

# Smoke damper

– single compartment–

**WXHU**

Mounting instruction



## WXHU Smoke damper

Introduction.....	3
Intended use.....	3
Transport and Delivery.....	4
Storage.....	4
Operation.....	4
Applied documents .....	4
Declaration of performance.....	5
Revision and maintenance.....	5
Before mounting .....	5
Mounting.....	6
Datasheet .....	7
Connection .....	9
Inspection of the damper .....	9
Installer conformity evaluation.....	10



## Introduction

This mounting instruction refers to a circular smoke control dampers 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 versions 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<sub>10000</sub> AA single

$E_{600}$  120 ( $v_{ed}, h_{od}$  i<->o) S 1500 C<sub>10000</sub> 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 it is designed to reach the following targets:

- Protect the escape routes for at least two hours after the fire start.
- Reduce the temperature during the fire expanding phase.
- 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 a non-smoke layer to safe people.
- Protect the building structures.

This damper represents a part of the smoke and fire protection project or system and shall be designed and installed only by a fire expert.

The smoke damper 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 order purchase contract.

A buyer or his/her representative is obliged in terms of good acceptance to onsite 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.

The goods must be stored away from direct sun light and heating fonts.

## Operation

All smoke dampers have an 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 fire expert design.

The system can be used only in compliance with determined conditions (pressure, temperature etc.).

## Applied Documents

The WXHU smoke damper has been certified together with the Lindab smoke evacuation system (see "duct and fittings" section on this manual). The damper shall be used in the same way it was used during the tests. No manipulation or substitution of any components of the damper is possible.

### **Producer of the WXHU smoke damper:**

MP3 S.r.l., via G. La Pira 9, 35012 Camposampiero (PD), Italy – belongs to the holding Lindab.



## Declaration of performance

The WXHU smoke damper is CE marked with the declaration of performance in 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 a year:

- 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.

## 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.



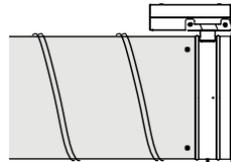
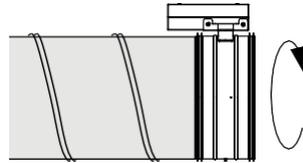
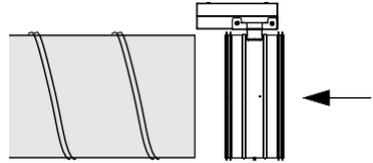
## Mounting

### 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 duct into the damper.
- Check that the first 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  $\varnothing 4,2 \times 13$ .
- Fasteners should be positioned on the duct close the damper (minimum 10-15 mm) to support its weight and to prevent damage to the gasket.
- The damper must be installed on certified and CE marked smoke control system. Note that the damper is a component of the system, please read and follow the mounting instruction of the whole smoke control system itself (page 6).



$\varnothing$ nom	Minimum number of fasteners required to achieve sufficient strength.
100 - 630	4



## Datasheet



**BEN24**



**BEN230**

Power supply .....	AC/DC 19,2 - 28,8 V 50/60 Hz	AC 198 - 264 V 50/60 Hz
Power consumption.....	3 W	4 W
For wire sizing.....	6 VA	7 VA
Connection .....	Cable 1 m, 3x0,75 mm <sup>2</sup>	Cable 1 m, 3x0,75 mm <sup>2</sup>
Operative angle .....	Max. 95°	Max 95°
Torque at rated voltage .....	Min. 15 Nm	Min. 15 Nm
Direction of rotation .....	Mounting L / R	Mounting L / R
Position indication .....	Mechanical pointer	Mechanical pointer
Running time .....	<30 s for 90°	<30 s for 90°
Sound power level .....	Max 58 dB (A)	Max 58 dB(A)
Protection class .....	III Safety extra low voltage II totally insulated	
Protection type.....	IP 54	IP 54
Ambient temperature range.....	-30 to +55°C	-30 to + 55°C
Ambient Moisture .....	Max 95 % RH	Max 95 % RH
Mode of Operation .....	Two 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 to indicate the damper end positions. The position of the damper blade can be read on the mechanism position indicator.	
Manual operation .....	The crank handle supplied with the actuator allows it to be operated manually.	

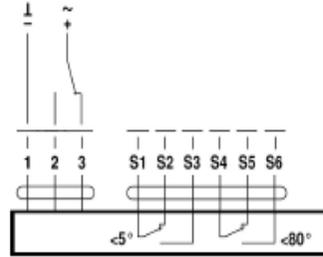


**BEN24**

AC/DC 24 V, open/close

**BEN230**

AC 230 V, open/close

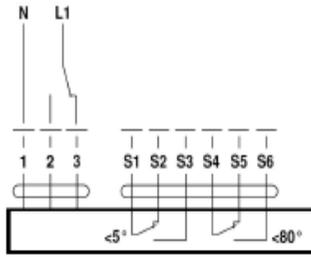


**Cable colours:**

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

**Cable colours:**

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



Note:

- Supply with safety isolation transformer.
- Parallel connection of several actuators possible. Power consumption and switching thresholds must be observed.

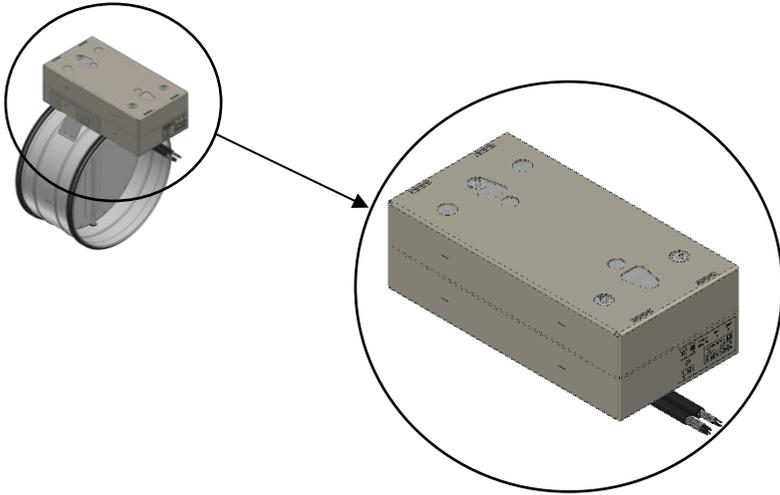
Note:

- Caution: main power supply voltage.
- Parallel connection of several actuators is possible. Power consumption and switching thresholds must be observed.



## Connection

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



## Inspection of the damper

Each damper should be inspected after installation and every 12 months.

The damper is part of the SHEVS. Therefore, the system must be checked as specified in its operational and maintenance according to the national requirements.



## Installer Conformity Evaluation

This is only a conformity assessment that the installer approves and subsequently releases to the document supplier contact. The company only demonstrates that the installer has received the following assembly instructions and followed them carefully.

Company name	
Phone	
E-mail	
Project	
Date	

I hereby confirm that I have received the assembly instructions and have followed them carefully.

Date

Sign

\_\_\_\_\_

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Ensuring an optimal climate within environments is fundamental for our health, for our well-being and also for our production capacity. Considering that we spend most of our time inside closed spaces, Lindab's main objective is to contribute in a tangible way to achieving an indoor climate that can improve ours and the lives of all people.

We at Lindab also aim to ensure a better climate for our planet and we do this by working in a way that is sustainable for both people and the environment, developing energy-efficient ventilation solutions and building products increasingly sustainable.

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