



# AIR EXTRACTION AND FILTRATION *Solutions*

made in Italy



Thanks to its long experience in the industrial suction sector, RGS Vacuum Systems has developed **a range of air suction and filtration machines for the purification** of fumes, dusts, oily mists and the most varied polluting agents present in the air of working environments.

Considering that employers must take measures to prevent or reduce, as far as possible, the development and spread of airborne pollutants, RGS dust collectors ensure the best possible **safety** and **sanitation** of the atmosphere within **the work area**.



## I Fields of application



**FOOD**



**CHEMICAL  
PHARMACEUTICAL**



**CLEANING**



**STEELWORKS**



**METALLURGY**



**BUILDING**



**CERAMIC**



**PLASTIC**



**WOOD**

## I Advantages



- > **Prevention of dust dispersion** in the work environment
- > Use for **localised suction** directly on the process machine
- > **Healthy working environment**
- > **Low energy consumption** thanks to a **high flow fan**
- > Large surface filter
- > **Safety** for explosive dust extraction (**ATEX**)



# Product range - Wheeled vacuum cleaners

These machines are ideal for air extraction and filtration in small rooms and where handling of the machine itself is necessary. Equipped with a trolley with wheels, they can be easily transported even by a single operator.

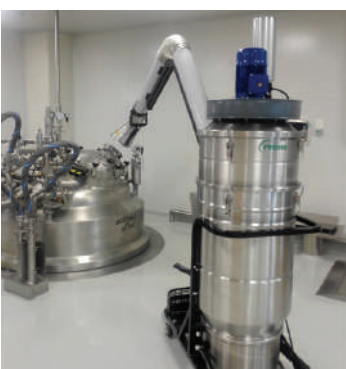
Depending on the model, one to two **articulated suction arms** can be applied, allowing the desired suction area to be easily reached.



Also available in **Atex version**.



MODEL		A20FLP	A31FLP	A101FLP	A32FLP	A173FLP
Voltage	Volts	3Ph 230-400V/50Hz	3Ph 230-400V/50Hz	3Ph 230-400V/50Hz	3Ph 230-400V/50Hz	3Ph 230-400V/50Hz
Power	kW	0,75	1,5	1,5	2,2	3
Max vacuum	mbar	16	22	22	35	30
Max air flow	m <sup>3</sup> /h	800	1200	1200	1500	2500
Type of filter	-	star-shape	star-shape	star-shape	star-shape	star-shape
Primary filter surface	m <sup>2</sup>	1,14	2,55	2,55	4,2	4,2
Container capacity	L	25	39	100	39	100
Product inlet	Ø mm	100	150	150	150	150
Noise level	dB(A)	74	78	78	79	79
Dimensions	cm	48x68x125h	64x85x170h	64x85x205h	65x90x185h	65x90x230h
Weight	kg	45	80	83	92	120
Protection	IP	55	55	55	55	55



# Filter cleaning systems

The **filter** is a **fundamental** part of the industrial vacuum cleaner (*protection of the motor, cleanliness of the working environment and protection of the operators' health*), and depending on the vacuum requirements there are different filter cleaning systems

## MANUAL FILTER SHAKER

**Manual shaking cleaning system** of the star filter.

- suitable for vacuuming dust and granules



## PNEUMATIC FILTER SHAKER

**Pneumatic shaking cleaning system** of the star filter.

- suitable for vacuuming dust and granules



## CLEANING CARTRIDGE KIT

System for continuous filter **cleaning** using a **jet of compressed air**.

- suitable for suctioning large quantities of fine dusts



# Filter units and mobile suction arms

All vacuum cleaners have a wide range of filter solutions and suction arms to make the **operator's work safe, easy and fast.**

## UNITS FILTERS

### STAR FILTERS (12 - 14 - 16)



#### STAR FILTER

Captures all impurities thanks to the high filtering surface area



#### ANTISTATIC PTFE FILTER

Suction of dust with temperatures up to 150 °C



#### ANTISTATIC FILTER

Suction of explosive materials risk of explosion



#### WATER & OIL REPELLENT FILTER

Suction of oils, used in metalworking industries



#### ABSOLUTE SUCTION FILTER

Hepa H14, efficiency 99.995% M.P.S.



