



FIRE PROTECTION CURTAIN

Type: **MARC-Ok EI120**

with internal electric drive type VIC

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FROM „MAŁKOWSKI-MARTECH” S.A.*



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	INSTRUCTIONS FOR USE, OPERATION AND MAINTENANCE	Revision: 03/2021

1. INTRODUCTION

This Instructions Manual for Type MARC-O E120 fire protection curtain (henceforth the 'fire curtain' or the 'product') features the data and guidance for the fire protection curtain owner/user required to understand the operating principle, application, operation, and maintenance of the fire protection curtain. To ensure long-term, safe use of the product, the user and operating personnel shall fully understand and comply with this Manual.

The use of the product, including its operation, maintenance, servicing, periodic inspection, parts replacement, and repairs shall conform to this Manual.

Keep the Manual and other technical documentation appended to it safe and available to the operators and service technicians.

We reserve the right to continuous verification of the Manual contents and their adaptation to the state of the art. We hope the user understands that the Manual contents can be modified without prior notice. Some of the figures and narrative of this Manual may vary from the actual product, and if so, it is due to continuous improvement necessary due to changes in regulations of law and similar reasons; these variations do not affect the recommendations for use applicable to the product.

If this Manual is lost or damaged, contact our Customer Service and order the same version of the document.

CAUTION!

Failure in compliance with the recommendations and guidelines contained in this Manual will release the manufacturer from all liability and warranty obligations.

The servicing intended to be done by the service technicians and the user is specified further in this Manual. Only the manufacturer's authorized service may attempt assembly, installation, adjustment, parts replacement, repairs, and troubleshooting of this product.

This Manual applies to the standard accessories of the fire protection curtain; the application of optional accessories, if any, is specified in the sales contract for the product.

The fire protection curtain shall be used according to the engineering design developed for the intended installation location, and with consideration of the following:

- The prevailing construction and engineering standards and regulations, of which the particular ones apply:
 - a) Regulation of the European Parliament and of the Council (EU) No. 305/2011 of 9 March 2011 laying down harmonised conditions for the marketing of construction products and repealing Council Directive 89/106/EEC (OJ L. EU L88 of 04.04.2011, as amended);
 - b) Polish Construction Products Act of 16 April 2004 (Dz.U. 2020.215);
 - c) Polish Building Code Act of 7 July 1994 (Dz.U. 2020.1333);
 - d) Polish Act of 13 April 2016 on the Conformity System and Market Surveillance (Dz.U. 2019.554);
 - e) Polish Fire Protection Act of 24 August 1991 (Dz.U. 2020.961/1610);
 - f) Polish Regulation of the Minister of Infrastructure and Construction dated 17 November 2016 and concerning the Practice of Declaration of Performance for and Construction Mark Labelling of Construction Products (Dz.U. 2016.1966);
 - g) Polish Regulation of the Minister of the Interior and Administration dated 7 June 2010 and concerning the Fire Protection of Buildings, Structures, and Land (Dz.U. 2010.109.719, as amended);
 - h) Polish Regulation of the Minister of Infrastructure dated 12 April 2002 and concerning the Technical Requirements for Buildings and Locations Thereof (Dz.U. 2019.1065);
 - i) EN 16034:2014-11 (Harmonised standard), Pedestrian doorsets, industrial, commercial, garage doors and openable windows – Product standard, performance characteristics – Fire resisting and/or smoke control characteristics;
 - j) PN-EN 13501-2:2016-07, Fire classification of construction products and building elements – Part 2: Classification using data from fire resistance tests, excluding ventilation services;



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- k) EN 13241+A2:2016-10 (Harmonised standard), Industrial, commercial, garage doors and gates – Product standard, performance characteristics;
- l) PN-EN 12635+A1:2010, Industrial, commercial and garage doors and gates – Installation and use;
- m) PN-EN 12424:2002 Industrial, commercial and garage doors and gates – Resistance to wind load – Classification;
- The Declaration of Performance;
- These Instructions for Use, Operation and Maintenance.

Pursuant to the EN standard (i) and the Regulation (f), the fire protection curtain is a construction product eligible for System 1 of Assessment and Verification of Constancy of Performance. Based on the Regulation (a), the manufacturer who markets a construction product is required to issue its Declaration of Performance (DoP) and apply a legible CE marking label to the product.

CAUTION!

A copy of the Declaration of Performance and the Warranty Certificate are provided by the manufacturer to the user after the acceptance of the installation/assembly of the fire protection curtain, in accordance with the sales contract (and/or the quotation).

A copy of the Declaration of Performance and the Warranty Certificate for the fire protection curtain is an integral part of this Manual and shown as its Appendices, ref. Section 11 APPENDICES.

The CE marking of the fire protection curtain is placed on its nameplate, ref. Section 10 IDENTIFICATION.

The valid list of authorized providers of product installation, service inspections, and maintenance (complete with assessment and certification of proper performance of these services) is available on the official website of the fire protection curtain manufacturer (www.malkowski.pl).

2. APPLICATION SCOPE AND PREREQUISITES

2.1 INTENDED USE

Type MARC-Ok EI120 fire protection curtain is a vertical, moving fire partition intended as the closure of a passageway between fire partitioned zones inside of industrial buildings, warehouse rooms, technical access floors in office buildings, hospitals, and other public buildings. It can also be used as a window curtain installed on the indoor or outdoor of window and door openings, designed to protect the interior of the listed types of buildings.

Type MARC-Ok fire protection curtain in the basic version is manufactured in the declared use category C0 (with the number of cycles 1 to 499 per EN 16034:2014-11) and wind load resistance class 1 (per to PN-EN 12424:2002) or **2** in the case of a curtain on the outside of the building – provided that the manufacturer has been notified in writing of this intended use.

On buyer's request, the MARC-Ok EI120 fire protection curtain can be manufactured in the declared use category **1** (500 to 9,999 cycles) or **2** (10,000 to 49,999 cycles) and wind load resistance class **2**.

2.2 NON-INTENDED USE

Type MARC- EI120 fire protection curtain is not intended for the following applications:

- In Ex-zones (explosion hazard areas), unless qualified as intended for the application following suitable modifications by the manufacturer;
- In environmental conditions with presence of salinity, salts, acids, alkali, and/or other aggressive chemical (including cement and lime) which trigger corrosion (the maximum permitted relative humidity is 80% for this product);
- When exposed to strong electromagnetic fields (> 0.1 T);
- In areas with wind exposure with a force higher than the wind load resistance class stated on the nameplate and a copy of the Declaration of Performance.



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CAUTION!

The PN-EN 12424:2002 wind load resistance has been determined for the closed product. Operation of the product in high winds can be hazardous!

Never attempt to:

- have the fire protection curtain assembled by a contractor who has not been authorized by the product manufacturer;
- repair, troubleshoot, improve, alter, modify, or replace or retrofit components or parts outside of the specification limits shown in this Manual and/or without a prior written authorization from the fire protection curtain manufacturer (ref. the manufacturer's authorization matrix in Section 6 TECHNICAL SPECIFICATION);
- install any parts or components which are non-genuine or non-original or not specified and/or authorized by the fire protection curtain manufacturer;
- operate the fire protection curtain which is defective, out of order or partially or wholly incompatible with the specified properties or intended use (due to damage from fire, a building collapse, etc.);
- operate the fire protection curtain without the required operator's inspections, periodic service inspections, and/or maintenance done as specified in this Manual (ref. Section 8 INSPECTION, MAINTENANCE, AND REPAIRS) or as specified in the custom provision of the sales contract concluded between the user and the manufacturer of the fire protection curtain;
- operate the fire protection curtain with mechanical damage or other defects caused by misuse, especially if it has been stopped in an emergency and the reason has not been cleared;
- operate the fire protection curtain if it or any of its components have been found to work abnormally and the relevant supervisor, maintenance team and the manufacturer's technical service have not been notified;
- operate the fire protection curtain with its nameplate defaced or removed;
- service or repair the fire protection curtain when its components are in motion;
- walk, run, or drive through the fire protection curtain in motion;
- transport (lift, haul or lower) any materials or people with the fire protection curtain;
- wash or clean the fire protection curtain with formulas that are corrosive and/or based on any acid or solvent, or pressure clean with any liquid (see Section 8.4 CLEANING AND LUBRICATION).

Failure to comply with the foregoing restrictions will have the user lose all liabilities and warranty obligations of the manufacturer towards the former, including loss of the declared fire resistance and the DoP issued by the manufacturer.

CAUTION!

The manufacturer shall be released from their liability and warranty obligations:

- if the product has been installed by a contractor not authorised by the manufacturer;
- for all natural, whether partial or complete, wear and tear resulting from the characteristics or intended use of the fire protection curtain (which includes exposure to fire);
- if the user or any third party alters, modifies, or replaces components or structural features of the fire protection curtain without coordination and prior written authorisation of the manufacturer;
- for misuse or failure in routine maintenance of the fire protection curtain or its components as required by this Manual;
- for failure in the periodic inspections required in this Manual or any binding, custom agreement with the manufacturer or its authorized technical service, if the failure has caused damage and other defects (including the defacement or removal of the nameplate).

In the foregoing circumstances the manufacturer does not warrant that the declared fire resistance of the product will be maintained any longer.



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To ensure reliable operation and compliance with the warranty terms and conditions, please contact MAŁKOWSKI-MARTECH S.A. or its commercial partner for product training. The purpose of the training is to provide the necessary information about proper use and, among others, the requirements for operating personnel.

2.3 OHS RECOMMENDATIONS

The operation of the fire protection curtain requires compliance with the prevailing general occupational health and safety laws, including legal prerequisites of fire protection and timely inspections, servicing, maintenance, parts replacement, and repairs which are specified in the requirements. Do not operate the fire protection curtain if it has been stopped in an emergency until the root cause is cleared.

Follow the prevailing regulations of law for waste generation control and proper disposal during all work on the fire protection curtain. Special caution is required that during cleaning/washing, maintenance, replacement of parts or repairs of the fire protection curtain no harmful substances are released into the soil or sewers, like lubricants, solvent-borne cleaning agents, etc. These substances must be collected, contained and shipped for legal disposal in suitable containers.

2.4 SERVICE PERSONNEL REQUIREMENTS

The servicing of the fire protection curtain requires no professional license. The fire protection curtain shall be operated and serviced by an operator (e.g. a maintenance technician) designated by the fire protection curtain user. The designated operator requires operating training from the fire protection curtain manufacturer's representative or the manufacturer's authorized installation contractor; once completed, the operating training must be certified as such in writing.

The user shall ensure that the operating personnel is and remains trained in occupational health and safety, including the possible risks of this product, the job safety instructions, this Manual, and all instructions attached to this document.

3. PACKAGING, STORAGE, AND TRANSPORT

Depending on the sales contract/quotation provisions agreed to with the manufacturer, the fire protection curtain can be collected from the manufacturer's warehouse or shipped and delivered by the manufacturer to the installation site against a written proof of acceptance of the product quantity and quality on the Goods Issue Note.


