# VENTILATION MODULE
DESCRIPTION

# CBZ EC

The perfect match between dimensional criteria and air handling and acoustic performance.
**Low consumption** ventilation module in compliance with RT 2012.

## APPLICATION

- Ventilation of premises requiring average and high air flows.
- Can be used for air extraction or blowing.
- s Particularly suited where there are high sound and heat insulation requirements.
- Intake and discharge in line horizontally or vertically with rejection upwardly.
- s **Low consumption** econological® solution.

## RANGE

- Available in 5 sizes and 7 models, the **CBZ EC** range covers air flows from 200 to 10 000 m³/h.

## CONSTRUCTION

- Structure in aluminium profile.
- Polyamide reinforced angles.
- Removable panels.
- RAL 7035 pre-lacquered external face with protective film.
- High density 25 mm MO mineral wool insulation.
- Internal face in galvanized steel.
- s Access panels to internal components.
- s Nuts crimped into the structure for floor/wall/ceiling fixing.
- s Module fitted as standard with intake and discharge panels with circular connections and lip seals to guarantee sealing system.
- s IP55 regulation AHU (Air Handling Unit) factory-wired and fitted, equipped with a local padlockable switch. This AHU allows a fan fault report and remote manual or timed on/off switch to be wired.
- s **DIVA EC**, **MAC2 EC** and **LOBBY EC** version of the CBZ AHU communicate using MODBUS (RS 485) and comply with EN 15232 (active building efficiency).

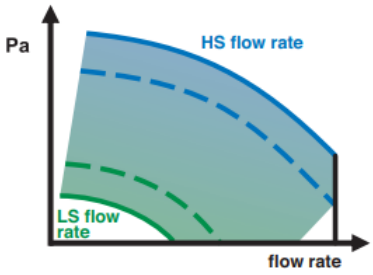
Econological® solution compliant with **ERP 2009/125/EC** and RT 2012.

## MOTOR FANS

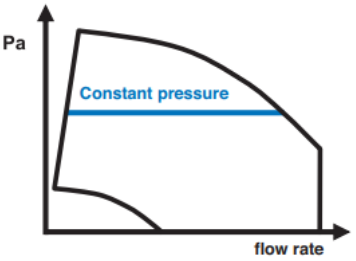
- s Plug fans.
- s Direct drive DC motor with high efficiency electronic commutation (EC), integral thermal cut-out and speed variation.
  EC technology is an econological® solution that guarantees low energy consumption (**RT 2012**) for the management, checking and control of the operating point (regulation of air flows from 10 to 100%). Low sound levels for better acoustic comfort.

## AIR FLOW MODULATION

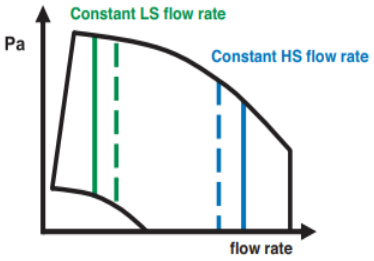
- The **CBZ EC** ventilation module is available in 4 versions and 4 types of air flow modulation.
- s **CBZ EC:** modulation by potentiometer integrated in the regulation AHU allowing air flows to be adapted to the requirements of the installation.
- s **CBZ DIVA EC:** proportional modulation of low rate by **$CO_2$ probe** built in to the AHU.




- s **CBZ LOBBY EC:** modulation of air flow at **constant pressure** and pressure transmitter built in to the AHU.




- s **CBZ MAC2 EC:** modulation for 1 or 2 **constant air flow(s)** (except CBZ 4A).




## INSTALLATION

- s Can be installed internally or externally (optional rain cover).
- s Ground/wall/ceiling fixing brackets.

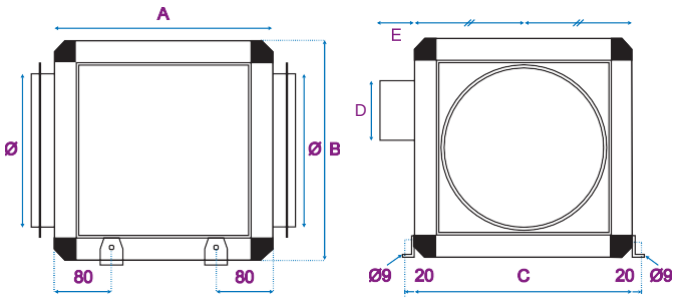
## INSTALLATION OPTIONS

- s Numerous options are available, see **COMBIBOX CONCEPT®** program.

# DIMENSIONS CHARACTERISTICS

# CBZ EC

| Model COMBIBOX® | Module size | A mm | B mm | C mm | Ø mm | Weight CBZ EC kg |
|---|---|---|---|---|---|---|
| CBZ EC | 4A | 445 | 445 | 445 | 315 | 29 |
| | 4C | 445 | 445 | 445 | 315 | 32 |
| CBZ EC | 5 | 545 | 545 | 545 | 400 | 43 |
| CBZ EC | 6 | 645 | 645 | 645 | 450 | 64 |
| CBZ EC | 7A | 745 | 745 | 745 | 500 | 86 |
| | 7B | 745 | 745 | 745 | 500 | 90 |
| CBZ EC | 8 | 845 | 845 | 970 | 630 | 125 |




