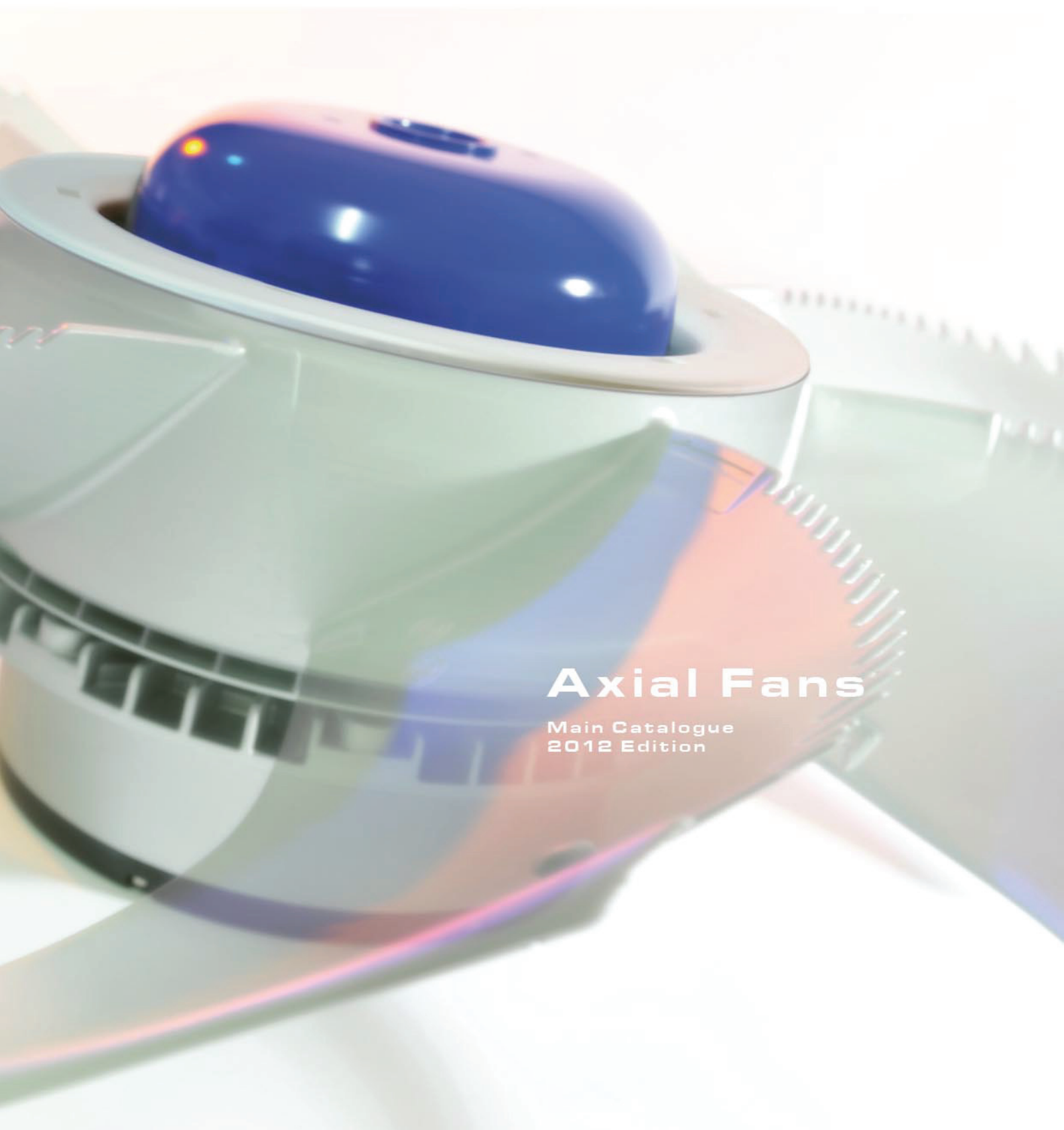




Movement by Perfection



Axial Fans

Main Catalogue
2012 Edition

The Royal League in ventilation, control and drive technology

ZIEHL-ABEGG 

Air with IQ

Air is inert by nature. Influences in nature such as temperature gradients start moving the air – but unfortunately, in a rather uncontrolled way and not always to people’s advantage. In order to make air movement useful, we recommend our intelligent ventilation and control engineering solutions. They are not only effective and reliable but are also aimed at a multitude of specific requirements. As the world’s leading system supplier of fans with matching control engineering, you will certainly be able to find fans for your sector and application in our product range. Educated minds don’t leave anything to chance. Instead, they trust ZIEHL-ABEGG’s extensive expertise.

FANselect







Reach your goal easily, quickly, and without any complications! The world’s most precise program for fans and systems components. For more information log on to our website at www.fanselect.info



Additional catalogues

Our extensive Axial Fan A01, Centrifugal Fan R01, Control Technology E01 and other catalogs are available on our www.ziehl-abegg.com website in the „Download“ area. We would be glad to send printed catalogues on request.

