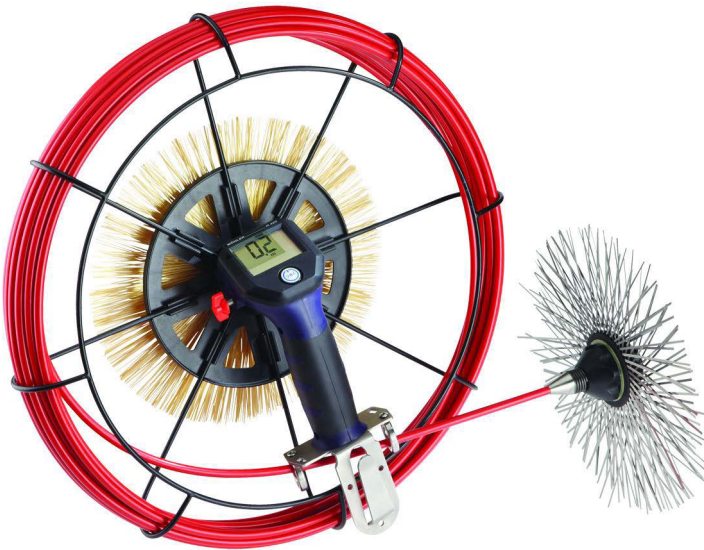


# WÖHLER

## Manual EN H 420 Handy Viper



Test Equipment Depot - 800.517.8431 - 99 Washington Street Melrose, MA 02176

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# 1 General Information

- 1.1 Operation Manual Information** This operation manual allows you to safely work with the Wohler H 420 Handy Viper with digital distance measurement. Please keep this manual for your information.

The Wohler H 420 Handy Viper should be employed by professionals for its intended use only. Liability is void for any damages caused by not following this manual.

- 1.2 Notes**



**WARNING!**

Not following this warning can cause injury or death.



**ATTENTION!**

Not following this note can cause permanent damage to the device.



**NOTE!**

*Useful information*

- 1.3 Intended Use**

The Wohler H 420 Handy Viper with digital distance measurement is especially designed to clean flue gas systems or ductworks.

Do not use the camera for any other use than set out in this manual.

- 1.4 Components**

Device	Components
Wohler H 420	Handy Viper with digital distance measurement
	GRP Rod
	GRP push head for mounting stars

- 1.5 Transport**



**ATTENTION!**

Before transporting the viper, activate the transport lock!

- To activate the transport lock push down the

## General Information



Fig. 16: vertical position of the lever - transport lock activated



Fig. 17: horizontal position of the lever - transport lock deactivated

lever on the right side of the screen.

With the transport lock activated it will not be possible to unroll the rod.



### **ATTENTION!**

Unlock the transport lock before unwinding the GRP Rod.

- Before working with the viper push the lever, which is on the right side of the screen, to a horizontal position.

The transportation lock is deactivated now, so that it will be possible to unwind the rod.

## 1.6 Information on disposal



Electronic equipment does not belong into domestic waste, but must be disposed in accordance with the applicable statutory provisions.

You may hand in any defective batteries taken out of the unit to our company as well as to recycling places of public disposal systems or to selling points of new batteries or storage batteries.

<b>1.7</b>	<b>Manufacturer</b>	<b>Wöhler Technik GmbH</b> Wöhler-Platz 1 33181 Bad Wünnenberg Tel.: +49 2953 73-100 Fax: +49 2953 73-250 E-Mail: info@woehler.com
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## 2 Technical Data

### Handy Viper

Description	Data
Weight (incl. GRP Rod, 50 feet/15 m)	2 kg
Braking action	Freewheel brake, precisely adjustable
Operation Temperature	Max. 60 ° C

### GRP Rod

Description	Data
Length	50 ft or 65 ft (15 m or 20 m)
Cage diameter	0.02 ft (7 mm)
Shell	PA

### Cage

Description	Data
Cage diameter	1.38 ft (42 cm)
Material	VA stainless steel, with plastic shell

## Component explanation

Digital meter counter

Description	Data
Unit	Meter or Feet (m or ft)
Resolution	0.1
Battery	3.6 V long-term lithium battery

