Australia

Ravenscroft Fire & Smoke Damper Range

A trusted brand in safety

Pacific Ventilation

NEW ZEALAND Ravenscroft

Pacific Ventilation + Ravenscroft

Pacific Ventilation are proud to offer the Ravenscroft range of fire dampers, a trusted brand in safety for over 25 years.

Ravenscroft fire dampers are New Zealand designed and made. They are renowned for their quick and easy installation due to the unique single piece design.

Offering a greater range of sizes than competing models and available for both plasterboard walls or concrete walls and floors, they are the logical choice for your project.

Revit Family models are available upon request.

Contents

Pacific Ventilation

- Meets the latest standards (AS.1530.4-2014)
- Rated up to 2 hours
- Specifically designed for installation in plasterboard walls
- No separate balancing damper or duct access hatch required
- Fast and easy installation
- Supplied as a kitset
- Custom lengths available POA
- Stainless steel version available POA
- Integrated insulated sleeve (no external insulation required)
- Patent Pending 772967
- Complies NCC 2019 (Australia)

Ravenscroft BSD Fire Damper for Plasterboard Walls (BSD-PW)

Designed to slow the spread of fire or smoke the BSD-PW is renowned for its easy installation and maintenance. The BSD-PW meets the Australian and New Zealand standards (AS.1530.4-2014) and has been proven to have a very low air leakage rate.

BSD-PW has many benefits, it combines a balancing damper and fire damper enabling a fast installation without requiring any special framing. The fire damper is supplied as a kitset with all necessary fasteners and instructions. This minimises installation errors to maximise safety.

All Ravenscroft Fire Dampers can be adjusted to suit the wall thickness up to 180mm standard.

Our plasterboard wall model (BSD-PW) comes with insulation to protect the plasterboard wall from fire. This insulation is encapsulated in steel and therefore is protected from damage.

These fire dampers are rated up to 2 hours. Fuse release is external therefore the damper is easily activated and reset during building maintenance checks. No duct inspection hatch is required to check either the damper operation or the fuse.

The date of manufacture is held on a database at Pacific Ventilation.

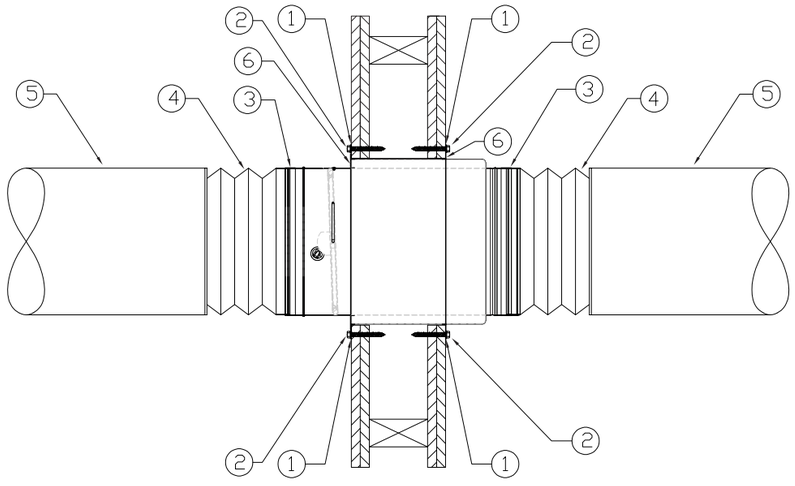
Available sizes

125 | 150 | 175 | 200 | 250 | 300 | 400mm (125 and 175 available by request)

MADE IN NZ

TRUSTED FOR 25 YEARS

Installation



1. Promat Promaseal A acrylic sealant
2. Plasterboard Fixing Screw
3. Retaining clamp
4. Flexible duct
5. Main Ducting
6. Damper Flange

This Ravenscroft Fire Damper is specifically developed for plasterboard walls with extensions and flanges made of galvanised steel. On application, a stainless steel version is also available.

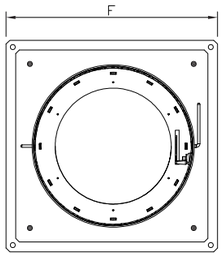
The unit is secured in a wall by flanges fastened directly to the plasterboard only. The 400 diameter units have flanges sized to overlap standard spaced studs with fastening to the studs and plasterboard.

