

NEW

Iris Control Damper (ICD)

For adjustment and measuring of airflow

Features

- Quick and simple installation and maintenance
- Extended spigot connections
- 100% opening capacity
- Low noise generation
- Air tightness to DW144 Class C
- Linear choking for simple operation
- High accuracy and excellent adjustment properties



***action*air**

Dampers Controls Fancoils

Ruskin Air Management Limited
www.ruskinuk.co.uk

Introduction



Quick, silent and efficient is the simple summary of the features of the Actionair Iris Control Damper (ICD) for the adjustment and measuring of airflow.

Quick and simple installation and maintenance.

Balancing the airflow is normally a time consuming operation when commissioning a ventilation system.

The linear choking characteristics of the Actionair Iris Control Damper (ICD), simplifies this operation. Adjustment and measuring is carried out in the same operation, reducing the on site time to achieve correct airflow. The result is a permanent comfortable indoor climate.

The Actionair ICD is delivered locked in the fully open position, facilitating pressure testing of the system. A graduated scale of 'K' factors is located on the outer edge of the damper so as not to be obscured by insulation and each damper is supplied with full mounting and adjustment instructions to make the installation quick and simple.

Every Actionair ICD is factory calibrated. Extended spigot connections are a standard feature to avoid damage to the seal when riveting to ducting.

100% Opening capacity

The ICD can be fully opened.

Low Noise Generation

The design of the adjustment function together with the geometry of the ICD, results in low noise generation under volume control.

A conventional damper will increase the air velocity along the duct walls resulting in high generated noise under volume control. The 'Iris' aperture is close to ideal from a flow technology aspect. The Iris Control Damper (ICD) increases the air velocity with low levels of noise generation provided the instructions are followed in relation to the location of bends and junctions.

The correct properties

The construction is simple, but gives excellent adjustment properties.

The ICD is manufactured to air tightness class C and can work equally well with the airflow in either direction, eliminating the risk of incorrect installation.

Function

The Actionair ICD is an iris damper for measuring and adjusting the air flow. The ICD has the following specifications: low noise level, centrally-formed air flow and fixed test points for precise measurements. The damper also has an adjustment aperture which can be opened completely. Available in sizes 100 to 630mm diameters. Maximum temperature for ICD is 70°C.

Design

The damper is manufactured from galvanised sheet steel and is fitted with a rubber seal tested for air-tightness.

Exhaust ventilation

Using the ICD damper for exhaust Ventilation by diffusion offer many advantages over other forms

of ventilation and one of them is the simplicity in design and layout of exhaust air.

The dynamics of an extracted air flow is independent of geometry and direction at all distances greater than a couple of diameters from the opening. As long as the extracted air volume equals the supply air volume it doesn't matter where the extract opening is located nor does the number of openings applied.

When you are using dampers with good control abilities and enough pressure drop like ICD, these can be combined with a supply diffuser to form functional exhaust installations. By using the same diffuser for supply and exhaust you can achieve an aesthetic ceiling profile.

Mounting

The ICD adjustment damper must be installed in accordance with the distances required to minimise air-flow deviation. The ICD enables the taking of precise air-flow measurements at all points including points close to duct deviations such as T junctions and bends and points in front of other supply air devices.

Protective distance

| | |
|---------------------------|---------------|
| before bends | 1 x Diameter. |
| after bends | 1 x Diameter. |
| before T-pipes | 3 x Diameter. |
| after T-pipes | 1 x Diameter. |
| before supply-air devices | 3 x Diameter. |

Specification

Actionair ICD

The Actionair ICD Iris Control damper, housed in a galvanised sheet steel casing with circular extended spigots for ease of duct connection.

The simplicity of the Actionair ICD design with linear choking, provides quick and efficient airflow adjustment and measurement with low noise generation.

