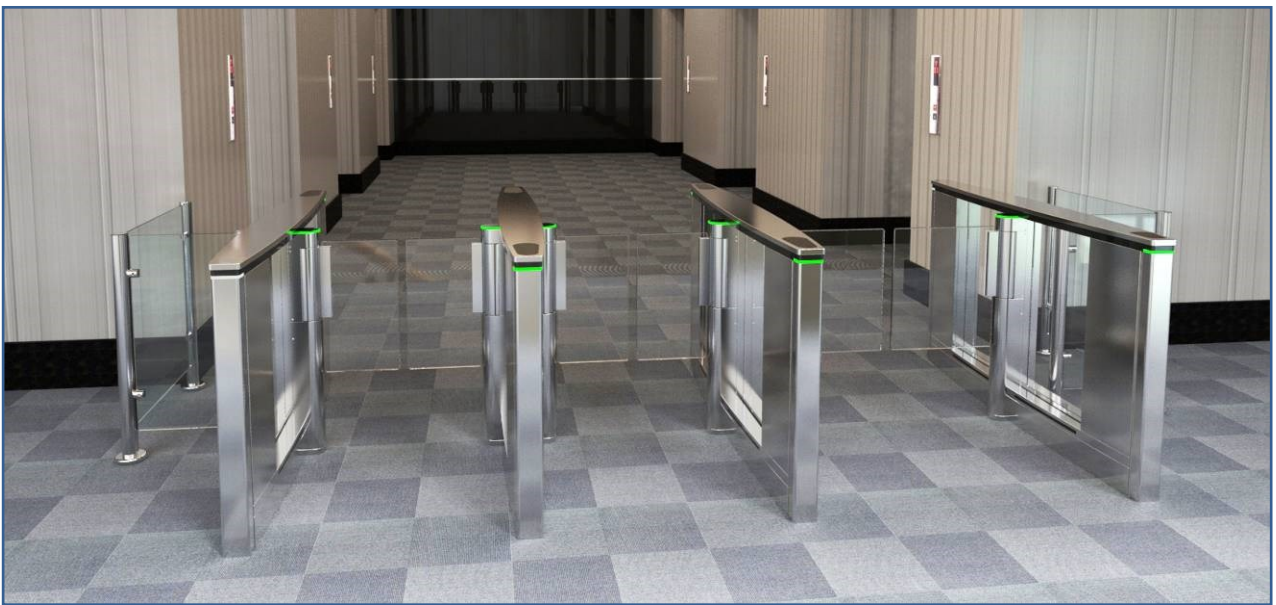


# PG300 Handover Information



**To ensure safe operation, long term reliability and working efficiency, Evolve recommends that the PG300 is maintained and inspected at least annually by a competent person.**

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The document is subject to revision without prior notice.

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## 1. Safety, Prohibit and Legal Notices.


The guidance in this manual is without prejudice to the requirements, for means of escape in the case of fire. The specifier must consult other relevant authorities such as fire, building control and the owner/occupier, as each have a related responsibility in the installation and operation of an access-controlled gate system.

Resellers, integrators, installers, specifies and owner/occupiers of premises intending to use an access-controlled gate system are strongly advised to establish predicted user characteristics and precise operational requirements such as: -

- The volume of pedestrian traffic at different times of the day.
- The type of pedestrian traffic, such as the elderly, the infirm, disabled persons, and young children.
- The level of security required.
- If users are wearing high visibility clothing.

### 1.0 Safety notes.

Resellers, integrators, installers, service providers, specifies and owner/occupiers of premises, MUST adhere to these safety notes.

	Mandatory Notices
The end user must print a hard copy of this manual and keep available any information on safety-related issues that need immediate action.	
If regular use by children (users shorter than 1m) is anticipated, ESP recommends: - <ul style="list-style-type: none"><li>○ That children are kept under the supervision of an adult whilst near the gates.</li><li>○ That when using the gates children MUST be accompanied by an adult.</li><li>○ That the child MUST proceed ahead of the adult and that valid open commands are given for both the child and the adult.</li><li>○ That all optional safety devices are installed to achieve the highest level of safety.</li><li>○ That the gates parameters are set to full safe mode.</li><li>○ That the gates are set as controlled entry and exit and not free.</li><li>○ That appropriate safety signage and notices are affixed/placed near the gates.</li></ul> That where possible audio voice announcements are made to warn users of the dangers of playing near the gates and incorrect use.	
Persons, with reduced physical, sensory or mental capabilities, or lack of experience, knowledge and children MUST only use the gate with supervision or instruction by a person responsible for their safety.	
Animals MUST be kept on their leads and under control by their owners.	
Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.	
Evolves access-controlled gates MUST be installed, maintained, and inspected by manufacturer trained personnel.	

All Evolve access-controlled gates are supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufacturer trained personnel.
The PG300 is designed for indoor use only and must be protected from the outside elements and wind tunnels.
The installer MUST comply with local regulations when installing the Retail gate.
The PG300 gate MUST not be used for any other purpose other than which they have been designed.
Access to the mechanism must be reserved for manufacturer trained personnel that are fully aware of the electrical and mechanical risks involved whilst working on the equipment.
Any operation that does not require the equipment to be powered, should be isolate at the distribution panel or local isolation switch.
Internal item's likely to be energised or move MUST be handled with care.
The gates MUST be fastened to the floor before putting into use.
For safety reasons it should NOT be assumed the gates are working safely. The building owner/occupier MUST carry out weekly checks on all safety devices.
There should be no notice boards, literature racks, merchandise displays or other distractions or obstructions in the vicinity of the gates which may congest or inhibit traffic flow.