#### CARTRIDGE FILTER

Used with compressed air cleaning system compressed air



#### ANTISTATIC CARTRIDGE FILTER

Used with compressed air cleaning system

## SUCTION ARMS

Mobile suction arms are one of the best technical solutions **for localised collection of pollutants.**

With this system **we are able to extract gases, vapours, dusts and mists at source**, avoiding the dispersion of harmful and/or toxic substances within the working environment and into the atmosphere.

They are available in different sizes and versions (*Atex, stainless steel, pharmaceutical, etc.*) depending on the customer's needs and the application sector.



#### Suction arm kit Ø100mm

- open arm: 1300mm



#### Suction arm kit Ø150mm

- open arm: 3m

# I Dedusting Systems

Dedusting systems are the most widely used method of **capturing and removing airborne pollutants from the working environment**, especially where high air flow rates and several localised extraction points are required.

Industrial environments can give rise to emissions of dusts, fumes, gases and vapours of all kinds. Atmospheres with pollutants, in addition to the human risk, are highly undesirable in actual industrial production, since dusts, fumes and vapours can cause numerous inconveniences on exposed machinery and cause damage to products.



Localised extraction has the task of capturing pollutants as close as possible to the point of production of the pollutants (source) and abating them before they are released into the atmosphere to reduce concentrations to values compatible with environmental protection.

The correct design of extraction systems is, of course, one that achieves **the best control of the atmosphere with the minimum consumption of air and energy.**

## I Advantages



> **INCREASED WORKER SAFETY:** complete capture of pollutants before they are released into the working environment.

> **REDUCED EMISSIONS INTO THE ATMOSPHERE:** abatement and recovery of pollutants.

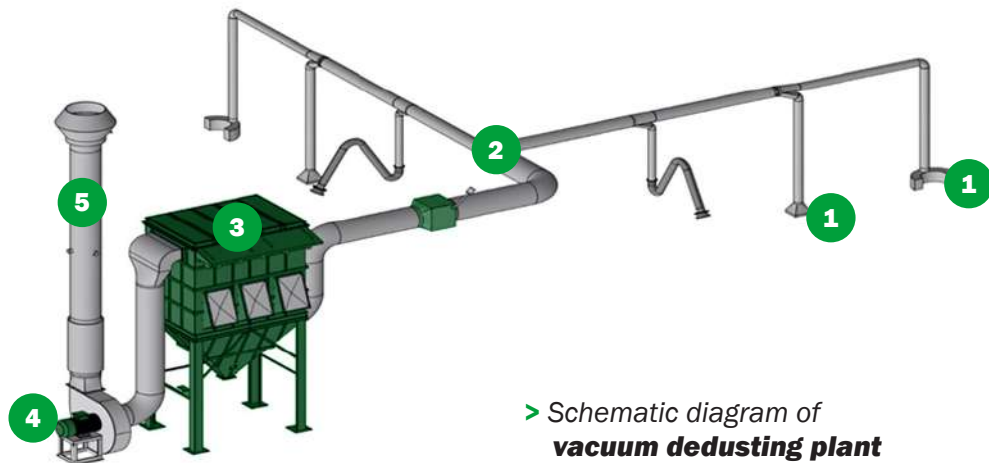


> **LOWER ENERGY CONSUMPTION:** (both for extraction and heating of the air to be re-integrated): lower air flow rates required for the same pollutant concentration.

> **REDUCING BREAKDOWNS AND MAINTENANCE:** less dust in the working environment.



# I Main components of a system



## 1. SYSTEM OF COLLECTION

Extractor hood (closed, receiving, catching), mobile arm, and suction vent.

## 2. DUCTING OF SUCTION PIPE

Connecting pipe between the various collection points and the filtration system. It is very important to size it correctly to ensure that the polluted are correctly picked up and conveyed to the air purifier (filter). A correct sizing and installation, allows to avoid the eventual deposit of polluted particles inside it and to reduce to a minimum the losses of load (greater efficiency of the plant).

