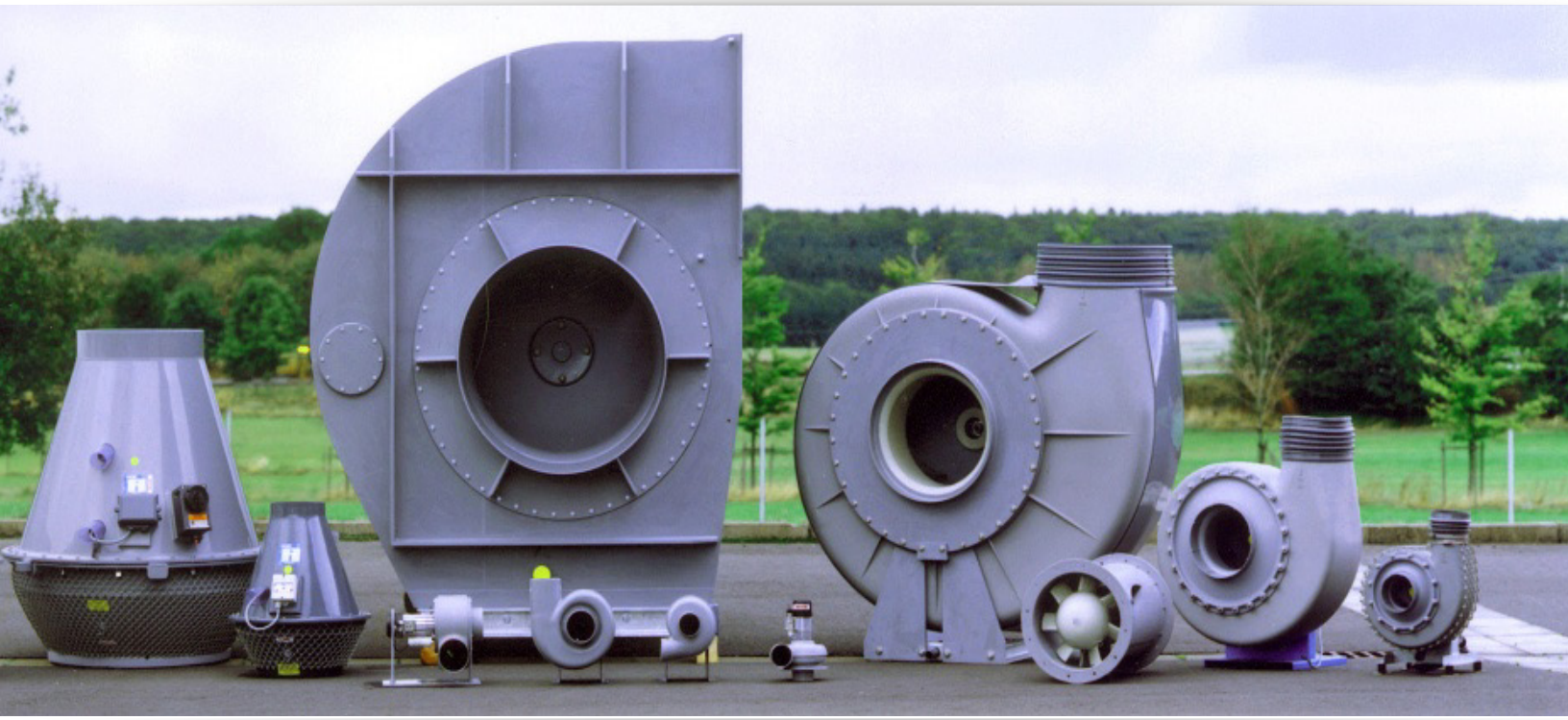
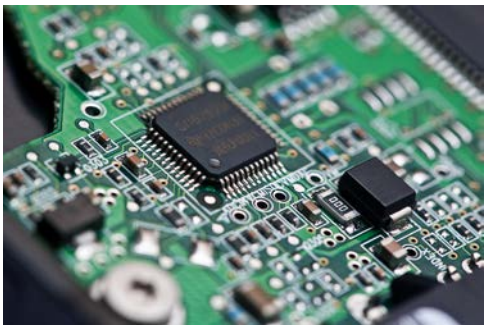
SIMTECH Process Systems | Expertise In Engineered Plastics



