

# Attenuator Schedule

**Project:** 1-2 market place

**Date:** 25/04/2018

## Notes

1. All attenuators shall be supplied by Mcculloughs Ltd or equal and approved.
2. Reduction of the attenuator sizes shown will not be permitted.
3. The Contractor shall order the attenuator sizes scheduled below, and shall send finalised drawings and equipment noise levels to the attenuator supplier to check the selections prior to manufacture.
4. The attenuator supplier shall then undertake acoustic calculations to ensure that the attenuators achieve the specified noise criteria, based upon the finalised information.
5. A Technical Submittal comprising acoustic calculations and a finalised schedule of attenuators shall then be issued to the Consultant for final approval.
6. If an alternative attenuator supplier is proposed then the Contractor shall allow for them to undertake witnessed tests to prove their claimed insertion loss performance in a UKAS accredited BS EN ISO 7235: 2009 test facility, for two sample units. This shall be undertaken prior to order.
7. Pressure losses are stated in accordance with ISO 7235, which is based on laminar airflow conditions. The system designer shall make allowance for increased attenuator pressure losses where turbulent airflow conditions exist on the attenuator entry or exit.
8. Unless stated otherwise all attenuators shall be constructed as follows: Galvanised sheet steel casings with 30mm profile flanges that are fully compliant with DW/TM1 at a high pressure rating (+2000/-750Pa). Profile flanges shall be compatible with Doby, Mez & Metu flanging systems. Elements shall be installed in the vertical plane, with side elements provided as standard, and all elements shall have aerodynamic inlet and outlet fairings. Element facings shall be constructed from expanded galvanised steel mesh with fibre glass tissue bonded to the inner face. Mineral wool infill shall be overpacked to minimise voids due to settlement. Attenuator ends shall be protectively wrapped, and all attenuators shall be delivered to site on pallets and individually labelled.

| Ref.  | Description | Type and Model Code       | Dimensions (mm) |     |      | Insertion Loss (dB) |     |     |     |    |    |    |    | Vol (m³/s) | PL (Pa) | Qty | Noise Criteria | Features                                                                                                  |
|-------|-------------|---------------------------|-----------------|-----|------|---------------------|-----|-----|-----|----|----|----|----|------------|---------|-----|----------------|-----------------------------------------------------------------------------------------------------------|
|       |             |                           | W               | H   | L    | 63                  | 125 | 250 | 500 | 1k | 2k | 4k | 8k |            |         |     |                |                                                                                                           |
| AT001 | KEF01       | Circular<br>PG01U/1K/L/SM | 400             | dia | 1215 | 1                   | 2   | 6   | 13  | 19 | 8  | 7  | 7  | 1.12       | 0       | 1   |                | Un-podded. 38mm long spigots. Melinex wrapped infill. Low pressure rating (+500/-500Pa).                  |
| AT002 | KEF02       | Circular<br>PG01U/1K/L/M  | 450             | dia | 1215 | 1                   | 2   | 5   | 12  | 15 | 7  | 7  | 6  | 1.26       | 0       | 1   |                | Un-podded. 38mm long spigots. Melinex wrapped infill. Low pressure rating (+500/-500Pa).                  |
| AT003 | KEF03       | Circular<br>PG01U/1L/L/M  | 500             | dia | 1220 | 3                   | 4   | 9   | 16  | 17 | 10 | 8  | 7  | 1.54       | 0       | 1   |                | Un-podded. End rings with pattern A drillings. Melinex wrapped infill. Low pressure rating (+500/-500Pa). |

