User Guide

This user guide covers the more commonly used range of Radiodetection Sondes. They are used to locate non metallic drain and duct systems.

Specifications are provided together with battery requirements and suitable attachment accessories for connection to most versions of push rod.

Finally the guide gives some useful tips on locating the sondes.

Radiodetection LTD

Sondes for Tracing Ducts, Drains and Other Applications

Transmitting sondes enable receivers to trace non metallic sewers, drains, ducts or pipes and to locate blockages or collapses.

A range of special sondes and sonde elements are available for fitting to No-Dig boring tools, CCTV inspection cameras and are listed separately.

Sondes are not classified as ‘Intrinsically safe’ for use in situations where hazardous gases are present.

Most of the sondes in the Radiodetection range will locate most of the sondes listed although there are exceptions so check for the relevant modes on the locator.

If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Standard Sonde

The Standard Sondes combine compact size with a strong signal. The standard for most applications unless a smaller size, greater depth or specially rugged construction is required.

Location depth: 5m (16ft)
Weight: 105g (3.7oz)
Pressure: 2 bar, 20m Water
Order codes: 33kHz: -10/SC0412-8
38kHz: -10/SC0412-33R

Super Sondes

Strong construction designed for use in deep sewers.

Location depth: 15m (50ft) minimum 3m (10ft)
Weight: 200g (7oz)
Pressure: 0.3 bar, 5m Water
Order codes: 33kHz: -10/SC0338-33R
38kHz: -10/SC0338-33R

Slim Sondes

Mainly used for locating dual structures as its length prevents its use in structures with bends. Sometimes used behind small ground piercing mikes.

Location depth: 3.5m (12ft)
Weight: 200g (7oz)
Pressure: 12 hours
Order codes: 33kHz: -10/SC0323-33R
38kHz: -10/SC0323-33R

Mighty Mouse

Mainly used for locating dual structures as its length prevents its use in structures with bends. Sometimes used behind small ground piercing mikes.

Location depth: 2.5m (12ft)
Weight: 220g (8oz)
Pressure: 12 hours
Order codes: 33kHz: -10/SC0323-33R
38kHz: -10/SC0323-33R

Sonde for use with the CAT and CAT+

Mega Mouse and Mega Mouse+

Continues compact size with a strong signal. The standard for most applications unless a smaller size, greater depth or specially rugged construction is required.

Location depth: 5m (16ft)
Weight: 105g (3.7oz)
Pressure: 2 bar, 20m Water
Order codes: 33kHz: -10/SC0412-33R
38kHz: -10/SC0412-33R

Spring coupling M10 male to match connectors

The spring coupling should be used for attaching sondes to the flexi hire or to drain rods.

Plastic or cane rod connector

For matching the connector to different sondes.

GD connector

1/8" x 1 1/2" Females.

Wards 9mm connector

1/8" x 9/16" Females.

Wards 6mm connector

1/8" x 5/32" Females.

Lockfast

M10 x 10 BSW.

Blank connector

For matching to customer.

Sonde Coupling

M10F - M12F

Telecom duct rod No. 1 and 2

Connector has 0.717" dia. 7 TPI Whit. male thread and hole to match tougher mechanisms.

Telecom duct rod No. 5

Connector has 7/64 BSW male thread and hole to match tougher mechanism.

Pair of floats

Sewer and Super Sonde only.

Note

It is preferable to fit a spring coupling between the end of a rod and the sonda to reduce the shock to the sonda when hitting the walls of the drain or pipe and to ease the sonda around corners. It is particularly useful for startling the sondes round the sharp change of direction at the bottom of a deep chamber.
Flexrods

The Radiodetection Flexrod is used for pushing sondes into and aligning Sewers, Ducts and Drains up to 300mm (12")

It is a Glass Fibre rod in a polypropylene sleeve that is rated to abrasion, most solvents, oils and acids. The rod has a minimum bend radius of 250mm (10") and at each end a brass collar (ø22mm-ø46mm) in length with a female M10x20mm thread suitable for attaching all Radiodetection sondes.

