



## Instructions for Use Nilfisk Model GS 90 HEPA-Filtered Vacuum



**CAUTION:** This Nilfisk vacuum cleaner or any other vacuum cleaner is not to be used in explosion-hazardous areas, as serious injury could result.

In order to collect lead dust or other hazardous materials, this vacuum cleaner *must* be equipped with a special HEPA filter and bags which have been installed according to Nilfisk's written instructions.

Your new Nilfisk vacuum cleaner is a precision engineered instrument designed for exceptionally fine filtration. Ordinary vacuum cleaners do not have HEPA filters, and cannot be used safely for hazardous dusts. This Nilfisk machine is safe to use with fine powders or hazardous materials, as long as certain precautions are taken. Proper care of this cleaner is essential to the maintenance of its ultrafine filtering capabilities.

Make sure the rating shown on the plate on the vacuum cleaner corresponds with the main voltage. This vacuum cleaner must not be used for the suction of water, liquids, gases or sharp objects. Electrical shock could occur if used outdoors or on wet surfaces.

**BEFORE USE: DO NOT ATTEMPT TO OPERATE THIS CLEANER UNTIL YOU HAVE INSTALLED ITS VARIOUS COMPONENTS ACCORDING TO THE FOLLOWING INSTRUCTIONS.**

### PREPARING TO USE YOUR HEPA OR ULPA FILTERED GS 90

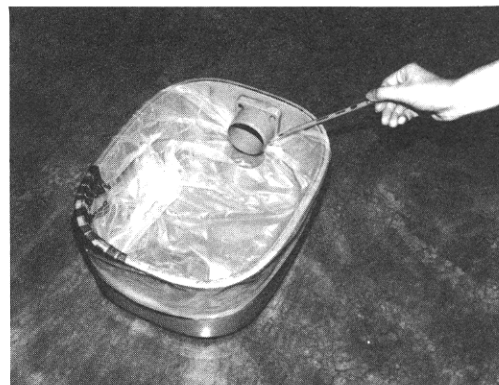
Your new HEPA or ULPA filtered GS 90 will come standard with the following items: vacuum cleaner, microfilter, HEPA or ULPA exhaust filter, 30' cord, hose+, two straight steel wands, accessory organizer, 3-in-1 floor nozzle, upholstery nozzle with drapery insert, round dust brush, pliable crevice cone, rigid plastic crevice cone with brush ring and package of five paper bags. If ordered with either a power or turbo nozzle, the appropriate nozzle will be packaged in the box with the vacuum cleaner.

**PLEASE INSTALL A PAPER BAG ACCORDING TO THE INSTRUCTIONS BELOW BEFORE VACUUMING FOR THE FIRST TIME.**

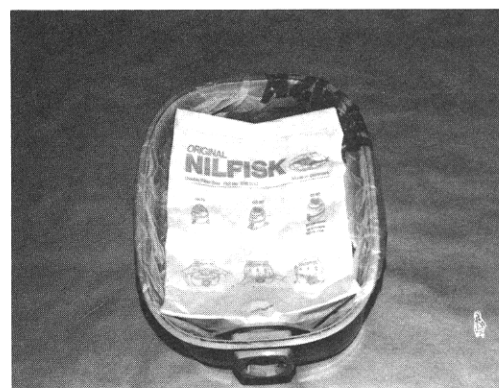
#### INSTALLING OR REPLACING NILFISK PAPER BAGS:

A Nilfisk polyliner must be placed into the bottom of the vacuum container, under the paper bag, to help prevent hazardous dust from becoming airborne while changing the Nilfisk paper bag.

