

SMOKE CURTAINS/BAFFLES

(MODULAR, OVERLAPPED SYSTEM)



**MODUCOIL
SPANS WIDTHS
UP TO ANY SIZE**

GENERAL

Smoke during fires has been well established as the most prominent threat to human life during the development of a fire within a building. Within building design it is vital to incorporate safety design features to allow for the effective mitigation of the potential harmful effects caused by excessive smoke development.

Moducoil automatic smoke curtains act as smoke barriers that restrict the lateral spread of smoke and hot gases along the underside of a roof, ceiling or balcony within a building in the event of fire. They are used as part of a smoke control system to create smoke reservoirs from which smoke and hot gases can be extracted by smoke & heat release vents or smoke extraction fans.

Venting smoke provides valuable time for occupants to escape and allows fire service personnel to find the seat of the fire for more effective fire fighting operations. Using Moducoil smoke curtains to create smoke channelling increases the efficiency of the system and provides a cost saving through minimising the requirements for exhaust and air intake vents.

Moducoil smoke curtains have been engineered to complement the building design, allowing architects and building designers to maximise and open up internal space sometimes critical in factories, warehouses or shopping centres.

Moducoil smoke curtains have been fully tested to EN12101 for 600C° for 120 minutes fire resistance and maximum allowable deflection. Typically, smoke curtains are not tested for smoke leakage. Refer to the Smoke Containment Screen sections of our catalogue for more information.

KEY FEATURES

- Highly cost efficient due to modular components
- Tested in accordance with EN12101.1
- Virtually invisible in non-fire mode
- Unlimited length is possible
- No need for back-up battery
- Uses multiple motors
- Ideal solution for smoke channelling in conjunction with smoke exhaust or pressurisation systems.
- Easily retrofit, easy to install
- Light weight
- Prevents flashover when used with smoke & heat vents
- Gravity failsafe operation

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Description

Moducoil automatic smoke curtains consist of a compact header box and flexible curtain connected to a control system. Each individual unit can span up to 6m in width. These easy-to-install preassembled units can be joined together on-site to create an overall smoke barrier with an unlimited span. The compact header box dimensions means this system can be easily integrated into existing buildings.

Operation

Moducoil automatic smoke curtains are electrically operated. The operation of the curtain is governed by an AM-M2 or AM-M4 trigger unit system each of which is capable of operating either 2 or 4 individual curtain modules respectively. Each trigger unit system requires 240V power supply and an alarm signal in the form of a normally closed contact.

Each smoke curtain unit comprises a 24V DC tubular motor, powered from the trigger unit, which is used to raise and lower the curtain. The AM-M2/4 trigger unit is prepared for an incoming alarm signal. The panel is normally mounted at high level adjacent to the motor and low level control is by means of an optional key switch.

An optional Master Curtain Control Panel can be arranged such that the one panel will operate multiple curtains to allow simultaneous operation of curtains within the same smoke zone.

In the event of power failure, the unit reverts to failsafe conditions and the curtain descends under the gravity, at a controlled rate. On reset of power and/or alarm, the tubular motor rewinds the curtain into the housing. Depending on the type of control unit used, the curtain will continue to operate up to five minutes following power failure.

Application

Moducoil smoke curtains provide effective smoke channelling at the ceiling in large buildings preventing smoke and toxic gases from spreading, assisting in maintaining smoke buoyancy, allowing it to be extracted in a controlled manner.

The Building code of Australia (BCA) requires the use of smoke curtains/baffles under Specification E2.2b & E2.2c when automatic smoke exhaust systems or automatic smoke-and-heat vents respectively, are used in Large Isolated Buildings (BCA Clause C2.3) and Class 6 buildings (Table E2.2b).

Please refer to our Natural Ventilation System data for more information on smoke venting (section 12).

Installation

In line with Smoke Controls mission to provide customers with reliable solutions, the Moducoil system is installed by our fully trained and approved installer network.

Verification of performance

The test protocol (EN12101.1) for 'smoke curtains' is a modified fire test. There are several performance criteria in this test that the curtain system must meet.

These include reliability, time/temperature testing and a prescriptive requirement for perimeter gaps to be no larger than 60mm and deflection to be no more than 15°.

Also, EN12101.1 clearly states "*As the objective of the general testing procedures is to establish the ability of the smoke barrier to achieve the product design and performance requirements and classification in its operational position, and to continue to act as a barrier to smoke and heat for a designated period of time, the complete product (i.e. including motors and fixings) to be installed shall be tested*".

As there is no requirement for actual smoke leakage measurements in this test procedure, Fire Engineers should request published drawings for the product indicating the dimensions of gaps (leakage paths) as required by EN12101.1 so that the effect of these can be incorporated into the fire scenario. If smoke protection solutions require smoke leakage performance, refer to the Smoke Containment Screen sections of our catalogue.