Sound Power Level

Sound power level, L_w

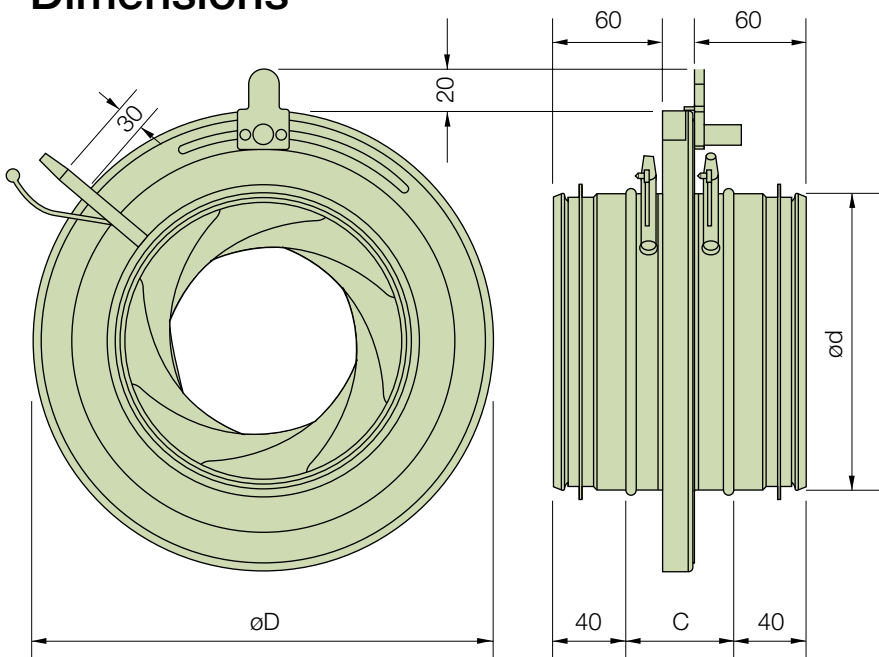
L_w (dB) = L_{wA} + K_{Ok} (L_{wA} = diagram K_{Ok} = table)

correction factor K_{Ok}

| ICD Size | Mid-frequency band, Hz | | | | | | |
|-----------|------------------------|-----|-----|-----|-----|-----|-----|
| | 63 | 125 | 250 | 500 | 1K | 2K | 4K |
| 100 | 11 | 10 | 3 | -2 | -8 | -16 | -24 |
| 125 | 7 | 8 | 2 | -4 | -11 | -19 | -27 |
| 150 | 8 | 7 | 1 | -5 | -11 | -18 | -27 |
| 160 | 9 | 6 | 1 | -5 | -11 | -18 | -27 |
| 200 | 9 | 5 | 1 | -5 | -12 | -17 | -24 |
| 250 | 6 | 1 | -4 | -3 | -12 | -17 | -24 |
| 300 | 3 | 1 | -4 | -4 | -10 | -15 | -24 |
| 315 | 3 | 1 | -4 | -4 | -9 | -14 | -23 |
| 400 | 3 | 1 | -4 | -4 | -9 | -13 | -19 |
| 500 | 14 | 8 | 2 | -3 | -11 | -17 | -26 |
| 630 | 12 | 6 | 1 | -3 | -8 | -11 | -14 |
| Tolerance | ±6 | ±5 | ±2 | ±2 | ±2 | ±2 | ±3 |



Dimensions



| ICD Size | ød | C | øD | Part Number | Weight Kg |
|----------|-----|----|-----|-------------|-----------|
| 100 | 99 | 54 | 163 | XSGR05101 | 0.80 |
| 125 | 124 | 63 | 210 | XSGR05102 | 1.09 |
| 150 | 149 | 54 | 230 | XSGR05103 | 1.30 |
| 160 | 159 | 60 | 230 | XSGR05104 | 1.30 |
| 200 | 199 | 62 | 285 | XSGR05105 | 1.81 |
| 250 | 249 | 62 | 333 | XSGR05106 | 2.70 |
| 300 | 299 | 65 | 405 | XSGR05107 | 3.21 |
| 315 | 314 | 63 | 406 | XSGR05108 | 3.42 |
| 400 | 399 | 70 | 560 | XSGR05109 | 7.33 |
| 500 | 499 | 60 | 644 | XSGR05110 | 8.33 |
| 630 | 629 | 60 | 811 | XSGR05111 | 10.00 |

The compact measurements of the Actionair ICD, are an advantage as space is often limited.