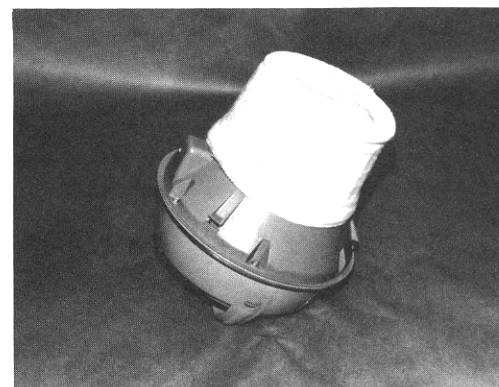
**TO INSERT POLYLINER:** Release the container by (1) unfastening the two clips at the center of the vacuum cleaner and (2) lifting off the upper part (the motor/filter section). (3) Open the polyliner and place it under the suction inlet and (4) pull the ends of the liner up and over the outside of the bottom container (photo 1).



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**TO INSTALL A NILFISK PAPER BAG:** (1) Pierce the bag's perforations and place it in the lower container. (2) With both hands, pull the bag's blue plastic plate over the suction inlet. (3) Unfold the bag carefully and lay in the bottom of the container (photo 2). Replace the top container and lock the two clips.

**NOTE:** Check the bag periodically to ensure it does not become overfilled.

## EMPTYING

**IF THIS VACUUM CLEANER IS USED TO COLLECT HAZARDOUS MATERIAL, DO NOT ATTEMPT TO OPEN OR EMPTY ITS CONTENTS WITHOUT PERSONAL PROTECTIVE CLOTHING AND RESPIRATORY PROTECTION. A HEPA-FILTERED RESPIRATOR IS RECOMMENDED.**

**TO CHANGE THE PAPER BAG:** First turn off the motor. Allow the vacuum cleaner to sit undisturbed for at least thirty (30) seconds so the dust can settle at the bottom of the vacuum. Release the bottom container by unfastening the two clips at the center of the vacuum. Wrap the polyliner around the bag while pulling the bag off the suction inlet. Then seal off the polyliner with the paper bag inside and install a new polyliner and paper bag according to the previous instructions.

**NOTE:** The suction efficiency depends on the size and quality of the paper bag. Use **ONLY** original Nilfisk bags. If substitute paper bags are used, the airflow may be reduced and cause subsequent overheating of the motor. Furthermore, the use of other than Nilfisk replacement components could **VOID** your warranty.

**DISPOSAL:** Depending on local regulations, and the composition of the materials you have collected, there can be a requirement for special handling and labeling of the filled and sealed plastic bags. Consult your local Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) officials for details.

## FILTER INSTALLATION AND REPLACEMENT

To ensure that your Nilfisk cleaner delivers the years of trouble-free operation for which it was designed, it is necessary to check and replace filters regularly.

### REPLACING THE MAIN FILTER:

**NOTE:** The main filter will come already installed and should not require frequent replacement.

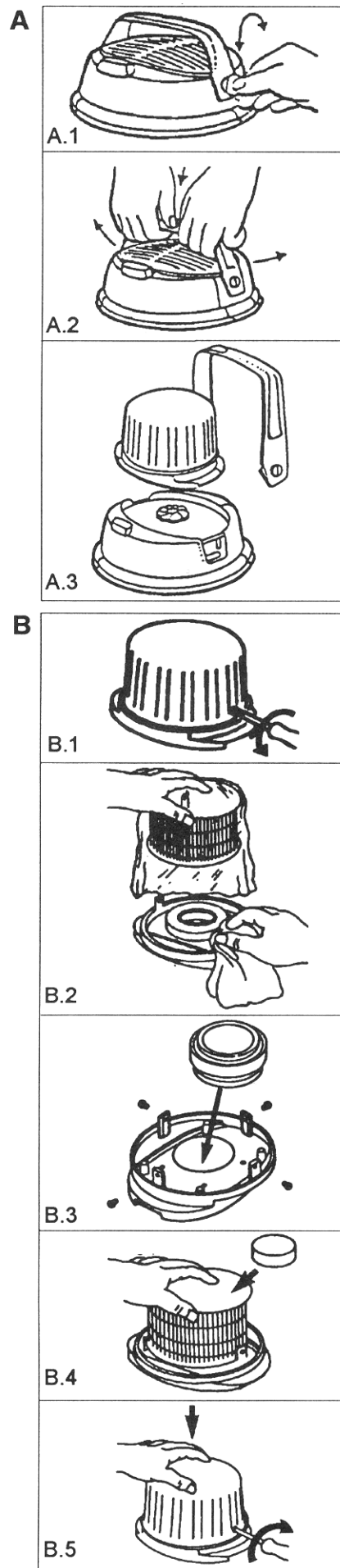
**NOTE:** If this vacuum cleaner is used to collect hazardous material, protective clothing and respiratory protection are necessary when replacing the main filter.

