



USER MANUAL

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V. BRØNDUM A/S
A0.80.0201



RONDA® NPU 1250 NPU 2500 & NPU 5000

**Strong Negative Pressure Units
For Demanding Extraction Tasks**

IMPORTANT!

Read this manual before you start using the machine.

User Manual

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User Manual

RONDA[®] NPU 1250 / 2500 / 5000

Strong negative pressure units for demanding extraction tasks

Congratulations on your new RONDA[®] NPU negative pressure unit from V. BRØNDUM A/S.



Read this manual carefully, before you operate the negative pressure unit.

Keep the manual readily accessible to all users.

General Description

RONDA[®] NPU 1250 / 2500 / 5000 is developed for extracting air at renovation- and demolition tasks, where fine and health-hazardous dust may occur.

With an air flow capacity of 1250 / 2500 / 5000 m³ the RONDA[®] NPU ensures a constant exchange of air inside enclosed and limited areas.



- HEPA filter, filter class H14
- Pre-filter in G4 filter medium
- Light-weight plastic construction
- Large swivel wheels for better mobility
- Manometer indicates the filter load
- Adjustable air flow

The user manual is meant to ensure that the NPU is operated in a safe manner and that the user is in no way unsure of the use. The manual must be stored near the NPU.

Does any uncertainty arise as to the use of the NPU, the work should be stopped until all questions have been clarified.

Images and drawings are for illustrative purpose and will make the understanding of the manual easier. The images shown may therefore differ from the actual product.

Safety Instructions

This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

- The appliance is **NOT** approved for flammable, explosive, poisonous or extremely health hazardous dust, fluids or gasses.
- **DO NOT USE THE NPU WITHOUT A PROPER GROUND CONNECTION.** This NPU is designed to be used with a grounding connection (class I appliance), in an installation with HFI or HPFI. The user is responsible for ensuring that the wall outlet is grounded. The ground connection of the plug must **NOT** be removed.
- RONDA[®] NPU must be connected to 230 V mains. Make sure that the voltage and safety fuse of the power supply correspond with the data of the data plate of the machine and the information given in this user manual.
- When indicated the filters must be cleaned or, if necessary, changed.
- The operator must ensure that the appliance is adjusted to the task and that regulatory requirements are met.
- Avoid damaging the supply cord. When replacing the supply cord, only use an original supply cord (see the spare parts list). V. BRØNDUM A/S, an authorized V. BRØNDUM A/S dealer or an equally qualified person must carry out the replacement in order to avoid danger. Regularly check the mains connection for damage, such as fissures or ageing. If damage is found, the supply cord must be replaced before further use.

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- The plug must be removed from the power supply before repair, maintenance, and cleaning operations of the machine.
- **Before use**, operators should be provided with information, instruction and training for the use of the appliance and the substances for which it is to be used, including the safe method of disposal of blocked or damaged filters.
- For user servicing, the appliance must be dismantled, cleaned and serviced, as far as is reasonably practicable, without causing risk to the maintenance staff and others. Suitable precautions include decontamination before dismantling, provision for local filtered exhaust ventilation where the appliance is dismantled, cleaning of the maintenance area and suitable personal protection.
- The outside of the machine should be decontaminated by vacuum cleaning methods and wiped clean or treated with sealant before being taken out of a hazardous area. All the appliance parts shall be regarded as contaminated when removed from the hazardous area and appropriate action taken to prevent dust dispersal.
- When carrying out service or repair operations, all contaminated items, which cannot be satisfactorily cleaned, are to be disposed of. Such items shall be disposed of in impervious bags in accordance with any current regulation of the disposal of such waste.
- When changing the pre-filter or HEPA filter, dispersal of health-hazardous dust may occur. Therefore, appropriate precautions must be taken to avoid spreading, and suitable personal protection must be employed.



Do not cover the NPU while operating.

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General Safety Instructions

When using electrical equipment the necessary safety precautions must be taken in order to avoid the risk of fire, electrical shock and damage to persons. The below safety instructions are to be read and followed when the NPU is being used.

