

INDUSTRIAL

VACUUM SOLUTIONS

FOR THE PHARMACEUTICAL INDUSTRY



NHEGRATEDSOLVITONSEORPOWDERSUPTOOERS

Pag. 4

Specific solutions equipped with HEPA absolute filters to safely contain the finest particles and ensure maximum operator safety for ingredients up to OEB3.



INTEGRATED SOLUTIONS FOR OEB4 AND OEB5 POWDERS Pag. 8

Specific solutions equipped with HEPA absolute filters to safely contain the finest particles and ensure maximum operator safety for OEB4 and OEB5 ingredients.



MODULARSOLUTIONS

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Modular solutions for dust and material extraction in the pharmaceutical industry, adaptable to production lines.



FOGUSONGONTAINMENTSYSTEMS

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Insights into the operation and typical characteristics of containment systems.

CHEANIROOM SOLUTIONS

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Industrial vacuum cleaners to maintain the highest levels of hygiene by ensuring the purity of air inside cleanrooms up to ISO4.





OTHER SOLUTIONS AND AGGESSORIES

Pag. 22

Industrial vacuum and conveying solutions, conceived and designed to meet the needs of the pharmaceutical industry. From general cleaning to on-board solutions and pneumatic conveying.





CONTAINMENT SOLUTIONS FOR PHARMACEUTICAL POWDER

When working with active pharmaceutical ingredients one of the first aspects to consider is the level of protection of employees from exposure, as these are hazardous dust to health. In addition to the use of appropriate PPE, a dust containment system is the best guarantee of safety for operators during the production and handling of pharmaceutical ingredients.

The maximum sustainable exposure of operators during a working day (OEL) and the hazardousness of the ingredient (OEB) indicate the protective systems to be used to avoid health problems.

OEB	OEL
OEB5 - Highly toxic	< 1 µg/m³
OEB4 - Toxic	1 - 10 μg/m³
OEB3 - Medium toxic	10 - 100 μg/m³
OEB2 - Nearly harmless	100 - 1000 μg/m³
OEB1 - Harmless	1000 - 5000 μg/m³
	ne.

The Dust Containment series has been designed with flexibility and safety in mind, making it suitable for working with OEB5-rated powders. The wide range of options and construction possibilities make them easy to customise for any production need, in full compliance with the quality standards required by the industry.









SIMPLE AND SAFE MAINTENANCE

Compact, quiet and flexible industrial vacuum cleaner for on-board suction of ingredients up to OEB3







XX | Stainless steel filtering chamber AISI304 XXX | Stainless steel AISI304 chamber and structure





ZARTH GROUNDING

MT | Earth Grounding





SB | Safe bagging system FI.0469.0000 | Spare safety bags



SP | Single phase vacuum unit

PHARMA 40 FOR INGREDIENTS UP TO 0EB3

Compact, quiet and flexible industrial vacuum cleaner for on-board suction of ingredients up to OEB3



Antistatic polyester filter class M

OPT. Filtration

OPT. Sensors



Manual filter shaking



delfin

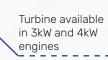
Container made of AISI304 stainless steel, satin-finished outside and polished inside

OPT. Safe bag system





The filter is easily replaced without additional tools







SAFE BAG SYSTEM

SB | Safe bagging system FI.0469.0000 | Spare safety bags



INOX CONSTRUCTION

XX | Stainless steel filter chamber XX/IP | Internal polished filter chamber XXX | Filter chamber and frame in stainless steel AISI304



EARTH GROUNDING

MT | Earth Grounding



SENSORS

Magnehelic | For visual filter clogging detention Photohelic | For visual filter clogging detention and signal transmission

Photohelic Atex 2GD \mid For visual filter clogging detention and signal transmission



FILTRATION

FDA | FDA certified antistatic filter H/OUT | Downstream H14 absolute filter H/IN | Upstream H14 absolute filter kit with bibo system and steel case HX/IN | Upstream H14 absolute filter kit with bibo system and stainless steel case



