



TECHNICAL



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.



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 OEB5).

THE ADVANTAGES OF DELFIN VACUUM SYSTEMS

With over 30 years experience and ongoing investment in research and development, Delfin offers expertise and innovation to the pharmaceutical industry:

Dust filtration and containment solutions among the most compact, high-performance and competitive on the market.

Individually tested H14/HEPA absolute filters ensure the total integrity of the filter and its features, as well as total control of the quality of the filter itself.

Customisable control panel according to need of interface with the production line

Continuous vacuum solutions to avoid downtime and increase productivity.

Innovative pneumatic conveying solutions for loading on production machinery.

Wide and diverse range that meets the most specific industry requirements and standards.

Maximum safety ensured by BIBO (Bag in - Bag out) and dust containment systems (HPAPI/OEB 4-5).

Cyclonic systems with up to 98% filtration efficiency. Optimised design of H14/HEPA filters to ensure more compact dimensions and reduce machine weight.

Complete range of mobile solutions for the general cleaning of production facilities (including cleanrooms), in full compliance with pharmaceutical industry standards.

Modular solutions for positioning in rooms outside the production area, to optimise space and avoid noise and heat emissions.

Certifications on request: GMP, ATEX, HEPA/ULPA, IECEX compliance.

A COMPLETE 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

2 SOLUTIONS FOR PRE-PRODUCTION AREAS

3 SOLUTIONS FOR PRODUCTION AREAS

4 SOLUTIONS FOR CLEANROOMS

5 SOLUTIONS FOR PACKAGING LINES

ACCIDENTAL SPILLS



1

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

DELFIN SOLUTIONS: DG EXP / 802WXP / 451BL / DM2BL / CV WITH SEPARATORS, HEPA FILTERS AND ATEX CERTIFICATION

SUCTION OF SUSPENDED DUST



2

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

DELFIN SOLUTIONS: ZFR EV AP

LOADING AND CONVEYING OF RAW MATERIALS OR FINISHED PRODUCTS



2

3

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

DELFIN SOLUTIONS: PNEUMATIC CONVEYOR

INTEGRATED SOLUTIONS FOR SECURE CONTAINMENT



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

**DELFIN SOLUTIONS: PHARMA 40.40
SEP.DC / CANISTER /
PNEUMATIC CONVEYOR**

INTEGRATED VACUUM SOLUTIONS ON THE PRODUCTION LINES



Integrated solutions on production lines to eliminate powders and reduce maintenance operations.

**DELFIN SOLUTIONS: PHARMA 40.40 /
PHARMA 40.30/ PHARMA 20.18 /
DBF / DG EXP**

CLEANROOM CLEANING



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

DELFIN SOLUTIONS: LC1000 / LC1100WD

REMOVAL OF PACKAGING WASTE



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

DELFIN SOLUTIONS: AS RANGE

SPECIFIC AND INTEGRATED SOLUTIONS ON PRODUCTION MACHINERY

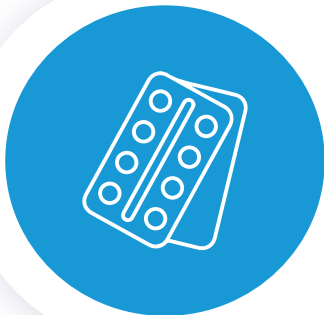


GRANULATING AND TABLETING MACHINES

- Suction of **medium toxic materials (OEB1-3)** with 2-3 vacuum points.
DELFIN SOLUTIONS: PHARMA 40.40/40.30
- Suction of **toxic materials/active ingredients EP04-5**.
DELFIN SOLUTIONS: PHARMA 40DC, FILTERING SEPARATORS, CANISTERS
- Suction of large quantities of **material non-toxic material**.
DELFIN SOLUTIONS: DG75, CV WITH H FILTERS AND ATEX CERTIFICATION
- Loading of powders.
DELFIN SOLUTION: PNEUMATIC CONVEYOR

TABLET PRESSES

- Retention of the tablet by means of vacuum pumps and powder suction.
DELFIN SOLUTION: DG EXP (Custom)
- Loading of empty capsules and powders.
DELFIN SOLUTION: PNEUMATIC CONVEYOR



BLISTER MACHINES

- Loading of tablets.
DELFIN SOLUTION: PNEUMATIC CONVEYOR
- Suction of powder dispersed during packaging or translation on modules.
DELFIN SOLUTION: DG EXP
- Removal of blister welding residues and trimming.
DELFIN SOLUTIONS: AS, CV+SEP (Mobile or integrated solutions)

COATING MACHINES

- Loading and handling of tablets in order to create the coating film.
DELFIN SOLUTION: PNEUMATIC CONVEYOR





FULL INTEGRATION FOR MAXIMUM PRODUCTION EFFICIENCY

Delfin research and development department is working to develop vacuum systems seamlessly integrated on production machinery, with complete automation of vacuum operations and improvement of production efficiency.

Technology and modular solutions offered by Delfin can be designed and customised according to the specific needs and features of each client.

BENEFITS:

- INCREASED SAFETY FOR OPERATORS
- HIGH QUALITY OF FINISHED PRODUCTS
- IMPROVED LEVELS OF PRODUCTION EFFICIENCY AND COST REDUCTION
- REGULATORY COMPLIANCE

INDUSTRY 4.0

Delfin solutions can be customised to effectively communicate with the company SCADA or ERP system, enabling advanced interaction with machinery in the production process.

Thanks to integrated and digital 4.0 systems it is possible to perform preventive and predictive maintenance of the production system on which the vacuum system has been integrated.

