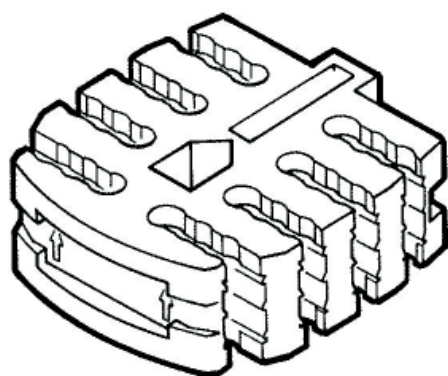




# miniflex®

OPTICAL FIBRE PROTECTION SYSTEMS

## Installation Recommendations for the Cable Breakout Unit



24 Tube Version

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Prepare Cable Breakout Unit (CBU)	3
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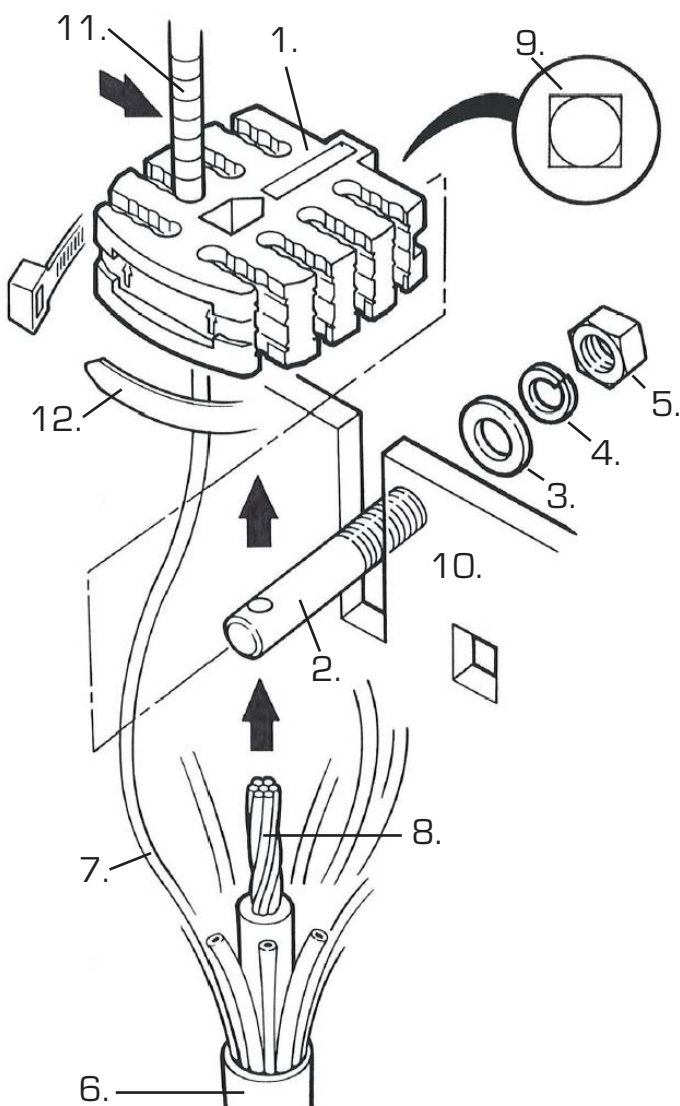
## Introduction

The Miniflex Cable Breakout Unit provides quick, easy and positive arrangements of the fibres or cable elements, which can be sheathed in Miniflex Optical Fibre Protection Tubing (OFPT) to give permanent protection. Cables with 24 element tubes or less can be secured.

The strength member clamp sleeve is simply inserted over strength member end. This clamp allows both the cable and the breakout unit to be clamped to the chassis (as shown below). The CBU assembly can be further protected to suit specific environmental needs. These options shown on page 2. These options are available from your supplier.

