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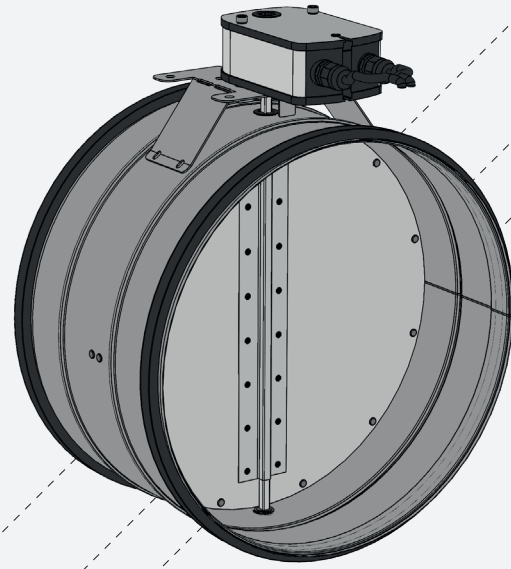
advanced air solutions

WXH



Technical Manual
English

SINGLE COMPARTMENT SMOKE CONTROL DAMPER CIRCULAR SERIES WXH - 1500Pa

Cert. N° 1812-CPR-1189

CE 1812

Smoke damper

WXHU AA

WXHU MA

Description

Circular smoke control damper for smoke and heat evacuation systems for single compartment. The damper casing is made of galvanized steel with EPDM connection with leakage class C according with EN1751.
The damper has two different motorized versions depending on the relay response required: type AA (Automatic Activation) and type MA (Manual Activation, with fire rated motor covering box). The smoke damper is CE marked and certified according to EN12101-8, tested according to EN1366-10 and classified according to EN13501-4. The damper is suitable for vertical and horizontal installation in single compartment smoke duct evacuation systems with maximum temperature of 600°C for 2 hours with smoke leakage class S at 1500Pa negative pressure.

Classification (EN13501-4)

E_{600} 120 (v_{ed}, h_{od} i<->o) S 1500 C_{10000} AA single
E_{600} 120 (v_{ed}, h_{od} i<->o) S 1500 C_{10000} MA single

Product code		
Type	WXH	Circular smoke damper
Connection	U	EPDM gasket
Relay Response	SAA	Single Automatic Activation
	SMA	Single Manual Activation
Motor type	V00	Belimo BLE24 V AC/DC
	D00	Belimo BLE230 V AC
Dimension	XYZ	Nominal diameter (mm)

Ordering example

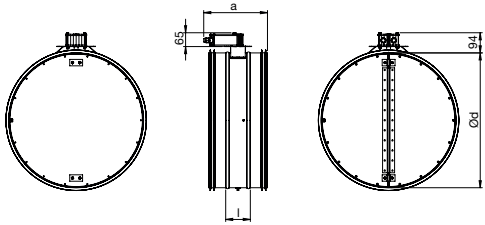
WXHU SMA D00 200

- Type
- Relay response
- Motor type
- Dimension Ød

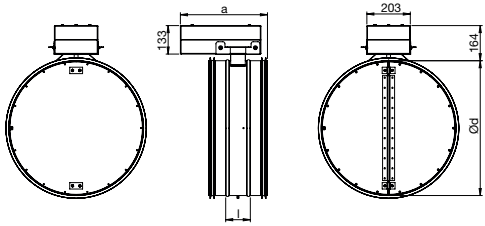
Dimension

Ød nom	l mm	Type AA a mm	Type AA m kg	Type MA a mm	Type MA m kg
100	100	250	3,2	376	5,7
125	100	250	3,4	376	5,9
160	100	250	3,6	376	6,1
200	100	250	3,9	376	6,4
250	100	270	4,5	379	7,0
315	100	270	5,2	379	7,7
355	100	270	5,5	379	8,0
400	100	290	6,8	399	9,3
450	100	290	8,1	399	10,6
500	115	298	9,5	407	12,0
560	115	298	11,0	407	13,5
630	115	298	12,5	407	15

