

## **Inspection Door**

**For the use in ATEX applications**



## **Operating Instructions**

**Version: 0**  
**Language: ENG**  
**M3127EUK-ATEX-05/21**

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# 1 General

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These operating instructions apply solely for

**Inspection Doors part no. CYA-xxxxMG-x+E**

in combination with the

**Protective Bonding Kit part no. B-DE-Pro-2000**



## NOTE

Before starting work these operating instructions must be read and understood completely

Martin<sup>®</sup> Inspection Doors allow inspection in chutes of belt conveyors for service requirements or to clean out material buildup.

The inspection doors contain a Barrier Guard. This serves for the safety of the operators and protects against access in hazardous areas. Therefore, the Barrier Guard must always be properly mounted in the frame of the inspection door.

A minimum distance of **120 mm** between the Barrier Guard and hazardous areas must be observed.

## 1.1 About these operating instructions

These operating instructions apply solely for inspection doors and are intended for those persons who install inspection doors, commission them, and monitor their usage.

The operating instructions must be kept for the lifetime of the inspection door and be made available in an orderly condition to all persons entrusted with work with and on the inspection door.

## 1.2 Intended usage

The inspection doors are used to observe processes within machines such as belt conveyors and their bulk material transfers. They can also be used to carry out inspection / cleaning / maintenance or repair activities on the components behind them.

They may only be used

- in industrial areas above ground
- at a sufficiently safe distance from danger points
- according to the technical data in the documentation
- in the installation position with hinges to the side on vertical walls.

The usage of the inspection doors is only considered to be as intended if the following conditions are also fulfilled:

- Before starting initial work, the personnel must have been instructed on the work on the system and on all relevant issues of occupational health and safety
- Any personal protective equipment required must be worn
- The provisions of the operating instructions must be observed in full.

The inspection doors are not suitable,

- to hold back ejected objects, especially machine parts, conveyor belts or bulk material,
- to hold back released energy from explosions or divert it in a safe direction, or
- to retain hazardous substances, noise or radiation.
- to absorb additional loads caused, for example, by deposited objects or people stepping on the inspection doors.
- to be used potentially explosive areas of ATEX Zones 0, 1, 2 and 20 as well as underground, as they are not designed for this purpose.

The inspection doors are not to be mounted

- horizontally in areas where they may be stepped on.
- facing downward
- in direct path of material
- where door can be used as a step

- where material can collect in cover.

Operation of the inspection doors under deviating conditions and unauthorised modification of the cleaners is considered as improper usage

### 1.3 Use in hazardous areas according to the ATEX directive

The Special product variants of the inspection doors can also be used in ATEX zones 22 and 21 above ground, under certain circumstances

Requirements for the use in ATEX zones:

- Minimum ignition energy of the dust: >10 mJ
- There are no substances in the bulk material which could generate impact sparks on the inspection doors.
- Coatings (corrosion protection) have standard layer thicknesses (max.80µm)
- Earthing cables (Protective Bonding Kits) are properly installed (Overall resistance to earth < 10<sup>6</sup>Ω)

### 1.4 Personnel qualification

Only authorised and qualified personnel may be entrusted with work with and on the inspection door. Persons are considered qualified if they have the qualification of a skilled worker and meet all the following requirements:

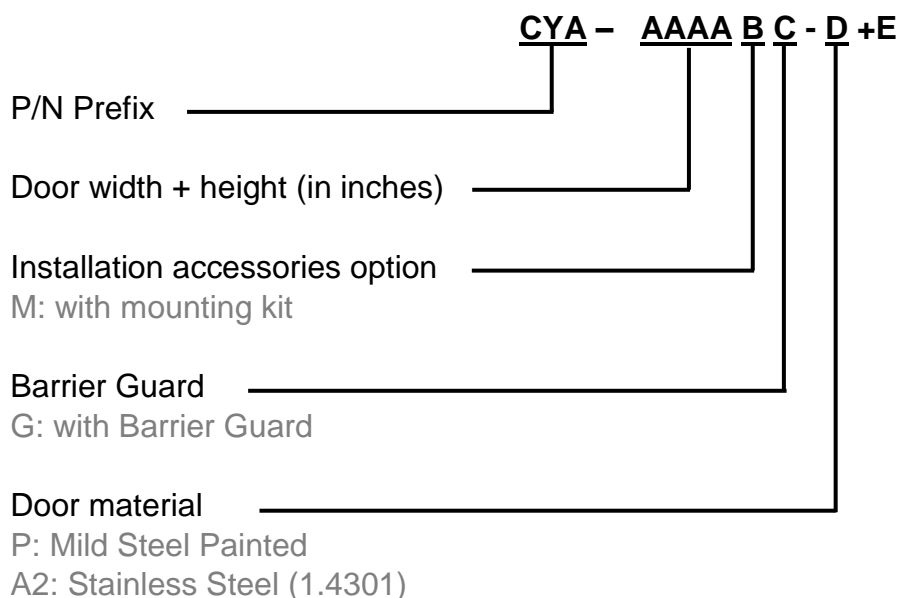
- completed professional training or at least 5 years of professional experience in the field,
- technical experience,
- knowledge of the relevant occupational health and safety regulations.

The persons must

- be able to assess the tasks and risks assigned to them,
- be able to recognise potential dangers in advance,
- be physically and cognitively able to operate the conveyors and cleaners safely,
- have been trained and instructed appropriately,
- have read and understood these operating instructions.

Work on earth connections (Protective Bonding Kits), cabling, switching, control, regulation, automation and all electrical components may be carried out only by trained electricians.

## 1.5 Part number




**Protective Bonding Kit**

**B-DE-Pro-2000**

## 1.6 Technical Data

The inspection door is suitable for the following operating parameters:

	Operating parameter
Temperature range:	-30 - 80 °C
ATEX Spec	CE  II 2 D Ex h IIC T80°C Db

## 2 Safety

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### 2.1 General safety instructions



#### DANGER

##### Entanglement in moving or rotating parts

Body parts may get caught and pulled in by moving or rotating parts of the machinery.

- *The distance between the danger point and the Barrier Guard of the inspection door must be **at least 120 mm***



#### DANGER

##### Entanglement in moving or rotating parts

Body parts and/or clothing may get caught and pulled in by moving or rotating parts of the machinery when Barrier Guards are not fitted in mainframe of the inspection doors.

- *Ensure that the Barrier Guards are properly mounted in the frame of the inspection doors. Only then switch on the machines or equipment.*
- *Ensure that the barrier guards and all components are always in good condition.*
- *Ensure that the Barrier Guards are not bent and can be easily installed.*



#### CAUTION

##### Risk of injury

When opening the inspection door, dusts, particles and other objects may be released. These can cause injuries to the face and other parts of the body.

- *Keep as much distance as possible when opening the inspection door.*
- *Always open the inspection door slowly.*
- *Wear personal protective equipment.*



## WARNING

### Flying objects

Objects left on or in the conveyor can fly around uncontrollably when the conveyor is switched on and can hit and injure persons.

- *Before switching on the conveyor, remove all foreign objects such as tools, devices, etc. from the belt!*



## WARNING





### Danger of injury due to unapproved component parts

Unapproved parts can directly or indirectly cause personal injury or damage to property.

- *Only use accessories and spare parts that are distributed by the manufacturer or are explicitly approved (in writing)!*

## 2.2 Personal protective equipment

Persons carrying out work on cleaners must wear suitable personal protective equipment. Minimum requirements:

Symbol	Meaning
	Wear head and eye protection
	Wear at least ankle-high foot protection
	Use gloves
	Use fall protection, if required



## 2.3 Safety markings on the system

The safety markings on the inspection doors must be kept in good condition and clearly visible at all times.