## Features

## Parts List



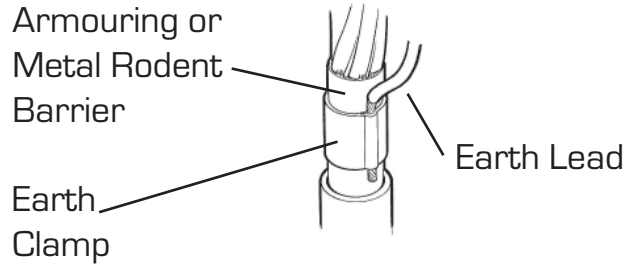
- 1 . Cable Breakout Unit (CBU)
- 2 . Clamp Sleeve
- 3 . Washer
- 4 . Lock Washer
- 5 . Clamp Nut
- 6 . Cable End
- 7 . Cable Element
- 8 . Strength Member
- 9 . Crush Pins
- 10 . Chassis
- 11 . Fibre Bend Limiting Tube (OFPT)
- 12 . Cable Tie

## Specifications

- Material: Nylon 66 flame retardant + stainless steel bolt, nut & washers
- Dimensions: CBU 45 x 49 x 16mm  
Bolt 44mm x ø8mm
- Colour: Black
- Cable Retention: > 1.5kN
- OFPT Retention: > 100N
- No. of Cable Elements: 24 [max.]

## Tools Required

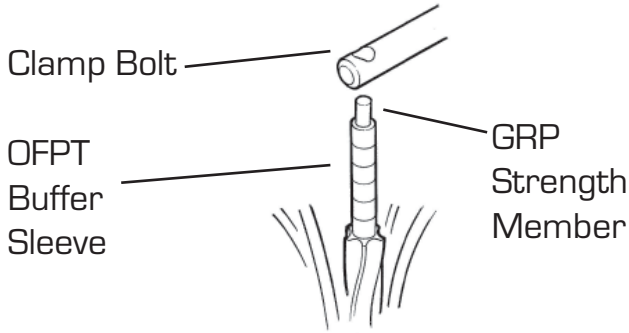
- Cable Sheath Cutter  
Cable Cleaning Equipment  
5mm Ball Ended Hexagon Driver  
Tube Cutter



To earth, crimp lead to the armouring or metal rodent barrier.

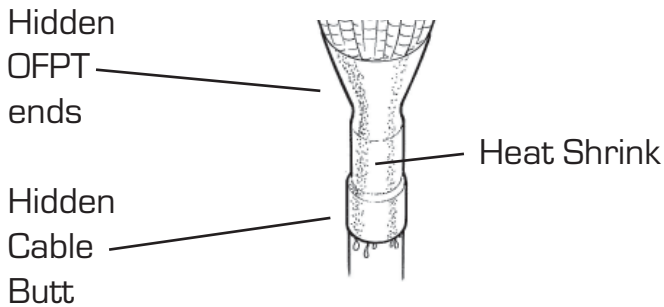
See also Step 1, page 3, option for water barrier earthing.

Buffer Sleeve



In the case of a cable with GRP strength member, use a short length of OFPT as a Buffer Sleeve. This will ensure that the clamp sleeve will not damage the strength member.

Heat Shrink

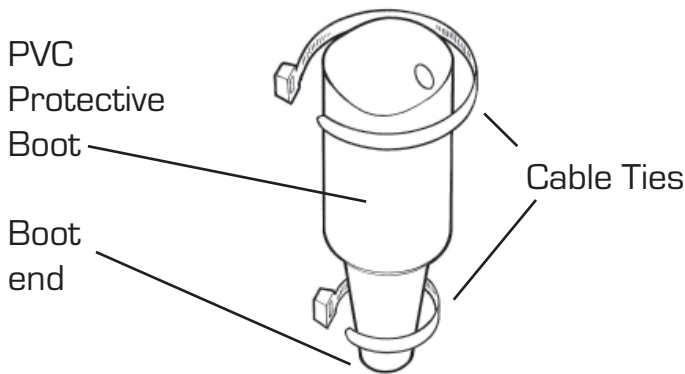


For fibre element protection between the cable butt and OFPT ends a heat shrink sleeve (hot melt lined) can be used.

This can also cover the earth crimp.

