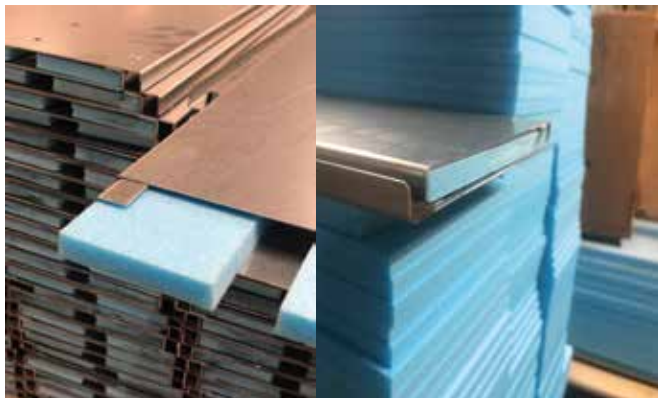


# INSULATED DAMPERS

Information & Spec Sheet



## DESIGN

Insulated Dampers are designed to control airflows through building and generator housing. They can protect Containers from Ingress of Water, Dust and assist with protection from the Cold.

The robust Frames of 2mm means they are suitable for heavy Duty assemblies as well as lighter HVAC installations. Our Damper designs have been tried and tested for over 35 years.



All Engineered Air Treatment Damper designs have been tried and tested for over 35 years.

## FEATURES

- Manufactured from tried & tested designs
- Flexible Flange arrangements and depth requirements
- Dampers Mechanism is easily accessible for Maintenance
- Dampers in Dry environment have very little maintenance requirements
- 2 Year warranty from date of despatch, actuators have 5 years warranty
- Excellent Customer Service from Engineers that have manufactured the dampers they sell. Our Sales staff have over 30 years' experience.
- Low Leakage to Minimise Grafts

All materials used are class 'A' Fully traceable as part of ISO 9001



## STANDARD LAYOUT

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<b>MATERIALS</b>	Pre-Galvanised M.S. to BS EN 10346 2015 DX51D
<b>CASING</b>	2mm Fully Welded and Cleaned for Smoother finish Coated in silver enamel QD8 (C3 Class top coat)
<b>BLADES</b>	1mm 'Z' Type Double Skinned, Lined with 10mm thick Styrofoam 0.323m <sup>2</sup> k/w parallel opening standard C/W Seals
<b>SHIMS</b>	Yes, ST/ST
<b>SPINDLES</b>	BZP
<b>HARDWARE</b>	BZP
<b>BUSHES</b>	Nylon Bushes
<b>MESH</b>	1/2" x 16g Mesh Fingerguard ideal for keeping fingers and pests out
<b>INTEGRITY</b>	98% Closed
<b>FINISH</b>	Welds Repaired and Coated in Silver enamel QD8 (C3 Class top coat)

## OPTIONS FOR MATERIALS

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<b>MATERIALS</b>	Zintec, Aluminium, marine grade Aluminium, 304, 316 Stainless Steel
<b>CASING</b>	2mm, 3mm to 6mm
<b>BLADES</b>	1.5mm 'Z' Type Double Skinned, parallel opening standard, Seals
<b>SPINDLES</b>	304 or 316 Stainless Steel
<b>HARDWARE</b>	A2 and A4
<b>BUSHES</b>	Nylon Bushes, Phosphor Bronze, SFL Bearings, St/st Teflon lined
<b>MESH</b>	1" Sq, 3mm and we can fit security bars
<b>STYROFORM</b>	25mm Thick: 0.806 m <sup>2</sup> k/w

## ADDITIONAL DAMPER INFORMATION

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Engineered Air Treatment Ltd. Pride themselves on solving Damper issues and due to the many options available we would recommend contacting our sales team who would also assist where possible.



Standard -30°C to +60°C.



Approx **35Kg's per m<sup>2</sup>**. We can supply lifting eyes if required.



Please see graph overleaf



Minimum **250sq**, Maximum **2000sq**. The dampers made up in sections.