	<h2>Warning Notices</h2>
Lack of weekly checks and annual maintenance can lead to unsafe operation.	
Evolve cannot be held responsible for any damage or injury resulting from the improper use of the gates.	
Do not install this equipment in an explosive area.	
To avoid the risk of voiding the warranty use antistatic gloves or bracelets when handling electronic components.	
Do not add unapproved accessories.	

1.1

Prohibit notices.


Resellers, integrators, installers, service providers, specifies and owner/occupiers of premises, MUST adhere to these prohibit notes.

	<h2>Warning Notices</h2>
Do not tailgate as this can lead to serious injuries.	
Do not travel in the wrong direction as this can lead to serious injuries	

Do not rush the gates as this can lead to serious injuries.
Do not loiter in the gates as this can lead to serious injuries.
Do not play in the gates as this can lead to serious injuries.
Do not allow children to play with the gate or use it unaccompanied as this can lead to serious injuries.


1.2 Legal notes.

Resellers, integrators, installers, service providers, specifies and owner/occupiers of premises, MUST adhere to these legal notes.

	<h2>Mandatory Notices</h2>
<p>In the event of resale of the equipment, it is the responsibility of the seller to ensure: -</p> <ul style="list-style-type: none"> <li>○ That a copy of the safety notices are provided to the purchaser.</li> <li>○ That a copy of the handover manual is provided to the purchaser.</li> </ul> <p>That the equipment's foreseeable environment, user and technical characteristics of the site are meet by the equipment.</p>	
<p>The re-seller shall defend and indemnify ESP from any claims which may be raised against ESP due to the seller's failure to comply with the legal and safety notices.</p>	

1.3 Purpose

The purpose of this O&M manual is to provide the building owner/occupier with operating and maintenance information for the Evolve RGRetail retractable gate.

	<p>The building owner/occupier is deemed to be the person responsible for the day-to-day use of the gates.</p>
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1.4 The Equipment Specifier

At the design specification stage, the specifier should seek specialist advice from, and work in close liaison with, the equipment manufacturer or their approved distributors. The specifier must also consult other relevant authorities (e.g., fire and building control authorities, and end user organizations) since each have related responsibilities.

It is particularly important for the specifier to establish predicted user characteristics and precise operational requirements such as: -

- The volume of pedestrian traffic at different times of the day.
- The type of pedestrian traffic, such as the elderly, the infirm, disabled persons, parents with pushchairs and young children.
- The level of security required.
- If users are wearing high visibility clothing.

It is essential that appropriate safety devices and safety measures are chosen. The specifier should, therefore, ensure that a full hazard analysis and risk assessment is undertaken to confirm that the final installation is safe for its predicted use.

If the hazard analysis and risk assessment indicate that risks cannot be reduced to an acceptable level using safety devices and safety measures, and a residual risk remains for certain sectors of the population, then additional suitable safety measures should be provided.

The specifier should plan the design and location of gate installations carefully, taking account of the following: -

- Powered gates should be sited so that they are readily visible and have sufficient space on either side to accommodate the passage of pedestrians approaching and leaving the gates.
- The clear opening of the walkway should be adequate for the anticipated volume and type of pedestrian traffic.
- Ramped floors up and down to powered gates are a potential hazard and should be avoided.
- Most powered gates obstacles are fully glazed but, where they are not, vision panels should be provided where appropriate.

#### 1.5 Regulations that may apply.

The following standards, acts, regulations, and laws are not intended to be a comprehensive guide, but a guide to some important requirements the equipment specifier may need to consider.

These standards, acts, regulations, and laws are provided on a without “prejudice” basis to aid Evolve and the specifier in fulfilling its obligations under the legislation. For more detailed information on the following standards, acts, regulations, and laws please refer to our MOGP.

- The Machinery Directive 2006/42/EC.
- The Supply of Machinery (Safety) Regulations 2008.
- Health and Safety at Works Act 194 Chapter 37.
- BS EN 17352 Power operated pedestrian entrance control equipment.
- EN 17210:2021 Accessibility and usability of the build environment.
- Regulatory Reform (Fire safety) Order 2005.
- Approved document B, Fire Safety.
- Approved document M, Access to and the use of buildings.
- Approved document K4, Protection against impact with glazing.
- BS EN 1991-1-7:2006+A1:2014 Actions on structures.
- BS 6180:2011 Code of practice for barriers in and about buildings.
- BS 8300-2:2018 Design of an accessible and inclusive built environment.



## 2. **General Design.**

The PG300 paddle leafed gate has been specifically designed to provide safe, high speed, bi-directional pedestrian throughput, with an elegant, sophisticated look, essential for today's corporate environment.

The PG300 range is designed for use in corporate reception areas, metro stations, railway stations, bus stations, airports, factories, hotels, scenic spots, museums, libraries, exhibition centers, stadiums, education facilities and cinemas, etc.