**CBZ MAC2 EC / CBZ DIVA EC / CBZ LOBBY EC :** D = 245 / E = 180

# ELECTRICAL CHARACTERISTICS

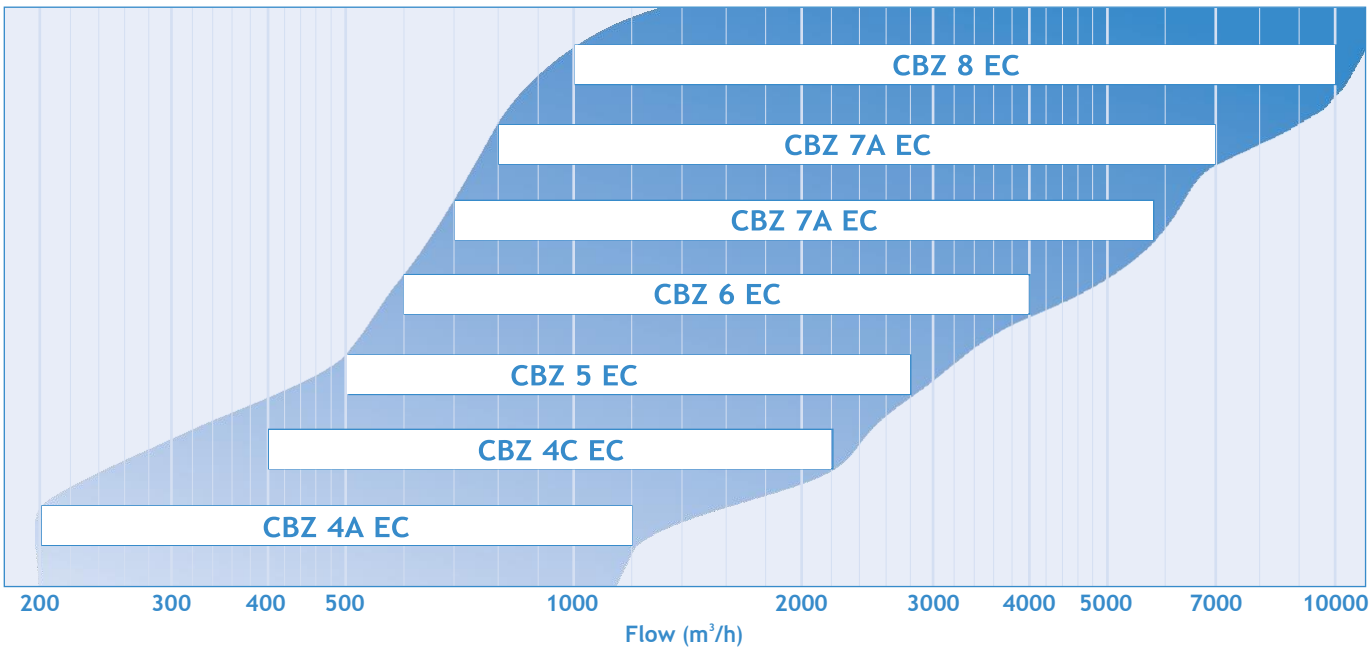
# CBZ EC

| Model | Module size | Power supply voltage (V / Ph / Hz) | Electrical power (W) | Protection current (A) | Usage temp. (°C / °C) | Protection Index Class | Thermal protection * |
|---|---|---|---|---|---|---|---|
| CBZ EC | 4A | 230 / 1 / 50 | 230 | 1,6 | -20 /60 | IP44 / B | PTI |
| | 4C | 230 / 1 / 50 | 490 | 2,3 | -20 /60 | IP54 / B | PTI |
| CBZ EC | 5 | 230 / 1 / 50 | 700 | 3 | -20 / 40 | IP54 / B | PTI |
| CBZ EC | 6 | 400 / 3 / 50 | 1000 | 1,6 | -20 / 55 | IP54 / B | PTI |
| CBZ EC | 7A | 400 / 3 / 50 | 1700 | 2,6 | -20 /40 | IP54 / B | PTI |
| | 7B | 400 / 3 / 50 | 1950 | 3,15 | -20 /40 | IP54 / B | PTI |
| CBZ EC | 8 | 400 / 3 / 50 | 2730 | 4,2 | -20 / 40 | IP54 / F | PTI |

**PTI: Integrated thermal cutout*

# PRESELECTION TABLE

# CBZ EC



# ACOUSTIC CHARACTERISTICS

# CBZ EC

- The values Lp4m dB (A) (◯) shown on the curves correspond to the sound pressure level at 4 m hemispherical free field on a reflective surface, rejection not connected box.
- The values cond Lw dB (A) (□) indicated on the curves correspond to the total sound power radiated in the upstream duct.
- For the acoustic spectrum of sound power Lw cond dB (A), upstream side, add the following values to the sound power Lw cond dB (A) ( □) indicated on the curves.

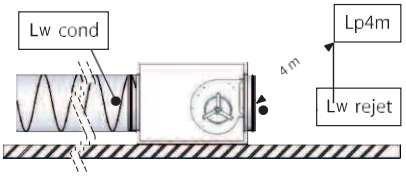
| Upstream acoustic spectrum weighting function cond Lw dB (A) ( ) shown on the curves | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Frequency | 63Hz | 125Hz | 250Hz | 500Hz | 1000Hz | 2000Hz | 4000Hz | 8000Hz | Overall sound power dB(A) |
| Weighted CBZ 4A dB(A) | -27 | -16 | -9 | -5 | -5 | -10 | -14 | -18 | |
| Weighted CBZ 4C dB(A) | -27 | -19 | -9 | -7 | -8 | -6 | -10 | -17 | |
| Weighted CBZ 5 dB(A) | -24 | -24 | -11 | -6 | -7 | -8 | -11 | -12 | |
| Weighted CBZ 6 dB(A) | -36 | -25 | -10 | -7 | -10 | -7 | -9 | -10 | Lw cond dB(A) (□) |
| Weighted CBZ 7A dB(A) | -36 | -26 | -10 | -7 | -9 | -7 | -10 | -9 | |
| Weighted CBZ 7B dB(A) | -30 | -17 | -9 | -5 | -8 | -8 | -10 | -15 | |
| Weighted CBZ 8 dB(A) | -36 | -25 | -9 | -7 | -8 | -8 | -11 | -10 | |

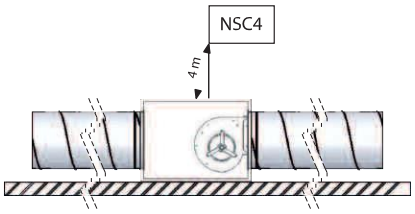
- The overall sound power radiated to the rejection of the box is given by:
  CBZ : Lw rejection dB(A) = Lp4m dB(A) (◯) + 20
- For the sound pressure level Lp dB (A) in a hemispherical free field, at a distance, camera placed on the floor reflecting surface upstream side connected discharge side not connected, add the following values in dB Lp4m (A) ( ◯) indicated on the curves.

| Weighted Lp at various distances depending on Lp4m | | | | | | |
|---|---|---|---|---|---|---|
| Distance (m) | 2 | 3 | 4 | 5 | 7 | 10 |
| Distance weighting dB(A) | 6 | 2 | 0 | -2 | -5 | -8 |

**NOTA :**
Tolerance = Global Values + / - 3 dB (A)
Acoustic spectra +/- 5 dB(A)

- For the sound level 4m (NSC4) connected to the suction and discharge by a sheath as well as the soundproofing box, apply the following unit weights:
  CBZ : NSC4 dB(A) = Lp4m dB(A) (◯) - 20



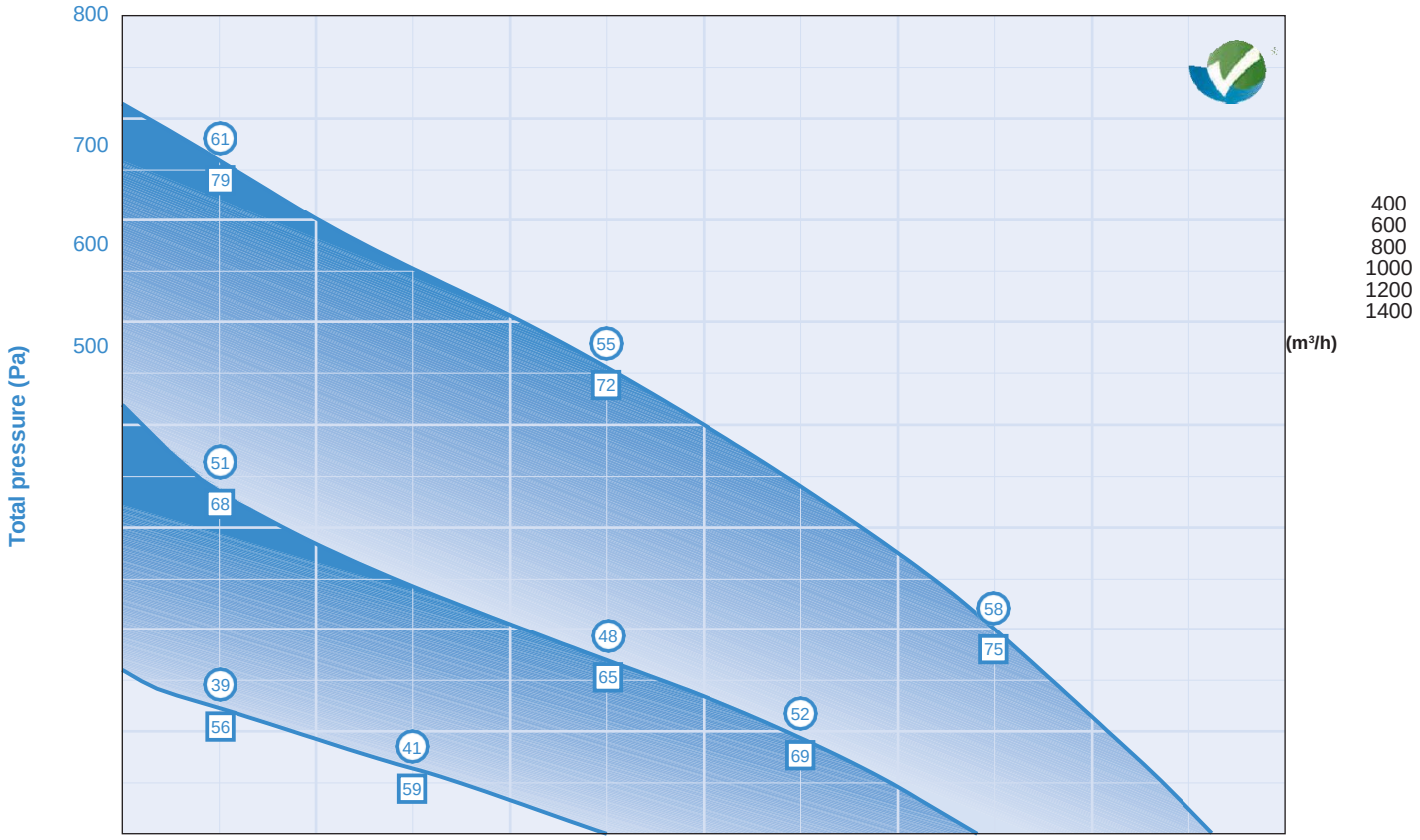

**Nota :** The curves are made with suction and discharge chamber connected (D configuration according to NF N 13141-4) nozzles.

