

WOLGATE STORE



TECHNICAL MANUAL

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1. Introduction

Wolpac, a company specialized in Access Control equipment, is proud to be recognized in the market for the functionality and efficiency of its products, whose qualities and technical warranty are now at your disposal.

Additional clarifications, comments and suggestions on this manual can be obtained through the technical support division exercised by our affiliate **ATA SERVICE**.

Site.: www.wolpac.com/assistenciatecnica

Make sure the version of this manual is the most up to date! **Wolpac** reserves the right to make any changes to this document, or to the technical specifications of the product without prior or subsequent notification to any organization.

Welcome to **Wolpac** technology.

2. Important Safety Instructions

General Instructions

The main features of the Wolgate Store, how it should be installed, as well as the care to be taken for the correct operation of the equipment, are described in this manual. Read carefully before starting any type of operation to ensure the total and full performance of the product.

Wolpac makes every effort to ensure that this manual is periodically reviewed and whenever significant changes are made to the project. However, our continuous improvement policy may result in some minor differences between the unit provided and the description provided in this document.

Electrical Precautions

The electrical energy used to supply this equipment has a voltage sufficient to endanger a person's life. Before performing any maintenance or repair, you must ensure that the equipment has electrical insulation and perform tests proving that this insulation is complete.

When the power supply cannot be interrupted, functional tests, maintenance and repairs of electrical units must only be performed by persons fully qualified in relation to the hazard involved and that appropriate precautions and training are taken.

Notes about Ownership

All information contained in this document is the property of **Wolpac**, possession of this manual and use of the information is strictly limited to persons previously authorized by Wolpac.

Reproduction, transcription, server storage and translation into any language of this document or part thereof is not permitted without prior authorization from Wolpac.

Changes to the Equipment

No product changes can be made without the authorization of Wolpac, who will be responsible for ensuring that the proposed change is acceptable in safety and functionality aspects of the equipment. Only persons authorized by Wolpac may make changes to the equipment.

Good Usage Practices

The equipment being installed should not be abandoned unless all potential electrical and mechanical hazards have been safely remedied. A responsible person should be left in charge of the equipment when there is a potential unsafe installation.

The following points below indicate good practices that will contribute to safety and avoid damage to the equipment:

- Make sure that all electrical power is disconnected and disconnected before proceeding with any type of work on the equipment.
- Never leave the equipment in a potential unsafe state.
- Only use the correct tools, preferably indicated in this manual.
- When working with the equipment, remove any jewelry that may be conductive, or clothing that may become entangled in the mechanical parts of the equipment.

Important Notice

The Wolgate Store is a safety product, any child or minor who is going to use the equipment must be supervised and accompanied by a responsible adult. Wolpac is not responsible for any incidents if this rule is not applied.

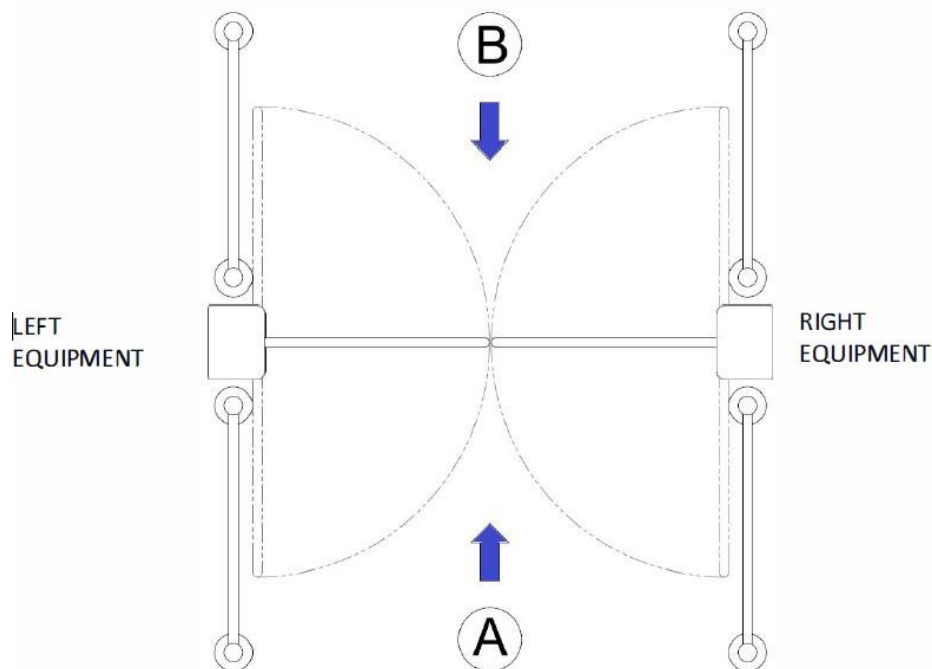
3. Product Description

The Wolgate Store is an automatic access control equipment designed mainly for commercial establishments, where there is a need for physical separation of certain places, such as stores, supermarkets etc. It is perfect for use in Self Check-out systems, where it avoids people exiting without proper payment of the material purchased. It was developed according to the most demanding safety and ergonomics standards, and also allows use by people without disabilities or those carrying large objects. With a sophisticated design, the Wolgate Store applies to various environments and architectural projects, can be used in both directions of passage, from (A) to (B) or vice versa, as shown below, and is controlled only by infrared sensors, a keypad or any other validation systems. It is equipped with a control module capable of processing and providing information to the system in which the equipment is interconnected.

Main applications:

- Stores
- Supermarkets
- Bakeries
- Locations with Self Check-out System

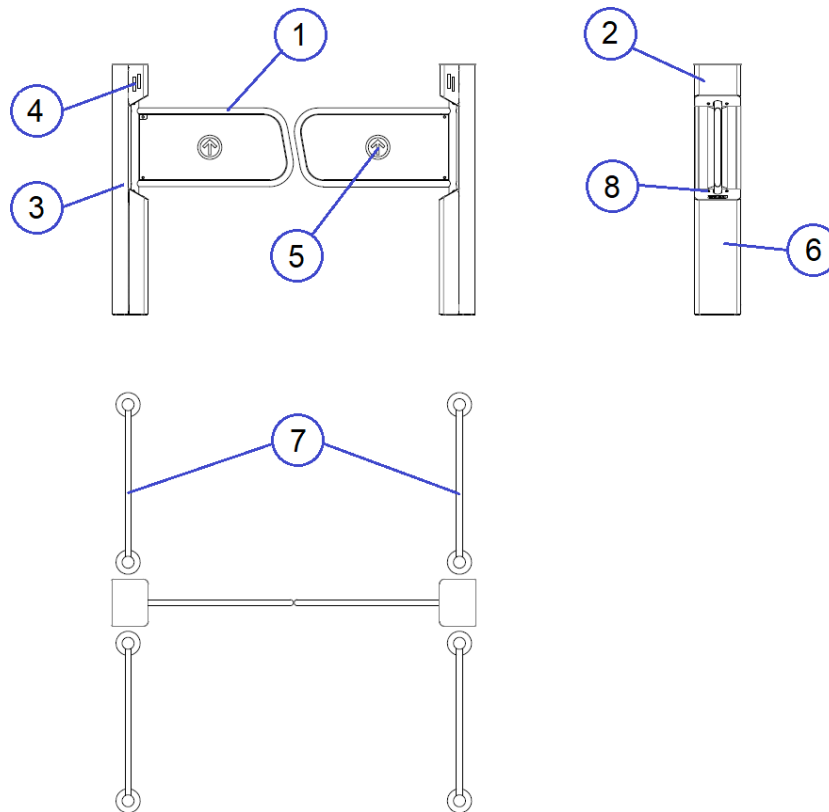
Detail of installation positions and directions of passage



