



Manufacturers of Industrial vacuums

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Operating and maintenance manual

Industrial Vacuum

D/G 200

D/G 300



CE



This manual is supplied with the vacuum as integrating part of the machine.
Carefully read this manual and the documentation enclosed. Understanding and following the herein instructions is essential to correctly operate the vacuum and execute maintenance operations in safety conditions



The herein manual provides all necessary information for the correct use and maintenance of your DELFIN vacuum cleaner. Its efficiency and life depend on the regular maintenance and care.

Before being shipped from DELFIN's facility, this item successfully passed the Manufacturer's system test, which requires the completion of strict conformity assessment procedures in order to ensure the product's efficiency and reliability. Nevertheless, it is necessary to check the vacuum cleaner's conditions at the time of delivery and make sure that no structural damages, which may affect its efficiency and safety, occurred during transportation.

This manual must be considered as integrating part of the supplied DELFIN vacuum cleaner and should accompany the machine until its disposal.

In case of loss or damage of the Operating and Maintenance Manual, please request another copy to DELFIN S.r.l.

All information reported in the herein manual belongs to DELFIN S.r.l. and must be considered as confidential and protected by copyright. Reproduction, even partial, of the manual's graphics, text and illustration is prohibited by law.

Some of the parts shown in this manual may slightly differ from the ones of your vacuum cleaner, whilst some of the components may not appear in the herein pictures, as omitted for a clearer view.

For easy consultation purposes, this manual is divided into sections. Each section is featured by a symbol.

This "Operating and Maintenance Manual" provides all information expressly required by the Machinery Directive 98/37/EC. All technical specifications reported herein have been verified by the manufacturer at the issue of this manual. This manual must always be readily available for consultation to the staff operating the DELFIN vacuum and to the operators in-charge of its maintenance. Therefore, it must be kept in a place accessible to all the above mentioned staff.

In case of doubt or concerns please call our Technical Service immediately and ask for assistance. The court of Turin (Italy) will have jurisdiction to settle any dispute may arise.



TECHNICAL SERVICE

Our engineers are available to help you in case any problem occurs. Please call:

Phone 0039 011 8005500



The Operating and Maintenance manual must always be provided with DELFIN machines, even in case of resale.



This manual is supplied as integrating part of the vacuum. It is recommended to carefully read the manual's instructions, which must be fully understood and followed in order to operate the machine and execute maintenance operations safely.



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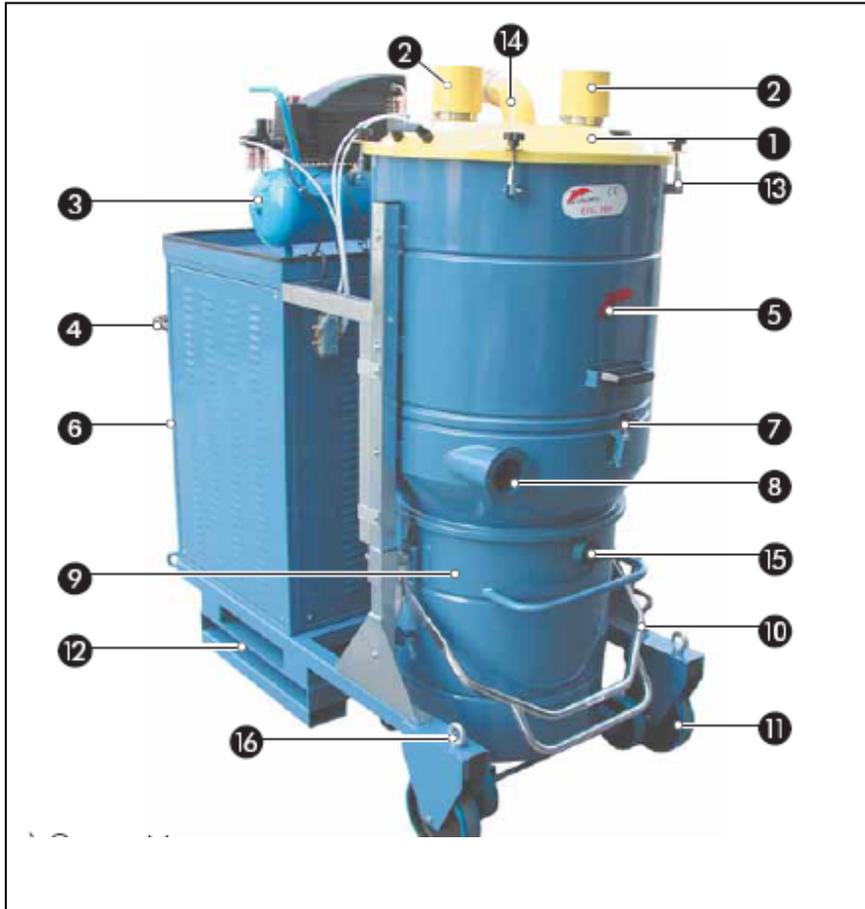


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1.1 Main parts

- 1) Cover
- 2) Vacuum/pressure relief valve
- 3) Cover
- 4) Handle
- 5) Filtering chamber
- 6) Control panel/controls
- 7) Lever safety fastener's knob
- 8) Suction pipe inlet
- 9) Removable collection container
- 10) Collection container's release lever
- 11) Fixed wheels
- 12) Slots for truck's forks
- 13) Cover fastening knob
- 14) Cover's curve inlet plug
- 15) Level indicator
- 16) Eyebolts for the hoister



1.2 Standard filters



- 1) Main filter
Spare part number AR 3057



1.3 Manufacture's identification data

Delfin S.r.l.
Strada della Merla, 49/a
10036 Settimo Torinese (TO) - Italy
Phone 0039.011.8005500
Fax 0039.011.8005506
www.delfinvacuums.it
delfin@delfinvacuums.it

1.4 CE Marking





1.5 Applications and use

This particular model has been designed, constructed and equipped with safety devices for vacuuming non-conductive solid dust and debris only, using the appropriate specific anti-static filters for operations in explosive atmosphere (Z21 CLASS AREA, according to the ATEX 94/9/C Directive) which must always be fitted on the machine.



CAUTION!

Always use the specific anti-static filters prescribed for the type of dust and/or debris to be vacuumed.

This vacuum has been designed for industrial professional use.
Any other different use is IMPROPER.

1.6 Environmental conditions

To ensure correct working and efficiency, the vacuum must be sheltered from atmospheric agents (such as rain, hail, snow, fog, dust particles in the air and so on) in an environment with ambient temperature between 5° C and 45° C and Relative Humidity not exceeding 70%. The workplace must be clean and reasonably enlightened.

1.7 Noise level

Noise tests have been performed in compliance with the UNI 7712 Standard. The phonometric test results on this specific model correspond to the following acoustic pressure values:

78 dB (A)



CAUTION!

Complying with the articles of the Italian Law Decree 277/91, all workers exposed to noise pressure exceeding 85 dBA must protect themselves wearing their personal safety devices.



As such, if the vacuum has to be operated in the above specified conditions, the employer must provide the staff with the homologated acoustic devices prescribed for their personal safety and also inform the operators about the risks arising from their exposure to noise.

1.8 Storage

Remove the filter and clean it, empty the collection container and store the vacuum in a suitable place, sheltered from atmospheric agents and ambient temperature between 0° C and 40° C. Cover the vacuum with a nylon sheet in order to preserve it from dust deposit.

1.9 Waste disposal

Any vacuum/vacuum component's waste disposal must be executed applying to authorized waste disposal agencies complying with the applicable law and regulations in force. Before proceeding with waste disposal it is necessary to separate plastic or rubber parts from the electrical components.

The parts made out of plastic material, aluminium or steel can be recycled if collected separately and delivered to waste & recycling providers.



D/G 200

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1.11 Technical specifications

Voltage	Volts	400/690/50	400/690/ 50
Power	Kw/CV	19/25	22/ 30
Depression	mm H ₂ O	4200	4200
Air flow	m ³ /h	1200	2200
Filtering area	cm ²	150.000 260.000 (Pneum.)	150.000 260.000 (Pneum.)
Filter load	m ³ /m ² /h	80/46	146/ 85
Capacity	Litres	220	220
Noise level	dB (A)	78	78
Inlet plug	mm	100	100
Insulation	Class	F	F
Overall dimensions	cm	92x220	92x220
Height	cm	225	225
Rear wheels	Ø	250	250
Front wheels	Ø	250	250
Brake		Standard	Standard
Shifting		Manual	Manual
Automatic shaking system		Standard	Standard
Removable collection container		Standard	Standard
Cyclone		Standard	Standard



1.1.2 Warranty

Delfin S.r.l. warrants this vacuum model for a period of 24 months from the date of purchase, as indicated on the fiscal document issued by the dealer upon delivery to the final customer.

This warranty will be void in case the vacuum is repaired by any unauthorised person or if it is misused, employing tools and accessories that are not supplied or recommended by Delfin S.r.l., or in case the CE marking plate with the machine's serial number has been removed or altered during the warranty period.

Delfin S.r.l. will be bound to repair or replace all parts which may result defective in construction and/or material. Repair or replacement will be free of charge. Repair will only be executed at the manufacturer's premises or executed by a Delfin recommended Technical Service Centre. Transport charges to return the vacuum to the Manufacturer shall be bound by the purchaser, unless otherwise agreed.

Warranty does not cover the cleaning of working parts, whether required.

Any faults which are not clearly attributable to the vacuum's material or construction will only be examined and discussed at the manufacturer's premises or at any Technical Service Centre recommended by the manufacturer. In case the claim is unjustified, all repair and/or replacement costs and expenses shall be paid by the purchaser.

The purchase fiscal document must be submitted to the Manufacturer's personnel in charge of repair operations. It can also be sent to the Manufacturer along with the vacuum at the time of shipping.

Warranty will not cover the following: accidental damages, transport damages, damages due to negligence or incorrect handling, misuse or incorrect use due to failure to follow the warnings and instructions prescribed in this manual, as well as any problems which are not due to the vacuum's normal use and service. Delfin S.r.l. will not be responsible for any damage or injury to third parties, which may occur due to misuse or incorrect use of the vacuum.

Should any dispute arise in connection with the above, the Court of Turin, Italy, will have jurisdiction to settle any such dispute.

The manufacturer will accept no liability in case any of the following circumstances occur;

- Failure to submit the herein Warranty Certificate.
- Failure to follow the instructions prescribed in this manual.
- Use of non original spare parts.
- No maintenance or improper maintenance.



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2.1 Information on safety

The person responsible of safety must inform the workers about the risks they are exposed in connection with the vacuum service and use.

Moreover, the workers must be properly trained in order to be able to protect themselves as well as others from injury.

Failure to observe the safety regulations or warnings may cause damages and injury when operating the vacuum or executing maintenance and repair operation. Accidents and injury may be avoided identifying any dangerous conditions and preventing their occurrence. The operator must be careful and properly trained to be competent and able to correctly execute the work assigned.

Delfin s.r.l. shall not be responsible for any damage and/or injury which may be due to the vacuum's misuse or operating performed by inadequately trained staff or due to failure to follow, even partially, the safety warnings and instructions reported in the herein manual.

The safety instructions and warnings are prescribed in this manual and reported on the warning plates applied to Delfin vacuums. Failure to respect the aforesaid safety warnings may cause injury to the operator and to other people as well.

The safety warnings are highlighted by the following signs:



CAUTION!

Failure to observe these warnings may cause injury to the operator.



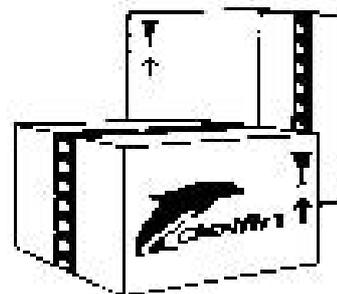
WARNING!

Failure to observe these warnings may cause damages to the vacuum.

The manufacturer cannot foresee any possible dangerous condition. Therefore, the warnings reported in this manual and on the machine are not exhaustive. Whenever using tools, working procedures or methods which have not been expressly recommended by Delfin S.r.l. it is necessary to make sure that such tools, working procedures or methods are not harmful or dangerous for the operator and/or for other people.

Use original DELFIN spare parts only.

Delfin S.r.l. will accept no claims and liability in case non-original spare parts are used.





2.2 Safety warnings



CAUTION!

The instructions prescribed herein cannot preserve you from any danger in connection with the vacuum's use and service. To prevent injury, it is necessary to operate with care and competence, relying on experience.

In addition to the following instructions, specific safety warnings for the different operations are reported in each section.

