Dense Phase Vacuum Pneumatic Conveying

VFlow® Range

AVAILABLE CUSTOM MADE

OPERATING PRINCIPLE

Dense phase vacuum conveying systems use high capacity vacuum pumps to convey materials from a feeding hopper or a silo to a receiving vessel (vacuum hopper) where the air and product are separated by a filter. When this vessel is full, the vacuum is isolated and the conveyed product is discharged.
Particularly adapted to difficult products, this cyclone can be easily set up in your environment with unlimited extension possibilities. Suction is performed from several feeding points and/or loading several points in your process. Coupled with weighing systems, it allows controlled introduction by weight of raw materials (bulk powders, granules...).

ADVANTAGES

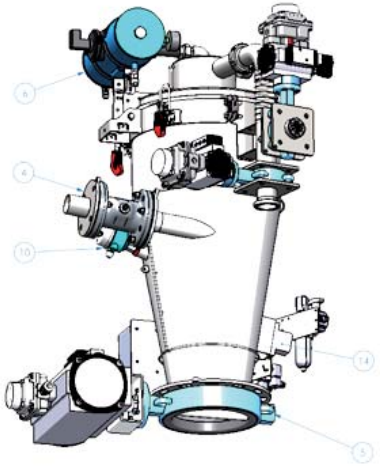
. Flexibility of the system through time
. Purge of the line
. Clean In Place
. Hygiene
. Loading of pressurized reactor
. Easy operation
. All products (bulk, powder, granules...)
. All rates
. No degradation of the conveyed material

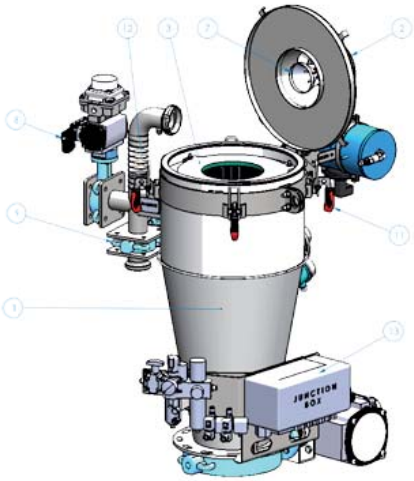
IDEAL SOLUTION

FOR FEEDING:

. Powder moisteners
. Mixers
. Tanks
. Reactors
. Pressurized reactors
. Dispersers loaded with solvents
. Filling machines...

SYSTEM OVERVIEW





Part n°	Denomination	Manufacturing	Qty
1	Body	Stainless steel 304L	1
2	Cover	Stainless steel 304L	1
3	Removable filtering cartridge	Height 350 mm - Ø 325mm	1
4	DN65 Inlet product valve	Pinch valve	1
5	DN250 Outlet product valve	Butterfly valve - Cast iron body - Stainless steel disc	1
6	Unclogging tank	Painted steel cylinder - Aluminium solenoid valve	1
7	Unclogging nozzle	ABS	1
8	DN65 Valve for venting	Butterfly valve - Cast iron body - Stainless steel disc	1
9	DN65 Vacuum valve	Butterfly valve - Cast iron body - Stainless steel disc	1
10	High level probe	Capacitive technology	1
11	Spring clips for cover closing	Zinc plated steel - Bi-material plastic handle	4
12	Vacuum hose	Food quality polyurethane tube	1
13	Pneumatic equipment plate	Stainless steel 304L	1
14	Pneumatic vibrator	Aluminium	1

Note: materials and accessories may differ depending on your configuration

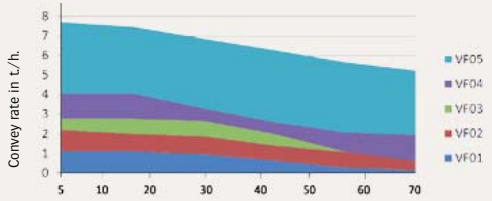
CYCLONES RANGE

VF01 VF02 VF03 VF04 VF05

Models	Overall height in mm.	Convey rate in m³/h.*	Ø Piping	Material outlet Ø	Compressed air consumption in m³/h.	Tare weight (kg)
VFlow® 01	880	0 to 1	SMS 38/51	DN 200	0.21 to 0.85	95
VFlow® 02	1,133	1 to 2.5	SMS 51/63	DN 200	0.46 to 1.06	115
VFlow® 03	1,311	2.5 to 4	SMS 63/76	DN 250	0.80 to 1.23	145
VFlow® 04	1,477	4 to 6	SMS 76/88.9	DN 300	0.63 to 0.92	170
VFlow® 05	1,644	5 to 8	ISO 88.9/104	DN 300	0.57 to 0.92	185

*Convey rates depend on the density of the conveyed material.

RATES / DISTANCES RATIOS



Convey distance in m.

Granules, metallic powders or sticky materials, the VFlow® range ensures the conveying of more than 95% of existing powdered materials!

