Technical Documentation

ComfoAir XL 800-6000

The newest generation of ventilation units with heat recovery

Heating | Cooling | Ventilation | Filtering

Service and advice
The newest series of heat-recovery units from Zehnder are called ComfoAir XL.
This series allows to create a healthy and comfortable indoor climate specifically for utility applications and multi-storey residential units.

Various combinations of model, control technology, options and accessories are available. Why not put together your own unit? We look forward to advising you on your optimum ventilation system.

We look forward to helping you with:
- Detailed advice on specific working points, including quotation
- Supervision during the project (design and execution)
- On-site supervision
- Commissioning
- Connection to a building-control system
- Instruction on ventilation systems
- Training (also on-site)
- Telephone / personal advice

Surrounding people with the perfect indoor climate – comfortable living both at home and at work.
That's what we stand for. **Zehnder 'always around you'.**

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1. General

The ComfoAir XL series is the new generation of heat-recovery units designed for use in utility applications and/or multi-storey residential units. The ComfoAir XL series comprises six different capacities from 800 to 6000 m³/h.

1.1 Key features

- Heat-recovery efficiency of up to 90%
- Capacity up to 6000 m³/h
- Fitted with 100% bypass
- Passive House certified
- Updated controls (MODbus communication)
- Constant volume and pressure control possible
- Unique airtight casing
- Updated filter concept
- Filter monitoring by pressure sensors
- Easily accessible connection PCB
- Unit is easy to configure to a specific working point
- Membrane siphon fitted as standard

1.2 Passive House certified

The ComfoAir XL units are designed on the basis of and in compliance with the Passive House Institute (PHI) guidelines. The units are equipped with a Passive House Certificate. This means that they meet the stringent requirements demanded by the Passive House Institute, with this new series being (25%) more energy efficient than the previous generation. The SFP value (Specific Fan Power) is lower than 0.45 W/(m³/h).

1.3 ComfoAir XL series and options

The ComfoAir XL series is available in different models with various options. The design incorporates the most compact dimensions possible.

Versions:

- CA XL 800
- CA XL 1500
- CA XL 2200
- CA XL 3300
- CA XL 4400
- CA XL 6000

Mounting:

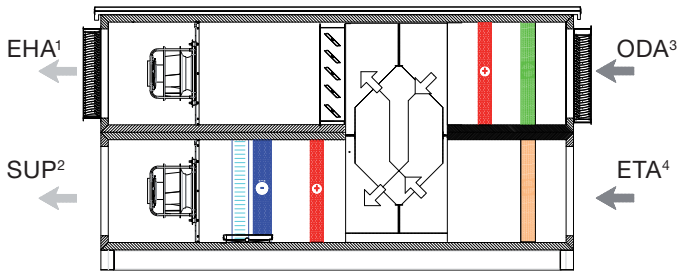
- Indoor mounting (I)
- Outdoor mounting (O)

Air direction:

- Left (L)
- Right (R)

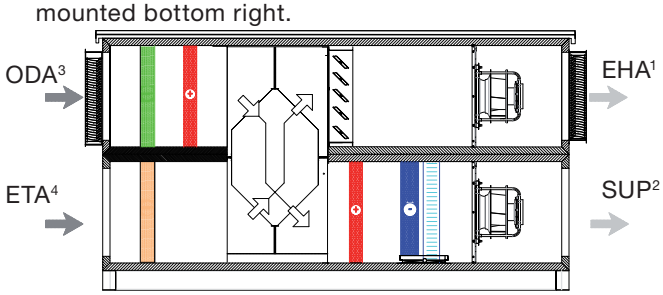
Air direction left-hand version

The outdoor-air intake is on the upper right and the used-air extraction unit is mounted on the upper left. Exhaust air is bottom right and air supply is mounted bottom left.



Air direction right-hand version

The outdoor-air intake is on the upper left and the used-air extraction unit is mounted on the upper right. Exhaust air is bottom left and air supply is mounted bottom right.



Filters:

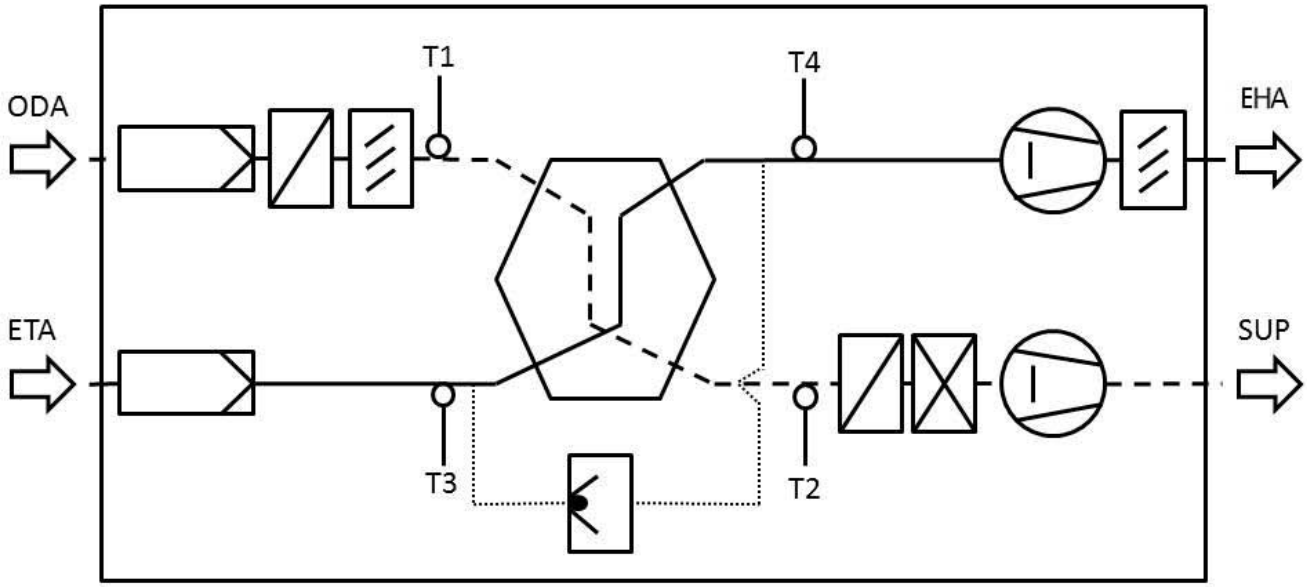
Panel filter F7/G4 (PF)
Bag filter F7/G4 (BF)

Options:

- Bypass:
  - Bypass open/closed (B)
  - Bypass modulating (BM)
- Preheater (PRH)
- Post heater (POH)
- Cooler (CL)
- Outdoor-air damper (DMP-ODA)
- Exhaust-air damper (DMP-EHA)

[1] EHA = Exhaust air
[2] SUP = Supply air
[3] ODA = Fresh air
[4] ETA = Return air

1.4 Operating principle diagram



- Filter
- Heater
- Cooler
- Heat exchanger
- Fan
- Temperature sensor
- Bypass
- Damper

ODA - Fresh air
EHA - Exhaust air
ETA - Return air
SUP - Supply air

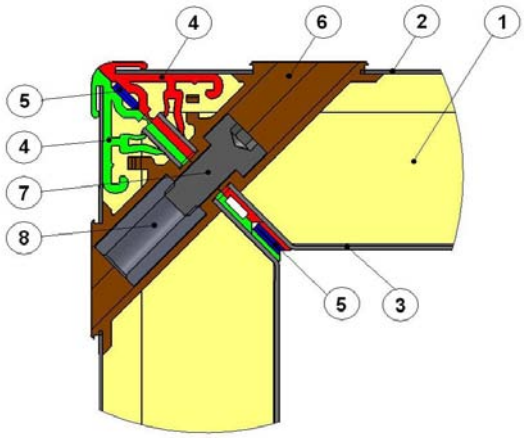
2. Structure

2.1 Airtight casing

The casing of the ComfoAir XL is of a unique quality. The double sealing of the panels ensures perfect air-tightness of the casing. The casing comprises a self-supporting construction made up of double-walled panels with 44-mm thick internal insulation. The panels are made of sendzimir plates which have a weather resistant Goosewing Grey (RAL 7044) plastisol coating on the outside and feature a special polyester coating on the inside (RAL 7035). These panels have no thermal bridge and the casing has very good damping qualities. The design is intended to comply with the passive-house guidelines (internal and external leakage lower than 3%). See list of specifications below.