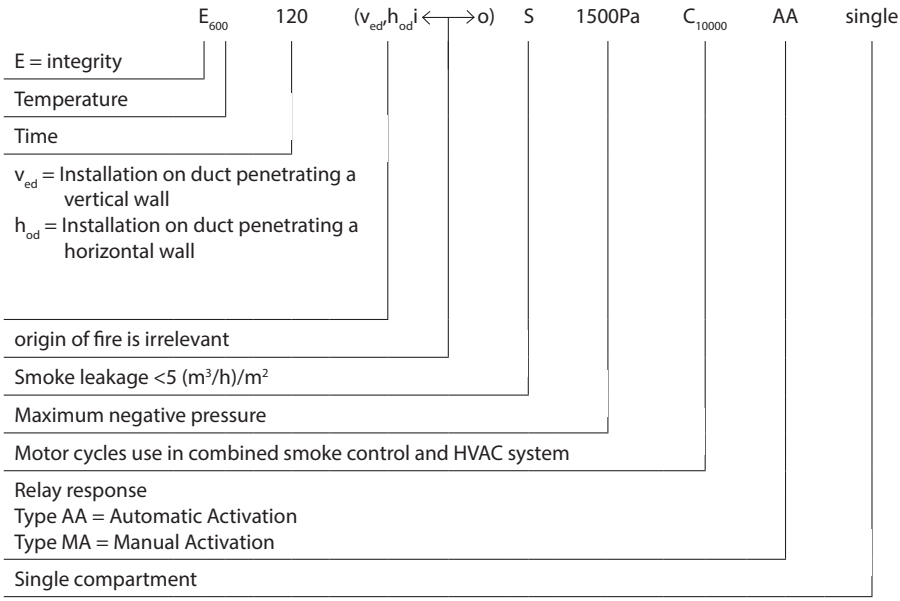
Type AA Ø 100-630 mm



Type MA Ø 100-630 mm



Classification details

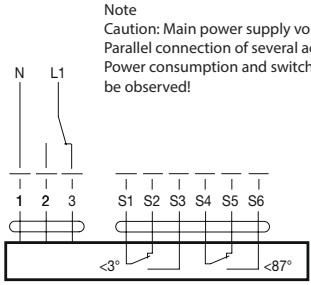


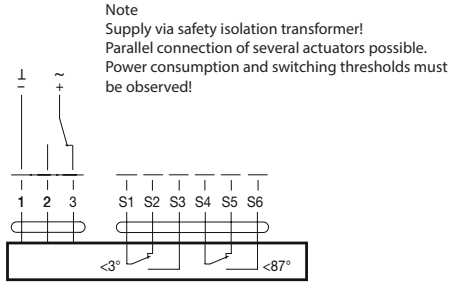
Technical data for the motors

BLE motor

	BLE24	BLE230
Power supply.....	AC/DC 19.2 28,8 V, 50/60 Hz	AC 198-264 V, 50/60 Hz
Power consumption.....	7,5 W	5 W
For wire sizing.....	9 VA	12 VA
Connection.....	Cable 1 m, 3×0,75 mm^2	Cable 1 m, 3×0,75 mm^2
Operative angle.....	Max. 90°	Max 105°
Torque at rated voltage.....	Min. 15 Nm	Min. 15 Nm
Direction of rotation.....	Selected by mounting L/R	Selected by mounting L/R
Position indication.....	Mechanical with pointer	Mechanical with pointer
Running time.....	<30 s for 90°	<30 s for 90°
Sound power level.....	Max. 62 dB (A)	Max. 62 dB (A)
Protection class.....	III Safety extra-low voltage	II totally insulated
Protection type.....	IP 54	IP54
Ambient temperature range.....	-30 to +50°C	-40 to + 80°C
Ambient moisture.....	95 % RH	95 % RH

Mode of operation.....	2-wire open-close control. The actuator is overload-proof and can thus remain energised even at the end stops.
Signalling	Two microswitches with fixed settings are installed in the actuator for indicating the damper end positions. The position of the damper blade can be read off on a mechanism position indicator.
Manual operation.....	The crank handle supplied with the actuator allows it to be operated manually.





Introduction

This mounting instruction refers to a circular smoke control damper for single compartment tested in two hours at a temperature of 600°C at a positive pressure of +500 Pa and negative pressure of -1500 Pa in installation on a duct penetrating a vertical or horizontal wall with two relay response options: type AA (Automatic Activation) and type MA (Manual Activation). Both motorized version are suitable for a combined use in smoke control and HVAC systems (e.g. reversable system).

The damper is classified as following standards:

E_{600} 120 (v_{ed} ,h_{od} i<->o) S 1500 C_{10000} AA single

E_{600} 120 (v_{ed} ,h_{od} i<->o) S 1500 C_{10000} MA single

Classification:	EN 13501-4	Fire classification of construction products and building elements. Classification using data from fire resistance tests on components of smoke control systems.
Test Method:	EN 1366-10	Fire resistance tests for service installations. Single compartment smoke extraction ducts.
Requirements:	EN 12101-8	Smoke and heat control systems. Smoke duct sections.

Intended use

The damper is a part of a smoke and fire protection system and is designed to reach the following targets:

- Extract smoke for 2 hours during the fire
- Reduce temperatures during the fire
- Opens the blade and remove heat and smoke from a compartment in fire
- Closes the blade to prevent the spread of heat and smoke to a safe compartment
- Create an non-smoke layer
- Protect the property

This damper represents a part of the smoke and fire protection project that shall be designed by a fire expert.

The products used in system should not be larger than dimension Ø 630.

Transport and delivery

The delivery contains smoke control damper marked by a CE label on the outside of the product.

The transport is performed by common transport means. Components that are free loaded should be secured in such a way that any deformation and damage to the components will be eliminated. The transport vehicle must be covered to prevent dust, debris and humidity to damage the components.

Components are delivered without an acceptance at a supplier´s as default. If an acceptance at a supplier´s is required, it is necessary to state this requirement in the orderpurchase contract.

A buyer or his/her representative is obliged in terms of good acceptance to on site check these according to the delivery documentation. Visible defects and amount shortages are to be noticed in the transporter´s transport sheet immediately.