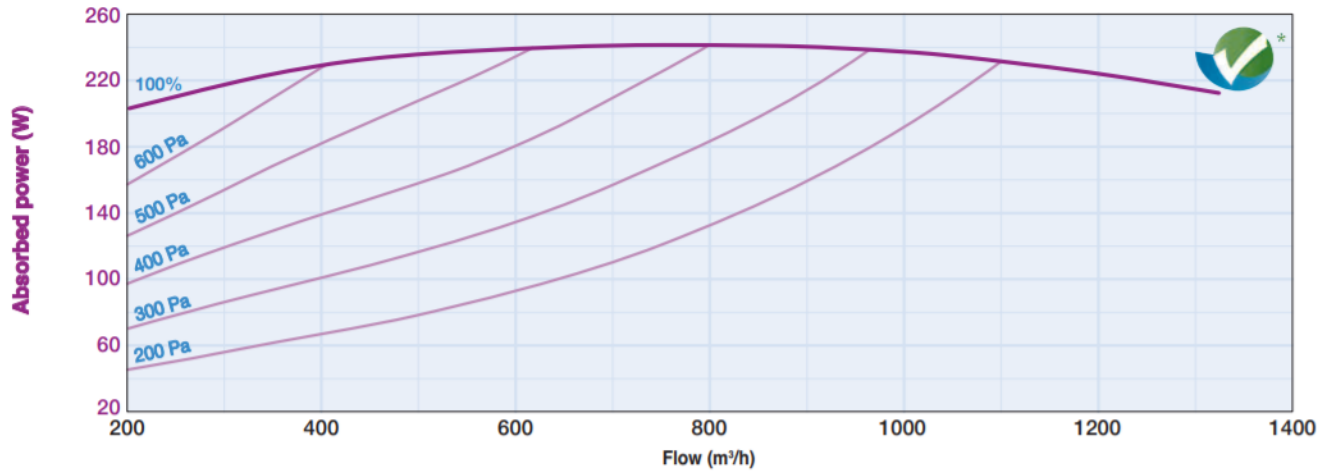

| CBZ | 5 | DIVA | EC |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

1: COMBIBOX® free impeller range
2: COMBIBOX® Module size
3: Air flow modulation
4: **Low consumption** EC motor

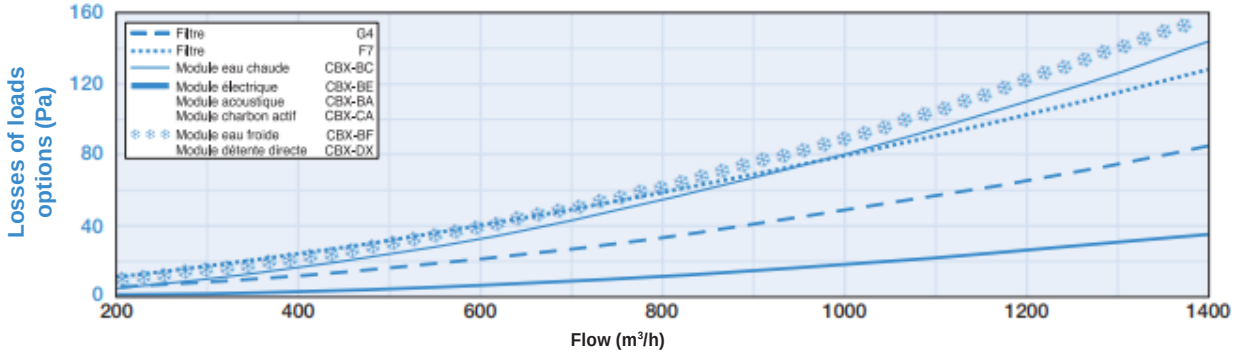
| CBZ | 4A | - | EC |
|---|---|---|---|
| 1 | 2 | 3 | 4 |