* Cycle definition: This is the passage of a user through the equipment, regardless of the direction of passage.

4. Equipment Composition

Typical unit of an assembled set



Legend:

- 1 – Exit Gate
- 2 - Upper Front Cover
- 3 - Main Cabinet
- 4 - Guiding Pictogram
- 5 - Passage Guidance Label
- 6 - Lower Front Cover
- 7 - Sensor Controlled Closure (Optional)
- 8 - Lower Cover attachment screws

5. Technical Specifications

Material:	Upper Finish	Carbon steel painted with epoxy powder paint
	Covers	Brushed AISI 304 Stainless Steel
	Pedestal Finish	Brushed AISI 304 Stainless Steel
	Internal Structure	Carbon steel painted with epoxy powder paint
	Exit Gate	303 stainless steel pipe and acrylic banner

Dimensions: See page 20 of this manual.

Installation: Both directions of passage (Fig. page4).

Functionality: Motorized with automatic opening and closing.

Mechanism: Control of the operation of the equipment is performed by a motorized mechanism located on the inside of the pedestal. The gate is opened by triggering the motor via a passage signal and closed via a time-out, or unobstructed passage sensor.

Power Outage: In cases of power outage or emergency events, the equipment is designed to open in both directions, returning to normal operation after the interrupted power is restored.

Interface: The equipment is supplied with the PWDM II control module responsible for user passage control.

Power supply: "Full-range" switch (110/220V)

Maximum consumption : 120W

Protection Index: IP-40

MCBF (Mean Cycles Between Failure): 5 million cycles

MTBF (Mean Time Between Failures): 100,000 hours

MTTR (Mean Time to Repair): Max. 30 min.

Working temperature: -5 to 50°C

Storage temperature: -10 to 55°C

Relative humidity: Max. 95% non-condensing

Approximate weight: 30 kg (individual).

6. Installation

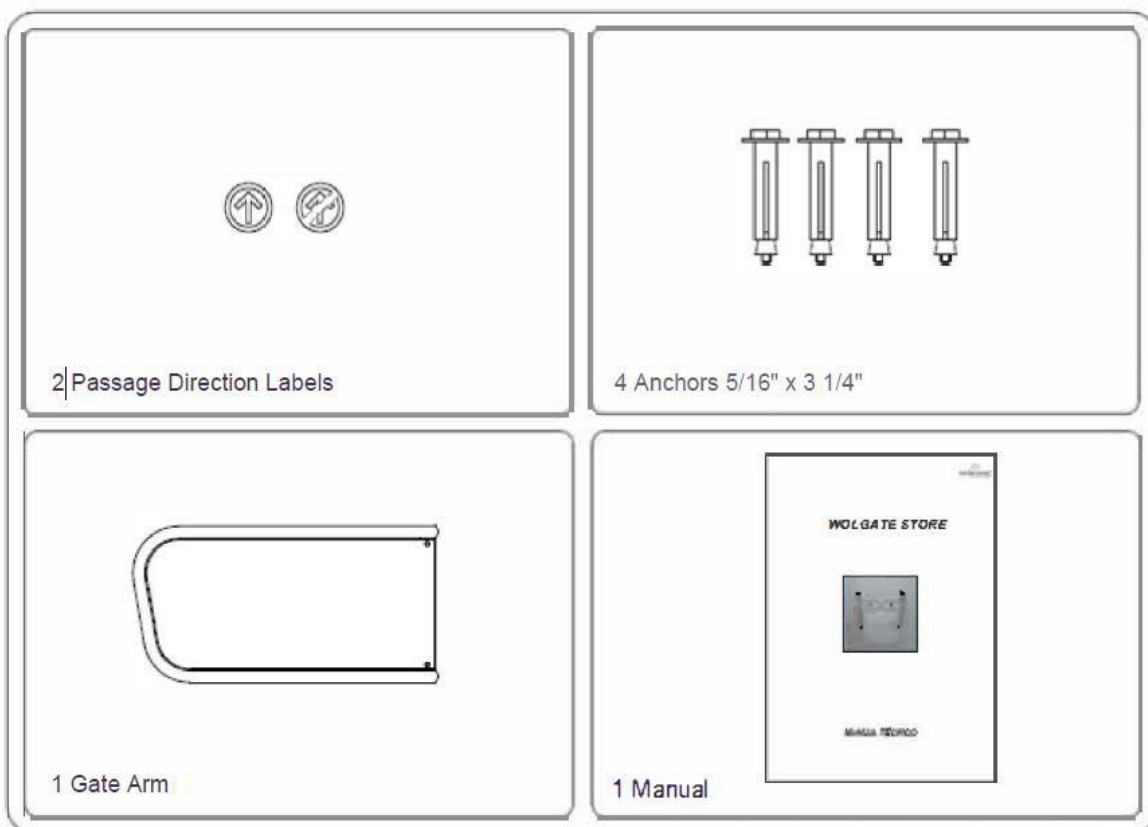
Note!

Unpacking the product

When receiving the product at the installation site, check that all items are complete and undamaged. In case of any damage caused by the transport of the product, the extent of the damage must be reported to the carrier and, if necessary, report the incident to Wolpac.

Please have the Technical Manual on hand, as provided by Wolpac. Wolpac is not responsible for any injury or damage occurring due to noncompliance with the instructions contained in this Technical Manual provided with the product.

Items and accessories



Note!

All the tools necessary to install the equipment, as well as how to drill and fix the equipment to the floor are described in this manual.

Preparation of the floor

Before installing your equipment, the following items should be checked:

- Conditions of the installation environment.
- Characteristics of the product's power supply.
- Physical space of the location.
- Cabling layout.

