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# EXTRACTION SYSTEMS WITH ROOF-MOUNTED FANS

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ISO 9001

BUREAU VERITAS

# OUR COMMITMENT TO THE **ENVIRONMENT**

Sodeca has embarked on a new phase of studying and designing new ventilation trends to help protect the environment and save energy, both matters of great concern for modern society.



SODECA presents its new "Efficient Work" high performance fans, fitted with next-generation motors to obtain higher energy savings. These new products exceed the requirements of the ErP 2009/125/CE Ecodesign Directive and its regulating provisions (EU) 327/2011 for fans, collaborating with the EU KYOTO Protocol objective of reducing carbon emissions.

SODECA focuses its business activity on the manufacture of industrial fans, ventilation systems and smoke extractor fans for fire protection since it was set up in 1983.

The fans and extractor fans manufactured by SODECA are present in Europe and in many other parts of the world due to their quality and the research and development methods used.

Our quality procedures, certified by BUREAU VERITAS in accordance with ISO 9001:2008, are another reason why SODECA is positioned as one of the best and most recognised fan manufacturer in Europe.

There is no doubt that the most important element in achieving our objectives is the human factor and the professionals who work in the company and offer not only ventilation equipment but solutions to all the needs of our customers in the ventilation sector.

We offer them the option of visiting our facilities in Sant Quirze de Besora, with a developed surface area of more than 16,000 m<sup>2</sup>, to see our fan production plant, which complies with the highest quality requirements and with the ISO and AMCA standards.

This catalogue contains just a few of all the options we offer. Please contact us and we will place all our experience and staff at your disposal.



Headquarters of SODECA S.L.U., in Sant Quirze de Besora



# EXTRACTION SYSTEMS WITH ROOF-MOUNTED FANS

Since it was first established, Sodeca has specialised in the design and manufacture of fans and their accessories for industrial applications.

The combination of its experience gained over decades of working with fans and the technology provided by the engineers employed in its different departments has allowed Sodeca to occupy a leading international position as a fan manufacturer.

Industrial applications require an important capacity to adapt to the specifications of each project and flexibility in production in order to comply with the real needs of each client.

To fulfil this objective, Sodeca has a standard products line and a special products line for building fans adapted to the demands of all our clients.

For years it has invested continuously in the development of internal processes and applications with a view to manufacturing and supplying special fans for use in industry that have extremely short design and manufacturing times.

The teamwork of our engineering department, in conjunction with universities and technological centres, and the close cooperation between the design departments of our external partners has made it possible to obtain new industrial fan solutions in a very short space of time.

During our history, we have developed all manner of fan technology for industrial applications in all parts of the world. Our aim is to continue to invest in this sector in order to become one of the most reputed global industrial fan manufacturers.

# EXTRACTION SYSTEMS WITH ROOF-MOUNTED FANS

Roof-mounted fans eliminate the harmful effects created when high temperatures and humidity make work and physical effort difficult. They also help extend the life of the structural elements of buildings and warehouses by preventing condensation and humidity. An adequate ventilation system in industrial buildings will considerable reduce cooling and heating expenditure. This type of system easily, continuously and effectively eliminates heat and humidity.

The Sodeca roof-mounted extractors and fans can be adapted to any type of roof. Their different models offer the perfect solution for each installation, thus optimising its operation.

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## **ENERGY SAVINGS**

The Sodeca EFFICIENT WORK fans, which have built-in next generation IE4 E.C. high-performance motors, are designed to reduce the daily energy consumption by around 45%. In addition, they can be controlled with intelligent ventilation systems that determine the ventilation needs appropriate at any given time, thus reducing energy consumption as much as possible.



## **SAFETY IN THE EVENT OF FIRE**

The fire protection standards make it obligatory to apply temperature control and smoke extraction systems in accordance with standard UNE / EN-23585, calculation and design requirements and methods for planning a temperature control and smoke extraction system in the event of fire. To provide a solution to the needs established by this standard, approved roof-mounted fans exist for this purpose, pursuant to standard EN-12101-3 with an F-400 (400°C/2h) or F-300 (300°C/2h) certificate.