If parts of the system are replaced, ensure that the spare parts are or will be provided with appropriate safety markings.

## 2.4 Special safety instructions for usage in ATEX areas



### DANGER

#### Usage in ATEX zones 22 and 21

Combustible dust can cause explosions and thus cause serious or fatal injuries.

- *Ensure that all explosion-related parameters and operating modes are observed.*
- *Observe all instructions for usage in hazardous areas.*
- *Ensure that the bulk material meets the specified requirements before the conveyor is switched on.*
- *Ensure that the inspection doors are suitable for all explosion-related parameters and operating modes of the application.*
- *Ensure that the bulk material is free of foreign substances that could create an ignition source for the dust/air mixture.*
- *Ensure that any necessary metal-separating devices are operating effectively.*
- *Use only tools and aids that are approved for use in the respective ATEX zone.*
- *Ensure that the earth connections (Protective Bonding Kits) of the inspection doors are installed correctly.*
- *Use only inspection doors as special product variants that are suitable for use in potentially explosive areas.*
- *Measure the gas and dust content of the environment before using open flames.*
- *Prevent electrostatic charges, for example by cleaning plastic enclosures with a dry cloth.*
- *Work on earth connections, cabling, switching, control, regulation, automation and all electrical components may be carried out only by trained electricians.*
- *Ensure that all measures and approvals for hot work are fulfilled in order to avoid fires or explosions!*

## 3 Installation

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### DANGER

#### Entanglement in moving or rotating parts

Body parts and/or clothing may get caught and pulled in by moving or rotating parts of the machinery.

- *Before any installation or maintenance work is carried out, ensure that all power sources to the conveyor belt system and its accessories are switched off and secured against inadvertent switching on.*
- *Apply Log-Out / Tag-Out / Try-Out (LOTOTO) Procedures*
- *Apply warning signs*



### DANGER

#### Automatic start-up of the conveyor

Serious or fatal injuries due to unintentional start-up of the conveyor.

- *Switch off the conveyor before starting work and secure it against being switched on again.*
- *Follow safe procedures to prevent unintentional restart.*



### WARNING

#### Risk of falling down

Inspection doors are often mounted and operated in heights. There may be a risk of falling down.

- *Therefore, use a fall protection device when installing in higher working areas!*



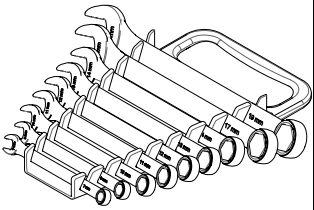
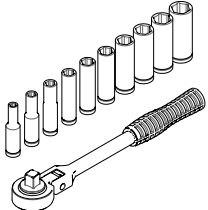
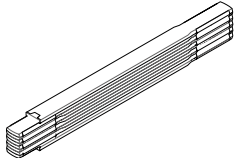
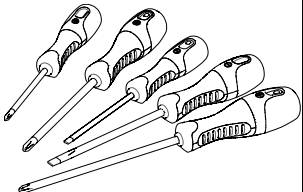
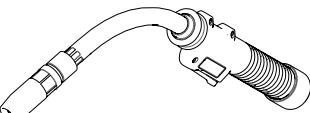
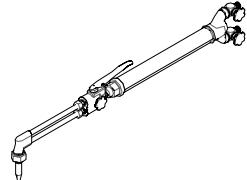
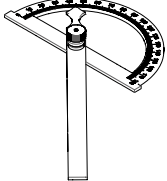
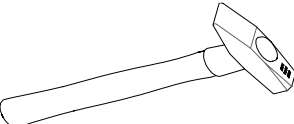
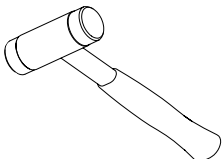
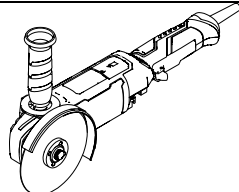
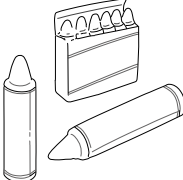
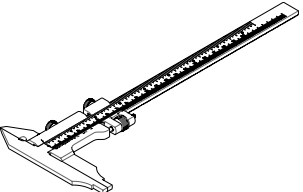
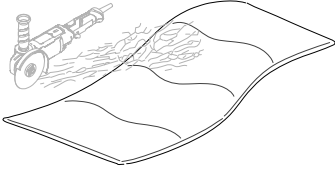
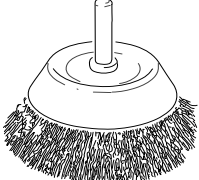
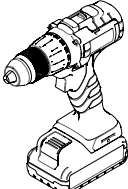
### WARNING