## CBZ 4A EC

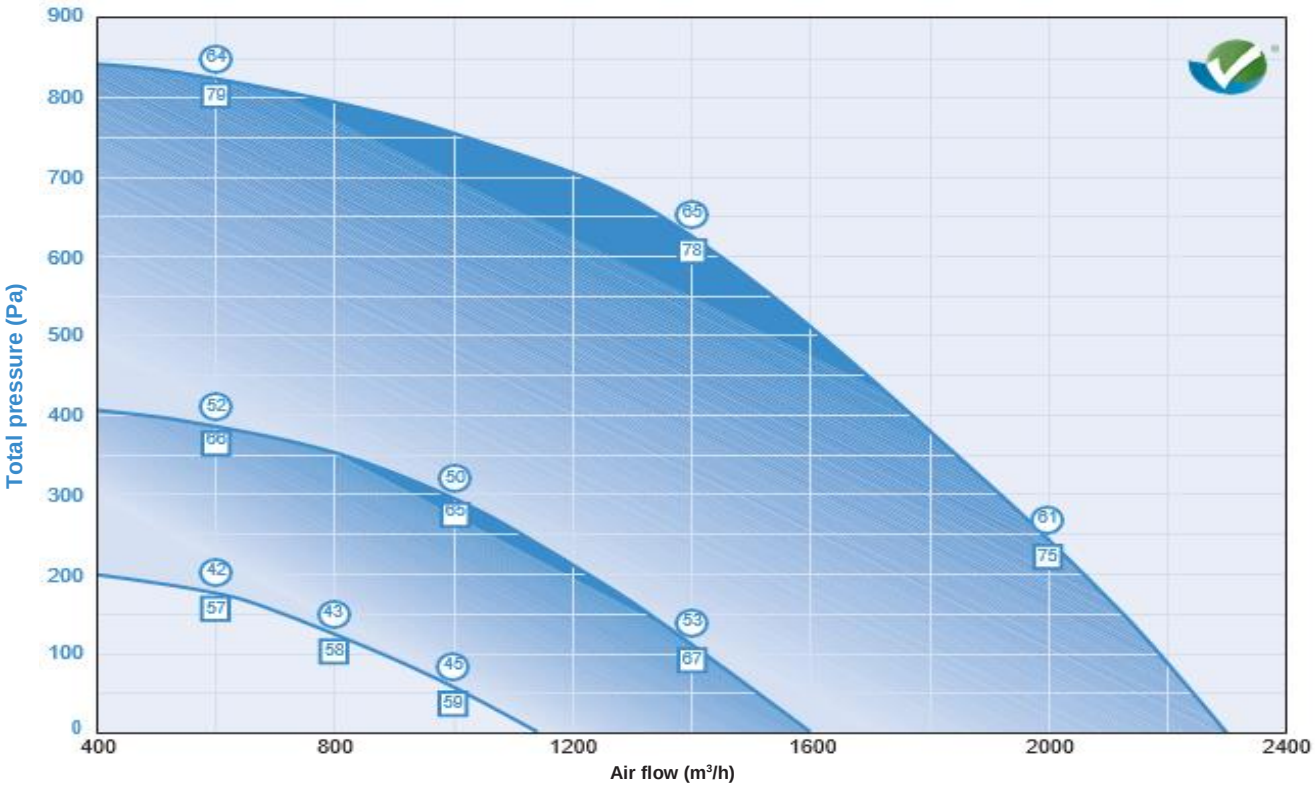


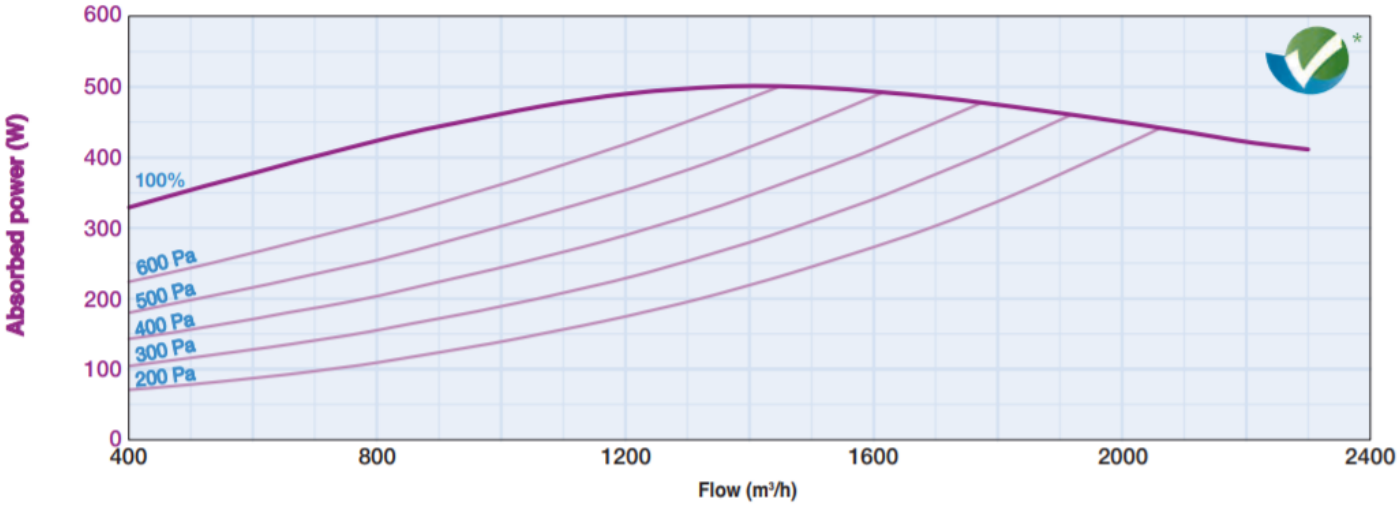




## Additional modules CBX 4

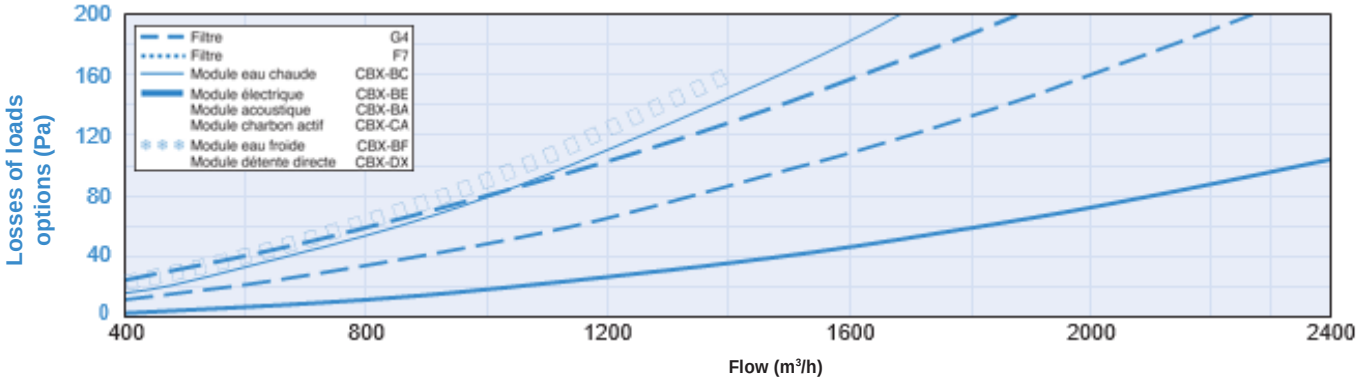


## CBZ 4C EC

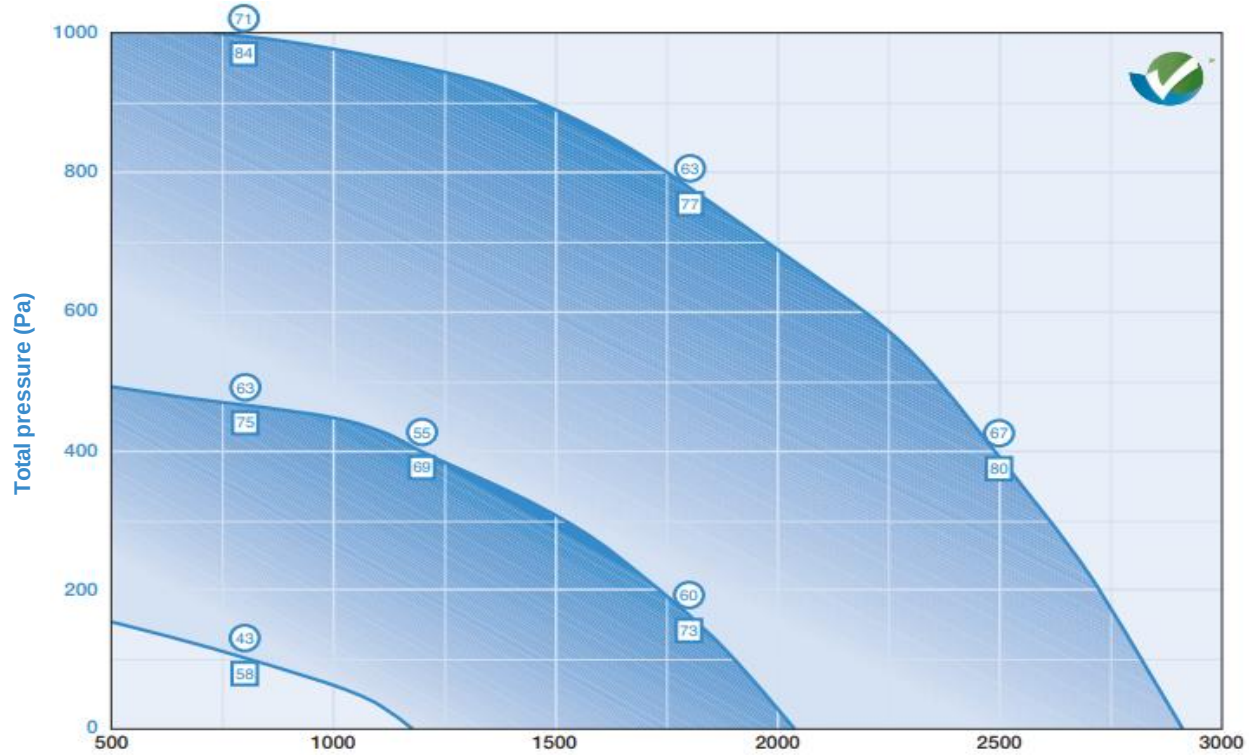