1. Keep the working area clean. Slippery and greasy surfaces increase the risk of accidents.
2. Be aware of the surroundings. Do not expose the NPU to rain. Do not use the NPU in moist or wet surroundings. Do not use the NPU near flammable gasses or liquids.
3. Keep children and unauthorized persons away from the workplace. Do not let unauthorized persons touch the NPU or the supply cord. All unauthorized persons should be kept at a distance.
4. Put the NPU away, or make it ready for transport after use. Keep the NPU in a dry place and inaccessible to children.
5. Do not use force. Do not use force when operating the NPU. Do not pull the hose or the electrical cord.
6. Choose the correct tool/accessories for the task. Do not use badly proportioned or light tools for heavy tasks. Do not use tools for anything they are not intended for.
7. Choose suitable working clothes.
8. Personal protective equipment. Wear eye and/or ear protection, if necessary. Wear respirator in dusty environments.
9. Protect the electrical cord. Never carry or pull the NPU by the electrical cord. Do not remove the plug from the socket by pulling the electrical cord. Keep the electrical cord away from heating sources, oil and sharp edges. If the electrical cord is damaged, it should be replaced.
10. Choose a safe working position so that there will be no risk of falling over the hose and cord.
11. Keep the machine and equipment in good repair. Keep the NPU clean and dry and follow the instructions of the chapter about maintenance in the user manual.
12. Cut off the electricity supply when the NPU is not in use. Remove the plug from the socket before maintenance, repair and when the NPU is not in use.

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13. If extension cords are used, the following guidelines must be observed

Length of cord in metres	Cross section	
	<16A	<25A
Up to 20 m	Ø1,5mm ²	Ø2,5mm ²
20-50 m	Ø2,5mm ²	Ø4,0mm ²

14. Exercise attention and be rested. The NPU must not be used, if the user is tired, sleepy or sick or under the influence of alcohol or drugs / medicine.
15. Check for damage. Check the NPU for damage. Check that the shields etc. have been properly fastened. Check the electrical switches, and have an authorized service mechanic replace them, if they are damaged. Do not use the NPU, if it cannot be started and/or stopped at the switch.

RONDA® NPU complies with the Machinery Directive (2006/42 / EC).

Guidelines Regarding the Disposal of the Machine



The product you have purchased is subject to Directive 2002/96/EC of the European Parliament and the Council of the European Union on waste electrical and electronic equipment (WEEE) and should not be disposed of as unsorted municipal waste. Please utilize your local WEEE collection facilities in the disposition of this product and otherwise observe all applicable national requirements.

Does the safe use or maintenance of the appliance raise any questions; do not hesitate to contact either your dealer or V. BRØNDUM A/S.

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Technical Data

RONDA® NPU is connected to 230 V power supply.

The tables below show the technical data of:
RONDA® NPU

Make sure that the voltage and fuse of the power supply correspond with the information of the data plate of the machine and the information of this manual.

RONDA® NPU 1250		
Voltage	230	V AC
Weight	28	kg
Max. effect	320	W
L	875	mm
W	485	mm
H	570	mm
Max. air flow	1250	m ³ /h
Nom. air flow	700	m ³ /h
Airflow at alarm (@480pa)	539	m ³ /h
HEPA	H14	
Pre-filter	G4	
Noise level	88	dB(A)
Exhaust coupling (hose)	300 (315)	mm
Cord length	8	m

RONDA® NPU 2500		
Voltage	230	V AC
Weight	55	kg
Max. effect	700	W
L	1320	mm
W	590	mm
H	695	mm
Max. air flow	2500	m ³ /h
Nom. air flow	2200	m ³ /h
Airflow at alarm (@350pa/380pa/650pa)*	535 / 1045 / 1438	m ³ /h
HEPA filter	H14 - 21,6	m ²
Pre-filter	G4	m ²
Noise level	85	dB(A)
Exhaust coupling (hose)	300 (315)	mm
Cord length	8	m

* Measured according to DGUV309-012 – (6 meter hose 90° L @3m)

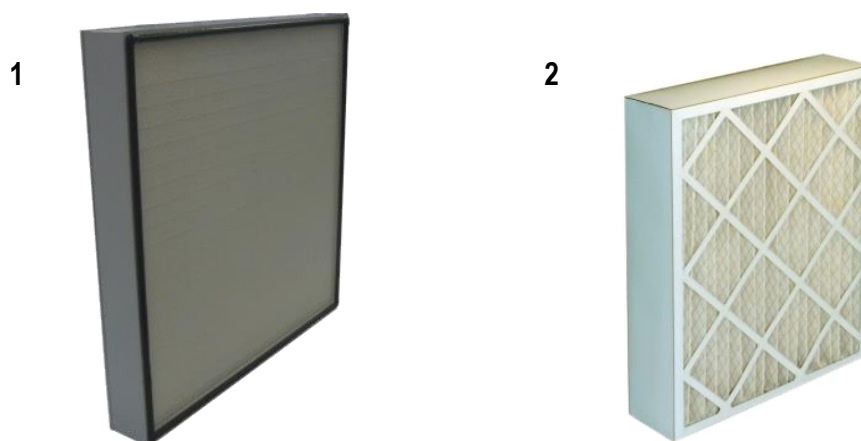
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RONDA® NPU 5000		
Voltage	230	V AC
Weight	87	kg
Max. effect	1300	W
Length	1425	mm
Width	740	mm
Height	850	mm
Max. air flow	5000	m ³ /h
Nom. air flow	3450	m ³ /h
Airflow alarm (@250pa/350pa/620pa)**	1170 / 1625 / 2243	m ³ /h
HEPA filter	H14 - 32,6	m ²
Pre-filter G4	G4	m ²
Noise level	84	dB(A)
Inlet/outlet coupling (hose)	400 (415)	mm
Cord length	8	m