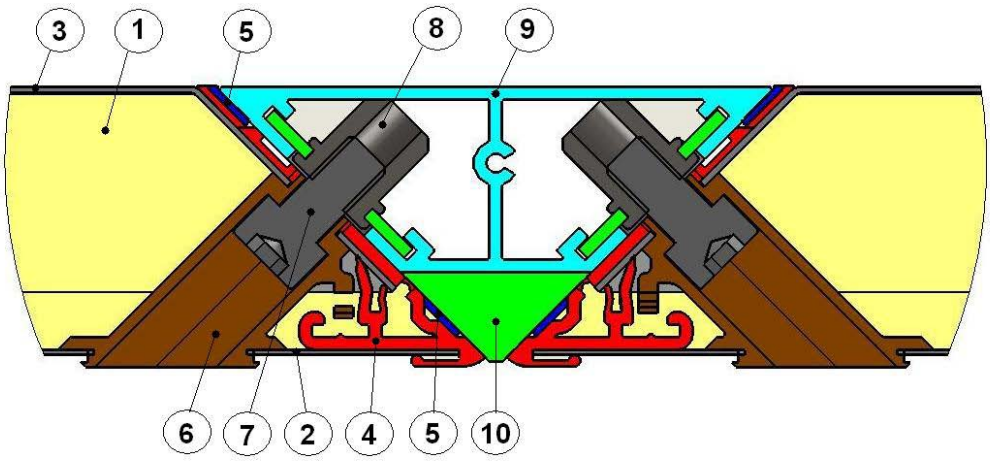
Property	Class
Mechanical strength	2A
Internal leakage (at 400 Pa)	< 3% of nominal volume
External leakage (at 400 Pa)	< 3% of nominal volume
Thermal insulation	T2 (0.51 Wm2/K)
Thermal-bridge factor	TB1
Fire retardancy	B

Corner profile



1. Foam.
2. Sendzimir sheet 0.7mm with Plastisol coating RAL 7044.
3. Sendzimir sheet 1.0mm with powder coating RAL 7035.
4. Plastic profile with rubber lip seal.
5. Rubber lip seal.
6. Plastic tube.
7. M8 bolt.
8. M8 nut.

Joint profile



1. Polyurethane foam. The density of the insulation 40 kg/m3
2. Outer skin: 0.7 mm pre-painted galvanized sheet steel with Plastisol coating.
3. Inner skin: 1.0 mm pre-painted galvanized sheet steel RAL 7035.
4. Plastic profile with rubber lips seal.
5. Double rubber sealing compound.
6. Plastic connection tube.
7. M8 bolt.
8. M8 nut.
9. Aluminium joint profile.
10. Thermal PE insulation foam.

2.2 Fans

The ComfoAir XL series is fitted with direct-drive energy-efficient GreenTech EC fans with backward-curved impellers. Use of these fans results in an energy saving of more than 25% versus conventional AC fans. The fans are mounted vibration-free on a special mounting plate. This means flexible sleeves are not required for vibration-free connection to the air ducts.

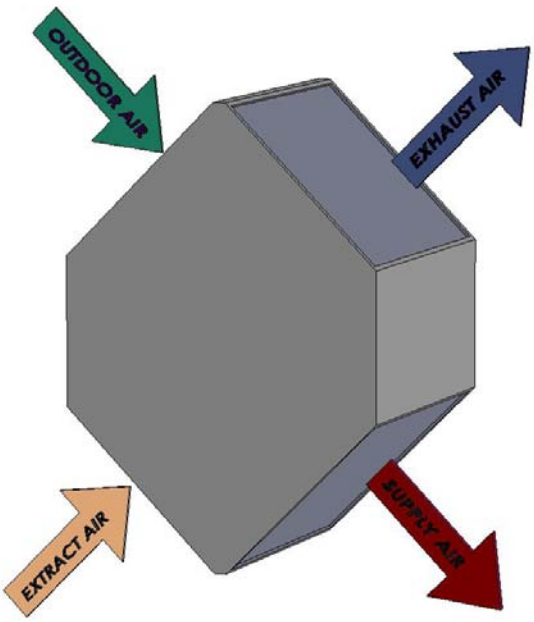
Malfunction alarm
An alarm function is included as standard on the control PCB. This provides an alert if a fan malfunctions. This malfunction alarm can also be activated by optionally monitoring the pressure difference above the supply filter.

2.3 High-efficiency plate exchanger

The high-efficiency counterflow plate exchanger (HE plate exchanger) is made of high-quality aluminium and, depending on the outside temperature and humidity indoors, has a thermal yield of about 90%. The exchanger is corrosion and seawater resistant and fully recyclable.

The benefits of the high-efficiency plate exchanger are:

- No wear
- Easy maintenance
- 100% separate air flows
- Low risk of contamination



Frost protection
Under certain conditions, condensation in the exchanger could freeze. To prevent this, a frost-protection unit is fitted. If there is a risk of freezing, the unit reduces the speed of the fan or if necessary briefly turns it off altogether.

2.4 Siphon

A siphon is fitted as standard to drain condensation formed in the plate exchanger.
Condensation in the cooler must be drained using an external membrane siphon. The siphon can be kept frost-free by using an insulated heating element. The power-supply and control can be configured in the software.

2.5 Bypass

The ComfoAir XL is fitted with a 100% bypass as standard. The ComfoAir XL control unit opens and closes the bypass valve. The bypass is located beside the heat exchanger and is activated using a counter-rotating bypass valve that is controlled automatically by a servo motor. When the bypass valve is opened, the exhaust air flows around the high-efficiency plate exchanger, so no heat exchange takes place. Filtering continues as normal. This allows for so-called 'free' cooling or night ventilation in the evenings and at night-time, for example.

See the principle diagram in Chapter 1, section 4, for how the bypass works.

Open/close or modulating bypass
The ComfoAir XL can be fitted with an open/close bypass or a modulation-controlled bypass valve. The servo motor controls the modulating bypass, ensuring a steady supply temperature. This is particularly important when the unit is fitted with a cold-water battery.

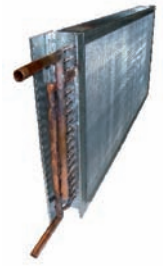
2.6 Filters

Both supply-air and exhaust-air flows are filtered using two types of filter: a panel filter or a bag filter. The supply air flow is fitted with an F7 filter as standard, the exhaust air flow with a G4 filter. The recently developed filter mount clamps the filters to the filter frame, resulting in minimal filter leakage. The units are fitted with filter monitoring as standard. This occurs via pressure sensors that measure resistance across
the filter and give a filter-dirty signal where necessary.

2.7 Batteries

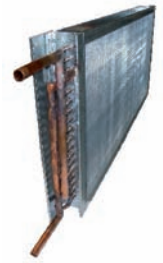
The ComfoAir XL series can be optionally fitted with a preheater, a post-heater or a cooler.
The connections for the batteries are fitted outside the unit. To control these batteries, the unit's connection PCB is fitted with multiple power relays (220V) and 0-10V outputs. The connection PCB controls a 0-10V signal to the two-way valve. The power relay (220 V) provides power to the circulation pump.
The batteries must be connected to a cold-water and/or warm-water supply by a third party. All batteries must be selected per project.

Preheater



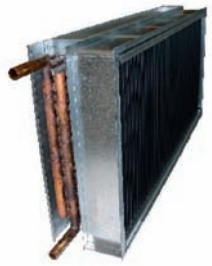
To warm cold outdoor air in winter, a preheater may be fitted. This heating battery is mounted in the unit ahead of the heat exchanger and serves to provide frost-free operation. The preheater is primed on the basis of the water/glycol medium used to prevent the battery from freezing.

Post-heater



The post-heater increases the temperature of the supply air, ensuring more comfortable temperatures in living or working spaces. The post-heater is fitted in the airflow after the heat exchanger.