Environmental conditions

For the correct operation of the installed equipment, the following conditions should be found:

- Working temperature between -5 and 50°C
- Relative humidity not exceeding 95%
- Environment without any metal dust
- Environment without the presence of solid, liquid, and gaseous polluting components that may corrode cables and metal components of the equipment.

Caution!

Do not expose the equipment to poor weather conditions or direct sunlight.

General conditions of the floor

The floor must be flat with a slope tolerance of no more than 2% in the equipment installation area.

The concrete used must follow the resistance specifications and have a minimum layer of 100 mm at the anchorage site of the anchors.

Chemical anchors can be used in cases where there is not enough concrete layer or on special floors such as granite.

Under the floor, conduits with a minimum diameter of 1" (25.4 mm) must be provided, with passage boxes at the points indicated in the installation drawing (Fig. page.10).

Electrical connections

Note!

The electrical installation of this product must be performed by a qualified technical team. The handling, installation and specifications of the cables must be in accordance with the instructions based on this manual.

Basic preparation of the electrical installation

Two types of cabling are required for Wolgate Store equipment:

- Power cabling
- Signal communication cabling

Below are instructions for installing the equipment cabling:

- Floor conduits with a diameter of no less than 1" (25.4 mm).
- Install power and signal transmission conduits so that they are separated, avoiding possible noise problems.
- Install conduits away from high voltage cabling or radio frequency cabling, electric motors, and other machines.
- Position the conduits as far away from the equipment anchor holes on the floor as possible.
- All cables and conduits are provided by the customer and must be in place prior to installation.
- Check that the main power source is isolated.

Important!

In addition to powering the equipment, the grounding connection is essential for correct and safe operation of the product.

Specifications

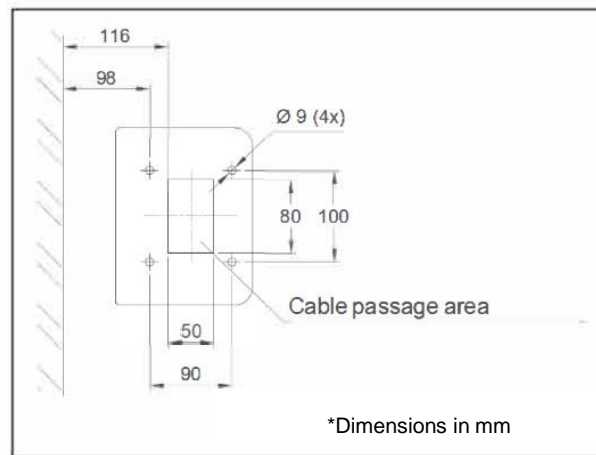
Conductive electrical cables with a minimum section of 1.5 mm² (14 AWG) should be used to supply the equipment, connecting the equipment directly to the electrical power panel, without the use of outlets or connectors.

The equipment accepts a variation of +/- 10% on the nominal value of the supply voltage, and the product power source works at both 110 and 220V voltages.

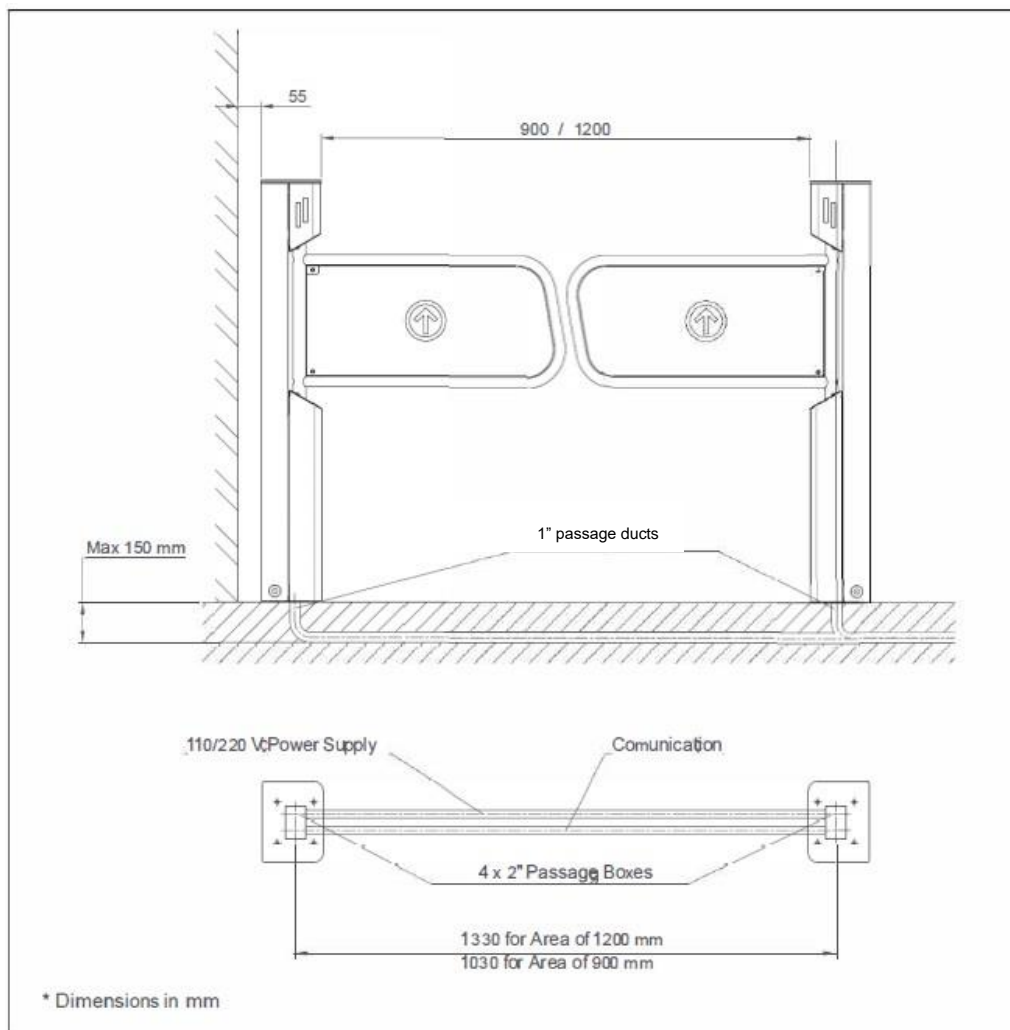
Important!

For installations with large voltage oscillations it is recommended to use voltage stabilizers.

