Fan Solutions
For All Applications

Issue 1

NICOTRA | Gebhardt

motralec
4 rue Lavoisier . ZA Lavoisier . 95223 HERBLAY CEDEX
Tel. : 01.39.97.65.10 / Fax. : 01.39.97.68.48
Demande de prix / e-mail : service-commercial@motralec.com
www.motralec.com

fan|tastic solutions

NICOTRA | Gebhardt

The premise for fantastic solutions

Aerodynamics – Acoustics – Drive Technologies – Controls

Nicotra Gebhardt employs around 1000 members of the staff in nine production sites and has sales organisations in France, Belgium, the United Kingdom, Sweden, Spain, India, China, Thailand, Singapore, Malaysia, Australia, and the USA. In addition, our sales agents and distributors are active in more than thirty countries for keeping in contact with our customers.

We offer high performance fan systems based on Centrifugal, Roof, Axial, and Process Air Fans both for series requirements and for single project business.

Our activities are based on our core competences:

- Aerodynamics
- Acoustics
- Drive Technologies
- Controls

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.

Our laborarories, powered by test equipment which complies with all international directives and the most modern standards, are the centre of research and development manned by highly qualified employees.

We hold core competences in the field of aerodynamics and acoustics related to our products as well as in drive technologies and the dedicated controls.

There are numerous patents and protective rights which confirm the innovative activities of our engineers.

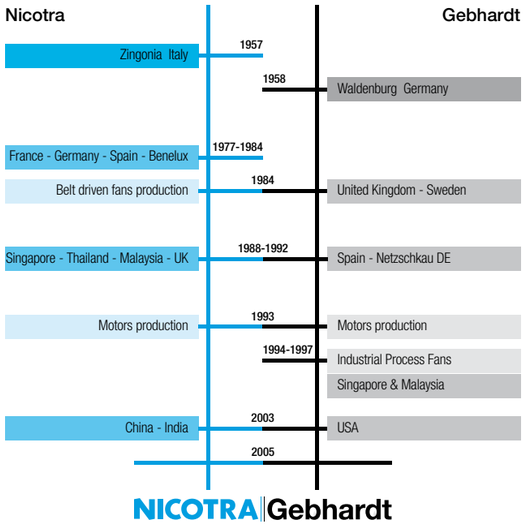
All this, an outstanding expertise, highest quality standards, and an exemplary mind for cost effectiveness make us one of the leading manufacturers of fan systems.

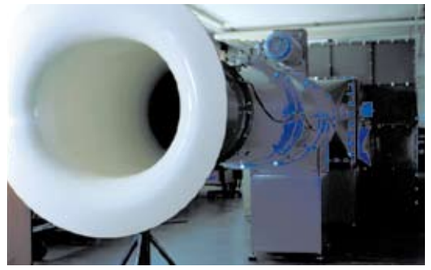
Headquarter in Italy

Nicotra Gebhardt S.p.A
Via Modena, 18
24040 Ciserano-Loc.
Zingonia (BG)
Italy

Headquarter in Germany

Nicotra Gebhardt GmbH
Gebhardtstrasse 19-25
74638 Waldenburg
Germany





Noise measurements to DIN 45 635-38 „Noise Measurement of Machines: Fans“

Fan curves measurement test rig to ISO 5801 or AMCA 210-99

Belt Driven Centrifugal Fans

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

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

Furthermore we provide appropriate documentation and fan selection program.

Our fan selection program proSELECTA II allows you to configure your own individually designed fan. Further you will get a complete documentation package with prices, technical data, dimension specifications and accessories.

Series ADH

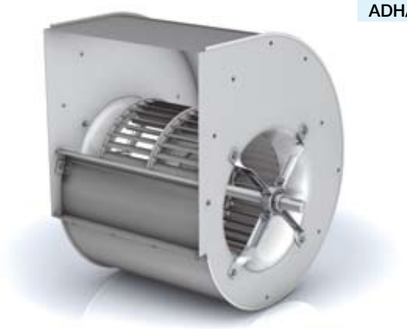
Belt driven centrifugal fan with double inlet

The ideal and versatile fan, thousand times proved for many standard applications of ventilating and air-conditioning systems.
High flow rate, low pressure, low-noise level.

