bpc
Ventilation

SILVERTOP®
23

Self-regulating and high efficiency (>90%) Heat Recovery Ventilation Compact Unit with high performance. Econological solution®.
Airflow to 2400 m³/h

bluetech® SOFTWair® Uniclima

ERP2018
CALADAIR RESPECT

bluetech®
MADE BY CALADAIR

APPLICATION

▲ **SILVERTOP®** range is a PLUG&PLAY and a self-regulating Heat Recovery Ventilation unit with multilingual communication, for office and industrial applications.

▲ Efficiency over **90 %** (EN308), compliant with French **RT2012** regulation and with the **ErP 2009/125/EC** directive.

● Air filtration, temperature control, thermal comfort.

▲ One-piece monobloc unit, compact, top-mounted duct connectors, plug and play and interactive (except **SEASON** model).

RANGE

● With 6 available models, the **SILVERTOP®** range handles flow rates from 100 to 5 500 m³/h.

The **SILVERTOP®** range is available in 5 different regulation programs, all available with right access in the fresh air supply way:

SEASON : Design for temperate climate areas, provides air renewal with high efficient energy recovery. Summer/winter operating of the counter flow heat exchanger. Adjustable flow rates by potentiometer.

FIRST : Self-regulated unit for temperate climates, with active temperature management for optimal energy consumption and thermal comfort.

SMART: Idem FIRST, but equipped with a defrost electric battery which allows its use down to -20°C.

PREMIUM: Idem FIRST, but equipped either with a water coil (BC) or with an electric battery (BE) allowing its use down to -10°C.

INFINITE: Idem PREMIUM but as standard has a defrost electric battery for outdoor temperatures down to -20°C.

EQUIPMENT

● Double skin 10/10ᵉ outdoor panels.

▲ Insulation: 25mm high density A2-s1 (T3 and L2 class on casing airtightness as specified by EN1881) for models 06 and 08, 50mm high density M0 A1 mineral wool (T2 and L2 class on casing airtightness as specified by EN1886) for models 15, 23, 35 and 52.

● External side: RAL 7035 painted panels with a protective film.

● Internal side: Galvanized steel panels.

▲ Circular connectors with lip seals for airtightness guarantee (Equipped with circular branch connections with double lip seals to ensure network sealing ATEC CSTB n° 13-224-12), square connectors for model 52.

● Crimped feet integrated to the frame for handling and ground fixing.

▲ "EASY" technical board regroups all electrical components, potentiometer (for SEASON version) and control systems. Access by doors mounted on hinges for easy maintenance. Pad lockable switch and cable gland mounted on the top access panel.

▲ Top hydraulic connections (**PREMIUM BC** and **INFINITE BC** versions).

● Inclined condensate tray, easy removal.

▲ Condensate drain outlet on bottom of the unit.

▲ Filters and components access within lockable hinged doors.

● Monobloc version for all range.

▲ Phonic insulated panel on fresh air supply for a better acoustic comfort.

FANS

▲ Plug fans.

▲ Direct drive continuous current motors with electronic switching system (**EC**) high efficiency plug fan, with integrated thermal overload and variable speed protection. EC technology is an Econological® solution ensuring low energy consumption (French **RT2012** regulation compliant) with management, control and regulation of the operating point (flows rate selections from 10 up to 100%). Low Noise level for a better acoustic comfort.

ENERGY EXCHANGER

● Counterflow static high efficiency energy exchanger with aluminum plates. Air to air Exchanger produced by KLINGENBURG with an **EUROVENT** certification for the AAHE.
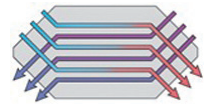
▲ Efficiency higher than 90 % (**EN 308**).

● Automatic defrost in chain reaction with proportional bypass opening first (exceptf SEASON which has an all or nothing bypass), then self-regulating defrost electrical battery for **SMART** and **INFINITE** and finally eventual supply fresh air modulated airflow (except **SEASON**).

EUROVENT
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www.eurovent-certification.com
INTEGRATED EXCHANGER

FILTERS

▲ As standard, the **SILVERTOP®** unit includes a high efficiency (large filtration surface) **F7** opacimeter filter for fresh air and a gravimetric **G4** for exhaust air.

● Air filters are always located upstream from the components for their protection.

● Mounted on slides for an easy replacement, fitted with draughtproof sealing ensuring efficient airtightness.

● Additional filters on fresh air available in option.

EQUIPMENT AND FUNCTIONNALITY

▲ As standard **FIRST**, **SMART**, **PREMIUM** and **INFINITE** versions are equipped with an "**EASY**", regulation, with MODBUS, BACNET or WEB communication (selection on site). The **EASY** regulation integrates and matches the criteria of our BLUETECH® concept, offering an optimal running of the **SILVERTOP®** unit which fits all the French national (**RT2012**) and European (**ErP**) requirements and participates thanks to its efficiency to the active building management (**EN15232**).

