

CENTRALIZED FILTER AND VACUUM UNIT



SERVICE BOOK CENTRALIZED FILTER AND VACUUM UNIT

CE RoHS Compliant Rev. 1.2



VISMEC adopts a policy of on-going development.

With the exception of information required by law, the general information (or diagrams) featured in this document may depict models and/or versions different to the one you have purchased. This will in no way alter the validity or applicability of the information provided.

VISMEC Innovation Leading

<u>CENTRALIZED FILTERS, VACUUM UNITS manual rev. 1</u> VISMEC reserves the right to revise this manual without notice

CONTENTS

1. SAFETY AND HEALT RULES	4
2. GRAPHIC SYMBOLS	5
3. HANDLING	6
3.1. SAFETY RULES FOR HANDLING, LIFTING, PACKING, AND UN	PACKING6
<u>4.</u> <u>OPERATION</u>	7
5. INSTALLATION	7
 5.1. INSTALLATION SAFETY RULES	
 5.5. HOSE CONNECTIONS <u>6.</u> <u>FRONT PANEL</u> 	
7. ROUTINE START UP	
8. MAINTENANCE	
8.1. SAFETY RULES FOR ADJUSTMENT, SERVICING AND TROUBL8.2. CHECKING AND CLEANING PERFORATED PLATE FILTERS	ESHOOTING PROCEDURES11
9. DECOMMISSIONING THE MACHINE	
10. TECHNICAL DATA AND DIMENSIONS	
10.1. DIMENSIONS10.2. TECHNICAL DATA:	
11. ELECTRICAL WIRING	
12. SPARE PARTS	

1. SAFETY AND HEALT RULES

1. Failure to observe the basic rules of accident prevention and safety is one of the main causes of accidents when using and servicing industrial machinery.

2. Before performing any operation on the machine you must carefully read this manual, the safety rules below and the information given on the warning notices affixed to the machine. Do not allow unauthorized personnel to use, adjust or repair the machine.

3. In the design and manufacture of the machine and the writing of the instruction manual, all attempts have been made to eliminate or reduce the hazards for those who install, use or repair the machine. If you come across any further potentially hazardous conditions, please inform the manufacturer, who will take measures to remedy the problem.

4. When required, all persons working on the machine must wear protective clothing (helmets, safety footwear, gloves, earplugs or hearing defenders, safety goggles etc.) in accordance with international workplace safety standards.

5. Only persons with adequate technical training, who have a complete working knowledge of the machine, who have the necessary physical and psychological requirements for working safely on the machine and who have fully read the supplied documentation are allowed to operate the machine and perform routine maintenance tasks on it.

6. Set up footboards or platforms (in accordance with the safety regulations in force) when installing parts that cannot be reached from ground level.

7. When interfacing with other machinery, strictly observe the instructions given by the manufacturers of the other machines.

8. Check that the safety systems (guards, micro switches, sensors) are in perfect working order before starting work. Any parts that are not in perfect working order must be repaired before proceeding. It is strictly forbidden to remove safety devices, tamper with the electrical system or any of the mechanisms.

9. This machine must be used for the purpose for which it was designed. Improper use of the machine is strictly prohibited.

10. Do not touch the machine with your hands or any other parts of the body if they are wet or damp.

The manufacturer cannot be held responsible for any injury to persons or damage to property resulting from the non-observance of the above safety rules.

These rules supplement but do not replace the statutory industrial accident prevention regulations in force in the country where the machine is installed.

2. GRAPHIC SYMBOLS

DANGER

Refers to procedures or practices which, if not performed correctly, *cause* serious harm to health, injury or death.



WARNING

Refers to procedures or practices which, if not performed correctly, *may cause* serious harm to health, injury or death.

CAUTION

Refers to procedures or practices which, if not performed correctly, *may causes* serious damage to the system or individual components thereof.



DANGER

Danger of electrical shocks!



DANGER Hot surface!



WARNING Protective footwear must be worn!



WARNING Protective gloves must be worn!



WARNING Face guard must be used!



WARNING Respiratory protection must be used!



ATTENTION

Refers to possible hazardous situations that *may cause* serious damage to the system or individual components thereof.

3. Handling

3.1. Safety rules for handling, lifting, packing, and unpacking

1. The machine must be handled by expert personnel in accordance with statutory health and safety regulations.

2. Use handling equipment that conforms to the safety requirements stated in directive 89/392/EU and subsequent amendments. The handling equipment be accompanied by documentation certifying its conformity to the above requirements and must be capable of bearing the weight of the machine plus its packing. Carefully follow any instructions marked on the machine packing (the weight is given on the outside of the packing). Do not use ropes or chains to harness the pack.