Detail of the individual attachment of the equipment



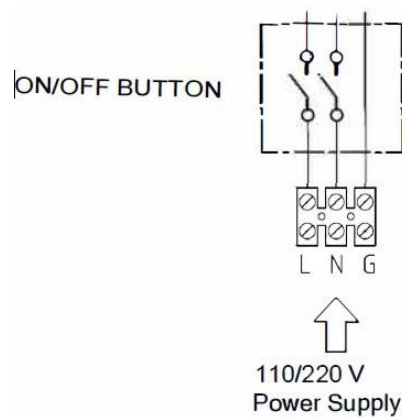
Detail of the installation of the set (900 and 1200 mm)



7. Turning on the equipment

After performing the entire product installation stage, proceed with the following steps:

1. Check that the electrical interconnection was performed correctly.



2. Activate the power switch.
3. After activating the power switch, check that the equipment performs the functions in the sequence below:
 - a. LEDs and pictograms flash red until referencing is completed.
 - b. During referencing, the Exit Gate opens fully to both sides and then stops in the central position.
 - c. At the end of referencing, the LEDs and pictograms turn blue.

Note: If any of the actions described do not take place, the interconnections must be checked, including the connection of the grounding cable, as well as the presence of electricity. After the check, the steps must be redone and if the problem persists, technical assistance should be contacted by e-mail www.wolpac.com/assistenciatecnica.

Congratulations! The equipment is ready for use and integration!

8. Operating Modes

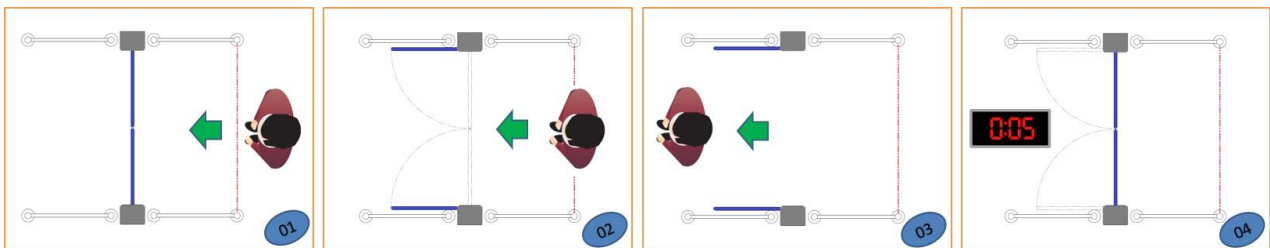
The Wolgate Store equipment was developed to provide a simple and efficient operation, supporting several configurations. The main forms of operation as well as their settings are listed below, but other settings can be customized according to each use.

A) Operation of the set, including an Infrared Sensor Barrier

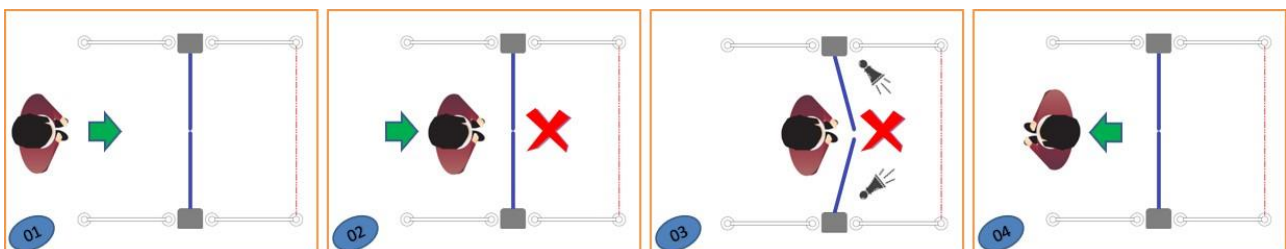
In the correct direction of passage, the infrared sensor barrier is installed at the beginning of the passage area determined by its use. When the user passes through the sensor beam, the Wolgate Store exit gates open automatically, leaving the passage area free for this same user. After the end of a predefined time, which can be configured when installing the product, the gates close and the equipment is ready to be used again.

In the opposite direction, the user is prevented from passing through the exit gate. If there is an unauthorized passage attempt an audible alarm is triggered, indicating misuse of the equipment.

Permitted direction



Direction not permitted

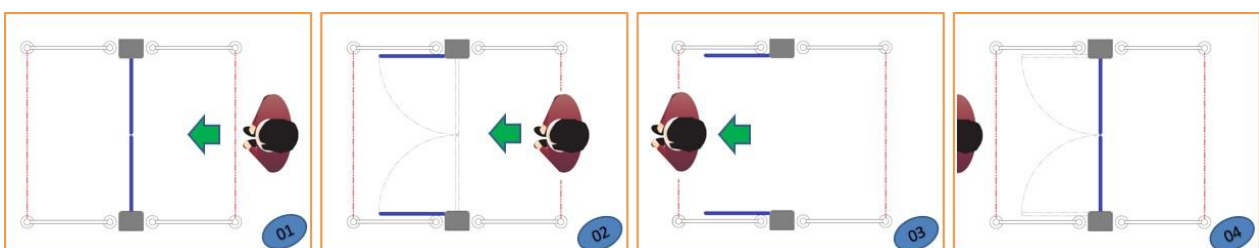


B) Operation of the set, including two Infrared Sensor Barriers

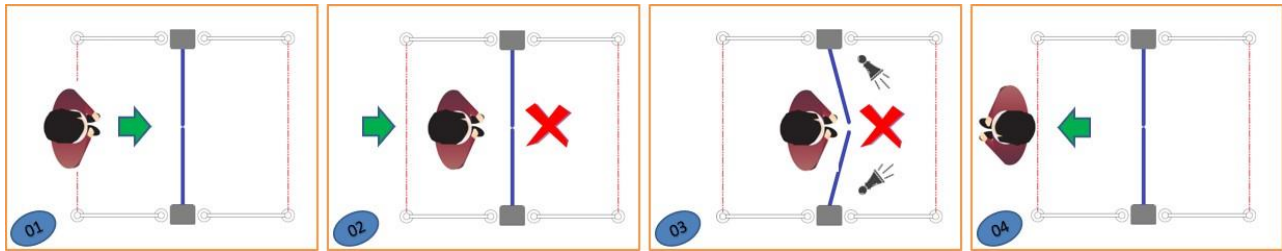
In the correct direction of passage, the first infrared sensor barrier is installed at the beginning of the passage area determined by the use. When the user passes through the sensor beam, the Wolgate Store's exit gates open automatically, leaving the passage area free for this same user. After the user passes through the second sensor beam, positioned at the end of the passage area, the gates close and the equipment is ready to be used again.

In the opposite direction, the user is prevented from passing through the exit gate. If there is an unauthorized passage attempt an audible alarm is triggered, indicating misuse of the equipment.

Permitted direction



Direction not permitted

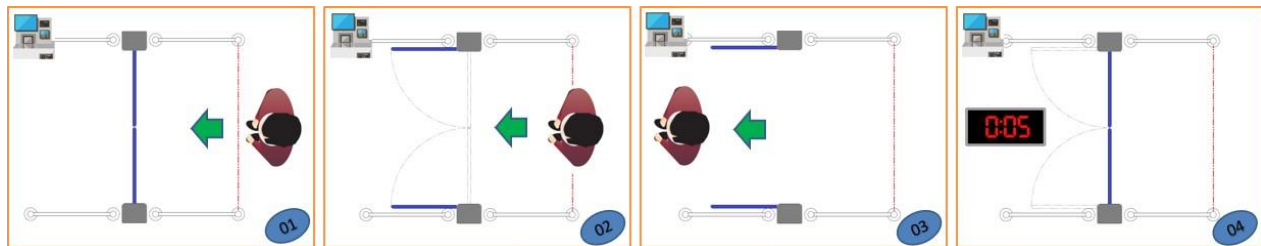


C) Operation of the set, including an Infrared Sensor Barrier and an Exit Validation/Button System

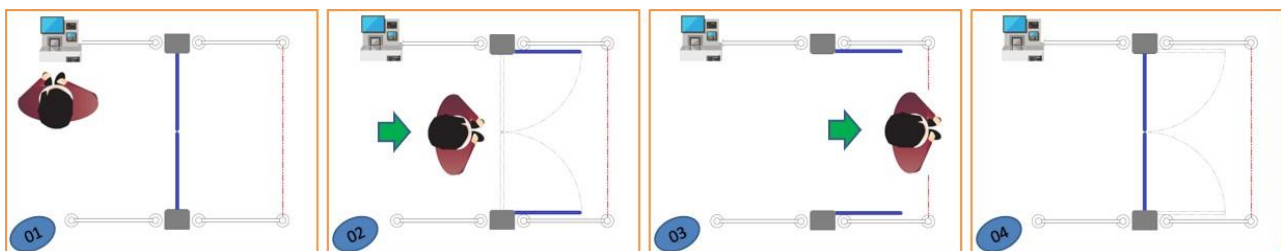
In the correct direction of passage, the infrared sensor barrier is installed at the beginning of the passage area determined by its use. When the user passes through the sensor beam, the Wolgate Store exit gates open automatically, leaving the passage area free for this same user. After the end of a predefined time, which can be configured when installing the product, the gates close and the equipment is ready to be used again.

In the opposite direction, the user's passage can be released after a validation performed by the system deployed. In this case the exit gates open in the opposite direction, allowing the validated user to pass through. In the same direction, if there is an unauthorized passage attempt through the validation system, an audible alarm is triggered, indicating misuse of the equipment.

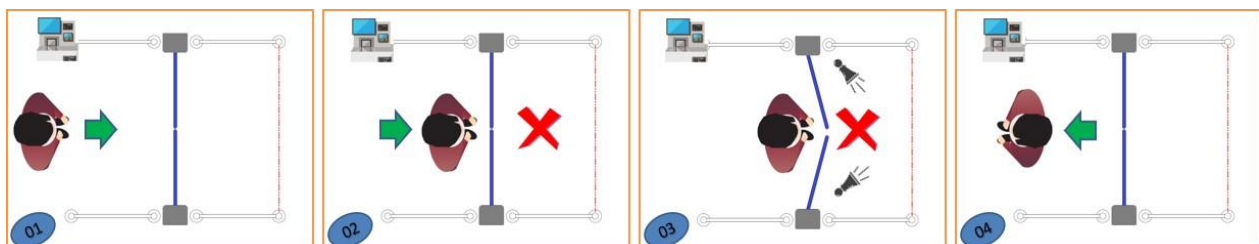
Permitted direction of entry



Exit direction permitted upon validation



Exit direction not permitted due to non-validation



9. Instructions for Use

The information contained in this item should be used as a basis for instructing users on the correct use of Wolgate Store equipment.

Using the Wolgate Store

The Wolgate Store is equipped with a motorized mechanism that works in the closed gates regime and is able to work in uni- or bidirectional form (in one or both directions). The equipment normally has its gates closed and in the event of attempted passage by an unauthorized user, a motor brake system forces the automatic return of the gates. The Wolgate Store does not have a mechanical lock, in this attempted passage the gates always return to their original position, and in these cases an audible alarm is triggered.

Upon a release signal, by means of sensors or simply a release button, the user's is allowed to pass.


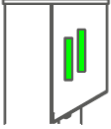

In case a user does not proceed to pass through the equipment after release, the control module will wait for a determined time and after this time (Time Out), the module will cancel the release and will be ready to receive the release for the next user.

Notes

- **The equipment should be used by one person at a time, for users with special needs the assistance of one more person is recommended.**
- **Do not try to push down the arm of the equipment with your hands while you are going through the gate.**
- **Do not go through the gate using bags or large packages dragging behind you.**
- **Do not drag bags and/or similar items over the equipment cover.**
- **No items should be stuck in the arm of the equipment.**

Instructions for users

Below are basic instructions on how to use the Wolgate Store equipment, with the following visual instructions offered by the operational pictogram. These have been developed so that users can get used to using the product in a quick and practical manner.

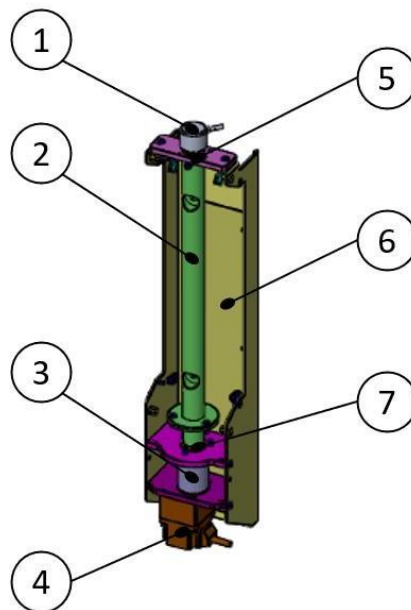
	<p>Blue</p> <p>Equipment in normal operation mode. The validation method can be presented in order to pass through.</p>
	<p>Green</p> <p>Request for release authorized, proceed to pass through the equipment.</p>
	<p>Red</p> <p>Passage not authorized or attempted violation, the validation method must be presented again, or request assistance from an authorized person.</p>

10. Mechanism

This is fixed to the internal part of the equipment pedestal by easily accessible screws and complete removal is done by taking off the lower gate to access the mechanism, thereby facilitating maintenance.

- Motorized mechanism driven by a 24V 30W Brushless DC motor.
- Monitoring of the gate position is performed by a rotary encoder with the ability to gradually slow down the arm movement.
- Main shaft in solid stainless steel AISI 304 connected directly to the motor and the rotary encoder, avoiding unnecessary transmissions.
- Connection of the main shaft to the motor through elastic, tensile and torsion-resistant coupling.
- Exit gate constructed of 304 stainless steel pipes, with solid attachment fittings to the main shaft.
- Transparent acrylic banner, 5 mm thickness.