# AirTech® - High Efficiency Fans and Equipment

# Applications for Plastic Fans



Semiconductor Industry

Waste Water Treatment

Chemical Industry

Metal Treatment Pickling Lines

Labatory Exhaust

Mining Industry

# User List

Imtech

corodex Industries

BOSCH

KOSTAL

suez environnement Degrémont

B BRAUN SHARING EXPERTISE

Infineon

EVONIK INDUSTRIES

WACKER

MERCK

COFELY GDF SUEZ

Caverion

PHILIPS

Roche

AKKiM

SMIC

SIEMENS

PETRONAS

SWAROVSKI

SOLVAY

Mercedes-Benz

Fraunhofer

BASF The Chemical Company

## Polyvinyl chloride – PVC

**Properities:**

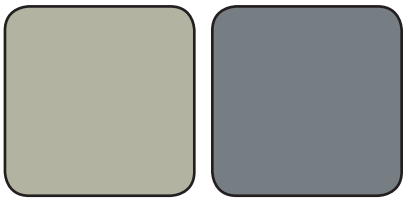
- For some chemicals higher resistance than PE/PP (i.e. chromic acid, chlorine, ozone)
- Low price
- Can be cemented (PE and PP have to be welded)

## Polyethylene – PE

**Properities:**

- Good chemical resistance against inorganic acids
- Low price
- Good cold viscosity
- High UV resistance

## Polypropylene – PP/PPs



**Properities:**

- Good chemical resistance against inorganic acids
- Low price
- Good mechanical strength

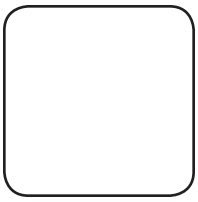
# Materials

## Polypropylene EL – PPs-EL

**Properities:**

- Good chemical resistance similar to PP
- Suitable for ATEX zone 1

## Polyvinyldine fluoride – PVDF



**Properities:**

- Very high chemical resistance
- Good heat resistance (up to 100 °C)

## Fiber reinforced plastic – GFRP/CFRP

**Properities:**

- High mechanical strength
- Good heat resistance (up to 90 °C)
- Good chemical resistance

# Types of Fans

## Radial fans

Simtech radial fans are used to convey chemically aggressive exhaust air. Whether for high volume flows, high pressures or to meet the demand for special materials, HF radial fans are the efficient “all-rounders” among fans.

From standard products through to individual special solutions, our fans will provide you with a wide range of possible uses.

All models are optionally available in an explosion-protected ATEX version for Zone 1 and Zone 2.

### Roof fans

Due to the vertical suction from below and mounting position outside the building, roof fans are ideally suited for use, say, with fume cupboards (fume hoods) in schools and research establishments.

The exhaust air is expelled vertically, thereby minimizing the deposit of aggressive substances on the roof. The internally mounted motor is separated from the exhaust air flow and does not come into contact with the aggressive medium being transported. Any rainwater falling into the exhaust opening is discharged at the bottom of the housing and is therefore unable to penetrate the pipework connected to the suction side. Standard motors (without explosion protection) include lockable repair switches to enable the fan to be disconnected from the mains supply for on-site maintenance and repair work.

Our radial roof fans are optionally available in an ATEX explosion-protected version for Zone 2 and Zone 1.

### Axial fans

Compact installation dimensions are combined with high volume flows. Axial fans can be fitted in any position to the suction or pressure side of the pipe system.

The internally mounted motor is encapsulated from the exhaust air flow and does not come into contact with the contaminated medium being transported. Axial fans are optionally available in an ATEX explosion-protected version for Zone 2.

# HF R 75-16 D and HF R 110-18 D

Can be used in any applications with small air quantities
Mainly used for 24h exhaust air with chemical storage cupboards
Low weight and compact dimensions ensure easy installation

Features:

- CFM: 12 - 295, max.
- W.C.: 2 in
- Size Range: 2½” to 4”
- Motors 2- and 4-pole
- PPs/PPs-EL casings and impellers
- Available for ATEX zone 1 and 2
- Standard fan for chemical storages

# HF R 15/17

Can be used in any application with average air quantities. Mainly for extraction from fume cupboards and chemical cupboards in laboratories with optional accessories, can also be used for more demanding industrial applications such as the extraction from baths in the electroplating industry

Features:

- CFM: 35 - 10,000, max.
- W.C.: 12 in
- Size Range: 4” to 20”
- Casings PEs, impellers PPs or FRP
- Available for ATEX zone 2, most popular sizes for zone 1
- Direct or belt driven, motors 2-, 4-, 6- or 8-pole
- Available with direct drive or belt drive
- Housing in PEs as standard, optionally available in electrically conductive PEs-EL for use in ATEX Zone 1

# HF R 13

Can be used in any application with large quantities of air such as electroplating baths, semiconductor industry, water treatment plants and in special process exhaust air applications
A further application area is collected exhaust air in large laboratory operations at universities and research institutes as well as in the chemical industry
A wide range of possible materials for housings and impellers means that the fans can be optimally configured for corresponding requirements

