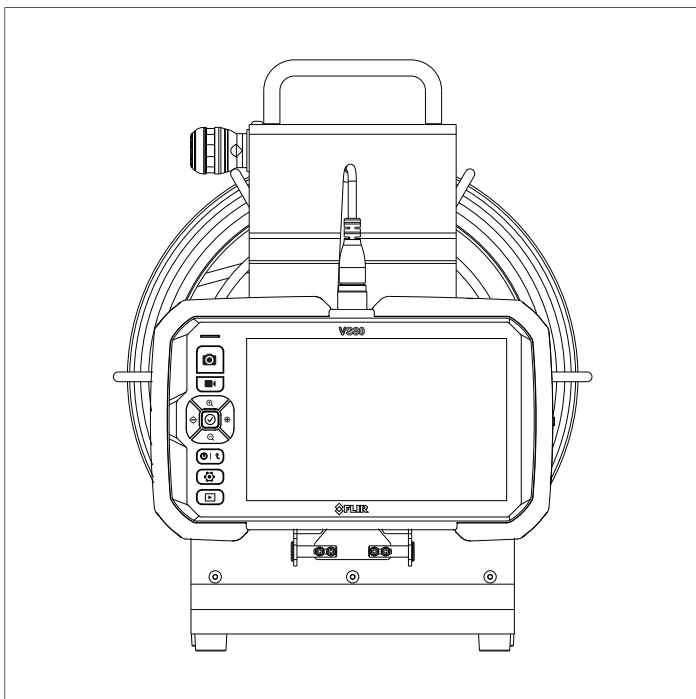




USER MANUAL

Plumbing Spool Camera Probe with Transmitter VS80C30HD-30RM



Advisories

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Disposal of Electronic Waste



As with most electronic products, this equipment must be disposed of in an environmentally friendly way, and in accordance with existing regulations for electronic waste. Please contact your FLIR representative for more details.

Safety

Cautions

<p>⚠ CAUTION If this product is used without observing the information given under this symbol, it might cause damage to this product.</p>
<p>Approved substances for probe inspection (list below). Do not use this device in other substances.</p> <ul style="list-style-type: none">• Water• Brake and transmission fluid• Unleaded gasoline• Diesel fuel• Engine oil• CPC hydraulic fluid
<p>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.</p>
<p>Do not connect or disconnect the probe or other accessories while the device is powered. Always connect and disconnect accessories with power off.</p>
<p>Use care when reeling the probe tube off and onto the spool. The tube is manufactured using high strength material that can damage equipment and injure persons if not handled safely.</p>
<p>Secure the probe tube on the spool when not in use, the tube can unravel if not secured.</p>
<p>To avoid electric shock and damage to these products, do not disassemble these products.</p>
<p>Use only recommended components and accessories with these products. Unapproved components and accessories can damage product and other equipment.</p>

Warnings

<p>⚠ WARNING If this product is used without observing the information given under this symbol, it might cause injuries or loss of life.</p>
<p>Do not use these products in medical facilities, aircraft, in explosive environments, or near fuel or alcohol storage tanks.</p>
<p>Do not use this system near flammable gases.</p>
<p>This probe is designed for industrial use only. It is not intended for use in human or other biological inspection.</p>
<p>Avoid looking directly into the camera while the LED worklights are on.</p>

FCC Compliance

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television

reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

1. Reorient or relocate the receiving antenna.
2. Increase the separation between the equipment and receiver.
3. Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
4. Consult the dealer or an experienced radio/TV technician for help.



WARNING

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

RoHS Notice

This device is in conformance with the requirements of the European law on the Restriction of Hazardous Substances (RoHS) directive. This means that our product is both lead-free and devoid of hazardous substances either in the manufacturing process or in the final product.

Introduction

Thank you for selecting the FLIR Plumbing Spool Camera Probe with Transmitter. The system includes a digital camera, coiled 98.4 ft. (30 m) probe with 512 Hz transmitter, and probe attachments (brushes and metal ring).