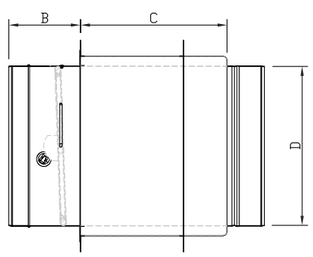
One flange is fixed to the damper and the other supplied loose to accommodate variations in wall thickness. The standard maximum thickness for penetrations through plasterboard cavity walls is 180 mm. Other lengths can be manufactured to order.

All screws and rivets are provided as part of the kitset and must be used. Approved fire rated mastic required to seal the flanges to the wall and duct tape or retaining clamp for flexible connectors are not included in the kitset.

The wall cavity must be protected from heat during a fire. Therefore, the plasterboard wall fire damper incorporates a fire rated ceramic insulation blanket encapsulated in galvanised steel. This ensures the insulation properties are consistent and protected before, during and long after installation.

Dimensions





BSD-PW	D	Hole	B	C	F
125	124	165	95	195	225
150	149	190	95	195	250
175	174	215	95	195	275
200	199	240	95	195	300
250	249	290	95	195	350
300	299	340	155	195	410
400	399	440	155	195	650

Compliance

The Australian & NZ Building Codes require fire dampers to comply with AS 1682 Part 1 & 2, and AS1530.4 2014 as the Acceptable solution.

The BSD-PW complies with the Australian & NZ Building Codes as an Acceptable solution.

Verification as follows: WarringtonFire test report FRT200201 and WarringtonFire assessment report FAS200328, results confirm the plasterboard mounting system for the BSD-PW will provide an FRL of -/120/- according to AS1530.4-2014.

- Meets the latest standards (AS.1530.4-2014)
- Rated up to 2 hours
- Specifically designed for installation in concrete walls and floors
- No separate balancing damper or duct access hatch required
- Fast and easy installation
- Custom lengths available POA
- Stainless steel version available POA
- Complies to NCC 2019 (Australia)

Ravenscroft BSD Fire Damper for Concrete/Masonry Walls/ Floors (BSD-C)

The Ravenscroft Fire Damper for concrete/masonry (BSD-C) is similar to the Ravenscroft plasterboard wall fire damper, but without the insulated sleeve. It is supplied with one fixed flange only that allows it to be centred and fixed to one side of the wall or floor prior to final sealing.

The BSD-C is available for installation in concrete and concrete block wall or floor fire separations. For installation in other wall/floor types, please contact Pacific Ventilation for advice.

The BSD-C combines a balancing damper and fire damper enabling a fast installation. These fire dampers are rated up to 2 hours. Fuse release is external therefore damper is easily activated and reset during building maintenance checks. No duct inspection hatch is required to check either the damper operation or the fuse.

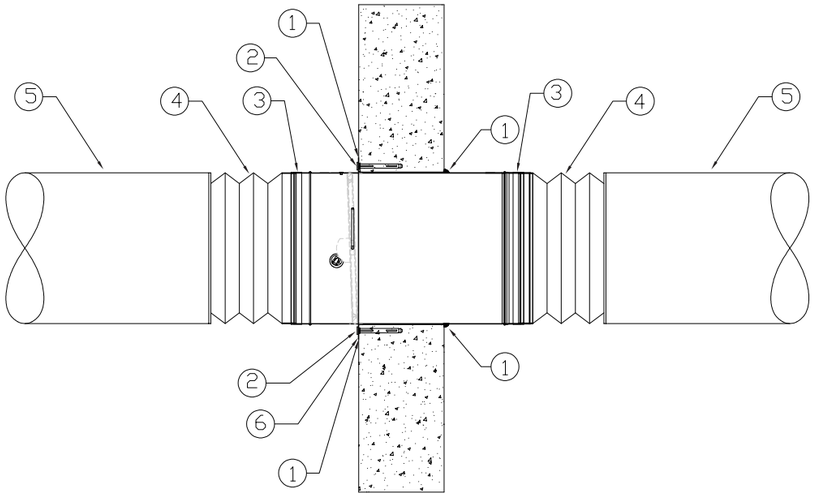
Release alternatives

Alternative means of release are available on application. These include e.g. specially designed Belimo spring-return actuators and heat release sensors.