The rod is wound onto a steel spool and attached to the spool using one of the brass end collars and a spring coupling. The spool has a manual brake to help the user maintain control of the rod.

The Flexrod can be used in place of Drain Rods for some applications. It can be fed into and withdrawn from the drain more quickly than Drain rods but cannot be rotated. An adaptor is available to fit the M10 and of the Flexrod, it has a brake and ready for machining or tapping to fit an appropriate drain test.

Flexrod order codes and accessories:

<table>
<thead>
<tr>
<th>Rod</th>
<th>Length</th>
<th>Frame</th>
<th>Part Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flexrod F30</td>
<td>9</td>
<td>30 60</td>
<td>10FDRE00F30</td>
</tr>
<tr>
<td>Flexrod F40</td>
<td>9</td>
<td>40 80</td>
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<td>Flexrod F90</td>
<td>9</td>
<td>90 160</td>
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<tr>
<td>Flexrod F150</td>
<td>9</td>
<td>150 180</td>
<td>10FDRE00F150</td>
</tr>
<tr>
<td>Flexrod F150+</td>
<td>11</td>
<td>150 180</td>
<td>10FDRE00F150+</td>
</tr>
</tbody>
</table>

Accessories

Black Adaptor: 10FDRE10R
Polyprop with 3.5mm (ø4.6) diameter hole: 10FDRE10K
Cooper for joining two rods: 24FDRE10K

Flexitrace

The Flexitrace is 50m in length and similar in construction to a Flexrod, but the smaller 6.5mm (ø1") diameter rod has wire conductors running its full length and a rubber coil at the end of the rod.

The rod and coil can be energised by a Radiodetection transmitter to enable its location to a maximum depth of 6m.

By connecting the transmitter to both stud terminals, only the transmitting head can be located, like a sonde.

By connecting the transmitter to one stud terminal and Ground the entire length of the rod can be located, like a cable.

The Flexitrace is used when size is restrictive, as it can be inserted into pipes as small as ø20mm(0.5") with a maximum bend radius of 250mm(10").

Order codes: 10TRA350

Locating a Sonde

A new battery or a freshly recharged battery should be used at the beginning of each day and preferably at the start of a job. Check that the Sonde and Receiver are operating at the same frequency and working correctly.

As a quick test for both Sonde and receiver - Position the Sonde in a distance equal to the rated Depth range from the receiver. Point the receiver at the Sonde with its blade in line with the Sonde and check that the meter reads more than 50% at high sensitivity.

Note

The blade of the receiver must be in line with the Sonde, the opposite to Line locate.

With the Sonde attached to the rod insert it into the Drain or Duct to be located, but keep just the Sonde in view. Hold the receiver vertical directly over the Sonde with the blade in line with the Sonde.

Adjust the sensitivity of the receiver to give a meter reading between 60% and 80%.

A Sonde radiates a peak field from the centre of the wire with ghost signals at each side of the peak. Move the receiver in a little way to one side and then along the area of the Sonde forwards and backwards to detect the ghost signals.

It is a good idea to locate the ghost as finding them positively confirms the position of the main peak. To locate the ghosts reduce the sensitivity of the receiver a little leaving only the main peak detectable.

With the receiver sensitivity set as described, propel the Sonde along three to four pieces and stop. Place the receiver over the supposed position of the Sonde and...

(a) move the receiver backwards and forwards with the blade in line with the Sonde and stop when the meter indicates a clear deep peak.

(b) rotate the receiver as if the blade were a pivot, stop when the meter indicates a clear peak.

(c) move the receiver from side to side until the meter indicates a peak.

Repeat (a), (b) and (c) in smaller increments with the receiver blade vertical or on or near the ground. The receiver should now be directly above the Sonde with the scale showing the depth of the Sonde.

Propel the Sonde a further three to four pieces along the drain or duct and pivot and repeat process.

The higher the sensitivity of the receiver the sharper the Nulls appear.

Measure the distance between points ‘R’ and ‘S’ and multiply by 0.7 to give an approximate depth measurement.