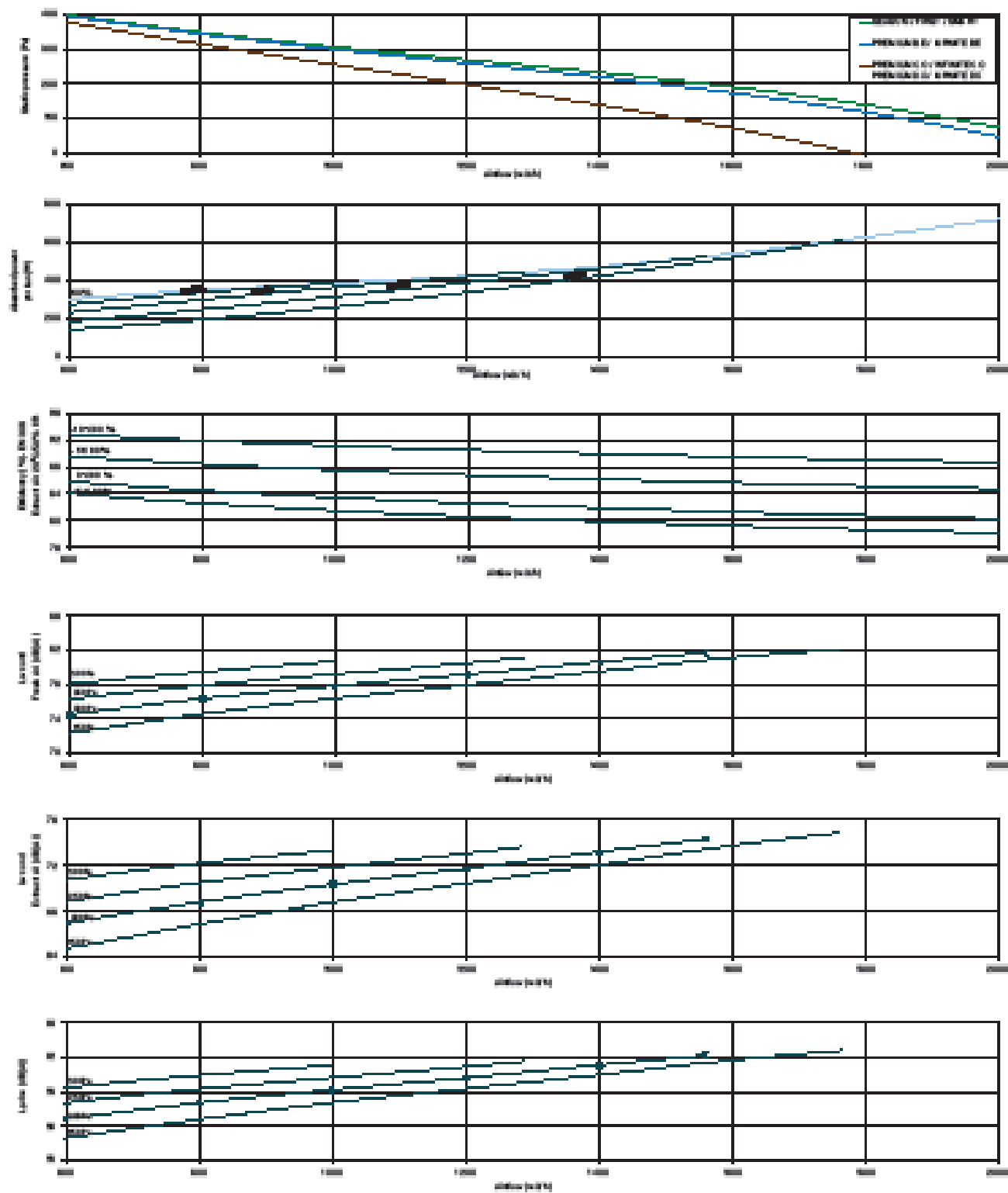
These data are provided for optimal control configuration according to the outdoor temperatures in question.
 Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.

* In the event of a 20% reduction in volumetric airflow.