The stainless-steel cabinet is curved which provides an elegant, sophisticated look, essential for today's corporate environment. The PG300 has a strong mounting base for fixing the gates to the floor and for providing level adjustments. All the control cables enter the gates through holes in the mounting base.

The transparent plexiglass obstacles look identical to glass but provide better protection for the accidental collision with solid objects.

The PG300 is made up of: -

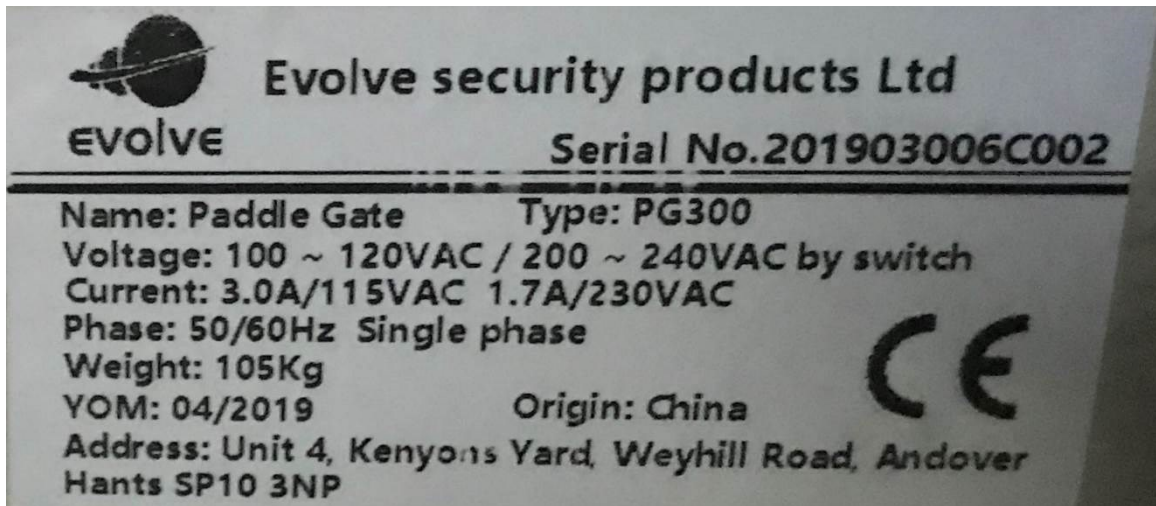
- A robust internal steel structure.
- A stainless-steel outer frame.
- Glass side walls.
- Two central columns house the drive motors, encodes, status LED, and brakes.
- Removable access doors housing the main controller, isolation switch, power supply.
- Removable top cover housing the high lever detection photocells, photocell I/O controllers and functional pictograms.
- Removable bottom cover housing the low lever detection photocells, main fixing points and cable entry points.

The detection sensors provide safety in the opening and closing cycles of the gate's obstacles.

- In the opening cycle, if an obstruction is detected on the opposite side of the gates (wrong direction) the gate will not open until the obstruction has cleared.
- In the closing cycle if an obstruction is detected in the control zone when the gate is open than it will not close until the obstruction has cleared.

Throughput speed is approximately 25~30 persons/min, but dependent on the access control system and the speed of the users. When installed in conjunction with any access control system paddle gates provide a medium level of entrance security.