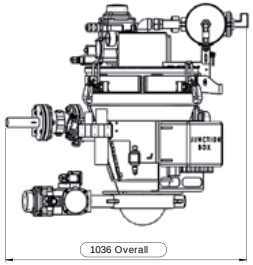
VFlow® 01

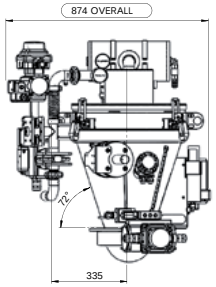
AVAILABLE CUSTOM MADE

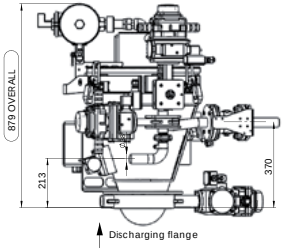
01

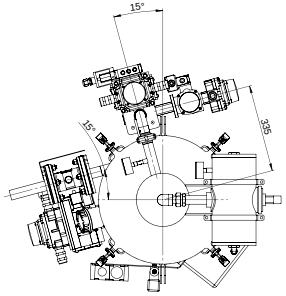
Dense phase vacuum conveying: powder pump

Model: VFlow® 01
Rate: 0 to 1 m³/h.
Overall height: 879 mm.
Volume of the cyclone: 15 liters
Manufacturing quality: Ra < 1.2 to 0.8
Cyclone body manufacturing: 304(L) stainless steel, 316(L) stainless steel
Size of the particules transferred: from mm. to µm
Operating temperature: -10°/+ 40°
Vacuum pump technology: without lubrication, with dry paddles or nozzles
Tare weight: 95 kg
Maximum vacuum transfer: 800 Nm³/h.
Air consumption*: 0.21 to 0.85 m³/h.
*Flow rate at atmospheric pressure, maximum and minimum rates
Operating pressure: 6 bars
Filter manufacturing: polyester, PTFE coated, stainless steel deployed inside
Filtering area: 2.6 m²
Unclogging tank volume: 6.5 liters
Level probe characteristics: capacitive (on request according to product)
Unloading valve technology: butterfly Ø DN200
Valve body: cast iron or 316L stainless steel
Valve disc: 304(L) stainless steel, 316(L) stainless steel
Product valve technology: pinch
Vacuum valve technology: butterfly with pneumatic actuator
Air suction pipe Ø (mm): DN40
Product suction pipe Ø (mm): 38 - 51
Piping type: rigid and flexible (reinforced piping with electrical spiral for metallic continuity)
Connections: SMS, clamp, flange
Power required: 2.2 to 3.3 kW
Inlet: 2
Outlet: 5
ATEX compatibility: 20, 21, 22 and 1, 2
Pump flow rate m³/h.: 140









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VFlow® 02

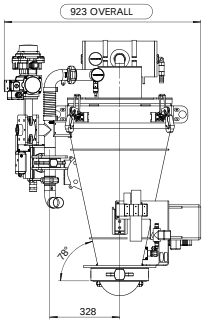
AVAILABLE CUSTOM MADE

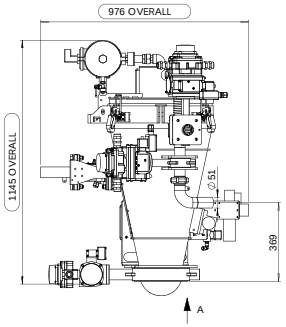
02

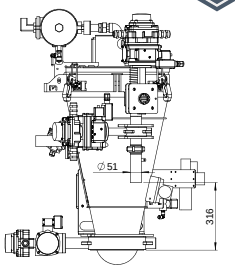
Dense phase vacuum conveying: powder pump

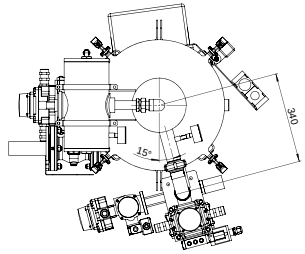
Model: VFlow® 02
Rate: 1 to 2.5 m³/h.
Overall height: 1,145 mm.
Volume of the cyclone: 25 liters
Manufacturing quality: Ra < 1.2 to 0.8
Cyclone body manufacturing: 304(L) stainless steel, 316(L) stainless steel
Size of the particules transferred: from mm. to µm
Operating temperature: -10°/+ 40°
Vacuum pump technology: without lubrication, with dry paddles or nozzles
Tare weight: 115 kg
Maximum vacuum transfer: 800 Nm³/h.
Air consumption*: 0.46 to 1.06 m³/h.
*Flow rate at atmospheric pressure, maximum and minimum rates
Operating pressure: 6 bars
Filter manufacturing: polyester, PTFE coated, stainless steel deployed inside
Filtering area: 4.4 m²
Unclogging tank volume: 6.5 liters
Level probe characteristics: capacitive (on request according to product)
Unloading valve technology: butterfly Ø DN200
Valve body: cast iron or 316L stainless steel
Valve disc: 304(L) stainless steel, 316(L) stainless steel
Product valve technology: pinch
Vacuum valve technology: butterfly with pneumatic actuator
Air suction pipe Ø (mm): DN50
Product suction pipe Ø (mm): 51 - 63
Piping type: rigid and flexible (reinforced piping with electrical spiral for metallic continuity)
Connections: SMS, clamp, flange
Power required: 4 kW
Inlet: 2
Outlet: 5
ATEX compatibility: 20, 21, 22 and 1, 2
Pump flow rate m³/h.: 200 - 250

Equipment TEST CENTER Available









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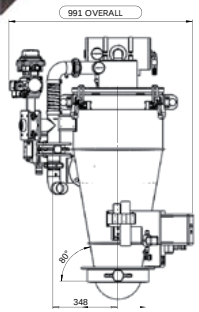
VFlow® 03