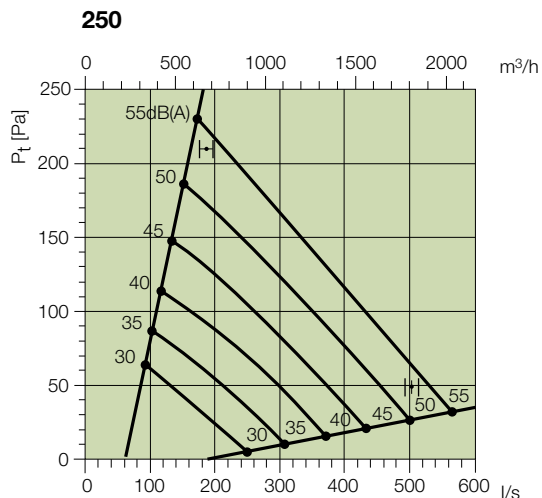
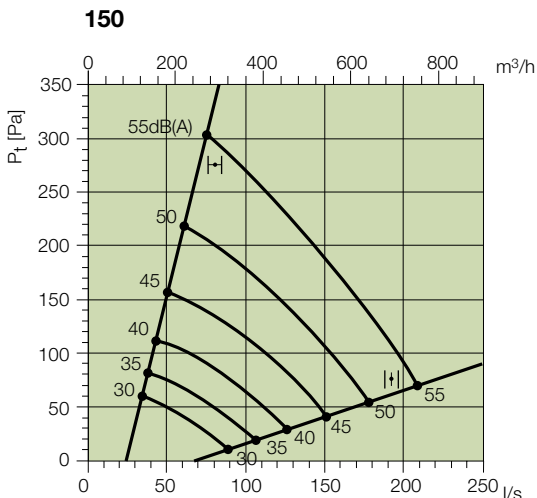
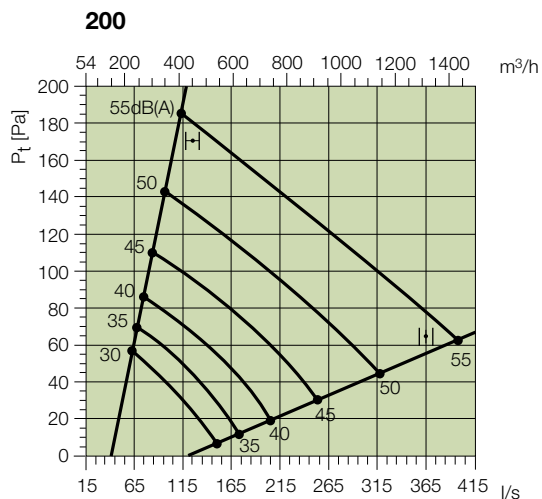
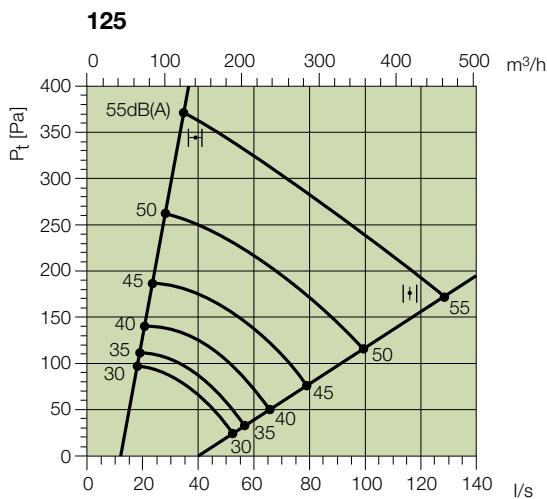
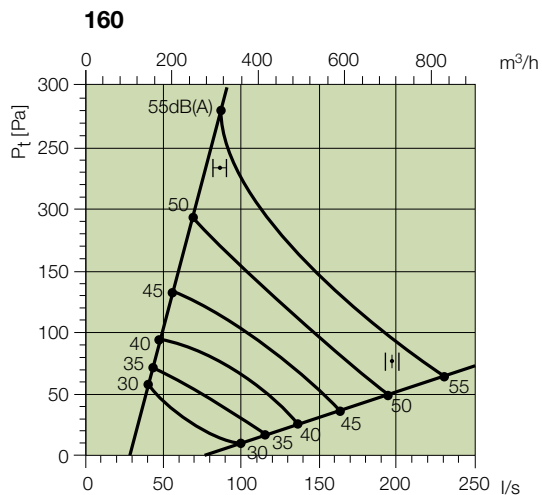
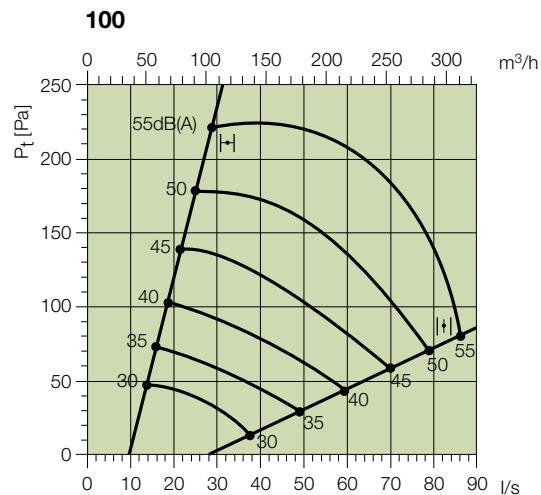
Ordering Information

