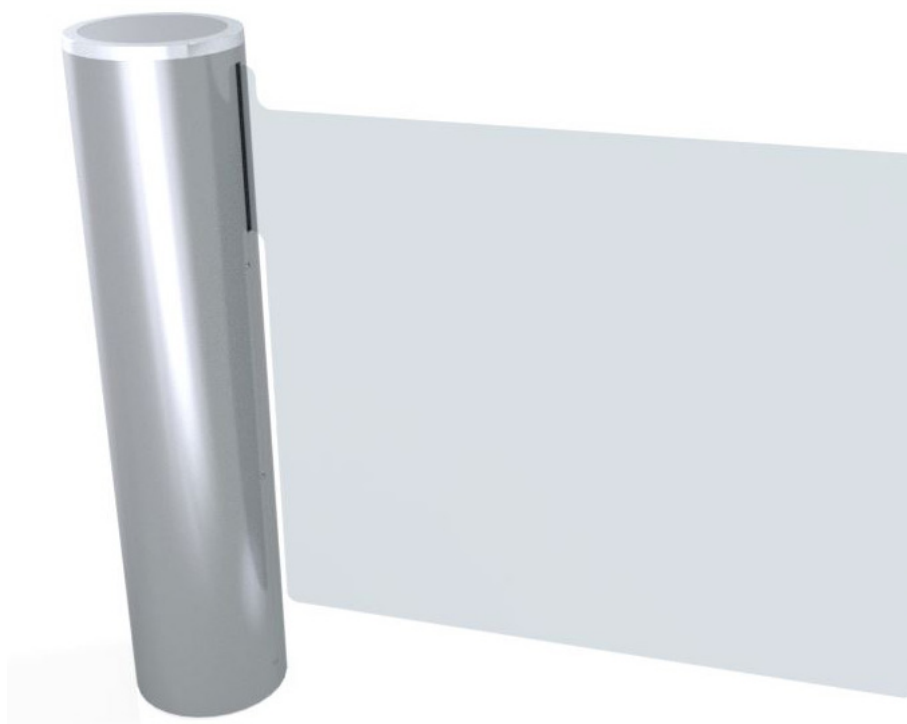


AccessLane

SWING GATE



Technical manual

Rev. **B**

DOCUMENT REVISION

Rev.	Date	Author	Checked by	Reason for revision
A	2018-08-16	VBO	JBR	First edition.
B	2018-12-06	VBO		Update informations for NAM AL.

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1. SAFETY WARNING

- o The **AccessLane** gates are designed to control access for people to a given area and cannot be used for another purpose without risk to the user and the integrity of the equipment. In particular, they are NOT designed to facilitate pedestrian traffic and must NOT be used as routine entry/exit doors.
Automatic Systems cannot be held liable for damage resulting from improper use of the equipment.
- o It is mandatory to let the equipment complete its opening and closing cycles automatically (without pushing the obstacle) to avoid accidental deactivation.
- o All operations on the equipment must be carried out by qualified personnel. Any unauthorized work or work performed by an unqualified technician on this product shall automatically void the manufacturer's warranty.
- o Access to the mechanism must be reserved for staff who are aware of the electrical and mechanical risks incurred in case of negligent handling.
- o If possible, disconnect the power supply before opening the enclosure.
- o Otherwise, turn the power off by means of the circuit breaker located on the power board (⇒ *item 20, Ch.3.6*).



In both cases, wait 5 minutes before any further handling (discharge of capacitors!)

- o Any internal component likely to be energized or in movement must be handled with caution.
- o Use of antistatic gloves or bracelets (ElectroStatic Discharge) is essential when handling electronic printed circuit boards, at the risk of the warranty being voided.
- o The equipment is configured in "minimal risk" mode for users. Parameters should only be changed by qualified personnel with full knowledge of the consequences, and any such changes shall in no way entail any liability on the part of **Automatic Systems**.
- o If the product is resold, it is the responsibility of the seller to ensure, for each piece of equipment that is offered, sold and installed, that its foreseeable environment and use take into account the technical characteristics of the equipment and comply with these requirements.
- o The seller shall defend and indemnify **Automatic Systems** from any claims against **Automatic Systems** due to the seller's failure to comply with the above obligations.



THERE IS A RISK OF EXPLOSION IF THE BATTERY OF CPU BOARD AS 1190 IS REPLACED BY AN INCORRECT TYPE.

DISPOSE OF USED BATTERIES IN ACCORDANCE WITH THE INSTRUCTIONS IN Ch.6.11, page 29.

2. GENERAL SYMBOLS

The following symbols are used in this manual or as labels on the equipment:



This symbol is used to highlight **a tip** that may help you to better understand the product.



This symbol is used to highlight **an important instruction** for the correct use and/or maintenance of the product.



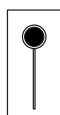
This symbol is used to highlight a risk of electric shock or electrocution.



This symbol is used to highlight a risk of cutting yourself.



This symbol is used to identify the ground connection point.
(Either in the form of an affixed label or directly engraved on a mechanical part)



This symbol is used to show the mobile obstacle position relative to the device fixing points.



This symbol is used to indicate the tool to be used for the relevant operation.



This symbol indicates that the equipment conforms to North American standards and directives according to CSA SPE-1000.



This symbol indicates that the equipment must be disposed of in accordance with the applicable North American Directives.



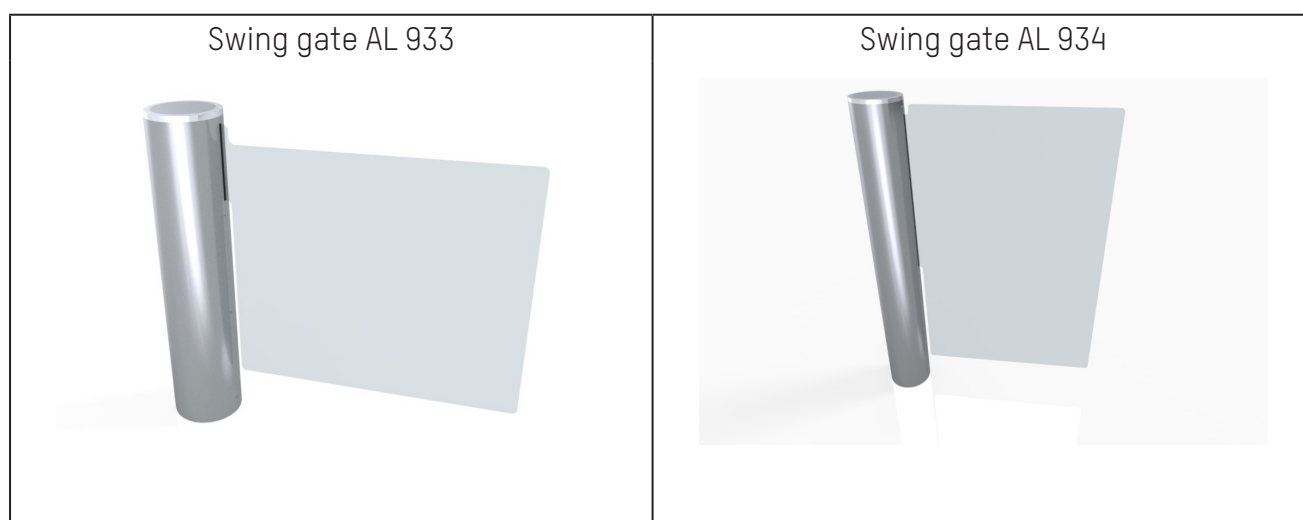
Product identification label.

3. DESCRIPTION

3.1. TERMINOLOGY

AS	Automatic Systems.
Lane	Passage defined by the width of the obstacle.
DIRAS	Infrared detection technology developed by Automatic Systems.
Reader	Equipment used to validate the user's credentials. <i>(not supplied by Automatic Systems).</i>
Maintenance Interface	Tool that allows direct connection to an AccessLane , for configuration, monitoring, diagnostics & maintenance operations (\Rightarrow see dedicated manual).
Obstacle	Element creating the obstruction to passage.
Security	Equipment's capability to prevent unauthorized entry.
Direction A	By convention, direction A is the passage from the unsecured area to the secured area.
Direction B	Direction of passage contrary to direction A. Direction B corresponds to passing from the secured area to the un-secured area.
Safety	Protection of users during use of the equipment.
CA (Controlled Area)	Area located after the obstacle, in direction A (secured zone).
NCA (Non-Controlled Area)	Area located before the obstacle, in direction A (unsecured zone).
PRM	Abbreviation of P erson with R educed M obility.