Reversible direct expansion coil performance characteristics Zehnder Flatpower™ 1300

DXR for unit versions	R410A coil
Please refer to Softwair selection software	

Selection curves Zehnder Flatpower™ 1800



Reversible water coil performance characteristics Zehnder Flatpower™ 1800

CO for PREMIUM and INFINITE versions			Changeover coil					
Water Temp. °C / °C	Air entry Temp. °C	Airflow m ³ /h	800	1000	1200	1400	1600	1800
80 / 60	11	Power (kW) / Supply air (°C)	11,5 / 54	13,5 / 51	15,4 / 49	17,1 / 47	18,7 / 46	20,2 / 44
		Waterflow (l/h) / Water DP (kPa)	500 / 2	590 / 3	670 / 4	750 / 5	820 / 4	890 / 4
	15	Power (kW) / Supply air (°C)	10,7 / 55	12,5 / 52	14,2 / 50	15,8 / 49	17,3 / 47	18,7 / 46
		Waterflow (l/h) / Water DP (kPa)	470 / 4	550 / 3	630 / 3	700 / 4	760 / 5	820 / 4
60 / 50	11	Power (kW) / Supply air (°C)	8,6 / 43	10,2 / 41	11,6 / 40	12,9 / 39	14,2 / 37	15,3 / 36
		Waterflow (l/h) / Water DP (kPa)	750 / 5	890 / 4	1010 / 6	1130 / 5	1240 / 6	1340 / 7
	15	Power (kW) / Supply air (°C)	7,8 / 44	902 / 43	10,5 / 41	11,7 / 40	12,8 / 39	13,8 / 38
		Waterflow (l/h) / Water DP (kPa)	680 / 4	800 / 4	920 / 5	1020 / 6	1120 / 7	1210 / 6
45 / 40	11	Power (kW) / Supply air (°C)	6,2 / 34	7,3 / 33	8,4 / 32	9,4 / 31	10,3 / 30	11,1 / 29
		Waterflow (l/h) / Water DP (kPa)	1080 / 6	1280 / 7	1460 / 9	1630 / 9	1780 / 11	1930 / 12
	15	Power (kW) / Supply air (°C)	5,4 / 35	6,4 / 34	7,3 / 33	8,1 / 32	8,9 / 32	9,6 / 31
		Waterflow (l/h) / Water DP (kPa)	940 / 5	1110 / 7	1260 / 7	1410 / 8	1540 / 10	1670 / 9
7 / 12	32 - 40	Power (kW) / Supply air (°C)	5,4 / 16,8-83	6,3 / 17,6-81	7,1 / 18,2-80	7,9 / 18,7-78	8,6 / 19,2-77	7,3 / 19,9-82
		Waterflow (l/h) / Water DP (kPa)	930 / 6	1080 / 7	1220 / 7	1350 / 9	1470 / 10	1250 / 8
	27 - 50	Power (kW) / Supply air (°C)	4,0 / 15,7-87	4,7 / 16,3-86	5,2 / 16,8-85	5,7 / 17,2-83	6,2 / 17,5-83	5,5 / 18,0-87
		Waterflow (l/h) / Water DP (kPa)	690 / 5	800 / 4	890 / 5	980 / 6	1070 / 7	940 / 6
	25 - 50	Power (kW) / Supply air (°C)	2,7 / 14,8-94	3,2 / 15,5-90	3,6 / 16,0-87	4,0 / 16,4-85	4,4 / 16,8-83	4,7 / 17,2-81
		Waterflow (l/h) / Water DP (kPa)	470 / 5	550 / 3	620 / 4	690 / 5	750 / 6	810 / 4
6 / 11	32 - 40	Power (kW) / Supply air (°C)	5,9 / 16,2-83	6,9 / 17,0-81	7,8 / 17,6-79	8,6 / 18,2-78	9,4 / 18,7-77	10,1 / 19,1-76
		Waterflow (l/h) / Water DP (kPa)	1010 / 6	1180 / 7	1330 / 9	1470 / 10	1600 / 10	1720 / 11
	27 - 50	Power (kW) / Supply air (°C)	4,5 / 15,0-87	5,2 / 15,7-86	5,9 / 16,2-84	6,5 / 16,6-83	7,0 / 17,0-82	7,5 / 17,3-81
		Waterflow (l/h) / Water DP (kPa)	770 / 4	890 / 5	1010 / 6	1110 / 8	1200 / 7	1290 / 8
	25 - 50	Power (kW) / Supply air (°C)	3,4 / 14,5-88	4,0 / 15,0-86	3,9 / 15,3-91	4,3 / 15,8-88	4,7 / 16,2-86	5,1 / 16,6-84
		Waterflow (l/h) / Water DP (kPa)	590 / 4	680 / 5	670 / 5	740 / 5	810 / 4	870 / 5