3. All handling operations must be performed with the machine completely empty, i.e. with no process materials or fluids inside it, and with any external support structures removed.

4. All the machine parts involved in the lifting operation are sized for handling solely the machine with no accessories installed.

5. If the machine is lifted with ropes, make sure its weight is evenly distributed over all the lifting points and that the strain on the ropes is uniform. The angle between each rope and the horizontal plane must not be less than 45°.

6. Fasten any loose parts. Make sure that the load is properly balanced and securely fastened to the handling equipment. Always proceed with the utmost caution to avoid injuring persons or damaging the machine.

7. All persons not involved in operating the means of transport must be kept at a safe distance from the moving load.

8. Position the machine on a perfectly flat surface of a suitable size that is strong enough to bear its weight.

9. After removing the packing, check that all parts of the machine are present and in good condition. If you have any doubts, do not use the machine: contact the *VISMEC* Technical Service Department or an authorized service centre. The packaging must be disposed of in accordance with binding waste disposal regulations.



CAUTION

The packing material can cause cuts or abrasions.

Pay special attention and always wear suitable protective equipment!

Pay special attention and always wear suitable personal protective equipment

4. Operation

The Vacuum unit is used for the transport of the plastic pellets in the feeding lines of the plastic processing plants. The blower generates the vacuum and the air flow necessary to the feeding system. The centralized filter removes the dust before it will be conveyed into the blower. The unit can be equipped with various options such as: dust level sensor, bypass valve, pressure switch, automatic filter cleaning system.

ALLOWED USE:

The machine can generate the vacuum, sucking air and filter from dust for transport of plastic pellets.

NOT ALLOWED USE:

Do not use the machine for direct suction of solids and liquids, it will damage the machine. Do not use the machine for any other purpose not mentioned in "ALLOW TO USE" section.

5. Installation

5.1. Installation safety rules

1. The machine must be installed by skilled personnel in compliance with binding safety and health regulations, following the instructions in this manual.

2. Make sure the installation work is performed in conditions of adequate visibility that remain constant through time; install supplementary lighting if necessary.

3. Mark off the work zone with tape and put up notices warning of the hazards in the areas where the installation work is taking place.

4. Install the machine in a place that is protected from aggressive chemicals and the weather.

5. Check that the supply voltage and frequency stated on the machine data plate correspond to those of the electricity mains and check that the mains circuit is suitably scaled for the machine maximum power input (refer to the "technical data" table and the wiring diagram).

6. The machine must be connected to an efficient earth connection (as specified in binding electrical safety regulations). You must make sure that this essential safety requirement id complied with. If you have any doubts, have the circuit thoroughly checked by a qualified electrician Electrical safety devices, suitably scaled for the total machine power, must be installed at the point of connection to the electrical power feeding line (see wiring diagram).



WARNING

Risk of serious damage to health, injury or death.

► It is <u>strictly forbidden</u> to remove or modify the

devices and guards fitted by the manufacturer

It is strictly forbidden to remove or modify the safety devices and guards fitted by the manufacturer.

5.2. Positioning

1. Position the machine on a perfectly flat surface, making sure it is suitably constructed and sized in relation to the weight and dimensions of the machine and the connected structures.

2. Observe the minimum positioning clearances > 300 mm all around the unit. Failure to observe these clearances could impede installation work or prevent access to the machine for maintenance purposes.

3. The chosen installation site must offer sufficient ventilation for the machine and must not be subject to the presence of hazardous processes or possible concentrations of explosive

<u>CENTRALIZED FILTERS, VACUUM UNITS manual rev. 1</u> VISMEC reserves the right to revise this manual without notice

5.3. Electrical connections



WARNING Electric shock hazard.

• To supply the machine, use an electric cable of suitable cross-section for the total power of the machine.



ATTENTION

• Suitable protection for the total power of the machine must be installed at the point of connection to the electric mains. The use of protection fuses is recommended: follow the instructions given in the attached wiring diagram. In addition, install a main circuit breaker switch between the electricity line and the machine power supply lead; it must be installed in an easily accessible position.

The connection between the machine and the main power panel must be done following the indications given on the *wiring diagram*.

