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Pharmaceutical, chemical, food, plastics, and other industries utilize a wide range of Fitzpatrick machines, including the FitzMill® comminutor, Chilsonator® roll compactor, FitzSieve® for gentle milling and sieving, FitzAire® fluid bed dryer, and GUIloriver® pre-breaking equipment. Each unit is built to stringent quality standards to operate under the most demanding manufacturing conditions.

The Fitzpatrick Company maintains manufacturing facilities, test laboratories, as well as service and support offices in Elmhurst, Illinois and Sint-Niklaas, Belgium. Additional testing and support services are provided from our office in South Plainfield, New Jersey.

THE FITZPATRICK COMPANY
A TRADITION OF INNOVATION IN POWDER PROCESSING TECHNOLOGY

Dry Granulation
MODEL IRS20

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Email: info@fitzpatrick.be
**Model IR520 Chilsonator**

**IN-WALL DESIGN**

The in-wall design creates the most complete sealed separation of the product contact parts from the technical area. By mounting this equipment in a wall, the clean room or process room size can be minimized. Cleaning is also minimized to the few convenient product contact parts. Service, maintenance and utilities can all be accessed from the technical area.

**PROCESS VERSATILITY WITH GMP DESIGN**

The Chilsonator roll compactor is recognized worldwide as the industry leader for dry granulation. Roll compaction equipment increases powder density and produces free-flowing granules.

The IR 520 Chilsonator is designed to provide the ultimate process flexibility for a wide variety of products. Fitzpatrick machines are designed to be quickly dismantled and cleaned in order to meet sanitary and cGMP requirements. Accurate repeatable results make this equipment ideal for the most critical applications.

**FREE-STANDING OR PORTABLE**

The IR520 can be installed as a self-contained, free-standing or portable machine. All technical components are enclosed and isolated from the process area. All controls are separate from the machine and also totally portable.

**EASY TO CLEAN**

The IR520 disassembles quickly, resulting in robust stainless steel parts which can be aggressively cleaned without fear of damage. All components are designed with smooth accessible corners and without product catching ledges. Thorough inspection is as easy as reassembly of the components. An optional wash-in-place system is available to eliminate dust exposure during disassembly and prior to thorough cleaning.

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THE CHILSONATOR AUTOMATED CONTROL SYSTEM is designed to provide optimum process control with excellent operator interface and data monitoring. The operator is able to view the instrument measurements and machine status information in picture form from the operator interface. Features of the Chilsonator automated control system include:

- On-line help and diagnostic functions
- Restricted access of various functions
- Maintenance and calibration procedures
- Roll gap control
- Historical trending
- Report generation
- Alarm management

Advantages include:

- Minimal product exposure to operator and environment
- Prevents product contamination
- Minimal product loss
- Easy changing and installation of a variety of roll designs. This convenient feature makes the IR520 ideal for laboratory and small production installations.

PRODUCT CONTAINMENT SYSTEM AND \textit{N}_2 INERT PROCESSING

The Product Containment System (PCS) is designed to fully contain all product in the process and receiver sections of the Chilsonator system. A sealed connection between the equipment discharge and the receiver is possible due to the unique filters and vacuum system. Advantages include:

- Minimal product exposure to operator and environment
- Prevents product contamination
- Minimal product loss

The PCS can be combined with an \textit{N}_2 inerting system to reduce product oxygen exposure and explosion risks.

VACUUM DEAERATION

Compaction can be difficult for materials that have a low bulk density and a tendency to entrain air. These characteristics can cause products to resist pre-compaction and deaeration that is required in order to allow the rolls to efficiently compact the material.

A vacuum deaeration system can be applied at various locations prior to compaction in order to provide improved pre-densification by forcibly removing entrained gas from within the product. Process improvements can be dramatic. For example, a vacuum deaeration system, in some cases, has increased the Chilsonator capacity by up to nine times and improved compaction efficiency by up to 40%.

VARIOUS ROLL SURFACES AVAILABLE

The cantilever design allows for easy changing and installation of a variety of roll designs. This convenient feature makes the IR520 ideal for laboratory and small production installations.

LOW CAPACITY FEED SYSTEM

This optional system allows for processing as little as 50 grams, and up to 2 Kg., with minimal loss. This feature is ideally suited for research and development requirements. Results can be used to scale up to the standard IR520 or larger machines.

THE IR520 can be configured with numerous features and options in order to process a wide variety of applications. Installing these customized features is easy since most components disassemble with hand fasteners.

The mill is selected and configured to meet the desired particle distribution. Selectable operating parameters include rotor type, screen type and operating speeds.

Vacuum pump system

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**Low Capacity Feed System**

This optional system allows for processing as little as 50 grams, and up to 2 Kg., with minimal loss. This feature is ideally suited for research and development requirements. Results can be used to scale up to the standard IR520 or larger machines.

**Precise Size Reduction of Compacted Products**

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**System Configurations**

**Chilsonator Systems** can be configured to meet specific product and process requirements. In most applications, the product that is compacted by the Chilsonator must be granulated to a uniform particle size distribution. This can be most efficiently achieved with the FitzMill granulator. Addition of a screener, conveyors, and feeder depend upon system objectives and installation requirements.

**Bin-to-bin Processing**

Feeding material from an initial product bin, through the Chilsonator and FitzMill, and into a product receiver bin is a typical Chilsonator installation. Advantages include:

- Totally enclosed product
- Convenient unattended processing
- Simple connection and retrieval of product bins

**Pneumatic Feeding**

Material can be charged into the Chilsonator feed hopper from ground level by utilizing a pneumatic conveyor, either manually with a wand, or automatically dumped from a bin into a pneumatic conveyor pick-up hopper. This provides a simple, cleanable method of delivering material to the Chilsonator.

**Recycle System**

Typical compaction/granulation system including screening and recycling of overs and fines. This system configuration is used for eliminating essentially all fines and overs from the product.
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<thead>
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