Maintenance operations must always be executed after unplugging the machine.

In compliance with the applicable laws and regulations in force, the employer must ensure that the workers and staff using the equipment are properly trained and informed.

Before operating this equipment, carefully read the herein manual as a preliminary personal training step. Untrained or unauthorized people must be forbidden to operate this machine.

Do not use the vacuum on NON-CONDUCTIVE floors.

Do not manumit the vacuum/pressure relief valve.

All maintenance operations must be executed in non-classified atmosphere.

Do not vacuum incandescent or burning material.

The operator must always wear anti-static cloths and shoes.

The floor of the area to be vacuumed must be anti-static.

The opening of the dust collection container must be executed in non-classified atmosphere area, after having disconnected and unplugged the machine and only after 10 minutes from unplugging.

It is prohibited to vacuum toxic substances unless the machine is provided with the necessary specific filters for the type of dust to be vacuumed. Such specific filters must be expressly required by the Customer for supply.

Do not vacuum flammable or explosive substances (fuels, solvents etc.).

Do not vacuum corrosive substances unless the machine is equipped with suitable containers (AISI 304 Stainless steel).

If the filters are correctly fitted, the machine will not release any collected substance into the environment.

In case the machine is used to vacuum toxic-harmful substances, the collection container's emptying as well as the filter's cleaning operations must be executed using the appropriate safety devices required to protect the operator from the collected substances.

Do not lay any object or material on the horizontal guards.

The machine's case containing mobile parts must not be removed by the operator.

Mind other people, especially children, when operating the vacuum.

Handle the machine carefully, specially on slopes or ramps. Do not turnaround the machine on slopes.



Set on the wheel's brake to ensure that the machine position is stable.

Cleaning, maintenance and part replacement operations must always be executed after having switched off and unplugged the machine.

Repair operations must be executed by qualified personnel only.

Be careful not to damage or squash the supply cable (cord) when operating the machine.

Check the supply cable on regular basis. Do not use the machine if the cable is damaged.

In case of cable, tap or connector replacement, ensure protection against water and check mechanical strength.

Do not drag the machine pulling the supply cable and the suction hose.

The final user must provide for the collected substances' waste disposal in compliance with the applicable laws and regulations in force.

Machine overhaul is recommended after 10 years of life. The overhaul should be performed by Delfin S.r.l., the manufacturer.

The machine is delivered to the final user with the following documentation: instructions manual, spare part list, declaration of conformity, warranty certificate, homologation certificate, electrical and pneumatic technical files.

DELFIN supplies are covered by insurance policy for Manufacturer's liability on all products ("*Responsabilità civile verso i terzi -prodotti*", in compliance with the Italian law).

The manufacturer will not be liable for any damage which may occur in connection with the use or service of vacuum supplied in case it is utilized with tools or accessories that have not been provided by Delfin S.r.l. Without prejudice for the above, it is recommended to keep the machine construction complying with the safety standards prescribed by the EC 98/37 Machine Directive.

Keep the vacuum clean and free of any contamination material such as dust, debris or oil. Moreover, keep it away from tools or other objects which may affect the machine's efficiency and cause damage and/or injury.

Do not use flammable or toxic solvents, such as gasoline, benzene, ether and alcohol for cleaning.

Avoid long-time exposure to solvents and inhalation of solvent vapours. Do not use solvents in presence of heat or fire sources.

Never use the vacuum without filter.

Do not suck lighted cigarettes, cigarette stubs or incandescent materials.

Do not collect gasoline, fuel or other flammable liquids.

Ensure that all shields and protections are put in place and that all safety devices are available and efficient.

Do not wear loose clothes or accessories such as ties, scarves or torn clothes which may be caught or sucked by the vacuum.

Do not open the collection container when the vacuum is working.

The "Operating and maintenance manual" must always be readily available for consultation, in order to be able to ascertain the correct working procedures in case of doubts. Should this manual get lost or damaged, please ask Delfin S.r.l. for another copy.

Structural damages, modifications, improper changes or repair may affect the vacuum's safety and therefore annul the herein certification. Any modification required should be authorized and executed by Delfin engineers only.



During maintenance operations it will be necessary to affix a warning sign on the vacuum with the following indication: "MAINTENANCE: DO NOT START THE MACHINE".

Do not get on the vacuum.

Do not touch wires, switches and switch-buttons with wet hands.

Before plugging the vacuum, ensure that power supply voltage and frequency meet the specifications required and reported on the machine's plate.

Connect the machine to an electrical system outlet with efficient earth.

In case it is necessary to use an extension, check that the extension is in perfect conditions, CE marked and that the extension cable's cross section area is suitable for the vacuum's electrical input.

To recover the vacuum's original working conditions after maintenance, the operators must check that the machine's protections, particularly safety devices and guards, have been put back in place ensuring safety working conditions.

The vacuum must be operated by adults only.

Before executing vacuuming operations, always set on the vacuum's wheel brake provided to ensure that the vacuum's position is stable.

2.3 Safety warnings and signs

Plates with safety warnings and/or signs are applied on the vacuum.



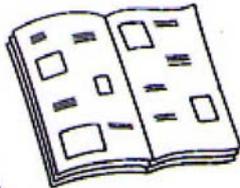
CAUTION!

Ensure that all safety warning plates are readable.

Wipe the plates with a damp cloth using water and detergents. Do not use any solvents, NAFTA or gasoline. Damaged plates must be replaced with new ones, available upon request to Delfin S.r.l. In case of safety warning plates applied on vacuum components to be replaced, ensure that warning plates will be applied on the new replaced parts as well.

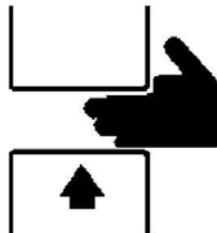
ATTENZIONE! WARNING! ATTENTION! ACHTUNG! ATENCIONI! ATTENTIE!

- SCUOTERE IL FILTRO SOLO A MACCHINA SPENTA
- SHAKE THE FILTER ONLY WHEN THE EXHAUSTER IS OFF
- SECOUER SEULEMENT APRÈS AVOIR DEBRANCHÉ L'ASPIRATEUR
- NUR BEI STEHENDER MASCHINE BETÄTIGEN
- SACUDIR SOLO CON MAQUINA PARADA
- FILTER SCHUDDEN BIJUIITEESCHAKELDE MACHINE



Caution!

Carefully read the "Operating and Maintenance Manual" before using the vacuum or executing maintenance operations.



Caution!

Be careful not to get your hands squashed when positioning and securing the vacuum's collection container.

Never put your hands between the collection container and the vacuum when positioning and securing the collection container.

Never put your hands on the collection container's edges nearby the check pins when executing the aforesaid operation, which must be performed throughout the coupling side levers and using BOTH YOUR HANDS to control them.

CAUTION!

DO NOT VACUUM FLAMMABLE AND/OR EXPLOSIVE SUBSTANCES



2.4 Residual risks

Accurate risk analysis carried out by the manufacturer and filed in the technical documentation of reference, brought to the elimination of the majority of risks in connection with the use of the Delfin vacuum. The manufacturer recommends all users to strictly follow the herein instructions, procedures and warnings and to comply with all applicable laws and safety regulations, including utilization of the safety devices prescribed, whether installed on the vacuum or to be used or worn by the operator for personal safety.

The residual risks in connection with the Delfin vacuum are the following:

Risks arising from the need to operate with Low voltage.

Complying with the Italian law decree DPR 547/55, Low voltage operations can only be executed by qualified and trained personnel, after providing efficient double earth insulation.

Risks arising from improper machine utilization in presence of flammable or explosive substances.

The vacuum must not be used in workplaces or environment with dangerous substances such as flammable dust and/or gas and/or liquids, which may evaporate at ambient temperature and therefore contaminate the environment.

Risks arising from the vacuum's storage and use in a wet/damp environment.

In order not to compromise the vacuum's efficiency, it is necessary to respect the storage and operating limits prescribed in the herein section 1.6, Environmental conditions.

Risks arising from misinterpretation of the safety warnings and signs.

With regard to the residual risks and the risk identification, the Manufacturer installs safety markings on the machines, complying with the laws ruling the signs and symbols to be used. The user must immediately replace the safety warning signs as they become unreadable or damaged.

Caution!

It is absolutely prohibited to remove the safety warning plates from the vacuum.

The manufacturer declines any responsibility on the vacuum's safety in case of failure to respect this warning.



2.5 Applicable Directives

The vacuum described in the herein manual complies with the following directives:

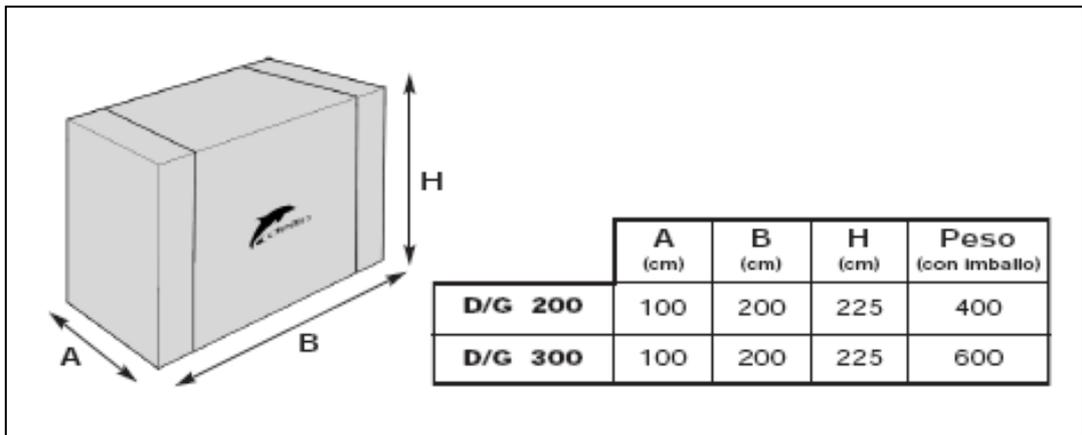
- EC 98/37 Machinery Directive
- EC 89/336 Electromagnetic Compatibility (EMC) Directive
- EC 73/23 Low voltage Directive.



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3.1 Overall dimensions and weight



The machine is delivered in a robust carton box package, secured with straps. Handling must be executed throughout a forklift having appropriate carrying capacity, after checking the package's positioning and stability on the forks. Before executing handling operations, ensure that the forklift's working area is clear and that no objects are laying on the package.

Before executing handling operations, ensure that the forklift's working area is clear and that no objects are laying on the package.

During handling operations, keep the forklift position low for major stability and safety.

Once in use, the vacuum should be handled normally, riding it on its own wheels.

It is expressly prohibited to lift the vacuum using hoisters or forklifts or other equipment.

In case it is necessary to lift the vacuum for any reason, the final user shall be responsible for this operation as the manufacturer will accept no liabilities in connection thereto. It is recommended to properly handle and secure the package during such eventual lifting operations, to ensure safe handling and transport.

Prepare the machine for transportation throughout the forklift.





Eyebolts on the front part for the vacuum's hoisting.



Eyebolts on the front part for the vacuum's hoisting.





3.2 Installation



Warning!

Before proceeding with installation it is necessary to visually inspect the vacuum first, checking for any damages which may have occurred during transportation.

In case damages or faults are detected on one or more components, it will be necessary to suspend installation and notify the manufacturer about the failure. Remedy and actions to be taken shall be agreed with the manufacturer.

The vacuum filter is already placed inside the machine.

Fit the required vacuum accessory to the flexible hose's open end.

Note: the flexible hose together with nozzles and other accessories are included in the STANDARD kit.

Please contact your dealer for further information concerning the different types of OPTIONAL accessories available for this particular vacuum model.

Insert the flexible hose into the vacuum's inlet plug and fix it throughout the screws.





Ensure that power supply meets the voltage and frequency specifications as indicated on the vacuum's marking plate and control panel.



Caution!

Do not plug the vacuum's tap with wet hands!



In case it is necessary to use an extension, check that the extension is in perfect conditions, CE marked and that the cable's cross section area is suitable for the vacuum's electrical input.