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|-------|---------------|-----------------------------|-----------------|-----|------|---------------------|-----|-----|-----|----|----|----|----|---------------|------------|-----|----------------|------------------------------------------------------------------|
|       |               |                             | W               | H   | L    | 63                  | 125 | 250 | 500 | 1k | 2k | 4k | 8k |               |            |     |                |                                                                  |
| AT004 | AHU01 INTAKE  | Rectangular<br>SG01V/3C/L/S | 1545            | 855 | 1500 | 9                   | 15  | 28  | 47  | 44 | 31 | 20 | 14 | 3.10          | 38         | 1   |                |                                                                  |
| AT005 | AHU01 SUPPLY  | Rectangular<br>SG01V/3C/L/S | 1545            | 855 | 1500 | 9                   | 15  | 28  | 47  | 44 | 31 | 20 | 14 | 3.10          | 38         | 1   |                |                                                                  |
| AT006 | HRU01 SUPPLY  | Circular<br>PG01U/1K/L      | 400             | dia | 1215 | 1                   | 2   | 6   | 16  | 24 | 10 | 10 | 9  | 0.50          | 0          | 1   |                | Un-podded. 38mm long spigots. Low pressure rating (+500/-500Pa). |
| AT007 | HRU01 EXTRACT | Circular<br>PG01U/1K/L      | 400             | dia | 1215 | 1                   | 2   | 6   | 16  | 24 | 10 | 10 | 9  | 0.50          | 0          | 1   |                | Un-podded. 38mm long spigots. Low pressure rating (+500/-500Pa). |

# Attenuator Drawings

**Project:** 1-2 market place

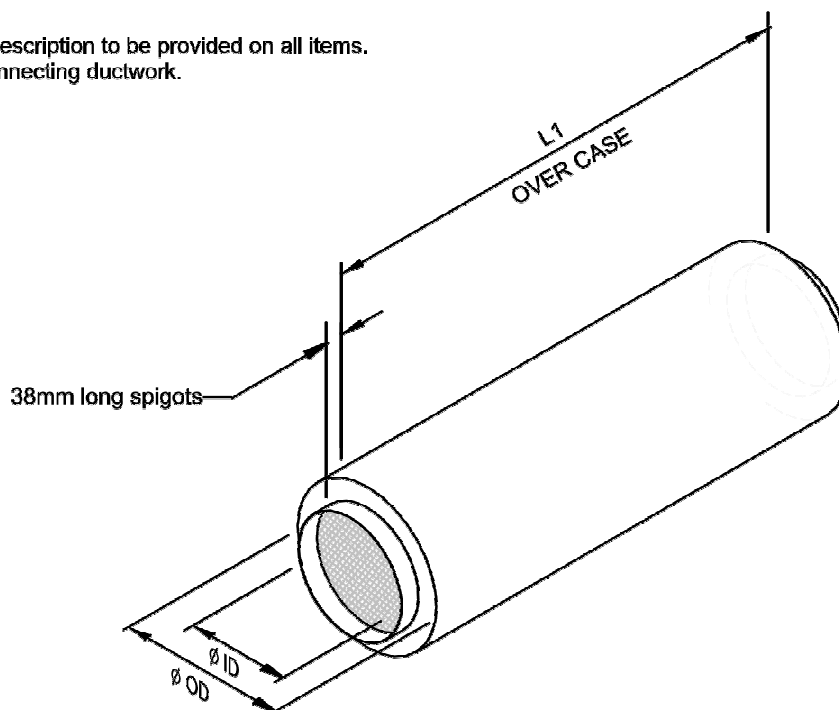
**Date:** 25/04/2018

Construction codes confirm the physical properties of each item. This drawing must therefore be read in conjunction with the Construction Code Definitions.  
Dimensions W1, H1, W2, H2, WD1, HD1 are always shown as "inside-duct". Dimensions L1, L2, LD1 are always shown as "over connections".

## Circular attenuator - with spigot ends

### Notes:

1. Identification labels stating item reference and description to be provided on all items.
2. Attenuator spigots shall be slip jointed inside connecting ductwork.
3. All dimensions in mm.
4. Tolerance on L1 +/- 2mm
5. Tolerance on ID +/- 2mm



| Ref.  | Construction Code | Primary Dimensions |     |      | Paint Colour | Wt (Kg) | No. Off |
|-------|-------------------|--------------------|-----|------|--------------|---------|---------|
|       |                   | ID                 | OD  | L1   |              |         |         |
| AT001 | PG01U/1K/L/SM     | 400                | 510 | 1215 |              | 26      | 1       |
| AT002 | PG01U/1K/L/M      | 450                | 560 | 1215 |              | 28      | 1       |
| AT006 | PG01U/1K/L        | 400                | 510 | 1215 |              | 26      | 1       |
| AT007 | PG01U/1K/L        | 400                | 510 | 1215 |              | 26      | 1       |

