

# HILTI

# DD VP-U



Bedienungsanleitung de

Operating instructions en

Mode d'emploi fr

Istruzioni d'uso it

Manual de instrucciones es

Manual de instruções pt

Gebruiksaanwijzing nl

Brugsanvisning da

Bruksanvisning sv

Bruksanvisning no

Käyttöohje fi

Οδηγίες χρήσεως el

Használati utasítás hu

Instrukcja obsługi pl

Инструкция по эксплуатации ru

Návod k obsluze cs

Návod na obsluhu sk

Upute za uporabu hr

Navodila za uporabo sl

Ръководство за обслужване bg

Instrucțiuni de utilizare ro

Lietošanas pamācība lv

Instrukcija lt

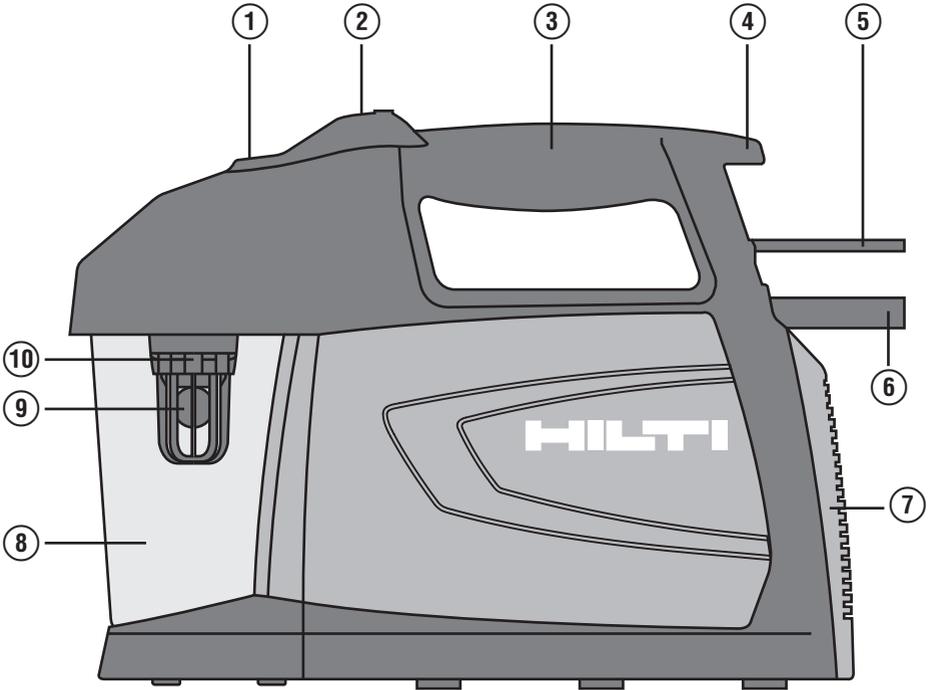
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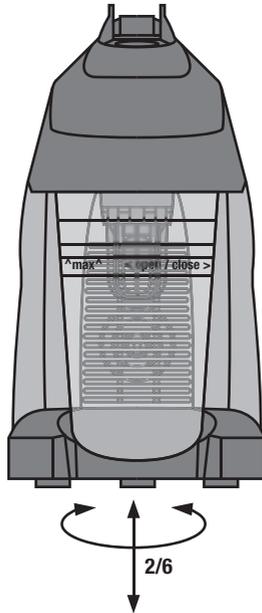
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操作说明书 cn



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## ORIGINAL OPERATING INSTRUCTIONS

# DD VP-U vacuum pump

***It is essential that the operating instructions are read before the appliance is operated for the first time.***

***Always keep these operating instructions together with the appliance.***

***Ensure that the operating instructions are with the appliance when it is given to other persons.***

Contents	Page
1. General information	9
2. Description	10
3. Spare parts	10
4. Technical data	10
5. Safety instructions	11
6. Before use	13
7. Operation	13
8. Care and maintenance	14
9. Troubleshooting	14
10. Disposal	15
11. Manufacturer's warranty	15
12. EC declaration of conformity	16

**1** These numbers refer to the corresponding illustrations. The illustrations can be found on the fold-out cover pages. Keep these pages open while studying the operating instructions.

