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OPERATION
AND MAINTENANCE MANUAL

Fire protection cut-off damper
mcr FID WING

Version 26.01.26.4

CONTENTS:

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With the date of publication of the operation and maintenance manual, the previous versions are no longer valid.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

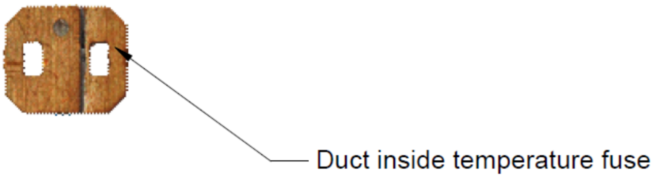
CAUTION

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 ºC;
- the ambient temperature is between - 20 ºC and + 40 ºC;
- 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 Tmax (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:



Thermal fuse for temperature	72 ºC	
Temperature fuse inside the duct	Tmax 40 ºC	

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

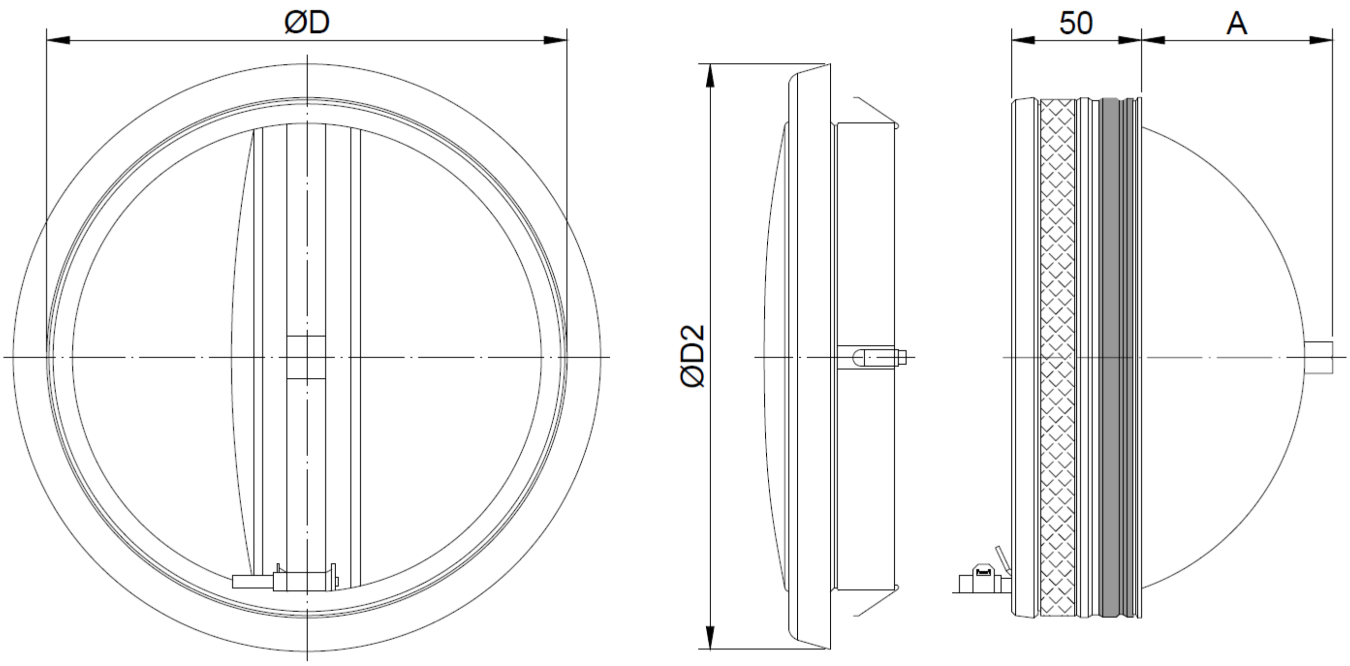
Dimension range

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.



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

mcr FID WING / DIA 200 / WK1 / EIS 120

- EIS 120 – Fire resistance
- WK1 – Additional equipment
- DIA 200 – Diameter
- mcr FID WING – Damper type

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

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)

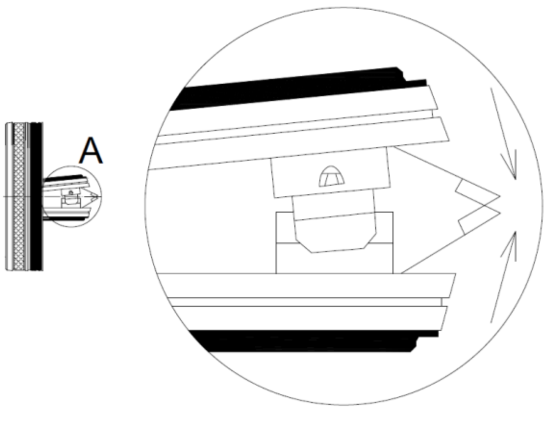
The mcr FID WING cut-off damper may also be installed in partitions with lower fire resistance class In case of such an installation, damper have fire protection equal to the fire protection of the partition, maintaining the smoke tightness criteria.

