



# VACUUM SOLUTIONS FOR THE PHARMACEUTICAL INDUSTRY



# PHARMACEUTICAL INDUSTRY

## HEALTH, SAFETY AND PRODUCTIVITY

The production process in the pharmaceutical sector involves high standards of hygiene, safety and productivity to ensure a safe, compliant and effective end product.

ENSURING SECURITY  
OF OPERATORS



PRODUCTION EFFICIENCY



AVOID CONTAMINATION



ENSURE CONTAINMENT OF ACTIVE  
SUBSTANCES AND INGREDIENTS



ENSURE THE QUALITY OF  
THE FINISHED PRODUCT



MAINTAIN HIGHEST LEVEL  
OF HYGIENE IN THE WORK  
ENVIRONMENT



Based on these priorities, Delfin offers an innovative range of pharmaceutical-specific solutions that includes dust containment systems with varying degree of dangerousness (API and HPAPI) and different levels of operator exposure risk (OEB1 to OEB6).

# FEATURES

## offered by Delfin

1. Wide range of products diversified for toxic powders.
2. Dust containment range (H14/ HEPA filtration + BIBO + OEB and cyclones).
3. Product customization
4. Mobile Solutions Range (Cleanroom)
5. Modular solutions (high efficiency cyclone and canister)
6. TP> integration to the production process
7. Certifications and Miscellaneous (ATEX, HEPA, ULPA, IECEx)

# BENEFITS

## for companies

1. Maintaining high standards of hygiene and cleanliness
2. Operator safety and work environment
3. Setting of machine air flow rate and waste reduction during production process steps (materials saving)
4. Preserve the environment from dust even when ejected from vacuum cleaners, not contamination at all (protection up to ISO 4)
5. Avoiding noise and thermal emissions in environments
6. Process time optimization (conveying and dosing powders according to the needs of the production process)
7. Compliance and regulatory compliance + safety





**Our products, your  
safety: protection of  
employees and integrity of  
pharmaceutical processes.**



# A FULL RANGE OF SOLUTIONS

Delfin offers the pharmaceutical industry a wide range of mobile and stationary industrial vacuum cleaners and several pneumatic conveying solutions that seamlessly integrate with the production process, from the storage of raw materials to the packaging process of the finished product.





1



## SOLUTIONS FOR LOGISTICS AND RAW MATERIAL STORAGE AREAS

Compact models for dust and liquid suction with large collection capacity and central solutions with fixed piping for storage and production areas.

P 08-10

2



## SOLUTIONS FOR PRE-PRODUCTION AREAS

Dust collectors with suction arm to avoid powder scattering in the environment and operator exposure.

P 11-12

3



## A. SOLUTIONS FOR PRODUCTION AREAS

Integrated solutions for automation of raw materials loading or finished products conveying.

## B. SOLUTIONS FOR DUST CONTAINMENT

Integrated solutions for dust control in production areas.

P 13-24

4



## SOLUTIONS FOR CLEANROOM E WHITEROOM

Autoclavable models for dust or liquid suction with ULPA filters. Suitable for cleanroom, ISO4 or higher.

P 25-26

5



## SOLUTIONS FOR PACKAGING LINES

Integrated solutions for the removal of packaging scraps and trimmings (cardboard, plastic film, etc.).

P 27-29

6



## SOLUTION FOR PNEUMATIC CONVEYORS

Solutions that perfectly integrate the production process, from raw material storage to packaging lines.

P 30



# SOLUTIONS FOR CLEANING THE LOGISTICS AND STORAGE AREAS OF RAW MATERIALS

Compact models for dust and liquid suction with large collection capacity and central solutions with fixed piping for storage and production areas.



## | MODELS

802 WXP - MTL 451 1/2D - DM2 1/2D



LOGISTICS AREAS



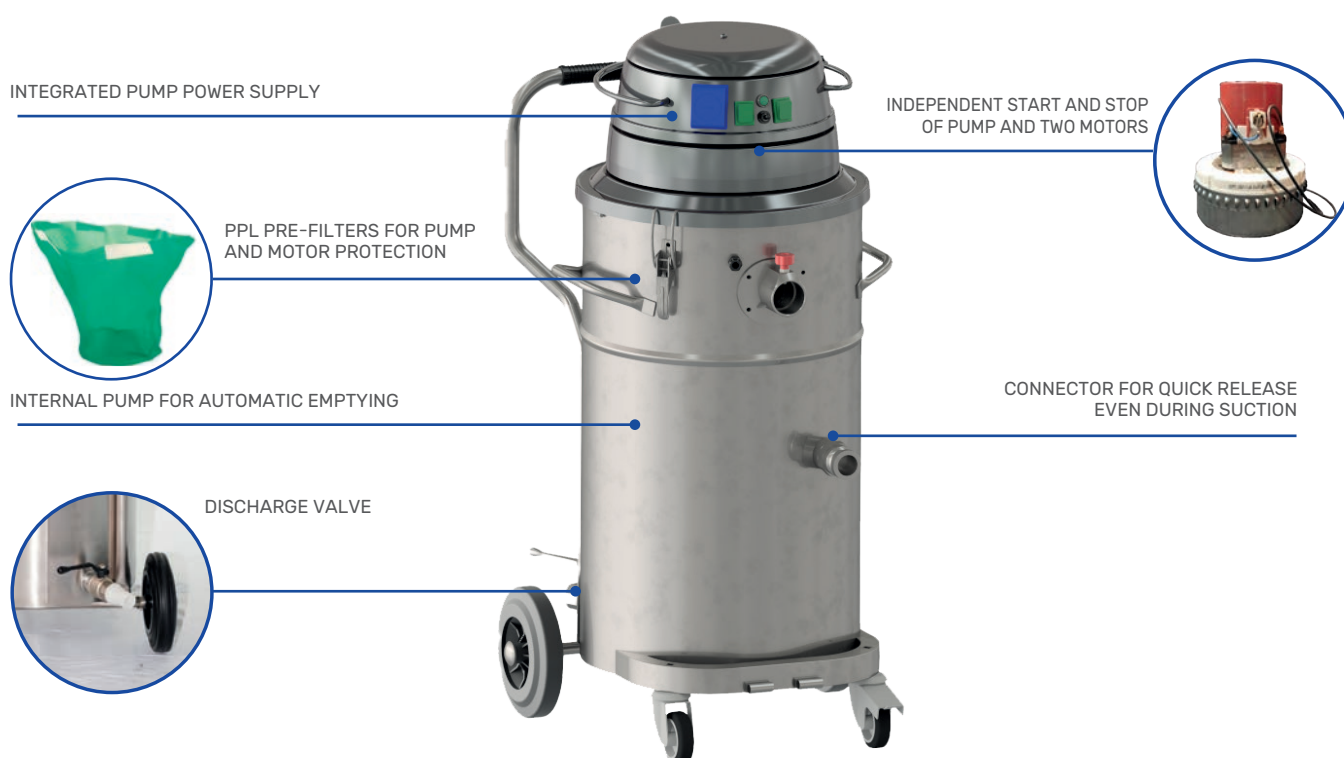
# INDUSTRIAL VACUUM SYSTEM FOR LIQUIDS

## 802 X

Ideal in case of disposal of large quantities of liquids  
AISI 304 stainless steel container, double single-phase by-pass motor and practical immersion pump for container emptying.

### BENEFITS:

- Safe removal of large quantities of liquids
- Suction and discharge of liquids even simultaneously
- PPL pre-filters for pump and motor protection



| TECHNICAL DATA       | 802 WXP                 |
|----------------------|-------------------------|
| Voltage/Power        | 230V - 50Hz 1~/ 2,3 kW  |
| Continuous waterlift | 2500 mmH2O              |
| Max air flow         | 360 m3/h                |
| Filter               | Polypropylene bag 300µm |
| Capacity             | 80 lt                   |
| Noise level          | 76 dB (A)               |
| Dimensions/Weight    | 53x59x105h cm / 50kg    |

# INDUSTRIAL VACUUM CLEANERS FOR REMOVING LARGE QUANTITIES OF DUST AND SOLIDS

## MTL451 1/2D / DM2 1/2D

Thanks to Brushless single-phase motors, it is possible to continuously suck up small and large quantities of powder in ATEX Z22 certified areas. Class M antistatic primary filter together with H filter (standard) allow even the finest dust to be filtered out, preventing it from being re-introduced into the environment posing danger to the operator.

### BENEFITS:

- Mobile and compact machine
- Continuous suction possible thanks to brushless motors
- Maintenance-free brushless motor



### OPTIONAL



**BAG**  
Collection bags for complete container with depressor kit



ATEX CERTIFICATION  
BY AN ACCREDITED THIRD PARTY



STAINLESS STEEL CHAMBER

| TECHNICAL DATA         | MTL451 1/2D            | DM2 1/2D               |
|------------------------|------------------------|------------------------|
| Atex zone / Category   | 1/2D                   | 1/2D                   |
| Voltage/Power          | 230V - 50Hz 1-/ 1,1 kW | 230V - 50Hz 1-/ 2,2 kW |
| Continuous waterlift   | 2250 mmH2O             | 2250 mmH2O             |
| Max air flow           | 215 m3/h               | 430 m3/h               |
| Filter                 | Star - Polyester ANT M | Star - Polyester ANT M |
| Capacity               | 45 lt                  | 100 lt                 |
| Filter cleaning system | Dustop                 | Manual                 |
| Noise level            | 74 dB (A)              | 76 dB (A)              |
| Dimensions/Weight      | 58x62x138h cm / 57kg   | 77x66x168h cm / 87kg   |



## SOLUTIONS FOR PRE-PRODUCTION AREAS

Dust collectors with suction arm to avoid powder scattering in the environment and operator exposure.