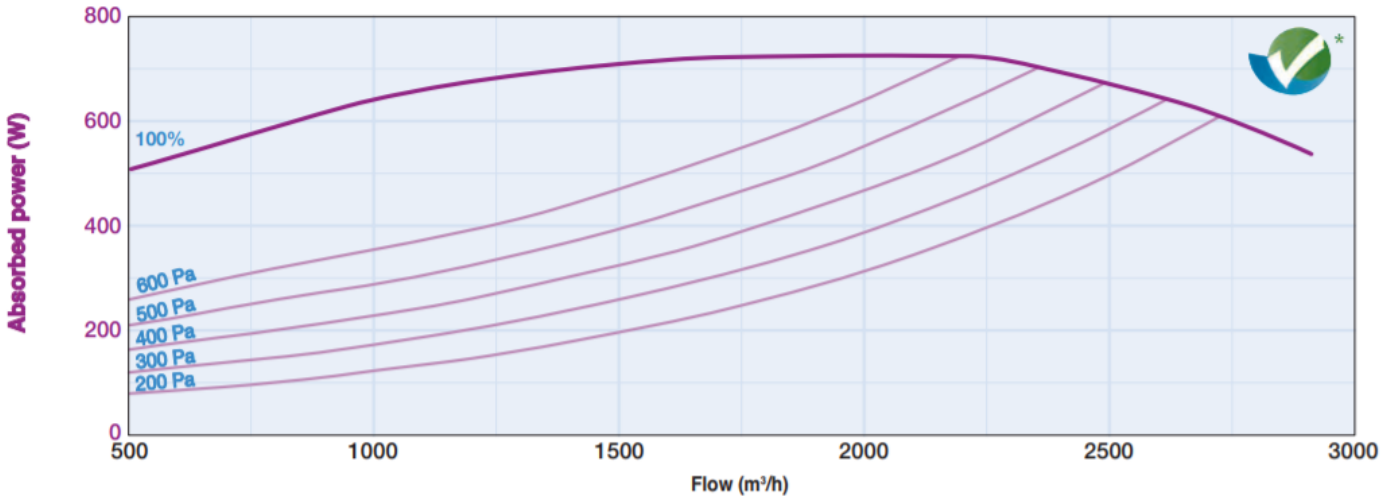




## Additional modules CBX 4

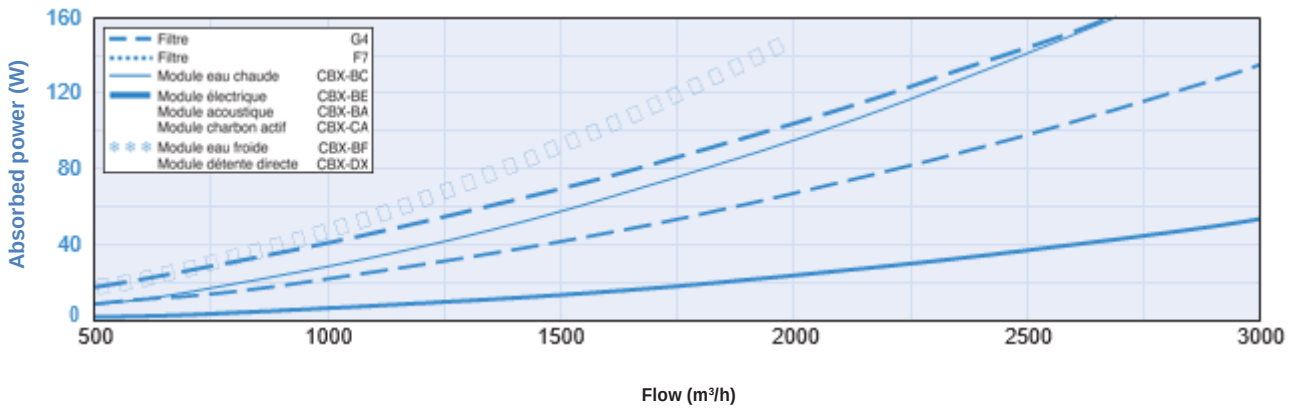


## CBZ 5 EC

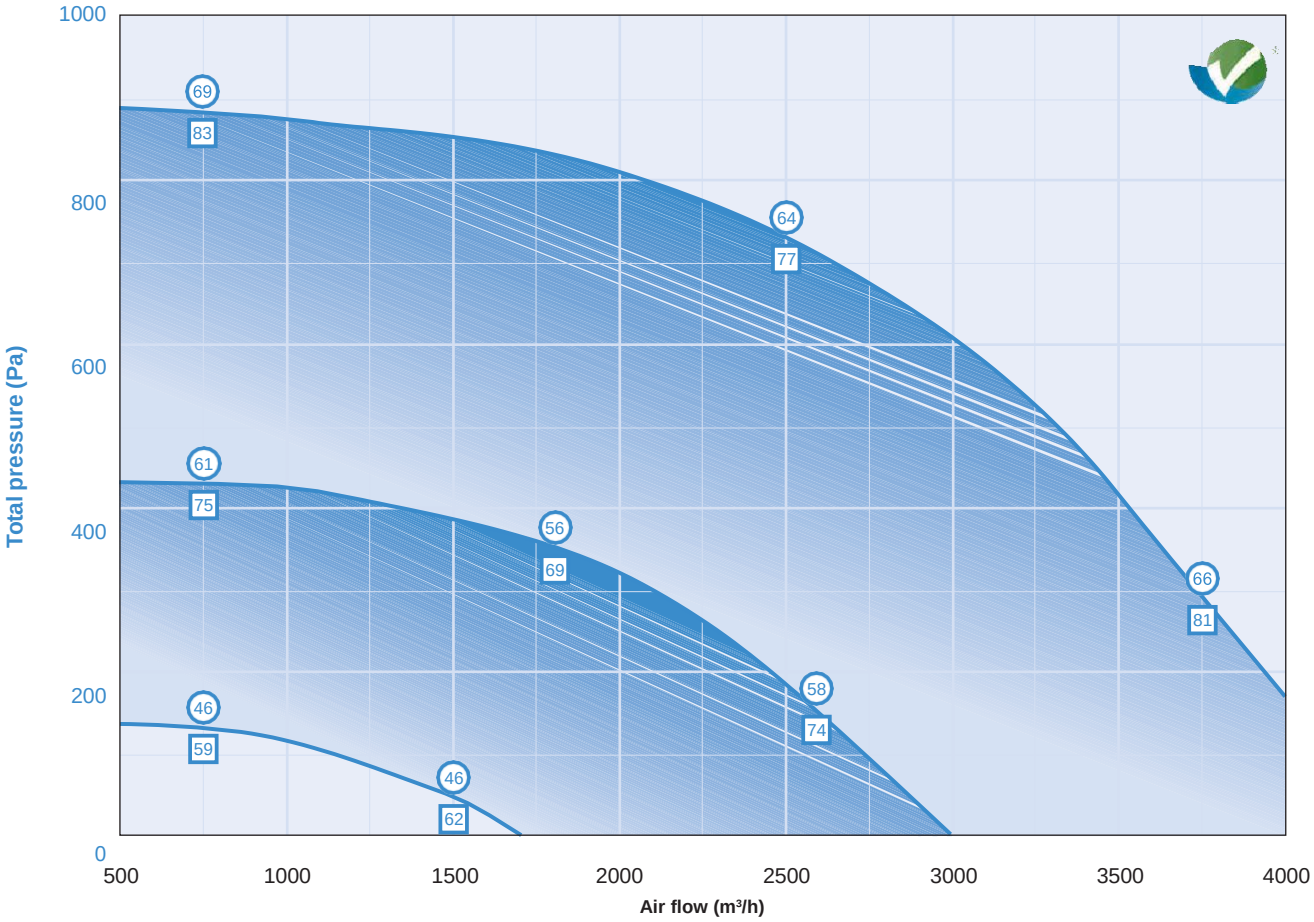


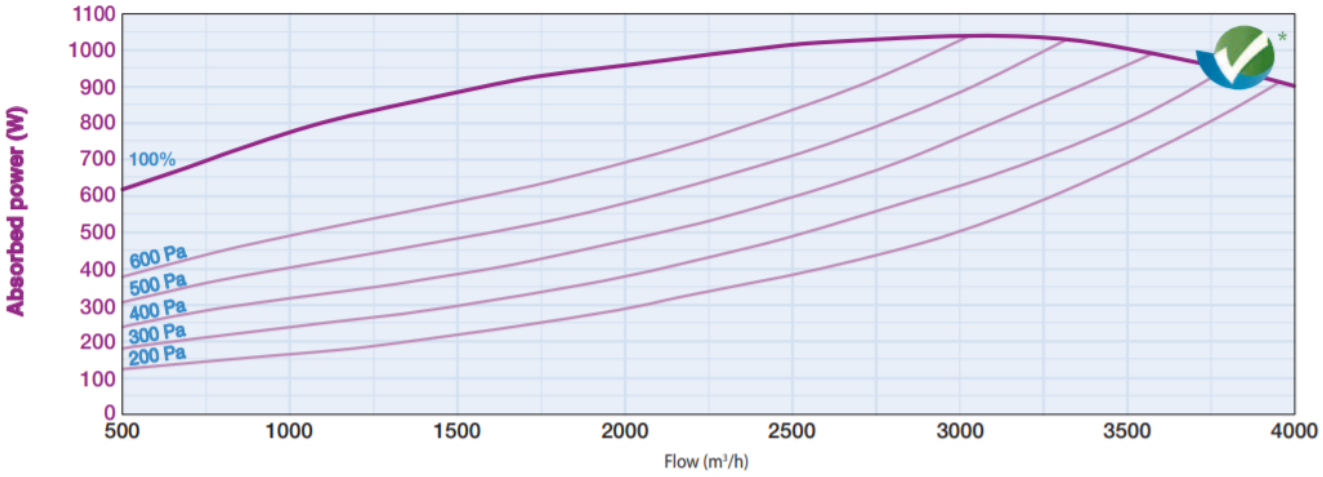




