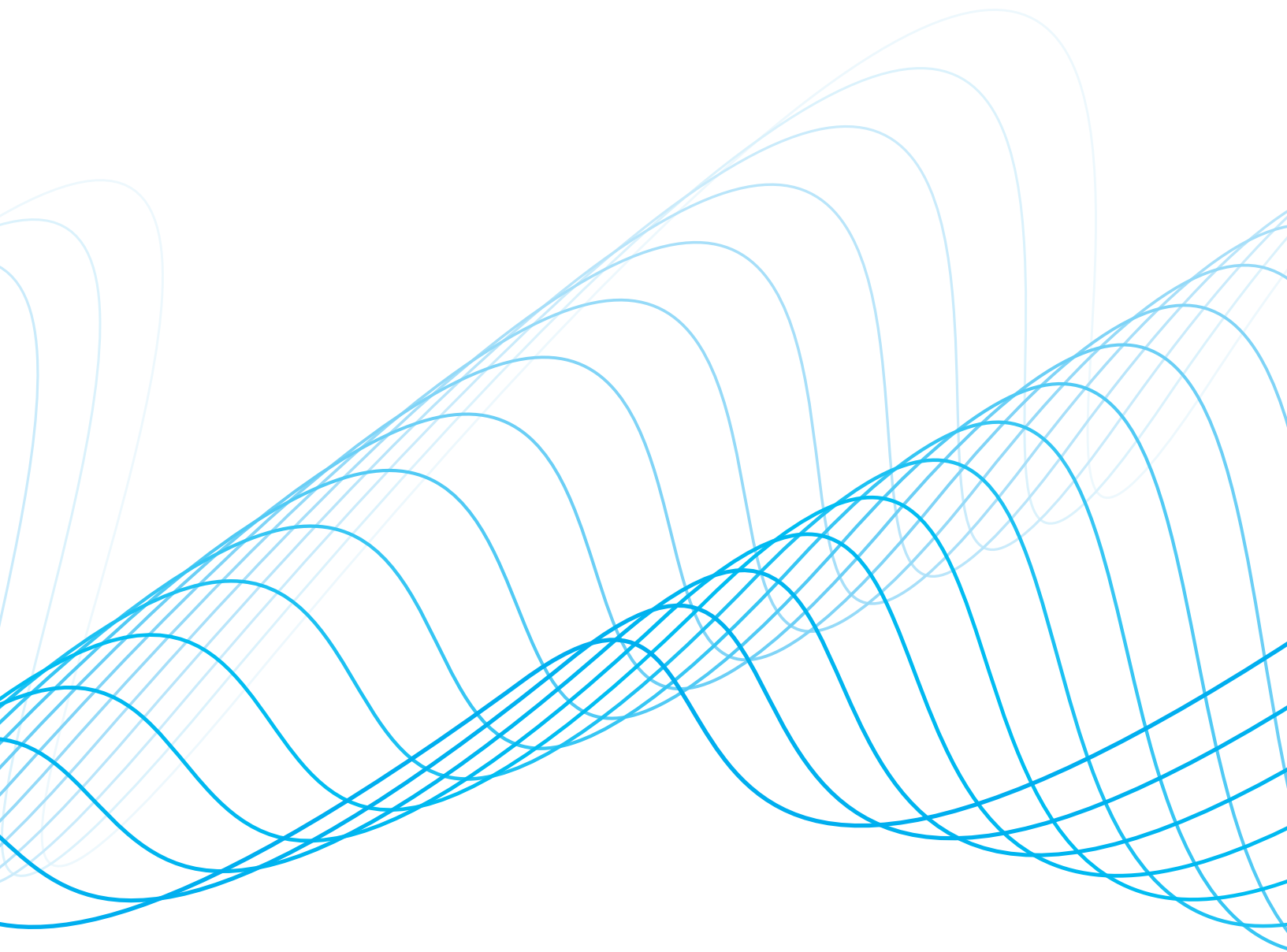


THE SOLUTION FOR YOUR APPLICATION

NICOTRA | **Gebhardt**
fan|tastic solutions



Welcome



What to focus on when you have so much exciting to offer? Good question! Well, the answer is easy: On what is so exciting. The applications of our customers with our products!

Dear visitors, this is what we present here: a cross section about what our customers do with our products. We probably cannot show all possibilities, but we believe that you will have fun browsing through this brochure.