#### Working in confined spaces

Areas in which inspection doors are installed are often difficult to access and include confined spaces. It is often necessary to work in difficult positions.

- *Determine whether occupational safety measures are necessary that go beyond the usual measures!*

### 3.1 Required maximum of tools and materials

### 3.2 Unpacking/transportation



#### WARNING

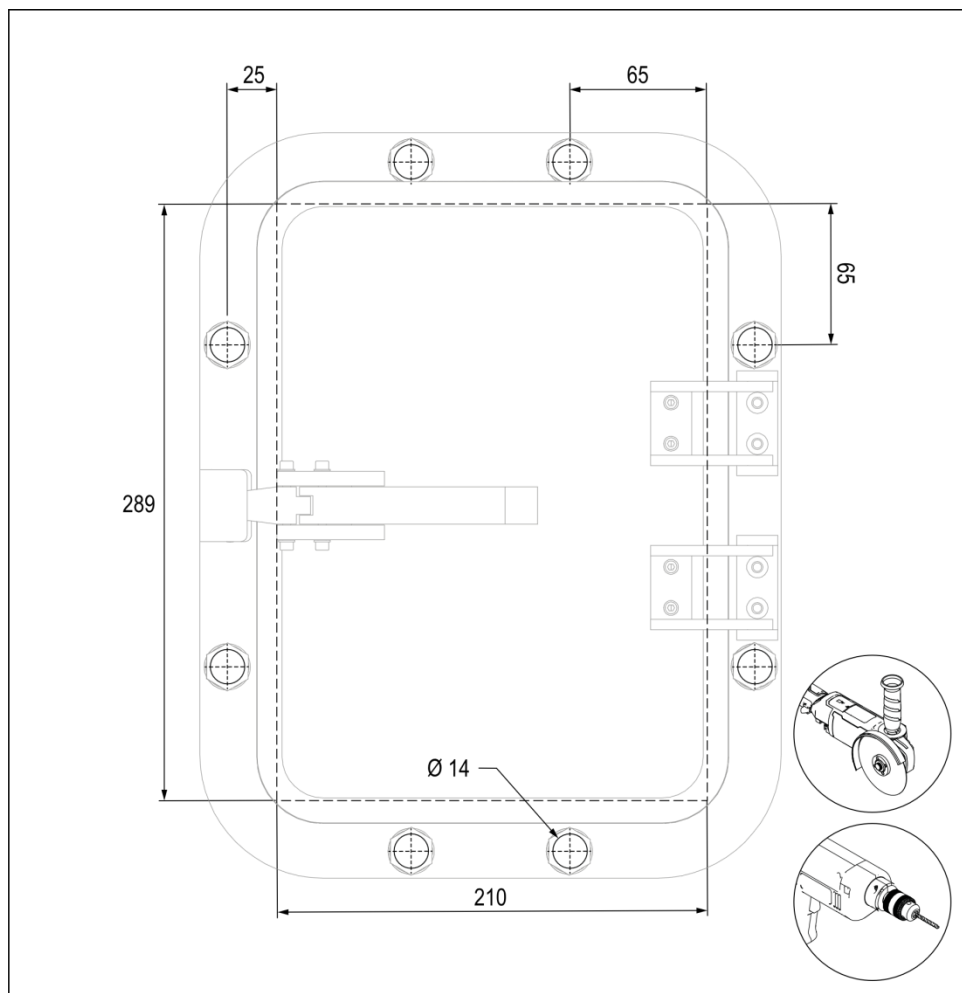
#### Heavy weight

The inspection doors may have weights that require handling by lifting devices. Handling inspections doors by hand can cause serious skeletal injuries.