2.0 Nameplate



2.1 Main Features

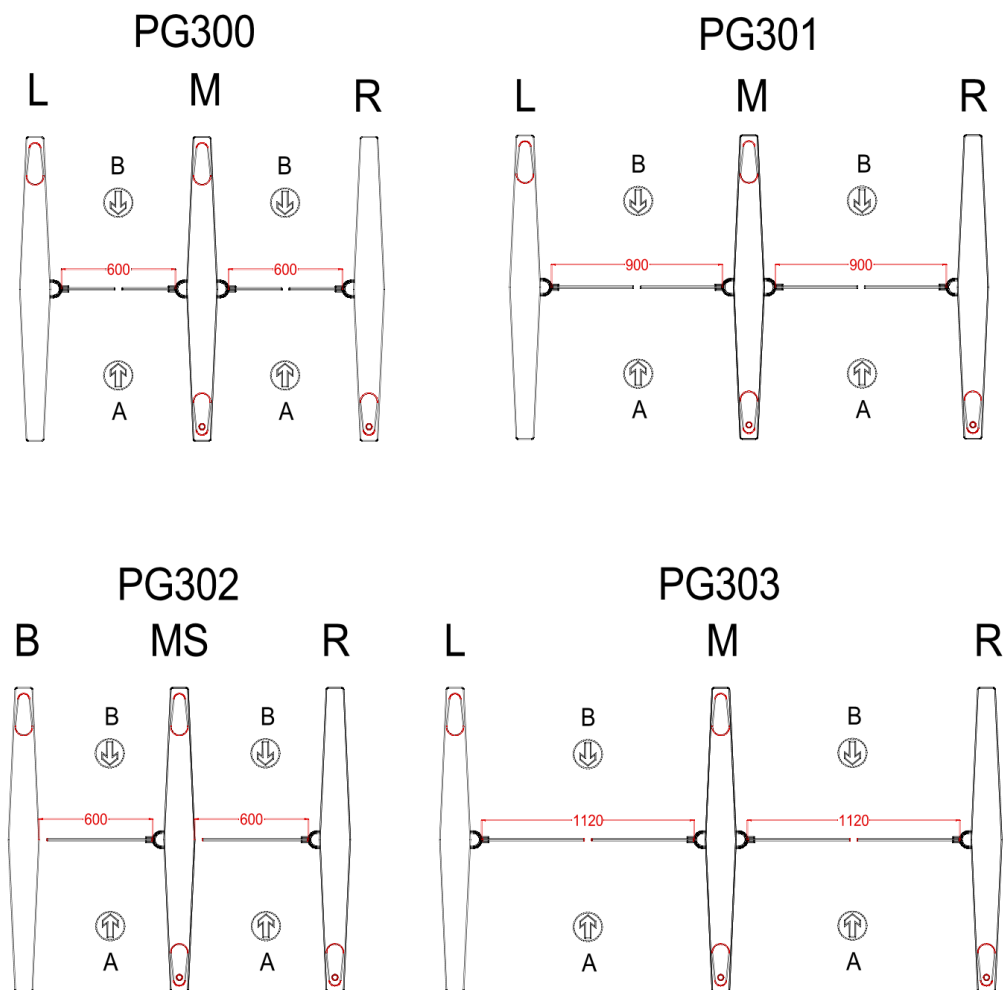
<b>Safety Devices</b>	<ul style="list-style-type: none"> <li>• Emergency input – Obstacles opens freely on activation of the fire alarm input.</li> <li>• Power failure - Obstacles manually push open on power failure.</li> <li>• Detection sensors - 16 detection sensors provide safety during the opening and closing cycles.</li> <li>• Low impact force.</li> </ul>
<b>Working mode</b>	Lanes can be set to operate with the obstacle in normally open or normally closed position.
<b>Control mode</b>	Lanes can be set to operate as, single direction, bi-direction, free pass and controlled, there are 9 control modes in total.
<b>No passage timer</b>	Adjustable no passage timer to close the gates if no passage is detected.
<b>Fraud Detection</b>	<p>First stage is to alarm when unusual pedestrian movement is detected by the sensors.</p> <p>Second stage is to control the obstacles to either brake or attempt to close to stop unauthorised passage.</p>
<b>Stacking</b>	Adjustable stacking count to store number of valid open commands, counts down as each passage is completed;
<b>User guide</b>	Status and functional LED indicators show users if the lane is operational and how to proceed through the lane.
<b>TD controller</b>	<p>The TD controller is used to set all of the gates working parameters.</p> <p>Simple screen and buttons with mobile phone type menu to set parameter and fault find the gates.</p>
<b>Detection Sensors</b>	<p>Top 8 sensors monitor user passage and provide safety through the lane.</p> <p>8 low level sensors provide safety through the lane.</p>

	4 more optional sensors provide a larger control zone increase safety and security.
<b>Sounder/Buzzer</b>	Fraud and intrusion detections are indicated via the sounder;
<b>Test mode</b>	Gates can be set into test mode to check for faults;
<b>Interfaces</b>	I/O,RS232/485,CAN and other control interface;

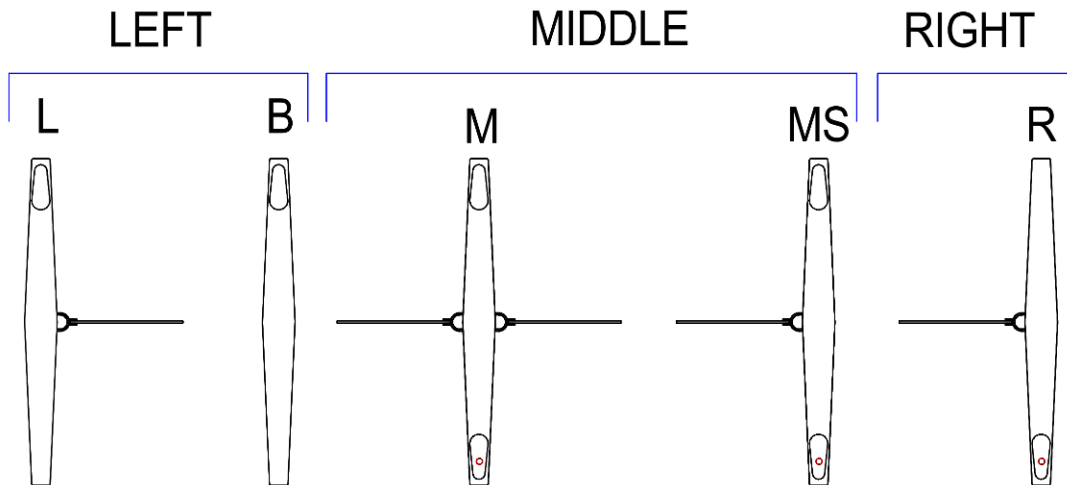
## 2.2 Models.

As standard the PG300 range comes in 600, 900 and 1120mm clear passage widths, 600mm lanes can be either single or double leafed and all are supplied with: -

- 900mm high plexi-glass.
- 8 high level detection/safety photocells.
- 8 low level detection/safety photocells.