Example

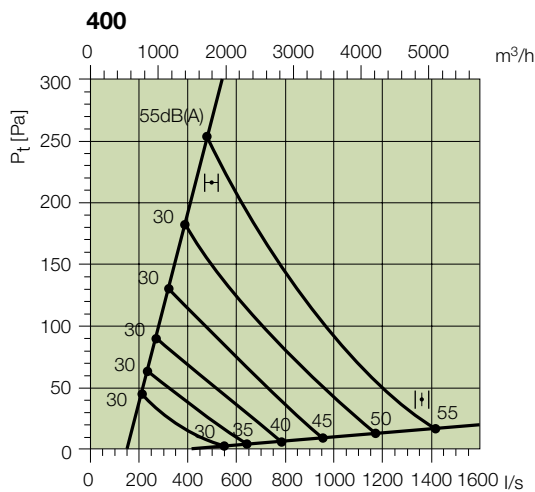
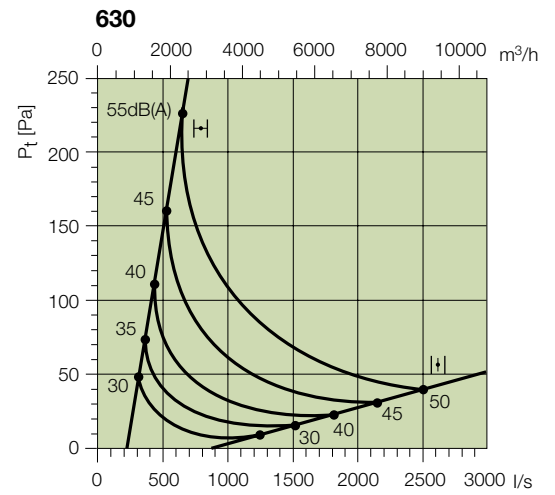
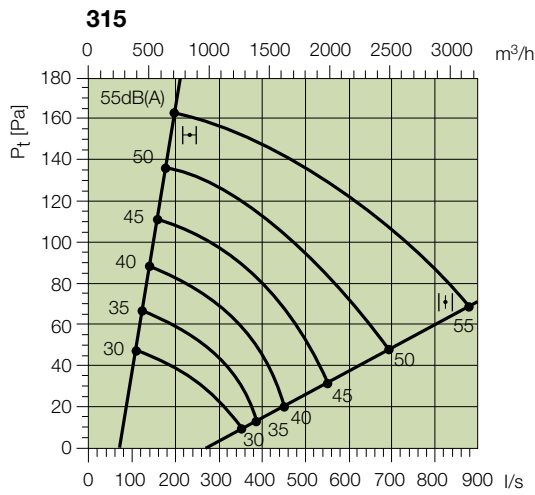
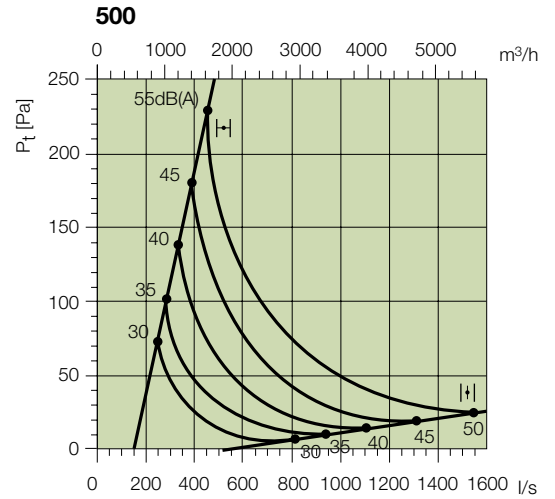
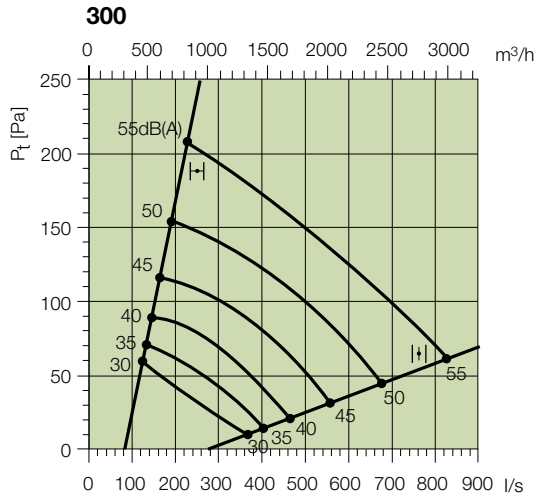
| Quantity | Size | Description | PART No. |
|----------|------|-------------|-----------|
| 10 | 100 | ICD | XSGR05101 |