▲ "**EASY**" regulation is integrated with an IP65 LCD display on the front panel. It's possible to add (OPTION) a touchscreen remote display with a user interface for main functions access (temperature control, reminders, errors…) and a maintenance interface giving access to the general parameters (remote distance up to 100 m).

● Internal timer ensuring dual flows operating, which are user programmable on site (except SEASON).

● Weekly and holiday period timer (except SEASON).

▲ Pressure controller detects dirty filter and notifies errors on display (volt free contact for SEASON). Timer function to be activated on site for planning filters replacement periods (except SEASON).

● Airflow pressure controller on each fan with errors displayed on the control panel (volt free contact for SEASON).

▲ Lockable padlock switch mounted on the top panel.

▲ EASY regulation (except SEASON) manages the optimal operating point and performance of the **SILVERTOP®** using the integrated temperature sensors:
Outdoor air sensor
Building ambient air sensor (on exhaust outlet)
Supplied fresh air sensor
Bypass defrost sensor
Defrost battery sensor (**SMART** and **INFINITE** versions)

EASY regulation enables optimal fresh air energy input and ensures the following Econological® functions:

● **FREE COOLING:** In summer or mid-season, if the outdoor temperature is lower than the indoor temperature and the **SILVERTOP®** unit (except **SEASON**) is operating in a cooling mode, the exchanger bypass will slowly open to an adapted position until its full opening, in order to bring free cold outdoor air inside the building. If this operation is not enough to reach the temperature setpoint, the cooling mode will be activated.

- **FREE HEATING:** Mainly in mid-season, if the outdoor temperature is higher than the indoor temperature and the **SILVERTOP®** unit (except **SEASON**) is operating in a heating mode, the exchanger bypass will slowly open to an adapted position until its full opening, in order to bring free warm outdoor air inside the building. If this operation is not enough to reach the temperature setpoint, the heating mode will be activated.

- **COLD RECOVERY:** In summer or in mid-season, if the outdoor temperature is higher than the indoor temperature and the **SILVERTOP®** unit (except **SEASON**) is in a cooling mode, the exchanger bypass will slowly close to prevent the outdoor warm air from entering inside the building. If this operation is not enough to reach the temperature setpoint, the cooling mode will be activated. For the **SEASON**, version, the cold recovery mode will start when outdoor temperature gets higher than 24°C (adjustable).

- **HEAT RECOVERY:** In winter or in mid-season, if the outdoor temperature is lower than the indoor temperature and the **SILVERTOP** unit (except **SEASON**) is in a heating mode, the exchanger bypass will slowly close to prevent the outdoor cold air from entering directly inside the building. If this operation is not enough to reach the temperature setpoint, the heating mode will be activated. For the **SEASON**, version, the heat recovery mode will start when the outdoor temperature gets higher than 18°C (adjustable).

- **NIGHT COOLING:** The night cooling mode (except **SEASON**) enables to reduce the indoor building temperature depending on the last 24 hours climate conditions. Thereby between midnight and 7h (adjustable period) the night cooling function starts if the outdoor temperature is above 22°C (adjustable) during the day (between 6h and 22h). Night cooling mode is activated if the outdoor temperature is between 10 and 18°C (adjustable) and if the fresh air inlet is higher than 18°C (adjustable).

▲ Moreover, this function has a specific ventilation set point for the airflow modulation selected on the **FIRST** and **PREMIUM** versions offered by the **EASY** regulation.

- **FIRE SAFETY:** As standard, the **SILVERTOP®** unit (except **SEASON**) integrates a fire safety system managing the supply and extract air fans control, following 5 modes available in the regulation parameters (function to be activated on site).
  "Stop": Full Stop of the unit
  "Continuous Running": Starts or keeps the unit in high speed, the fire safety function will have the priority on other alarms.
  "Auto": Keeps the unit running with the settings entered on site (Stop/LS/HS).
  "Supply fan only": Starts or keeps the supply air fan in high speed (exhaust off).
  "Extract fan only": Starts or keeps the exhaust air fan in high speed (supply off).
  The **SILVERTOP®** unit also has a digital input "Remote run/stop" which enables connection with a manual remote control. In this case, the external remote control has the priority on the fire security eventually activated on one of the fives modes described above. Whatever mode chosen, the screen of the **EASY** regulation will show "fire security alarm" when this function is activated.

AIRFLOW MODULATION

▲ 6 choices of flow rate modulations for optimized energy consumption (**RT2012**, **EN15232**).

SEASON: Adjustment of each fan rotation speed by potentiometers mounted and connected in the control system board.

- For versions **FIRST**, **SMART**, **PREMIUM**, and **INFINITE**, the **EASY** regulation can control the fans in the following modes:

ECO: Fans speed adjustment though 2 airflow settings (LS-HS) in the **EASY** regulation.