In these operating instructions, the designation "the appliance" always refers to the DD VP-U.

### Parts, operating controls and indicators **1**

- ① Pressure gauge
- ② On / off switch
- ③ Grip
- ④ Supply cord hook
- ⑤ Supply cord
- ⑥ Hose
- ⑦ Ventilation slots
- ⑧ Water separator
- ⑨ Ball float
- ⑩ Cage

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## 1. General information

### 1.1 Safety notices and their meaning

#### **DANGER**

Draws attention to imminent danger that could lead to serious bodily injury or fatality.

#### **WARNING**

Draws attention to a potentially dangerous situation that could lead to serious personal injury or fatality.

#### **CAUTION**

Draws attention to a potentially dangerous situation that could lead to slight personal injury or damage to the equipment or other property.

#### **NOTE**

Draws attention to an instruction or other useful information.

### 1.2 Explanation of the pictograms and other information

#### Warning signs



General warning



Warning: electricity

### Location of identification data on the appliance

The type designation and serial number can be found on the type identification plate on the appliance. Make a note of this data in your operating instructions and always refer to it when making an enquiry to your Hilti representative or service department.

Type: \_\_\_\_\_

Generation: 01 \_\_\_\_\_

Serial no.: \_\_\_\_\_

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## 2. Description

### 2.1 Use of the product as directed

The pump is intended for operation in conjunction with vacuum fastening devices as used, for example, with Hilti diamond coring machines (up to a maximum coring diameter of 250 mm).

It is designed to be used as an air suction pump and is not to be used for other gases and certainly not for liquids.

It is equipped with a water separator in case of use where the presence of water is essential (e.g. diamond core drilling).

Operation in locations where there is a risk of explosion (e.g. in the immediate vicinity of gas tanks) is not permissible.

This appliance is not intended for use by persons (including children) with physical, sensory or mental disabilities or persons lacking the appropriate experience and/or knowledge.

Check the electrical specification given on the motor rating plate. The appliance may be powered only by an AC electric supply in compliance with the specification given on the rating plate.

Observe the information printed in the operating instructions concerning operation, care and maintenance.

The appliance is designed for professional use and may be operated, serviced and maintained only by trained, authorized personnel. This personnel must be informed of any special hazards that may be encountered. The appliance and its ancillary equipment may present hazards when used incorrectly by untrained personnel or when used not as directed.

To avoid the risk of injury, use only genuine Hilti tools and accessories.

### 2.2 Items supplied

- 1 The appliance
- 1 Operating instructions

## 3. Spare parts

### Water separator

1	Water separator	412483
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## 4. Technical data

Right of technical changes reserved.

Rated voltage	100 V	110 V	230 V	240 V
Rated current: see motor rating plate	5.4 / 6.0 A	4.5 A	2.1 A	2.1 A
Power input	440 / 570 W	450 W	450 W	500 W
Frequency	50 / 60 Hz	50 Hz	50 Hz	50 Hz
Protection class	I (earthed / grounded)			

Rated voltage	100 V	110 V	230 V	240 V
Protection class	IP 54	IP 54	IP 54	IP 54
Max. dispensing rate	5 / 6 m <sup>3</sup> /h	6 m <sup>3</sup> /h	6 m <sup>3</sup> /h	6 m <sup>3</sup> /h
Min. rel. vacuum	700 mbar	700 mbar	700 mbar	700 mbar
Dimensions (L x W x H)	383 x 154 x 282 mm			
Supply cord type	VCTF 3 x 1.25 mm <sup>2</sup> , gray	H07RN-F 3G 1 mm <sup>2</sup> , black	H07RN-F 3G 1 mm <sup>2</sup> , black	H07RN-F 3G 1 mm <sup>2</sup> , black
Supply cord length	4 m	4 m	4 m	4 m
Weight in accordance with EPTA procedure 01/2003	9.6 kg	9.0 kg	9.0 kg	9.0 kg
Water separator capacity	0.5 l	0.5 l	0.5 l	0.5 l
Hose length	3 m	3 m	3 m	3 m
Hose diameter	outside = 14 mm, inside = 10 mm	outside = 14 mm, inside = 10 mm	outside = 14 mm, inside = 10 mm	outside = 14 mm, inside = 10 mm