SUPPORT SURFACE

SL.5744.7035 | Support surface for filter replacement with BIBO system



ABB INVERTER | ABB Inverter IP66 kW4 Z22

TECHNICAL DATA SHEET





		PHARMA 20.18	PHARMA 40.30	PHARMA 40.40
Voltage	V - Hz	400-50 3 ~	400-50 3 ~	400-50 3 ~
Power	kW	1,8	3	4
Max. waterlift	mmH₂0	3000	3200	3200
Continuous waterlift	mmH₂0	2200	2700	2600
Max. air flow	m³/h	270	318	420
Pressure relief valve		Included	Included	Included
Suction inlet, Type &	mm	Clamp ø50 AISI304	Clamp ø70 AISI304	Clamp ø70 AlSl304
Hopper capacity	It	22	42	42
Noise level	dB(A)	70	69	69
Filter type		Star	Star	Star
Surface - Diameter	cm²-mm	12.000 - 360	20.000 - 420	20.000 - 420
Filter media - Class		Polyester antistatic-M	Polyester antistatic-M	Polyester antistatic-M
Cleaning system		Manual	Manual	Manual
Dimensions	cm	70x51x129h	76x52x155h	76x52x155h
Weight	kg	75	130	130
Container		Stainless steel Aisi304 brushed outside polished inside	Stainless steel Aisi304 brushed outside polished inside	Stainless steel Aisi304 brushed outside polished inside
OPTIONAL	CODICE			
FDA-certified antistatic filter	FDA			
Absolute filter kit H14	Н	•	0	0
Downstream H14 absolute filter	H/OUT	0		
Upstream H14 absolute filter kit with BIBO system and steel case	H/IN	0		•
Upstream H14 absolute filter kit with BIBO system and stainless steel case Filter chamber made of AISI304 stainless	HX/IN	0		•
steel	XX		•	
Internal polished filter chamber	XX/IP	O		
Filter chamber and frame in stainless steel AISI304	XXX		•	•
Earth grounding	MT			
Single-phase vacuum unit	SP		0	0
Safe bagging system	SB	•		
Safe bags - replacement	FI.0469.0000			
DOP test for filter integrity check		0	•	
Clamp connection Inox e70/50	TA.1114.0000	O		
Clamp connection Inox ø70/70	TA.1115.0000	0	•	
Connection Clamp Inox e50/50	TA.1118.0000		O	O
Spare kit: filter, nylon bag, bottom with gasket and knob	H14 SPARE KIT	0	•	
Support surface for Bibo filter replacement	SL.5744.7035	O		
Magnehelic for visual filter clogging check	MAGNEHELIC	0		
Photohelic for filter clogging control and signal transmission	PHOTOHELIC	0	•	•
Photohelic for filter clogging control and signal transmission	PHOTOHELIC ATEX 2GD	0		
ABB Inverter IP66 kW4 Z22	ABB INVERTER	O		
Crimping tool with 200 end caps		O		
Available	Not Available			



FOR TOXIC INGREDIENTS OEB4 AND OEB5

Compact, noiseless and flexible industrial vacuum cleaner equipped with collection system in containment bags, particularly suitable for connection to compressor machines, fillers, blister machines.



Cyclonic pre-separator holds up to 98%* of powder **OPT.** wash In Place



Capacitive sensor for full container signalling



Bag-in Bag-out system for safe filter replacement



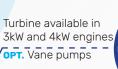
Crimpable containmen

OPT. Crimping tool with end caps

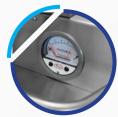


Absolute H14 suction filter with Bag-in Bag-Out system and stainless steel housing

OPT. Filtration







Magnehelic for visual check of filter clogging **OPT.** Photohelic



OPT. H14 absolute filter

F9 filter in downstream with BIBO system

STANDARD Absolute filter H14 with BIBO system







GRIMPING TOOL

Crimping tool and 200 sealing caps to close bags easily



High vacuum vane pumps: kW1,5-40m3/h kW2,6(IE3)-60m3/h



H/OUT | Downstream H14 absolute filter H14 KIT | Absolute filter replacement kit H14