### 3 Component explanation

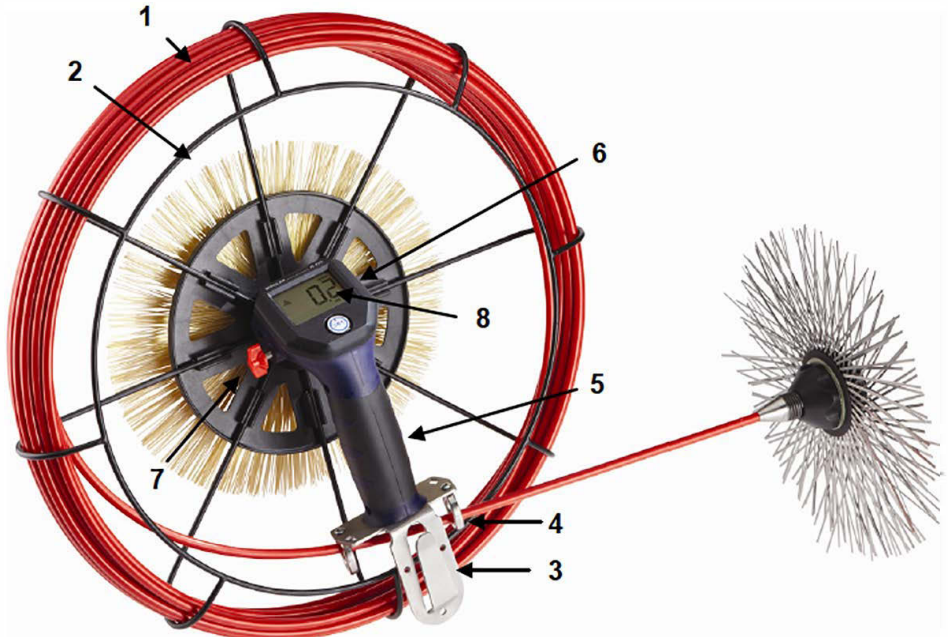
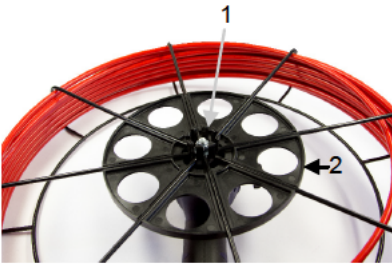


Fig. 18: Overview

**Component Explanation**

- 9 GRP rod
- 10 Cage
- 11 Belt clip
- 12 Rod clamp
- 13 Viper grip
- 14 Transport lock
- 15 Star grip screw for adjusting the free-wheel brake
- 16 Screen

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Rear side of the device:

- 1 Star holder to hold one or two stars
- 2 Hand protection

Fig. 19: Back side of the device

### 3.1 Function



The Wohler H 420 Handy Viper is the perfect tool to clean flue gas systems or ductwork. Before working with the Viper, stars and brushes can be mounted.

The exact position of the star or the brush in the duct will be indicated on the screen, so that the user knows how many feet into the flue way or ductwork the rod has traveled.

Fig. 20: Cleaning a stainless steel chimney



Fig. 21: Cleaning a ventilation duct



### 3.2 Display and operating button

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Fig. 22: Display and keys

#### Description

- 1 Battery condition
- 2 Length
- 3 Unit (meter or feet)
- 4 Winding (▼) or unwinding (▲)
- 5 Button  
Switching on, zeroing, selecting the unit

## 4 Getting started

### 4.1 Adjusting the freewheel brake

The freewheel brake allows to wind or unwind the GRP rod in a controlled way. This way, the rod cannot run out of the viper.



Fig. 23: Star grip screw for adjusting the freewheel brake

The freewheel brake is adjusted with the star grip screw on the left side of the screen.



**NOTE!**

*The freewheel brake is adjusted at the plant and normally it is not necessary to change the setting.*

Increasing the braking action

- Turn the star grip screw clockwise. The rod will not run out of the cage.

Decreasing the braking action

- Turn the star grip screw anti-clockwise. You can easily pull the rod out of the basket.

## 4.2 Mounting the Viper Stand (option)

For a secure stand a viper stand made of stainless steel can be acquired. (see accessories). How to mount the Viper Stand:

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Fig. 24: Mounting the Viper Stand (option)

- Push the bearing surface of the stand under the seat area of the Wöhler Viper.

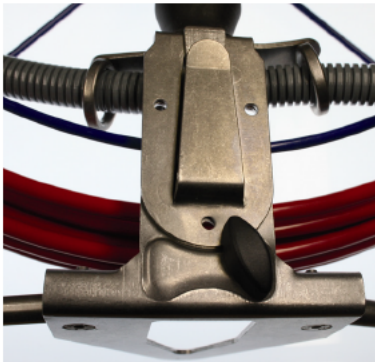


Fig. 25: Black screw and bore holes

- Turn the black screw to an upright position.



### NOTE!

If you constantly use the viper with the stand, we recommend to connect the viper and the stand with three screws, using the correspondent bore holes.



*Fig. 26: Mounting the Viper Stand*

For a secure stand, fix the Viper Stand with your foot when working.



*Fig. 27: Viper Stand, retracted.*

The Viper Stand is retractable for the transport.