3.2. RANGE

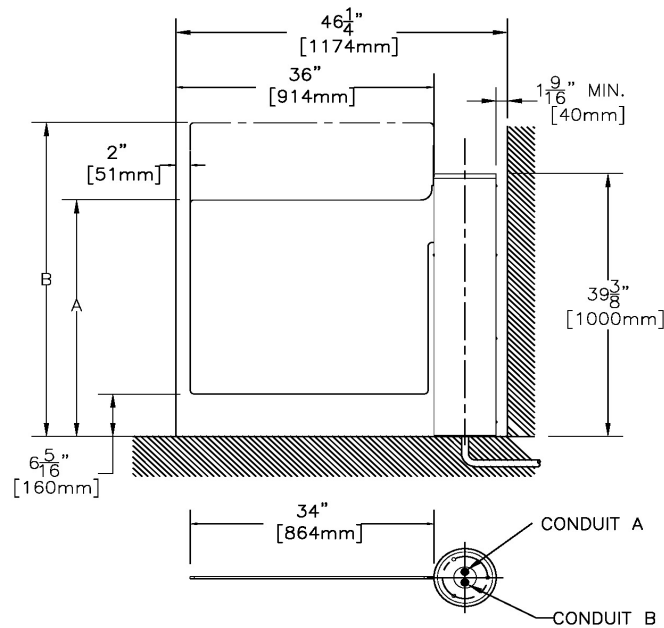


Can be installed face to face. (Master-slave type operation)

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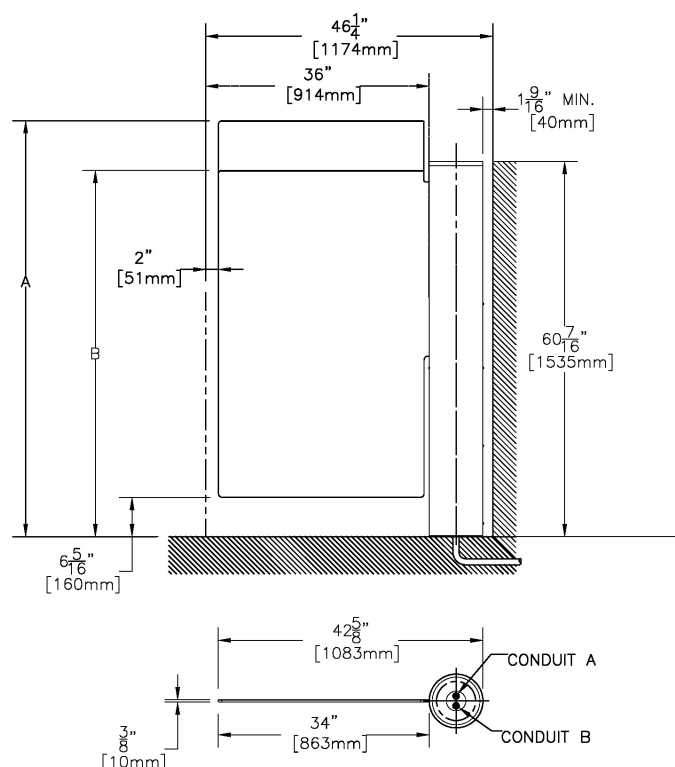
3.3. OVERALL DIMENSIONS AccessLANE 933

A	$35\frac{7}{16}$ " [900mm]	STD
B	47" [1194mm]	OPT






3.4. OVERALL DIMENSIONS AccessLANE 934

A	67" [1702mm]	STD
B	59" [1499mm]	OPT



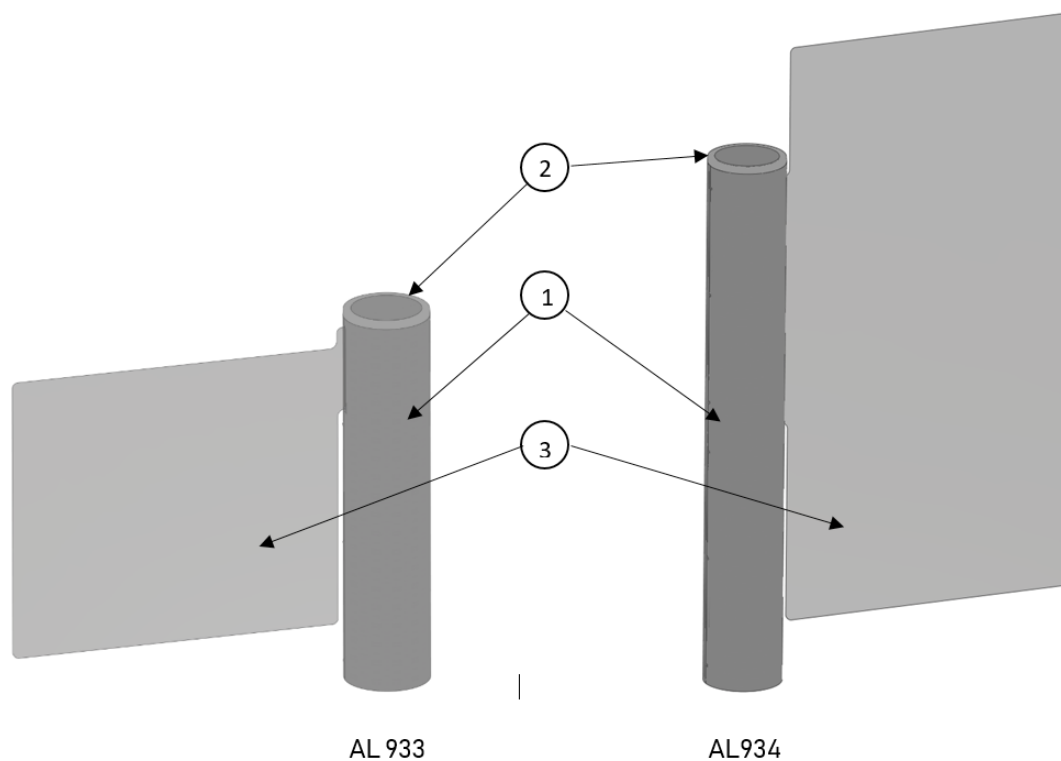
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3.5. TECHNICAL SPECIFICATIONS

		AL 933	AL 934
Power supply:	Single phase 110 VAC (1A) (+/- 10%) - 60 Hz + Ground.	✓	
	 Each lane is protected by a 6A circuit breaker.  The power supply must be protected by a 16 A circuit breaker + 30 mA differential circuit breaker.		
Peak current:		< 1 A	
Leakage current:		< 3.5 mA	
AISI 304L brushed stainless steel housing, 1.5 mm [16G] thick.		✓	
Steel frame with RoHS zinc-plated corrosion resistance.		✓	
Tempered safety glass obstacles, 10 mm [0.395"] thick.		✓	
Passage width (W):		900 mm [36"]	
Obstacle height:		900 mm [36"] ⇔ 1200 mm [47"]	1500 mm [59"] ⇔ 1830 mm [72"]
Power consumption	At rest:	< 10 W	
	During operation:	15 W	
Motor	24 VDC – Nominal output power:	30 W	
Brake	Static friction torque:	200 Nm [150 ft.lb]	
Operating time:	Opening / Closing:	4 sec	6 sec
	 (depending on the responsiveness of the access control system and the speed of the users)		
Ambient temperature during use:		-10 to +50 °C [-18 to +90 °F]	
Ambient relative humidity during use, non-condensing:		< 95%	
Protection rating (IP)		44	
Sound level (at 1 m distance):		55 dB	
MCBF (Mean Cycles Between Failures) with recommended maintenance:		5,000,000	
MTTR (Mean Time To Repair)		less than 30 min.	
Weight (without obstacle):		55 kg	72 kg
Wiring, connectors and sleeves:		halogen-free, RoHS	
As per CAN/CSA, SPE-1000		✓	