Contents

The Company Ziehl-Abegg			Page 4	Information
Axial fan FE2owlet ECblue	sickle-shaped and profiled blades made of high-performance composite material or aluminium, optimized for full nozzle, with highly efficient EC motor		Page 20	
Axial fan FE2owlet	sickle-shaped and profiled blades made of high performance composite material or aluminium, optimised for full nozzle		Page 120	FE2owlet
Axial fan FB	Blades made of aluminium resp., steel optimised for short bell mouth		Page 258	FB
Axial fan FC	Profiled blades made of aluminium, optimised for full bell mouth		Page 402	FC
System components			Page 524	System components
Control technology			Page 534	Control technology
General notes			Page 598	Appendix
Ziehl-Abegg global			Page 620	



ZIEHL-ABEGG

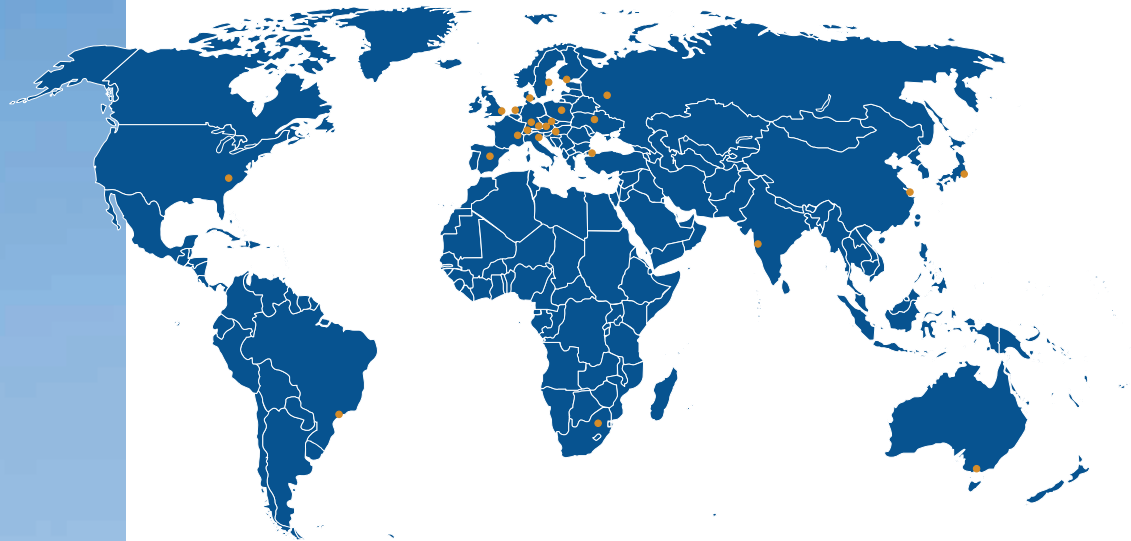
Die Königsklasse

der Lufttechnik,
Regeltechnik und Antriebstechnik

Radialventilator
ZAmid®Technologie



No one can get past the Royal League



ZIEHL-ABEGG has stood for movement by perfection in the ventilation technology, control technology and drive technology sectors for more than 100 years. What started with the invention of the first external rotor motor by Emil Ziehl is now being carried on at the company's sites around the world. We are the pioneers, masterminds and developers of technologies for the future who more than satisfy all demands to preserve an environment worth living in and to meet all our customers' requirements and wishes.

Think in the future - discover ZIEHL-ABEGG

We look forward to seeing you in ventilation, control and drive technology. There, where ideas are the daily challenge and where the latest, outstanding technologies are developed.

Welcome to the best.

Welcome to the Royal League



From fans and motors to matching control technology

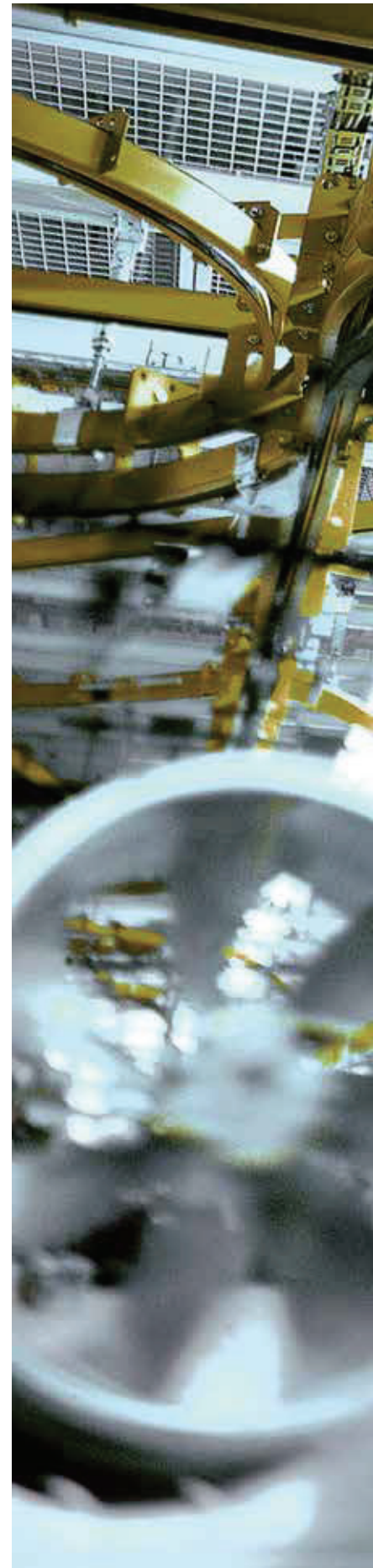
Our unique selling point – your advantage