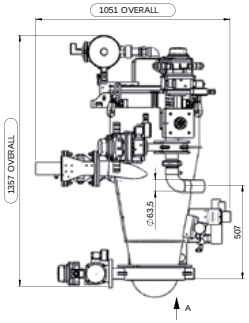
AVAILABLE CUSTOM MADE

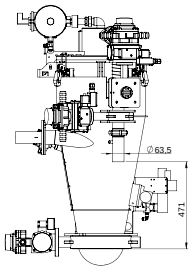
03

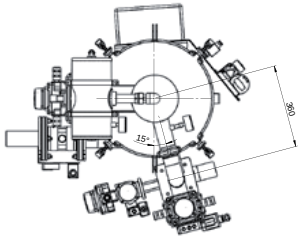
Dense phase vacuum conveying: powder pump

Model: VFlow® 03
Rate: 2.5 to 4 m³/h.
Overall height: 1,357 mm.
Volume of the cyclone: 40 liters
Manufacturing quality: Ra < 1.2 to 0.8
Cyclone body manufacturing: 304(L) stainless steel, 316(L) stainless steel
Size of the particules transferred: from mm. to µm
Operating temperature: -10°/+ 40°
Vacuum pump technology: without lubrication, with dry paddles or nozzles
Tare weight: 145 kg
Maximum vacuum transfer: 800 Nm³/h.
Air consumption*: 0.80 to 1.23 m³/h.
*Flow rate at atmospheric pressure, maximum and minimum rates
Operating pressure: 6 bars
Filter manufacturing: polyester, PTFE coated, stainless steel deployed inside
Filtering area: 2.8 m²
Unclogging tank volume: 6.5 liters
Level probe characteristics: capacitive (on request according to product)
Unloading valve technology: butterfly Ø DN250
Valve body: cast iron or 316L stainless steel
Valve disc: 304(L) stainless steel, 316(L) stainless steel
Product valve technology: pinch
Vacuum valve technology: butterfly with pneumatic actuator
Air suction pipe Ø (mm): DN65
Product suction pipe Ø (mm): 63 - 76
Piping type: rigid and flexible (reinforced piping with electrical spiral for metallic continuity)
Connections: SMS, clamp, flange
Power required: 5.5 to 11 kW
Inlet: 2
Outlet: 5
ATEX compatibility: 20, 21, 22 and 1, 2
Pump flow rate m³/h.: 350









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VFlow® 04

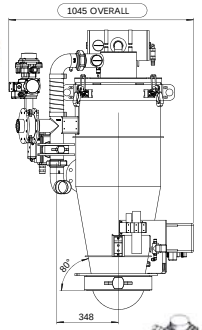
AVAILABLE CUSTOM MADE

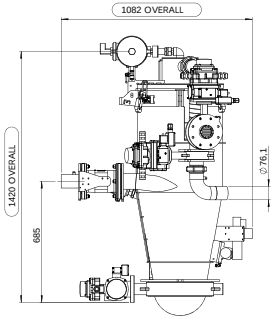
04

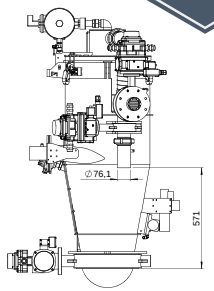
Dense phase vacuum conveying: powder pump

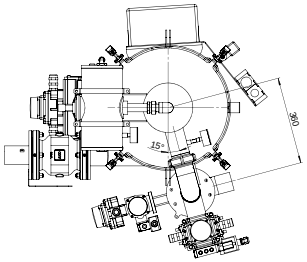
Model: VFlow® 04
Rate: 4 to 6 m³/h.
Overall height: 1,420 mm.
Volume of the cyclone: 55 liters
Manufacturing quality: Ra < 1.2 to 0.8
Cyclone body manufacturing: 304(L) stainless steel, 316(L) stainless steel
Size of the particules transferred: from mm. to µm
Operating temperature: -10°/+ 40°
Vacuum pump technology: without lubrication, with dry paddles or nozzles
Tare weight: 170 kg
Maximum vacuum transfer: 800 Nm³/h.
Air consumption*: 0.63 to 0.92 m³/h.
*Flow rate at atmospheric pressure, maximum and minimum rates
Operating pressure: 6 bars
Filter manufacturing: polyester, PTFE coated, stainless steel deployed inside
Filtering area: 7.8 m²
Unclogging tank volume: 6.5 liters
Level probe characteristics: capacitive (on request according to product)
Unloading valve technology: butterfly Ø DN250
Valve body: cast iron or 316L stainless steel
Valve disc: 304(L) stainless steel, 316(L) stainless steel
Product valve technology: pinch
Vacuum valve technology: butterfly with pneumatic actuator
Air suction pipe Ø (mm): DN80
Product suction pipe Ø (mm): 76 - 88.9
Piping type: rigid and flexible (reinforced piping with electrical spiral for metallic continuity)
Connections: SMS, clamp, flange
Power required: 11 to 15 kW
Inlet: 2
Outlet: 5
ATEX compatibility: 20, 21, 22 and 1, 2
Pump flow rate m³/h.: 400