ABB INVERTER | ABB Inverter IP66 kW4 Z22



VASH IN PLACE

WIP | Clean in Place for cleaning the pre-separator and hopper



Photohelic | For monitoring filter clogging and sending signals to external systems Photohelic Atex 2GD | For monitoring filter clogging and sending signals to external systems

^{*} Placebo powder

PHARMA 75 DC FOR TOXIC INGREDIENTS OEB4 AND OEB5

SPECIAL SOLUTION ON DEMAND

Industrial vacuum cleaner with cyclonic pre-separator, dust bag and filter chamber, to ensure suction and efficiency in the pharmaceutical industry.



OPTIONAL



WASH IN PLACE WIP | Wash in Place for cleaning the

WIP | Wash in Place for cleaning the pre-separator and hopper



CONTAINMENT BACS

KT.1780.0000 | 5 containment bags and 6 rings - spare parts kit



^{*} Placebo powder

TECHNICAL DATA SHEET





		PHARMA 40.30DC	PHARMA 40.40DC	PHARMA 75 DC
Voltage	V - Hz	400-50 3 ~	400-50 3 ~	400-50
Power	kW	3	4	7,5
Max. and continuous waterlift	mmH₂0	3200 - 2.700	3.200 - 2.600	3.100
Max. air flow rate	m³/h	318	420	700
Pressure relief valve		Included	Included	Included
Max efficiency		98%*	98%*	98%*
OEB level in production		5	5	5
OEB level in maintenance		4	4	4
Nozzle, Type ø	mm	Clamp ø70	Clamp ø70	ø76
Capacity	It	30	30	30
Capacity level sensor		Included	Included	Included
Filter clogging control pressure switch		Magnehelic	Magnehelic	Photohelic
Noise level	dB(A)	69	69	72
Dimensions	cm	76x52x208h	76x52x208h	66x118x145h
Weight	kg	120	120	230
Discharge		Butterfly ø150 AISI316	Butterlfy ø150 AISI316	Butterfly ø150 AISI316
Collection system		Containment bag	Containment bag	Containment bag
Cyclone, hopper and discharge		Polished AISI316 stainless steel	Polished AISI316 stainless steel	Polished AISI316 stainless steel
Frame		Brushed AISI304 stainless steel	Brushed AISI304 stainless steel	Painted steel
H14 absolute filter with BIBO system and stainless steel housing		Included	Included	-
Filter surface	cm²	20.500	20.500	49.000
Filter class		H14 with 99.995% efficiency at 0.18 µ	H14 with 99.995% efficiency at 0.18 μ	Polyester ANT-M
	CODE			
Absolute filter kit H14	H/OUT		•	0
Spare kit for filter H14	H14 SPARE KIT	•		0
Filter replacement kit		•		0
Photoelic for monitoring and signalling filter clogging	PHOTOHELIC	•	•	•
Photoelic for monitoring and signalling filter clogging	PHOTOHELIC ATEX 2GD		•	
ABB Inverter IP66 kW4 Z22	ABB INVERTER	•		•
High vacuum vane pump KW1,5-40m³/h		•	•	0
High vacuum vane pump KW2,6(IE3)-60m³/h		•		0
Crimping tool with 200 end caps				
Wash In Place				
Spare parts kit 5 containment bags and 6 rings	KT.1780.0000		•	





^{*} Placebo powder



MODULAR SOLUTIONS

Modular solutions allow the suction unit to be positioned in the technical compartment and the pre-separators in the production area, ensuring cleanliness and efficiency.



The modular solutions respond to the needs of each company, where lack of space is often a primary problem, by offering two different compositions that can be easily inserted into their production lines.

