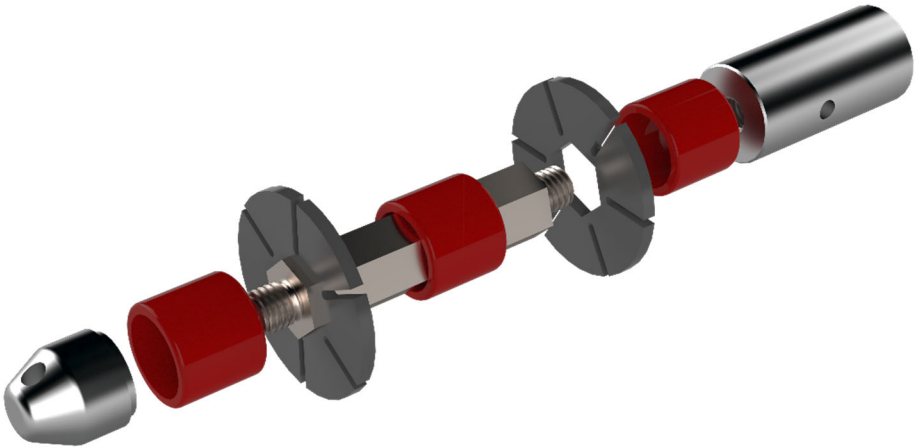




Intermediate lance and pipe inspection electrode assemblies

Pipe inspection assemblies 32mm - 110mm diameter

Instruction Manual

Please read this manual before using the equipment

English Version

5830-0060 - 05/23

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Overview

Buckleys pipe lance assemblies are high-voltage electrodes intended to facilitate the testing of pipe linings. They are available in various size series to suit pipe internal diameters ranging from 18mm to 1.4m.

The lances & electrodes are part of the intermediate series that covers the range from 32 – 110mm internal diameter.

The lances and their guides are modular. Each lance extension is 2.5m long and is provided with an M12 threaded insert at each end. They are simply screwed into the connector assembly.

An adaptor is provided to connect the HV Handle & Nosecone assembly of any Buckleys HV instrument to the lance assembly.

The electrodes are similarly provided with a screw-on connector to fit into the lance connector.

Safety Warnings

Buckleys HV DC instruments are current limited and are unlikely to cause dangerous shocks, however users should be aware that a shock is very unpleasant, and may cause reactions which could lead to trips, falls or other accidents. Users should be particularly careful not to expose themselves to the live parts of the electrodes.

The working area should be dry & clean with a smooth floor, adequate work space, and free from trip hazards.

The very significant length of the lances means that teamwork is essential.

Components

Lance Adaptor

The lance adaptor (5700-0741) connects the lance to the nosecone of Buckleys HV DC instruments. It simply screws onto the nosecone, until snug, and the lance will screw into the adaptor. Tools should not be used to tighten the assembly.



Lances

Lance sections (5700-0730) are 2.5m long and 25mm diameter. They are provided with an M12 female threaded insert at both ends. These inserts are connected electrically within the lance.



Lances are manufactured from pultruded fibreglass and may be cleaned with soap and water. Industrial solvents etc should be avoided.

If a lance is damaged or broken, there will be shards or strands of glass which may cause irritation. Care should be taken not to breathe these fragments, nor to handle them with bare hands. Suitable PPE should be used.

Lance connectors

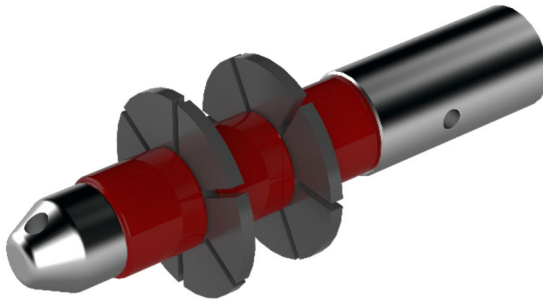
Lance connectors are used to link sections of lance together, but also serve to guide the lance and prevent abrasion of the interior of the pipe liner being tested. To achieve this, the guide "fins" of the connectors are made from PTFE which has a very low coefficient of friction. Care should be taken to ensure that the fins are not contaminated by anything which could damage the pipe liners.