The large napped cotton bag which is semi-permanently mounted inside the container will not require frequent replacement. The main filter must be replaced when the cleaner no longer develops powerful suction, yet bags are not full and other filter components are not clogged. Extend main filter life by frequent changes of disposable polyliners and paper bags.

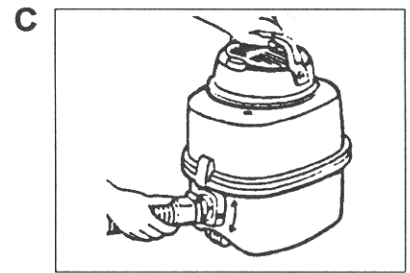
### INSTALLING OR REPLACING THE MICROFILTER:

**NOTE:** The microfilter should come already installed. If not, please read and use the following instructions.

**NOTE:** If this vacuum cleaner is used to collect hazardous material, protective clothing and respiratory protection are necessary when replacing the microfilter.



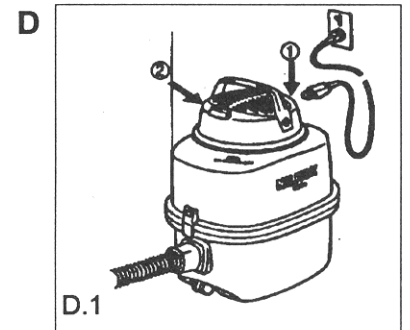
Remove the motor by twisting the handle counter-clockwise and lifting. Install the microfilter (the small, white felt sock) on the bottom of the motor by (1) sliding the filter over the motor bottom, covering as much of the motor housing as the depth of the filter will permit (photo 3). (2) Be sure the filter's elastic collar holds the filter snugly in place and is as high up on the motor as possible. (3) Replace the motor in the container and twist clockwise to lock it in place. These filters will require periodic inspection. Dark colored dust will discolor the white microfilter. Change microfilter as soon as discoloration is easily noticeable. Do not shake these microfilters since this can cause liberation of potentially harmful microscopic dust into the air. Remove carefully and discard with collected debris in the sealable polyliner.



#### INSTALLING THE HEPA OR ULPA EXHAUST FILTER (illustration A):

**NOTE:** If you purchased a HEPA or ULPA filtered vacuum, the HEPA or ULPA exhaust filter should come already installed. If it does not, please read and use the following instructions for installation.

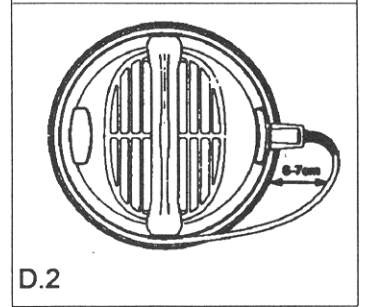
(1) Remove the handle by turning the screws with a coin (illustration A.1) until the slots are vertical. Gently press down on the center of the handle until its ends come free (illus. A.2). The exhaust screen and air diffuser can now be removed, and the exhaust filter mounted in their place. (2) Place the exhaust filter on the motor top, and the new, longer handle over it (illus. A.3). (3) Press the ends of the handle into position so they grasp the exhaust filter and secure it to the motor top. Turn the blue screws until the slots are horizontal once more. This will lock the filter securely in place.