Order Part No: RCPA 100-240

Protective Boot

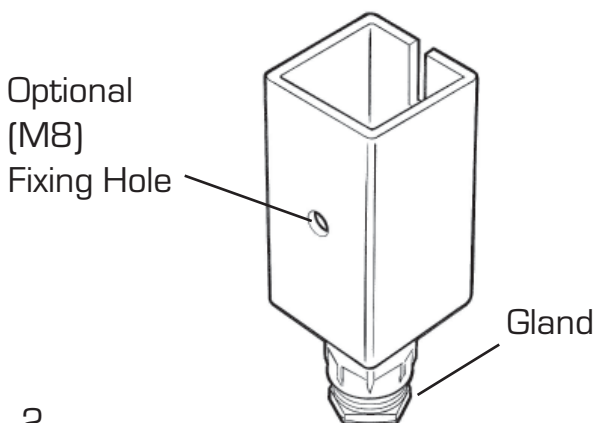


For extra fibre element protection from cable butt to CBU a PVC Protective Boot can be used. The Boot end can be cut to cater for cables up to  $\varnothing 30\text{mm}$ .

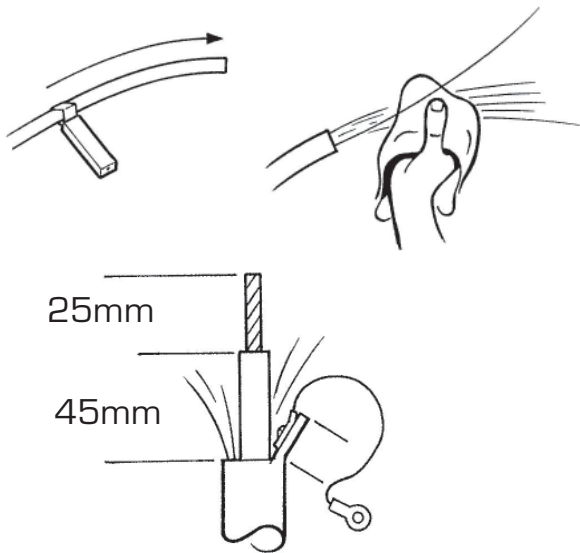
If gas blocking is required, resin potting mix can be contained within the boot.

The complete assembly can be left freestanding or mounted using the clamp bolt.

Gland Box



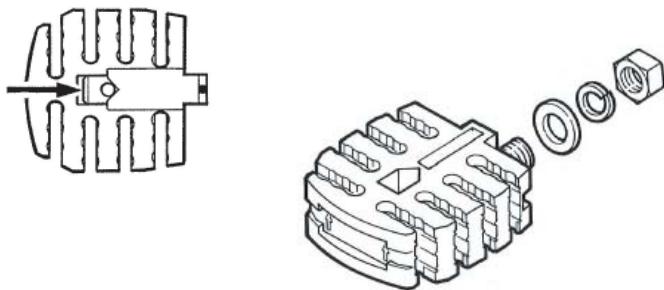
For tough environments full fibre element protection from cable butt to CBU is provided by a GRP Gland Box. This can be separately mounted for a secure fixing or left free-standing. If gas blocking is required, resin potting mix can be contained within the box.



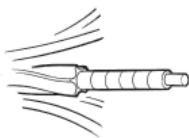
1. Strip cable sheath to length, allowing sufficient cable element for onward routing.
2. Thoroughly clean all elements, using approved solvents and techniques.
3. Cut cable strength member, to minimum dimensions shown. On larger cables use longer tail if possible.

**OPTIONS**

4. If required, create earthing tabs on water barrier sheath.



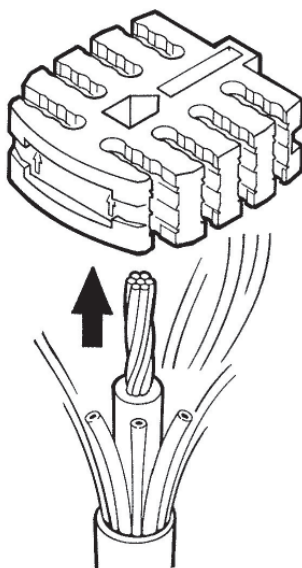
1. Install clamp sleeve through CBU ensuring cross hole aligns with V-groove.
- washer, lock washer and retaining nut onto bolt just short of crush pin.