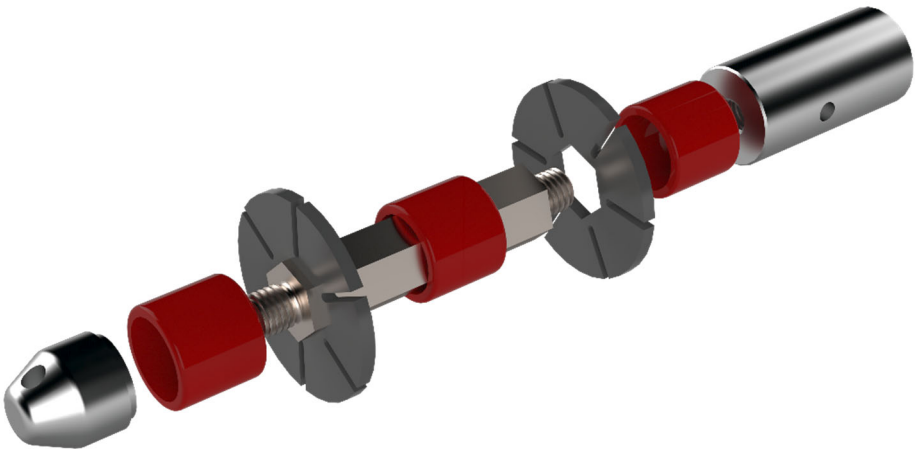
They should be cleaned regularly and carefully using soap and water.

Electrodes

The electrode assemblies comprise a pair of conductive silicone rubber electrodes supported on a hexagonal stainless steel spindle. There are three identical spacers, an adaptor to fit the lance connector and a securing “bullet” on the end.



The bullet and the boss are provided with cross holes to allow the assembly to be dismantled, or tightened as required. It is not necessary to tighten the assembly beyond 3Nm.



The conductive electrodes are identical, please note that one should be inverted, so the “petals” align with and cover the slots in the other. The electrodes will wear with use, and are available as spare parts from Buckleys.

Assembly and first use

Please examine the items upon delivery, and advise Buckleys if anything is damaged.

Please read the instruction manual for the Test Instrument carefully, and ensure that you understand & respect the safety warnings.

Lances and connectors are simply screwed together. It is unnecessary to tighten the joins beyond hand-tight and tools which may damage the lance should be avoided.

Each lance assembly should use the same size connectors, which relate to the electrode size. Please consult Buckleys for the appropriate sizes.

It is recommended that a suitable rack is set up in the test area to support the assembled lances.

Connectivity can be checked with a standard multimeter on “ohms” scale. Less than 5 ohms expected, less than 100 ohms acceptable.

Do not attempt to lift an assembled lance from one end. Several persons are required to handle an assembled lance & electrode.

Do not attempt to lift an assembled lance using the HV handle & nosecone assembly.

Damage caused by inappropriate handling is not covered by warranty.

Insert the assembled electrode a few centimetres into an appropriate lined pipe, whilst supporting the lance assembly. The test operator can then attach the handle & nosecone assembly, and connect this to the instrument. The instrument and the exterior

of the pipe being tested must be properly grounded. Once set up, the instrument should be turned on, and an appropriate voltage selected, and HV enabled. The operators can then feed the electrode and lance through the pipe to be tested.

The operators who are supporting the lance whilst it is introduced and removed from the pipe to be tested should avoid the lance connectors and the electrode whilst it is live. Supporting the lances between the connectors poses little risk of a shock, provided the environment is dry. It may be reassuring to provide HV rubber gloves for these operators.

Please note that when the electrode is near to the end of the pipe, sparks may track around the end of the lining and ground to the pipe. This will cause the alarm to operate but does not necessarily mean that the pipe lining is faulty. Careful inspection with a lower voltage and a small probe will allow the operator to ascertain the lining integrity in this area.

Contact Details

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