Equipment TEST CENTER Available









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VFlow® 05

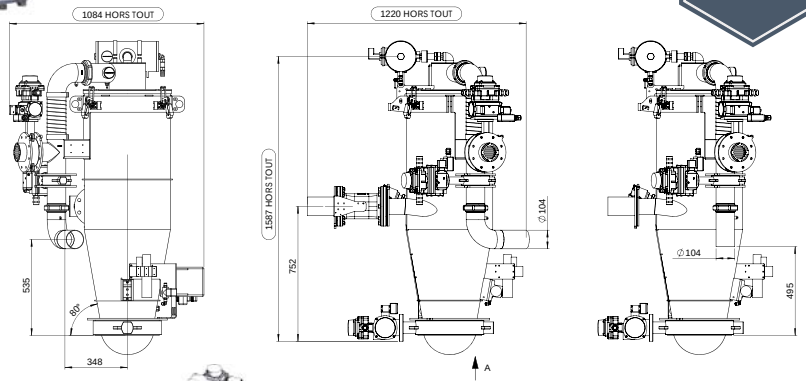
AVAILABLE CUSTOM MADE

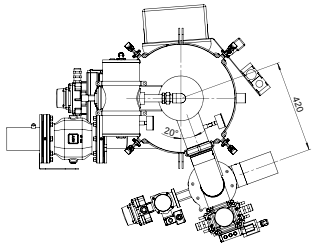
05

Dense phase vacuum conveying: powder pump

Model: VFlow® 05
Rate: 5 to 10 m³/h.
Overall height: 1,883 mm.
Volume of the cyclone: 70 liters
Manufacturing quality: Ra < 1.2 to 0.8
Cyclone body manufacturing: 304(L) stainless steel, 316(L) stainless steel
Size of the particules transferred: from mm to 3 µm
Operating temperature: -10°/+ 40°
Vacuum pump technology: without lubrication, with dry paddles or nozzles
Tare weight: 185 kg
Maximum vacuum transfer: 800 Nm³/h.
Air consumption*: 0.57 à 0.92 m³/h.
*Flow rate at atmospheric pressure, maximum and minimum rates
Operating pressure: 6 bars
Filter manufacturing: polyester, PTFE coated, stainless steel deployed inside
Filtering area: 9.5 m²
Unclogging tank volume: 6.5 liters
Level probe characteristics: capacitive (on request according to product)
Unloading valve technology: butterfly Ø DN300
Valve body: cast iron or 316L stainless steel
Valve disc: 304(L) stainless steel, 316(L) stainless steel
Product valve technology: pinch
Vacuum valve technology: butterfly with pneumatic actuator
Air suction pipe Ø (mm): DN100 - DN200
Product suction pipe Ø (mm): 88.9 - 104
Piping type: rigid and flexible (reinforced piping with electrical spiral for metallic continuity)
Connections: SMS, clamp, flange
Power required: 15 to 30 kW
Inlet: 2
Outlet: 5
ATEX compatibility: 20, 21, 22 and 1, 2
Pump flow rate m³/h.: 500

Equipment TEST CENTER Available





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VFlow® Custom made

AVAILABLE CUSTOM MADE

Dense phase vacuum conveying: powder pump

POSSIBLE FEATURES

- **Specific and reduced dimensions**
- **Applications for toxic materials**
- **Specific industry as nuclear, petrochemistry**
- **Manufacturing materials adapted to the conveyed material and the working environment: steel, stainless steel, Hastelloy, Uranus B6, Viton, Perbutan, Nitrile...**
- **Surface treatments adapted to powders: electropolished, mirror polished, vulcanizing, teflon**
- **Process functionalities integration: dosing, screening, grinding, granulation, anti-bridging device, mechanical transfer**
- **ATEX 0-20**

See all our options on pages 22-23

Dense phase vacuum conveying

The VFlow® allows a pneumatic **vacuum dense** conveying and prevents the deterioration of the material in a continuously and contained manner in your manufacturing processes.

Particularly adapted to difficult products (poor flow, fragility, abrasiveness or explosiveness of the material), this cyclone can be easily set up in your environment with unlimited extension possibilities.

Suction is performed from multiple feeding points and/or loading several points in your process.

It also allows the feeding of the pressurised reactor and feeding of the material without any addition of air.

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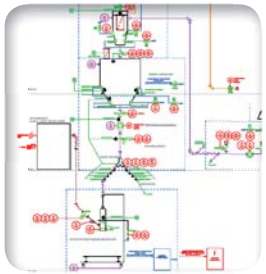
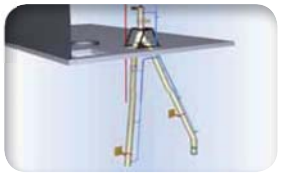
C.I.P Clean In Place

C.I.P FEATURES FOR PNEUMATIC CONVEYING



- Set of washing nozzles
- Accelerator pump depending on configuration
- Condensate separator
- Cyclone and tubing cleaned by pickling
- Pipe cleaned by scraping



Washing plant

C.I.P. specific design machine

WASHING NOZZLES MODELS

STATIC

Pressure: 1.5 to 3 bar
Consumption: 14 to 460 liters/min.

FREE ROTATION

Pressure: 2 to 3 bar
Consumption: 8 to 639 liters/min.

CONTROLLED ROTATION

Pressure: 3 to 5 bar
Consumption: 25 to 193 liters/min.

