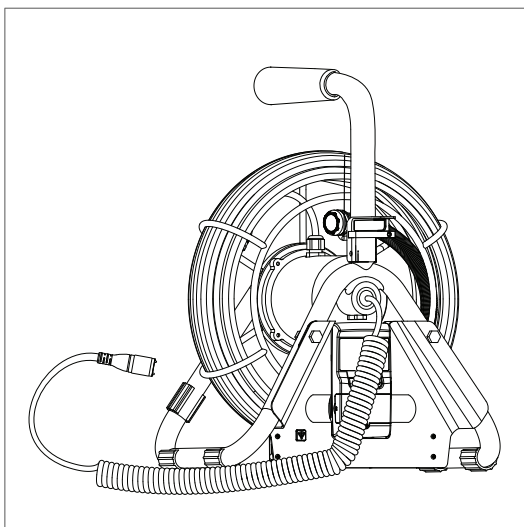


EXTECH

User Manual

Pipe Inspection Probe

Model HDV7C-P28-30. For use with
HDV700 VideoScope.



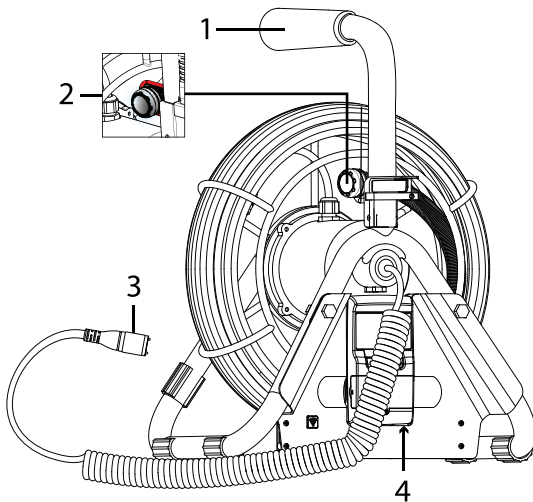
Introduction

Thank you for selecting the Extech pipe inspection probe. The probe includes a digital camera with a coiled 98.4 ft. (30 m) probe spool, a brush accessory, and a digital distance gauge.

The probe is intended for use with the HDV700 VideoScope. See the HDV700 manual for complete instructions covering image and video management, split-screen mode, and other features. Download the HDV700 user manual and additional translations of this user manual on the support site:

<https://support.flir.com>

Product Description



1. Handle
2. Camera head with stopper
3. HDV700 connector
4. Distance gauge

Safety

Safety Note

Please read and understand all safety cautions before use.



CAUTION

Do not insert the probe into flammable liquid or gas.

This product is designed for industrial use only. It is not intended for use in human or other biological inspection.

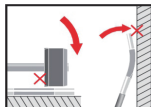


CAUTION

To clean the probe, wipe with a soft cloth dampened with a mild detergent and clean water. Do not use abrasive detergents, solvents, corrosives, or alcohol to clean the probe. Use a high quality lens cleaning fluid and a lint-free swab to clean the camera and worklight lenses.

Do not disassemble the product, damage to the product and electrical shock may occur.

Avoid direct sun exposure. Store in a cool, dry, and well-ventilated area.



The probe contains sensitive circuitry that controls the optics and electronics of the camera. Do not strike the probe or allow it to impact objects forcefully.

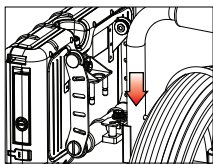


The following liquids have been approved for submersion of the camera probe: Brake and transmission fluid, diesel fuel, unleaded gasoline, engine oil, and CPC hydraulic oil (46AWS).

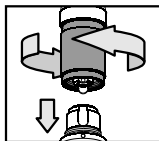
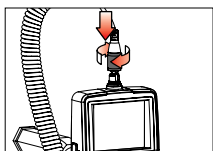
Connect the Probe

The steps below explain how to safely connect the HDV700 Video-Scope with the probe. Always switch the HDV700 power off when making connections.

Attach the HDV700 to the reel.

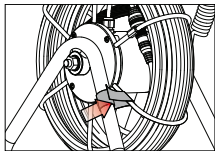
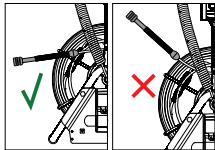
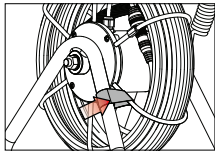


Connect the probe to the HDV700 by first aligning the white dot on the probe connector with the white dot on the HDV700 connector and then pushing the probe into the HDV700 cavity until it seats firmly.

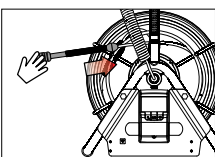
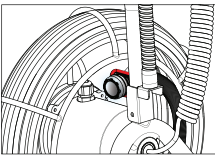


Tighten the collar nut to secure the connection. Do not overtighten.

Uncoiling the Probe

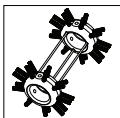
<p>Loosen the wheel stopper.</p>	
<p>Uncoil the probe horizontally from the camera head stopper. Do not pull probe up over a 45° angle.</p>	
<p>After uncoiling the desired probe length, fasten the wheel stopper.</p>	

Recoiling the Probe

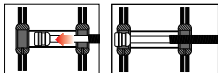
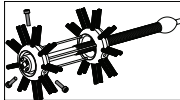
<p>Carefully coil the probe back onto the wheel horizontally.</p>	
<p>After coiling the probe onto the wheel, affix the camera head on the camera head stopper.</p>	
<p>Ensure that the wheel stopper is secured.</p>	

Brush Accessory

The probe includes a brush accessory that assists the probe as it moves through the pipe under inspection. The brush can clear debris that may impede the probe. The brush diameter is 4 in. (100 mm).