# Attenuator Drawings

**Project:** 1-2 market place

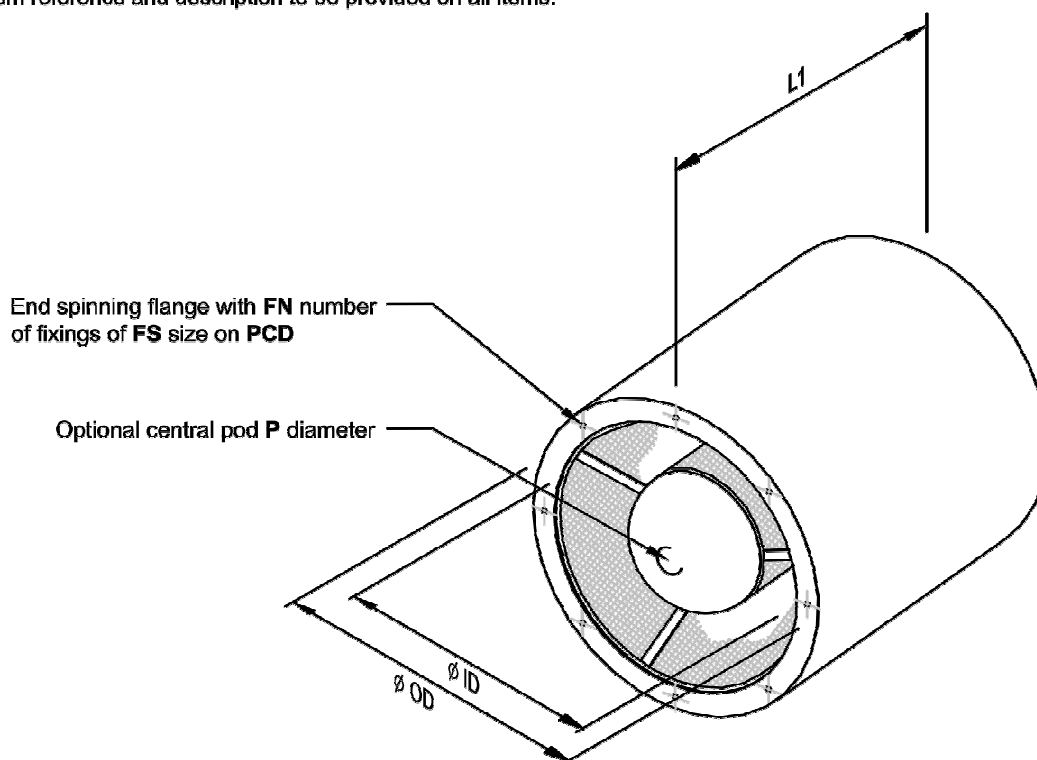
**Date:** 25/04/2018

Construction codes confirm the physical properties of each item. This drawing must therefore be read in conjunction with the Construction Code Definitions.  
Dimensions W1, H1, W2, H2, WD1, HD1 are always shown as "inside-duct". Dimensions L1, L2, LD1 are always shown as "over connections".

## Circular attenuator - with end spinnings

### Notes:

1. Identification labels stating item reference and description to be provided on all items.
2. All dimensions in mm.
3. Tolerance on L1 +/- 2mm.
4. Tolerance on ID +/- 2mm.



| Ref.  | Construction Code | Primary Dimensions |     |      | Other Data |     |     |   | Paint Colour | Wt (Kg) | No. Off |
|-------|-------------------|--------------------|-----|------|------------|-----|-----|---|--------------|---------|---------|
|       |                   | ID                 | OD  | L1   | FN         | FS  | PCD | P |              |         |         |
| AT003 | PG01U/1L/L/M      | 500                | 650 | 1220 | 12         | M10 | 560 | 0 |              | 46      | 1       |

# Attenuator Drawings

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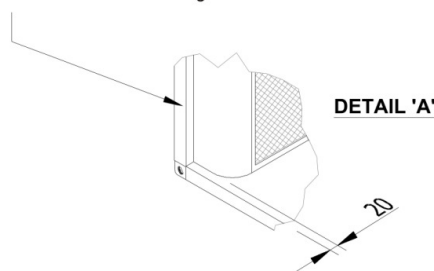
Construction codes confirm the physical properties of each item. This drawing must therefore be read in conjunction with the Construction Code Definitions.  
Dimensions W1, H1, W2, H2, WD1, HD1 are always shown as "inside-duct". Dimensions L1, L2, LD1 are always shown as "over connections".