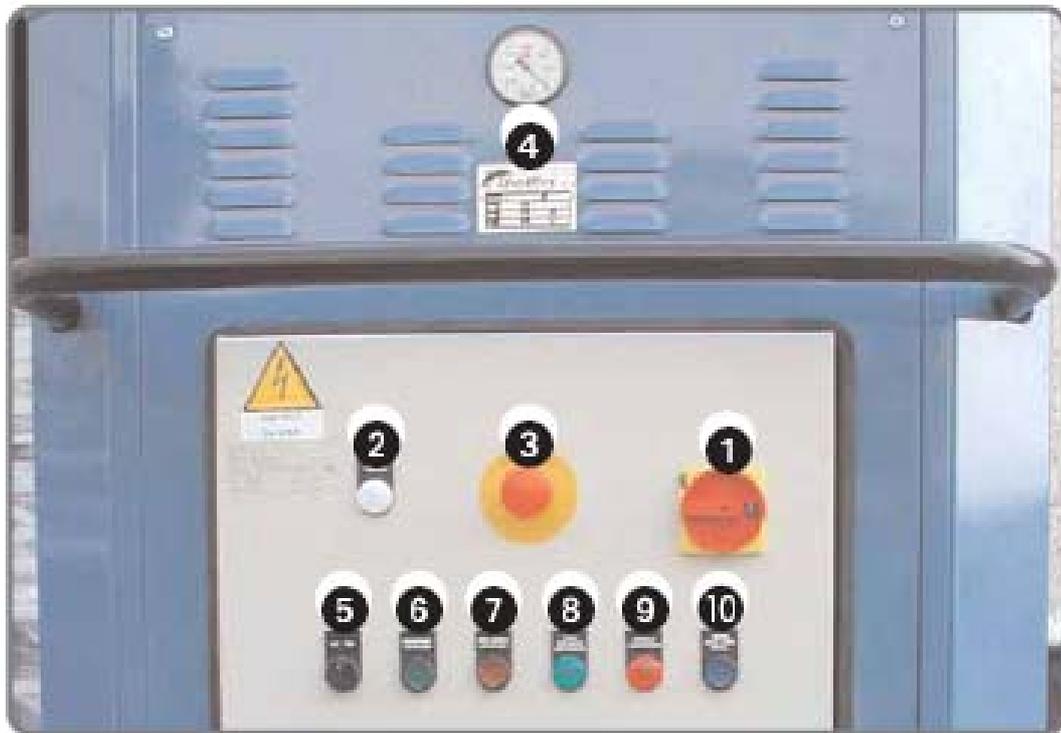
CAUTION!
The vacuum must not be used by unauthorised staff.
Authorised staff should read this manual before operating the vacuum.
Operating and maintenance authorised staff must be properly trained on the function and use of the safety devices to be worn for personal safety such as safety shoes, gloves, mask and goggles, which eliminate the risks in connection with the operations to be performed.



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4.1 Functional description of controls



- 1) Main switch
- 2) POWER ON White warning light
- 3) Emergency push button .
- 4) Vacuum gauge
- 5) AUTO/MAN cycle switch
- 6) VAAACUM START switch-button with green warning light
- 7) VACUUM STOP switch-button
- 8) COMPRESSOR START switch-button with green warning light
- 9) COMPRESSOR STOP switch-button with red warning light
- 10) Filter cleaning cycle start switch-button with blue warning light



4.2 Working procedures



Caution!

Before plugging the vacuum, ensure that power supply meets the voltage and frequency specifications as indicated on the vacuum's marking plate and control panel.

- Ensure that the supply cable tap is correctly plug in the current outlet having the voltage required and indicated on the vacuum's control panel.
- Ensure that the flexible hose is duly fitted and locked in the specific suction plug.
- Ensure that the supply cable (cord) and the eventual extension are in perfect conditions.
- Set on the wheels brake to ensure that the machine is stable.



- Hold the flexible hose's end with the fitted accessory required.



Warning!

Before turning the vacuum on again, make sure the engines have stopped completely.

- Once work cycle has been completed, disconnect and unplug the machine.



Release the two wheels' brake to move the vacuum and use the provide handle to shift it.



CAUTION!

The vacuum can be shifted manually on flat grounds only.
The vacuum's heavy weight may not allow the operator to shift it safely on slopes as it would be difficult to handle and control the machine avoiding dangerous collision which may cause damages and injury.



Warning
Do not ply or wind up the flexible hose during vacuuming operations.



4.3 Collection container release and withdrawal

Turn off the main switch to stop the vacuum engines



CAUTION!
Unplug the vacuum!

Wait at least five minutes to allow that the dust deposits at the bottom and then pull the handle (A) and lock it up by means of the fastening knob (B), as shown in the pictures below.



Withdraw the collection container using the handle (C), as shown in the picture below.



Remove the bag with the collected debris and provide for waste disposal complying with the applicable laws in force in the Country where the vacuum is used.



Caution!
Use the dust mask to execute this operation safely.

In order to execute the emptying operation easily and to avoid using the dust mask, a nylon bag should be placed inside the collection container before starting vacuuming operations. The aforesaid nylon bag should be fixed inside the collection container by means of the optional accessory available on request.



Caution!
Be careful not to get your hands squashed when positioning and securing the vacuum's collection container.
Never put your hands between the collection container and the vacuum when positioning and securing the collection container: this operation must be executed throughout the coupling side levers or the handle using **BOTH YOUR HANDS** to control them.

4-4 Filter shaking system

Filter shaking system operation must only be executed after disconnecting the machine and having ensured that the engines have stopped completely.

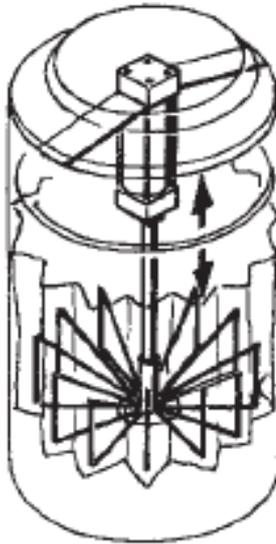
Filter shaking system is recommended before starting the vacuum and after operating the machine for long hours.

The automatic filter shaking system consists of a pneumatic cylinder lifting the filter upwards and tensioning it downwards at a certain speed. This speed is nearly 30 times a minute at pressure value of 6 bars.

This way an efficient filter cleaning is ensured.

The filter is placed inside a 20 rays star-shaped frame which is suitable to resist to the filter's pressure.

According to the different exigencies, it is possible to automate the filter shake system by programming the timer inside the control panel. Please contact the manufacturer or an authorized service centre to implement this option.



Warning!

When operating the vacuum, avoid plying or winding up the flexible hose.

On the front side of the vacuum there is a vacuum gauge indicating the level of depression inside the vacuum.

If when, using the vacuum with the flexible hose which is not obstructed and the vacuum gauge indicates irregular depression value, it will be necessary to shake the filter using the specially provided lever. If depression value continues to be excessive, it is necessary to clean or replace the filter.



Warning!

Never use the machine with clogged filters.



Warning!

If, after cleaning the filter, the vacuum gauge still indicates excessive depression, the flexible hose or the accessory may be obstructed. In such a case, it will be necessary to remove the obstruction.



M A I N T E N A N C E



The vacuum's extraordinary maintenance must only be executed by the manufacturer's technical engineers.



5.1 Information and warnings

Ordinary maintenance and checking operations required to ensure the vacuum's efficiency are described in this section,

Any intervention, other than ordinary maintenance operations described herein, which may be necessary to eliminate faults or failure must be expressly authorized by the manufacturer, to whom the user must apply always specifying the vacuum's identification data.

In case of problems requiring a broader repair operation, it is recommended to take the vacuum to the authorized dealer whose qualified personnel, relying on expertise and knowledge of the OEM's construction technology, will always be available to timely and properly provide service and assistance.

5.2 General safety rules

Maintenance operations must only be executed by qualified and trained engineers operating in the specific fields required for this machine, as follows:

- mechanical maintenance
- electrical maintenance

The person responsible of safety must verify the professional skills and competence of the aforesaid engineers in-charge of maintenance.

Before authorizing any maintenance operations to start, the person responsible of safety must:

- clear the workplace from unauthorized people;
- ensure that all necessary tools are in good conditions and readily available to the maintenance operator;
- check that lighting is appropriate and, if necessary, provide for supplementary portable 24 Volt lamps;
- ensure that the maintenance operator is provided with all homologated personal safety devices required to safely execute the scheduled operation/s (gloves, goggles, safety shoes and so on);
- ensure that the maintenance operator has carefully read the herein manual's instructions and perfectly knows the vacuum's working system.



Caution!

Before starting any maintenance operation, the maintenance engineer must unplug the machine and execute such operation in non-classified atmosphere, which means in an area with non potentially explosive atmosphere.

Any operation on the vacuum's engine or other electrical components shall only be executed by the electrical maintenance engineer, who must be trained for this task and shall also be authorized by the person responsible of safety.

Always use the specially provided tools for the operation to be executed and check that such tools are in perfect conditions. Using unsuitable or inefficient or defective tools may cause serious damages and injury.



5.3 Maintenance operations



CAUTION!

All the operations described here following must be executed after unplugging the machine.

Before starting any maintenance or cleaning operation, wear the appropriate personal safety devices such as goggles, gloves and dust mask suitable to protect the operator from breathing particles of the substance to be vacuumed and to safely perform the work required.

To ensure the vacuum's efficiency, it is recommended to check the machine on regular basis as follows:

Every day

- Check that the collection container is not full; it is recommended to empty the collection container when the collected material fills $\frac{3}{4}$ of its maximum capacity,
- Check the conditions of the suction flexible hose and of the accessories to be used .

Any hole, crack or fissure in the flexible hose will reduce suction power and disperse the vacuumed dust into the environment.

Every week

- Clean the vacuum regularly, removing dust deposits. The thickness of the deposited dust must not exceed 2mm.
- Remove any layers of dust on the wheels.

Every 6 months

- Check that the head basement sheath, the filter holding ring sheath and the collection container's sheath are hermetic.
- The electrical units (plugs, switches, cables and so on) must have no faults or defects.
- Screws and nuts must always be tightened.
- Clean the deflector inside the suction hose on regular basis to prevent dust accumulation inside the suction unit.
- Remove the side carters protecting the turbine and vacuum any dust deposit within the suction unit.
- Check the filter conditions.

The filter must not be too breathable.

There must be no cuts and holes and the sewing must not be worn. Check that the filter holding ring is tightened. In the event any of the aforesaid circumstances occur, replace the filter as indicated in section 6.4.

Every 24 months

- It is absolutely necessary to replace the bearing of the suction unit to ensure the endurance of the pump's efficiency.



WARNING!

To ensure the vacuum's efficiency and safety, Delfin S.r.l. recommends an overhaul at the Manufacturer's technical service workshop every 24 months.



WARNING!

Any maintenance and repair operation not included in the above mentioned ones must be executed by the Manufacturers technical service workshop or by DELFIN authorised service centres.



WARNING!

In case of dust outflow from the engine, turn off the vacuum immediately and call the authorised service centre applying for assistance.



5.4 Filter replacement

5.4.1 Main filter replacement

For filter replacement proceed as follows:

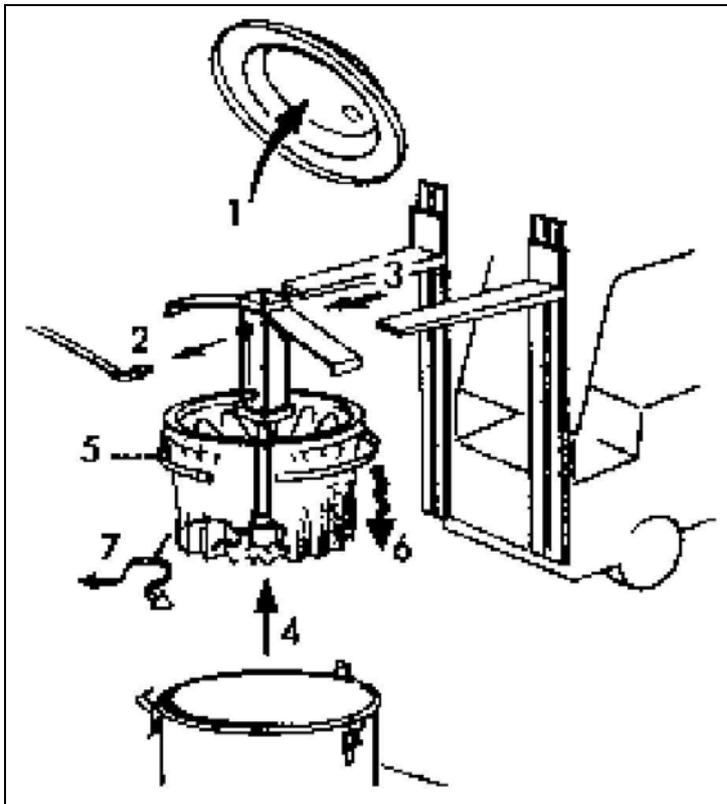
- Disconnect the vacuum turning the main switch to the "O" position;
- Unplug the vacuum from the current outlet.