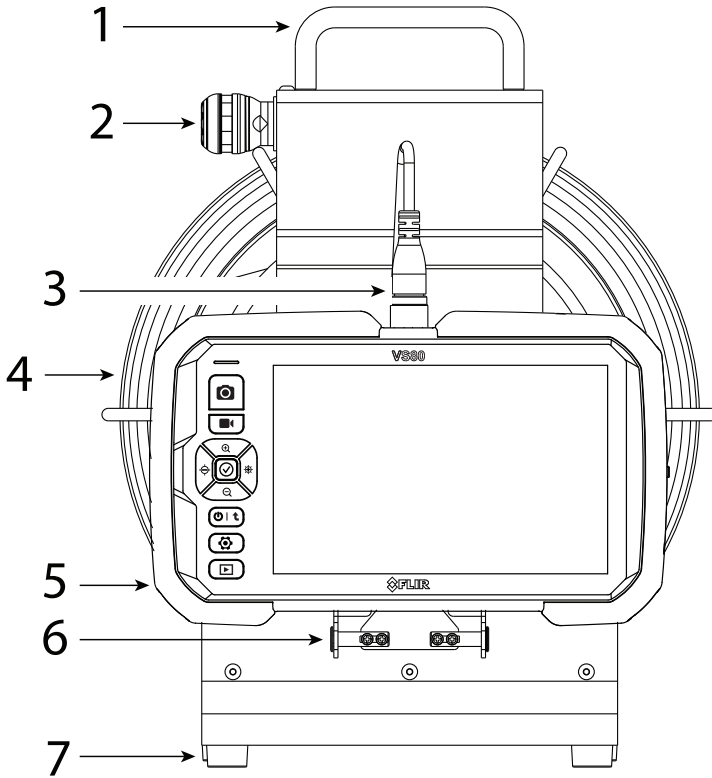
The probe is intended for use with the VS80 High Performance Videoscope. The VS80 can display live images and record images and video. See the VS80 manual for complete instructions on image and video management, Wi-Fi connectivity, split-screen modes, and other features.

The optional VS80-LCT-1 Locator detects the 512 Hz probe transmitter signal, and directs the user to the probe's location and measures its depth.

Visit the FLIR website for customer support and additional documentation. With proper care, this device will provide years of reliable service.

Product Description

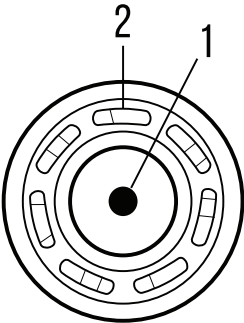
Plumbing Spool



1. Grip handle
2. Camera head
3. Connection to VS80
4. Probe tube
5. VS80
6. Hinges for VS80 mounting
7. Stabilizing footers

Camera Head (front view)

Remove the lens cap before use. Store the lens cap safely and attach it to the camera when not in use.



- 1. Camera lens
- 2. LED worklights

Accessories

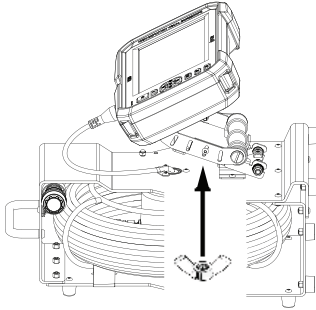
Brushes (100 mm Ø)		Attach to probe to clear debris in pipes
Brushes (150 mm Ø)		Attach to probe to clear debris in larger pipes
Metal ring		Attach to probe to ease movement through pipes

Getting Started

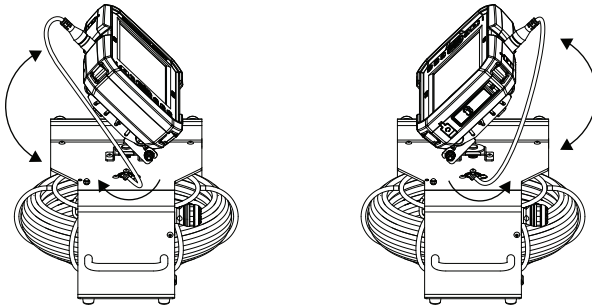
The VS80 attaches to the plumbing spool for convenience. In some cases, the plumbing spool is shipped with the VS80 attached. If you receive these products separately, attach the VS80 as described below.