WASHING CYCLES

Washing head implementation

Cycle example

Type A cleaning process:
1. Rinse solution 80°C with water
2. Water with soda 80°C, soda at 2/3%
3. Rinsing operation with water
4. 1% of nitric acid at 60°C
5. Rinsing operation with water
6. Second and final water rinsing
7. Warm air blowing at 130°C

Type B cleaning process:
The same as the type A but with an air blowing between each step and the use of a WFI water

Cleaning fluid transfer is about 0 to 300 seconds

DETERGENT TYPE

Control of the detergent titrant concentration and recovering of washing waters.
Detergent examples:
- Alkaline
- Disinfectant
- Dewating: solution enabling the acceleration of the installation drying

WASHING WATER RECOVERING

- Water drainage ou shift back to the central through recirculation pump
- Reclycing of rinse waters for the prewashing of the following cycle

DRYING SOLUTIONS

- Natural drying:
- Natural evaporation
- Use of product dewatering
- Warm air sending:
- Warm air station
- Repression of vacuum pump

Examples of Installations

LOSS-IN-WEIGHT AND DEDICATED LINE

Customer: Dairy, yogurt manufacturing

Treated product: Sugar
Objectives: Feeding of a powder disperser from 2 weighed FIBC unloading units; Flow rate: 5t./h.; Integrated purge of the line to ensure dosing accuracy and no cross-contamination

ONLINE SIFTING

Customer: Spices manufacturer

Treated product: Food mixture
Objectives: Online mixture sifting and feeding of a FIBC packing unit; Flow rate: 4t./h.
Advantages: accessibility to equipment for inspection and cleaning

TRANSFER OF COATING GELATIN FOR CAPSULES

Customer: Pharmacist

Treated product: Virgin gelatine
Objectives: Ensure the feeding of the melter with virgin gelatine (separation of fine and grain) and maximum hygiene
Advantages: the pneumatic conveying system provides multiple functions which help to minimize a number of implanted devices

DEMOUNTABILITY OF EQUIPMENT

Customer: Industrial chocolate factory

Treated product: Cocoa, hazelnut powder, vanilla powder
Objectives: Compact design for easy disassembly and cleaning; ATEX Security; Special design for greasy material with poor flowing

VFlow® Detached Filter

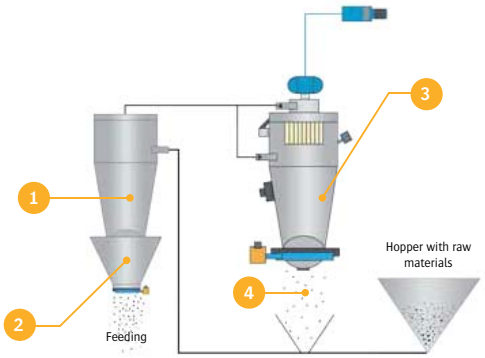
AVAILABLE CUSTOM MADE

OPERATING MODE

A separating cyclone (offset filter) is coupled with a pneumatic conveying cyclone. The separating cyclone is fitted with a reintroduction nozzle for collecting aspirated fines continuously and for using them again in the process.
From a flow rate point of view, the introduction of a separating filter allows to eliminate filter cleaning cycles (10% of a cycle time on average).

TECHNICAL SPECIFICATIONS

Particle sizes: 5 – 3 3m
Average level of vacuum: 500 mbar absolute
Cyclonic efficiency: > 99,5%
Manufacturing materials: 304L stainless steel, 316L stainless steel
Available finishes: outside microblasting, inside electropolishing, inside mirror polishing
Filtering media: PTFE, antistatic PTFE, FDA certified
ATEX certification: zone II 1,2,3 GD (less than 3 mJ EMI).



MAIN FUNCTIONS

1. **Cyclonic**: air/product separation

2. **Storage**: product recovery, conservation of expansion volume

3. **Finishes**: separation and protection of the vacuum element

4. **Reintroduction** into the process line or fines recovery in the dedicated hopper

Advantages

No product loss: reintroduction of the powders into the process

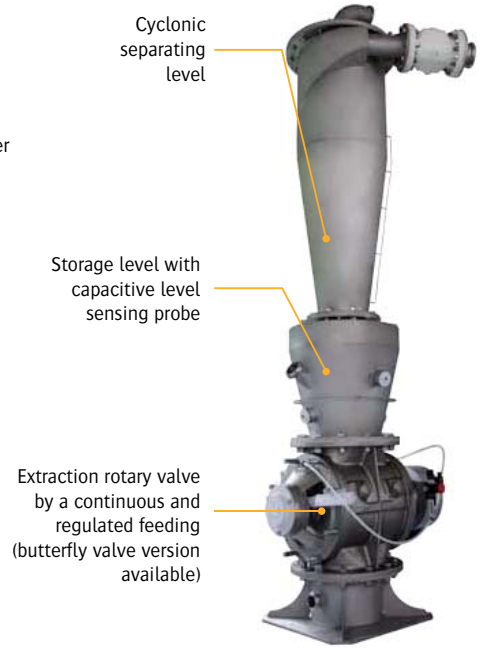
Implementation in harsh environments: loading of reactors in hazardous areas: protection of the filter against emanation of vapors, gas and dust area ATEX certification

High rate process: optimisation of the cyclonic efficiency, reduction of pressure losses, continuous unloading

Difficult product conveying : protection of the filtering system, no clogging in the filter

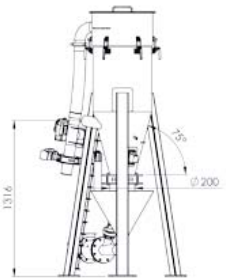
CYCLOFILTER

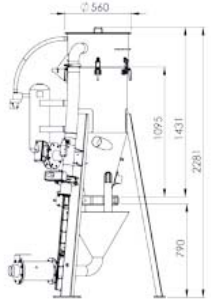
SEPARATING CYCLONE

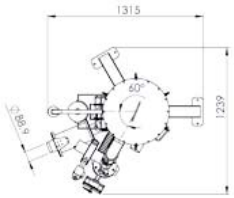


RANGE OF CYCLOFILTERS

Layout of the VF DEP 06







Models	Rate in m³/h.	Piping Ø in mm	Filtering surface in m²	Cyclone outlet Ø in mm.	Cyclone height in mm.
VF DEP 02	2	50	5	100	600
VF DEP 04	4	65	8	150	780
VF DEP 06	6	80	12	150	1,431
VF DEP 08	8	100	18	200	1,850
VF DEP 10	10	125	26	250	2,200