Diversity, speed and flexibility are the strengths that we provide you. We deliver precisely tailored for your needs, whether it is standard products or special projects. Besides the quality, our focus is on the perfect solution: Your solution!

Wherever our solution is realised, we are close at hand. Worldwide and with motivated and qualified staff we offer you the service that you and your application deserve. Fantastic Solutions.

Enjoy reading this overview brochure.

Markus Eickhoff
Head of Global Sales & Marketing Nicotra Gebhardt Group

Visit us ...

Access the pages of your individual applications using the QR codes on your smartphone or tablet.

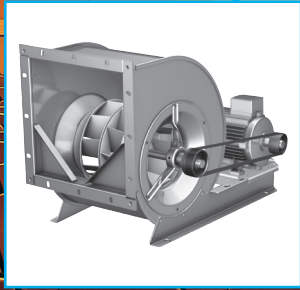
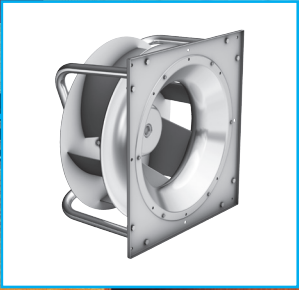
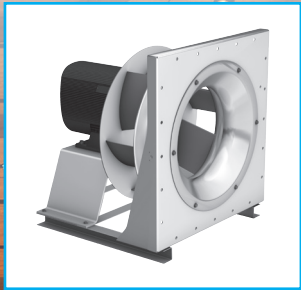
And find out more about our success stories in these areas. You can, of course, also navigate to the menu items of the applications via our website.

Learn more about us and our fan solutions by becoming part of our success stories.

Visit us at LinkedIn and Xing, and learn more about the Nicotra Gebhardt Group.



FAN SOLUTIONS FOR VENTILATION AND AIR-CONDITIONING





"We do not need to compromise when selecting the right fan system. Thanks to our wide range of fans for ventilation applications, we are always able to offer the best solution to our customers."

Tobias Kircher

The Challenge

- Installation time
- Waiting time
- Efficiency
- Drive and control
- Quality
- Reliability
- Competence

The Solution

- Ready-to-install fan systems save our customers valuable installation time.
- Agreed delivery dates result in lower planning and logistics costs
- Lower energy consumption and noise is the result with the Evo and Rotavent fan systems
- Various drive concepts make the fan a demand-actuated system
- High standard of quality and different corrosion protection systems ex factory
- Catalogue data in accuracy class 1 according to DIN 24166 secure our customers' planning
- More than 50 years of experience in fan solutions for ventilation applications

The Heart of the ventilation- and air-conditioning plant

Nowadays there is a great choice of different fan ranges available for everybody who has to select fans for a ventilation and air-conditioning system. Every execution has been optimised to its strengths.

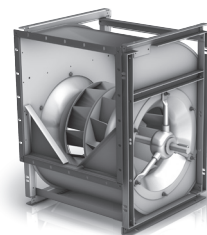
The extensive product range of Nicotra Gebhardt offers the opportunity to find just the right fan for every application.

Everybody who selects a fan is responsible to make best use of the energy and to respect the admitted limits for noise emission.

It is not difficult to make a centrifugal fan for an air conditioning unit a few euros cheaper. But to design it in a way that it saves valuable energy during operation is a real technological challenge.

In this respect, the **EVO** and **ROTAVENT** from Nicotra Gebhardt continues to provide the technology with the highest level of system performance and, as a consequence, the best solution where energy efficiency counts.

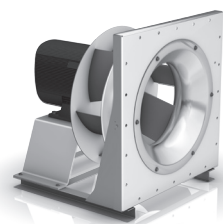
ROTAVENT



The efficient fan technology with scroll casing and airfoil blades!

The high efficiency of the Rotavent stretches across a wide performance range. The advantage being that less power is required also in the part load area.

EVO



Unparalleled system efficiency for plug fans!