## **COMFORT AND NOISE REDUCTION**

A working environment with the appropriate conditions of comfort is absolutely necessary to ensure an efficient job performance. The installation of outdoor fans brings greater comfort to work zones, reducing noise and the occupation of space in industrial buildings.

## **REDUCTION IN HEAT AND MOISTURE**

The hot air generated by indoor activity and heating of the roof due to solar radiation transform the roofs of industrial buildings into huge radiators that give off heat, which is transferred to work areas, increasing the temperature and the electricity bill due to a greater need for cooling. Furthermore, in colder climates, condensation increases the moisture level, saturating the insulation material of roofs and reducing their efficiency. A good ventilation system helps prevent all these effects which are harmful to the building structure and to people's health.

## **MAINTENANCE AND CLEANING**

It is very important for roof-mounted fans to be easy to clean, as they are very difficult to access. The maintenance of all the extraction system elements is essential and very important to achieve a high standard of cleaning and obtain the required grade of hygiene in each installation, thus preventing the possibility of handling contaminated air particles. Ease in the maintenance and installation of roof equipment leads to important cost savings, which is a factor to be considered.









## **BOOF-MOUNTED AXIAL EXTRACTOR FANS**





HT 71...100

# HT

#### Roof-mounted axial extractor fans with flat bases

Roof-mounted axial extractor fans with fibreglass reinforced plastic rotor and flat base for installing on roof.

- Fan Painted, galvanised sheet steel support base.
  - base. Fibreglass reinforced polyamide-6 rotors, except for 100 models which have 4 poles in aluminium. Bird control grille.
- Rain cap made of painted galvanised sheet steel, with anti-corrosive protection. Motor-rotor airflow direction.



# HTTI

#### Roof-mounted axial extractor fans with inclined support

Roof-mounted axial extractor fans adapted to the roof inclination, with built-in safety switch.

#### Fan:

- Galvanised sheet steel support base Fibreglass reinforced polyamide-6 rotors
- Rain cap
- Motor-rotor airflow direction



## нтмн

#### Roof-mounted multifunctional extractor fans for large flow rates

Roof-mounted multifunctional extractor fans with robust structures for extraction operations with large flow rates.

- Fan Painted, galvanised sheet steel support base. Cast aluminium orientable rotors.
- Anti-contact protective grille pursuant to standard UNE-EN ISO 12499:2010. Painted, galvanised sheet steel rain cap,
- with natural air outlet.



## HTMV

#### Roof-mounted axial extractor fans with vertical air outlet

Roof-mounted axial extractor fans with vertical air outlet, designed for the extraction of large air volumes in industrial or similar buildings.

#### Fan

- Galvanised sheet steel support base with anti-corrosive treatment.
- Cast aluminium orientable rotors. Anti-contact protective grille pursuant to standard UNE-EN ISO 12499.
- Anti-return hatch in aluminium sheet metal to prevent the entry of water when the fan is not operating.
- Motor-rotor airflow direction.

## ROOF-MOUNTED CENTRIFUGAL EXTRACTOR FANS



# CRF

#### Roof-mounted centrifugal extractor fans, with low noise level

Roof-mounted centrifugal extractor fans with low noise level and external rotor motor.

- Fan Made of galvanised sheet steel Turbine with reaction blades built of
- aluminium sheet metal except for models 225 and 250 which have a galvanised sheet steel turbine.
- Bird control grille. Folding body for ease of inspection and maintenance.



# FRF

#### Roof-mounted centrifugal extractor fans, with vertical air outlet Fan:

- Reaction turbine with external rotor motor.
- Aluminium profile structure and box with heat and acoustic insulation, and aluminium sheet metal finish. Turbine with reaction blades built of
- aluminium sheet metal except for models 225 and 250 which have a galvanised sheet steel turbine.
- Folding turbine-motor unit to facilitate maintenance and cleaning. Built-in safety switch. Built-in water outlet drain.



