



I.10

Heat recovery units

FREETIME

- Non residential
- Condensation
- R-COVERY by ZEHNDER CALADAIR
- $Q_v \leq 3500 \text{ m}^3/\text{h}$
- Vertical
- Heat recovery unit with efficiency $\geq 80\%$



HRU with post heating coil 100 to 3.500 m³/h type FREETIME

High efficiency heat recovery unit $> 80\%$ (EN308). The range includes 6 sizes for air flow rates from 100 to 3.500 m³/h. Each **FREETIME** model comes with its own regulation as standard.

The **FREETIME Premium** is a self-regulating unit either equipped with a water heating coil or with an electric heating coil for temperatures down to -10°C and an extensive regulating module.

The unit is always provided for an indoor installation, with top connections.

Brand

- R-COVERY by ZEHNDER CALADAIR

Application

- High efficiency self-regulating ventilation and heat recovery for non-residential and industrial applications.
- Air filtration, temperature control
- Compact monoblock ventilation unit equipped with plug & play energy-saving control (EN 15232)

Composition

- Double-walled panels 10/10th
- Insulation with mineral wool M0
 - with 25 mm high density glass wool insulation, fire class (A2-s1) for sizes 500 and 800
 - with 50 mm high density glass wool insulation, fire class A1 (M0) for all sizes larger than 800
- Outer layer: prelacquered steel plate in titanium grey (RAL7035 - Aluminum grey).
- Inner layer: galvanized steel plate
- Panel for access to the internal elements equipped with safety lock
- Round connections with lip seal for all models, except for size 52 which has rectangular connections
- Equipped with connections on top (only for indoor installation)
- Hydraulic connections (version Premium BC) on top!
- Monoblock version
- Only available with the operating side on the right, considering the air flow (see configuration!)
- Mounting feet integrated in the frame for easy transport and fixing in the ground

- Easy access to all components via 2 hinged doors
- Internal control with external display IP65
- Integrated FREE-COOLING and NIGHT COOLING function
- Built-in temperature sensors (4)
- Built-in timer for dual flow rate function
- Built-in weekly timer and holiday timer
- Safety switch
- Differential pressure switch on inlet filter F7
- Differential pressure switch on each fan
- Modbus or Bacnet possible as standard

Fan

- Fan with free-running wheel
- Direct drive DC motor with high efficiency electronic modulation (EC), thermal protection and integrated speed control
- The EC technology guarantees a limited energy consumption by controlling and checking the operating point (regulation between 10 and 100%)
- Low noise level for better acoustic comfort

Exchanger

- Rotary heat exchanger (condensation wheel) in aluminum with high efficiency and variable speed (EUROVENT approved)
- Efficiency > 80% (EN308)

Filter

- The filters are mounted directly in front of the components for optimal protection
- The filters are mounted on slides with lip sealing for efficient airtightness
- The basic configuration of the Freetime is equipped with an F7 filter- ISO 16890 ePM1 - 55% (supply) and an M5 filter- ISO ePM1 50% (extraction)
- F7 high-efficiency filter: 10x larger filter surface than a gravimetric filter and 2.5x longer life
- Additional fresh air filter available as an option
- A double filtration can be provided on the fresh air. However, the pressure drop (see spare filters) must also be taken into account in the technical selection of your device!

Versions

- **FREETIME Premium xxxx BC**: ventilation group equipped with an integrated water heating coil for post heating
- **FREETIME Premium xxxx BE**: ventilation group equipped with an integrated electric heating coil for post heating

Options

- **DIVA®EC***: Proportional modulating flow (between a set min. and max. flow) of each fan based on a built-in CO₂ measurement. The amount of CO₂ (number of ppm) is adjustable in the control
- **LOBBY®EC***: Constant pressure ventilation for each fan for use with VAV boxes
- **MAC2®EC***: Two adjustable constant air flows for each fan (except for sizes 05 and 08)
- **QUATTRO®EC***: Proportional ventilation between two constant air flows (high and low speed) for each fan (except for sizes 05 and 08). With built-in CO₂ sensor in the exhaust side of the unit

* this regulation will be built-in in the unit. It is not possible to add this regulation afterwards

Certification

- The unit is s tested in accordance with the NBN EN 308 standard.
- Efficiency of the heat exchanger of more than 80% (EN308), in accordance with RT2012 and the directive ErP 2009/125/EC
- In conformity with EUROVENT classifications according to EN1886 and EN13053
- Standard construction with double skinned panels and insulation of 25 mm (types 500 and 800) and 50 mm for all bigger types
- Resistance of the casing: D2
- Air tightness: L1
- Conductivity: T3
- Thermal bridge factor: TB3
- Filter leakage class: F9
- Outer panel made of prelacquered steel 10/10
- Finish RAL9007 - Titanium grey
- Inner panel made of galvanized steel 10/10

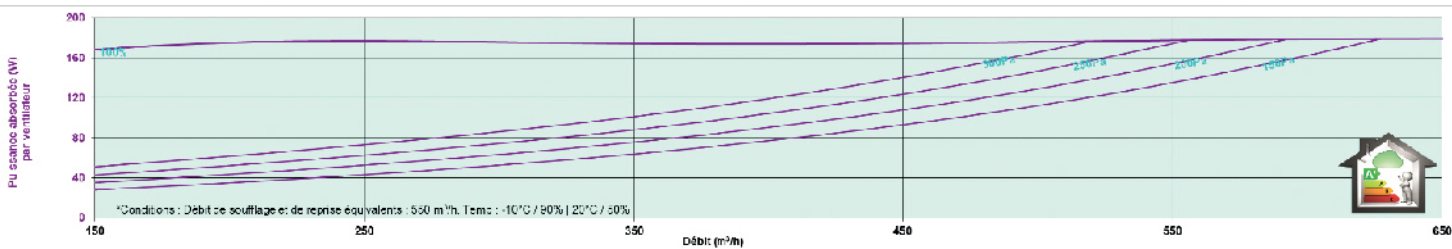
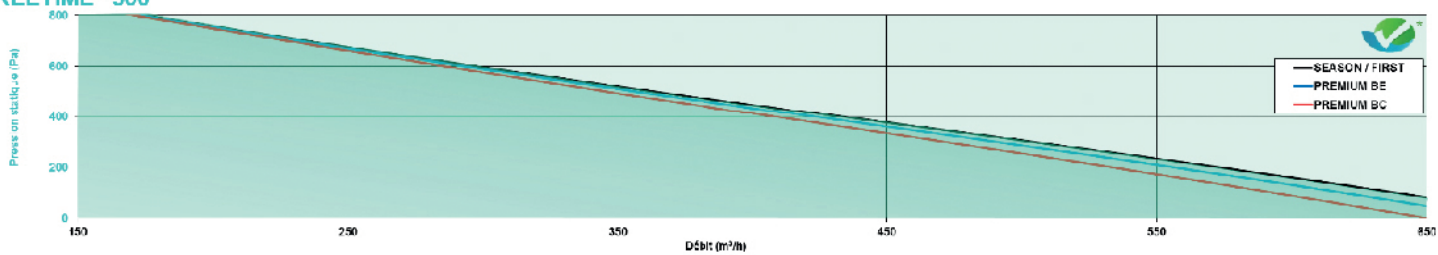
Accessories

- Replacement filters for Freetime(-S) **FS-FREETIME**
- Airtight control valve **AKH**
- Round flexible connections **MTV**
- **Controllers for Freetime up to serial number 225190:**
 - **E3-DSP** controller mounted on the unit as standard
 - Remote controller available as an option