Available sizes

125 | 150 | 175 | 200 | 250 | 300 | 400mm (125 and 175 available by request)

Installation



1. Promat Promaseal A acrylic sealant Fosroc Flamex 1 Pyropanel Multiflex
2. 55mm Hilti HUS-HR hexagonal head SS anchors
3. Retaining clamp
4. Flexible duct
5. Main Ducting
6. Damper Flange

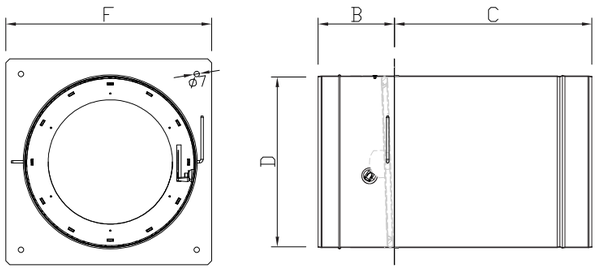
The Ravenscroft Fire Damper for concrete/masonry is a fire rated damper that, when installed as per the manufacturers instructions, will maintain the integrity of concrete firewalls or floors for up to 2 hours.

The Ravenscroft Fire Damper for concrete/masonry is a combined balancing and fire damper. It can function as a manual reset smoke damper if one of the release alternatives are selected.

Flexible ductwork connectors must be used to separate rigid ducting from the damper. These prevent excess force being transferred to the wall or floor mounting in the advent of ductwork deformation or collapse during a fire or earthquake.

The damper can easily be tested and preset with the indicator handle from outside the duct. Duct access panels are not required.

Dimensions



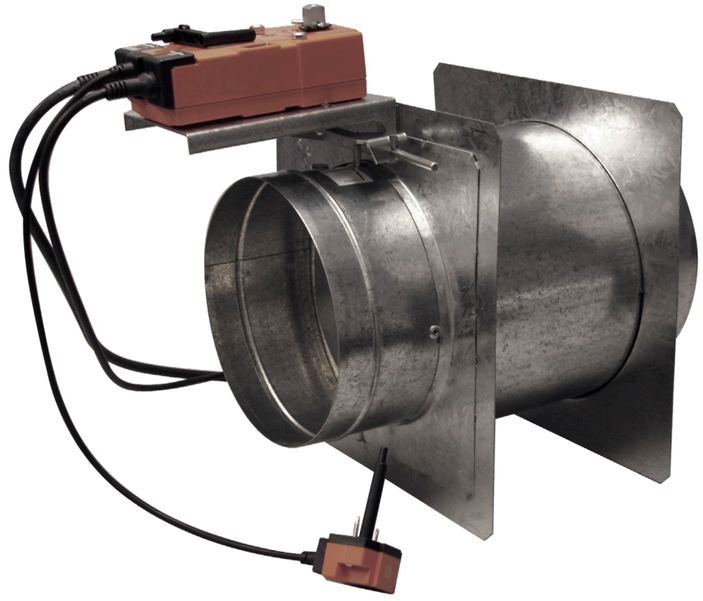
BSD-C	D	Hole	B	C	F
125	124	135	95	245	180
150	149	160	95	245	210
175	174	185	95	245	230
200	199	210	95	245	255
250	249	260	95	245	300
300	299	310	155	245	370
400	399	410	155	245	480

Compliance

The Australian & NZ Building Codes require fire dampers to comply with AS 1682 Part 1 & 2, and AS1530.4 2014 as the Acceptable solution.

The BSD-C complies with the Australian & NZ Building Codes as an Acceptable solution.

Verification as follows: WarringtonFire test report FRT200201 and WarringtonFire assessment report FAS200328, results confirm the mounting system for the BSD-C will provide an FRL of -/120/- according to AS1530.4-2014.



Ravenscroft Smoke/Fire Damper for Plasterboard Walls (BSD-PW/M)

- **Meets the latest fire testing standards AS1530.4-2014**
- **Meets the latest smoke leakage testing standards AS1530.7-2007**
- **FRR rating -/120/- according to AS1530.4-2014**
- **Ultra-low smoke leakage less than 5 l/s @300pa according to AS1530.7-2007**
- **Specifically designed for installation in plasterboard walls**
- **Fast and easy installation**
- **Custom lengths available POA**
- **Stainless steel version available POA**
- **Integrated insulation sleeve (no external insulation required)**

Ravenscroft Fire Dampers function as an electrical reset smoke damper when fitted with a specially designed Belimo spring-return actuator.

The motorised fire dampers have many of the same benefits as the regular Ravenscroft BSD-PW fire dampers. It has a two hour fire rating as a fire/smoke damper. The installation is quick and no special framing is required, nor is a duct inspection hatch needed to check damper operation.

The Ravenscroft Smoke Dampers come fitted with a specially designed Belimo spring-return motor (cannot be fitted on site). A thermoelectric device allows it to be used as a combination Fire/Smoke Damper.