# CHT

400°C/2h centrifugal roof-mounted extractor fans, with horizontal air outlet 400°C/2h centrifugal roof-mounted extractor fans, with horizontal air outlet and aluminium rain cap.

- Fan Galvanised sheet steel support base. Turbine with reaction blades, made of
- - galvanised sheet steel. Bird control grille.
  - Aluminium rain cap.
  - Approved based on standard EN 12101-3:2002/AC:2006, with certificate no. 0370-CPR-0897.



# **CVT**

#### 400°C/2h centrifugal roof-mounted extractor fans, with vertical air outlet

400°C/2h centrifugal roof-mounted extractor fans, with vertical air outlet and aluminium rain cap.

#### Fan

- Galvanised sheet steel support base. Turbine with reaction blades, made of
- galvanised sheet steel. Bird control grille.
- Aluminium rain cap.
- Approved based on standard EN 12101-3:2002/AC:2006, with certificate no. 0370-CPR-0897.





## **ROOF-MOUNTED CENTRIFUGAL EXTRACTOR FANS**



# RFH

400°C/2h centrifugal roof-mounted extractor fans, with horizontal air outlet and aluminium rain cap

- Fan Galvanised sheet steel support base
- Turbine with reaction blades, made of galvanised sheet steel Bird control grille
- Aluminium rain cap
- Approved in accordance with standard EN 12101-3:2002/AC:2006



# **RFV**

400°C/2h centrifugal roof-mounted extractor fans, with vertical air outlet and aluminium rain cap

- Fan Galvanised sheet steel support base

- Galvanised sheet steel support base Turbine with reaction blades, made of galvanised sheet steel Bird control grille Aluminium rain cap Approved in accordance with standard EN 12101-3:2002/AC:2006

F-400 CERTIFICATE

## **BOOF-MOUNTED SMOKE EXTRACTOR FANS**



## **HTMF**

400°C/2h (F-400) and 300°C/2h (F-300) rated roof-mounted multifunctional extractor fans 400°C/2h rated roof-mounted multifunctional extractor fans for work in fire risk zones, designed for smoke extraction in industrial

or similar buildings. Fan:

- Sheet steel support base.
- Cast aluminium orientable rotors. Anti-contact protective grille pursuant to standard UNE-EN ISO 12499.
- Sheet steel rain cap, with natural air outlet. Approved based on standard EN 12101-3:2002/AC:2006, with certificate no. 0370-CPR-0544.



# THT/ROOF

#### 400°C/2h and 300°C/2h roof-mounted axial extractor fans with vertical air outlet

Roof-mounted axial extractor fans with vertical air outlet, for work in fire risk zones, designed for smoke extraction in industrial or similar buildings.

#### Fan

- Galvanised sheet steel support base with anti-corrosive treatment. Cast aluminium orientable rotors.
- Anti-contact protective grille pursuant to standard UNE-EN ISO 12499. Anti-return hatch in aluminium sheet metal to prevent the entry of water when the fan
- Approved in accordance with standard EN 12101-3. With 0370-CPR-0305 (F400) and 0370-CPR-0973 (F300) certificates.
- Motor-rotor airflow direction.



# THT/HATCH

400°C/2h rated dynamic discharge system with motorised opening function, fitted with roof-mounted extractor, for smoke extraction in the event of fire

Dynamic discharge systems with roof-mounted extractors and motorised opening function. Specially designed for the fast, effective extraction of harmful smoke and gases in the event of fire. Suitable for installation in industrial or commercial buildings. Approved based on standard EN 12101-3:2002/AC:2006, with F-400 certificate.

- Fan: THT series extractors, with F-400 certificate no. 0370-CPR-0305.
- Tubular wrap in sheet steel with polyester resin anti-corrosive
- treatment. Cast aluminium orientable rotors.



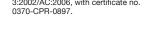
**CHT CVT** 

## 400°C/2h centrifugal roof-mounted extractor fans, with horizontal or vertical air outlet

CHT: 400°C/2h centrifugal roof-mounted extractor fans, with horizontal air outlet and aluminium rain cap.

