

# sisteven

Ventilation systems and  
heat recovery units



**Magnelis®**

An ArcelorMittal product



## RCS/EC

Magnelis® corrosion-resistant steel heat recovery units, with cross-flow plate heat exchanger, automatic control, built-in by-pass and EC Technology motors for residential and service sector installations



High-performance  
EC Technology  
motors



Compact design



Low noise level



SISTEVEN, S.L.U. focuses its activity on the manufacture ventilation systems and heat recovery units. With ISO-9001 quality certificates and approvals in accordance with the EN-12101-3 standard, SISTEVEN, S.L.U. is mainly recognised for the manufacture of low-pressure centrifugal fans and heat recovery units.



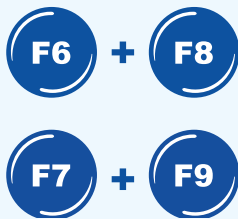
In 2022, SISTEVEN invested in a new production plant in Azuqueca de Henares. This investment enabled greater manufacturing capacity, market expansion, and brand consolidation.

The company is constantly working on the development of new products to meet the requirements of the world's most demanding markets.

# RCS/EC



SISTEVEN heat recovery units have been designed to optimise indoor air quality and improve thermal comfort.



## EC Technology motors

Units with high-performance EC Technology motors, in order to reduce power consumption. They are also easily adjustable with any 0-10 V sensor.



## Compact design

This unit has been especially developed to adapt to smaller spaces. Its height makes it ideal for installation in false ceilings, while its optimised footprint makes it easy to install in technical rooms or on roofs with limited space.

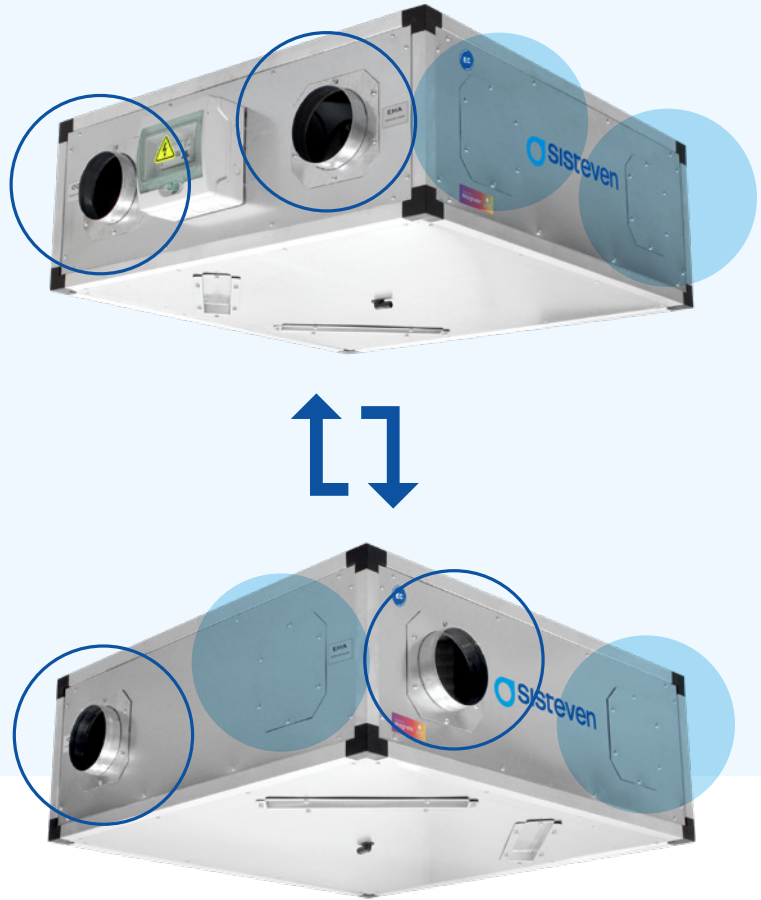


## Low noise level

The 25 mm thick acoustic casing, which reduces noise through the use of high-quality insulation materials designed for these applications, makes it the perfect fan for installation in applications that require low noise levels.

## Interchangeable nozzles

Thanks to its interchangeable nozzles and versatile design, the heat recovery units can be easily installed on roofs, in technical rooms or false ceilings due to their low profile.



### Energy savings

SISTEVEN heat recovery units are designed to optimise indoor air quality and improved thermal comfort, combining efficient air conditioning with low energy consumption.



### Straightforward installation and maintenance

Pre-configured control for direct power start. Interchangeable nozzles. Ideal for roofs, technical rooms or false ceilings due to their low profile. The inspection cover is used for quick access for cleaning the impeller and replacing the filters. Incorporates condensate tray and drainage connection.



### High durability

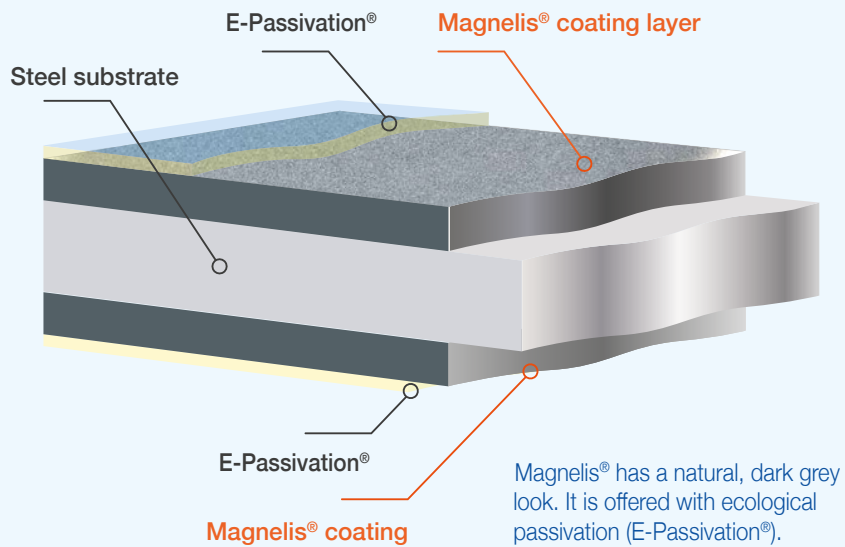
The covers of this unit are made of MAGNELIS C5 steel, which increase the service life of the system and allows them to be installed in high corrosion areas. We recommend installing the unit under a canopy roof to prevent entry of water in outdoor applications.



**An environmentally-friendly coating**



**Magnelis® is 100% recyclable and contains no harmful elements**



Magnelis® has a natural, dark grey look. It is offered with ecological passivation (E-Passivation®).



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**Heat recovery units with maximum corrosion resistance (C5 according to ISO 12944)**

Galvanised



Magnelis®



This resistance to corrosion makes Magnelis® the perfect coating for SISTEVEN fans. After 1,440 hours of salt spray testing on a Magnelis® coating layer, no red oxide is observed, while the galvanised coating layer appears completely corroded.



**High durability in highly corrosive category C5 environments**

Made of MAGNELIS® C5 corrosion-resistant steel

ACCORDING TO THE ISO 12944 STANDARD

guaranteeing its use in areas with very aggressive environmental conditions



## Heat recovery unit design

The heat recovery unit consists of four separate flows: ODA, which allows the entry of external fresh air; ETA, which extracts exhaust air from the premises; SUP, which supplies renewed air indoors; and EHA, which expels the extracted air outside.