Cold-water battery

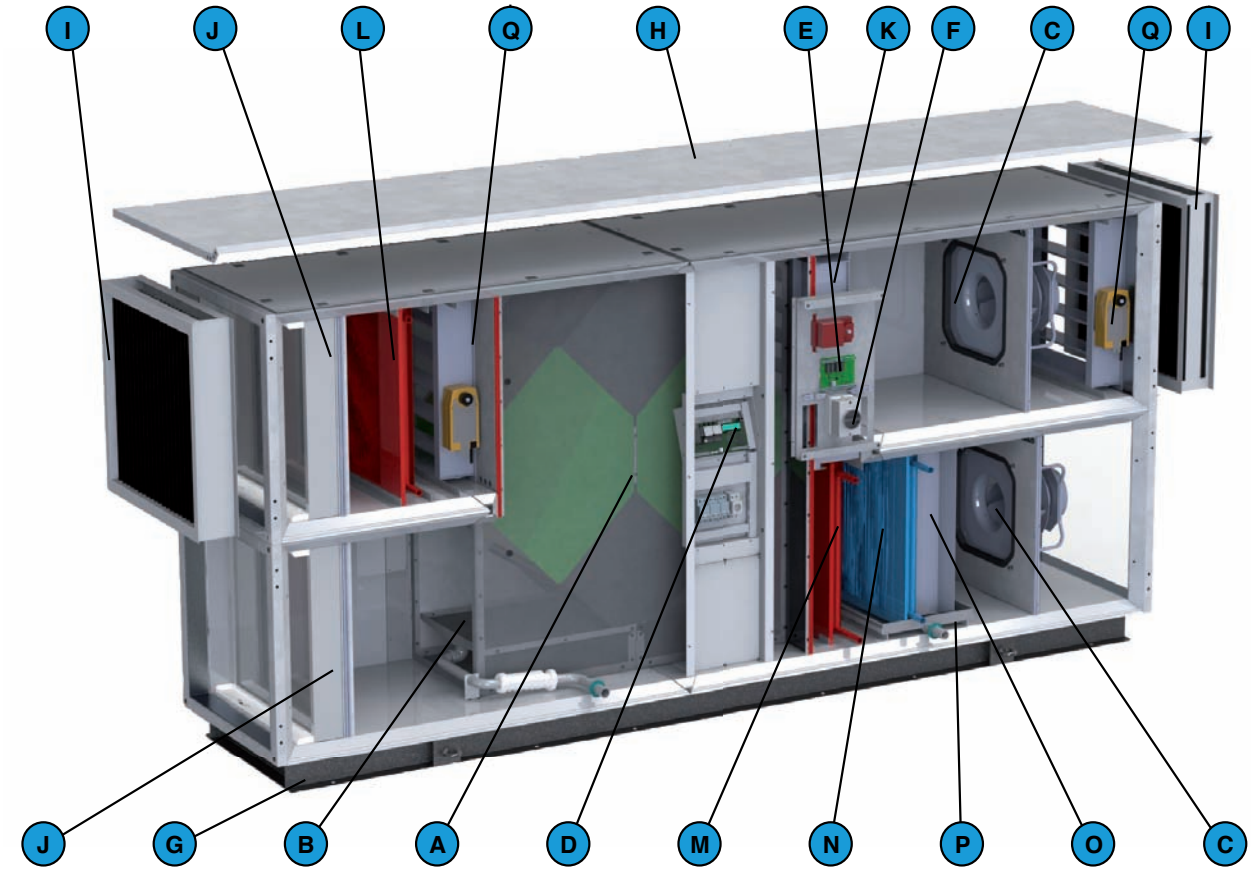


A cold-water battery is used to cool supply air. Like the post-heater, this battery is also fitted after the heat exchanger. Under the cold-water battery a drip tray is mounted to catch condensate. A polypropylene drip catcher that runs into the drip tray is fitted as standard to the cold-water battery.

2.8 Dampers

Dampers can be used to seal the unit off from external influences when not in operation. Another option is to fit the fresh-air intake or exhaust compartment with a closeable valve.

2.9 Assembly



The ComfoAir XL is fitted as standard with the following parts:

- A: Plate exchanger with high-efficiency heat recovery
- B: Drip tray under the plate exchanger fitted with a siphon
- C: Two EC fans with backward-curved blades
- D: Main PCB
- E: Connector PCB
- F: Operating switch

The indoor-mounted ComfoAir XL is fitted as standard with:

- G: Metal support frame

The outdoor-mounted ComfoAir XL is fitted as standard with:

- G: Galvanized metal support frame
- H: Coated metal cover
- I: Two moisture collectors

Options:

- J: Panel or bag filter, filter class F7 for outdoor air and G4 for exhaust air
- K: Bypass valve open/closed or fitted with a modulating servo motor
- L: Preheater to guarantee balanced ventilation
- M: Post-heater to provide extra comfort
- N: Cooler for dehumidifying and cooling of the supply air
  - O: Moisture collector behind the cooler
  - P: Drip tray with condensation drain under the cooler
- Q: Dampers fitted with servo motor

3 Electronics

3.1 Control

The ComfoAir XL unit is fitted with multifunctional controls, comprising two different PCBs. The main PCB is located in the unit and can be connected to all internal components. All external functionalities are connected to the connector PCB. They are located behind the designer front panel and are easily accessible for creating various connections. The units are fitted with automatic frost protection.

Key features:

- Connection to building-control system using MODbus communication
- Constant Air Flow: for configuring fixed capacities
- Filter monitoring: pressure sensors measure resistance across the filter
- The unit's software is programmed as standard with a timer
- Control using external sensor: CO2, pressure, relative humidity
- Various connectors: 220 V, power relay
- Generating summer-night cooling via digital input
- Compatible with fire-alarm system via digital input
- Summer-night cooling, activated via an external signal
- Frost protection for high-efficiency plate exchanger: the supply-fan speed is reduced if there is a risk of freezing.

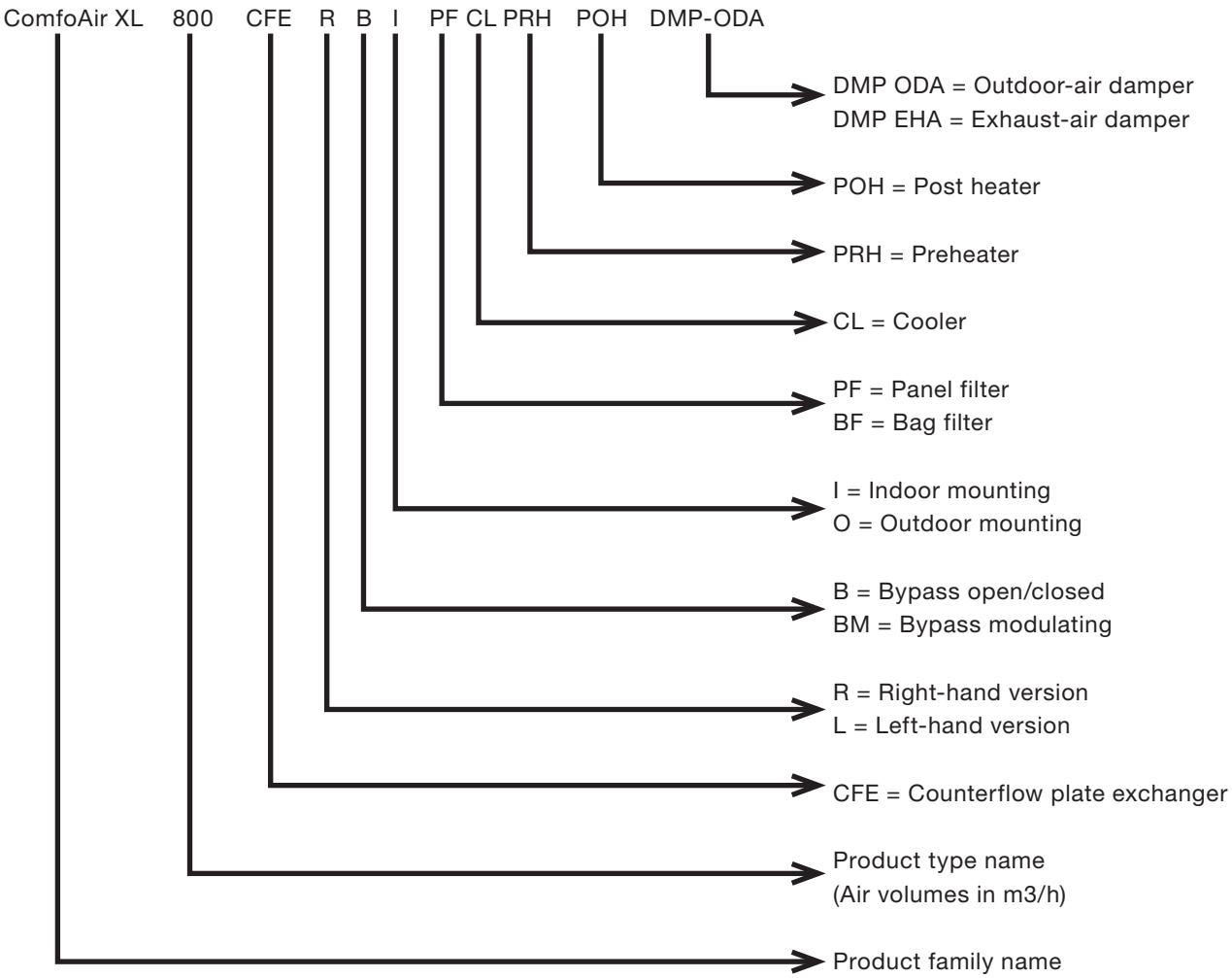
The ComfoAir XL can be easily converted from constant air-flow control to pressure control. This requires an external pressure sensor that measures the pressure in the supply and exhaust ducts.

