



## INNOVATION EDGE™: CCTV PIPE SURVEY DEVICE

**Main Image:** The CCTV Pipe Survey Device developed by Murphy

The CCTV Pipe Survey Device developed by Murphy enables quick and high-quality surveys to be carried out, saving up to 40% on the costs of traditional methods.

### Description

Murphy has developed the CCTV Pipe Survey Device to enable a visual survey of existing pipes or ducts. The device comprises a high-definition video camera within a plastic waterproof housing. This is fixed to a bespoke external steel housing, fabricated to be 5-10mm narrower than the internal diameter of the surveyed pipe or duct.

Four skids are attached to the external housing and welded at approximately 90° apart. The skids ends are blunted and bent inwards at the edges of the top of the housing to avoid causing any defect in the pipe or duct.

As the housing fits amply within the pipe or duct, it can travel smoothly and continuously, maximising video quality. Secure fixing points for the camera and LED lighting units are installed 120° apart to improve image quality.

The CCTV Pipe Survey Device has a small wire loop attached to the underside of both external housing ends. A cable with a hook and swivel is connected to these to pull the CCTV Pipe Survey Device through the pipe. The camera's memory card can hold up to two hours of survey records.

## The Benefits

- Enables a full visual survey of redundant pipes or ducts.
- Saves up to 40% of cost by eliminating the requirement for a third party survey of the works.
- Ensures greater flexibility in planning the works due to the in-house capability.
- Saves time on image playback as the technology enables an instant view from the memory card.
- Saves time and cost as the requirement for excavated access points along the route can be eliminated.

## Application

The device was developed by Murphy for use on the Steyning-Worthing Gas Compression Replacement Scheme on behalf of client UK Power Networks. This £1.7m project required 12km of duct to be inspected before the programmed cable installation works could commence.

Murphy was aware that a previous survey carried out by a third party encountered problems due to limited capability – the service providers could only survey in increments of 250m in any direction which resulted in high costs and lengthy programme delays.

As a result the Murphy project team developed the more flexible CCTV Pipe Survey Device, which cost £1,500 to fabricate.

The device operated faultlessly and also allowed the project team greater flexibility in planning and carrying out the survey works.

In addition, the system also saved over five weeks on the programme. This dramatic improvement on the previous third party's rate of progress, coupled with the other benefits of the technology, achieved a total cost saving of £12,000 for the project.

## End User Feedback

Following its successful initial launch and trial, the CCTV Pipe Survey Device received positive feedback from the project team and has subsequently been utilised on many of Murphy's cable contracts.

The CCTV Pipe Survey Device achieved a third place at the 2014 Murphy Bright Ideas™ Awards.

## Market Potential

The CCTV Pipe Survey Device can be applied on a variety of projects and can also be modified to capture images within any pipe or duct.

Depending on the complexity of the proposed survey route, additional modifications may be required to negotiate bends in order to ensure free running movement at all times.

Currently the system can hold two hours of high definition playback, which is suitable for most applications.



The CCTV Pipe Survey Device developed by Murphy

## Learn More

For more information, please contact Murphy Marketing & Communications Department at [communications@murphygroup.co.uk](mailto:communications@murphygroup.co.uk)

This is a brief description of the solution as we have applied it and should not be taken as exact. Its application must take into account the local environment and specific project requirements.