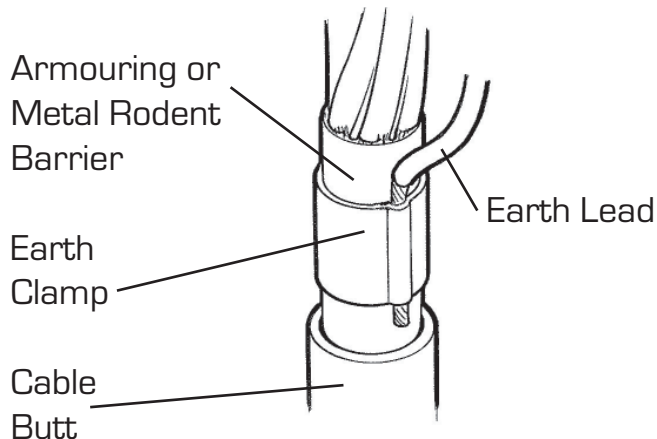
1. In the case of a cable with GRP strength member, slide a short length of OFPT over the GRP strength member, as shown.

**OPTIONS**

If required:

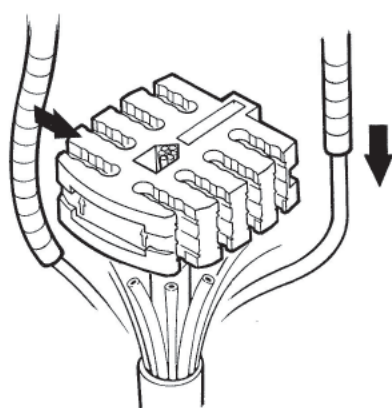


- Position earth grounding crimp to the armouring or metal rodent barrier.
  - Cut heat shrink to suit and slide over cable elements. DO NOT heat at this stage.
  - Slide Protective Boot or Gland Box over cable elements and cable.
1. Thread cable into position within terminating facility.
  2. Fit cable strength member through clamp sleeve.
  3. Fit and lightly tighten the washers and clamp bolt. DO NOT collapse the 4 crush pins at this stage.



- 1 . Position earth lead, as shown, and crimp ensuring connection is secure .  
For water barrier option rivet earth lead to tab. See Step 1, page 3.
- 2 . Connect opposite end of earth lead to complete earth grounding after installing terminated cable.

Slide & Fit OFPT



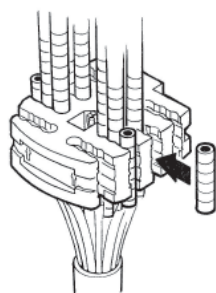
- 1 . Slide Fibre Bend Limiting Tube (OFPT) over cable element and fit into required position from the side.
- 2 . Repeat according to required number of tubes.

**NOTE:**

Fit numbered sleeves at cable end, if required. The OFPT can extend below the CBU to maximise protection. DO NOT force the elements apart.

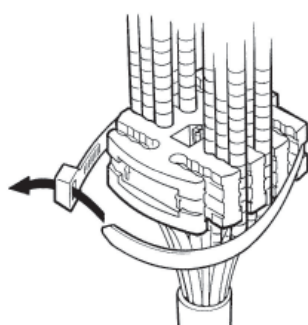
**OPTIONS** Fit numbered sleeves at cable end, if required.

Pack - Out Slots



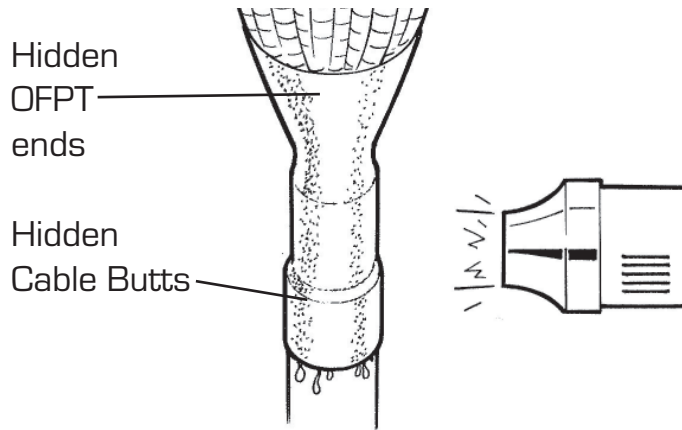
- 1 . Pack-out partially occupied slots with short lengths of OFPT.