** Calculated – (6 meter hose 90° L @3m)

Standard Accessories

RONDA® NPU is delivered with a complete filter system containing HEPA filter and pre-filter:



(Pictures may vary from the actual product)

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Filters can be re-ordered with following item-numbers:

	NPU 1250	NPU 2500	NPU 5000
1. HEPA filter, filter class H14.....	84.67.7090.....	84.67.7091.....	84.67.7092
2. Pre-filter, filter class G4.....	84.67.7050.....	84.67.7051.....	84.67.7052

Construction

RONDA® NPU is designed as a mobile and robust negative pressure unit for filtering of fine and health-hazardous dust.

The machine is equipped with wheels which enhance the mobility, and with handles that facilitate lifting of the unit. The housing contains the fan and the built-in filters, protecting the filters of the NPU during transport and operation.

The fan housing is equipped with a powerful fan, start/stop button, indicator manometer, and 3 steps for the fan rotation / suction (only NPU2500 & NPU5000 models).

Filter System



The filter system consists of a HEPA filter in filter class H14, and a pre-filter in G4 filter medium.

The placing of the pre-filter makes it easy to replace and clean it. The pre-filter (G4) extracts the coarse particles from the air and thereby serves as a protection for the HEPA filter.

The HEPA filter withholds the fine and smallest dust particles that are not held back by the pre-filter. The HEPA filter is class H14 and filters 99,995 %. The surface of the filter is protected by metal grating on the inside and outside.



The HEPA filter will be destroyed or its life span reduced if it is exposed to water or moisture.



The HEPA filter cannot be cleaned and must therefore be changed when it is blocked.

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Mode of Operation

When the fan of the NPU is running, air is sucked through the filters of the machine catching airborne dust particles near the filter system. The large air flow through the NPU creates a flow of air and dust particles directed towards the filter system. In this way, air that is not directly near the NPU is also purified.

The airborne dust particles are sucked through the pre-filter, where the majority of the particles are withheld. The filtered air continues through the HEPA filter which holds back 99,995 % (H14) of particles larger than 0,3 µm (0,0003 mm).

From the HEPA filter the purified air stream continues through the fan and is directed out of the NPU through the exhaust hose.

IMPORTANT! As the fan sucks cooling air through the machine all filters MUST be mounted and intact.

IMPORTANT! Do not cover the NPU while operating.

IMPORTANT! Never extract from / near processes that form sparks.

Assembling

1. Check that the packing is intact and has no sign of damage from handling and transport. Unpack RONDA® NPU and check that all the parts ordered are there.
2. Connect the inlet/outlet hose using the clamp.
3. Check that the filters of the machine are intact and undamaged (see the section about filter replacement), remove protective covers, if there are any.
4. Before the plug is connected to the electrical main supply you must make sure that the plug and the cord are undamaged. If the cord or the plug is damaged, a professional must replace the parts. Only an original cord may be mounted. Connect the machine to 230 V power supply with a reliable earth connection.
5. RONDA® NPU is now ready to start operating. er nu klar til at udføre den ønskede opgave. Start-up is described in the following section.

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Start-up

When the NPU has been correctly assembled and connected, it can be switched on and off at the start/stop switch (1) on the fan housing.

The filter load is indicated by the manometer (2)

Fan adjustment switch (3) (1-2-3 step of operation)

Continuation of grounding (4) in case of using tools that require potential equalization for the NPU.
(Accessible earth connection is to be used for testing according to national regulation of electrical equipment)

Connection of the outlet hose (5)

Connection (6) for the 230V electric cord (included)



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RONDA® NPU can be connected to an inlet hose. Using an inlet hose will make it easier to catch dust from specific processes (drilling, sanding, cutting etc.)



Connection for inlet hose



If an outlet hose is not connected, the outlet air can raise dust from the floor resulting in risk of dust exposure.



Hoses are available in various lengths. We recommend using inlet/outlet hoses of max. 6 meters.