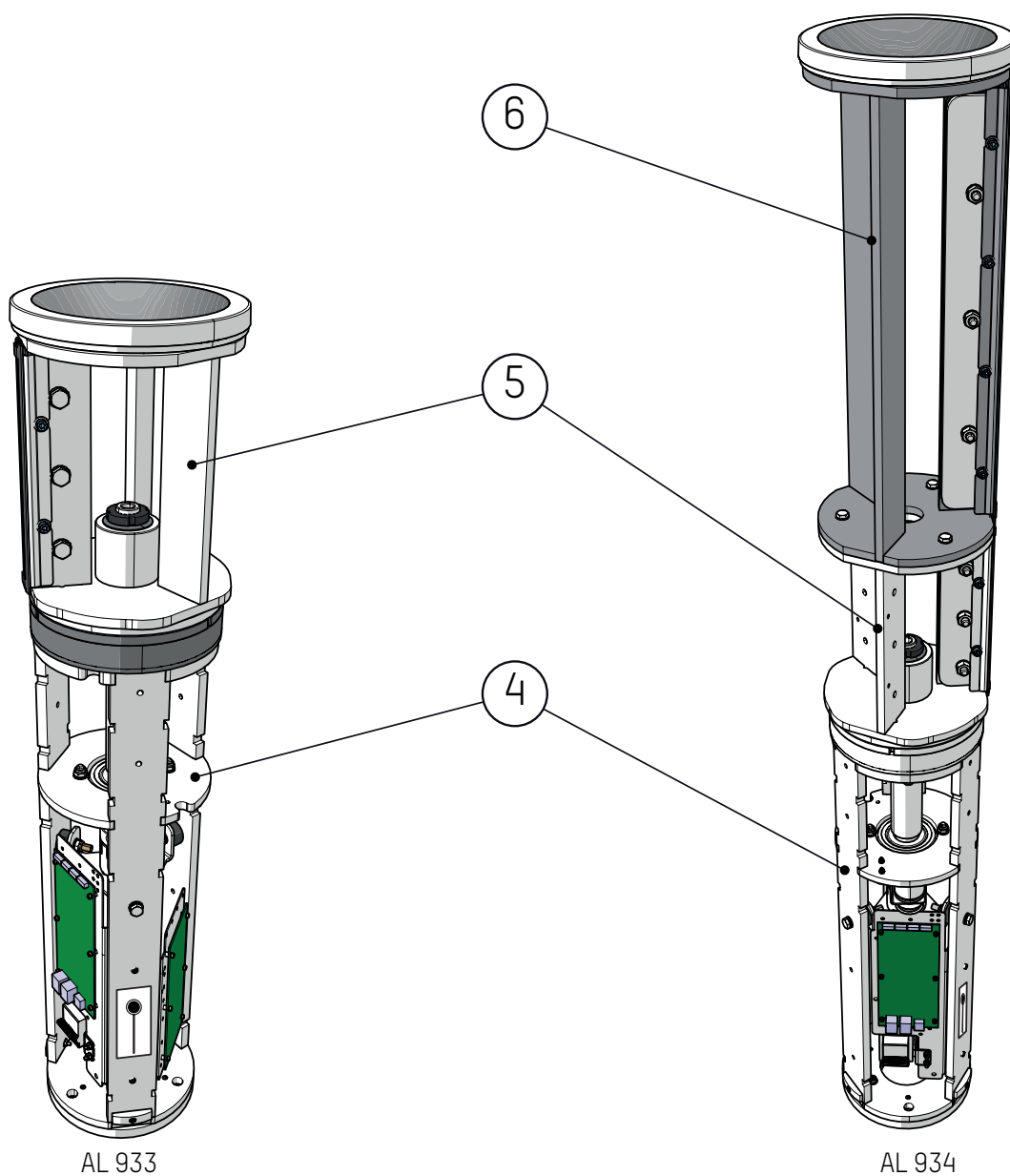
3.6. LOCATION OF COMPONENTS

3.6.1. External components

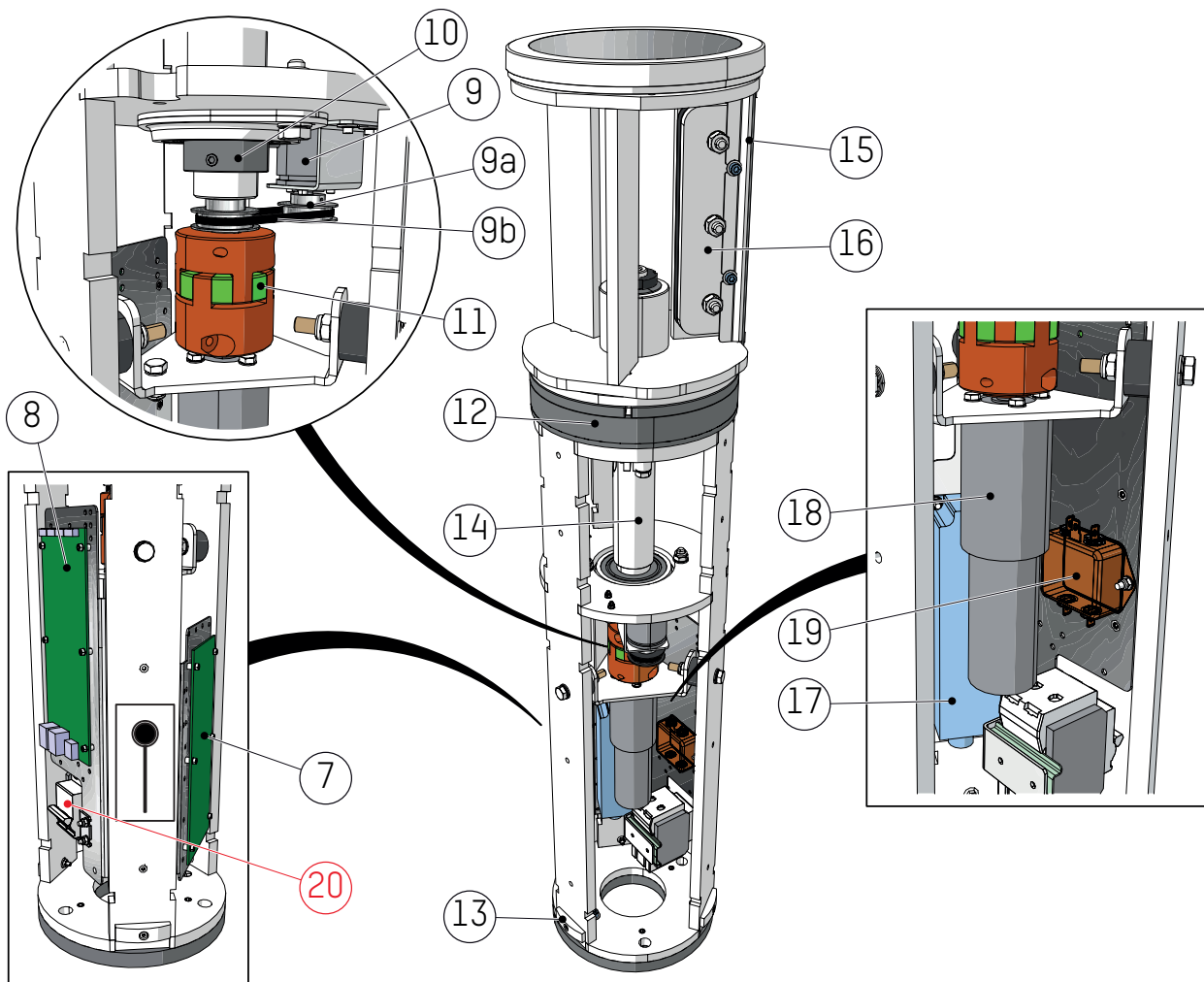


Ref.:	Designation:
1	Housing in stainless steel AISI 304L
2	Function pictogram
3	Mobile obstacle in tempered safety glass

3.6.2. Internal components

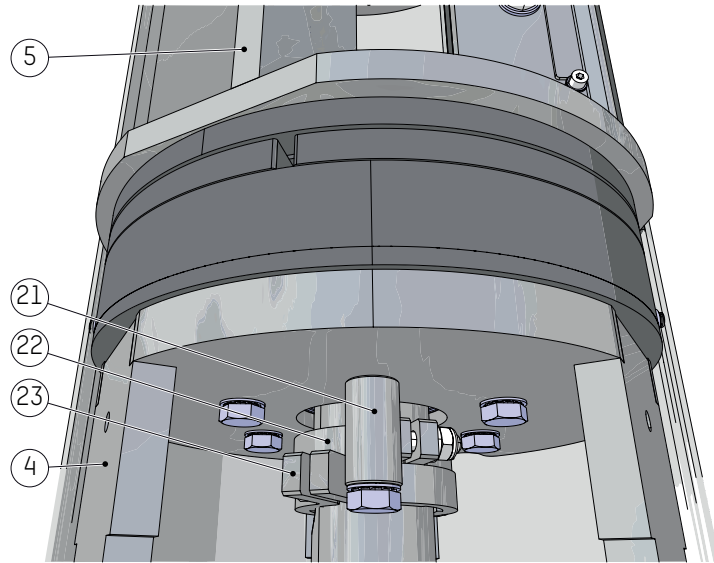


Ref.:	Designation:
4	Mechanical frame (fixed)
5	Mobile frame, lower obstacle
6	Mobile frame, upper obstacle



Ref.:	Designation:
7	Motorization + I/O circuit board AS 1611 ⇨
8	CPU circuit board AS 1190 ⇨
9	Magnetic encoder
9a	Pulley
9b	Toothed belt
10	Bracket
11	Elastic coupling
12	Electromagnetic brake
13	Housing pad
14	Drive shaft
15	Kit IP 44
16	Mobile obstacle fixing clamp
17	Power supply 24 VDC - 3.75A
18	Geared motor 24 VDC
19	EMC filter
20	Main circuit breaker

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Ref.:	Designation:
4	Mechanical frame (fixed)
5	Mobile frame, lower obstacle
21	Fixed stop
22	Upper stop ring
23	Lower stop ring

4. INSTALLATION

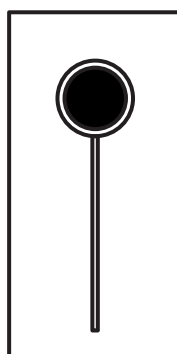


The installation work must be carried out in accordance with local standards, safety instructions (⇒ *page 5*) and the installation plan below.