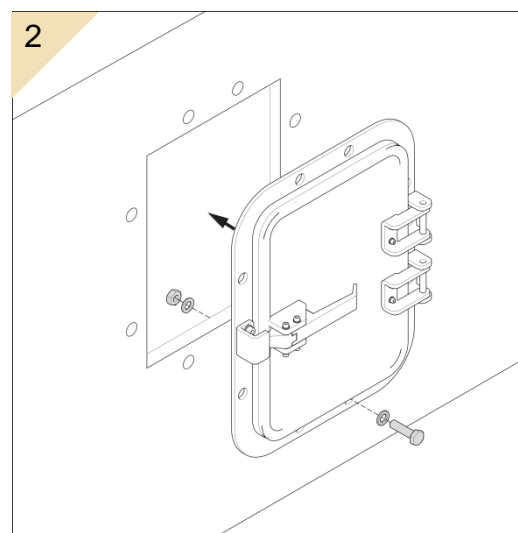
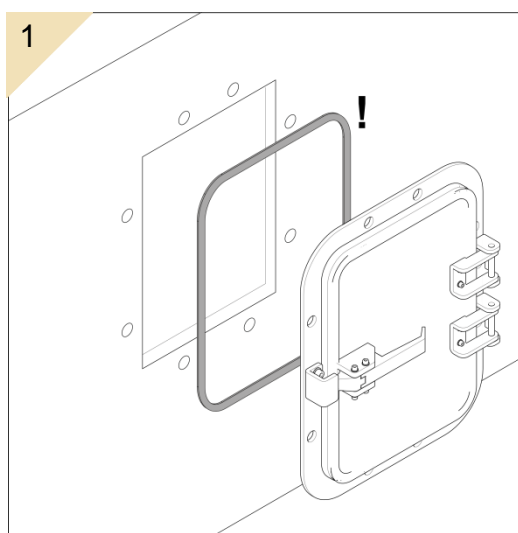
- Use suitable aids if the load is > 25 kg per person!
- Identify the centre of gravity! Ensure that the inspections door cannot tilt during the lifting process!

When unpacking, all components must be checked for completeness and intactness.

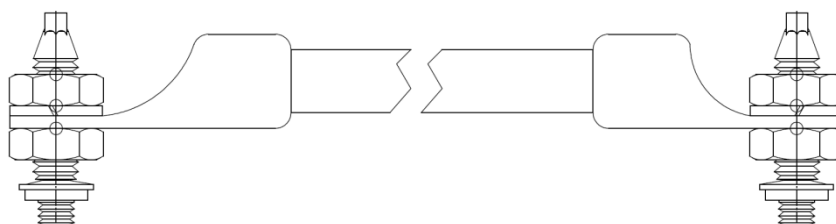
### 3.3 Determining the installation position



### 3.4 Mounting the inspection door



### 3.5 Installing Protective Bonding Kit



#### NOTES

The protective bonding kit is an integral part of the concept and necessary to be able to use belt cleaners in ATEX areas

The purpose of the protective bonding kit is to discharge possible electrostatic charges from components.