The fire protection curtain is delivered in assemblies and components to be assembled and installed at the user's site. Each assembly and component is separately protected against mechanical damage for the duration of shipping as follows:

- The curtain sheet is wound on the shaft and the assembly is wrapped in stretch film and on a pallet with mineral wool or EPS spacers;
- The guide rails, fascias, etc. parts are placed on a pallet with spacers made of mineral wool or EPS;
- Each of these palets (or load unit) is wrapped in film and bound with polyester straps over square timber pieces for protection of the product's edges;
- small accessory items, like fasteners, etc. are packed in a separate cardboard box;
- each delivery packaging is labelled with the packing list of the assemblies and components, showing the customer's purchase order, the assembly number, the fire protection curtain type, and the DoP reference number.

Transport, storage, and assembly/installation of the fire protection curtain are regulated as follows:

- The assemblies, components, and single parts of the fire protection curtain must be properly secured in transport (with lashing, straps, spacers, etc.);
- Following the unloading from delivery and for the duration of storage, store all parts of the fire protection curtain in a sheltered room, away from sources of damage, dirt, and the elements (like snow and rain);



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- Do not step, walk, or drive over any assembly, component, or part of the fire protection curtain; do not place any loads, tools, or any chemicals on these items; do not lead on these items; do not attempt anything unspecified here which might contribute to damage and reduction of value/quality of the fire protection curtain items.

4. ASSEMBLY AND INSTALLATION

The electrical and mechanical installation and assembly of the fire protection curtain shall only be done by trained personnel of the manufacturer or its authorized installation contractors.

Fire protection curtain pre-installation/assembly procedure:

- Before attempting the work, inspect all delivery items for incorrect quantity and damage during transport or storage;
- Verify conformity of the installation conditions against the purchase order / sales contract drawing;
- All connections and joints must be carefully made and assembled and re-checked for proper tightening and fit.

Install the fire protection curtain in compliance with the INSTALLATION INSTRUCTIONS (ref. Section 11 APPENDICES), and follow with the installation work inspection and functional testing.

The acceptance of the installed fire protection curtain is to be done in witness of the buyer's authorized and the manufacturer's authorized representatives (it can be witnessed on behalf of the manufacturer, by the authorized installation contractor) who will certify the acceptance in the Periodic Inspection and Maintenance Log (appended to this Manual) or in a separate installation acceptance certificate.

4.1 MECHANICAL INSTALLATION

The assembly/installation of the mechanical components of the fire protection curtain shall proceed in compliance with the INSTALLATION INSTRUCTIONS (ref. Section 11 APPENDICES), which are dedicated engineering documents intended only for the installation contractor's foremen who hold the relevant installation certificates issued by the fire protection curtain manufacturer.

CAUTION!

For proper handling, lifting, and fastening of the fire protection curtain structure, ensure proper OHS conditions and the work equipment required for the tasks, like ladders of suitable height, fall arrest harnesses, lifelines and other gear, e.g. slings, lifting beams, a hoist, or a MEWP with a lift capacity and outreach sufficient for the weight and installation height of the product's structure.

The sales contract specifies the party required to secure the work equipment for the assembly, installation, and periodic inspections/maintenance processes.

4.2 ELECTRICAL INSTALLATION

The configuration of the electrical accessories for the fire protection curtain depends on the purchase order specifications and their installation must conform to the engineering documentation (for the installation contractor) appended to this Manual.

The electrical wiring diagram is shown inside of the control panel cover and in the electrical accessories installation manual appended to this Manual (ref. Section 11 APPENDICES).

CAUTION!

The fire protection curtain user shall prepare the electrical power connection at the fire protection curtain installation site for this product. The electrical power connection shall have compatible electrical and protection ratings to permit wiring to the fire protection curtain, its functional testing, and normal operation.

The electrical power connection must be wired to the fire protection curtain electrical accessories, tested, and repaired whenever it fails by a suitably licensed professional electrician only.



5. OPERATING PRINCIPLE OF THE ELECTRICAL ACCESSORIES KIT

The primary function of the electrical accessories (ref. Sections 6.6 to 6.9 ELECTRICAL ACCESSORIES KIT) is to automatically operate the fire protection door to technically close (unwind and descend) whenever a fire hazard is detected and signalled. A detailed description of the structure, installation and operation of the fire alarm and detection accessories delivered with the fire protection curtain is included in the electrical accessories installation manual appended to this Manual.

The electrical accessories kits for the fire protection curtain are also provided with electric batteries which, in the event of a mains power failure, allow the curtain to be unwound and closed and permit at least one opening cycle (for contingency, if the fire alarm was false). Electrical mains power is required to perform service inspection or maintenance.

Manual control of opening and closing the fire protection curtain is possible with the remote control panel shown below.

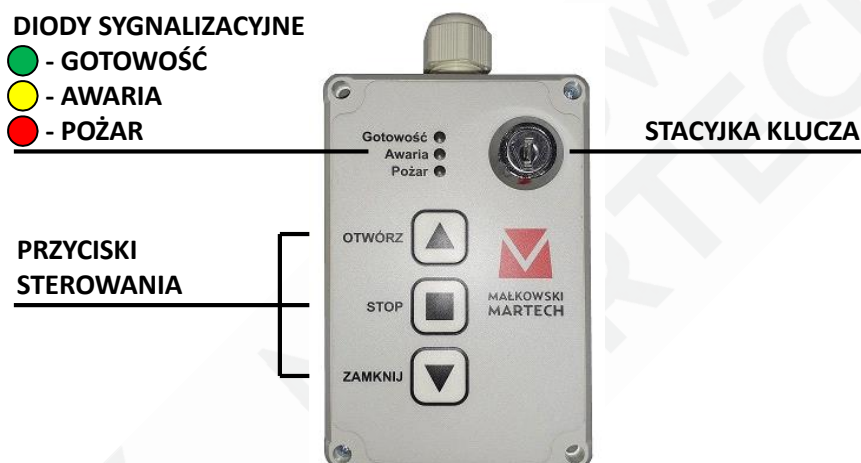


Fig. 1 - Remote control panel of Type MARC-Ok fire protection curtain

Diody sygnalizacyjne	LED indicators
Gotowość	Ready
Awaria	Failure
Pożar	Fire
Przyciski sterowania	Control buttons
Stacyjka klucza	Key switch
OTWÓRZ	OPEN
STOP	STOP
ZAMKNIJ	CLOSE

Manually controlled closing and opening of the fire protection by operation of the electric drive motor is possible only with the key in the key switch.



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6. TECHNICAL SPECIFICATIONS

Product

Specification	Value	Notes
Fire resistance class	EI ₁ 60, EI ₂ 120, EW120	-
Closing speed	< 0.15 m/s	-
Operation (manual / powered)		Powered only (emergency manual opening is possible if provided for the product)
Curtain sheet colour	Similar to RAL 7035	-
Shaft box and guide rail fascia colour	Galvanized / RAL 7035, 9002, 9010	Any in the RAL palette on request

Electric drive unit

Drive unit type	Voltage / current	Notes
VIC-0403 tubular motor	24 V DC / 2.3 A	Power drive application dependent on the product size
VIC-0423 tubular motor	230 V AC / 1.05 A	
VIC-0426 tubular motor	230 V AC / 1.8 A	
VIC-0428 tubular motor	230 V AC / 3.2 A	
VIC-0429 tubular motor	230 V AC / 3.9 A	
VIC-0430 tubular motor	230 V AC / 4.4 A	
VIC-0431 tubular motor	230 V AC / 5.3 A	
VIC-0101 tubular motor	24 V DC / 6.3 A	
VIC-0102 tubular motor	24 V DC / 5.0 A	
VIC-0103 tubular motor	24 V DC / 6.8 A	
VIC-0122 tubular motor	230 V AC / 24 V DC / 1.2 A	Gravity-operated drive units; power drive application dependent on the product size
VIC-0123 tubular motor	230 V AC / 24 V DC / 1.9 A	
VIC-0124 tubular motor	230 V AC / 24 V DC / 1.9 A	



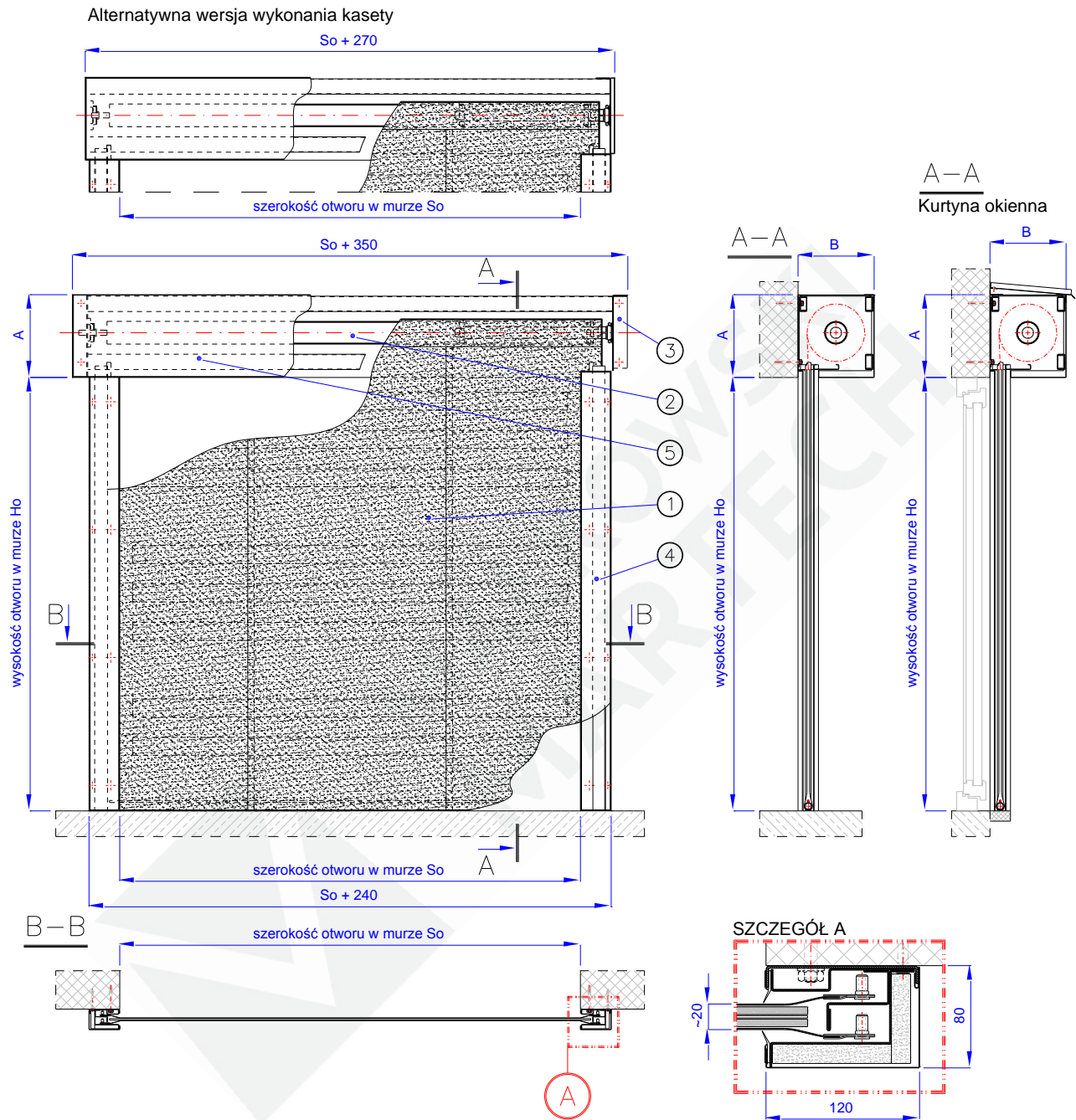


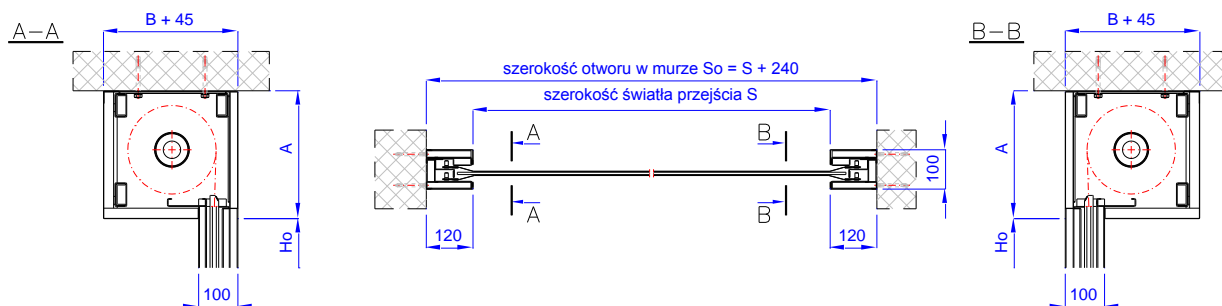
Fig. 2 – Type MARC-R EI120 fire protection curtain