LOBBY®: Airflow rate modulation with CONSTANT PRESSURE mode, adjustable for each fan.

DIVA®: Proportional modulation of each fan airflow depending on the CO_2 rate. CO_2 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 CO_2 rate (except sizes 06 and 08). Pressure transmitters and CO_2 sensor (exhaust air inlet) integrated in the unit. Settings of the LS, the HS and the CO_2 minimum rate (ppm) adjustable on site directly on the **EASY** regulation.

INSTALLATION

▲ Indoor.

▲ Compact design and small footprint, top connections via double lips circular connectors (except size 52) for an easy, quick, airtight and cost-efficient installation (no adapters).

CLIMATIC VERSIONS

▲ The **SILVERTOP®** unit is available in **FIRST** and **SEASON** versions for winter use down to -5°C. It is also available in **PREMIUM BC** (water heating integrated coil) and **PREMUIM BE** (electric integrated heater) offering optimal winter use down to -10°C. Lastly, its **SMART** version (electrical defrost) **INFINITE BC** (integrated electrical defrost heater and heating water coil battery) and **INFINITE BE** (integrated electrical defrost heater and electrical heating battery) is designed for an optimal winter use down to -20°C. Their functionalities are managed by the "**EASY**" regulation.

▲ Furthermore, for an optimal all seasons and all climates comfort, **SILVERTOP®** unit can be connected to a water or a direct expansion cooling module (except **SEASON**) or even to a dehumidification module (**FIRST** or **SMART**): The "**EASY**" regulation integrated to the **SILVERTOP®** unit enables compatible thermal modules management.

| VERSIONS | INTEGRATED THERMAL BATTERY | | | EXTERNAL MODULE | | | | | | | |
	DEFROST	HEATING		HEATING		COOLING		DEHUMIDIFICATION Cooling + Heating			
	Electrical	Electrical	Water	Electrical	Water	Water	R410A	Water/Water	Water/Elec	R410A/Water	R410A/Elec
SEASON	-	-	-	-	-	-	-	-	-	-	-
FIRST	-	-	-	CBX-BE + CAB-CBE	CBX-BC	CBX-BF	CBX-DX	CBX-CH	CBX-CE + CAB-CBE	CBX-DXH	CBX-DXE + CAB-CBE
SMART	✔	-	-	CBX-BE + CAB-CBE	CBX-BC	CBX-BF	CBX-DX	CBX-CH	CBX-CE + CAB-CBE	CBX-DXH	CBX-DXE + CAB-CBE
PREMIUM BE	-	✔	-	-	-	CBX-BF	CBX-DX	-	-	-	-
PREMIUM BC	-	-	✔	-	-	CBX-BF	CBX-DX	-	-	-	-
INFINITE BE	✔	✔	-	-	-	CBX-BF	CBX-DX	-	-	-	-
INFINITE BC	✔	-	✔	-	-	CBX-BF	CBX-DX	-	-	-	-

▲ Dehumidification function (to be activated on site) associates a COMBIBOX CONCEPT® module with both cooling and heating functions (Water or R410A) and also a heating module (Water or electrical) for **FIRST** or **SMART** version, to the **SILVERTOP®**. In this case, the regulation will automatically manage heating and cooling needed supply for dehumidification while providing the optimum temperature to the building. During cooling demand, building temperature management has the priority over dehumidification.

ELECTRICAL CARACTERISTICS SILVERTOP®

SILVERTOP® Model	Electrical motor power (W)	Temp. Use (°C / °C)	Electrical safety rating	Thermic protection *	SEASON, FIRST & PREMIUM BC		INFINITE BC & SMART		PREMIUM BE		INFINITE BE	
					Electrical supply voltage (V / Ph / Hz)	Electric charge protection (A)	Electrical supply voltage (V / Ph / Hz)	Electric charge protection (A)	Electrical supply voltage (V / Ph / Hz)	Electric charge protection (A)	Electrical supply voltage (V / Ph / Hz)	Electric charge protection (A)
23	2x750 W	-20/40	IP54/B	PTI	230/1/50	7,2	400/3+N/50	13,0	400/3+N/50	13,0	400/3+N/50	22,8

* PTI: Included Thermic Protection
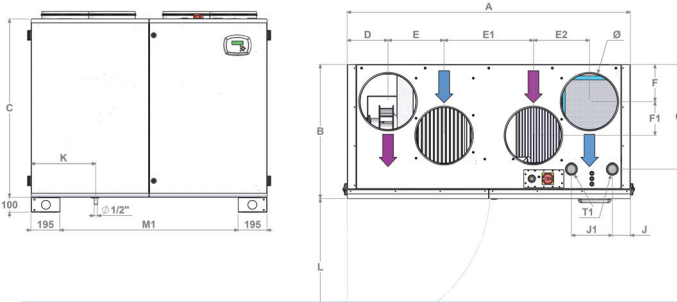
# DIMENSION CARACTERISTICS SILVERTOP®