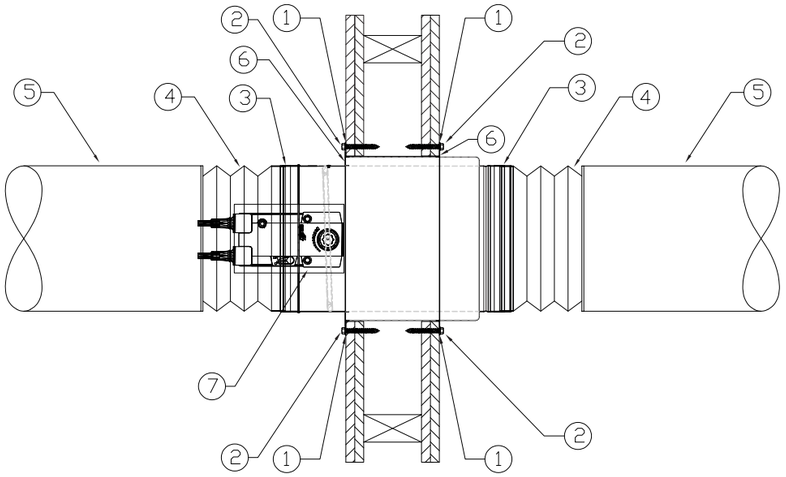
- Motor torque: up to 8 Nm
- Motor control: open/close
- Available motor voltage options: AC/DC 24V, AC 230V
- Running time: Motor < 60 s / Spring-return close less than 20 seconds

The Smoke Damper will operate on receipt of a signal from the building fire panel. Open/closed contacts provide positive feedback of the damper position. Reset is done remotely.

Available sizes

125 | 150 | 175 | 200 | 250 | 300 | 400mm (125 and 175 available by request)

Installation

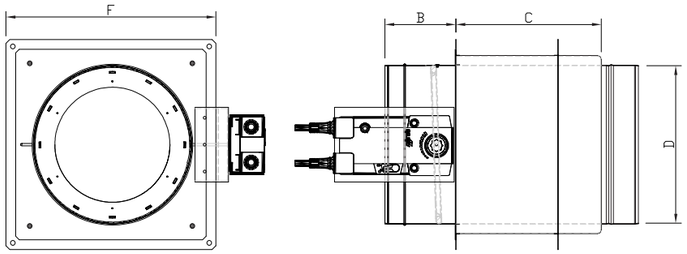


1. Promat Promaseal A acrylic sealant Fosroc Flamex 1 Pyropanel Multiflex
2. Plasterboard Fixing Screw
3. Retaining clamp
4. Flexible duct
5. Main Ducting
6. Damper Flange
7. Belimo Actuator

Co-ordination between trades on site and at time of tender is greatly reduced as the damper does not require additional hole reinforcement or framing. Actual installation time is minimised.

Flexible ductwork connectors must be used to separate rigid ducting from the damper. These prevent excess force being transferred to the plasterboard in the advent of ductwork deformation or collapse during a fire or earthquake.

Dimensions



BSD-PW/M	D	Hole	B	C	F
125	124	165	95	195	225
150	149	190	95	195	250
175	174	215	95	195	275
200	199	240	95	195	300
250	249	290	95	195	350
300	299	340	155	195	410
400	399	440	155	195	650

Compliance

The Australian & NZ Building Codes require fire/smoke combination dampers to comply with AS1682 part 1 and 2. The fire resistance test to comply AS1530.4-2014 and smoke leakage test to AS1530.7-2007.

The BSD-PW/M complies with Australian and New Zealand Building codes as an Acceptable solution.

Verification as follows:
WarringtonFire fire resistance test report FRT230054 to AS1530.4-2014 and WarringtonFire Smoke leakage test report FRT220085 to AS1530.7-2007.
Results confirm the plasterboard mounting system for BSD-PW/M fire/smoke combination dampers will provide an FRR -/120/- according to AS1530.4-2014 and smoke leakage less than 5l/s @300pa according AS1530.7-2007.

- **Meets the latest fire testing standards AS1530.4-2014**
- **Meets the latest smoke leakage testing standards AS1530.7-2007**
- **FRR rating -/120/- according to AS1530.4-2014**
- **Ultra-low smoke leakage less than 5 l/s @300pa according to AS1530.7-2007**
- **Specifically designed for installation in concrete walls and floors**
- **Fast and easy installation**
- **Custom lengths available POA**
- **Stainless steel version available POA**

Ravenscroft Smoke/Fire Damper for Concrete/Masonry Walls/Floors (BSD-C/M)

Ravenscroft Fire Dampers function as an electrical reset smoke damper when fitted with a specially designed Belimo spring-return actuator.