1 – Curtain; 2 – Winding shaft; 3 – Shaft bracket; 4 – Guide rail; 5 – Fascia cover assy (shaft box)

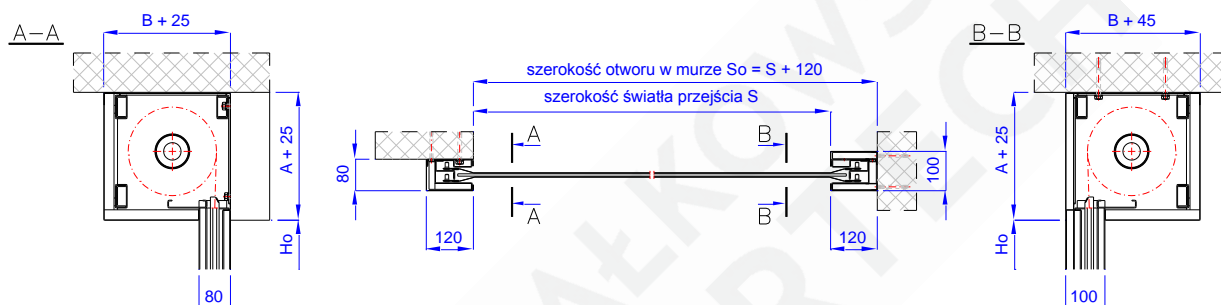
NOTE: Electric accessories are optional, see Sections 6.6 – 6.9

Alternatywna wersja wykonania kasety	Alternative shaft box version
Kurtyna okienna	Window curtain
szerokość otworu w murze So	Wall opening clear width, So
wysokość otworu w murze Ho	Wall opening clear height, Ho
Szczegół A	Detail A

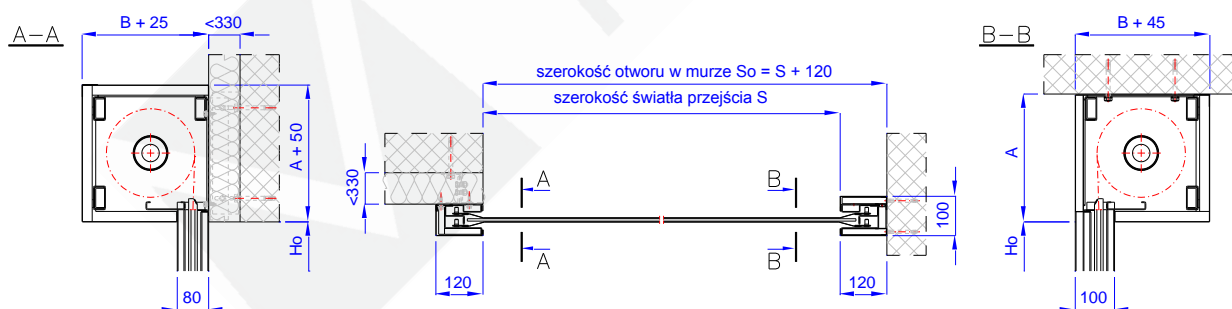



Fig. 3 – Type MARC-R EI120 fire protection curtain
 – corridor-closure installation (between parallel walls)

Szerokość otworu w murze $S_o = S + 240$	Wall opening clear width, $S_o = S + 240$
Szerokość światła przejścia S	Clear passage width, S


Fig. 4 – Type MARC-R EI120 fire protection curtain
 – mixed installation

Szerokość otworu w murze $S_o = S + 120$	Wall opening clear width, $S_o = S + 120$
Szerokość światła przejścia S	Clear passage width, S


Fig. 5 – Type MARC-Ok EI120 fire protection curtain
 – mixed installation, single-sided on spacers

Szerokość otworu w murze $S_o = S + 120$	Wall opening clear width, $S_o = S + 120$
Szerokość światła przejścia S	Clear passage width, S

List of components for type MARC-Ok EI120 fire protection curtain

#	Designation	Quantity	Drawing no./ Part no. / Standard
1	Curtain sheet	1	6 – MARC-Ok120-01.01.00
2	Winding shaft	1	7 – MARC-Ok120-01.02.00



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3	Shaft bracket	2	8 – MARC-Ok120-01.03.00
4	Guide rail	2	9 – MARC-Ok120-01.04.00
5	Fascia cover assy (shaft box)	1	10 – MARC-Ok120-01.05.00

LIST OF ANCHORING FASTENERS FOR THE SHAFT BRACKETS

NOTE: 1. The standard set of fasteners supplied with the product includes the hardware for installation on concrete (C20/25) and reinforced concrete walls.

2. It is possible to use different fasteners provided if they are marketed with the CE marking or the Polish Construction Mark "B" and have the same or better strength and the same intended use.

#	Anchoring fasteners	Notes
A. REGULAR/PRESTRESSED CONCRETE HOLLOW CORE SLABS		
A.1	Hollow core slab anchor Fischer FHY; Hilti HKH	- the size and type are specified for the transmitted loads;
A.2	Sleeved anchor e.g. Fischer EA II; Hilti HKD	
B. WALLS, FLOORS, AND BEAMS OF SOLID/RF CONCRETE		
B.1	Bolt anchor e.g. MKT BZ; Fischer FAZ II; Hilti HST3	- the size and anchoring depth are specified for the transmitted loads;
B.2	Sleeved anchor e.g. Fischer EA II; Hilti HKD	
B.3	Threaded anchor e.g. Fischer FBS II; Hilti HUS HR/CR	
B.4	Chemical anchoring with threaded bars e.g. MKT VM Multi-plus; Fischer FIS SB	- Min. bar size M8 (DIN 976), min. strength class 8.8 (PN-EN ISO 898-1)
C. MASONRY WALLS OF CELLULAR CONCRETE UNITS (e.g. Ytong, Solbet, or Termalica)		
C.1	Threaded anchor e.g. Fischer FBS II; Hilti HUS HR/CR	- The size and anchoring depth are specified for the transmitted loads;
C.2	Fischer FPX M8-I / M10-I / M12-I anchor	
C.3	Chemical anchoring with threaded bars e.g. MKT VM Multi-plus; Fischer FIS V/FIS P	- Min. bar size M8 (DIN 976), min. strength class 8.8 (PN-EN ISO 898-1)
C.4	Through-and-through fastening with threaded bars	- DIN 976 bar; the size is specified for the transmitted loads; min. strength class 8.8 (PN-EN ISO 898-1) - PN-EN ISO 4032 nut, min. strength class 8; - PN-EN ISO 7093 wide washer 200 HV;
D. SOLID MASONRY WALLS (e.g. concrete units, sand lime blocks, solid bricks) OR HOLLOW MASONRY WALLS (e.g. slotted hollow bricks, round hollow core bricks, Porotherm)		
D.1	Chemical anchoring with threaded bars e.g. MKT VM Multi-plus; Fischer FIS V/FIS P	- Min. bar size M8 (DIN 976), min. strength class 8.8 (PN-EN ISO 898-1)
D.2	Threaded anchor e.g. Fischer FBS II; Hilti HUS HR/CR	- the size and anchoring depth are specified for the transmitted loads;
D.3	Through-and-through fastening with threaded bars	- Ref. C.4 – the washers need to be replaced; - PN-EN ISO 4079 washer, 200 HV;
E. FIRE-PROOFED STEEL STRUCTURES AND FIRE STUD WALLS ¹⁾		
E.1	Steel sheet screws e.g. Hilti S-MD; Stalco WS / FD / FM; Etanco GT	- min. St 4.8 x 25 (DIN 7504); - The size is specified for the transferred loads



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E.2	Threaded fastening	- PN-EN ISO 4014 / 4017 bolt; the size is specified for the transferred loads; min. strength class 8.8 (PN-EN ISO 898-1) - PN-EN ISO 4079 washer, 200 HV; - PN-EN ISO 4032 nut, min. strength class 8;
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1) – The inner steel profiles must withstand the static and dynamic loads of the fire protection curtain installation and operation.

LIST OF ANCHORING FASTENERS FOR THE GUIDE RAILS²⁾

F. RF WALLS, CELLULAR CONCRETE MASONRY WALLS, AND HOLLOW OR SOLID MASONRY WALLS		
F.1	Steel wall plug (frame anchor)	- M8; M10; - Min. length 72 mm;
F.2	Plastic frame anchor plug, Hilti HRD-CR	- Size 8; 10 - Min. length 60 mm;

2) – All hardware listed in B, C, D, and E may also be used.

6.1 CURTAIN SHEET

The curtain sheet is the primary component of the fire protection curtain. When closed (unwound from the shaft), it forms a sealed, integral partition with the fire resistance rating of EI120.

The curtain sheet consists of five layers, with two identical outer layers approximately 1.5 mm thick, type FM1D, two identical inner layers approximately 6 mm thick, type MH-6, and the core layer approximately 2.0 mm thick, type FM2D. The total curtain sheet thickness is approx. 20 mm.

The top edge of the curtain sheet is attached to the winding shaft with steel self-drilling screws. Inside the bonded materials of the curtain sheet and along the entire clear opening width plus 30 mm from each side edge is a counterweight unit made from a dia. 30 mm steel bar.