- automated manufacture of compact scroll
- automated manufacture of impeller with forward-curved blades (size 0160 up to 0560)
- galvanised shaft
- various bearing solutions
- available as twin- and triple fan arrangement

Data according to tolerance class 2

ADH/AT



- sizes 0160 up to 1000
- twin fan arrangement series ADH-G2
- single inlet centrifugal fan series ASH
- series AT/AS with inch dimensions from 7/7 up to 30/28

ASH/AS

Series RDH

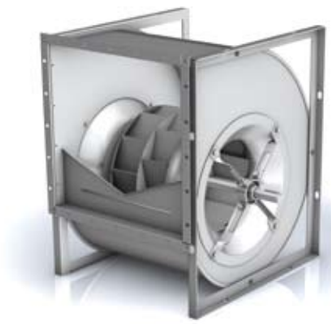
Belt driven centrifugal fan with double inlet

The ideal and cost effective fan for demanding requirements in ventilating and air-conditioning systems.

High flow rate, high pressure and high efficiency.

Data according to tolerance class 1

RDH



- sizes 0180 up to 1400
- twin fan arrangement series RDH-G2
- single inlet centrifugal fan series RSH

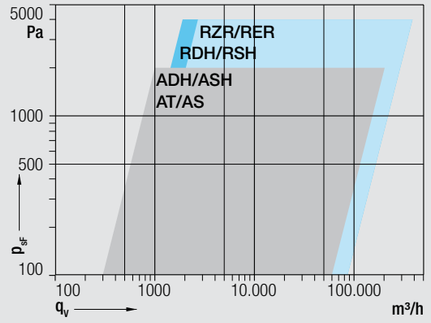
RDH-G2

Series ADH (ASH)
- lap jointed scroll made of galvanised steel sheet
- single (ASH) or double (ADH) inlet
- impeller with forward-curved blades of galvanised steel sheet
- 5 different mechanical versions
- 4 additional twin fan arrangements

Series RDH (RSH)
- lap jointed scroll made of galvanised steel sheet
- single (RSH) or double (RDH) inlet
- centrifugal impeller with backward inclined blades
- 5 different mechanical versions
- 2 additional twin fan arrangements

Series RZR (RER)
- scroll lap jointed and galvanised or welded and coated
- single (RER) or double (RZR) inlet
- impeller with backward curved aerofoil blades
- 7 different mechanical versions

Performance areas of the Belt Driven Centrifugal Fans



Highest system performance and best energy efficiency!

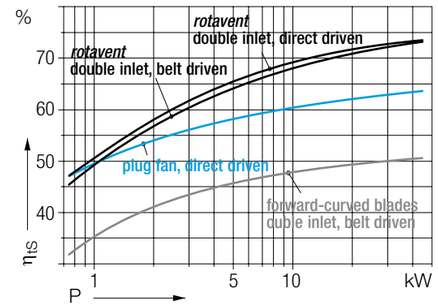
It is not difficult to make a centrifugal fan for an air conditioning unit a few euros cheaper.

But to design it in a way that it saves valuable energy during operation is a real technological challenge.

In this respect, the 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 centrifugal impeller and aerofoil blades.

Depending on the type of fan there are the following system efficiencies available:



Series RZR *rotavent*

Belt driven centrifugal fan with double inlet

Data according to tolerance class 1

RZR

- wide range of application even for high pressures
- high degree of performance density at best efficiency
- low-noise level thanks to the blade profile, blade positioning and the V-cut off
- easy and reliable fan configuration by the means of our fan selection program

RZR-BiG

- sizes 0200 up to1600
- single inlet centrifugal fan series RER

RER

Direct Driven Centrifugal Fans

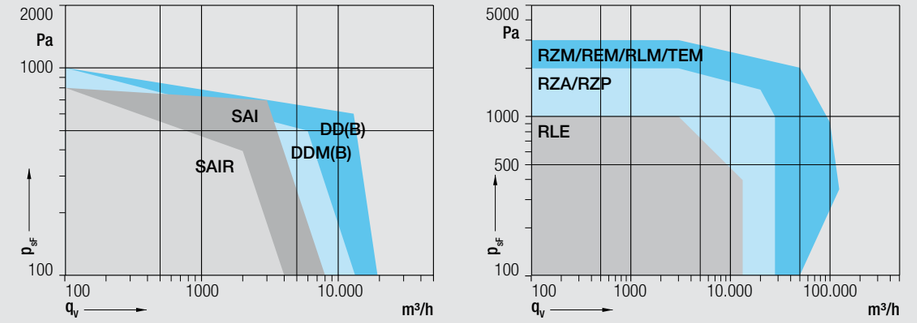
Nicotra Gebhardt offers the most extensive product range of standardised direct driven centrifugal fans with and without scroll (plug fans).