Available options

- C.I.P.: Clean In Place
- A SAS for reactor feeding
- Unloading valve with inflating cuff in harsh environments: emanation of vapors
- Feeding with Nitrogen

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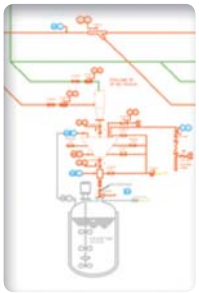
EXAMPLES OF INSTALLATIONS

MULTIPLE DISCHARGE POINTS

Customer: Catalyst manufacturing for the petrochemical industry

Products: resins, polymers, talc, silica
Objectives:
- Move the operator away from the hazardous area
- Avoid cross contamination
- Ensure weighing



REACTOR FEEDING

Customer: Shampoo manufacturer

Product: wax
Objectives: feeding of 4 high temperature reactors loaded with wax.
The dosing is ensured with the loss-in-weight of the FIBC unloading units.

Dosing accuracy: 500 gr.
Flow rate: 4t./h.

DOSING WITH MULTI-POINT DISCHARGE: CONTINUOUS CONVEYING WITHOUT PRODUCT LOSS

Customer: manufacturer of seals for automobiles

Product: carbon black
Objectives: the detached filter allows a floor layout of the filtering cyclo-filter. Maintenance operations are facilitated and centralized on a single device.
Other cyclones are located in height and require no maintenance.

ATEX SECURITY: SPECIFICATIONS AND ADVANTAGES

The unique technology of PALAMATIC PROCESS remote filter provides the solution for charging pressurized reactors loaded with solvents.

The entire risk regarding the transfer, draining and recovery cycles of the transfer is completely eliminated by the integration of sensors and additional equipment.

Our many current applications are strong evidence of our expertise in the field of pneumatic conveying.

THE **ATEX** REGULATIONS: AUDIT AND COMPLIANCE

In their production processes, our customers are very frequently faced with the explosive nature of several materials used (powder, gas, liquid). Huge accidents prove the consequences that an explosion may have. When the atmosphere is explosive, a small spark (e.g. that of an electric switch or from the mechanical heating of a part of the machine) is enough to cause an accident or a disaster. For many years, authorities and industries have worked on developing safety rules governing work conditions in dangerous environments: explosive atmospheres.
PALAMATIC PROCESS offers you its expertise to classify areas in hazardous locations depending on the nature or duration of the presence of the ATEX atmosphere. Today, PALAMATIC PROCESS delivers to its customers ATEX facilities certified by the notified bodies (Inéris, LCIE ...)
PALAMATIC PROCESS has developed standard equipment meeting the ATEX 0-20 / 1-21 / 2-22 regulations.
Also, our specialists engineers conduct zoning and the drafting of risk analyses on new equipment and new facilities.
PALAMATIC PROCESS ensures the safety of operation and full compliance with the standards.

Reactor feeding airlock for barrier and Nitrogen gassing

VFlow® Included Weighing

AVAILABLE CUSTOM MADE

This option provides **transfer and dosing** combination. The integrated weigh system allows to control the dosing in masked time and to prepare the batch.

TECHNICAL SPECIFICATIONS

Rate from 1 to 10 m³/h.
Conveying distance: from 1 to 100 m.
Conveying speed: < 5 m./s.
Products: powders, grains, granules...

POSSIBLE TRIALS

Our test station offers you the opportunity to observe, in real conditions, the behavior of your products during the transfer process. This equipment experiment allows technical validation beforehand to secure your investment.

More information on our website:
www.palamaticprocess.com/engineering-design-office/test-plant

Equipment TEST CENTER Available

The vacuum dense phase conveying technology allows the integration of weighing solutions.

TWO POSSIBLE SOLUTIONS:

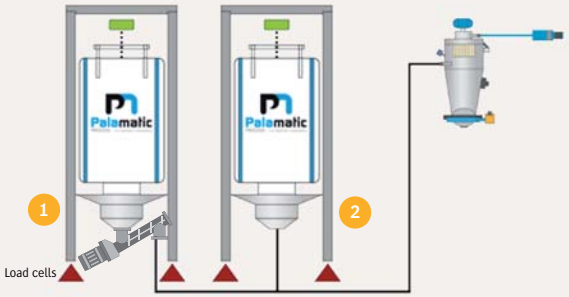
1- Loss-in-weight

Loss-in-weight solution consists in weighing the «starting point» of the powder process (sack dumping unit, fibc unloading unit, drum emptying station...).
The automaton controls the vacuum through the purge system in order to stop the transfer.
To achieve higher accuracy, a metering element (valve, screw conveyor, rotary valve) can be implemented.

2- Weight gain

The solution for weight gain involves implanting the cyclone on load cells.
Once the aspirated quantity coincide with the setpoint, the controller stops the transfer, the dose is ready to be inserted.