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.

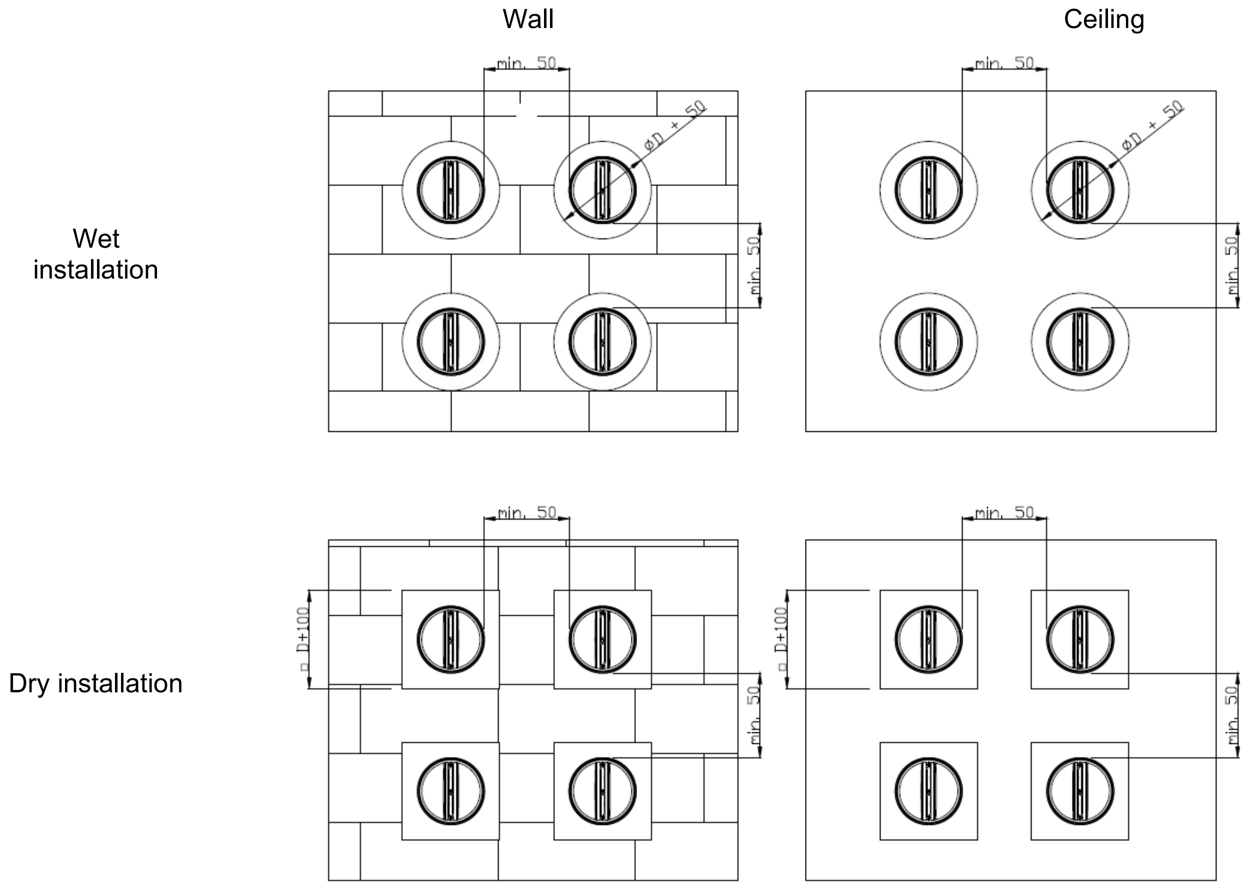
The damper is delivered in the closed position. Before installation, it should be armed.