The motorised fire dampers have many of the same benefits as the regular Ravenscroft BSD-C fire dampers. It has a two hour fire rating as a fire/smoke damper. The installation is quick and no special framing is required, nor is a duct inspection hatch needed to check damper operation.

The Ravenscroft Smoke Dampers come fitted with a specially designed Belimo spring-return motor (cannot be fitted on site). A thermoelectric device allows it to be used as a combination Fire/Smoke Damper.

- Motor torque: Up to 8 Nm
- Motor control: open/close
- Available motor voltage options: AC/DC 24V, AC 230V
- Running time: Motor < 60 s/ Spring-return close less than 20 seconds

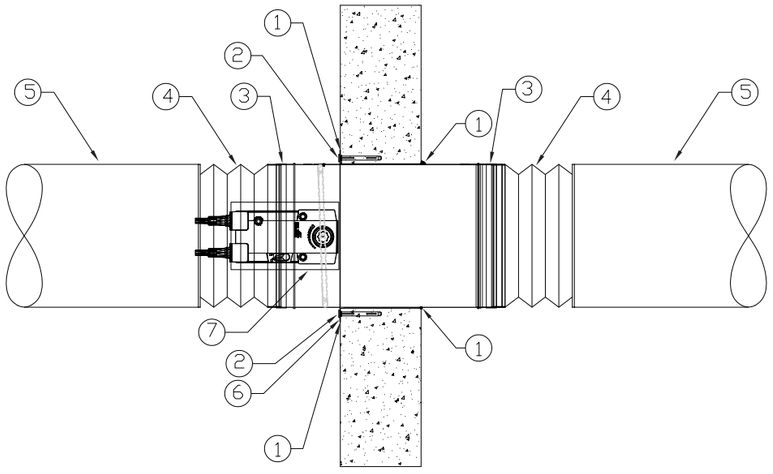
The Smoke Damper will operate on receipt of a signal from the building fire panel. Open/closed contacts provide positive feedback of the damper position. Reset is done remotely.

Available sizes

125 | 150 | 175 | 200 | 250 | 300 | 400mm (125 and 175 available by request)

NEW ZEALAND Ravenscroft MADE IN NZ PROTECTED FOR 25 YEARS

Installation



1. Promat Promaseal A acrylic sealant
2. 55mm Hilti HUS-HR hexagonal head SS anchors
3. Retaining clamp
4. Flexible duct
5. Main Ducting
6. Damper Flange
7. Belimo Actuator

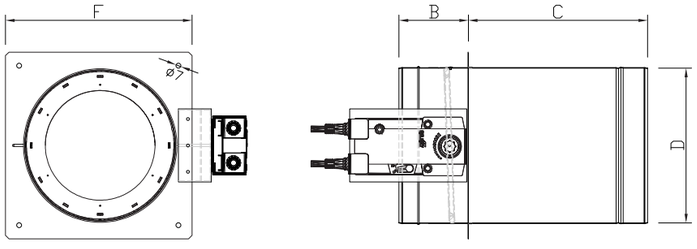
The Ravenscroft Fire Damper for concrete/masonry is a fire rated damper that, when installed as per the manufacturers instructions, will maintain the integrity of concrete firewalls or floors for up to 2 hours.

The Ravenscroft Fire Damper for concrete/masonry is a combined balancing and fire damper. It can function as a manual reset smoke damper if one of the release alternatives are selected.

Flexible ductwork connectors must be used to separate rigid ducting from the damper. These prevent excess force being transferred to the wall or floor mounting in the advent of ductwork deformation or collapse during a fire or earthquake.

The damper can easily be tested and preset with the indicator handle from outside the duct. Duct access panels are not required.