#### REPLACING THE EXHAUST FILTER CARTRIDGE (illustration B):

**NOTE:** If this vacuum cleaner is used to collect hazardous material, protective clothing and respiratory protection are necessary when replacing the HEPA exhaust filter cartridge.

(1) Remove the handle as described in Step #1 above (illustration A.1). Remove the four cover screws and lift off the protective filter cover (illus. B.1). (2) Hold the top of the filter cartridge through a plastic bag, and lift the cartridge off its base (illus. B.2). Remove both the top and underside foam seals from the base. **NOTE:** A few drops of mineral spirits will make removal of the bottom foam seal easier. Also remove the foam pad from the inside of the filter cover if you are replacing an ULPA filter. Place all used foam in the plastic bag with the cartridge. Wipe the filter base plate on both sides with a damp cloth, then seal the used filter, foam and cloth in the plastic bag. (3) Grasp the base plate with screw posts pointing up. In the other hand, grasp the doughnut gasket with the grooved face of the gasket aiming up. Install doughnut gasket into center hole of base plate (illus. B.3). The rim of the base plate hole should fit securely into the outer gasket channeling. The base plate screw posts and grooved gasket facing should both aim up. Press down on the gasket to ensure proper seating. (4) Grasp the new filter cartridge and, label facing up, center it over the foam ring on top of the base plate (doughnut gasket will align itself). Place the new small foam pad provided on top of the new filter cartridge (illus. B.4). (5) Carefully replace the protective filter cover. **BE SURE TO APPLY FIRM DOWNWARD PRESSURE TO THE PROTECTIVE COVER UNTIL IT SEATS FIRMLY ON THE PLASTIC FILTER BASE PLATE.** While this pressure is being applied, tighten the four cover screws (illus. B.5). This will ensure a proper compression of foam gaskets and provide a secure filter seal. (6) Remount the handle and filter assembly as described above, (illus. A.3)



If the main filter and microfilter are properly maintained, the glass fiber element in the exhaust filter should perform satisfactorily for a minimum of one year. It cannot be renewed or restored. Exact life will depend upon frequency of use and amount and type of material collected.

**NOTE:** Please wash hands thoroughly after filter change.

**CAUTION:** Use only genuine Nilfisk replacement filter components. The use of substitute components could pose a grave risk of personal exposure, and will cause all equipment warranties to be void.

## CONNECTING THE HOSE (illustration C)

To connect the hose to the vacuum, insert the bayonet coupling in the suction inlet until it grips, locking it by turning the ring to the right (clockwise). To dismantle hose, turn the ring to the left (counter-clockwise). Steady the container with your other hand.

## ATTACHING THE CORD/STARTING AND STOPPING THE MOTOR (illustration D)

(1) Insert the appliance plug of the cord into the motor socket (illus. D.1). The cord must always trail along behind the cleaner during operation. Next, plug the cord into the wall socket. (2) Press the blue button on top of the motor to turn the motor on and off. (3) Detach the cord when cleaning is finished. Roll it loosely around your arm and store it. If you wrap the cord around the motor while still attached, the first loop must be made very loosely to avoid damage to the plug (illus. D.2).

## THERMO VALVE

The thermo valve (photo 4) ensures that the motor does not overheat in the event of blockage of the vacuum cleaner's air flow. If the thermo valve opens, do not turn off the motor, but remove it from the motor cavity and allow it to run for approximately 15 minutes. This enables the motor to cool.

While cooling, remove blockage from the hose or change the bag or filter. Replace motor in cavity. Then reset the thermo valve by pressing it down. Do *not* unnecessarily activate the thermo valve or block the suction inlet while the motor is running. Vacuum cleaning may now be resumed.