BENEFITS:

- IMMEDIATE DETECTION OF FAULTS
- REDUCTION OF MACHINE DOWNTIME
- REDUCTION OF TECHNICAL REPAIR COSTS
- PREVENTION OF FAULTS CAUSED BY INCORRECT USE
- INCREASED SECURITY
- REMOTE SUPPORT OPTIONS FOR OPERATORS
- MAINTENANCE SCHEDULING
- MAXIMISED PERFORMANCES

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 OEB3 (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 extreme silent operation, it does not release noise emissions 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 mmH ₂ O
Max air flow	270 m ³ /h
Filter	Antistatic Polyester M
Capacity	22 lt
Dimensions/Weight	70x51x129h cm / 75kg

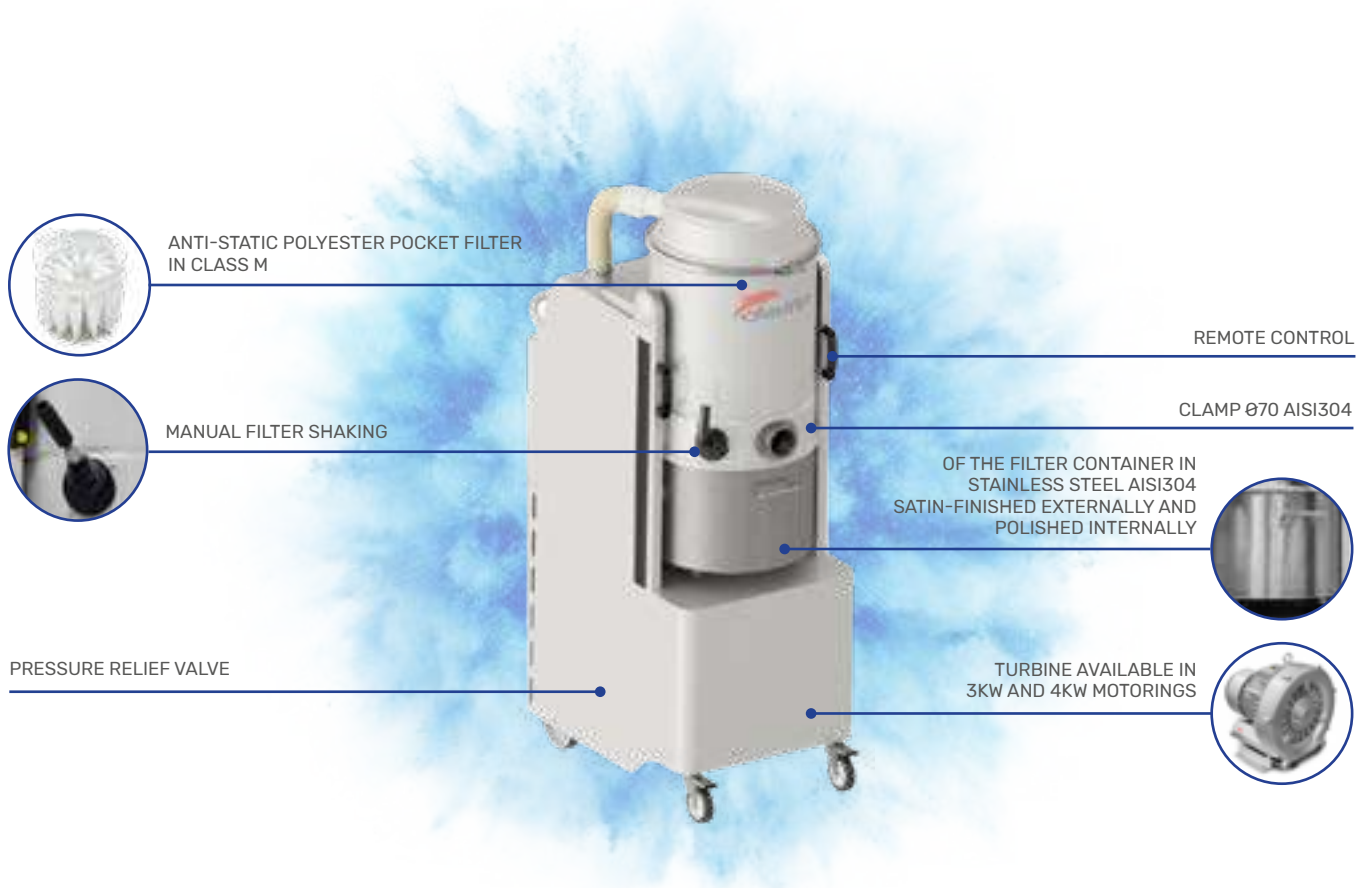
VACUUM CLEANERS FOR DIRECT POWDER SUCTION FROM PROCESS MACHINERY AND FOR GENERAL CLEANING

PHARMA 40.40 - 40.30

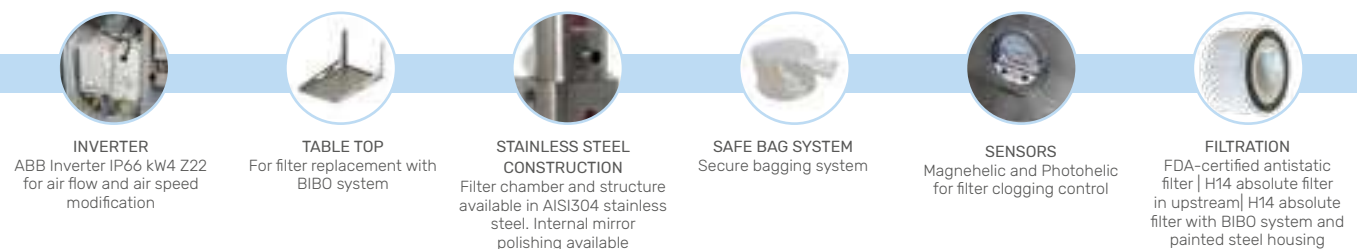
Compact, noiseless and flexible industrial vacuum unit for direct suction of powdered active ingredients up to OEB3 (API).