The diagram shows Air volume (l/s and m³/h), static pressure (Pa) and sound power level [dB(A)], including aperture damping.

Performance Data



Performance Data



Iris Shut Off Damper (ISD)

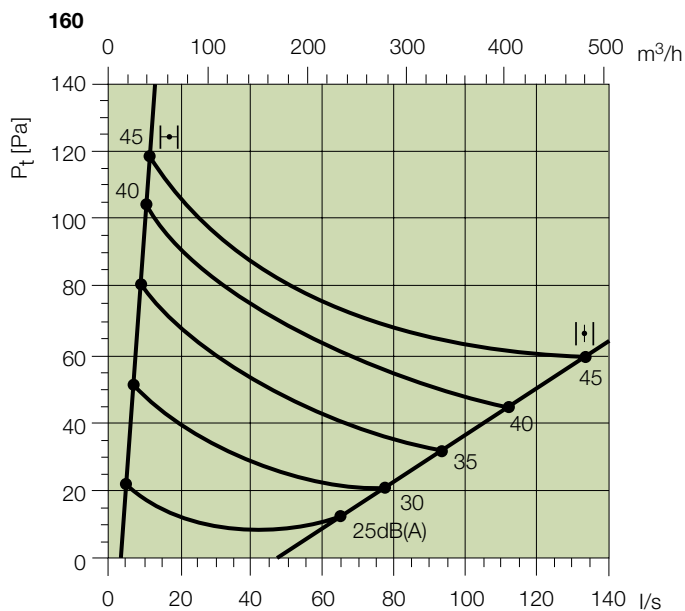


Sound power level, L_w

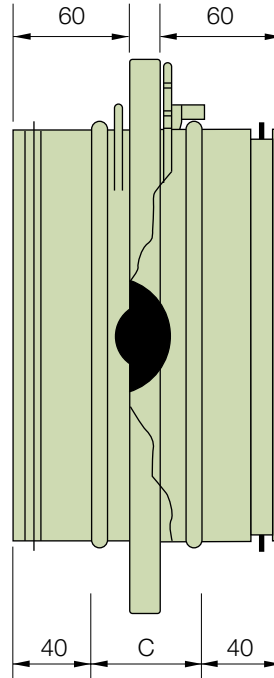
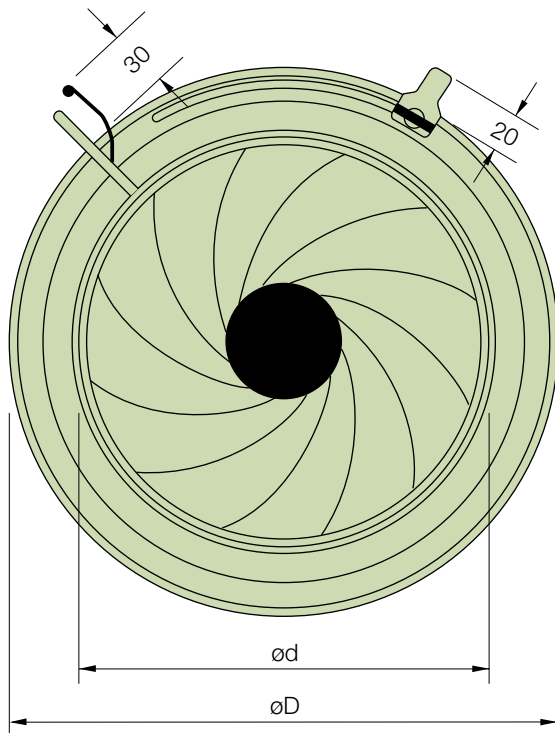
L_w (dB) = L_{wA} + K_{Ok} (L_{wA} = diagram K_{Ok} = table)