## CLEANING THE MAIN FILTER

**NOTE:** If this vacuum is used to collect hazardous material, protective clothing and respiratory protection are necessary when cleaning the main filter.

This procedure should be done approximately ten minutes before emptying or replacing the paper bag. The hose must remain attached to the container during the shaking operation. (1) Remove the motor by holding the motor handle and twist counter-clockwise. Lift off the motor. (2) Pull out the filter by its blue plate and shake it from side to side (photo 5). (3) Replace the motor by inserting it into the vacuum cleaner cavity and twisting it clockwise. (4) After shaking down the main filter and replacing the motor, wait approximately ten minutes before changing the paper bag. (5) Follow directions for **INSTALLING OR REPLACING NILFISK PAPER BAGS**, page 1 of these instructions.

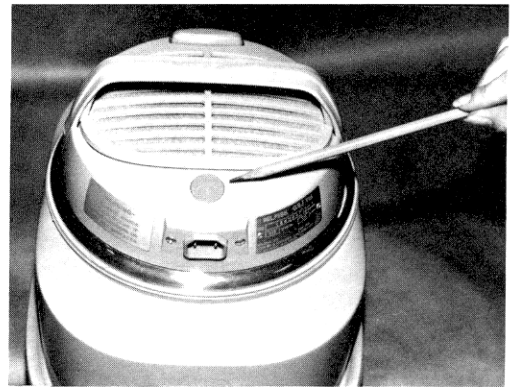
**NOTE:** This filter only needs to be replaced if the vacuum does not regain suction after shaking the filter, changing the paper bag and/or clearing the hose.

## APPROXIMATE TIMES FOR REPLACING FILTERS\*\*

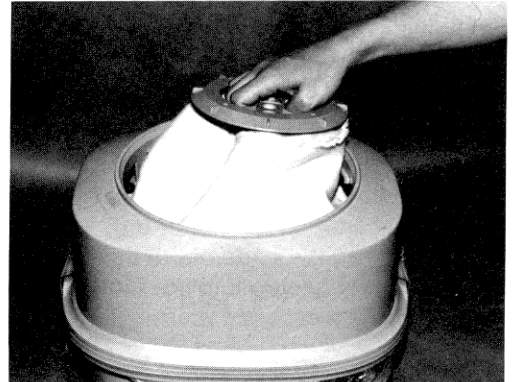
<u>NILFISK VACUUM FILTER</u>	<u>REPLACEMENT TIME</u>
HEPA Filter	Once Every Year
Microfilter	Twice A Year
Paper Bags	When Necessary*

\***NOTE:** Replacement of paper bags will vary according to amount of use.

\*\***NOTE:** Please refer to pages 2 or 3 for installation or replacement instructions for these filters.