CAUTION!

Always wear your personal safety devices.

- Release the snap fasteners and lift the cover (1) of the filtering chamber.
 - Disconnect the compressed air connecting cable.
 - Lift the filtering unit (3) and (4) by means of a hoist and place it in a clean and safe environment.
 - Loosen the filter securing strap (5).
 - Withdraw the filter pulling it downwards (6).
 - Take off the lace (7) at the bottom and to remove the filter from the frame.
- For reassembly, proceed with the above operations in reverse order.





5.4.2 Cartridge filter replacement and cleaning

For filter replacement proceed as follows:

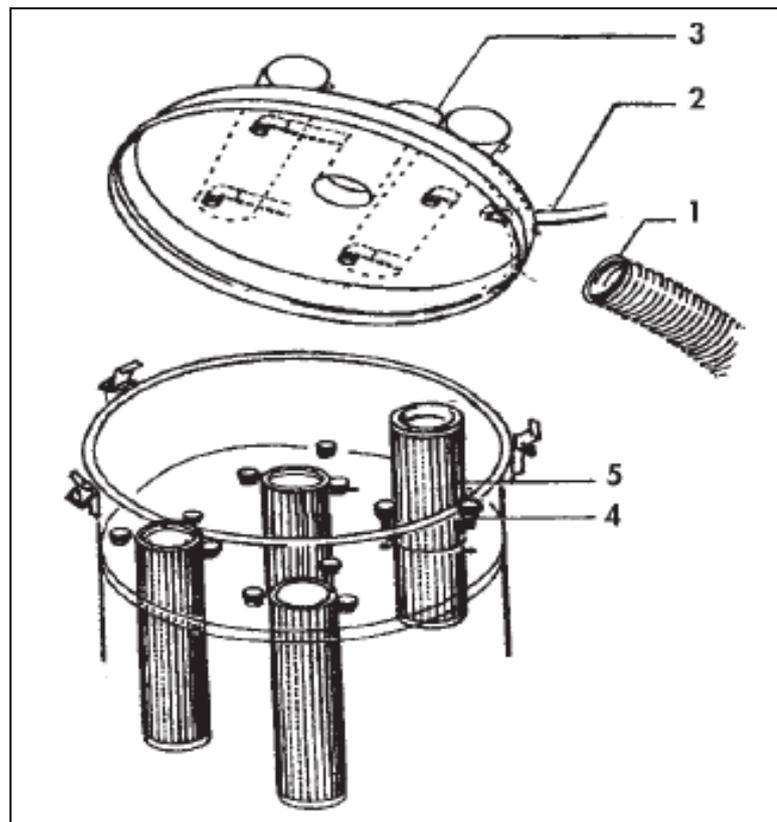
- Disconnect the vacuum turning the main switch to the "O" position;
- Unplug the vacuum from the current outlet.



CAUTION!

Always wear your personal safety devices.

- Disconnect the flexible hose (1) from the filtering chamber's cover.
 - Disconnect the compressed air cable (2).
 - Lift the cover (3).
 - Loosen the safety knobs (4) of the filtering cartridges (5).
 - Lift and withdraw the cartridges, one at the time:
- A) Replace the old cartridge with a new one.
For assembly, proceed in reverse order.
- B) Cartridge cleaning and reintroduction.
Do not use compressed air which may damage the cartridges (5) the filtering cloth when blowing.
Use the another vacuum to clean the surface. Once the cartridge has been cleaned, fit them back in place proceeding in reverse order.





5.5 Periodical controls

In order to ensure the vacuum's efficiency, the following periodical controls are recommended:

- Check that the filters are not excessively worn as wear could make them too breathable or permeable;
- Check the filter support and collection container's sheath tightness;
- Check the supply cable is in perfect conditions;
- Check the tightness of screws and snap fasteners;
- Check that the collection container is not too full.

Empty the collection container as the collected dust and debris exceeds 3/4 of the container's capacity.

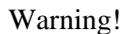
5.6 How to resolve inconveniences

Ensure that power supply meets the voltage and frequency specifications as indicated on the vacuum's marking plate and control panel which means 400 V, triphase 50 Hz.

Any electrical operation must only be executed by qualified and authorized personnel.

If the vacuum doesn't work as it should, check:

- the conditions of the flexible hose, which mustn't be perforated and/or obstructed;
- The collection container's level of fullness
- The filter conditions;
- The sheath tightness;
- The presence of air leak from the sheaths, the screws, the collection container and/or the filtering chamber.

 Warning!

In case of dust coming out of the engines, immediately stop the vacuum and call the manufacturer's technical service for assistance or apply to an authorized centre.

If the engines do not work:

- Check the network supply fuse.
- Check the connection to the supply network.
- Check supply efficiency within the control panel.
- For any other problem, call the manufacturer's technical service.



5.7 Vacuum/pressure relief valve

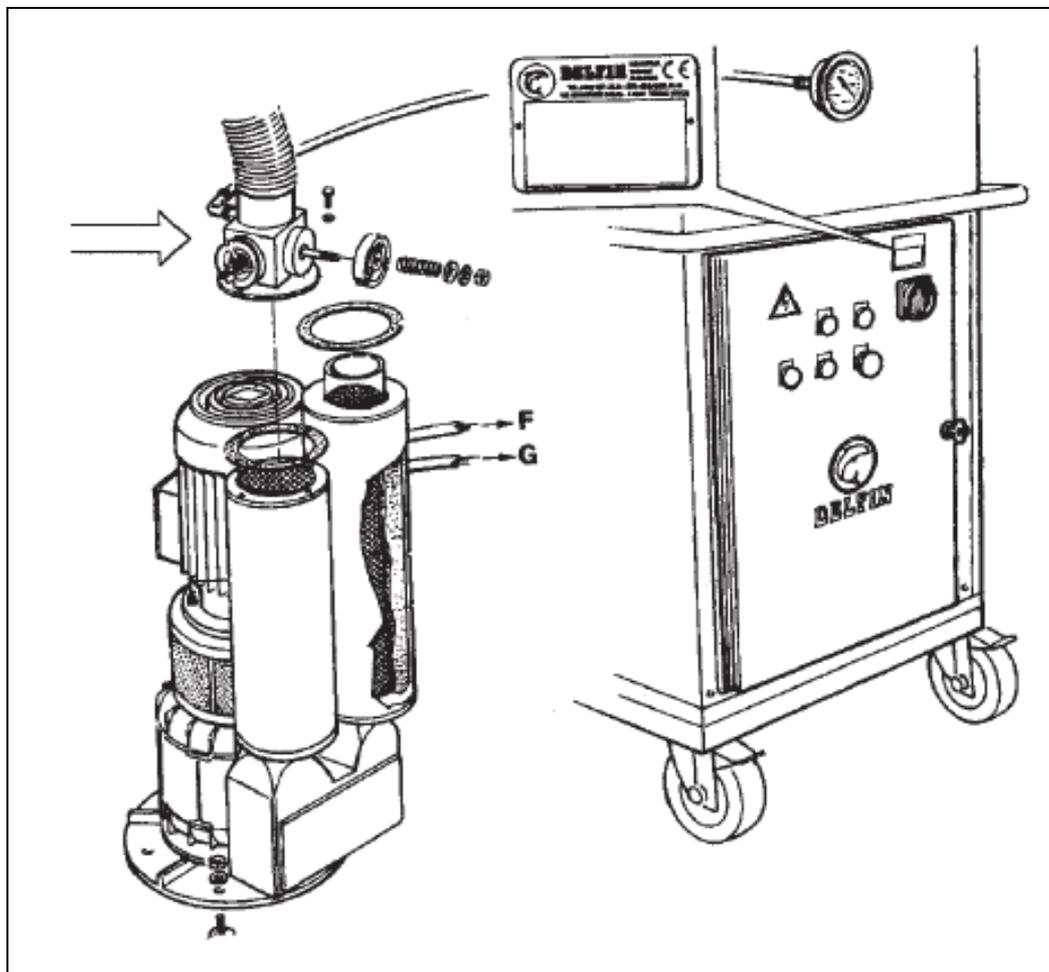
The D/G 200 and D/G 300 models incorporate a standard vacuum/pressure relief valve which has been calibrated by the Manufacturer.

The aforesaid valve is necessary to ensure working conditions for long hours without interruption and whether the machine may work with clogged filters or obstructed hose for a long time.

Once reaching depression value, the valve opens up allowing air inflow to the impeller and therefore ensuring its cooling.

DO NOT MANUMIT the vacuum/pressure relief valve.

The Manufacturer declines any responsibility and liability for damages due to manumission of the vacuum/pressure relief valve. Moreover, in case of manumission of the vacuum/pressure relief valve, product warranty will be void.



The valve is protected by a filter which must be cleaned every 6 months.



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Spare parts may be requested completing and sending us the here enclosed order form by fax, mail, or writing to our e-mail address as follows:



FAX

0039.01 1.8005506



E-mail

delfin@delfinvacuums.it



MAIL

Strada della Merla, 49/a
10036 Settimo Torinese (TO) Italy



Recommended Spare Parts

DESCRIPTION	CODE
Polyester filter Ø 780 for 100.000 cm ²	AR3057
Filter holding ring sheath	AR2583
Filter holding ring Ø 780	AR2589
Cover sheath Ø 780	AR2476
Collection container/filtering chamber sheath Ø 780	AR2591
Filtering cartridge Ø 218 H. 780	AR3046



To:



FAX

DATE: ___ / ___ / ___

Page _____ of _____

Delfin S.r.l.
Strada della Merla, 49/a 10036
Settimo Torinese (TO) Italy
Ph. 0039.011.8005500
Fax 0039.011.8005506

Please write in capital letters or print

-----Spare Part Order Form-----

From:

Phone:

C O N S I G N E E	ADDRESS												
	TOWN							PROV.					
	COUNTRY							PH.					

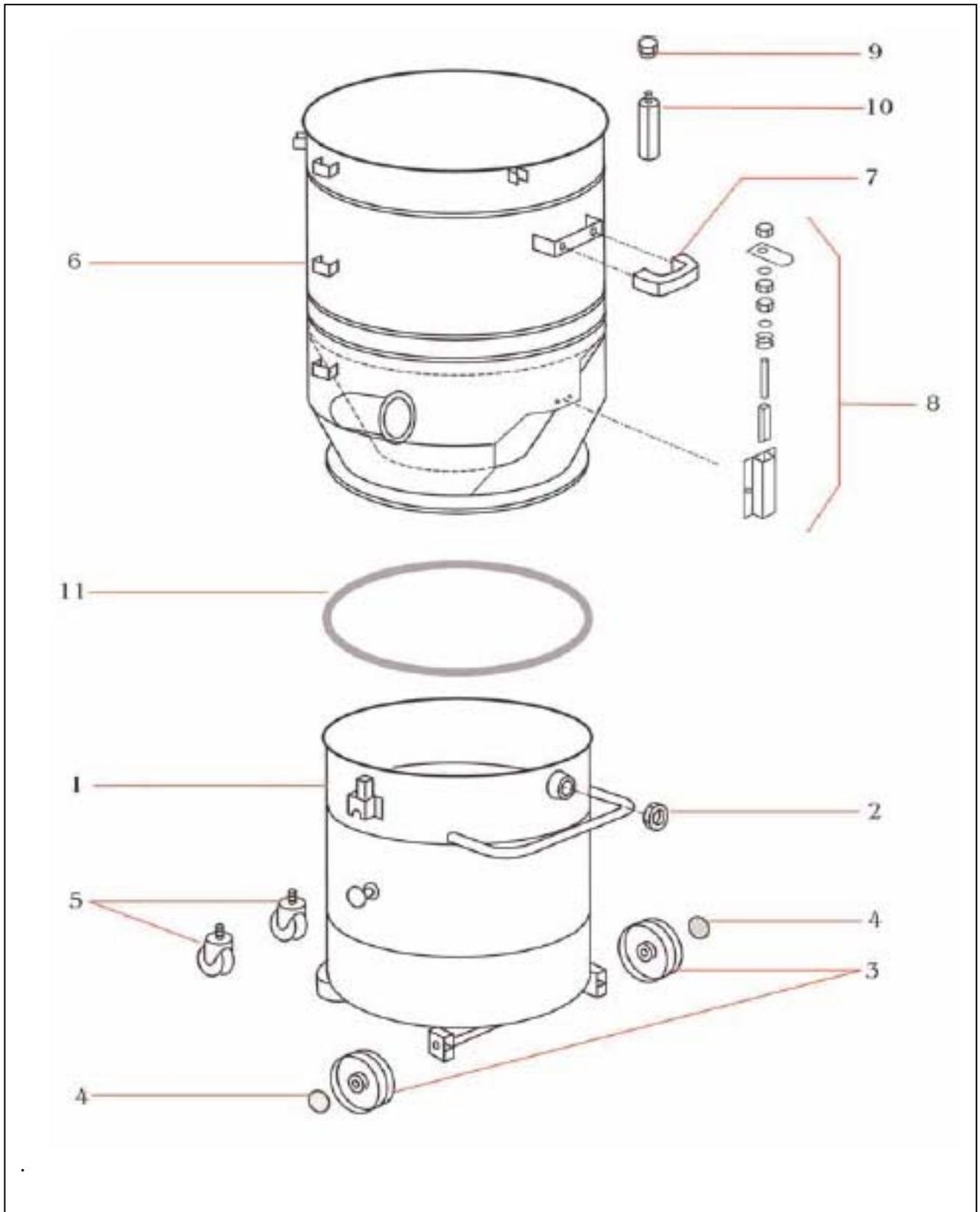
MODEL:	P/N:	TAV:	Spare Part Number:	Quantity:
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MODEL:	P/N:	TAV:	Spare Part Number:	Quantity:
DESCRIPTION				