What is important to us is to correctly match our systems to your specific needs. Whether refrigeration, air conditioning, for use in your manufacturing processes or anywhere else - we reliably move air wherever it is required and at the right time. At the main Künzelsau location more than 100 engineers and technicians work in one of the most modern technology centers of this kind.

We supply the highest quality standards with **the world's largest air and noise test-bench for fans** which can completely mask vibrations and external noises. This guarantees fan measurements of the highest class according to ISO and DIN. This is the reason ZIEHL-ABEGG products with the **Premium Quality** and **Premium Efficiency** are certified - that is the reason our products and services are in the Royal League.

The world's most modern and largest test-bench for fans at the main location in Künzelsau

Right picture:
Most modern production lines for fans with the highest demands in the world





Information

FE2owlet
ECblue

FE2owlet

FB

FC

System
components

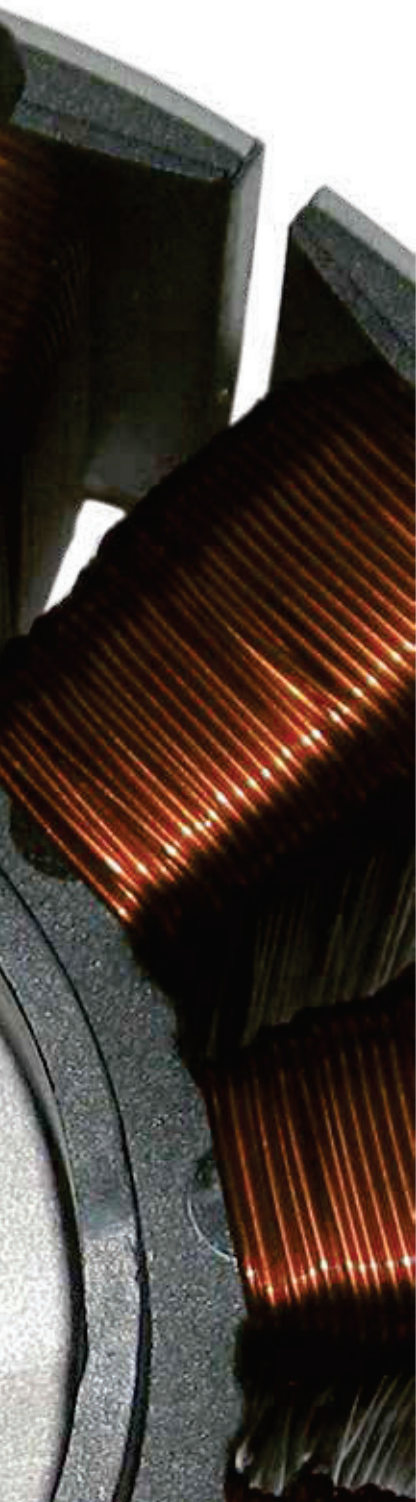
Control
technology

Appendix

The Royal League of EC fans

So quiet, so efficient, so ECblue

Unifying the latest motor technology and innovative aerodynamics provides unbeatable efficiency and definitely saves energy costs. The latest generation of axial fans with ECblue technology, such as the FE2owlet, is a genuine revolution. The toothed bionic profile of the rotor used here makes this fan almost completely silent. We provide pure innovation with fans such as the Cpro centrifugal fan in new **ZAmid® Technology**. The high-performance composite material we developed is as hard as steel and guarantees, along with longer service lives, the reliable production of fans with newly developed blade geometry of the highest level. The unique rotor blades combined with ECblue motors achieve unsurpassed air dynamics, putting them into the top-class of environmental friendliness with the highest energy-savings potential. Used in any application, including process fans up to 600°C, the highest volume flow rates provide extraordinary efficiency at extremely low noise levels.