The normal direction of passage is 'A' = entry and 'B' = exit.



The left-hand cabinet (L) of a single lane is the slave unit and the right-hand cabinet (R) the master. Intermediate cabinets (M or MS) provide both a master and slave function and can be used to create a group of two or more lanes.

**NOTE(s)**

- Double leafed lanes provide slightly higher security than single leafed lanes because they open and close more quickly.

**2.3 Recommended Users**

As standard the gate are designed for use by pedestrians taller than 900mm tall, if the gates are intended to be use with elderly, disabled or user under 900mm than all optional safety devices must be fitted.

**2.3.0 Safety of Users**

The PG300 W600 is a double leafed lane with 600mm clear passage walkway, suitable for: -

<b>Safe</b>	<b>Caution</b>	<b>Caution</b>	<b>Danger</b>	<b>Danger</b>

The PG301 W900 is a double leafed lane with 900mm clear passage walkway suitable for: -

<b>Caution</b>	<b>Caution</b>	<b>Danger</b>	<b>Danger</b>	<b>Danger</b>	<b>Danger</b>

The PG302 W600 is a single leafed lane with 600mm clear passage walkway suitable for: -

				
<b>Safe</b>	<b>Caution</b>	<b>Caution</b>	<b>Danger</b>	<b>Danger</b>

The PG303 W1120 is a double leafed lane with 1120mm clear passage walkway suitable for much large bulky items and most types of sports wheelchairs.


						
<b>Caution</b>	<b>Caution</b>	<b>Danger</b>	<b>Danger</b>	<b>Danger</b>	<b>Danger</b>	<b>Danger</b>

## 2.4 Security and Safety

The quick opening and closing speed of the gate means it can meet the demand of large pedestrian flow whilst effectively monitoring unauthorised users and providing safety of passage. For more information, please see detection sensors.


### 2.4.0 Adjustable safety and security level

The control system allows the safety and security level of the lane to be adjusted. The low-security mode gives priority to safety and the high-security mode gives priority to security.

	The gates are supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufactures trained personnel.
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### 2.4.1 Safety in the opening and closing cycle.

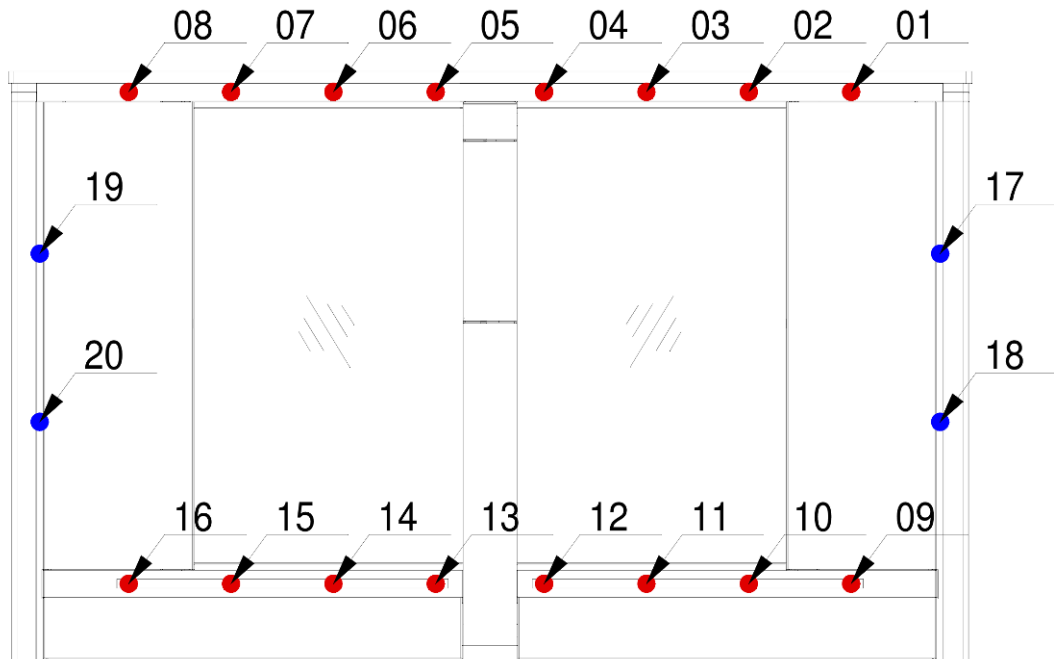
The opening and closing cycle of a paddle gate is usually regarded as one of the major hazards. Therefore, the PG300 is fitted with SIXTEEN pairs of sensors as standard to help prevent the gate hitting user and obstacles during its movement.

	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.
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## 2.5 Detection Sensors

Due to the demands of security and safety the PG300 is fitted as standard with SIXTEEN pairs of sensors, 8 at high level and 8 at low level. The sensors are used to monitor and detect: -

- Unauthorised entry.
- Infringements, and
- Provide safety in the opening and closing cycles.



Cells 01 to 16 are supplied as standard, all cells are transmit and receive. The signal emitted by the transmitter cell (left gate, in direction A) is received by the receiver cell on the right gate. The cell beams are laid out in a horizontal group.