The range contains single and double inlet fans with different impeller types (backward and forward-curved blade geometries) and different drive technologies.

The fans can be driven by IEC motors or external rotor motors using AC or brushless DC technology, built-in, built-on or coupled; with stepless or stepped speed control, or pole changeable.

A product range of Direct Driven Centrifugal Fans that omits no desires.

Performance areas of the Direct Driven Centrifugal Fans

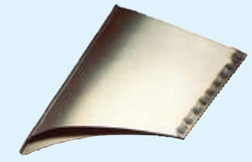


The topic *rotavent*

Direct driven centrifugal fans and rotavent - the combination of two leading-edge technologies:

The unrivalled aerodynamic efficiency of the rotavent, combined with an energy optimised drive system.

A line of direct driven centrifugal fans with high efficiency and low-noise level for demanding applications in ventilating and air-conditioning systems.



Series DDM/DDMB

The thousand times proven direct driven centrifugal fans for compact ventilations and air handling units.

- automated manufacture of compact scroll
- automated manufacture of impeller with forward-curved blades
- built-in, optimised external rotor motor
- low vibration and low-noise
- ready to connect, compact and maintenance free

DDM

Series SAIR

- single inlet with built-in external rotor motor

SAIR

Series DD/DDB

The thousand times proven direct driven centrifugal fans for compact ventilations and air handling units.

- automated manufacture of compact scroll
- automated manufacture of impeller with forward-curved blades
- built-in, optimised internal rotor motor
- low vibration and low-noise
- ready to connect, compact and maintenance free

DD

Series SAI

- single inlet with built-in IEC motor

SAI

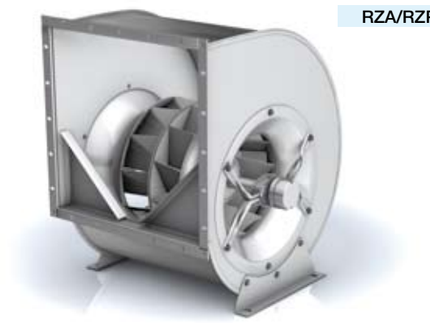
Series RZA/RZP/RZM/REM/TEM

Light, medium or heavy duty design; with lap jointed scroll made of galvanised steel sheet, equipped with stiffeners, or welded and coated.

The benefits:

- high efficiency - low energy costs
- low-noise level
- compact and ready to connect

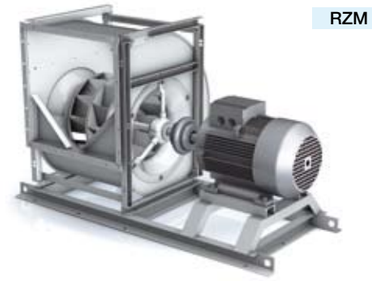
RZA/RZP



Series RZM

- double inlet with coupled IEC standard motor

RZM



Series REM

- single inlet with flanged IEC standard motor

Series TEM

- single inlet with forward curved blades and flanged IEC standard motor

Series RLM

Nicotra Gebhardt has succeeded to further improve its plug-fan series **RLM**!
By optimising the impeller geometry a significant reduction in noise level, without affecting the aerodynamic performance characteristics in any way.