Mount the VS80 on the Spool

1. Attach the VS80 on the spool hinge as shown using the supplied wing nuts and bolts. The maximum mounting height is limited by the cable angle.



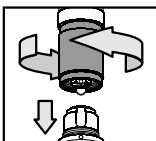
2. Rotate and angle the VS80 as needed. The maximum angle is $\pm 90^\circ$, approximately.



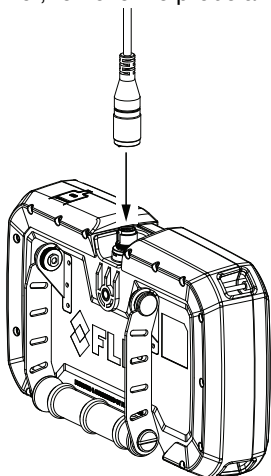
3. The frame is magnetic and allows the attachment of magnetic accessories.

Connect the Probe to the VS80

Connect the VS80 to the plumbing spool using the supplied connecting cable. In some cases, the plumbing spool is shipped with the VS80 connected. If you need to connect the components manually, refer to the information below. Always switch the VS80 power off and ensure that a formatted SD card is inserted in the VS80 before connecting.



1. Align the white dot on the probe connector with the white dot on the VS80 connector.
2. Plug the probe into the VS80, ensuring proper alignment and full insertion.
3. Note that there is a USB-C connector inside the probe plug. After connecting the probe to the VS80, verify that a clear camera image is displayed. If not, remove the probe and reattach it.




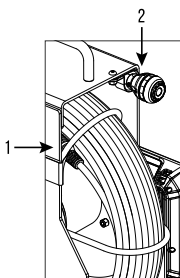
4. Tighten the collar nut to secure the connection. Do not overtighten.
5. Long press the VS80 power button to switch it ON. The FLIR logo should appear and then the camera image.
6. If the battery status icon is showing low battery voltage, or if the VS80 does not power ON, connect the VS80 to an AC power source using the supplied adaptor/charger.
7. Press the VS80 power button for two seconds to power OFF. If the button is held too long, the unit will power ON again.

Operation

Quick Steps










1. The reel is secured by a strip of Velcro that prevents it from turning. Unfasten the Velcro strip to release it.
2. Remove the camera lens cap and store it safely.
3. If desired, attach the metal ring and/or the brush accessories to the probe.
4. Power the VS80 by long pressing its power button.
5. Feed the probe slowly into the pipe under test. Do not force the probe if resistance is detected. Check the nature of the resistance and clear as necessary before continuing.
6. View the camera image, and monitor the probe travel distance, on the VS80 screen. For best accuracy, reset the distance display when you first insert the probe, by pressing the VS80 reset button $\leftarrow 0 \rightarrow$.



7. Use the optional Locator to track the location and depth of the camera, as explained in its user manual. Switch on the probe's transmitter by pressing the transmitter button  on the VS80. The Locator detects the transmitter signal and directs the user to its location, and displays its depth.
8. Take still images and video, adjust the display parameters, and more, per the VS80 user manual.
9. When the inspection is complete, slowly recoil the probe tube onto the storage wheel. Clean and rinse the probe tube as necessary.
10. As shown, secure the reel with the supplied Velcro strip (1) and secure the camera in its holder (2).












VS80 Soft Buttons


For complete information on the VS80, refer to its user manual. For convenience, refer to the tables, below, for an explanation of each soft button on the VS80.