Dimensions



BSD-C/M	D	Hole	B	C	F
125	124	135	95	245	180
150	149	160	95	245	210
175	174	185	95	245	230
200	199	210	95	245	255
250	249	260	95	245	300
300	299	310	155	245	370
400	399	410	155	245	560

Compliance

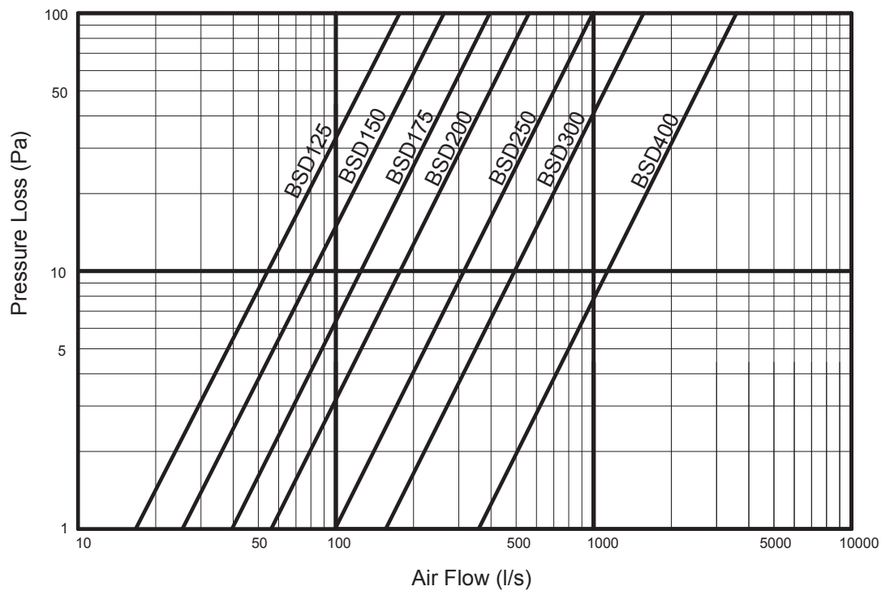
The Australian & NZ Building Codes require fire/smoke combination dampers to comply with AS1682 part 1 and 2. The fire resistance test to comply AS1530.4-2014 and smoke leakage test to AS1530.7-2007.

The BSD-C/M complies with Australian and New Zealand Building codes as an Acceptable solution.

Verification as follows: WarringtonFire fire resistance test report FRT220052 to AS1530.4-2014 and WarringtonFire Smoke leakage test report FRT220085 to AS1530.7-2007.

Results confirm the BSD-C/M fire/smoke combination dampers for concrete wall or floor mounting will provide an FRR -/120/- according to AS1530.4-2014 and smoke leakage less than 5l/s @300pa according AS1530.7-2007.

Pressure Drop Graph



Belimo Fire damper actuators
Technology that saves lives.

Belimo is a global market leader that develops innovative solutions for the controlling of heating, ventilation and air-conditioning systems.

Always focusing on customer added value, we deliver more than only products. We offer you the complete product range for the regulation and control of HVAC systems from a single source. At the same time, we rely on tested Swiss quality with a five-year warranty.

More performance, more value – more safety.

Fires represent the greatest potential threat to people and tangible assets in buildings. Efficient fire protection saves lives in case of emergency, helps minimise property damage and secures the continued operation of companies. The best protection against the spread of fire and smoke through the air ducts is provided by the motorised fire dampers to form fire compartments.

In case of fire, Belimo safety actuators for fire dampers automatically move into their safety positions and keep the dampers closed during the fire.

Motorised fire dampers

In case of fire, they are moved into the safety position (closed) by means of the spring energy of the fire damper actuator when:

- the operating temperature is exceeded in the duct or in the environment
- triggered by a smoke detector
- the supply voltage fails
- the air conditioning plant is shutdown
- the fire alarm system triggers.

In case of fire, the Safety Position Lock™ function keeps the motorised fire dampers in the safety position.

Reliability and profitability

Customers benefit from the following advantages:

- Maximum safety through reliable closing and holding of the damper in the safety position
- The possibility of scenario control by means of intelligent controls and the integration of sensors
- The protection of the infrastructure in the event of a power failure through automatic closing of the fire damper by means of the spring energy of the actuator
- Central monitoring and automated function tests
- Reduced maintenance and operating costs

Safety is top priority

- Responsible fire protection requires practical solutions with suitable products.
- As a rule, the owner and /or the operator are responsible for proper functioning of the fire protection systems during the entire building life cycle.
- Prescribed inspections must be carried out and logged periodically.

Belimo offers more

As a reliable supplier of tested fire damper actuators, we provide you with safety through:

- long years of experience
- market-appropriate, proven solutions
- tested Swiss quality
- local, experienced contacts
- fire protection solutions which are oriented to the building life cycle
- the maximum in delivery reliability.

Ravenscroft Fire Damper, proven motorisation solutions.