Mechanism overview



Legend:

- 1 – Encoder
- 2 – Main Shaft
- 3 - Shaft - Motor Coupling
- 4 - Speed reducer
- 5 – Upper Bearing – Radial
- 6 - Mechanism Support
- 7 - Lower Bearing - Axial

11. Preventative Maintenance

Estimating the flow of a maximum of 60,000 users per month under normal conditions of use, a more effective verification and possible replacement of the components mentioned below is recommended:

Number of cycles (x 1000)			
	1000	2000	10000
Speed reducer			X
ENCODER		X	
Bearings	X		
Sensors		X	
Elastic Coupling	X		

Note!

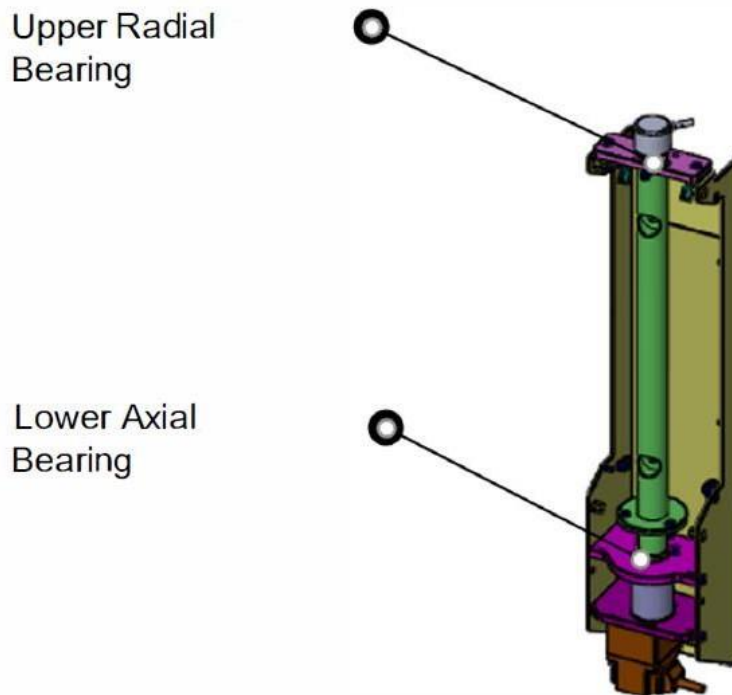
At each intervention, cleaning must occur for the removal of dust and any foreign bodies from the internal parts of the equipment.

For residue removal, use a dry flannel (or lint-free fabric). Do not use benzines, solvents, acids or other aggressive chemicals, steel sponges or rags in the cleaning of the equipment.

The operations described below should be performed every 4 months or 240,000 cycles, whichever occurs first, and may be changed according to the intensity of the flow of people.

- Check that the displacement of the lock occurs smoothly, observing the action of the motor.
- Check that the bearings rotate freely.
- Test the encoder activation.
- Check that all bolts and nuts are tightened and locked.
- Check that all cables are connected and positioned in a way that does not impair the activation of the moving parts of the equipment.
- Check that the connectors and terminals are correctly attached.
- Proceed with electrical tests, checking pictograms, arm locking etc.
- There are certain parts in this mechanism that require special care, such as the lubrication of mechanical items as described and demonstrated in the figure below. The use of specific lubricants described in **item 12** is essential.

● Main lubrication points



NOTE: Excessive use of lubricant may be harmful to the equipment!