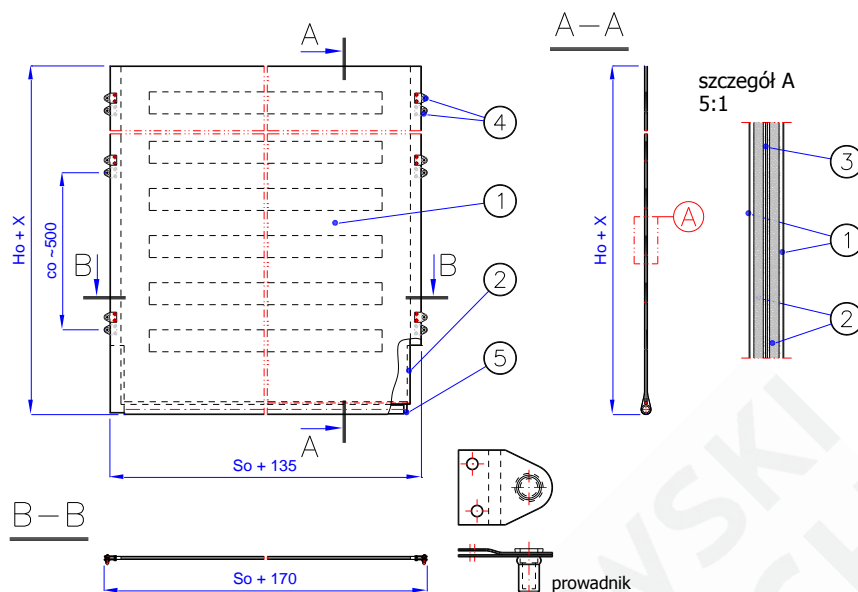
The vertical edges of the curtain sheet carry running shoes made of M6 x 20 rivet nuts and mounting plates which run inside of the guide rail profiles.

Curtain sheet specifications

Specification	U.m.	Value	Notes
Width / height / thickness	mm	$H_o^{1)} + X / S_o^{2)} + 135 / 20$	Dimension X depends on the diameter of the winding shaft
Colour	-	grey, similar to RAL 7035	-
Quantity	pcs.	1	-
Total weight	kg / m ²	9.5	-

1) – Door (construction partition) clear opening height; 2) – Door opening clear width




Fig. 6 - MARC-Ok120-01.01.00 [Curtain sheet]

1 – Outer layer; 2 – Inner cladding layer; 3 – Core layer; 4 – Running shoe; 5 – Counterweight bar

Szczegół A	Detail A
prowadnik	Running shoe

Curtain sheet: list of components

#	Designation	Fig.	Replacement / Repair			Notes
			U ¹⁾	A ²⁾	P ³⁾	
1	Outer layer	2	-	-	YES	-
2	Inner cladding layer	1	-	-	YES	-
3	Core layer	2	-	-	YES	-
4	Running shoe	2*	-	YES	YES	* - per each side, ca. every 500 mm
5	Counterweight bar	1	-	YES	YES	-

1) – Done by the user, 2) – Done by the authorized service, 3) – Done by the manufacturer

CAUTION! If the parts to be serviced by manufacturer only is replaced by anyone else, it will immediately void the CE marking of the product and the product's performance, including the fire resistance rating.

6.2 WINDING SHAFT

The curtain sheet is fastened to the winding shaft. The shaft rotates in either direction to wind or unwind and this open or close the fire protection curtain, respectively. The winding shaft is a steel tube sized 88.9 x 3.6; 127.0 x 4.5; 159.0 x 4.5; 244.5 x 7.1; or 323.9 x 8.8 – depending on the size of the fire protection curtain. One end of the shaft ends with a neck to be fitted in an UCF series self-aligning bearing bolted to the shaft bracket. The other end of the shaft has the tubular drive installed inside which is fastened to the opposite shaft bracket via a dedicated motor mount.



Winding shaft specifications

Specification	U.m.	Value	Notes
Length (shaft tube)	mm	$So^{1)} + 80$	-
Diameter	mm	88.9, 127, 159, 244.5, 323.9	Depends on the door size
Quantity	pcs.	1	-
Total weight	kg/m	8.5 - 75	Depends on the tube type

1) – Door (partition) clear width

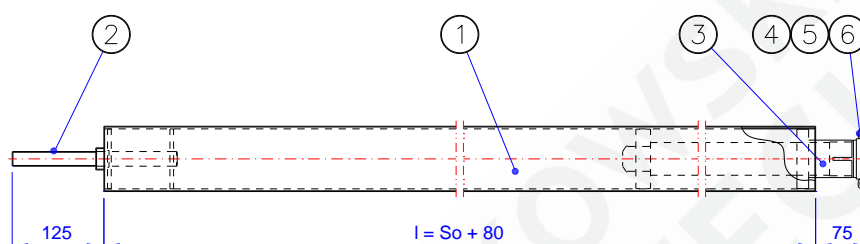


Fig. 7 - MARC-Ok120-01.02.00 [Winding shaft]

1 – Shaft tube; 2 – Neck; 3 – VIC drive unit; 4 – M6x16 bolt; 5 – M6 nut; 6 – 6.1 spring washer

Winding shaft: list of components

#	Designation	Fig.	Replacement / Repair			Notes
			U ¹⁾	A ²⁾	P ³⁾	
1	Shaft tube	1	-	YES	YES	-
2	Neck	1	-	YES	YES	-
3	VIC tubular drive unit	1	-	YES	YES	The type depends on the door size
4	M6 x 16 hex head bolt	4	-	YES	YES	PN-EN ISO 4017 / DIN 933, class 8.8
5	M6 hex nut	4	-	YES	YES	PN-EN ISO 4032, class 8
6	6.1 mm spring washer	4	-	YES	YES	DIN 127

1) – Done by the user, 2) – Done by the authorized service, 3) – Done by the manufacturer

CAUTION! If the parts to be serviced by manufacturer only is replaced by anyone else, it will immediately void the CE marking of the product and the product's performance, including the fire resistance rating.

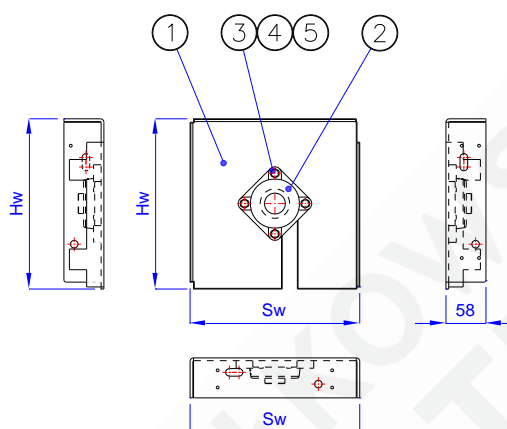
6.3 SHAFT BRACKET

The shaft brackets are the mounts for the winding shaft to the wall or the separating floor underside and supports for the fascia guard assembly. The MARC-Ok fire protection curtain includes two shaft brackets made of 4.0 mm thick galvanized steel sheet, PN-EN 10346:2015-09 grade DX51D+Z275. The UCF self-adjusting bearing in a cast iron mount is attached to the non-driven end with washers and bolts. The driven end shaft bracket has the VIC electric drive motor attached via a dedicated motor mount. The type of anchoring fasteners depends on the material/type of the installation surface. See the table on p. 12 for the list of anchoring fasteners.



Shaft bracket specifications

Specification	U.m.	Value	Notes
Width / height	mm	250 x 250 – 600 x 600	Depends on the door size
Thickness	mm	58	-
Quantity	pcs.	2	-
Total weight	kg / piece	2.30 – 13.0	Depends on the bracket size


Fig. 8 - MARC-Ok120-01.03.00 [Shaft bracket]

1 – Shaft bracket plate; 2 – UCF self-adjusting bearing; 3 – M10x30 bolt; 4 – M10 nut; 5 – 10.2 spring washer

Shaft bracket: list of components

#	Designation	Fig.	Replacement / Repair			Notes
			U ¹⁾	A ²⁾	P ³⁾	
1	Shaft bracket plate	2	-	YES	YES	-
2	UCF self-adjusting bearing	1	-	YES	YES	For the NDE bracket only
3	M10 x 30 hex head bolt	4	Yes	YES	YES	PN-EN ISO 4017 / DIN 933, class 8.8
4	M10 hex nut	4	Yes	YES	YES	PN-EN ISO 4032, class 8
5	10.2 mm spring washer	4	Yes	YES	YES	DIN 127

1) – Done by the user, 2) – Done by the authorized service, 3) – Done by the manufacturer

CAUTION! If the parts to be serviced by manufacturer only is replaced by anyone else, it will immediately void the CE marking of the product and the product's performance, including the fire resistance rating.

6.4 GUIDE RAIL

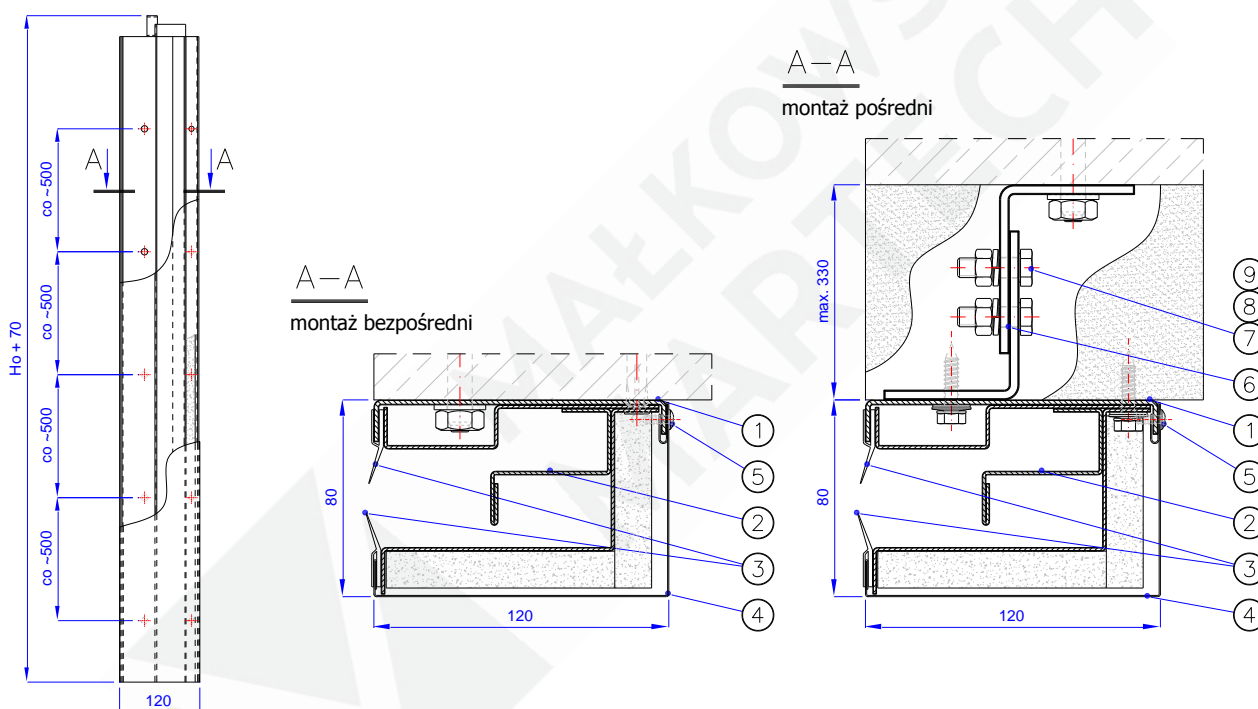
The guide rails (both of them) ensure proper alignment and true running of the fire protection curtain sheet within the wall opening. The cross-sectional size is 80 x 120 mm. The wall-side and middle sections are made of 1.5 and 2.0 mm thick galvanized steel sheet, PN-EN 10346:2015-09 grade DX51D+Z275, lined with 10 and 20 mm thick fire-proof panels. The guide rail fascia is made from 0.7 mm galvanized steel sheet. The edges of the guide rail recess has EPDM fascia gaskets installed. The type of anchoring fasteners depends on the material/type of the installation surface. See the table on p. 12 for the list of anchoring fasteners.