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Maintenance

Annual maintenance and verification of system operation should be conducted by trained personnel in strict accordance with our document procedures. Contact us for details.

Technical Data

Smoke curtain

The Moducoil fabric is a specially reinforced coated fiberglass material with a Class 1 surface spread of flame rating when tested to BS476.6 and is able to withstand temperatures of in excess of 600°C for 30 minutes when tested in accordance with BS7346.

As with all of our smoke and fire curtain products the fabric is easily **identifiable** as a Smoke Control product due to the red stitching incorporated into the curtain.

Bottom Rail

A triangular section steel bottom rail is attached to the curtain and is designed to stop at ceiling level or into a recess in the box when raised. This section can be coloured as required. Ceramic coatings and other unique finishes can also be achieved. Please contact us to discuss your requirements.

Guides

The system is available with side guides should there be a requirement that the curtain falls to floor level or where an increased pressure differential is envisaged.

Maximum Sizes (individual units)

Virtually infinite width x 8.65m drop
(standard approval)

Operating Speed

Approximately 9.6m per minute.

Weight

Typically 40kg per linear metre of width for curtain, box and bottom rail.

Large widths

The modular, adaptive design of Moducoil smoke curtains means that several individual units can be installed and aligned together to create a single smoke barrier or unlimited width.

Freedom of design

Integration into every architectural solution can be realised. Care should be taken to ensure the dual head box system will fit into the available space. For compact spaces Supercoil (section 4) should be used.

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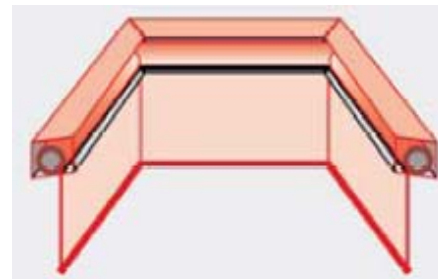
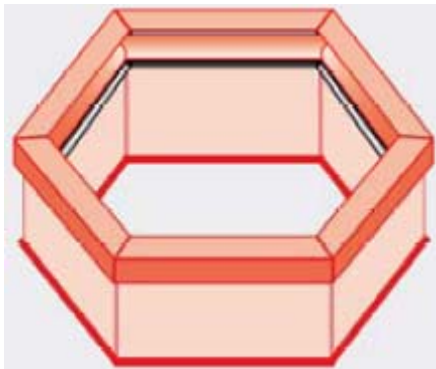
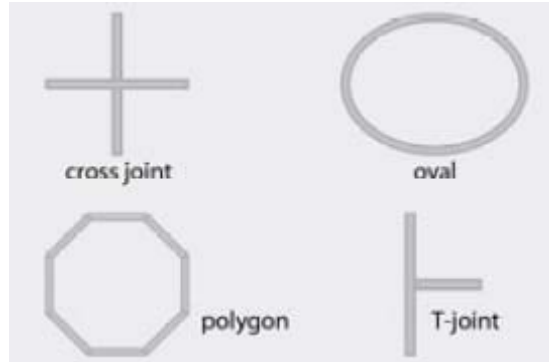
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Installation configurations