## Additional modules CBX 5 (Voir p 85)

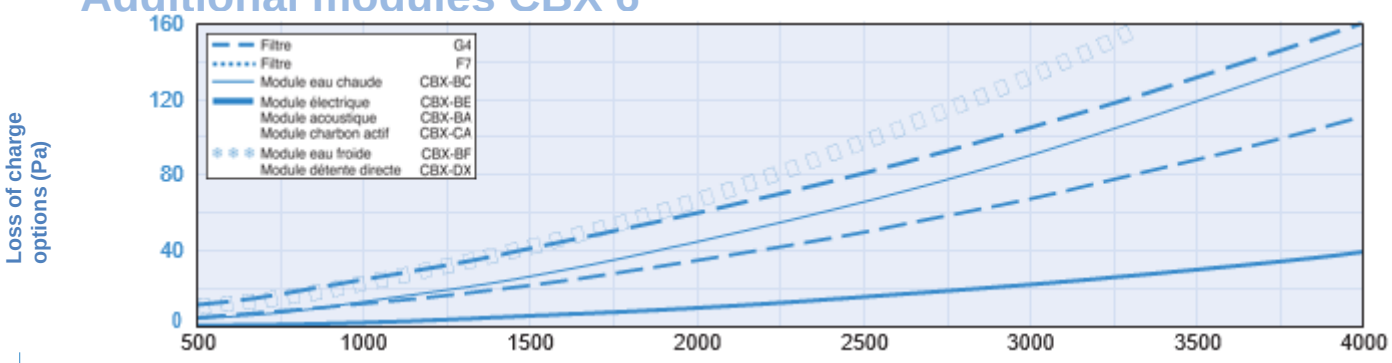


## CBZ 6 EC

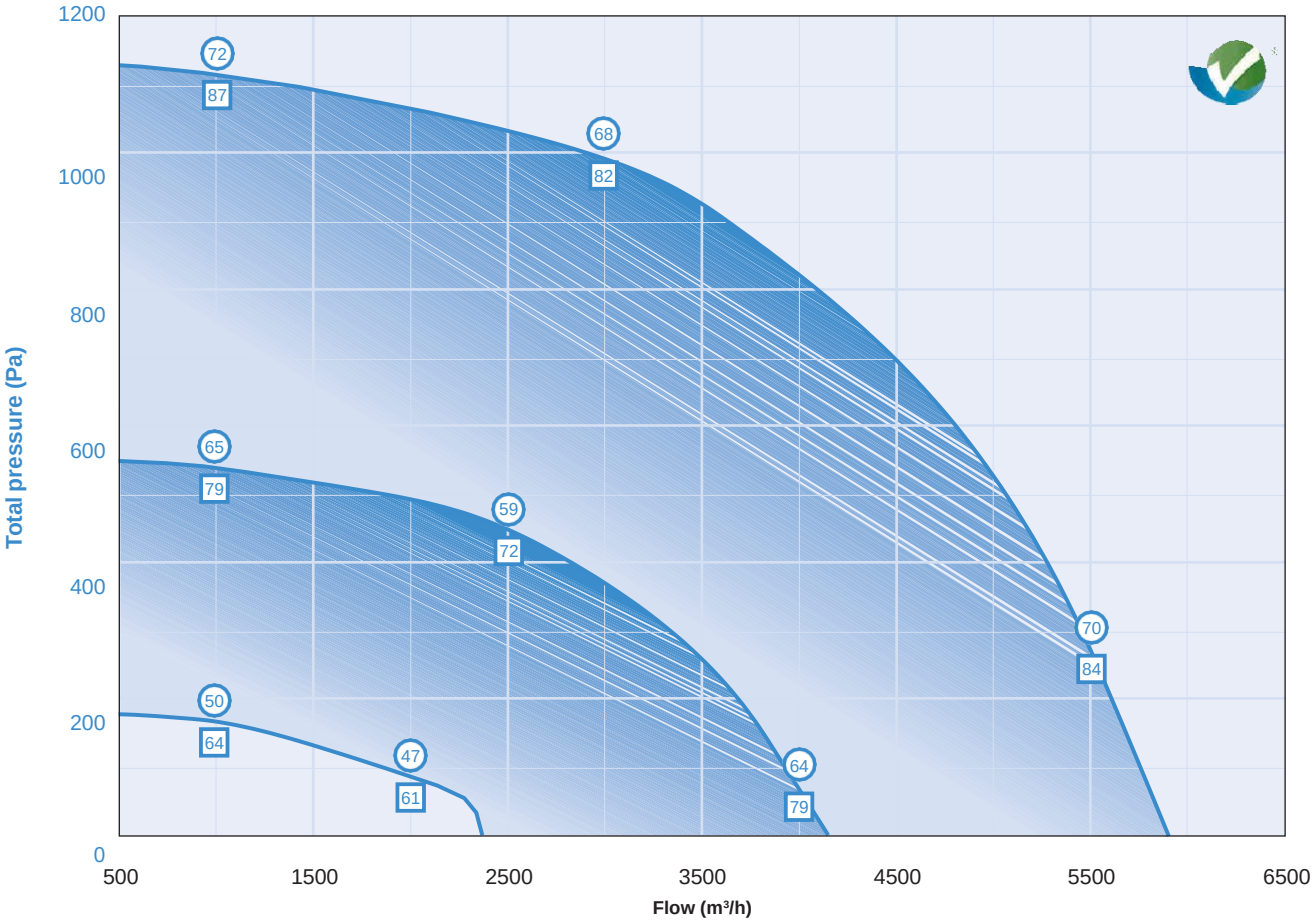


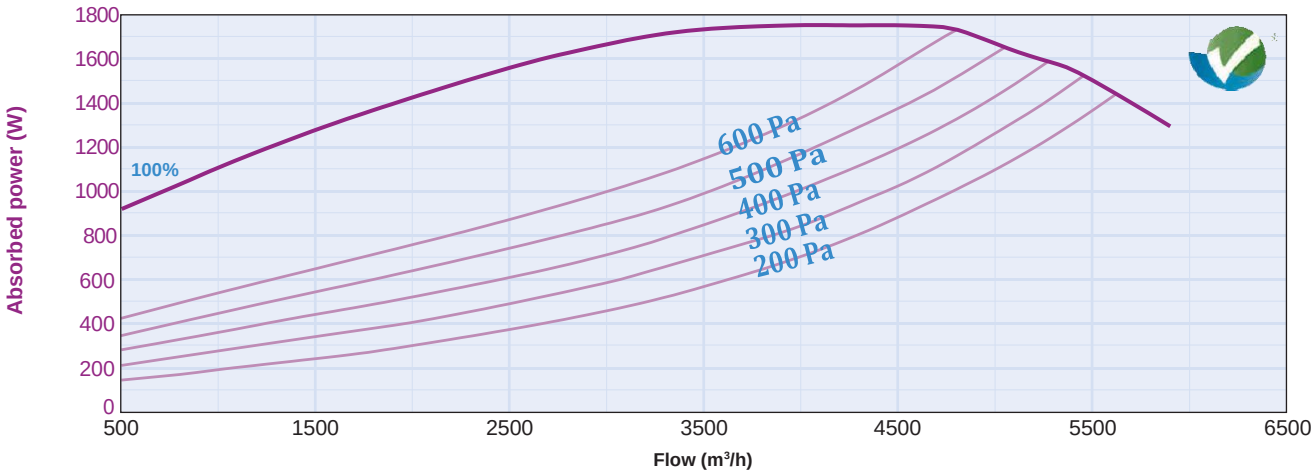




