Issue 3 EN

FUTURE INSIDE

RLM^{EVO} + RLE^{EVO}

NICOTRA|Gebhardt

fan|tastic solutions

Ready for the next Generation

The future has begun – equip yourself for it!

Fans must always reach ever higher system efficiencies. This means: more output with less energy. Binding requirements for this have been determined in the ErP Directive (Energy-related Products) – and these will become even more stringent from 2015!

The new generation of Nicotra Gebhardt fan modules already now reach motor efficiencies up to IE4 – far beyond the specifications required in the future.

Put plainly, this means: using Nicotra Gebhardt fan modules equips you for the future today – so that you benefit in three ways: Improved efficiency and lower energy costs – and product compliance with the standards of tomorrow.

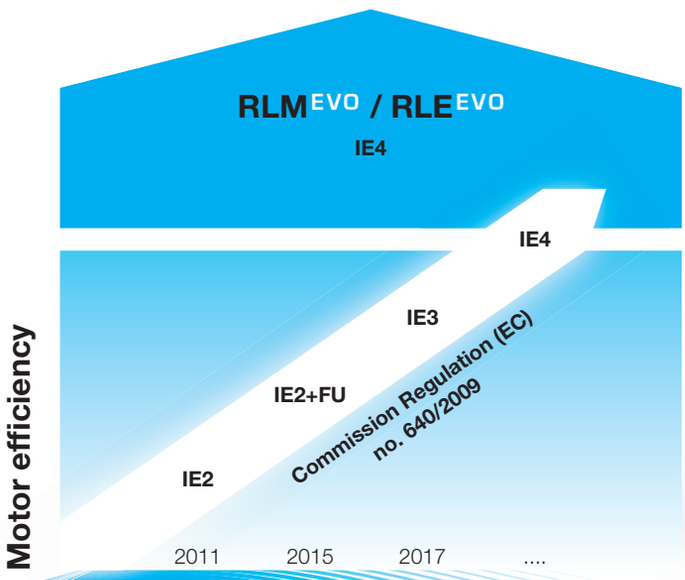
We have accelerated impeller technology with the Evo series, the new generation in our plug fan range.
The result:
More efficiency and reduced turbulent conditions. And that is highly effective as the Evo series ensures:

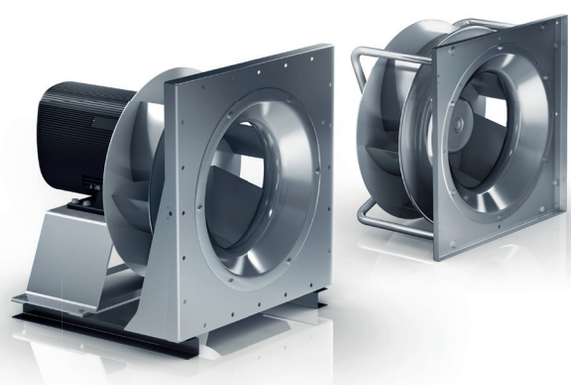
- **lower energy consumption**
- **lower costs**
- **lower noise levels**

Nicotra Gebhardt – the professionals in profiling

Nicotra Gebhardt is the first port of call for profiled impeller blades. We brought the first hollow section airfoil blades onto the market in 1975. Since then we have been achieving the absolutely best efficiencies in our fans in every application.

Our engineers and technicians use the latest simulation programmes to develop and test new designs. You can rely on the knowledge and experience of specialists.

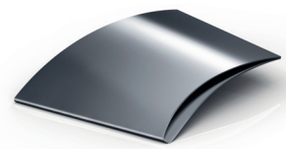




The plus factors of the new Generation

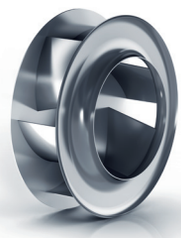
01_ Unparalleled system efficiency for plug fans

The Evo series sets a new standard in efficiency.
No other plug fan reaches higher system efficiency.



02_ Innovative blade and impeller shaped for highest efficiencies

The entire shape of the impeller was optimised using a real turbulence profile for the blades.
This ensures that the impeller reaches as yet unparalleled high efficiency and takes the top position in aerodynamics.



03_ Optimal pressure and turbulence conditions

The re-designed impeller shape makes optimal pressure and minimised turbulence conditions in the impeller possible.
The inclined leading edge of the blade builds pressure more evenly minimising entry and exit losses.

04_ Economical permanent magnet and EC motors

The permanent magnet and EC motors used by Nicotra Gebhardt are significantly more economical and efficient than conventional drives.
They reach efficiencies up to IE4 and lower the energy consumption of the fan by up to 50% in the partial load range.

05_ Much quieter

Thanks to their new design the blades and the impeller run with less noise. The entire fan is thus much quieter.

06_ Easy to integrate

Despite their improved performance figures, the Evo series have the same external dimensions and significant operational data as earlier generations of plug fans.
They can therefore be easily and quickly exchanged in existing systems or integrated in available machine concepts.