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#### Noise information (measured in accordance with EN ISO 2151):

Typical A-weighted noise level (for 100 V and 120 V)	73 dB(A)
Typical A-weighted noise level (for 110 V, 230 V and 240 V)	71 dB(A)

## 5. Safety instructions

**WARNING!** Read all instructions. Observe all safety instructions given in the operating instructions for the Hilti power tool used. Failure to observe the instructions could lead to serious injury.

### 5.1 Work area safety



**Keep the work area tidy. Any objects which may cause injury should be removed from the area.** Untidiness at the workplace can lead to accidents.

### 5.2 Electrical safety



a) **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any**

**adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.

- b) **Protect yourself from electric shock. Avoid body contact with earthed or grounded objects such as pipes, radiators, kitchen ranges and refrigerators.**
- c) **Store appliances out of reach of children when not in use. Do not allow persons unfamiliar with the appliance or these instructions to operate it.** Appliances are dangerous in the hands of untrained users.
- d) **Disconnect the supply cord plug from the power outlet before maintenance.**
- e) **When operating an appliance outdoors, use an extension cord suitable for outdoor use.** Use of a cord suitable for outdoor use reduces the risk of electric shock.
- f) **Check the appliance's supply cord at regular intervals and have it replaced by a qualified specialist if found to be damaged. If the appliance's**

supply cord is damaged it must be replaced with a specially-prepared supply cord available from Hilti Customer Service. Check extension cords at regular intervals and replace them if found to be damaged. Do not touch the supply cord in the event of it suffering damage while working. Disconnect the supply cord plug from the power outlet. Damaged supply cords present a risk of electric shock.

### 5.3 Personal safety

- a) **Keep children and other persons away from the area while the appliance is in use.** Distractions can cause you to lose control.
- b) **Children should be supervised to ensure that they don't play with the appliance.**
- c) **Stay alert, watch what you are doing and use common sense when operating the appliance. Do not use the appliance while tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating appliances may result in serious personal injury.
- d) **Avoid unusual body positions. Make sure you work from a safe stance and stay in balance at all times.**

### 5.4 Safe use and operation

- a) **Take the influences of the surrounding area into account. Do not expose the appliance to rain or snow and do not use it in damp or wet conditions. Do not use the appliance where there is a risk of fire or explosion.**
- b) **Use the right appliance for the job. Do not use the appliance for purposes for which it was not intended. Use it only as directed and when in faultless condition.**
- c) **Do not abuse the supply cord and/or the hose. Never use the supply cord or hose to carry or pull the appliance and do not pull the supply cord when unplugging.** Damaged supply cords increase the risk of electric shock.
- d) **Keep the supply cord and hose away from heat, oil, sharp edges or moving parts.**
- e) **Check the appliance and its accessories for any damage. Guards, safety devices and any slightly**

damaged parts must be checked carefully to ensure that they function faultlessly and as intended. Check that moving parts function correctly without sticking and that no parts are damaged. All parts must be fitted correctly and fulfill all conditions necessary for correct operation of the appliance. Damaged guards, safety devices and other parts must be repaired or replaced properly at an authorized service center unless otherwise indicated in the operating instructions.