The 01 to 08 cells manage the passage, safety, and control infringements. Using the TD controller, cells 01, 08, 17 and 19 can be removed from the detection group which prohibit the opening of the obstacles when something is present in this area.

The 09 to 16 cells manage the safety and control infringements. Using the TD controller, cells 09 to 16 can be removed from the detection group.

Cells 17 to 20 are optional extra and recommended where the lanes are intended for use by children, elderly, disabled, wheelchair, and pushchairs, Etc.

## 2.6 Storage of Equipment

Prior to installation, avoid any impact on the equipment and leave it in its original packaging in a dry place, protected from dust, heat and the weather, temperature range for storage: -20 to +60°C.

## 2.7 Electrical supply

The electrical supply must be installed in accordance with local government regulations. Each cabinets requires a 230Vac single phase, 50/60Hz, 1.7 Amp mains power supply.


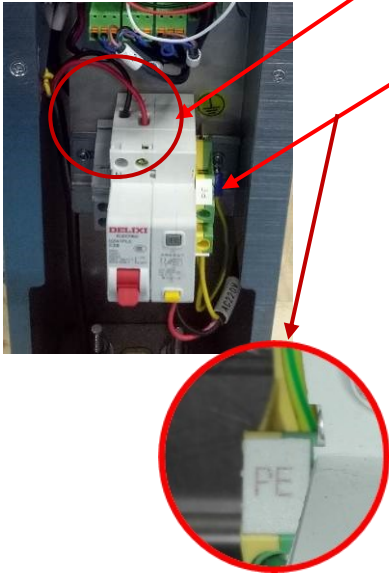
It is the responsibility of the electrical contractor to: -

- Specify the appropriately size and type of cable, containment, and upstream MCB.

- If used as a Master/Slave configuration, that the two cabinets are earth bonded, if required ESP recommends installing a 4mm earth bonding cable between the two cabinets.

An MCB trip is fitted within the cabinet to provide safe connect of the electrical supply and to act as a local safe isolation, it is not intended to provide any protection which should be provided by the upstream MCB. The electrical connection must be: -

- Carried out in accordance with local government regulations.
- Performed in accordance with the safety warnings in the manual.
- Installation technician must make sure the power source has been safely isolated before cutting or terminating the electrical supply cable.

	<p><b>Before powering up and testing</b> -Check that the power supply is set to the correct line voltage 230 or 110 Vac</p>
	<p>Terminate the live and neutral electrical supply into the top half of the isolator.</p> <p>Terminate the earth into the earth terminal.</p>

#### IMPORTANT NOTE(S)

- ESP DOES NOT recommend the use of a fire alarm relay on the power supply. It is best practise to use the fire alarm input to each gate as this makes sure the retractable arms are powered OPEN during a fire alarm.
- DO NOT forget the earth bonding between the final slave and master cabinets.

#### 2.8 Handling

Great care should be taken when moving the cabinets can weigh up to 96kg. Manual handling techniques and the appropriate trollies, pallet trucks and lifting devices must be used when moving the cabinets.

#### 2.9 Installation

The floor surface on which the cabinets rest must have a minimum thickness of 140mm and must be strong enough to be able to withstand a 50Nm force to tighten the fixings. It is recommended that the floor base material is a minimum Class C20/25 concrete.

The installation of a cabinets involves drilling 10 fixing holes to a minimum depth of 120mm into a solid base material. As most floor types are solid concrete slabs with the addition of a screed (general 70mm) and then a floor covering, the average hole depth is likely to be 150 - 250mm.

The floor must be perfectly flat (no bumps) with a maximum slope between 2 adjacent frames of 0.35% (longitudinal and transverse). The slope must be constant (no change in direction allowed).

No fixings are supplied with the equipment as each floor type requires different fixing methods, it is up to the installer to determine the correct fixing method. On a solid concrete slab Evolve recommend using Hilti 10mm HAS Anchor rods (length to suit the floor) and HIT-HY 200 Anchor Adhesive.

More installation and commissioning details can be found in the installation manual.

#### 2.10 Prolonged Stop/Destruction

If the equipment is not going to be used for a long period it is advisable that it be kept in the hold open mode, with the mains supply connected. The components inside the cabinet receiving power, resulting in a certain temperature inside the cabinet. This reduces the change of condensation.

If the equipment is being withdrawn from service, once removed it should be stripped down and all the components scrapped via the appropriate channels according to the legislation in force in the country concerned.



### 3 OPERATION

The PG300 contains a TD controller with trapezoid menu design, which can set up various parameters, including the opening and closing speed, alarm modes, working status, sounders, and sensors.









For more detailed information on setting up the gates please refer to the TD and JX programming manuals.

It is important that the building owner/occupier provide staff and any users with safety information, instruction, and training on how to use the gates correctly.

	The gates are normally supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufacturer trained personnel.
	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.

### 3.0 Hazards.


PADDLE gates have potential hazards in the following five areas:

	During the opening cycle – users can be struck, drawn in, trapped or walk into the leaves.
	During the closing cycle – users can be struck, drawn in, trapped or walk into the leaves.
	Tripping hazards.
	Congestion.
	Lack of supervision.
	Lack of training.