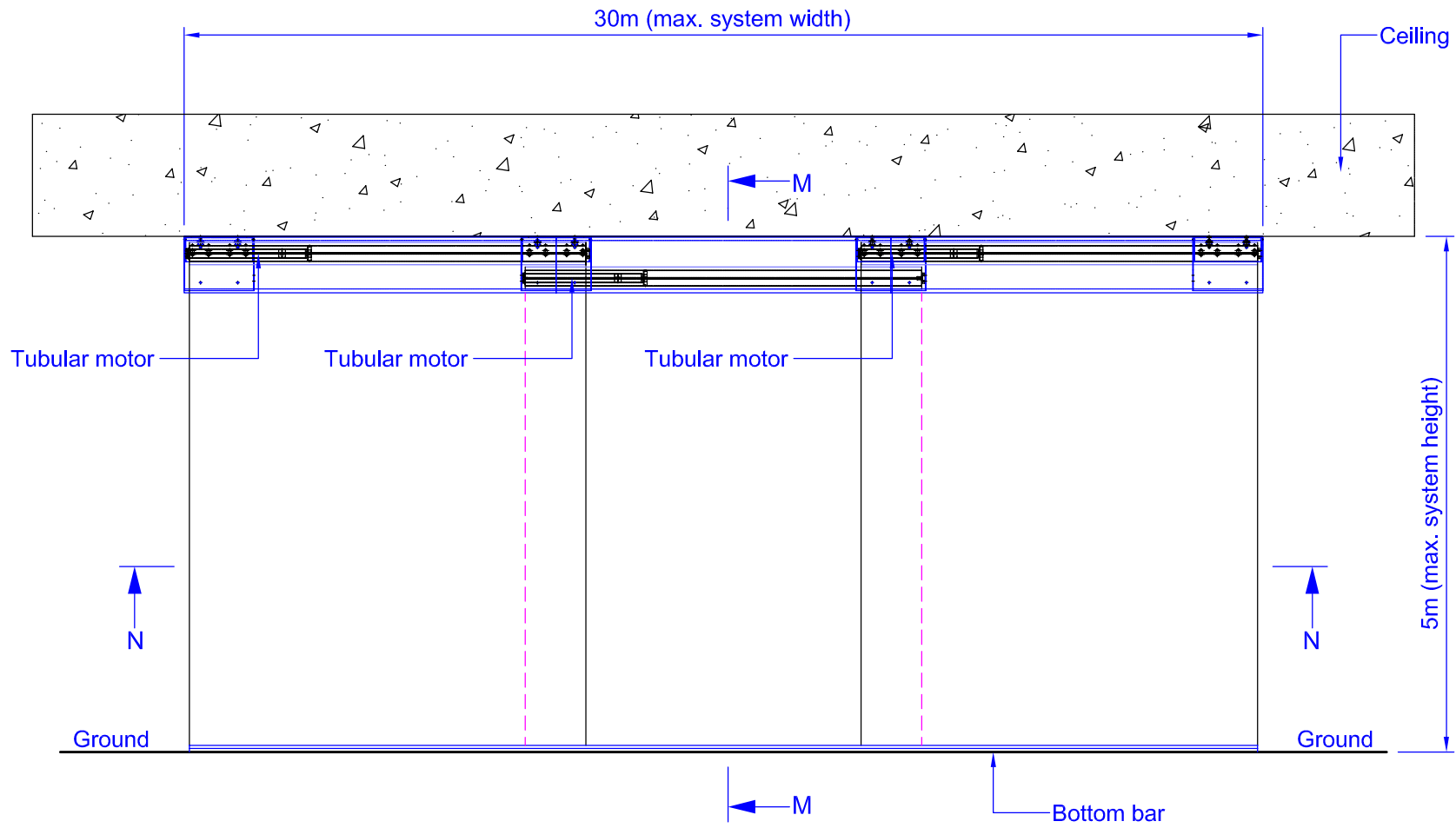



Design Drawings

DWG #	Description
FSG-MCOIL-001	Typical elevation
FSG-MCOIL-002	Header box mounted options
FSG-MCOIL-003	Sideguide mounting options
FSG-MCOIL-004	Head box dimensions
FSG-MCOIL-005	Side guide finishing option
FSG-MCOIL-006	Head box finishing option
FSG-MCOIL-007	Bottom bar finishing options

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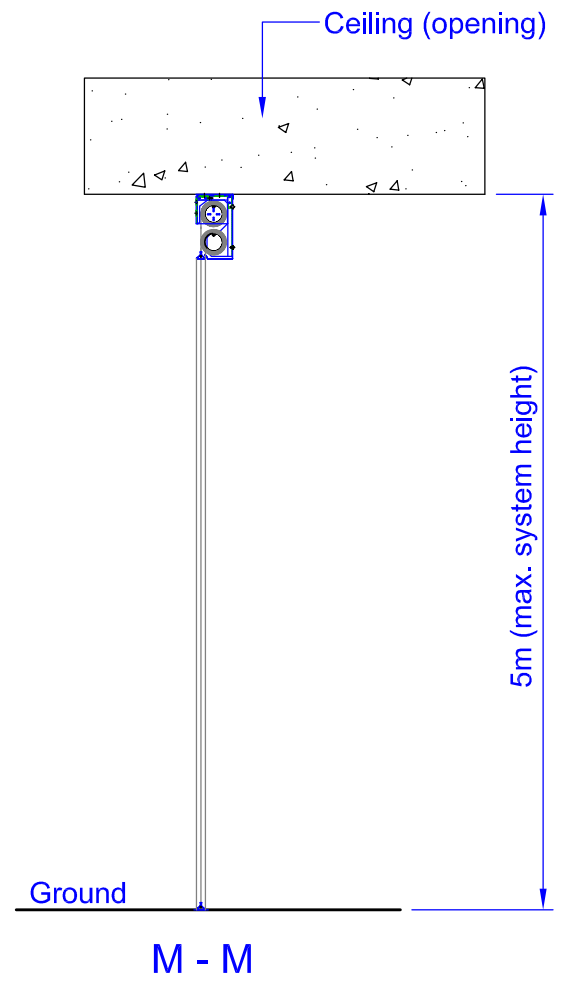