LOSS-IN-WEIGHT

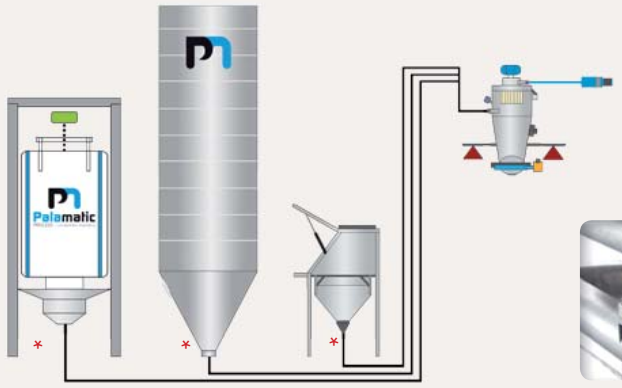


A controlled feeding thanks to a screw conveying or a rotary valve. Using of frequency converter to get a very precise dosing < to 1 kg

Direct feeding: the dosing is stopped by a weighing valve, accuracy < to 5 kg

The loss-in-weight of the starting points combined with line purging provides complete dosing for conducting the premix.

WEIGHT GAIN



*Direct feeding or by a metering unit depending on the accuracy desired

The conveying system ensures the «pumping» of the product to reach the target weight. During unloading, return to «zero» ensures total introduction of material into downstream equipment.

Precision < 1 kg and < 50/100 gr. with a metered feeding

Line venting

Dedicated line: no cross contamination

Display

Advantages

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EXAMPLES OF INSTALLATIONS

Cyclone transfer system with dosing device

Multi-line for the feeding of the weighed cyclone; allows the production of the pre-mix during the transfer phase

Vacuum pneumatic conveying with integrated «weight gain» scale.
This pattern is specially designed for the suction of multi-components

Customer: plant for preparation of ready-to-cook dishes

Products: wheat flour, rice flour
Objectives: suck a specific batch of flour with respect of the doses of the premix in masked time.
Characteristics: the buffer capacity of the cyclone permits the storage of 800 kg for a «snapshot» feeding of the mixer located downstream.

Customer: food cooking breaded meat

Products: starch, carbonates
Objectives: premix production in masked time with respect of the recipes.
The weighed cyclone operates in technical roof spaces to create production space in clean area.
Flow rates: 4t./h.

Customer: yogurt manufacturing plant

Products: sugar and proteins
Objectives: buffer storage of raw materials in hoppers. The VFlow® 04 pneumatic conveying directly sucks the raw materials. The loss-in-weight device controls suction to ensure the conveying of the desired doses.

SUCTION PIPE

Effortless suction of the product
Hand operated device to allow the suction of the product. The suction pipe is the ideal solution for drums, sacks, octabins or buckets unloading.

ATEX 20, 21 ET 22

The ATEX zoning conditions the design of the pneumatic transfer system.
Depending on your ATEX zoning, the pneumatic transfer system is composed of ATEX equipment, nitrogen unclogging, CODAP manufacturing...

DETACHED FILTER

It provides air/material separation at 99.5% in the separating cyclone located directly on the tanks and reactors (compatibility with the environment not favorable).
The cyclofilter is then deported to the ground with the possibility of re-introduction of fines in the process for products with high added value.

SWITCH

It ensures the flexibility of pneumatic conveying, with multiple arrivals and departure points.
It can be manual or automatic.

ANTI-RISING DAMP SAS

The introduction of the powders comes with a flow of air, compressed air or nitrogen in order to ensure the downward flow of the material and to block the rising of vapors or solvents.

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LINE PURGING SYSTEM

It ensures finishing of the transfer cycle with a clean line thanks to a vacuum blast.

CLEAN IN PLACE (CIP)

Suction of the cleaning fluid by means of the transfer system.
A liquid separator can be added ahead the vacuum group.

WEIGHT CELLS ON CYCLONE

Weighing of the cyclone provides control of the transfer to monitor the amount of powder sucked or the amount of powder to be drained.

RE-INTRODUCTION OF FINES

When operating remote cyclofilter, the fines from the filtering cyclone are automatically re-introduced into the process by the same transfer system.

AIR GUN

The air jet operated by the air gun has the effect of instantly release a large amount of compressed air which facilitates the flow of product.

VERTICAL CONCEPTION

A specific conception for materials that tend to stick to the walls.

VIBRATING BIN AERATORS

They facilitate the flow and emptying of stored materials.
These vibrators allow the introduction of air or nitrogen to facilitate the product flow.

BUFFER HOPPER

Intermediate storage after transfer phase and before material introduction.

PNEUMATIC VIBRATORS

They facilitate the flow and emptying of stored materials.
These vibrators generate multidirectional vibrations.
They are used for emptying silos or chutes leading.

LEVEL PROBE

An extra level sensor may be added to the cyclone to have an additional level.

AUTOMATION

Pal'Touch® Technology

SERVO-CONTROL, CONTROL, TRACEABILITY

Our automation design office designs and manufactures all of the control cabinet to offer maximum functionality and ergonomics.

The Programmable Logic comes from partnerships with leading market players such as Schneider Electric, Siemens, Omron, Allen Bradley.