Attention is drawn to the increased risk when paddle gates are specified for two-way traffic operation, due to the gate leaves opening towards the user. When any contact with the user is unacceptable (high risk) because a significant proportion of the users are elderly, infirm, disabled, or young children, additional protective devices are needed.

#### 3.0.0 Hazards during the opening cycle.

Detection sensors are provided to protect users when they are stood in the swept area of the gates leaves. If a risk remains, appropriate signage should be fitted to draw the user's attention to the risk, e.g. "Automatic door", "Keep clear", "No entry", "Direction of travel".

	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.
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#### 3.0.1 Hazards during the closing cycle.

Detection sensors are provided to protect users from being hit by the gate leaves during the closing.



Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.

### 3.1 Status and functional LEDs

Understanding the gates status reduces the risk of personal injury and increases the throughput speed. It is therefore important to train users on how the status and functional LED's work.

The PG300 has two different types of LED indicators, status and functional.

- Status – Indicates whether the lane is in use or not, and
- Functional - Tells users whether they can pass or not.

The status LEDs are fitted in the end panel to clearly show the user approaching the lane whether it is in use or not. GREEN indicates that the lane is in use and RED indicates that it is NOT in use.




The functional LEDs are a green arrow and red cross fitted on the top cover at either end of the lane. When a valid open command is received the green arrow will light showing it is safe to pass, and the opposite end of the lane the red cross will illuminate showing it is not safe to pass.



In addition, the center column is also fitted with LEDs that work the same as the functional LEDs



	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.
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### 3.2 Intrusion and Fraud




- **Intrusion** is when a user stands in the control zone.
- **Fraud** is an unauthorised passage through the gate.

For each direction of passage, when an intrusion or fraud is detected: -

- The buzzer sounds.
- The obstacle can be set to stay open or attempt to close.
- The orientation and function pictograms change to red.




#### 3.2.0 "Intrusion"

An intrusion is someone detected in the control zone of the lane when it is at rest. It is declared after a time delay allowing a user in the lane to present a passage authorisation.

	Depending on the safety setting when "Intrusion" is detected the gates may attempt to open which can cause serious injury.
	The gates are normally supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufacturer trained personnel.
	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.




#### 3.2.1 "Tailgating" fraud

Tailgating is declared when an unauthorised person follows an authorised user during their passage.

	Depending on the safety setting when "tailgating" is detected the gates may attempt to close which can cause serious injury.
	The gates are normally supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufacturer trained personnel.
	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.



### 3.2.2 "Wrong way" fraud

Wrong way is declared when an unauthorised person is detected in one direction while an authorised passage is underway in the other direction.

	Depending on the safety setting when "wrong way" is detected the gates may attempt to close which can cause serious injury.
	The gates are normally supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufacturer trained personnel.
	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.

### 3.2.3 "Loitering" fraud

Loitering is declared when an unauthorised person is detected in the control zone once a passage has taken place.

	The gates are normally supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufacturer trained personnel.
	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.

### 3.3 Sounder/Buzzer

The sounder/buzzer is activated if an intrusion or fraud is detected during the passage sequence.

### 3.4 Open Commands




The open commands are connected to the TD controller. When an authorisation signal is received, a configurable timer starts, corresponding to the time allowed for the user to pass through the lane, after which the obstacles automatically close.

Successive passage authorisations can be stored for each direction and give the right to each passage. The number of stored passages can be set in the TD controller.

Passage authorisation signal must be as short as possible, ideally 100ms. It must be a volt free, normally open contact. A separate open command is required for each direction of travel and for each user.

#### Open command input.

- If the open pulse is less than 2 seconds' gates will open and will remain open until either a valid passage or OPEN DELAY time out.
- If the open pulse is permanent and longer than the OPEN DELAY, the logic assumes a HOLD OPEN status and the gates will remain open until the open pulse is removed. Once the pulse is removed the gate will close without any safety.
- If the open pulse is more than 3 seconds, then the gates will close as soon as the pulse is removed.

	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.
	If the desk top console is provided with a momentary push button than it must be pressed for LESS than 3 seconds. If the button is pressed for more than 3 seconds, it may close on the user.
	If the open pulse is permanent and longer than the OPEN DELAY, the logic assumes a HOLD OPEN status and the gates will remain open until the open pulse is removed. Once the pulse is removed the gate will close without any safety.

### 3.5 Hold Open Mode




When the gates are in hold open mode, the obstacles are opened and remain open, so that passage through the lane and take place freely, in both directions.

Hold open mode, can be triggered by either: -

1. A volt free normally open contact connected to the fire alarm input, or
2. A volt free normally open contact connected to any open command (i.e., direction 'A' or 'B').



#### Note(s)

1. After 2 seconds the GREEN ARROW and RED CROSS stop working FLASHING.

	Anyone using the gates MUST be trained in their correct use. Failure to provide such training may result in serious accidents or injuries.
	Make sure lane is clear of user before removing the hold open command.
	If the open pulse is permanent and longer than the OPEN DELAY, the logic assumes a HOLD OPEN status and the gates will remain open until the open pulse is removed. Once the pulse is removed the gate will close without any safety.

### 3.6 Power failure

On power failure the gate will remain in the position they were in when the power failed. The gates are unlocked and can be manually pushed in any direction providing safe passage.

