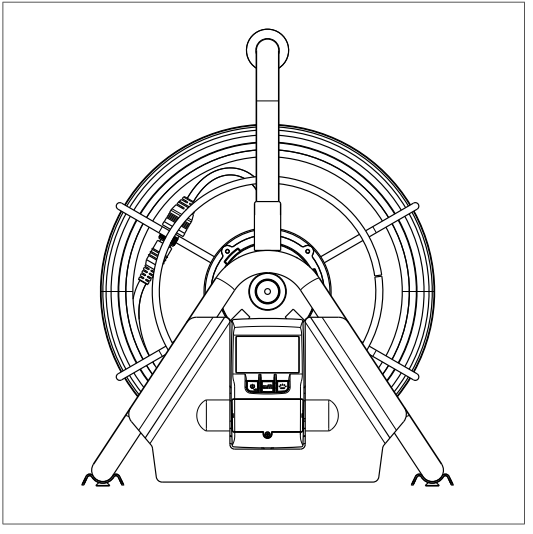
FLIR

# User Manual

## Pipe Inspection Camera Probe

**Model VS80C10–25RM**



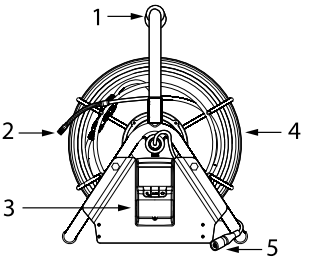
# Introduction

Thank you for selecting the FLIR pipe inspection probe. The probe includes a digital camera with mirror and centring tool accessories, a coiled 82 ft (25 m) probe, and a distance gauge.

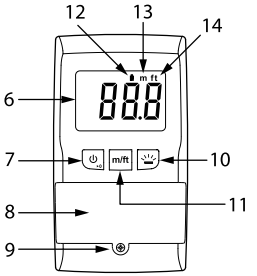
The probe is intended for use with the VS80 High Performance Videoscope. See the VS80 manual for complete instructions on image and video management, Wi-Fi connectivity, split-screen modes, and other features. Obtain the VS80 user manual and additional translations of this user manual on the support site:

https://support.flir.com

# Product Description




1. Handle
2. Camera head
3. Distance gauge
4. Probe wheel with 82 ft (25 m) coiled probe
5. VS80 connector




6. Digital display shows probe travel distance
7. Power/Reset button. Press for 3 seconds to switch ON or OFF. Short press to reset/zero the display
8. Battery compartment cover
9. Battery compartment screw
10. Display backlight button
11. Unit of measure button
12. Battery status
13. Unit of distance measure (meters)
14. Unit of distance measure (feet)

# Safety

**Safety Note**

Please read and understand all safety cautions before use.

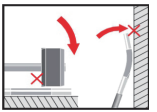
| ⚠ **CAUTION** |
| --- |
| Do not insert the probe into flammable liquid or gas.<br>This product is designed for industrial use only. It is not intended for use in human or other biological inspection. |

**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.

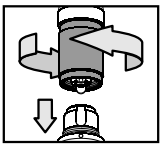
Do not disassemble the product, damage to the product and electrical shock may occur.

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 VS80

The steps below explain how to safely connect the probe to the VS80 monitor. Always switch the VS80 power off before connecting the probe.



1. Align the white dot on the probe connector with the white dot on the VS80 monitor connector.
2. Plug the probe into the monitor unit, ensuring proper alignment and full insertion.
3. Tighten the collar nut to secure the connection. Do not overtighten.

# Camera Accessories



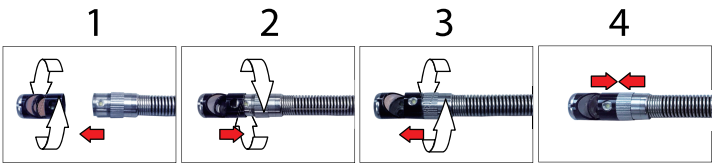
The kit includes a side view mirror and two centring tools (Ø13 and Ø20 mm), shown above, left to right. The mirror tool provides a side view of the inspection area, and the centring tools maintain a straight trajectory for the probe in a variety of pipe sizes.