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

Visit us at nicotra-gebhardt.com

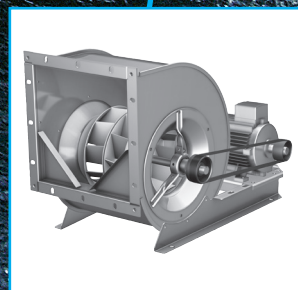
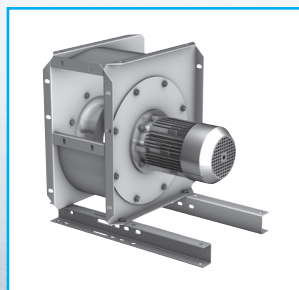
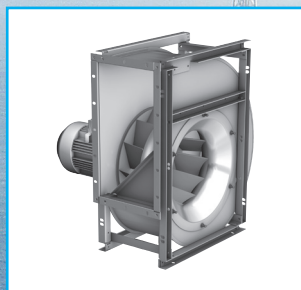


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Photo: KKL Luzern, concert hall

FAN SOLUTIONS FOR MARINE AND OFFSHORE





"With our fan systems, our customers are ahead of the pack. Thanks to the excellent efficiencies of the impellers of the Rotavent and Evo ranges, as well as the use of corrosion protection systems classified according to C5M and selected materials, our customers have the best fan solutions when it comes to reliability and durability."

Walter Hatz

The Challenge

- Aerodynamics and noise level comfort
- Reliability on the high seas
- Safety
- Partnership
- Reliability

The Solution

- Lower noise levels and energy consumption are possible with the Evo and Rotavent impeller systems
- With high quality corrosion protection or stainless steel, fans reach long performance lives
- Many successful projects in Marine and Offshore prove our sustainable competence
- A well-known partner thanks to inclusion on the "Suppliers List" of various shipyards
- Agreed delivery dates result in lower planning and logistics costs

The highest comfort for the highest of standards

Above all, fans have to be compact and quiet on a ship. Our fan systems offer maximum performance in an ultra compact design, while producing very little noise. This allows passengers to enjoy comfort on board ship to the full and sleep well.

A further advantage of Nicotra Gebhardt fans on the high seas: our fans are extremely reliable and durable, so your fleet can enjoy perfect ventilation for years to come.

Particularly on ships, ventilation systems are constantly exposed to aggressive conditions. That is why we provide our fans with lasting protection against harmful influences and offer several levels of corrosion protection.

Our fans are at home on all of the seven seas!

The performance of Nicotra Gebhardt fans has been providing many renowned ships with exceptional ventilation for years, such as the Brilliance of the Seas, Pride of Hawaii, Radiance of the Seas, Serenade of the Seas, Norwegian Dawn, Norwegian Jewel, Corel Princess, Island Princess, European Star, Symphonia and Harmony. Take advantage of our expertise and keep everything shipshape – with Nicotra Gebhardt.

You provide oil – we provide safety

Fans for offshore oil platforms pose an extreme challenge for material and technology. We take on this challenge with a solution package made from the best materials, maximum manufacturing skill and highest safety guarantee.

We are able to guarantee a unique reliability for our fans due to the use of resistant stainless steel and the latest coating technology, and the observation of the ATEX directive 94/9/EC.

We equip offshore systems throughout the world!

The list of our references is long. Here are a few projects that we have equipped with fans, e.g. Snohvit (Barents Sea, Norway), Oseberg (North Sea, Norway), Huldra (Norway), Ormen Lange (North Sea, Norway), Prirazlomnoye (Barents Sea, Russia), Dalia Topside (Nigeria), Mittelplate (Germany), Kashagan (Caspian Sea, Kazakhstan).

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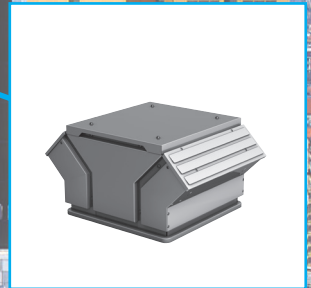
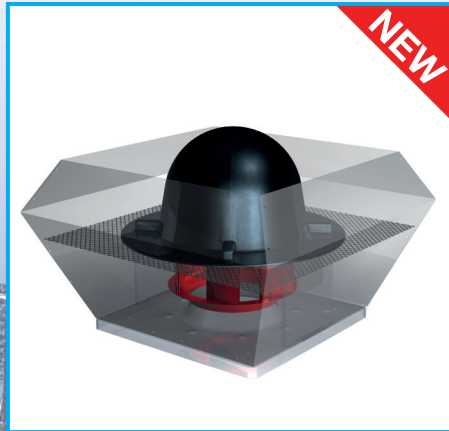


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Photo: Ormen Lange platform

FAN SOLUTIONS FOR ROOF EXTRACTION





"We have set benchmarks worldwide for quality, functionality and reliability with our roof fans– but we have not stopped there. We offer our customers roof fan systems that already now meet tomorrow's energy efficiency requirements."