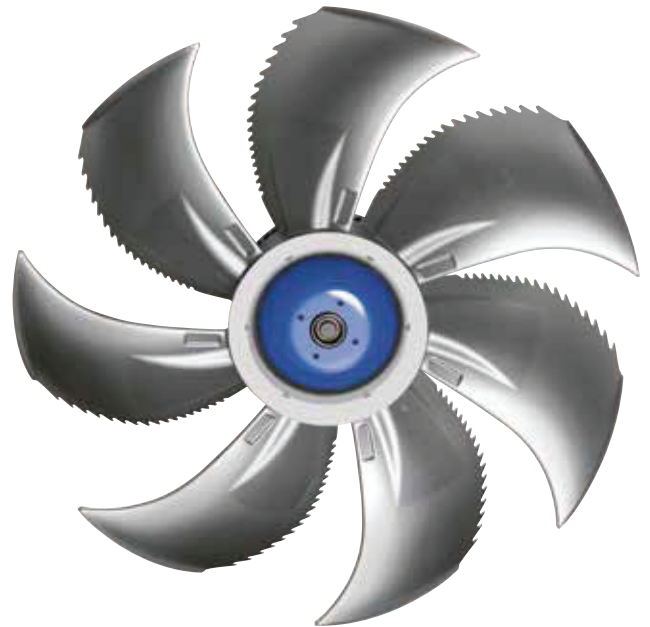


ECblue motor technology

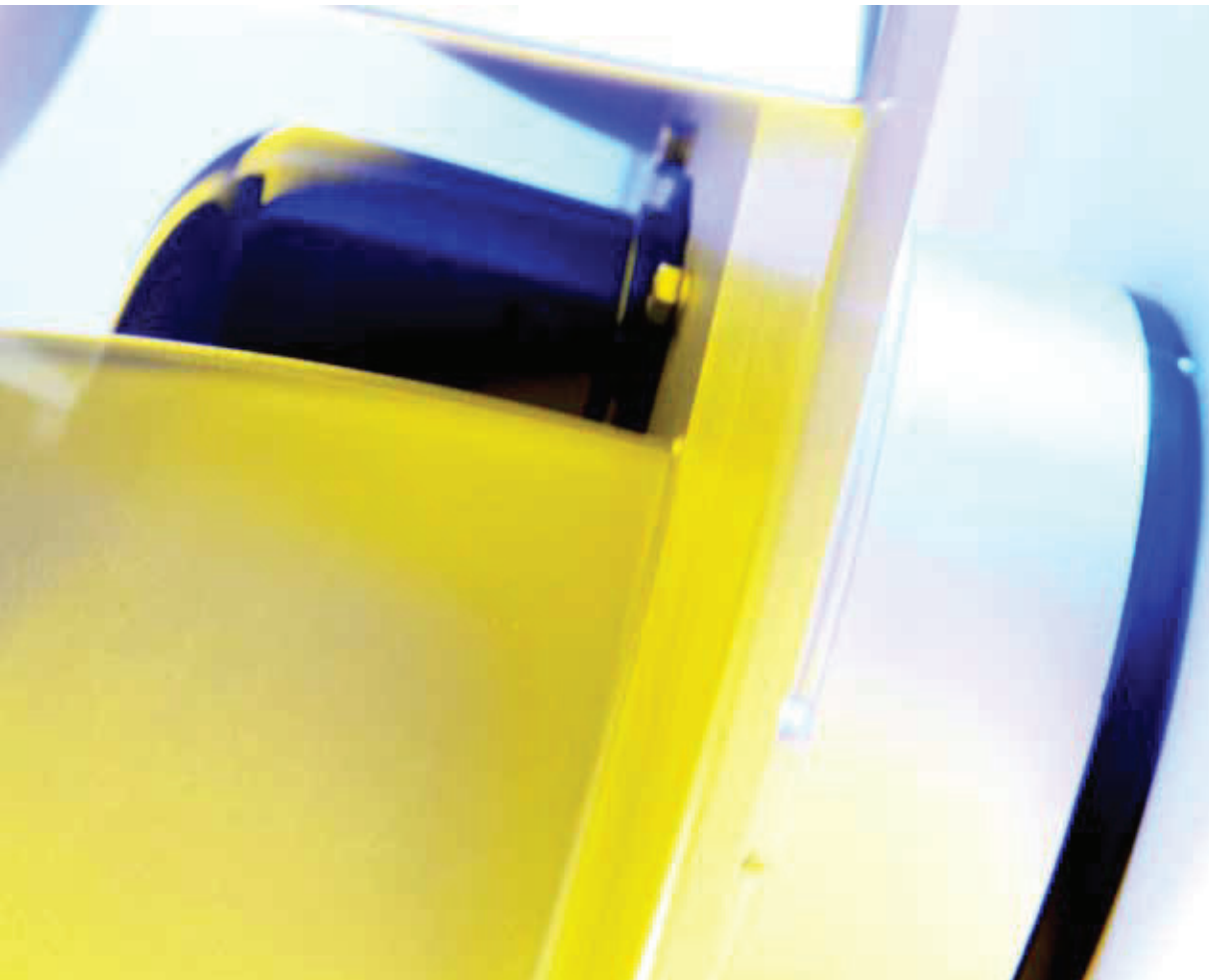




Maximum efficiency and minimum consumption
ECblue with the latest **ZAmid**® Technology
Radial fans sector