2

### | MODELS

ZEFIRO EV AP

# INDUSTRIAL DUST COLLECTORS

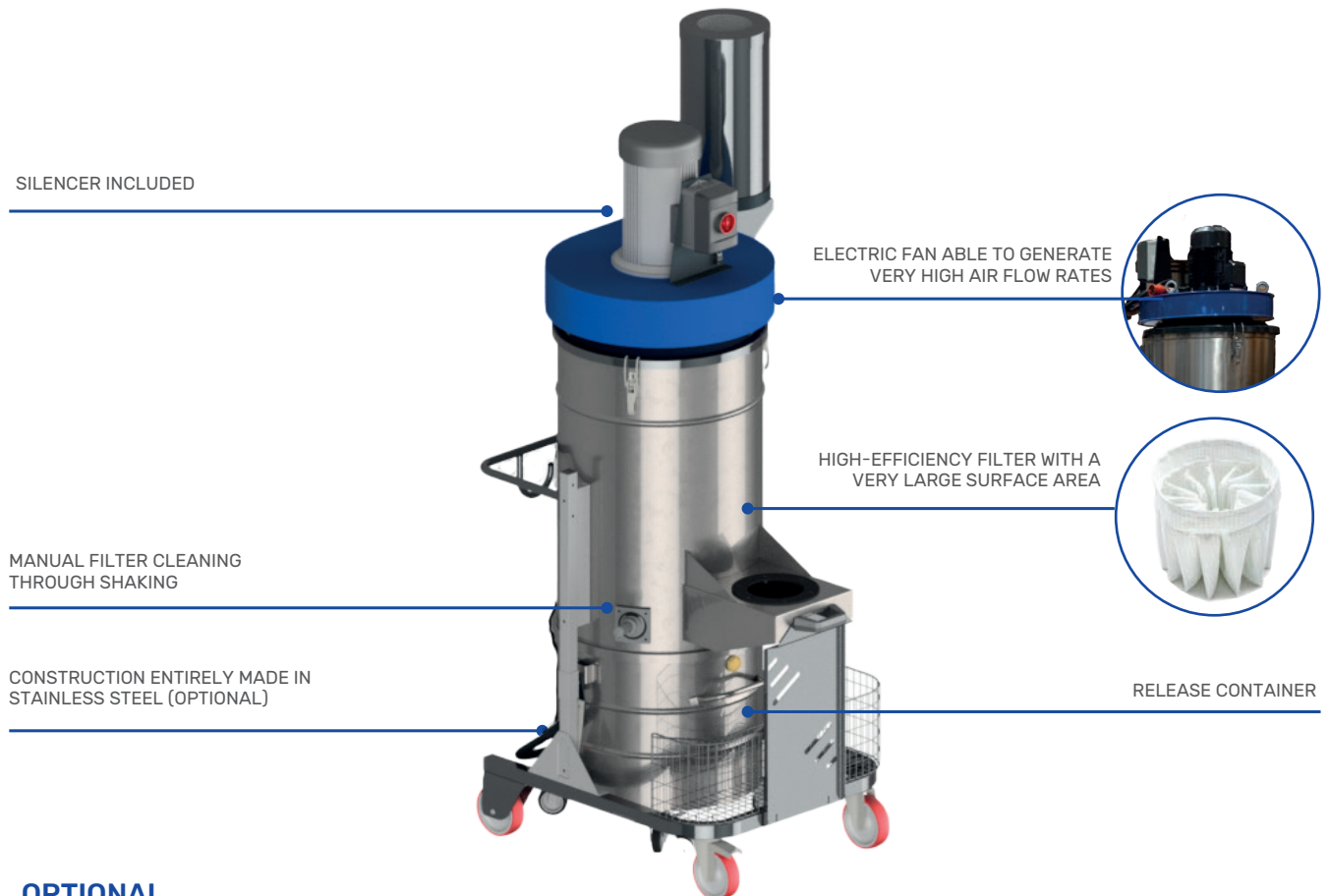
## ZFR EV AP

Trolley dust collectors feature a very high air flow rate, which is necessary to vacuum powder at the source and prevent it from being dispersed in the environment.

They are also a perfect solution for localized suction directly on board of process machinery. Their function is to avoid dust dispersion in the production environment, preventing even the finest powder from escaping into the surroundings.

### BENEFITS:

- It allows the vacuuming of fine powder suspended in the work environment, ensuring the safety of operators and preventing the dust from spreading into the surroundings
- Can be used with extraction arm or direct connection on product machinery



### OPTIONAL



**SAFETY H FILTER**  
for suction of toxic,  
carcinogenic, pathogenic  
powder



**STAINLESS STEEL SUCTION ARM**



**ATEX**  
Vacuum unit  
certified for use in  
Atex Zone 22

| TECHNICAL DATA  | ZFR EV AP 420 K07     | ZFR EV AP 560 K4      |
|-----------------|-----------------------|-----------------------|
| Voltage / Power | 400 - 50 3~ / 0,75 kW | 400 - 50 3~ / 4 kW    |
| Max waterlift   | 180 mmH2O             | 370 mmH2O             |
| Max air flow    | 1000 m3/h             | 3500 m3/h             |
| Filter          | Polyester star - L    | Polyester star- ANT M |
| Capacity        | 45 lt                 | 100 lt                |
| Dimensions      | 58x63x180h cm         | 78x85x214h cm         |





# A SOLUTIONS FOR PRODUCTION AREAS

Integrated solutions on the production lines to eliminate dust and reduce maintenance.

# 3

## MODELLI

DBF -DBFV - PHARMA 20.18 -  
PHARMA 40.40 PHARMA 40.30



BLISTER  
MACHINES



TABLETTING  
MACHINES



TABLET  
PRESSES

# OEB CONTAINMENT GUIDE

In the pharmaceutical industry, the **Occupational Exposure Band (OEB)** classification defines occupational exposure limits to APIs based on their toxicity. The **OEB 1-6** scheme establishes the necessary containment requirements: from basic PPE to enclosed systems and isolators. It is a key tool for designing safe plants and protecting employees.

|  |                                       |
|--|---------------------------------------|
| <b>&lt;200<br/>ng/m<sup>3</sup></b>      | <b>OEB 6</b><br>EXTREMELY HAZARDOUS   |
| <b>&lt;1 µg /m<sup>3</sup></b>           | <b>OEB 5</b><br>VERY HIGHLY HAZARDOUS |
| <b>&lt;1 - 10 µg /m<sup>3</sup></b>      | <b>OEB 4</b><br>HIGHLY HAZARDOUS      |
| <b>&lt;10 - 100 µg /m<sup>3</sup></b>    | <b>OEB 3</b><br>HAZARDOUS             |
| <b>&lt;100 - 1000 µg /m<sup>3</sup></b>  | <b>OEB 2</b><br>MODERATELY HAZARDOUS  |
| <b>&lt;1000 - 5000 µg /m<sup>3</sup></b> | <b>OEB 1</b><br>LOW HAZARDOUS         |

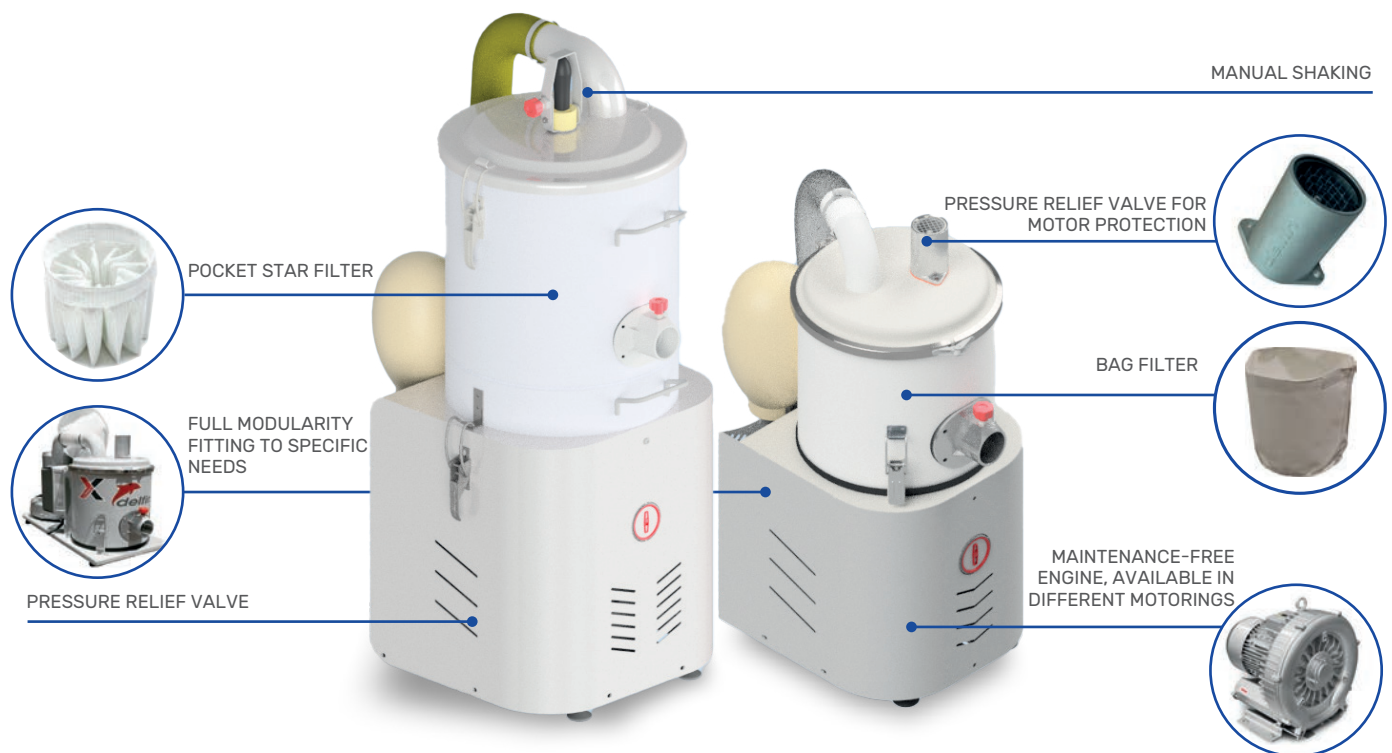
## VACUUM CLEANERS FOR DIRECT DUST EXTRACTION FROM PROCESS MACHINERY

### DBF RANGE - DBFV

The fixed vacuum bases on the machine are the ideal solution for removing powder and small scraps directly at the source during production cycles. Compact and available in vertical or horizontal construction, they are easy to install and integrate into existing or highly automated production lines.