### ODA

External fresh air

### EHA

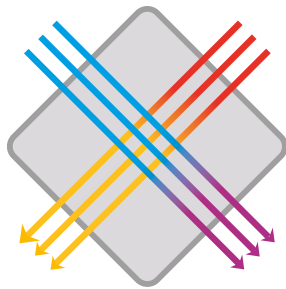
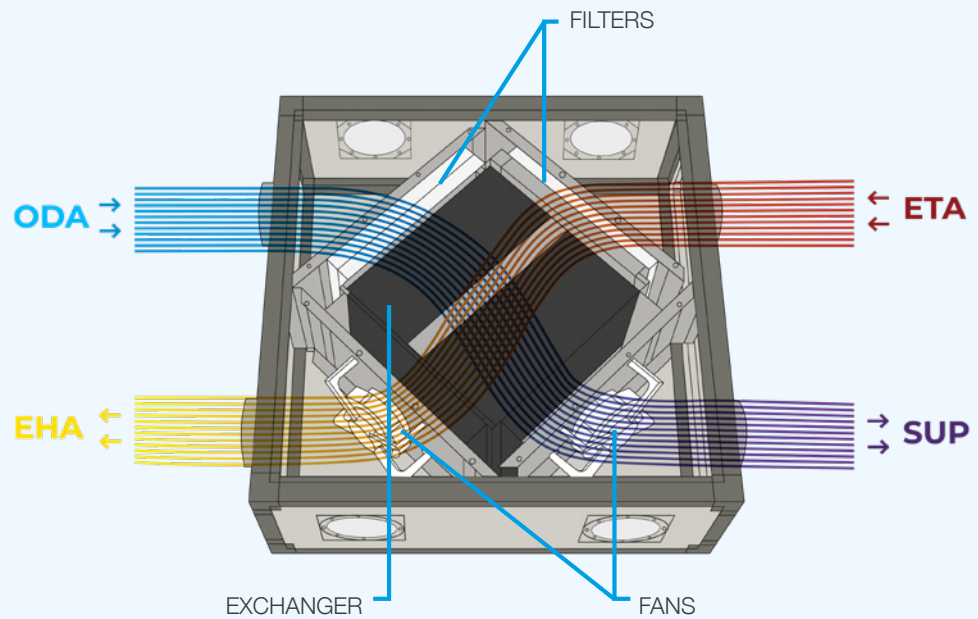
Exhaust air outlet

### ETA

Air extraction from premises

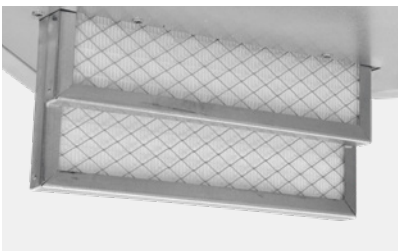
### SUP

Supply of air to premises



## Heat exchanger

Eurovent-certified high-efficiency cross-flow heat exchanger, designed to offer optimum thermal performance with low energy consumption. Its geometry of channels guarantees effective heat transfer between airflows, minimising load losses.



## Removable filters

They incorporate two F6+F8 filtration stages in the supply and F6 in the return, or F7+F9 in the supply and F7 in the return.



## Types of installation

There are two configuration options: low profile equipment with access through the base or side, ideal for small spaces; and versions suitable for outdoors, with lateral access and the possibility of incorporating protections against the elements.

### In false ceilings



Low-profile equipment with access to components through the side or base.



### On roofs or in technical rooms



Equipment for outdoor operation, with lateral access to components. They may require accessories such as roofs, rain shields or other elements.

**The Magnelis® maximum C5 corrosion-resistance coating increases the durability of SISTEVEN heat recovery units outdoors**

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### Basic corrosivity categories according to ISO 12944

C1 Very low	C5I Very high (Industrial)
C2 Low	
C3 Medium	C5M Very high (Marine)
C4 High	



#### C5I Industrial

Industrial areas with high humidity and an aggressive atmosphere. Buildings and areas with nearly constant condensation and high pollution.



#### C5M Marine

Onshore and offshore areas with high salinity. Buildings and areas with nearly constant condensation and high pollution.

## Control System and built-in BY-PASS

The heat recovery unit incorporates a manual or automatic BY-PASS and IP65 automatic control with advanced management, time programming and environmental control functions, compatible with BMS systems.



### BY-PASS

The unit includes a BY-PASS which allows manual or automatic control.

The BY-PASS system makes it possible to totally or partially divert the airflow around the heat exchanger, thus preventing thermal energy recovery when it is not necessary.



### Control panel

The heat recovery unit incorporates an external control panel with IP65 water-tightness, with a built-in maintenance section switch and terminals that allow simple and safe electrical connection.



### Automatic control

Main functions of automatic control in heat recovery units:

- Time programming and Comfort, ECO and Night modes.
- Flow control based on CO<sub>2</sub>, temperature and humidity levels.
- Connection of the unit to a centralised control system (BMS), normally using the MODBUS RTU protocol.
- Remote control with built-in LCD screen.
- Control of status of supply filters.



# RCS/EC



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## Compact heat recovery units for residential and commercial installations

High-efficiency compact heat recovery units with crossflow exchanger, EC Technology motors, automatic control, and built-in by-pass.

### Common features:

- EC Technology fans adjustable 0-10 V, with high-efficiency backward-curved impellers.
- Sensitive, high efficiency (>73%), Eurovent certified cross-flow heat exchanger.
- Interchangeable nozzles to adapt them to the installation.
- Condensate tray and drainage connection.
- High-efficiency filtration in supply (F6+F8 or F7+F9) and in extraction (F6 or F7).
- Access panels for filter removal for maintenance.
- 25 mm rockwool insulation on the bottom and top panels, and polyethylene on the side panels.
- Motorised BY-PASS damper.

### Control panel:

- Built-in electrical control panel (IP65).
- Integrated control system compatible with MODBUS RTU.
- Built-in maintenance disconnect switch.
- Temperature sensors in supply and return air.
- Condition check of outlet filters with pressure switch.
- Wired remote control with LCD screen (up to 30 m).
- Control for free cooling through motorised BY-PASS.
- Possibility to connect up to 30 recovery units simultaneously.

### Finish:

- High quality aluminium profile structure with external coating in category C5 anti-corrosive Magnelis sheet steel.
- All models can be installed outdoors as long as they have a protective roof cover.

### On request:

- CO<sub>2</sub> sensor.

### Available versions:

- RCS/EC-H: Horizontal heat recovery unit with F6+F8 or F7+F9 filtration stages.
- RCS/EC-V: Vertical heat recovery unit with F6+F8 or F7+F9 filtration stages.

## Common features

Impulsion filter (ODA)	F6+F8 / F7+F9
Extraction filter (ETA)	F6 / F7
Fan type	PLUG FAN EC with backward curved impeller
Free cooling function by means of a motorised by-pass	YES
Insulation	25 mm rock wool in bottom and top panels, and polyethylene in side panels
Condensate exhaust	YES
Pressure switch for checking the condition of inlet filters	YES
Safety and maintenance switch	YES
Built-in control panel	YES
Heat recovery type	Sensitive



## Erp. (Energy Related Products)

Information on Directive 2009/125/EC can be downloaded from the SISTEVEN website or the Selector programme.