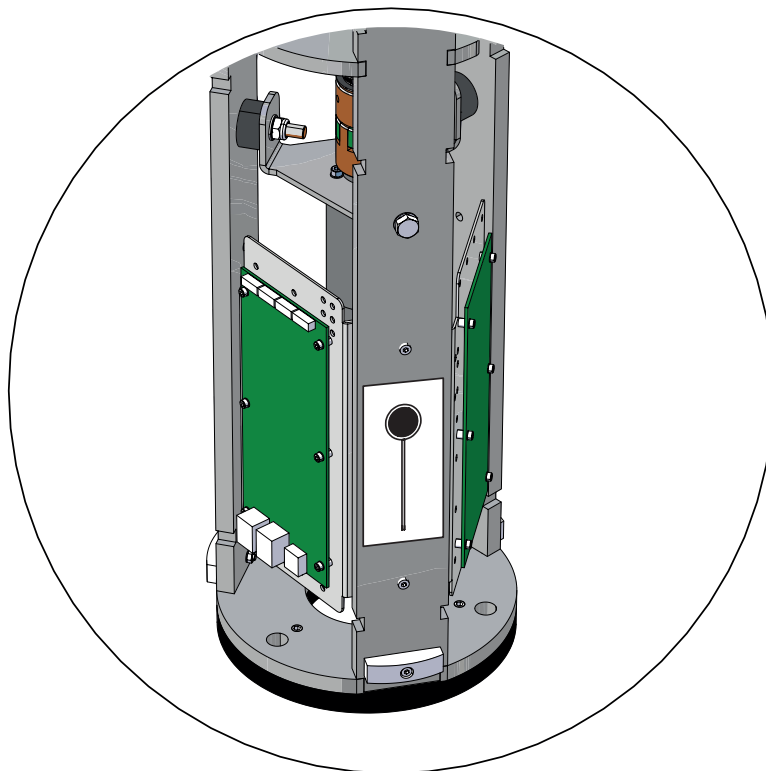
4.1. POSITIONING OF THE DEVICE FOR CORRECT ORIENTATION OF MOBILE OBSTACLE.

To help mount the device correctly, a sticker is present on the fixed frame showing the mobile obstacle orientation at rest.

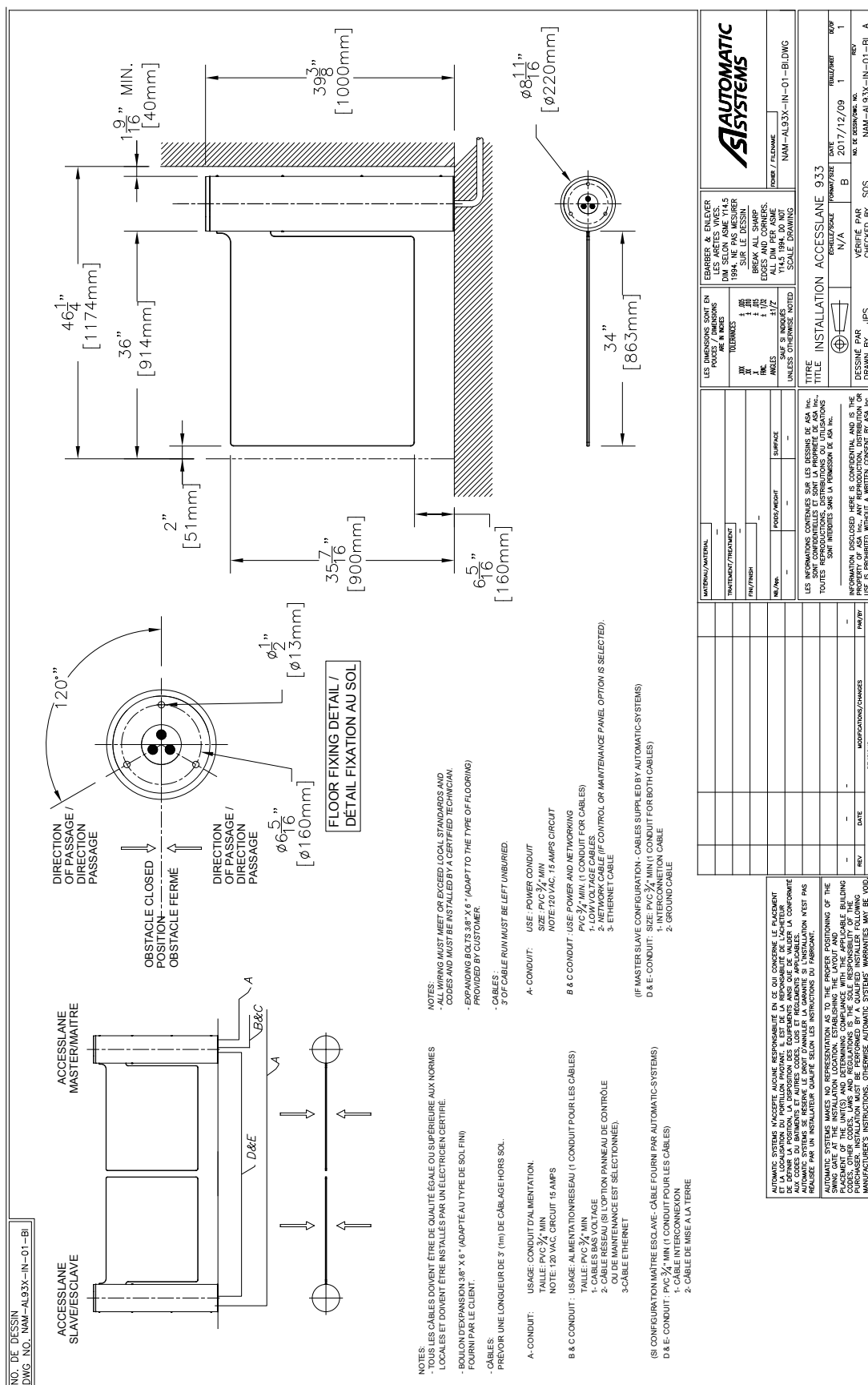
The sticker :



Its location:



4.2. INSTALLATION PLAN



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4.3. STORAGE

Prior to installation, avoid any impact to the equipment and leave it in its original packaging in a dry area, protected from dust, heat and the weather (see also '*Technical Specifications*', page 9).

Storage temperature range: -30 °C [-22 °F] to +80 °C [176 °F].

4.4. ON-SITE WORK PREPARATION



The floor on which the equipment will be installed must be of concrete or another non-combustible material.

4.5. RECOMMENDED TOOLS

- Wrench or screwdriver TORX - N° 20 (*T20, TX20, etc.*) ;
- Electrician's toolkit: screwdrivers, pliers, etc. (*For electrical connection*);
- Mallet (*For anchoring the equipment to the floor*);
- Drill + drill bits suitable for the type of floor, up to 15 mm dia.;
(*For anchoring the equipment to the floor*)
- Ratchet wrench + articulated with dial + extension + socket set;
(*For anchoring the equipment to the floor and various other operations*)
- Cat 5 unshielded Ethernet cable + RJ45 connector + crimping pliers;
(*For connecting the lane to the network, if necessary*).
- PC + mini USB or RJ45 Ethernet cable or supervision panel. (*Optional*);
(*For configuration of the lanes*)
- Circlip pliers;
- Set of metric Allen keys.

4.6. INSTALLING THE EQUIPMENT



The equipment must be fastened to the floor before making it accessible to users!

Automatic Systems cannot be held responsible for any accident or damage to equipment due to an improper installation.



The equipment can be handled using a trolley. In all cases, the lifting force must be applied to the base frame (⇒ item 4, Ch.3.6.2, **page 11**).