CVT: 400°C/2h centrifugal roof-mounted extractor fans, with vertical air outlet and aluminium rain cap. Fan

- Galvanised sheet steel support base. Turbine with reaction blades, made of galvanised sheet steel. Bird control grille. .
- Aluminium rain cap. Approved based on standard EN 12101-3:2002/AC:2006, with certificate no.







## ROOF-MOUNTED ATEX EXTRACTOR FANS FOR EXPLOSIVE ATMOSPHERES



## **RFHD**

#### Roof-mounted centrifugal extractor fans with horizontal outlet and ATEX Ex d certification

Centrifugal roof-mounted extractor fans. with horizontal air outlet and aluminium rain cap. ATEX Certification and CEE ExII2G Ex d explosion-proof motor for working in explosive atmospheres.

- Fan: Support base in galvanised sheet steel, support base inteke pozzle, in accordance with brass intake nozzle, in accordance with standard EN-14986:2007.
- Turbine with reaction blades, made of galvanised sheet steel. Bird control grille.
- Aluminium rain cap.







ATEX CERTIFICATION

# **HT/ATEX**

#### Roof-mounted axial extractor fans with ATEX Certification and possibility of Ex e, Ex d. Ex tc and Ex tb marking

Roof-mounted extractor fans with flat base and ATEX Certification, with CEE ExII2G Ex e anti-explosion, CEE ExII2G Ex d, Ex tc, or Ex tb explosion-proof motor for working in explosive atmospheres containing dust or gas. Fan

- Support base in sheet steel with aluminium strip in rotor zone, in accordance with standard EN-14986:2007.
- Cast aluminium rotor. Non-sparking cable gland included. Anti-contact protective grille pursuant to standard UNE-EN ISO 12499:2010.
- Aluminium sheet metal rain cap, with anti-corrosive protection, except for models 80, 90,100 which are made of polyester.
- Motor-rotor airflow direction.



# HTMH/ATEX

Roof-mounted axial extractor fans with ATEX Certification and possibility of Ex e, Ex d, Ex tc and Ex tb marking

Roof-mounted extractor fans with flat base and ATEX Certification, with CEE ExII2G Ex e anti-explosion, CEE ExII2G Ex d, Ex tc, or Ex tb explosion-proof motor for working in explosing durb are explosive atmospheres containing dust or gas Fan:

- Support base in sheet steel with aluminium strip in rotor zone, in accordance with standard EN-14986:2007.
- Cast aluminium rotor. Non-sparking cable gland included.
- Anti-contact protective grille pursuant to standard UNE-EN ISO 12499:2010. Aluminium sheet metal rain cap, with anticorrosive protection, except for models 80.
- 90,100 which are made of polyester. Motor-rotor airflow direction.





#### Roof-mounted centrifugal extractor fans with horizontal or vertical air outlet. ATEX Certification and possibility of Ex e, Ex d, Ex tc and Ex tb marking

CHT: Roof-mounted centrifugal extractor fans with horizontal air outlet and aluminium rain cap, ATEX Certification, with CEE ExII2G Ex e anti-explosion, CEE ExII2G Ex (b ExiI2G ex to e anti-explosion-proof motor for working in explosive atmospheres containing dust or gas.

CVT: Roof-mounted centrifugal extractor fans with vertical air outlet and aluminium rain cap, ATEX Certification, with CEE ExII2G Ex e anti-explosion, CEE ExII2G Ex d, Ex tc, or Ex tb explosion-proof motor for working in explosive atmospheres containing dust or gas. Fan:

- ATEX support base with copper intake nozzle, in accordance with standard EN-14986-2007
- Turbine with reaction blades. Bird control grille.
- Aluminium rain cap



# **HTMV/ATEX**

Roof-mounted axial extractor fans with vertical air outlet, ATEX Certification and possibility of Ex e, Ex d, Ex tc and Ex tb marking

Roof-mounted extractor fans with flat base and ATEX Certification, with CEE ExII2G Ex e anti-explosion, CEE ExII2G Ex d, Ex tc, or Ex tb explosion-proof motor for working in explosive atmospheres containing dust or gas.