## Technical characteristics

Model	Nominal flow rate <sup>3</sup> (50 Pa)	Nominal flow rate <sup>3</sup> (150 Pa)	Recovery unit efficiency <sup>1</sup> (%)	Installed power (kW)	Voltage 50/60 Hz (V)	Maximum admissible current (A)	Sound pressure level <sup>2</sup> dB (A)	Approx. weight (Kg)
RCS/EC-500	565	520	74	0,17 x 2	1/200-240	1,70-1,45 x 2	43	66
RCS/EC-700	725	700	74	0,17 x 2	1/200-240	1,70-1,45 x 2	43	73
RCS/EC-1000	1140	1055	74	0,50 x 2	1/200-277	2,50-1,80 x 2	41	98
RCS/EC-1500	1690	1565	74	0,50 x 2	1/200-277	2,50-1,80 x 2	41	119
RCS/EC-2000	2160	2020	74	0,50 x 2	1/200-277	2,50-1,80 x 2	40	214
RCS/EC-2300	2440	2325	74	0,78 x 2	1/200-277	4,00-2,90 x 2	44	214
RCS/EC-2800	3040	2885	73	1,30 x 2	1/200-277	6,60-4,80 x 2	47	225
RCS/EC-3800	4050	3870	74	1,30 x 2	1/200-277	6,60-4,80 x 2	46	261
RCS/EC-4500	4955	4690	74	1,35 x 2	1/200-277	6,80-5,00 x 2	44	266
RCS/EC-5500	5885	5700	73	2,50 x 2	3+N/380-480	4,00-3,20 x 2	50	298
RCS/EC-6500	6765	6595	73	3,30 x 2	3+N/380-480	5,40-4,20 x 2	52	307

1. Wet efficiency for nominal airflow (50 Pa) with F6+F8 filters, outdoor conditions -5°C/ 80% RH and indoor conditions 20°C/50% RH.  
2. Radiated sound pressure level in dB(A) at 3 m distance at full speed.  
3. F6 configuration.

## Filter characteristics

### Filters EN 779

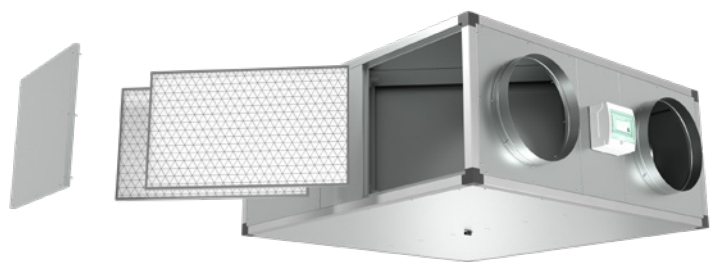
### ISO 16890

	ISO ePM <sub>1</sub>	ISO ePM <sub>10</sub>
F6	-	70%
F7	55%	-
F8	65%	-
F9	80%	-

Lower filter extraction in models 500 to 1500

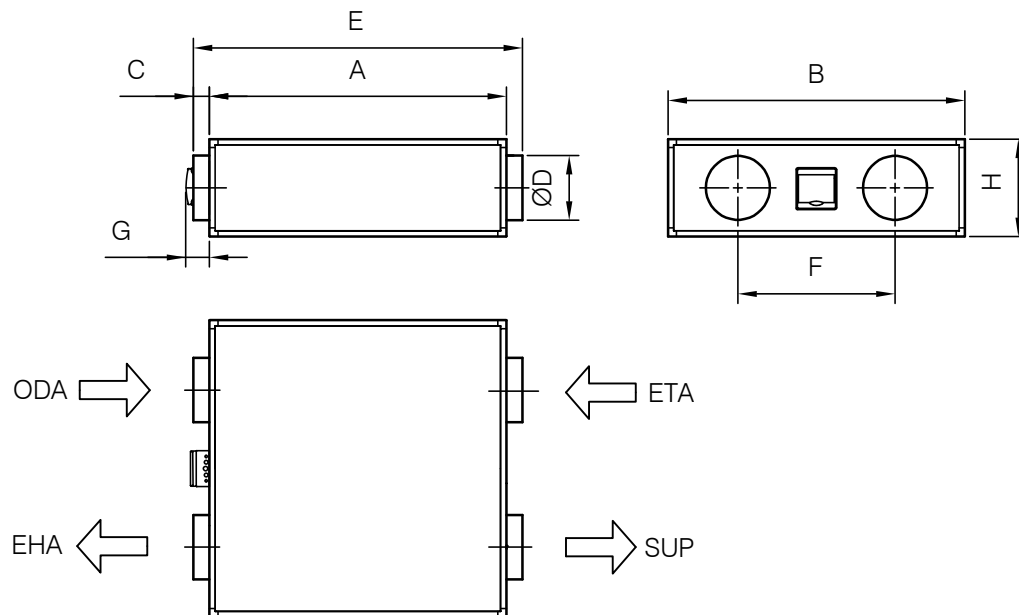


Side filter extraction in models 2000 to 6500



## Dimensions mm

### RCS/EC-H

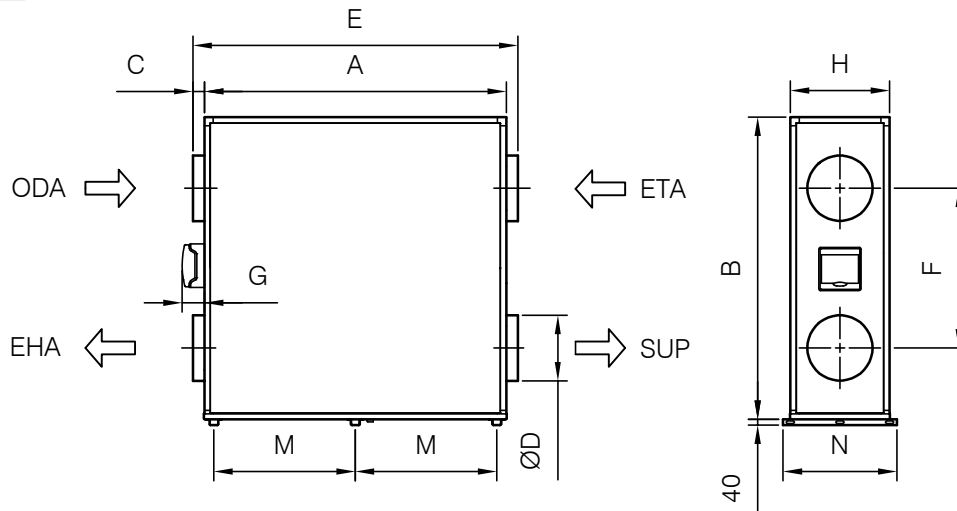


	A	B	C	D	E	F	G	H
RCS/EC-H-500	1000	1000	50	150	1100	600	120	285
RCS/EC-H-700	1000	1000	50	150	1100	600	120	380
RCS/EC-H-1000	1100	1100	50	250	1200	600	120	435
RCS/EC-H-1500	1150	1150	50	250	1250	600	120	510
RCS/EC-H-2000	1650	1650	76	315	1802	938	120	510
RCS/EC-H-2300	1650	1650	76	315	1802	938	120	510
RCS/EC-H-2800	1650	1650	76	315	1802	938	120	510
RCS/EC-H-3800	1650	1650	76	450	1802	938	120	700
RCS/EC-H-4500	1650	1650	76	450	1802	938	120	700
RCS/EC-H-5500	1650	1650	76	450	1802	938	120	860
RCS/EC-H-6500	1650	1650	76	450	1802	938	120	860

ODA: Fresh outdoor air / SUP: Air supply to the premise / EHA: Exit of exhaust air / ETA: Air extraction from premises

## Dimensions mm

### RCS/EC-V



	A	B	C	D	E	F	G	H	M	N
RCS/EC-V-500	1000	1000	50	150	1100	600	120	285	439	385
RCS/EC-V-700	1000	1000	50	150	1100	600	120	380	439	480
RCS/EC-V-1000	1100	1100	50	250	1200	600	120	435	489	535
RCS/EC-V-1500	1150	1150	50	250	1250	600	120	510	514	610
RCS/EC-V-2000	1650	1650	76	315	1802	938	120	510	759	610
RCS/EC-V-2300	1650	1650	76	315	1802	938	120	510	759	610
RCS/EC-V-2800	1650	1650	76	315	1802	938	120	510	759	610
RCS/EC-V-3800	1650	1650	76	450	1802	938	120	700	759	800
RCS/EC-V-4500	1650	1650	76	450	1802	938	120	700	759	800
RCS/EC-V-5500	1650	1650	76	450	1802	938	120	860	759	960
RCS/EC-V-6500	1650	1650	76	450	1802	938	120	860	759	960