Guide rail specifications

Specification	U.m.	Value	Notes
Length	mm	Ho ¹⁾ + 70	-
Width / thickness	mm	120 x 80	-
Colour	-	Galvanized / Any in the RAL palette on request	Standard colours: RAL 7035, 9010, 9002
Quantity	pcs.	2	-
Total weight	kg/m	11.15	-

1) – Door (partition) clear height


Fig. 9 - MARC-Ok120-01.04.00 [Guide rail]

 1 – Wall-side section; 2 – Middle section; 3 – Fascia gasket; 4 – Fascia; 5 – 4.2x19 self-drilling screw;
 6 – Offset bracket; 7 – M10x30 bolt; 8 – 10.2 mm spring washer; 9 – M10 nut

Montaż bezpośredni	Direct wall-mounted installation
Montaż pośredni	Indirect installation

Guide rail: list of components

#	Designation	Fig.	Replacement / Repair			Notes
			U ¹⁾	A ²⁾	P ³⁾	
1	Wall-side section	1	-	YES	YES	-
2	Middle section	1	-	YES	YES	-
3	Fascia gasket	2	-	YES	YES	Length equal to the guide rail length



4	Fascia	1	-	YES	YES	-
5	4.2x19 mm self-drilling screw	1*	-	YES	YES	* - Ca. every 500 mm; DIN 7504 T
6	Offset bracket	1*	-	YES	YES	* - Every 1000 mm, for indirect installation only
7	M10 x 30 hex head bolt	2*	-	YES	YES	*- Every 1000 mm, PN-EN ISO 4017/ DIN 933, class 8.8
8	10.2 mm spring washer	2*	-	YES	YES	* - Every 1000 mm; DIN 127
9	M10 hex nut	2*	-	YES	YES	*- Every 1000 mm, PN-EN ISO 4032, class 8

1) – Done by the user, 2) – Done by the authorized service, 3) – Done by the manufacturer

CAUTION! If the parts to be serviced by manufacturer only is replaced by anyone else, it will immediately void the CE marking of the product and the product's performance, including the fire resistance rating.

6.5 FASCIA ASSEMBLY

The fascia assembly provides an aesthetic finish and fire protection; it also protects and guards the winding shaft, its brackets, and the curtain sheet.

The fascia assembly includes the rear cover with the curtain sheet sliding profile, the front fascia, the retaining slat, and two side guards. All parts are made from 0.7 to 1.0 mm thick galvanized steel sheet, PN-EN 10346:2015-09 grade DX51D+Z275.

The parts of the fascia assembly are interconnected and fastened to the shaft brackets by steel self-drilling screws or steel blind rivets.

Fascia assembly specifications

Specification	U.m.	Value	Notes
Height / width	mm	250 x 250 – 600 x 600	Depends on the door size
Length	mm	So ¹⁾ + 370	-
Colour	-	galvanized	Any in the RAL palette on request
Quantity	sets	1	-
Total weight	kg/m	13 - 30	Depends on the door size

1) – Door (partition) clear width

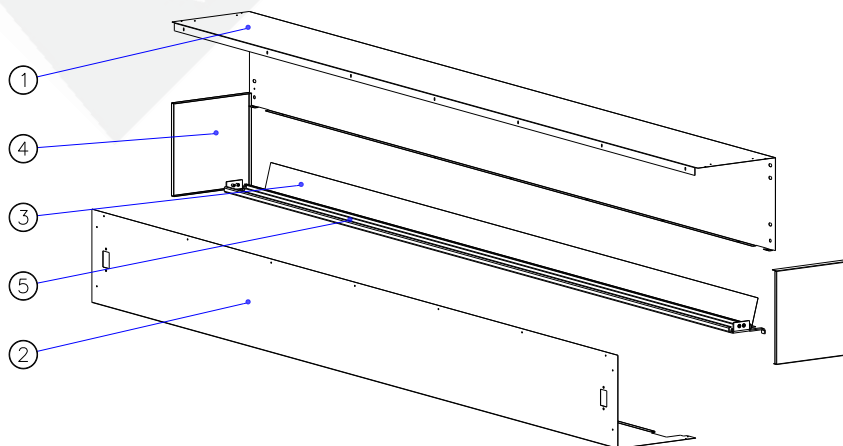


Fig. 10 - MARC-Ok120-01.05.00 [Fascia assembly]

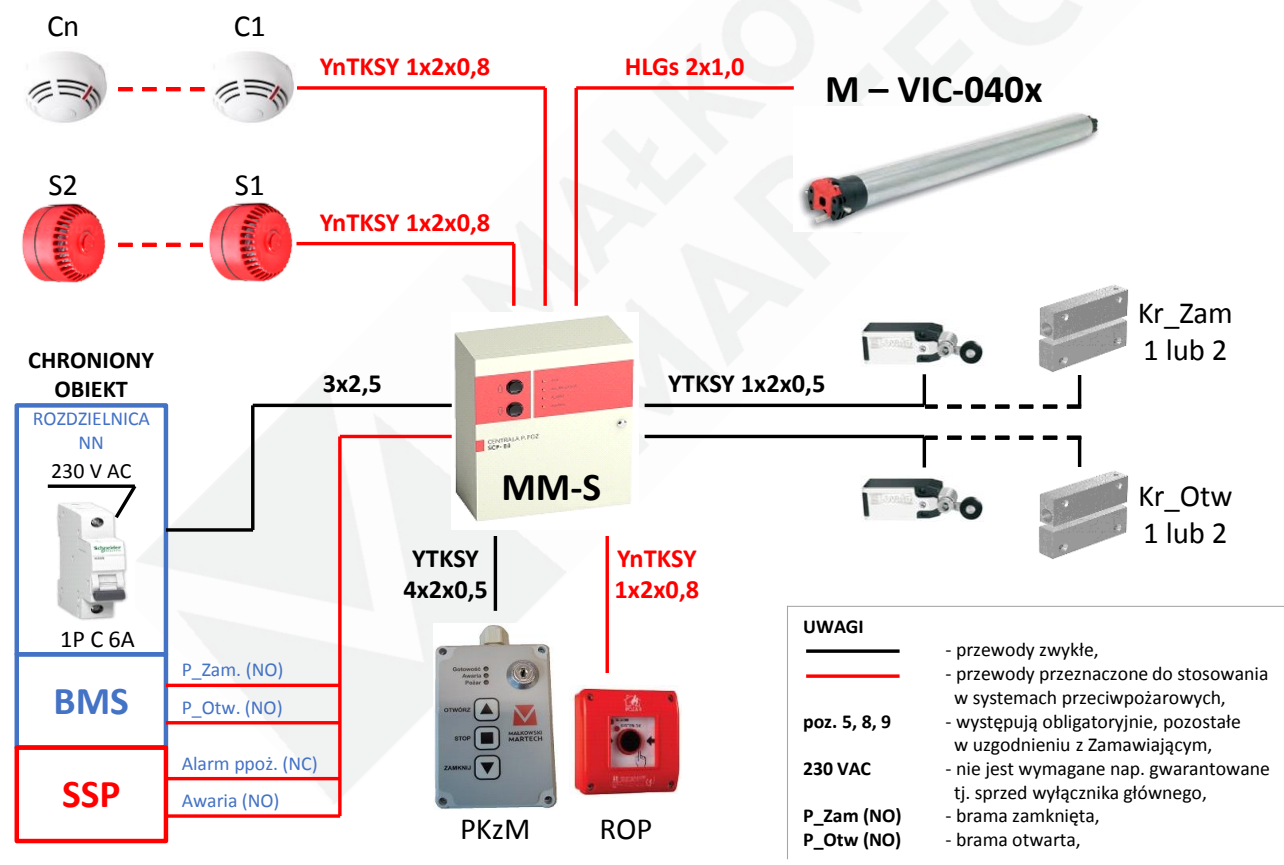
1 – Rear cover; 2 – Front fascia; 3 – Sliding profile; 4 – Side guard; 5 – Retaining slat

Fascia assembly: list of components

#	Designation	Fig.	Replacement / Repair			Notes
			U ¹⁾	A ²⁾	P ³⁾	
1	Rear cover	1	-	YES	YES	-
2	Front fascia	1	-	YES	YES	-
3	Sliding profile	1	-	YES	YES	-
4	Side guard	2	-	YES	YES	-
5	Retaining slat	1	-	YES	YES	-

1) – Done by the user, 2) – Done by the authorized service, 3) – Done by the manufacturer

CAUTION! If the parts to be serviced by manufacturer only is replaced by anyone else, it will immediately void the CE marking of the product and the product's performance, including the fire resistance rating.

6.6 VIC-0403 ELECTRICAL ACCESSORIES KIT


Chroniony obiekt	Monitored object
Rozdzielnica NN	LV switchgear
Alarm ppoż. (NC)	Fire alarm (NC)
Awaria (NO)	Failure (NO)
UWAGI	NOTES
Przewody zwykłe	Regular wiring
Przewody przeznaczone do stosowania w systemach przeciwpożarowych	Fire alarm system rated wires



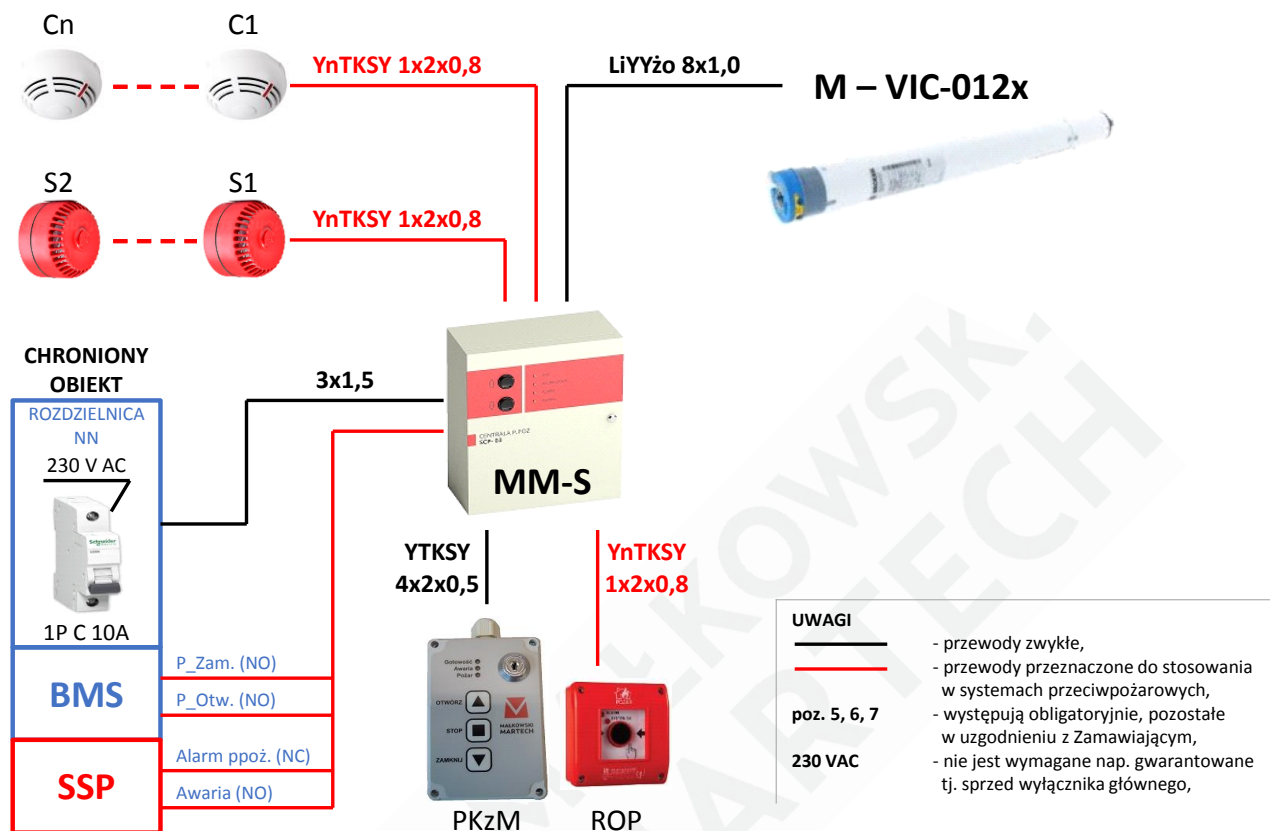
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występują obligatoryjne, pozostałe w uzgodnieniu z Zamawiającym	Obligatory, others TBA with the project owner
nie jest wymagane nap. gwarantowane tj. sprzed do wyłącznika głównego	Uninterruptible voltage from upstream of the main switch is not required
brama zamknięta	Door / gate closed
brama otwarta	Door / gate open