BENEFITS:

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



OPTIONAL



INVERTER
ABB Inverter IP66 kW4 Z22 for air flow and air speed modification

TABLE TOP
For filter replacement with BIBO system

STAINLESS STEEL CONSTRUCTION
Filter chamber and structure available in AISI304 stainless steel. Internal mirror polishing available

SAFE BAG SYSTEM
Secure bagging system

SENSORS
Magnehelic and Photohelic for filter clogging control

FILTRATION
FDA-certified antistatic filter | H14 absolute filter in upstream | H14 absolute filter with BIBO system and painted steel housing

TECHNICAL DATA	PHARMA 40.40	PHARMA 40.30
Voltage/Power	400V - 50Hz 3- / 4kW	400V - 50Hz 3- / 3 kW
Continuous waterlift	3200 mmH ₂ O	3200 mmH ₂ O
Max air flow	420 m ³ /h	318 m ³ /h
Filter	Antistatic Polyester Class M	Antistatic Polyester Class M
Capacity	42 lt	42 lt
Dimensions/Weight	76x52x155h cm / 120kg	76x52x155h cm / 120kg

VACUUM CLEANERS FOR DIRECT DUST SUCTION FROM PROCESS MACHINERY

DBF RANGE - DBFV

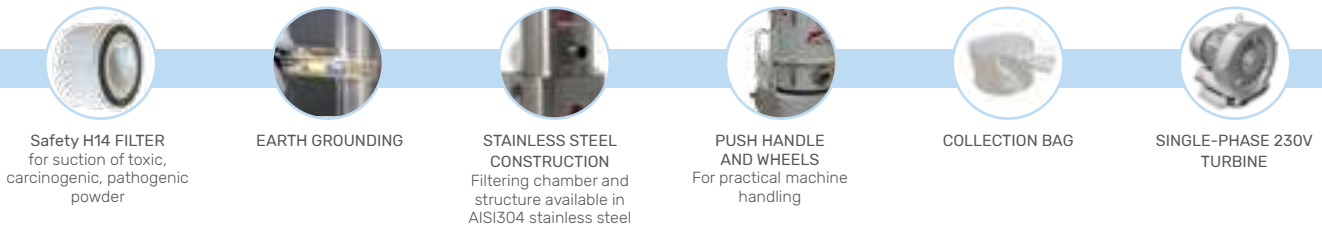
The fixed vacuum bases on the machine are the ideal solution for removing powder and small scraps directly at the source during production cycles. Compact and available in vertical or horizontal construction, they are easy to install and integrate into existing or highly automated production lines.

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 mmH ₂ O	2000 - 1400 mmH ₂ O	3000 - 2200 mmH ₂ O	2600 - 1900 mmH ₂ O
Max air flow	100 m ³ /h	150 m ³ /h	270 m ³ /h	318 m ³ /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 / 40kg	54x55x103h cm / 45kg