To fasten the unit to the floor, **Automatic Systems** provides M10 expansion bolts to be tightened with a minimum torque of 50 Nm. The location of the fixing points is shown on the installation drawing, Ch.4.2, page 15

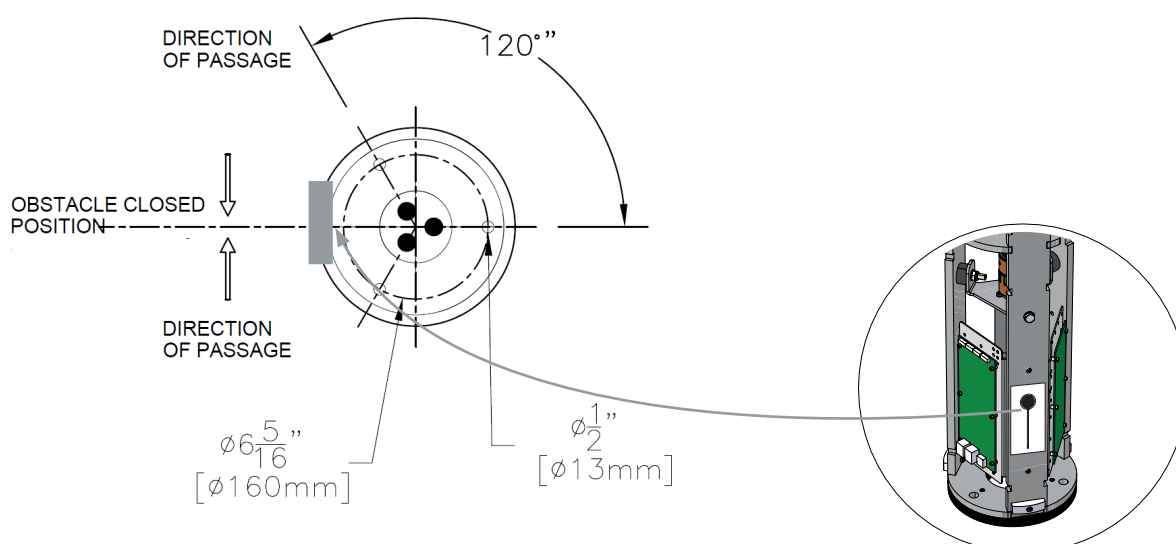


However, it is essential to adapt the fasteners and the fastening procedure to the environment and the type of surface on which the unit will be mounted. Furthermore, it is essential that the work be approved by an engineer specialized in the field.

1. Mark the fixing points of the equipment on the floor, referring to the installation drawing, Ch.4.2, page 15.

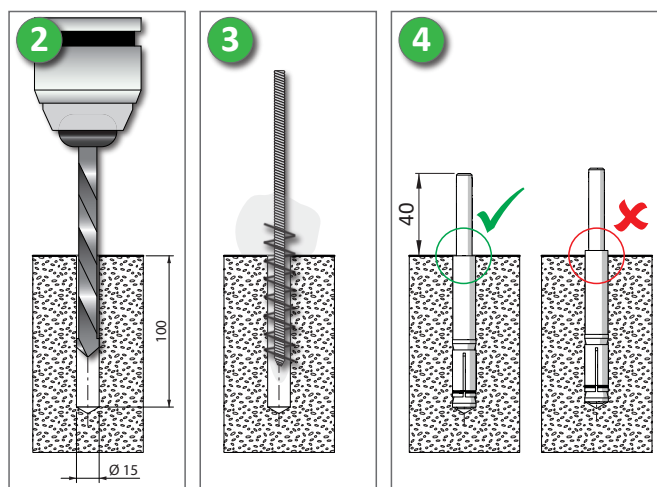


Drill + drill bits suitable for the type of floor + mallet (if necessary).

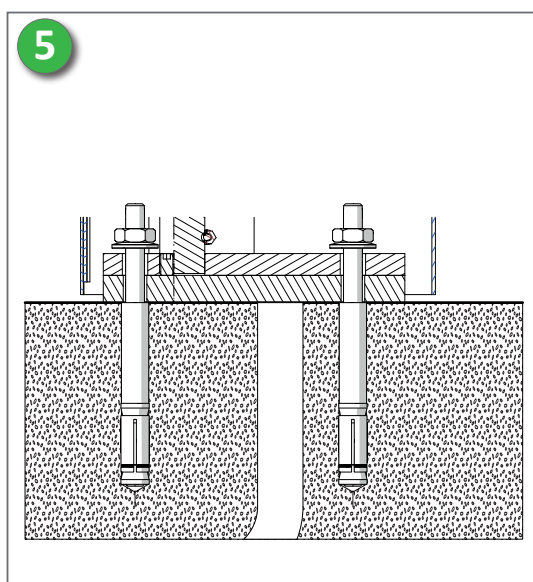


For added convenience, the anchor base can be used when marking the fixing points of the equipment. **However, it should never be used as a drill template.**

2. Drill the three fixing points of the equipment into the floor using a concrete drill, 15 mm dia., to a depth of 100 mm.



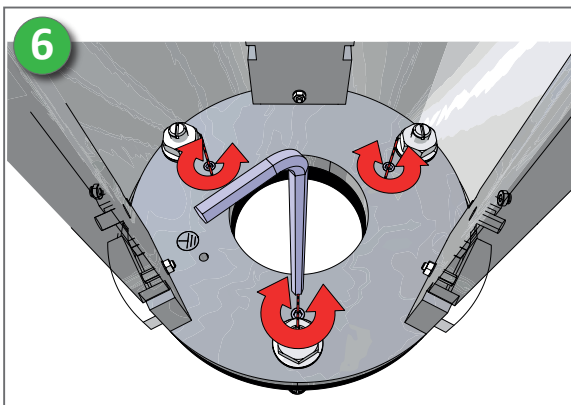
3. Remove dust from the drilled holes.
4. Into each hole insert an expanding dowel supplied by **Automatic Systems**, making sure to first remove the washer and nut of each dowel.
The threaded stem of the dowel should project 40 mm above the finished floor level.
5. Arrange the anchor base and the equipment on the expanding dowels, making sure to align it as shown on the installation drawing **page 15** so that the mechanism is easily accessible.
Put the washers and nuts of the expanding dowels back in place without tightening them.



6. Adjust the base of the equipment (**horizontality and verticality**) using the three set screws located near the points to anchor the equipment to the floor.



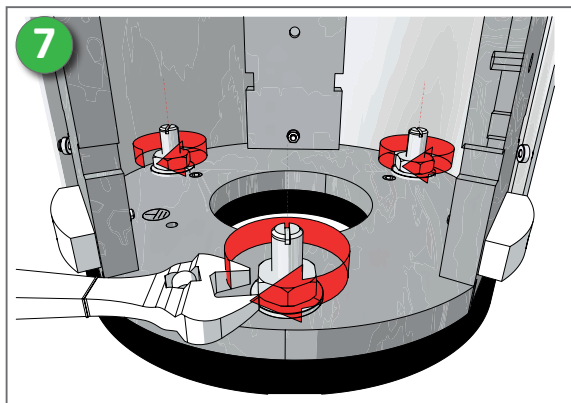
Set of Allen keys.



7. After adjusting the base, properly fasten the equipment.



Flat spanner set or ratchet wrench with extension and 19 socket.



4.7. ELECTRICAL CONNECTIONS



Electrician's toolkit: screwdriver, cutting pliers, stripping pliers, etc.

The connections must be made in accordance with the installation drawings (⇒ **page 15**) and electrical diagrams (⇒ **page 30**), which remain the reference.

The power and control cables as defined on the installation drawing are the responsibility of the user.

The control cables must be separated from the power cables to avoid interference.