SILVERTOP® Model	Ø	A	B	C	D	D1	D2	E	E1	E2	F	F1	G	J	J1	K	L	M1	M2	M3	T1	SEASON FIRST	PREMIUM BE SMART PREMIUM BC	INFINITE BE INFINITE BC
	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	mm	kg	kg	kg
23	400	1735	1065	1340	270	-	-	330	535	330	250	420	755	100	230	440	855	1350	-	-	1/2"			

G - J - J1 - T1 for Water Coils battery (PREMIUM BC / INFINITE BC) (T1= Gas threaded steel pîpe diameter)
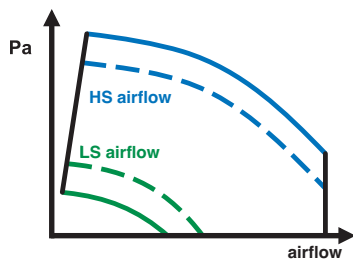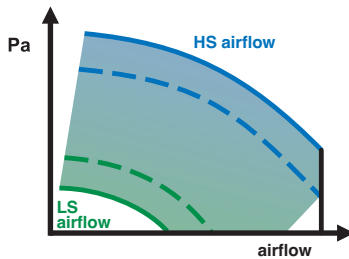
SILVERTOP® ECO Operating
Selection of 1 or 2 different airflows (LS/HS) per fan. Except for SEASON, 1 airflow adjustable with potentiometer
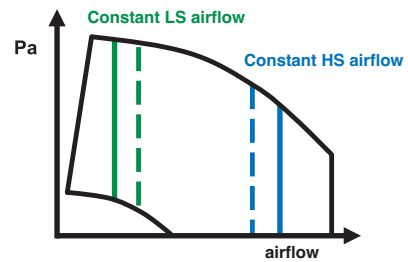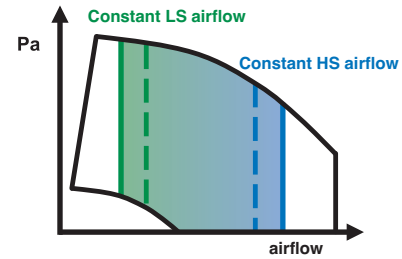
SILVERTOP® + MAC2 Operating
Selection of 1 or 2 CONSTANT airflows per fan, except for SILVERTOP® 06 and 08.

SILVERTOP® + DIVA® Operating
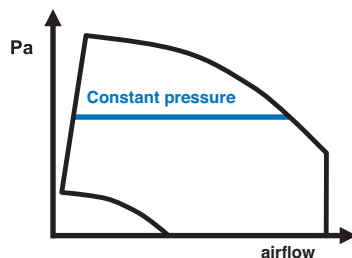*PROPORTIONAL ventilation between two airflows (LS/HS) per fan.*

SILVERTOP® + QUATTRO® Operation
PROPORTIONAL ventilation between two CONSTANT airflows per fan. Except for SILVERTOP® 06 and 08.

SILVERTOP® + LOBBY® Operating
CONSTANT PRESSURE ventilation per fan

*ED-TOUCH LCD display
(no compatible with SEASON version)
With user display and maintenance interface
(up to 100 m)*

- The Lp4m dB(A) curves correspond to the level of acoustic pressure at 4m in a hemispherical free field on a reflective plane, the "supply to room" and "exhaust to outside" sides not connected, the "supply to room" and "exhaust from room" connected.
- To achieve the overall acoustic pressure Lp dB(A), at a certain distance, add the values below to Lp4m.

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

Tolerances: Global values
+/- 3 dB(A)
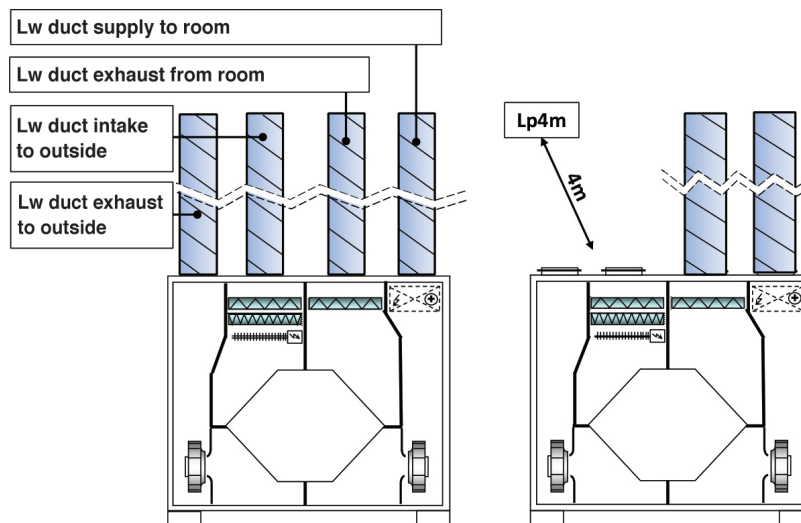Acoustic Spectrum
+/-5 dB(A)

- The curves for "Lw duct supply to room dB(A)" correspond to the overall acoustic power emitted on the "supply to room" side or "exhaust to outside".
- To achieve the range of acoustic power "Lw duct supply to room dB(A)", on the "supply to room" or "supply to room", add the below values to the acoustic power "Lw duct supply to room" displayed on the curves.