MODULAR SOLUTION - A



MODULAR SOLUTION B



CYCLONICSEPARATOR

SEP.DC-001

Polished AISI316 stainless steel cyclonic pre-separator with maximum efficiency of 98%* and safe dust collection system in containment bags



Cyclonic pre-separator holds up to 98%* of powders

OPT. Wash In Place



Crimpable
containment bag

OPT. Crimping tool
with end caps



Capacitive sensor for full container indication



SEP.DC-002

Cyclone separator available with 42 litre stainless steel container.

Suitable for containing medium-toxic dust.



OPTIONAL



Wash in place

WIP | Wash in Place for cleaning the pre-separator and hopper



CRIMPING TOOL

Crimping tool and 200 sealing plugs to close bags easily



SEP.DC-003

Cyclonic separator with 42 I stainless steel container and H14 safety filter.

(Not available Bag-In Bag-Out)





CONTAINMENT BACS

KT.1780.0000 | 5 containment bags and 6 rings - spare parts kit

TECHNICAL DATA SHEET

VACUM UNITS





		CV113	CV114	CV115	CV116	CV117	CV126-001
Voltage	V - Hz	400-50 3 ~	400-50 3 ~	400-50 3 ~	400-50 3 ~	400-50 3 ~	400-50 3 ~
Power	kW	1,8	2,2	3	4	5,5	7,5
Electrical protection	IP	55	55	55	55	55	55
Max/ continuous waterlift	mmH²0	3000/2200	3000/2400	3200/2700	3200/2600	3600/3000	3200/2700
Max. air flow	m³/h	270	270	318	420	530	700
Suction inlet ø	mm	50	50	60	60	70	70
Dimensions	mm	488x423x652h	488x423x652h	642X658X1390h	642X658X1390h	642X658X1390h	642X658X1390h
OPTIONAL	CODE			 			
Aisi304 stainless steel casing construction	X		•	•	•	•	
Additional silencer D90 H535	SIL/SUP	0	0				•
Abb Inverter	INV						

SEPARATORS



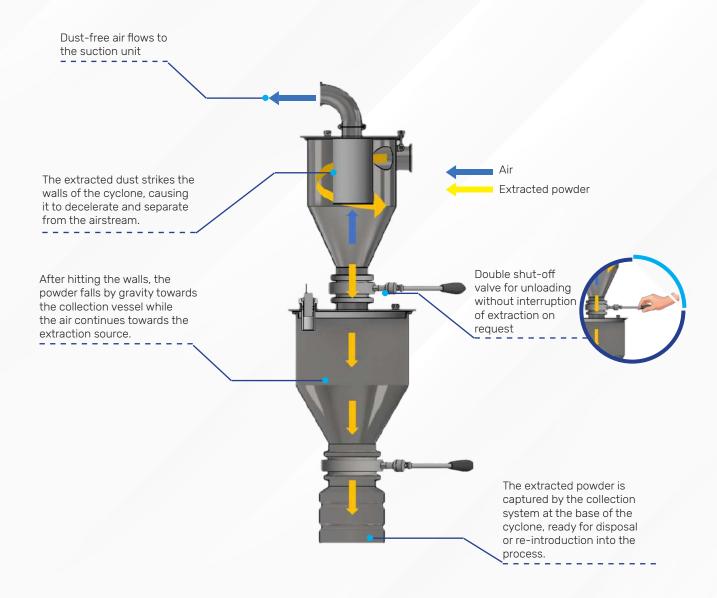




				-
		SEP.DC-001	SEP.DC-002	SEP. DC-003
Suitable for waterlift up to	mmH₂0	2700	2700	2700
Suitable for airflow up to	m³/h	840	840	840
Maximum efficiency		98%*	98%*	98%*
OEB level in production		5	5	5
OEB level in maintenance		4	4	4
Suction inlet, Type ø	mm	Clamp ø70	Clamp ø70	Clamp ø70
Capacity	It	30	30	30
Capacitative level sensor		Included	Included	Include
Dimensions	cm	70x70x235h	70x70x235h	75X83X165
Weight	kg	80	70	
Discharge		Butterfly ø150 AISI316	Stainless steel	Stainless steel
Collection system		Containment bag	container 42 l	container 42 l
Cyclone, nozzle, hopper and discharge		Polished AISI316 stainless steel	Polished AISI316 stainless steel	Polished AISI316 stainless steel
Frame		Brushed AISI304 stainless steel	Brushed AISI304 stainless steel	Brushed AISI304 stainless steel
OPTIONAL				
Crimping tool with 200 end caps			0	0
Wash in place			•	•
Spare parts kit 5 containment bags and 6 rings		•	0	0