correction factor K_{Ok}

| ISD Size | Mid-frequency band, Hz | | | | | | |
|-----------|------------------------|-----|-----|-----|-----|-----|-----|
| | 63 | 125 | 250 | 500 | 1K | 2K | 4K |
| 160 | 9 | 6 | 1 | -5 | -11 | -18 | -27 |
| 200 | 9 | 5 | 1 | -5 | -12 | -17 | -24 |
| 250 | 6 | 1 | -4 | -3 | -12 | -17 | -24 |
| 300 | 3 | 1 | -4 | -4 | -10 | -15 | -24 |
| 315 | 3 | 1 | -4 | -4 | -9 | -14 | -23 |
| 400 | 3 | 1 | -4 | -4 | -9 | -13 | -19 |
| Tolerance | ±6 | ±5 | ±2 | ±2 | ±2 | ±2 | ±3 |



Dimensions



Specification

Actionair ISD

The Actionair ISD Iris Shut Off Damper, housed in a galvanised sheet steel casing with circular extended spigots for ease of duct connection.

The simplicity of the Actionair ISD design with linear choking, provides quick and efficient airflow adjustment and measurement, low noise generation and more choking ability than Actionair ICD.

When using the Actionair ISD we recommend the installation of the Actionair Access/Shield CDS Access Door with the unit.

| ISD Size | ød | C | øD | Part Number | Weight Kg |
|----------|-----|----|-----|-------------|-----------|
| 160 | 159 | 60 | 230 | XSGR05131 | 1.50 |
| 200 | 199 | 62 | 285 | XSGR05132 | 1.91 |
| 250 | 249 | 62 | 333 | XSGR05133 | 2.80 |
| 300 | 299 | 63 | 406 | XSGR05134 | 3.46 |
| 315 | 314 | 63 | 406 | XSGR05135 | 3.63 |
| 400 | 399 | 70 | 560 | XSGR05136 | 7.56 |

The compact measurements of the Actionair ISD, are an advantage as space is often limited.

Ordering Information

Example

| Quantity | Size | Description | Part Number |
|----------|------|-------------|-------------|
| 10 | 250 | ISD | XSGR05133 |

Options

Actionair ICD-M (Motorised)

Where the ventilation requirements are variable, dependent on say temperature or CO², the Actionair ICD-M, motorised unit may be used. The motor will receive a signal from the installed sensor and vary the air supply accordingly.

The maximum/minimum opening position can be adjusted manually using the release button on the unit. Once set the damper will return to automatic operation.



| ICD-M Size | Motor Options | | | | | | | | |
|------------|---------------|-------------|-----------|------------|-------------|-----------|-----------------------|-------------|-----------|
| | 24V On/Off | Part Number | Weight Kg | 24V On/Off | Part Number | Weight Kg | 24V Modulating On/Off | Part Number | Weight Kg |
| 100 | NM24A | XSGR05113 | 2.20 | NM230A | XSGR05114 | 2.20 | NM24A-SR | XSGR05115 | 2.20 |
| 125 | NM24A | XSGR05116 | 2.50 | NM230A | XSGR05117 | 2.50 | NM24A-SR | XSGR05118 | 2.50 |
| 160 | NM24A | XSGR05119 | 3.20 | NM230A | XSGR05120 | 3.20 | NM24A-SR | XSGR05121 | 3.00 |
| 200 | NM24A | XSGR05122 | 4.00 | NM230A | XSGR05123 | 4.00 | NM24A-SR | XSGR05124 | 3.20 |
| 250 | SM24A | XSGR05125 | 4.95 | SM230A | XSGR05126 | 4.95 | SM24A-SR | XSGR05127 | 3.50 |
| 315 | SM24A | XSGR05128 | 5.20 | SM230A | XSGR05129 | 5.20 | SM24A-SR | XSGR05130 | 3.80 |

Ordering Information

Example

| Quantity | Size | Description | Motor Option | PART No. |
|----------|------|-------------|--------------|-----------|
| 10 | 100 | ICD-M | NM24A-SR | XSGR05115 |

Actionair ISD-M (Motorised)

Where the ventilation requirements are variable, dependant on say temperature or CO², and complete closing is required, the Actionair ISD-M motorised unit may be used. The motor will receive a signal from the installed sensor and vary the air supply accordingly.