Downstream acoustic spectrum weighting function "Lw duct supply to room dB(A)" displayed on the curves								
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
SILVERTOP 23 weighting dB(A)	-20	-15	-9	-8	-6	-6	-12	-16

- The curves for "Lw duct exhaust from room dB(A)" correspond to the overall acoustic power emitted on the duct sides "exhaust from room" and "exhaust from room".
- To achieve the range of acoustic power "Lw duct exhaust from room", on the "exhaust from room" and "intake from outside" sides, add the values below to the acoustic power "Lw duct exhaust from room" displayed on the curves.

Upstream acoustic spectrum weighting function "Lw duct exhaust from room" displayed on the curves								
Frequency	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	8000 Hz
SILVERTOP 23 weighting dB(A)	-24	-18	-8	-6	-6	-8	-12	-18

- To achieve the acoustic pressure NSC4 dB(A) (noise level at 4m in a hemispherical free field, with the device placed on the ground on a reflective plane, with HRV terminals connected to the intake and discharge with ducts having same level of sound insulation), add following values to Lp4m value displayed on the curves.

Lw duct supply to room

Lw duct exhaust from room

Lw duct intake to outside

Lw duct exhaust to outside

Lp4m

4m

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PERFORMANCE
LABELLING
Products with this label do
respect Uniclima's recommandation
for performances labelling.