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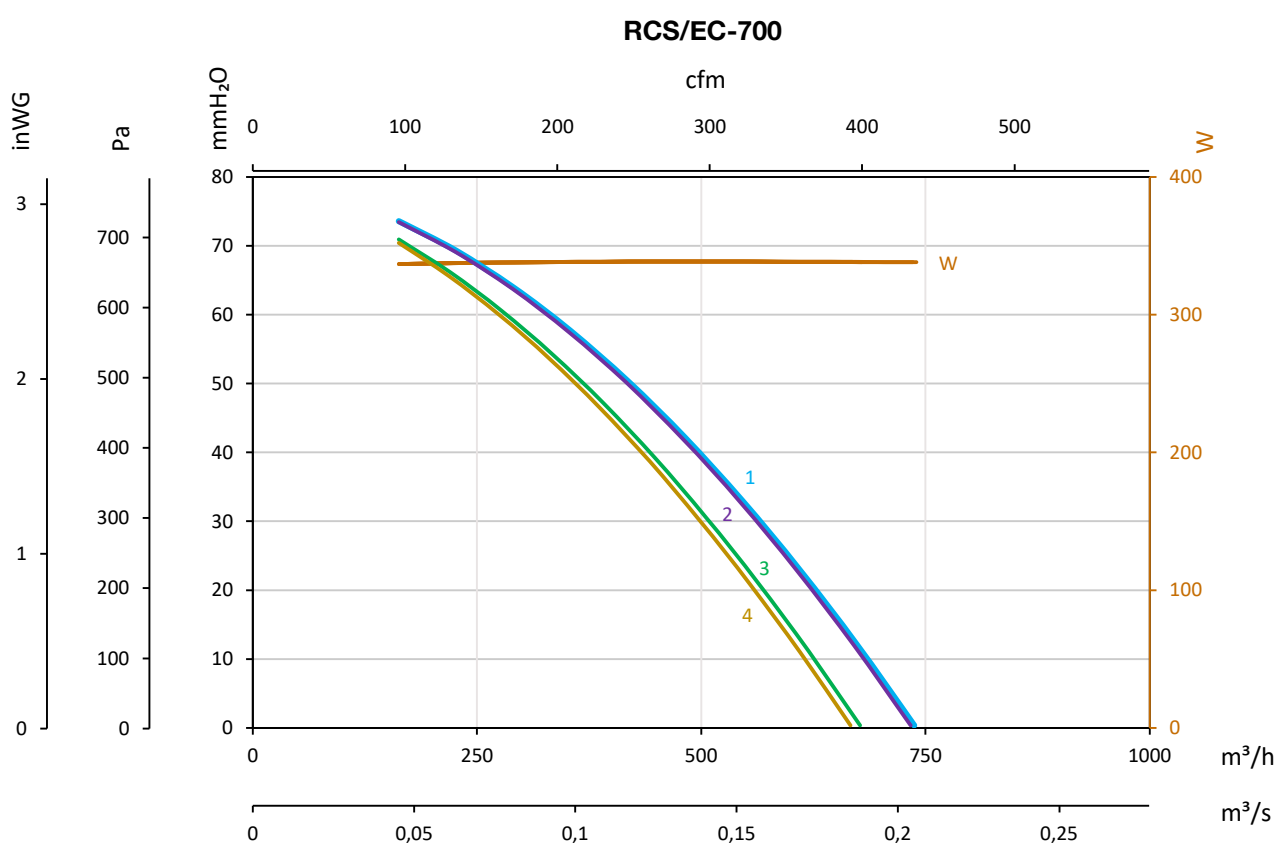
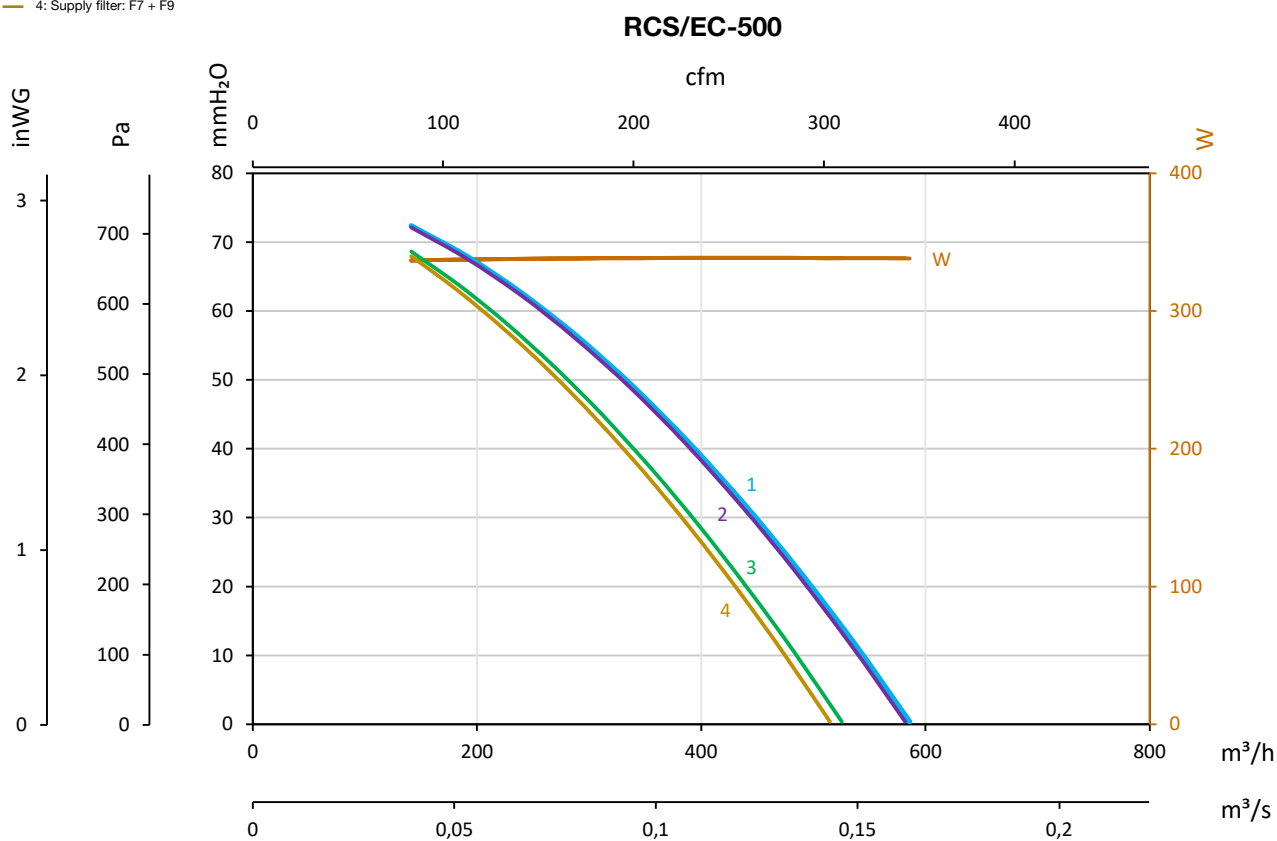
## Characteristic curves

Q= Flow rate in m<sup>3</sup>/h, m<sup>3</sup>/s and cfm

Pe= Static pressure in mm H<sub>2</sub>O, Pa and inwg

W= Electrical power

- 1: Extraction filter: F6
- 2: Extraction filter: F7
- 3: Supply filter: F6 + F8
- 4: Supply filter: F7 + F9