- Fan: Support base in sheet steel with aluminium strip in rotor zone, in accordance with standard EN-14986:2007.

- Cast aluminium rotor. Non-sparking cable gland included. Anti-contact protective grille pursuant to standard UNE-EN ISO 12499:2010.
- Aluminium sheet metal rain cap, with anti-corrosive protection, except for models 80, 90,100 which are made of polyester.
- Motor-rotor airflow direction.



## ROOF-MOUNTED EFFICIENT WORK EXTRACTOR FANS







## **CRF/EW**

Roof-mounted centrifugal extractor fans with low noise level, fitted with an E.C. Brushless motor

Roof-mounted centrifugal extractor fans with low noise level and external rotor motor, fitted with an E.C. Brushless motor and speed regulation potentiometer.

Fan Made of galvanised sheet steel.

Turbine with reaction blades made of plastic material Bird control grille Folding body for ease of inspection and maintenance.





# **CHT/EW**

400°C/2h centrifugal roof-mounted extractor fans, with horizontal or vertical air outlet, fitted with an E.C. Brushless industrial motor

CHT/EW: 400°C/2h centrifugal roof-mounted extractor fans, with horizontal air outlet and aluminium rain cap, fitted with an E.C. Brushless industrial motor CVT/EW: 400°C/2h centrifugal roof-mounted extractor fans, with vertical air outlet and aluminium rain cap, fitted with an E.C. Brushless industrial motor. Fan:

- Galvanised sheet steel support base. Turbine with reaction blades, made of
- galvanised sheet steel. Bird control grille. Aluminium rain cap.

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## **FFFICIENT WORK SOLUTIONS**



Synchronous E.C. Industrial Brushless Asynchronous three-phase IE3 high motors with permanent magnets and performance motors fitted optionally an efficiency up to 27% higher than its asynchronous equivalent. Also manufac-tured with variable speed drive (VSD).



with a variable speed drive (VSD), in accordance with the 2009/640/EC Regula-tion efficiency requirements for electric motors.

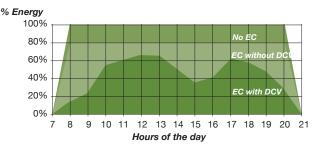
The electronic variable speed drives (VSD) permit the fan speed to be adjusted to demand, thus obtaining extra energy savings. SODECA has a wide range of electronic control accessories for use in conjunction with the vari-

able speed drive. Control the temperature, humidity, CO. or pressure of your facility by adjusting the fan speed to the demand. The electronic variable speed drives (VSD) can also be connected to single- or three-phase net-works with an extensive range of supply voltages and frequencies.

## COMPARISON OF ENERGY SAVINGS

Just replacing the fan installed with a fan fitted with EC technology will allow you to obtain electricity consumption savings of 21%. If in addition you install an electronic control to regulate the variable speed drive (VSD), you will have a demand controlled ventilation (DCV) system and obtain higher savings.

In the following case, a simulation is made of ventilation demand in an office block on a business day (7am-9pm), according to the "Demand Controlled Ventilation Systems" technical report set out in Annex 18 of the International Energy Agency (IEA).



# FRF/EW

Roof-mounted centrifugal extractor fans, with vertical air outlet

Fan

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- Reaction turbine with external rotor motor. Aluminium profile structure and box with heat and acoustic insulation, and aluminium
- sheet metal finish. Sheet metal finish. Turbine with reaction blades built of aluminium sheet metal except for models 225 and 250 which have a galvanised sheet
- steel turbine Folding turbine-motor unit to facilitate maintenance and cleaning.
- Built-in safety switch. Built-in water outlet drain.

The energy savings obtained after replacing the conventional ventilation system in the above case with an EC demand controlled ventilation system is given below. The average savings percentage is 50%.

Energy savings enable the excess cost of the EC equipment to be quickly amortised. It is a profitable option, with or without a demand control ventilation system.



SODECA



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**EFFICIENT WORK FANS** 



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