The benefits:

- low-noise level
- compact and ready to connect
- volume flow measuring device (volumeter) as standard accessory

RLM

Series RLE

- centrifugal impeller with AC or brushless DC technology

RLE

Industrial Process Fans

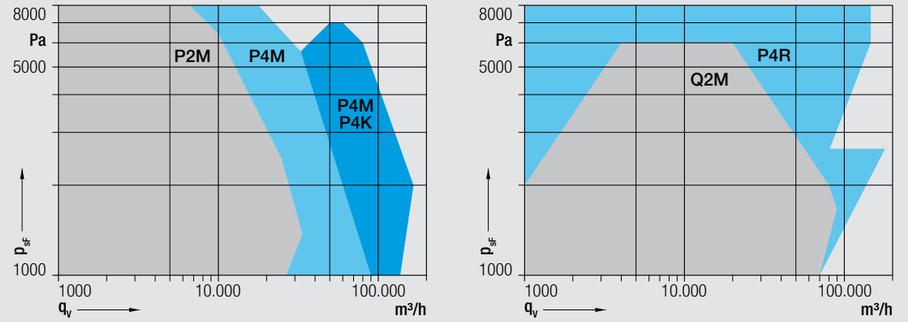
Process air fans are frequently an important component of machines and installations. In these applications they assure functions that would not be possible without a well defined air flow.

Of these specially developed, robust fans, there are several standard ranges and a number of customer-specific solutions.

Some examples of process ventilation

- Cooling of generators
- Drying agricultural products
- Ventilation of composting plants
- Extracting contaminated air from paint systems
- Circulating hot air in industrial furnaces

Performance areas of the industrial process fans



For more than 15 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, with competence, speed, and flexibility.
Our industrial products stand for highest level of quality and reliability.
We offer and supply in a short time and cost effective customer specific process air fan solutions.

P2M/P4M/P4K/P4R - with scroll

- robust welded design made of steel, coated, hot-dip galvanised, or stainless steel [1.4307 (1.4571)]
- housing positions in 45° resp. 90° increments
- several levels of gas tightness
- medium temperatures up to +300 °C
- ATEX category 2 and 3; gas and dust
- Data according to tolerance class 2 (DIN 24166)

Q2M - without scroll

- robust welded design made of steel, coated, hot-dip galvanised, or stainless steel [1.4307 (1.4571)]
- highly efficient thermal insulation
- medium temperatures up to +500 °C
- ATEX category 3; gas and dust
- Data according to tolerance class 2 (DIN 24166)

Series P2M

compact and universal – the ideal direct driven fan for many process air applications:

P2M

Series P4M/P4K

powerful and versatile – the logical extension of the P2M series with impeller diameters up to 1600.

P4M

Series P4K

- with coupling

P4K

Series P4R

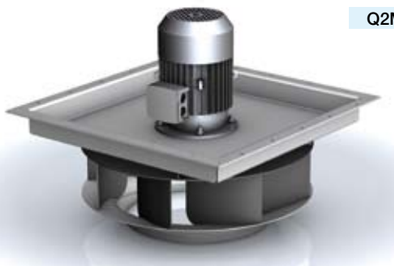
the belt driven series of the P4 - range with impeller diameters up to 1600.

P4R

Series Q2M

Direct driven plug fans without scroll available in various models with impeller diameters up to 1400.

Q2M



Q2M with highly efficient thermal insulation

Roof Extract Fans

We set benchmarks for the roofs of the world!

The consistent quality strategy of Nicotra Gebhardt has set a benchmark for the world market – but this is just the beginning.

Today we offer roof extract fan systems in a range which always allows a solutions for individual requirements:

- Perfect quality for every roof extract fan line.
- A consistent accessory system for all ranges.
- Highest flexibility for individual solutions
- Data according to tolerance class 2 (DIN 24166)
- easy and reliable fan configuration by the means of our fan selection program

„The favourable“

Efficient technology, high quality workmanship, and an ergonomical design make the **RGA** a highly attractive roof extract fan choice.

The **RGA** offers a new interpretation of the classical cowl roof extract fan at specially attractive prices.

- external rotor motor
- horizontal discharge
- cowl made of plastic

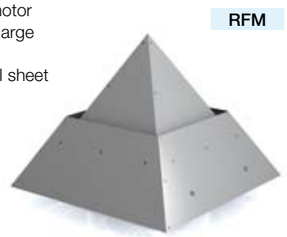
RGA

„The pyramid“

Through its outstanding and beautiful pyramid shape the **RFM** gives a special note to every roof.