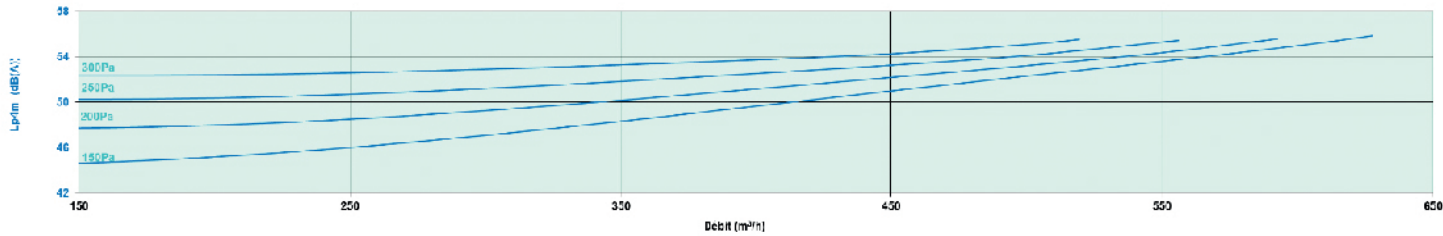
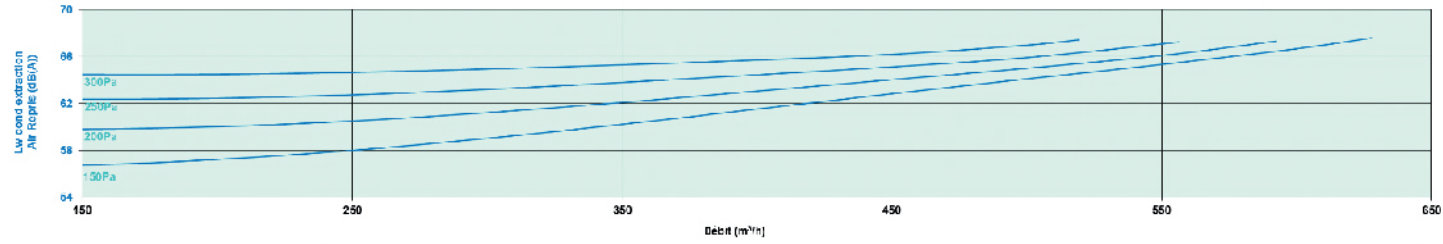
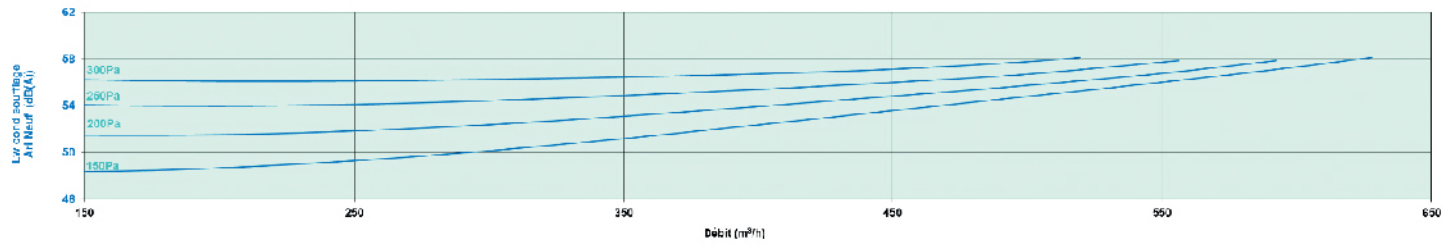
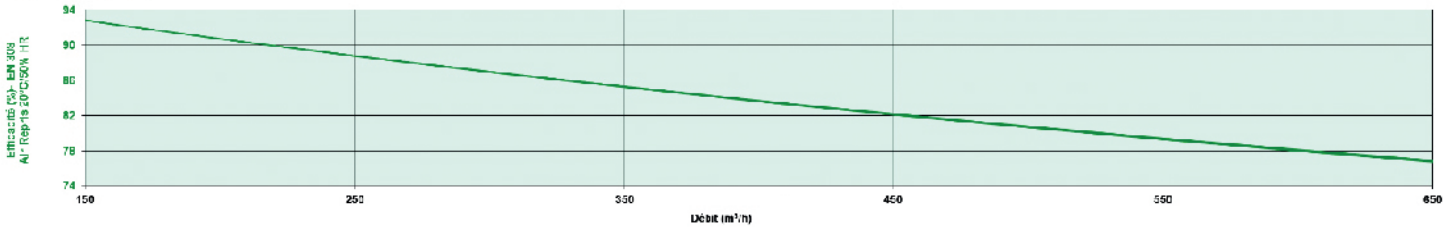
- E3-DSP remote display (up to 100 metres, to be provided by the installer) with 3-metre **EDSP-K3** or 10-metre **EDSP-K10** Belden cable
- **ED Touch** digital controller for units type GTDHR/V, Hexamotion(-S), Freetime(-S), Silvertop, Neotime (First and Premium)
 - Cable 4-wire 24 Vdc (Corrigo C+/GO) of 10 rmt included
- **Controllers for Freetime from serial number 225191:**
 - **Easy 5.0** controller mounted on the unit as standard
 - Master touch screen controller
 - **EDT2** remote controller available as an option
 - Touch screen controller for end user

Selection curves

FREETIME® 500

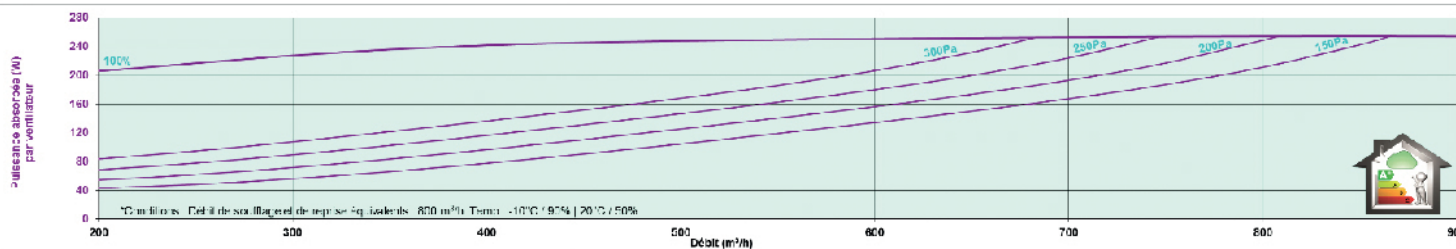
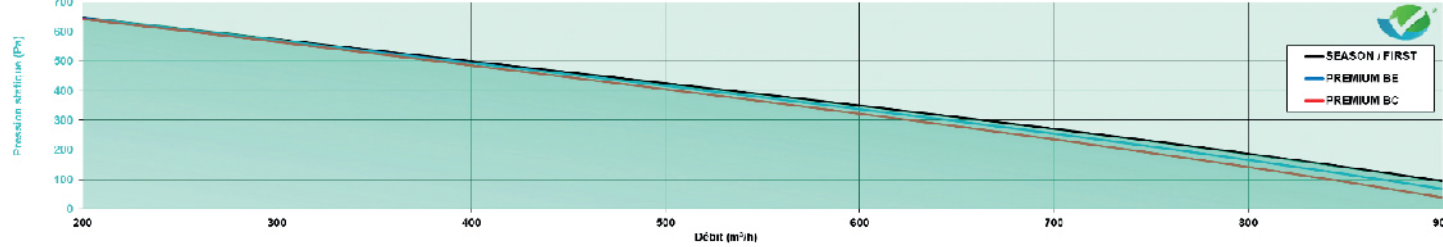


