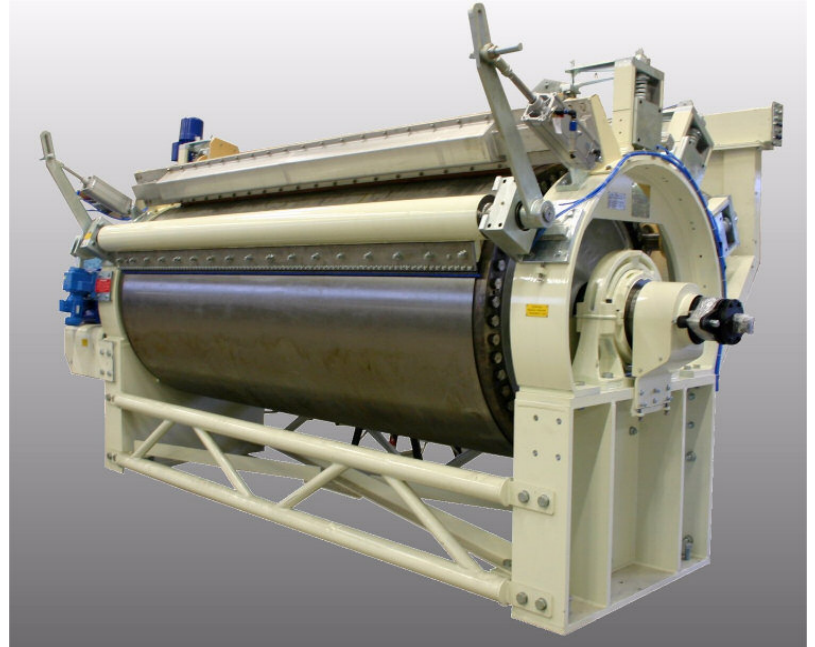


Food Stuffs



Baby Food
Batter Mix
Casein
Corn
Fish Foods
Fruit Purees
Milk
Oats
Potatoes
Starches
Whey
Yeast



R. Simon (Dryers) Ltd

Chemicals



Alkyl Aryl Sulphonate
Ceramic
Detergent
Dyestuffs
Fatty Alcohol Sulphates
Fermentation Broth
Gelatine
Lead Sulphate
Metallic Stearate
Polymer Gel
Naphthalene
Tripolyphosphate
Seaweed Extract

SIMON DRUM DRYERS

Drum Dryers are extensively used in the food and chemical industries for production of cereal based breakfast products, potato flakes, powdered baby food and numerous chemical products.

The Simon range of industrial drying and cooling equipment has many applications throughout the food and chemical process industries and is used worldwide.

Tried and tested construction methods, together with innovative design guarantees economy of performance and total reliability.

Based in Nottingham, we are the leading UK manufacturers of Drum Dryers with over 100 years experience behind us, our ability to design and build the dryer most suited to your requirements is second to none.

Operation

The robust construction of Drum Dryers means that it is not uncommon for machines over 50 years old to still be in use today.

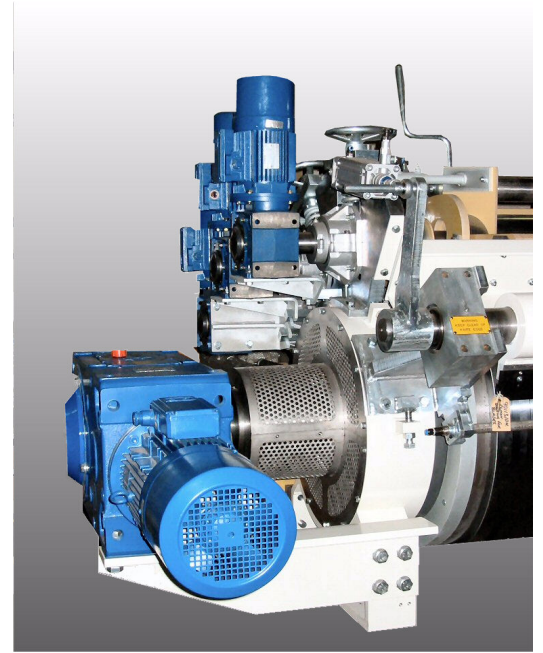
Their simple operation means that they can be run with the minimum of training and require no specialist maintenance.

Compared to other drying techniques, Drum Dryers provide an economical solution, with cheap installation and energy costs, and 24 hour a day continuous production.



Principle

Drum Dryers operate by applying a thin layer of the product to be dried to the outside of a rotating drum. The drum is internally heated by steam which quickly evaporates any liquid from the product. After almost one full revolution the remaining material is removed from the drum by a knife as a film or powder.