#### BENEFITS:

- Continuous suction in order to avoid machine downtime and to maintain high productivity standards
- No powder releasing into the working environment
- Ergonomic and easy to use for thorough cleaning of the working area
- Minimal space requirements, modular construction



#### OPTIONAL



| TECHNICAL DATA       | DBFV 05                | DBFV 10                 | DBFV 20                | DBFV 30                |
|----------------------|------------------------|-------------------------|------------------------|------------------------|
| Voltage/Power        | 400V - 50Hz 3~/ 0,4 kW | 400V - 50Hz 3~/ 0,85 kW | 400V - 50Hz 3~/ 1,8 kW | 400V - 50Hz 3~/ 2,2 kW |
| Continuous waterlift | 1500 - 1200 mmH2O      | 2000 - 1400 mmH2O       | 3000 - 2200 mmH2O      | 2600 - 1900 mmH2O      |
| Max air flow         | 100 m3/h               | 150 m3/h                | 270 m3/h               | 318 m3/h               |
| Filter               | Polyester bag - M PTFE | Polyester bag - M PTFE  | Polyester star - ANT M | Polyester star - ANT M |
| Capacity             | 15 lt                  | 15 lt                   | 25 lt                  | 25 lt                  |
| Dimensions/Weight    | 50x33x73h cm / 30kg    | 50x33x73h cm / 35kg     | 54x55x103h cm / 45kg   | 54x55x103h cm / 60kg   |

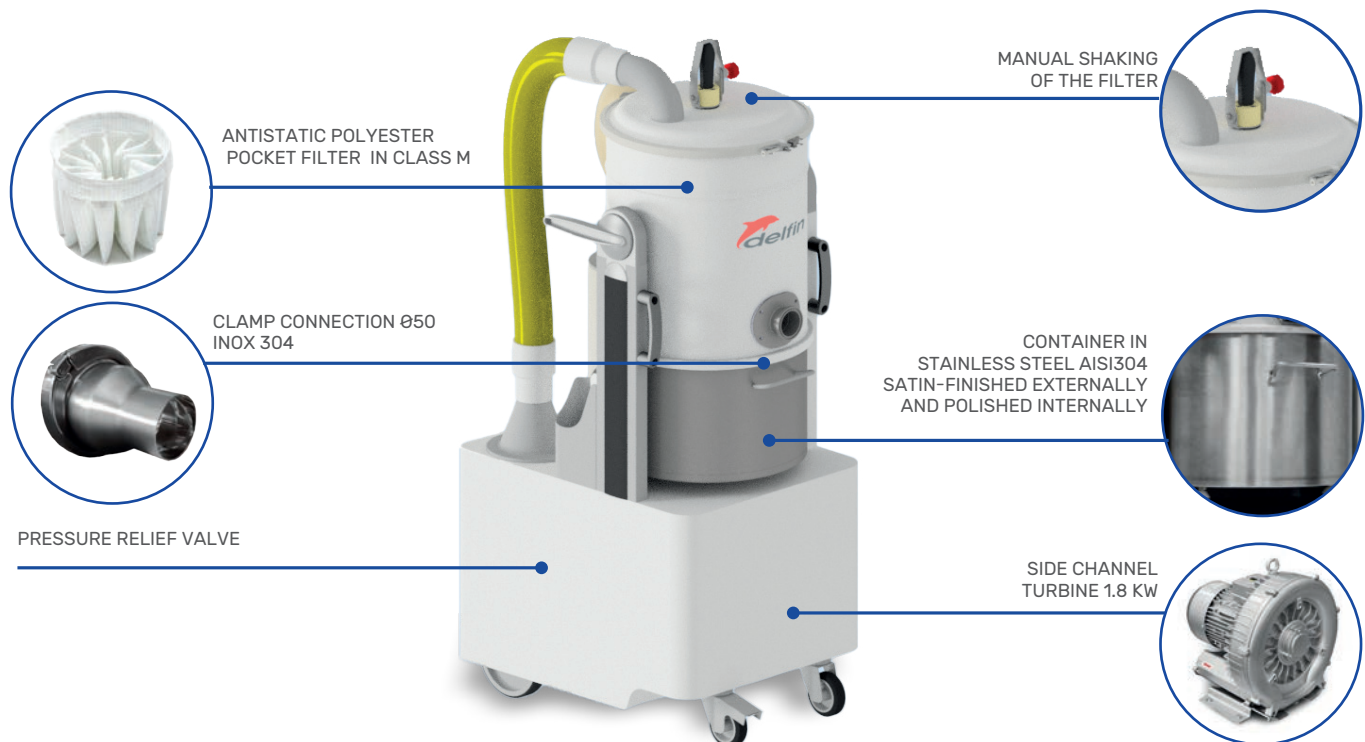
# VACUUM CLEANERS FOR DIRECT POWDER SUCTION FROM PROCESS MACHINERY AND FOR GENERAL CLEANING

## PHARMA 20.18

Extremely silent, compact and handy vacuum unit for direct suction of powdered active ingredients up to 0EB3 (API) on process machinery. Also fit for general cleaning and machinery maintenance.

### BENEFITS:

- Continuous suction in order to avoid machine downtime and to maintain high productivity standards
- Thanks to its extremely silent operation, it reduce noise level within the production area
- High filtration efficiency



### OPTIONAL



**STAINLESS STEEL CONSTRUCTION**  
Filtering chamber and structure available in AISI304 stainless steel



**Safety HEPA FILTER**  
for suction of toxic, carcinogenic, pathogenic dust



**SAFE BAG SYSTEM**  
Secure bagging system



**ARTICULATED ARM**  
for localised dust extraction



**FDA FILTER**  
FDA-certified antistatic filter



**ATEX**  
Unit certified for use Atex Zone 22

| TECHNICAL DATA       | PHARMA 20.18            |
|----------------------|-------------------------|
| Voltage/Power        | 400V - 50Hz 3~ / 1,8 kW |
| Continuous waterlift | 3000 - 2200 mmH2O       |
| Max air flow         | 270 m3/h                |
| Filter               | Antistatic Polyester M  |
| Capacity             | 22 lt                   |
| Dimensions/Weight    | 70x51x129h cm / 75kg    |



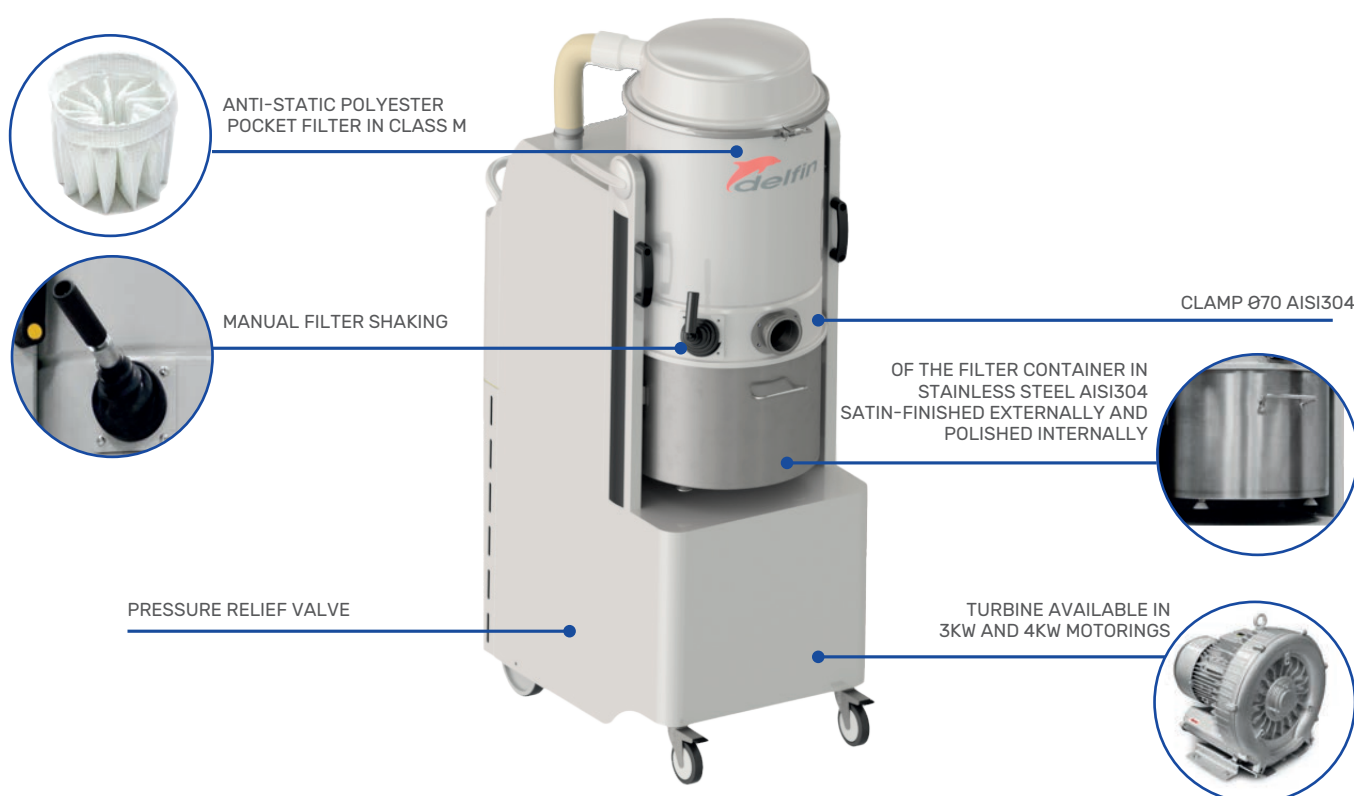
# VACUUM CLEANERS FOR DIRECT POWDER SUCTION FROM PROCESS MACHINERY AND FOR GENERAL CLEANING

## PHARMA 40.40 - 40.30

Compact, noiseless and flexible industrial vacuum unit for direct suction of powdered active ingredients up to OEB3 (API).