3.2 Power supply

An integrated operating switch is fitted to the operating face of the ComfoAir XL unit. The connection PCB and the connection clamps are mounted behind the designer front panel. The PCB is fitted as standard with a display that allows you to programme easily all available working points. The power supply is connected to the operating switch. All models are fitted with a 230V/50Hz/1~ power supply, with the exception of the ComfoAir XL 6000, which must be fitted with a 400V/50Hz/3~ power supply.

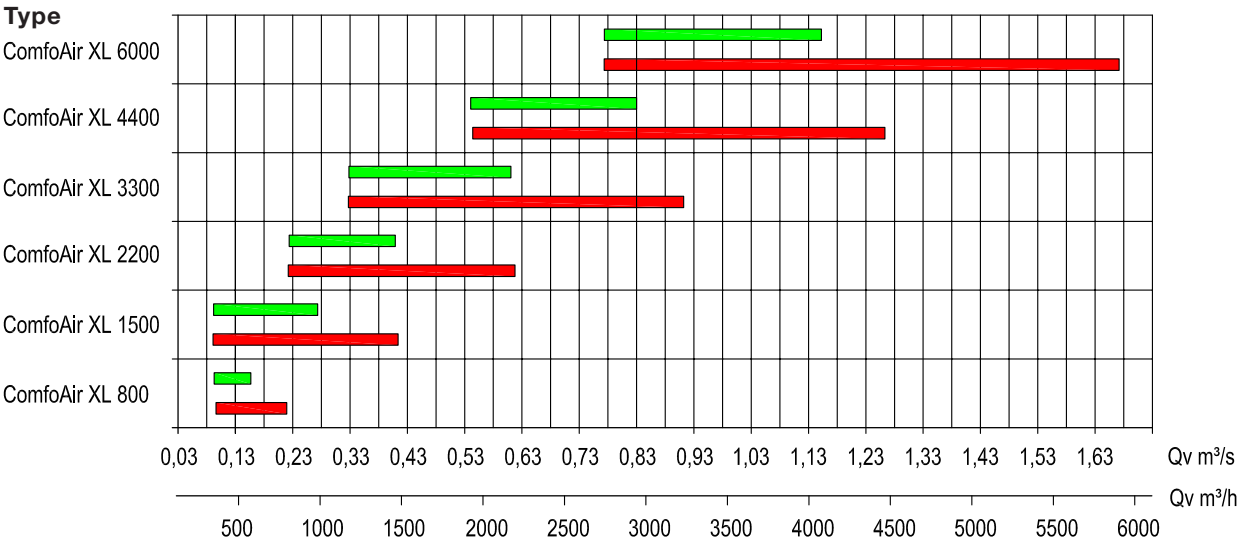
4. Quick selection

4.1 Coding



4.2 Selection chart

Overview of air capacity at a minimum of 200 Pa.



: Capacity from Passive House guideline

Total capacity

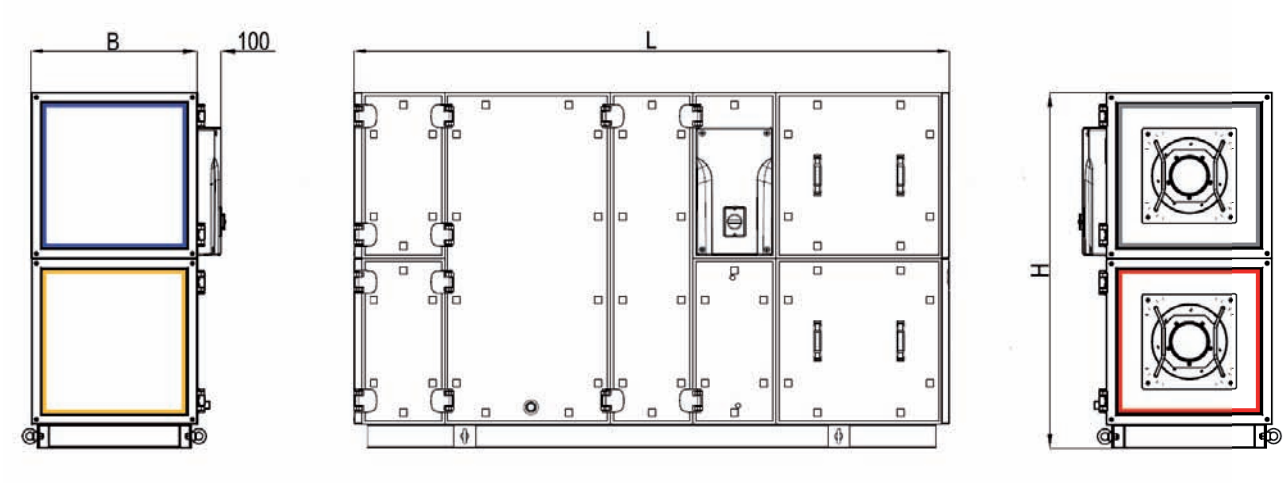
4.3 Selection table

	Type
Air volume m³/s	m³/s
Air volume m³/h	m³/h
External static pressure (combined with cooler, preheater and post-heater)	Pa
Max. power capacity (excl. cooler, preheater and post-heater)	kW
Voltage	VAC
Max. power consumption (excl. cooler, preheater and post-heater)	A
Frequency	Hz
Cos π	-
Protection	Fuses
HEAT RECOVERY	
- Supply air	°C/RH
- Exhaust air	°C/RH
- Total heat-recovery efficiency	%
- Total heat-recovery efficiency according to NEN 5138:2004	%
COLD RECOVERY	
- Supply air	°C/RH
- Exhaust air	°C/RH
- Thermal efficiency (sensible output)	%
PREHEATER	
Air volume	m³/s
Air volume	m³/h
- Water/glycol temperature	°C/°C
- Air temperature	°C/°C
- Heating capacity	kW
- Water-side pressure loss	kPa
- Water-side connection	DN
POST-HEATER	
Air volume	m³/s
Air volume	m³/h
- Water temperature	°C/°C
- Blow-in temperature	°C/°C
- Heating capacity	kW
- Water-side pressure loss	kPa
- Water-side connection	DN
COOLER	
Air volume	m³/s
Air volume	m³/h
- Water temperature	°C/°C
- Blow-in temperature	°C
- Heating capacity	kW
- Water-side pressure loss	kPa
- Water-side connection	DN

ComfoAir XL 800	ComfoAir XL 1500	ComfoAir XL 2200	ComfoAir XL 3300	ComfoAir XL 4400	ComfoAir XL 6000
0.22	0.42	0.56	0.92	1.22	1.67
800	1500	2000	3300	4400	6000
430	650	340	450	350	230
0.9	1.7	1.6	2.7	2.8	4.1
1~ 230	1~ 230	1~ 230	1~ 230	1~ 230	3~ 400
5.4	6.9	6.8	11.5	12.2	6.4
50/60	50/60	50/60	50/60	50/60	50/60
0.67	0.98	0.99	1.00	1.00	1.00
C (10A)	C (10A)	C (10A)	C (16A)	C (16A)	C (10A)
-10° / 90%	-10° / 90%	-10° / 90%	-10° / 90%	-10° / 90%	-10° / 90%
21° / 55%	21° / 55%	21° / 55%	21° / 55%	21° / 55%	21° / 55%
90,0	90,2	89,9	89,8	89,9	89,8
79,8	80,1	79,8	79,6	79,8	79,6
28° / 60%	28° / 60%	28° / 60%	28° / 60%	28° / 60%	28° / 60%
24° / 55%	24° / 55%	24° / 55%	24° / 55%	24° / 55%	24° / 55%
79,3	79,6	79,2	79,2	78,9	79,2
0,22	0,42	0,56	0,92	1,22	1,67
800	1500	2000	3300	4400	6000
60 / 40	60 / 40	60 / 40	60 / 40	60 / 40	60 / 40
-20 / 0	-20 / 0	-20 / 0	-20 / 0	-20 / 0	-20 / 0
5,39	10,1	13,46	22,22	29,62	40,39
4,7	10,4	19,3	14,7	16,2	18,4
25	25	25	25	25	25
0,22	0,42	0,56	0,92	1,22	1,67
800	1500	2000	3300	4400	6000
60 / 40	60 / 40	60 / 40	60 / 40	60 / 40	60 / 40
22	22	22	22	22	22
1,4	2,57	3,5	5,78	7,7	10,5
2,0	9,2	15,9	8,1	6,2	6,1
15	15	15	25	25	25
0,22	0,42	0,56	0,92	1,22	1,67
800	1500	2000	3300	4400	6000
6 / 12	6 / 12	6 / 12	6 / 12	6 / 12	6 / 12
16	16	16	16	16	16
4,8	9,1	12,1	20,5	26,6	36,3
13,8	13,2	19	23,8	23,3	23
25	25	25	25	32	40

5. Dimensions & weight

5.1 Indoor mounted



The dimensions relate to the standard unit above, fitted with a panel filter (PF). It is possible to fit a post-heater (POH) as standard within these dimensions.