**Side View 70° Mirror Accessory**

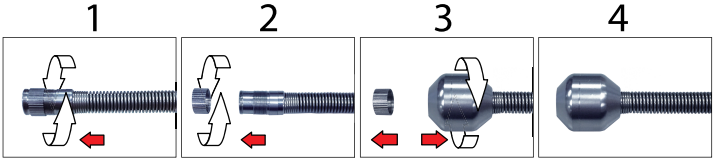

1. 70° mirror
2. Align the probe worklight with the opening on the accessory
3. Threaded probe connection

Note that the mirror's protective film must be removed before use. Clean the mirror with a lint-free swab and good quality lens cleaner. Remove dust and moisture droplets with compressed air when necessary.

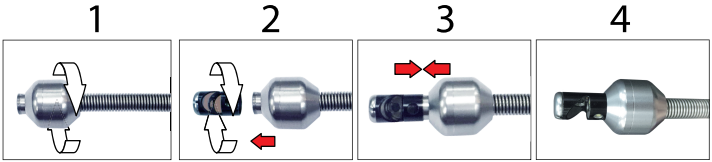
Attach the accessory as shown in the illustration below.



**Centring Head Installation**




**Centring Head with Side View Mirror Installation**




# Distance Gauge

The backlit electronic gauge (3) measures and displays the distance the probe travels into the inspection area in meters and feet. The gauge tracks forward and reverse movement.

**Powering the Distance Gauge**

The distance gauge is switched ON or OFF by pressing the power button (7) for three seconds. After one hour, the gauge will automatically switch off, to conserve battery energy.

The battery status icon (12) shows the current battery power. To replace the batteries, follow the steps below:

1. Switch the meter off by pressing the power button (7) for three seconds.
2. Loosen and remove the battery compartment screw (9).
3. Remove the compartment cover (8).
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 (11) to toggle the displayed units.

**Reset (Zero) the Distance Gauge Display**

With the gauge powered, short press the power/reset button (7) to reset the display to zero.

For the best distance accuracy, zero the display at the point of probe insertion 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 (10) 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 VS80, 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. Contact FLIR support for assistance if issues persist.
- Turn the probe wheel (4) 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 (3) 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 the display parameters, and learn of the other features available on the VS80 as described in the VS80 manual.
- When the inspection is complete, carefully recoil the probe slowly onto the storage wheel. Clean with a damp cloth and mild detergent as necessary. Use a high quality lens cleaning fluid and a lint-free swab to clean the camera, mirror, and worklight lenses.

# Specifications

**Camera Specifications**

| | |
|---|---|
| Camera image resolution | 640 * 480 pixels |
| Frame rate | 30 frames per second (fps) |
| Probe head and body diameter | 0.4 in (10 mm) |
| Probe head length | 0.7 in (16.7 mm) |
| Probe length | 82 ft (25 m) |
| Probe head material | Stainless steel |
| Worklights | One front facing and one side facing LED |
| Field of View (FOV) | 87° |
| Depth of Field (DOF) | 0.4 to 4.0 in (1 cm to 10 cm) |
| Accessories | Mirror adaptor and centring tools |
| Operating temperature | 32°F to 140°F (0°C to 60°C) |
| Storage temperature | 14°F to 140°F (-10°C to 60°C) |
| Water-proof, ingress rating | Probe tip and body: IP 67 (IEC 60529);<br>Protected from submersion in water up to 3.3 ft (1 m) for 30 minutes, maximum. In use: rain, splashes, and accidental submersion |
| Liquids approved for probe submersion | Brake and transmission fluid, diesel fuel, unleaded gasoline, engine oil, and CPC hydraulic fluid (46AWS) |

**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<br>≥ 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) |

# Warranty and Support

**Three-Year Limited Warranty**

This product is protected by FLIR's 3-Year Limited Warranty. Visit www.flir.com/testwarranty to read the 3-Year Limited Warranty document.

**CUSTOMER SUPPORT**

| | |
|---|---|
| Customer Support Telephone List | https://support.flir.com/contact |
| Repair, Calibration, and Technical Support | https://support.flir.com |

# User Manual

**Website**
http://www.flir.com

**Customer support**
http://support.flir.com



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