### BENEFITS:

- Continuous suction in order to avoid machine downtime and to maintain high productivity standards
- Thanks to its extreme silent operation, it does not reduce noise level within the production area
- High filtration efficiency



### OPTIONAL



| TECHNICAL DATA       | PHARMA 40.40                 | PHARMA 40.30                 |
|----------------------|------------------------------|------------------------------|
| Voltage/Power        | 400V - 50Hz 3~ / 4kW         | 400V - 50Hz 3~ / 3 kW        |
| Continuous waterlift | 3200 mmH2O                   | 3200 mmH2O                   |
| Max air flow         | 420 m3/h                     | 318 m3/h                     |
| Filter               | Antistatic Polyester Class M | Antistatic Polyester Class M |
| Capacity             | 42 lt                        | 42 lt                        |
| Dimensions/Weight    | 76x52x155h cm / 120kg        | 76x52x155h cm / 120kg        |



# | B SOLUTIONS FOR DUST CONTAINMENT

Process-integrated models suitable for OEB environments with guaranteed operator safety.

# 3

## | MODELS

PHARMA 40.40 DC  
CST.DC-001 - SEP.DC



BLISTER  
MACHINES



TABLETTING  
MACHINES



TABLET  
PRESSES

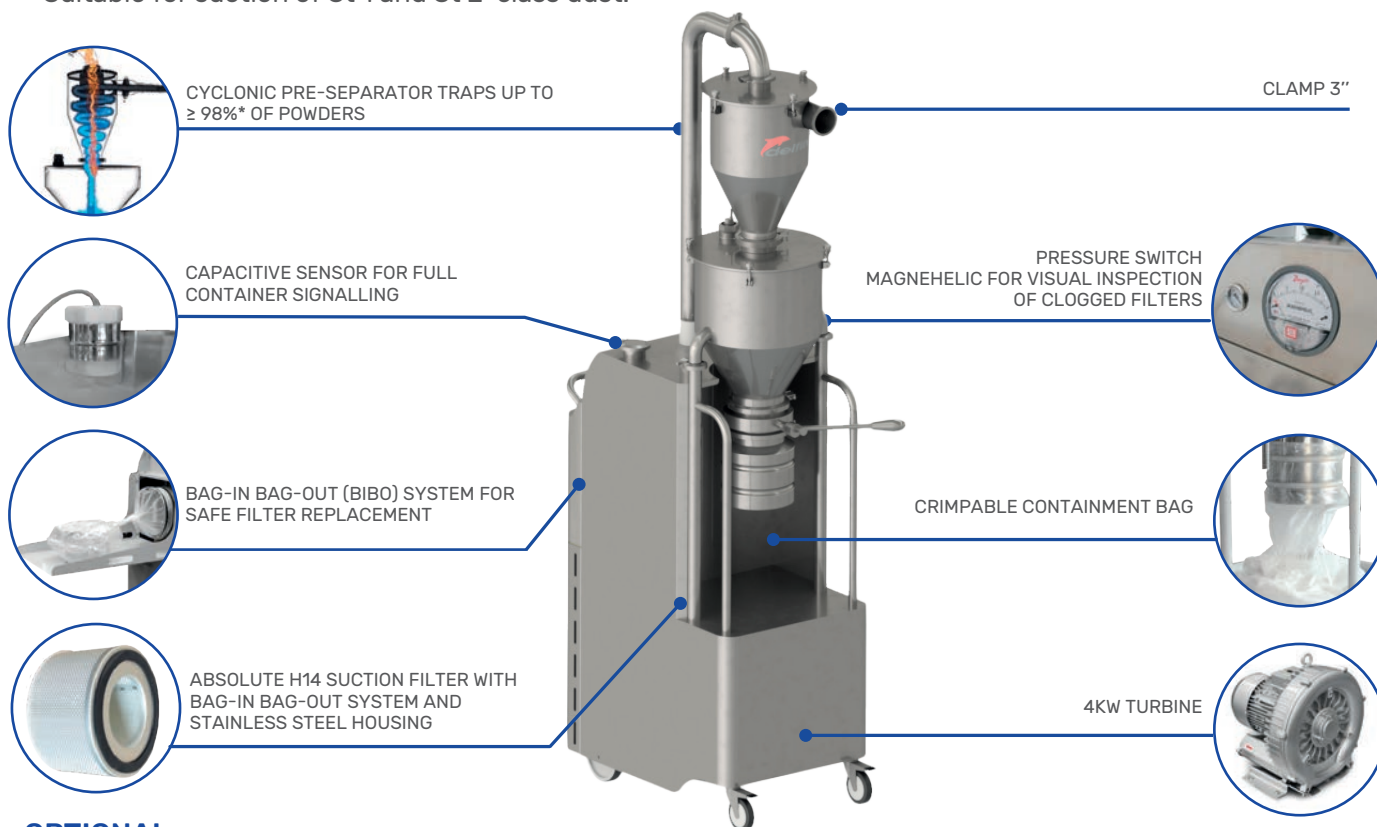
## SAFE CONTAINMENT OF HAZARDOUS POWDERS

### PHARMA 40.40 DC

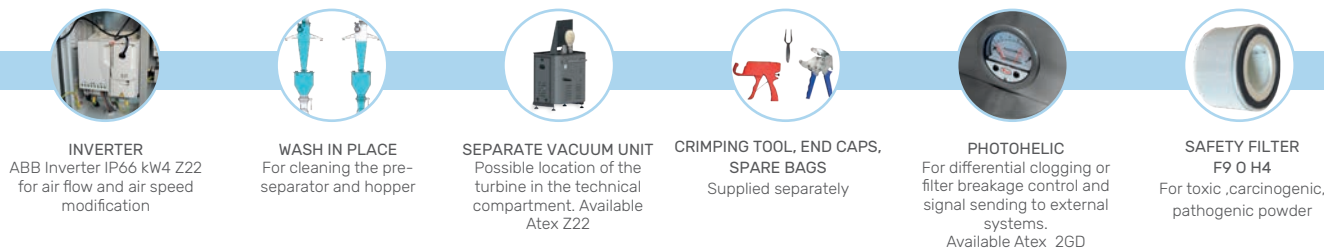
Compact, noiseless and flexible industrial vacuum cleaner equipped with a bag collecting system, particularly suitable for connection to tablet pressing machines, shrink wrapping machines, blister machines. Perfect for direct suction of HPAPI powders up to OEB4 and OEB5. Construction material coming in contact with powder in AISI 316 stainless steel.

#### BENEFITS:

- Maximum powders filtration complying with OEB4-5 levels, ensuring total operator protection
- Ultra-compact system to fit into confined spaces
- No powder build-up for easy maintenance and cleaning
- Continuous extraction even in discharge step in order to avoid machine downtime during product disposal and to maintain high production standards
- Suitable for suction of St 1 and St 2-class dust.



#### OPTIONAL



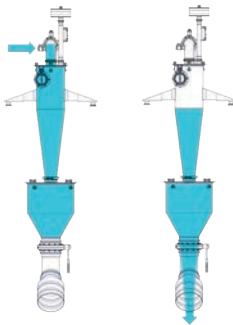
| TECHNICAL DATA          | PHARMA 40.40 DC                                 |
|-------------------------|---|
| Voltage/Power           | 400V - 50Hz 3~/ 4 kW                            |
| Continuous waterlift    | 3200- 2600 mmH2O                                |
| Max air flow            | 420 m3/h  |
| Filter - Filter surface | H14 - 20.500 cm2                                |
| Capacity                | 30 lt   |
| Discharge               | Butterfly ø150 AISI316 / Butterfly ø150 AISI316 |
| Dimensions/Weight       | 95x56x232h cm / 160kg                           |

# SAFETY ALWAYS COMES FIRST



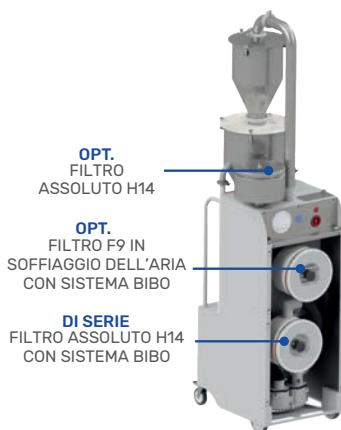
## 01 SAFE REPLACEMENT OF HEPA14 FILTER

THE BAG IN - BAG OUT SYSTEM ALLOWS H14 FILTERS TO BE REPLACED, PREVENTING DISPERSION INTO THE ENVIRONMENT AND ANY CONTACT BETWEEN POWDER AND THE OPERATOR. THE BAG, CONTAINING THE EXHAUSTED FILTER INSIDE, CAN BE DISPOSED OF SAFELY BY THE OPERATOR.



## 02 WASH-IN-PLACE DUST CLEANING AND DEACTIVATION SYSTEM

THE CYCLONIC PRE-SEPARATOR AND COLLECTION HOPPER CAN BE EASILY CLEANED VIA A CONVENIENT WASH IN PLACE SYSTEM, WHICH USES WATER, BY MEANS OF VALVES, TO INERT ANY HARMFUL RESIDUAL POWDER LEFT INSIDE THE UNIT.



## 03 ABSOLUTE FILTRATION

FINE DUST PASSING THROUGH THE CYCLONIC PRE-SEPARATOR IS RETAINED BY PROGRESSIVE EFFICIENCY FILTERS, WHICH PROVIDE TOTAL CONTAINMENT CAPACITY TO THE SYSTEM, PROTECTING THE ENVIRONMENT AND OPERATORS.



## 04 SECURE COLLECTION IN CRIMPABLE CONTAINMENT BAGS

THE POWDERS, ONCE DISCHARGED FROM THE HOPPER, ARE COLLECTED IN CONTAINMENT BAGS THAT CAN BE CRIMPED THANKS TO THE GRIPPER AND THE HIGH-TIGHT SEALS.



