

Brushless DC

high efficiency motor technology
for fans

Issue 1



NICOTRA | Gebhardt

fan|tastic solutions

Brushless DC

Compact direct driven centrifugal fan, double inlet

- high efficient drive technology
- stepless speed controlable

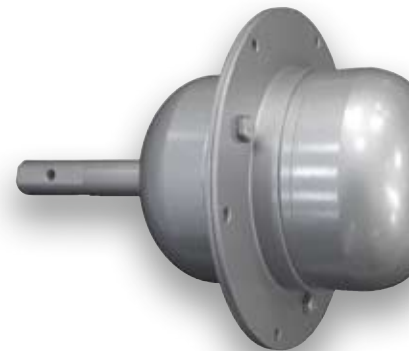


NEW

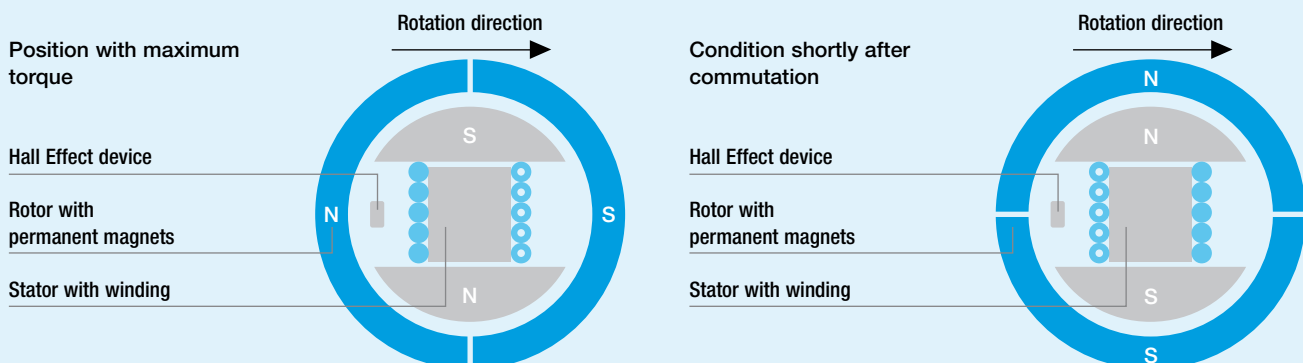
DDMB

High efficient direct driven centrifugal fan

- new brushless-DC external rotor motor
- impeller with forward-curved blades
- new lap jointed scroll
- high energy efficient
- low power consumption
- low sound power level
- high reliability

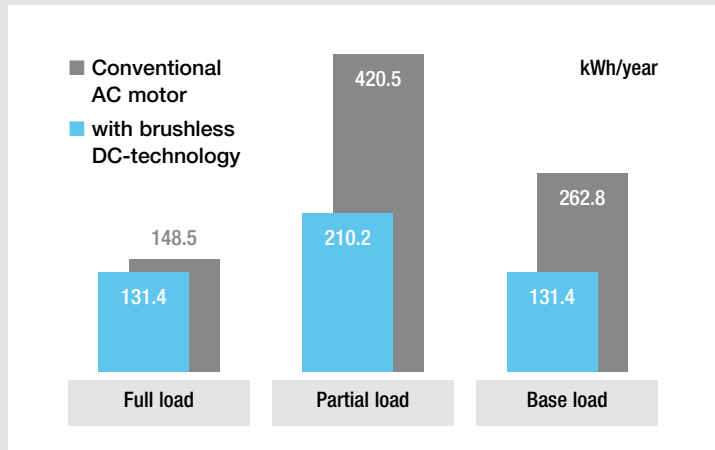


The principle of the brushless DC motor using the example of an brushless DC external rotor motor.