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Modified by: Sowath	Brendan K			14/02/2007	N.T.S.	
 <small>Unit 5 / 62 Hoker St. Berridge NSW 2128 T: 0200 666 471 F: 02 9748 4387 M: 0400 047 046 www.smokecontrol.com.au © 2007 Smoke Control</small>			Title: Moducoil - Typical elevation			
			Dwg No.: FSG-MCOIL-001	Edition V2.10	Sheet 1 of 7	

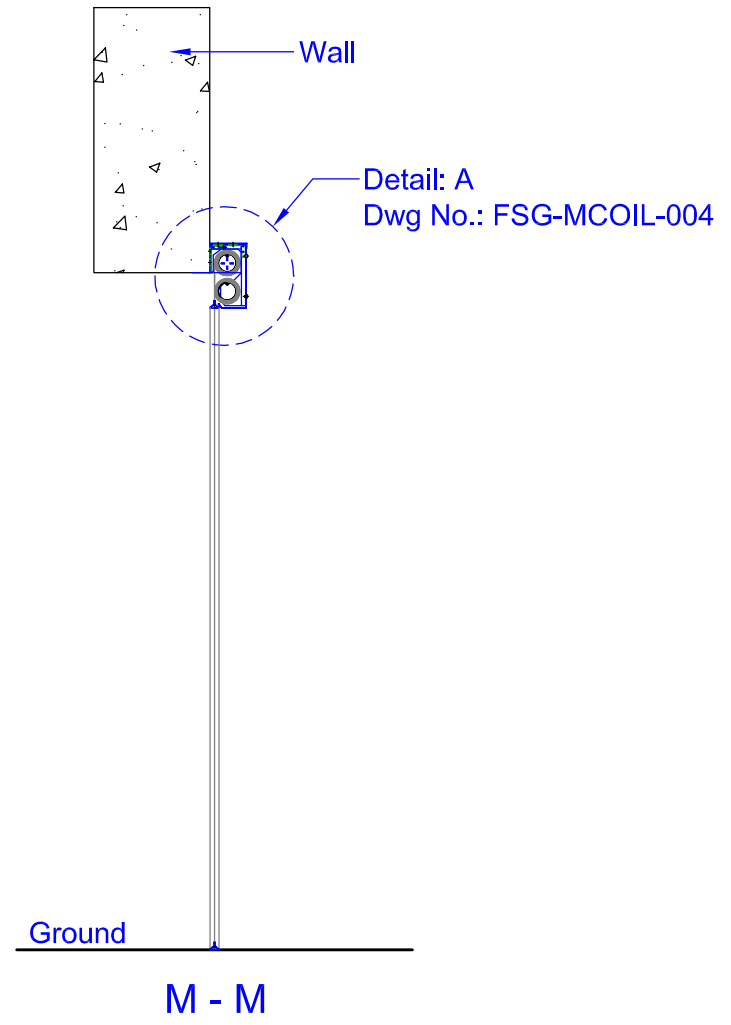
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Head box mounting option:

Mounting into the opening



Mounting to the wall

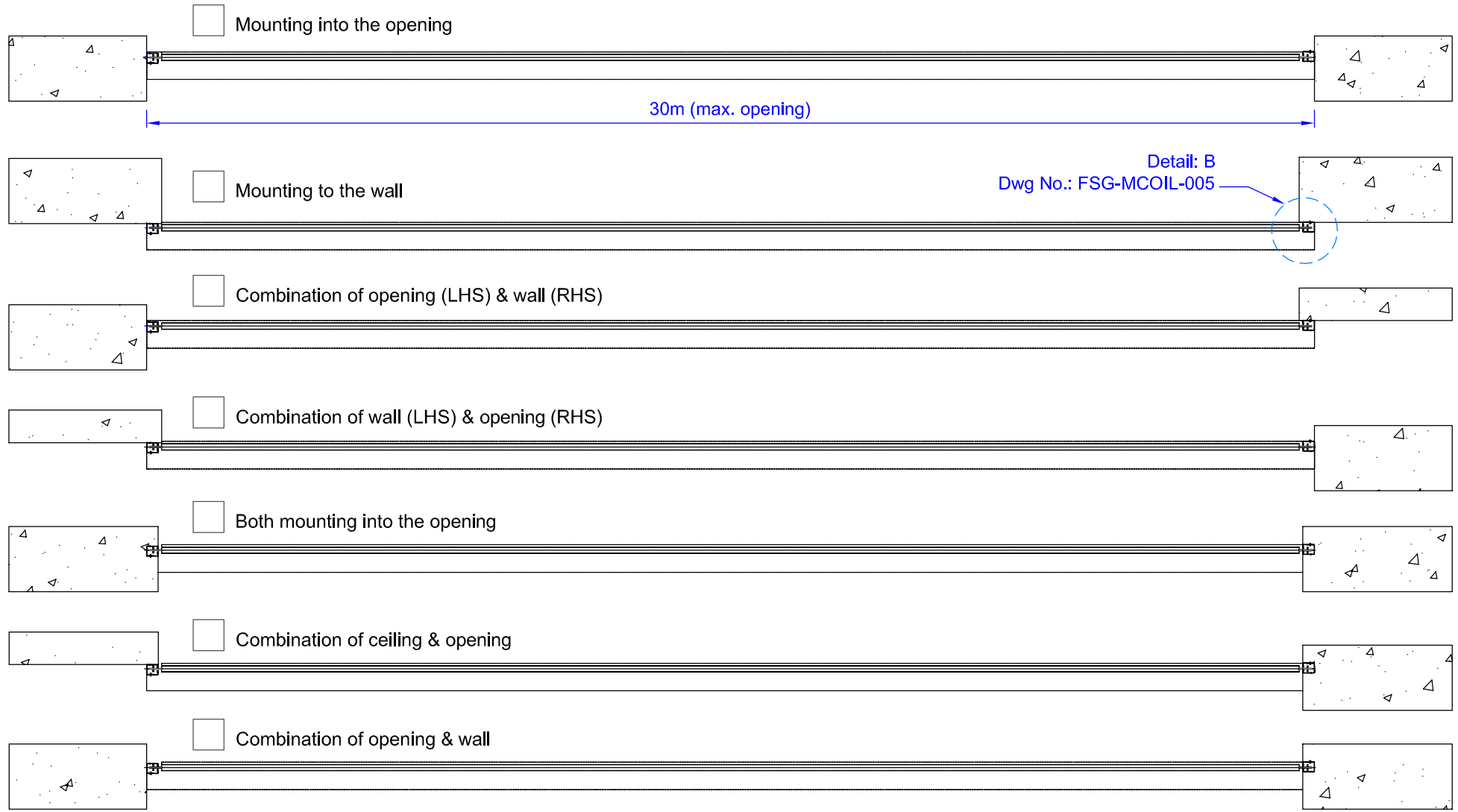


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 Unit 5 / 62 Hoker St. Berrimoor NSW 2128 T: 02 9748 4387 F: 02 9748 4387 M: 0400 047 046 www.smokecontrol.com.au © 2007 Smoke Control			Title: Moducoil - Header box mounted options		
			Dwg No.: FSG-MCOIL-001	Edition V2.10	Sheet 2 of 7


Installation configurations: (side guides)

A
B
C
D
E
F

A
B
C
D
E
F



N - N

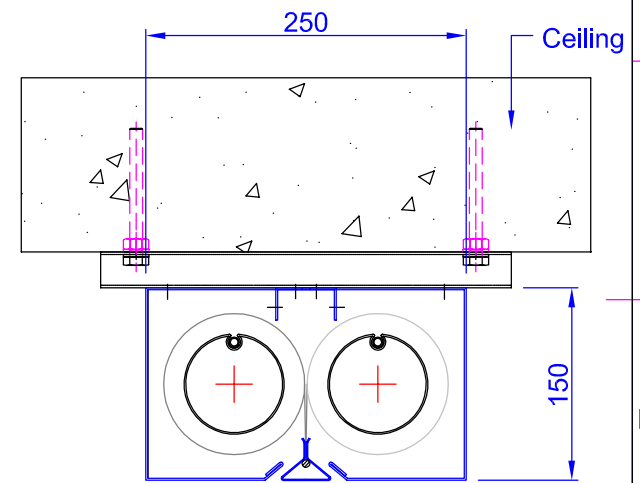
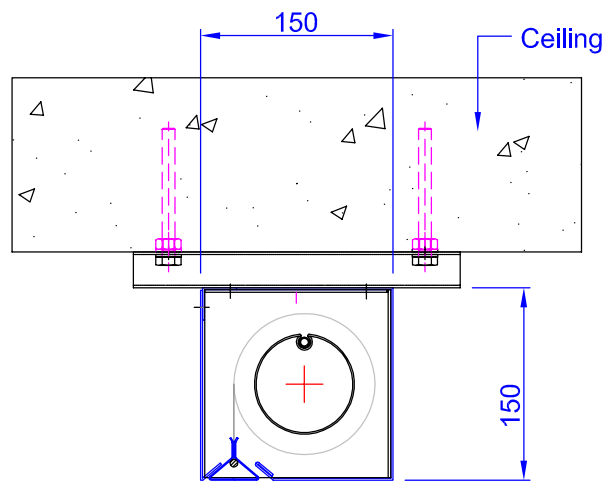
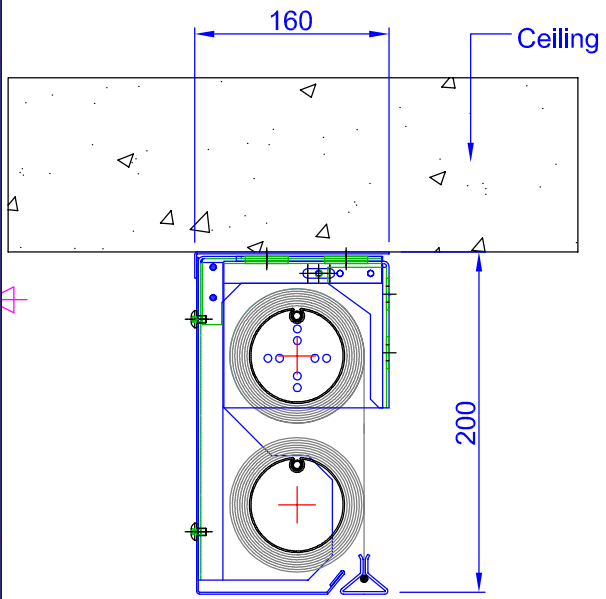
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 Unit 5 / 62 Harker St. Berridge NSW 2128 T: 02 9748 4387 F: 02 9748 4387 M: 0400 047 046 www.smokecontrol.com.au © 2007 Smoke Control				Title: Moducoil - Sideguide mounting options		
				Dwg No.: FSG-MCOIL-003	Edition V2.10	Sheet 3 of 7