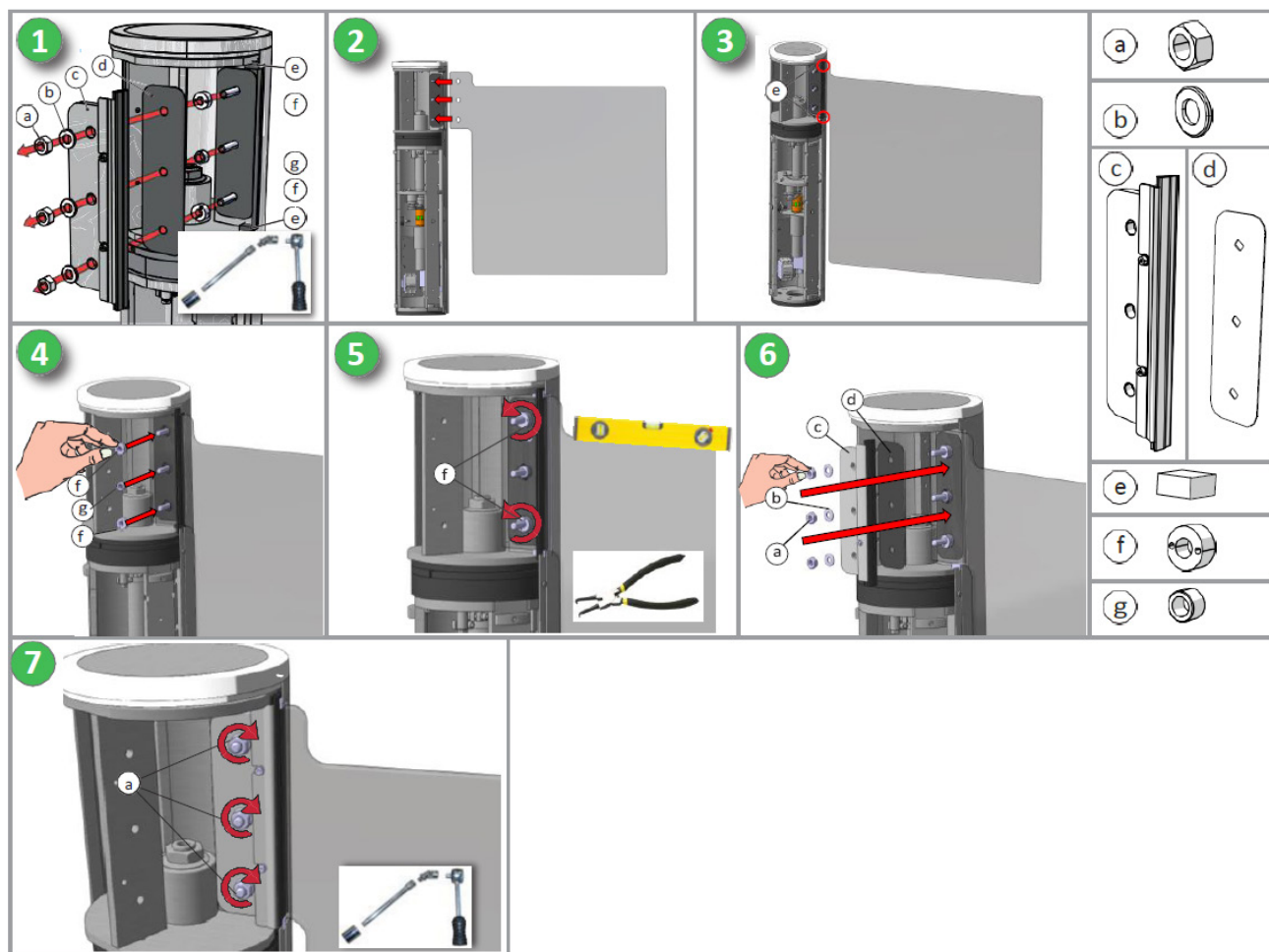
Prior to connecting the power supply, it is essential to ground the connection using a cable with a min. cross section of 2.5 mm².

Do not connect to a floating network or to a high-impedance earthed industrial distribution network.

1. Connect the power cable to the main circuit breaker. The ground cable is connected to the ground terminal located right next to the main circuit breaker.
2. If the equipment is connected to a computer network:
 - Connect the Ethernet cable (RJ45) to the connector CN13 (ETH) on the AS1190 board.
3. For a master-slave passage configuration (*wide lane with two equipment units mounted face-to-face*):
 - Connect W4 cable to the CN8 (CAN) connectors of the AS 1161 boards.
 - The ground wire between the two fixed frames.

4.8. MOUNTING THE OBSTACLE

To facilitate the mounting of the obstacle, Automatic Systems has developed a specific packaging, which allows a lower obstacle to be mounted by a single person. For mounting a higher obstacle, we advise that steps 2 to 5 be performed with the assistance of a second individual.



1. Disassemble the obstacle fastening clamp and keep the elements near the equipment.
2. Position the obstacle so that the flaps giving access to the obstacle fastening points point towards the fastening points located on the mobile frame.
3. Remove the stickers keeping the flaps in place and push back the latter on both sides of the packaging, thereby releasing the obstacle fastening points.
4. Position the obstacle on the fastening screws, taking care not to damage the lower and upper gaskets.



The gaskets (e) have been placed within a small plastic bag, and attached to the frame.

5. Slip the cams onto upper and lower fastening points until they are properly integrated with the mobile obstacle. Place the spacer on the central point.
6. Remove the packaging either by dragging it over the floor or by opening it completely.
7. Using circlip pliers, adjust the horizontality/verticality of the obstacle by adjusting the two cams.
8. Replace obstacle fastening elements.
9. Tighten the nuts. (*refer to the tightening torque table, Ch.6.2, page 24*).

4.9. COMMISSIONING



If the equipment was stored with power off and ambient temperature below 15 °C (5 °F), it is important to allow it to warm up for 30 minutes to 1 hour before powering up.

Trip the main circuit breaker (⇒ Ch.3.6. , item 20) to power up the equipment.

When power is applied, the obstacles will go through a complete opening and closing cycle.

The function pictograms are blue.

Configure the lane via the Maintenance Interface (obstacle dimensions, opening speed, etc.) ⇒ see specific manual.

Perform several openings and closings using the available controls (reader, remote control, etc.) and check the obstacle position in the open and closed positions.

Check that the obstacles open completely when an evacuation signal sent.

Pass through several times to confirm that the pictograms and buzzer operate properly.

Check that the optional equipment (monitoring panel, etc.) and customer-incorporated equipment (reader, etc.) are operating correctly.

5. OPERATION

5.1. OBSTACLE LOCK

The obstacle is locked in its end positions by means of an electromagnetic brake.

5.2. POSITION ENCODER

Connected to the 24 VDC motor via a pulley and belt system, an absolute magnetic encoder provides the exact position of the obstacle at any given time.

6. MAINTENANCE



- All maintenance work on the equipment must be carried out in accordance with the requirements in the safety warnings in chapter 1.
- The ground wires must interconnect all moving metallic parts (not bolted to the frame).
Special attention should be paid during disassembly of these elements so as not to damage these wires.
It is imperative to reconnect them during reassembly.

6.1. RECOMMENDED TOOLS

- Wrench or screwdriver TORX - N° 20 (*T20, TX20, etc.*);
- Electrician's toolkit: screwdrivers, pliers, etc. (*For electrical connection*);
- Mallet (*For anchoring the equipment to the floor*);
- Ratchet wrench + extension + socket set;
- PC + mini USB or RJ45 Ethernet cable or supervision panel. (*Optional*);
(*For configuration of the lanes*)
- Circlip pliers;
- Set of metric Allen keys.
- Flat spanner set.

6.2. RECOMMENDED TIGHTENING TORQUE

Recommended torque for tightening screws and nuts, unless otherwise specified:

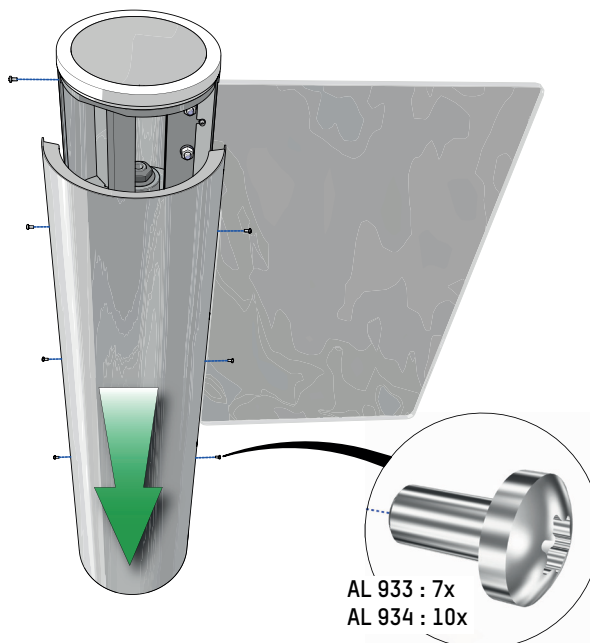
Type of screw	Torque (Nm)
M2	0.32
M3	1.15
M4	2.65
M5	5.2
M6	8.9
M7	14.5
M8	22

Type of screw	Torque (Nm)
M10	43
M12	75
M14	119
M16	182
M18	250
M20	355
M22	480

6.3. REMOVING THE REMOVABLE PANEL



Wrench or screwdriver TORX - N° 20 (T20, TX20, etc.)