#### DANGER

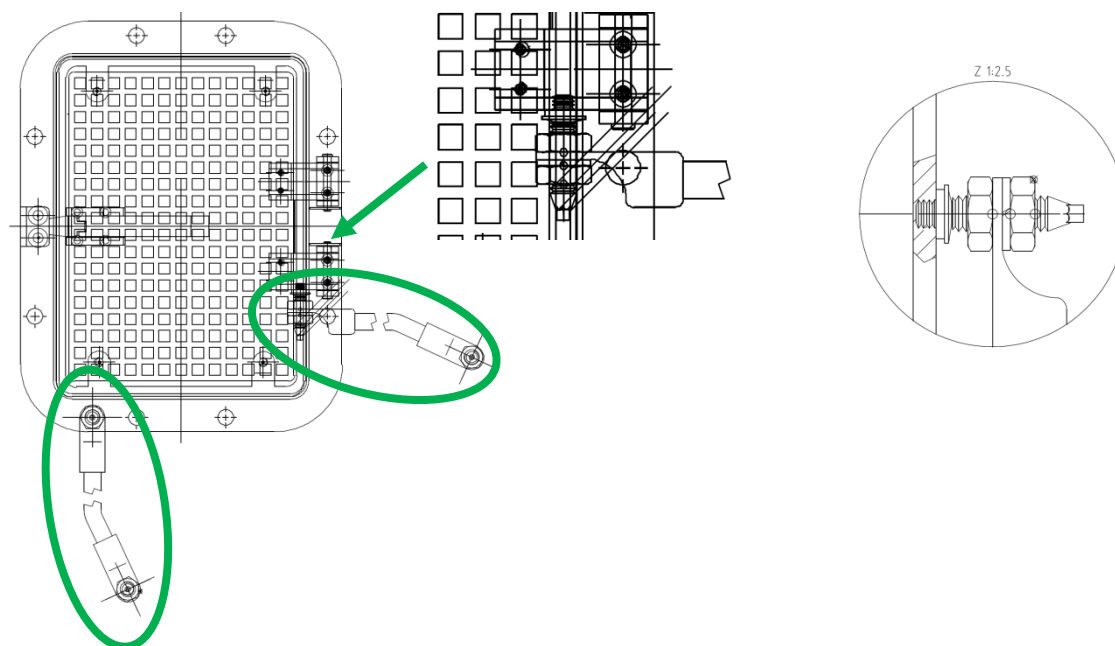
##### Risk of explosion

- *It is important that the cable connections are always designed as electrically conductive with the lowest possible electrical resistance. This applies to the entire service life of the components.*
- *Insulated, conductive components must be equipped with earthing.*
- *The protective bonding kit must always be connected to an earthed component of the conveyor system, e.g. a metallic chute wall.*
- *The mainframe and the door of the inspection doors must always be equipped with a protective bonding kit. The instructions for use and installation of the components of the protective bonding kit must be observed*

The protective bonding kit can be mounted in various locations on the inspection doors and chute walls.

The typical installation is shown on drawing B-DE-Pro-2000\_I3 and below

### Typical installation positions



The following precautions must be observed during installation of the Protective Bonding Kit. It must

- Be protected from mechanical damages
- Be protected from chemical agents
- Not be tensioned
- Be easily accessible
- Be visible for inspections
- Be fully in accordance with the instructions of each single component (O&M manuals of the suppliers)
- Be in line with temperature range specifications (please refer to the O&M manuals of the suppliers)
- Be protected from vibrations
- Be easily accessible to measure bleeder resistance

## 3.6 Placing labels

### 3.6.1 Safety label

The safety label (safety marking) below must be attached to the Inspection door or to the conveyor system in the immediate vicinity of the inspection door:



### 3.6.2 Other labels

The labels below are attached to the product:



## 4 Maintenance / Repair

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### DANGER

#### Entanglement in moving or rotating parts

Body parts and/or clothing may get caught and pulled in by moving or rotating parts of the machinery.

- *Before any installation or maintenance work is carried out, ensure that all power sources to the conveyor belt system and its accessories are switched off and secured against inadvertent switching on.*
- *Apply Log-Out / Tag-Out / Try-Out (LOTOTO) Procedures*
- *Apply warning signs*



### DANGER

#### Automatic start-up of the conveyor

Serious or fatal injuries due to unintentional start-up of the conveyor.