HIGH-EFFICIENCY CYCLONE

The dust vacuumed up by the system enters the pre-separator which, thanks to the cyclonic effect, is able to retain up to 98% of the dust (tests carried out with placebo powder).



		DAIA
Air and dust inlet	Inches	3"
Air outlet nozzle	Inches	2"
Cyclone internal diameter	mm	280
Hopper capacity	Lt	32
Hopper diameter	mm	360
Cyclone efficiency		97-99% with 250/420 m³/h
Cyclone butterfly valve diameter (Optional)	Inches	4"
Discharge butterfly valve diameter	Inches	6"

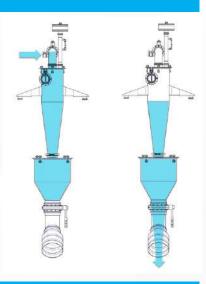
WASHIN PLACE

POWDER CLEANING AND DEACTIVATION SYSTEM

The cyclonic pre-separator and the collection hopper can be easily cleaned by means of a convenient Clean In Place system, which deactivates any residual harmful dust left in the unit through the water used.



Connectable structure for post-wash water discharge on request

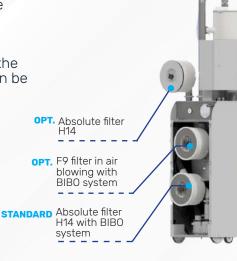


ABSOLUTTE FILTRATION

AND BAG-IN BAG-OUT REPLACEMENT

Dust that passes through the cyclonic pre-separator is retained by progressive efficiency filters, which provide total containment capacity for the system, protecting the environment and operators.

The Bag In - Bag Out system allows the H14 filters to be replaced, preventing any contact between the dust and the operator. The bag, containing the exhaust filter inside, can be disposed of in complete safety by the operator.



STATUS MONITORING

REAL-TIME MACHINE MONITORING

Standard sensors monitor the unit's operating parameters, ensuring efficiency and signalling any anomalies.



A capacitive sensor as standard for indication of full container



Magnehelic for a visual check of filter clogging



Photohelic for checking clogging, filter presence and sending signals to external systems (available for ATEX Zone 22)



OPT. Differential pressure gauge Photohelic



Capacitive level sensor

SAFE-COLLECTION

IN CRIMPABLE CONTAINMENT BAGS

The powders, once discharged from the hopper, are collected in bags that can be crimped thanks to the crimping tool and high-seal seals.

The crimping tool is also an essential tool for filter replacement using the Bag In - Bag Out method.





CONFORMITY TO CMP STANDARDS GUARANTEED SAFETY

Delfin containment units have been designed with the idea of making all maintenance and cleaning operations of the units simple and safe, always with the aim of protecting the operators.

- ✓ Possibility of installing the vacuum unit in the technical compartment and the filtration unit on board the machine
- ✓ No dust accumulation points, ensuring maximum hygiene

Mirror-polished AISI 316 stainless steel for parts in contact with powder; AISI 304 stainless steel for the remaining parts of the structure

Easy disassembly and maintenance

Clamp connections for best grip at connection points



LABCONTROL, SOLUTIONS FOR CLEANROOMS

The hallmark of cleanrooms is the purity of the air inside with a very low content of suspended micro dust particles.

Our Labcontrol range of vacuum cleaners has been developed with the aim of reducing the risk of product contamination in full compliance with industry regulations while maintaining the highest levels of hygiene up to ISO4 cleanrooms.