FREETIME® 500

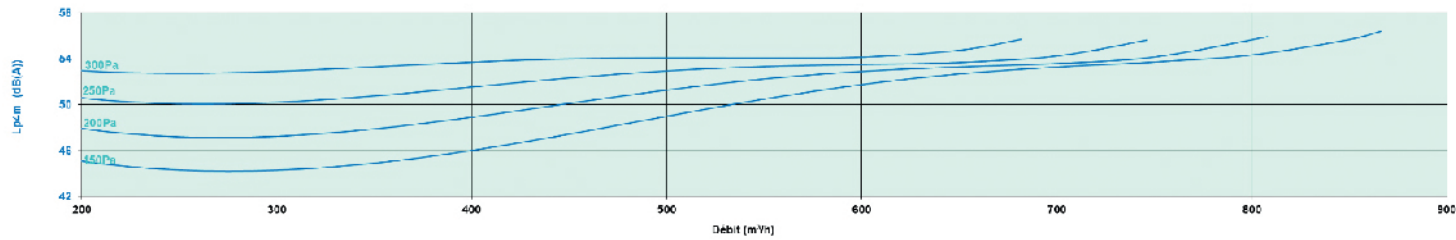
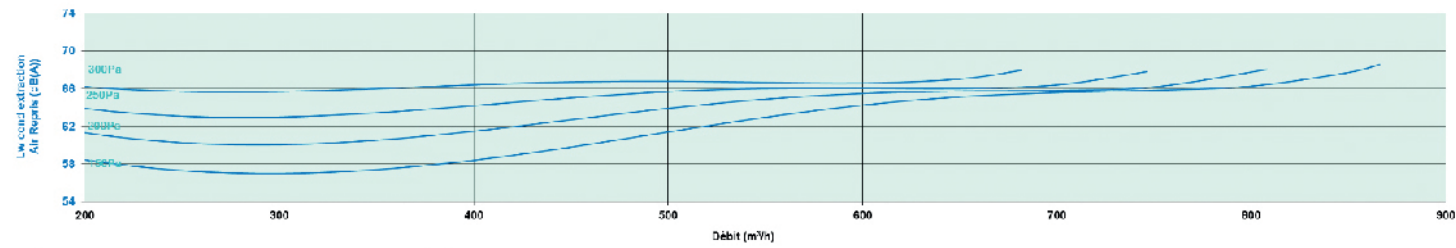
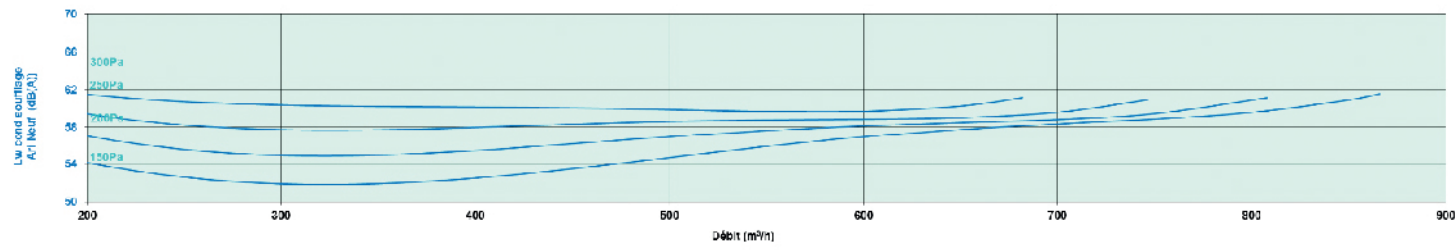
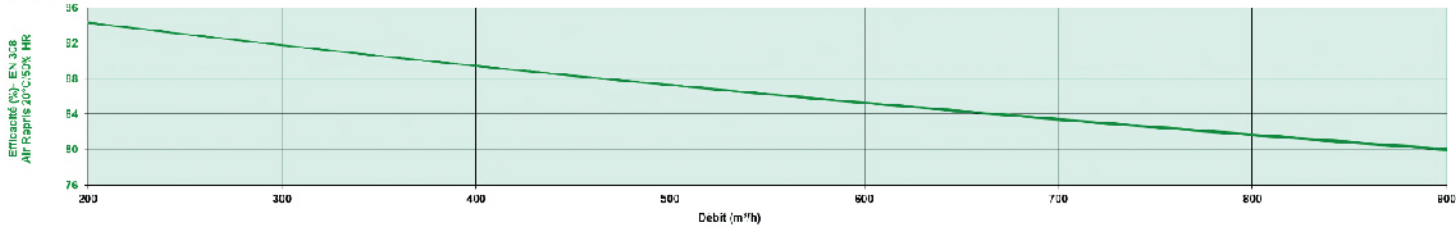


Selection curves

FREETIME® 800

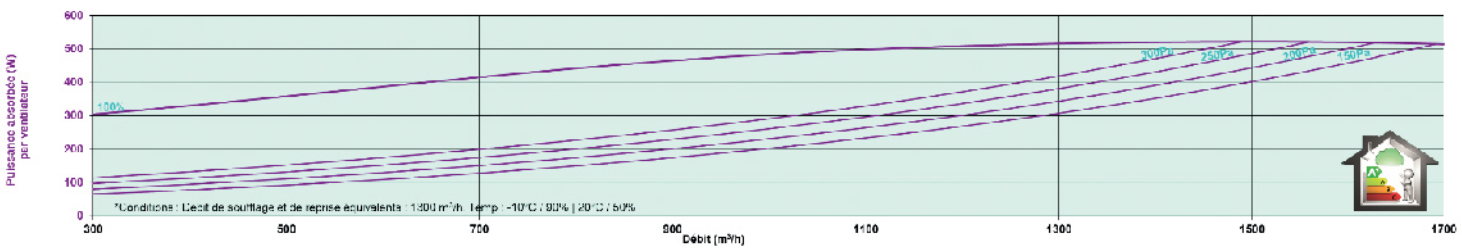
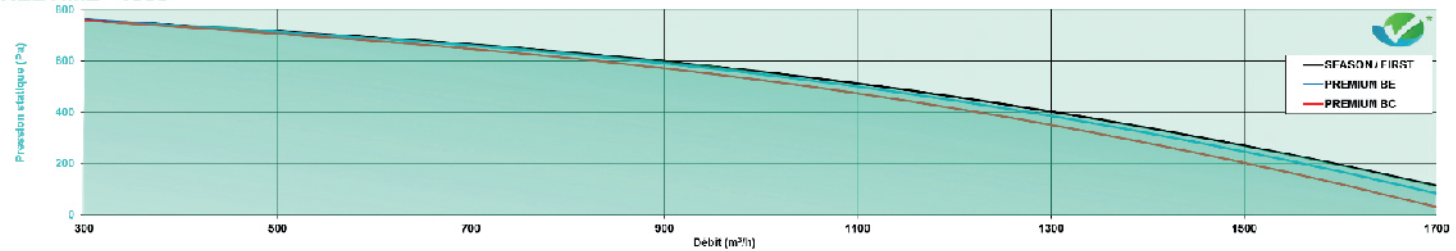