- *Switch off the conveyor before starting work and secure it against being switched on again.*
- *Follow safe procedures to prevent unintentional restart.*



### CAUTION

#### Risk of injury

When opening the inspection door, dusts, particles and other objects may be released. These can cause injuries to the face and other parts of the body.

- *Keep as much distance as possible when opening the inspection door.*
- *Always open the inspection door slowly.*
- *Wear personal protective equipment.*



### WARNING

#### Danger of injury due to unapproved component parts

Unapproved parts can directly or indirectly cause personal injury or damage to property.

- *Only use accessories and spare parts that are distributed by the manufacturer or are explicitly approved (in writing)!*



Interval	Component part	Activity
Daily	Barrier Guards	<ul style="list-style-type: none"> <li>• Visual inspection. Ensure proper condition of the equipment</li> <li>• Ensure they are properly installed in the frame of the inspection doors</li> </ul>
Weekly	All components of the inspection door	<ul style="list-style-type: none"> <li>• Check that all securing parts are tightened. Tighten any loose connections as required.</li> <li>• Clean all warning labels. Replace any warning labels which are illegible</li> <li>• Check the seal of the door frame for damages. Replace if required.</li> </ul>



### Additional requirements applicable for ATEX areas

Interval	Component part	Activity
Daily	Bonding Kits	<ul style="list-style-type: none"> <li>• Visual inspection of earth connections (Protective Bonding Kits)</li> </ul>
Monthly		<ul style="list-style-type: none"> <li>• Verify and ensure that the earth leakage resistance of all components of the side sealing is <math>&lt; 10^6 \Omega</math>. Record the results</li> </ul>

## 5 Disassembly / Recycling / Disposal

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1. Disassemble inspection doors by material groups as far as possible.
2. Contact official bodies (disposal centres, authorities) and request information about proper disposal or recycling possibilities.
3. Recycle the different materials.

Only materials that cannot be reasonably recycled may be disposed of. Disposal must be carried out professionally.

Material groups that can be fed into a recycling process include:

- Sheet steel
- Steel profiles
- Plastics
- Rubber
- Non-ferrous metals
- Electrical cables
- Electrical components (with copper content)
- Lubricants

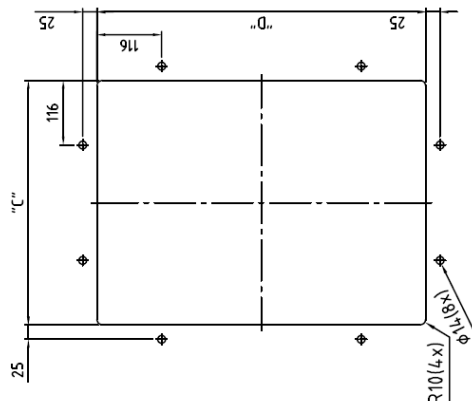


Baugr. Nr. / P/N	Teile-Nr./Pos.1 / P/N Item 1	Teile-Nr./Pos.2 / P/N Item 2	Teile-Nr./Pos.3 / P/N Item 3	Teile-Nr./Pos.8 / P/N Item 8
CYA-1818MG-X+E	38931-1818+E	38932-1818+E	38400-1818+E	38409-1818+E
CYA-1824MG-X+E	38931-1824+E	38932-1824+E	38400-1824+E	38409-1824+E
CYA-2424MG-X+E	38931-2424+E	38932-2424+E	38400-2424+E	38409-2424+E
CYA-3030MG-X+E	38931-3030+E	38932-3030+E	38400-3030+E	38409-3030+E