Electric coil performance characteristics Zehnder Flatpower™ 1800

BE for unit versions						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*
(m³/h)	1800		1800			1800				1800		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		3,75			3,75				3,75 + 3,75		
Outlet temperature (°C)	16,3	15,6	16,1	11,7	16,7	22,6	21,8	16,8	23,5	22,4	18,0	24,5

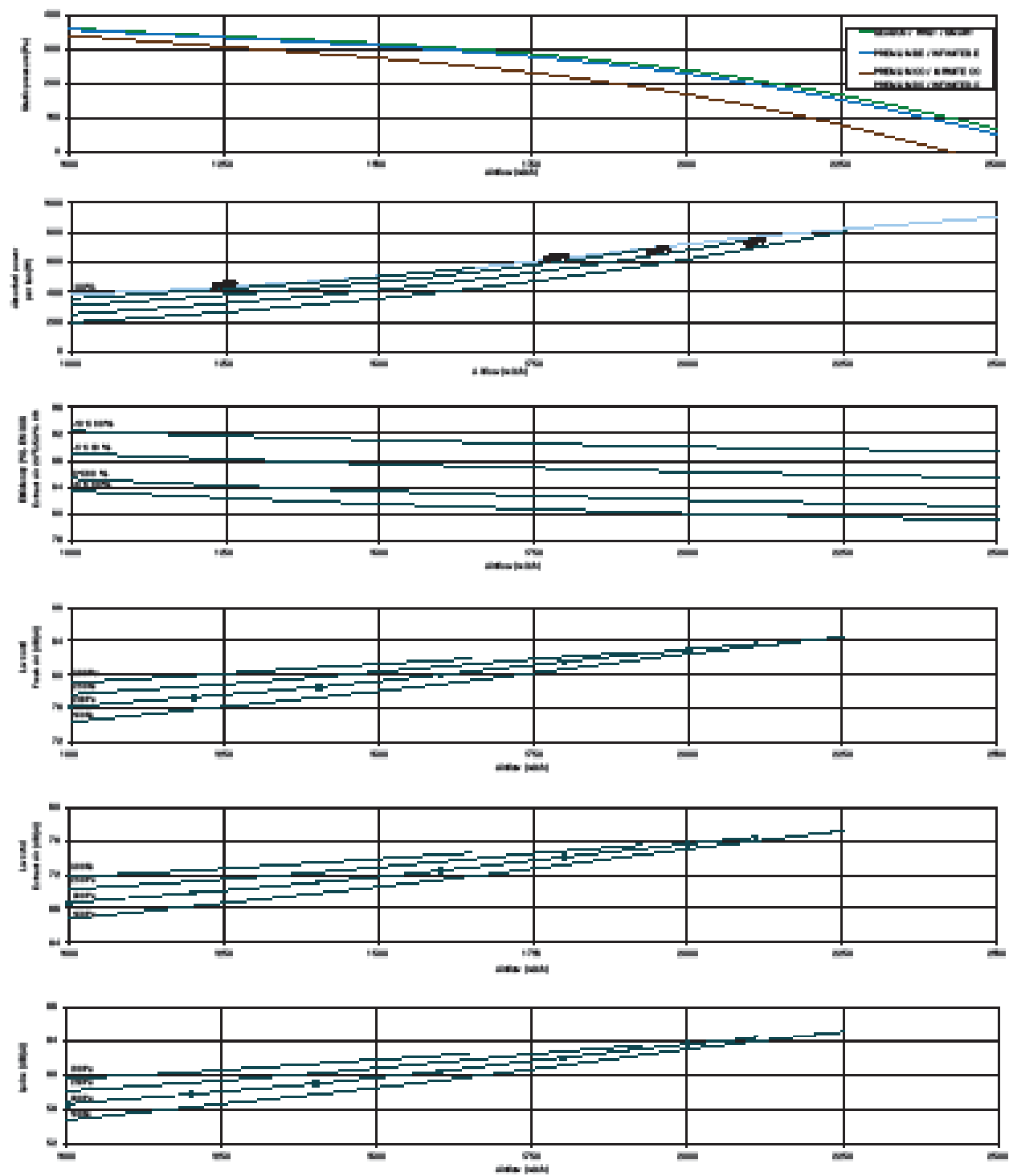
These data are provided for optimal control configuration according to the outdoor temperatures in question.
Continuous supply temperature of the unit, considering the opening of the self-regulating and modulating bypass to prevent frost on the heat exchanger.