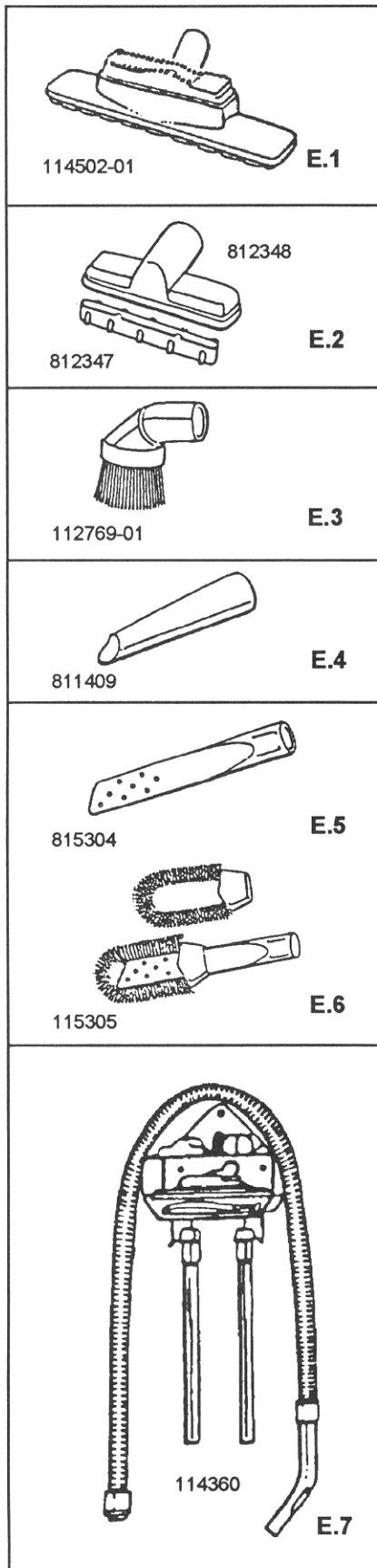


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# GS 90 STANDARD ACCESSORIES



The basic rule to follow when selecting nozzles is: hard surface, soft nozzle; soft surface, hard nozzle.

**E.1:** The three-in-one floor nozzle is for carpets and bare floors. For carpets, step down lightly on the blue pedal to lower the stainless steel carpet shoe. For bare floors, step down lightly on the outer edge of the floor nozzle and pull up on the wands. This will lower the floor brush. For hard to pick up items such as threads and staples, just flip the nozzle head over with your foot and it will act as a rake on those stubborn objects.

**E.2:** The upholstery nozzle is for upholstered furniture, mattresses, pillows, etc. It comes with an insert which allows you to vacuum draperies and other fine fabrics without sucking them into the vacuum cleaner.

**E.3:** The round dust brush is adjustable so you can find the best working position. Use it to dust hard furnishings such as chairs, dressers, and book-cases or ceiling corners, blinds, air vents and knick-knacks.

**E.4:** The pliable crevice cone is for corners, recesses, along baseboards and in other tight or inaccessible places.

**E.5:** This rigid crevice nozzle cleans between the seat and the sides of upholstered furniture.

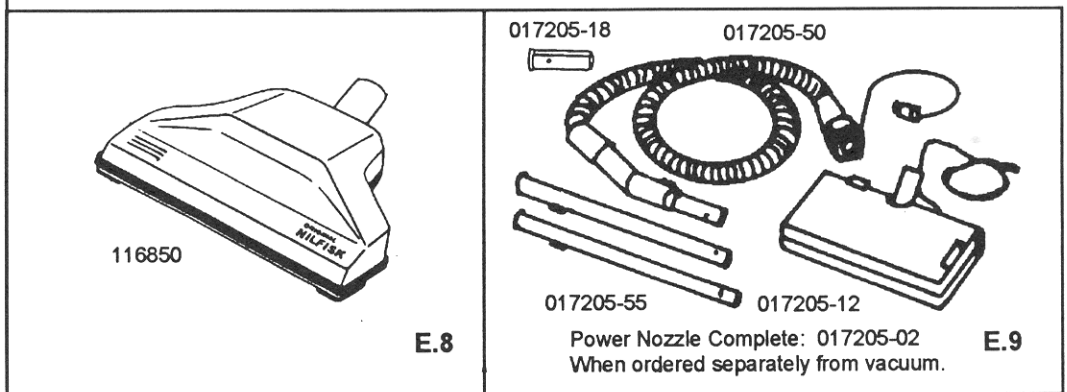
**E.6:** The brush ring fits on the rigid crevice nozzle and is used for cleaning book shelves, blinds, radiators, under refrigerators, etc.

**E.7:** All of the accessories can be stored in the Accessory Organizer which can be hung on a wall.

## OPTIONAL ACCESSORIES

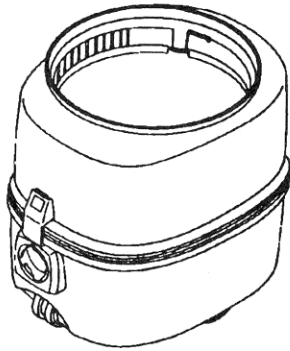
**E.8:** A turbo nozzle with an air-driven beater bar is available for low or medium pile carpets. The nozzle fits directly onto the wand end and has no extra cords or plugs to attach.