Unique bionic profile FE2owlet,
combined with ECblue technology



Information

FE2owlet
ECblue

FE2owlet

FB

FC

System
components

Control
technology

Appendix

The Royal League of AC fans

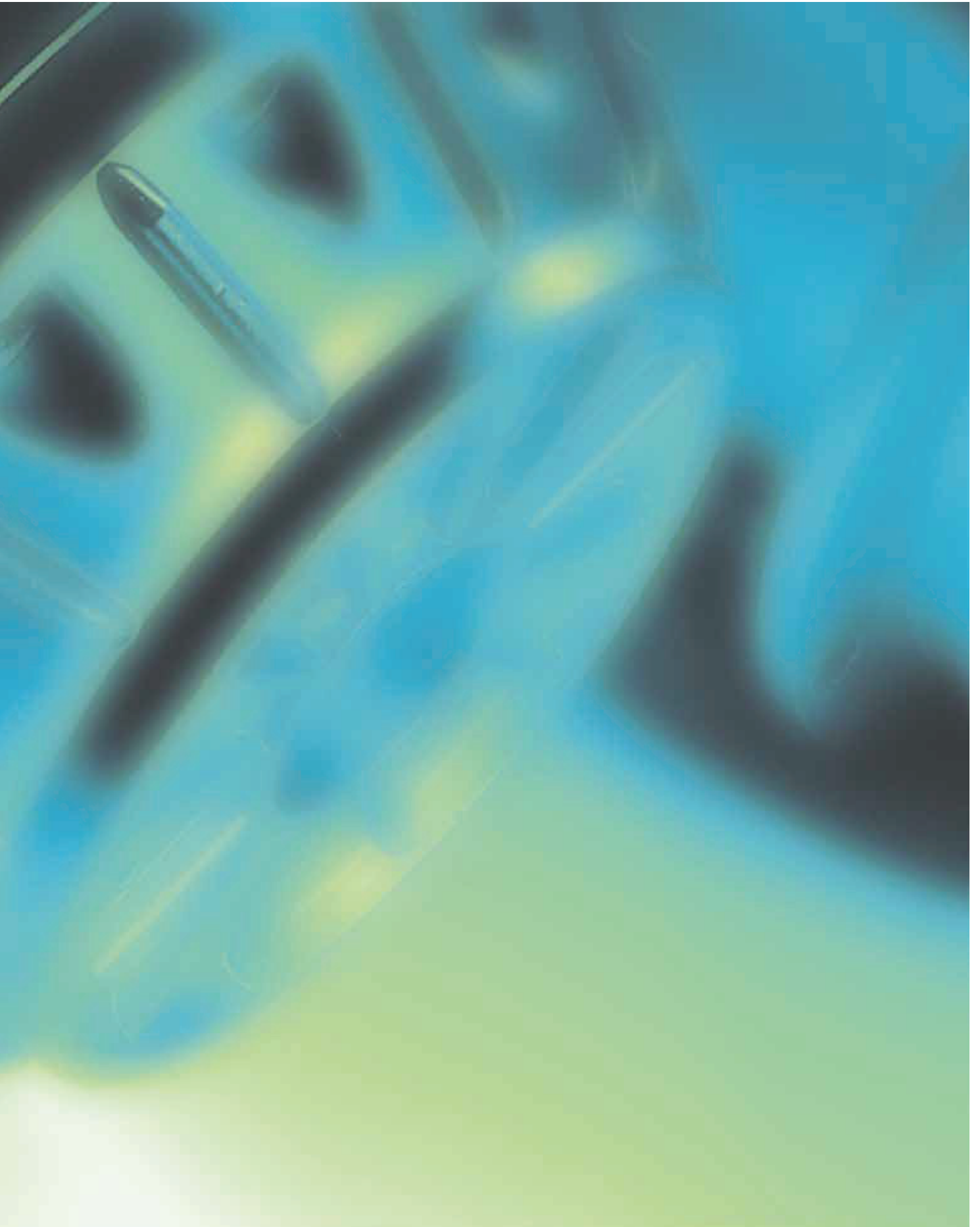


So powerful, so insusceptible, so AC technology

In the AC motor technology sector, our development efforts are completely dedicated to the future. We now supply our modern fans combined with AC technology wherever unusual temperature ranges and materials are needed for demanding applications. The simple and yet sturdily constructed, high-quality motor technology remains consistent even during exceptional demands. AC fans are used in many industrial sectors and in agriculture whenever absolute insensitivity and stability are the top priority. Intelligently used components such as the ZIEHL-ABEGG Fcontrol frequency inverters turn the combination of fans and AC motors into a modern, ecologically sound and efficient top-class performer. Our modern AC motors are maintenance-free and promise a secure investment in the future.

AC motor technology, robust in operation





Information

FE2owlet
ECblue

FE2owlet

FB

FC

System
components

Control
technology

Appendix

Expertise in ventilation

ErP Directive

By adopting the Kyoto Protocol, the European Union committed itself to reducing CO₂ emissions by at least 20% by 2020. One of the measures taken to help achieve this was the EuP (Energy using Products) Directive adopted by the EU in 2005, which was renamed ErP (Energy related Products) Directive in 2009, and is also known as the „Eco-design Directive“.