## Additional modules CBX 6

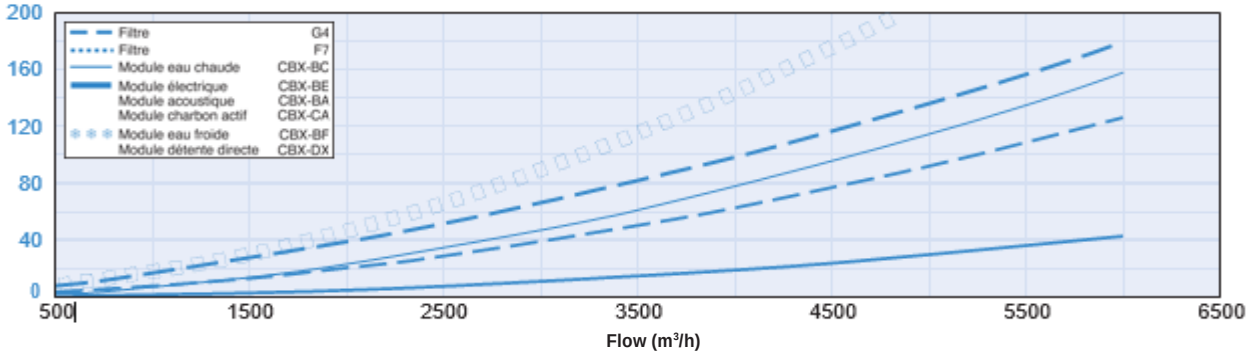


## CBZ 7A EC

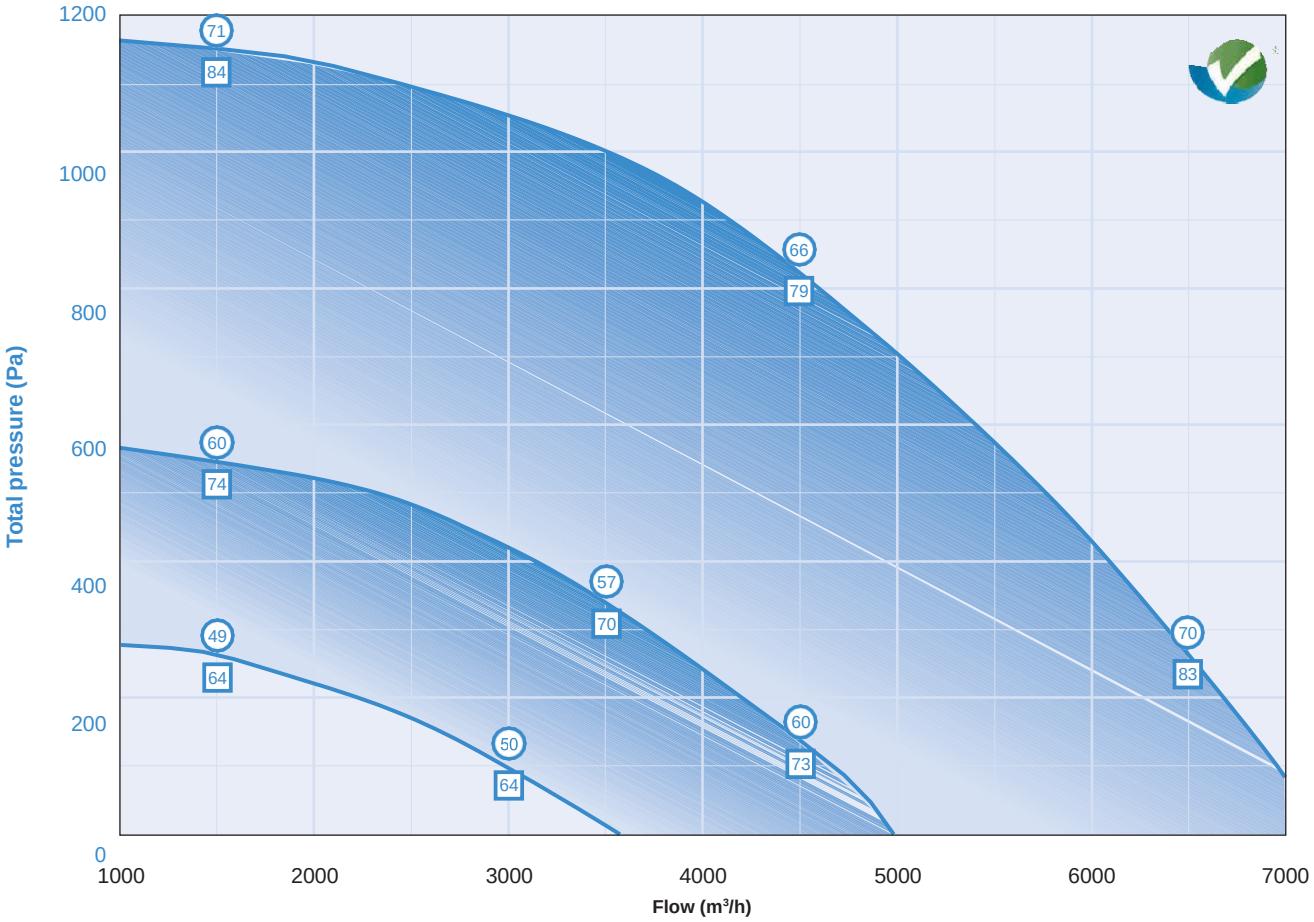


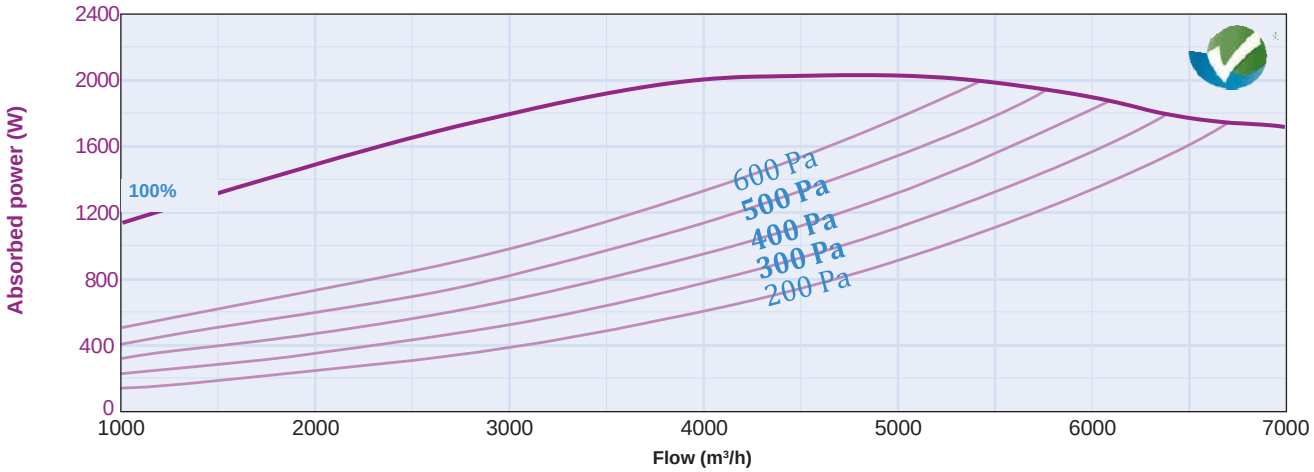




## Additional modules CBX 7 (Voir p 89)

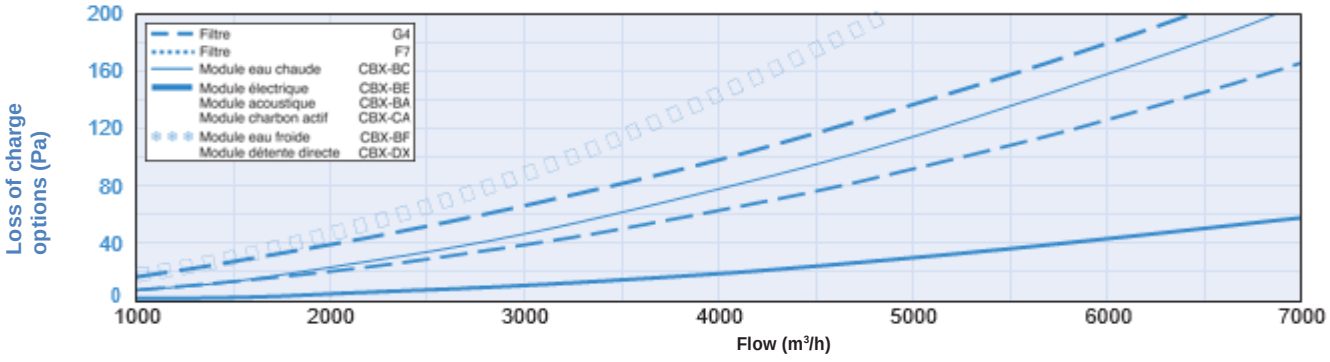