Basic VS80 Soft Buttons		
Snapshot		Save image to SD card while viewing image or during video recording/playback
Video		Record video to SD card
Gallery		View saved images and video. Pinch the VS80 screen to zoom images
Settings		Configure settings
Wi-Fi		Live stream images on mobile device and use remote control
Image negative		Convert live image or saved image to a negative
Transmitter		Enable the 512 Hz transmitter
Mirror image		Create mirror image of camera view
Image rotation		Rotate image 90°, 180°, and 270°

Reset		Tap to reset the probe distance measurement
Full screen		Tap to show image on the full screen. Tap again to show smaller image

VS80 Soft Buttons in the Gallery Mode		
Return		Return to live view
Session		Access session folders or go to edit mode
Image compare		Compare images, side by side, as explained in the VS80 user manual
Image gallery		Image mode now selected. Tap to open the video gallery
Video gallery		Video mode now selected. Tap to open the image gallery
Select files to delete		Select file(s) to be deleted
Delete file		Delete selected files
Page up		Navigate upward, in the gallery
Page down		Navigate downward, in the gallery

Using the Optional Locator


Enable the probe's transmitter signal by pressing the transmitter soft button  on the VS80.

The Locator (VS80–LCT-1) detects the 512 Hz transmitter signal from the probe. The Locator display has a signal strength bar graph indicator, a signal detection beeper, a signal strength percentage display (0 to 100%), and a depth measurement. The display also shows pointer arrows that guide the user along the correct axis to the probe, as described in its user manual.

The Locator can only detect the transmitter in the detection area. The horizontal detection area range is 10 ft. (3 m) and the depth range is 5 ft. (1.5 m). Detection can be affected by strong electrical noise interference, RF, and other disturbances.

VS80 Inclination Feature

The VS80 has an incline feature that shows the angle and direction at which the camera probe is pointing.

In the VS80 settings menu, set the Inclinator ON. The VS80 will then show the incline angle symbol on the screen . The symbol rotates to match the angle of the probe. See the VS80 user manual for additional information.

Cleaning

Clean the spool and tube by wiping with a damp cloth, and mild detergent, when necessary. Do not use solvents, abrasives, or corrosives to clean this product. Use a high quality lens cleaning fluid and a lint-free swab to clean the camera and worklight lenses.

Specifications

Plumbing Spool

Reel frame diameter	11.7 in. (29.6 cm)
Weight	11.7 lbs. (5.3 kg)

Probe Tube

Diameter	0.26 in. (6.6 mm)
Length	98.4 ft. (30 m)
Bending radius	5.9 in. (15 cm)
Weight	3.5 oz. (100 g) per 3.3 ft. (1 m)
Operating temperature	14 to 140°F (-10 to 60°C)

Camera

Image resolution	1280 x 720 pixels
Frame rate	30 fps
Camera diameter	1.1 in. (28.8 mm)
View direction	Front view with self-levelling technology
Depth of field	Approximately 20 mm to ∞
Field of view	150°
Probe worklights	Twelve (12) x front LED (white)
Operating temperature	14 to 140°F (-10 to 60°C)
Storage temperature	Short term: 14 to 140°F (-10 to 60°C). Long term: < 68°F (20°C) in a dry environment
Relative humidity	< 95 % non-condensing
Pipe dimensions	Ø 40 mm to Ø 100 mm (maximum)
Material	FRP (fiber reinforced polymer)

Transmitter

Transmission frequency	512 Hz
Transmission method	Integrated antenna
Depth measurement	5 ft. (1.5 m) maximum

Certifications

Compliance	ETL, CE, FCC, RCM
Approved liquids for probe	Water, brake and transmission fluids, diesel fuel, unleaded gasoline, engine oil, CPC hydraulic fluid.
IP rating	Tip: IP68; Probe and cable reel: IP54

Warranty and Support

Limited 3-Year Warranty

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

Customer Support

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



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Website

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