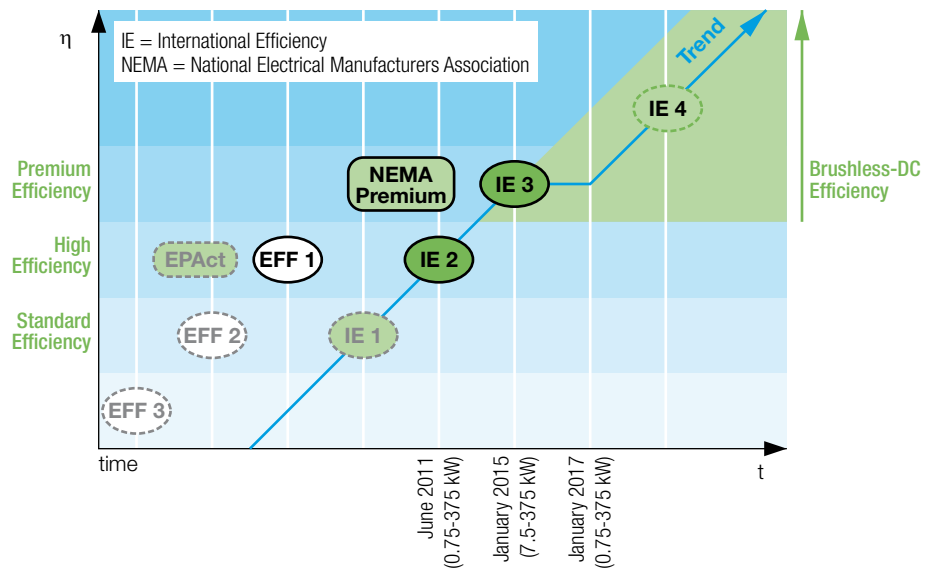


Cost balance/operating period

Up to 50 % of the power consumption of a fan can – depending on the operating environment – be saved by the use of brushless DC motors in place of AC motors.



IEC 60034-30 and NEMA-efficiency classes phasing-in according to EuP-Legislation



NEW

High efficient controllable motor drive

Energy saving concept

- high efficient drive due to optimized motor design
- PFC disabled at stop
- NTC bypassed during operation

General features

- integrated PFC
- active brownout detection for overload protection at under voltage
- IP 54 for complete drive
- interface analogue 0-5V, 0-10V
- MODBUS RTU
- dry error contact
- simple usage - fan selection by DIP-switches and GO! (no parameter setup)
- designed for double inlet fans
- externally unit - no obstruction of intake - less aerodynamic losses

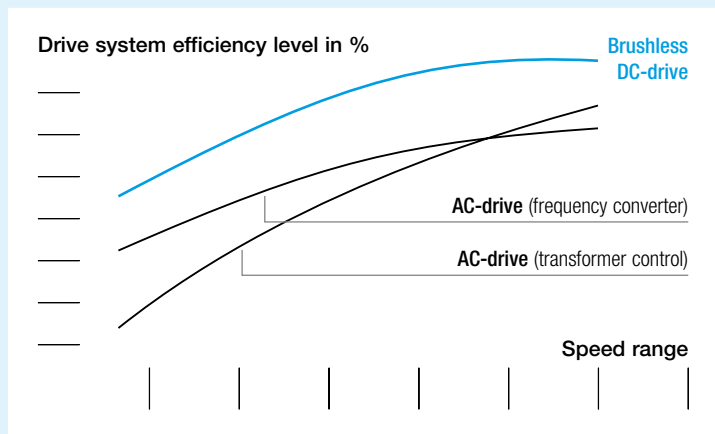
Drives with brushless-DC technology come up to efficiency class IE3 and higher.

Comparison of the different levels of system efficiency

The brushless DC motor operates without slip losses and thus consumes significantly less power than conventional AC motors.

Important: this applies for all speeds, i.e. even in partial-load operation!

The brushless DC motor therefore uses less power than the AC motor under all operating conditions and has a significantly higher level of drive system (motor and control) efficiency.



Brushless DC technology used in many applications



NEW

Direct driven centrifugal fans DDMB with brushless-DC internal rotor motor and DDB with brushless-DC external rotor motor



Direct driven centrifugal fans RZP with brushless-DC external rotor motor



NEW

Plug fans RLMB with brushless-DC internal rotor motor



Roof extract fans RDA-EC with brushless-DC external rotor motor ideal for being connected to central control systems or any other individual control



Filter fan units FFU developed with control software to monitor different ventilating systems, room configurations and airflows



NEW

Plug fans RLE with brushless-DC external rotor motor

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