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Option 1: Multiple modules - Vertical

Option 2: Single module

Option 3: Multiple modules - Horizontal



Detail: A

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 <small>Unit 5 / 62 Hoker St. Beveridge NSW 2128 T: 0200 666 471 F: 02 9748 4387 M: 0400 047 046 www.smokecontrol.com.au © 2007 Smoke Control</small>		Title: Moducoil - Header box dimensions			
		Dwg No.: FSG-MCOIL-004	Edition V2.10	Sheet 4 of 7	

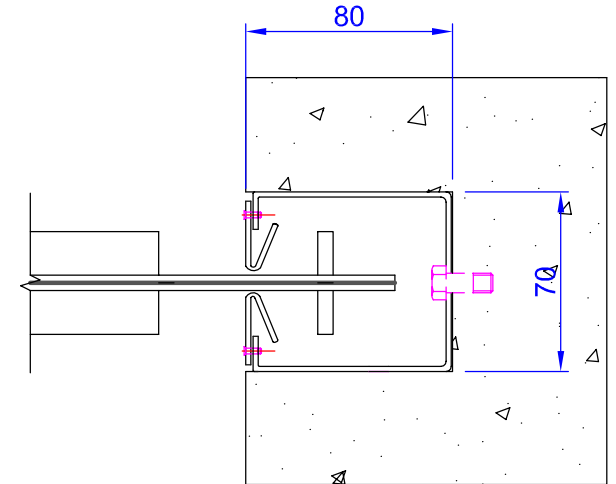
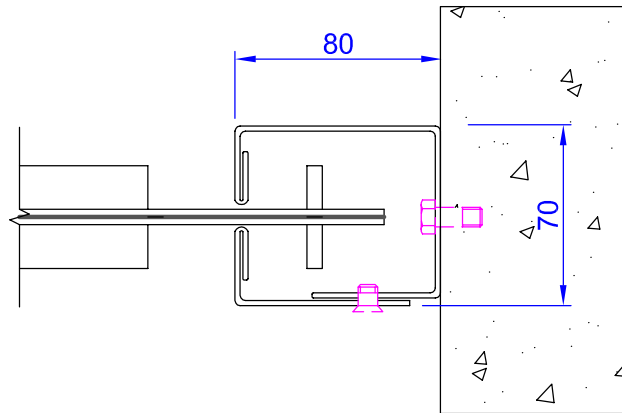
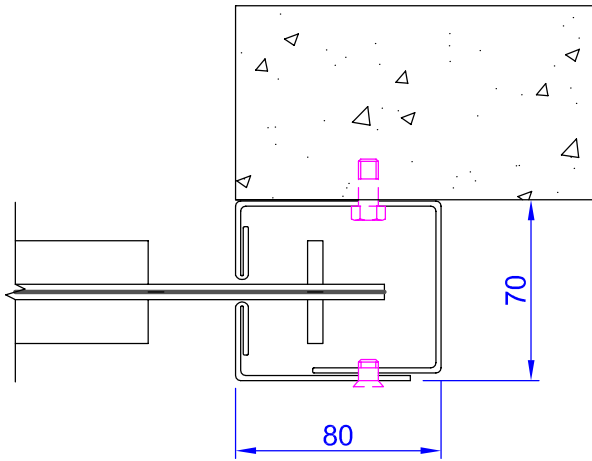
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Mounting side guides:


Option 1: Install to the wall

Option 2: Install to the respond

Option 3: Install into the inche



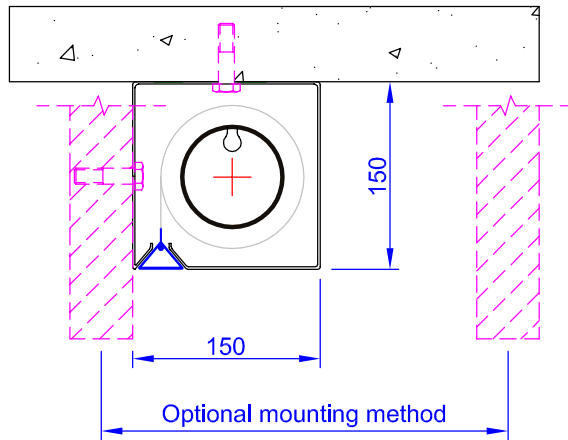
Detail: B

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 <small>Unit 5 / 62 Hoker St. Berrimur NSW 2128 T: 02 9748 4387 F: 02 9748 4387 M: 0400 047 046</small> www.smokecontrol.com.au <small>© 2007 Smoke Control</small>			Title: Moducoil - Side guide finish option			
			Dwg No.: FSG-MCOIL-005	Edition V2.10	Sheet 5 of 7	

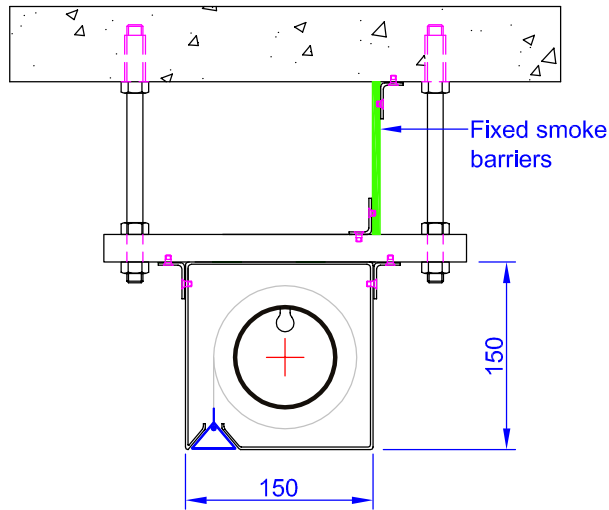
Head box mounting option:

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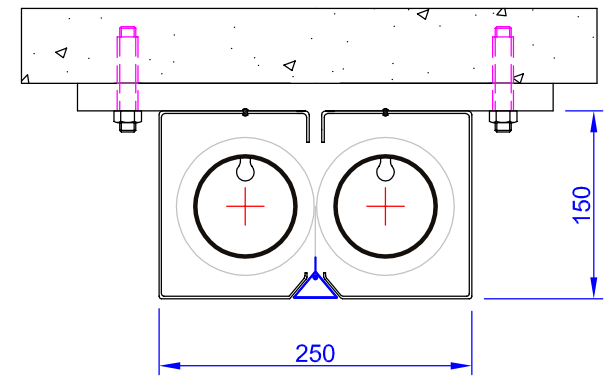
Option 1A: Installation to the ceiling/wall



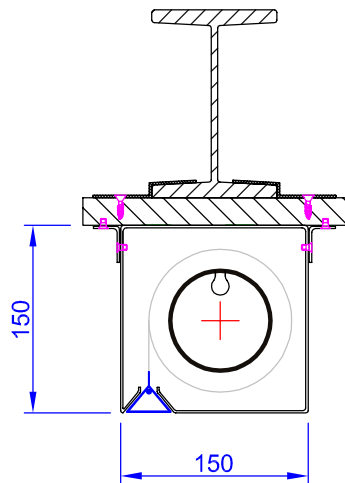
Option 1C: Hanger for ceiling installation