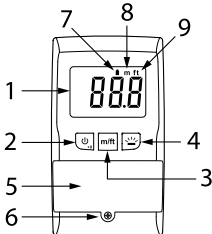


To attach the brush, follow the instructions below.

Position the mounting ring so that it aligns with the screw holes.	
Tighten the screws.	

Distance Gauge

The electronic gauge measures and displays the distance that the probe travels into the inspection area. The gauge tracks forward and reverse movement.

	<ol style="list-style-type: none">1. Backlit digital display shows probe travel distance2. Power/Reset button. Press for 3 seconds to switch ON or OFF. Short press to reset/zero the display3. Unit of measure button (meters and feet)4. Display backlight button5. Battery compartment cover6. Battery compartment screw7. Battery status8. Unit of distance measure (meters)9. Unit of distance measure (feet)
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Powering the Distance Gauge

The distance gauge is switched ON or OFF by pressing the power button (2) for three seconds. After one hour, the gauge will automatically switch off, to conserve battery energy.

The battery status icon (7) shows the current battery power. To replace the batteries, follow the steps below:

1. Switch the meter off by pressing the power button (2) for three seconds.
2. Remove the battery compartment screw (6).
3. Remove the compartment cover (5).
4. Remove the old batteries and dispose of them responsibly.
5. Install the two new AAA batteries, observing correct polarity.
6. Close the compartment and secure it with the compartment screw.

Change the Measurement Units

The display shows the probe travel distance in meters (m) and feet (ft), short press the units button (3) to toggle the displayed units.

Reset (Zero) the Distance Gauge Display

With the gauge powered, short press the power/reset button (2) to reset the display to zero.

For the best accuracy, zero the display at the point of probe entry into the inspection area.

If you wish to set a reference point, other than the starting point, press the reset button at any time during an inspection. Now you can monitor the distance travelled from this new reference point.

Distance Gauge Backlight

Short press the backlight button (4) to switch the display backlight ON or OFF. The backlight will automatically switch OFF after 10 seconds to conserve battery energy.

Measurement Considerations

- Ensure that the camera lens cap is removed before inserting the probe into the pipe.
- Store the lens cap safely while it is removed.
- For protection, attach the lens cap when storing the camera.
- After connecting the probe to the HDV700, verify that a clear camera image is displayed. If not, or if the image is flickering or otherwise compromised, remove the probe and reattach it.
- Turn the probe wheel slowly when moving the probe through a pipe. Do not force the wheel if resistance is detected. Check the nature of the resistance and clear as necessary before continuing.
- Use the distance gauge to keep track of the probe travel distance. Zero the display when you first insert the probe into the pipe for best accuracy.
- Take still images and video, adjust display parameters, and more from the HDV700 touch screen (refer to the HDV700 user manual).
- When the inspection is complete, carefully recoil the probe slowly onto the storage wheel.

Cleaning

Clean the probe with a damp cloth and mild detergent as necessary.

Clean the camera, mirror, and worklight lenses, using a high quality lens cleaning fluid and a lint-free swab.

Specifications

Camera Specifications

Camera image resolution	640 x 480 pixels
Frame rate	30 frames per second (fps)
Probe head and body diameter	1.1 in. (28 mm)
Probe length and diameter	98.4 ft. (30 m) length; 0.2 in. (6 mm) diameter
Probe head material	Stainless steel
Reel frame diameter	11.8 in. (300 mm)
Reel material	Steel frame; HDPE cable reel
Worklights	Eight (8) front facing LED lamps
Field of View (FOV)	150°
Depth of Field (DOF)	0.4 to 4.0 in. (10 to 100 mm)
Accessories	Probe brush attachment (included)
Operating and storage temperature	14°F to 140°F (-10°C to 60°C)
Water-proof, ingress rating	Probe tip and body: IP 67 (IEC 60529); Protected from submersion in water up to 32.8 ft. (10 m) for 30 minutes, maximum
Liquids approved for probe submersion	Brake and transmission fluid, diesel fuel, unleaded gasoline, engine oil, and CPC hydraulic fluid (46AWS)
Weight	7.7 lbs. (3.5 kg)

Distance Gauge Specifications

Display type	Backlit LCD
Display digits	3 digits with 0.1 resolution (99.9)
Unit of measure	Meters (m) and feet (ft); selectable
Accuracy	1.3 ft (0.4 m)
Control buttons	Power/reset, unit of measure, and display backlight
Power	Two (2) AAA batteries, included ≥ 90 hours operation
Operating and storage temperature	14°F to 120°F (-10°C to 60°C)
Dimensions	2.4 x 4.3 x 10.0 in. (62 x 110 x 25 mm)

Two-Year Warranty

FLIR Systems, Inc. warrants this Extech brand instrument to be free of defects in parts and workmanship for **two years from date of shipment (a six-month limited warranty applies to sensors and cables). To view the full warranty text please visit:**

<http://www.extech.com/support/warranties>.

CUSTOMER SUPPORT

Customer Support Telephone List:

<https://support.flir.com/contact>

Calibration, Repair, and Returns e-mail: repair@extech.com

Technical Support: <https://support.flir.com>

Website

<http://www.flir.com>

Customer support

<http://support.flir.com>

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