## 05 REAL-TIME VACUUM MONITORING

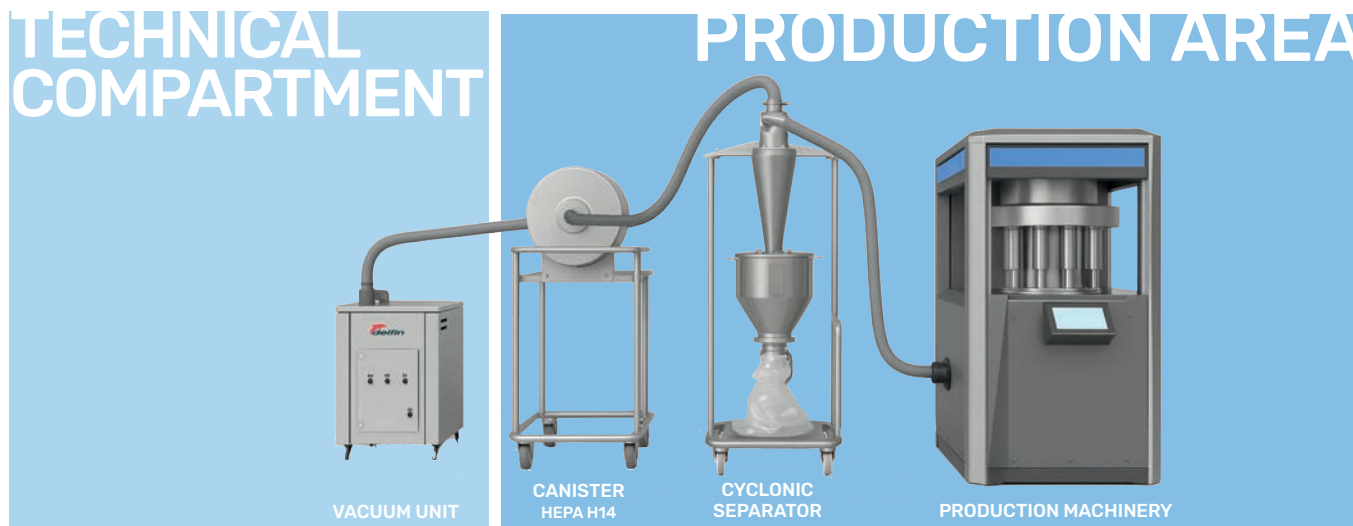
THE SENSORS MONITOR THE FILTER CLOGGING LEVEL SENDING A SIGNAL BACK TO THE MACHINE PLC. A LEVEL SENSOR SIGNALS WHEN THE CONTAINER IS FULL.



## MODULAR SOLUTIONS

Modular solutions allow the vacuum unit to be positioned outside the production area. The pre-separators thanks to their compact dimensions allow space saving. The absence of powder accumulation points ensures cleanliness, efficiency and easy maintenance.

These models can be supplied with a separate suction unit.



## VACUUM UNITS CV RANGE

### BENEFITS:

- Its positioning in the outside the production area optimises space and reduces heat and noise in the production room
- Maintenance-free motor

INTERCONNECTION WITH FACTORY  
ERP AND PARAMETER CONTROL

## INVERTER/VDF

FREQUENCY ADJUSTMENT AND  
VACUUM PARAMETERS



Option: Atex certification

| TECHNICAL DATA       | CV115             | CV116             | CV117             | CV126             |
|----------------------|-------------------|-------------------|-------------------|-------------------|
| Voltage              | 400V - 50Hz 3~    | 400V - 50Hz 3~    | 400V - 50Hz 3~    | 400V - 50Hz 3~    |
| Power                | 3 kW              | 4 kW              | 5,5 kW            | 7,5 kW            |
| Continuous waterlift | 3200/2700 mmH2O   | 3200/2600 mmH2O   | 3600/3000 mmH2O   | 3200/2700 mmH2O   |
| Max air flow         | 318 m3/h          | 420 m3/h          | 530 m3/h          | 700 m3/h          |
| IN/OUT               | 60 mm             | 60 mm             | 70 mm             | 70 mm             |
| Dimensions           | 64,2x65,8x139h cm | 64,2x65,8x139h cm | 64,2x65,8x139h cm | 64,2x65,8x139h cm |

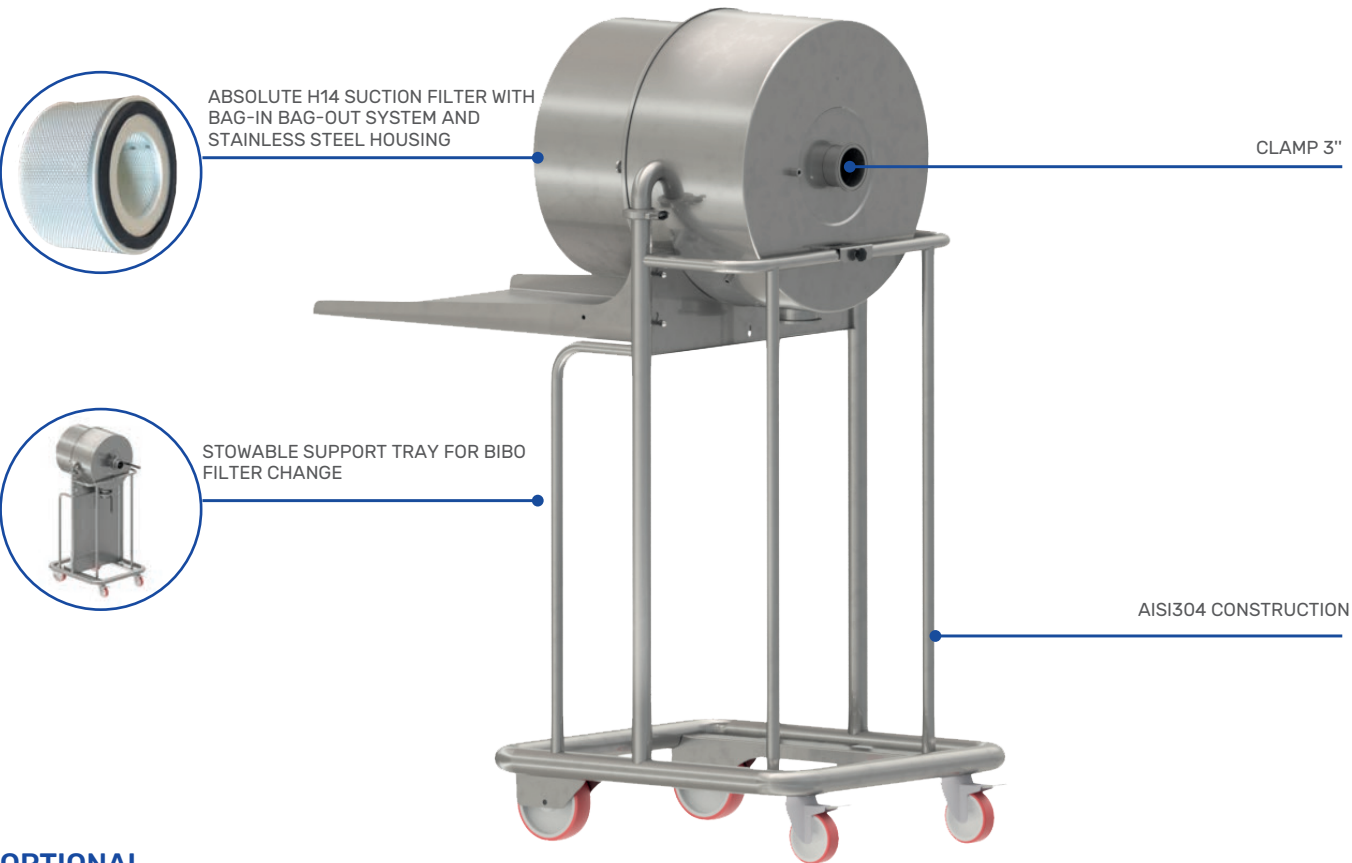
# CANISTER

## CST.DC-001

These models can be supplied with a separate suction unit.

**BENEFITS:**

- 99.995% retention of micro-dust (down to 0.18µm)
- Ultra-compact system for use in confined spaces
- No powder build-up for easy maintenance and cleaning



**OPTIONAL**



CRIMPING TOOL, END CAPS  
Supplied separately

WIRING DIAGRAM IN PRODUCTION

| TECHNICAL DATA    | CANISTER             |
|-------------------|----------------------|
| Max waterlift     | 2700 mmH2O           |
| Max air flow      | 1000 m3/h            |
| Dimensions/Weight | 70x75x155h cm / 60kg |