FREETIME® 800

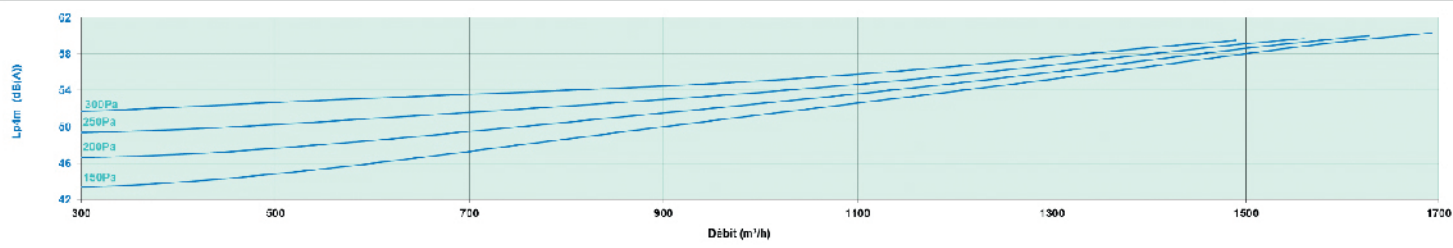
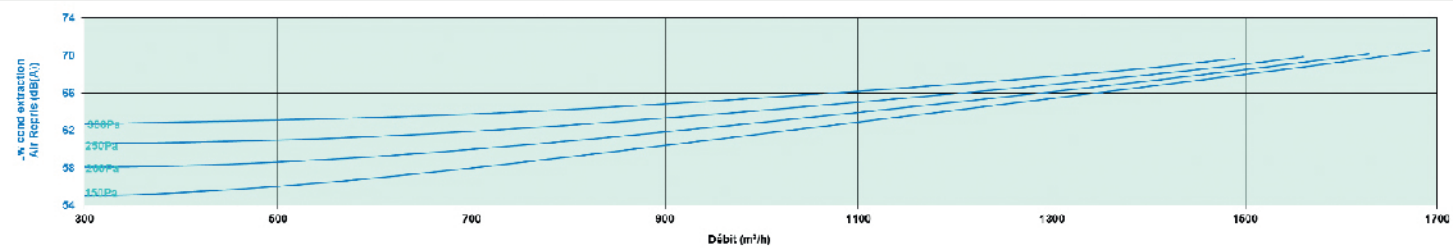
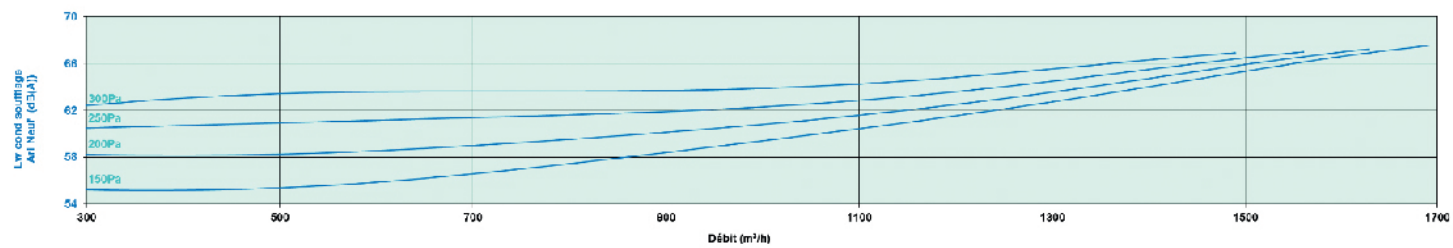
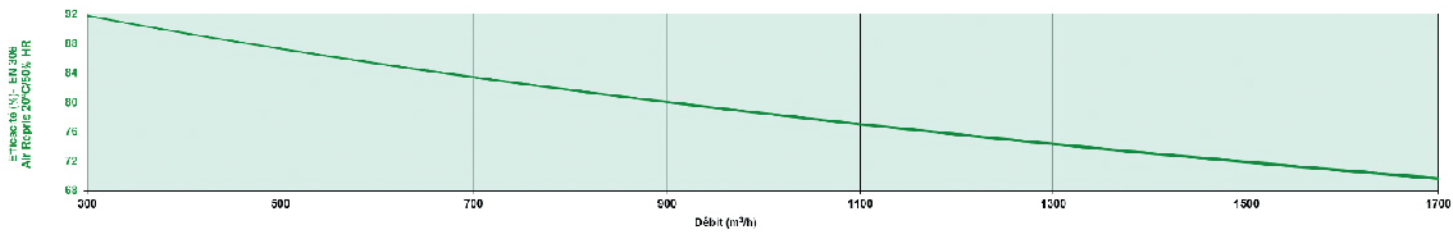


Selection curves

FREETIME® 1500

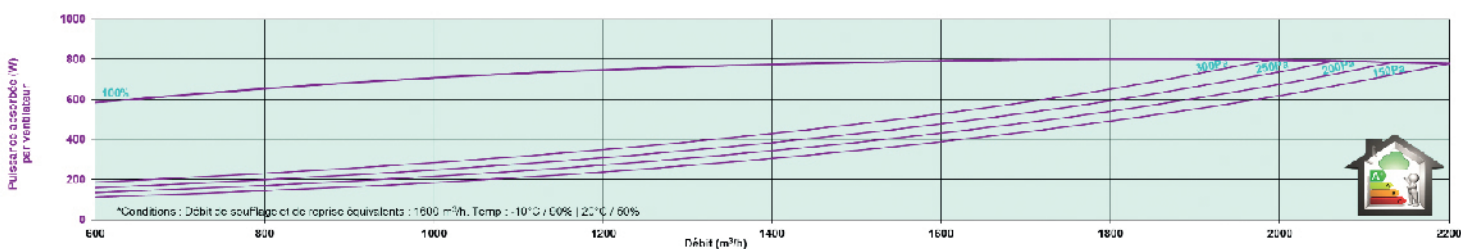
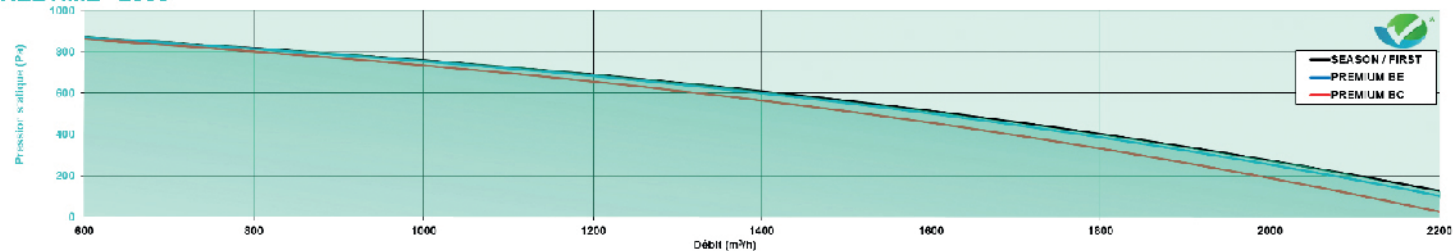