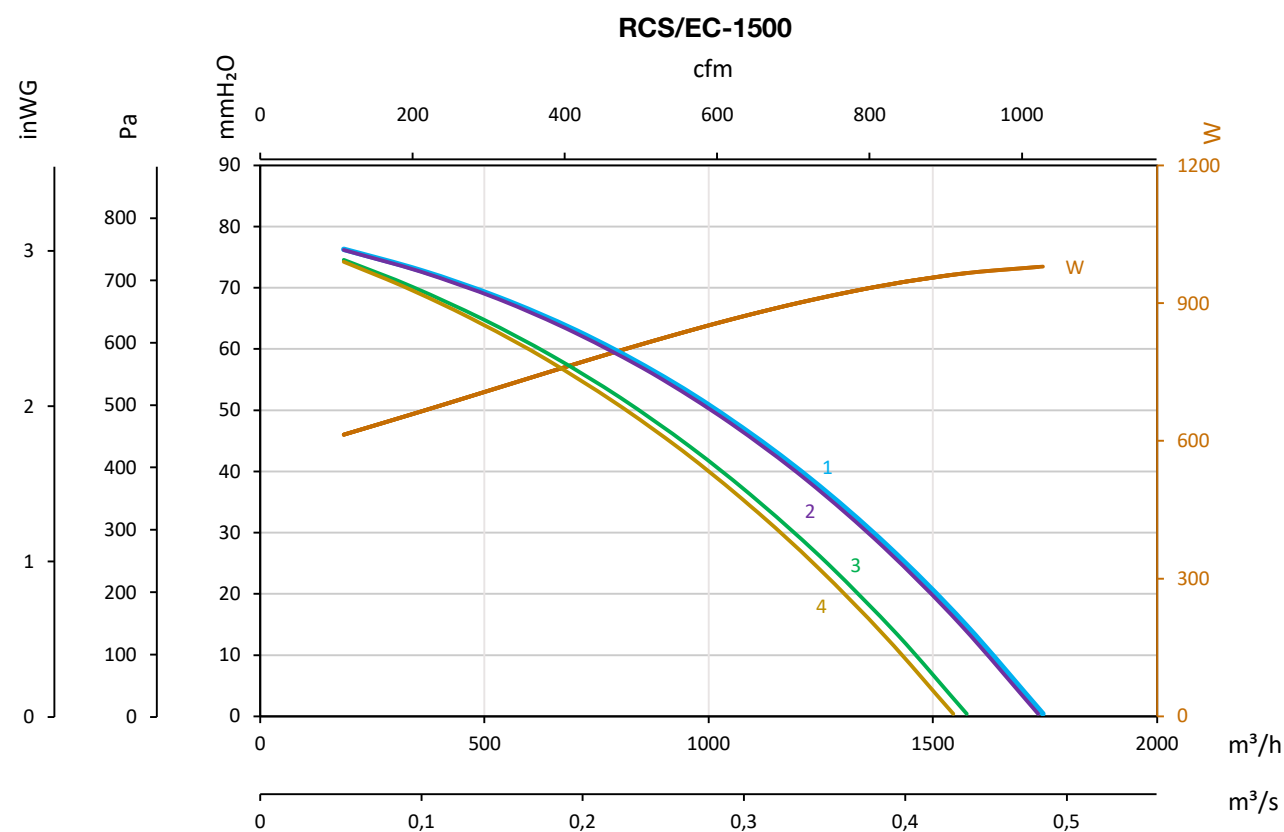
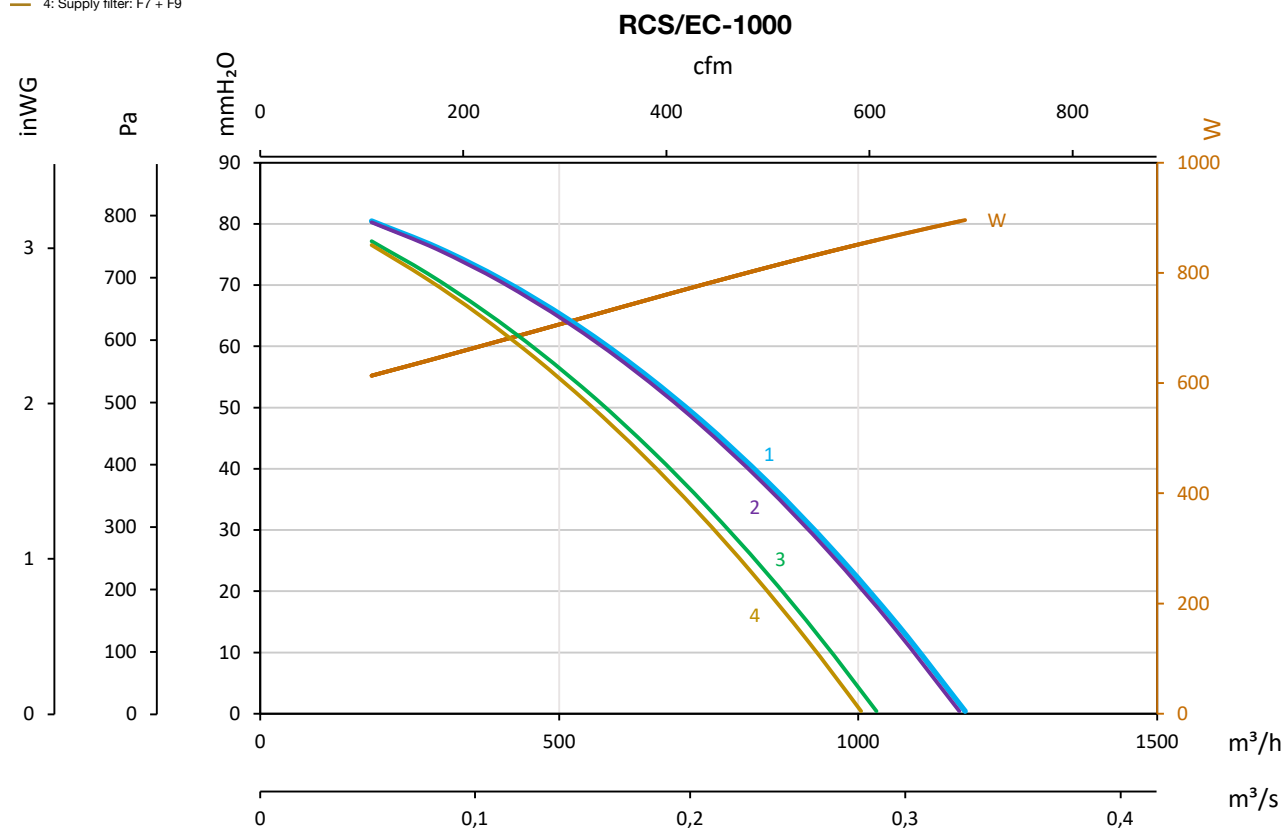
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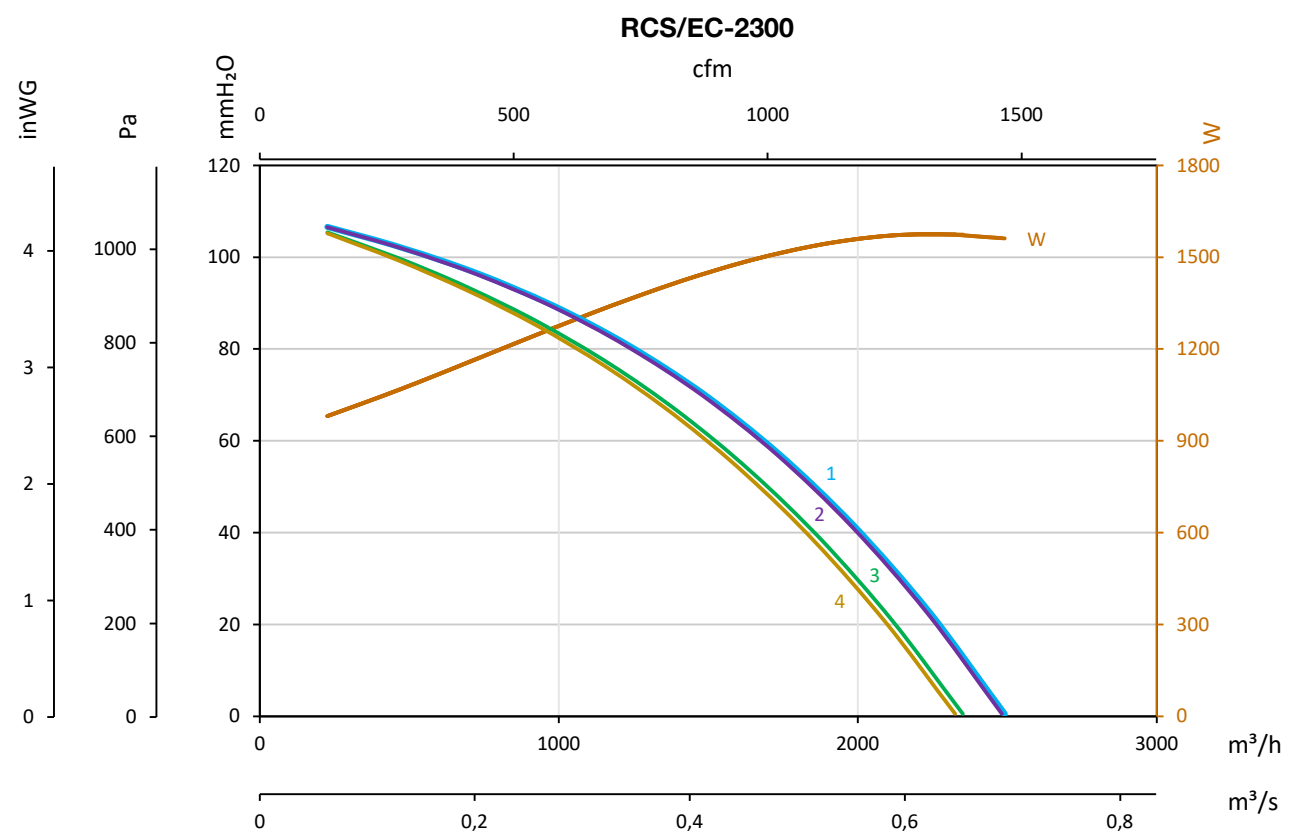