01 - MACHINE BODY

REF.	PART NUMBER	QUANTITY	DESCRIPTION
1	AA1319	01	0640 container, 200 litres
2	AR3197	01	Gauge
3	AR3198	02	PU 0175 Fixed wheels
4	AR2278	02	Capped ring Ø 20 mm
5	AR3199	02	PU 080 Pivot wheel
6	AR3200	01	Filtering chamber
7	AR2001	01	Handle L=140
8	AR3201	01	Lever fastener
9	AR3202	03	Flywheel Ø 50
10	AR3203	03	Locking pin M8
11	AR2591	01	Collection container / chamber sheath Ø 780

01 - MACHINE BODY

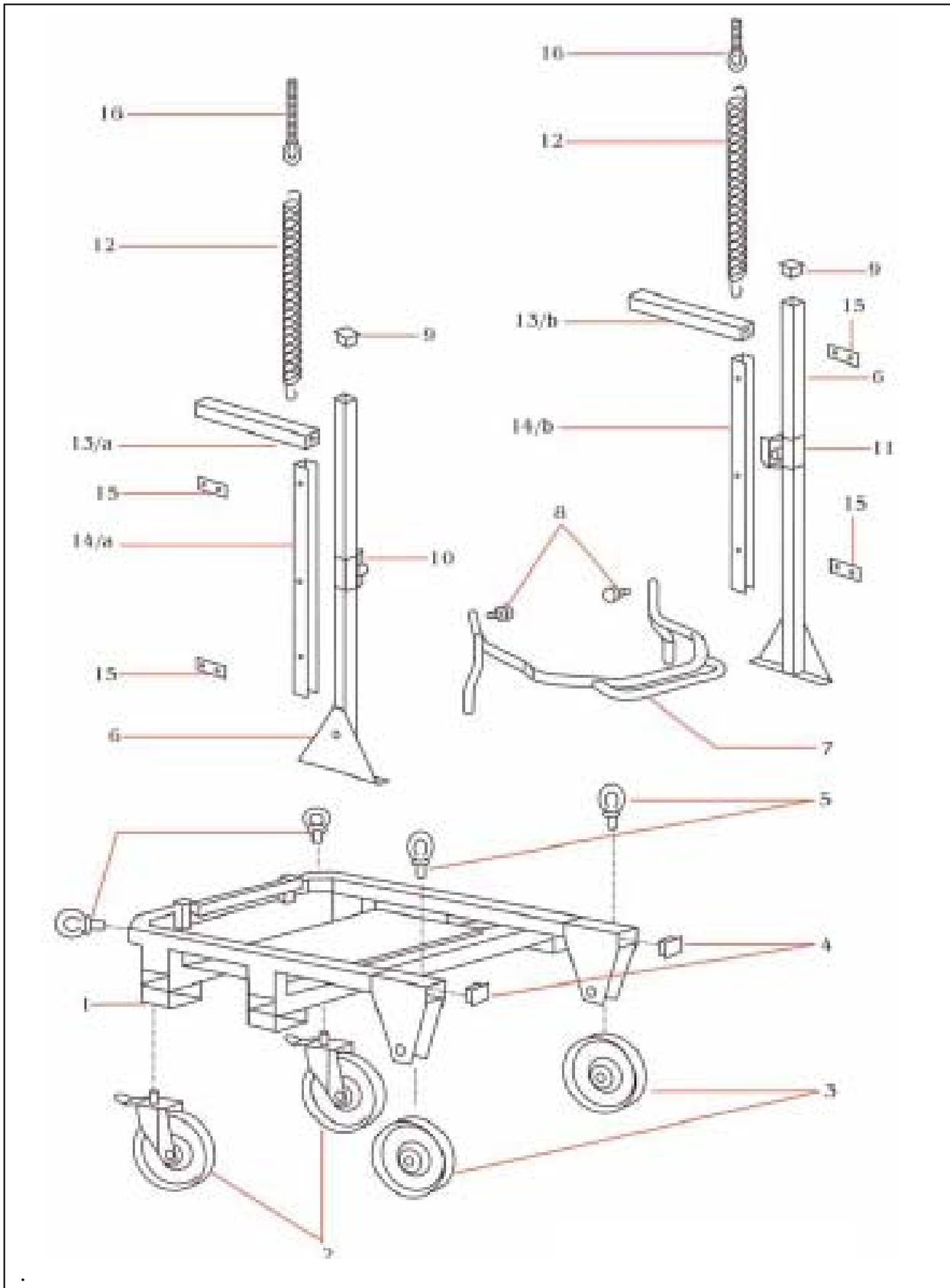




02 . Trolley

REF.	PART NUMBER	QUANTITY	DESCRIPTION
1	AR2608	01	Trolley
2	AR3204	02	PU pivot wheel with brake Ø 250
3	AR3205	02	PU fixed wheel Ø 250
4	AR3206	02	Square cap 60x60
5	AR3207	04	Eyebolts M 16
6	AR3208	02	Steering column D/G 200/300
7	AR3209	01	Hooking lever D/G 200/300
8	AR2363	02	Lever fulcrum
9	AR3210	02	Square cap 50x50
10	AR3211	01	Right slider D/G 200/300
11	AR3212	01	Left slider D/G 200/300
12	AR3213	02	Leverage spring D/G 200/300
13 (a)	AR3214	01	L Right profile D/G 200/300
13 (b)	AR3215	01	L Left profile D/G 200/300
14 (a)	AR3216	01	U Right profile for chamber D/G 200/300
14 (b)	AR3217	01	U Left profile for chamber D/G 200/300
15	AR3218	04	"U" profile fastening plate D/G 200/300
16	AR321 9	02	Leverage spring connection D/G 200/300

02 . Trolley

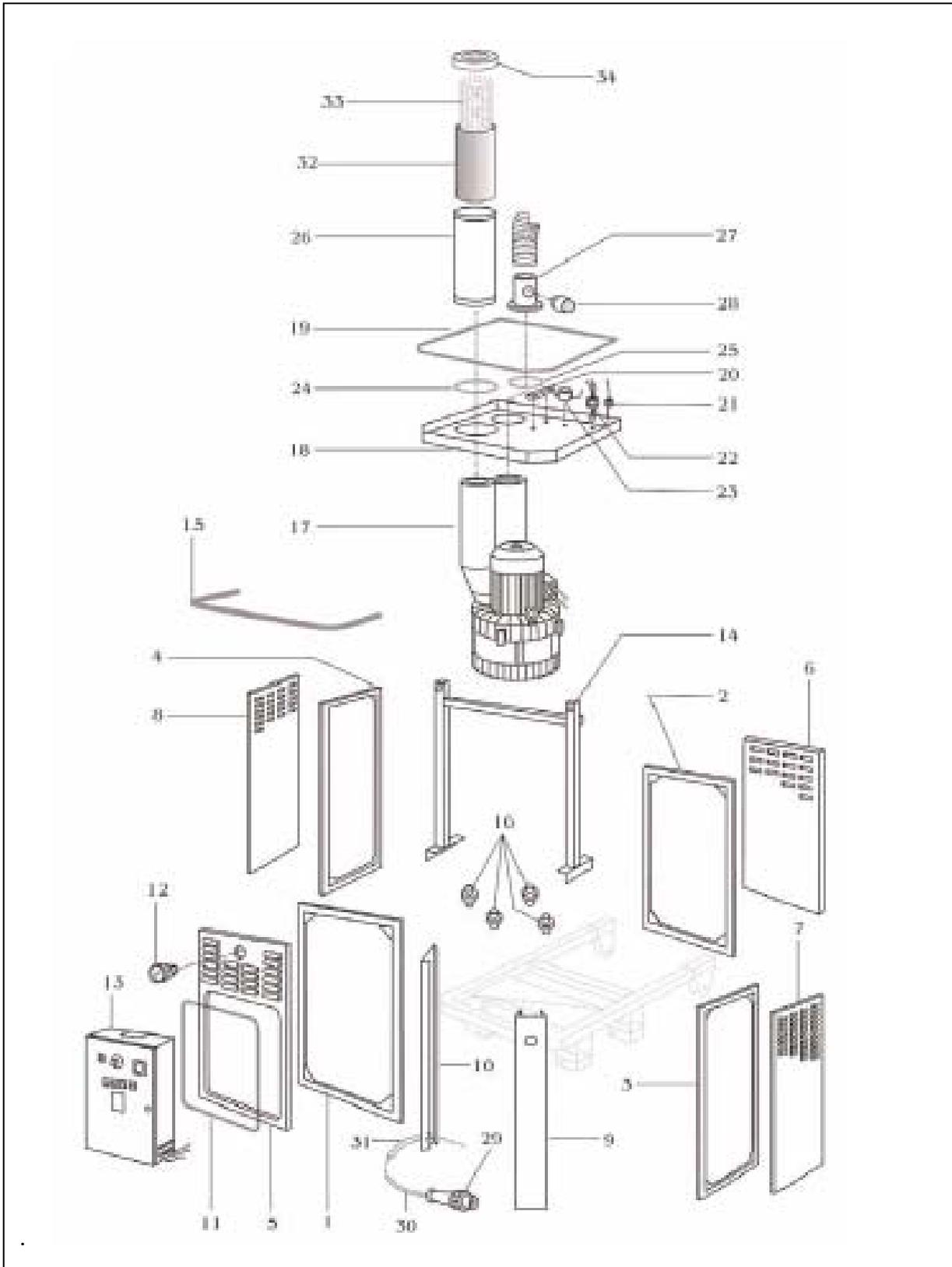




03 . Vacuum system

REF.	PART NUMBER	QUANTITY	DESCRIPTION
1	AR3220	1	D/G 200-300 Rear panel frame
2	AR3221	1	D/G 200-300 Front panel frame
3	AR3222	1	D/G 200-300 Left side panel frame
4	AR3223	1	D/G 200-300 Right side panel frame
5	AR3224	1	D/G 200-300 Rear cover
6	AR3225	1	D/G 200-300 Front cover
7	AR3226	1	D/G 200-300 Left side cover
8	AR3227	1	D/G 200-300 Right side cover
9	AR3228	1	D/G 200-300 Left angle cover
10	AR3229	1	D/G 200-300 right angle cover
11	AR3173	1	Core sheath
12	AR3140	1	Vacuum gauge 063 0-6000 mm H20
13	AR3230	1	Electrical control panel D/G 200
14	AR2609	1	D/G 200-300 Control panel frame
15	AR3231	1	D/G 200-300 handle
16	AR2397	1	Anti-vibration device D/G 200-300
17	AR2569	1	Engine unit 19 KW
18	AR3232	1	D/G 200-300 Upper cover
19	AR3173	1	Core sheath
20	AR3233	1	Compressor support D/G 200-300
21	AR3234	1	Cord holder PG 13,5
22	AR3235	1	Cord holder PG 21
23	AR2026	1	Shunt box
24	AR3236	1	D/G 200-300 hose insulating sheath
25	AR3237	1	D/G 200-300 suction hose sheath
26	AR3266	1	Insulating hose D/G 150-200
27	AR3239	1	D/G 200 Vacuum flange
28	AA1334	1	Pressure relief valve 3" D/G 150-200-300
29	AR3240	1	Socket 3P+T63A
30	AR3268	1	Supply cable (cord) 4x6mm
31	AR2521	1	Rubber pipe Ø 25
32	AR3838	1	D/G 200/300 Acoustic insulator 350x700 3mm thickness.
33	AR3839	1	D/G200-300 net pipe H=700 Ø110
34	AR3297	1	Bottom Ø168