FREETIME® 1500

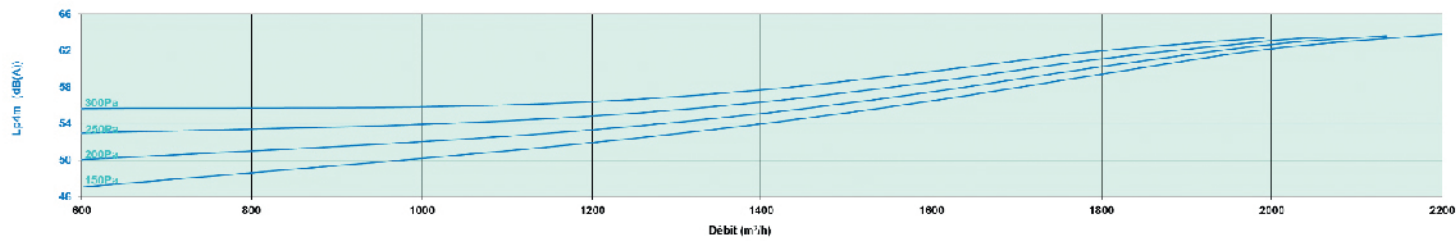
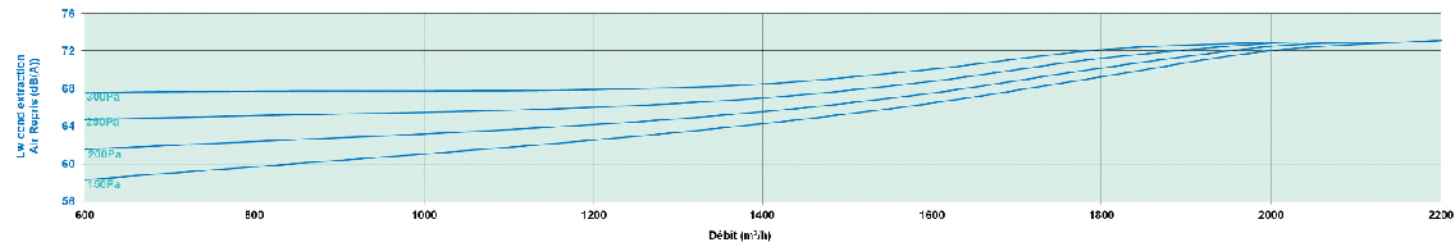
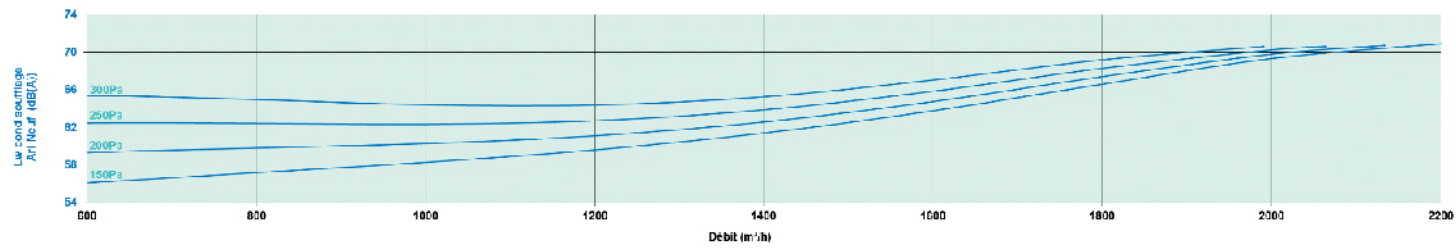
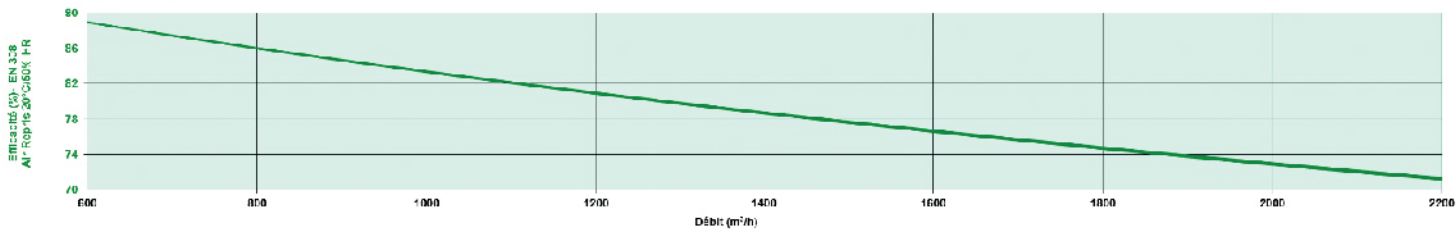


Selection curves

FREETIME® 2000

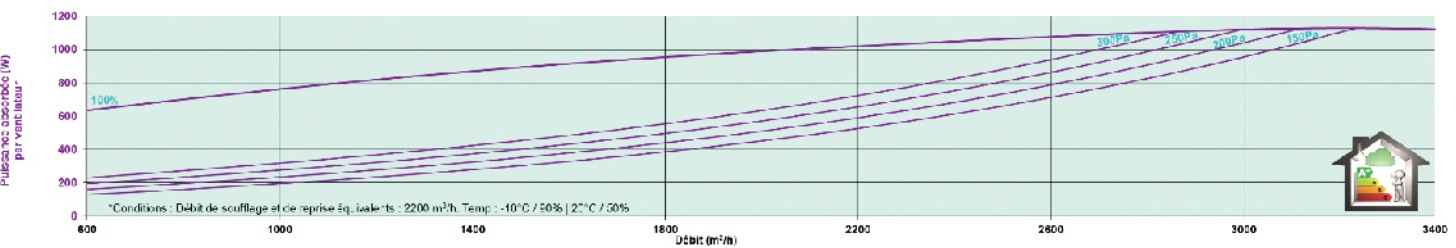
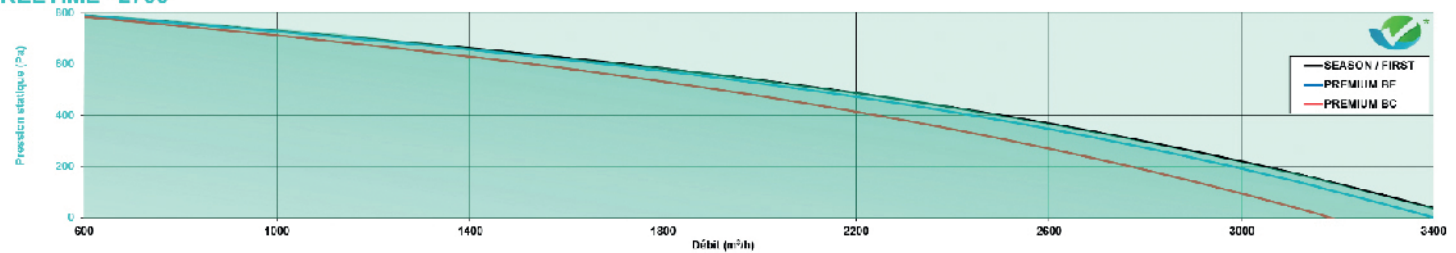