Jürgen Steinhilper

Our roof fans meet tomorrow's requirements already today!

The Challenge

- Highest efficiency
- Maintenance
- Installation
- ATEX
- Low sound level

The Solution

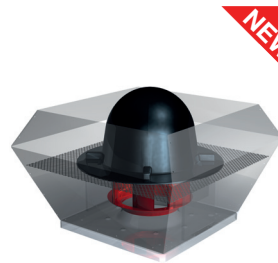
- Highest efficiency due to impeller with aerofoil blades
- Easy to maintain up to the terminal box
- Simple and fast installation (Plug and Play)
- RGA and RDM series available in ATEX 3G
- FDA series - quietest roof fan

Being a market player in the roof fan industry today means dealing with and mastering market requirements such as

- ▶ highest efficiency
- ▶ low noise emission
- ▶ maintenance-friendliness
- ▶ control with frequency inverter
- ▶ simple solutions
- ▶ fast delivery times.

For this reason, Nicotra Gebhardt has developed an extensive range of roof extract fans for individual requirements.

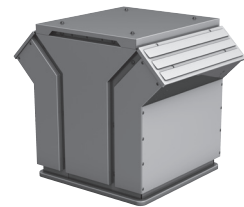
RVM EVO



Vertical discharge

A new highly efficient solution with aerofoil blades and optimal airflow in the housing.

RDA / RDM



Vertical discharge

A maintenance-friendly solution with a displacement medium temperature of up to 120 °C.

RGA



Horizontal discharge

A cost efficient solution with corrosion and impact resistant cover.

FDA



Vertical discharge

A quiet, sound-insulated solution in a cubic design.

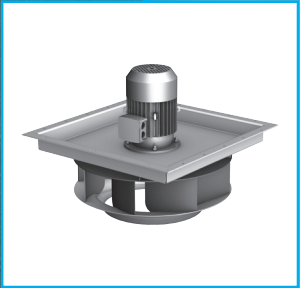
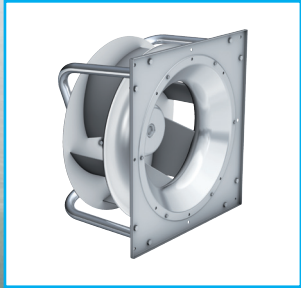
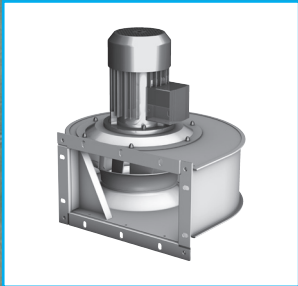
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FAN SOLUTIONS FOR WIND TURBINES





"Whether cooling or heating, we offer our customers the right plug & play system for all applications from the wind power industry. Our customers' problems are solved in innovative ways. Irrespective of whether you have a confined space issue or need corrosion protection – we have the solution."

Ralf Spory

The Challenge

- Low space requirement.
High throughput
- Long and reliable operation
- Delivery times
- Safety

The Solution

- Highest system efficiencies deliver highest performance even for small installation dimensions
- High standard of quality and different corrosion protection systems ex factory
- Agreed delivery dates result in lower planning and logistics costs
- Quick and safe solutions due to flow simulation, FEM analyses and laboratory measurements

We partner with wind turbine manufacturers and their suppliers. Wherever air needs to be moved we know what really matters. Our experienced specialists support you in the implementation of your specification sheet, assess on our test benches, advise and assist you on site for testing, flow optimisation and engineering. Together with you, we will find the optimal fan solution for a high performance system – custom-made just for you, no matter what your goals are

- ▶ Integration in assigned spaces
- ▶ Minimum noise emissions
- ▶ Lowest energy consumption
- ▶ Modifications to your on-board power supply
- ▶ Power control
- ▶ Low weight

We know how to respond to external stresses.