03 . Vacuum system

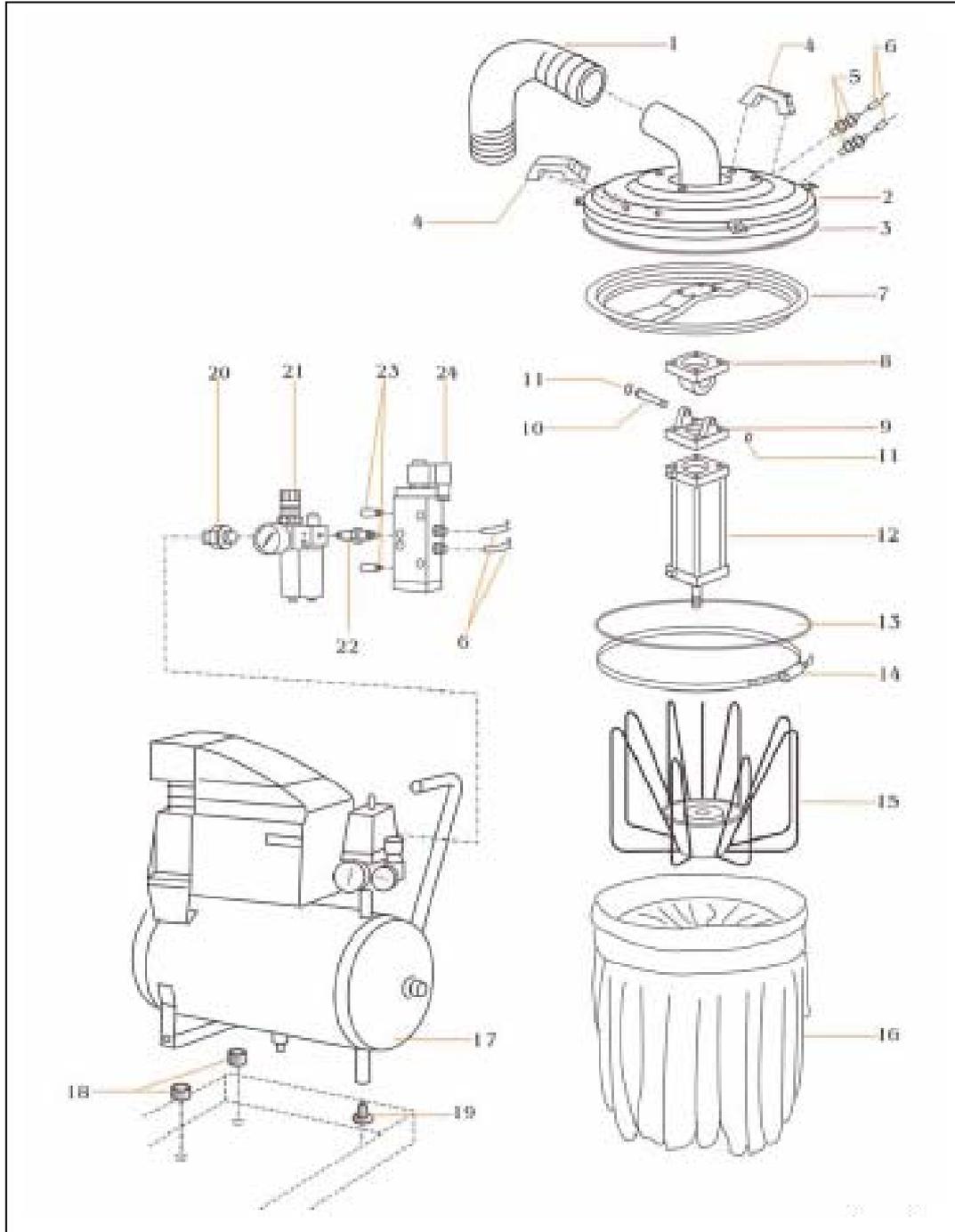




04 . Piston filter shake system

REF.	PART NUMBER	QUANTITY	DESCRIPTION
1	AA 1164	1	Superflex PU anti-static hose Ø80
2	AR3269	1	D/G 200 piston filter shake system cover Ø 780
3	AR2476	1	D/G 200-300 cover sheath
4	AR2023	2	Special embossed handle
5	AR3243	2	6x8 nylon connection
6	AR2333	1m	Rilsan pipe Ø 12x10
7	AR2578	1	Filter holding ring Ø 780
8	AR3244	1	Orthogonal hinge CN/CD 40-50
9	AR3245	1	Hinge CN/CA 50
10	AR3246	1	Hinge pin
11	AR3247	2	Seeger ring
12	AR3248	1	CN 50/200 pneumatic cylinder
13	AR2583	1	Filter holding ring sheath Ø 780
14	AR2475	1	Filter holding ring Ø 780
15	AR3283	1	D/G 200-300 Filter frame
16	AR3057	01	Filter Ø 780 H=700 24 plies D/G 200-300
17	AA1335	01	Triphase compressor 24 L 1,5 H P with piston shaking system
18	AR2397	02	Anti-vibration device
19	AR3254	01	Compressor sucker
20	AR3249	01	Reduction 3/8" - 1/4"
21	AR3250	1	FRL unit
22	AR3251	1	1/4 " extension L=30
23	AR3252	2	Bronze silencer 1/4"
24	AR3253	1	24V 5-way valve

04 . Piston filter shake system

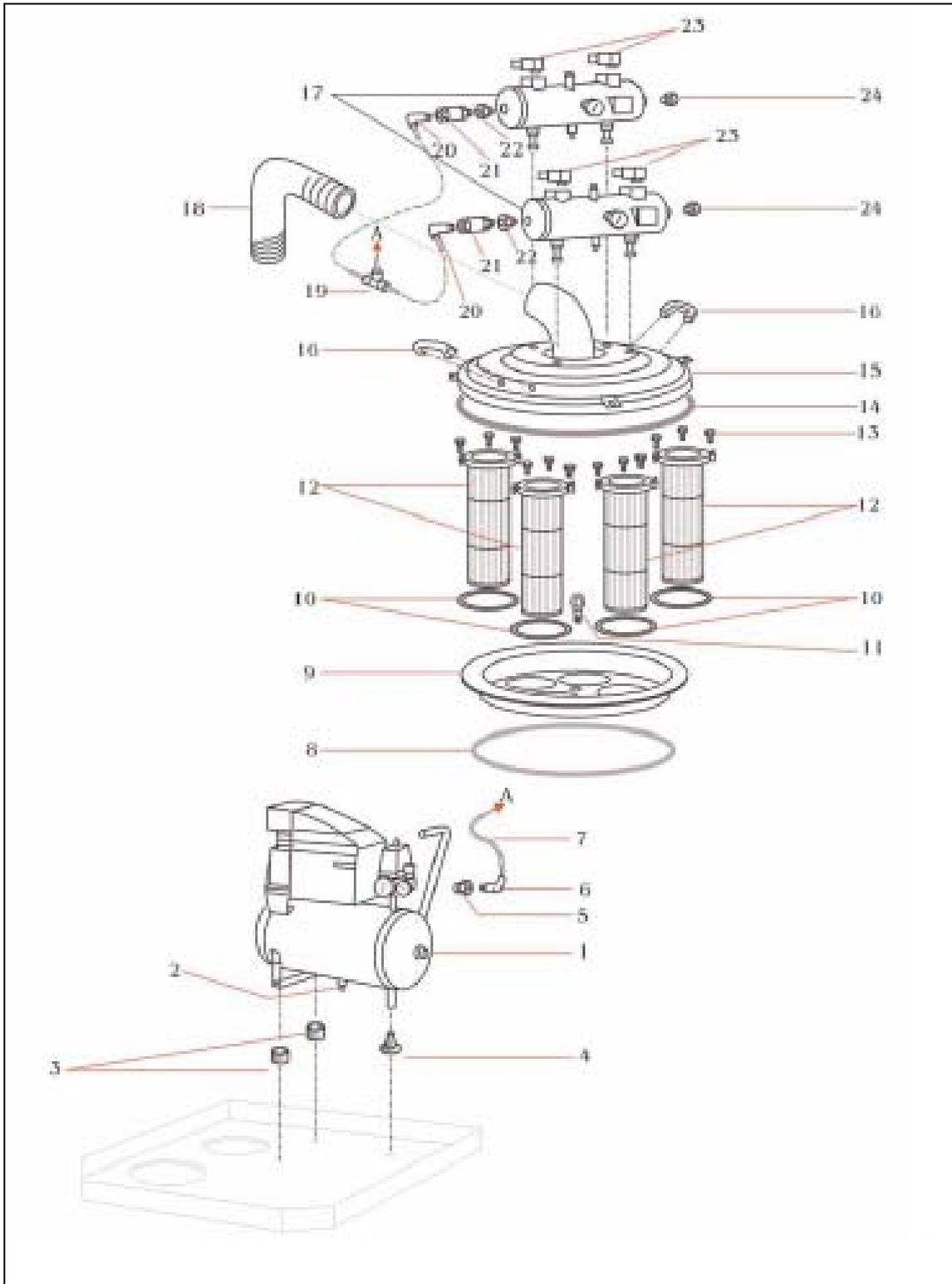




05. Cartridge filter D/G 200

REF.	CODE	Q.TY	DESCRIPTION
1	AA2705	01	Triphase Compressor 24 L 1,5 H P for cartridge blowing
2	AR3745	01	1/2" blow-by condense valve
3	AR2397	02	Anti-vibration device
4	AR3254	01	Compressor sucker
5	AR3255	01	Straight fast clutch Ø 20
6	AR3256	01	Elbow fast clutch Ø 20
7	AR2333	1m	Rilsan pipe Ø 12x10
8	AR2583	01	Filter holding ring sheath Ø 780
9	AR2436	01	Cartridge filter disk D/G 200-300
10	AR3257	04	Cartridge sheath D/G 200-300
11	AR2524	01	Eyebolts 8MA
12	AR3055	04	Cartridge filter Ø218 H=700 D/G 200-300
13	AR3202	12	Flywheel Ø 50
14	AR2476	01	Cover sheath D/G 200-300
15	AR3271	01	Cover Ø 780 D/G 200 of the cartridge filter
16	AR2023	02	Special handle
17	AR3259	02	Air tank for cartridge blowing D/G 200-300
18	AA1164	01	PU anti-static Superflex hose Ø 80
19	AR3260	01	T intermediate fast clutch Ø 20
20	AR3256	02	Elbow fast clutch Ø 20
21	AR3262	02	1/2" one way valve
22	AR3263	02	Reduction 1/2" F - 1" M
23	AR3264	04	Membrane valve DN 3/4" 24V
24	AR3265	02	Cap 1"