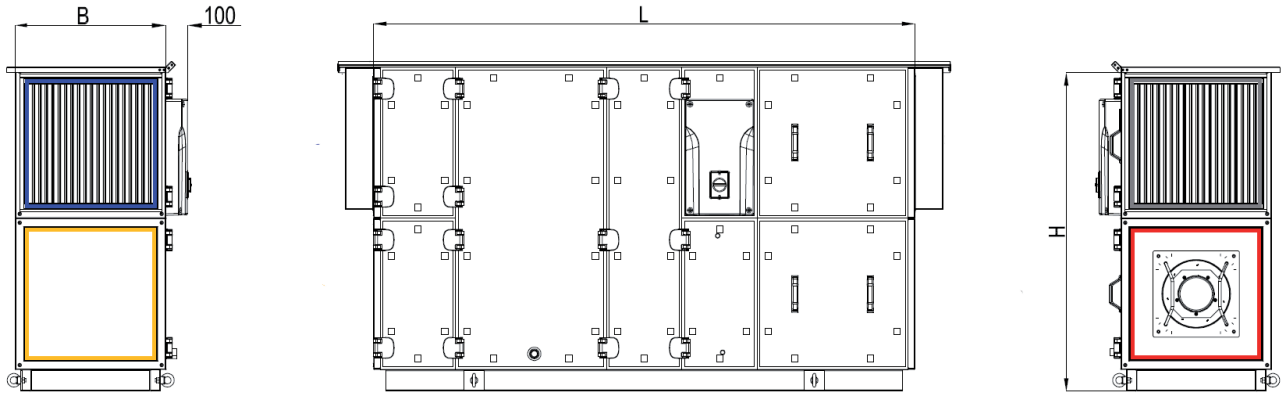
Type	L [mm]	B [mm]	H [mm]	Air connection [mm]	Weight [kg]
ComfoAir XL 800	1750	700	1168	525 x 395	235 - 275
ComfoAir XL 1500	1750	1050	1168	875 x 395	310 - 340
ComfoAir XL 2200	2514	700	1500	612 x 612	450 - 600
ComfoAir XL 3300	2514	1050	1500	962 x 612	600 - 750
ComfoAir XL 4400	2514	1400	1500	1312 x 612	750 - 900
ComfoAir XL 6000	2514	1750	1500	1662 x 612	900 - 1050

The dimensions below depict the extra length of optional components.

Option	Extra length [mm]
Bag filter (BF) or Preheater (PRH)* or Empty section	350
Cooler (CL) or Empty section	350

* The ComfoAir XL 800 and ComfoAir XL 1500 do not require any extra length, as the preheater (PRH) fits as standard.

5.2 Outdoor mounted



The dimensions relate to the standard unit above, fitted with a panel filter (PF).
It is possible to fit a post-heater (POH) as standard within these dimensions.

Type	L [mm]	B [mm]	H [mm]	Air connection [mm]	Weight [kg]
ComfoAir XL 800	1750	700	1168	525 x 395	335 - 385
ComfoAir XL 1500	1750	1050	1168	875 x 395	420 - 460
ComfoAir XL 2200	2514	700	1500	612 x 612	560 - 750
ComfoAir XL 3300	2514	1050	1500	962 x 612	730 - 920
ComfoAir XL 4400	2514	1400	1500	1312 x 612	900 - 1090
ComfoAir XL 6000	2514	1750	1500	1662 x 612	1070 - 1280

The dimensions below depict the extra length of optional components.

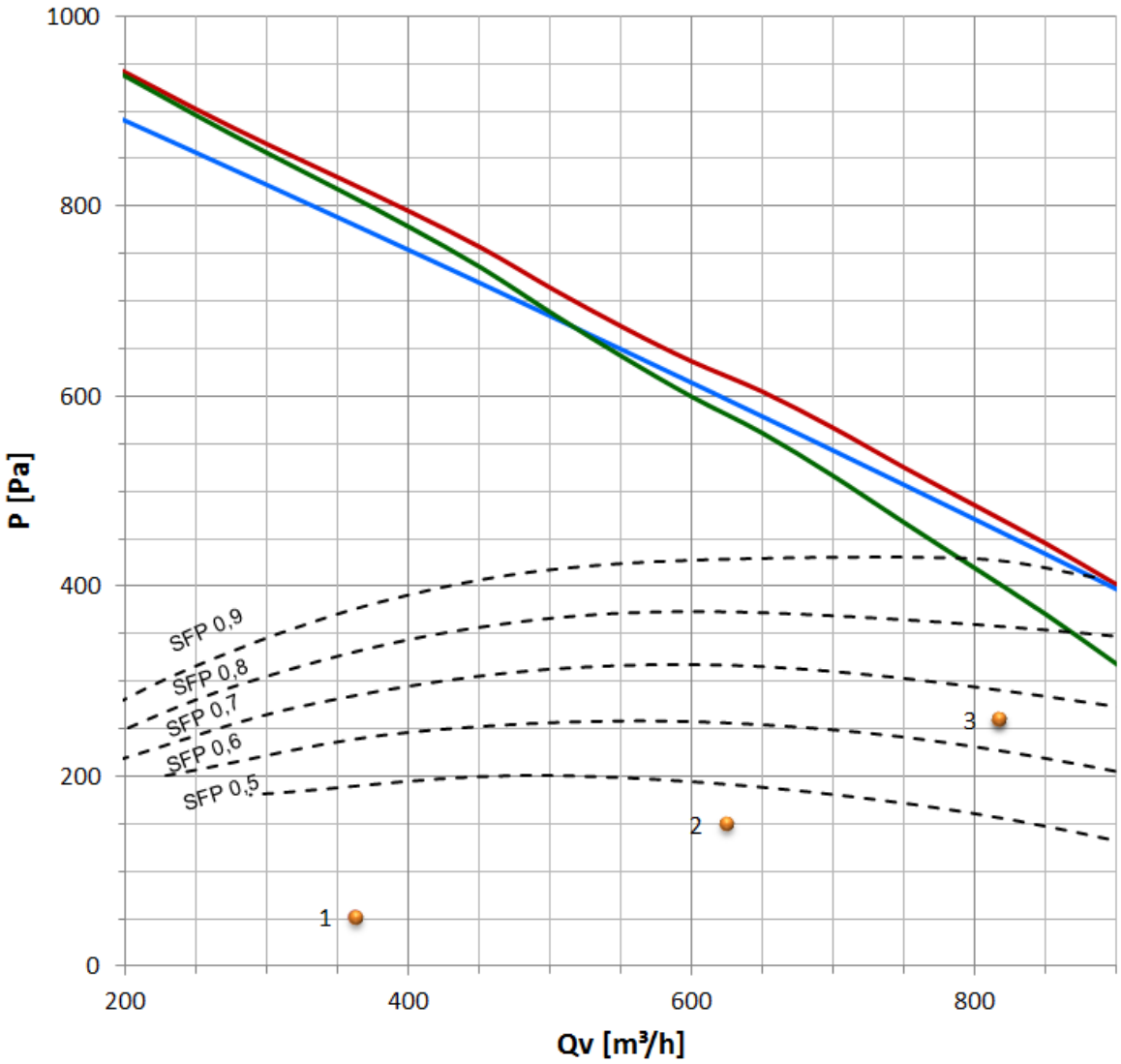
Option	Extra length [mm]
Bag filter (BF) or Preheater (PRH)* or Empty section	350
Cooler (CL) or Empty section	350

* The ComfoAir XL 800 and ComfoAir XL 1500 do not require any extra length for the PRH, as the preheater (PRH) fits as standard.