- ▶ Corrosion protection – different coating systems, galvanization, stainless steel, aluminium
- ▶ Sealed bearings, hybrid bearings
- ▶ Engines with special isolation, partly from our own manufacturing facilities

Maintenance. Here, we meet your individual needs.

What distinguishes us does not stop at logistics: from paperless communication via risk management solutions, from barcodes through to handling concepts – we welcome your ideas.

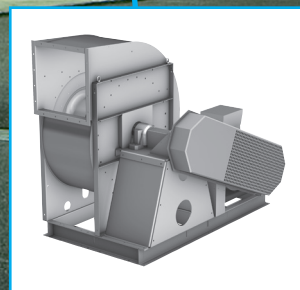
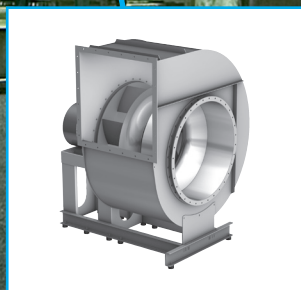
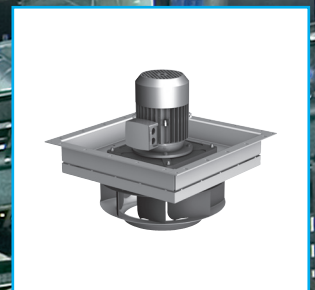
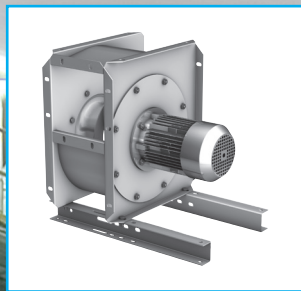
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FAN SOLUTIONS FOR INDUSTRIAL AND PROCESS APPLICATIONS





"Our customers value our solution competence. We give you our support in selecting suitable fans, in engineering with the objective of ensuring optimised function, product long life and low maintenance at minimised costs."

Sebastiano Tomasi

The Challenge

Process and cost optimisation

Security for the future

Partnership

Planning and functional reliability

The Solution

Our fan systems are customised optimally to the needs of our customers

The advancement of our products ensures that our customers' systems can be sustainably upgraded

By working in close collaboration with our customers, we develop just the right fan system for our customers

Our high standards are ensured through standardised performance data and high production quality

Process air fans are frequently an important component of machines and installations. In these applications they assure functions that would not be possible without a well defined air flow. Of these specially developed, robust fans, there are several standard ranges and a number of customer-specific solutions.

For more than 20 years we have been successfully active in the field of process air technology. With the knowledge of the requirements of your branch our specialists can combine it with their own fan expertise to offer advice and solutions.

In this regard the level of consulting competence extends far beyond the usual level and also includes areas such as:

- ▶ the technical flow integration of the fan in the machine
- ▶ minimisation of noise emission
- ▶ minimum energy consumption
- ▶ vibration considerations
- ▶ solutions where installation space is at a premium

Our products stand for the highest level of quality and reliability. Moreover we can offer cost effective, modifications tailored to your needs.

In addition to the broad line of standardised centrifugal fans for ventilation and air-conditioning technology and process air technology, as well as the many variants that can be generated with our product line, Nicotra Gebhardt also has years of experience in the area of customer-specific fan solutions. If the requirement is appropriate even totally new developments are possible.

Many successful projects for our customers in different industries speak for themselves.

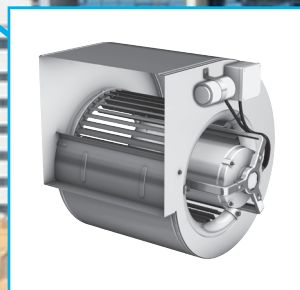
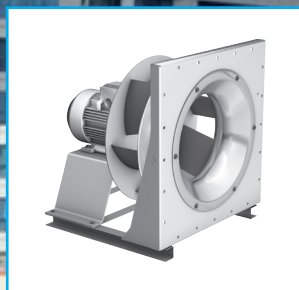
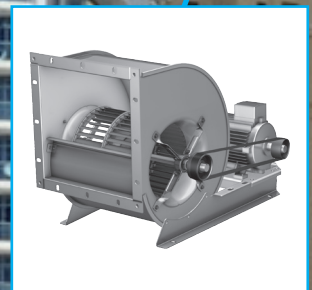
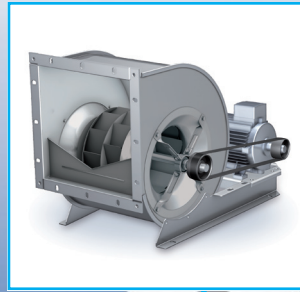
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FAN SOLUTIONS OUT OF OUR PROGRAM





"Our fans run reliably in the most varied of applications worldwide. Our customers benefit from our experience in many successful projects and the technical knowledge gained in the implementation of fan solutions."