07_ Easy maintenance

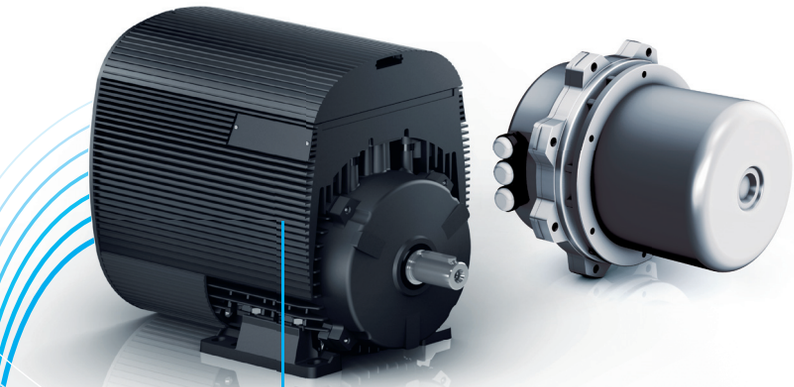
Thanks to the construction method and direct drive the Evo series is practically maintenance-free.

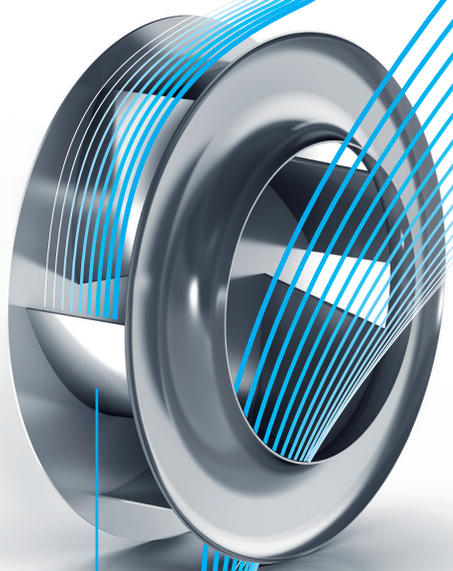
The evolutionary elements

The tailored drive

The new generation of our plug fans not only have a perfect impeller but also a precisely matched drive. For this reason, the Evo series – already an innovation in itself – is also available with highly efficient permanent magnet and EC motors. Together with such a drive, the Evo series delivers high performance with particularly low energy consumption. Whether during start-up or under base, partial or full load, the efficiency exceeds that of a conventional AC motor in every situation.

Our permanent magnet and EC motors reach efficiencies up to efficiency class IE4.





The innovative high performance impeller

The re-designed high performance impeller makes the Evo series unbeatable in matters of efficiency. To ensure this we optimised the entire shape.

The special shape of the cover disc alone greatly improves turbulence. The width and diameter of the impeller are in an ideal ratio to each other.
The new hollow profile of the blades ensured that the weight of the impeller could be markedly reduced and that, at the same time, a high degree of stability could be reached. Pressure losses on entry were greatly decreased.
And at the exit, where losses had been sustained before, the new impeller shape ensures additional available static pressure.

The perfect profile

At the heart of the Evo series are the six blades with rounded inclined leading edges and re-designed hollow profile.
They ensure minimised turbulence conditions in the impeller thus enabling the extraordinary high efficiency of the fan.

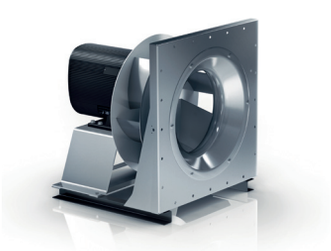
Due to their special shape, the blades build up pressure evenly at all sections.
The result: Air circulates around the blades better and the turbulence tends to dissipate.

This increases not only efficiency but also causes significantly lower noise.

Maximum efficiency for your air handling unit

The Evo E6 series for installation in air handling units

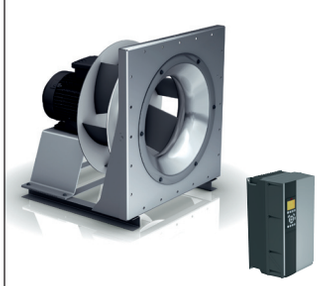
RLM E6



Permanent magnet motor with integrated electronics

· Internal rotor motor efficiency grade IE4
· Horizontal installation
· Impeller size 280 – 710
· Max. motor power 11kW
· Controlled with integrated electronics

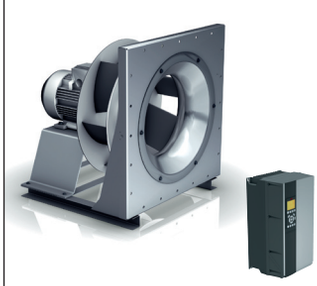
RLM E6



Permanent magnet motor with external electronics

· Internal rotor motor efficiency grade IE4
· Horizontal installation
· Impeller size 280 – 900
· Max. motor power18,5kW
· Controlled with frequency inverter

RLM E6



Standard IEC asynchronous motor

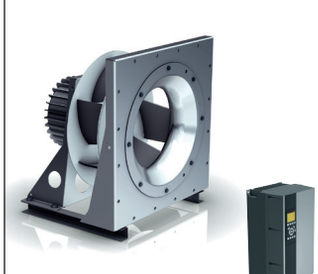
· Internal rotor motor efficiency grade IE2
· Horizontal installation
· Impeller size 280 – 1120
· Max. motor power 37kW
· Controlled with frequency inverter

RLM E6

Compact permanent magnet motor with integrated electronics

· Internal rotor motor efficiency grade IE4
· Horizontal installation
· Impeller size 280 – 710
· Max. motor power 6,5kW
· Controlled with integrated electronics

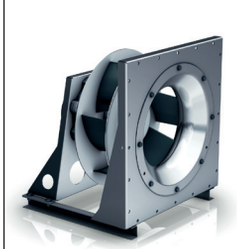
RLM E6



Compact permanent magnet motor with external electronics

· Internal rotor motor efficiency grade IE4
· Horizontal installation
· Impeller size 280 – 710
· Max. motor power 7,5kW
· Controlled with frequency inverter

RLE E6

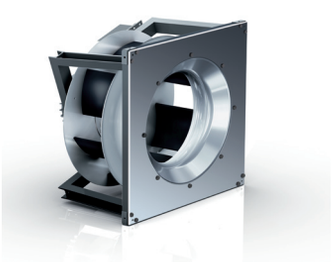


EC motor with integrated electronics

· External rotor motor efficiency grade IE4
· Horizontal installation
· Impeller size 280 – 630
· Max. motor power 3,5kW
· Controlled with integrated electronics

The Evo E3 series for wall, ceiling or floor installation

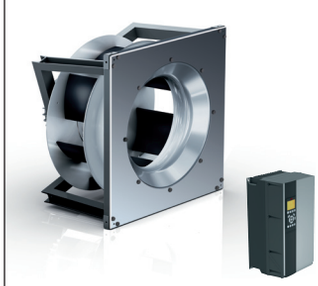
RLM E3



Compact
permanent magnet motor
with integrated electronics

- Internal rotor motor efficiency grade IE4
- Vertical installation
- Impeller size 280 – 710
- Max. motor power 6,5kW
- Controlled with integrated electronics

RLM E3



Compact
permanent magnet motor
with external electronics

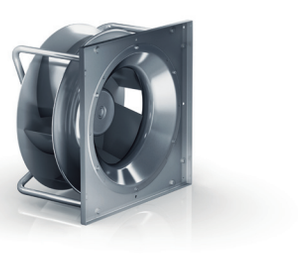
- Internal rotor motor efficiency grade IE4
- Vertical installation
- Impeller size 280 – 710
- Max. motor power 7,5kW
- Controlled with frequency inverter

RLM E3

Standard IEC
asynchronous motor

- Internal rotor motor efficiency grade IE2
- Vertical installation
- Impeller size 280 – 710
- Max. motor power 11W
- Controlled with frequency inverter

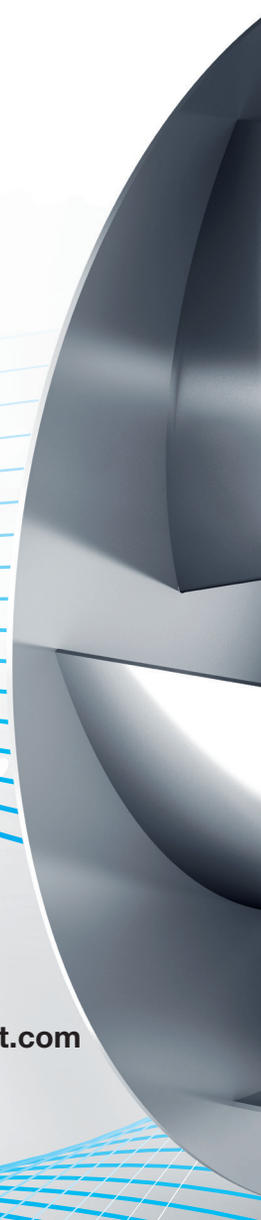
RLE E3



EC motor
with integrated electronics

- External rotor motor efficiency grade IE4
- Horizontal or vertical installation
- Impeller size 250 – 630
- Max. motor power 3,5kW
- Controlled with integrated electronics

EN-PB2-EVO-3.0 – 1000-03/2014 – Printed in Germany by Schweikert Druck, Obersulm-Eschenau/Württ.



Nicotra Gebhardt Deutschland

Nicotra Gebhardt GmbH
Gebhardtstraße 19-25
74638 Waldenburg
Deutschland
Telefon +49 (0)7942 101 0
Telefax +49 (0)7942 101 170
E-Mail info@nicotra-gebhardt.com

Nicotra Gebhardt Italien

Nicotra Gebhardt S.p.A
Via Modena, 18
24040 Zingonia (BG)
Italien
Telefon +39 035 873 111
Telefax +39 035 884 319
E-Mail info@nicotra-gebhardt.com

www.nicotra-gebhardt.com