6. Technical data

6.1 ComfoAir XL 800 technical specifications

Specific Fan Power, Pressure Loss & Noise Levels



- Supply max line
- Exhaust max line
- Supply cooler, preheater and post-heater
- Noise levels

Working point			Supply noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	363	52	72,6	66,7	58,9	58,9	59,2	50,3	65
2	625	150	73,5	72,1	63,1	63,1	63,6	55,9	70
3	818	260	75,2	83,7	72,2	72,2	73,0	67,9	75

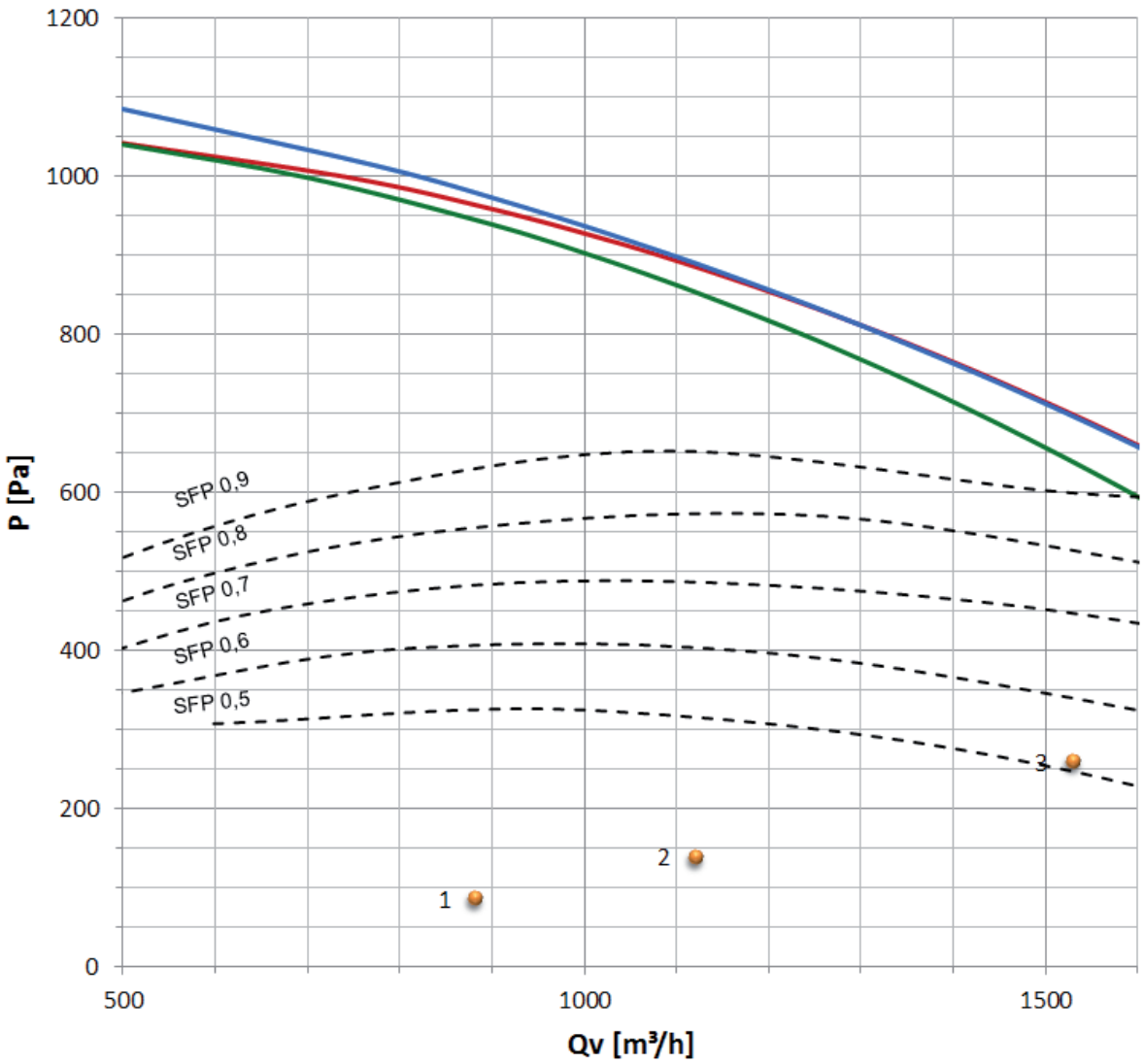
Working point			Exhaust noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	363	52	56,8	46,2	38,0	38,0	31,8	22,4	45
2	625	150	60,6	52,4	42, 6	42,6	36,1	27,8	49
3	818	260	68,8	65,5	52,6	52,6	45,1	39,3	55

Working point			Casing emissions						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	363	52	46,0	50,3	41,3	39,6	44,3	18,8	48
2	625	150	46,8	55,7	46,5	43,8	48,7	24,4	53
3	818	260	47,8	61,8	52,3	48,6	53,7	30,8	58

* ref $L_{w,0} = 10^{-12}$ W; 0m distance.

6.2 ComfoAir XL 1500 technical specifications

Specific Fan Power, Pressure Loss & Noise Levels



- Supply max line
- Exhaust max line
- Supply cooler, preheater and post-heater
- Noise levels

Working point			Supply noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	881	86	68,4	76,5	66,3	64,9	66,1	60,7	73
2	1119	139	69,3	76,9	68,7	67,0	68,1	63,0	74
3	1528	260	74,1	78,9	81,4	78,3	79,0	75,4	78

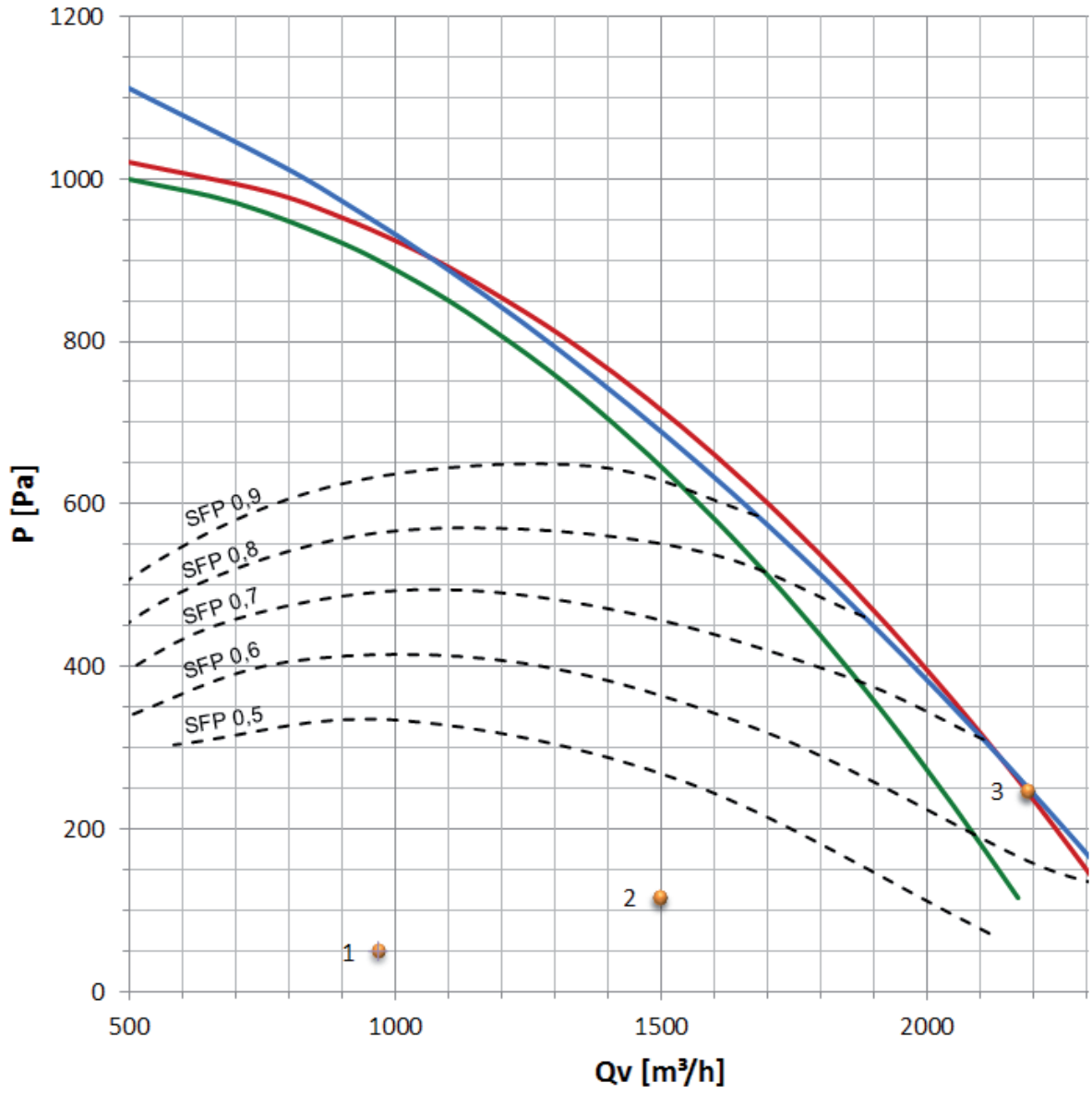
Working point			Exhaust noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	881	86	61,0	59,5	55,2	49,6	45,9	37,6	57
2	1119	139	61,8	61,7	57,4	51,5	47,6	39,6	59
3	1528	260	66,3	73,4	69,0	61,8	56,7	50,5	63

Working point			Casing emissions						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	881	86	53,5	62,0	49,3	45,2	52,3	30,1	57
2	1119	139	54,3	62,3	51,6	47,3	54,3	32,3	59
3	1528	260	56,3	63,2	57,0	52,0	58,8	37,5	62

* ref $L_{w,0} = 10^{-12}$ W; 0m distance.