The maximum/minimum opening position can be adjusted manually using the release button on the unit. Once set the damper will return to automatic operation.

When using the Actionair ISD-M we recommend the installation of the Actionair CDS Access Door with the unit.



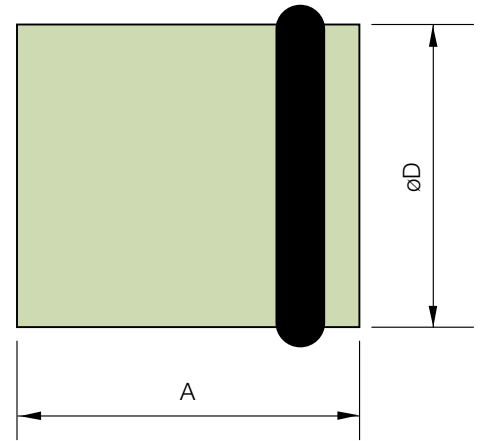
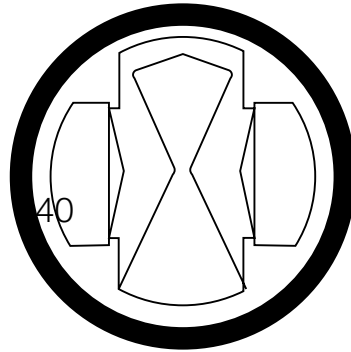
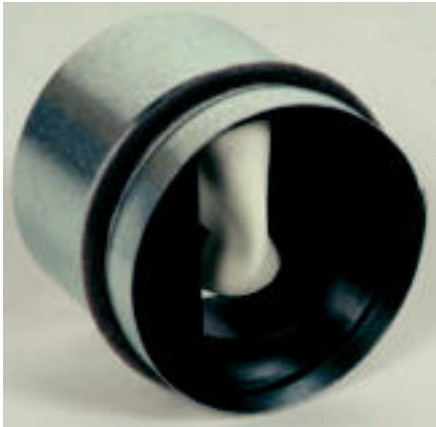
| ICD-M Size | Motor Options | | | | | | | | |
|------------|---------------|-------------|-----------|------------|-------------|-----------|-----------------------|-------------|-----------|
| | 24V On/Off | Part Number | Weight Kg | 24V On/Off | Part Number | Weight Kg | 24V Modulating On/Off | Part Number | Weight Kg |
| 160 | NM24A | XSGR05137 | 2.40 | NM230A | XSGR05138 | 2.40 | NM24A-SR | XSGR05139 | 3.40 |
| 200 | NM24A | XSGR05140 | 3.90 | NM230A | XSGR05141 | 3.90 | NM24A-SR | XSGR05142 | 4.30 |
| 250 | SM24A | XSGR05143 | 5.80 | SM230A | XSGR05144 | 5.80 | SM24A-SR | XSGR05145 | 5.80 |
| 315 | SM24A | XSGR05146 | 7.80 | SM230A | XSGR05147 | 7.80 | SM24A-SR | XSGR05148 | 7.80 |

Ordering Information

Example

| Quantity | Size | Description | Motor Option | PART No. |
|----------|------|-------------|--------------|-----------|
| 10 | 160 | ISD-M | NM24A-SR | XSGR05139 |

Accessories



Actionair MR Constant Airflow Device

The Actionair MR Constant airflow device housed in a galvanised sheet steel casing with silicon bellows with a polycarbonate centre, dimensioned so as to maintain a constant air volume.

The Actionair MR can be vertically or horizontally mounted, either within an Actionair Access/Shield CDS access door or spiral ductwork.

