

OPERATION AND MAINTENANCE MANUAL

Fire protection cut-off damper mcr FID WING



Version 22.06.13.2

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Labelling used in the operation and maintenance manual

- Option available
- Option unavailable

NOTE

With the date of publication of the operation and maintenance manual, the previous versions are no longer valid.

The operation and maintenance manual does not concern the dampers manufactured before the date of its publication.

mcr FIND WING fire damper

CAUTION

The product should be stored and used in rooms where:

- there is no access to dust, gases, caustic vapors and other aggressive chemical vapors that can destroy the insulating elements and structural elements;
- the dampers are not affected by direct sunlight and UV radiation;
- the maximum relative humidity does not exceed 80% at the temperature of +20 °C;
- the ambient temperature is between - 20 °C and + 40 °C;
- there are no vibrations.



The device is equipped with a thermal release containing one-time temperature fuses. During normal operation, the above mentioned element should be protected against the impact of the permissible temperature T_{max} (see the table below). When it is exceeded, the temperature fuses may operate, which is a normal operation and is not covered by the guarantee or warranty.

A thermal release for a damper equipped with RST mechanism:



— Duct inside temperature fuse

Thermal fuse for temperature	72 °C	95 °C
Temperature fuse inside the duct	T_{max} 40 °C	T_{max} 60 °C

1. INTRODUCTION

The purpose of this operation and maintenance manual is to get the user acquainted with the intended use, design, the principle of operation, correct installation and operation of the product.

The manual also includes additional information about the operating conditions, maintenance and warranty conditions of the product.

2. THE SUBJECT OF THE MANUAL

This operation and maintenance manual concerns the entire group of fire protection cut-off dampers of type mcr FID WING. Observing recommendations included in the manual ensures correct function of the device in terms of fire protection of rooms as well as safety of the system users.

3. DEVICE INTENDED USE

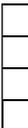
Application

A mcr FID WING type damper may be used as a fire protection cut-off damper with a duct connection as well as a transfer damper (installation without ventilation ducts).

The damper may not work in systems exposed to dust, except for when they are included in a special, individually developed programme of service and technical inspections.

Fire resistance

The mcr FID WING type fire protection cut-off damper has the following fire resistance:

 EI60S	 /S	 /V	 /V-M	 /T	 EI120S	 /S	 /V	 /V-M	 /T
 EI60	 /S	 /V	 /V-M	 /T	 EI120	 /S	 /V	 /V-M	 /T
 E60S	 /S	 /V	 /V-M	 /T	 E120S	 /S	 /V	 /V-M	 /T
 E60	 /S	 /V	 /V-M	 /T	 E120	 /S	 /V	 /V-M	 /T

Performance versions

The mcr FIND WING type fire dampers may be manufactured as:

-  rectangular fire dampers
-  round fire dampers

Dimension range

The mcr FID WING type dampers are manufactured in the following dimensions - diameters:

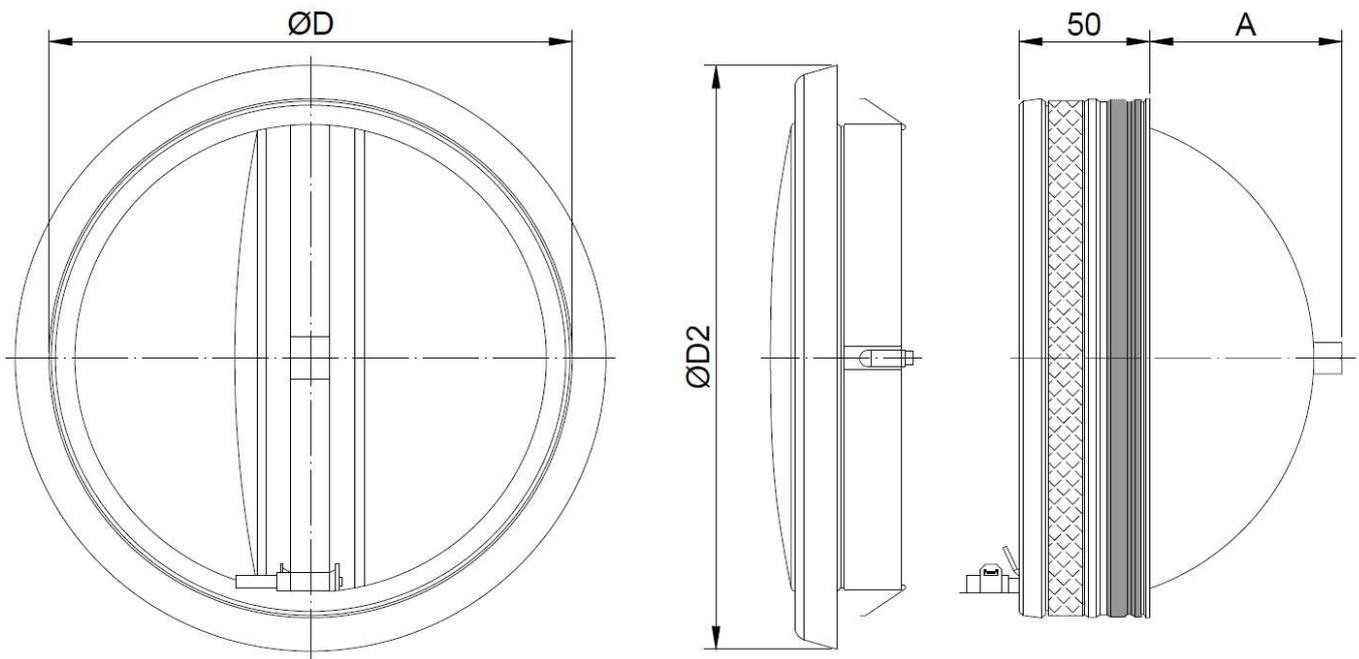
- Ø100
- Ø125
- Ø160
- Ø200

4. DEVICE DESIGN AND PRINCIPLE OF OPERATION

Design

The mcr FID WING fire damper consists of a casing with a round cross-section, a movable cut-off partition and a release and control mechanism that is automatically activated after the thermal fuse is actuated. The damper housing is made of steel sheet. In the housing of the device, on its perimeter, there is a ventilation and intumescent gasket. The cut-off partition of the damper is made of a non-flammable plate. Additionally, the damper can be equipped with microswitches indicating the position of the device partition. The damper can also be equipped with an air valve (air diffuser), enabling the adjustment of the parameters of the ventilation system. The device is delivered complete with two insulating bands. The manufacturer requires the installation of the bands according to the drawings included in the Operation and Maintenance Manual in order to obtain the declared fire resistance.

mcr FIND WING fire damper



Diameter ØD [mm]	Diameter ØD2 [mm]	Length A [mm]	Mass [kg]
100	149	21	0,2
125	169	34	0,3
160	195	51	0,4
200	240	72	0,6

Operation

The operating principle and behaviour of the mcr FID PRO single-plane fire dampers depends on the version and use:

- automatically – by actuation of the thermoelectric release
- manually – by pressing the control button on the thermoelectric release
- remotely – by actuation of the axial electric actuator with a return spring as the supply voltage disappears
- automatically – by actuation of the thermal release and the power spring

The structure of the system equipped with an air diffuser enables the regulation of efficiency during normal operation of the device (setting the gap between the body of the mechanism and the valve plug). The adjustment is made by rotating the plug around the damper axis.

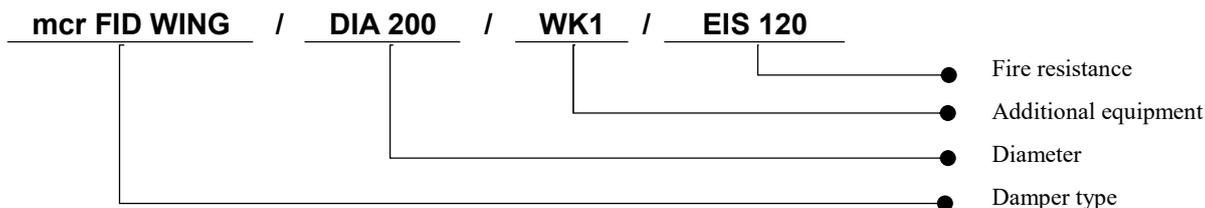
Release and control mechanisms

A release and control mechanism for the mcr FIND WING damper can be:

- an RST type mechanism composed of a drive spring and a fuse release

Optionally, there is a possibility to equip the damper with WK1 limit switches that signal the damper operation status (open/closed).

5. DEVICE LABELLING



Parametry dodatkowe:

WK1 – limit switch - signaling that the partition is closed

AN – air diffuser

PM – mounting plate

NOTE

As a default, the damper release temperature equals 72°C. In case of another temperature value, it has to be specified in the order after prior confirmation of the temperature value with the Sales Department.

6. DEVICE INSTALLATION

NOTE

During the installation of damper and the finishing works, take into account the possibility of access to the device later and the disassembly of release and control mechanism in order to carry out the possible service works and technical inspections.

The mcr FID WING fire dampers may be installed in the following space dividing elements (walls or structural floors):

- masonry/concrete walls with the minimum thickness of 100 mm
- brickwork walls or blockwork walls with the minimum thickness of 100 mm
- walls made of boards with the minimum thickness of 100 mm
- structural floors with the minimum thickness of 150 mm for EIS120 and 100mm for EIS60

Additionally, fire dampers may be installed:

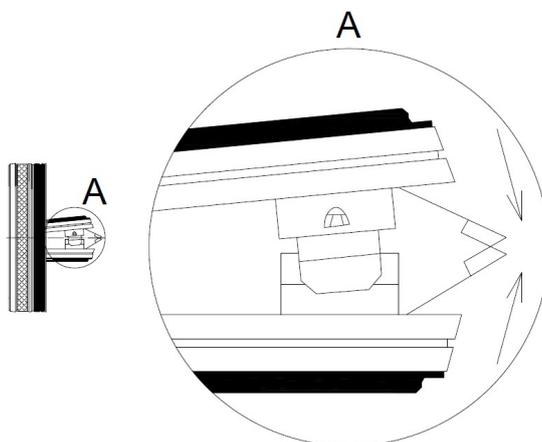
- outside walls
- in dampers sets (multiple damper sets)

The mcr FID WING cut-off damper may also be installed in partitions with lower fire resistance class. In case of such an installation, damper have fire protection equal to the fire protection of the partition, maintaining the smoke tightness criteria.

INSPECTION BEFORE THE INSTALLATION

Each damper is inspected before packaging and transporting by the manufacturer. After unpacking at the recipient, inspect visually in terms of possible deformation of the casing or damper damage during transportation.

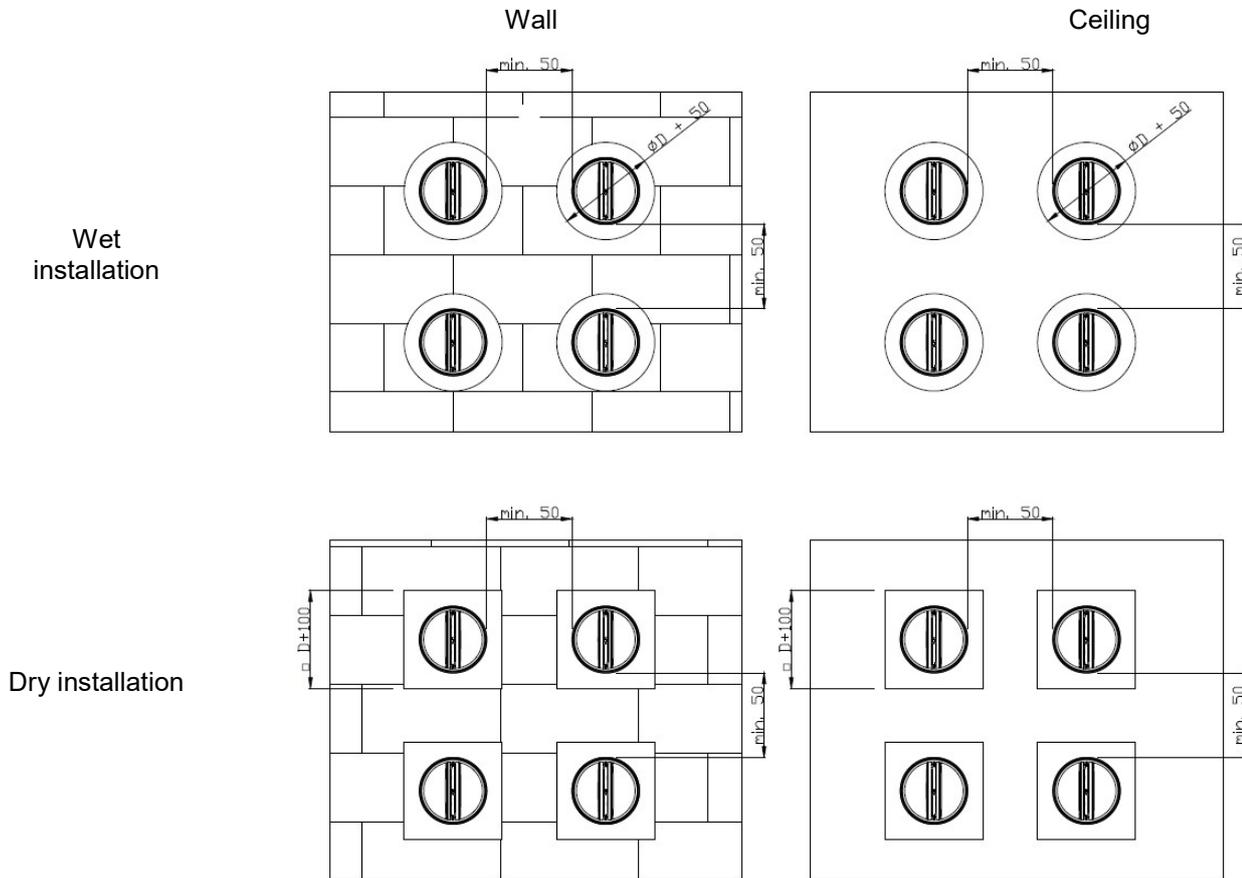
The damper is delivered in the closed position. Before installation, it should be armed.



6.2. FIXING HOLE

Minimum diameter of the hole that allows correct installation of the mcr FID WING damper equals:

- min. $D + 50$, max. $D + 70$ – in the case of a wall made of plasterboards and wet installation
- min. $D + 50$, max. $D + 70$ – in the case of concrete and masonry partitions and in the ceiling and wet installation
- min. $D + 100$, max. $D + 600$ – in the case of a wall made of plasterboards and dry installation
- min. $D + 100$, max. $D + 600$ – in the case of concrete and masonry partitions and in the ceiling and dry installation



6.3. EMBEDDING / SETTING THE DAMPER

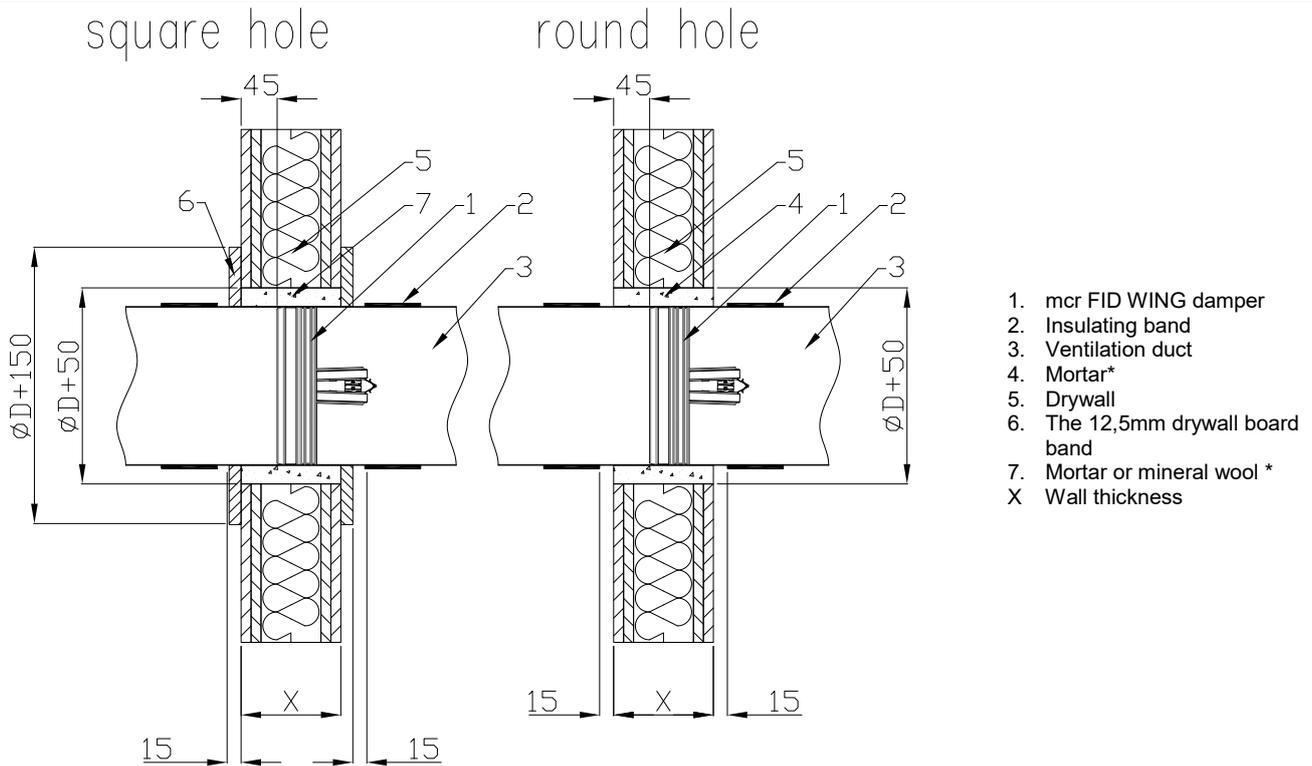
INSTALLATION IN A PLASTERBOARD, CONCRETE OR MASONRY WALL

Insert the connection duct in the assembly opening so that the axis of the channel coincides with the axis of the opening. The gap between the duct and the edge of the opening should be tightly filled with mortar or other material ensuring the required fire resistance. Place an armed damper in the duct.

CAUTION

Pay special attention to the roundness of the connection duct when filling the opening hole with mortar. Any irregularities will make it impossible to install the damper.

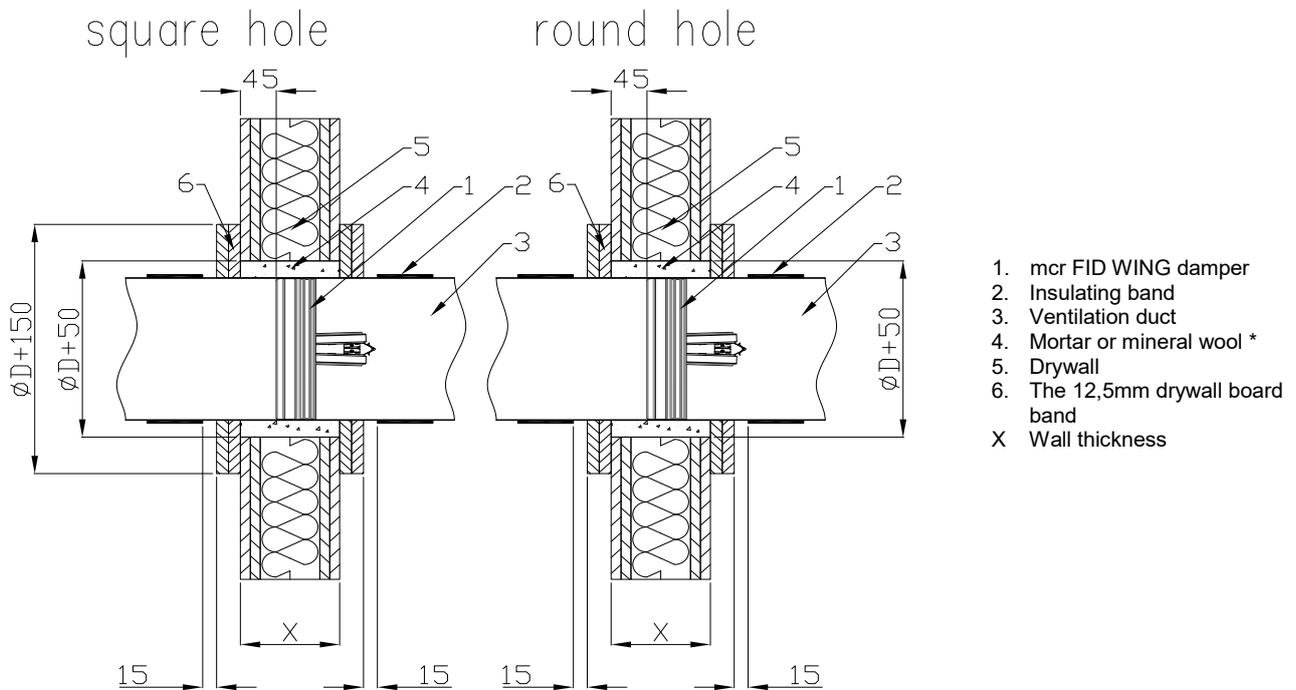
mcr FIND WING fire damper



installation of the mcr FIND WING damper in plasterboard walls for EIS60

* Recommended installation of the damper in a dry system is based on wool of min. 40 kg / m³ with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.

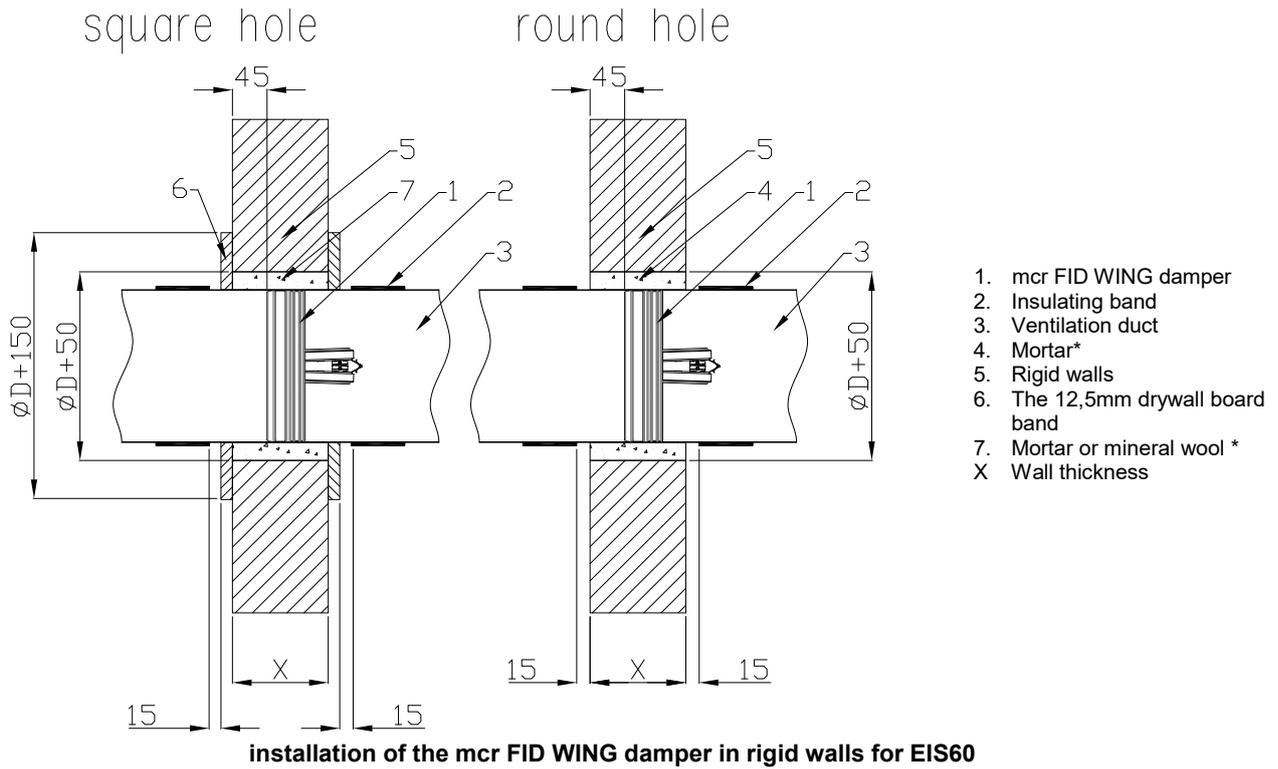
The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.



installation of the mcr FIND WING damper in plasterboard walls for EIS120

* Recommended installation of the damper in a dry system is based on wool of min. 100 kg / m³ with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.

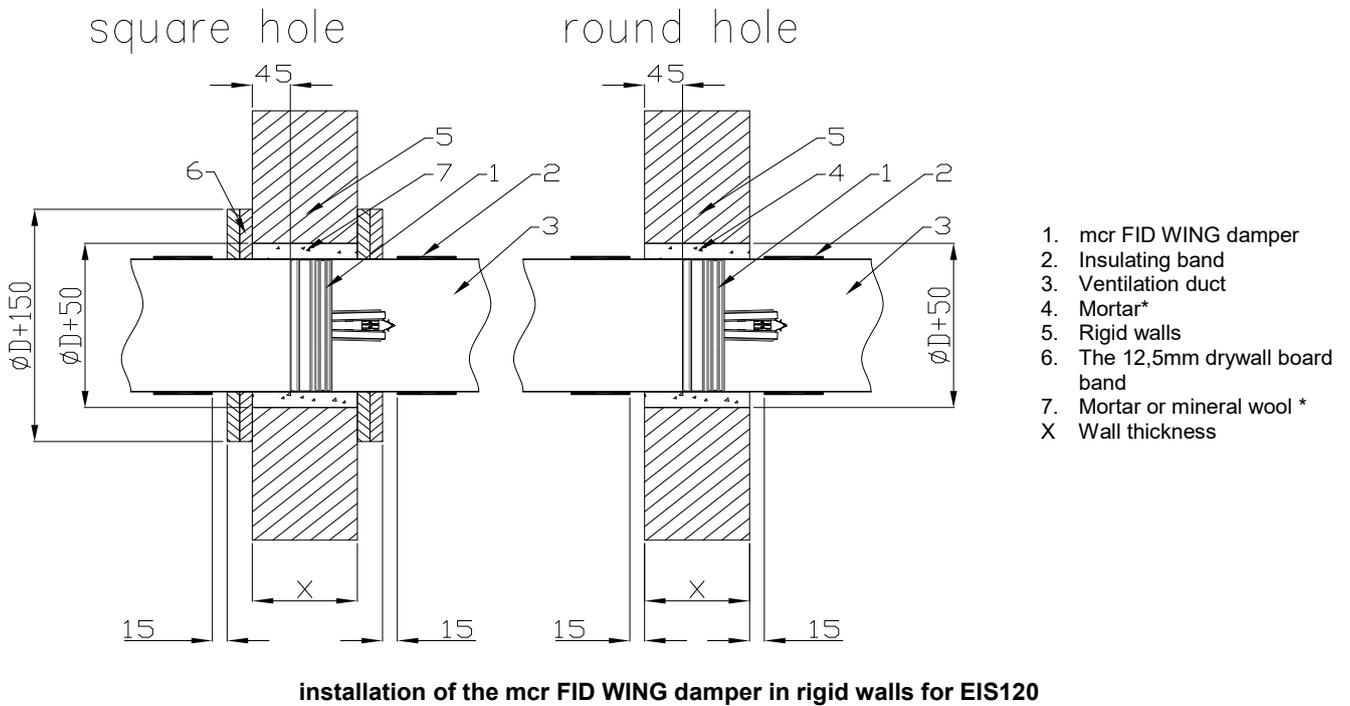
The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.



- 1. mcr FIND WING damper
- 2. Insulating band
- 3. Ventilation duct
- 4. Mortar*
- 5. Rigid walls
- 6. The 12,5mm drywall board band
- 7. Mortar or mineral wool *
- X Wall thickness

* Recommended installation of the damper in a dry system is based on wool of min. 100 kg / m³ with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.

The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.

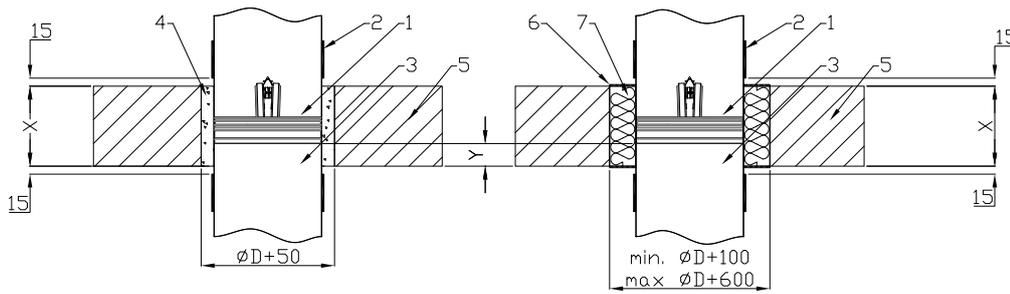


- 1. mcr FIND WING damper
- 2. Insulating band
- 3. Ventilation duct
- 4. Mortar*
- 5. Rigid walls
- 6. The 12,5mm drywall board band
- 7. Mortar or mineral wool *
- X Wall thickness

* Recommended installation of the damper in a dry system is based on wool of min. 100 kg / m³ with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.

The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.

mcr FIND WING fire damper

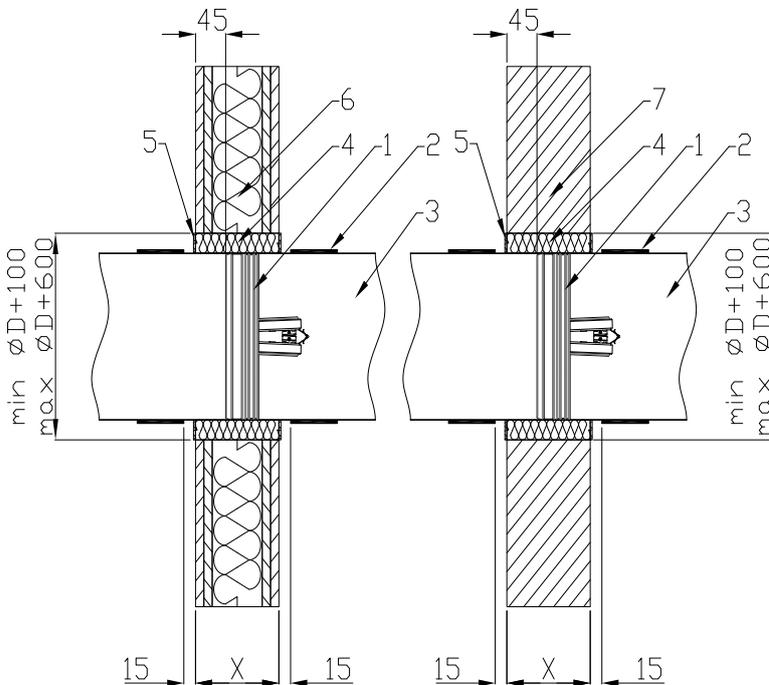


- 1. mcr FID WING damper
- 2. Insulating band
- 3. Ventilation duct
- 4. Mortar *
- 5. Ceiling
- 6. Mortar / fire-resistant paint *
- 7. Mineral wool *
- X Thickness of the ceiling
- Y 75mm for EIS120
45mm for EIS60

installation of the mcr FID WING damper in ceilings

* Recommended installation of the damper in a dry system is based on wool of min. 140 kg / m³ with non-flammability class A1, thickness min. 50mm and securing the joint between the wool and the wall with PROMASTOP E PASTE or HILTI CFS-CT paint and wool with the fire-retardant PROMASTOP E PASTE or HILTI CFS-S ACR paint, as shown in the above drawing. The recommended installation of the damper in a wet system is based on plaster or cement mortar.

The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.



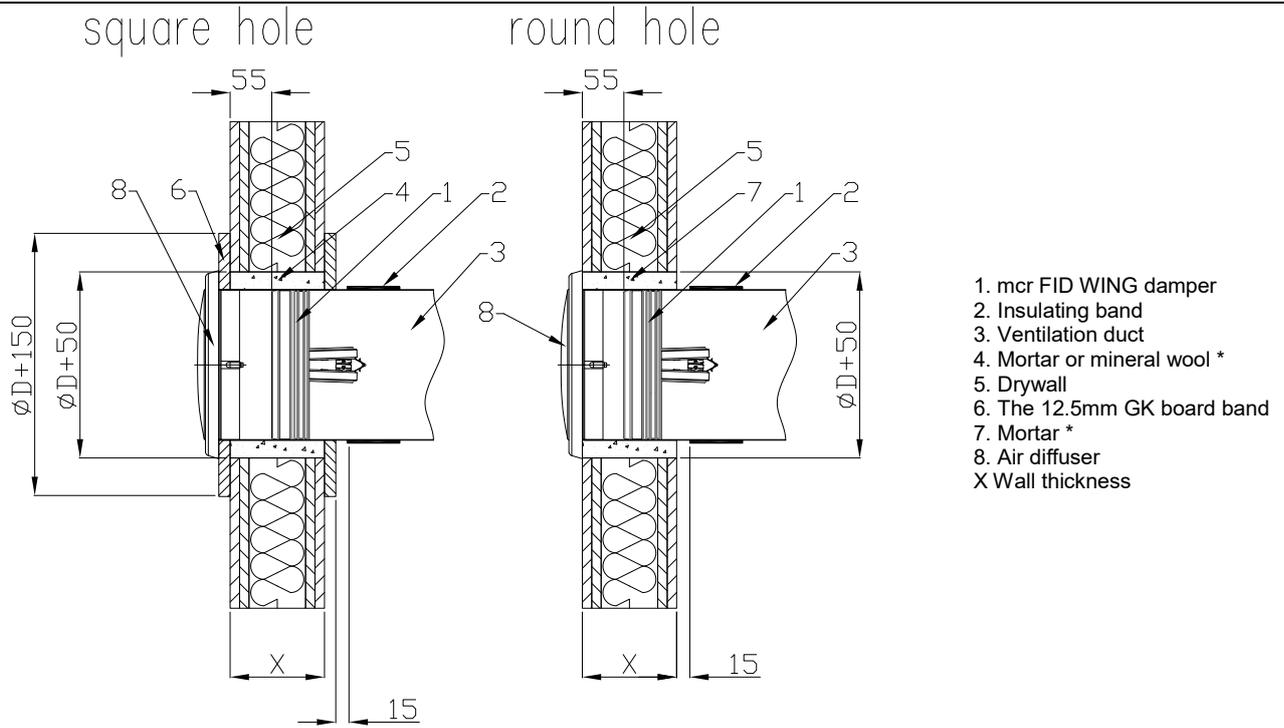
- 1. mcr FID WING damper
- 2. Insulating band
- 3. Ventilation duct
- 4. Mineral wool *
- 5. Mortar / fire-resistant paint *
- 6. Drywall
- 7. Rigid wall
- X Thickness of the wall

installation of the mcr FID WING damper in dry systems

* Recommended installation of the damper in a dry system is based on wool of min. 140 kg / m³ with non-flammability class A1, thickness min. 50mm and securing the joint between the wool and the wall with PROMASTOP E PASTE or HILTI CFS-CT paint and wool with the fire-retardant PROMASTOP E PASTE or HILTI CFS-S ACR paint, as shown in the above drawing. The recommended installation of the damper in a wet system is based on plaster or cement mortar.

The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.

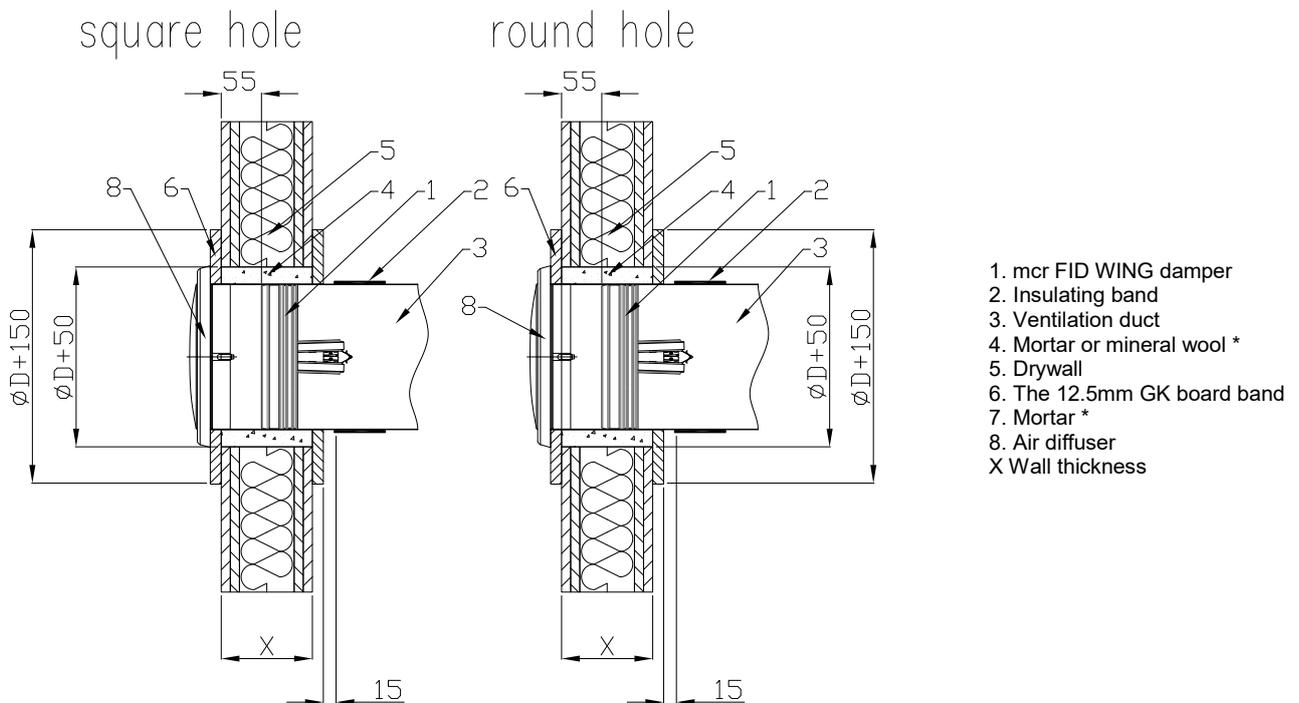
mcr FIND WING fire damper



installation of the mcr FID WING damper in plasterboard walls for EIS60

* Recommended installation of the damper in a dry system is based on wool of min. 40 kg / m³ with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.

The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.

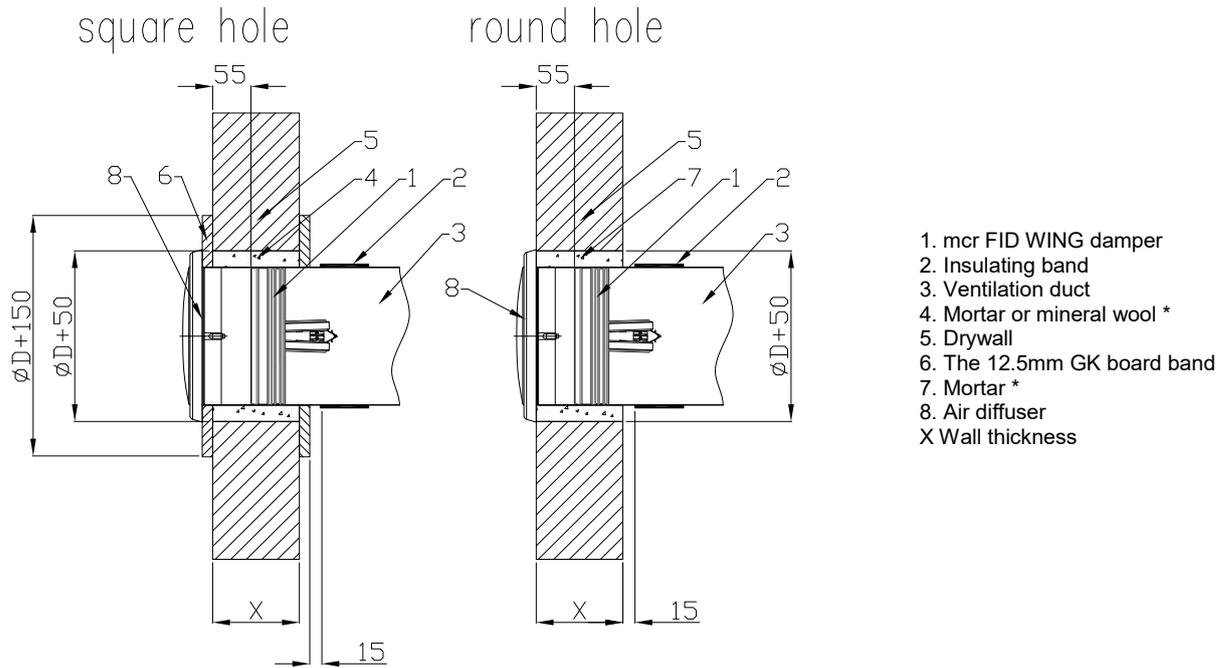


installation of the mcr FID WING damper in plasterboard walls for EIS120

* Recommended installation of the damper in a dry system is based on wool of min. 40 kg / m³ with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.

mcr FIND WING fire damper

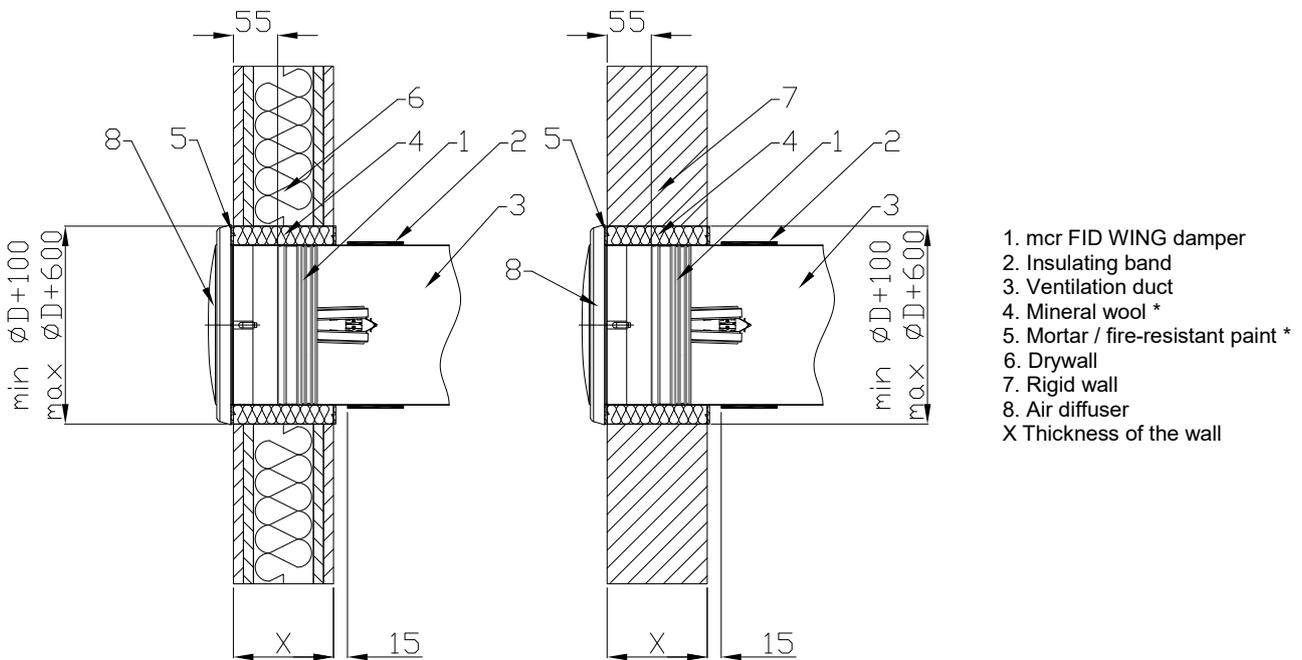
The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.



installation of the mcr FID WING damper in rigid walls for EIS60 and EIS120

* Recommended installation of the damper in a dry system is based on wool of min. 40 kg / m³ with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.

The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.

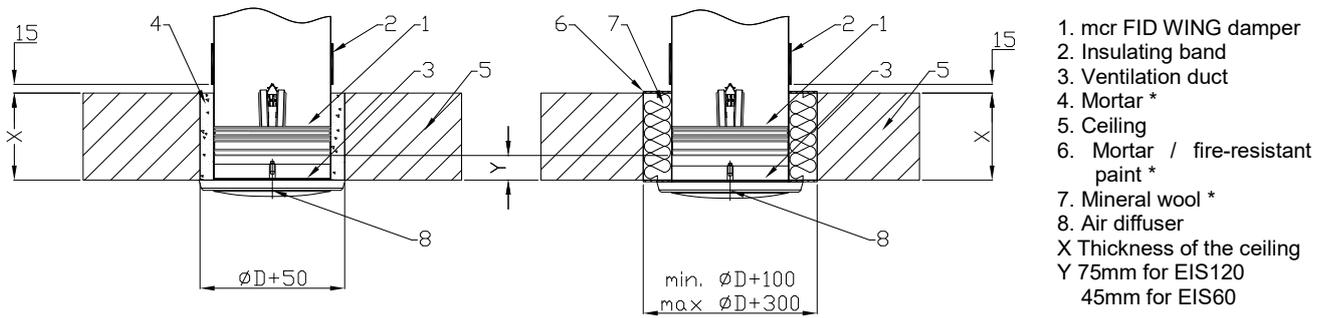


installation of the mcr FID WING damper in dry systems

* Recommended installation of the damper in a dry system is based on wool of min. 140 kg / m³ with non-flammability class A1, thickness min. 50mm and securing the joint between the wool and the wall with PROMASTOP E PASTE or HILTI CFS-CT paint and wool with the fire-retardant PROMASTOP E PASTE or HILTI CFS-S ACR paint, as shown in the above drawing. The recommended installation of the damper in a wet system is based on plaster or cement mortar.

mcr FIND WING fire damper

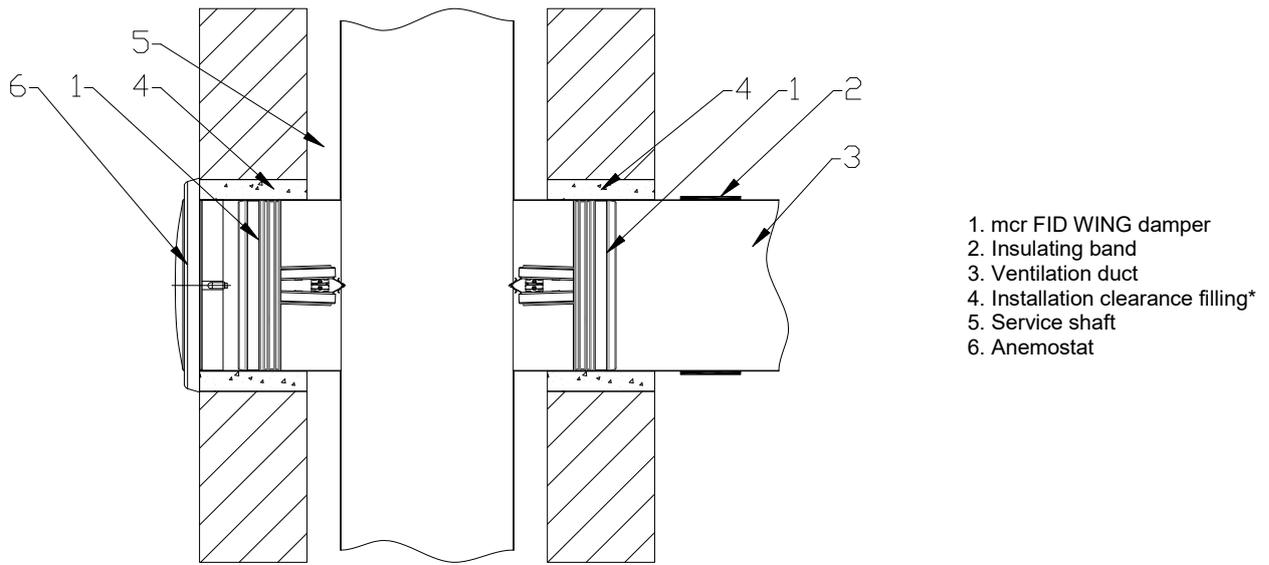
The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.



installation of the mcr FID WING damper in ceilings

* Recommended installation of the damper in a dry system is based on wool of min. 140 kg / m³ with non-flammability class A1, thickness min. 50mm and securing the joint between the wool and the wall with PROMASTOP E PASTE or HILTI CFS-CT paint and wool with the fire-retardant PROMASTOP E PASTE or HILTI CFS-S ACR paint, as shown in the above drawing. The recommended installation of the damper in a wet system is based on plaster or cement mortar.

The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.

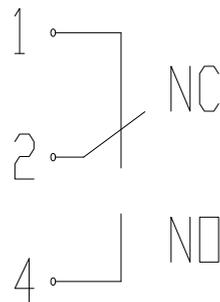


installation of the mcr FID WING damper in service shaft openings for EI120 and EI60

6.4. ELECTRICAL CONNECTIONS

Before the damper is finally mounted in the connection duct, if it has elements that require connection to the electrical installation, connect the wires of this installation properly. The connection method and basic data of electrical components are presented below.

Electrical connection diagram of the mcr FID WING + WK1 fire damper



1 - black
2 - gray
4 - blue

1mA 4V AC min
6A 250V AC max

7. TRANSPORT AND STORAGE CONDITIONS

Fire dampers are packaged in cardboard boxes or placed on pallets. Dampers are protected against damage by film or another covering material. Damper shipping may take place using any means of transport, under the condition they are protected against weather factors. Dampers placed on means of transport should be secured against shifting of position during transport. Before installing dampers, control each of them visually. Do not move the damper by holding by the connection cable or put a device on a release and control mechanism. Do not hit or drop the damper. When moving and installing, support the damper on the sides or edges of the body.

Dampers should be stored in closed rooms that provide protection against external weather conditions. In the case dampers are stored on the ground, place them on protection pads in order to protect them against damage. Storage should take place in rooms where:

- there is no access to dust, gases, caustic vapors and other aggressive chemical vapors that can destroy insulating elements and structural elements;
- the dampers are not affected by direct sunlight and UV radiation;
- maximum relative humidity does not exceed 80% at the temperature of + 20 °C;
- the ambient temperature is between - 20 °C and + 40 °C;
- there are no vibrations.

8. MAINTENANCE AND SERVICE (REPAIRS)

Products manufactured by „MERCOR” SA should undergo periodic technical inspections and maintenance at least every 12 months throughout their service life, i.e. in the warranty period and later. Inspections and maintenance should be carried out by the manufacturer or by companies authorised to service „MERCOR” SA's products.

The obligation to conduct regular inspections of fire equipment is stipulated in § 3 section 3 of the Regulation of Minister of Internal Affairs and Administration dated 7 June 2010 on the fire protection of buildings, other structures and areas (Dz. U. [Journal of Laws] 2010 No. 109, item 719).

The recommended operations to be carried out between the inspections are as follows:

- check the condition of electrical connections, paying particular attention to mechanical damage;
- Inspections of the condition of the supply voltage for the devices, which allowed the following tolerances:
 - 24V±10% for electric actuators
 - 24V±2% for electromagnetic release mechanism
 - 230V ±10% for electric actuators
 - 230V±2% for electromagnetic release mechanism
- check the condition of the fire damper's body, paying particular attention to mechanical damage;
- check for causes that could possibly affect the correct operation of the fire damper.

To enable full service inspections as well as servicing, including servicing under the warranty, such as visual inspections and repairs, the user has to ensure physical access to the product, e.g. by removing thermal insulation/suspended ceilings and disassembling other systems if they prevent free access to the product, etc.

In the case of fire dampers installed in ducts, it is recommended to make a service duct such as the mcr KRW type, for instance.

mcr FIND WING fire damper

If devices are installed on the roof, ensure the possibility to enter the roof (ladder or lift).

For matters relating to technical inspections, maintenance and service of our products, please contact the Service Department of „Mercor” SA at serwis@mercor.com.pl, phone 058/ 341 42 45 (extension number 170), fax 058/341 39 85, 8 am–4 pm (Mon–Fri).

9. WARRANTY TERMS AND CONDITIONS

1. “MERCOR” SA grants 12 months of warranty for the equipment quality from the date of purchase, unless the sales contract states otherwise.
2. Submit each warranty claim to “MERCOR” SA in 7 days from the date of discovery of a warranty eligible defect
3. Submit warranty claims by calling at: tel. +48 58 341 42 45, by fax: +48 58 341 39 85, by e-mail: reklamacje@mercor.com.pl or by traditional mail: “MERCOR” SA, ul. Grzegorza z Sanoka 2, 80-408 Gdańsk, Poland.
4. If physical defects of equipment are found during the warranty period, “MERCOR” SA warrants and represents to remove them in shortest possible time from serving the written warranty claim with the proof of purchase or sales contract, subject to Item 10.
5. “MERCOR” SA has the right to extend the time of repair if the defect removal is complicated or requires purchase of custom components or spare parts.
6. The warranty liability only covers all defects arising from causes present in the equipment at the date of sale.
7. Defects caused by improper operation or otherwise as listed in Item 10 herein, the buyer / warranty beneficiary will be charged with the costs of their removal.
8. Condition for rectifying defects is that the applicant makes the site/localisation where devices are installed available, in particular, ensuring: the lift in the case of devices mounted at a height above 3m, free access to the rooms where the devices were installed and necessary revisions, dismantling thermal insulation, disassembling suspended ceilings, disassembling other installations, if they prevent free access to the device.
9. If the device can not be repaired at the place of its installation, “MERCOR” SA reserves the necessity of its disassembly, possible delivery to the address indicated by “MERCOR” SA and re-assembly. The cost of this operation lies with the buyer / holder of the guarantee.
10. The warranty does not cover:
 - Any damage or failure of the equipment caused by improper operation, tampering, failure to conduct periodic technical inspection and/or maintenance established in the Operating and Maintenance Manual, section “SERVICING AND MAINTENANCE”.
 - Any damage beyond reasonable control of “MERCOR” SA, and specifically: caused by force majeure, such as torrential rainfall, flooding, hurricanes, inundation, lightning strike, power grid overvoltage, explosion, hail, collision with aircraft, fire, avalanche, landslide and indirect damage due to those causes. Torrential rainfall is understood as any rainfall with the effectiveness factor of 4 or higher in accordance with the definition of the Polish Institute of Meteorology and Water Management - National Research Institute (IMGW-PIB). If the effectiveness factor value specified in the preceding sentence cannot be reasonably established, the actual condition and extent of damage shall be considered at the site of their origin as the action of torrential rain. Hurricane is understood as any wind with a minimum speed of 17.5 m/s (and damage shall be recognised as caused by hurricanes if the effects of such weather phenomenon has been found in the direct vicinity of the damaged property).
 - Damage due to failure to immediately report any defect found.
 - Deterioration in the quality of coatings due to natural weathering/ageing.
 - Defects caused by abrasive or aggressive cleaning agents.
 - Damage caused by aggressive external influence, specifically chemical or biological in nature, or when the origin of which is related to the production processing or activity carried out within the facility protected by the equipment or in its direct vicinity.

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- Wearing parts and consumables (e.g. gaskets/seals), unless they have defects of workmanship and/or material.
 - Damage caused by improper transport, handling, unloading and/or storage of the equipment.
 - Damage caused by installation of the equipment in violation of this Operating and Maintenance Manual and/or good construction practice.
 - The equipment and/or parts thereof with removed or damaged nameplate (rating plate) and/or warranty seals.
11. The buyer/warranty rights holder is required to operate the equipment properly and carry out technical inspection and maintenance in accordance with the section "MAINTENANCE AND SERVICING" in the following Operating and Maintenance Manual.
12. This warranty shall be made immediately void and null if:
- The buyer/warranty rights holder modifies the product design without prior authorisation from "MERCOR" SA.
 - Periodic technical inspection and/or maintenance is not carried out per schedule and/or is carried out by unauthorised personnel or service providers not authorised to do so by "MERCOR" SA and/or the equipment has not been properly operated.
 - Unauthorised personnel attempts any intervention in the product outside of the normal operation and maintenance of this equipment.
 - The device's thermal trigger was affected by a temperature greater than Tmax (page 3 of the Operation Manual).
13. Any circumstances listed in Item 10 will relieve "MERCOR" SA from the obligation of surety.

The relevant provisions of the Polish Civil Code shall apply to all matters not regulated in these Warranty Terms & Conditions.