NOTA:
Curves are issued from measurements, on the fresh air, made with all ducts connected (configuration D description from EN 13141-4).
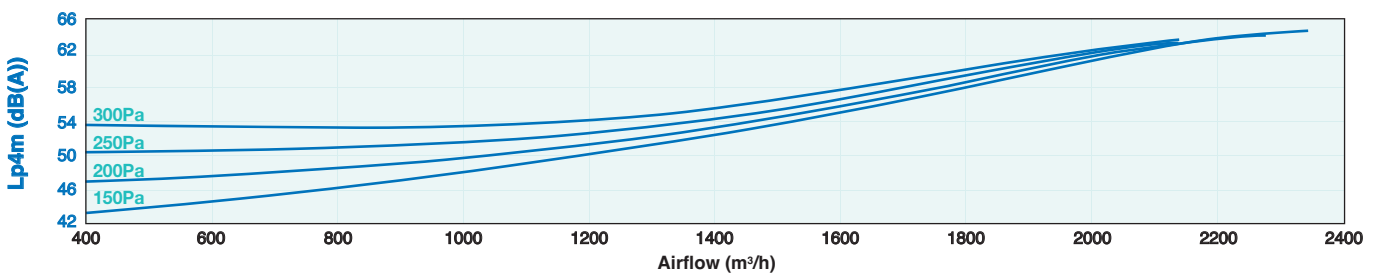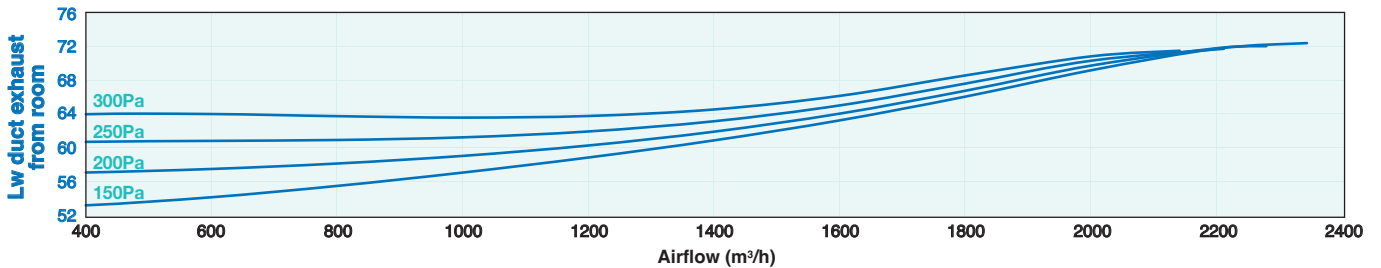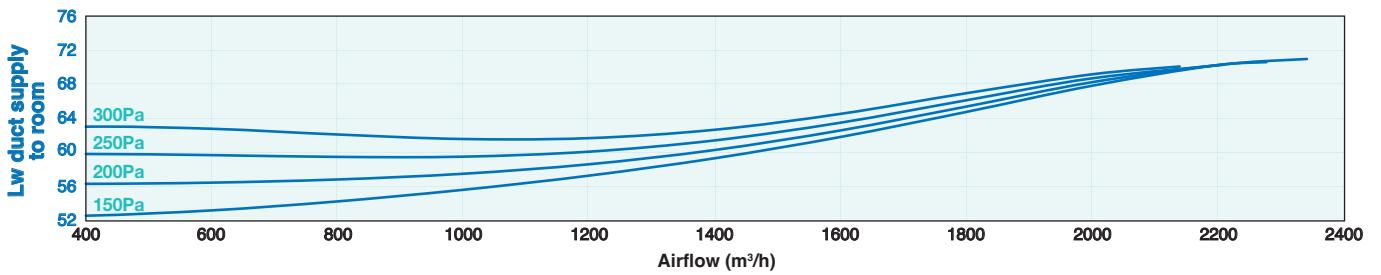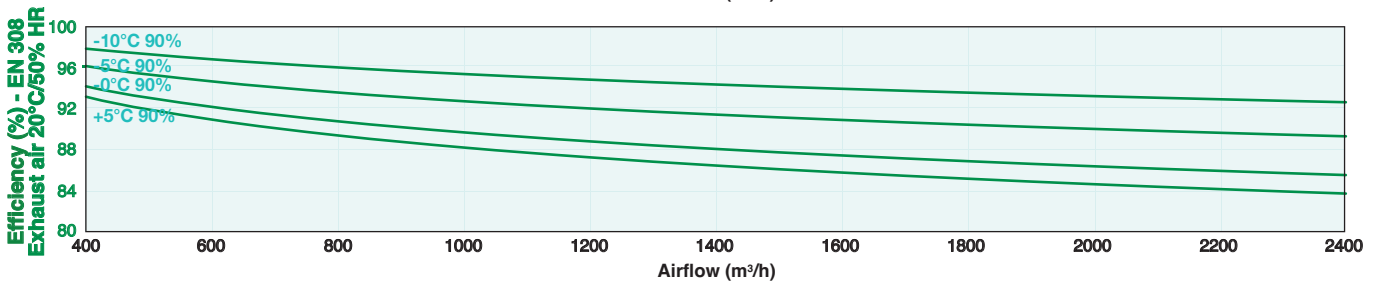
EQUIPEMENTS	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
Low energy consumption EC Fan motors	●	●	●	●	●	●	●
Opacimetric F7, fresh air filter	●	●	●	●	●	●	●
Gravimetric G4, exhaust air filter	●	●	●	●	●	●	●
High efficiency plate conterflow exchanger (>90%) EUROVENT certified	●	●	●	●	●	●	●
Internal 100% Bypass	●	●	●	●	●	●	●
Removable inclinated condensate trays below plate conterflow exchanger	●	●	●	●	●	●	●
RAL7035 double skin panels 50 mm insolation (except 06 & 08 : 25mm)	●	●	●	●	●	●	●
Circular branch connectors with double lip seal (ATEC CSTB n°13-224-12), except 52, square connectors	●	●	●	●	●	●	●
IP65 LCD display included on the front panel	-	●	●	●	●	●	●
MODBUS or BACNET in RS485 or TCP/IP or WEB (selection on menu) communicating regulation	-	●	●	●	●	●	●
Fans speed control (LS - HS) with EASY regulation	-	●	●	●	●	●	●
Fan rotation speed control through potentiometer	●	-	-	-	-	-	-
Supply temperature sensor	-	●	●	●	●	●	●
Exhaust temperature sensor	-	●	●	●	●	●	●
Outdoors temperature sensor	●	●	●	●	●	●	●
Bypass defrost temperature sensor	-	●	●	●	●	●	●
Defrost battery sensor	-	-	●	-	-	●	●
Antifreezing thermostat on heating battery	-	-	-	-	●	-	●
Defrost electric battery thermostat	-	-	●	-	-	●	●
Heating Electric battery thermostat	-	-	●	-	-	-	-
Lockable proximity switch	●	●	●	●	●	●	●
Electric wire pass-through	●	●	●	●	●	●	●