# PRESSURE DROP

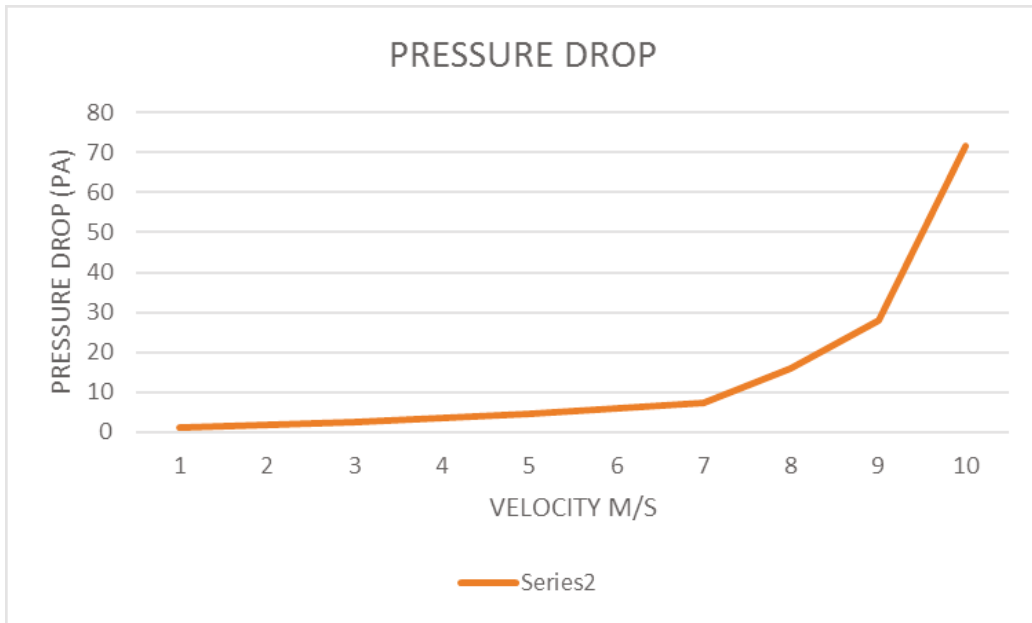
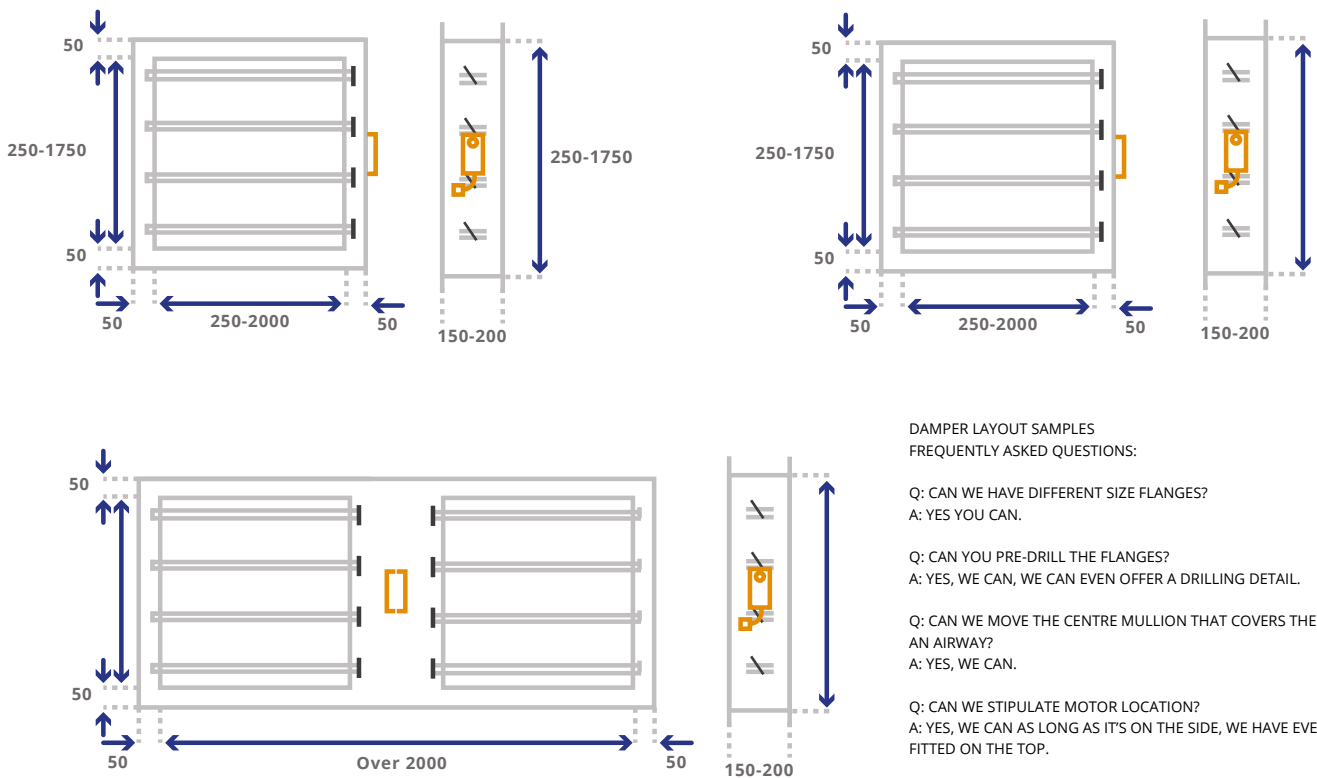