FREETIME® 2000

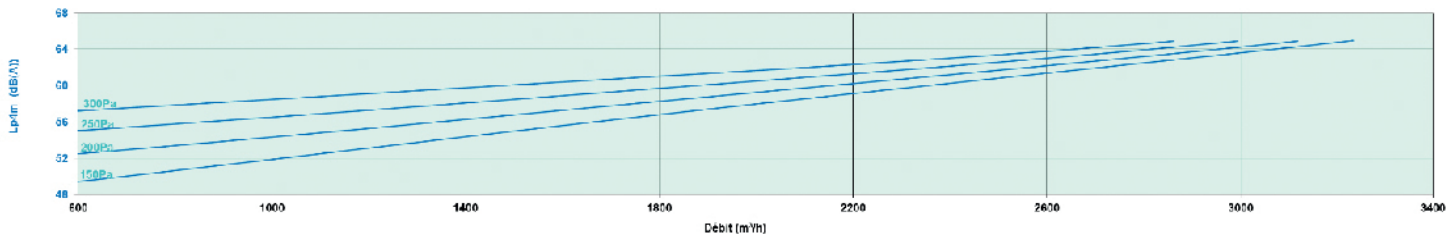
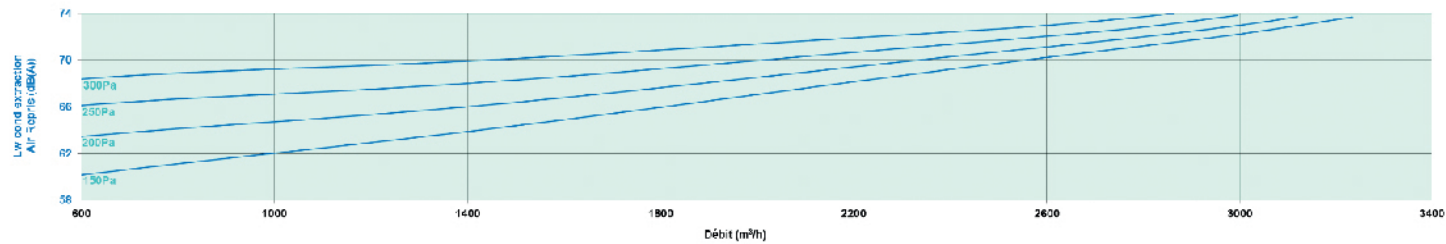
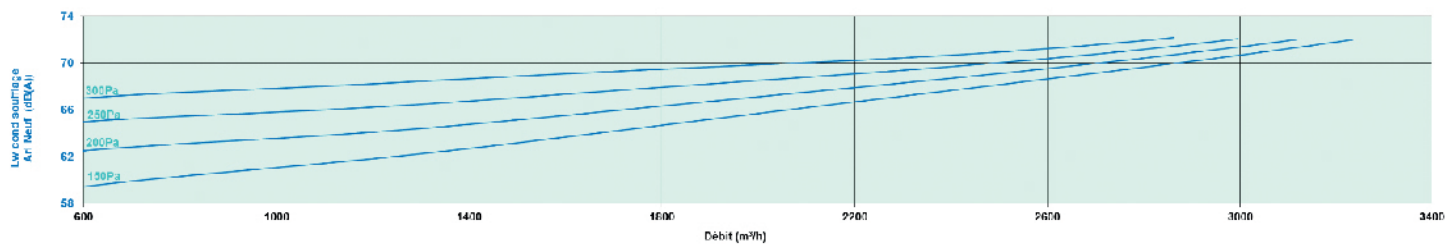
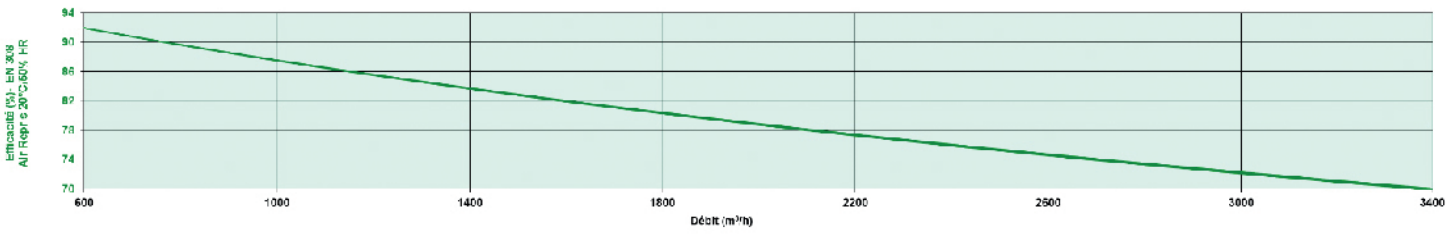


Selection curves

FREETIME® 2700

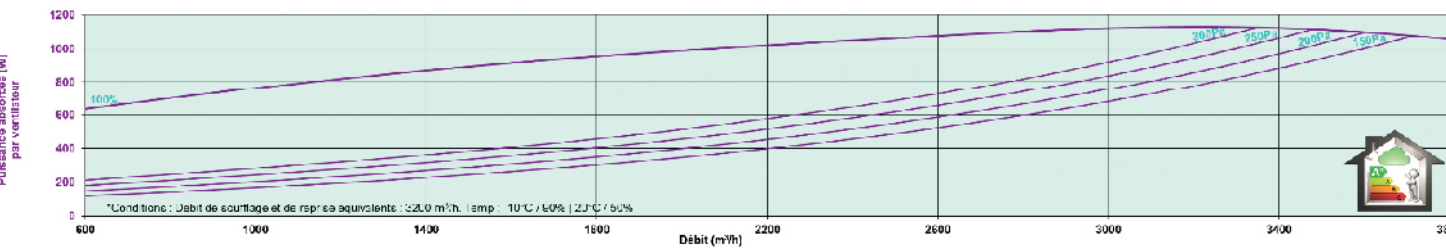
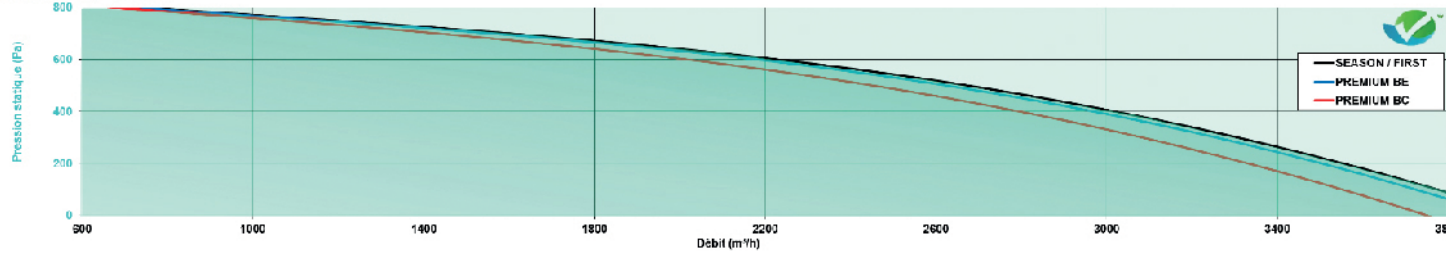