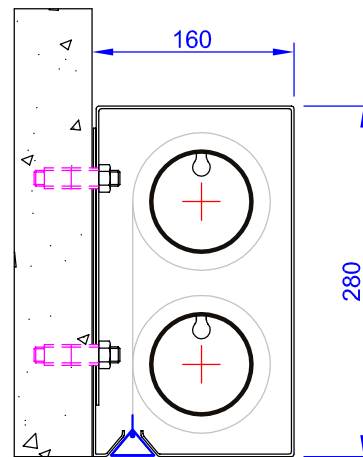
Option 3A: Installation to the ceiling



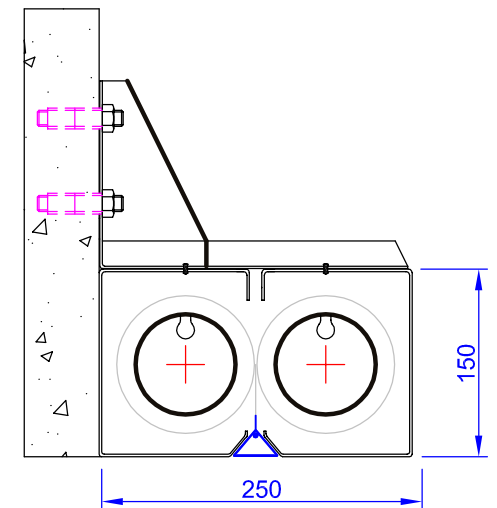
Option 1B: Installation to steel beam




Option 2: Installation to the wall (standard)



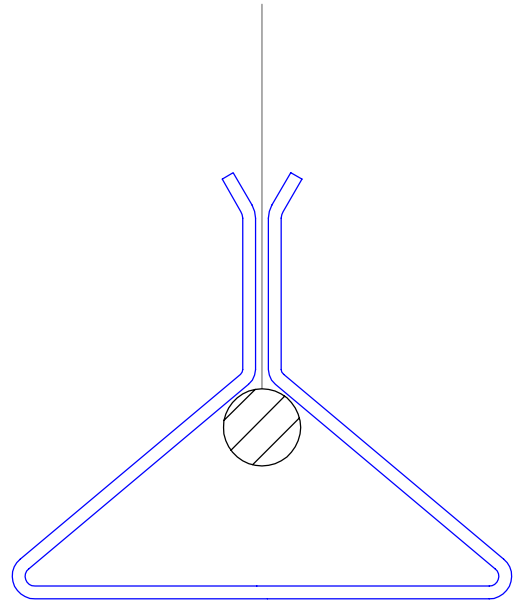
Option 3B: Installation to the wall (limited space)



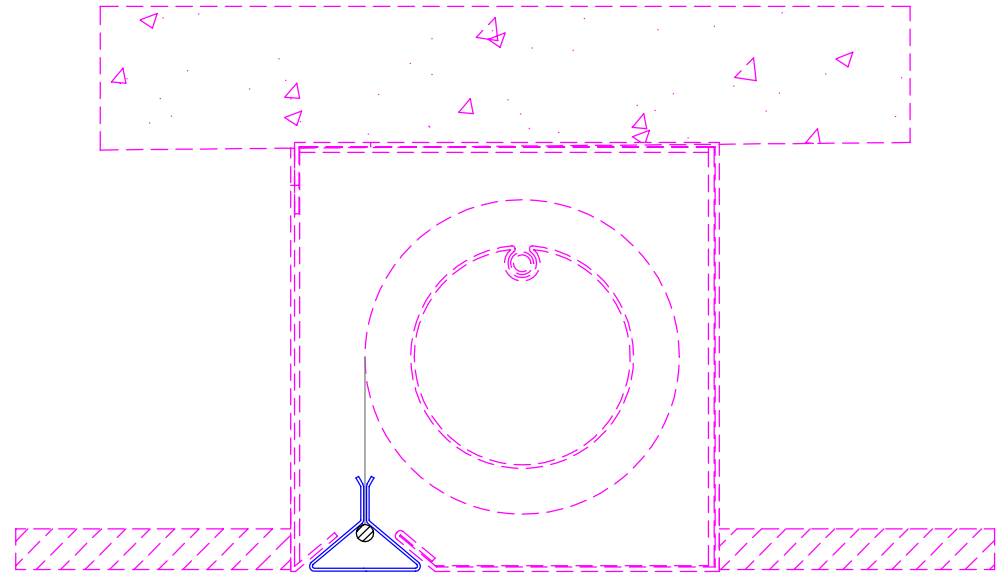
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 URL: 5/52 Hickler St. Berrimoor NSW 2128 T: 02 9748 4387 F: 02 9748 4387 M: 0400 047 048 www.smokecontrol.com.au © 2007 Smoke Control			Title: Moducoil - Header Box finish options			
			Dwg No.: FSG-MCOIL-006	Edition V2.10	Sheet 6 of 7	

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Bottom bar:



Option 1: Standard bottom bar



Standard bottom bar when installed

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			Dwg No.: FSG-MCOIL-007		Edition V2.10	Sheet 7 of 7