- IEC-standard motor
- horizontal discharge
- cowl made of galvanised steel sheet

RFM



„The crown“

The **RKA**/**RKM** is the crowning glory of any roof.

The roof extract fan was designed by a design studio so architectural integration of the fan can be guaranteed

- casing made of galvanised steel sheet
- IEC-standard motor **RKM**
- vertical discharge
- high throw protects the roof
- iF design award 2003

RKM

RKA

- external rotor motor
- vertical discharge
- high throw protects the roof
- iF design award 2003

FDA 31

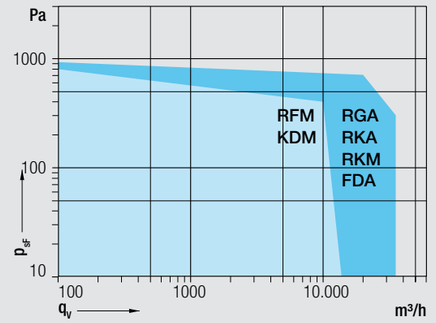
- cubic styled roof extract fans equipped with highly efficient lining reduces the discharge sound level

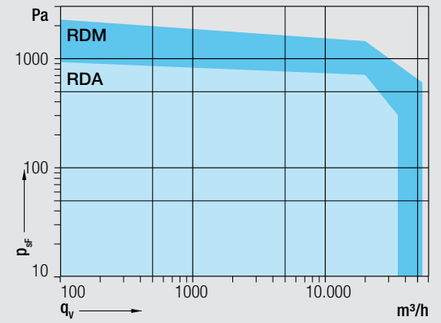
KDM 71

- plastic roof extract fans particularly suitable for exhausting aggressive gases or vapours

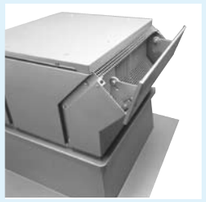
RKA

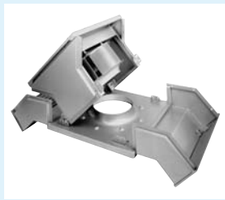
Performance areas of the Roof Extract Fans





genovent® - the hightech range for roofs with class





„The Classic“

Roof extract fans *genovent*®
The *genovent*® in every respect is a premium product: It's convincing by its powerful design, its corrosion resistant aluminium casing and multiple other technical refinements.

RDA 31

RDA 31/32

- external rotor motor
- stylish sealed casing manufactured from aluminium
- automatic backdraught shutters at discharge
- vertically directed discharge - considerable throw
- integrated sound absorbing lining for series RDA 32

RDA 21

- horizontal discharge

RDA 21

The *genovent*® is saving cash at all levels:

- because of extremely high value specification without extra cost
- because of reducing heat losses.
- because of long lasting maintenance free operation.
- because of easy fitting without special tools.
- by simply fixing down the casing.

RDM 31/32

RDM 31/32

- IEC-standard motor out of airstream
- stylish sealed casing manufactured from aluminium
- automatic backdraught shutters at discharge
- vertically directed discharge - considerable throw
- integrated sound absorbing lining for series **RDM 32**

Smoke Extract Fans

Safe smoke extraction solutions from the cellar to the roof!

Perfect smoke extraction in the case of fire not only demands absolute understanding of the techniques used – it also calls for an understanding of the nature of fire and the flow of fumes. Nicotra Gebhardt sets standards in both aspects – by using CFD to simulate the flow of smoke, for example.

We offer to you the world's largest range of mechanical smoke extraction solutions. With our wall, roof, centrifugal, axial and impulse fans, we master every form of smoke extraction, whatever the application.

We thereby ensure maximum safety throughout any building – from the underground car park to the roof – and comply with all the statutory standards for building fire protection.

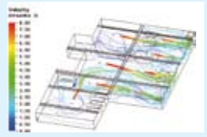
Cleaner air for underground car parks

The Jetfan is the ideal solution for increased safety in underground car parks and underpasses. Choose the ultimate system for safer and more aesthetic underground constructions

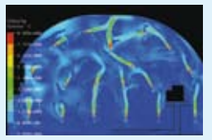
- The Jetfan can be used for partial smoke extraction or ventilation.
- The flexible positioning of the Jetfan makes sure there are no areas where air does not circulate.
- The Jetfan makes expensive, large-scale duct systems unnecessary.
- Intake air fans will not be necessary if there is a free intake section for outside air.