05. Cartridge filter D/G 200



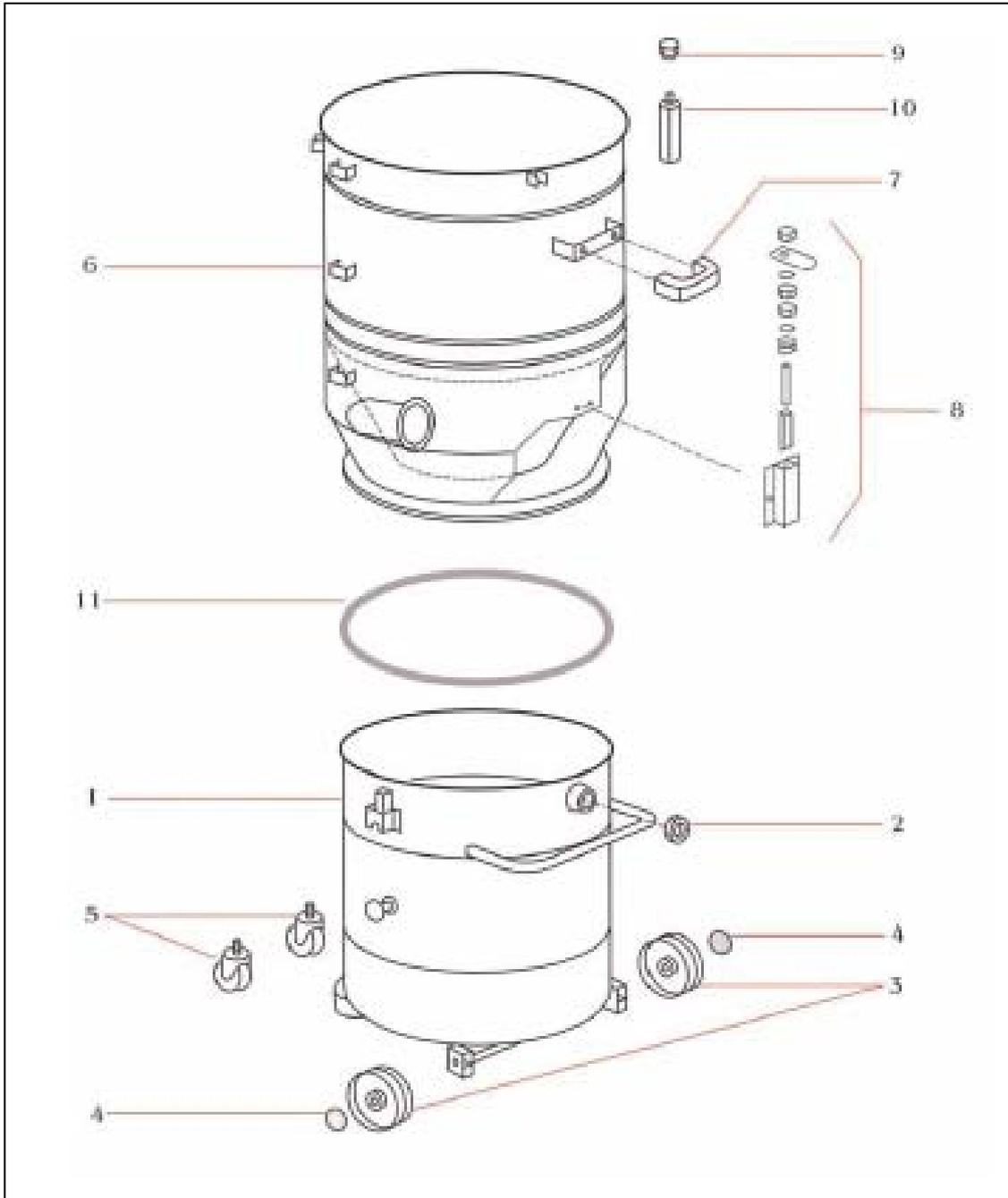


01. Machine body D/G 300

REF.	CODE	Q.TY	DESCRIPTION
1	AA 1319	01	Collection container Ø 640 It.200 D/G 200-300
2	A R31 97	01	Level indicator D/G 200-300
3	A R31 98	02	Fix wheel PU Ø 175
4	AR2278	02	Capped ring Ø 20 mm
5	A R31 99	02	Pivot wheel PU Ø 80
6	AR3200	01	Filtering chamber D/G 200-300
7	AR2001	01	Handle L=140
8	AR3201	01	Safety lock for collection container handle D/G 200-300
9	AR3202	03	Flywheel Ø 50
10	AR3203	03	Safety knob M8 D/G 200-300
11	AR2591	01	Collection container/chamber sheath Ø 780



01. Machine body D/G 300

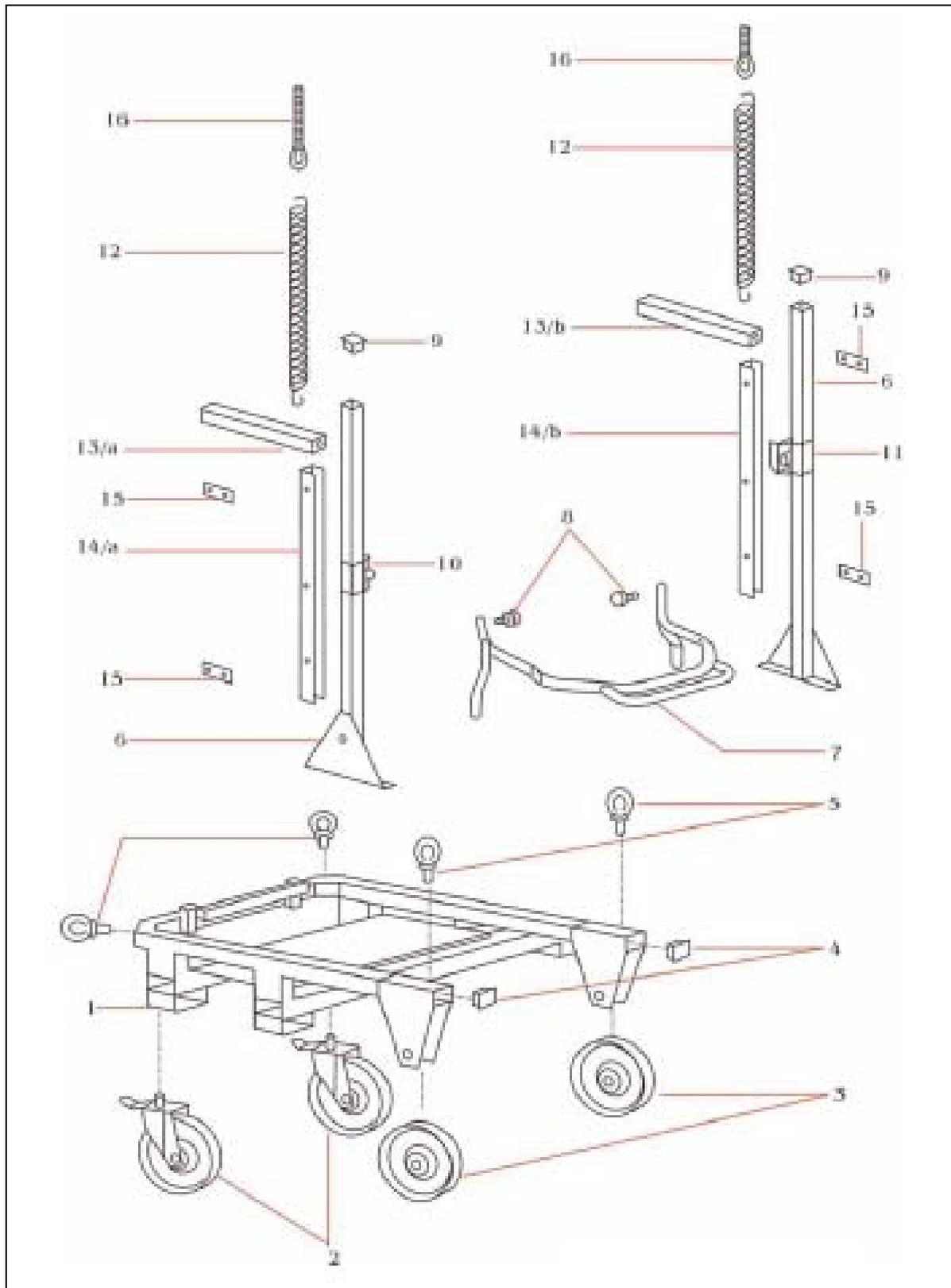




02. Trolley D/G 300

REF.	CODE	Q.TY	DESCRIPTION
1	AR2608	01	Trolley D/G 200-300
2	AR3204	02	PU Pivot wheel with brake Ø 250
3	AR3205	02	PU fix wheel Ø 250
4	AR3206	02	Square cap 60x60
5	AR3207	04	Eyebolts M16
6	AR3208	02	Steering column D/G 200/300
7	AR3209	01	Coupling lever D/G 200-300
8	AR2363	02	Coupling lever fulcrum
9	AR3210	02	Square cap 50x50
10	AR3211	01	Slider rgt D/G 200-300
11	AR3212	01	Slider lft D/G 200-300
12	AR3213	02	Leverage spring D/G 200-300
13 (a)	AR3214	01	L profile rgt D/G 200-300
13 (b)	AR3215	01	L profile lft D/G 200-300
14 (a)	AR3216	01	U profile rgt for chamber D/G 200-300
14 (b)	AR3217	01	U profile lft for chamber D/G 200-300
15	AR3218	04	U profile fastening plate D/G 200-300
16	AR3219	02	Leverage spring connection D/G 200-300

02. Trolley D/G 300



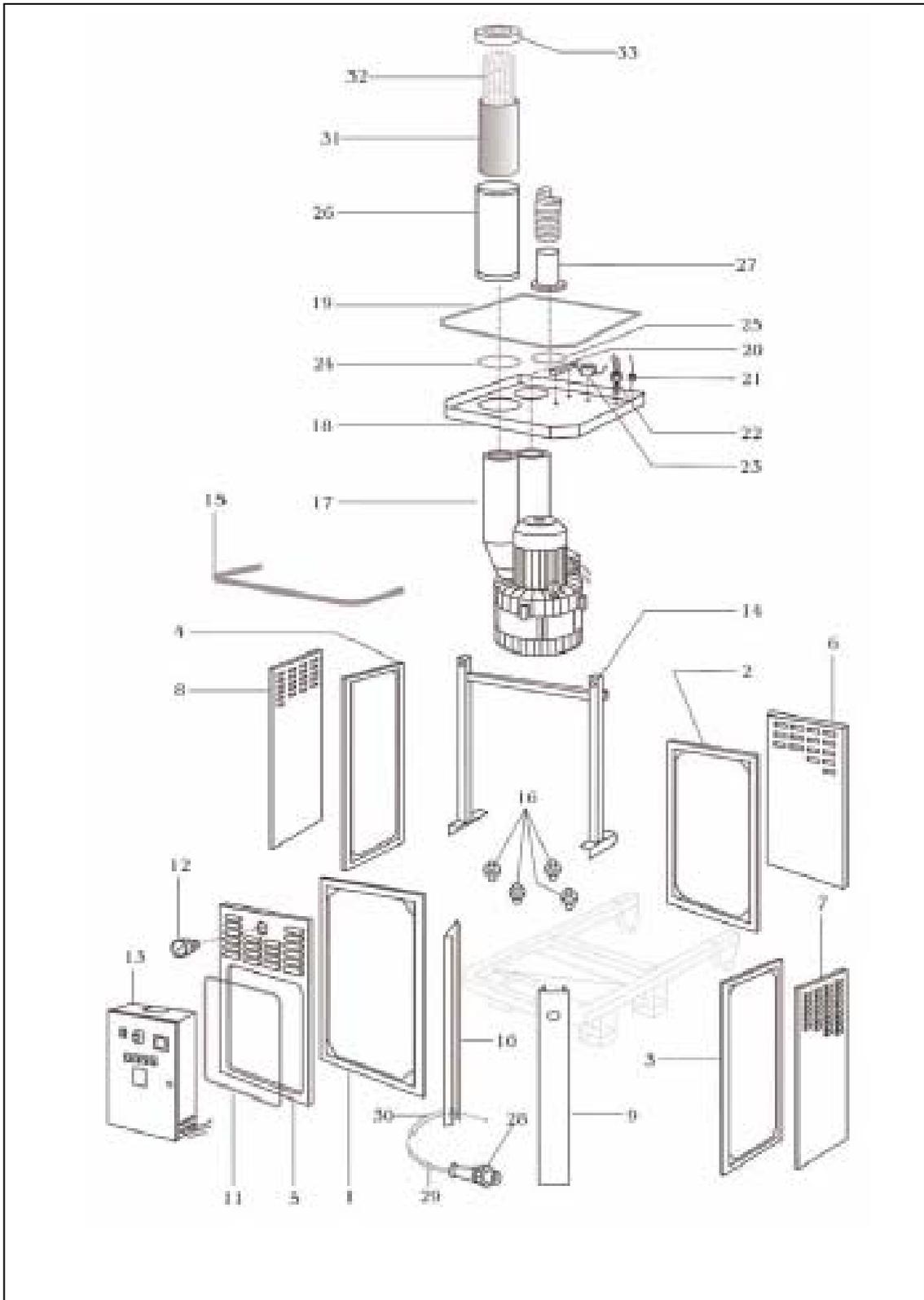


03. Suction unit D/G 300

REF.	CODE	Q.TY	DESCRIPTION
1	AR3220	01	Rear panel frame D/G 200-300
2	AR3221	01	Front panel frame D/G 200-300
3	AR3222	01	Left side panel frame D/G 200-300
4	AR3223	01	Right side panel frame D/G 200-300
5	AR3224	01	Rear panel D/G 200-300
6	AR3225	01	Front panel D/G 200-300
7	AR3226	01	Left side panel D/G 200-300
8	AR3227	01	Right side panel D/G 200-300
9	AR3228	01	Left angular pillar D/G 200-300
10	AR3229	01	Right angular pillar D/G 200-300
11	AR3173	01	Core sheath
12	AR3140	01	Vacuum gauge 063 0-6000 mm H2O
13	AR3836	01	Control panel D/G 300
14	AR2609	01	Control panel framework D/G 200-300
15	AR3231	01	Handle D/G 200-300
16	AR2397	04	Anti-vibration device D/G 200-300
17	AR2570	01	Engine unit 22 KW
18	AR3232	01	Upper cover D/G 200-300
19	AR3173	01	Core sheath
20	AR3233	01	Compressor support D/G 200-300
21	AR3234	01	Cord fastener PG 13,5
22	AR3235	01	Cord fastener PG 21
23	AR2026	01	Shunt box
24	AR3236	01	Insulating pipe sheath D/G 200-300
25	AR3237	01	Insulating pipe sheath D/G 200-300
26	AR3238	01	Blowing pipe sheath D/G 300
27	AR3267	01	Suction pipe flange D/G 300
28	AR3240	01	Socket 3P+T 63A
29	AR3241	01	Supply cable (cord) 4x10 mm
30	AR2521	01	Rubber pipe Ø 25
31	AR3238	01	Acoustic insulation device 350 x 500, 3 mm thickness, D/G 200-300
32	AR3239	01	Net pipe H=500 Ø 110 D/G 200-300
33	AR3297	01	Bottom Ø 168