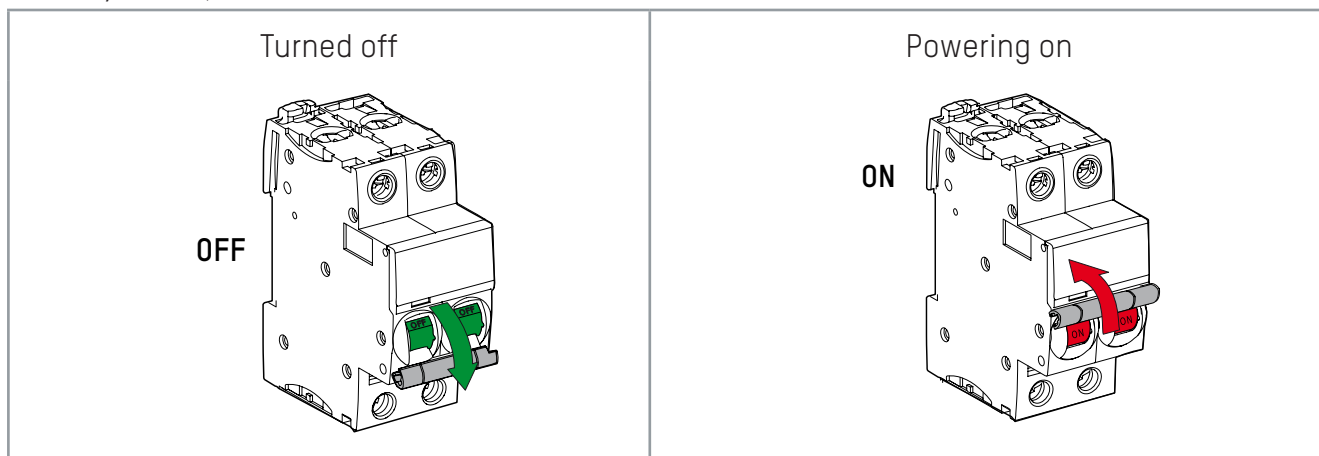
- Remove the 7 screws holding the housing panel in place on the mechanical frame.
- Take off the panel and keep it in a safe place.



The second half of the housing cannot be removed because it is still fastened on the inside.

6.4. SWITCHING THE EQUIPMENT ON/OFF

After removing the removable panel (⇒ [page 25](#)), you can operate the main circuit breaker (⇒ [item 20, Ch.3.6](#)):



6.5. PREVENTIVE MAINTENANCE

6.5.1. Maintenance of surfaces

To retain the surface appearance and avoid any oxidation deposits or marks, it is strongly recommended to regularly treat the housing with a product specially designed for this purpose.

Automatic Systems can provide an approved product under reference -/6031/00.



The use of unsuitable products can cause even greater damage:

- **The use of hydrochloric acid is strictly forbidden!**
- **Hot household bleach, even diluted, is strictly forbidden!**

Do's:

- Use a sponge or a soft nylon brush *(except for gloss or mirror polish finishes);*
- Brush in the direction of the polish lines;
- Clean using a soft, non-fluffy cloth.

Don'ts:

- Use:
- Metallic brushes or sponges;
 - Hard brushes;
 - Brushes on gloss or mirror polish finishes;
 - Abrasive scouring pads or powders;
 - Chlorinated or other unsuitable products.

* Source: <http://www.uginox.com/fr/node/13>.

Automatic Systems reserves the right to deny warranty coverage based on an apparent lack of maintenance.

6.6. RECOMMENDED SPARE PARTS



The items used below refer to the chapter 3.6. Location of components, page 10.

Item N°:	Designation:	Article N°:	Quantity:	MTTR:
7	Motorization + I/O circuit board AS 1611 ⇒	0/7108/713	1	< 15 min
8	CPU circuit board AS 1190 ⇒	0/7108/150_TESTE	1	< 15 min
13	Housing pad kit	E/7002/547	3	< 15 min
9b	Toothed belt	COU-E15509	1	< 15 min
17	Power supply 24 VDC - 3.75A	0/7108/482	1	< 15 min
18	Motor	MOT-E15505	1	< 25 min

For any other parts refer to the AccessLane **spare parts** catalogue.

6.7. ADJUSTING THE OBSTACLE CLOSING POINT

See *Maintenance Interface* manual.

6.8. ADJUSTING THE STOP RINGS (LIMIT SWITCHES)

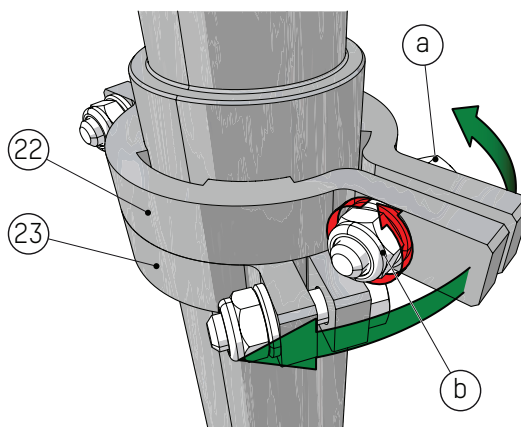


Ratchet wrench with extension and 10 socket + 10 flat spanner. *(or two 10 flat spanners)*



The items used below refer to the chapter 3.6. Location of components, page 10.

1. Disconnect the power supply of the gate, either on the main panel or via the main circuit breaker (⇒Ch.6.4. Switching the equipment on/off, page 25).
2. The mechanical stop rings **(22 and 23)** determine, when they come into contact with the fixed stop (21) (see page 13), the end positions of the obstacle. If a physical obstacle were to prevent the factory-set opening (180°), the opening angle of the obstacle can be changed by repositioning one of the stop rings.



3. Holding the fastening screw in place (a), unscrew the safety nut (b) of the stop ring located on the side to be adjusted, so that it can be rotated on its main axis.
4. Adjust the position of the stop ring and tighten the assembly.
5. Switch on the equipment again and watch the initialization phase to check for proper adjustment. If necessary, repeat the above operations until the desired result is obtained.

6.9. REPLACING THE OBSTACLE

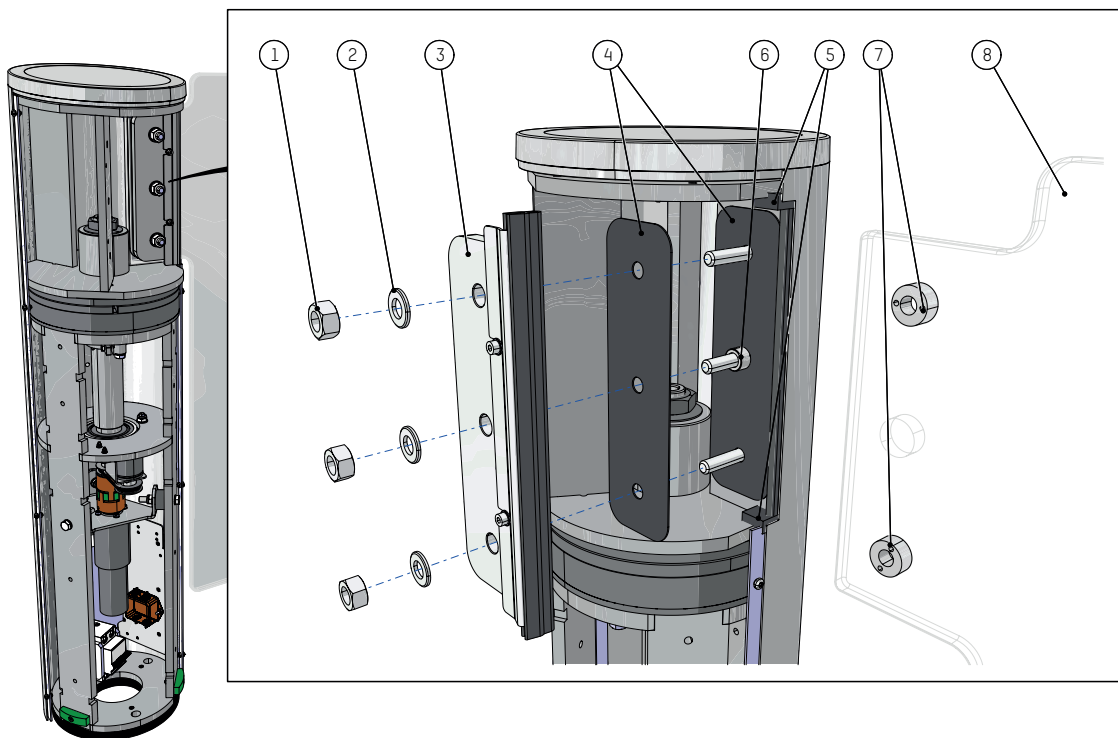


Ratchet wrench with extension and 17 socket + circlip pliers.



Depending on the size of the obstacle, a second person may be required to safely perform this operation.

1. To replace an obstacle, you must first remove the removable panel (⇒ Ch.6.3, page 25) and switch off the equipment (⇒ Ch.6.4, page 25).



2. Fully unscrew the 3 nuts (1) and remove the associated washers (2), the fastening clamp (3) of the obstacle (8) and the gasket (4).
3. Take the obstacle (8) off its support, making sure not to lose the cams (7) and the spacer (6). If necessary, remove them from the old obstacle.
4. Remove and replace both gaskets (5).