Construction

The most critical part of the dryer is the drum itself, constructed in cast iron and designed to accommodate high steam temperatures and pressures, precision machined to provide maximum and reproducible heat transfer throughout its life. For those materials unable to come into contact with cast iron, the drum may be hard chrome plated, or for the more arduous conditions - chrome plated over nickel.

To prevent leakage of the feed slurry or solution from the dryer, pneumatically loaded dampers faced with suitable sealing materials are provided at each end of the dryer drum or drums.

To minimise mechanical damage to the surface of the dryer drums, applicator (feed) rolls are mounted in spring loaded bearing slide assemblies designed to allow the rolls to lift in the event of a foreign body passing between the roll nips and dryer drum and return to their original position. In the case of twin cylinder dryers, one drum is fixed in position, the other is spring loaded to give the same degree of protection.

Feed Systems

Material can be fed to the dryer by a variety of means ranging from simple spray pipes for double drum dryers to fully traversing feed mechanisms with single or multi feed pipes.

Depending on the nature of the material there are a number of accessories that can be utilised to aid the drying process.

Feed Rolls — Mainly used for cereal based materials, can provide a thicker end product, depending on the number of feed rolls used.



Twin Cylinder Nip Feed - Material is fed into the valley between the drums, where it is applied to each drum as they rotate. A knife on each side removes the dried product.



Applicator Roll — Used for heat sensitive chemicals, the applicator roll is dipped in the product and a liquid film then applied to the drum.

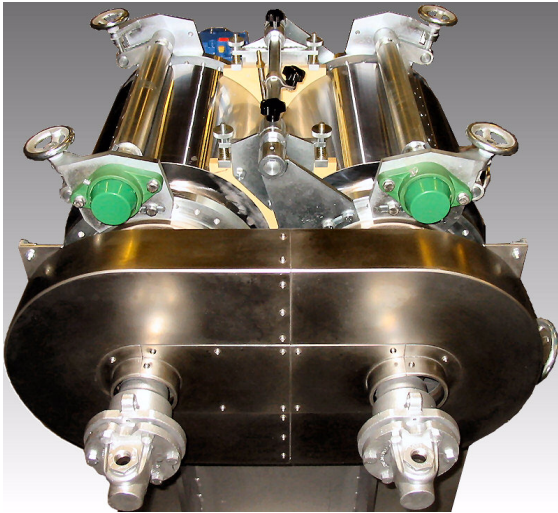


Fine Film Applicator Roll - The tray containing the feed to the dryer drum and product film is applied by an intermediate applicator roll which may also be cooled.



Dip Tray — Mounted beneath the dryer and used to apply a film of material to the drum as it rotates through.





Product Removal

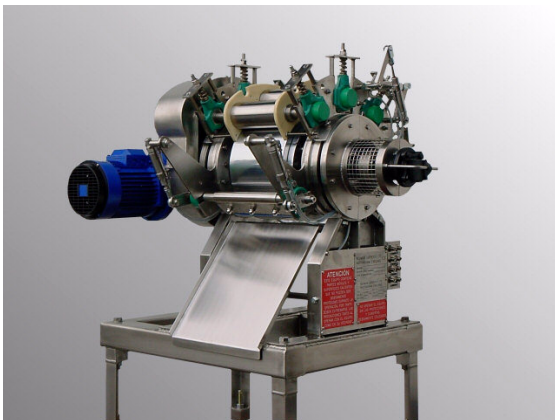
Product is removed from the dryer drum by means of an alloy steel doctor blade or knife rigidly clamped in a cast iron knife bar assembly. The knife is applied to the surface of the drum by pneumatic cylinders located at each end of the dryer. For improved knife life and reduced drum maintenance an oscillating knife system may be fitted with either conventional or disposable knives.

After removal from the drum the product is collected by a transverse screw conveyor specially designed to break up the product film or flakes into easy-to-handle particles. For products that may require cooling after removal from the drum, e.g. those with high sugar contents, air knives and film take-off rollers are fitted.

Accessories

Dryers for food applications are generally provided with vapour canopy and extract system to remove the vapours from the operating area.

Dryers for hazardous materials may be provided with complete dust and fume tight enclosures.



Testing Facilities

A fully equipped pilot scale Test House is available at R. Simon Dryers, in which the drying capabilities of materials can be assessed and then sized up to full scale production machines.

On hand at our Nottingham offices we have staff who are available to answer all queries on all your drum dryer enquiries for new, refurbished and hire equipment.



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Drum Flakers
Indirect Calciners
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Tubular Dryers
Laboratory & Pilot Machines