Fig. 11 – MARC-Ok fire curtain door accessories kit with the VIC-0403 drive motor

#	Figure item	Item type	Item designation	Item code	Recommended qty	Notes
1	C1 - Cn	Spot-type fire detector	Optical smoke detector	ID100	2	Recommended: ID100, max. 6 pcs.
			Class A1R heat detector	ID200	2	
			Smoke and heat detector	ID300	2	
2	C1 - Cn	Detector receptacle	Standard fire detector receptacle	EB0010	2	Quantity equal to the number of detectors
3	ROP	Manual call point	Standard manual call point	ROP OP1	1	max. 10 pcs.
4	S1, S2	Fire alarm indicator	Fire alarm sounder, low base	SPP-100	1	max. current 200 mA
5	M	Electric drive	internal (tubular)	VIC-040x	1	-
6	LS_close	Limit switch 1 Mag. sensor 2	Mecha. limit switch Magnetic reed relay switch	KB F1 S11 MS-240-S45	1	Application option, selection 1 or 2
7	LS_open	Limit switch 1 Mag. sensor 2	Mecha. limit switch Magnetic reed relay switch	KB F1 S11 MS-240-S46	1	Application option, selection 1 or 2
8	PKzM	Console	Remote console	PKzM	1	-
9	MM-S	Control unit	Universal drive controller	MM-S	1	-



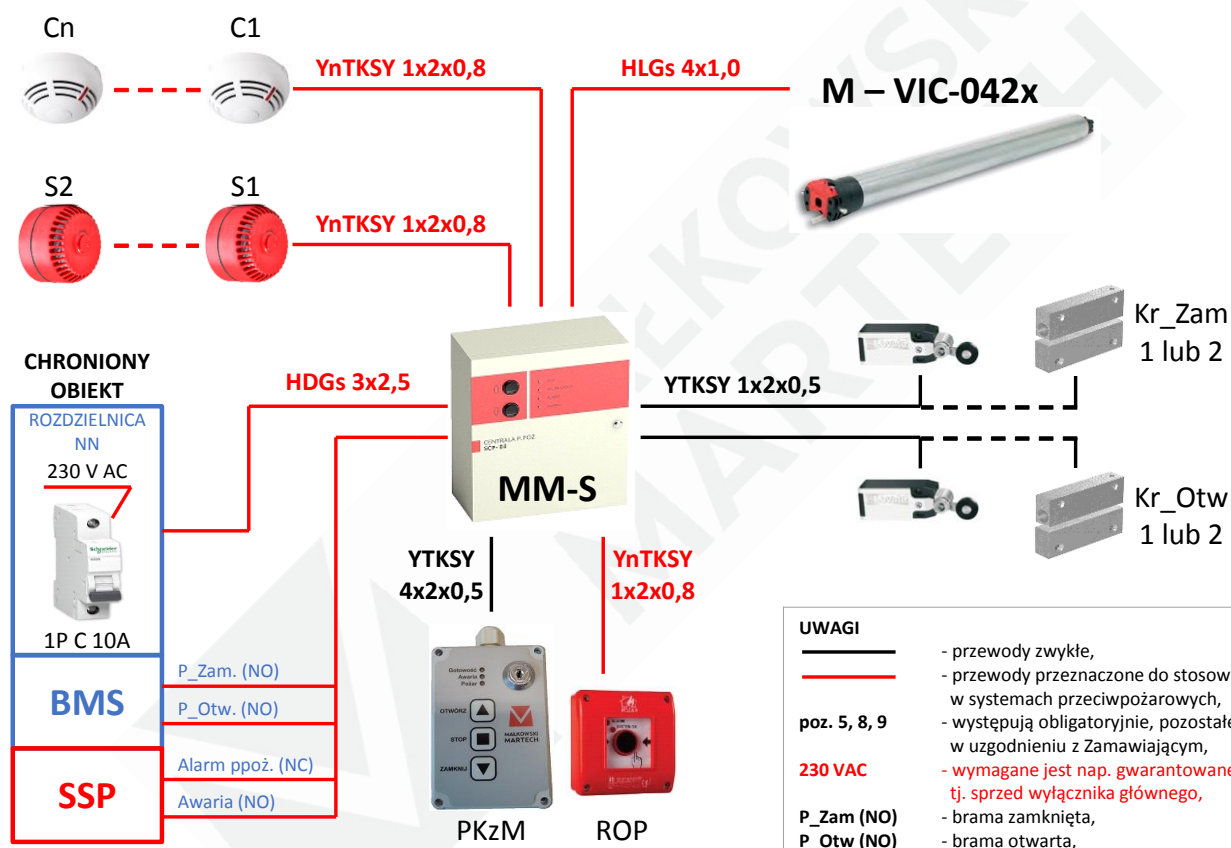
6.7 VIC-012x ELECTRICAL ACCESSORIES KIT

Fig. 12 – MARC-Ok fire curtain door accessories kit with the VIC-042x drive motor

Chroniony obiekt	Monitored object
Rozdzielnicza NN	LV switchgear
Alarm ppoż. (NC)	Fire alarm (NC)
Awaria (NO)	Failure (NO)
UWAGI	NOTES
Przewody zwykłe	Regular wiring
Przewody przeznaczone do stosowania w systemach przeciwpożarowych	Fire alarm system rated wires
występują obligatoryjne, pozostałe w uzgodnieniu z Zamawiającym	Obligatory, others TBA with the project owner
nie jest wymagane nap. gwarantowane tj. sprzed do wyłącznika głównego	Uninterruptible voltage from upstream of the main switch is not required

#	Figure item	Item type	Item designation	Item code	Recommended qty	Notes
1	C1 - Cn	Spot-type fire detector	Optical smoke detector	ID100	2	Recommended: ID100, max. 6 pcs.
			Class A1R heat detector	ID200	2	
			Smoke and heat detector	ID300	2	
2	C1 - Cn	Detector receptacle	Standard fire detector receptacle	EB0010	2	Quantity equal to the number of detectors



3	ROP	Manual call point	Standard manual call point	ROP OP1	1	max. 10 pcs.
4	S1, S2	Fire alarm indicator	Fire alarm sounder, low base	SPP-100	1	max. current 200 mA
5	M	Electric drive	internal (tubular)	VIC-012x	1	-
6	PKzM	Console	Remote console	PKzM	1	-
7	MM-S	Control unit	Universal drive controller	MM-S	1	-

6.8 VIC-042x ELECTRICAL ACCESSORIES KIT

Fig. 13 – MARC-Ok fire curtain door accessories kit with the VIC-042x drive motor

Chroniony obiekt	Monitored object
Rozdzielnica NN	LV switchgear
Alarm ppoż. (NC)	Fire alarm (NC)
Awaria (NO)	Failure (NO)
UWAGI	NOTES
Przewody zwykłe	Regular wiring
Przewody przeznaczone do stosowania w systemach przeciwpożarowych	Fire alarm system rated wires
występują obligatoryjnie, pozostałe w uzgodnieniu z Zamawiającym	Obligatory, others TBA with the project owner
nie jest wymagane nap. gwarantowane tj. sprzed do wyłącznika głównego	Uninterruptible voltage from upstream of the main switch is not required
brama zamknięta	Door / gate closed