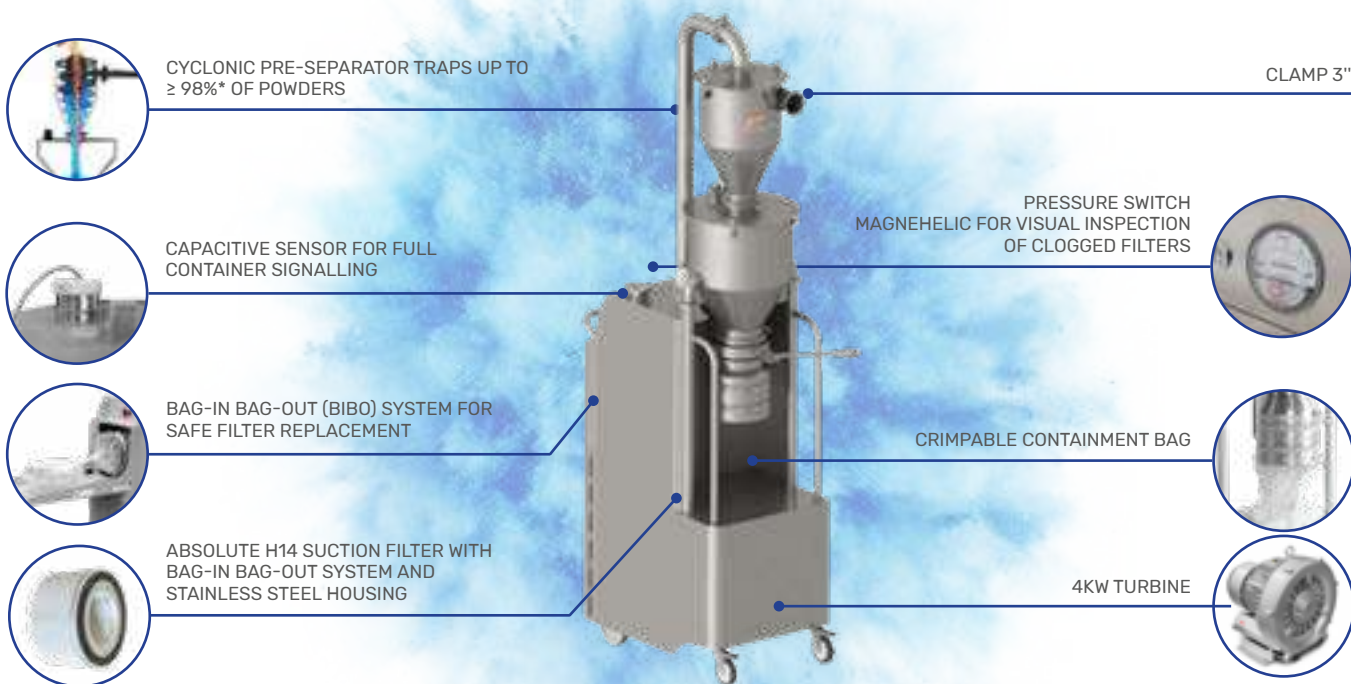
SAFE CONTAINMENT OF HAZARDOUS POWDERS

PHARMA 40.40 DC

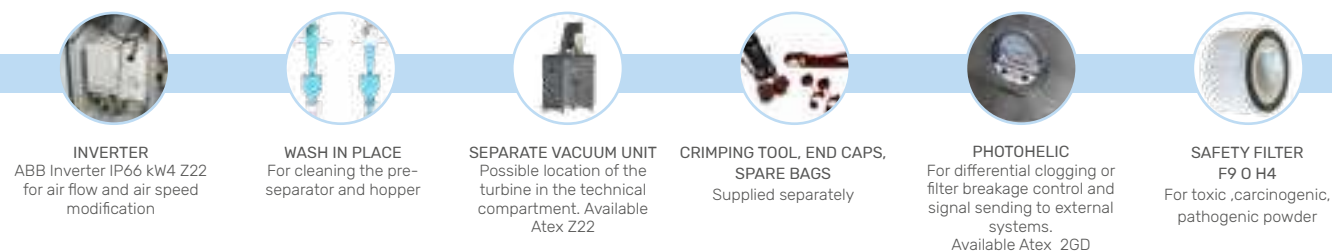
Compact, noiseless and flexible industrial vacuum cleaner equipped with a bag collecting system, particularly suitable for connection to tablet pressing machines, shrink wrapping machines, blister machines. Perfect for direct suction of HPAPI powders up to OEB4 and OEB5. Construction material coming 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 emptying 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 mmH ₂ O
Max air flow	420 m ³ /h
Filter - Filter surface	H14 - 20.500 cm ²
Capacity	30 lt
Discharge	Butterfly ø150 AISI316 / Butterfly ø150 AISI316
Dimensions/Weight	95x56x232h cm / 160kg

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 750m³/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

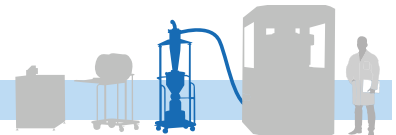


CONTAINMENT BAGS
KIT.1780.0000 | 5 containment bags and 6 rings - spare parts kit



CRIMPING TOOL, END CAPS, SPARE BAGS
Supplied separately

WIRING DIAGRAM IN PRODUCTION

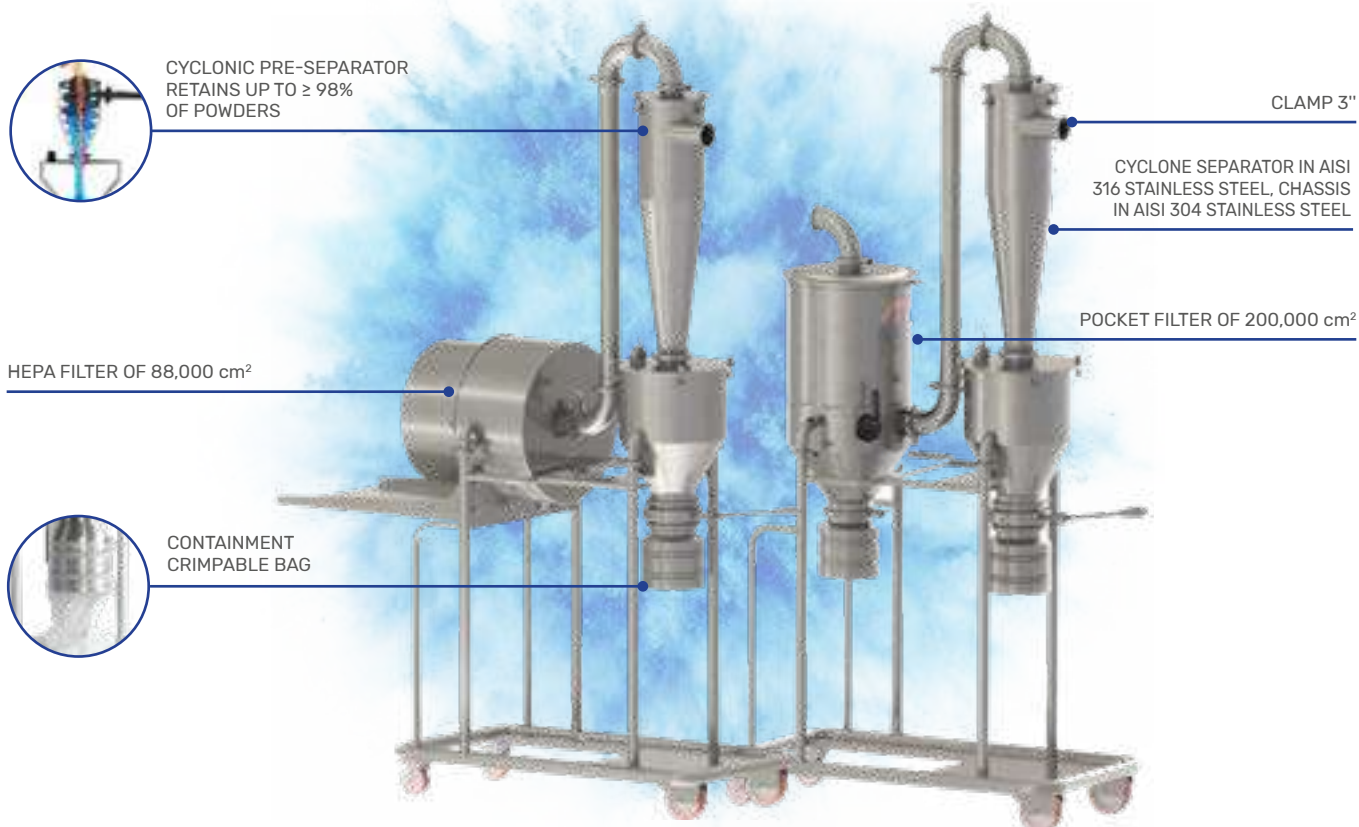


TECHNICAL DATA	SEP.DC-001	SEP.DC-002
Max waterlift	2700 mmH ₂ O	2700 mmH ₂ O
Max air flow	1000 m ³ /h	1000 m ³ /h
Capacity	30 lt	40 lt
Dimensions/Weight	72x70x240h cm / 65kg	72x70x172h cm / 55kg
Collection system	Containment bag	Container