- f) **During operation, protect the appliance and hose from the effects of external influences which could result in damage to the water separator or hose.**

### 5.5 Safety instructions for all operations

- a) **Observe the operating instructions for the diamond coring machine used.**
- b) **Avoid restriction or blocking of the hose, e.g. pinching, kinking or entry of dirt.**
- c) **Keep the ventilation slots on the pump clean and unobstructed. Ensure adequate free space at the air exit in order to avoid overheating of the appliance.**
- d) **Never allow the pump to stand in water.**
- e) **The pump should stand on a dry horizontal surface when in operation and should be secured to prevent possible movement.**
- f) **The vacuum will be maintained for a short time after failure of the electric supply or malfunction of the appliance. Should this occur, stop working immediately and check the pressure gauges on the pump and vacuum base plate. Secure the workpieces to prevent falling.**
- g) **Do not modify the appliance or tamper with its parts.**
- h) **Use only genuine Hilti spare parts.**
- i) **Empty the water separator each time before transporting the pump.**
- j) **Ensure that the workplace is well lit.**

### 5.6 Service

**Have your power tool serviced by a qualified repair person using only identical replacement parts.** This will ensure that the safety of the power tool is maintained.

## 6. Before use



### 6.1 Setting up the pump



Stand the pump on a dry, horizontal surface and secure it to prevent possible movement.

Check to ensure an unobstructed flow of cooling air to the pump.

The area up to at least 20 cm from the cooling air intake and exit must be kept free.

#### **WARNING**

Avoid pinching or kinking the supply cord and hose.

#### **NOTE**

Check the water level in the water separator and empty it if necessary.

Connect the hose from the pump to the vacuum baseplate.

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## 7. Operation



#### **WARNING**

Check the system for correct operation and vacuum before resuming work after maintenance.

### 7.1 Checking pump operation and vacuum

1. Plug the supply cord into the power outlet.
2. Switch the pump on at the on / off switch.
3. After a short time, the pressure gauge should indicate a pressure within the green area.

### 7.2 Switching the pump on

1. Plug the supply cord into the power outlet.
2. Switch the pump on at the on / off switch.

**NOTE** The vacuum is monitored by a built-in pressure gauge.

### 7.3 Regular checking during pump operation

#### 7.3.1 Checking the pressure gauge

Check the pressure gauge at regular intervals while the work is being carried out.

#### **NOTE**

Pressure indicator in the green area: vacuum pressure is adequate. Pressure indicator in the red area: vacuum pressure is inadequate.

If the vacuum pressure is no longer adequate, stop working immediately.

Check the system for leakage or kinks in the hose, etc.

Have the fault or damage repaired by the manufacturer, i.e. by an authorized service center.

#### 7.3.2 Checking the water level in the water separator

Check the water level in the water separator at regular intervals.

#### **NOTE**

The appliance is equipped with a safety valve to prevent water being drawn into the pump when the water container is full.

If the safety valve is activated, vacuum pressure will drop.

Stop working if this happens and empty the water separator: see section 8.2.

#### 7.4 Switching the pump off

1. Switch the pump off at the on / off switch.
2. Disconnect the supply cord plug from the power outlet.

## 8. Care and maintenance



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### CAUTION

Disconnect the supply cord plug from the power outlet before maintenance.

### WARNING

Improper cleaning may adversely affect electrical safety.

### 8.1 Care of the appliance

#### CAUTION

Disconnect the supply cord plug from the power outlet before maintenance.

### 8.2 Emptying the water separator 2

1. Connect the hose to the vacuum base plate in order to release any remaining vacuum pressure.
2. Rotate the water separator container to the "open" position and pull it down and away from the pump (bayonet connection).
3. Empty the container.

4. Check the ball float.

The ball must be free to move in its cage.

Press the ball down if it is stuck up against the seal.

5. Clean the top edge of the water separator container before refitting it.
6. Bring the bayonet connector on the water container into engagement and then rotate the container toward "close".
7. Check that the water separator container is seated securely.

### 8.3 Cleaning the appliance

#### CAUTION

Do not use solvents as these may damage plastic components.

#### WARNING

Do not clean with running water or use pressure jet/spray systems. This may adversely affect electrical safety.

1. Use a damp cloth and a little household cleaner to clean the outside of the appliance.
2. Always keep the grip surfaces of the appliance free from oil and grease.
3. Clean the ventilation slots regularly with a soft, dry brush.