* In the event of a 20% reduction in volumetric airflow.

Reversible direct expansion coil performance characteristics Zehnder Flatpower™ 1800

DXR for unit versions	R410A coil
Please refer to Softwair selection software	

Selection curves Zehnder Flatpower™ 2500



Reversible water coil performance characteristics Zehnder Flatpower™ 2500

CO for PREMIUM and INFINITE versions			Changeover coil					
Water Temp. °C / °C	Air entry Temp. °C	Airflow m ³ /h	1250	1500	1750	2000	2250	2500
80 / 60	11	Power (kW) / Supply air (°C)	19,0 / 56	21,8 / 54	24,4 / 53	26,8 / 51	29,1 / 50	31,2 / 48
		Waterflow (l/h) / Water DP (kPa)	830 / 5	960 / 6	1070 / 7	1180 / 7	1280 / 8	1370 / 9
	15	Power (kW) / Supply air (°C)	17,7 / 57	20,2 / 55	22,7 / 54	24,9 / 52	27,0 / 51	29,0 / 50
		Waterflow (l/h) / Water DP (kPa)	780 / 4	890 / 5	1000 / 6	1090 / 7	1190 / 7	1280 / 8
60 / 50	11	Power (kW) / Supply air (°C)	14,2 / 45	16,3 / 43	18,2 / 42	20,1 / 41	21,8 / 40	23,5 / 39
		Waterflow (l/h) / Water DP (kPa)	1240 / 8	1420 / 10	1590 / 11	1750 / 13	1900 / 15	2050 / 17
	15	Power (kW) / Supply air (°C)	12,9 / 46	14,7 / 44	16,5 / 43	18,2 / 42	19,8 / 41	21,2 / 40
		Waterflow (l/h) / Water DP (kPa)	1120 / 8	1290 / 8	1440 / 10	1590 / 10	1730 / 12	1860 / 14
45 / 40	11	Power (kW) / Supply air (°C)	10,1 / 35	11,6 / 34	13,1 / 33	14,4 / 33	15,7 / 32	16,9 / 31
		Waterflow (l/h) / Water DP (kPa)	1760 / 13	2020 / 17	2270 / 21	2500 / 25	2720 / 27	2930 / 31
	15	Power (kW) / Supply air (°C)	8,8 / 36	10,1 / 35	11,4 / 34	12,5 / 34	13,6 / 33	14,7 / 33
		Waterflow (l/h) / Water DP (kPa)	1530 / 12	1760 / 13	1980 / 16	2180 / 19	2370 / 23	2550 / 26
7 / 12	32 - 40	Power (kW) / Supply air (°C)	9,6 / 15,7-83	10,9 / 16,4-82	12,2 / 16,9-80	13,4 / 17,4-79	14,5 / 17,8-78	15,5 / 18,2-77
		Waterflow (l/h) / Water DP (kPa)	1650 / 14	1880 / 17	2090 / 21	2290 / 25	2480 / 28	2660 / 31
	27 - 50	Power (kW) / Supply air (°C)	7,3 / 14,7-88	8,3 / 15,2-86	9,2 / 15,6-85	10,1 / 16,0-84	10,9 / 16,3-83	11,7 / 16,6-83
		Waterflow (l/h) / Water DP (kPa)	1260 / 10	1430 / 12	1580 / 13	1730 / 15	1870 / 17	2000 / 19
	25 - 50	Power (kW) / Supply air (°C)	5,6 / 14,2-88	6,4 / 14,6-87	7,0 / 15,0-86	7,7 / 15,3-85	7,1 / 15,6-90	7,7 / 15,9-88
		Waterflow (l/h) / Water DP (kPa)	960 / 7	1090 / 9	1210 / 9	1320 / 10	1220 / 9	1310 / 10
6 / 11	32 - 40	Power (kW) / Supply air (°C)	10,3 / 15,1-83	11,8 / 15,7-81	13,2 / 16,3-80	14,4 / 16,8-79	15,6 / 17,3-78	16,8 / 17,7-77
		Waterflow (l/h) / Water DP (kPa)	1770 / 16	220 / 20	2260 / 24	2470 / 29	2680 / 31	2870 / 36
	27 - 50	Power (kW) / Supply air (°C)	8,1 / 14,0-87	9,2 / 14,5-86	10,2 / 15,0-85	11,2 / 15,4-84	12,1 / 15,7-83	13,0 / 16,0-82
		Waterflow (l/h) / Water DP (kPa)	1380 / 12	1580 / 13	1750 / 15	1920 / 18	280 / 21	2220 / 24
	25 - 50	Power (kW) / Supply air (°C)	6,4 / 13,5-88	7,2 / 14,0-86	8,0 / 14,4-85	8,8 / 14,7-84	9,5 / 15-84	10,1 / 15,3-83
		Waterflow (l/h) / Water DP (kPa)	1090 / 9	1240 / 10	1380 / 11	1500 / 13	1620 / 13	1730 / 15