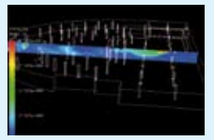
The Series

- **Axial-Jetfan AGM**
  Standard version AGM 01/11
  Designed premium version AGM 02/12
  available in 2 sizes, also available for reverse air flow, integrated silencer at both ends,
  series AGM 06/16 suitable for preventing CO-gas concentration, up to +40° C.
- **Centrifugal-Jetfan RGM 91**
  powerful standard product with centrifugal impeller, available in 2 sizes,
  series RGM 96 suitable for preventing CO-gas concentration, up to +40° C.



Smoke flow simulation for perfect planning





We will assist you in the detailed planning and dimensioning of car park ventilation equipment, by means of a smoke flow simulation using computational fluid dynamics (CFD).

With the help of CFD, the ideal smoke extraction and ventilation system – including the number and positioning of Jetfans required – can be determined for each construction project, based on the legal requirements (GarVO).

We recommend the use of an airflow-simulation for large car parks with difficult geometries. It offers maximum planning dependability and is an invaluable tool for assessing the entire system.

Smoke Extract Roof Fans *genovent*® RDM 56/57

ensuring a turbulence free discharge and suitable for smoke extraction in the case of fire up to **max. +600 °C - 120 minutes**, tested to DIN EN 12101-3, snow load class requirements SL 1000 assigned and CE certified.

Assigned for mounting above heated and unheated rooms.

Can be used as a standard ventilation fan up to max. +80 °C.

- Flow rate up to 58.000 m³/h
- Pressure up to 2.000 Pa

RDM

Smoke Extract Wall Fans RWM 57

suitable for smoke extraction in the case of fire up to **max. +600 °C - 120 minutes**, tested to DIN EN 12101-3, and CE certified. Can be used as a standard ventilation fan up to max. +80 °C.

RWM

- Flow rate up to 37.000 m³/h
- Pressure up to 1.000 Pa

Smoke Extract Centrifugal Fans REM BU/BI

Single inlet, with direct drive, suitable for smoke extraction in the case of fire up to **max. +600 °C - 120 minutes**, certified for installation outside of buildings, tested to DIN EN 12101-3, and CE certified.

Can be used as a standard ventilation fan up to max. +100 °C.

REM BI

With insulating enclosure, certified for installation inside of buildings – outside room with fire risk

- Flow rate up to 31.000 m³/h
- Pressure up to 1.500 Pa

REM

RER 13/17

single inlet belt drive, suitable for smoke extraction in the case of fire up to **max. +400 °C - 120 minutes**, certified for installation outside of buildings, tested to DIN EN 12101-3, and CE certified. Can be used as a standard ventilation fan up to max. +80 °C.

Optionally with insulation housing for installation inside of buildings, outside room with fire risk

RER

- Flow rate up to 150.000 m³/h
- Pressure up to 3.000 Pa

Axial Smoke Extract Impulse Jetfan AGM 02/12

suitable for smoke extraction in the case of fire up to **max. 300 °C – 120 minutes**, tested to DIN EN 12101-3, and CE certified.

- Thrust up to 52 N

AGM 02/12

Axial Smoke Extract Impulse Jetfan AGM 01/11

suitable for smoke extraction in the case of fire up to **max. 300 °C – 120 minutes**, tested to DIN EN 12101-3, and CE certified.

- Thrust up to 52 N

AGM 01/11

Centrifugal Smoke Extract Induction Jetfan RGM

suitable for smoke extraction in the case of fire up to **max. 300 °C – 120 minutes,** tested to DIN EN 12101-3 and CE certified.

- Thrust up to 75 N

RGM

Smoke Extract Axial Fans SLCS

suitable for smoke extraction in the case of fire
SLCS 300 °C – 120 min.
SLCS 400 °C – 120 min.

- Flow rate up to 75.000 m³/h

SLCS

FFU, Cabinet Fans, Axial Fans

Clean room processes call for the most advanced ventilation technologies that match to the specifications of the building infrastructure.