### 4.3 Mounting the push head



Fig. 28: Details of the push head

#### Attaching the quick-change push-head

#### Removing the quick-change push-head

- 1 Rod end piece
- 2 Cone ring
- 3 Top section of a push-head

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#### **!** ATTENTION!

The M10 female thread of the rod-end piece (1) must be visible and in perfect condition.

- Attach the cone ring (2) with the cone area pointing downwards.
- Place a star on the top section of the push-head adapter (3). Then push the top section, with the star being attached, onto the end piece of the rod.
- The clamping plate in the adapter locks the push-head adapter into place.
- Grasp the recess at the top of the push-head with your thumb and index finger and withdraw the clamping plate.

You can now remove the top section.



#### NOTE!

It is possible to place two more stars on the star holder (Abb. 4), so that the user can easily change the stars while working.

## 5 Using the Viper

### 5.1 Switching on and off the screen



Fig. 29: Display and button

- For switching on and off the screen keep the button pressed for 2 seconds.

When the screen is switched on, the battery condition, the length of the unwinded rod, the direction of the last rod movement (▲ unwinding and ▼ winding) and the unit of the length are indicated.



#### **NOTE!**

*If the rod is not moved and the button is not pushed during 3 minutes, the digital distance measurement will switch off automatically.*

### 5.2 Selecting the length unit

It is possible to select between meter (m) and foot (ft). After switching on, the last chosen unit will be indicated.

- Before changing the unit switch off the device.
- Now, keep the button depressed for ten seconds, until the new unit will be indicated on screen.
- Press the button shortly to reset the distance indication to 0.00.

### 5.3 Zeroing



#### **NOTE!**

*We recommend to reset the distance indication to 0.00, when the star or brush is pushed into the pipe, so that you will know exactly how many feet into the flueway or ductwork you have traveled.*

- 5.4 **Winding and un-winding the rod**
- Unlock the transport lock (see chapter 1.5).
  - Unwind the rod carefully by pulling it out of the cage.

**!** **ATTENTION!**

When winding the rod, pay attention that it extends the whole width of the cage. Winding on one side only may provoke that the rod jumps out of the cage.

## 6 Maintenance

The Wohler H 420 Handy Viper is robust, so that only few maintenance work needs to be done.

Maintenance work

Interval	Maintenance work
Depending on the use	Change the rod
After 5 to 10 years	Change the batteries
In case of pollution	Clean the rod, the cage and the grip with a damp cloth.

- 6.1 Changing the rod**
- Unwind the GRP rod completely and pull it out of the cage sleeve.



**WARNING!**

Pay attention when unwinding the rod. The last winding could lash out.

- Push the new rod into the sleeve and wind it steadily.



**ATTENTION!**

Pay attention that the rod end piece is positioned firmly into the sleeve.

- 6.2 Changing the batteries**



Fig. 30: Changing the batteries

The device has a long term battery that only has to be changed every five or ten years. The blue LED shows the battery condition.  
How to change the batteries:

- Pull off the screen frame.
- Take the screen with the circuit board and the battery out of the device.
- Disconnect the battery from the circuit board and connect a new lithium battery 3.6 V.
- Return the screen with the circuit board and the battery to its previous position.
- Return the screen frame to its previous position and press.



**7 Service**

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## 8 Declaration of conformity

The manufacturer:

**Wöhler Technik GmbH**  
**Wöhler-Platz 1, D-33181 Bad Wünnenberg**

declares that the product

**product name: Wohler H 420 Handy Viper**

**model number: H 420**

complies with the key safety requirements set down in the guidelines of the Council for the Harmonization of the Legal Requirements of the Member States in relation to the electromagnetic compatibility (2014/30/EU).

The following standards were availed of to evaluate the product in respect of the electromagnetic compatibility:

Resistance to electrostatic discharge: DIN EN 61326-1, table 2 and 3

Resistance to electrostatic discharge DIN EN 61326-1, table 2 and 3

Resistance to magnetic fields with energetic frequencies:

DIN EN 61326-1, table 2

Stray radiation DIN EN 55011, class B group 1

## 9 Accessories

### Spare rod

GRP Rod, 0.2 ft (7 mm) Ø, (65 feet) 15 m long

Order no. 7015

GRP Rod, 0.2 ft (7 mm) Ø, (65 feet) 20 m long

Order no. 7020

### Accessories

Star Kit, stainless steel

Order no. 3709

Star Kit, PEK

Order no. 3710

Stand for Wohler Handy Viper

Order no. 7823

### Spare battery

Lithium cell 3.6 V, 1200 mAh

Order no. 56858

### Spare part

Star holder

Best.-Nr. 7463

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