Fit Cable Tie



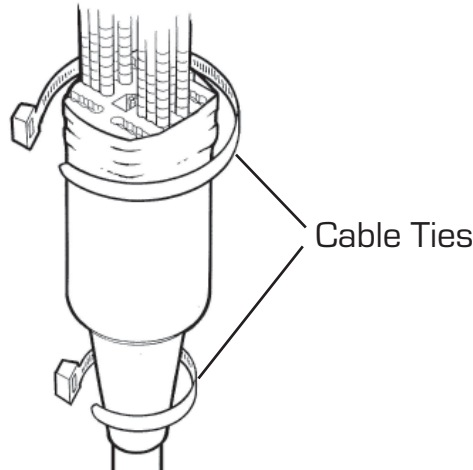
- 1 . Fit cable tie around body of Cable Breakout Unit to secure OFPT's.  
**NOTE:**  
If using Protective Boot option DO NOT fit cable ties at this stage.

If using Gland Box option there is no need for cable ties.



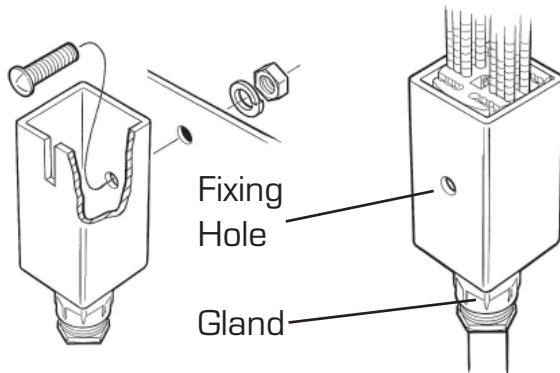
1. Slide heat shrink sleeve into position between the cable butt and OFPT ends.
2. Heat using heat gun to approved techniques until hot melt has bonded.

## Fit Protective Boot



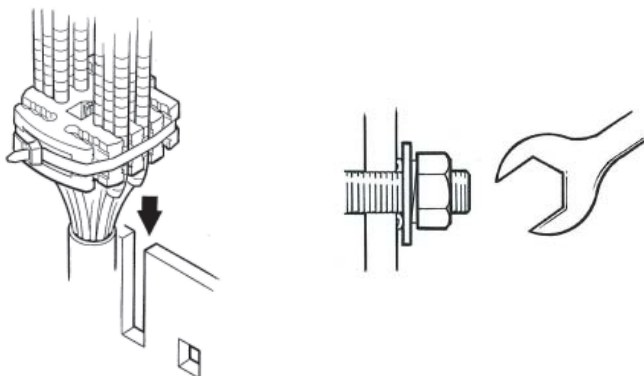
1. Remove CBU clamp nut or bolt and position Protective Boot over CBU.
2. Secure at both ends using cable ties and refit clamp nut or bolt.
3. If gas blocking is required insert potting mix through CBU until Boot is full.

## Fit Gland Box



1. If required position Box onto chassis.
2. Position CBU into Gland Box and secure by tightening gland onto cable.
3. If gas blocking is required complete assembly, see Step 6 (below) and insert potting mix through CBU until Box is full.

## Fit CBU to Chassis



1. Slide completed CBU assembly into chassis or Gland Box.
2. Complete tightening the clamp bolt or nut to lock assembly into position by collapsing crush pins.

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This Cable Breakout Unit, protected by international patent applications no. WO95/22071, was design by Miniflex Limited and is manufactured & distributed by Richco international (UK) Limited. Tel +44 (0)1474 327527