03. Suction unit D/G 300

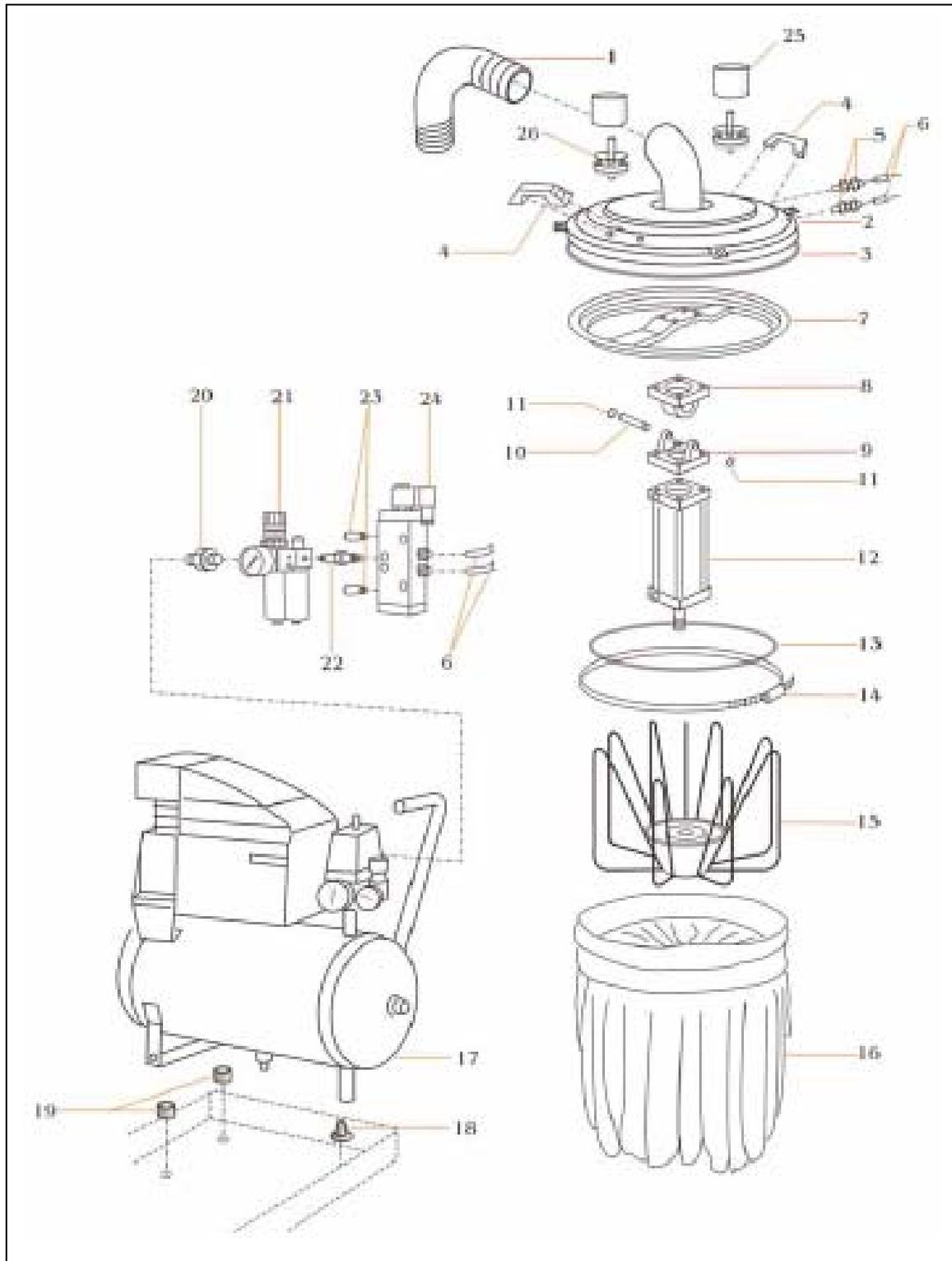




04. Filter with filter shake piston system D/G 300

REF.	CODE	Q.TY	DESCRIPTION
1	AA2472	01	Anti-static PU Superflex hose Ø130
2	AR3242	01	Cover Ø 780 D/G 300 filter shake piston system
3	AR2476	01	Cover sheath D/G 200-300
4	AR2023	02	Special handle
5	AR3243	02	Nylon union 6x8
6	AR2333	1m	Rilsan pipe Ø 12x10
7	AR2578	01	Filter holding ring Ø 780
8	AR3244	01	Ortogon hinge CN/CD 40-50
9	AR3245	01	Hinge CN/CA 50
10	AR3246	01	Hinge pin
11	AR3247	02	Seeger ring
12	AR3248	01	Pneumatic cylinder CN 50/200
13	AR2583	01	Filter holding ring sheath Ø 780
14	AR2475	01	Filter strip Ø 780
15	AR3283	01	Filter shaking frame D/G 200-300
16	AR3057	01	Filter 24 plies Ø 780 H=700 D/G 200-300
17	AA1335	01	Triphase compressor 24 L 1,5 H P filter shake piston system
18	AR2397	02	Anti-vibration device
19	AR3254	01	Compressor sucker
20	AR3249	01	Reduction 3/8" - 1/4"
21	AR3250	01	FRL Group 1/4"
22	AR3251	01	Extension 1/4" L=30
23	AR3252	02	Bronze silencer 1/4"
24	AR3253	01	5 way valve 24 V
25	AR3837	02	3" Pressure relief valve protection
26	AA1334	02	3" Pressure relief valve D/G 200-300

04. Filter with filter shake piston system D/G 300

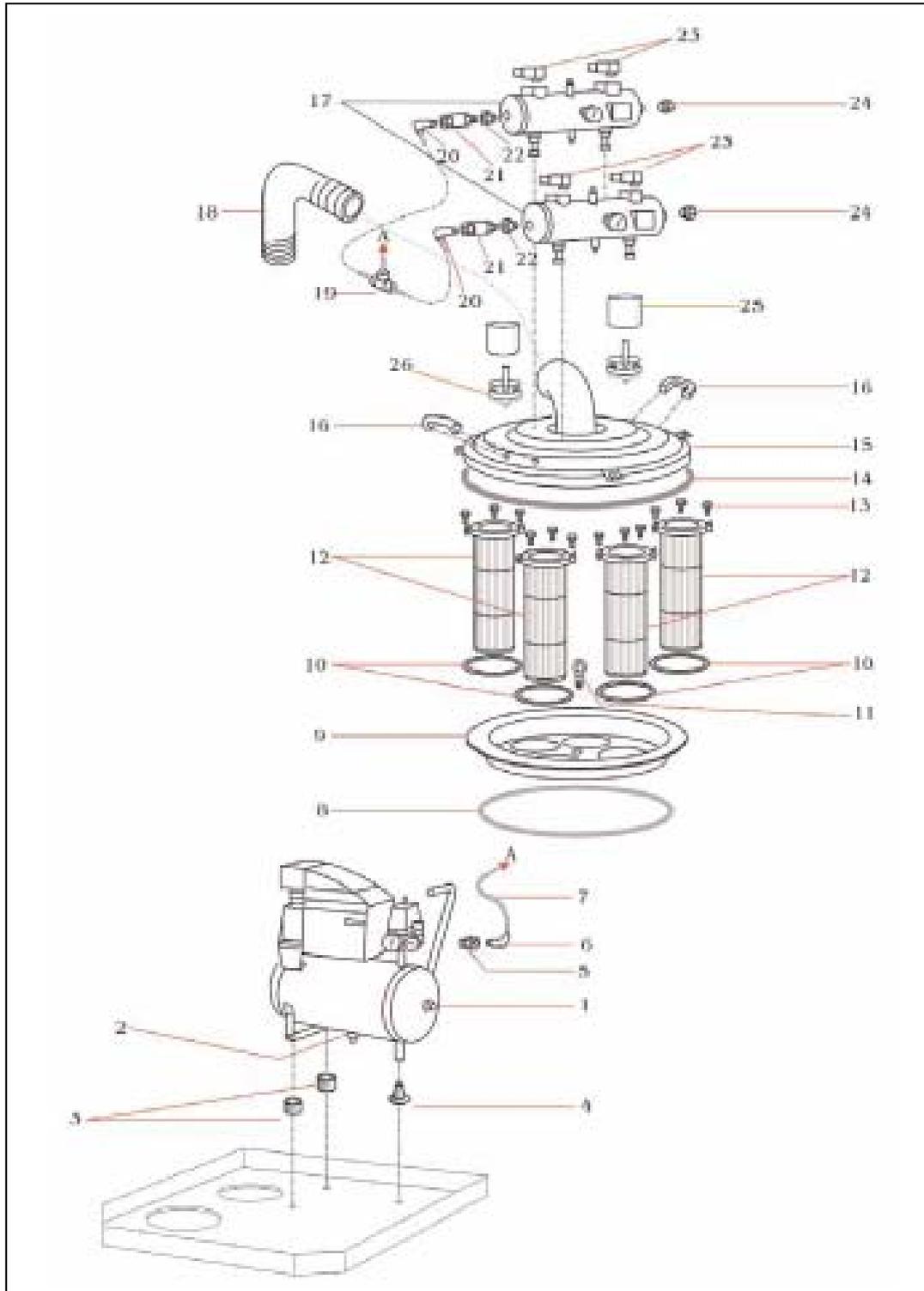




05. Cartridge filter D/G 300

RIF.	CODE	Q.TY	DESCRIPTION
1	AA1335	01	Triphase compressor 24 L 1,5 H P filter shake piston system
2	AR3745	01	1/2" condense blow-by valve
3	AR2397	02	Anti-vibration device
4	AR3254	01	Compressor sucker
5	AR3255	01	Straight fast clutch Ø 20
6	AR3256	01	Elbow fast clutch Ø 20
7	AR2333	1m	Rilsan pipe Ø 12x10
8	AR2583	01	Filter holding ring sheath Ø 780
9	AR2436	01	Cartridge filter disk D/G 200-300
10	AR3257	04	Cartridge sheath D/G 200-300
11	AR2524	01	Eyebolts 8MA
12	AR3055	04	Cartridge filter Ø 218 H=700 D/G 200-300
13	AR3202	12	Flywheel Ø 50
14	AR2476	01	Cover sheath D/G 200-300
15	AR3258	01	Cartridge filter cover Ø 780 D/G 300
16	AR2023	02	Special handle
17	AR3259	02	Air reservoir for cartridge blowing D/G 200-300
18	AA2472	01	PU antistatic Superflex hose Ø 130
19	AR3260	01	"T" intermediate fast clutch Ø 20
20	AR3256	02	Elbow fast clutch Ø 20
21	AR3262	02	One way valve 1/2"
22	AR3263	02	Reduction 1/2" F - 1" M
23	AR3264	04	Membrane valve DN 3/4" 24V
24	AR3265	02	Cap 1"
25	AR3837	02	3" Pressure relief valve protection
26	AA1334	02	3" Pressure relief valve D/G200-300

05. Cartridge filter D/G 300





DEALER: