New Zealand

Ravenscroft Fire & Smoke Damper Range

A trusted brand in safety

systemair

NEW ZEALAND Ravenscroft

Fire Damper Compliance Facts

What you need to know

False

A higher-rated fire damper can be used in any lower-rated wall and still achieve the wall fire rating.

True

A fire damper only achieves its fire rating when installed in the specific wall or floor construction it was tested and approved in.

False

Installing a higher-rated damper in a lower-rated wall guarantees compliance.

True

Fire dampers must be tested in the specific wall or floor assembly to confirm their rating.

False

A damper's rating is independent of the wall or floor it's installed in.

True

The fire resistance of a damper depends on the full tested construction, including the surrounding element.

Contents

Revit Family models are available upon request.

systemair

- Meets the latest standards (AS.1530.4-2014)
- Fire resistance rating available in 60, 90 and 120 minutes
- Specifically designed for installation in plasterboard walls
- No separate balancing damper or duct access hatch required
- Fast and easy installation
- Custom lengths available POA
- Stainless steel version available POA
- Integrated insulated sleeve (no external insulation required)
- Patent Pending 772967

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.

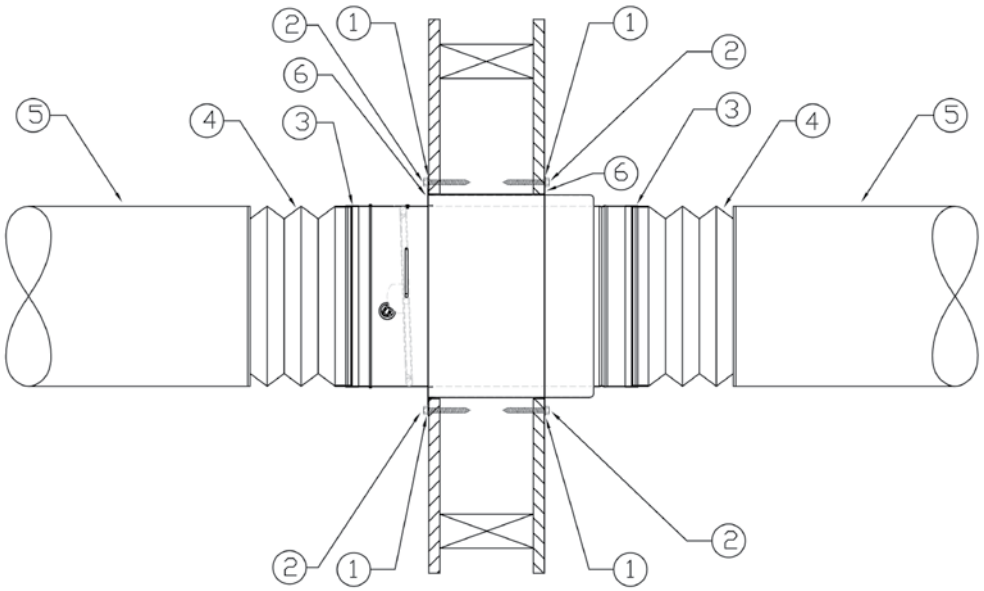
The date of manufacture is held on a database at Systemair.

Available sizes

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

FRL According to AS1530.4-2014	Model	Plasterboard Lining	Figure
-/60/-	BSD-PW	1 x 13mm	**1**
-/90/-	BSD-PW	1 x 16mm	**2**
-/120/-	BSD-PW	2 x 13mm	**3**

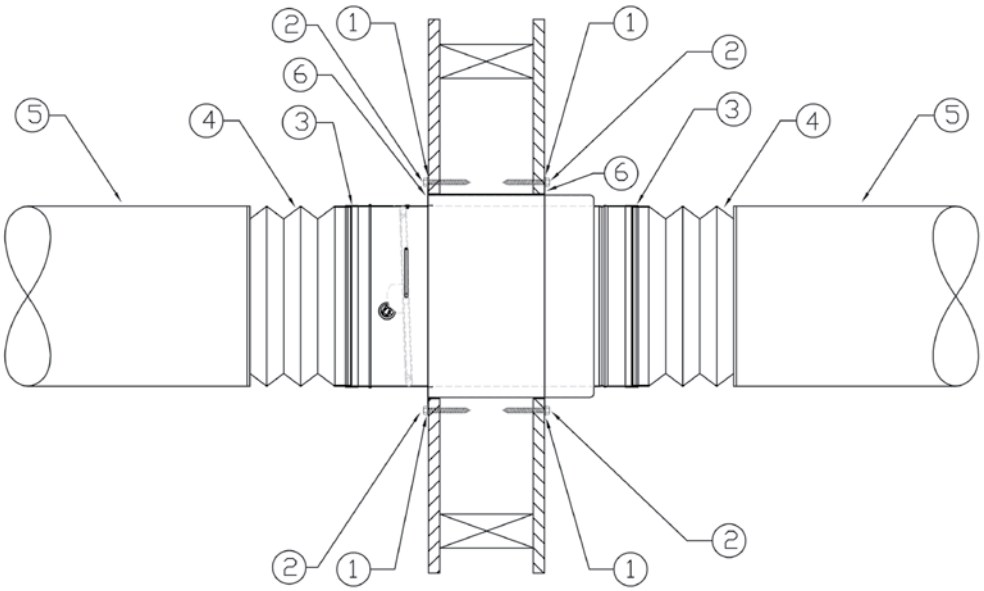
Single Layer 13mm Fire Rated Plasterboard FRL: -/60/- Installation



1. Promat Promaseal A Acrylic Sealant
2. Plasterboard Fixing Screw
3. Retaining Clamp
4. Flexible Duct
5. Main Ducting
6. Damper Flange

FIGURE 1

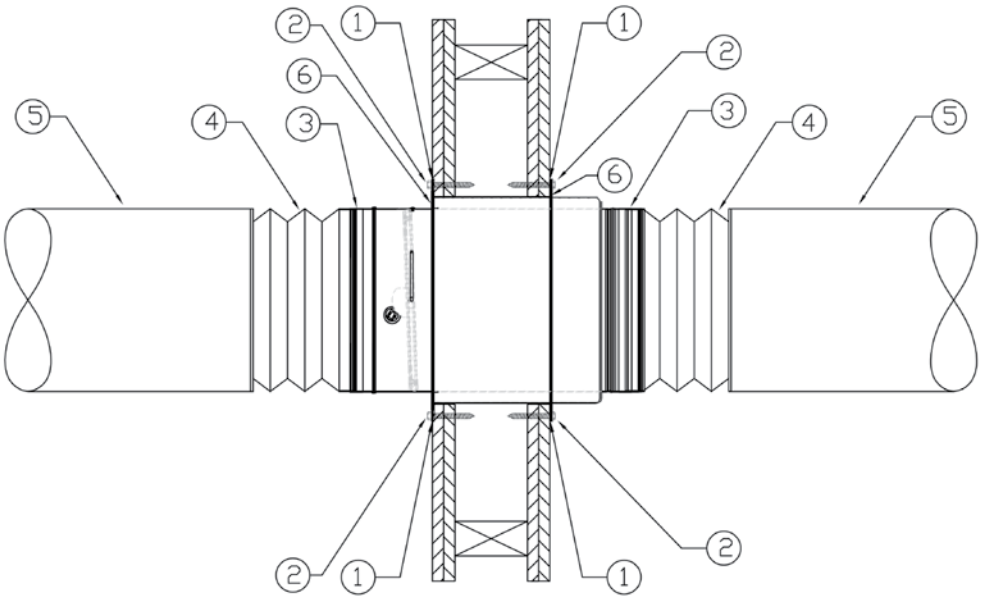
Single Layer 16mm Fire Rated Plasterboard FRL: -/90/- Installation



1. Promat Promaseal A Acrylic Sealant
2. Plasterboard Fixing Screw
3. Retaining Clamp
4. Flexible Duct
5. Main Ducting
6. Damper Flange

FIGURE 2

Double Layer 13mm Fire Rated Plasterboard FRL: -/120/- Installation



1. Promat Promaseal A Acrylic Sealant
2. Plasterboard Fixing Screw
3. Retaining Clamp
4. Flexible Duct
5. Main Ducting
6. Damper Flange

FIGURE 3

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.

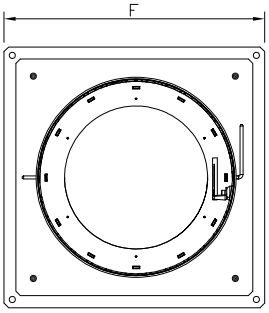
The unit is secured in a wall by flanges fastened directly to the plasterboard only. The 400 diameter units have flanges sized to overlap standard spaced studs with fastening to the studs and plasterboard.

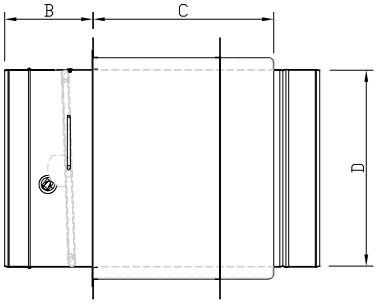
One flange is fixed to the damper and the other supplied loose to accommodate variations in wall thickness. The standard maximum thickness for penetrations through plasterboard cavity walls is 180 mm. Other lengths can be manufactured to order.

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:
Jensen Hughes assessment report FAS200328, results confirm the plasterboard mounting system for the BSD-PW will provide an FRL of -/120/-, -/90/-, -/60/- according to AS1530.4-2014.

- **Meets the latest smoke leakage testing standards AS1530.7-2007**
- **Fire resistance rating available in 60, 90 and 120 minutes**
- **Specifically designed for installation in plasterboard walls**
- **Ultra-low smoke leakage less than 5 l/s @300pa according to AS1530.7-2007**
- **Fast and easy installation**
- **Custom lengths available POA**
- **Stainless steel version available POA**
- **Integrated insulated sleeve (no external insulation required)**

Ravenscroft Smoke/Fire Damper for Plasterboard Walls (BSD-PW/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-PW fire dampers. It has an up to 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: 300 mm dia & below up to 4 Nm
  400 mm dia up to 9 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

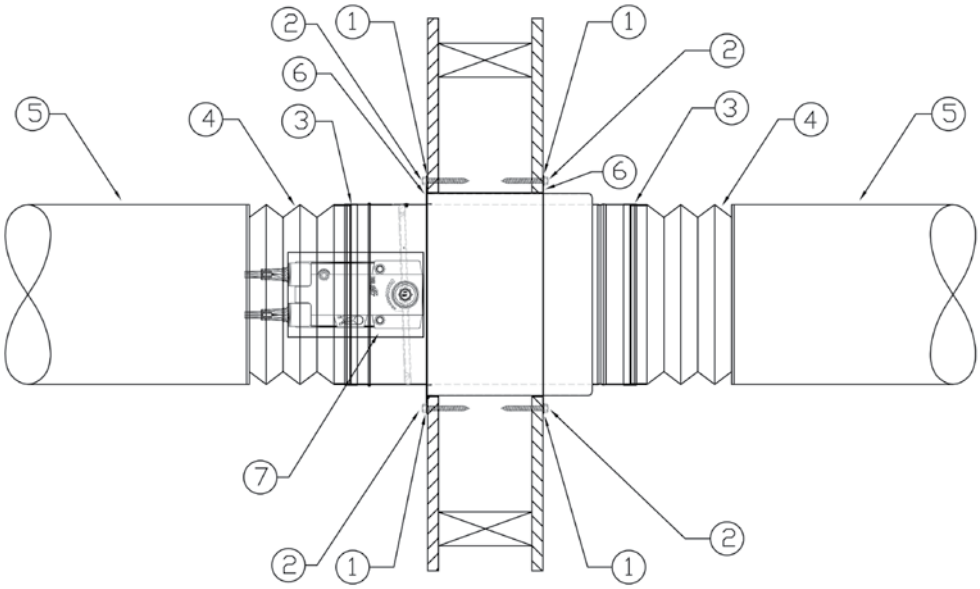
The Smoke Damper will operate on receipt of a signal from the building fire panel. Open/closed contacts provide positive feedback of the damper position. Reset is done remotely.

Available sizes

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

FRL According to AS1530.4-2014	Model	Plasterboard Lining	Figure
-/60/-	BSD-PW/M	1 x 13mm	**4**
-/90/-	BSD-PW/M	1 x 16mm	**5**
-/120/-	BSD-PW/M	2 x 13mm	**6**

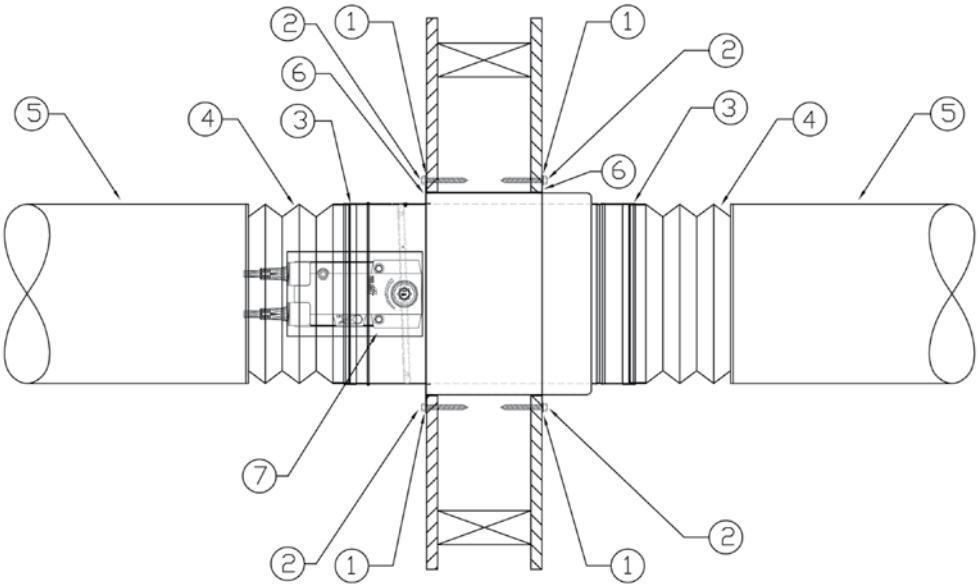
Single Layer 13mm Fire Rated Plasterboard FRL: -/60/- Installation



1. Promat Promaseal A Acrylic Sealant
2. Plasterboard Fixing Screw
3. Retaining Clamp
4. Flexible Duct
5. Main Ducting
6. Damper Flange
7. Motorized Actuator

FIGURE 4

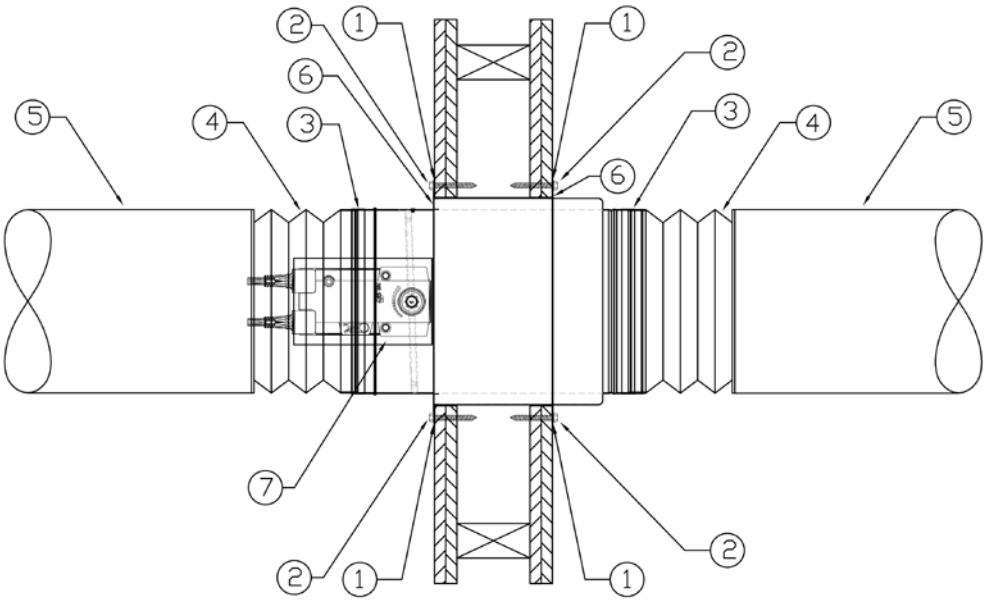
Single Layer 16mm Fire Rated Plasterboard FRL: -/90/- Installation



1. Promat Promaseal A Acrylic Sealant
2. Plasterboard Fixing Screw
3. Retaining Clamp
4. Flexible Duct
5. Main Ducting
6. Damper Flange
7. Motorized Actuator

FIGURE 5

Double Layer 13mm Fire Rated Plasterboard FRL: -/120/- Installation



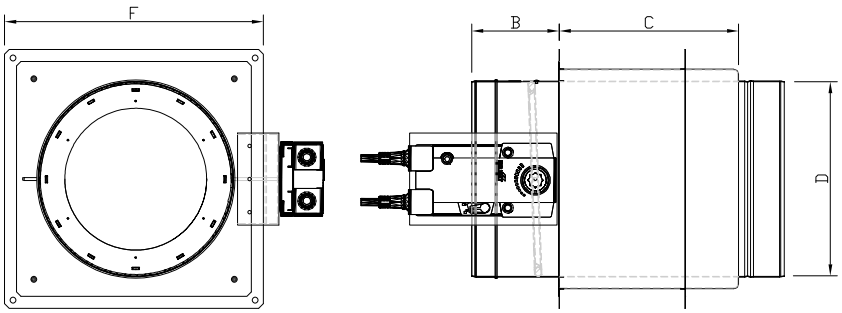
1. Promat Promaseal A Acrylic Sealant
2. Plasterboard Fixing Screw
3. Retaining Clamp
4. Flexible Duct
5. Main Ducting
6. Damper Flange
7. Motorized Actuator

FIGURE 6

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:
Jensen Hughes assessment report FAS200328 to AS1530.4-2014 and Jensen Hughes 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 Jensen Hughes and smoke leakage less than 5l/s @300pa according AS1530.7-2007.

- 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.

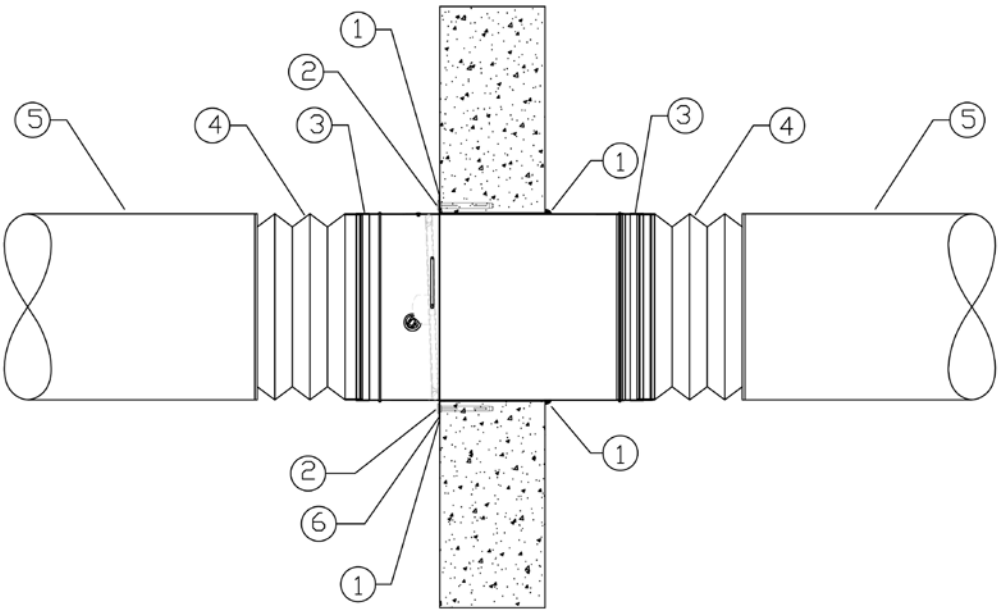
The BSD-C is available for installation in concrete and concrete block wall or floor fire separations. For installation in other wall/floor types, please contact Systemair for advice.

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.

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

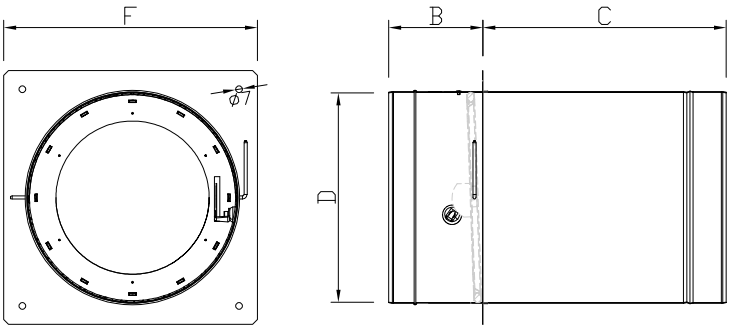
The Ravenscroft Fire Damper for concrete/masonry is a fire rated damper that, when installed as per the manufacturers instructions, will maintain the integrity of concrete firewalls or floors for up to 2 hours.

The Ravenscroft Fire Damper for concrete/masonry is a combined balancing and fire damper.

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:
Jensen Hughes assessment report FAS200328 results confirm the mounting system for the BSD-C will provide an FRL of -/120/- according to AS1530.4-2014.

- **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.

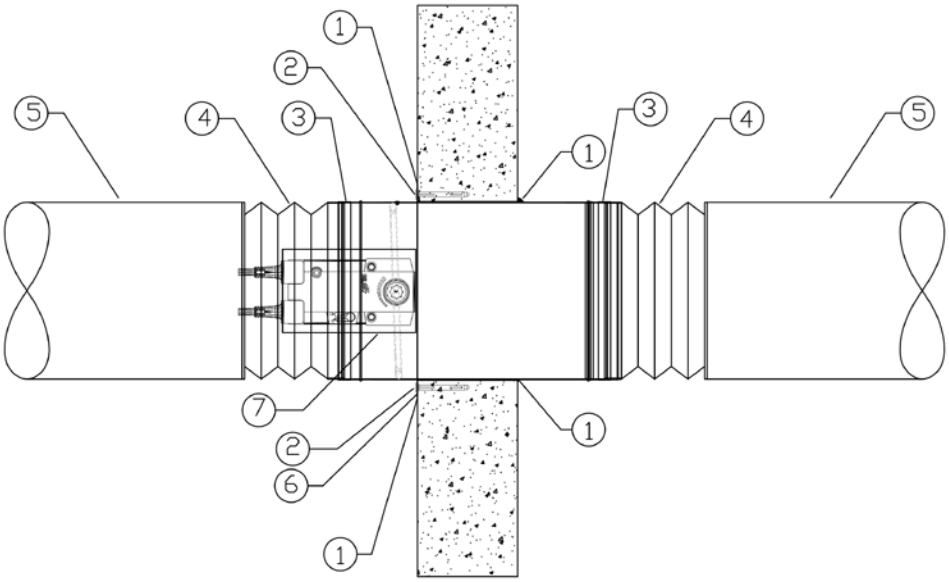
- Motor torque: 300 mm dia & below up to 4 Nm
  400 mm dia up to 9 Nm
- Motor control: open/close
- Available motor voltage options: AC/DC 24V, AC 230V
- Running time: Motor < 60 s/ Spring-return close less than 20 seconds

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

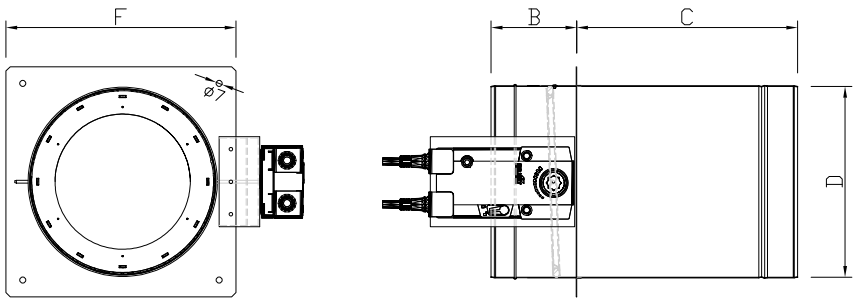
The Ravenscroft Fire/Smoke Damper for concrete/masonry when installed as per the manufacturer's instructions, will maintain the integrity of concrete firewalls or floors for up to 2 hours.

The Ravenscroft BSD-C/M for concrete/masonry is a combined fire & smoke damper.

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 BSD-C/M fire/smoke damper can easily be tested by pressing the centre of the thermo-electric tripping device.

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:
Jensen Hughes assessment report FAS200328 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.

- Specially designed for KOROK panel installation
- 78mm KOROK panel
- 51mm KOROK panel
- Fire resistance rating available in 60, 90 and 120 minutes
- Custom lengths available
- Stainless steel version available

Ravenscroft Fire Damper and Smoke/Fire Damper for KOROK panel Installation

The Ravenscroft Fire and Smoke Damper has been carefully engineered to seamlessly integrate with high performance KOROK wall systems. Preventing the spread of both fire and smoke between building compartments, preserving the barriers integrity for up-to two hours.

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 and BSD-PW/M in KOROK wall systems complies with the Australian & NZ Building Codes as an Acceptable solution.

Verification as follows:
Jensen Hughes assessment report FAS200328 results confirm the KOROK wall systems with mounting of BSD-PW and BSD-PW/M will provide an FRL of -/120/-, -/90/-, -/60/- according to AS1530.4-2014.

The Ravenscroft Fire Damper for KOROK is a combined balancing and fire damper. The damper can easily be tested and preset with the indicator handle from outside the duct. Duct access panels are not required.

The Ravenscroft Smoke/Fire Damper for KOROK is a combined fire and smoke damper. The damper can easily be tested by pressing the centre of the thermo-electric tripping device.

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

Available sizes

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

FRL According to AS1530.4-2014	KOROK Board	Plasterboard Buildup	Figure
-/60/-	51mm	1 x 13mm	**7**
-/90/-	78mm	1 x 13mm	**8**
-/120/-	78mm	2 x 13mm	**9**

KOROK Panel 51mm FRL: -/60/- Installation

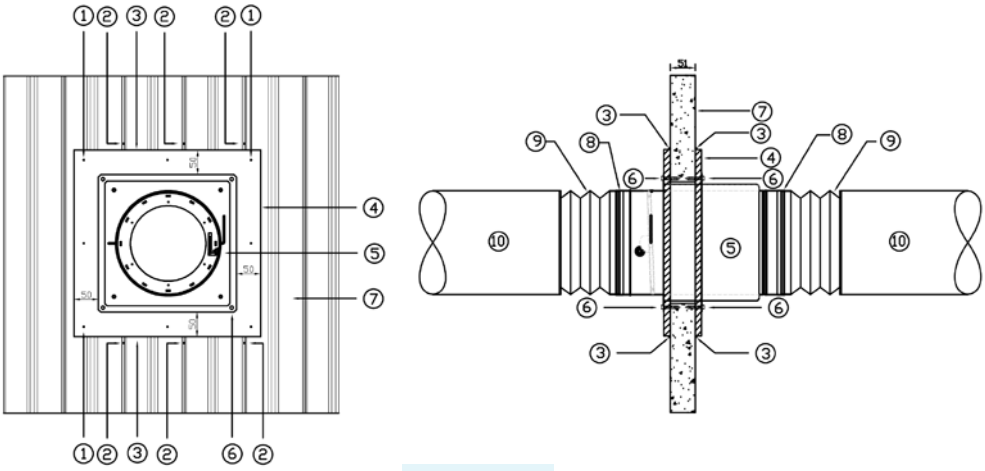


FIGURE 7

1. Plasterboard Fixing Screw
2. 10x16 Screw Fixings Both Sides
3. Promat Promaseal A Acrylic Sealant
4. Fire Rated Plasterboard Single Layer 13mm
5. BSD-PW Fire damper
6. Plasterboard Fixing Screw
7. KOROK 51mm Panel
8. Retaining Clamp
9. Flexible Duct
10. Main Ducting

KOROK Panel 78mm FRL: -/90/- Installation

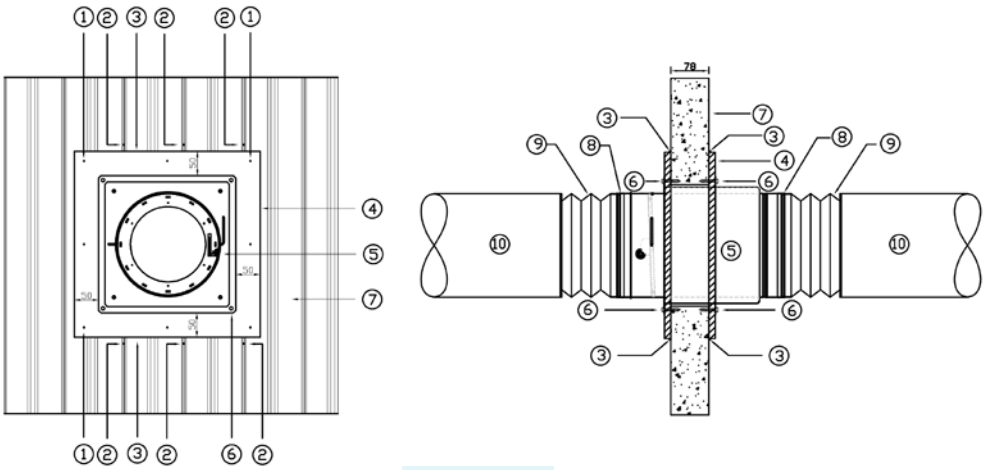


FIGURE 8

1. Plasterboard Fixing Screw
2. 10x16 Screw Fixings Both Sides
3. Promat Promaseal A Acrylic Sealant
4. Fire Rated Plasterboard Single Layer 13mm
5. BSD-PW Fire damper
6. Plasterboard Fixing Screw
7. KOROK 78mm Panel
8. Retaining Clamp
9. Flexible Duct
10. Main Ducting

KOROK Panel 78mm FRL: -/120/- Installation

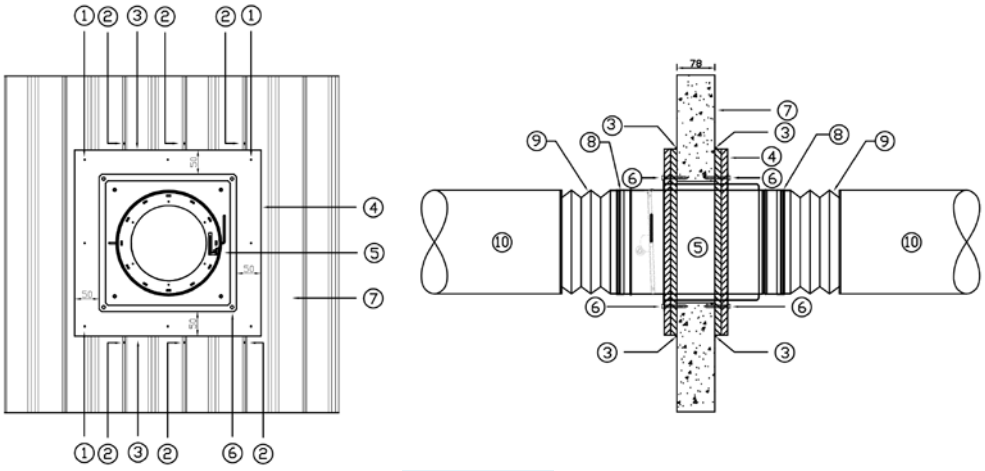
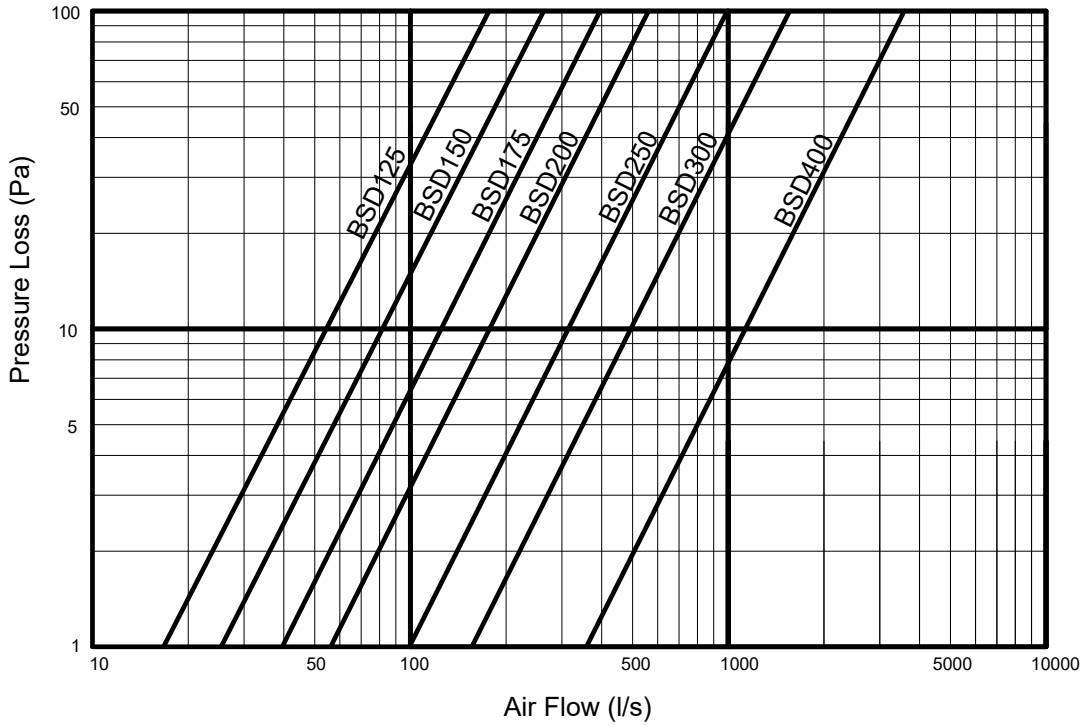


FIGURE 9

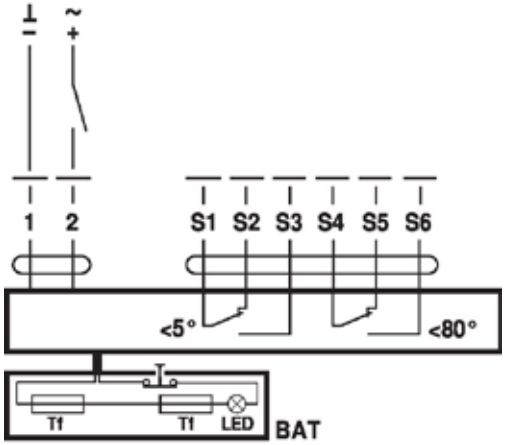
1. Plasterboard Fixing Screw
2. 10x16 Screw Fixings Both Sides
3. Promat Promaseal A Acrylic Sealant
4. Fire Rated Plasterboard Double Layer 13mm
5. BSD-PW Fire damper
6. Plasterboard Fixing Screw
7. KOROK 78mm Panel
8. Retaining Clamp
9. Flexible Duct
10. Main Ducting