## 3. THE FILTRATION SYSTEM

Is the device that allows to separate/filter the pollutant aspirated from gaseous flow. Depending on the characteristics of the pollutants, different filtration/purification systems are adopted which can also be combined together to maximise filtration efficiency.

The main filtration systems are:

DUST / FUMES	GAS	MISTS AND AEROSOLS
<b>DRY DE DUSTERS</b> <ul style="list-style-type: none"> <li>cyclone pre-separator</li> <li>filters with cell or pocket</li> <li>dust extractor with sleeves or cartridges</li> </ul>	<b>ACTIVATED CARBON BLAST CHILLERS</b> <ul style="list-style-type: none"> <li>Activated carbon absorber</li> </ul>	<b>INSTALLATIONS WITH COALESCENCE</b> <ul style="list-style-type: none"> <li>Coalescence purifier with fibreglass candles</li> </ul>
	<b>WET BLAST CHILLERS</b> <ul style="list-style-type: none"> <li>Scrubber Venturi</li> <li>Tower Scrubber</li> </ul>	

## 4. ELECTRO-FAN

Is the machine for handling polluted air inside the intake system, through the creation of a negative pressure (intake) inside the ducts that connect it to the various intake points. It is driven by a motor powered by electric energy, which is then converted into the energy of pressure and kinetic energy of the air current moved.

## 5. CHANNELING OF EXPULSION

The purified air flow shall be expelled outside in such a way as to dilute as far as possible the remaining pollutant. Re-entry into the working environment is not permitted in the case of toxic pollutants.

# I Product range



## DUST COLLECTORS WITH SLEEVES OR CARTRIDGES

Dust collectors **are filter units capable of very efficiently separating particulate matter from the intake air flow**. They are dimensioned in order to obtain a very low ascension speed, so as to be able to decant even the finest powders.

Dust collectors are today the best available technology (**BAT – Best Available Technology**) for dust abatement.

**They can be equipped with sleeves or filter cartridges**, which ensure compliance with the emission limits in the atmosphere, thanks to a correct choice of the speed of crossing. The filter media are chosen according to the flow characteristics and the powders to be treated. The cleaning system can be vibrating or with jets of compressed air in counter-current.

The **exhaust system** can be customized according to the customer's disposal needs (bin, bag, big-bag, auger, star valve, other).



Also available **in ATEX version**.

TYPE	FILTERS	FILTERING SURFACE
Circular Ø1.000	cartridge	up to 44m <sup>2</sup>
	sleeve	up to 22m <sup>2</sup>
Polygonal	cartridge	up to 70m <sup>2</sup>
	sleeve	up to 54m <sup>2</sup>

## INDUSTRIAL ELECTRIC FAN

Industrial fans are the main components of intake systems.

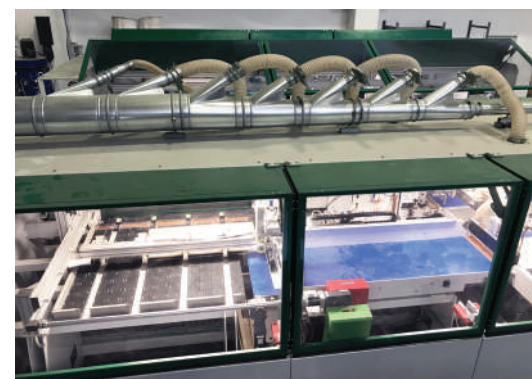
It is the medium **that creates and manages the necessary depression and allows you to aspirate any type of gas mixture**, with the presence of even medium-low concentrations of solids (*dust, granules, waste, etc.*).

The various configurations allow to cover a wide range of flow rates with low, medium and high pressures (depending on the application). They are available both in the direct drive or transmission version and can also be made in special execution, both for the treatment of hot gases and potentially explosive atmospheres (**ATEX**).

- Available from **2,500 to 6,000m<sup>3</sup>/h**.



Also available **in ATEX version**.





## ELECTRICAL CONTROL PANEL



The electrical control panel for managing the suction system, as well as **providing the main functions** (engine start-up, filter cleaning management, control indicators, stop and start buttons) can be made according to the customer's requests and requirements.