FREETIME® 2700

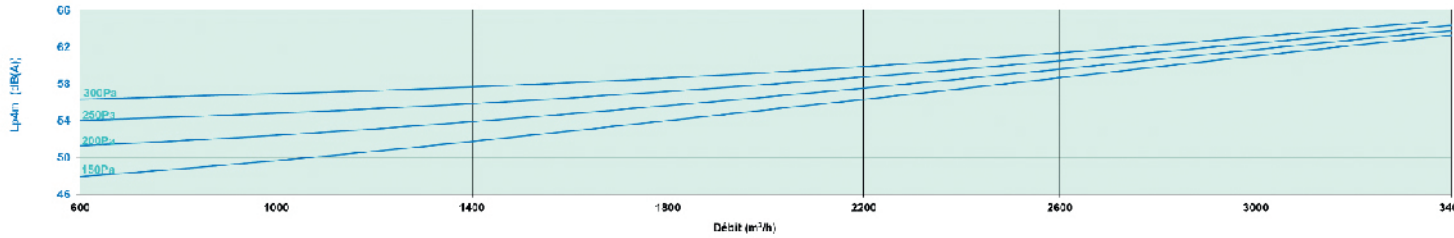
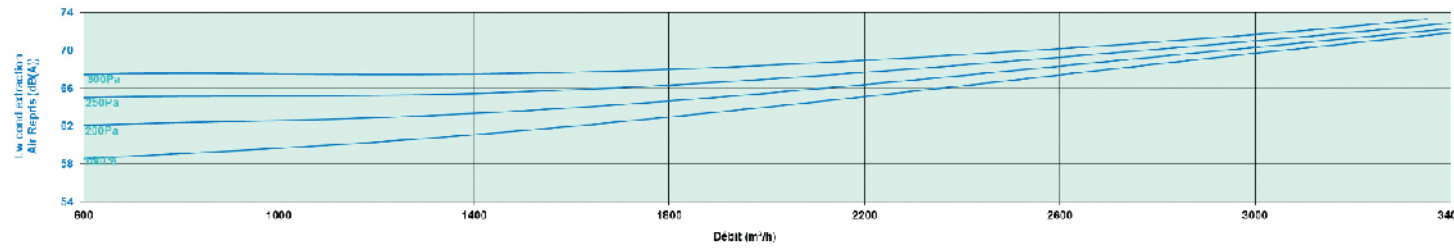
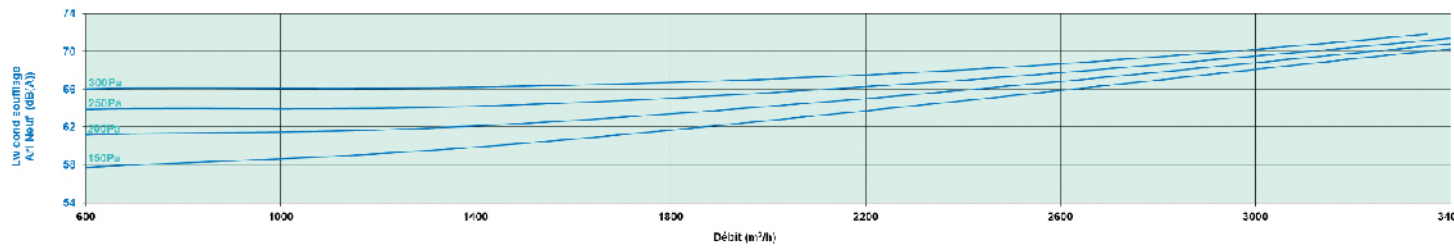
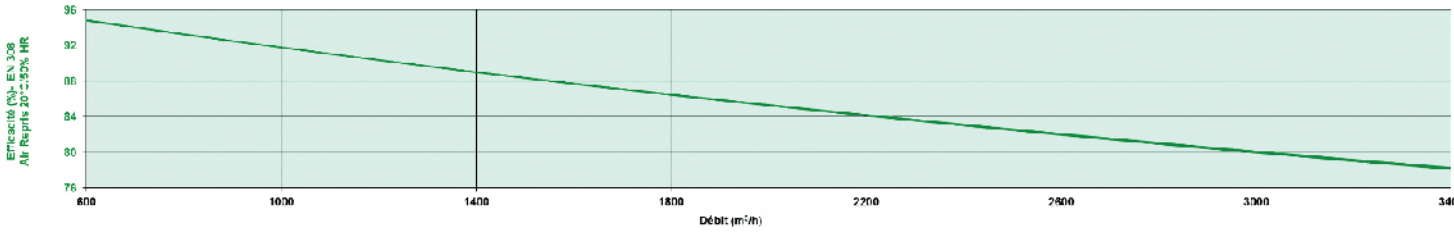


Selection curves

FREETIME® 3500



FREETIME® 3500



	Electrical data							
	P [W]	T [°C/°C]			PREMIUM BC		PREMIUM BE	
					[V/Ph/Hz]	[A]	[V/Ph/Hz]	[A]
500	2 x 169	-20 / 60	IP54 / B	PT1	230/1/50	3.8	230/1/50	14.7
800	2 x 220	-20 / 60	IP54 / B	PT1	230/1/50	4.1	230/1/50	20.4
1500	2 x 480	-20 / 40	IP54 / B	PT1	230/1/50	5.3	230/1/50	28.1
2000	2 x 750	-20 / 40	IP54 / B	PT1	230/1/50	7.6	400/3+N/50	18.5
2700	2 x 1000	-20 / 50	IP54 / B	PT1	400/3+N/50	4.3	400/3+N/50	23.8
3500	2 x 1000	-20 / 50	IP54 / B	PT1	400/3+N/50	4.3	400/3+N/50	28.1