For use with air volumes up to 200 l/s.
Operating temperatures -30 to +60 °C

Adjustment is made by setting dividers into 1 of 10 different positions.

| MR Size | øD | A | Part Number | Weight Kg |
|---------|-----|-----|-------------|-----------|
| 100 | 98 | 80 | XSGR05149 | 0.20 |
| 125 | 121 | 137 | XSGR05150 | 0.45 |
| 160 | 156 | 137 | XSGR05151 | 0.50 |
| 200 | 196 | 155 | XSGR05152 | 0.90 |
| 250 | 247 | 172 | XSGR05153 | 1.50 |

Accessories

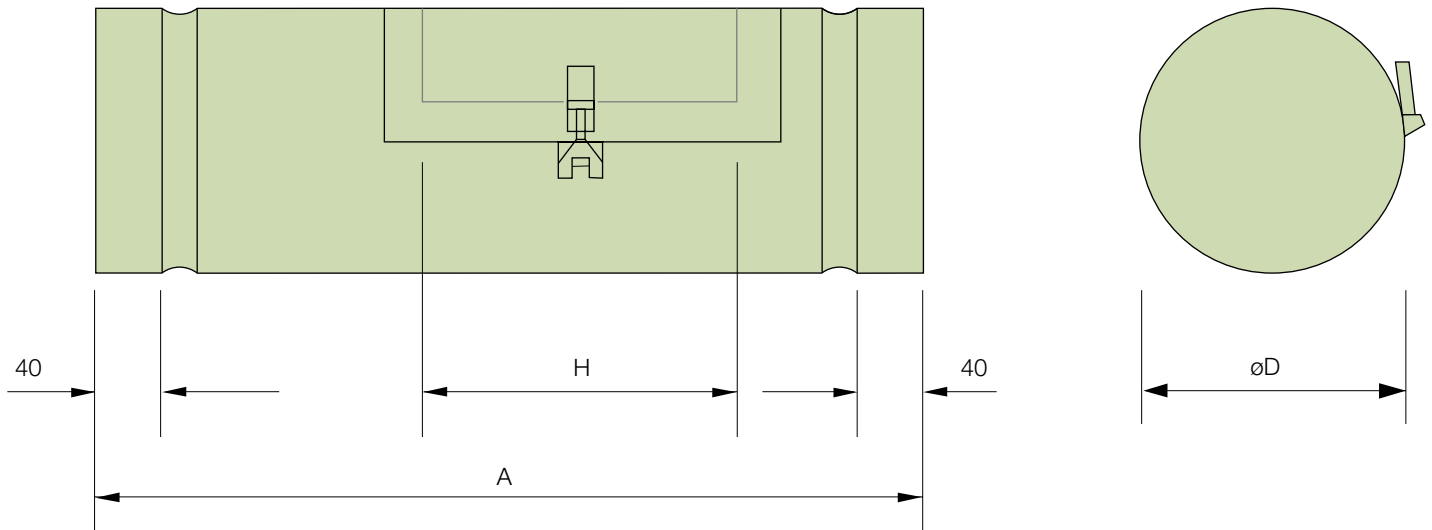


Actionair Access/Shield CDS

The access door can be easily opened without tools. The door is fitted with a sealing gasket.

Manufacture is from galvanised mild steel and is available in sizes 100mm diameter to 400mm.

| CDS Size | A | H (hole) | øD | Part Number | Weight. |
|----------|-----|----------|-----|-------------|---------|
| 100 | 290 | 100 | 100 | XSGQ05155 | 0.60 |
| 125 | 395 | 150 | 125 | XSGQ05156 | 1.10 |
| 160 | 405 | 160 | 160 | XSGQ05157 | 1.40 |
| 200 | 445 | 180 | 200 | XSGQ05158 | 1.85 |
| 250 | 480 | 200 | 250 | XSGQ05159 | 3.20 |
| 315 | 480 | 200 | 315 | XSGQ05160 | 3.90 |
| 400 | 480 | 200 | 400 | XSGQ05161 | 4.30 |



Ordering Information

Example

| Quantity | Size | Description | PART No. |
|----------|------|-------------|-----------|
| 10 | 100 | CDS | XSGQ05155 |

Ruskin Air Management Limited
is a ISO 9001 and 14001 registered
company.

The statements made in this brochure or by our
representatives in consequence of any enquiries
arising out of this document are given for information
purposes only. They are not intended to have any
legal effect and the company is not to be regarded
as bound thereby. The company will only accept
obligations which are expressly negotiated for and
agreed and incorporated into a written agreement
made with its customers.

Due to a policy of continuous product development
the specification and details contained herein are
subject to alteration without prior notice.

Comprehensive and detailed information
is available for all Actionair products.
Visit our website at www.actionair.co.uk

Ruskin Air Management Limited

South Street, Whitstable, Kent
CT5 3DU England.
Tel: 01227 276100
Fax: 01227 264262
Email: sales@actionair.co.uk
Website: www.actionair.co.uk

actionair
Dampers Controls Fancoils