Belimo supplies cost-effective and easy-to-integrate solutions for the motorisation of Ravenscroft smoke and fire dampers for plasterboard walls and concrete masonry walls and floors.

BFL / BFN

- Optimised actuator with slim design for small and medium Ravenscroft fire dampers
- Simple and fast installation
- In case of fire, the patented Safety Position Lock™ solution reliably keeps the fire damper closed

TECHNICAL DATA	BFL24-T	BFL230-T
ELECTRICAL DATA		
Nominal voltage	AC/DC 24 V	AC 230 V
Nominal voltage frequency	50/60 Hz	50/60 Hz
Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V	AC 198...264 V
Power consumption in operation	2.5 W	3.5 W
Power consumption in rest position	0.8 W	1.1 W
Power consumption for wire sizing	4 VA	6.5 VA
Power consumption for wire sizing note	Imax 8.3 A @ 5 ms	Imax 4 A @ 5 ms
Auxiliary switch	2 x SPDT	2 x SPDT
Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V (II, reinforced insulation)	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V (II, reinforced insulation)
Switching points auxiliary switch	5° / 80°	5° / 80°
Connection supply / control	Cable 1 m, 2 x 0.75 mm² (halogen-free)	Cable 1 m, 2 x 0.75 mm² (halogen-free)
Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm² (halogen-free)	Cable 1 m, 6 x 0.75 mm² (halogen-free)
Cable length thermoelectric tripping device	0.5 m	0.5 m
FUNCTIONAL DATA		
Torque motor	4 Nm	4 Nm
Torque fail-safe	3 Nm	3 Nm
Direction of motion motor	selectable by mounting L/R	selectable by mounting L/R
Manual override	with position stop	with position stop
Angle of rotation	Max. 95°	Max. 95°
Running time motor	<60 s / 90°	<60 s / 90°
Running time fail-safe	20 s @ -10...55°C / <60 s @ -30...-10°C	20 s @ -10...55°C / <60 s @ -30...-10°C
Sound power level, motor	43 dB(A)	43 dB(A)
Sound power level, fail-safe	62 dB(A)	62 dB(A)
Mechanical interface	Form fit 12x12 mm, continuous hollow shaft	Form fit 12x12 mm, continuous hollow shaft
Position indication	Mechanically, with pointer	Mechanically, with pointer
Service life	Min. 60'000 safety positions	Min. 60'000 safety positions
SAFETY DATA		
Response temperature thermal fuse	Duct outside temperature 72°C Duct inside temperature 72°C (colour black)	Duct outside temperature 72°C Duct inside temperature 72°C (colour black)
Protection class IEC/EN	III, Safety Extra-Low Voltage (SELV)	II, reinforced insulation
Protection class auxiliary switch IEC/EN	II, reinforced insulation	II, reinforced insulation
Degree of protection IEC/EN	IP54	IP54
Degree of protection note	IP protection in all mounting positions	IP protection in all mounting positions
EMC	CE according to 2014/30/EU	CE according to 2014/30/EU
Low voltage directive	CE according to 2014/35/EU	CE according to 2014/35/EU

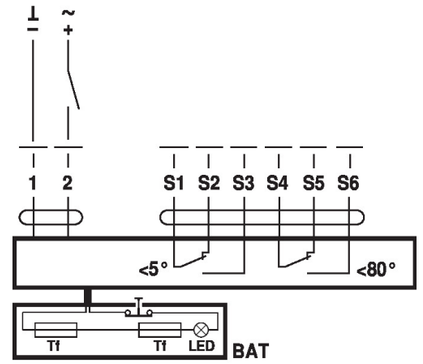
TECHNICAL DATA	BFL24-T	BFL230-T
Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14	IEC/EN 60730-1 and IEC/EN 60730-2-14
Mode of operation	Type 1.AA.B	Type 1.AA.B
Rated impulse voltage supply / control	0.8 kV	4 kV
Pollution degree	3	3
Ambient temperature normal operation	-30...55°C	-30...55°C
SAFETY DATA		
Ambient temperature safety operation	The safety position will be attained up to max. 75°C	The safety position will be attained up to max. 75°C
Storage temperature	-40...80°C	-40...80°C
Ambient humidity	Max. 95% RH, non-condensing	Max. 95% RH, non-condensing
Servicing	maintenance-free	maintenance-free
WEIGHT		
Weight	1.1 kg	1.1 kg