## Features:

- CFM: 590 - 176,000, max.
- W.C.: 20 in
- Size Range: 18” to 60”
- Casings and impellers in various materials
- Available for ATEX zone 1 and 2
- Direct or belt driven, motors 2-, 4-, 6- or 8-pole
- Available in Polypropylen (PP, PPs, PPs-EL), Polyethylen (PE), Polyvinylchlorid (PVC) optionally in Polyvinylidenfluorid (PVDF)

# High-Pressure Fans HF R 48

To achieve high pressures at low volume flow. Typical applications are relieving hood exhaust air, multi-level exhaust air cleaning, liquid baths and many special applications for process exhaust air. A wide range of possible materials for housings and impeller coating means that the fans can be optimally configured for corresponding requirements

Features:

- CFM: 12 - 5,885 CFM, max.
- W.C.: 28 in
- Size Range: 1½” to 8”
- Casings in various materials, impellers PP or coated steel
- Available for ATEX zone 1 and 2
- Standard belt driven
- Impellers are made of high-quality steels as standard and protected against chemical attacks using special industrial coating systems
- Available with belt drive as standard (model RF)

# HF R 13

Optimal for extracting digesters in buildings without central air conditioning
Internal motors separated from the airflow

Features:

- CFM: 30 - 3530, max.
- W.C.: 6 in
- Size Range: 4” to 12”
- Casing material PEs, impeller PPs
- Available for ATEX zone 2
- Standard with maintenance switch
- Housing in PEs as standard, optional for use in A
- 2-, 4-, 6- and 8-pole motors available

# HF D 16

Optimal for extracting digesters in buildings without central air conditioning. Internal motors separated from the airflow. Shaft seal gap is brought to a minimal gap with a felt-ring seal as a standard feature

Features:

- CFM: 294 - 4708, max.
- W.C.: 5.62 in
- Size Range: 12” to 16”
- Housing in PPs as standard, optionally available in electrically conductive PEs-EL for use in ATEX Zone 1

# HF D 13

Suitable for use with large air volumes such as common air outlet and direct hall exhaust air without piping systems. Internal motors separated from the airflow. Shaft seal gap is brought to a minimal gap with a felt-ring seal as standard feature.

Features:

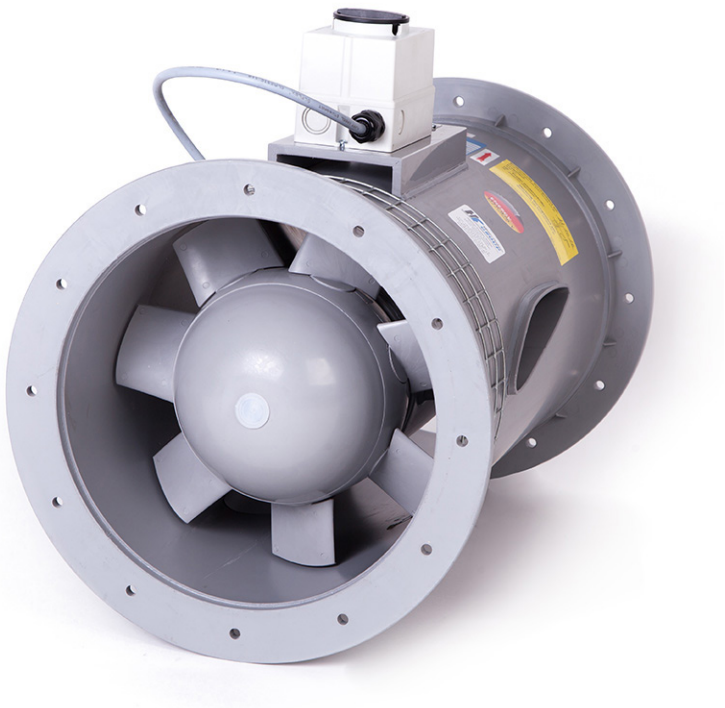
- CFM: 2354 - 23543, max.
- W.C.: .4 in
- Size Range: 20” to 40”
- Housing in PPs as standard, optionally available in electrically conductive PEs-EL for use in ATEX Zone 1

# Axial Fans

Used in all applications with large air quantities at low pressure
Typical application with bottle cleaning plants in the drinks industry, laboratory exhaust air and all applications with short piping

Features:

- CFM: 60 - 29,400, max.
- W.C.: 2 in
- Size Range: 8” to 40”
- PPs impellers and casings
- Variable blade angle, 2-, 4- and 6-pole motors available
- Available for ATEX zone 2



## Roof Mount with Base

Features:

- For the installation of radial roof fans of all ranges
- Available for all roof fans in nominal connector width of 110 to 1000 mm
- Standard design for 0º roof pitch, also available for up to 45º roof pitch
- Suitable to optimally seal into the roof through the square PVC base
- Flange for direct installation of a fan Standard design in the material PPs with PVC base
- Special materials available on request
- Optionally available with integrated louver valves

## Roof Mount without Base

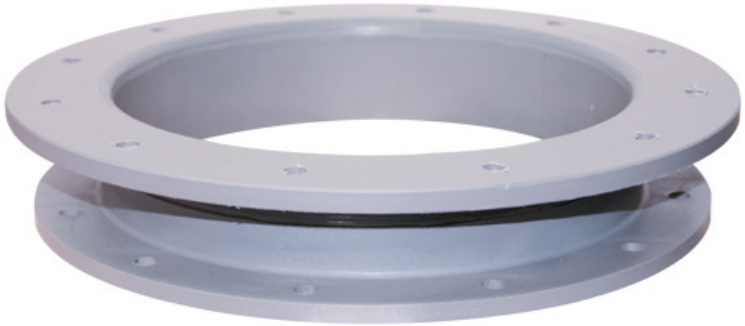
Features:

- Available for all roof fans in nominal connector width of 4” to 39”
- Standard design in the material PPs
- For the installation of radial roof fans of all ranges on existing base on the building
- Flange for direct installation of a fan
- Special materials available on request

# Adaptor component for existing roof base

Features:

- Available for all roof fans in nominal connector width of 110 to 1000 mm
- For the installation of radial roof fans of all ranges on existing flange
- Can also be used for modernisation measures
- Standard design in the material PPs and PVC
- Special materials available on request



## Plastic Soundproof Hood

Features:

- Available for all fans and model ranges
- Housing to reduce noise pressure levels in corrosive environments
- For compliance with operationally, legally or medically prescribed guidelines
- Standard design in the material PPs with PVC base
- Special materials available on request

## Steel Soundproof Hood

Features:

- Available for all fans and model ranges
- For compliance with operationally, legally or medically prescribed guidelines
- Achieving the highest thermal resistance
- Standard design made of the material galvanised steel
- Available in stainless steel

# Volume Metric Flow Meter

Details

- Available for radial fans with nominal connector diameter of 125 – 1000 mm
- Measuring device integrated directly into the fan
- Volumetric flow measuring via differential pressure
- Determining factory-based nominal values to DIN standard test rig
- Also available with differential pressure gauge converter
- Material dependant on fan material

# ATEX Directive

- ATEX fans in plastics are available for zone 1 and 2
- Simtech has PTB certification to manufacture ATEX fans for zone 1
- Zone 0 and dust ATEX are not available in plastics
- All motors are outside the airstream – ATEX motor not necessarily required
- All ATEX fans come with shaft sealing
- Protection grids on suction and pressure side required
- ATEX motors Ex e and Ex de are available
- For ATEX zone 2 flame retardent material required
- For ATEX zone 1 electric-conductive material required
- Standard temperature class T3, T4 available on request
- Standard explosion group IIB, IIB + H2 (hydrogene) on request

### WTP / WWTP
- Chemical Feed Systems
- Chlorination & Flouridation
- Pressure Regulation

### Chlor-Alkali
- Chlorine Processing
- Brine Preparation
- Caustic Sodas

### Mining
- Sulfuric Acid
- Hydrochloric Acid
- Slurry Piping

### Aquatics
- Natatoriums
- Corrosion-Free Valves
- Valve Automation

### Food and Beverage
- Dairy
- Brewing
- Chemical Sterilization

### O.E.M. Supplier
- Valves and Automation
- Controls and Instrumentation
- Custom Fabrication

### Automotive
- Fume Exhaust
- Washdown Systems
- Process Waste Drainage

### High Purity Water
- RODI Systems
- pH Control
- Semiconductor Cleaning

### Power / Utilities
- Deminieralization
- Flue Gas Desulpherization
- Nuclear Process Drainage

### Biotech / Pharma
- RODI High Purity Water
- WFI Systems
- Environmental Containment

### Laboratory Exhaust
- Corrosive Fume Extraction
- Wet Bench Hoods
- Chemical Box Exhaust

### Pulp and Paper
- Bleach and Liquor Lines
- Spent Acid and Caustic Lines
- Wet Scrubber Systems

### Chemical Processing
- Chemical Transfer & Storage
- Metering and Mixing
- Process Fume Extraction

### Life Sciences
- High Purity RODI Water
- Laboratory Fume Exhaust
- University Facilities

### Steel / Metal Finishing
- Piping Lines
- Electroplating
- Fume Exhaust

SIMTECH Process Systems | Expertise In Engineered Plastics

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