The ErP implementation measure for fans defines minimum efficiency levels for fans in the power range from 125 Watt to 500 kW, which will prevent „energy guzzlers“ from being brought into circulation in Europe in the future. The ErP Directive is being implemented in two stages: Stage 1 in 2013 and Stage 2 in 2015. This gives energy efficiency the same standing as compliance with the Low Voltage or EMC Directive. The system efficiency requirement is a prerequisite for CE certification and is thus essential for a product to be used in EU member states. Labelling like that used on refrigerators and washing machines will not be required for fans, as fan manufacturers generally have no influence on the installation conditions.

The catalogue contains the relevant ErP rating as part of the fan description.

If you have chosen ZIEHL-ABEGG, you can be confident about the future: ZIEHL-ABEGG is playing its usual pioneering role in ErP and supplies fans today that already surpass the requirements for tomorrow.



The **European Ventilation Industry Association (EVIA)** represents the European ventilation industry with national and European institutions.

The EVIA is the key platform for fan manufacturers and is their interface to politicians, decision-makers in the European Union, and other associations that use fans in their products. The EVIA supports the use of high efficiency fans in Europe to implement the EU targets for increased efficiency.

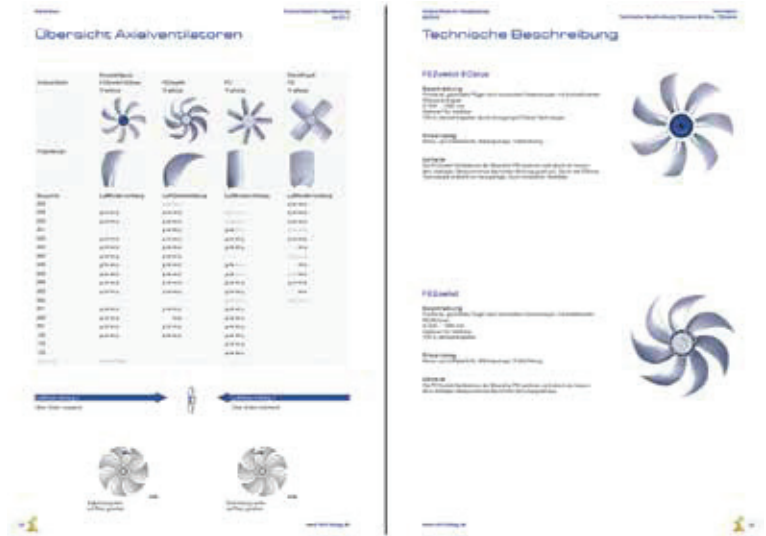
ZIEHL-ABEGG played a leading role in its foundation and supports the EVIA with active involvement in its working groups. ZIEHL-ABEGG also provides the chairman.



Selection of fans step by step

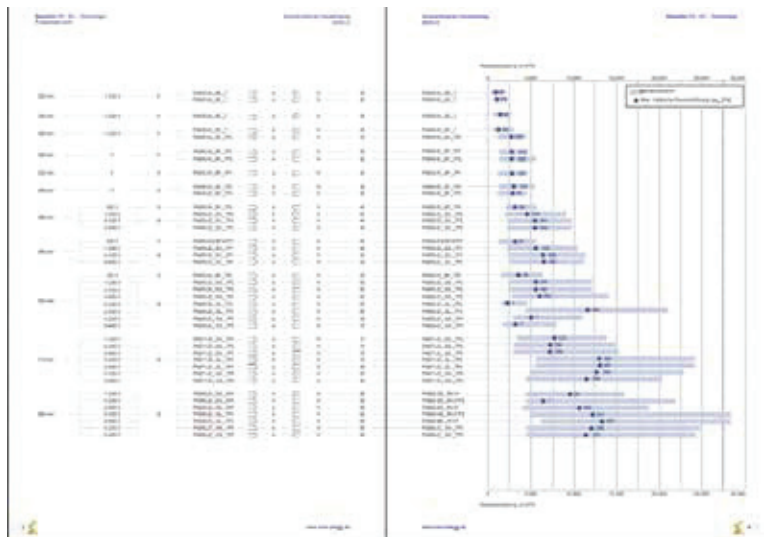
1. Axial fans overview

Get an initial overview of our axial fans and navigate quickly to the section of the catalogue relevant for you.



2. Quick selection

Obtain product details quickly and easily, thanks to quick selection using the volume flow rate and the volume flow rate technical data.











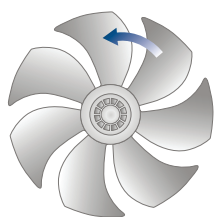
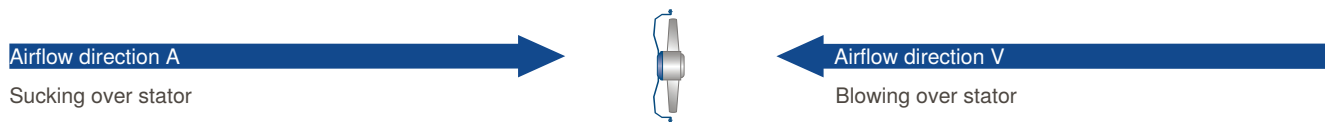
3. Product details

The double product page contains all relevant product information for your selected fan.