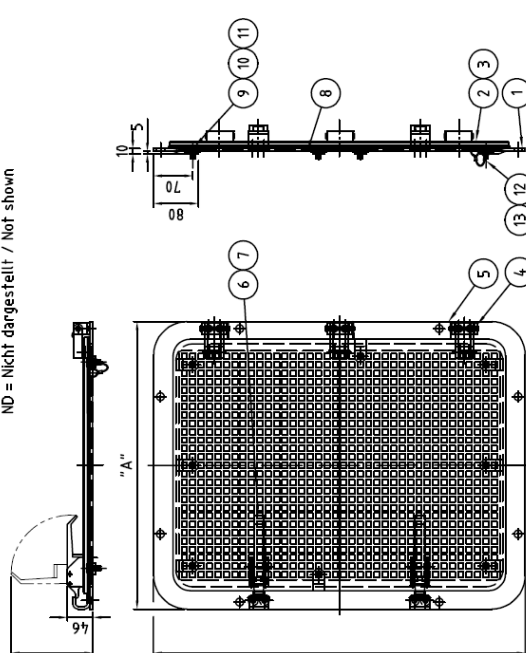
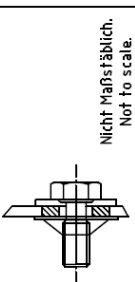
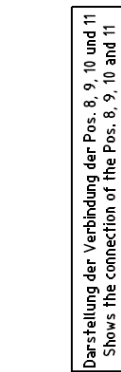
Baugr. Nr. / P/N	"A"	"B"	"C"	"D"
CYA-1818MG-X+E	515	515	438	438
CYA-1824MG-X+E	515	665	438	589
CYA-2424MG-X+E	665	665	583	583
CYA-3030MG-X+E	850	850	768	768

CYA-1824MG-X+E  
Bohrbild / Hole pattern



ND = Nicht dargestellt / Not shown

ND 14	3m	Mossgummi - Selbstklebend / Sponge rubber - Self adhesive	40011-510
ND 15	1	Produktaufkleber / Label Martin Product	38048
ND 16	1	Warnaufkleber CYA / Label door warning	30382
ND 17	1	Montage kit / Mounting kit	38228+E



**Bemerkung:**

- 1) Alle Maße sind in mm und ca. Angaben.
- 2) Martin Engineering GmbH empfiehlt für einen leichteren Zugang und Wartung die Tür anzuschrauben.
- 3) Warnaufkleber P/N 30382 deutlich sichtbar in der Nähe der CYA-Tür anbringen.

**Notes:**

- 1) All dimensions are given in mm and for reference only.
- 2) Martin Engineering GmbH recommends bolting doors to chute wall for easy accessibility and maintenance.
- 3) Warning label P/N 30382 is to be applied in conspicuous location near inspection opening.

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In der Reiheboch 14 65,996 Wellit GERMANY		Appr. / Date: 01.08.2020	Appr. / Date: 01.08.2020
<b>CYA Door mit Sicherheitsgitter und unverwundbar Schraube</b> CYA door with barrier guard and undetachable screw		Zeichn.-Nr. / Drawing No. <b>CYA-XXXXMG-X+E.2</b>	Maßstab / Scale 1:1,5
Anderung (Revision)		Zeichn.-Nr. / Drawing No.	Maßstab / Scale

## 7 Declaration of Conformity

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### EU declaration of conformity

according to ATEX directive 2014/34/EU

The manufacturer:

Martin Engineering GmbH  
In der Rehbach 14  
65396 Walluf, Germany

hereby declares, that the following product:

Inspection Doors for belt conveyors  
**Inspection Doors part no. CYA-xxxxMG-x+E**

equipment category II 2 D

in combination with  
the potential equalization kit part no. B-DE-Pro-2000

fulfils the relevant harmonisation legislation of the EU.  
The following harmonised standards were applied:

DIN EN 1127-1: 2019-10  
DIN EN ISO 80079-36: 2016-12  
DIN EN 15198: 2007-11

Notified body: none



Walluf, 20/05/2021 Robert Whetstone, Managing Director

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