6.3 ComfoAir XL 2200 technical specifications

Specific Fan Power, Pressure Loss & Noise Levels



- Supply max line
- Supply cooler, preheater and post-heater
- Exhaust max line
- Noise levels

Working point			Supply noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	986	50	69,3	72,5	59,2	62,6	63,0	56,0	69
2	1498	116	72,0	76,8	69,8	71,0	71,0	65,2	77
3	2187	247	75,7	82,6	84,2	82,3	81,7	77,6	88

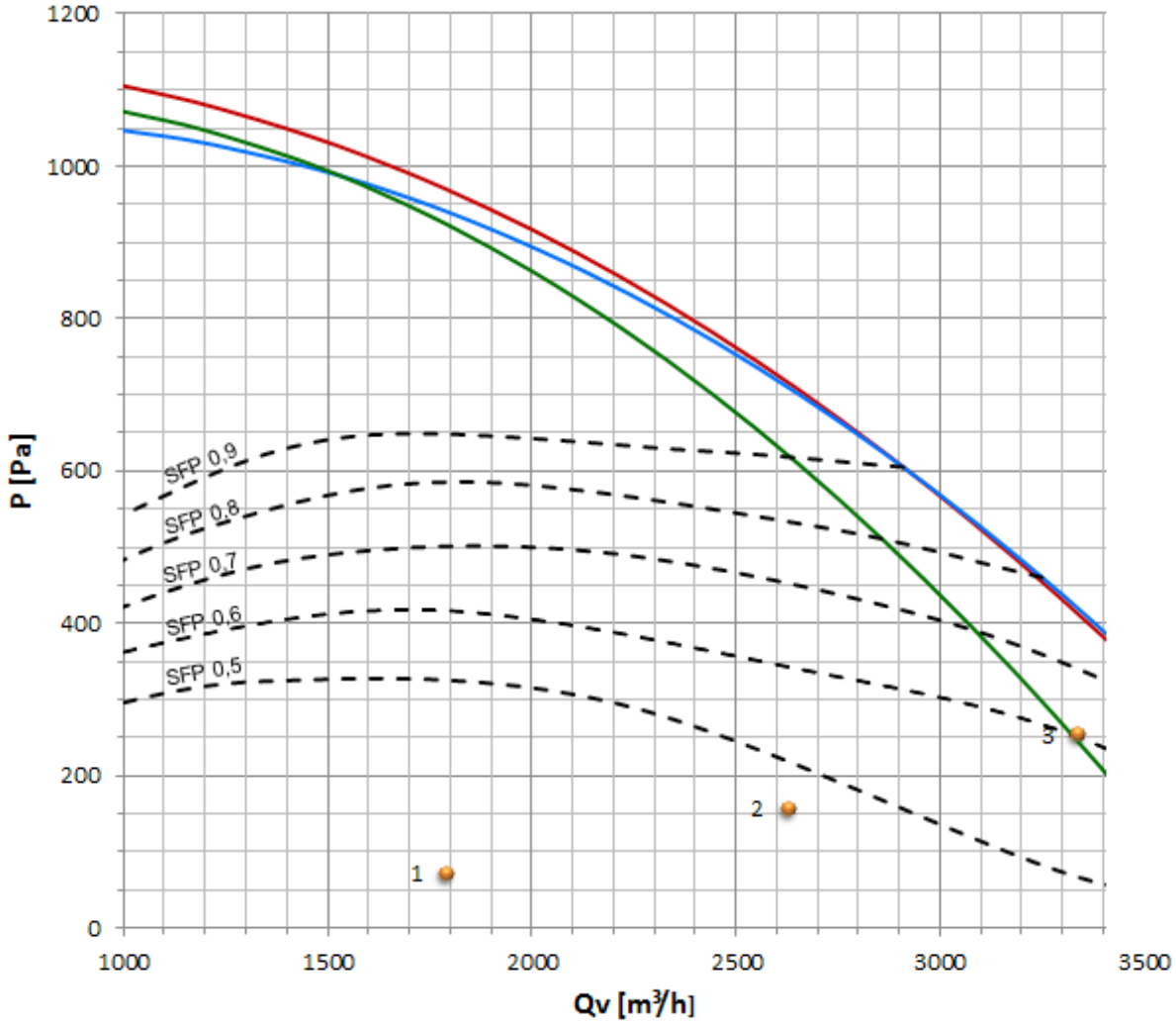
Working point			Exhaust noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	986	50	60,1	63,6	49,5	49,3	41,4	33,8	57
2	1498	116	65,3	66,0	59,7	58,0	49,4	42,2	63
3	2187	247	72,4	69,3	73,4	69,6	60,2	53,6	74

Working point			Casing emissions						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	986	50	54,6	63,4	47,3	46,3	50,7	29,1	57
2	1498	116	57,3	67,7	57,9	54,7	58,6	38,3	64
3	2187	247	60,9	73,5	72,3	66,0	69,3	50,8	74

* ref $L_{w,0} = 10^{-12}$ W; 0m distance.

6.4 ComfoAir XL 3300 technical specifications

Specific Fan Power, Pressure Loss & Noise Levels



- Supply max line
- Exhaust max line
- Supply cooler, preheater and post-heater
- Noise levels

Working point			Supply noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	1788	73	72,6	82,1	72,0	74,0	72,7	67,6	79
2	2623	158	77,0	87,5	79,1	81,0	79,5	74,7	86
3	3334	255	80,7	92,2	85,1	86,9	85,2	80,8	92

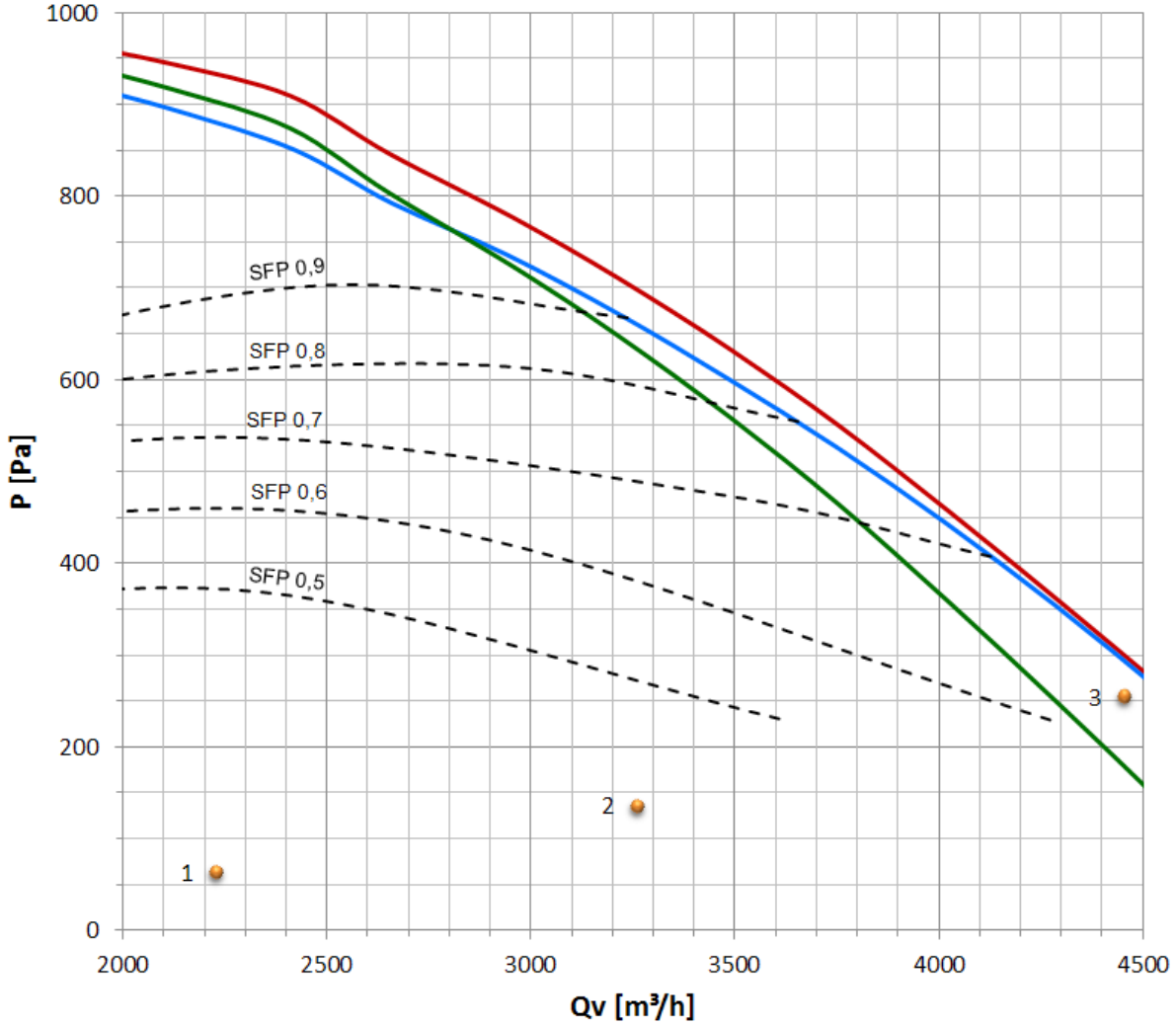
Working point			Exhaust noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	1788	73	64,5	64,6	59,3	49,2	46,6	38,3	60
2	2623	158	66,4	72,4	67,4	56,5	53,0	45,4	68
3	3334	255	68,0	79,1	74,4	62,7	58,4	51,4	74

Working point			Casing emissions						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	1788	73	55,3	57,9	50,2	52,7	49,6	34,5	57
2	2623	158	59,7	63,3	57,2	59,6	56,3	41,6	63
3	3334	255	63,4	68,0	63,2	65,6	62,0	47,6	69

* ref $L_{w,0} = 10^{-12}$ W; 0m distance.