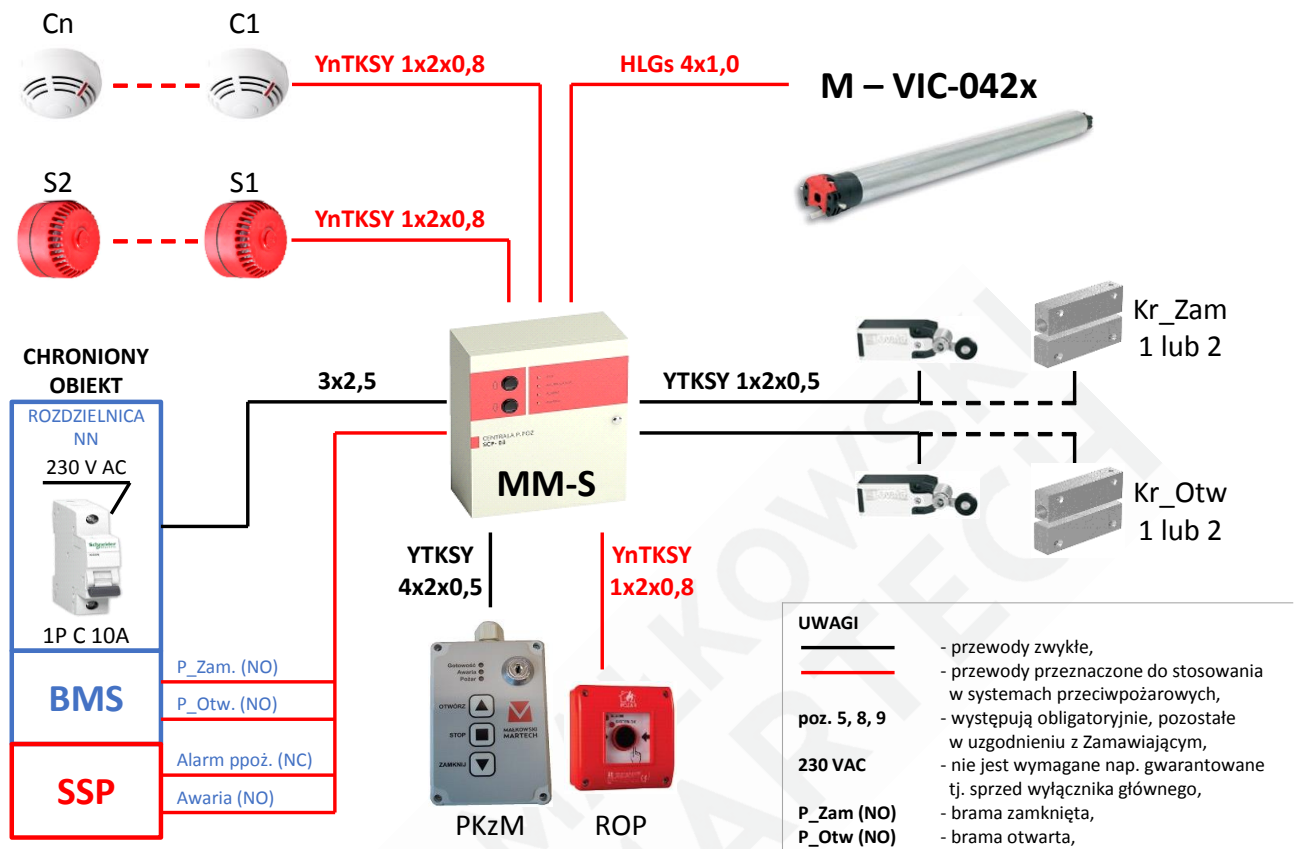


brama otwarta

Door / gate open

#	Figure item	Item type	Item designation	Item code	Recommended qty	Notes
1	C1 - Cn	Spot-type fire detector	Optical smoke detector	ID100	2	Recommended: ID100, max. 6 pcs.
			Class A1R heat detector	ID200	2	
			Smoke and heat detector	ID300	2	
2	C1 - Cn	Detector receptacle	Standard fire detector receptacle	EB0010	2	Quantity equal to the number of detectors
3	ROP	Manual call point	Standard manual call point	ROP OP1	1	max. 10 pcs.
4	S1, S2	Fire alarm indicator	Fire alarm sounder, low base	SPP-100	1	max. current 200 mA
5	M	Electric drive	internal (tubular)	VIC-042x	1	-
6	LS_close	Limit switch 1 Mag. sensor 2	Mecha. limit switch Magnetic reed relay switch	KB F1 S11 MS-240-S45	1	Application option, selection 1 or 2
7	LS_open	Limit switch 1 Mag. sensor 2	Mecha. limit switch Magnetic reed relay switch	KB F1 S11 MS-240-S46	1	Application option, selection 1 or 2
8	PKzM	Console	Remote console	PKzM	1	-
9	MM-S	Control unit	Universal drive controller	MM-S	1	-



6.9 VIC-042x ELECTRICAL ACCESSORIES KIT

Fig. 14 – MARC-Ok fire curtain door accessories kit with the VIC-042x drive motor and inverter

Chroniony obiekt	Monitored object
Rozdzielnica NN	LV switchgear
Alarm ppoż. (NC)	Fire alarm (NC)
Awaria (NO)	Failure (NO)
UWAGI	NOTES
Przewody zwykłe	Regular wiring
Przewody przeznaczone do stosowania w systemach przeciwpożarowych	Fire alarm system rated wires
występują obligatoryjnie, pozostałe w uzgodnieniu z Zamawiającym	Obligatory, others TBA with the project owner
nie jest wymagane nap. gwarantowane tj. sprzed do wyłącznika głównego	Uninterruptible voltage from upstream of the main switch is not required
brama zamknięta	Door / gate closed
brama otwarta	Door / gate open

#	Figure item	Item type	Item designation	Item code	Recommended qty	Notes
1	C1 - Cn	Spot-type fire detector	Optical smoke detector	ID100	2	Recommended: ID100, max. 6 pcs.
			Class A1R heat detector	ID200	2	
			Smoke and heat detector	ID300	2	



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2	C1 - Cn	Detector receptacle	Standard fire detector receptacle	EB0010	2	Quantity equal to the number of detectors
3	ROP	Manual call point	Standard manual call point	ROP OP1	1	max. 10 pcs.
4	S1, S2	Fire alarm indicator	Fire alarm sounder, low base	SPP-100	1	max. current 200 mA
5	M	Electric drive	internal (tubular)	VIC-042x	1	-
6	LS_close	Limit switch 1 Mag. sensor 2	Mecha. limit switch Magnetic reed relay switch	KB F1 S11 MS-240-S45	1	Application option, selection 1 or 2
7	LS_open	Limit switch 1 Mag. sensor 2	Mecha. limit switch Magnetic reed relay switch	KB F1 S11 MS-240-S46	1	Application option, selection 1 or 2
8	PKzM	Console	Remote console	PKzM	1	-
9	MM-S	Control unit	230 V AC drive unit controller w/inverter	MM-S	1	For drive unit power rating, $P < 600 \text{ W}$ or $600 > P > 1500 \text{ W}$

7. TROUBLESHOOTING

Every failure of the fire protection curtain shall be reported to the manufacturer and removed by authorized personnel strictly as instructed by the manufacturer (ref. Section 8 INSPECTION, MAINTENANCE, AND REPAIRS).

Fault type	Fault cause(s) / operating error	Remedy by operators
The curtain does not unwind; the drive motor is not running	Guide rails obstructed or damaged	Call the Technical Service to clear or replace the guide rails
	Structural component damage	Call the Technical Service to repair or replace the failed part(s)
	Drive unit damage	
	Counterweight profile out of the curtain sheet	Insert the counterweight profile into the pocket of the curtain
The drive motor is not running	No mains power or power isolated	Check the position of the key switch and turn it to ON (I)
	Battery drained	Recharge the battery
	Mains power fuse blown	Replace the fuse
Fire detector inoperative / fails to trigger the control system	Dirty or damaged System component failure	Call the Technical Service to clean, readjust, or replace the part(s)
Fire alarm sounder/beacon fails to come on		
Local control system (control panel) indicates an error		Call the Technical Service to troubleshoot
Manual call point does not work / has failed	MCP glass broken	Call the Technical Service to replace the part(s)



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8. INSPECTION, MAINTENANCE, AND REPAIRS

8.1 INSPECTION & MAINTENANCE SCHEDULE

The product shall be inspected, maintained and repaired by personnel with sufficient qualifications and professional experience for these tasks.

The product manufacturer or its authorized installation contractors (ref. the guidelines in Section 1 INTRODUCTION and Section 2.4 SERVICE PERSONNEL REQUIREMENTS in this Manual) provide paid service inspections, maintenance, repairs, and troubleshooting according to the specific sales contract. This personnel have the required technical resources, spare parts, and qualifications.

Send your service requests for these tasks to the MAŁKOWSKI-MARTECH S.A. Technical Service, (serwis@malkowski.pl or fax: + 48 61 22 27 501). The Technical Service contact details are also on the manufacturer's official website and in the Warranty Certificate.

The inspections and maintenance must be done in compliance with this Manual (ref. the guidelines in the schedule tables below) to ensure correct and safe operation; they are prerequisite to maintain the declared performance of the product and during the warranty period, otherwise the warranty rights and liability will be made void.

Inspection type	Frequency	Ownership
Pre-operation inspection	Before each use (does not apply to a fire emergency)	Operator
Monthly inspection	Every 1 month	
Service inspection and maintenance	Every 6 months	Authorized technical service

S – Check, inspect, clean; **X** – Adjust and lubricate

Inspection & maintenance schedule

Assembly / component	Tasks required	Before each use	Every 1 mo.	Every 6 mo.
Whole product				
Product structure	Check the painted surfaces (for dirt, etc.) and clean as required.		S	S
	Check that no part is missing and there is no evidence of damage of failure from operation.	S	S	S
	Check the product's identification markings (the nameplate must be present and legible).		S	S
Curtain sheet	Check for dirt, damage, etc.; clean as required.	S	S	S
	Check the position and fastening of the counterweight profile.		S	S
Brackets, guards, fascias	Check the fasteners and their condition			S
Curtain sheet unwinding/winding system				
Guide rails	Check the fasteners and the component's condition; look for obstructions.			S
Fascia gaskets	Check the fastening and condition; lubricate as required ¹⁾ .			S
	Check for damage and tears.		S	S
Electrical / control system				



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All electrical accessories	Trigger the sensors/detectors to test for proper operation of the accessories kit; readjust as required.			SX
Fire detector	Check the condition and clean the component; readjust as required.			SX
Manual call point	Check the condition and test the operation.			S
Control unit (panel)	Test the operation of all control panel components.			S
	Check for error displays.	S	S	S
Key switch	Check the condition and test the operation.		S	S
Electric drive motor	Check the condition and test the operation (the component must run smoothly and without stuttering, audible noise, and evident vibration).		S	S
Battery pack	Inspect the terminals and wiring; clean and lubricate as required ¹⁾ .		S	SX
	Check the battery acid level and state of charge; refill with battery acid and recharge as required.		S	S
Electrical wiring system ²⁾	Inspect the fastening and condition of fittings and cable trays.		S	S

1) – Petroleum jelly is recommended.

2) – Power wiring insulation resistance tests and wiring continuity tests are to be done at least every 5 years.

All worn or damaged parts of the MARC-Ok fire protection curtain shall be replaced with new counterparts only. Maintain and repair with genuine components and parts which are approved by the fire door manufacturer. Each inspection, maintenance, and repair shall be completed and certified by the authorized personnel according to the scheduled scope in the Periodic Inspection and Maintenance Log (appended to this Manual) or in a separate certificate.

The fire protection curtain user shall retain all records of inspections, maintenance, repairs, and overhauls.

8.2 OPERATOR'S INSPECTIONS

The operator's inspections shall be done by the operator assigned by the product's user and trained by the fire protection curtain manufacturer or its authorized installation contractor (ref. also the guidelines in Section 2.4 SERVICE PERSONNEL REQUIREMENTS and Section 8.1 INSPECTION & MAINTENANCE SCHEDULE). Wear basic PPE (personal protection equipment) e.g. rubber gloves etc. during each inspection service. If the fire protection curtain fails, is damaged, or found to operate incorrectly, notify the site supervisors and the manufacturer or its authorized installation contractor.

8.3 SERVICE INSPECTIONS & MAINTENANCE

The technical services of the manufacturer are provided by qualified and professionally experienced service technicians of MAŁKOWSKI-MARTECH S.A. or its contractors who are authorized for servicing the fire protection curtain.

To verify for the buyer that the service is provided by a fully professional/authorized contractor or technician, the latter should hold and present their Installation Authorization Certificate, while the service technicians should hold and present their Site Authorized Service Certificate issued by the fire protection curtain manufacturer, MAŁKOWSKI-MARTECH S.A.

In the Lists of Components and Parts, ref. Section 6 TECHNICAL SPECIFICATIONS of this Manual, the fire protection curtain manufacturer specifies the ownership and right of repair/replacement of components, assemblies, and parts; failure in compliance to these specifications will void the product warranty and declaration of performance.

CAUTION!

Pursuant to the Polish Regulation ref. Dz.U.2010.109.719, as amended: §3.2 "Fire protection equipment (...) shall be technically inspected and maintained in compliance with the procedures and



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methods established in the Polish Standards [PN] concerning fire protection equipment and fire extinguishers, the equipment's operating and maintenance manuals, and the user manuals issued by the respective equipment manufacturers." §3.3"Technical inspections and maintenance shall be carried out with the frequency established by the respective manufacturer and at least once a year."