## Splitter attenuator - with profile flanges

### Notes:

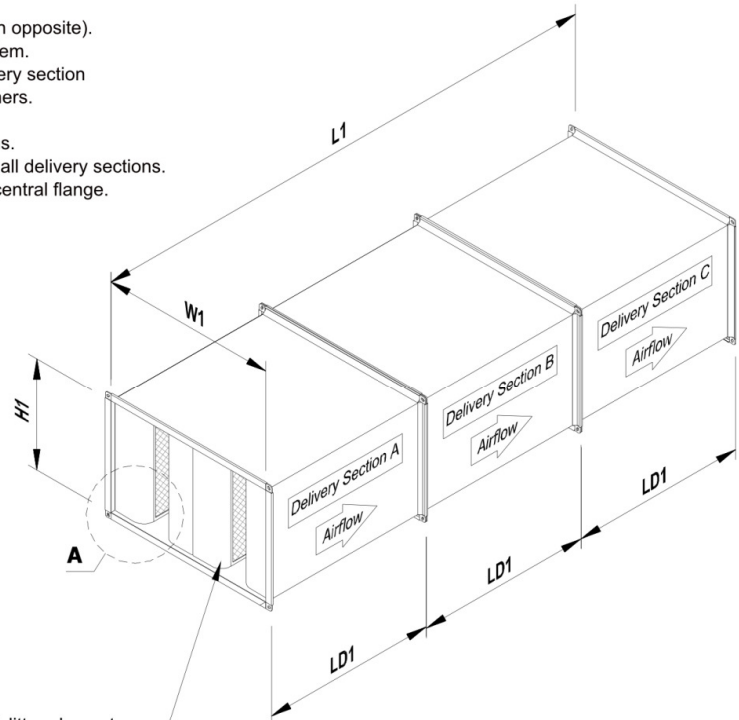
1. Attenuators may be delivered in 1, 2, 3 or 4 sections in length (3 shown opposite).
2. See **NDL** in table below for number of delivery sections in length per item.
3. Assembly of multiple piece items must be in accordance with the delivery section and airflow label layouts, typically as shown opposite. Assembly by others.
4. Nuts, bolts, flange clamps and gasket between flanges by others.
5. Delivery section and airflow labels only provided on multiple piece items.
6. Identification labels stating item reference and description provided on all delivery sections.
7. Where **LD1** exceeds 1250 each delivery section has an intermediate central flange.
8. All dimensions in mm.
9. Tolerances on **W1** & **H1** +/- 2mm.
10. Tolerances on **LD1** +/- 3mm

Profile flanges suitable for MEZ, DOBY or METU flanging systems. See table below for flange size.



Splitter elements set back in casing by 20mm and provided with aerodynamic bullnoses on inlet and outlet as shown. However if item has non-standard elements refer to Attenuator Model Code Definitions for details.

Splitter elements shown installed in the vertical plane. Refer to item Model Code for actual orientation.



| Ref.  | Construction Code | Primary Dimensions |     |      | Delivery Data |     | Flange Size | Paint Colour | Wt (Kg) | No. Off |
|-------|-------------------|--------------------|-----|------|---------------|-----|-------------|--------------|---------|---------|
|       |                   | W1                 | H1  | L1   | LD1           | NDL |             |              |         |         |
| AT004 | SG01V/3C/L/S      | 1545               | 855 | 1500 | 1500          | 1   | 30mm        |              | 196     | 1       |
| AT005 | SG01V/3C/L/S      | 1545               | 855 | 1500 | 1500          | 1   | 30mm        |              | 196     | 1       |