

EC centrifugal fans
RadiPac compared to belt driven solutions

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The engineer's choice

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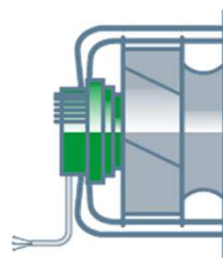


RadiPac

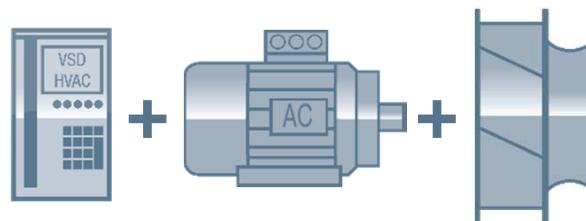
Overview of different solutions on the market



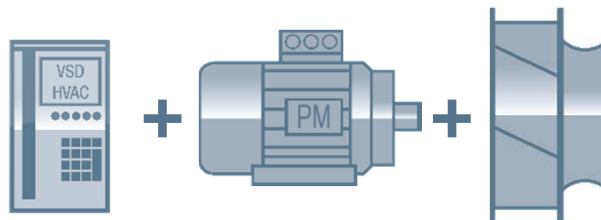
GreenTech EC fan



AC fan with VFD



PM fan with VFD



AC or PM fan with frequency converter and additional external devices

In order to comply with the legally specified limits as to emitted interference, shielded cables are necessary.



Shielded cables

The components motor and FI have to be grounded centrally to comply with the statutory EMC regulations.

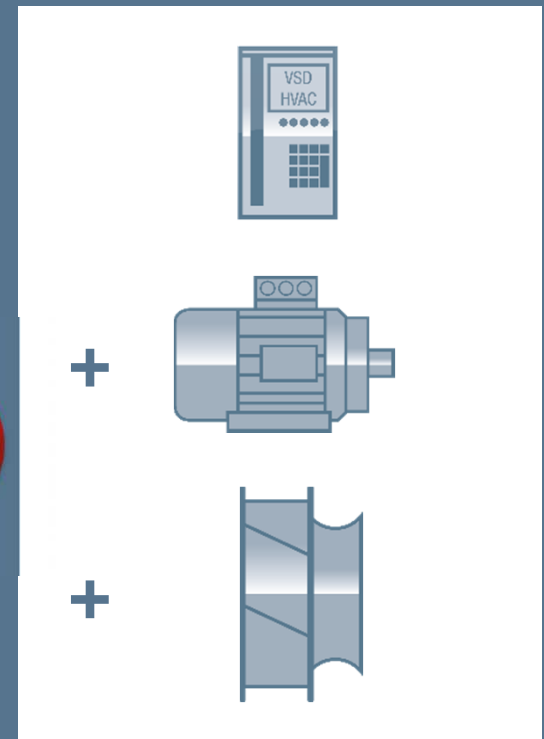


Grounding

An additional protective circuit breaker for the motor is always essential.



Motor protection



> High installation costs

AC or PM fan with frequency converter and additional external devices

In order to protect the motor windings and bearings from the effects of high-frequency interference, appropriate filters have to be used (all-pole sine filters). These interferences are generated in the power electronics in connection with the cable lengths.

In order not to exceed the limits as specified in the current harmonics standard EN6100-3-12, line chokes are required on the input side.

Harmonious interaction between AC-/PM an FI requires extensive parameterisation (e.g. load behavior, suppressing critical speeds, cut-off frequency).