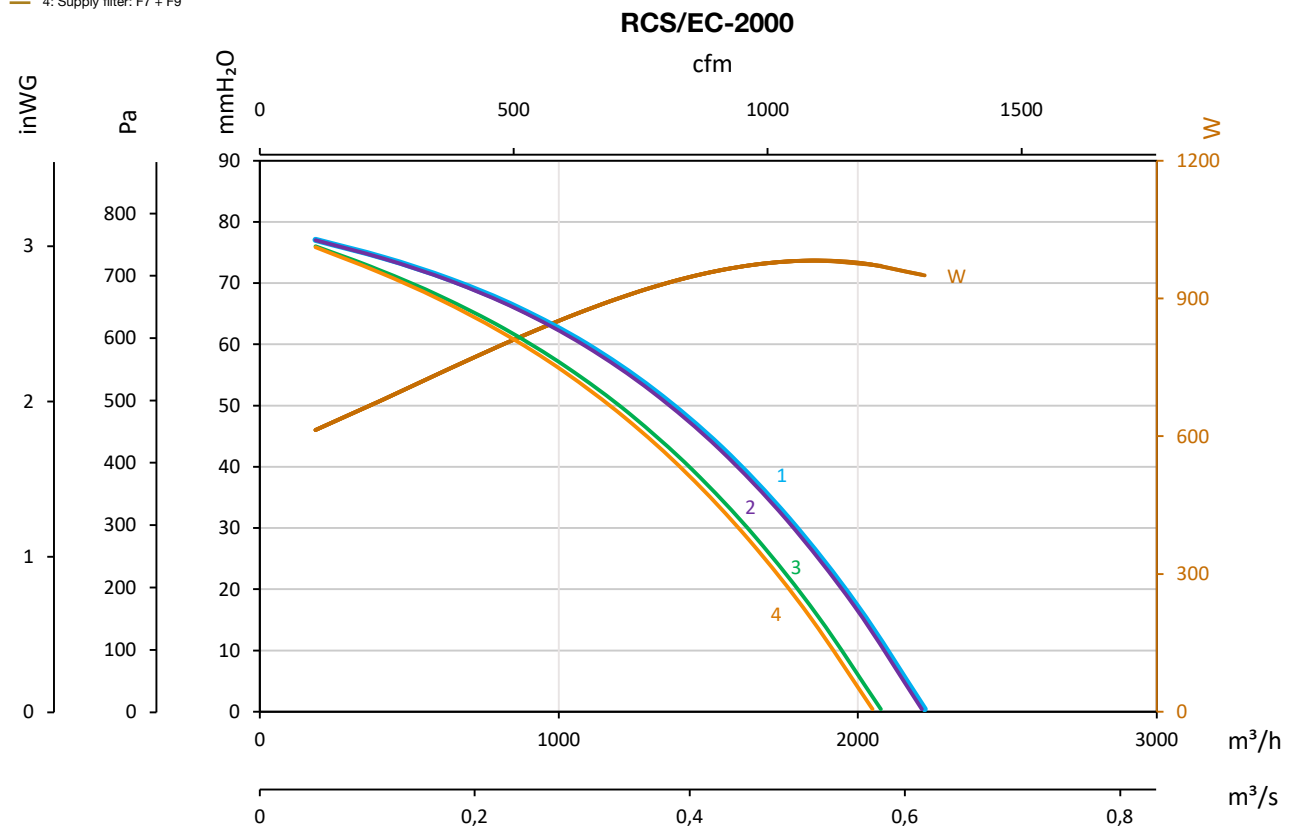
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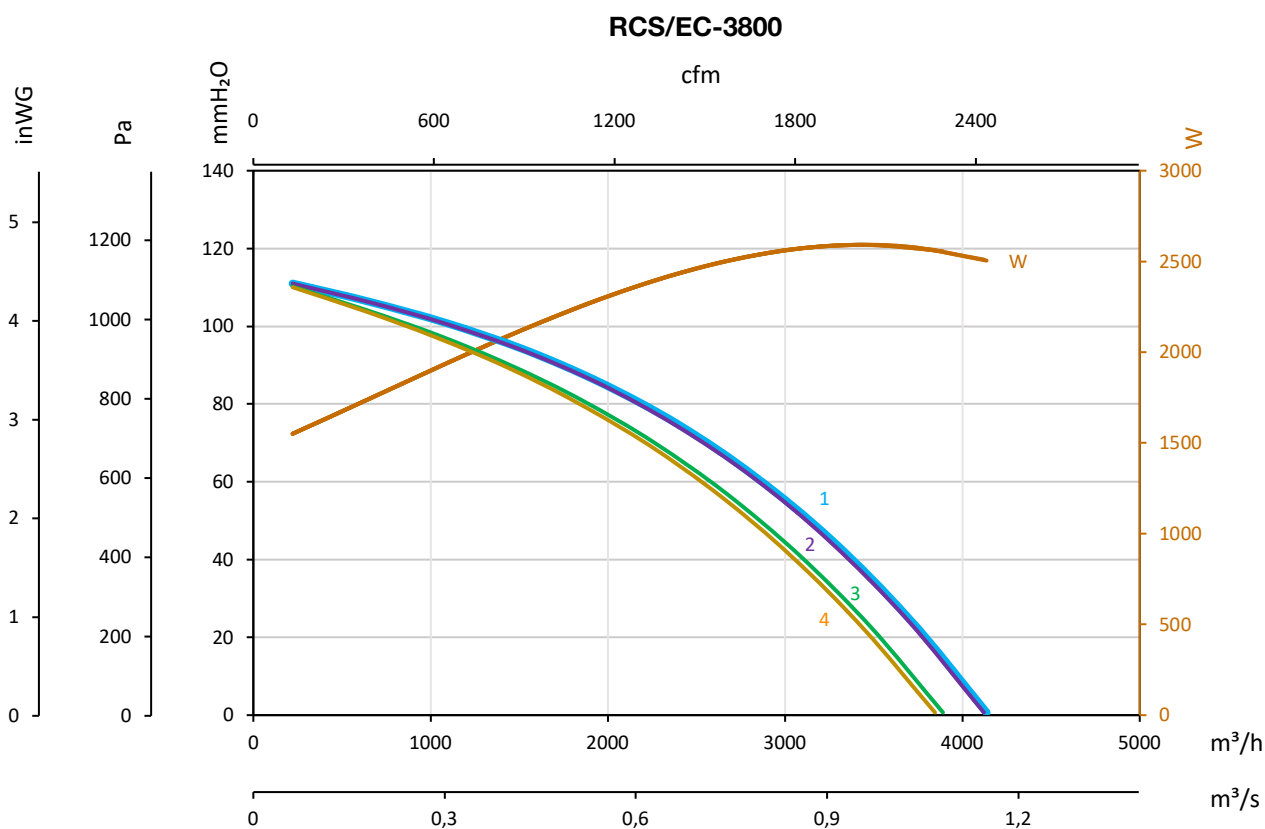