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

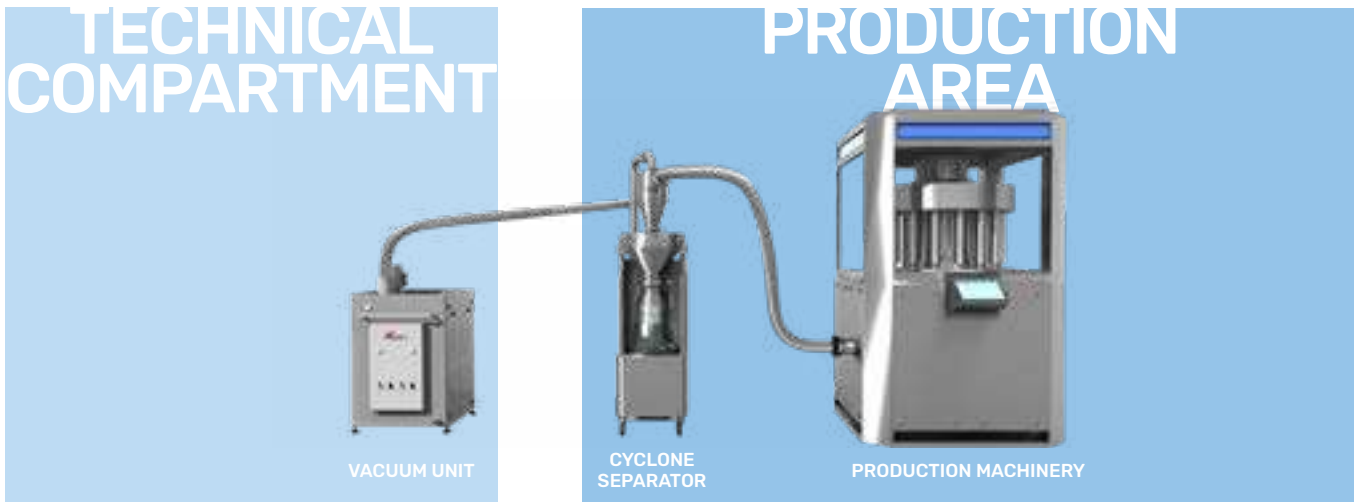


TECHNICAL DATA	SEP.DC-009	SEP.DC-010
Max waterlift	2700 mmH ₂ O	2700 mmH ₂ O
Max air flow	1000 m ³ /h	1000 m ³ /h
Filter	HEPA 14	Star
Filter surface	88.000 cm ²	200.000 cm ²
Capacity	30 lt	30 lt
Dimensions/Weight	70x128x262h cm / 115kg	70x127x265h cm / 115kg

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 technical compartment optimises space and does not release heat and noise into the production room
- Maintenance-free

4.0

INTERCONNECTION WITH FACTORY
ERP AND PARAMETER CONTROL



INVERTER

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 mmH ₂ O	3200/2600 mmH ₂ O	3600/3000 mmH ₂ O	3200/2700 mmH ₂ O
Max air flow	318 m ³ /h	420 m ³ /h	530 m ³ /h	700 m ³ /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