5.4. Blower rotation



After the electrical connection is necessary to control the direction of the rotation of the blower. If the rotation does not conform to the direction indicated by the arrows on the blower body, reverse two electrical phases

Fig 2

5.5. Hose connections



For the "stand alone" centralized filter follow the istructions on the Figure 3. Connect the filter to line and the collector to the vacuum blower.

Fig3

For compact vaccum unit instead just connect the filter to vaccum line.



6. Front panel

The unit is equipped with a front panel; on the panel you can see the Main switch (1) through which you can start the machine. Inside the panel there are the electrical connections (See Wiring diagrams par. 14).



Fig 2

7. Routine Start Up

When the machine is switched on from the main switch (1), the server controls the unit by the signal 54 (55 for the spare unit); see *par.11 Wiring diagram*. All the switching on and off are managed by the server, the server also manages the bypass valve and the cleaning filter valve.

8. Maintenance

8.1. Safety rules for adjustment, servicing and troubleshooting procedures

1. All adjustment, maintenance and troubleshooting work must be performed by specialized personnel. Specialized personnel are construed as persons who, because of their education, experience, training, and specific knowledge of accident prevention regulations and first aid, have been authorized to carry out checking and preventive maintenance work. These personnel must be provided with all the tools and equipment specified in both local and international accident prevention regulations.

2. Thorough inspections, performed at regular intervals, are required to prevent breakdowns and guarantee that the machine works at maximum efficiency through the course of time.

3. Unless expressly stated otherwise, all maintenance and adjustment work on the machine, or parts of it must be performed with the machine completely isolated from the electricity, compressed air and water supply sources.

4. Cordon off the work zone with tape and put up notices warning of the hazards in the areas where the adjustment, maintenance or troubleshooting work is taking place.

5. Wait until the machine and the parts that must be approached have cooled down to ambient temperature before performing any maintenance tasks. Drain off and remove any liquids inside the machine to prevent them from coming into contact with live electrical parts during the maintenance work.

6. To avoid injuring persons or damaging objects, make sure that no solids, liquids or gases are discharged or disposed of in the environment. Have these substances removed in suitable containers, in accordance with the binding waste disposal regulations in the place of installation.

7. If any breakdowns occur that the operator is unable to remedy, switch off the machine and contact the VISMEC Technical Service Department or an authorized service centre.

8. On completing the maintenance work, switch on the machine and perform the operational checks, taking all the necessary precautions. The above-indicated precautions must not be waived until the maintenance work is fully completed.

9. Take special care to ensure that the maintenance work does not involve other nearby machines which could represent a potential source of danger. Scheduled maintenance must be performed on a regular basis to guarantee the maximum efficiency of the machine.

SCHEDULED MAINTENANCE						
Every day	Check the dust container and empty it when full.					
Every month	Check, and eventually change, the filter cartridge. Clean the outer surfaces and inspect the power supply for damage. Check and clean the perforated plate filters. (See par 8.4).					

8.2. Empty dust container

- For a single filter unit: before every operation you have to switch off the vacuum unit. Open the clamp, empty the container and put it back. Once the clamps are fixed it will be possible to turn on the vacuum unit again
- For a double filter unit: force the unit to work with the other filter with the selector switch, on the main control panel of the unit. Push the vacuum-release button until the vacuum gauge on the top of filter reaches Obar. After this, open the clamp, empty the container and put it back. Reposition the selector in the middle position (AUTOMATIC filter switch control).

8.3. Change cartridge filter

- For a single filter unit: before every operation you have to switch off the vacuum unit. Disconnect the pipe and the pull-ring from the top lid, remove it, change the cartridge, fix back all the parts. Once it will done all the steps, it will be possible to turn on the vacuum unit again.
- For a double filter unit: force the unit to work with the other filter with the selector switch, on the main control panel of the unit. Push the vacuum-release button until the vacuum gauge on the top of filter reaches Obar. After this Disconnect the pipe and the pull-ring from the top lid, remove it, change the cartridge, fix back all the parts Reposition the selector in the middle position (AUTOMATIC filter switch control).

8.4. Checking and cleaning perforated plate filters

For clean the perforated plate filters, remove them and use compressed air. By the window (2) you can check the dust cointainer, empty it when is full.



Fig 5

9. Decommissioning the machine

When the machine's life cycle comes to an end, it must be disconnected from the electrical supplies and deinstalled from itd working position. The machine must be disposed of in full compliance with statutory laws in the country where it is installed.