Electric coil performance characteristics Zehnder Flatpower™ 2500

BE for unit versions						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*
(m³/h)	2500		2500			2500				2500		
Version	FIRST, SEASON		SMART Preheater coil			PREMIUM BE Heater coil				INFINITE BE Preheater + heater coil		
Power (kW)	-		5,25			5,25				5,25 + 5,25		
Outlet temperature (°C)	16,4	15,5	16,2	11,9	16,8	22,7	21,8	17,0	23,7	22,5	18,2	24,7

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.

Reversible direct expansion coil performance characteristics Zehnder Flatpower™ 2500

DXR for unit versions	R410A coil
Please refer to Softwair selection software	

Options

Climatic		Security and control	
	Summer / Winter thermostat ref. PASTILLE CHANGEOVER For FIRST and SMART versions combined with an external Combibox Concept module		Air pressure switch ref. DEP Extract air filter (IP54)
	Condensate pump kit ref. PRC ES110 5ML NON MONTE Direct connections to EASY controller and overflow safety management.		Liquid manometer J ref. 0-1000 Pa VDI6022 DISPOSITIF
	Kit 3 way valve 24V IP54 ref. DN15 PREMIUM CO /INFINITE CO versions		Smoke detection ref. CDAD (IP54)
	Circular damper antifreeze 24V ref. RC4A Frost prevention. Airtight class 4		Trigger box ref. BD TBTS 24/48 Vcc 24 or 48 Vdc low-voltage box (IP67)
Airflow modulation			
	Chilled water module Combibox réf. CBX4 BF Duct installation (see COMBIBOX CONCEPT™ documentation for descriptions). SEASON version not compatible		Potentiometer 0-10 V ref. POT 230 Potentiometer only for SEASON (IP54)
	DX module Combibox R410A réf. CBX4 DX Duct installation (see COMBIBOX CONCEPT™ documentation for descriptions). SEASON version not compatible		2 speed comfort remote control ref. CDC 2V2 OFF/LS/HS, 2 fans, box (IP54)
	Filter F9 ePM1 80%		2 speed comfort remote control ref. CDC PVGV2 LS/HS, 2 fans, box (IP54)
	Filter M5 ePM10 50%		Présence sensor ref. 360 TOR SA ON/OFF or LS/HS (SEASON version not compatible)

Options			
		Airflow modulation	
			2 speed comfort remote control ref. CDC 1V2 ON/OFF, 2 fans, box (IP54)
Controller		Installation	
	Wall-mounted touch screen USER ref. EDT2 100ML SEASON version not compatible.		Flexible sleeve ref. MTS M0 Fire Class: M0 Male (network side) / Female (unit side) dia- meters

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Z-EN-V0625-CSY-TES-Zehnder Flatpower™, en, subject to change without notice