Info hot water coil																
Q [m³/h]	Ti [°C]	Tw 80°C/60°C					Tw 60°C/50°C					Tw 45°C/40°C				
		P [kW]	Tu [°C]	Qw [l/h]	ΔPw [kPa]	P [kW]	Tu [°C]	Qw [l/h]	ΔPw [kPa]	P [kW]	Tu [°C]	Qw [l/h]	ΔPw [kPa]			
500	100	11	2,2	43,6	194	2,1	1,6	34,3	276	4,1	0,8	35,2	143	5,4		
		15	2,0	44,6	176	1,7	1,4	35,3	240	3,2	0,7	36,1	125	4,3		
	200	11	2,6	48,7	113	3,2	1,9	39,2	168	6,9	1,4	31,2	239	13,7		
		15	2,4	50,0	105	2,8	1,8	40,6	152	5,8	1,2	32,6	208	10,7		
	300	11	3,4	43,9	148	5,2	2,5	35,7	220	11,	1,8	28,8	315	22,6		
		15	3,1	45,6	137	4,6	2,3	37,4	200	9,5	1,6	30,5	274	17,6		
	400	11	4,0	40,5	177	7,3	3,0	33,3	265	15	2,2	27,0	379	31,7		
		15	3,8	42,4	164	6,4	2,8	35,2	240	13	1,9	21,3	330	24,6		
	500	11	4,6	38,0	202	9,2	3,5	31,4	303	20	2,5	25,7	435	40,6		
		15	4,3	40,1	188	8,1	3,2	33,5	275	16	2,2	27,8	378	31,5		
	600	11	5,1	36,0	255	11,2	3,9	39,9	337	24	2,8	24,7	485	49,4		
		15	4,8	38,2	209	9,8	3,5	32,1	306	20	2,4	26,9	421	38,3		
800	200	11	3,0	54,8	131	1,0	2,2	43,6	194	2,1	1,6	34,3	276	4,1		
		15	2,8	55,7	122	0,8	2,0	44,6	176	1,7	1,4	35,3	240	3,2		
	300	11	4,0	50,0	175	1,6	3,0	40,3	261	3,5	2,2	32,0	372	7,0		
		15	3,7	51,3	163	1,4	2,7	41,5	237	2,9	1,9	33,3	324	5,4		
	400	11	4,9	46,7	214	2,3	3,7	37,8	319	5,1	2,6	30,3	456	10,0		
		15	4,5	48,2	199	2,0	3,3	39,9	289	4,2	2,3	31,8	397	7,8		
	500	11	5,6	44,0	247	3,0	4,3	35,9	370	6,6	3,1	28,9	530	13,3		
		15	5,2	45,7	230	2,7	3,9	37,6	335	5,5	2,7	30,6	461	10,3		
	600	11	6,3	41,9	278	3,8	4,8	34,3	416	8,2	3,5	27,8	597	16,5		
		15	5,9	43,7	258	3,3	4,3	36,1	377	6,9	3,0	29,6	519	12,8		
	700	11	7,0	40,1	306	4,5	5,3	33,0	459	9,8	3,8	26,9	659	19,8		
		15	6,5	42,1	284	3,9	4,8	35,0	415	8,2	3,3	28,8	572	15,3		
800	11	7,6	38,6	331	5,2	5,7	31,9	498	11,4	4,1	26,1	715	23,0			
	15	7,0	40,7	307	4,5	5,2	33,9	450	9,5	3,6	28,1	621	17,8			
1500	500	11	6,4	48,6	281	1,9	4,8	39,2	419	4,1	3,5	31,2	599	8,3		
		15	6,0	49,9	261	1,7	4,4	40,6	380	3,5	3,0	32,6	521	6,4		
	700	11	8,0	44,6	352	2,9	6,1	36,3	527	6,3	4,4	29,2	755	12,7		
		15	7,5	46,2	237	2,5	5,5	37,9	477	5,3	3,8	30,8	656	9,8		
	900	11	9,4	41,7	413	3,9	7,1	34,2	620	8,5	5,1	27,7	889	17,2		
		15	8,8	43,5	384	3,4	6,5	36,0	561	7,1	4,5	29,5	773	13,3		
	1100	11	10,7	39,4	467	4,9	8,1	32,5	702	10,7	5,8	26,5	1009	21,7		
		15	9,9	41,3	434	4,2	7,3	34,4	636	8,9	5,1	28,5	876	16,7		
	1300	11	11,8	37,5	516	5,8	8,9	31,1	777	12,9	6,5	25,5	1118	26,2		
		15	10,9	39,6	479	5,1	8,1	33,2	703	10,7	5,6	27,6	970	20,2		
	1500	11	12,8	36,0	561	6,8	9,7	29,9	845	15,1	7,0	24,7	1217	30,6		
		15	11,9	38,1	520	5,9	8,8	32,0	764	12,5	6,1	26,9	1056	23,6		
1700	11	13,7	34,6	601	7,7	10,	29,0	907	17,2	7,6	24,0	1308	35,0			
	15	12,7	36,9	558	6,7	9,4	31,2	821	14,3	6,6	26,3	1134	26,9			
2000	800	11	12,7	48,3	558	2,5	9,6	38,9	830	5,3	6,9	31,0	1185	10,6		
		15	11,9	49,7	519	2,2	8,7	40,3	753	4,5	6,0	32,5	1032	8,2		
	1000	11	15,9	44,3	683	3,7	12,0	36,0	1042	8,1	8,6	29,0	1491	16,2		
		15	14,8	45,9	649	3,2	10,9	37,7	945	6,7	7,5	30,7	1297	12,5		
	1200	11	18,7	41,4	819	5,0	14,1	33,9	1225	10,9	10,2	27,5	1756	21,8		
		15	17,4	43,2	761	4,3	12,8	35,7	1110	9,1	8,8	29,3	1527	16,9		
	1400	11	21,1	39,1	925	6,2	15,9	32,2	1387	13,6	11,5	26,3	1991	27,5		
		15	19,6	41,4	859	5,4	14,4	34,2	1256	11,4	10,0	28,3	1730	21,2		
	1600	11	23,3	37,2	1021	7,4	17,6	30,8	1533	16,4	12,7	25,3	2203	33,1		
		15	21,6	39,6	948	6,5	16,0	33,0	1388	13,7	11,1	27,4	1914	25,6		
	1800	11	25,3	35,7	1108	8,6	19,2	29,7	1666	19,1	13,8	24,5	2396	38,7		
		15	23,5	37,9	1029	7,5	17,3	31,9	1508	15,9	12,0	26,7	2081	29,8		
2000	11	27,1	34,3	1188	9,8	20,6	28,7	1788	21,8	14,9	23,8	2574	44,1			
	15	25,2	36,7	1103	8,6	18,6	31,0	1619	18,1	12,9	26,1	2235	34,0			
2700	600	11	8,1	50,5	355	1,9	6,1	40,6	527	4,2	4,4	32,2	752	8,4		
		15	7,5	51,7	330	1,7	5,5	41,8	478	3,5	3,8	33,4	654	6,5		
	1000	11	11,4	44,5	501	3,7	8,6	36,2	749	8,1	6,2	29,1	1072	16,3		
		15	10,6	46,1	466	3,2	7,8	37,8	679	6,7	5,4	30,8	932	12,5		
	1400	11	14,1	40,5	620	5,5	10,7	33,3	929	12,0	7,7	27,1	1334	24,4		
		15	13,1	42,4	575	4,8	9,7	35,2	841	10,0	6,7	29,0	1158	18,8		
	1800	11	16,4	37,7	720	7,2	12,4	31,2	1083	16,0	9,0	25,6	1557	32,6		
		15	15,3	39,8	669	6,3	11,3	33,3	980	13,3	7,8	27,7	1352	25,0		
	2200	11	18,4	35,5	808	9,0	14,0	29,6	1218	19,9	10,1	24,5	1753	40,6		
		15	17,1	37,8	750	7,8	12,7	31,9	1102	16,5	8,8	26,7	1521	31,2		
	2600	11	20,2	33,8	887	10,6	15,4	28,3	1338	23,8	11,1	23,5	1928	48,5		
		15	18,8	36,1	823	9,3	13,9	30,7	1210	19,7	9,7	25,9	1673	37,2		
3000	11	21,8	32,3	957	12,3	16,6	27,2	1446	27,5	12,1	22,8	2086	56,2			
	15	20,3	34,8	888	10,7	15,0	29,7	1308	22,8	10,5	25,2	1809	43,1			
3500	600	11	12,7	48,3	558	2,5	9,6	38,9	830	5,3	6,9	31,0	1185	10,6		
		15	11,9	49,7	519	2,2	8,7	40,3	753	4,5	6,0	32,5	1032	8,2		
	1000	11	15,9	44,3	683	3,7	12,0	36,0	1042	8,1	8,6	29,0	1491	16,2		
		15	14,8	45,9	649	3,2	10,9	37,7	945	6,7	7,5	30,7	1297	12,5		
	1400	11	18,7	41,4	819	5,0	14,1	33,9	1225	10,9	10,2	27,5	1756	21,8		
		15	17,4	43,2	761	4,3	12,8	35,7	1110	9,1	8,8	29,3	1527	16,9		
	1800	11	21,1	39,1	925	6,2	15,9	32,2	1387	13,6	11,5	26,3	1991	27,5		
		15	19,6	41,4	859	5,4	14,4	34,2	1256	11,4	10,0	28,3	1730	21,2		
	2200	11	23,3	37,2	1021	7,4	17,6	30,8	1533	16,4	12,7	25,3	2203	33,1		
		15	21,6	39,6	948	6,5	16,0	33,0	1388	13,7	11,1	27,4	1914	25,6		
	2600	11	25,3	35,7	1108	8,6	19,2	29,7	1666	19,1	13,8	24,5	2396	38,7		
		15	23,5	37,9	1029	7,5	17,3	31,9	1508	15,9	12,0	26,7	2081	29,8		
3000	11	27,1	34,3	1188	9,8	20,6	28,7	1788	21,8	14,9	23,8	2574	44,1			
	15	25,2	36,7	1103	8,6	18,6	31,0	1619	18,1	12,9	26,1	2235	34,0			

Configurations



Verse lucht / Air neuf



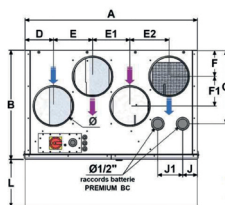
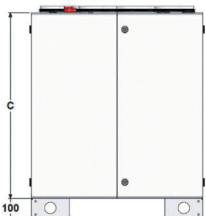
Aanzuig lokaal / Extraction local



Afblaas / rejet d'air



Pulsie / pulsion



→ Verse lucht / Air neuf
→ Terugname / Air repris