ATTENTION

After having removed the machine from working position, permanently affix to it a notice with the message: "MACHINE TO BE SCRAPPED: DO NOT USE":

10. Technical data and dimensions 10.1.DIMENSIONS



10.2. Technical data:

VACUUM UNITS WITH CENTRALIZED FILTER

MODEL	Air flow	Maximum static depression	Pipe's diameter	Blower's Power	Available filter	Hourly production (*)
	m³/h	mbar	mm	kw		
VB11	140	165	30	0,85	DR2	470
VB21	180	180	30	1,30	DR2	600
VB31	210	225	40	2,20	DR2	650
VB41	315	185	50	2,20	DR2-DR4	895
VB51	415	225	50-60	3,00	DR4-DR8	1090
VB61	520	300	60	5,50	DR4-DR8	1190
VB12	150	325	30	2,20	DR2	715
VB32	230	385	40	4,00	DR2	940
VB42	320	425	50-60	5,50	DR2-DR4	1455
VB62	525	400	60-70	7,50	DR4-DR8	2435
VB72	525	425	70	11,00	DR8	2570

(*) For equivalent lenght belowe 25m

VACUUM UNITS WITH DOUBLE CENTRALIZED FILTER

MODEL	Air flow	Maximum static depression	Pipe's diameter	Blower's Power	Available filter	Hourly production (*)
	m³/h	mbar	mm	kw		
VB41	315	185	50	2,20	2xDR4	895
VB51	415	225	50	3,00	2xDR4	1090
VB61	520	300	60-70	5,50	2xDR4- 2xDR8	1190
VB42	320	425	60	5,50	2xDR4	1455
VB62	525	400	60-70	7,50	2xDR4- 2xDR8	2435
VB72	525	425	70	11,00	2xDR8	2570

(*) For equivalent lenght belowe 25m

<u>CENTRALIZED FILTERS, VACUUM UNITS manual rev. 0</u> VISMEC reserves the right to revise this manual without notice

11. Electrical wiring



Description

- M1 Vacuum blower
- M2 Spare Vacuum blower
- Q1 Main power switching
- Q2 Motor protection
- Q3 Contactor
- Q4 Spare blower's Main power switching (OPTIONAL)
- Q5 Spare blower's motor protection (OPTIONAL)
- Q6 Spare blower's Contactor (OPTIONAL)

Code

<u>CENTRALIZED FILTERS, VACUUM UNITS manual rev. 1</u> VISMEC reserves the right to revise this manual without notice



<u>CENTRALIZED FILTERS, VACUUM UNITS manual rev. 1</u> VISMEC reserves the right to revise this manual without notice



12. Spare parts

CENTRALIZED FILTERS				
DR2		Image: Provide state st		
Description	DR2	DR4	DR8	
1 spy PMMA	02195			
2 spy gasket	01354			
3 clamp	00260 01960			
4 dust bin gasket	02573	02374	02792	
5 cyclone body pull ring gasket	ND	04349	04350	
6 cyclone body pull ring quick connect ND		01107	01108	
7cartridge body pull ring gasket04349		04351	04352	
8 cartridge body pull quick connect	01107	02205	02776	
9 cartridge filter	01808	01809	01810	

	BYPASS VALVE						
		() (2) (3) (8)					
	DR2		DR4		DR8		
	Description		DR2	DR4	DR8		
1	1 pneumatic cylinder		01195		01602		
2	2 coil		01314				
3	3 pneumatic valve		01191				
4	4 circular rubber plug		00615		02723		
5	5 valve o-ring		01245		02975		
6			01166		ND		
7			02126		02888		
8			02211		02726		
9	9 blower collector o-ring		01367		ND		
10	blower collector		01165	01166	ND		

CENTRALIZED FILTERS, VACUUM UNITS manual rev. 1

VISMEC reserves the right to revise this manual without notice



Page intentionali left blank

EN45014

DICHIARAZIONE DI CONFORMITA' "CE" "EC" DECLARATION OF CONFORMITY "EG" KONFORMITÄTSERKLÄRUNG DÉCLARATION DE CONFORMITÉ "EC" DECLARACIÓN "EC" DE CONFORMIDAD DECLARAÇÃO "EC" DE CONFORMIDADE DEKLARAČJA ZGODNOŚCI CE IZJAVA ES O SKLADNOSTI

CENTRALIZED FILTERS, VACUUM UNITS manual rev. 1 VISMEC reserves the right to revise this manual without notice

"VISMEC s.r.l."