Chart based on Standard Blades and at Air at 15°C

# EXAMPLE LAYOUT



### DAMPER LAYOUT SAMPLES FREQUENTLY ASKED QUESTIONS:

Q: CAN WE HAVE DIFFERENT SIZE FLANGES?  
A: YES YOU CAN.

Q: CAN YOU PRE-DRILL THE FLANGES?  
A: YES, WE CAN, WE CAN EVEN OFFER A DRILLING DETAIL.

Q: CAN WE MOVE THE CENTRE MULLION THAT COVERS THE AN AIRWAY?  
A: YES, WE CAN.

Q: CAN WE STIPULATE MOTOR LOCATION?  
A: YES, WE CAN AS LONG AS IT'S ON THE SIDE, WE HAVE EVEN FITTED ON THE TOP.

Q: WHAT IS THE LARGEST DAMPER A SINGLE ACTUATOR CAN WORK?  
A: 3 SQ METERE, 25 SQ TORGUE

## U-VALUES

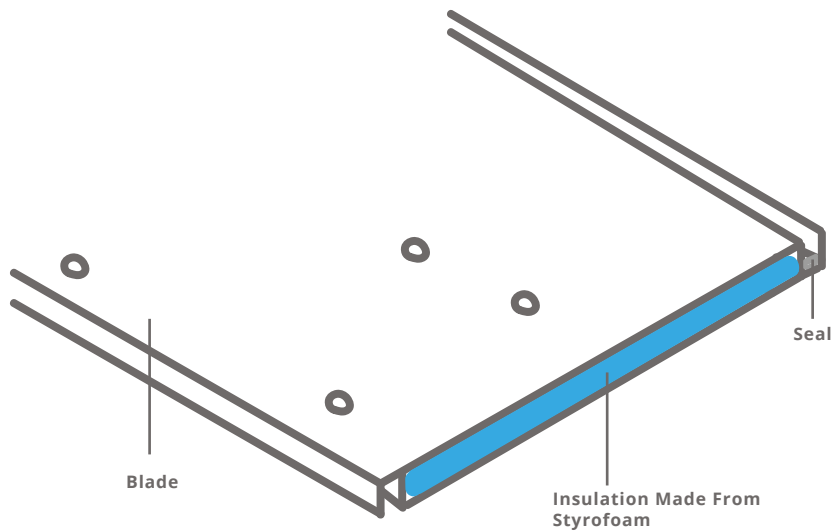
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The U-Value represents the value of the thickness of Styrofoam we fit within the blade and not the total damper. Further Testing would be required.

## ADDITIONAL DAMPER INFORMATION

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Engineered Air Treatment Ltd. Pride themselves on solving Damper issues and due to the many options available we would recommend contacting our sales team who would also assist where possible.



## OPTIONAL EXTRAS

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External Micro switches

Viewing windows

Lifting Eyes.

Relief Flaps Situated on the Blades to release internal pressure.

Mesh Bird Guard and Insect Mesh

Covers over the Actuators and Mechanisms

External visual indicators

Powdercoated Finish

Modulating with Spring return Options on the Actuators

Actuators can be situated in the Airstream if needed

Flanges can be drilled to Suit and be 40mm to 100mm

Fan Plenum boxes can also be supplied to the rear of the Dampers



Engineered Air Treatment are proud of our quality record which allows us to have complete confidence in the products we offer. We adhere to our ISO9001 accreditation and install these values into our valuable employees. This confidence allows us to offer a 2 year warranty with all our products.

**We also have complete traceability and files over 20 years old to look back on. We are a can do company.**

## CE Marking for Standard Motorised Dampers

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The CE marking shall be the only marking which attests the conformity of the product with the applicable requirements of the relevant Community harmonisation legislation providing for its affixing"

There is also currently no relevant Community Harmonisation Legislation for a standard damper to adhere to and so CE marking to an official European standard is not possible.

