

A Complete and Versatile Range of Vacuum Pumps & Cutting-edge Vacuum Dryers Include the Best of Italtvacuum Experience Serving Chemical and Pharmaceutical Industry

Thanks to over 75 years of experience, Italtvacuum is one of the leading manufacturers of vacuum pumps, as well as a worldwide reference point in the design and manufacture of vacuum dryers, which ensure top-tier performances for the processing of wet feed from filtering and centrifuging processes.

Considering the importance of the use of Italtvacuum installations, that are quite often exploited in the production of API, fine chemicals and intermediates, the company mission has always been to provide the customers with the utmost in quality, safety and innovation, with a special care for sustainability and total respect for the environment.

Today Italtvacuum's manufacturing capabilities include a wide range of original and patented products, which comply with the main European regulations (EC, ATEX and PED) and with the ever more severe FDA rules and cGMP norms, including:

- Saurus939, vacuum pump unique in reliability and performances
- Planex® System, multi-patented paddle vacuum dryer with ZeroFriction® planetary movement eccentric agitator
- CRIOX System, rotary vacuum dryer/pulverizer with motor-driven lump breaker units
- MULTISPRAY® Cabinet Dryer, vacuum tray dryer with MULTISPRAY automatic washing system for fast cleaning of all internal parts
- CosmoDry® System, paddle vacuum dryer with concentric agitator, fitted with a shaft that can be disassembled in sections, for maximum ease of cleaning and inspection.



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Italtvacuum is able to provide turn-key installations and also to realize customized systems, which are built according to customer's process requirements. Italtvacuum's presence all over the world, with a continually growing number of installations in both consolidated markets and emerging areas, is a tangible sign of the company's reliability.

SAURUS939, fit and forget

A vacuum pump that guarantees unrivalled performances, ensuring total recovery of extracted solvents, even in severe operating conditions. A simply designed machine, that combines traditional robustness and reliability with the most evolved technology. Resistance, strength and consumption of oil virtually eliminated thanks to the innovative LubriZero® system. A solution which guarantees perfect operation and optimum results with total respect for the environment.

Saurus939 has no fear of aggressive and corrosive solvents, powders and condensates, nor distillation by-products. But above all it does not fear confrontation because it is designed and manufactured to work 24 hours a day with a constant excellent performance and minimum operating costs, thanks to a low-energy motor, negligible oil consumption and easy, immediate maintenance. Powerful, efficient, but absolutely safe: Saurus939 guarantees optimum safety through the whole process and complete purity of the final product. In other words, ensures an uncontaminated vacuum.

Saurus939 has a wide range of use and could be employed in different sectors: chemicals, pharmaceutical, cosmetics, Oil & gas, plastics & rubber, bio-science, waste management. The processes are those of the process industry: vacuum drying, reaction, distillation,



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crystallization, filtration, evaporation and polymerization.

PLANEX® System, a revolutionary drying philosophy

A multi-patented machine which is conquering the most demanding operators from all around the world, by guaranteeing results that were unthinkable till now with conventional systems, both horizontal and vertical.

Planex® System is a special horizontal vacuum paddle dryer with an eccentric agitator featuring two independent movements, allowing it to simultaneously revolve around its own axis and to rotate tangentially to the drying chamber, ideal for the production of APIs. The combined rotations of the agitator and its small size compared to the drying chamber diameter, ensures the perfect mixing of the entire batch, and allows consuming at least three times less energy than conventional dryers with concentric agitators. This means a threefold reduction in mechanical and thermal stresses on the batch being dried (analysis by Politecnico di Torino's Department of Materials Science and Chemical Engineering). As a result, even the most delicate and temperature-sensitive products are treated with maximum care. But there is more. Planex® System, thanks to its agitator's ZeroFriction® planetary movement,

prevents the product from being rubbed against the drying chamber walls and thus heating up due to friction, a typical problem in conventional paddle systems. In addition, the rotation of the paddles tangentially to the chamber walls, conveys the product into the small clearance between the agitator and the chamber surface, preventing lumps formation and guaranteeing an even more effective drying and a controlled final particle size distribution, which is impossible to achieve with conventional dryers.

Thanks to the agitator movement controlled by the "Stop & Swing" program, it is also

ideal for drying small batches.