The switchboards can therefore be integrated with various functions:

- **Inverter** for fan motor management.
- **Electronic vacuum** gauge for automatic air flow management.
- Ready **for remote start**.
- **HMI** for displaying system parameters.
- **Management of automatic systems** on the suction line (valves, dampers, diverters, etc.) and on the exhaust (valves, sensors, rotary valves, etc.).



Also available in **Atex version**.

## COMPONENTS FOR SUCTION SYSTEMS

The development of a suction system involves a **pipng system** consisting of *pipes, bends, branches, manual or pneumatic dampers, junction rings, control valves, etc.* for connection to the suction points. Sizing is carried out according to the customer's layout at the design stage in order to minimise turbulence and pressure losses.



## Accessories and Optional

- Suction hoods (located on kneading machines)
- EX.II 1GD suction arms (positioned on counters - bakery area)



# I Special applications

In addition to standard vacuum cleaner models, RGS Vacuum Systems **designs and manufactures customised models** according to the application and the customer's specific requirements.



## HIGH AIRFLOW VACUUM CLEANER FOR THE CAPTURE OF VAPOURS AND SUSPENDED DUSTS

It has:

- Water-repellent primary filter
- Absolute Hepa suction filter
- Blow-moulded activated carbon filter



*Ideal for continuous use.*



## INDUSTRIAL VACUUM CLEANER WITH DOUBLE BIFURCATION

Industrial vacuum cleaner equipped with 2 nozzles with 2 bifurcations that allow dust to be removed simultaneously from 4 different points and collect the sucked dust inside the 35 L container.



## INDUSTRIAL VENTILATION VACUUM CLEANER WITH DOUBLE SUCTION ARM

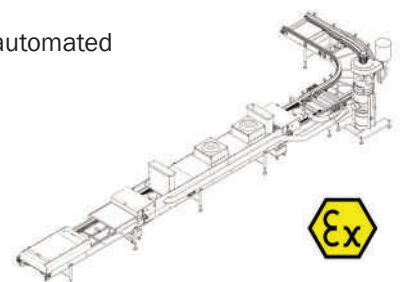
ATEX Z22 industrial vacuum cleaner equipped with 2 suction arms to remove airborne food dust (dried vegetables).



## CENTRALISED SUCTION UNIT

4 kW unit for 2,500 m<sup>3</sup>/h in ATEX Z22 version, automated applied in automatic food machine cleaning system.

- Reduced footprint
- Automatic filter cleaning system
- High-flow centralised unit to capture airborne capture airborne dust



# | Other RGS solutions



## VACUUM CLEANERS

RGS Vacuum Systems offers a wide range of industrial vacuum cleaners of **various powers and capacities**: single-phase, three-phase and compressed air industrial vacuum cleaners.

There are also specific models for the **suction of oils and shavings**, others for applications **in the food and pharmaceutical industry** as well as **special machines** made to meet the needs of the customer.

## PNEUMATIC CONVEYORS

**Pneumatic conveyors systems for powders and granules** for all industrial sectors with **customization** options.

Thanks to a long experience in the sector, it is possible to create and design the most suitable and economical conveying system to solve customer problems, according to the type of product and the needs of the sector.



## CENTRALIZED SYSTEMS

RGS offers a wide range of components for the realization of **centralized suction systems** (such as suction units, collection silos, pre-separators, components for the duct, control systems) and **pneumatic conveying systems** for material handling.

All products can be made of painted steel, stainless steel and **ATEX version** according to the needs of the customer and the application sector.

# | RGS services



**TECHNICAL INSPECTIONS  
OF CUSTOMERS' SYSTEMS  
AND PRODUCTION FACILITIES**



**ENGINEERING DESIGN  
OF COMPLETELY  
CUSTOMIZED PRODUCTS**



**MAINTENANCE**



**TECHNICAL-ECONOMIC FEASIBILITY  
ANALYSIS AND CHOICE OF  
THE BEST SOLUTION**



**INSTALLATION AND TESTING  
OF RGS MACHINERY  
AND EQUIPMENT**



**Aspiratori industriali**  
Vacuum cleaners

**Impianti centralizzati**  
Centralized systems

**Trasportatori pneumatici**  
Pneumatic conveyors

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**in the World.**



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