Via Thomas Edison 26, 35012 Camposampiero ITALIA; ITALY; ITALIEN; ITALIE; ITALIJA

ITALIANO Dichiariamo, sotto la nostra esclusiva responsabilità, che il prodotto

ESPAÑOL Declaramos asumiéndonos las plena responsabilidad de esta

SVESKA Vi försäkrar under eget ansvar att följande produkt

ENGLISH We hereby declare, and assume full responsibility for this declaration, that the product

PORTUGÛES Declaramos, sob nossa compleda responsabilidade, que o

NORSK Vi forsikrer under eget ansvar at følgende produkter

ENGLISH

Conforms to the following

standards: EN ISO 12100:2010, EN 61000-

6-2, EN 61000-6-4, EN

60204/1 according to the previsions established by 2006/42/EC, 2014/30/EC,

PORTUGÛES

Està em conformidade

com as seguintes normas: EN ISO

12100:2010, EN 61000-6-2, EN 61000-6-4, EN

60204/1 com base nas

prescrições

NORSK

Oppfyller fölgende

lovmessige krav: EN ISO 12100:2010, EN 61000-

6-2, EN 61000-6-4, EN

60204/1 i samsvar med

EU-direktiv 2006/42/EC

2014/30/EC, 2014/35/EC

DEUTSCH Hiermit erklären wir unter Übernahme der vollen Verantworung für diese Erklärung, daß das

/ISME

LEADING INNOVATION

NEDERLANDS Hierbij verklaren wij met alle aansprakelijkheid van dien, dat het produkt

> SUOMI Vakuutamme omalla vastuullamme että allamainittu tuote täyttävät

FRANCAIS Nous déclarons, sous notre responsabilité pleine et entière, que le produit

DANSK Vi erklærer på eget ansvar at følgende produkt

SLOVENSKO s polno odgovornostjo izjavljamo, da izdelek

POLSKI niniejszym deklarujemy i zapewniamy, że następujący

NAME: CENTRALIZED FILTERS – VACUUM UNITS

ITALIANO È conforme alle sequenti normative: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 in base alle prescrizioni stabilite dalla Direttive: 2006/42/CE,

ESPAÑOL Responde a las siguientes normativas: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 en base a las prescripciones establecidas por la

SVESKA Uppfyller följande lagkrav: EN ISO 12100:2010, EN 61000-6-2. EN 61000-6-4. EN 60204/1 i enlighet med EU-direktiv 2006/42/EC 2014/30/EC, 2014/35/EC TECHNICAL DOCUMENTATION COMPILATION:

LUCA GENTILIN

CAMPOSAMPIERO 03/02/2021

DEUTSCH Den folgenden Normen entspricht: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 aufgrund der 2006/42/EG, 2014/30/EG,

NEDERLANDS Overeenkomstig de volgende normen is vervaardigd: EN ISO 12100:2010, EN 50081/2, EN 61000-6-4, EN 60204/1 op grond van hetgeen is vereist in Biebtlije 2006/42/EC

SUOMI Seuraavat lainmukaiset vaatimukset EN ISO 12100:2010, EN 61000 6-2. EN 61000-6-4. EN 60204/1 EU-direktiivin 2006/42/EC, 2014/30/EC, 2014/35/EC

FRANÇAIS Est conforme aux normes suivantes: EN ISO

12100:2010, EN 61000-6-2, EN 61000-6-4, EN 60204/1 dans le respect des prescriptions fixées par la Directive

DANSK Opfylder følgende lovbelstemmelser: EN ISO 12100:2010, EN 61000-6-2. EN 61000-6-4, EN 60204/1 i overensstemmelse med 2006/42/EC, 2014/30/EC, SLOVENSKO

izpolnjuje naslednje standarde: EN ISO 12100:2010, EN 61000-6-2, EN 61000-6-4 in EN 60204/1 V SKLADU Z DOLOČILI DIREKTIV 2006/42/ES,

POLSKI

jest zgodny z następującymi normami i dyrektywami: en iso 12100:2010, en 61000-6-2, en 61000-6-4, en 60204/1, 2006/42/ec, 2014/30/ec, 2014/35/ec

ING. CRITELLI FEDERICO MANUFACTURER LEGAL REPRESENTATIVE:

21



VISMEC srl Via Thomas Edison 26 35012 Camposampiero ITALY Tel: +39 049 0990339 Tel. +39 049 5207854 info@vismec.com vismec.com