CRIOX System, powdering while drying

An international great success patent, which consists of a rotary vacuum dryer/pulverizer, counting more than 400 units installed in more than 30 countries.

The central body is made of a double cone chamber, characterized by smooth surfaces without edges and sharp corners. During the rotation, this structure helps the total and continuous revolution of the mass to be dried and allows a homogenous and delicate mixing. The double cone shape of the rotary chamber would not be effective in itself if it did not contain inside the two powerful electric lump breaker units – which are a peculiar characteristic of the CRIOX System – allowing for the increase of the product surface exposed to the evaporation and to enhance the agitation efficacy of the system.

The lump-breaker units not only breaks down the eventual pre-existing agglomerates in the wet powders thus preventing the forming of lumps, but they also allow for grinding and powdering during the last drying phase, limiting the use of the mill. This helps having bulk products ready for bagging or powders



Saurus939

with checked final particle size distribution, where the next operation is often limited to a sifting phase.

CRIXO is versatile and profitable: specific solutions have been studied for the products automatic loading and unloading and also in order to wash, to clean through and to inspect the plant before changing the batch. This means the opportunity to pass quickly from one product campaign to another, as production demands.

MULTISPRAY® Cabinet Dryer, a consolidated ever evolving technology

Best results, ergonomics, safety and flexibility for any product batch. These are the qualities that have always characterised MULTISPRAY® vacuum tray dryers, result of Italtvacuum's consolidated experience in the cosmetic, pharmaceutical and chemical industry process applications.

But that's not all, because the important added value that differentiates MULTISPRAY® innovative dryers from conventional systems is that it guarantees total cleanliness of the inner chamber and all heating plates, in compliance with the increasingly restrictive FDA standards and the cGMP standards of good manufacturing. In fact, thanks to the C.I.P. MULTISPRAY® patented fast washing system, the equipment can be completely cleaned in just a few minutes, in a repeatable and certifiable way, minimizing washing liquid consumption.

The MULTISPRAY® vacuum tray dryers can be used in any type of application as there are two versions available, fixed plate and removable plate, the latter particularly indicated for multiproduct usage. Also, for the production of highly active pharmaceutical ingredients (high potency API) and for R&D activity, Italtvacuum has developed the laboratory version LaboDry.

CosmoDry® System, the evolution of the species

An innovative horizontal paddle vacuum



Planex System



Criox System

dryer, the result of highly advanced research by Italtvacuum and of a careful analysis of the production requirements of the most demanding customers.

Power, load flexibility, drying speed, easy unloading, maximum quality of dried product. All important and fundamental values, but Italtvacuum went even further.

The great innovation of CosmoDry® System as opposed to traditional dryers, in fact, is in the particular structure of the agitator: the inner parts can be dismantled in different parts, quickly and easily. Which means very easy internal cleaning, maintenance and inspection: a mix of qualities that ensure the machine is always kept in perfect working order and optimize the production processes, making CosmoDry® System also the perfect solution for multi-product applications.

Italtvacuum services: from pilot trials to project engineering right through to a comprehensive After Sales Service

Customer care, for Italtvacuum, means supporting the customer from the very first contact. Italtvacuum offers the opportunity to conduct pilot drying trials and involves the customer in system design and manufacturing.

Once the system is up and running, Italtvacuum also provides all the technical support the customer may need to ensure year after year of fault-free operation.

Pilot trials

The Italtvacuum facility comprehends a full range of pilot systems for carrying out semi-industrial and laboratory scale drying tests on customer's products.

Engineering

Outstanding technical know-how and a thorough knowledge of the needs of the chemical and pharmaceutical industries have enabled Italtvacuum's engineering services to build up unparalleled expertise in vacuum processes.

After sales service

With highly qualified personnel, Italtvacuum's After Sales Service provides the following assistance: 1) Scheduled preventive maintenance; 2) Technical assistance; 3) Service parts; 4) System upgrading and overhaul.

Italtvacuum in India

Concerning sales strategy, Italtvacuum can count on a worldwide network of highly qualified agents. For vacuum pump promotion in India Italtvacuum cooperates with Vac Enterprises India LLP, which is based in Mumbai. With a very competent staff, Vac Enterprises India LLP is able to understand every client requirements. This is also due to the training provided to all the salesmen and technicians, which are constantly updated with regular courses in Italtvacuum. ■

For more info: www.italvacuum.com