The connectivity of our facilities guarantees:
. Service and evolution continuity
. Perfect integration into your existing process
. Flexibility and continuous operation thanks to our remote maintenance service

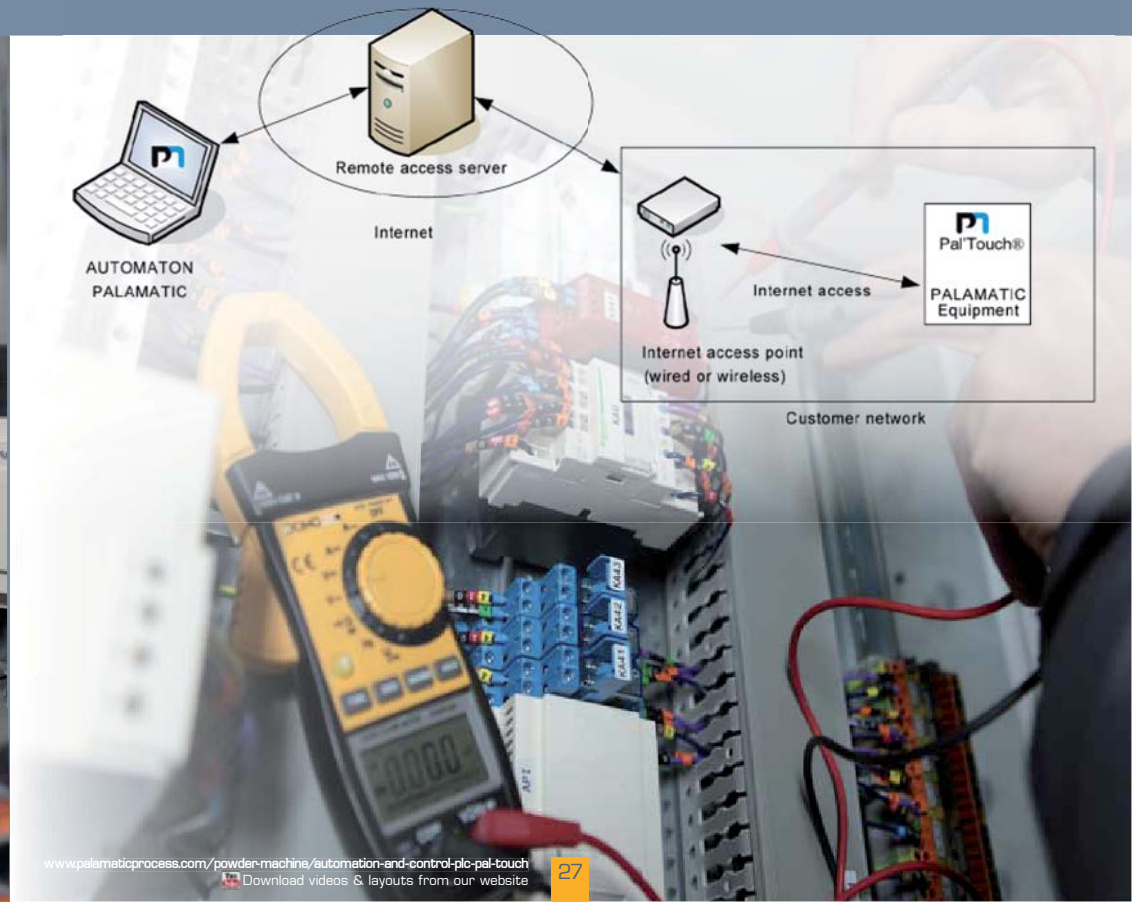
REMOTE ACCESS - TELEMAINTENANCE

The remote maintenance service allows PALAMATIC PROCESS teams to easily and instantly work on the system without the need to move geographically.

Breakdown assistance provides:
. Securing the process
. Reducing stopping time
. Significant reduction in the cost of interventions
. Reduced intervention time

This maintenance service of your automation equipment is adaptable over time depending on customer needs.

The implementation of this technical assistance is very simple. All you need is an internet connection, either wired or wireless.



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Test Plant

Equipment TEST CENTER Available

The PALAMATIC PROCESS laboratory for powders was built for the attention of all our industrial customers who wish to set up production machines to meet their expectations.

Our test center is made up of the latest machinery in the powder handling sector. Specialist engineers are there to advise you on the industrial processes best suited to your requirements and to guide you at every stage of the decision to design the most efficient installation.

3 STEPS TO VALIDATE YOUR PROCESS

Step1 - Before Test

- Select the likely optimal machine configuration based on your technical requirements (powders, flow rate, dosing)
- Draft test proposal by our sales-engineers representatives

Step 2 - During Test

- Process validation for product testing
- Perform testing and sample collection
- Discussion on results after the test with machines (phase diagram, degradation tests, fines content)

Step 3 - After Test

- Analysis of machine test data and samples
- Write a summary report
- Collaborate on the optimal solution for your requirements
- Submit a quotation

THE BENEFITS OF MECHANICAL TESTING

- Individual consultation and on-going support of our R&D engineers
- Confirmation of the appropriate machines to conduct a test with your product
- Tests at various operating conditions to define the most efficient process according to your industrial requirements
- Evaluation of the profitability of equipment configuration
- Possibility to test additional options using PALAMATIC PROCESS' range of products
- Maximize the return of your investment
- Maximize the optimum selection of the proper machine
- Capitalize on the wide experience of our experts

- Come with your materials
- Participate in selecting the test machines
- Maximize your productivity

300

+ than **300** configurations

- + than **300** process configurations
- **2,400** sq. feet of surface dedicated to the test
- **35** industrial machines
- **35** feet of ceiling
- Test with **all types of products**
- **2 support engineers**
- **ATEX** configurations