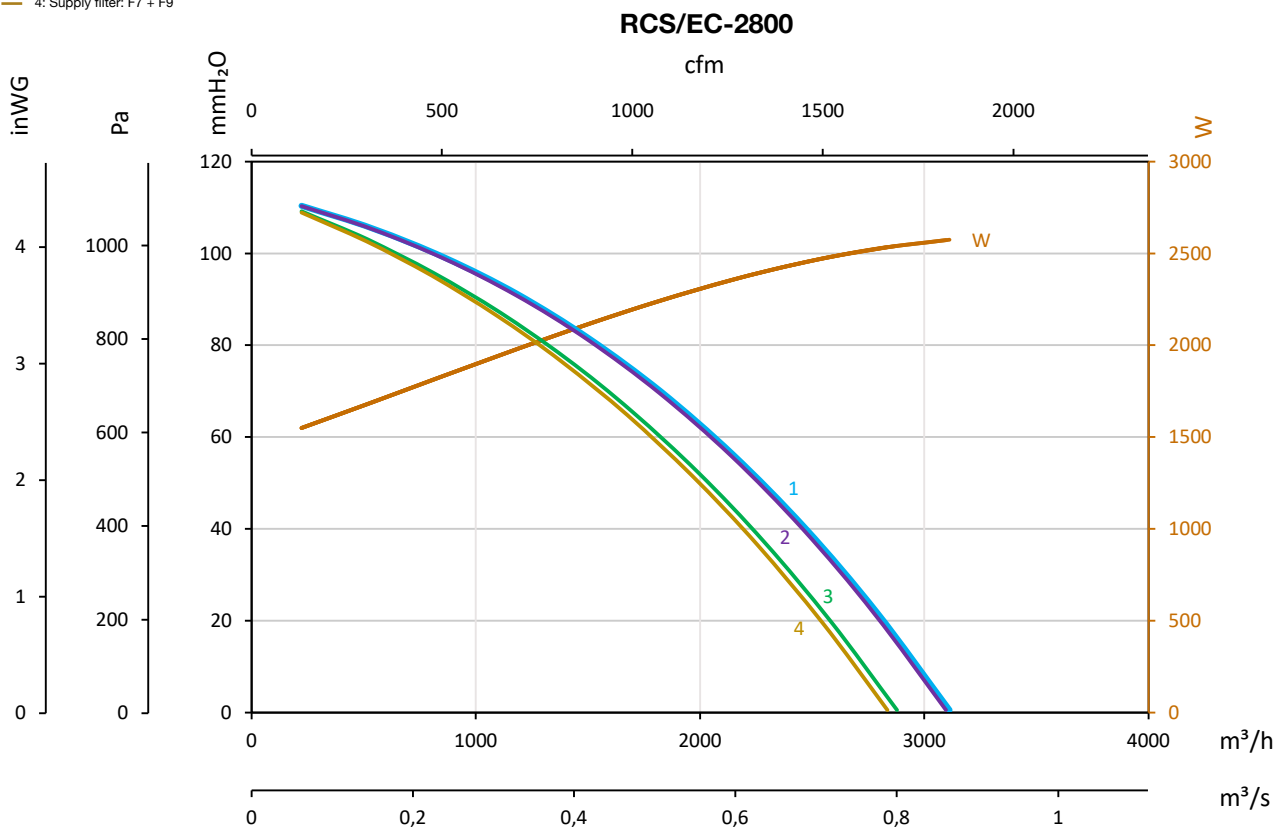
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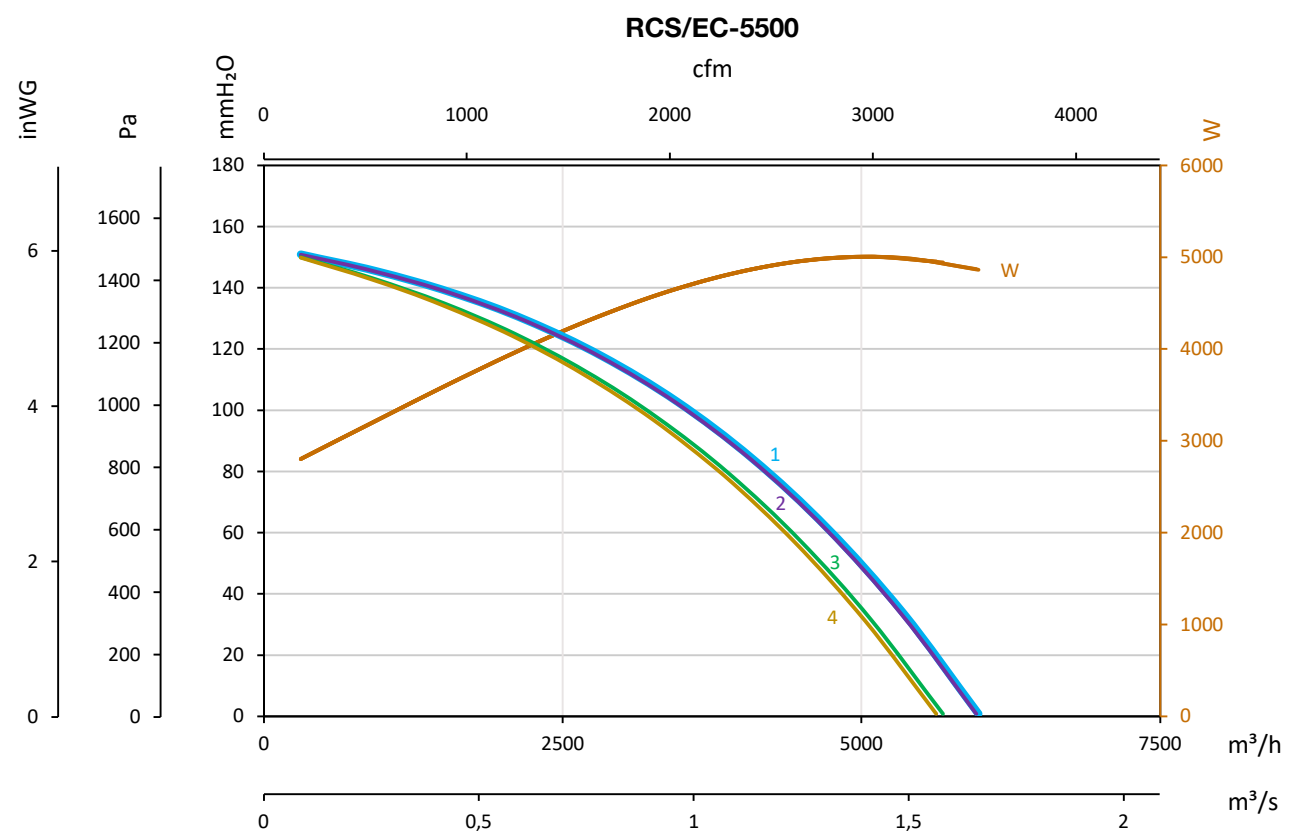
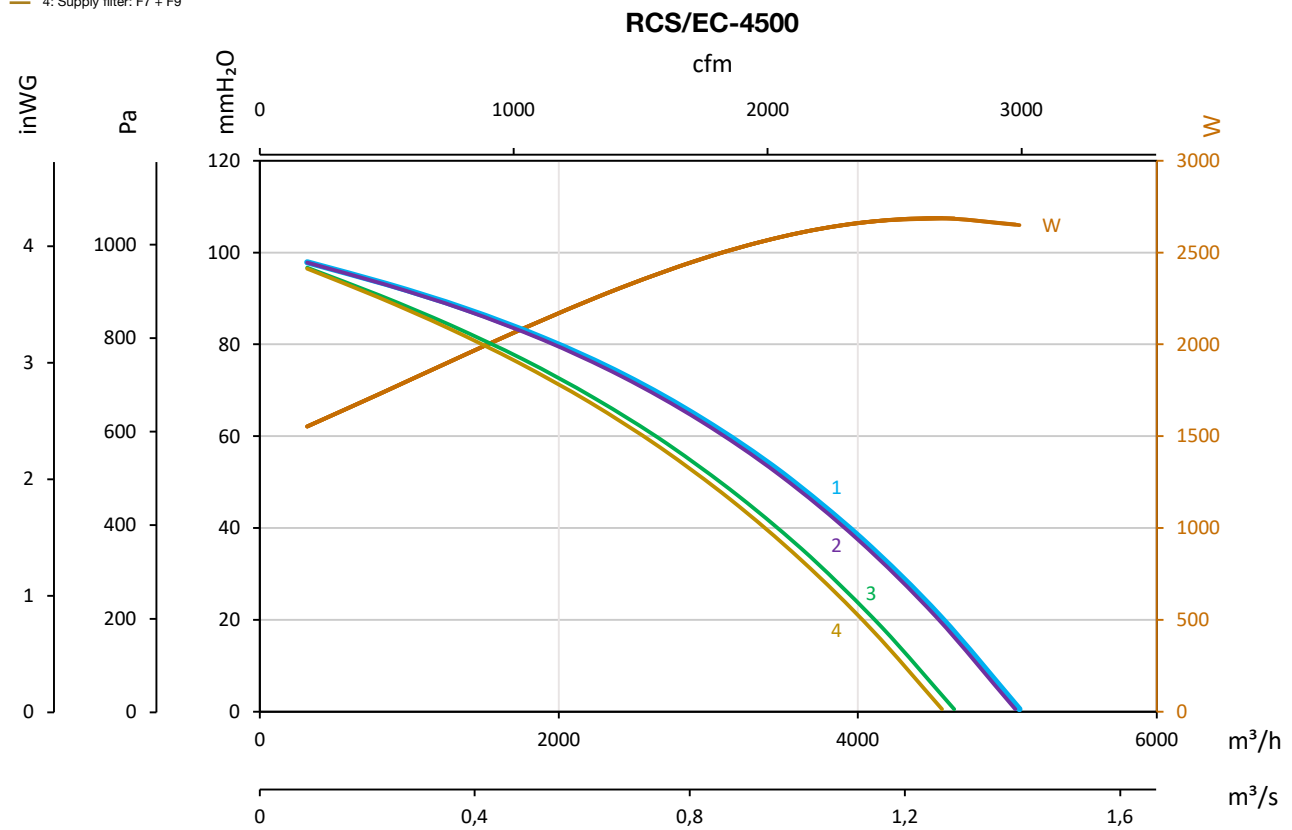