A



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

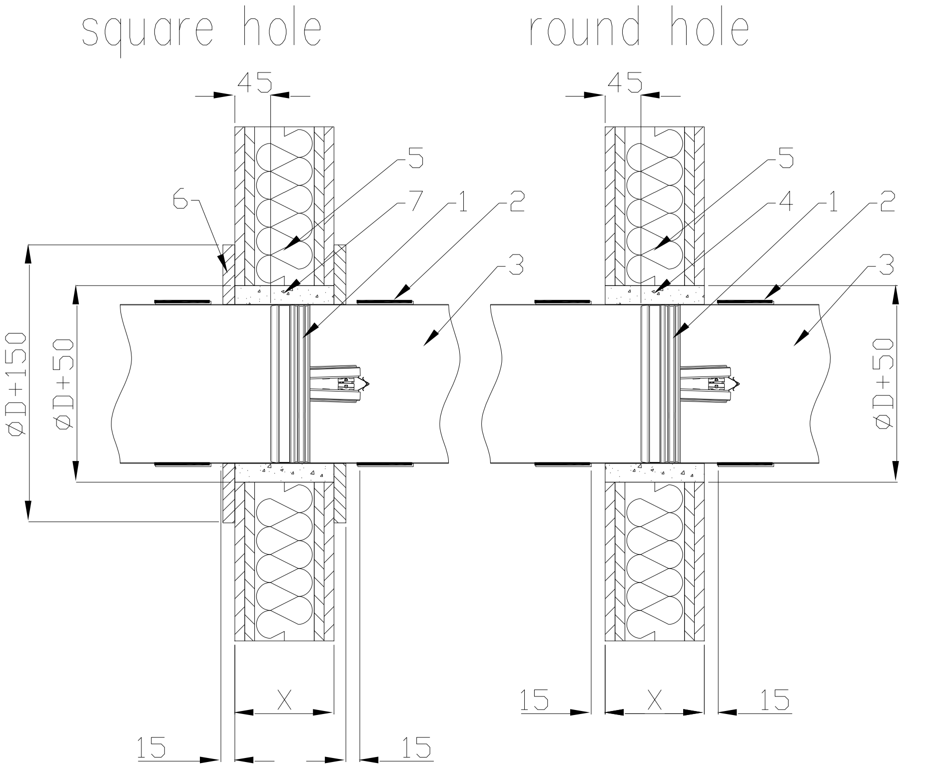


6.3. EMBEDDING / SETTING THE DAMPER

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.

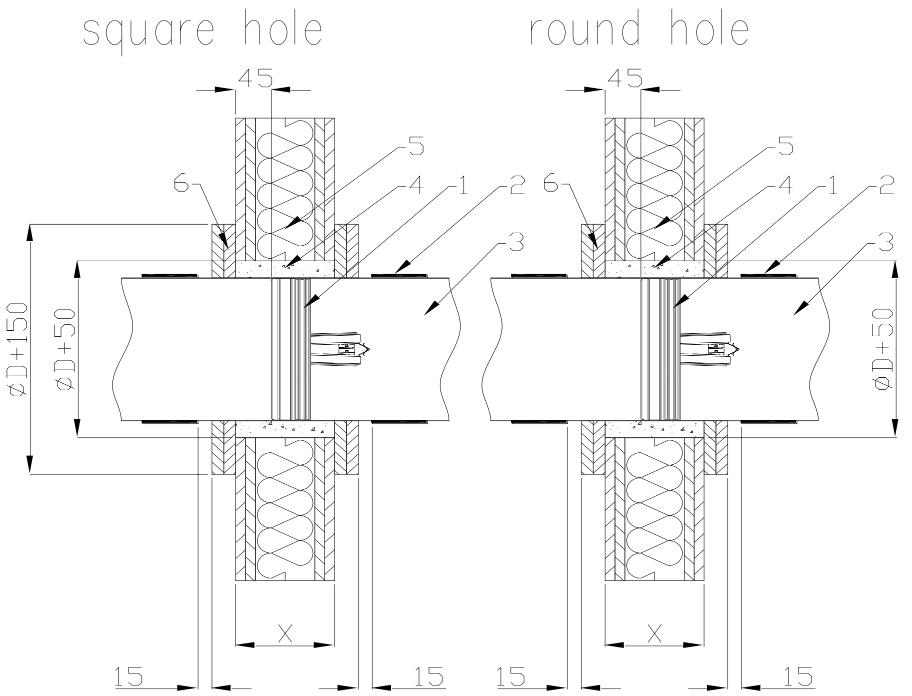


1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar*
5. Drywall
6. The 12,5mm drywall board band
7. Mortar or mineral wool *

X Wall thickness

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.

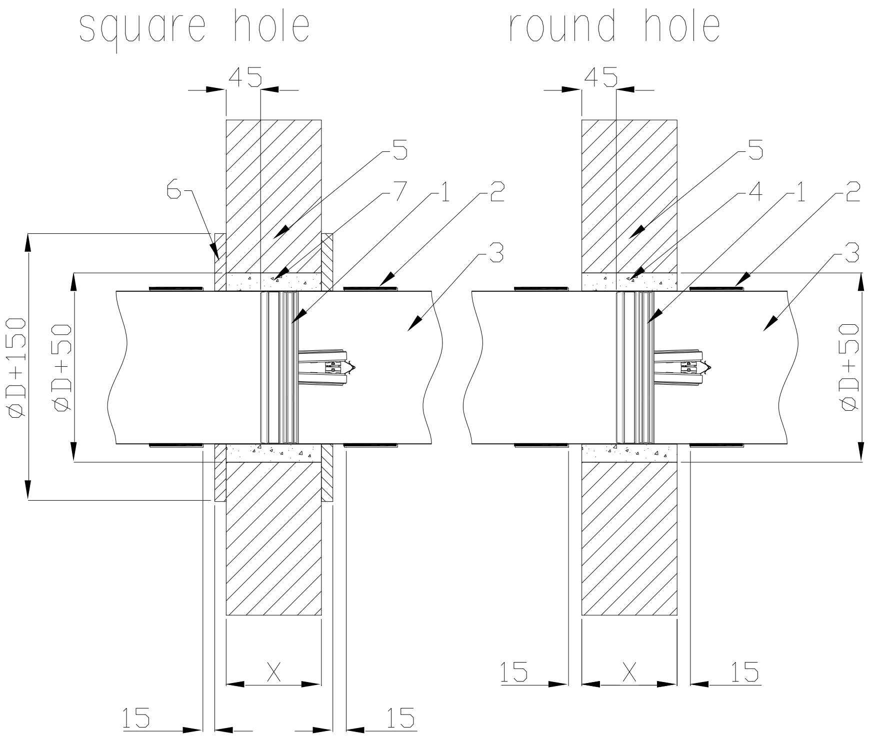


1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar or mineral wool *
5. Drywall
6. The 12,5mm drywall board band

X Wall thickness

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. 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.



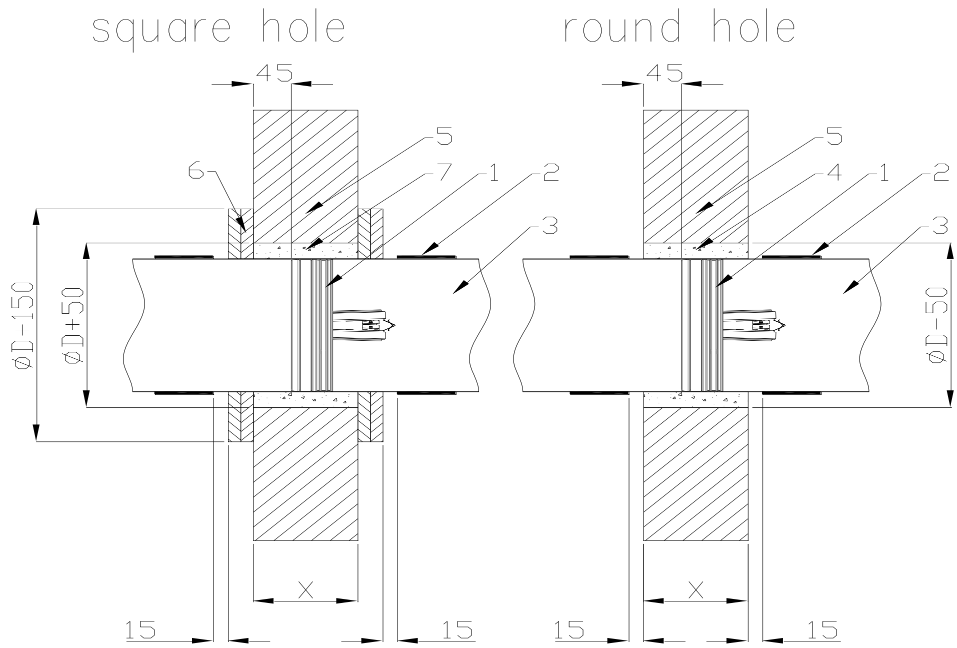
1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar*
5. Rigid walls
6. The 12,5mm drywall board band
7. Mortar or mineral wool *

X Wall thickness

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

* 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.



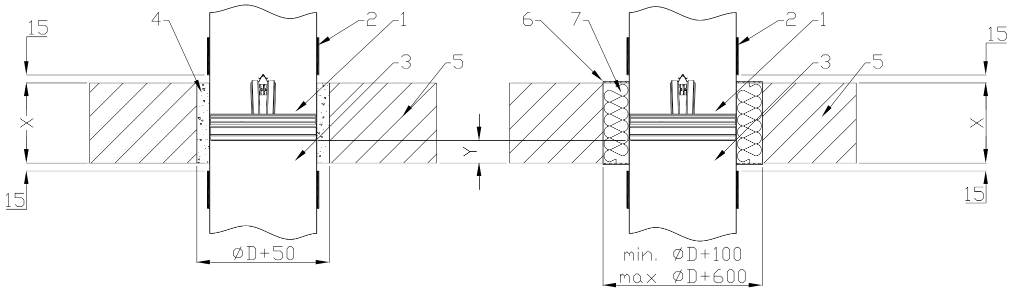
1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar*
5. Rigid walls
6. The 12,5mm drywall board band
7. Mortar or mineral wool *

X Wall thickness

installation of the mcr FID WING damper in rigid 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.

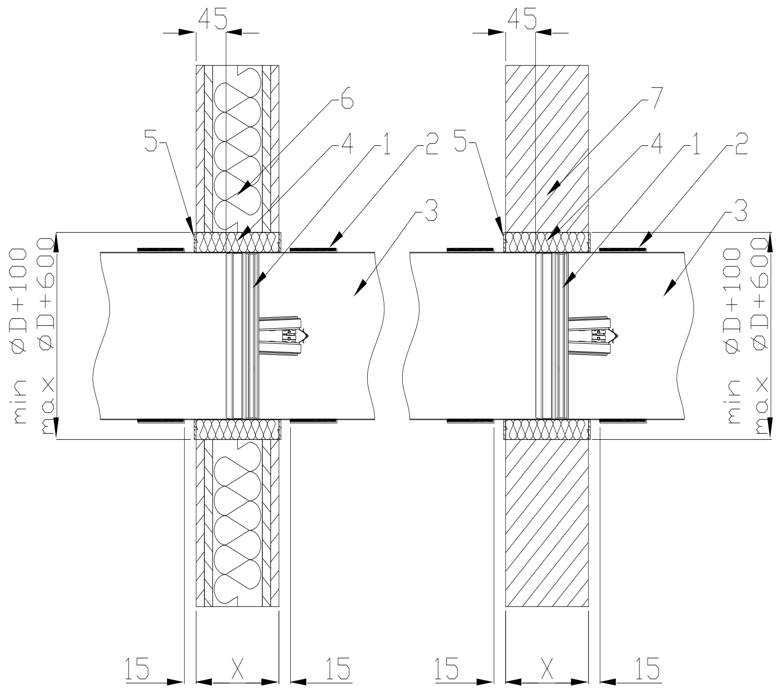


1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar *
5. Ceiling
6. Mortar / fire-resistant paint *
7. Mineral wool *

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.

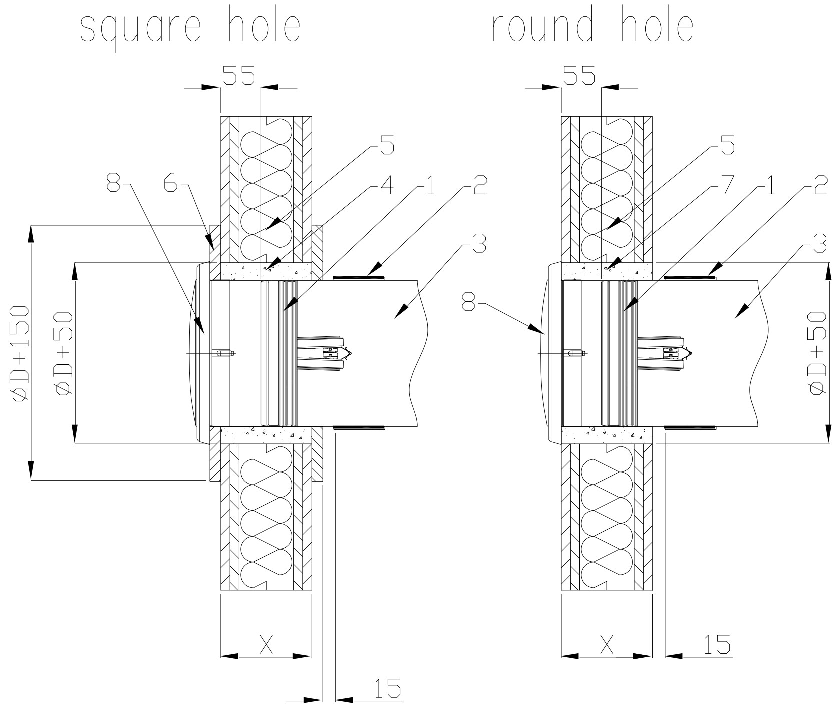


1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mineral wool *
5. Mortar / fire-resistant paint *
6. Drywall
7. Rigid wall

X Thickness of the wall

installation of the mcr FID WING damper in dry systems

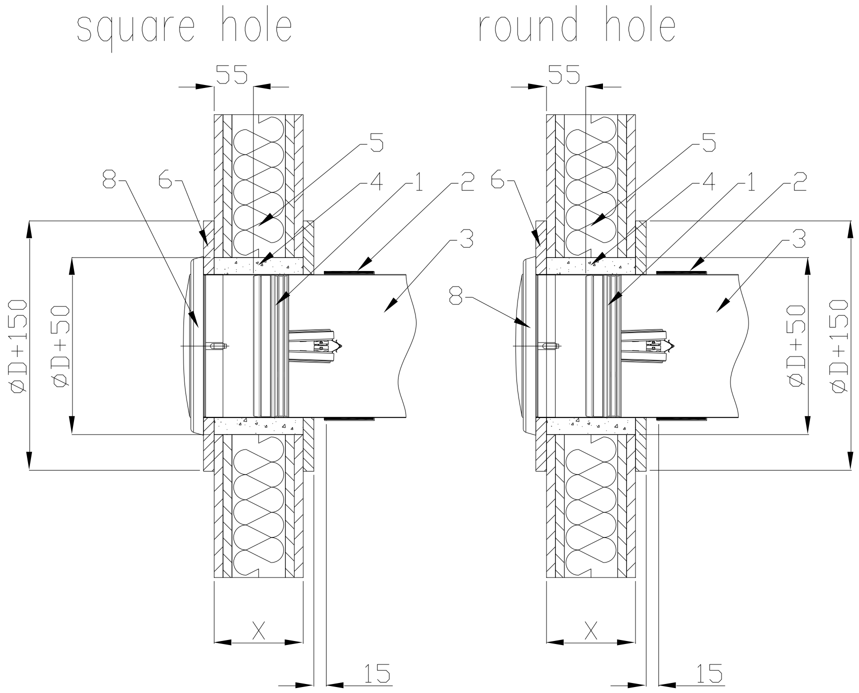
* Recommended installation of the damper in a dry system is based on wool of min. 140 kg / m3 with non-flammability class A1, thickness min. 50mm and securing the joint between the wool and the wall with PROMASTOP E PASTE or HILTI CFS-CT paint and wool with the fire-retardant PROMASTOP E PASTE or HILTI 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.



1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar or mineral wool *
5. Drywall
6. The 12.5mm GK board band
7. Mortar *
8. Air diffuser
X Wall thickness

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

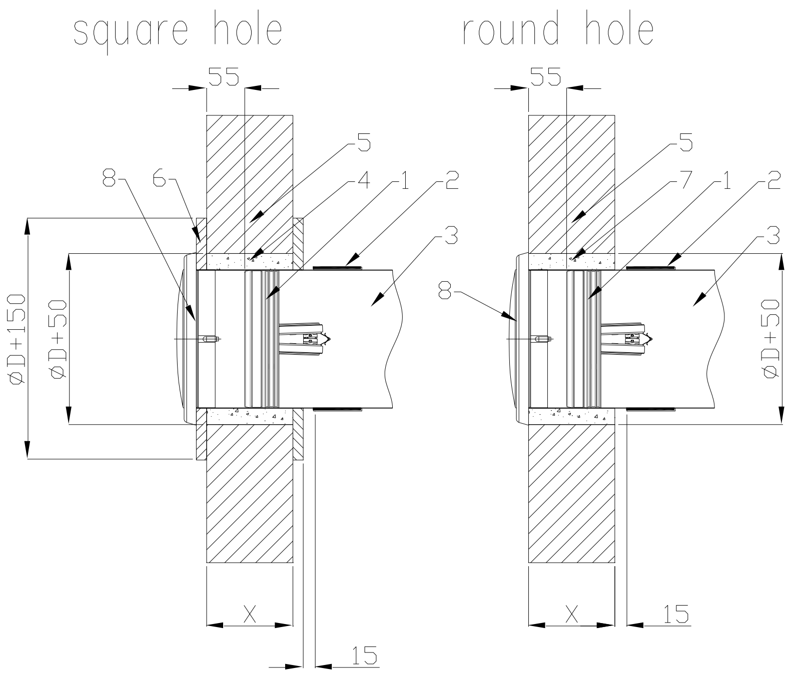
* Recommended installation of the damper in a dry system is based on wool of min. 40 kg / m3 with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.
The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.



1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar or mineral wool *
5. Drywall
6. The 12.5mm GK board band
7. Mortar *
8. Air diffuser
X Wall thickness

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

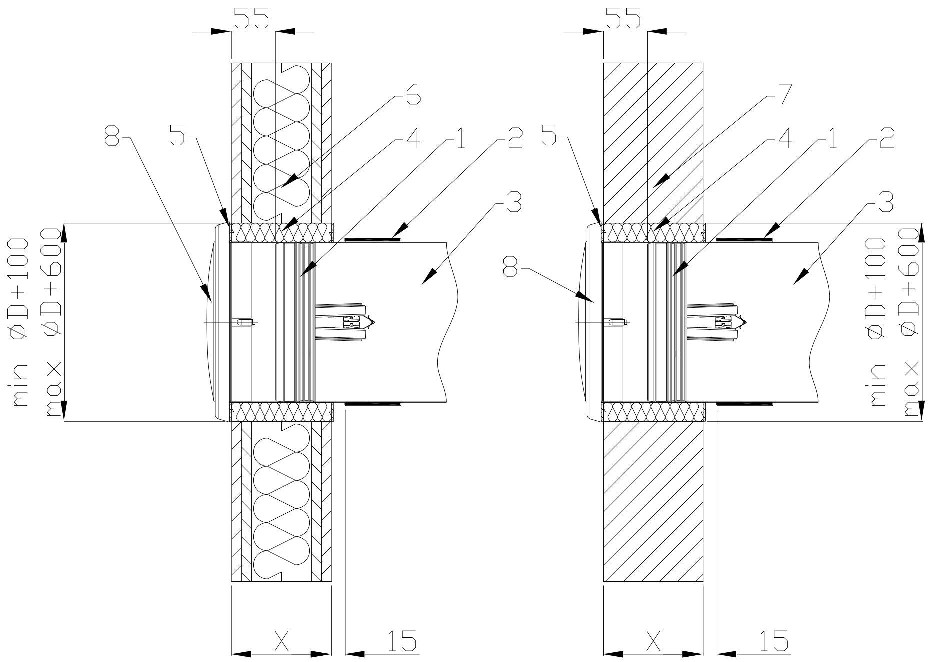
* Recommended installation of the damper in a dry system is based on wool of min. 40 kg / m3 with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.
The manufacturer allows the use of other materials with parameters that 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. Mortar or mineral wool *
5. Drywall
6. The 12.5mm GK board band
7. Mortar *
8. Air diffuser
X Wall thickness

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

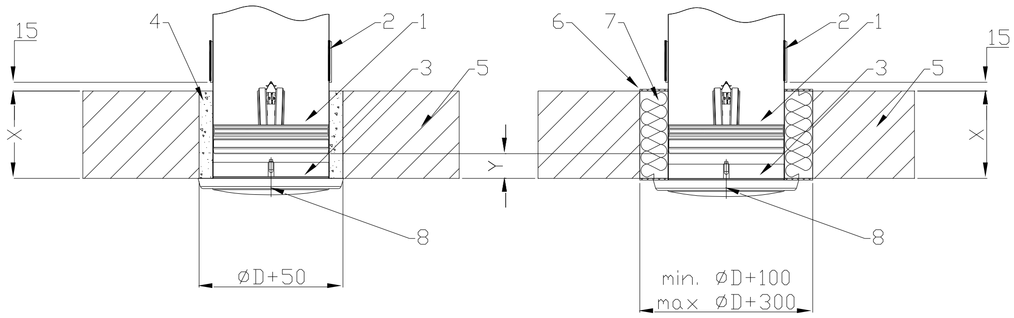
* Recommended installation of the damper in a dry system is based on wool of min. 40 kg / m3 with A1 non-flammability class. The recommended installation of the damper in a wet system is based on a plaster or cement-based mortar.
The manufacturer allows the use of other materials with parameters that confirm and ensure the appropriate class of fire resistance for the applied method of assembly.



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

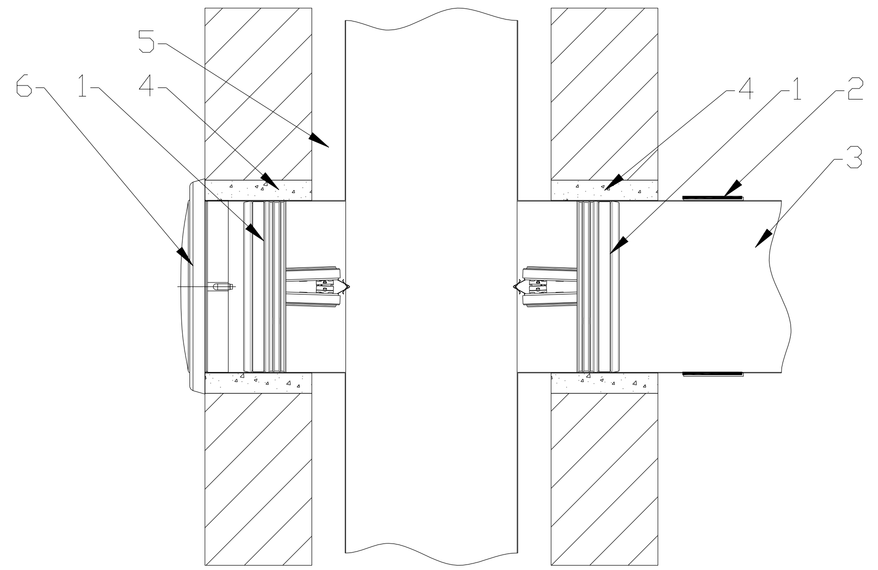


1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Mortar *
5. Ceiling
6. Mortar / fire-resistant paint *
7. Mineral wool *
8. Air diffuser

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.



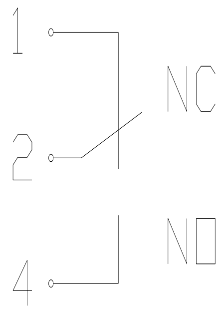
1. mcr FID WING damper
2. Insulating band
3. Ventilation duct
4. Installation clearance filling*
5. Service shaft
6. Anemostat

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 ºC;
- the ambient temperature is between - 20 ºC and + 40 ºC;
- there are no vibrations.

8. MAINTENANCE AND SERVICE (REPAIRS)

Products manufactured by MERCOR L&V 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 L&V’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.
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 L&V 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 L&V provides a 12-month quality guarantee and warranty for the equipment, counting from the date of purchase, unless the contract stipulates otherwise.
2. The purchaser is obliged to check the Products in terms of quality and quantity upon receipt.
3. Any defects, shortages or damage noticed must be entered in the receipt documents or on the consignment note and reported in writing to MERCOR L&V, with all damage to the shipment or product documented with photographs.
4. Reports of damage to the shipment, product or quantity shortages must be sent in writing to MERCOR L&V within 24 hours of the date of receipt of the shipment.
5. Defects not visible at the time of delivery must be reported immediately to MERCOR L&V together with photographic documentation, and reports of quality defects must be made no later than within 5 working days of the date of receipt of the Products.
6. MERCOR L&V reserves the right not to consider the above-mentioned reports in the event of failure to provide (receive) photographic documentation or after the above-mentioned deadlines have been exceeded.
7. Complaints can be made by telephone: 58/341-42-45, by fax: 58/341-39-85, by e-mail: reklamacje@mercor.com.pl or by sending a letter to the following address: MERCOR L&V, ul. Grzegorza z Sanoka 2, 80-408 Gdańsk.
8. If, during the warranty and guarantee period, physical defects covered by the warranty and/or guarantee become apparent, MERCOR L&V undertakes to remove them as soon as possible, counting from the date of receipt of a written notification and delivery of proof of purchase (contract, invoice, delivery document), subject to point 14.
9. MERCOR L&V reserves the right to extend the repair time in the case of complex repairs or repairs requiring the purchase of non-standard components or spare parts.
10. Liability under the warranty and guarantee covers only defects arising from causes inherent in the equipment sold.
11. In the case of defects arising as a result of improper use of the equipment (not in accordance with the technical documentation) or other reasons specified in point 14, the Buyer/warranty holder may be charged with the costs of their removal.
12. The condition for the removal of defects is that the reporting party provides full access to the work site, in particular ensuring: a lift in the case of devices installed at a height of more than 3 m, free access to the rooms where the devices are installed and the necessary inspections, removal of thermal insulation, removal of suspended ceilings, removal of other installations if they prevent free access to the device.
13. If it is not possible to repair the device at the place where it is installed, MERCOR L&V reserves the right to dismantle it, deliver it to the address indicated by MERCOR L&V and reassemble it. The cost of this operation shall be borne by the purchaser/warranty holder.
14. The warranty and guarantee do not cover:
    - damage and failure of devices caused by improper operation (not in accordance with the technical documentation), interference by the user or persons not authorised by MERCOR L&V, lack of periodic technical inspections, failure to perform maintenance activities described in the ‘MAINTENANCE AND SERVICE’ section of this document;
    - damage to equipment caused by reasons other than those attributable to MERCOR L&V, in particular: random events such as torrential rain, flooding, hurricanes, flooding, lightning strikes, power surges, explosions, hail, aircraft crashes, fire, avalanches, landslides and secondary damage resulting from the above causes. Torrential rain is defined as rain with a yield coefficient of at least 4, as determined by the Institute of Meteorology and Water Management (IMiGW). If it is not possible to determine the coefficient referred to in the preceding sentence, the actual condition and extent of damage at the place where it occurred, which will indicate the effect of torrential rain, will be taken into account. A hurricane is considered to be wind with a speed of not less than 17.5 m/s (damage is considered to have been caused by a hurricane if hurricane activity has been confirmed in the immediate vicinity);
    - damage resulting from failure to comply with the obligation to immediately report a discovered defect;
    - deterioration in the quality of coatings caused by natural ageing processes;
    - defects caused by the use of abrasive or aggressive cleaning agents;

- damage caused by aggressive external factors, in particular chemical and biological factors, or whose origin is related to production processes and activities carried out in the facility or in its immediate vicinity, where the equipment was installed;
- parts subject to natural wear and tear during operation (e.g. seals), unless they have a manufacturing defect;
- damage caused by improper transport, unloading or storage of the equipment;
- damage caused by installation that does not comply with the technical documentation and good construction practice;
- devices or their parts in the event of breakage or damage to the nameplate or warranty seals.

15. The warranty and guarantee shall expire with immediate effect if:
    - The buyer/warranty and guarantee beneficiary makes structural changes on their own without prior agreement with MERCOR L&V,
    - periodic technical inspections and maintenance activities were not performed on time or were performed by unauthorised persons or a service provider not authorised by MERCOR L&V, or if the equipment was operated incorrectly,
    - there has been any interference by persons not authorised by MERCOR L&V – apart from activities falling within the scope of normal operation of the equipment.
16. The purchaser/warranty and guarantee holder is obliged to operate the equipment properly (in accordance with the technical documentation) and to carry out periodic technical inspections and maintenance activities in accordance with the rules described in this document in the section ‘MAINTENANCE AND SERVICE’.

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