6.5 ComfoAir XL 4400 technical specifications

Specific Fan Power, Pressure Loss & Noise Levels



- Supply max line
- Exhaust max line
- Supply cooler, preheater and post-heater
- Noise levels

Working point			Supply noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	2228	64	79,9	61,2	62,1	64,6	60,5	51,6	69
2	3261	137	82,3	87,0	81,5	83,5	80,4	74,8	87
3	4453	256	79,6	91,8	85,5	86,9	84,6	79,7	91

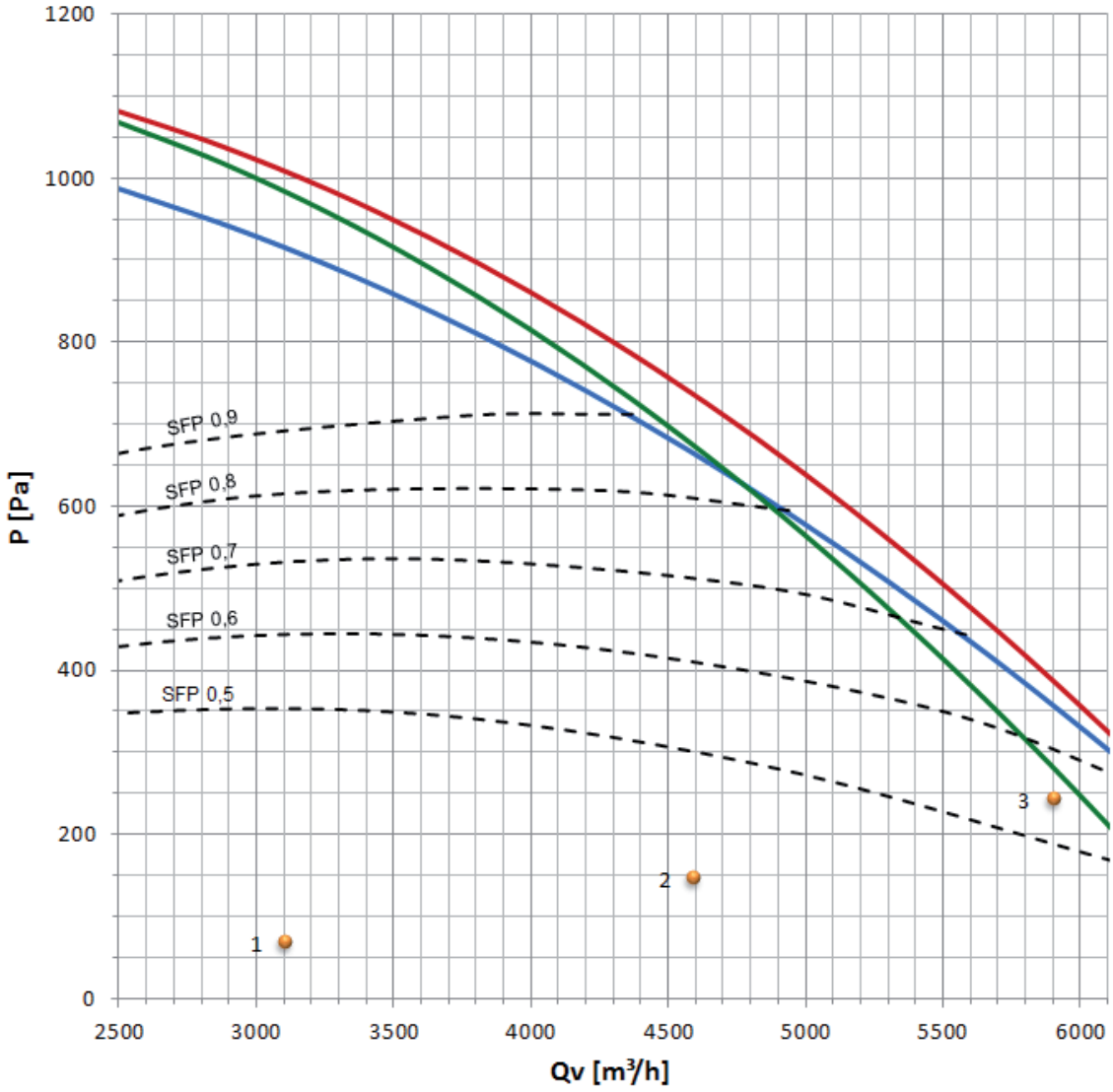
Working point			Exhaust noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	2228	64	65,4	59,1	53,4	49,9	47,3	37,2	57
2	3261	137	74,2	77,7	67,8	64,8	63,1	55,9	73
3	4453	256	75,3	83,7	72,6	69,9	69,1	63,2	78

Working point			Casing emissions						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	2228	64	72,6	47,5	45,5	46,8	44,8	20,4	57
2	3261	137	74,9	73,3	64,9	65,7	64,7	43,6	71
3	4453	256	72,3	78,1	68,8	69,1	68,8	48,5	75

* ref $L_{w,0} = 10^{-12}$ W; 0m distance.

6.6 ComfoAir XL 6000 technical specifications

Specific Fan Power, Pressure Loss & Noise Levels



- Supply max line
- Supply cooler, preheater and post-heater
- Exhaust max line
- Noise levels

Working point			Supply noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	3105	67	83,4	75,0	70,8	72,4	68,3	61,7	76
2	4592	146	83,8	85,1	79,3	80,8	76,4	70,5	85
3	5899	242	83,6	94,1	87,0	88,4	83,7	78,3	92

Working point			Exhaust noise levels						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	3105	67	70,6	72,0	60,4	56,6	52,5	42,2	66
2	4592	146	75,4	78,8	68,2	65,1	61,2	51,9	73
3	5899	242	79,6	85,4	75,1	72,8	69,2	60,9	80

Working point			Casing emissions						
	Q_v [m³/h]	P [Pa]	125Hz [dB]	250Hz [dB]	500Hz [dB]	1,000Hz [dB]	2,000Hz [dB]	4,000Hz [dB]	L_{wA}* dB(A)
1	3105	67	78,1	65,5	57,5	57,6	56,7	30,4	65
2	4592	146	78,5	75,6	65,9	66,0	64,8	39,2	72
3	5899	242	78,3	84,6	73,6	73,6	72,1	47,0	80

* ref $L_{w,0} = 10^{-12}$ W; 0m distance.

7. Accessories

SAG 0-3V

The ComfoAir XL maintains a constant volume of air. Three different air volumes can be programmed using the display, and “high”, “medium”, “low” and “off” settings can be selected using the SAG 0-3 CV switch.
The casing is white (RAL 9010), and is designed to allow the fitting of a 40mm-deep flush outlet. A surface mounting box is available for fitting.

CO_2 sensor

The ComfoAir XL can also be controlled using a CO_2 sensor. A CO_2 sensor measures the CO_2 concentrations in the room it is mounted in. The CO2 sensor selects a ventilation level based on the ventilation requirements in that room. If CO_2 concentrations rise too far, then the ventilation level rises automatically. And if CO_2 concentrations are too low, the ventilation level is automatically reduced.

Membrane siphon

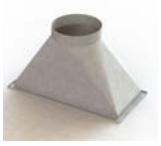
A membrane siphon does not have a U-trap but is fitted with a silicon rubber non-return valve that only opens when water presses against it and then closes due to underpressure in the unit. The siphon can be fitted with an optional heating cable to prevent freezing or icing.

Siphon heater

Siphons are sensitive to frost. A siphon heater reduces the risk of frost damage.

Adaptor

All units are supplied with rectangular connections and tubtaras. This means an adaptor can be fitted to convert rectangular to circular.



ZGNL_Technical documentation T.98090138413, V0313, NL, Subject to change

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