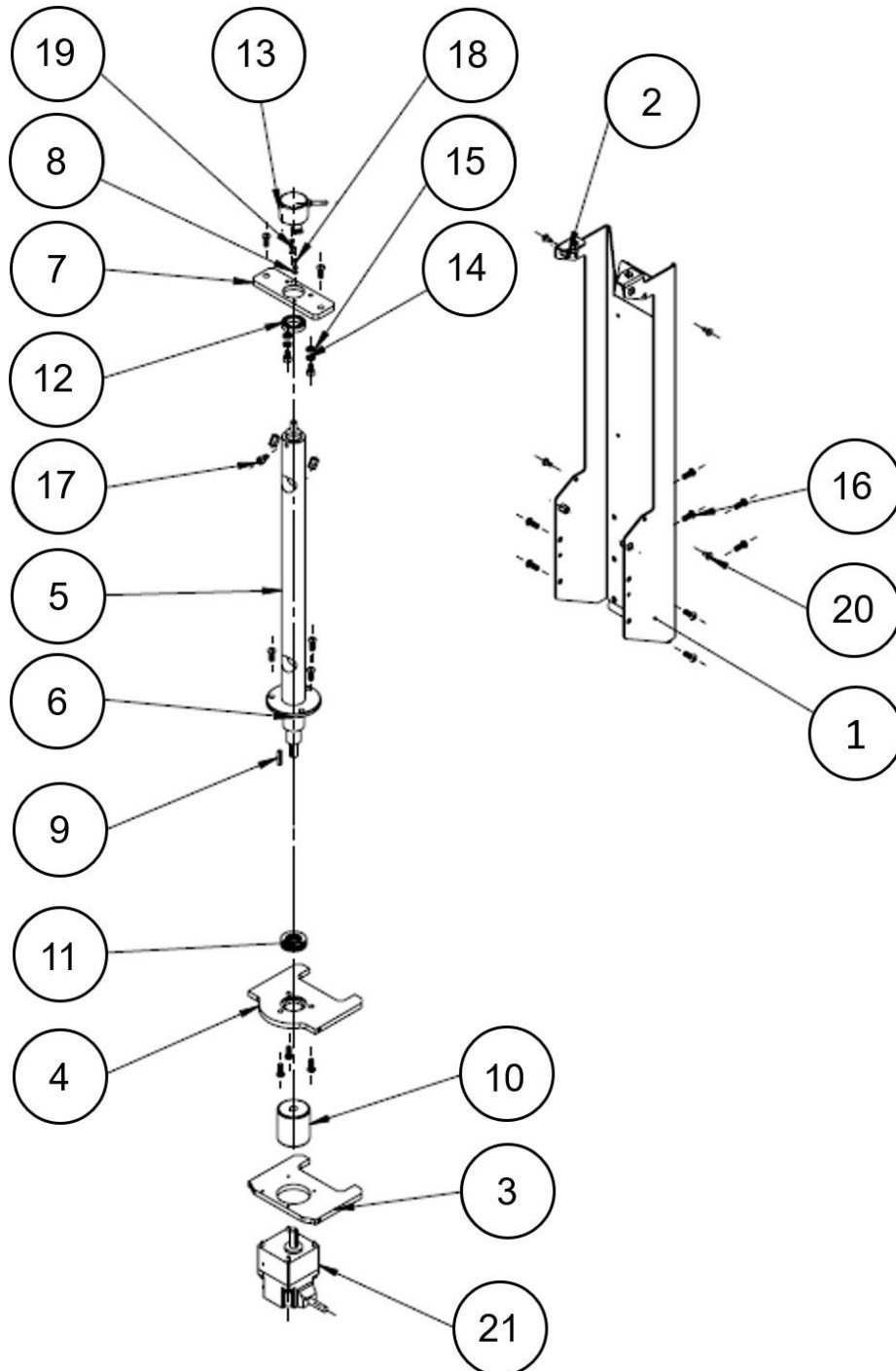
12. Lubricants and Adhesives

In order to avoid premature wear of the mechanical parts of the equipment, subject to abrasion and corrosion actions, it is recommended to use the following lubricant(s) according to the table below. As well as in the parts and attachment components (nuts, screws etc.), the use of adhesives is recommended to maintain their proper functioning:

Lubricant	Application	
Lubricant grease MP-2	Upper Radial Bearing	
	Lower Axial Bearing	

Adhesive	Application	Example applications
Permabond HH 120 (High Torque)	Fastening of screws or other threaded elements which are not intended to be removed	Attachment of bearing supports
		Attachment of the motor support
		Attachment of the upper bearing
		-
Permabond HH 115 (Medium torque)	Fastening of screws or other threaded elements which are intended to be removed	Motor attachment screws
		Support mounting screws (sensors, encoder etc.)
		Lock Nuts
		Cover attachment screws