FILTERED, GUARANTEED AIR

Ensuring clean air into the environment is the aim of Labcontrol products. Extensive testing has certified their compatibility for use in cleanrooms of ISO4* or higher (according to ISO14644).

- · Certified for use in ISO4 clean rooms
- Autoclavable (motor head excluded)
- Modular and easy to sanitise
- Ergonomic and comfortable to use
- · Dedicated autoclavable and FDA-certified accessories
- Progressive multi-filtration up to 99.9995% efficiency

*With specific configuration



FOR CLEAN ROOMS UP TO ISO4

Compact vacuum cleaner with complete stainless steel construction and multiple levels of HEPA filtration. The vacuum cleaner is suitable for use in cleanrooms up to ISO4 for dust extraction.



Absolute filters in upstream and downstream air included



Polyester bag filter Class M PTFE





Entirely made of AISI316 steel

OPTIONAL



TA.0750.0000 | Pack of 5 disposable bags

ACCESSORIES MIT

TA.0535.0000 | Dry D40 autoclavable accessory kit TA.0426.0000 | Dry D40 accessory kit

FOR CLEAN ROOMS UP TO ISO6

Compact vacuum cleaner for liquids with complete stainless steel construction and multiple levels of HEPA filtration.



Absolute filters in suction and blowing air included



Container made of AISI316 steel



Polyester bag filter PTFE and Class M



OPTIONAL



TA.0751.0000 | Pack of 5 disposable bags



ACCESSORIES KITT

TA.0535.0000 | Dry D40 autoclavable accessory kit TA.0426.0000 | Dry D40 accessory kit

TECHNICAL DATA SHEET

		LC1000D-001	LC1100WD-001
Voltage	V - Hz	230 - 501~	230 - 501~
Power	kW	1	1,1
Motor		Direct cooling	By-Pass
Max. waterlift	mmH₂0	2900	2500
Max. air flow	m³/h	175	180
Suction inlet ø	mm	40	40
Solids capacity	It	5	40
Liquid capacity	It	-	25
Noise level	dB(A)	70	75
Primary filter		В	ag
Surface - Diameter	cm²-mm	2.000 - 280	3.000 - 360
Filter media - Class		Polyester - M PTFE	Polyester - M PTFE
Safe bag		As sta	andard
Absolute filter in upstream	EN 1822-5	U15 St	andard
Absolute filter in downstream		U15 As strandard	U15 Optional
Absolute filter in upst. motor cooling air		-	U15 As strandard
Absolute filter in downst. motor cooling air		-	U15 As standard
Dimensions	cm	36x33x51h	43x43x73h
Weight	kg	20	27
Components in contact with the material		AIS	1316
OPTIONAL	CODE		
Absolute filter U15 upstream	U15/0UT	As standard	
Pack of 5 disposable bags	TA.0751.0000 / TA.0750.0000		
Dry D40 accessory kit	TA.0426.0000		
Dry D40 autoclavable accessory kit	TA.0535.0000		

Available

O Not available

OTHER SOLUTIONS

COMPACT VACUUM CLEANERS FOR ON-BOARD INSTALLATION

Fixed suction bases are the ideal solution for removing materials at 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.



Large area bag filter



Pressure relief valve for motor protection





Total modularity for adaptation to specific needs





OPTIONAI

OPT. H | Absolute filter H14

OPT. X | Stainless steel container

OPT. XXX AISI304 stainless steel construction

OPT. MT | Earth grounding

OPT. SP | Single-phase suction unit

OPT. TA.0751.0000 | Pack of 5 disposable bags



VACUUM CLEANERS FOR PACKAGING CHIPS AND SCRAPS

Vacuum scrap collectors are characterised by their large collection capacity, high mobility and compact dimensions for use on board the machine. They are designed to eliminate scrap that must be removed at source to avoid production interruptions.