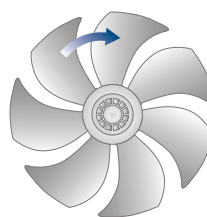
Overview axial fans

	die-cast			sheet blade
Axial fan	FE2owlet-ECblue	FE2owlet	FC	FB
	➤ Page 20	➤ Page 120	➤ Page 402	➤ Page 258
				
Design of the blades				
Size	Airflow direction	Airflow direction	Airflow direction	Airflow direction
020		A ⇒ ⇐ V		A ⇒ ⇐ V
025	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V
030	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V
031		A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V
035	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V
040	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	⇐ V
042	A ⇒ ⇐ V	A ⇒ ⇐ V		A ⇒ ⇐ V
045	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	⇐ V
050	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V
056	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V
063	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	⇐ V
065			A ⇒ ⇐ V	A ⇒ ⇐ V
071	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	
080	A ⇒ ⇐ V	⇐ V	A ⇒ ⇐ V	
091	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	
100	A ⇒ ⇐ V	A ⇒ ⇐ V	A ⇒ ⇐ V	
112			A ⇒ ⇐ V	
125			A ⇒ ⇐ V	
A ⇒ ⇐ V	on request			



KL2065

Direction of rotation counter clockwise looking at the rotor



KL2064

Direction of rotation clockwise looking at the rotor



Technical description

FE2owlet-ECblue

Description

Profiled, sickle-shaped blades based on bionic findings, with high efficiency
ECblue drives
Ø 250 ... 1000 mm
Optimised for full nozzle
100 % speed control due to unique ECblue technology

Application

Air conditioning and refrigeration, heat pumps, transformer cooling ...

Advantages

The FN series of FE2owlet fans deliver excellent efficiency but feature an exceptionally low sound level. The ECblue technology results in a unique, highly innovative fan.

Standard ZIEHL-ABEGG ECblue fans can be used with active temperature management up to 70 °C. Designs for an ambient temperature of 80 °C are available on request.



FE2owlet

Description

Profiled, sickle-shaped blades based on bionic findings with conventional AC motors
Ø 250 ... 1000 mm
Optimised for full nozzle
100 % speed control

Application

Air conditioning and refrigeration, heat pumps, transformer cooling ...

Advantages

The FN series of FE2owlet fans deliver excellent efficiency but feature an exceptionally low sound level.



FB

Description

Aluminium panel blades
Ø 200650 mm
Optimised for short nozzle applications
Two airflow directions possible
Three blade angles
100 % speed control

Application

Primarily refrigeration / heating, in short nozzle

Advantages

FB fans are primarily used in equipment with short nozzles, see Installation examples section.



FC

Description

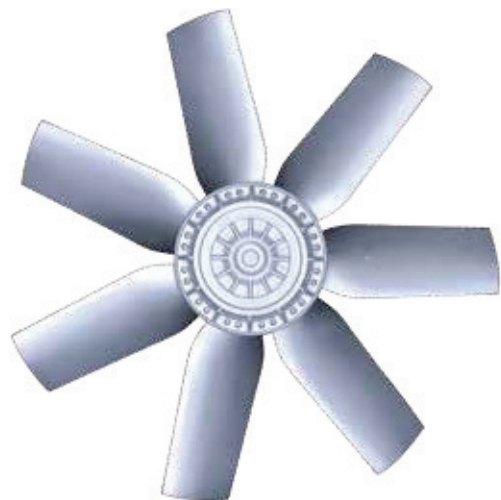
Profiled die cast aluminium blades
Ø 315 ... 1250 mm
Optimised for full nozzle
100 % speed control

Application

Air conditioning and refrigeration, agriculture, transformer and rolling stock cooling, wood drying, industry, engineering

Advantages

The FC series of fans with die cast aluminium blades deliver exceptionally high efficiency and therefore should only be operated in ventilation duct systems with excellent aerodynamics, see Installation information section.



Type key



Necessary ordering information

Type and Art. no.