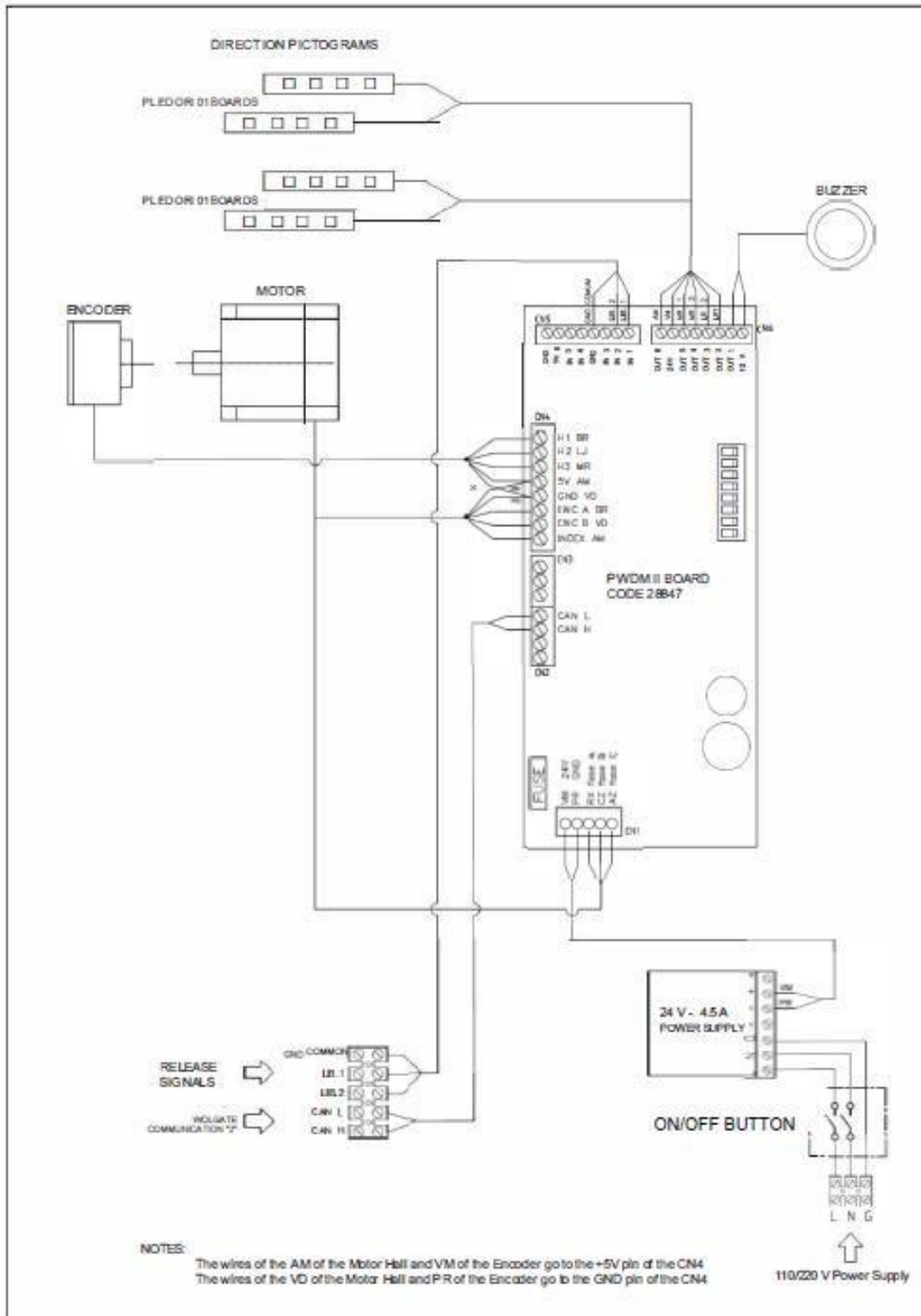
13. Exploded View of the Mechanism



14. List of Mechanism Parts

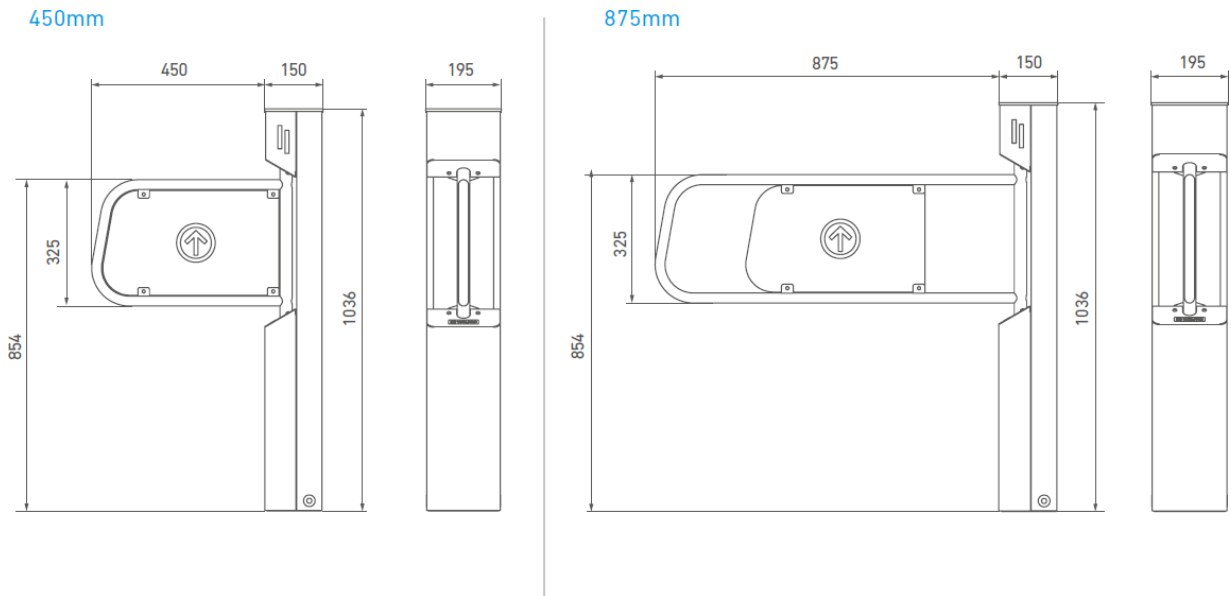
ITEM	QTY.	DENOMINATION	CODE WOLPAC
01	01	MECHANISM PLATE	29219
02	08	THREADED RIVET INT. BODY HEX. CAB. FINE M6	19164
03	01	MOTOR SUPPORT	29220
04	01	AXIAL BEARING SUPPORT	29221
05	01	MECHANISM SHAFT	29223
06	01	BRAKE FLANGE	29224
07	01	RADIAL BEARING	29225
08	02	3 MM FLAT WASHER	00315
09	01	DIN6885 PARALLEL SQUARE KEY	29228
10	01	DOUBLE ELASTIC COUPLING - DIAPHRAGM	29230
11	01	LOWER AXIAL BEARING	29240
12	01	UPPER RADIAL BEARING 61804-2RZ	23587
13	01	ENCODER K38 - T3N360 DC5-24V	28983
14	02	6 MM SPRING WASHER	04561
15	02	6 MM FLAT WASHER	04670
16	18	HEX HEAD CAP SCREW INT. M6 x 10	07287
17	03	DIN 912 HEXAGON SOCKET HEAD CAP SCREWS INT. M6 x 10	00251
18	02	DIN 7985 CROSS RECESSED RAISED CHEESE HEAD SCREWS M3 X 6	00289
19	02	3 MM SPRING WASHER	00326
20	06	STAINLESS STEEL POP RIVET 4.8 x 14 MM	00355
21	01	24V 30W BRUSHLESS MOTOR	29329

15. Wiring diagram - PWDM II module



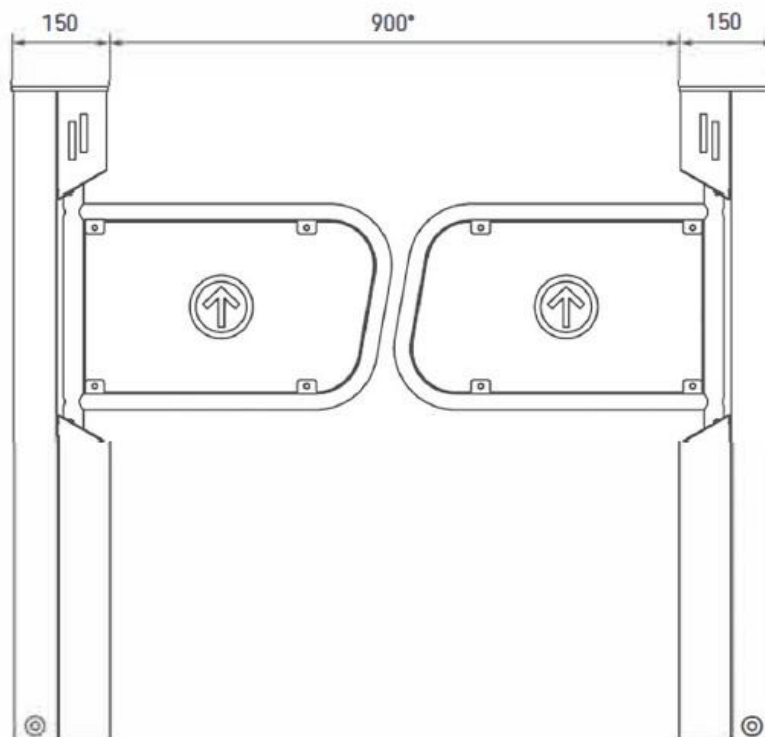
16. General dimensions

Individual Equipment



Area Composed of two pieces of Equipment

Area covering dimensions of 900 mm and 1200 mm



17. Warranty

I - This product is warranted by Wolpac - Sistemas de Controle Ltda for a period of 365 days (limited warranty), against any defects in material or workmanship, provided the following conditions are met:

- a) For the warranty to be valid, it is essential that the product seals remain intact and its identification label does not show signs of violation.
- b) The warranty period will be counted from the date of delivery of the product to the first purchaser, even if the product is transferred to third parties, so it is necessary to present the tax document.
- c) In the first 90 (ninety) days of the warranty period, the costs of parts and repair services must be performed at Wolpac Authorized Technical Service Centers. For the remaining period, only the costs of parts that may require replacement to repair the product shall be covered, excluding the costs of repair services (labor), collection of the product (shipping and return) and travel and accommodation of the specialized technician.
- d) The products sent to the Authorized Centers must be packed in packaging that guarantees their physical integrity, and the shipping and return expenses are the customer's responsibility.
- e) Products sent to the Authorized Centers should be accompanied by a brief description of the problem presented.
- f) Wolpac is not responsible for any loss or damage caused to the owner of the product, during the period in which the product is being maintained.
- g) Replaced parts will be the property of Wolpac.

II - This warranty shall be null and void for defects caused by:

- a) Misuse or operating error of the product.
- b) Maintenance and/or alteration of the product not previously approved by the Wolpac Authorized Technical Service Center.
- c) Services for installation, deinstallation and relocation of the product not authorized by Wolpac.
- d) Surges and/or voltage peaks in the power grid typical of some regions, for which stabilizers should be used for correction.
- e) Unforeseeable circumstances and force majeure.
- f) Transport of the product in inadequate packaging.
- g) Theft or robbery.

Wolpac Authorized Technical Service Centers have teams to provide services at the installation location of the products, for which service fees will be charged and, eventually, the execution of services, according to the time relative to the warranty period.

No Wolpac Accredited Reseller or Technical Service Center is authorized to modify the conditions set forth herein or make other commitments on behalf of Wolpac.

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