Container with large capacity filter bag



OPT. FI.0263.0000 | M-class polyester filter

OPT. X | Stainless steel container

Maintenance-free motor, available in various power ratings



OPT. MT | Earth grounding

OPT. SGB | Grilled basket

COMPACT VACUUM CLEANER FOR ON-BOARD INSTALLATION

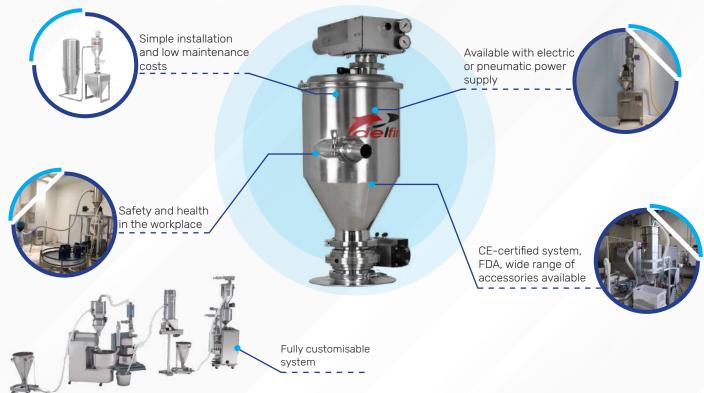
Compact and powerful three-phase industrial vacuum cleaner, designed for integration into production machinery for general vacuuming. Equipped with removable frame with high vacuum pump.



PNEUMATIC CONVEYORS

PNEUMATIC CONVEYING SYSTEMS FOR SOLID MATERIALS OR GRANULES

Pneumatic conveyors are the best handling solution in the industrial sector, the only one capable of eliminating product loss and the risk of contamination.



ACCESSORIES

FOR CLEANING IN PHARMACEUTICAL ENVIRONMENTS

Ergonomic silicone accessories designed for the specific suction needs of the pharmaceutical world.



CONE NOZZLE

A precision accessory with a diagonal end cut that allows air inlet for smooth suction. The silicone version is suitable for the pharmaceutical industries together with a stainless steel fitting.



MATERIAL	CODE	ø mm	Material to be vacuumed	Suitable for
	SL.0022.0000	50		✓ Suction of piles of material with low
Ciliaana	SL.0122.0000	SL.0122.0000 70 Powders, solids	grain size	
Silicone	SL.1787.0000	40	and liquids	Cleaning of machinery
	SL.1693.0000	50		✓ Cleaning of objects



SCRAPING NOZZLE

Accessory for scraping the bottoms of tanks or surfaces to be cleaned, even in the case of particularly sticky residues. The silicone version is suitable for the pharmaceutical industries in combination with a stainless steel fitting.



MATERIAL	CODE	ø mm	Material to be vacuumed	Suitable for
	TA.0336.0000	40	Powders, solids	√ Vacuuming of piles of particularly sticky material
Silicone	TA.0459.0000	50	and liquids	✓ Cleaning of machinery ✓ Cleaning of objects



PRECISION ADJUSTABLE CONICAL NOZZLE

Adjustable precision accessory for cleaning small parts and tight corners. The silicone version is suitable for the pharmaceutical industries and is supplied with a stainless steel fitting.



MATERIAL	CODE	ø mm	Material to be vacuumed	Suitable for
	SL.1791.0000	50/20	D 1 11 11 10 10 10 10 10 10 10 10 10 10 1	✓ Cleaning of machinery✓ Cleaning of objects
Silicone	SL.1789.0000	50/20	Powders, solids and liquids	
	SL.1790.0000	38/20	ariu liquius	

Cleaning at high levels



Machine cleaning





Download our accessories catalogue!

THE DELFIN COMPANY

Delfin was founded over 30 years ago by the passion of its founder, Antonino Siclari, for industrial vacuum cleaners. Delfin has never stopped working to offer its customers innovative and efficient solutions at the top of quality and design, solving cleaning problems for professionals and industries all over the world.





STRADA DELLA MERLA, 49/A 10036 SETTIMO T.SE (TO) ITALY

T +39 011 800 55 00 F +39 011 800 55 06

DELFIN@DELFINVACUUMS.IT

DELFINVACUUMS.COM