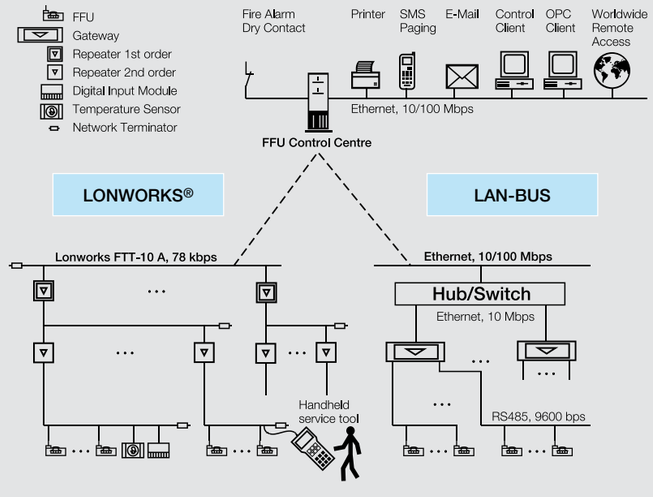
Thereby the Filter Fan Units are the key elements in clean room ventilation systems.

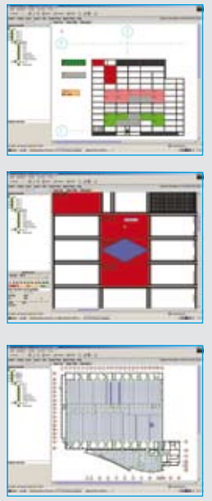
Filter Fan Units (FFU) made by Nicotra Gebhardt with their perfectly matched components are designed for various kinds of industrial areas requiring clean room technology.

Starting from standard FFU design, our team of experts implements the specification for your special project.

Network Topology:

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.
At the heart of the system is a control centre (server) which contains network management, process control and web server as main parts.





Fan Filter Units FFU

Construction materials:

- galvanised steel sheet
- aluminium zinc coated
- aluminium
- stainless steel

Network Topology:

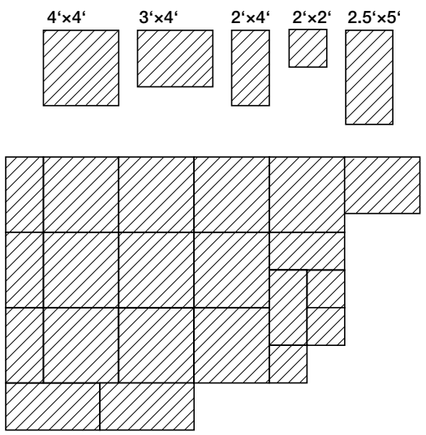
- LAN-Bus-technology
- LONWORKS - technology

FFU

Motor impeller unit:

- single phase, three phase
- brushless DC technology
- UL listed

Main dimensions of the standard sizes



Using standard sizes to adapt for special building requirements

Axial Flow Fans AD

for the Asian and Pacific Rim market

The Nicotra Gebhardt Axial Flow Fans are available in various models:

Series **ADT/ADTA** – long casing, inlet and discharge side with flange

Series **ADS** – short casing, inlet and discharge side with flange

Series **ADM** - short casing, discharge side with flange and inlet side with integral inlet nozzle

- direct driven with IEC standard motor
- Impeller diameter up to1400 mm
- Flow rate up to 180.000 m³/h
- Pressure up to 1.600 Pa

ADT

Axial Flow Fans AQA, AWA, ARA, ATA

for the European Market

- direct driven with external rotor motor
- Impeller diameter up to 630 mm
- Flow rate up to 16.000 m³/h
- Pressure up to 300 Pa

AQA

Cabinet Fans (Ventilation boxes) CD

for the Asian and Pacific Rim market

Nicotra Gebhardt offers a range of cabinet fans, consisting of an external enclosure, containing either a direct driven fan or a belt driven fan.

A cabinet fan is the perfect solution for simple ventilation tasks and suitable for indoor or outdoor installation.

Indoor- on both sides possible duct connection

Outdoor- discharge side with rain-proof louver

- Flow rate up to 3.500 m³/h
- Pressure up to 500 Pa

CD

Cabinet Fans TBA/RBA

for the European Market

TBA