## 9. Troubleshooting

Fault	Possible cause	Remedy
The pump is running and is connected to the vacuum baseplate but no vacuum is created (pressure indicator in the red area).	The filter is clogged.	Return the appliance for repair.
	Dirt in the hoses, fittings, pump or vacuum baseplate seals (water separator, connectors, etc.).	Clean out the hoses, fittings and seals or replace them if necessary.
	Operation at high altitude.	Use a different fastening method.
The pump runs but creates no vacuum (pressure indicator in the red area).	The water separator is full.	Empty the water separator.
	The ball float is stuck beneath the filter unit.	Remove the water separator and pull the ball down.
	The water separator is leaking, damaged or not fitted.	Fit the water separator. Replace it if damaged.
	The hose is damaged or squashed.	Return the appliance for repair.
	The pump is defective.	Return the appliance for repair.

Fault	Possible cause	Remedy
The pump doesn't start.	Electric power failure.	Check the fuses and cables. Check the position of the switch. Check that the electric supply voltage complies with the details given on the rating plate.
	The pump is defective.	Return the appliance for repair.
The pump switches itself off.	The overheating cut-out has been activated.	Allow the appliance to cool down. The appliance switches on again automatically. Check the ventilation slots and clean them if necessary. Check the operating voltage.
The water separator container cannot be removed.	The system is still under vacuum.	Release the pressure by connecting the hose to the vacuum baseplate.

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## 10. Disposal



Most of the materials from which Hilti tools or appliances are manufactured can be recycled. The materials must be correctly separated before they can be recycled. In many countries, Hilti has already made arrangements for taking back old tools and appliances for recycling. Ask Hilti customer service or your Hilti representative for further information.



For EC countries only

Disposal of electric appliances together with household waste is not permissible.

In observance of European Directive 2002/96/EC on waste electrical and electronic equipment and its implementation in accordance with national law, electric appliances that have reached the end of their life must be collected separately and returned to an environmentally compatible recycling facility.

## 11. Manufacturer's warranty

Hilti warrants that the tool supplied is free of defects in material and workmanship. This warranty is valid so long as the tool is operated and handled correctly, cleaned and serviced properly and in accordance with the Hilti Operating Instructions, and the technical system is maintained. This means that only original Hilti consumables, components and spare parts may be used in the tool.

This warranty provides the free-of-charge repair or replacement of defective parts only over the entire lifespan of the tool. Parts requiring repair or replace-

ment as a result of normal wear and tear are not covered by this warranty.

**Additional claims are excluded, unless stringent national rules prohibit such exclusion. In particular, Hilti is not obligated for direct, indirect, incidental or consequential damages, losses or expenses in connection with, or by reason of, the use of, or inability to use the tool for any purpose. Implied warranties of merchantability or fitness for a particular purpose are specifically excluded.**

For repair or replacement, send the tool or related parts immediately upon discovery of the defect to the address of the local Hilti marketing organization provided.

This constitutes Hilti's entire obligation with regard to warranty and supersedes all prior or contemporaneous comments and oral or written agreements concerning warranties.

## en 12. EC declaration of conformity

Designation:	Vacuum pump
Type:	DD VP-U
Year of design:	2009

We declare, on our sole responsibility, that this product complies with the following directives and standards: 2006/95/EC, 2004/108/EC, 2006/42/EC, EN 60335-1, EN 55014-1, EN 55014-2, EN 61000-3-2, EN 61000-3-3.

### Hilti Corporation



**Dietmar Sartor**  
Head of BA Quality and Process  
Management  
Business Area Electric Tools & Accessories  
07 2009



**Johannes Wilfried Huber**  
Senior Vice President  
Business Unit Diamond

07 2009

# HILTI

## Hilti Corporation

LI-9494 Schaan

Tel.: +423 / 234 21 11

Fax: +423 / 234 29 65

[www.hilti.com](http://www.hilti.com)



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