Massimo Brizzi

We set benchmarks

The Challenge

Reliability

Experience

Competence

History

EC Directives

The Solution

Our fans have always reliably carried out their task worldwide

Our customers benefit from our experiences in many areas of application

We can offer modifications to our range in line with your needs quickly and flexibly

We are a reliable partner with more than 50 years of experience in fan construction

The fans in our range meet the requirements of relevant Directives in all areas

When it comes to fans, we are the first you should talk to. From complete fan systems to plug fans, it's all there in our product portfolio. We offer the largest, most comprehensive range of products in this area.

Our products stand for the highest level of quality and reliability. Millions perform dependably its service in a variety of applications worldwide. That gives our customer to purchase a durable as well as profitable product.

Through the knowledge and the competence of our technicians, we can offer the optimal fan system to our customer. Herewith we benefit from our large product program and are able to realise customer specific wishes quick and flexible.

The advantages of our product variety is to your benefit:

- ▶ Classical centrifugal fans with scroll
- ▶ Plug fans
- ▶ Industrial- and processfans
- ▶ Roof extract fans
- ▶ Smoke extract and impulse fans „Jet Fans“
- ▶ Fan Filter Units for cleanroom applications
- ▶ Axial flow and box fans
- ▶ Various program of drive technologies and control systems
- ▶ Complete range of accessories and options

Ongoing product improvements, highest qualification of our R&D Teams, intensive quality control, and most modern manufacturing methods ensure the consistent high standards of our products.

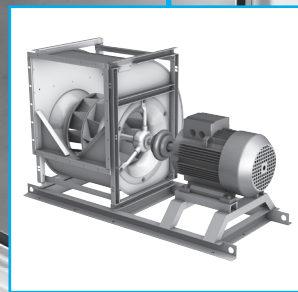
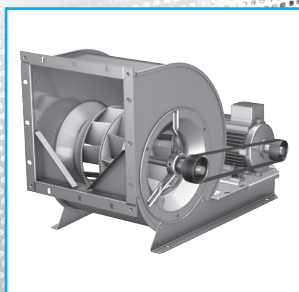
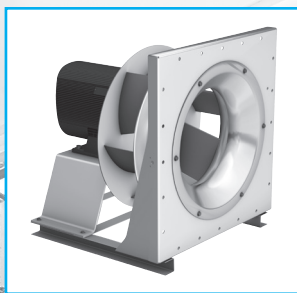
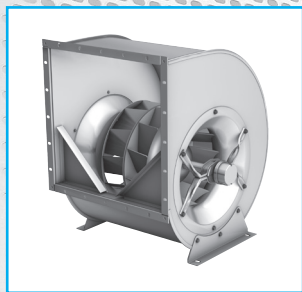
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RETROFIT SOLUTIONS FOR FAN OPTIMISATION





"Many fans are no longer operating efficiently these days. Thanks to the further development of our products, we can now offer systems that can save a lot of money just from replacement alone. Year in, year out."

Johan Roos

Lower energy consumption. Lower costs. Lower noise levels.

The Challenge

Energy consumption

Costs

Noise level

Renovation cost

Partnership

The Solution

Our fan systems Evo and Rotavent are the benchmark in energy efficiency

Investment costs in more efficient systems are, to some extent, already amortised in one year

We will assess the noise emission level of your entire system on request with a view to improvement

Obsolete fans can be replaced with the new generation having the same dimensions

Together with our customers, we sustainably improve obsolete systems. Contact us

Technically obsolete fans in ventilation systems use round about a quarter trillion kWh in energy annually.

If these older centrifugal fans were replaced by energy-optimised, next-generation fans, approx. 25% of energy would be saved.

Concretely, this means:

- ▶ Approx. 1 billion Euro in energy costs could be saved.
- ▶ Approx. 10 million tons of CO₂ emissions will be being discharged from the environment.