TECHNICAL DATA	BFN24-T	BFN230-T
ELECTRICAL DATA		
Nominal voltage	AC/DC 24 V	AC 230 V
Nominal voltage frequency	50/60 Hz	50/60 Hz
Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V	AC 198...264 V
Power consumption in operation	4 W	5 W
Power consumption in rest position	1.4 W	2.1 W
Power consumption for wire sizing	6 VA	10 VA
Power consumption for wire sizing note	Imax 8.3 A @ 5 ms	Imax 4 A @ 5 ms
Auxiliary switch	2 x SPDT	2 x SPDT
Switching capacity auxiliary switch	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V	1 mA...3 A (0.5 A inductive), DC 5 V...AC 250 V
Switching points auxiliary switch	5° / 80°	5° / 80°
Connection supply / control	Cable 1 m, 2 x 0.75 mm² (halogen-free)	Cable 1 m, 2 x 0.75 mm² (halogen-free)
Connection auxiliary switch	Cable 1 m, 6 x 0.75 mm² (halogen-free)	Cable 1 m, 6 x 0.75 mm² (halogen-free)
Cable length thermoelectric tripping device	1 m	1 m
FUNCTIONAL DATA		
Torque motor	9 Nm	9 Nm
Torque fail-safe	7 Nm	7 Nm
Direction of motion motor	selectable by mounting L/R	selectable by mounting L/R
Manual override	with position stop	with position stop
Angle of rotation	Max. 95°	Max. 95°
Running time motor	<60 s / 90°	<60 s / 90°
Running time fail-safe	20 s @ -10...55°C / <60 s @ -30...-10°C	20 s @ -10...55°C / <60 s @ -30...-10°C
Sound power level, motor	55 dB(A)	55 dB(A)
Sound power level, fail-safe	67 dB(A)	67 dB(A)
Mechanical interface	Form fit 12x12 mm, continuous hollow shaft	Form fit 12x12 mm, continuous hollow shaft
Position indication	Mechanical, with pointer	Mechanical, with pointer
Service life Min.	60'000 safety positions	60'000 safety positions
SAFETY DATA		
Response temperature thermal fuse	Duct outside temperature 72°C Duct inside temperature 72°C (colour black)	Duct outside temperature 72°C Duct inside temperature 72°C (colour black)
Protection class IEC/EN	II, reinforced insulation	III, Safety Extra-Low Voltage (SELV)
Protection class auxiliary switch IEC/EN	II, reinforced insulation	II, reinforced insulation
Degree of protection IEC/EN	IP54 IP protection in all mounting positions	IP54 IP protection in all mounting positions
EMC	CE according to 2014/30/EU	CE according to 2014/30/EU
Low voltage directive	CE according to 2014/35/EU	CE according to 2014/35/EU
Certification IEC/EN	IEC/EN 60730-1 and IEC/EN 60730-2-14	IEC/EN 60730-1 and IEC/EN 60730-2-14
Type of action	Type 1.AA.B	Type 1.AA.B

TECHNICAL DATA	BFN24-T	BFN230-T
Rated impulse voltage supply / control	0.8 kV	4 kV
Pollution degree	3	3
Ambient humidity	Max. 95% RH, non-condensing	Max. 95% RH, non-condensing
Ambient temperature normal operation	-30...55°C	-30...55°C
Ambient temperature safety operation	The safety position will be attained up to max. 75°C	The safety position will be attained up to max. 75°C
Storage temperature	-40...55°C [-40...131°F]	-40...55°C [-40...131°F]
Servicing	maintenance-free	maintenance-free
WEIGHT		
Weight	1.4kg	1.5 kg

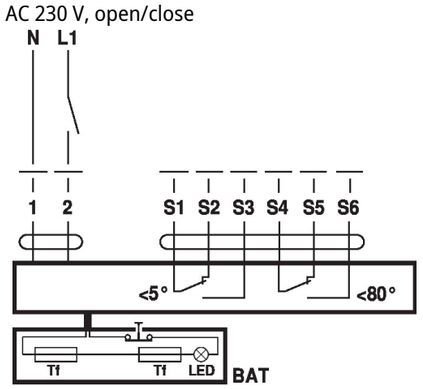
Wiring diagrams

AC/DC 24 V, open/close



Cable colours:
1 = black
2 = red
S1 = violet
S2 = red
S3 = white
S4 = orange
S5 = pink
S6 = grey
Tf: Thermal fuse (see "Technical data")

AC 230 V, open/close



Cable colours:
1 = blue
2 = brown
S1 = violet
S2 = red
S3 = white
S4 = orange
S5 = pink
S6 = grey
Tf: Thermal fuse (see "Technical data")

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