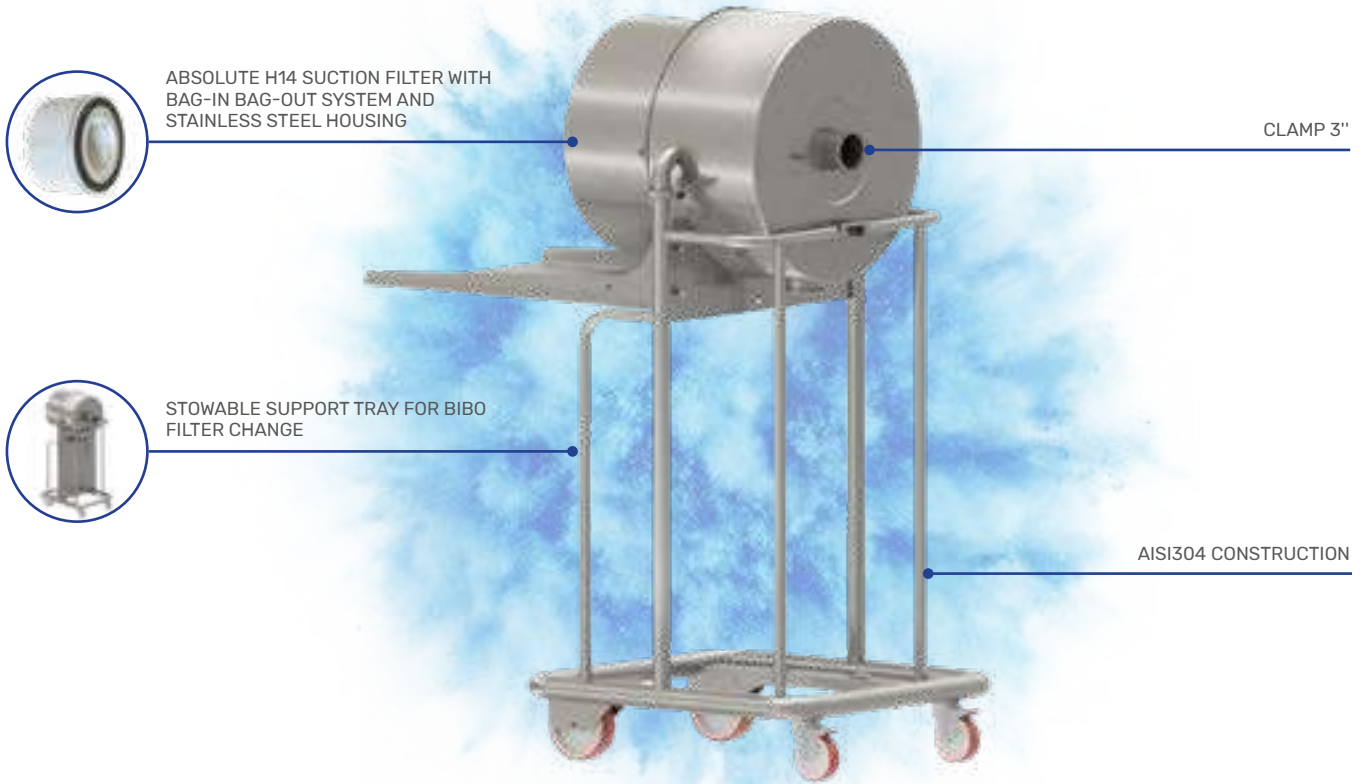
CANISTER

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

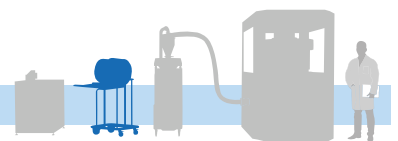


OPTIONAL



CRIMPING TOOL, END CAPS
Supplied separately

WIRING DIAGRAM IN PRODUCTION



TECHNICAL DATA	CANISTER
Max waterlift	2700 mmH ₂ O
Max air flow	1000 m ³ /h
Dimensions/Weight	70x75x155h cm / 60kg

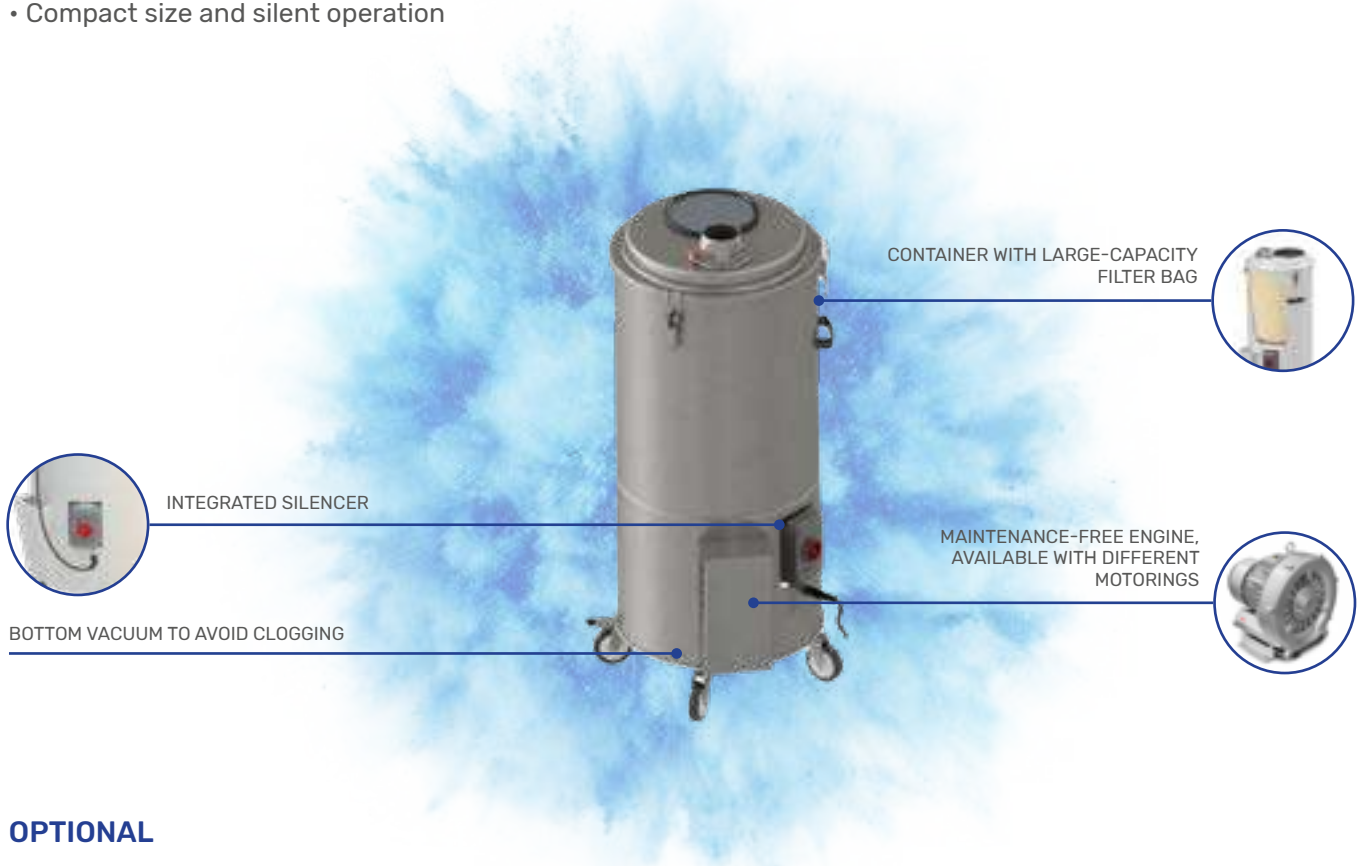
VACUUM CLEANERS FOR SUCTION OF STEAM AND PACKAGING WASTE

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 mmH ₂ O	2100 - 1800 mmH ₂ O	2200 - 1900 mmH ₂ O	3600 - 3000 mmH ₂ O
Max air flow	150 m ³ /h	270 m ³ /h	318 m ³ /h	530 m ³ /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 DUST COLLECTORS