Example
Type: FN050-4EQ.4I.A7P1
Art. no.: 140084

Example

FN 050 - 4 E Q . 4I . A 7 P 1

Axial fan	
FB	
FC	
FN	
Fan size	
Impeller diameter 450 mm	045
Impeller diameter 500 mm	050
and so on	
Number of poles	
2-pole	2
4 pole	4
4-4 pole	V
6 pole	6
6-6 pole	S
8 pole	8
8-8 pole	A
10 pole	Z
10-10 pole	M
12-12 pole	N
Type of current	
three phase alternating current	D
single phase alternating current	E
External rotor EC motor with controller	I
Fan design	
without mounting parts	A
Full bell mouth	
rectangular	Q
round	L
pipe socket	
with one flange	H
flange ring	
with two flanges	F
Axial screwed suspension	
for full bell mouth Q and L / conveying direction A	D
for short bell mouth E / conveying direction A	W
for short bell mouth E / conveying direction V	K
On nozzle flange for pipe fitting H for full nozzle Q or L / airflow direction V	I
Centrifugal screwed suspension	
On outer diameter for full nozzle Q or L / airflow direction V	S
Motor	
Airflow direction	
Sucking over stator	A
Blowing over stator	V
Number of blades	
	7
Blade angle	
	P
Blade index	
	1

Information

FE2owlet
ECblue

FE2owlet

FB

FC

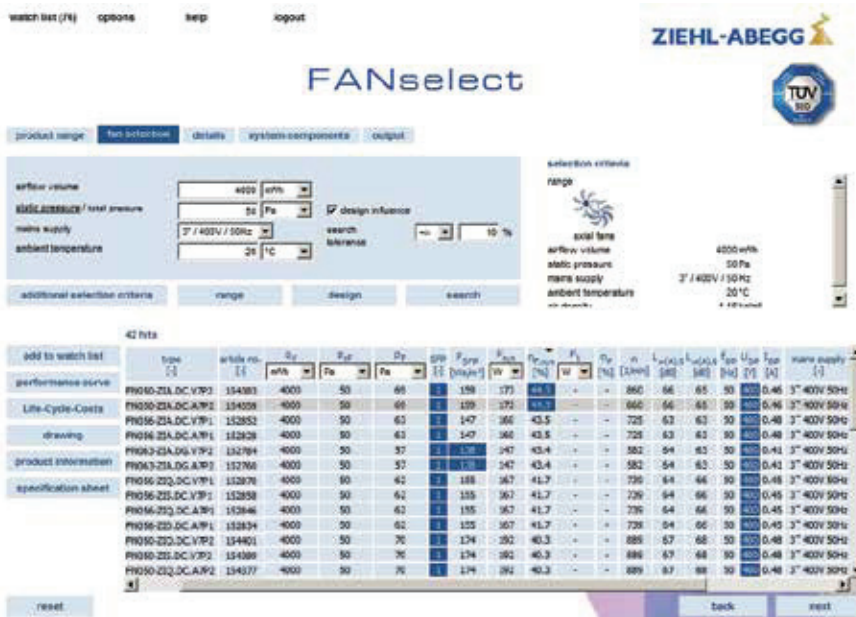
System
components

Control
technology

Appendix

Selection programme FANselect

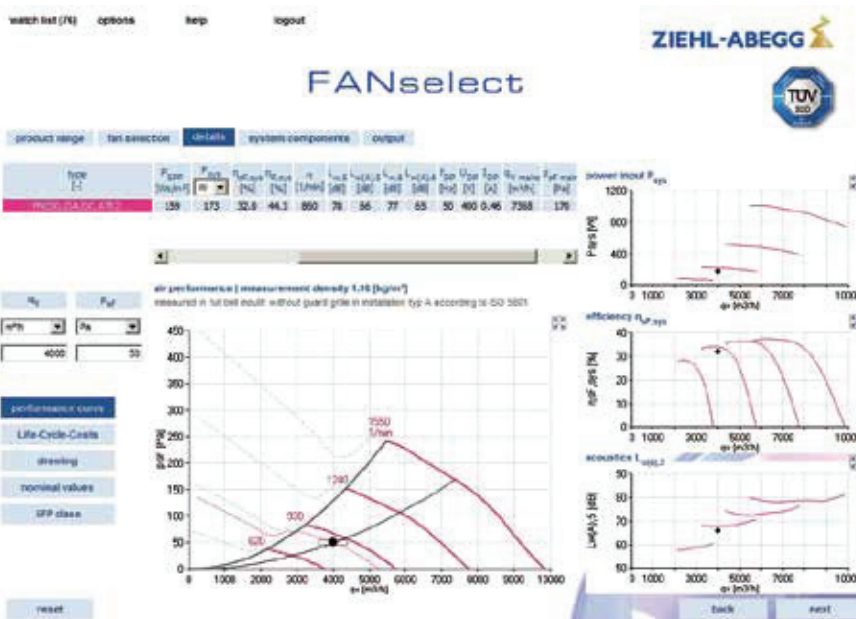
The world's best selection program for fans



At www.fanselect.info, we are offering you FANselect, a selection program for axial and centrifugal fans with the matching system components.

With FANselect, you can, for instance, select and calculate the fans FE2owlet-ECblue and FE2owlet listed in this catalogue. FANselect provides you with an option to calculate the efficiency, the acoustics, the SFP and much more. In addition, you can also select the matching systems components. You can conveniently save your configuration in a file or print it out.

The FANselect selection program, including the customer DLL, is available for you to download at any time at www.fanselect.info.



Information
FE20wlet ECblue
FE20wlet
FB
FC
System components
Control technology
Appendix