These gaskets are stuck to the mobile frame. The removed gaskets must be disposed of properly.

5. Refer to paragraph 3.6. *Location of components*, page 10.

6.10. MALFUNCTIONS AND REMEDIES

This product has been designed so that a self-test can be carried out.

The result of this self-test is visible in the **States** page of the **Maintenance Interface**.

⇒ *Refer to the dedicated manual.*

6.11. DISPOSAL / DESTRUCTION

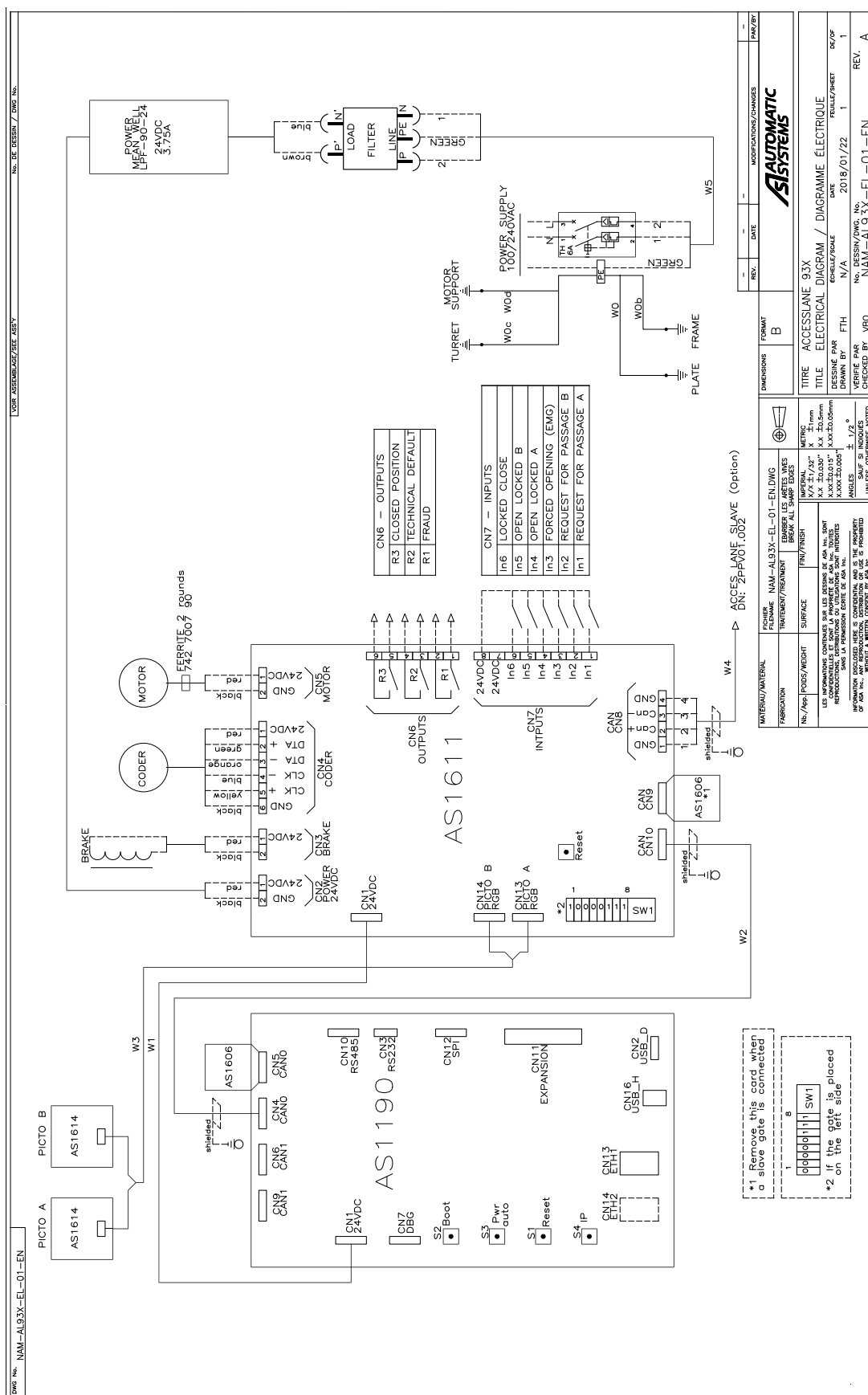
If the equipment is not going to be used for a long period, it is recommended to:

Store it in the same conditions as before the installation (⇒ Ch.4.3, page 16).

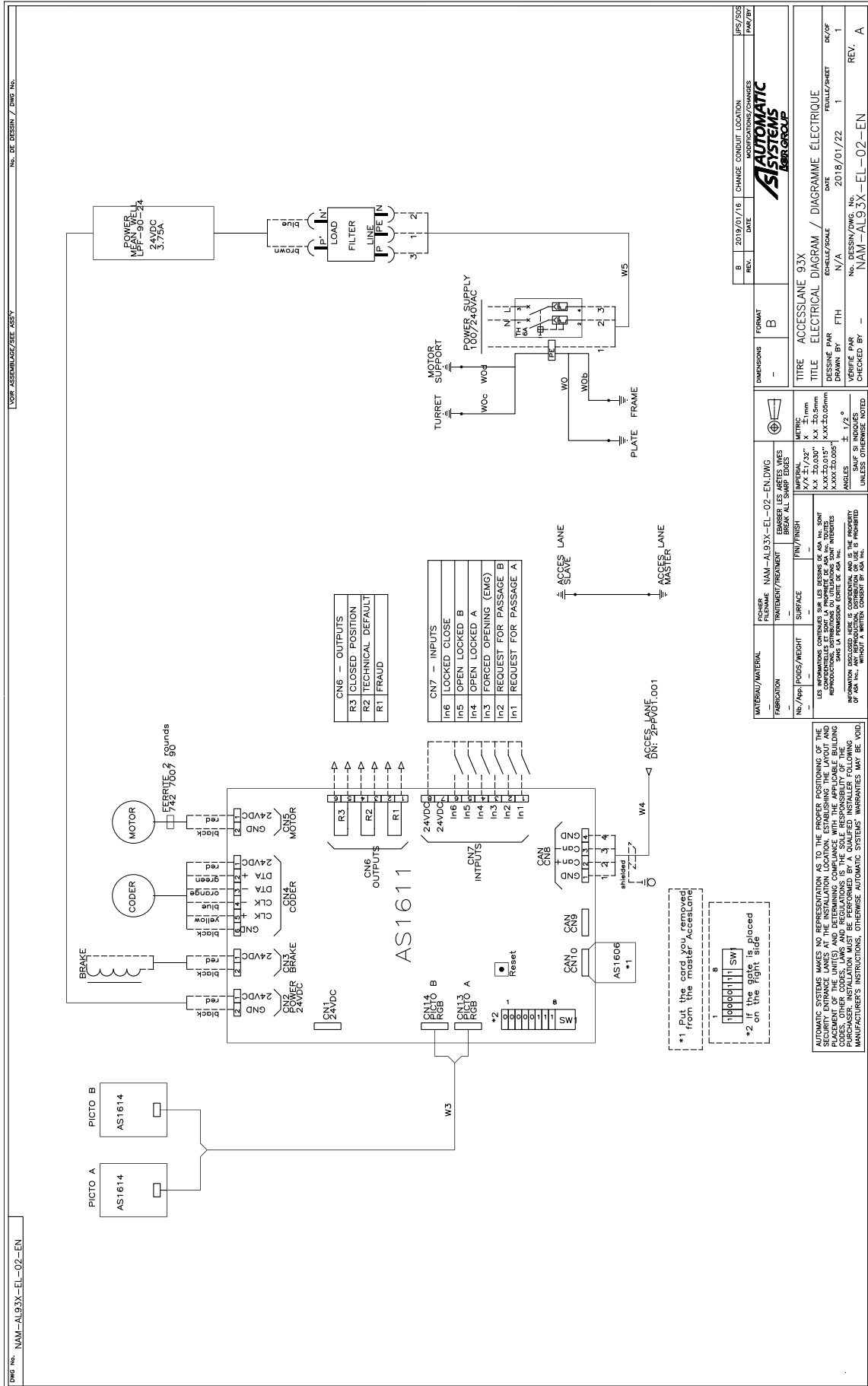
Leave it powered on, to maintain the charge of the battery of the CPU board (AS1190).

When the equipment is taken out of service, dispose of the various components of the machine in the appropriate manner (metal parts, electronic components, etc.) according to the regulations in effect.

7. ELECTRICAL DIAGRAMS



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AUTOMATIC SYSTEMS - North America Technical Support

Tel.: 1 800 263.6548 ext 233

Fax: 450.659.0966

www.automatic-systems.com