For example:

The community of Västerås stad, Sweden, have exchanged more than 350 fans from 2009 to 2012 with total savings of approx. 1700 MWh/year.

Additional savings of approx. € 200,000/year have been made on maintenance costs (belt drive, bearing exchange etc.). The pay-off time is calculated in total to be 6 years.

The main buildings are Schools and the goal is to exchange all belt driven fans to direct driven fans with highest efficiency.

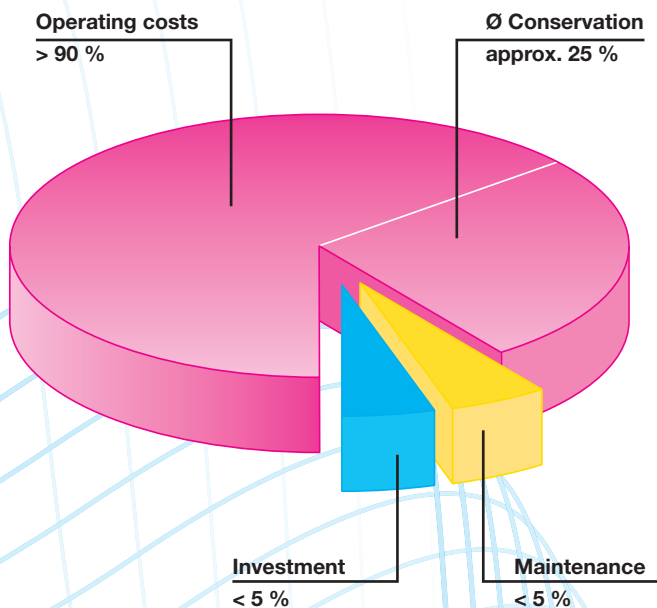
The large competence and know-how within Nicotra Gebhardt and the excellent products for retrofit have resulted in this success story!

The crucial question is thus always the issue of operating costs. It can then be seen that the most energy efficient fans are always the best investment.

We are and always will be a manufacturer of fans. Despite this, we supply more than just fans. We also provide all our expertise.

If you need it, we will be pleased to actively assist you in analysing your existing system and determine the optimisation and savings potentials.

For us, cooperation also means respecting the interests of our partners. Feel free to contact us!



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FAN SOLUTIONS FOR CLEANROOM APPLICATIONS



Join the power of a full-range supplier

Filter Fan Units (FFU) made by Nicotra Gebhardt with their perfectly matched components are designed for various kinds of industrial areas requiring clean room technology.

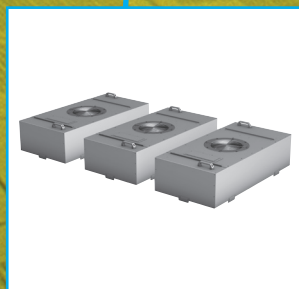
Fans, motors and control units may be of Nicotra Gebhardt standard design or they may be specially adapted to the actual requirements of a project.

A system of standard sizes makes it possible – by combining them in different ways – to fill in every special shape of a building and, in this way, to create a filter fan ceiling, actively covered by the most effective filter fan units.

Nicotra Gebhardt offers software and hardware especially developed to match the high demands for a perfect clean room system. Uneven air flow distribution can be caused by a poorly designed ventilation system or by the uneven flow of air through the filter.

The Nicotra Gebhardt FFU Monitoring and Control System consists of a FFU control network connected to a computerised FFU Control centre. This FFU System is especially made for the high demands of clean room applications.

The FFU Control centre allows control of a large quantity of FFUs in a very flexible and future oriented way.



The Challenge

Casing

Monitoring

Motors

Fans

The Solution

Our customers receive elements for a FFU as well as the complete unit from a single source

We developed control software to monitor different ventilating systems, room configurations and airflows

Thanks to our own development, the Units are equipped with the suitable drive system

We are a reliable partner with more than 50 years of experience in fan construction



*"Our aim is to make our competences the strength of our customers.
This is why we make it easy for you, as our customer, to find the right solution for your application with
our know-how and our commitment."*

Sachin Maheshwari

NICOTRA GEBHARDT WORLDWIDE

The Challenge

Performance

Quality

Service

History

The Solution

Our fans offer highest efficiency and low noise levels worldwide

Thanks to our product quality we can guarantee reliability and consistency worldwide

Our subsidiaries worldwide are close to our local customers and their applications

We are a reliable partner with more than 50 years of experience in fan construction worldwide

Over 25 years ago the Nicotra Gebhardt Group started the distribution of fan systems for the Asia Pacific Rim market. Production facilities and subsidiaries around the world are a prerequisite for close partnerships and guarantee proximity to customers.