Extracting form Work Place - Air Exchange –Guage reading

When working with asbestos or PCB an air exchange rate of 8-10 times per hour is required.

The NPU must be positioned so that it provides the greatest possible flow in an enclosure / environmental box. Eg. opposite airlocks.

OP (over pressure) models can be placed inside the containment. The motor casing is overpressured when in operation – ensuring “no dust entry”

In the table below, you can read the maximum room size in which the NPU can be used, at a given ceiling height, if the air exchange rate is to be **8 times per hour** (stated at **alarm flow**-Guage reading):

Ceiling height	RONDA® NPU		RONDA® NPU 5000
	1250	RONDA® NPU 2500	
STEP	NA	1 / 2 / 3	1 / 2 / 3
2 m	33 m ²	33 / 65 / 90 m ²	73 / 101 / 140 m ²
2,5 m	27 m ²	27 / 52 / 72 m ²	58 / 81 / 112 m ²
3 m	22 m ²	22 / 43 / 60 m ²	49 / 67 / 93 m ²
3,5 m	19 m ²	19,25 / 37 / 51 m ²	42 / 58 / 80 m ²
4 m	16 m ²	16,7 / 32 / 45 m ²	36 / 50 / 70 m ²
4,5 m	14 m ²	14,8 / 29 / 40 m ²	32,5 / 45 / 62 m ²
5 m	12 m ²	13,3 / 26 / 36 m ²	29,25 / 40 / 56 m ²

As the filter system becomes dirty, the air exchange rate will decrease.

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Hose Connection

The use of inlet/outlet hoses will reduce the air flow inside the NPU depending on diameter, length and how the hoses are laid out (bendings and winding).

The air outlet of the machine should always be lead outdoors, if possible.

Handling, operation and storage

Always lift by the handles on both sides of the machine. We recommend at least 2 persons to lift and handle the NPU.

During operation, use the locks on the wheels to secure the NPU.

Clean the NPU before storing. The NPU should be stored under dry and temperate conditions.

Cleaning and Maintenance

Read the section about safety precautions before cleaning and maintaining the NPU.

If the machine was used for health-hazardous dust, your **MUST** wear personal protection equipment (PPE) at filter change and handling of the machine.

IMPORTANT!
The machine must not be connected to the power supply during cleaning and service.

The easiest way to clean the machine is following:

1. The filter system is cleaned or replaced when necessary.
2. Vacuum the outside of the machine, using an appropriate nozzle on the vacuum hose.
3. Wipe off the outside of the machine with a dry or damp cloth.

Maintaining the Fan Housing

The fan housing is made of maintenance-free parts and does not need daily maintenance apart from outside cleaning and control of electric cords and plugs.

The fan housing is easily cleaned using a vacuum cleaner. Do not spray water directly onto the fan housing.

To avoid downtime and to ensure that the NPU is intact and safe to use, we recommend to have an authorized service technician perform an annual inspection of the electrical parts.

OP models have Over Pressure inside the cabinet – avoiding any dust to enter the inside of the cabinet.

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Control / Maintenance of the Machine

Description	Before/after use	Interval	Hours
Control of HEPA filter and machine	Before use (check)	Year (inspection)	
Electrical test / continuity / impact		6 months*	
Cleaning	After use (when needed)		
General control of filters and machine	Before use		
Control of cords and plugs	Before use		

*Depending on regulations (national)

Reordering Filters and Service Parts

	NPU 1250	NPU 2500	NPU 5000
HEPA filter	84.67.7090	84.67.7091	84.67.7092
Pre-filter	84.67.7050	84.67.7051	84.67.7052

Replacing Filters

In General

When to replace the filters depends on the user's assessment and a visual inspection of the coverage.

When replacing the filters, the necessary precautions to protect the environment and the respiratory passages of the operator must be taken. The nature and scope of these precautions must be based upon the type of dust being on the surface of the filters. The filters are to be handled in a way not causing any danger, and the safety equipment must be appropriate for the job.

If the pre-filter was replaced and this didn't result in an increased air flow and lower pressure indication, the HEPA filter must also be replaced.

Replacing the Pre-Filter



The pre-filter should be replaced when the manometer indicator is on RED, or if it has any visible damages.

The frame /spigot is removed at the clips. Now the pre-filter can be taken out of the machine – removing the tape. (Blue arrow)

We recommend pulling out the pre-filter into a plastic bag, so that release and resuspension of dust is avoided.

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The pre-filter of a RONDA NPU must be mounted using tape (eg duct tape / gorilla tape etc.) to ensure that the pre-filter fits tightly along the edges, so that dust cannot get past the pre-filter and into the HEPA-filter, where it can cause clogging.