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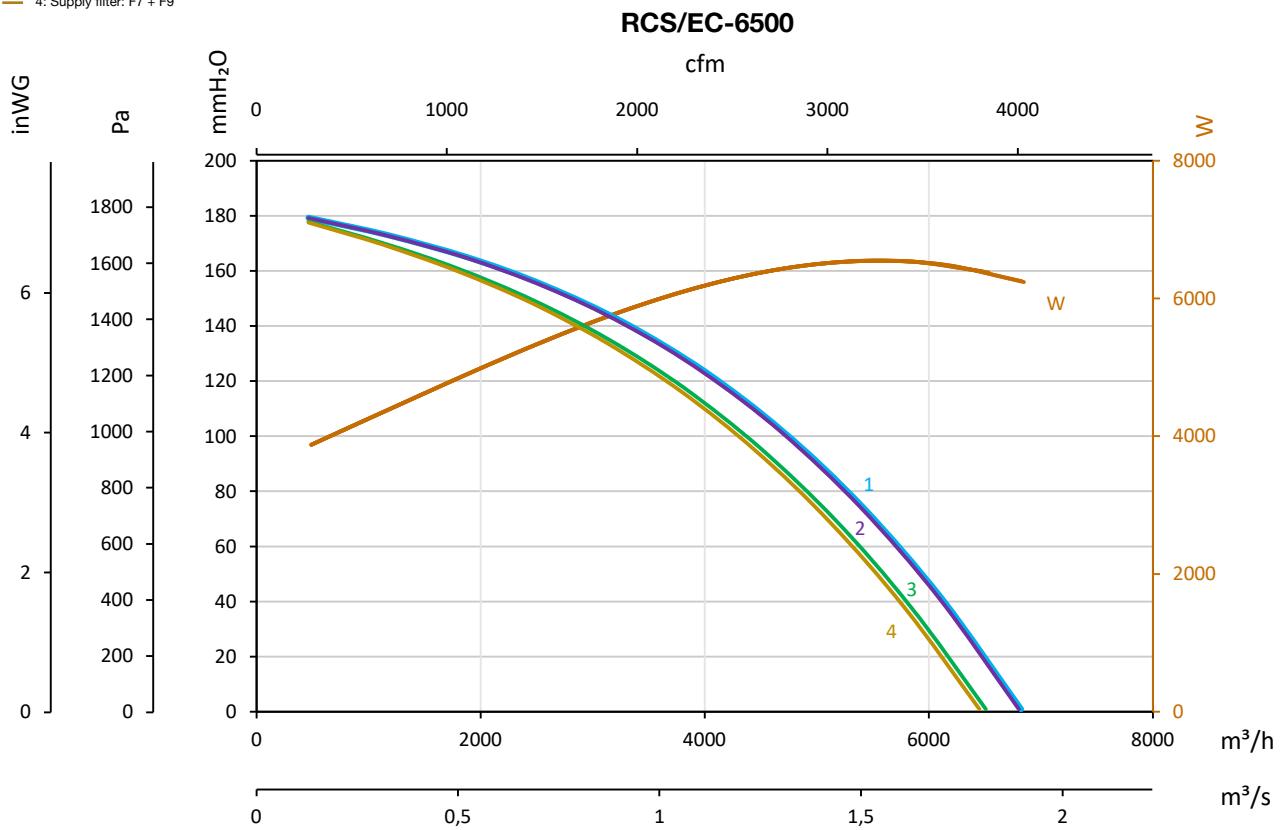
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