CE Marking is required if dampers are Classed as fire rated safety products or according the building regulation 2016 a supporting the structure of the building, that is unless it comes into the Bespoke construction Section of the legislation and then due care and diligence needs to be illustrated.

This is our own interpretation of the current legislation and would react accordingly if required by law.

Engineered Air Treatment Ltd are a ISO9001: 2015 certified company, and can offer full material certification and traceability. We can also issue Certificate of Conformity, stating that we have supplied as ordered. We also supply EC Declaration of Incorporation with our products.

# ACTUATORS

Standard arrangement is **Belimo Dual Voltage Motor Close/Spring open** Various Arrange of Actuators can be fitted to the Dampers, Complete Belimo Range, Schischek. Rotork, Pneumatic, hydraulics, Gas Trip close with manual Reset.

**Fast Acting Actuators Available**

**Shischek: In Max Range: Motor is 3/15/30/60 Seconds and Spring is 3 or 10 Sec**

## Technical data



**BELIMO**

Spring return actuator with emergency function for adjusting air dampers in ventilation and air conditioning systems in buildings

- For air dampers up to approx. 4 m<sup>2</sup>
- Torque 20 Nm
- Nominal voltage AC 24 ... 240 V / DC 24 ... 125 V
- Control: Open-close
- Two integrated auxiliary switches

### Electrical data

Nominal voltage	AC 24 ... 240 V, 50/60 Hz / DC 24 ... 125 V
Nominal voltage range	AC 19,2 ... 264 V / DC 21,6 ... 137,5 V
Power consumption	In operation 7 W @ nominal torque
	At rest 3.5 W
	For wire sizing 18 VA

### Functional data

Auxiliary switch	2 x SPDT, 1 mA ... 3 (0.5) A, AC 250 V <input type="checkbox"/> (1 x fix 10% / 1 x adjustable 10 ... 90%)
Connection Motor	Cable 1 m, 2 x 0.75 mm <sup>2</sup>
Auxiliary switch	Cable 1 m, 6 x 0.75 mm <sup>2</sup>
Torque Motor	Min. 20 Nm @ nominal voltage
Spring return	Min. 20 Nm
Direction of rotation	Can be selected by mounting L / R
Manual override	With hand crank and interlocking switch
Angle of rotation	Max. 95°-<, can be limited with adjustable mechanical end stop
Running time Motor	≤75 s (0 ... 20 Nm)
Spring return	20 s @ -20 ... 50°C / max. 60 s @ -30°C
Sound power level Motor	≤45 dB (A)
Spring return	≤62 dB (A)
Service life	Min. 60,000 emergency positions
Position indication	Mechanical
Protection class	II Totally insulated <input type="checkbox"/>
Degree of protection	IP54 NEMA2, UL Enclosure Type 2
EMC	CE according to 2004/108/EC
Low-voltage directive	CE according to 2006/95/EC
Certification	Certified to IEC/EN 60730-1 and IEC/EN 60730-2-14 cULus according to UL 60730-1A and UL 60730-2-14 and CAN/CSA E60730-1:02
Mode of operation	Type 1.AA.B
Rated impulse voltage Actuator	4 kV
Auxiliary switch	2.5 kV
Control pollution degree	3
Ambient temperature	-30 ... +50°C
Non-operating temperature	-40 ... +80°C
Ambient humidity	95% r.h., non-condensating
Maintenance	Maintenance-free
Dimensions / Weight	Dimensions See «Dimensions» on page 3
	Weight Approx. 2.4 kg

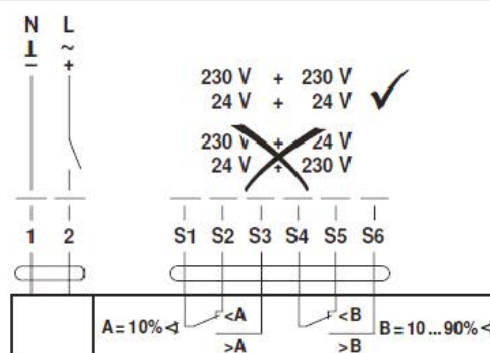
### Safety

## Electrical installation

### Wiring diagram

#### Notes

- Caution: Power supply voltage possible!
- Parallel connection of other actuators possible. Note the performance data.



#### Cable colours:

- 1 = blue
- 2 = brown
- S1 = violet
- S2 = red
- S3 = white
- S4 = orange
- S5 = pink
- S6 = grey