We offer high performance fans based on Centrifugal Fans, Axial Fans and Fan Filter Units for series requirements and for single project business.

We ensure our success in the worldwide market not just because our fans are characterised by reliability and long life, but also through the constant development and improvement of our products.

Our own intensive research and development organisation, modern production, short response times, and fast and competent service have always been the most important pillars of our success.

Today the Nicotra Gebhardt Group is one of the preferred brand in the Asia Pacific Rim market.



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Nicotra Gebhardt worldwide

nicotra-gebhardt.com

AUSTRALIA

65 Yale Drive,
Epping, VIC 3076
Phone +61 3 9017 5333
Fax +61 3 8401 3969
E-mail info@nicotra.com.au

BELGIUM

Haeghensgoed, 13 - 00/01
9270 Laarne
Phone +32 (0)9-336-00-01
Fax +32 (0)9-336-00-05
E-mail info.nicotra@nicotra.be

CHINA

88 Tai'An Road, XinQiao, ShiJi, Panyu
Guangzhou 511450
PR CHINA
Phone +86 (0)20-2293 5700
Fax +86 (0)20-2293 5701
E-mail sales@nicotra-china.com

FRANCE

Leader's Park Bat A1
3 chemin des Cytises
69340 Francheville
Phone +33 (0)4 72 79 01 20
Fax +33 (0)4 72 79 01 21
E-mail f.burgevin@nicotra-gebhardt.com

GERMANY

Gebhardtstraße 19-25
74638 Waldenburg
Phone +49 (0)7942 101 0
Fax +49 (0)7942 101 170
E-mail info@nicotra-gebhardt.com

GREAT BRITAIN

Unit D, Rail Mill Way
Parkgate Business Park
Rotherham
South Yorkshire
S62 6JQ
Phone +044 01709-780760
Fax +044 01709-780762
E-mail sales@nicotra.co.uk

INDIA

Plot no 28F & 29, Sector-31, Kasna,
Greater Noida-201 308 U.P (India)
Phone +91 120 4783400
Phone +91 22 65702056 (Mumbai)
Phone +91 80 25727830 (Bangalore)
E-mail info@nicotraindia.com

ITALY

Via Modena, 18
24040 Zingonia (BG)
Phone +39 035 873 111
Fax +39 035 884 319
E-mail info@nicotra-gebhardt.com

Nicotra Gebhardt Germany

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



MALAYSIA

Lot 1799, Jalan Balakong
Taman Perindustrian Bukit Belimbing
43300 Seri Kembangan
Selangor
Phone +603 8961-2588
Fax +603 8961-8337
E-mail info_malaysia@nicotra-gebhardt.com

SPAIN

Ctra. Alcalá-Villar del Olmo, Km. 2,830
28810 Villaalbilla-Madrid
Phone +34 918-846110
Fax +34 918-859450
E-mail info@nicotra.es

SINGAPORE

3, Science Park Drive, # 04-07, The Franklin
Singapore Science Park 1
Singapore 118223
Phone +65 6265 1522
Fax +65 6265 2400
E-mail info_singapore@nicotra-gebhardt.com

Nicotra Gebhardt Italy

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

SWEDEN

Krakatorpsgratan 30
43153 Mölndal
Phone 0046 101-302600
Fax 0046 31-878590
E-mail info.se@nicotra-gebhardt.com

THAILAND

6/29 Soi Suksawadi 2, Moo 4, Suksawadi Road,
Kwang Jomthong, Khet Jomthong,
Bangkok 10150
Phone +662 476-1823-6
Fax +662 476-1827
E-mail sales@nicotra.co.th

UNITED STATES

PO BOX 900921
Sandy, Utah 84090
Phone 001(801) 733-0248
Fax 001(801) 315-9400
Mobile 001(801) 682 0898
E-mail mike.sehgal@gebhardtfans.com
<http://www.gebhardtfans.com/>

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