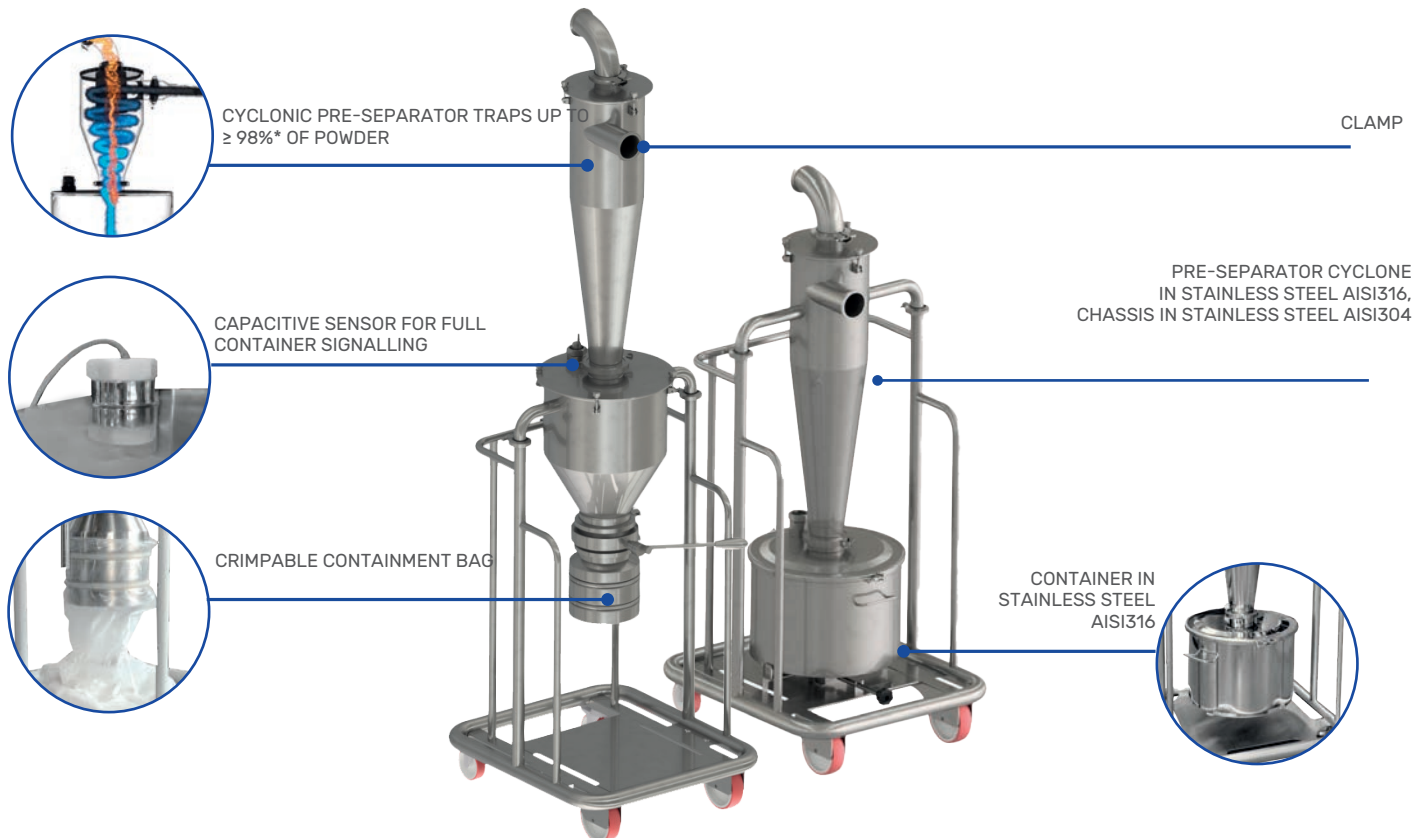
## CYCLONIC SEPARATOR

### SEP.DC-001 / SEP.DC-002

Cyclone pre-separator in polished AISI 316 stainless steel, with cyclone dust separation maximum efficiency up to 98%. Safe powder collection system in containment bags. Suitable for turbines with a capacity up to 750m<sup>3</sup>/h.

#### BENEFITS:

- Reduction of primary filter clogging for a longer filter life
- Ultra-compact system for use in confined spaces
- No powder build-up for easy maintenance and cleaning
- Maximum filtration efficiency for almost total powder recovery



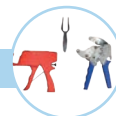
#### OPTIONAL



**WASH IN PLACE**  
For cleaning the pre-separator  
and hopper

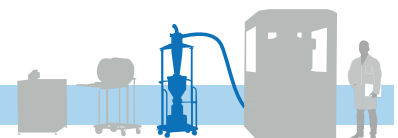


**CONTAINMENT BAGS**  
KIT.1780.0000 | 5 containment bags  
and 6 rings - spare parts kit



**CRIMPING TOOL, END CAPS,  
SPARE BAGS**  
Supplied separately

#### WIRING DIAGRAM IN PRODUCTION

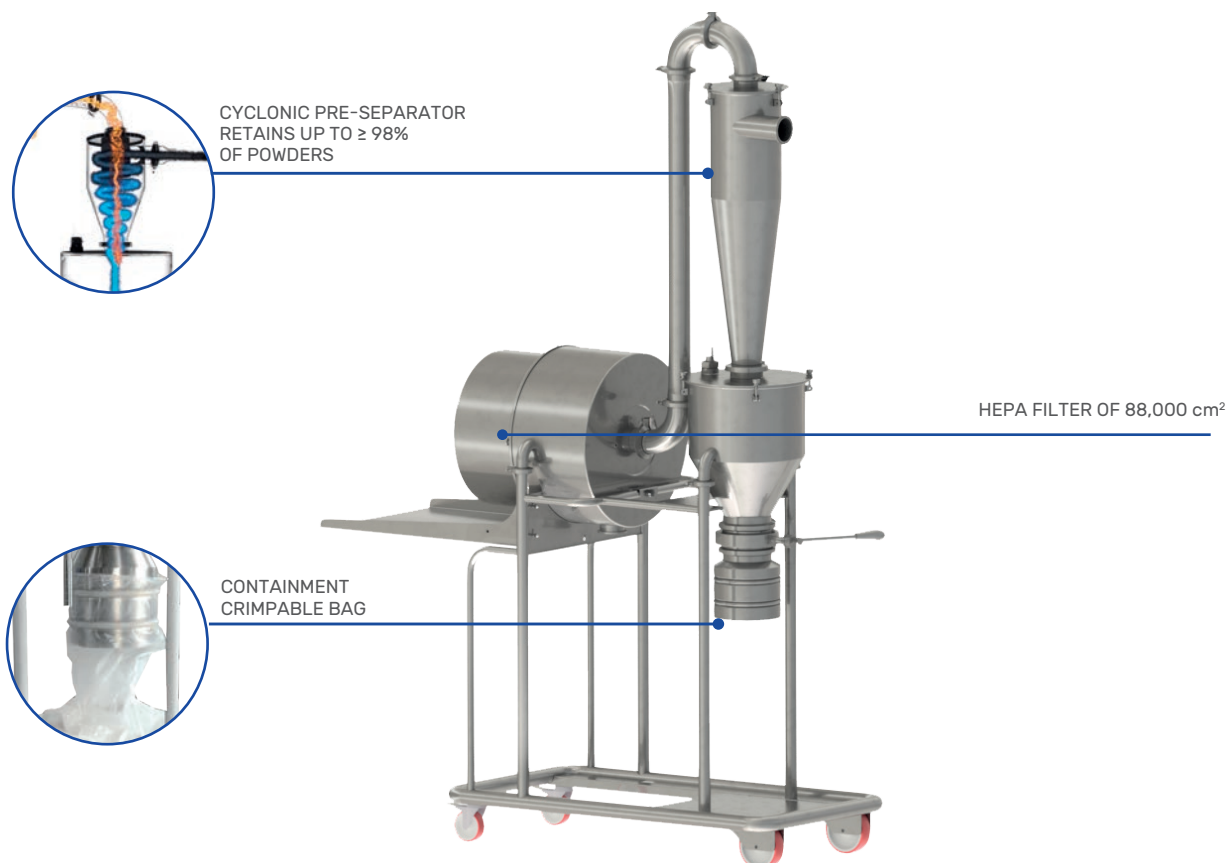


| TECHNICAL DATA    | SEP.DC-001              | SEP.DC-002              |
|-------------------|-------------------------|-------------------------|
| Max waterlift     | 2700 mmH <sub>2</sub> O | 2700 mmH <sub>2</sub> O |
| Max air flow      | 1000 m <sup>3</sup> /h  | 1000 m <sup>3</sup> /h  |
| Capacity          | 30 lt                   | 40 lt                   |
| Dimensions/Weight | 72x70x240h cm / 65kg    | 72x70x172h cm / 55kg    |
| Collection system | Containment bag         | Container               |

# INTEGRATED SYSTEMS: CANISTER WITH PRE-SEPARATOR CYCLONE AND POCKET FILTER WITH PRE-SEPARATOR CYCLONE SEP.DC-009 / SEP.DC-0010

## BENEFITS:

- Reduction of primary filter clogging for a longer filter life
- Ultra-compact system for use in confined spaces
- No powder build-up for easy maintenance and cleaning
- Maximum filtration efficiency for safe powder collection



## OPTIONAL



**WASH IN PLACE**  
For cleaning the pre-separator  
and hopper



**CONTAINMENT BAGS**  
KIT.1780.0000 | 5 containment bags  
and 6 rings - spare parts kit



**CRIMPING TOOL, END CAPS,  
SPARE BAGS**  
Supplied separately

## WIRING DIAGRAM IN PRODUCTION



| TECHNICAL DATA    | SEP.DC-009             | SEP.DC-010              |
|-------------------|------------------------|-------------------------|
| Max waterlift     | 2700 mmH2O             | 2700 mmH2O              |
| Max air flow      | 1000 m3/h              | 1000 m3/h               |
| Filter            | HEPA 14                | Star                    |
| Filter surface    | 88.000 cm <sup>2</sup> | 200.000 cm <sup>2</sup> |
| Capacity          | 30 lt                  | 30 lt                   |
| Dimensions/Weight | 70x128x262h cm / 115kg | 70x127x265h cm / 115kg  |





# SOLUTIONS FOR CLEANROOM E WHITEROOM

Autoclavable models for dust or liquid extraction with ULPA filters. Suitable for cleanrooms, for ISO 4 or higher.

# 4

## | MODELS

LABCONTROL RANGE LC1000 D / LC1100 WD

## CLEANING OF CLEANROOMS UP TO ISO4

### LABCONTROL RANGE LC1000 D / LC1100 WD

The typical feature of cleanrooms is the purity of the air inside, which maintains a very low content of suspended micro-particles of powder.

Delfin range of Labcontrol vacuum cleaners reduces the risk of product contamination in full compliance with industry regulations, while maintaining the highest levels of hygiene. Specific tests have certified their compatibility for use in cleanrooms up to ISO4 level (according to ISO14644).

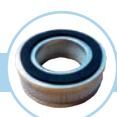
They are autoclavable (excluding motor head), and equipped with dedicated, FDA-certified and autoclavable accessories. They are modular and ergonomic, easy to use and sanitise and provide progressive efficiency of multi-filtration.

#### BENEFITS:

- Avoids contamination of finished product
- Easy to use and clean



#### OPTIONAL



ULPA 15 FILTER  
For exhaust air  
outlet (LC1100WD)



ACCESSORY KIT  
Autoclavable Dry D40



REPLACEMENT BAGS  
Pack of 5 disposable bags

| TECHNICAL DATA          | LC1000 D               | LC1100 WD               |
|-------------------------|------------------------|-------------------------|
| Applications            | Powders                | Powders / Liquids       |
| Voltage/Power           | 230V - 50Hz 1~ / 1kW   | 230V - 50Hz 1~ / 1,1 kW |
| Max waterlift           | 2900 mmH2O             | 2500 mmH2O              |
| Max air flow            | 175 m3/h               | 180 m3/h                |
| Primary filter          | Polyester bag - M PTFE | Polyester bag - M PTFE  |
| ULPA 15 Filter          | Included               | Optional                |
| Solids/Liquids capacity | - / 5 lt               | 40/25 lt                |
| Dimensions/Weight       | 36x33x51h cm / 20kg    | 43x43x73h cm / 27kg     |



# SOLUTIONS FOR PACKAGING LINES

Integrated solutions for the removal of packaging scraps and trimmings (cardboard, plastic film, etc.).