## CBZ 7B EC

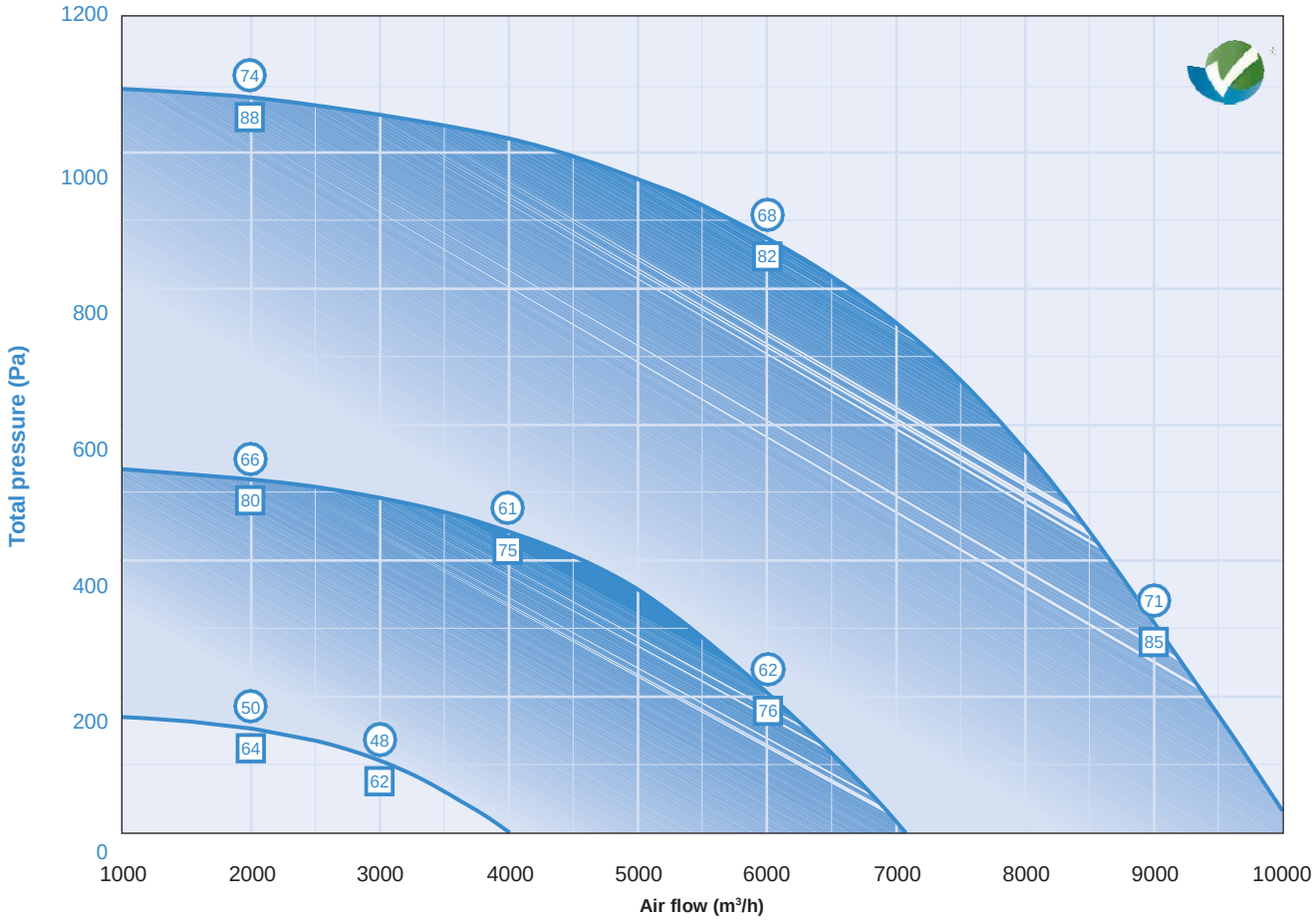


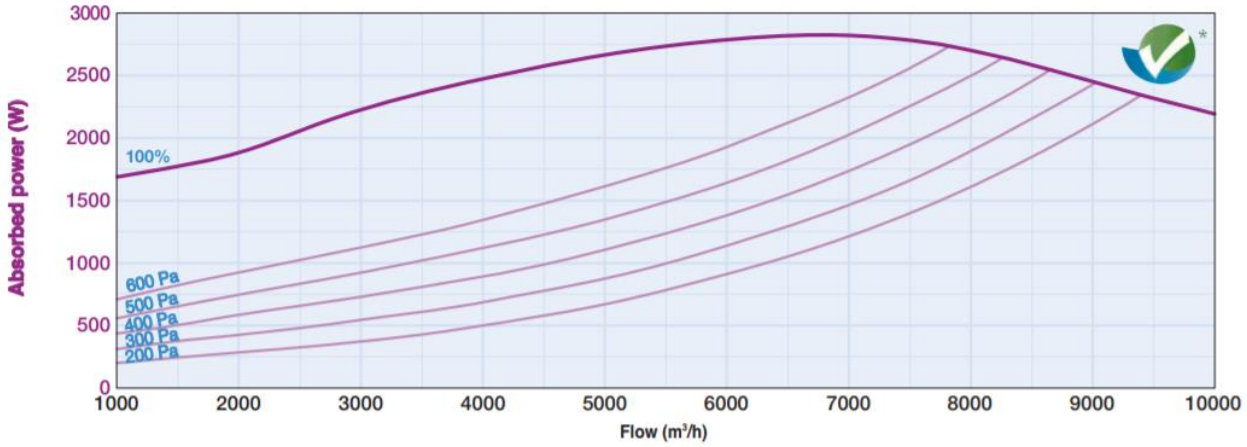




## Additional modules CBX 7



## CBZ 8 EC




## Additional modules CBX 8 (Voir p 113)