Storage

The goods should be stored inside and protected to prevent dust, debris and humidity to damage the goods.

Operation

All smoke dampers have a electrical actuator. They are designed to be installed indoor in a smoke evacuation and standard HVAC system.

Before starting the system it is necessary to check the system for damages and that it is consistent to the fi re expert design.
The system can be used only in compliance with determined conditions (pressure, temperature etc.).

Producers of the smoke damper:
MP3 S.r.l., via G. La Pira 9, 35012 Camposampiero (PD), Italy - belongs to the holding Lindab.

Declaration of performance

The damper is CE marked with the declaration of performance according to EN12101-8 as a circular smoke control damper single compartment with CPR nr. 1812-CPR-1189.

Revision and Maintenance

Following features shall be checked up during a revision of the damper at least once every six months:

- All parts are to be installed according to this mounting instruction.
- The damper must not be damaged in any way, the cross-section of the casing, the motor and the covering box of the motor must not be damaged in any way.
- All connections with the smoke evacuation system are to be tightened and properly connected.
- The ducts connected to the damper must be suspended or supported in order to bear the damper's weight too.
- There must not be any flammable bodies on the damper surface and 50 mm away from the system itself.

Periodic inspection and cleaning

Periodic inspection shall be performed in accordance with the requirements of the law or by the building regulations or other local regulations.
In the absence of specific regulations (or to their complement), in accordance with point 8.3 of the EN 12101-8 standard, it is recommended to carry out the following controlactivities at intervals of no more than 6 months: execute an opening and closing test and check the correct movement of the blade and the correct functioning of the microswitches (limit switches). Blade opening time shall be not more than 60 seconds. Blade closing time shall be not more than 60 seconds.
Together with the control activities, it is recommended to visually verify the absence of corrosion, the integrity of the electrical wiring and the sealing of the construction support. Damper cleaning is included in the ordinary maintenance activities of the ventilation ducts. Smoke control dampers can be cleaned with a dry or wet cloth. In the case of resistant dirt, it is possible to use normal household detergents. If prescribed for the type of building, it is possible to use disinfectant detergents. The use of detergents or mechanical abrasive cleaning systems is not permitted. These indications comply with the standards EN 12101-8 annex B and EN 15423 annex C.

Repair

For safety reasons, repair activities involving fire-fighting components must be carried out only by qualified personnel. only original spare parts supplied by the smoke control damper manufacturer must be used.
A functional test must be performed after each repair.
At the end of the inspection, cleaning or repair operations, check that the smoke control damper is in the normal operating position. Keep records of all inspections, repair activities, any problems encountered and their resolution. This practice, even when not mandatory, is very useful in practice.

Disposal

Disposal in case of destruction must be carried out in accordance with national legislation. For electrical and electronic parts also refer to EU Directive 2011/65

Before mounting

Before starting the mounting of the damper it is necessary to inspect all components to make sure that they are correct according to the project documentation and to make sure they have not been damaged during transport or storage. When handling the products on site it is important to be careful so that they don't get damaged and their properties change.

Mounting of the damper should only be done by trained professionals equipped with the correct protective equipment and tools. The mounting of the damper should always be performed according to valid documentation from the manufacturer.

The damper should never be used as a supporting part of the building.

In order to achieve a good result, ensure you have:

- A well-organised and protected storage site for components and other parts that are to be assembled.
- A properly planned assembly sequence in accordance with the instructions.

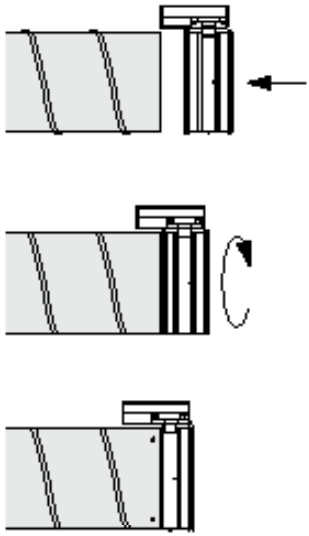
Mounting

Preparations:

- Cut ducts at right angles.
- Carefully remove any burrs from cut edges. Installation is easier and the risk of damaging the gasket is reduced if there are no burrs.
- Cut away the needles created from the fold.

Assembly

- Start by inserting the turned-over edge of the damper into the duct.
- Check that the fi rst lip of the gasket is in contact with the edge of the duct all the way around and sticks straight out so that the lip is not twisted in one direction or the other.
- Push the end of the damper into the duct. Twisting the damper slightly aids insertion.
- Secure the damper in the duct using self-tapping screws Ø4,2×13.
- Fasteners should be positioned on the duct close the damper (minimum 10-15 mm) to support itself weight and to prevent damage to the gasket.
- The damper must be installed on certifi ed and CE marked smoke control system.



Ø nom	Minimum number of fasteners required to achieve sufficient strength.
63-630	4

Electric cables and system

For Manual Activation version (MA), the electric cables and system must have at least 30 minutes circuit integrity.