5

## | MODELS

AS RANG - DG EXP / DG75 AF



BLISTER  
MACHINES

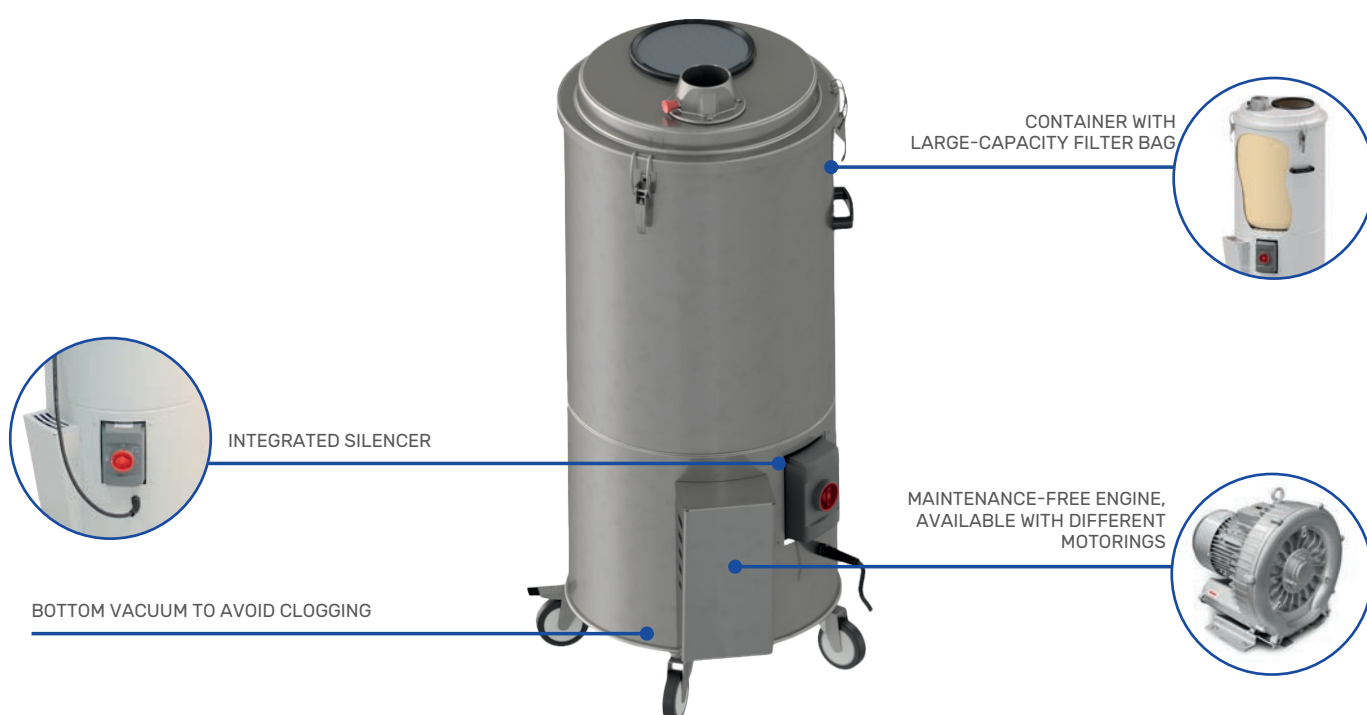
# VACUUM CLEANERS FOR SUCTION OF STEAM AND PACKAGING WASTE

## AS RANGE

AS Range vacuum cleaners are designed for the suction of bulky scraps and waste from production cycles and packaging machinery, such as nylon, plastic, fabric, cardboard. The vacuumed waste is contained and compacted in a nylon bag, which filters out any powder and allows for quick and easy disposal. They can be integrated on machinery and production lines, typically at the packaging and wrapping stage.

### BENEFITS:

- Immediate removal of residual plastic and paper materials
- Suction from above to prevent filter clogging
- Collection bag for quick disposal
- Compact size and silent operation



### OPTIONAL



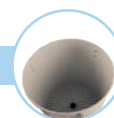
FILTER  
Class M polyester



GROUNDING



STAINLESS STEEL CONTAINER  
AISI304 stainless steel  
container



BASKET  
Gridded basket to balance  
pressure

| TECHNICAL DATA       | AS 10                  | AS 20                   | AS 30                  | AS 70                   |
|----------------------|------------------------|-------------------------|------------------------|-------------------------|
| Voltage/Power        | 400V - 50Hz 3~/0,85 kW | 400V - 50Hz 3~ / 1,8 kW | 400V - 50Hz 3~/ 2,2 kW | 400V - 50Hz 3~ / 5,5 kW |
| Continuous waterlift | 1900 - 1600 mmH2O      | 2100 - 1800 mmH2O       | 2200 - 1900 mmH2O      | 3600 - 3000 mmH2O       |
| Max air flow         | 150 m3/h               | 270 m3/h                | 318 m3/h               | 530 m3/h                |
| Suction inlet        | 80 mm                  | 80 mm                   | 80 mm                  | 80 mm                   |
| Filter               | Nylon bag - Class L    | Nylon bag - Class L     | Nylon bag - Class L    | Nylon bag - Class L     |
| Diameter/Height      | 500 - 660 mm - mm      | 500 - 660 mm - mm       | 500 - 660 mm - mm      | 560 - 820 mm - mm       |
| Capacity             | 130 lt                 | 130 lt                  | 130 lt                 | 210 lt                  |
| Dimensions/Weight    | 59x55x132h cm / 60kg   | 59x55x132h cm / 70kg    | 59x55x132h cm / 75kg   | 63x100x125h cm / 125kg  |



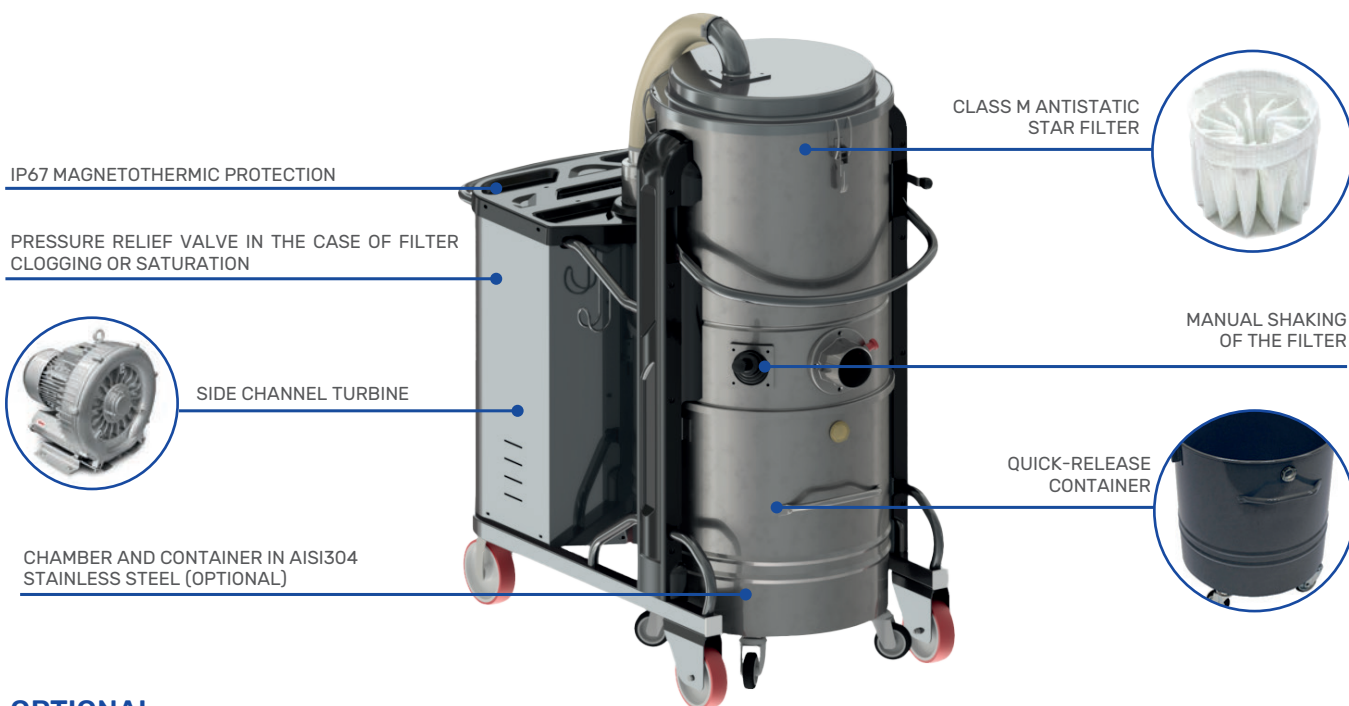
# INDUSTRIAL VACUUM CLEANERS FOR LARGE QUANTITIES OF DUST AND FOR FIXED INSTALLATION

## DG 75 AF / DG EXP

DG 75 AF and DG EXP lines allow large quantities of material to be collected, continuously and without the need for routine maintenance, even using very long hoses. The powerful three-phase turbine allows direct and integrated suction on production machinery even with fixed pipe systems.

