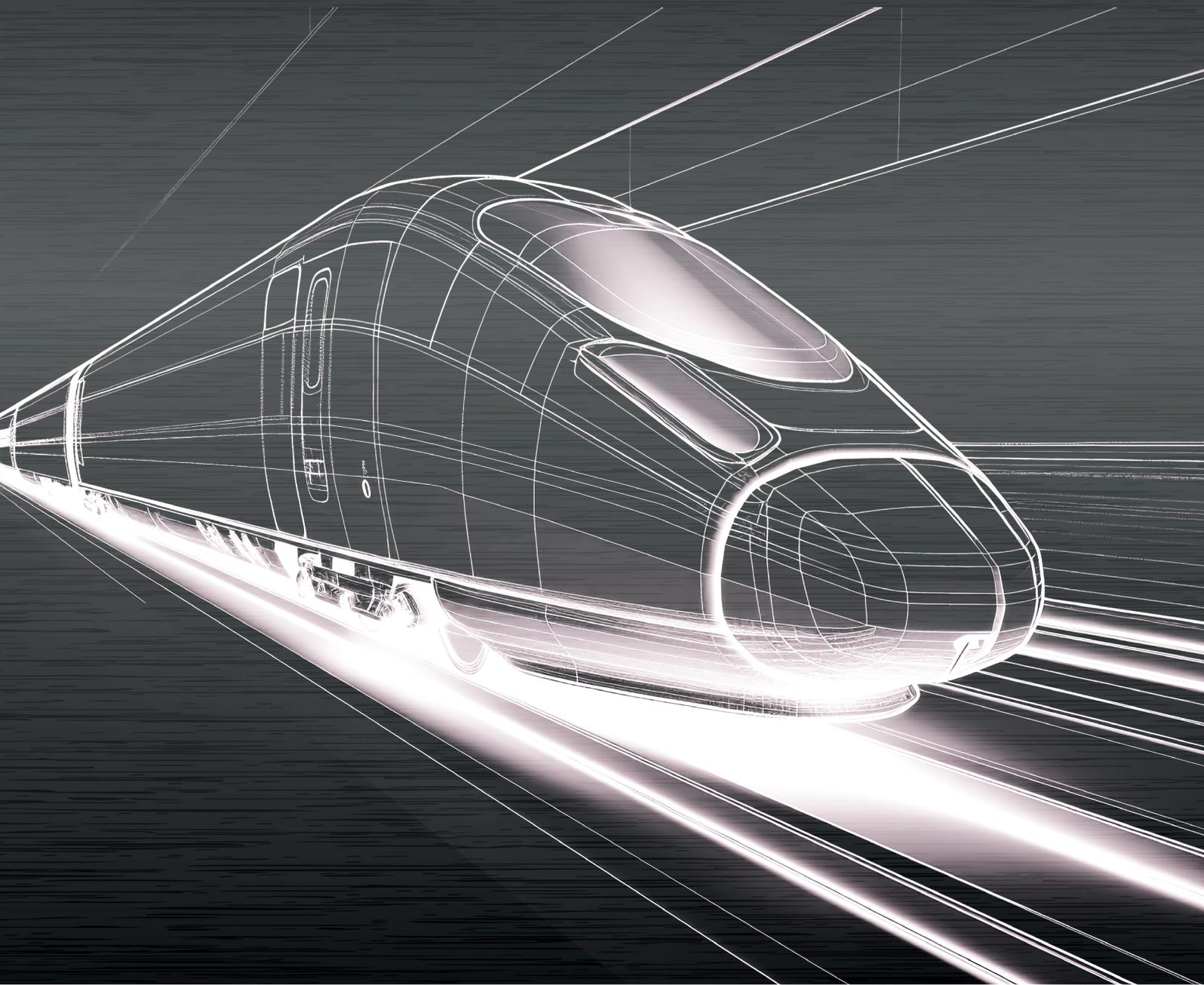


FANS FOR RAILWAY TECHNOLOGY



railway.rosenberg.fans

[®] **ECOFIT**
rosenberg **ETRI**
THE AIR MOVEMENT GROUP
VENDÔME



Your powerful business partner ... in the matter of railway technology

Air is our element – moving it **intelligently and efficiently** is our passion. Since 1945 we have been developing and producing speed-controllable external rotor motors, fans and air handling units.

Our Engineering skill is the basis of our development work and drives our innovation. As a worldwide company we are represented where our customers need us. With production sites and sales offices in more than 45 countries **we are present worldwide** – a strong and reliable partner always within reach of our customers.

Numerous manufacturers and suppliers of the railway industry trust in our fans. Through permanent and logical development we achieve high quality improvements for our products. The continuous exchange of information between customers and factory engineers enables us to develop flexible and reliable system-solutions quickly.



Customer specific developments enable a smooth operation also at:

- Voltage peaks
- High shock stress
- Vibrations
- Varying weather conditions and thermal stresses

... and offer flexible solutions for:

- Optimal airflow
- Various operation voltages
- Maximum efficiencies at variable speeds
- Minimum maintenance

Rosenberg Vendôme
Vendôme (France)





ETRI®

Axial compact fans ; Type: 146D / 99Y / 158D / 129DH9 / 121D-148D / 126L / 99XM-W-U / 113XN / 146DF / 98XC-Y-H / 125XL-LG-XR / 125XR5 / 129XL-LG-XR / 141L / 148V

- Compact design
- Available in AC, DC and EC
- Airflow up to 432 m³/h (254 cfm)
- Total pressure increase up to 313 Pa (1.26" WG)
- For curves please see pages 14, 16, 17, 18, 19

Fields of application: Air conditioning of the driver's cabin, switch gear cabinet ventilation, electronics cooling, cooling of signal systems



ETRI®

Fan tray ; Type: RACK

- Fan trays equipped with compact axial fans
- Available in AC, DC and EC
- Example: RACK R1U with specially designed axial fan
- Easy to mount / very easy to maintain
- Airflow up to 1.000 m³/h (588 cfm)
- Total pressure increase up to 76 Pa (0.31" WG)
- For curves please see page 14

Fields of application:

Cooling of components of the propulsion- and braking system



ETRI®

High Performance fans ; Type: 125YG / 200DW / 63DBV / 97DBW / 80CE / 85-86CB / 86CD / 61GS-P-E / 62GP / 97CJ

- Protected against severe environments (high vibration and shocks levels, high humidity level)
- Available in AC, DC and EC
- Airflow up to 3.240 m³/h (1.907 cfm)
- Total pressure increase up to 1.412 Pa (5.67" WG)
- For curves please see pages 15, 18, 19

Fields of application: Air conditioning of the passenger or driver's cabin, switch gear cabinet ventilation, electronics cooling, equipment cooling, cooling of signal systems



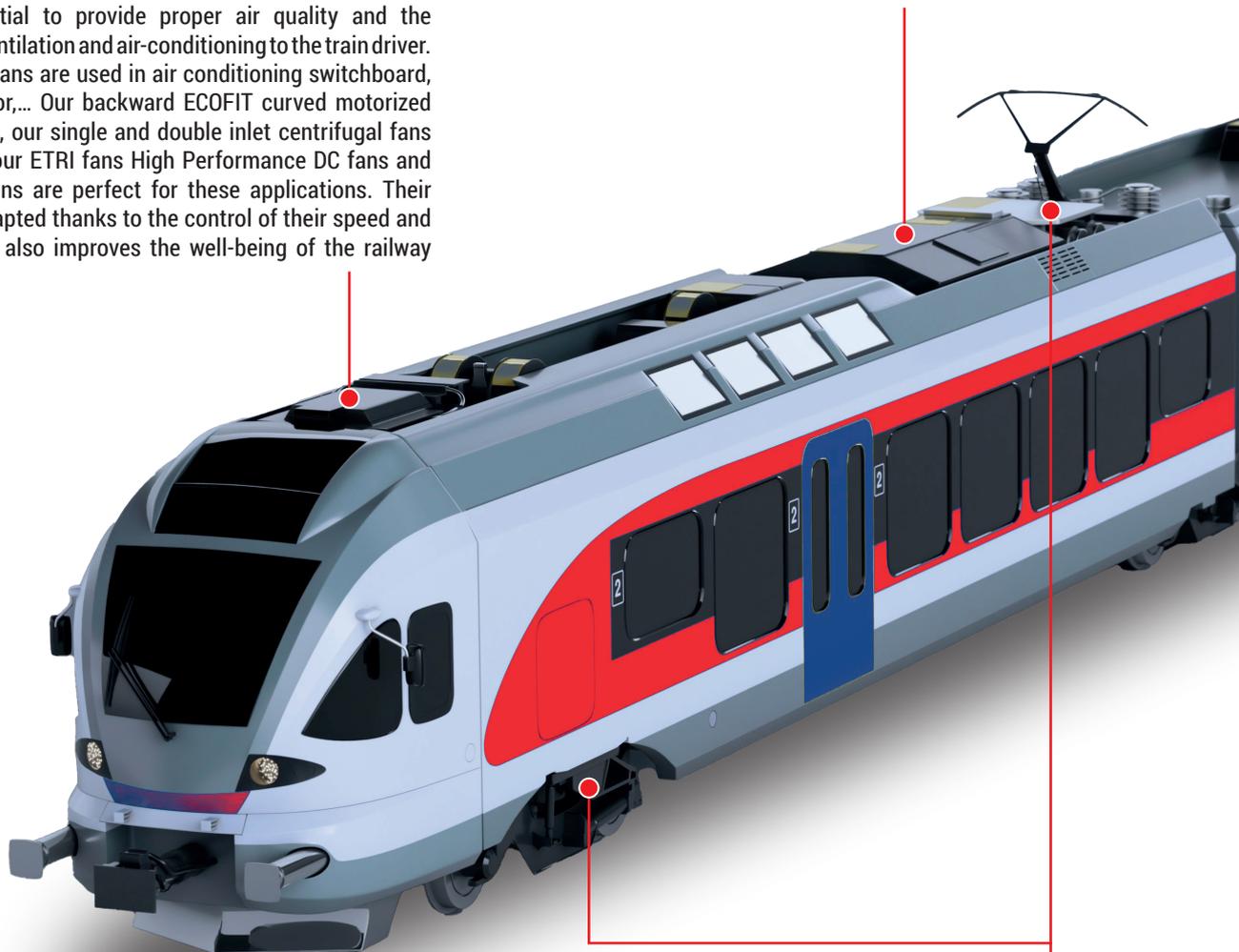
Air conditioning of the passenger cabin

Proper air quality at the right temperature in compartments or in restrooms is the key for the comfort of railway passengers. Exhaust and supply ventilation used in air conditioning switchboard, condenser, evaporator,... helps to maintain the optimum travel conditions. Our ECOFIT centrifugal fans GDF, RRE, GRE and our ETRI fans High Performance DC fans and compact axial DC fans are adapted thanks to the control of their speed and their low noise level also improves the well-being of the passengers.



Air conditioning of the driver's cab

Ventilation is essential to provide proper air quality and the requested heating, ventilation and air-conditioning to the train driver. Exhaust and supply fans are used in air conditioning switchboard, condenser, evaporator,... Our backward ECOFIT curved motorized impellers (RRE-RRM), our single and double inlet centrifugal fans (GRE and GDF) and our ETRI fans High Performance DC fans and compact axial DC fans are perfect for these applications. Their optimal airflow is adapted thanks to the control of their speed and their low noise level also improves the well-being of the railway men.

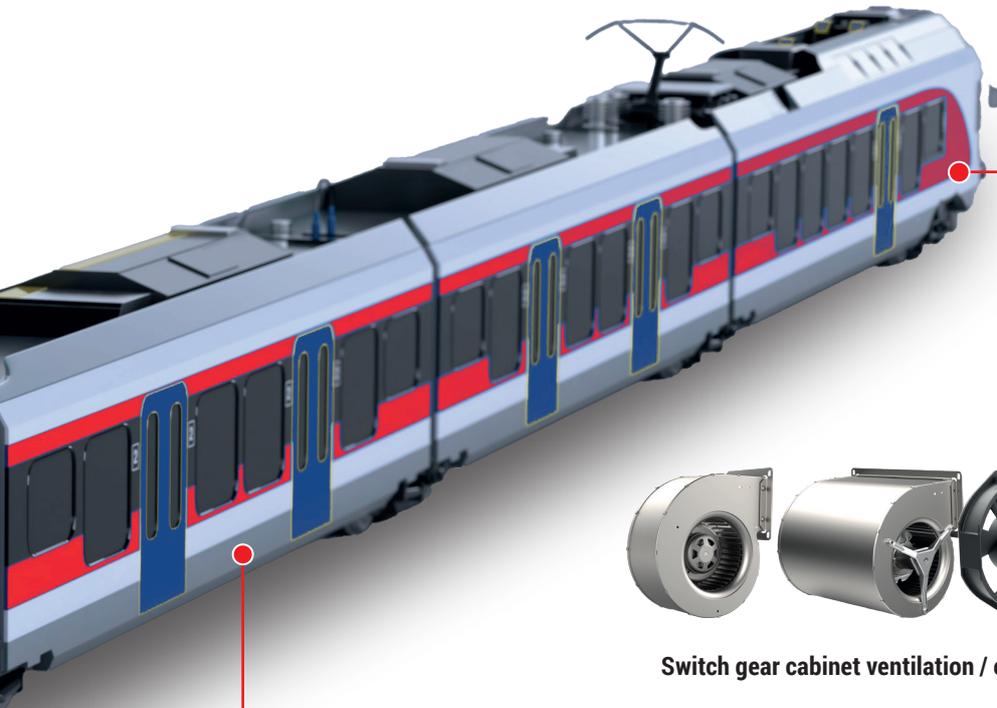


Cooling of components of the propulsion- and braking system

The traction system of a rail vehicle consists of different elements like tractions motors and traction inverters. To avoid harmful overheating the heat has to be dissipated. The same is true for components of the braking system of trains. Ventilation is used in traction converters, traction box, auxiliary converters,... Our ECOFIT centrifugal fans GRE and GDF and our ETRI fan trays and high performance DC and AC fans are best suitable for this field of application.

Fans of ECOFIT and ETRI brands are reliable, efficient and silent ventilation solutions to cool equipment and ventilate ambient air. ECOFIT&ETRI motor insulation systems are especially designed for railway application as well as the mechanical structure of the fans. This reliability ensures a long service life of the installations and reduces maintenance interventions. Our compact ventilation solutions are easy to install in any railway application.

Our AC motors are available in single and three phase in a wide range of voltages and frequencies. Our DC motors are available in many requested voltages. Our EC technology helps in driving the fans speed and making energy saving. Most of our catalog fans can be adapted to railway applications with the required voltages.



Switch gear cabinet ventilation / electronics cooling

The technical constructions of rail vehicles consist of many electronic components which are often housed in switch gear cabinets. Here too sufficient heat dissipation is required to protect the sensitive electronic components and the entire cabinet system from overheating. Our ECOFIT GRE, GDF and our ETRI high performance fans and compact axial fans are perfectly adapted to this application.



Cooling of components of the onboard power system

High precision power supply within the onboard power system of rail vehicles is state-of-the-art today. Those systems have to be cooled as well, for example battery chargers and high power supply. Our ECOFIT GRE, GDF and RRE fans and our ETRI high performance DC fans are used for these cooling applications.



Cooling of signal systems

To guarantee the security of the train driver and the passengers, the signal systems have to work properly. The components of signal systems produce heat as all electric and electrical components. The heat needs to be dissipated to maintain the system in good condition. Our ETRI high performance and compact axial fans are perfectly suited to cool those applications.



Single inlet centrifugal Fans ; Type: TRE/GRE



- Single inlet centrifugal fan with forward curved blades
- Available in AC, DC and EC
- Variable mounting positions possible
- Airflow up to 1.000 m³/h (588 cfm)
- Total pressure increase up to 900 Pa (3.61" WG)
- For curves please see pages 8, 9

Fields of application:

Air conditioning of the passenger or driver's cabin, switch gear cabinet ventilation, electronics cooling, equipment cooling



Double inlet centrifugal Fans ; Type: GDR/GDS/GDF



- Double inlet centrifugal fan with forward curved blades
- Available in AC, DC and EC
- Variable mounting positions possible
- Airflow up to 1.760 m³/h (1.035 cfm)
- Total pressure increase up to 600 Pa (2.41" WG)
- For curves please see pages 10, 11

Fields of application: Air conditioning of the passenger or driver's cabin, switch gear cabinet ventilation, electronics cooling, equipment cooling



Backward Curved Impellers ; Type: RRE/RRM



- Impeller with backward curved blades
- Available in AC, DC and EC
- Motorized-impeller individually (RRE) or ready-to-install module (RRM)
- Airflow up to 3.300 m³/h (1.942 cfm)
- Total pressure increase up to 700 Pa (2.81" WG)
- For curves please see page 12

Fields of application: Air conditioning of the passenger or driver's cabin, equipment cooling





 Axial fans ; Type: VRE/VGR/VPR/VGV/VGC

- Available in AC, DC and EC
- Variable mounting positions possible
- Airflow up to 4.500 m³/h (2.648 cfm)
- Total pressure increase up to 250 Pa (1.0" WG)
- For curves please see page 13

Fields of application: Air conditioning of the passenger cabin

OUR HIGH QUALITY PRODUCTS ARE ABLE TO COMPLY WITH THE FOLLOWING STANDARDS*

IN RAILWAY TECHNOLOGY

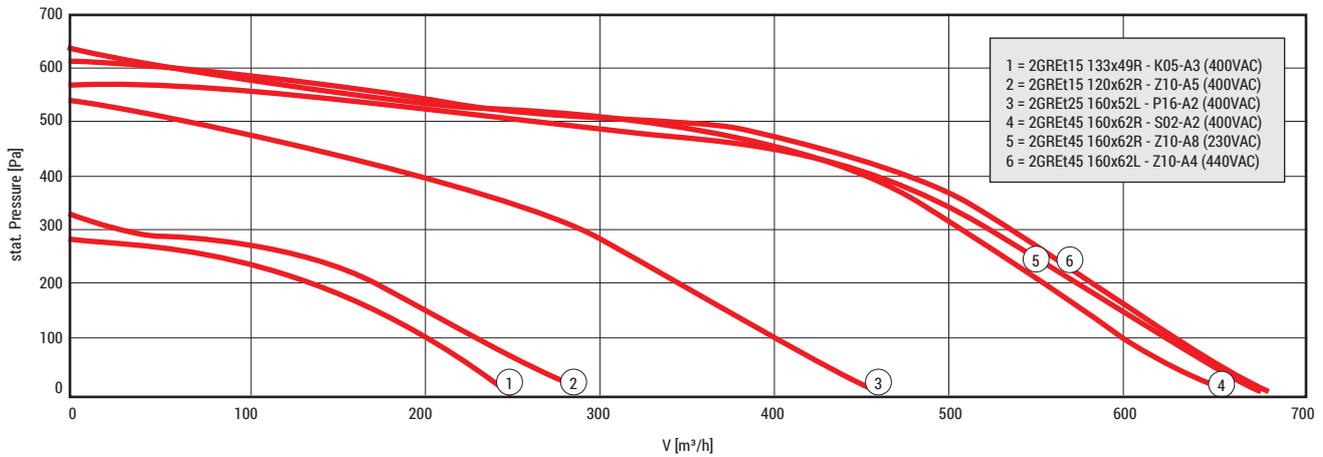
 & **ETRI**

IEC 61373	Shock and vibration tests
EN 50124-1	Insulation Coordination
EN 60721-3-5	Classification of environmental conditions
EN 50155	Electronic equipment used on roll stock
EN 50121-3-2	Electromagnetic compatibility
EN 45545-2	Fire protection on railway vehicles

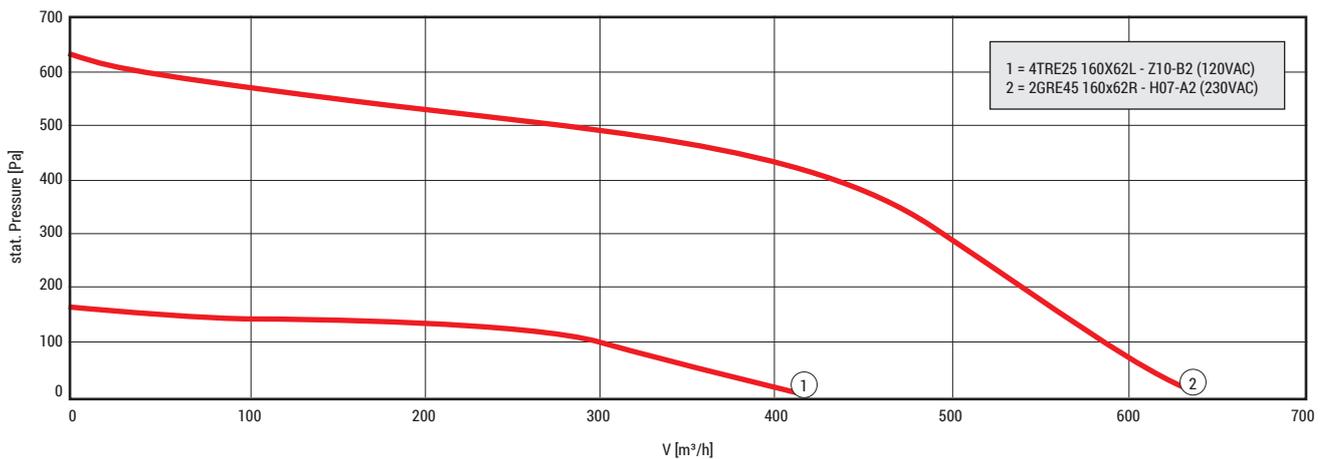
In cooperation with our customers, we work out the IDEAL SOLUTION for the respective requirements.

* after consulting with our railway team for details

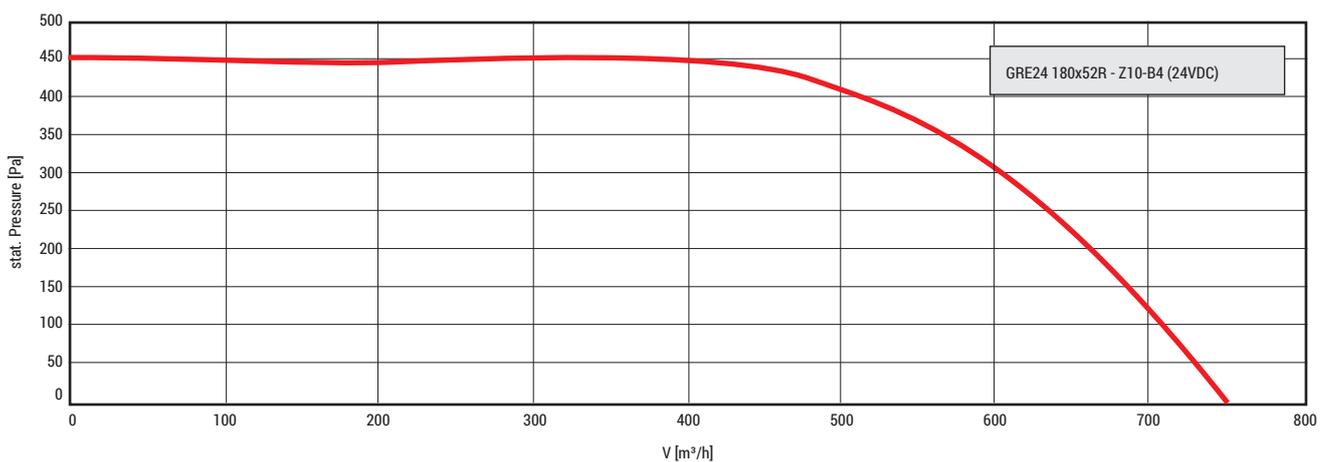
Single inlet centrifugal Fans VAC ~3 @ 50Hz (Type: TRE / GRE)



Single inlet centrifugal Fans VAC ~1 @ 50Hz (Type: TRE / GRE)

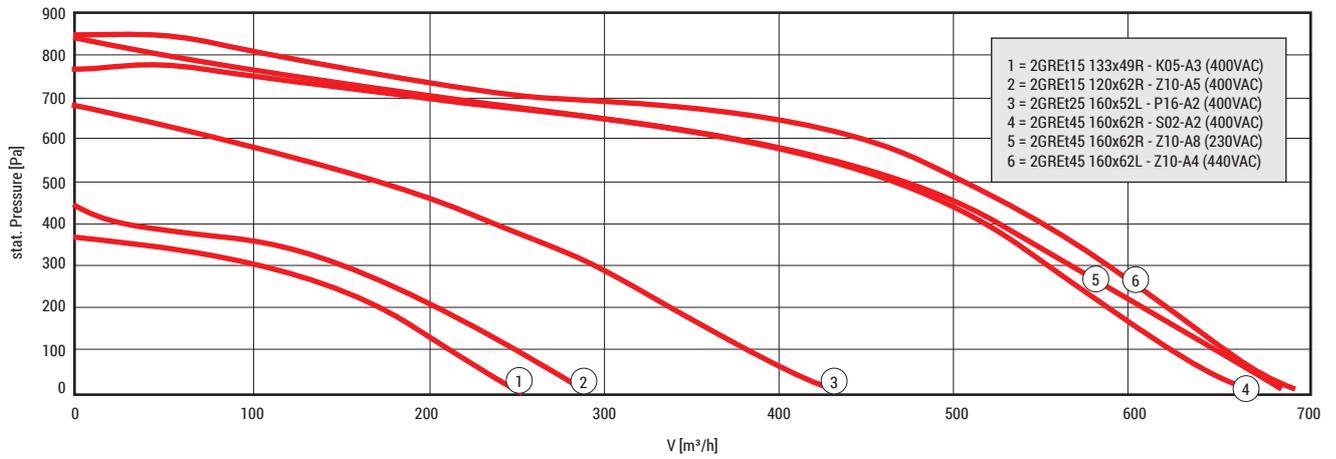


Single inlet centrifugal Fans VDC (Type: TRE / GRE)

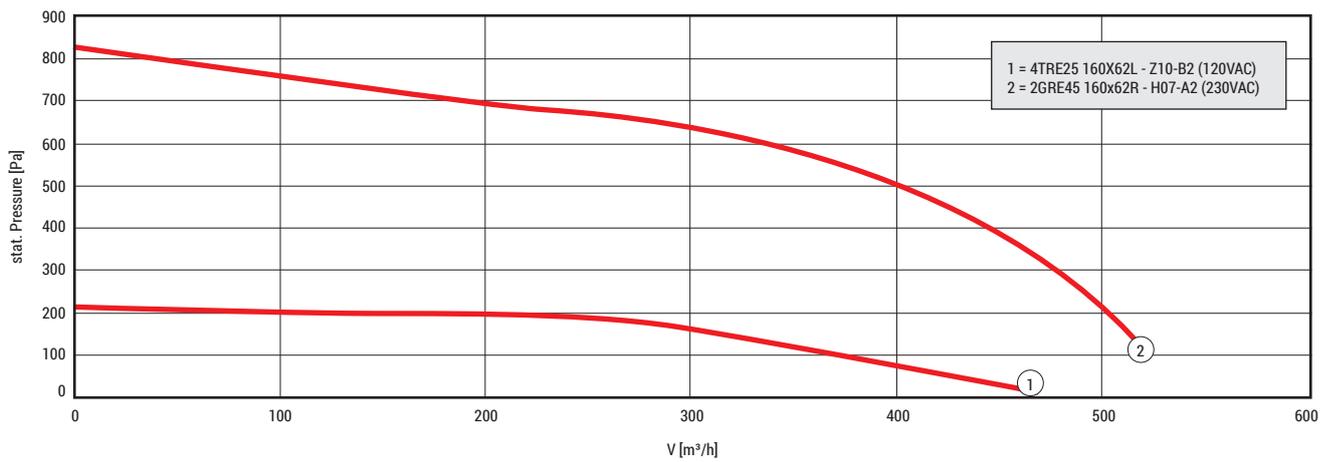


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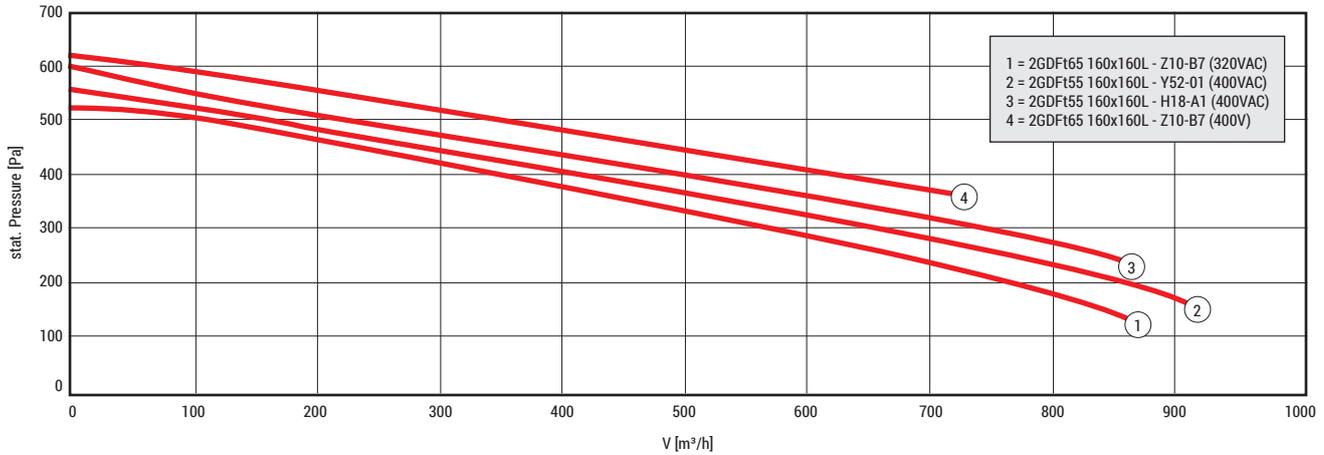
Single inlet centrifugal Fans VAC ~3 @ 60Hz (Type: TRE / GRE)



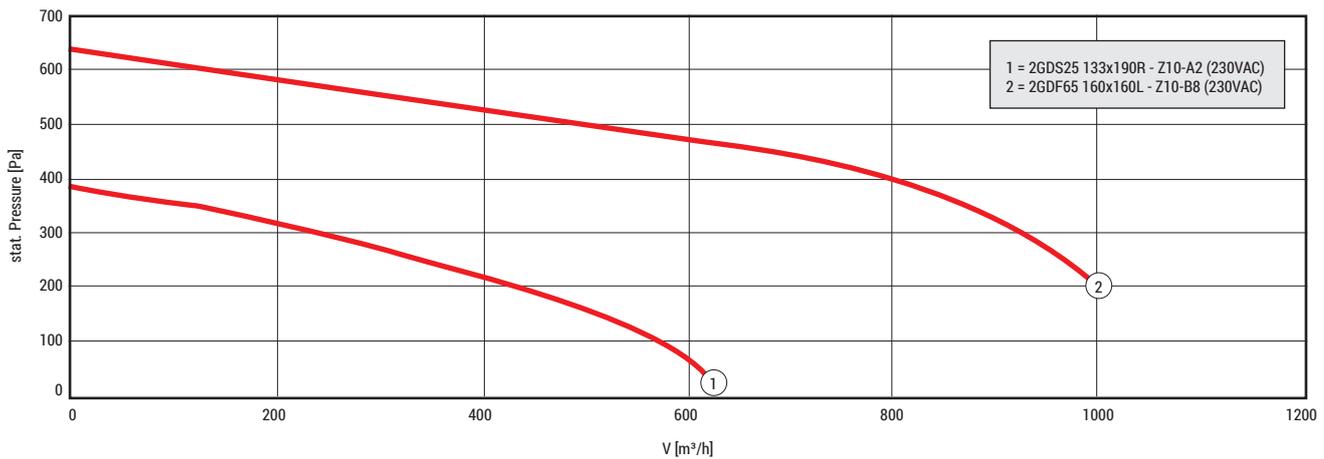
Single inlet centrifugal Fans VAC ~1 @ 60Hz (Type: TRE / GRE)



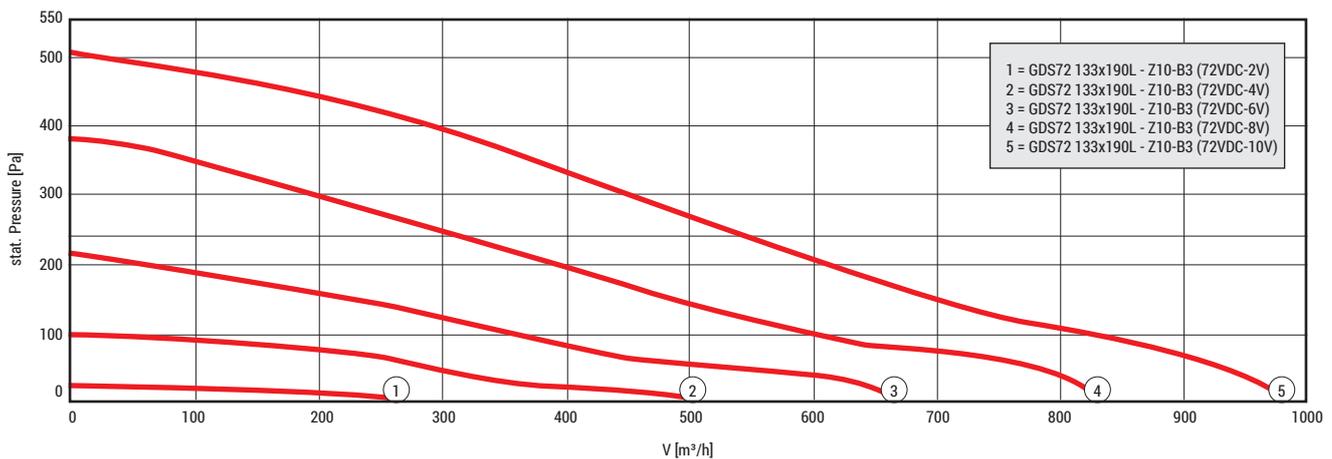
Double inlet centrifugal Fans VAC ~3 @ 50Hz (Type: GDR / GDS / GDF)



Double inlet centrifugal Fans VAC ~1 @ 50Hz (Type: GDR / GDS / GDF)

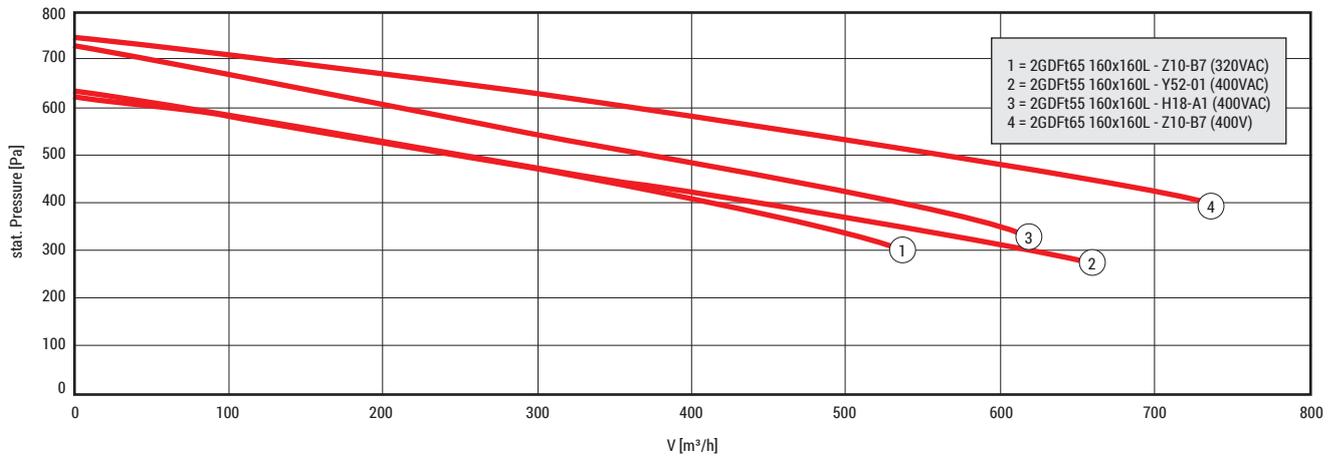


Double inlet centrifugal Fans VDC (Type: GDR / GDS / GDF)

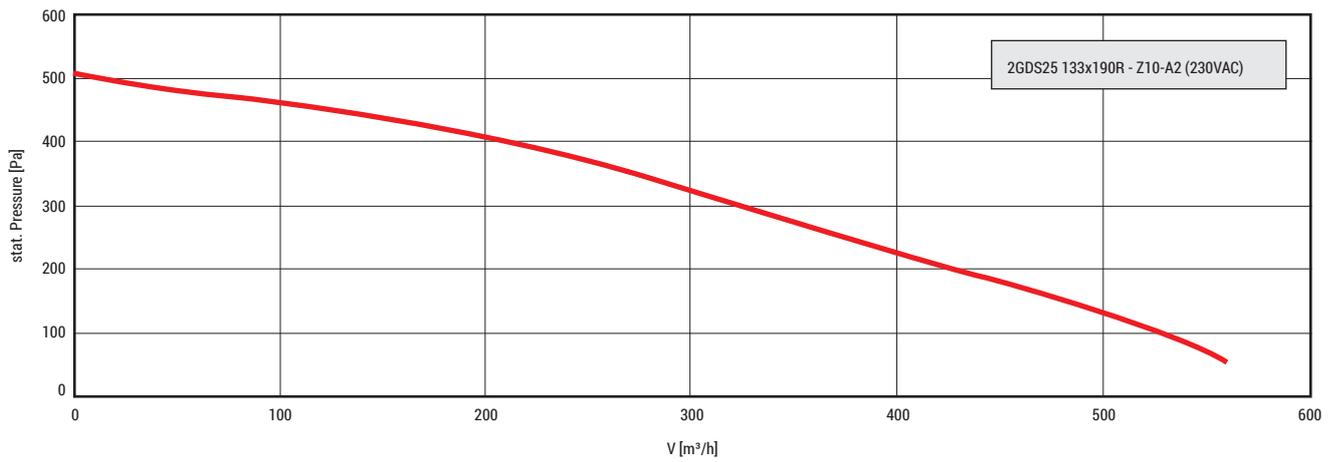


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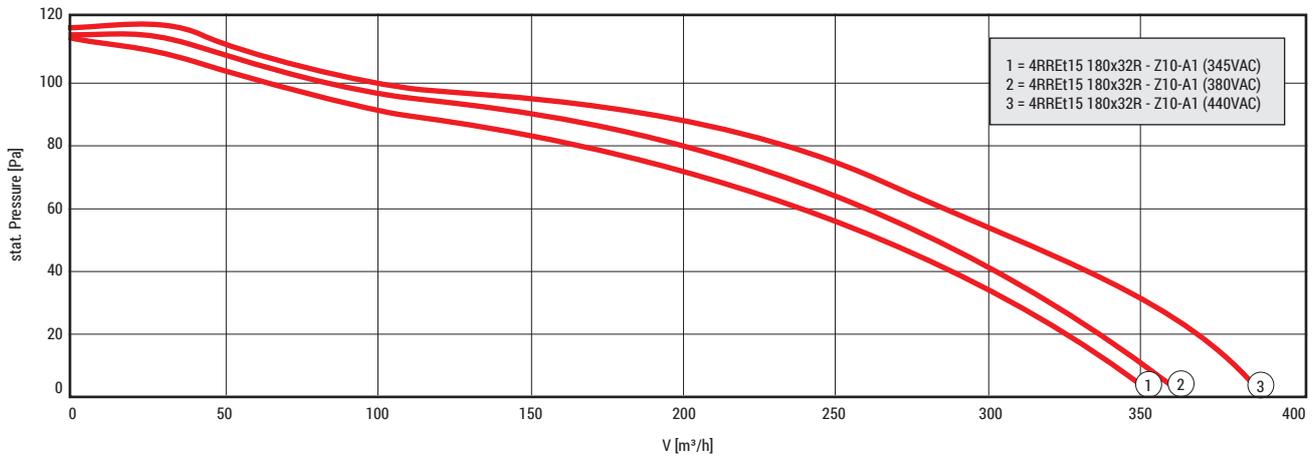
Double inlet centrifugal Fans VAC ~3 @ 60Hz (Type: GDR / GDS / GDF)



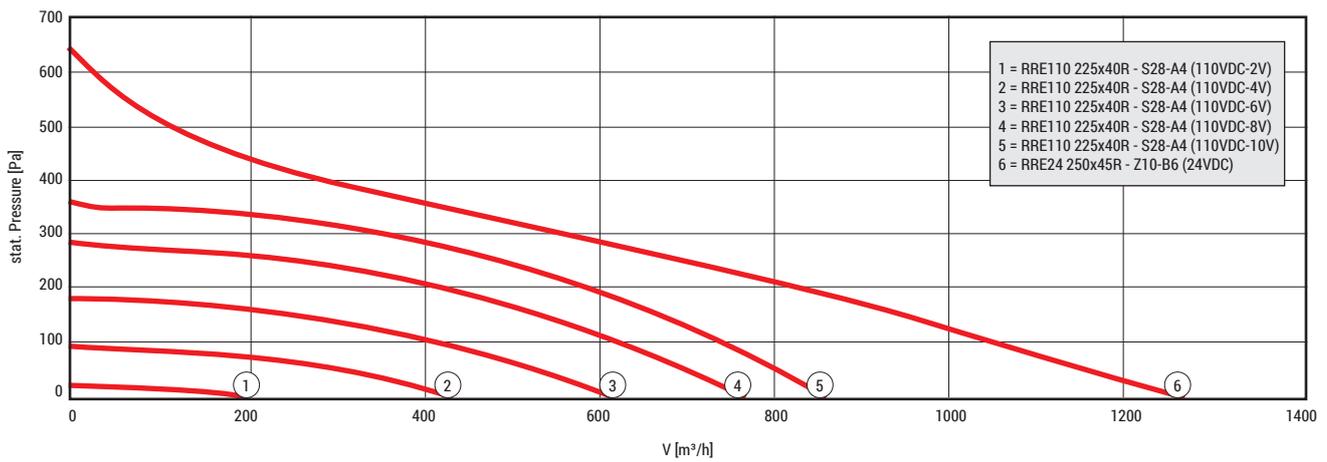
Double inlet centrifugal Fans VAC ~1 @ 60Hz (Type: GDR / GDS / GDF)



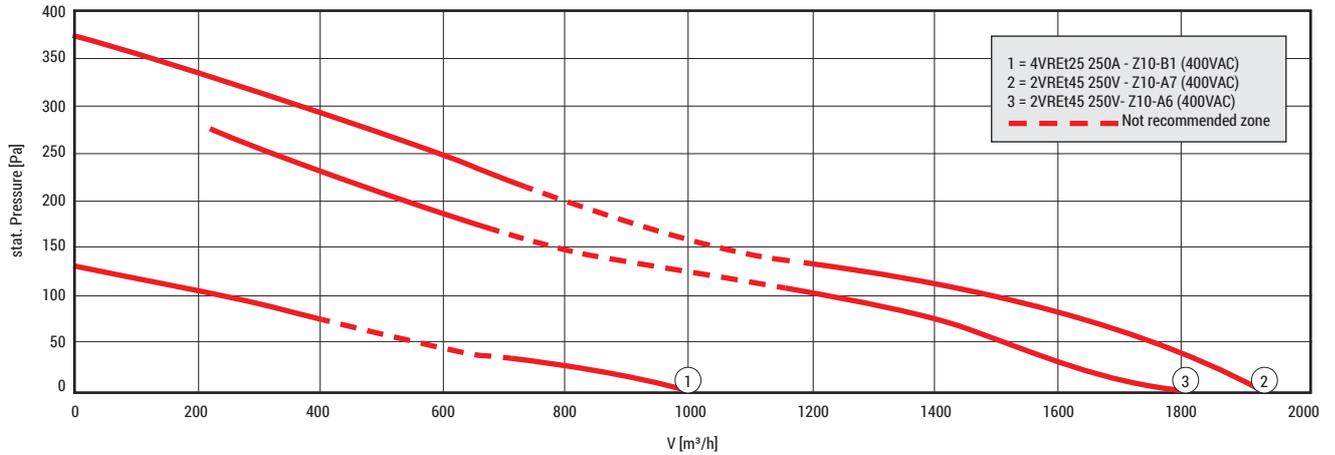
Backward Curved Impellers VAC 3~ 60Hz (Type: RRE ; RRM)



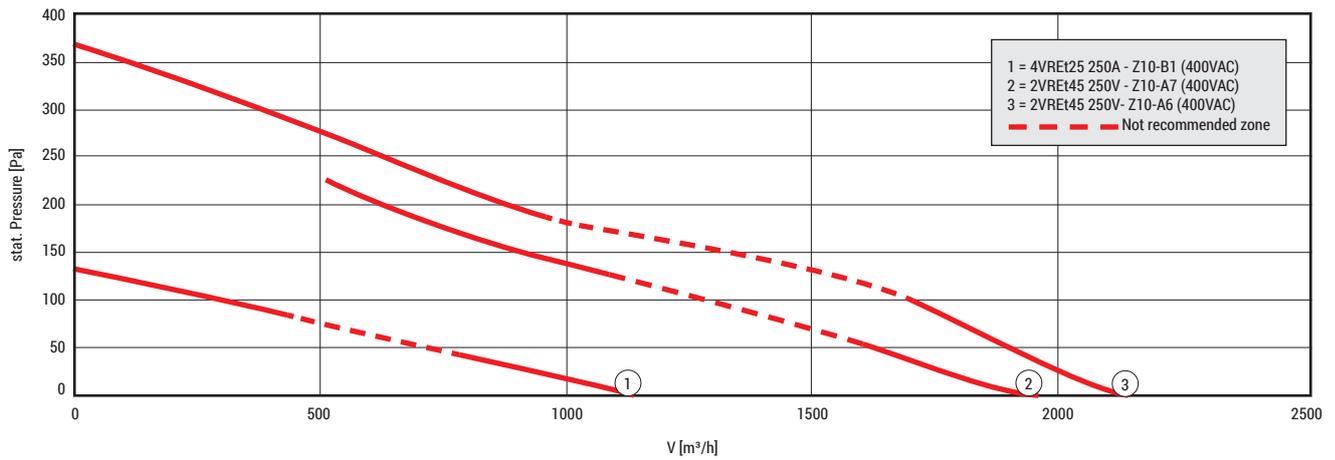
Backward Curved Impellers VDC (Type: RRE ; RRM)



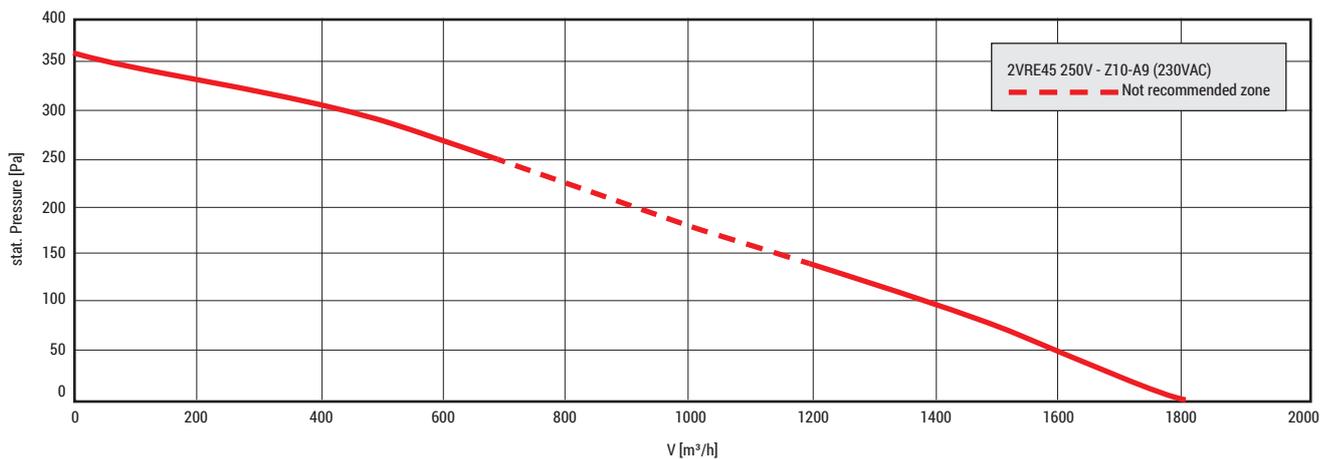
Axial Fans VAC 3~ 50Hz (Type: VRE ; VGR ; VPR ; VGV ; VGC)



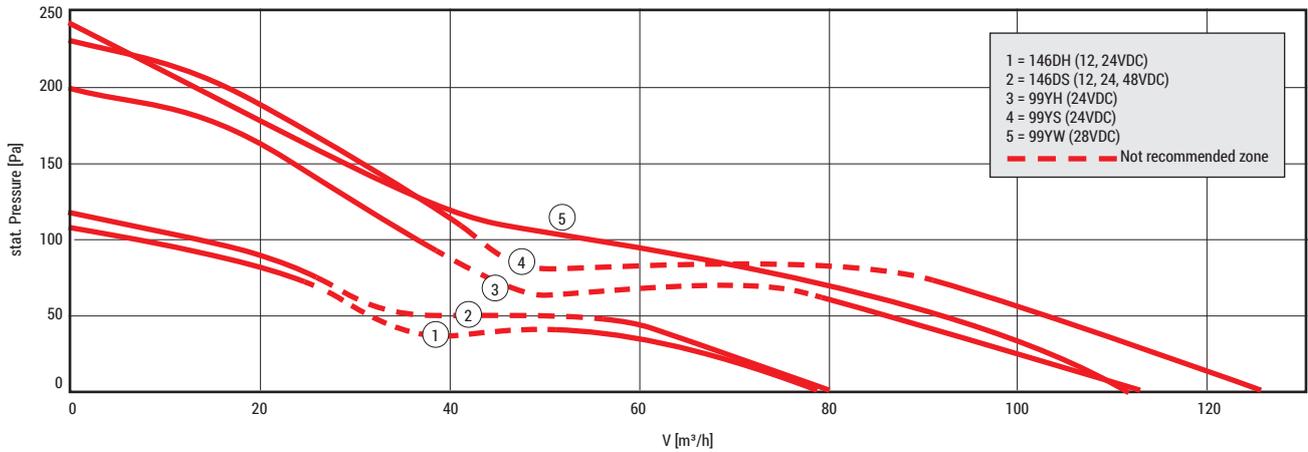
Axial Fans VAC 3~ 60Hz (Type: VRE ; VGR ; VPR ; VGV ; VGC)



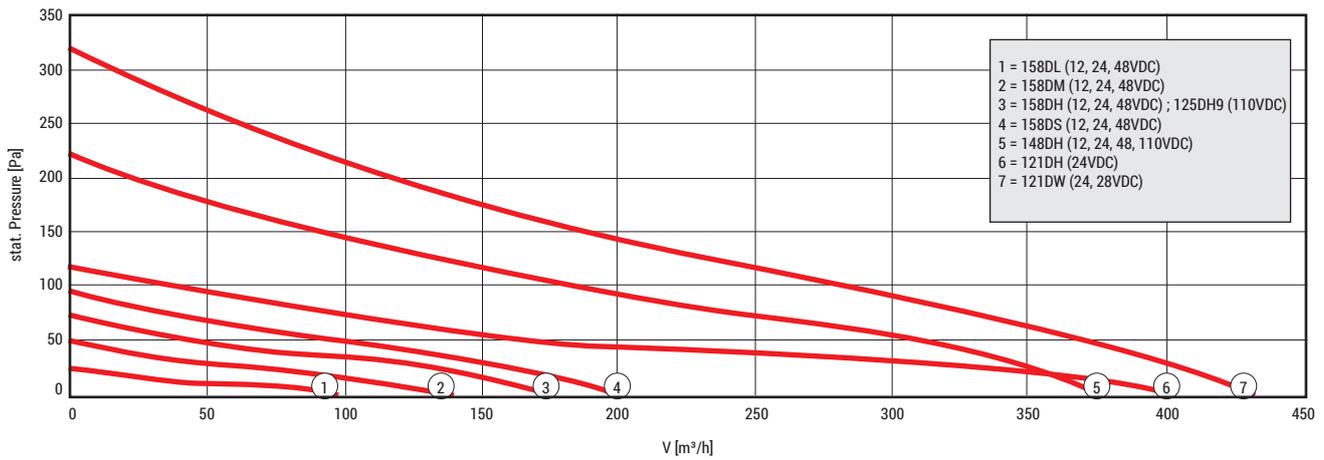
Axial Fans VAC 1~ 50Hz (Type: VRE ; VGR ; VPR ; VGV ; VGC)



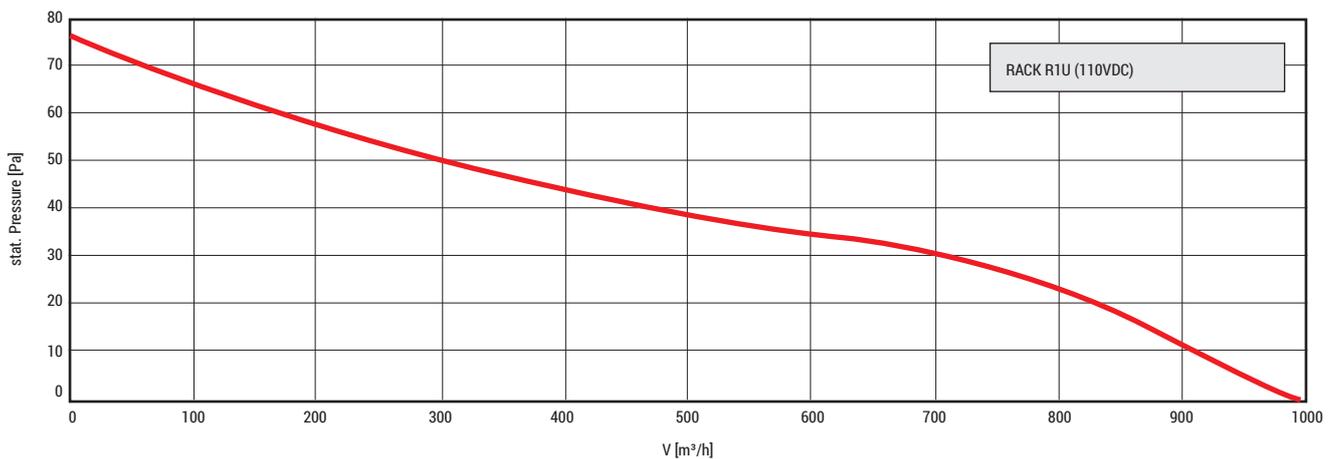
VDC axial compact fans (Type: 146D ; 99Y)



VDC axial compact fans (Type: 158D ; 148D-121D ; 125DH9)

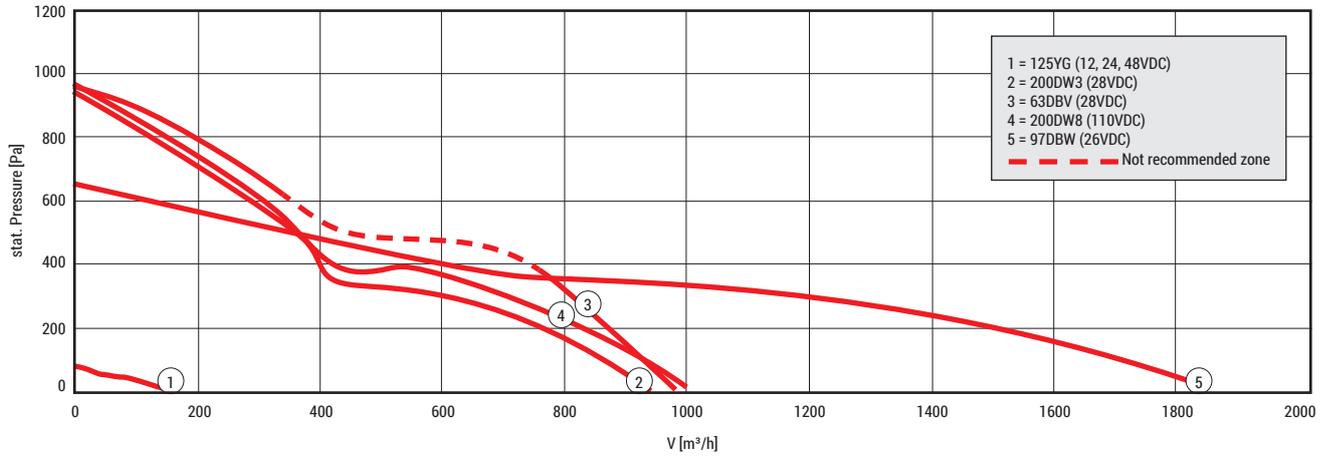


Fan tray (Type: RACK)

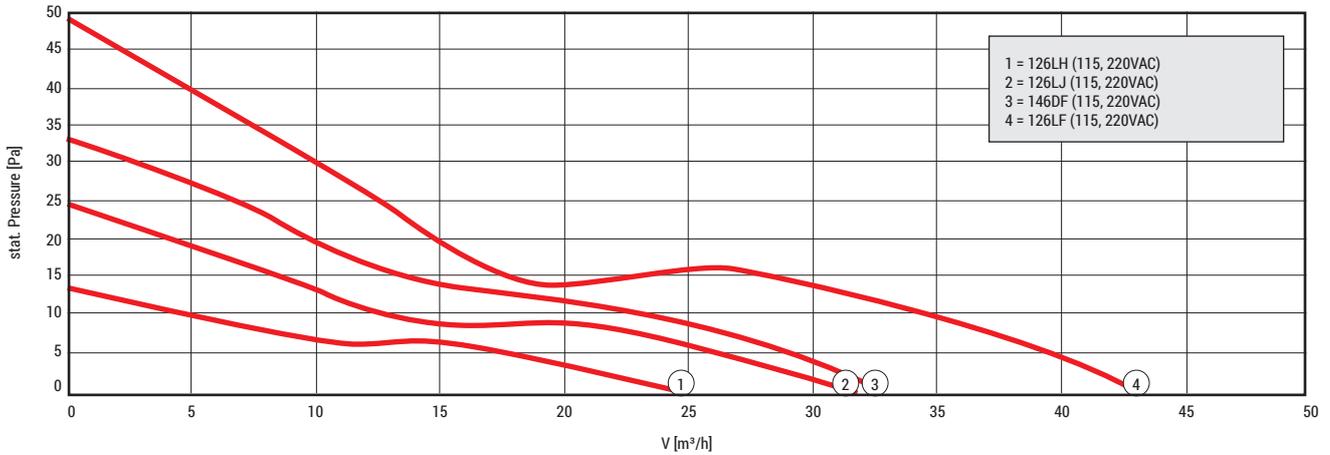


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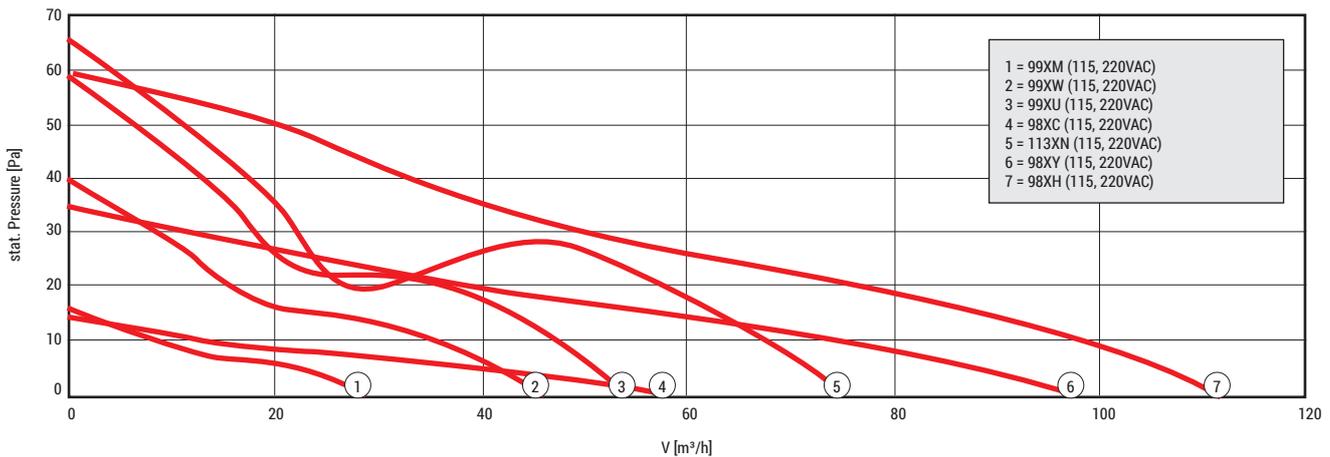
VDC High Performance fans (Type: 125YG ; 200DW ; 63DBV ; 97DBW)



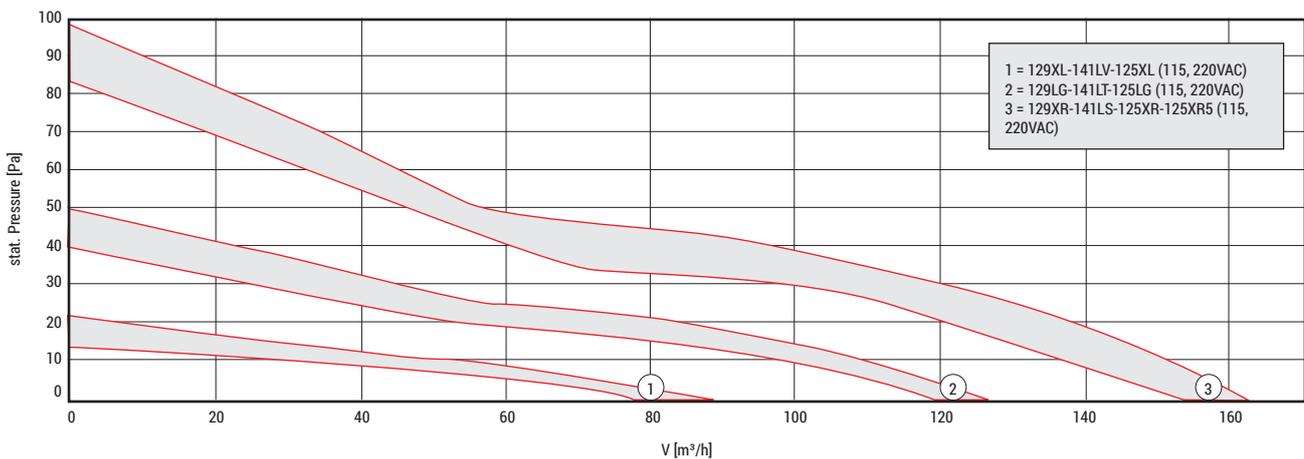
VAC axial compact fans @ 50Hz (Type: 126L ; 146DF)



VAC axial compact fans @ 50Hz (Type: 99XM-W-U ; 98XC-Y-H ; 113XN)

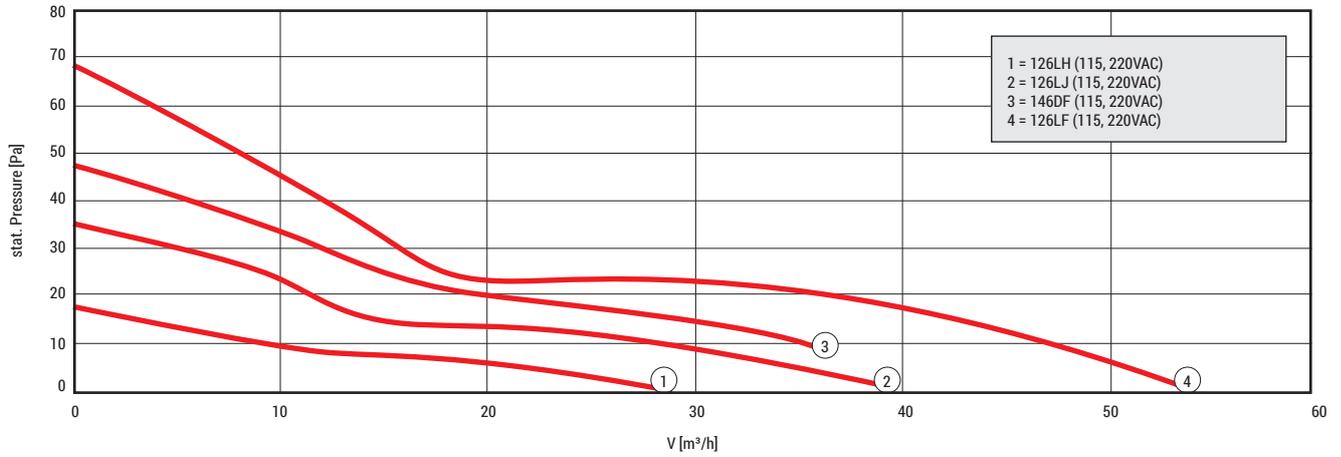


VAC axial compact fans @ 50Hz (Type: 125XL-LG-XR ; 129XL-LG-XR ; 125XR5 ; 141L)

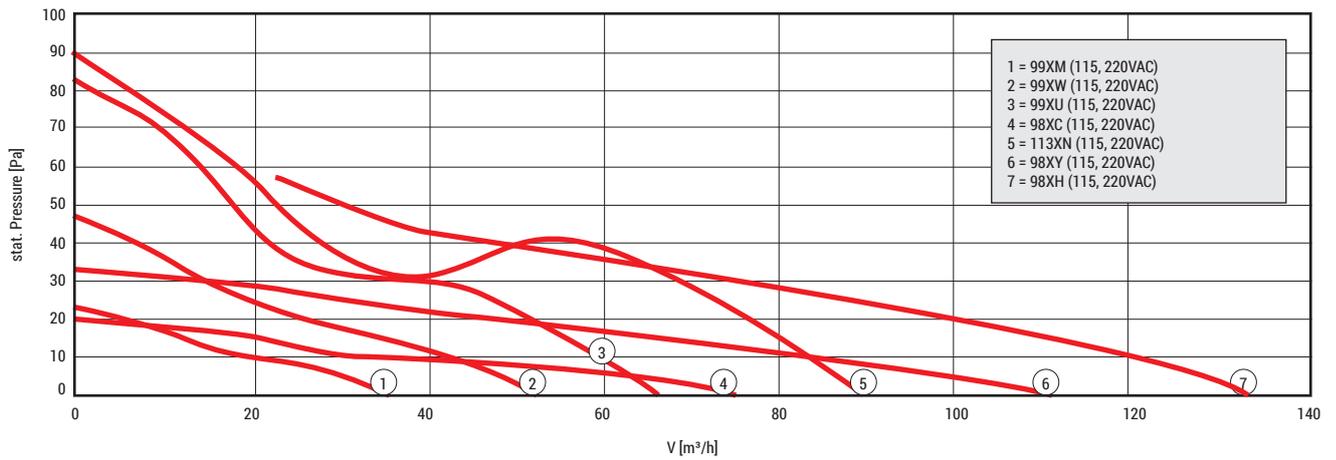


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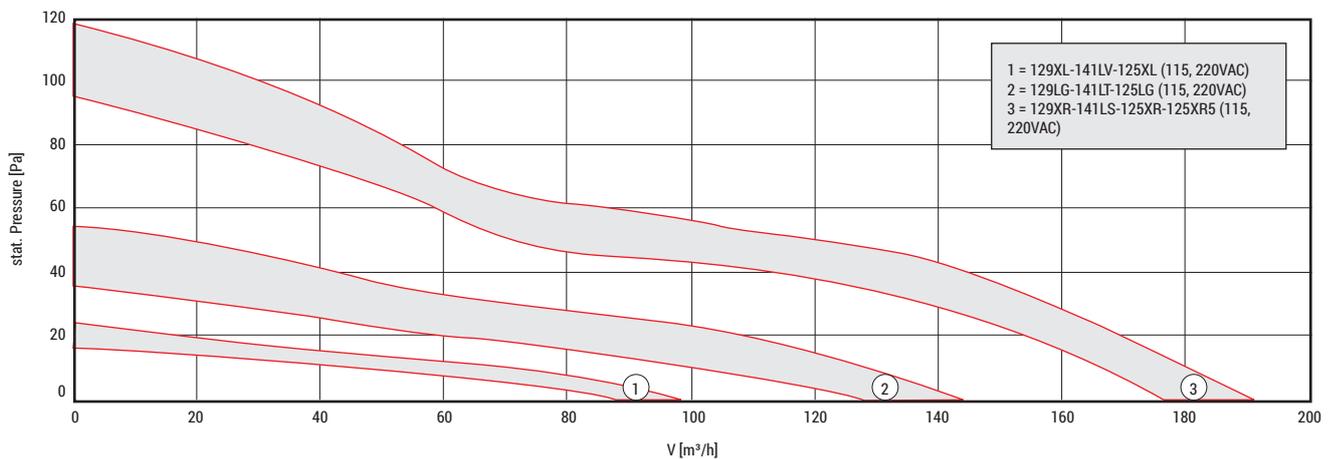
VAC axial compact fans @ 60Hz (Type: 126L ; 146DF)



VAC axial compact fans @ 60Hz (Type: 99XM-W-U ; 98XC-Y-H ; 113XN)

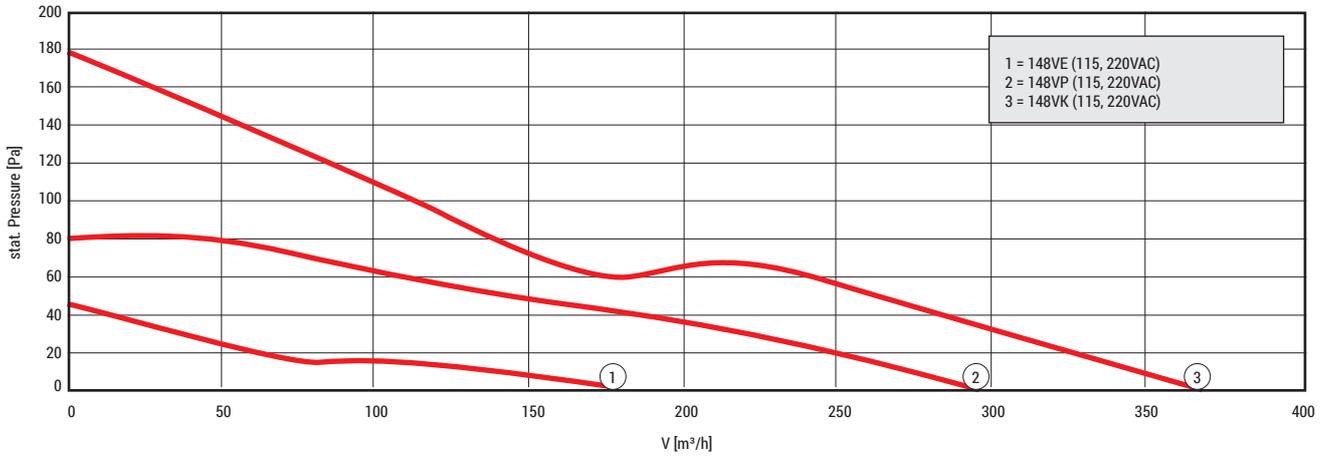


VAC axial compact fans @ 60Hz (Type: 125XL-LG-XR ; 129XL-LG-XR ; 125XR5 ; 141L)

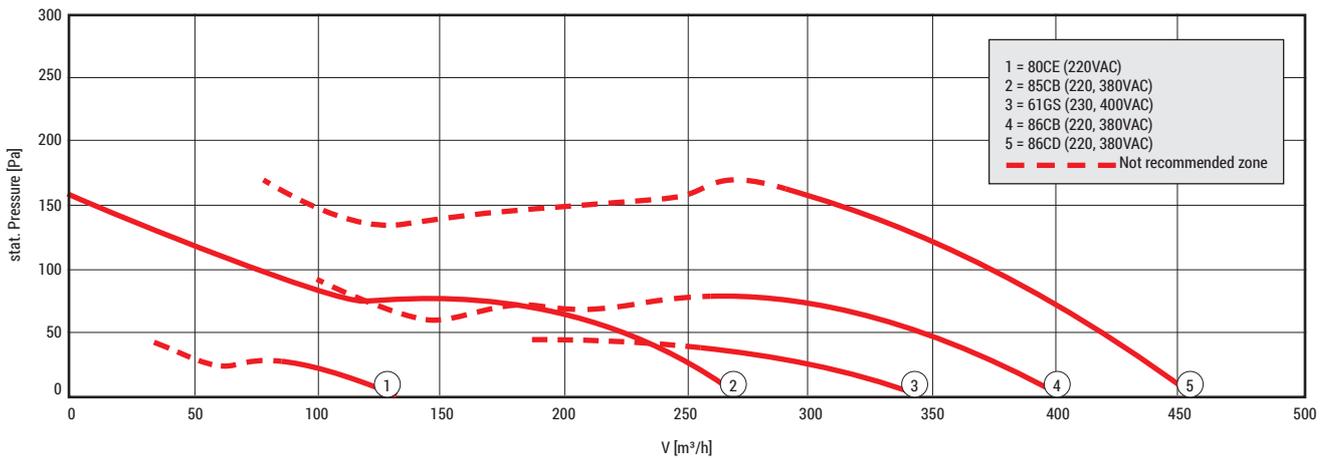


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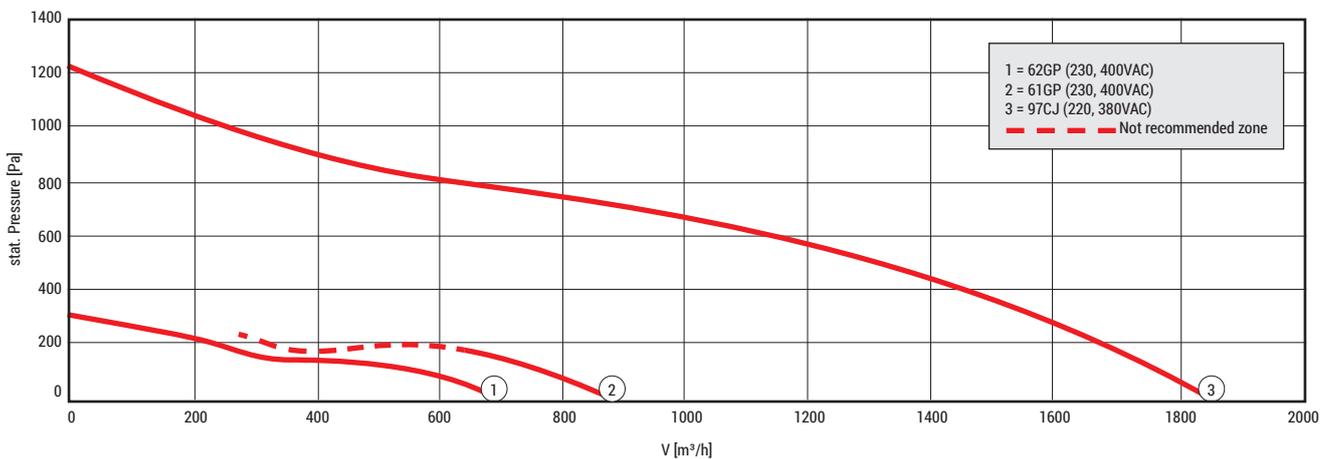
VAC axial compact fans @ 50Hz (Type: 148V)



VAC High Performance fans @ 50Hz (Type: 80CE ; 85CB-86CB ; 61GS ; 86CD)

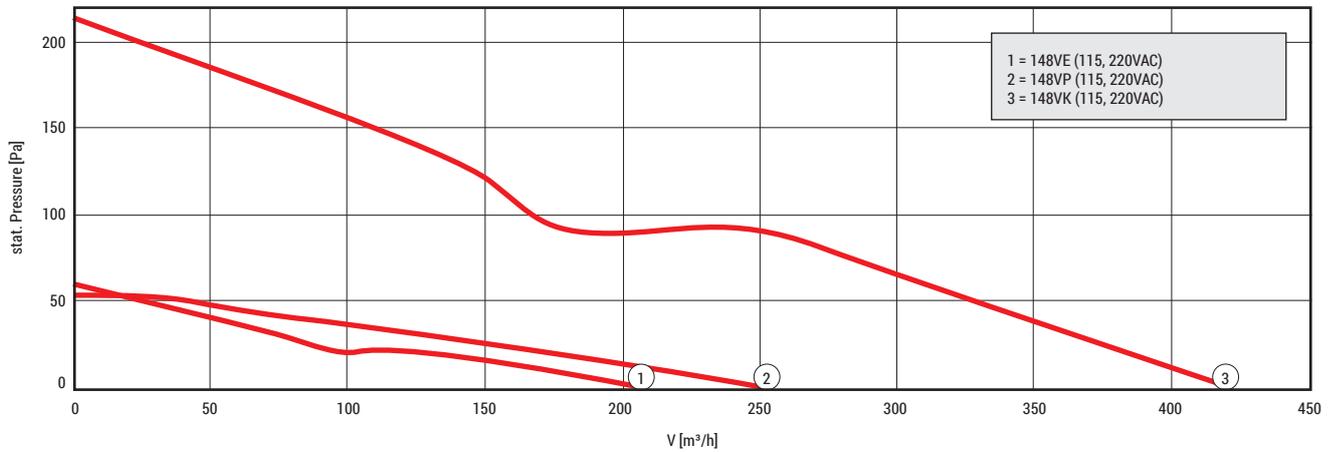


VAC High Performance fans @ 50Hz (Type: 61GP ; 62GP ; 97CJ)

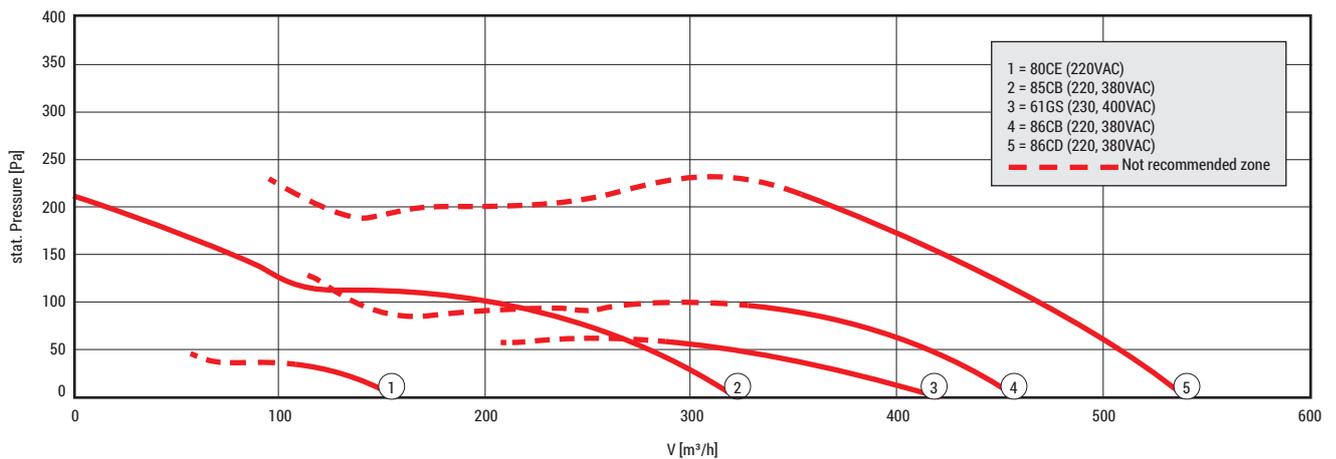


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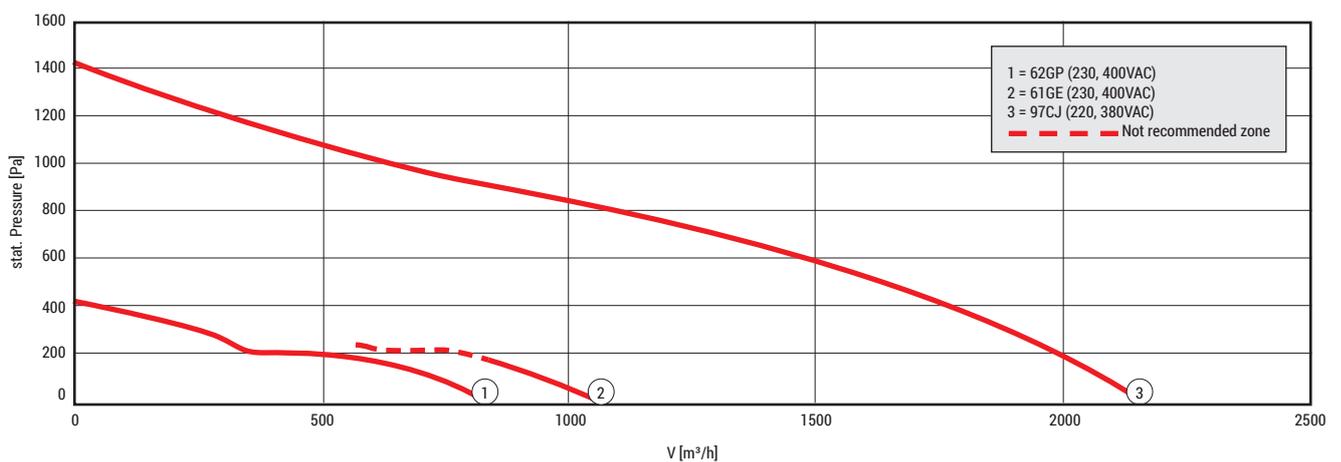
VAC axial compact fans @ 60Hz (Type: 148V)



VAC High Performance fans @ 60Hz (Type: 80CE ; 85CB-86CB ; 61GS ; 86CD)



VAC High Performance fans @ 60Hz (Type: 61GE ; 62GP ; 97CJ)



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Contact us from the beginning of your projet:

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