Pressure Drop Graph



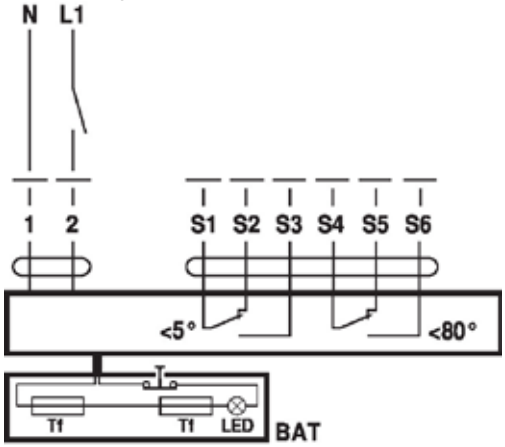
Ravenscroft Fire/Smoke Damper Wiring Diagrams

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")

Notes

Summary of assessment
By Jensen Hughes Fire Testing Pty Ltd

Issue date: 6 January 2025 Expiry date: 31 December 2029

Description of assessed system

The assessed system consists of a BSD circular fire damper assembly with sizes ranging from 125 mm to 400 mm in diameter installed in various separating elements.

The scope of the assessment includes the fire resistance performance of the described assessed systems when tested in accordance with section 11 of AS 1530.4:2014.

Assessed system performance

The element of construction described above was assessed by this laboratory on behalf of the report sponsor in accordance with the stated test/assessment standard in Table 1 and achieved the results outlined in Table 2 and Table 3. A complete description of the assessed construction can be found within the referenced assessment report or regulatory information report.

JENSEN HUGHES

Table 1 Test standard and assessment report details

Referenced report	Test standard	Referenced report issue date	Referenced report expiry date
FAS200328 R2.1	AS 1530.4:2014	19 December 2024	31 December 2029
FAS200328 RIR2.1		6 January 2025	

Table 2 Summary of assessment of the Ravenscroft BSD dampers installed in walls			
Fire damper model	***Size**	**Wall thickness and type**	**FRL in accordance with AS 1530.4:2014**
BSD-PW (insulated) & BSD-PW/M	Ø125 mm to Ø400 mm	Double layer of 13 mm thick fire rated plasterboard wall system with established FRL of minimum 120/120/120 or -/120/120 The FRL must be established through test or assessment by an Accredited Testing Laboratory (ATL)	-/120/- (meets with air leakage rate limit)
		Single layer of 16 mm thick fire rated plasterboard wall system with established FRL of minimum 90/90/90 or -/90/90 The FRL must be established through test or assessment by an Accredited Testing Laboratory (ATL)	-/90/- (meets with air leakage rate limit)
		Single layer of 13 mm thick fire rated plasterboard wall system with established FRL of minimum 60/60/60 or -/60/60 The FRL must be established through test or assessment by an Accredited Testing Laboratory (ATL)	-/60/- (meets with air leakage rate limit)
BSD-C & BSD-C/M	Ø125 mm to Ø400 mm	≥ 116 mm masonry or concrete The FRL must be established through test or assessment by an Accredited Testing Laboratory (ATL) or designed in accordance with AS 3600 or AS 3700	-/120/- (meets with air leakage rate limit)
BSD-PWKorork & BSD-PW/MKorork	Ø125 mm to Ø400 mm	78 mm thick KOROK wall with 2 × 13 mm layers of plasterboard build up on both sides of the wall. The plasterboard buildup should extend 50 mm beyond the edges of the damper flange on all sides. Damper fixing details must be as tested in FRT200201 R1.1.	-/120/- (meets with air leakage rate limit)
		78 mm thick KOROK wall with 1 × 13 mm layers of plasterboard build up on both sides of the wall. The plasterboard buildup should extend 50 mm beyond the edges of the damper flange on all sides. Damper fixing details must be as tested in FRT240193 R1.0.	-/90/- (meets with air leakage rate limit)
		51 mm thick KOROK wall with 1 × 13 mm layers of plasterboard build up on both sides of the wall. The plasterboard buildup should extend 50 mm beyond the edges of the damper flange on all sides. Damper fixing details must be as tested in FRT240193 R1.0.	-/60/- (meets with air leakage rate limit)
BSD – PW & BSD – PW/M damper	Ø125 mm to Ø400 mm	Timber framed single layer of 13 mm thick plasterboard wall system. The distance from the damper body to the stud must be minimum 100 mm.	-/60/- (meets with air leakage rate limit)
The fire damper may be fabricated from Grade 316 stainless steel instead of galvanised steel for the standard and as tested range of BSD-PW, BSD-PW-Korok and BSD-C fire dampers.			

Table 3 Summary of assessment of the Ravenscroft BSD fire dampers installed in concrete floor			
Fire damper model	***Size**	**Wall thickness and type**	**FRL in accordance with AS 1530.4:2014**
BSD-C & BSD-C/M	Ø125 mm to Ø400 mm	≥ 120 mm masonry or concrete The FRL must be established through test or assessment by an Accredited Testing Laboratory (ATL) or designed in accordance with AS 3600 or AS 3700	-/120/- (meets with air leakage rate limit)
The fire damper may be fabricated from Grade 316 stainless steel instead of galvanised steel for the standard and as tested range of BSD-C fire dampers.			

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Systemair New Zealand Ltd
Ph 0800 100 326
sales@systemair.nz
www.systemair.nz