### BENEFITS:

- Structure with easy access to the filter for maintenance operations
- Large collection capacity for a high volume of material, even at long distances
- Maximum vacuum performance guaranteed
- Very silent operation



### OPTIONAL



**HEPA FILTER**  
Safety suction of toxic powder



**ENDLESS BAG**  
Continuous bag collection system



**ATEX**  
Zone certification  
22/21/20

| TECHNICAL DATA         | DG 50 EXP                | DG 75 AF                 |
|------------------------|--------------------------|--------------------------|
| Voltage/Power          | 400V - 50Hz 3~/ 4 kW     | 400V - 50Hz 3~/ 7,5 kW   |
| Continuous waterlift   | 3200- 2600 mmH2O         | 3200 mmH2O               |
| Max air flow           | 420 m3/h                 | 700 m3/h                 |
| Filter                 | Polyester Star - L       | Polyester Star - ANT M   |
| Capacity               | 100 lt                   | 100 lt                   |
| Filter cleaning system | Manual (for star filter) | Manual (for star filter) |
| Noise level            | 72 dB (A)                | 76 dB (A)                |
| Dimensions/Weight      | 66x118x145h cm / 137kg   | 66x118x175h cm / 170kg   |



# PNEUMATIC CONVEYING SOLUTIONS

Conceived for powders and granules handling, ideal for the safe and continuous transportation of materials in manufacturing environments. Designed to enhance efficiency and hygiene, moreover willing to be integrated into automated processes.



## | MODELS

ZEFIRO EV AP



COATING  
MACHINES



TABLETTING  
MACHINES



BLISTER  
MACHINES



TABLET  
PRESSES

## PNEUMATIC CONVEYORS

The perfect solution for loading powders into process machinery, allowing operation automation and ensuring the highest levels of safety. Powder or capsules can be loaded directly into the airtight machine and on a scheduled basis, avoiding any risk of contamination with the external environment. The system easy installation allows for improved production efficiency, replacing manual or mechanical operation with fully automated and safe handling.

### BENEFITS:

- No contamination or de-mixing of transported powders
- High level of hygiene and safety within the production department
- High flexibility of use and easy interfacing with industry process machines
- Easy sanitisation and compliance with pharmaceutical industry regulations
- Precision and quality of the final product
- Compact dimensions
- Careful check of the loading cycle

COMPRESSED-AIR VACUUM UNIT WITH  
MULTI-NOZZLE VENTURI PUMP

CLAMP CONNECTION  
IN AISI316 STAINLESS STEEL

TANGENTIAL INLET FOR  
PRODUCT LOADING

FOOD GRADE POLYESTER FILTER UNIT  
WITH PTFE COATING AISI316 STAINLESS  
STEEL, 1 µm

CONSTRUCTION IN AISI304 STAINLESS STEEL, SATIN-  
FINISHED EXTERNALLY AND POLISHED INTERNALLY

DISCHARGE UNIT  
WITH THROTTLE

### OPTIONAL



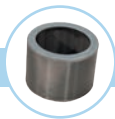
PHARMACEUTICAL  
FINISHING  
Externally polished structure



PNEUMATIC VIBRATOR  
Turbine-type for conveyor



POWER SUPPLY



CARTRIDGE FILTER  
In AISI 316 stainless  
steel, 10µm or 200µm



ACCESSORIES  
Product take-up loading  
hopper/pipe



ATEX  
Atex certification for  
Zone21 and 22

| TECHNICAL DATA        | TECH.280P 4V         | TECH280PS            | CAP-FLOW.280P   |
|-----------------------|----------------------|----------------------|---|
| Compressed air supply | 6 bar                | 6 bar                | da 3 a 6 bar  |
| Max waterlift         | 620 - 750 - 780 mBar | 620 - 750 - 780 mBar | 260-370-490 mBar                                      |
| Max air flow          | 85 - 110 - 130 m3/h  | 85 - 110 - 130 m3/h  | 260-370-490 m3/h                                      |
| Load volume           | 8 lt                 | 3,5 lt               | Conveyor 8 lt<br>Lower hopper 200lt                   |
| Product discharge     | 100 mm               | 150 mm               | 100 mm  |
| Filter                | Cartridge            | Bag                  | -   |
| Dimensions            | Ø280 - 77h cm        | Ø280 - 45h cm        | Conveyor -Ø280 - h 770<br>Lower hopper -Ø560 - h 1100 |
| Weight                | 18 kg                | 19 kg                | Conveyor - 19kg<br>Lower hopper - 55kg                |



ACCESSORIES



PHARMA



# ACCESSORIES FOR PHARMACEUTICAL ENVIRONMENT CLEANING

Accessories designed for all specific vacuum cleaning needs in the pharmaceutical industry, for technical cleaning of machinery and working environments.



## CONICAL NOZZLE

PRECISION ACCESSORY WITH DIAGONAL END CUT ALLOWING AIR INLET FOR SMOOTH SUCTION AT ALL TIMES.



## BRUSH AND DOUBLE BEND FOR FLOOR CLEANING

FLOOR CLEANING ACCESSORY WITH COMFORTABLE DOUBLE BEND AND BRUSH WITH TWO BRISTLE STRIPS AND WHEELS INCLUDED.



## SCRAPING NOZZLE

ACCESSORY FOR SCRAPING TANK BOTTOMS OR SURFACES TO BE CLEANED, EVEN IN THE CASE OF PARTICULARLY STICKY RESIDUES.



## FLOW REGULATOR

PRACTICAL COUPLING TO CONNECT TO THE VACUUM CLEANER FOR EASY ADJUSTMENT OF THE SUCTION AIR FLOW.



## PRECISION CONICAL NOZZLE

ADJUSTABLE PRECISION ACCESSORY FOR CLEANING SMALL PARTS AND TIGHT CORNERS.



## FDA-CERTIFIED AND AUTOCLAVABLE HOSES

FDA-APPROVED AND AUTOCLAVABLE HOSES



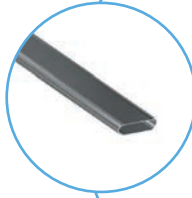
## ROUND PVC BRUSH

ROUND BRUSH WITH BRISTLES FOR CLEANING FLAT, GROUND OR ELEVATED SURFACES. PERFECT ALSO FOR CLEANING OBJECTS.



## ANTISTATIC HOSES

PIPES WITH PVC SPIRAL AND COPPER BRAIDS FOR SUCTION OF CONDUCTIVE MATERIALS



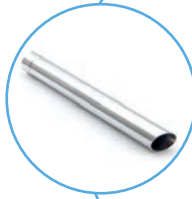
## STAINLESS STEEL FLAT NOZZLE

PRECISION ATTACHMENT TO REACH EVEN THE MOST DIFFICULT PLACES. THE FINAL DIAGONAL CUT ALLOWS BETTER AND EASIER SUCTION



## COLOURED ACCESSORIES

THEY ALLOW SUCTION IN PHARMACEUTICAL FACILITIES, MAKING EASIER THE USE TRACEABILITY OF ACCESSORIES AND HELPING AVOIDING PRODUCT CROSS-CONTAMINATIONS IN DIFFERENT PRODUCTIONS OR PRODUCTION DEPARTMENTS.



## STAINLESS STEEL ROUND NOZZLE

ANGLED NOZZLE WITH A VERY LARGE INLET DIAMETER FOR SUCTION HEAVY AND PARTICULARLY LARGE-GRAINED MATERIALS.



## HEIGHT CLEANING ACCESSORIES

ACCESSORY KIT CONSISTING OF SEVERAL EXTENSIONS TO REACH THE MOST DISTANT AND HIGH SPOTS, FOR CLEANING WAREHOUSES AND PRODUCTION AREAS.



## SUCTION ARMS FOR CAPTURE AND DUST CONTROL

Delfin vacuum cleaners can be equipped with suction arms for localized suction of small amounts of airborne powder to prevent it from being dispersed into the surrounding environment.



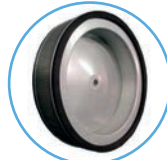
## SCHEDULED FILTER MAINTENANCE FOR HIGH LEVELS OF SAFETY

Class H filters require mandatory annual maintenance and replacement to ensure steady H-filtration compliance.

Delfin offers an extensive catalogue of replacement filters and provides its expertise to ensure that vacuum cleaners are always safe and well-performing.

In addition, the DOP TEST service ensures and proves conformity of H filter mounted on a machine with a certain air flow rate.

For class M and L filters, maintenance and replacement are recommended to maintain steady and efficient performance.



## SECURE CONTAINMENT FOR EVERY SPECIFIC NEED



Collection bag.  
Delfin models: DM2 1/2D/  
MTL451 1/2D/DGEXP



Safe collection system  
Dust Containment.  
Delfin models: PHARMA 40DC



Safe and continuous  
Endless Bag collection.  
Delfin models: DG EXP and  
DM2 EL 1/2D LP



Safe bag system (disposable  
filter bag)  
Delfin models: PHARMA 20.18/  
PHARMA 40.40/DBF

## COMPLIANCE WITH GMP STANDARDS

DELFIN CONTAINMENT UNITS HAVE BEEN DESIGNED TO MAKE UNIT MAINTENANCE AND CLEANING OPERATIONS SIMPLE AND SAFE, ALWAYS AIMING TO PROTECT OPERATORS.

- ✓ POSSIBLE INSTALLATION OF A VACUUM UNIT IN THE TECHNICAL COMPARTMENT AND AN ON-BOARD FILTRATION UNIT
- ✓ NO DUST BUILD-UP, ENSURING MAXIMUM HYGIENE
- ✓ MIRROR-POLISHED AISI316 STAINLESS STEEL FOR PARTS IN CONTACT WITH POWDER; ON REQUEST



## ATEX CERTIFICATION

DIFFERENT SOLUTIONS AVAILABLE FOR RISK CLASSES IN ZONES 20/21/22



## FAT DOCUMENTATION

UPON REQUEST, DELFIN CAN PROVIDE FAT (FACTORY ACCEPTANCE TESTING) DOCUMENTATION, WHICH CERTIFIES THAT THE MACHINERY AND RELATING DOCUMENTATION MEET THE REQUIREMENTS OF DESIGN, OPERATION, MAINTENANCE, STANDARDS, NATIONAL AND INTERNATIONAL GUIDELINES, PRIOR TO COMMISSIONING.

**FAT**  
Factory Acceptance Testing

Delfin is a global leader in the manufacturing of industrial vacuum equipment, ranging from portable vacuums for industrial cleaning, to central vacuum systems and engineered solutions, to pneumatic conveying systems. Our mission is to create value by designing innovative solutions that improve efficiency, safety, and productivity. Our aim is to use our expertise to help our customers to achieve their goals.



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REV. 3.2025