Furthermore, by using tape as gasket, a replacement of the gasket at each change of the pre-filter is ensured, and the gasket is kept visible for easy inspection.

Replacement:

- Cut loose and remove the pre-filter (remember to pull off the filter into a plastic bag to avoid dust exposure).
- Remove old tape from the NPU and clean the surface using a wet wipe to remove dust.
- Push the new pre-filter to its position.
- Place tape onto the cardboard of the pre-filter and pull it along the housing (one side at a time).
- Make sure to press the tape tightly.



- Press and check the tape on all 4 sides, it must close tightly.
- When all 4 sides are done, the cover with the hose coupling can be mounted.



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Replacing the HEPA Filter

To ensure dust-free replacement of the HEPA filter, following instructions must be followed:

- 1) Remove the pre-filter as described in the section "Replacing the Pre-Filter"
- 2) Then loosen the bolts in the front (12 pcs) (Blue arrow)
- 3) The front is removed giving access to the HEPA filter.
- 4) The HEPA filter is pulled out – **pull out the filter into a plastic bag.**
- 5) Check the contact surface for the filter gasket.
- 6) Insert new filter.
- 7) Mount the front by means of the bolts (12 pcs)
- 8) Insert the pre-filter
- 9) Mount the frame / Spigot door



Always be careful when replacing the HEPA filter as it can easily be damaged or gaskets can be destroyed.

Always check the contact surface of the gasket for any impurities or damages.



When you dispose of the used filters you must make sure that this is done according to the national regulations.

Asbestos and Health-Hazardous Dust

- Always check up on the local/national regulations in the area where the work is performed.
- Always examine how the disposal is to be packed/wrapped up. It might be different from place to place. Usually the following is mentioned:
 - Close-fitting packing; drum/vat with cover
 - Plastic bag, min. 100 µm.
- Always mark the materials and waste according to the national regulations.
- If the machine has been used for asbestos, it must be disassembled and cleaned before it is used in a clean environment.
- The machine must be cleaned and packed before transport. Mark the packing according to the national regulations.
- The machine must be transported in a min. 120 µm plastic bag or other tight-fitting packing. (Always check according to National regulations regarding transportation of polluted material)

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Troubleshooting

If the machine does not start:

- The electrical cord is not connected.
Connect the cord to a 230V power supply.
- The electrical cord is defect.
Replace the cord.

If the machine does not extract in a satisfactory way (Manometerindication RED):

- The pre-filter might be blocked.
Clean or replace the pre-filter as described in the section "Replacing the Pre-Filter".
- The HEPA filter might be blocked.
Clean or replace the HEPA filter as described in the section "Replacing the HEPA Filter".
- Inlet/outlet hose (if such is being used) might be blocked or too long.
Remove the blocking from the hose.

If the machine does not extract in a satisfactory way:

- The HEPA filter might be leaky or falsely mounted, so unfiltered air can pass through the NPU.
Correct or replace the HEPA filter as described in the section "Replacing the HEPA Filter".
- The outlet hose might be blocked.
Remove the blocking from the hose and/or straighten out the hose.
- The inlet hose (if such is being used) might be blocked.
Remove the blocking from the hose.



DECLARATION OF CONFORMITY



V. BRØNDUM A/S

Produced by ENVIROVAC
For

V. BRØNDUM A/S
Sadolinsvej 14
DK – 8600 Silkeborg

hereby declares that the following product:

Electrically operated Negative Pressure Unit

Model:

RONDA® NPU 1250

RONDA® NPU 2500

RONDA® NPU 5000

has been designed and produced in conformity with the basic requirements and other relevant conditions of the following directives:

The Machinery Directive (Directive 2006/42/EF)

The compliance has been achieved by use of the following standards:

BS 8520-2:2009

Silkeborg, January 2020

Kennt Vallø
Product & Quality Manager

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Service and Repair

V. BRØNDUM A/S offers service and repair free of charge within the guarantee period (invoice must be presented), provided that:

- The defect has been caused by a construction defect or defective materials (normal wear and tear, misuse or insufficient maintenance is not covered by the guarantee).
- No repair attempts have been made by others than V. BRØNDUM A/S, or service centres approved by V. BRØNDUM A/S to carry out guarantee repairs.

Service free of charge includes replacement of defect parts and the cost for related working hours.

The machine is handed in via the V. BRØNDUM A/S dealers or sent directly, carriage paid, to:

V. BRØNDUM A/S
Sadolinsvej 14
DK-8600 Silkeborg

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Fax (+45) 8680 3363
E-mail v@broendum.com

Subject to changes.