**E.9:** Powered by its own electric motor, a power nozzle enhances the deep cleaning performance of your vacuum on medium to deep pile carpets. By simply turning off the power head motor switch, the nozzle can clean bare floors.

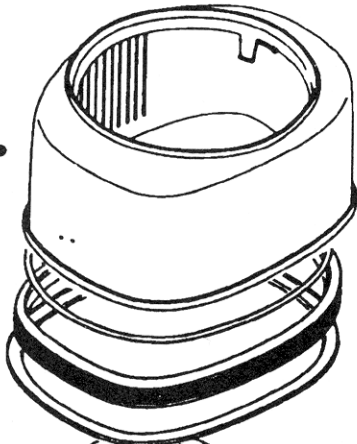


# Container Parts

Container complete with cotton filter 116101-11

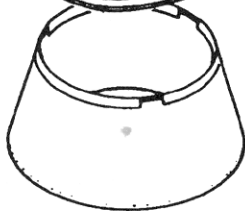


- 815889
- 815888
- 815887
- 814312



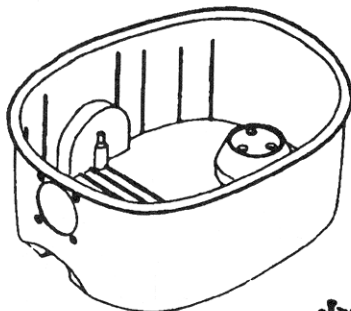
- 815412
- 705534
- 615875

- 71588501
- 815871
- 815886
- 815884



Cotton filter 615882

- 815429
- 815428

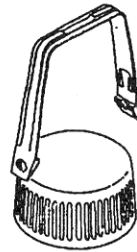


Lower part 715895

- 814312
- 815771
- 815893
- 815872
- 615891
- 815874
- 815355
- 815418
- 815896
- 803846
- 815419
- 814312
- 215449

# Exhaust Filter

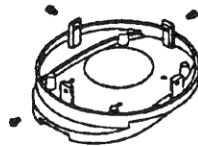
HEPA complete: 017104-11  
ULPA complete: 017204-11



- 217377
- 717376



- HEPA Cartridge 017276-10
- ULPA Cartridge 017376-10
- 816734



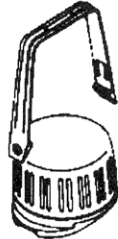
- 817375
- 813950 x 4

# Motor



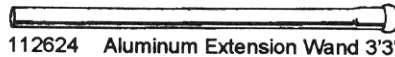
- GSD, 115v 122102-30
- GSJ, 115v 122301-30
- GSJ, 220v 122301-50

# Sound Suppressor

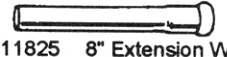


115760  
Cannot be used in conjunction with the HEPA-filter.

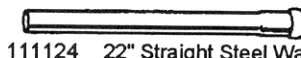
# Wands



112624 Aluminum Extension Wand 3'3"



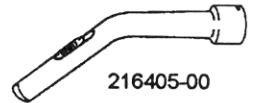
111825 8" Extension Wand



111124 22" Straight Steel Wand

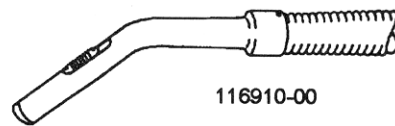


811921



216405-00

# Hose



116910-00



6'6" Plastic Hose



118272-00 30' Double Insulated



GS 90 Polyliners (25/pk) 017190



017037-01 Gore-Tex® Microfilter Set  
017220-01 Gore-Tex Replacement Filter  
616821 Cotton Microfilter



Paper Bags (5/pk) 816200



Blower Adaptor 115620  
Cannot be used in conjunction with the HEPA-filter.