FUNCTIONS	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
Defrost through bypass	●	-	-	-	-	-	-
Cascade defrost : bypass + battery(SMART/INFINITE) + fresh air airflow modulation	-	●	●	●	●	●	●
Self-regulating electric defrost battery	-	-	●	-	-	●	●
Self regulating heating battery	-	-	-	●	-	●	-
Self regulating water coils battery	-	-	-	-	●	-	●
Internal 100%, All or Nothing, Automatic management Summer/Winter	●	-	-	-	-	-	-
Internal 100% bypass, self-regulating and modulating (0-100%)	-	●	●	●	●	●	●
Free-Cooling optimal management	-	●	●	●	●	●	●
Free-Heating optimal management	-	●	●	●	●	●	●
Nigth-Cooling managment (night boost ventilation)	-	●	●	●	●	●	●
Optimum cooling recovery management	-	●	●	●	●	●	●
Thermostatic cooling recovery management	●	-	-	-	-	-	-
Optimum heat recovery management	-	●	●	●	●	●	●
Thermostatic heat recovery management	●	-	-	-	-	-	-
Supply temperature management (Air law)	-	●	●	●	●	●	●
Building temperature management (exhaust)	-	●	●	●	●	●	●
Weekly timer	-	●	●	●	●	●	●
Holidays and bank holidays timer	-	●	●	●	●	●	●
Fresh air pressure switch	●	●	●	●	●	●	●
Airflow control pressure switch (exhaust and supply)	●	●	●	●	●	●	●
Fire security with 5 available modes	-	●	●	●	●	●	●
Heating management module (electric or water) COMBIBOX CONCEPT®	-	●	●	-	-	-	-
Cooling management module (water or R410A) COMBIBOX CONCEPT®	-	●	●	●	●	●	●
Dehumidification module COMBIBOX CONCEPT®	-	●	-	-	-	-	-

FACTORY MOUNTED OPTIONS	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
LOBBY® : airflow modulation with CONSTANTE PRESSURE	-	○	○	○	○	○	○
DIVA®: proportional airflow modulation based on CO_2	-	○	○	○	○	○	○
MAC2®: airflow modulation at CONSTANT AIRFLOW (except SILVERTOP 06 and 08)	-	○	○	○	○	○	○
QUATTRO®: proportional airflow modulation base on CO_2 between 2 CONSTANT AIRFLOWS (except SILVERTOP 06 and 08)	-	○	○	○	○	○	○

OPTIONAL EQUIPMENT (Supplied unassembled)	SEASON	FIRST	SMART	PREMIUM BE	PREMIUM BC	INFINITE BE	INFINITE BC
Cooling module (water or R410A) COMBIBOX CONCEPT®	-	◆	◆	◆	◆	◆	◆
Heating module (electric or water) COMBIBOX CONCEPT®	-	◆	◆	-	-	-	-
Dehumidification module COMBIBOX CONCEPT®	-	◆	◆	-	-	-	-
Changeover pad for heating/cooling switch on changover battery (Supplementary module)	-	◆	◆	◆	-	-	-
LON network communication	-	◆	◆	◆	◆	◆	◆
Touchscreen remote control (up to 100 m)	-	◆	◆	◆	◆	◆	◆
Ambient Temperature management via LCD remote control	-	◆	◆	◆	◆	◆	◆
WONDEROOM, area airflow and temperature management with self-communication with the SILVERTOP®	-	◆	◆	◆	◆	◆	◆
Exhaust filter pressure switch	◆	◆	◆	◆	◆	◆	◆
Fresh air prefilter, gravimetric or opacimetric (G4 or M5)	◆	◆	◆	◆	◆	◆	◆
Fresh air filter, opacimetric F9	◆	◆	◆	◆	◆	◆	◆
Exhaust filter, opacimetric M5	◆	◆	◆	◆	◆	◆	◆

● : *Standard equipement or function.*   ○ *Optional equipement or function. Factory cabled and mounted.*

◆ : *Optional equipement or function. Supplied unassembled*

SILVERTOP® 23

Static Pressure (Pa) vs Airflow (m³/h)

Legend:
- SEASON / FIRST / SMART
- PREMIUM BE / INFINITE BE
- PREMIUM BC / INFINITE BC

Absorbed power (W) per fan vs Airflow (m³/h)

100%

300Pa 250Pa 200Pa 150Pa

*Conditions: Supply and Exhaust equal airflows: 2200 m³/h. Temp.: -10°C/90% | 20°C/50%

Efficiency (%) - EN 308 Exhaust air 20°C/50% HR vs Airflow (m³/h)

-10°C 90%
-5°C 90%
-0°C 90%
+5°C 90%

Lw duct supply to room vs Airflow (m³/h)

300Pa
250Pa
200Pa
150Pa

Lw duct exhaust from room vs Airflow (m³/h)

300Pa
250Pa
200Pa
150Pa

Lp4m (dB(A)) vs Airflow (m³/h)