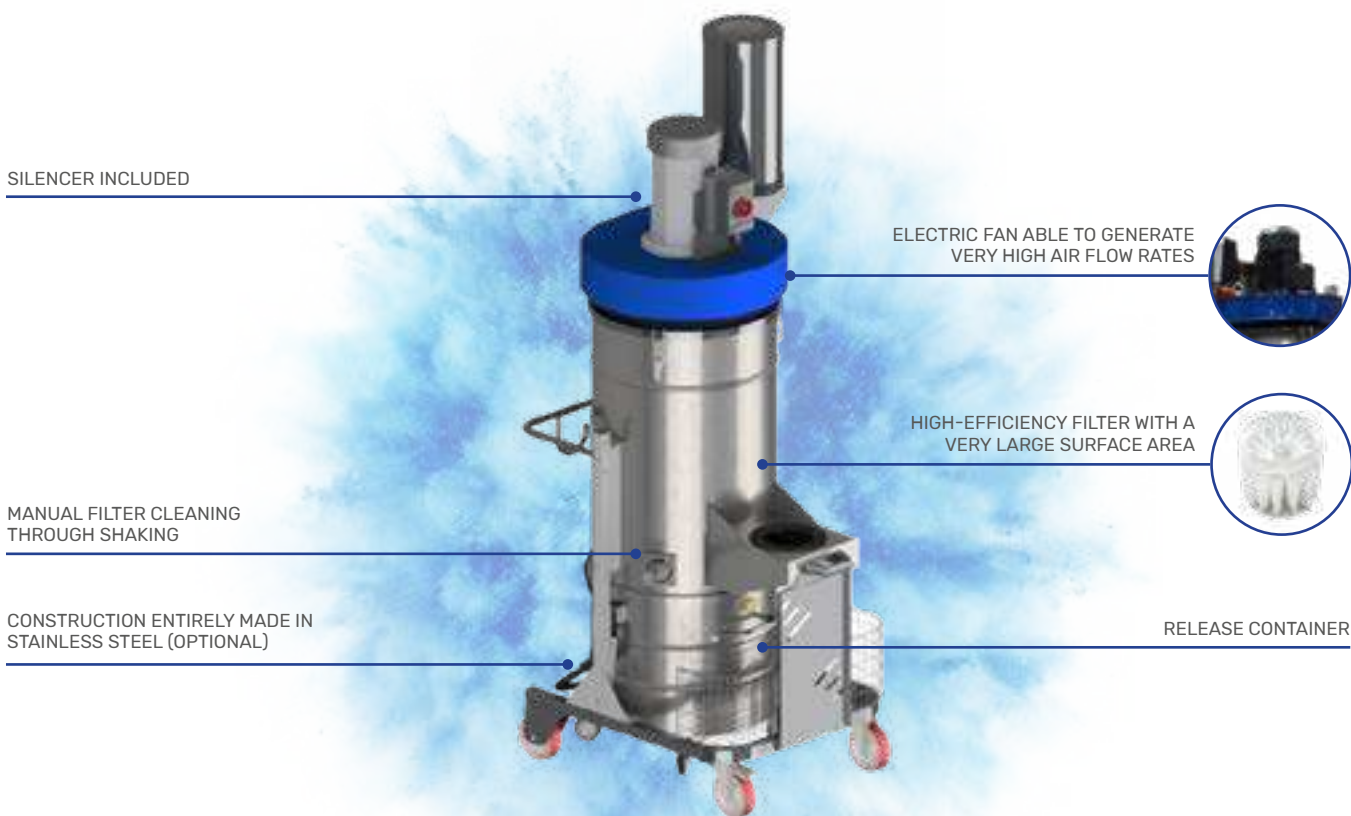
ZFR EV AP

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 direct connection on machine board



SILENCER INCLUDED

ELECTRIC FAN ABLE TO GENERATE VERY HIGH AIR FLOW RATES



HIGH-EFFICIENCY FILTER WITH A VERY LARGE SURFACE AREA



MANUAL FILTER CLEANING THROUGH SHAKING

CONSTRUCTION ENTIRELY MADE IN STAINLESS STEEL (OPTIONAL)

RELEASE CONTAINER

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	ZFR EV AP 560 K4
Voltage / Power	400 - 50 3- / 0,75 kW	400 - 50 3- / 4 kW
Max waterlift	180 mmH ₂ O	300 mmH ₂ O
Max air flow	1000 m ³ /h	1800 m ³ /h
Filter	Polyester star - L	Polyester star- ANT M
Capacity	45 lt	100 lt
Dimensions	58x63x180h cm	78x85x214h cm

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

	OEB1	OEB2	OEB3	OEB4	OEB5	OEB6	OEB7	OEB8	OEB9	OEB10
CONFORMITY										

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 mmH ₂ O	2500 mmH ₂ O
Max air flow	175 m ³ /h	180 m ³ /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

INDUSTRIAL VACUUM SYSTEM FOR LIQUIDS WITH RAPID DISCHARGE VIA PUMP

802 WXP

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

INTEGRATED PUMP POWER SUPPLY

INDEPENDENT START AND STOP OF PUMP AND TWO MOTORS



PPL PRE-FILTERS FOR PUMP AND MOTOR PROTECTION



INTERNAL PUMP FOR AUTOMATIC EMPTYING

CONNECTOR FOR QUICK RELEASE EVEN DURING SUCTION



DISCHARGE VALVE



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

INPOWDERIAL VACUUM CLEANERS FOR REMOVING LARGE QUANTITIES OF DUST AND SOLIDS

MTL451BL / DM2BL

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 (optional) 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



HEPA FILTER
Safety suction of toxic powder



BAG
Collection bags for complete container with depressor kit



STAINLESS STEEL CHAMBER

TECHNICAL DATA	MTL451BL	DM2BL
Atex zone / Category	22 - 3D	22 - 3D
Voltage/Power	230V - 50Hz 1-/ 1,1 kW	230V - 50Hz 1-/ 2,2 kW
Continuous waterlift	2250 mmH ₂ O	2250 mmH ₂ O
Max air flow	215 m ³ /h	430 m ³ /h
Filter	Star - Polyester ANT M	Star - Polyester ANT M
Capacity	45 lt	100 lt
Filter cleaning system	Manual	Manual
Noise level	74 dB (A)	76 dB (A)
Dimensions/Weight	58x63x130h cm / 55kg	77x66x150h cm / 85kg