> Complex parameter setting



Shielded cables



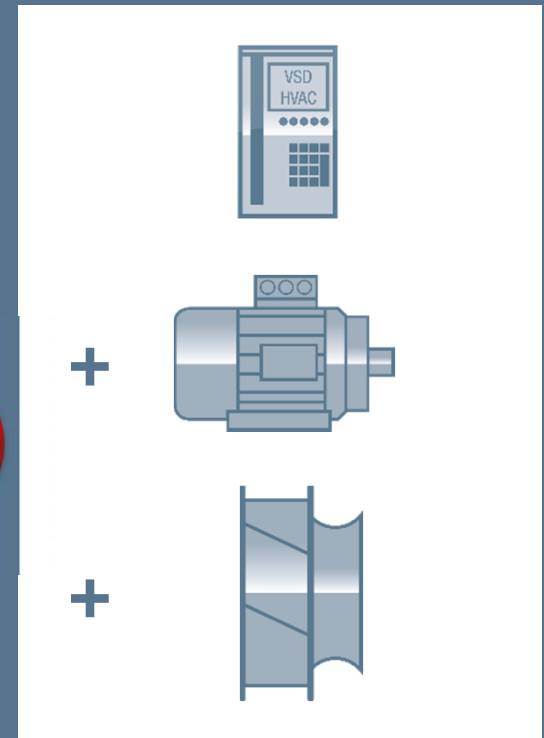
Grounding



Motor protection



Sine filter



RadiPac

GreenTech EC fan vs. AC/PM fan with VFD



AC or PM fan with frequency converter and additional external devices

Performance data for the fan system – consisting of impeller, motor and FI – have to be documented and guaranteed.

Data reliability can only be achieved by measuring the complete system.

In some regions, defined efficiency requirements have to be met (e.g. ErP in Europe).

- > Complex testing
- > Complex documentation



Shielded cables



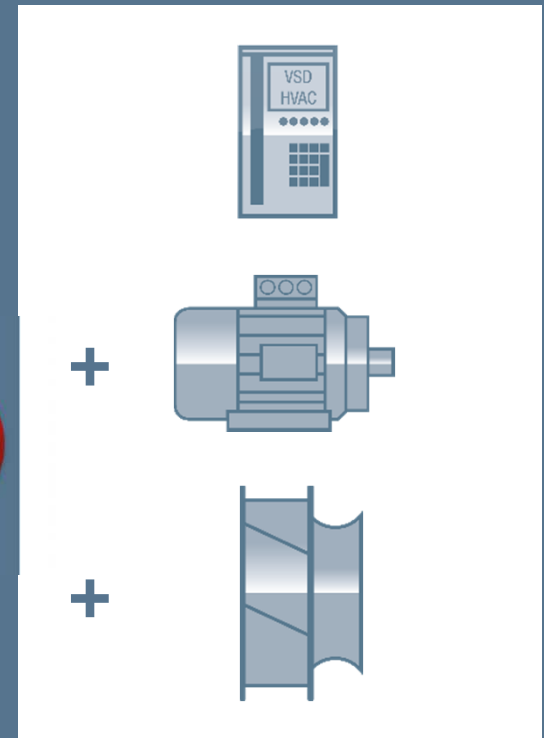
Grounding



Motor protection



Sine filter



RadiPac

GreenTech EC fan vs. AC/PM fan with VFD

No shielded cables necessary

Grounding costs reduced to only one connection

Integrated EMC and mains filters

Integrated electronics make output filter unnecessary

Integrated motor protection

Perfectly matched combination of impeller/motor/electronics

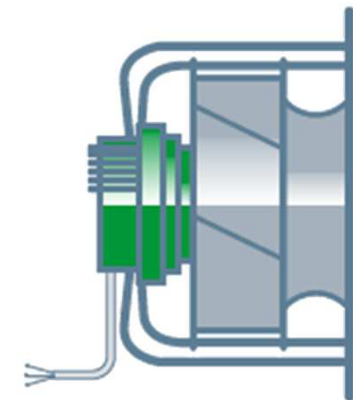
No mismatch possible

Reliably tested and guaranteed performance data

Proven compliance with regulations for fan systems

> Simple and safe

GreenTech EC fans
"simple and safe"



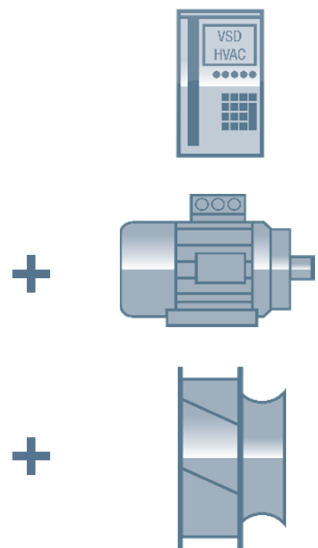
RadiPac

GreenTech EC fan vs. AC/PM fan with VFD



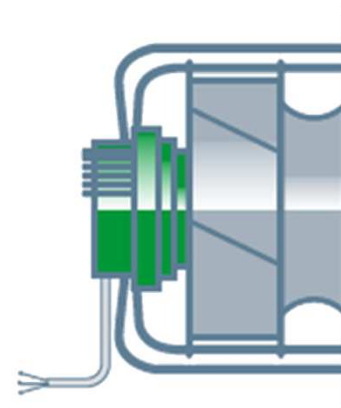
"Simple and safe"