300Pa
250Pa
200Pa
150Pa

BATTERY PERFORMANCE SILVERTOP®

SILVERTOP® 23 — Heating water coil battery - PREMIUM / INFINITE BC

Water Temp. (°C)	Δt air (°C)	Airflow (m³/h)	600	1000	1400	1800	2200	2600	3000
80/60	11	Power [kW]/Air outlet Temp. [°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
		Water flow [l/h]/DP water [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]/Air outlet Temp. [°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
		Water flow [l/h]/DP water [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]/Air outlet Temp. [°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
		Water flow [l/h]/DP water [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]/Air outlet Temp. [°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
		Water flow [l/h]/DP water [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]/Air outlet Temp. [°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
		Water flow [l/h]/DP water [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]/Air outlet Temp. [°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
		Water flow [l/h]/DP water [kPa]	654 / 6,5	932 / 12,5	1158 / 18,8	1352 / 25,0	1521 / 31,2	1673 / 37,2	1809 / 43,1

SILVERTOP® 23 — Electrical battery - SMART / PREMIUM / INFINITE BE

Fresh Air Airflow (m³/h)	0°C 2300	-5°C 2300	-10°C 2300	-15°C 2300	-15°C* 2300	-0°C 2300	-5°C 2300	-10°C 2300	-10°C* 2300	-10°C 2300	-15°C 2300	-15°C* 2300
Version	FIRST-SEASON		SMART			PREMIUM BE				INFINITE BE		
			Defrost battery			Heating battery				Heating + Defrost batteries		
Power (kW)	-		6,75			6,75				6,75 + 6,75		
Unit outlet Temp. (°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

Those datas result from optimum regulation configuration considering outdoor temperatures.
Permanent unit supplied temperature, taking in account proportional bypass opening for exchanger defrost.
* 20% Airflow decrease on FRESH AIR SUPPLY (As standard function)

For your external cooling batteries (water or R410A), use our selection software **SOFTWAIR®** and get the right selection with its detailed report.

• SECURITY AND CONTROL

**PRESSURE SWITCH
ref. DEP**

Exhaust air filter (IP54)

**MANOMETER
WITH LIQUID
ref. MANO**

**SMOKE DETECTOR
ref. CDAD**

(IP54) Cabinet

**BOXE RELEASE
ref. BD**

TBTS 24 ou 48Vcc -
BOITIER (IP67)

• INSTALLATION

FLEXIBLE SLEEVE ref. MTS M0

Fire rated: M0
Male Diameter (ducts side) / Female (unit side)

• REGULATION

**MONOFUNCTION AERA AIRFLOW
MODULATOR ref. SYSTEM TOP**

All Or Few area airflow modulator. To be associated to
LOBBY® (constant pressure). Airflow modulation
versions.

**MONOFUNCTION AREA AIRFLOW
MODULATOR ref. SYSTEM DIVA**

Moduling area airflow modulator. To be associated to
LOBBY® (constant pressure). Airflow modulation
versions

**MULTIFONCTIONS AREA AIRFLOW
MODULATOR ref. WONDEROOM**

To be associated to LOBBY® (constant pressure).
Airflow modulation versions. It handles area airflow
modulation and communicates with the SILVERTOP®
unit. Example for free-cooling / night-cooling.
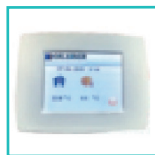
**TOUCHSCREEN REMOTE CONTROL
ref. EDTOUCH**

SEASON version isn't compatible.

• AIRFLOW MODULATION

**REMOTE CONTROL
ref. POT 230**

Potentiometer only for
SEASON version (IP54)

**COMFORT REMONTE
CONTROL
ref. CDC1V2**

ON/OFF 2 fans - IP54 BOX

**COMFORT REMONTE
CONTROL
ref. CDC2V2**

OFF/LS/HS 2 fans - IP54 BOX)

**COMFORT
REMONTE
CONTROL
ref. CDC PVGV2**

LS/HS 2 fans - IP54 BOX

**PRESENCE
DETECTOR
ref. 360 TOR SA**

ON/OFF or LS/HS
(no compatible with
SEASON version)

• THERMAL

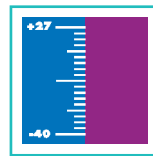**THERMOSTAT REVERSER
SUMMER/WINTER
ref. PASTILLE CHANGEOVER**

For FIRST and SMART versions connected with an
external COMBIBOX CONCEPT® module

**HUMIDITY SENSOR
ref. HR 010 SG**

0-10V signal (no compatible with SEASON
version)

**HUMIDITY SENSOR
ref. HR 010 SA**

0-10V signal (no compatible with SEASON
version)

**DESHUMIDIFYING
ref. CBX --**

To be duct mounted (cf. Air Treatment chapter for
details). No compatible with SEASON version

**CIRCULAR DAMPER
ref. RC4A**

Defrost security. Airtightness rate 3 (Ø200 à 500)

ELECTROVALVE KIT ref. KEI IP44

PREMIUM BC and INFINITE BC Versions Indoor
Installation

Type 15/1.6-3/8" M for SILVERTOP 06/08
Type 15/2.5-1/2" M for SILVERTOP 15/23
Type 15/4-1/2" F for SILVERTOP 35
Type 20/6.3-3/4" F for SILVERTOP 52