# TROUBLE-SHOOTING

If the following situations should arise:

- **the motor will not start**
  - the cord may be unplugged from machine or from wall outlet
  - a fuse in your home may have blown and needs replacing
  - the cord may be defective and needs replacing
  - the motor carbon brushes may be worn and need replacing (machine will require service)
  
- **the suction power is reduced**
  - the dust bag may be full and needs replacing
  - the container may be full and needs emptying
  - a filter may be clogged and needs shaking or replacing
  - the hose, wand or nozzle may be blocked and needs to be cleaned
  
- **the thermo valve opens**
  - the hose, wand or nozzle may be blocked
  
- **the motor does not stay locked in position**
  - the red locking lever is in the wrong position. Push the lever in the direction of the arrow.

If your machine requires service, just call toll free, 1-800-NILFISK (1-800-645-3475) for immediate attention.

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## WARRANTY

The Nilfisk companies warrant that Nilfisk equipment will be free of defects in workmanship or material for a period of two years from the date of delivery. Should any failure to conform to this warranty appear, the Nilfisk companies shall upon notification within such time period, correct such non-conformity, at its option, either by repairing any defective part or parts, or by replacing a part or parts provided that the equipment is returned to an authorized Nilfisk service facility. In all cases freight both ways will be at the expense of the customer. Equipment shall not be returned without advance notice to, and consent of the Nilfisk companies.

EXCEPT AS SPECIFICALLY SET FORTH HEREIN, THE NILFISK COMPANIES MAKE NO WARRANTIES, EITHER EXPRESSED OR IMPLIED AS TO ANY MATTER WHATSOEVER, INCLUDING WITHOUT LIMITATION ANY AND ALL WARRANTIES OF MERCHANTABILITY, FITNESS FOR PURPOSE, OR OTHER WARRANTIES, ALL OF WHICH ARE EXPRESSLY DISCLAIMED AND EXCLUDED. NEITHER PARTY SHALL BE LIABLE TO THE OTHER FOR SPECIAL, INDIRECT, INCIDENTAL OR CONSEQUENTIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PRODUCTION, LOSS OF TIME, LOSS OF PROFITS OR ANY OTHER SIMILAR INDIRECT LOSSES WHICH MIGHT OCCUR AS A RESULT OF DEFECTS, PARTIAL OR TOTAL FAILURE OF THE PRODUCT TO PERFORM AS SPECIFIED.

Correction of non-conformities or defects in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of the Nilfisk companies to the customer, whether based on contract, negligence or otherwise with respect to, or arising out of such equipment. The remedies set forth herein are exclusive, and the liability of the Nilfisk companies with respect to this sale or anything done in connection therewith, whether in contract, in tort, under any warranty, or otherwise, shall not except as expressly provided herein, exceed the price of the equipment or part on which such liability is based.

This warranty does not cover repairs due to normal wear and tear, accident, neglect, misuse or abuse, incorrect installation or use other than as described in the instruction booklet. Breaks in hoses and cables are not covered. This warranty is rendered void if the motor number plate is removed or defaced or if repairs are made or attempted by persons not authorized by the Nilfisk companies.

Some states do not allow exclusions of implied warranties or limitations on how long an implied warranty lasts so the above exclusions or limitation of implied warranties may not apply. Some states do not allow exclusion or limitation of incidental or consequential damages so the above exclusion or limitation of incidental or consequential damages may not apply. Limited warranties set forth above give specific legal rights. Customer may have other rights which vary from state to state.

**Nilfisk of America, Inc., 300 Technology Drive, Malvern, PA 19355, 1-800-645-3475**  
**Nilfisk Ltd., 396 Watline Avenue, Mississauga, Ontario L4Z 1X2, Canada, 1-800-668-8400**