AC or PM fan with frequency converter



= „Lots of trouble“

GreenTech EC fan



= „Plug & Play“



RadiPac

GreenTech EC fan vs. AC/PM fan with VFD

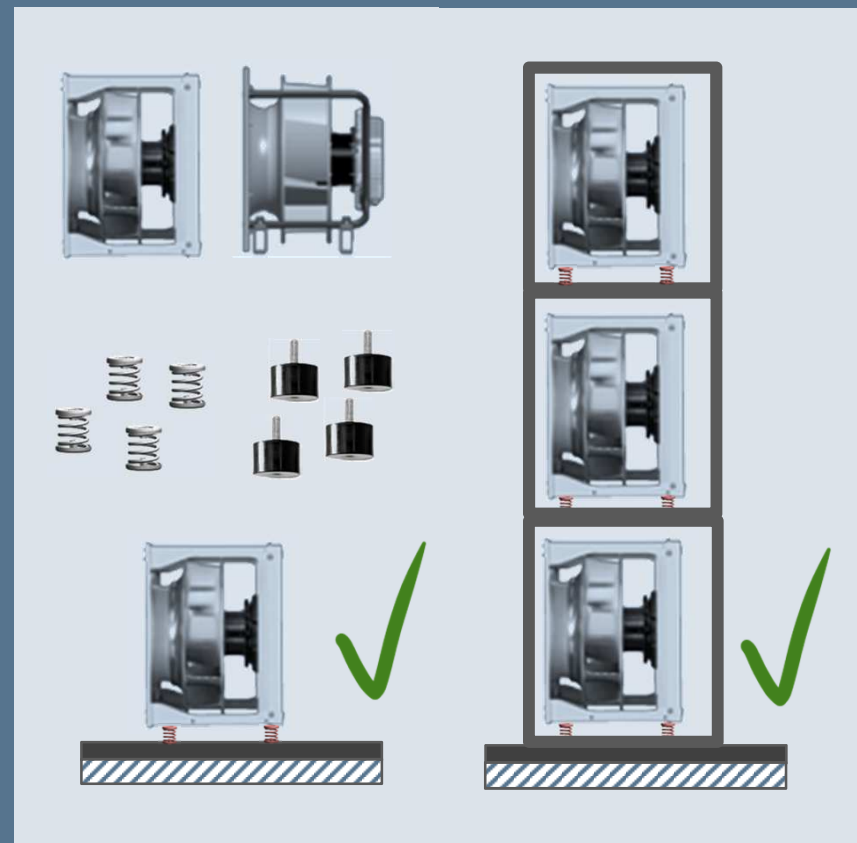
"The right decoupling"

Despite the high balancing grade, RadiPac fans have to be decoupled:

- › Every RadiPac has to be individually decoupled.
- › Decoupling of entire RadiPac necessary (from floor or wall).

Without decoupling, the installation wall **must** be appropriately stable (for support bracket).

The cube design is not to be mounted on a wall.



RadiPac

GreenTech EC fan vs. AC/PM fan with VFD

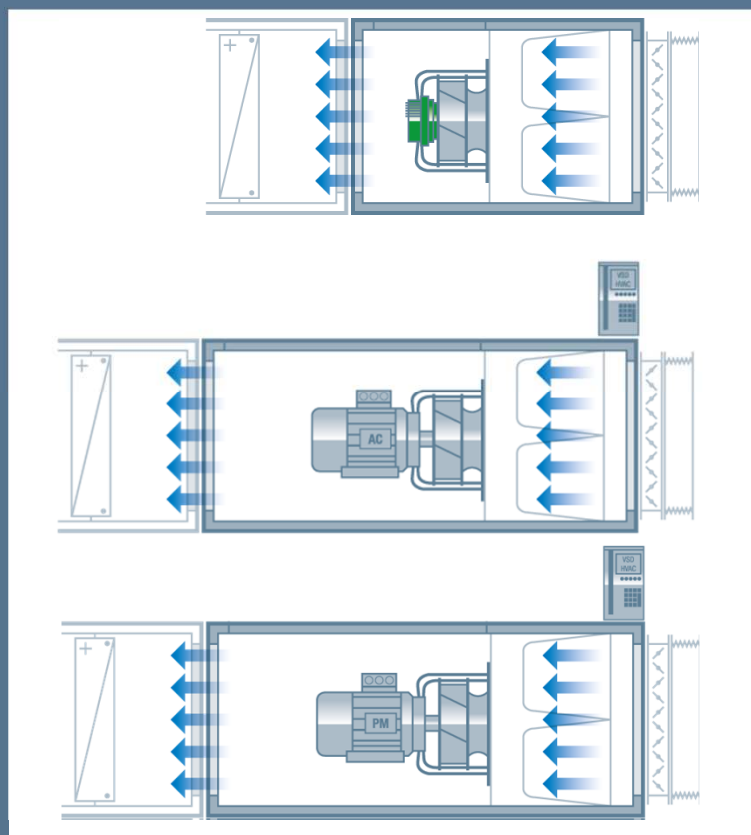
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"Unrivalled compactness"

GreenTech
EC fan

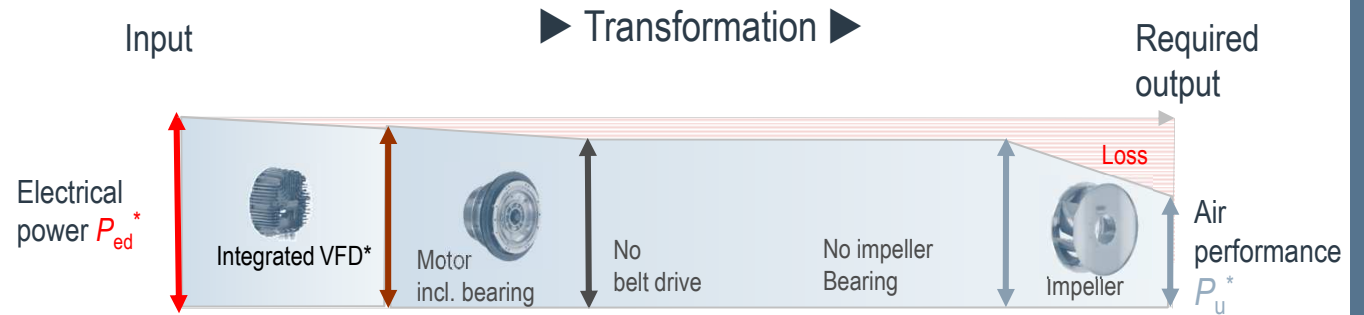
AC fan with
frequency converter

PM fan with
frequency converter

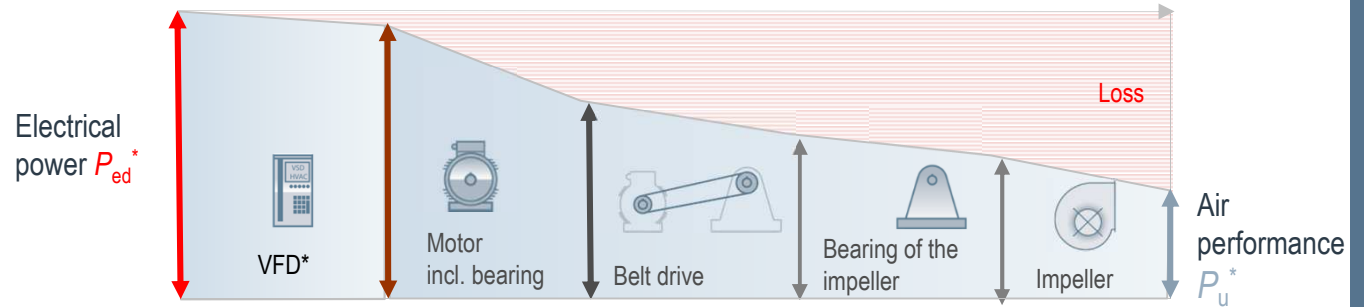


"What matters is the efficiency of the overall system"

EC – Directly driven fan



AC (direct) driven fan



* VFD = variable frequency drive