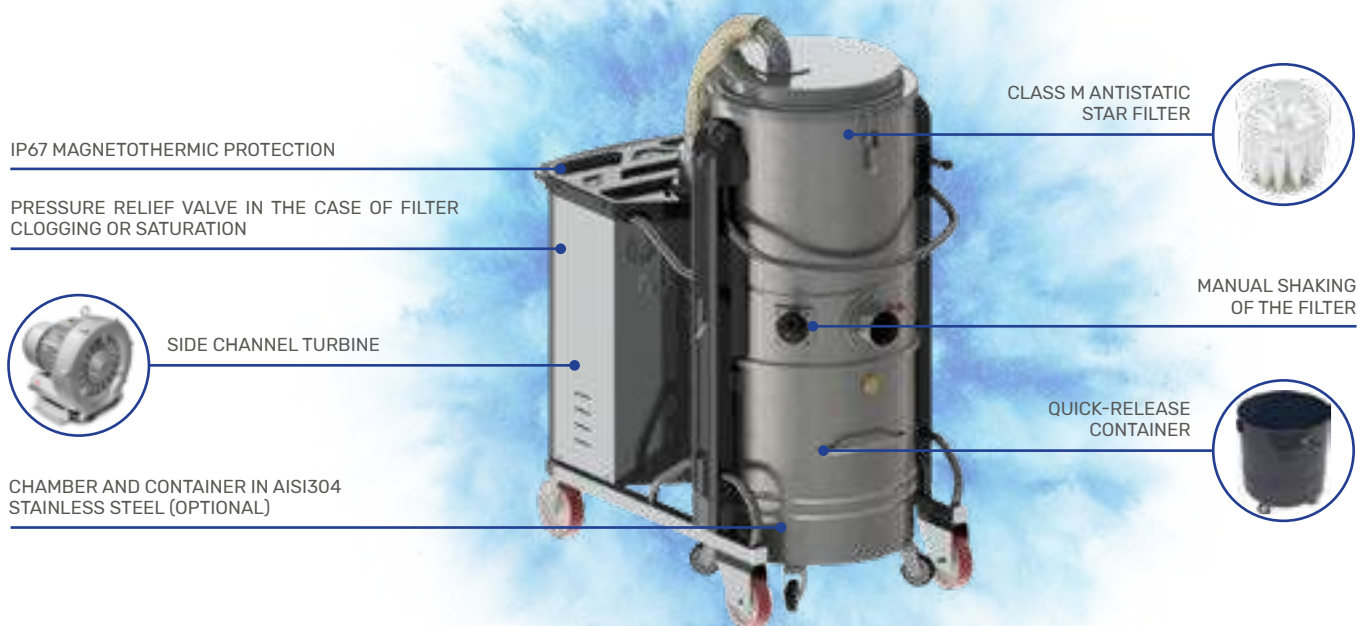
INDUSTRIAL VACUUM CLEANERS FOR LARGE QUANTITIES OF DUST AND FOR FIXED INSTALLATION

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



IP67 MAGNETOTHERMIC PROTECTION

PRESSURE RELIEF VALVE IN THE CASE OF FILTER CLOGGING OR SATURATION



SIDE CHANNEL TURBINE

CHAMBER AND CONTAINER IN AISI304 STAINLESS STEEL (OPTIONAL)

CLASS M ANTISTATIC STAR FILTER



MANUAL SHAKING OF THE FILTER

QUICK-RELEASE CONTAINER



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 mmH ₂ O	3200 mmH ₂ O
Max air flow	420 m ³ /h	700 m ³ /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 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

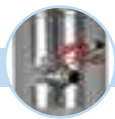
TANGENTIAL INLET FOR PRODUCT LOADING

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 m ³ /h	85 - 110 - 130 m ³ /h	260-370-490 m ³ /h
Load volume	8 lt	3,5 lt	Conveyor 8 lt 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 Lower hopper -Ø560 - h 1100
Weight	18 kg	19 kg	Conveyor - 19kg Lower hopper - 55kg

SAFETY ALWAYS COMES FIRST



01

SAFE REPLACEMENT OF HEPA14 FILTER

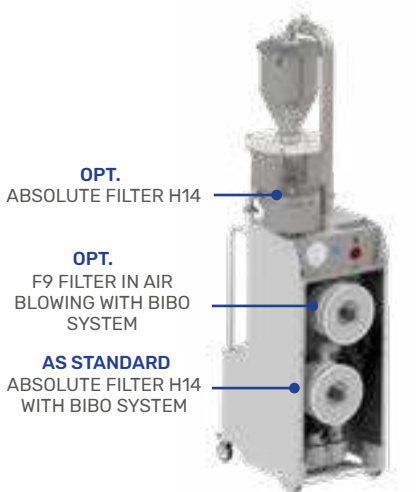
THE BAG IN - BAG OUT SYSTEM ALLOWS H14 FILTERS TO BE REPLACED, PREVENTING DISPERSION INTO THE ENVIRONMENT AND ANY CONTACT BETWEEN POWDER AND THE OPERATOR. THE BAG, CONTAINING THE EXHAUSTED FILTER INSIDE, CAN BE DISPOSED OF SAFELY BY THE OPERATOR.



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

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.



06

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



07

ATEX CERTIFICATION

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



08


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.

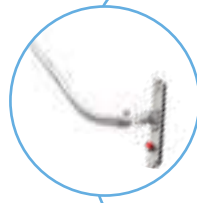
FAT
Factory Acceptance Testing

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.



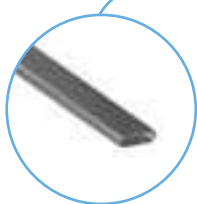
FDA-CERTIFIED AND AUTOCLAVABLE HOSES
FDA-APPROVED AND AUTOCLAVABLE HOSES




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: DM2BL/
MTL451BL/DGEXP



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



Safe and continuous
Endless Bag collection.
Delfin models: DG EXP and
DM3 2BL



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

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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