The service inspections, maintenance, repairs, and overhaul of the product shall only be done by trained personnel of the manufacturer or its authorized service contractor.

The product user or the personnel or contractor it has authorized is liable for collection and retention of documented proof that the service inspections and maintenance are carried out at least every six months, unless specified otherwise in the sale contract (or special requirements/site conditions of the user require other frequency of the service inspections and maintenance).

8.4 CLEANING

The operating personnel is required to keep the work place and the fire protection curtain clean. Clean with commercially available household cleaning products, e.g. dishwashing liquids.

Do not use aggressive cleaners or organic solvents, or pressure washing (with water or other liquids). If the fire protection curtain is contaminated with insoluble substances, remove them mechanically without damage to the paint coat or scratching the product's surfaces.

8.5 REPLACEMENT PARTS

Order the replacement parts by specifying the production year of the fire protection curtain and the part numbers, designations, and quantity.

ALL REPLACEMENT PARTS USED FOR INSPECTION, MAINTENANCE, REPAIRS, AND OVERHAULS SHALL BE GENUINE SPARE PARTS SPECIFIED BY THE MANUFACTURER IN THE LISTS OF COMPONENTS AND PARTS IN SECTION 6 TECHNICAL SPECIFICATIONS OF THIS MANUAL.

9. DISPOSAL

Dispose of the fire protection curtain and all its worn out parts in compliance with applicable regulations of law.

When the fire protection curtain or any of its parts reaches its end of life and requires dismantling and disposal:

- Remove the product components and electrical system by performing the assembly and installation in the reverse order, and follow by handing over the parts (like the electric motor) for waste recovery.
- Hand over all plastic, rubber, and mineral wool parts for disposal.
- Cut and scrap the steel structure, metal sheets, profiles, bars and other hardware with all other steel parts (including anchors, plugs, and bolts).

9.1 CHEMICAL NOTICE

None of the fire protection curtain components contains asbestos or coatings or elements which release any gases harmful to the ozone layer. The pigments and anti-corrosive treatment of the structure and components are free of cadmium, chromium and other air and soil aquifer layer pollutants.



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10. IDENTIFICATION

Type MARC-O fire protection curtain is identified with the nameplate the specimen of which is shown below. The parameters of the delivered fire protection curtain are featured on the nameplate.



 2434
 MAŁKOWSKI MARTECH MAŁKOWSKI-MARTECH S.A. Czołowo ul. Leśna 57 62-035 Kórnik 20 Declaration of Performance No. /CPR/MARC-Ok/2020 - PL
EN 16034:2014 Fire protection curtain MARC®-Ok EI120 Intended use: Installation in fire partitions Fire resistance: EI ₁ 60, EI ₂ 120, EW120 Ability to release: Released Self-closing rating: C Ability to release durability: Sustained release Self-closing durability related to degradation: Use category: 2 Self-closing durability related to weathering (corrosion) Achieved EN 13241:2003+A2:2016 Resistance to wind load: Class ...
Serial number: / 20.....

Fig. 13 – Specimen of the nameplate of the fire protection curtain (ref. EN 16034:2014-11)

The nameplate is factory affixed on the bottom shaft box guard, right-hand side, at the guard rail.



11. APPENDICES

- Periodic Inspection and Maintenance Log
- Warranty Certificate (SPECIMEN)
- Copy of the Declaration of Performance
- Available to the manufacturer-issued Installation Authorization Certificate holders:
 - VIC electrical accessories kit installation manual
 - Type MARC- Ok EI120 fire protection curtain installation manual



PERIODIC INSPECTION AND MAINTENANCE LOG

Equipment type:	Serial number:	Year of production:
-----------------	----------------	---------------------

#	Completed servicing	Date & authorized stamp and signature	Notes
1			
2			
3			
4			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			



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WARRANTY CERTIFICATE

Warranty issued to the Buyer / Warranty Rights Owner*:		Installation location*:		
Warranty period*:		Ref. Contract/P.O. No.*:		
#	Sold product	Additional description*:	Identification no.*:	Quantity (pcs)*:
1	Fire protection curtain, MARC-Ok EI120	EI ₂ 120		
2	Local control system (control panel)	CSP M-M		
3	Fire detector, thermal	ID100		
4	Manual call point	ROP OP01		
5	Alarm sounder & beacon	SPP-100		

§ 1

Shipping; acceptance; pre-installation work

1. The quantity acceptance of the product is done prior to outbound shipping and at the site of MAŁKOWSKI-MARTECH S.A. (hereinafter, the GUARANTOR). The signature of the Installer/Buyer on the Goods Issue Note provided with the sold product certifies that the product is complete and conforms with the specifications in the Goods Issue Note.
2. Before the product is assembled/installed, the Installer shall carefully verify that the product has not been damaged in transport, remains of full value, and conforms to the purchase order submitted by the Buyer. If the product is found not to be conformity with the purchase order and/or any defect is found in the product, do not proceed with the assembly and installation process; immediately notify the Guarantor.
3. If the product's defect(s) could have been reasonably found with due diligence prior to the assembly and installation process, all WARRANTY CLAIMS for the defect(s) submitted once the product is assembled and installed will be rejected without examination.

§ 2

General warranty terms and conditions

1. The Warranty Rights Owner will retain its warranty rights provided that:
 - a) The sold product is assembled and installed by the Guarantor or a contractor who holds the Installation Authorization Certificate (issued by the Guarantor), and the assembly and installation process is certified with the relevant entry on the last page of this Warranty Certificate;
 - b) Periodic service inspections are ordered (pursuant to a separate service contract) for the product under this Warranty and to be performed by the Guarantor or the (manufacturer's) Service Authorization Certificate holder according to this schedule:
 - Every 6 months – when the product remains in its fully closed or open position without cyclic operation;
 - Every 3 months – when the product is operated in any way different than above and in compliance with the criteria established by the Guarantor in the service contract;
2. These warranty terms and conditions apply to the product sold by the Guarantor and purchased, assembled, and installed in the Republic of Poland.
3. The service inspections specified in § 2.1 above are payable.
4. Within 14 days after each service inspection completed by the Service Authorization Certificate holder, the Warranty Rights Owner shall provide the copies of the service inspection certificates to the Guarantor:
 - a) by e-mail at serwis@malkowski.pl, and
 - b) to the Guarantor's registered office address, or the warranty rights will be made void.



5. The warranty period begins on the date of certified post-assembly and installation acceptance of the product.
6. The rights granted under this Warranty do not include the right to claim damages for lost profits or compensation for any damage related to the failure of the product, except for the rights granted under this Warranty.

§ 3

Procedure of warranty claims and exercise of warranty rights

1. The Warranty Rights Owner is required to report each defect discovered in the product, which shall be done in writing and in 14 days after the discovery.
2. Each warranty claim shall be submitted to the Guarantor in writing or be null and void.
3. Each warranty claim submission shall include:
 - a) a copy of the Warranty Certificate;
 - b) A detailed account of the discovered defects, its causes, and conditions in which they have emerged;
 - c) The product serial number;
 - d) Proof of completion of the periodic service inspections of the product as specified in § 2.4.
4. To ensure smooth warranty claim processing, it is recommended to attach photographic evidence of the defective product to facilitate examination.
5. The Warranty Rights Owner shall provide all conditions required for and facilitating repair of the claimed product (especially by permitting access to the product and removal from service of all equipment which can be hazardous to the personnel removing the claimed defects).
6. Failure to submit a warranty claim by the time specified in § 3.1 will release the Guarantor from the obligation of processing the warranty claim.

§ 4

Warranty rights

1. If the warranty claim made under the Warranty is reasonable, the Guarantor shall, at its own discretion, remove the defects of the product (by repairing it) or replace the product (or its affected part) with a new counterpart.
2. The title of the replaced defective products will become property of the Guarantor.
3. If defects or failures are discovered during the warranty period and prevent use of the product, the Guarantor shall act as reasonably required to remove the defects or failures in 10 business days from the date of claim.
4. If defects or failures are discovered during the warranty period and DO NOT prevent use of the product, the Guarantor shall act as reasonably required to remove the defects or failures in 20 business days from the date of claim.
5. The time limits specified in § 4.3 and § 4.4 can be extended due to reasonably important causes, especially whenever:
 - a) the parts necessary for the execution of the warranty rights are not available on the market;
 - b) it is necessary to import some or all parts from abroad to process the warranty claim;
 - c) reasons beyond any control of the Guarantor arise, of which the Warranty Rights Holder will be advised.
6. Business days shall be understood as days from Monday to Friday, excluding holidays and other statutory work-free days.
7. If, in the performance of its obligations, the Guarantor supplies the Warranty Rights Holder with an item free of defects instead of a defective item, or has made significant repairs of an item on warranty, the warranty period for the item shall run again from the date of delivery of the item free of defects or the return of the repaired item to the Warranty Rights Holder.
8. The warranty for the replaced items shall start again from the date of delivery of the item free of defects or repaired, with respect to the replaced item.
9. The replacement of parts/items shall not result in extension of the warranty period for the whole product sold.
10. The Guarantor is entitled to charge the Warranty Rights Holder with the costs of an unreasonable warranty claim (which is unreasonable if the claimed defect does not exist or the claim features a request for remedying a defect not covered by this Warranty).
11. The costs referred to in § 4.10 specifically include the costs of service travel to the product's site and the costs of removal of the defects, if any.
12. The costs of defect removal not covered by this Warranty will be evaluated according to the price list of the Guarantor.



§ 5**Exclusion of warranty rights**

This Warranty does not cover:

1. any defects caused by anything not in the sold product;
2. defects caused by any tampering with the sold product by the Warranty Rights Owner or a third party, especially alterations and modifications without prior written authorisation of the Guarantor; if the sold product is tampered with, the WARRANTY AND THE DECLARATION OF PERFORMANCE ARE VOID;
3. defects caused by misuse / non-intended use of the product or failure in routine maintenance of the product, especially any use or maintenance in deviation from the manuals of the product to which this Warranty Certificate is attached;
4. defects resulting from assembly or repairs performed by personnel not authorized by the Guarantor;
5. the product installed on a site under this Warranty with failure to provide service inspections by the Guarantor or the Service Authorisation Certificate;
6. parts of the product which are naturally worn, partially or completely, according to the properties or the intended use (these include running assembly parts, electrical batteries, etc.);
7. mechanical damage of the product and the defects resulting from it;
8. defects caused by defects of the structure in which the product has been installed;
9. incorrect selection of the product to the conditions at the installation site;
10. defective operation of the installed equipment which has not been provided by the Guarantor, and resulting in negative impact on the product. Should any of the foregoing occur, THE DECLARATION OF PERFORMANCE ISSUED FOR THE PRODUCT AND ITS WARRANTY CERTIFICATE ARE AUTOMATICALLY VOID AND NULL;
11. defects resulting from the external factors, especially fire, extreme weather, and fortuitous events;
12. damage caused by misuse of the product or its operation in deviation from the operating manuals, which also includes operation beyond the maximum performance limits;
13. use of non-genuine spare parts, which are parts not original to the Guarantor;
14. the product sold if this Warranty Certificate is redacted or defaced in any way;
15. the product sold if its nameplate is removed, damaged, or modified;
16. the product with its warranty seal is damaged or removed.

.....
Date and signature of the Guarantor's Installation Authorisation Certificate Holder

.....
Authorization no. and date of issue