	Make sure lane is clear of users before restoring the power.
	If the open pulse is permanent and longer than the OPEN DELAY, the logic assumes a HOLD OPEN status and the gates will remain open until the open pulse is removed. Once the pulse is removed the gate will close without any safety.

### 3.7 Fire alarm input

If a fire alarm interface is fitted the gates can be set to open in either direction depending on site requirements.

### 3.8 Emergency evacuation

There are sometimes other emergencies apart from fire and power failure that require the gates to be opened. In this situation via an optional desk top console an emergency push button, reset via a key can be used to open all lanes.



Alternatively, a break-glass mounted close to the gates can be use.

### 3.9 Signage

The installer, owner/occupier should ensure that appropriate signage is affixed to the gates. As a minimum glass manifestation should be fitted at a height of 850mm to 1000mm, and 1400mm to 1600mm.

Provision should be made to deter people from occupying the swept area of the gates. If a risk remains after the appropriate safety measures have been selected, appropriate signage should be fitted at a height of between 1300mm and 1600mm, to draw the user's attention to the risk, e.g. "Automatic door", "Keep clear", "No entry", "Direction of travel".

<b>No entry sign</b>	-	This sign should be used to indicate to users that entry from the side of approach is prohibited.
<b>Keep clear sign</b>	-	This sign should be used to instruct and inform users to keep away from the space through which a powered gate swing
<b>Direction of travel sign</b>	-	This sign should be used to indicate to users the direction of travel through the gate.
<b>Emergency breakout sign</b>	-	This sign should be used on doors which have an emergency breakout facility.
<b>Automatic door sign</b>	-	This sign should be used to indicate that the gate is activated automatically and thus give users advance warning of operation.
<b>Disabled person sign</b>	-	This sign should be used on gates or gate activation switches that are specifically intended for use by disabled people.

	Responsibility for the continued display and maintenance of such signage lies with the building owner/occupier.
	Any signs attached to the obstacle leaves must be above or below the detection sensors.

### 3.10 Desk top console

See reception deck control manual.

### 3.11 Breakdown

In the unlikely event of a breakdown isolate the power supply. The gate leaves will remain in the position they were in when the power failed. The gates are unlocked and can be manually pushed in any direction providing safe passage.


#### 4. TRAINING

Where appropriate, staff should be trained in the use of power gates to enable them, to:

- a) Advise parents and their children of the risks to ensure that children are not exposed to unnecessary risks.
- b) To help and advise the elderly, infirm and disabled people.
- c) Take appropriate action in an emergency.

#### 5 PROGRAMMING

Programming **MUST** only be carried out by manufacturer trained personnel and in compliance with the safety notes in this manual. Please refer to the TD and JX programming manuals.




	The gates are normally supplied configured in "minimum risk" mode for users. Any modification of parameters must be done knowingly by manufacturer trained personnel.
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#### 6 MAINTENANCE and CLEANING

To ensure continued safe operation of the equipment, the equipment, installation, and its environment should be subjected to systematic maintenance checks as often as is appropriate to the type of installation and its traffic flow, as detailed in the building's logbook.


Evolve recommends that weekly cleaning and checking of the safety devices should be carried out by the building owner/occupier following the guidance below.

Evolve recommend that regular maintenance should be carried out by a manufacturer trained personnel at least annually. For detailed information on maintenance by manufacturer trained personnel please refer to the maintenance manual.

	Weekly cleaning and checking of the safety <b>MUST</b> be carried out by the building owner/occupier.
	The equipment <b>MUST</b> be maintained and inspected at least annually by manufacturer trained personnel.
	Lack of maintenance can lead to unsafe operation.

##### 6.0 Owner/Occupier Cleaning & Safety Checks






The owner/occupier is responsible for undertaking a weekly cleaning and safety checks of the equipment unless a different frequency has been identified in the hazard analysis and risk assessment.

	The building owner/occupier is deemed to be the person responsible for the day-to-day use of the gates.
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	The test results should be recorded and retained by the building owner/occupier for at least 5 years.
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For safety reasons it must NOT be assumed the gate is working safely. There should be no notice boards, literature racks, merchandise displays or other distractions or obstructions in the vicinity of the gates which may congest or inhibit traffic flow.

If a fault is found with a safety device, the gates MUST be switch off and made safe. Use of the gate should not be reinstated until repairs have been undertaken by manufacturer trained personnel.


	Only manufacturer trained personnel, should remove the access panels.
	If a fault is found with a safety device, the equipment MUST be switch off and made safe. Use of the equipment should not be reinstated until repairs have been undertaken by a competent person.
	The equipment contains a drive mechanism and various electrical components. Any negligence during an intervention in the equipment may seriously endanger your safety.
	Be careful in handling any internal parts which might be under power or could be set in motion.
	Be careful internal components may be covered in grease which could end up on your hands, arm, and clothing.

#### 6.1 Checking the safety devices.

For safety reasons it should NOT be assumed the gate is working safely. If a fault is found with a safety device, the gates MUST be switch off and made safe. Use of the gate should not be reinstated until repairs have been undertaken by a competent person.

	The following tests assume the gate is set in full safety mode.
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1. Intrusion direction A - Place the test box in A direction detection zone and give an open command from B direction, the gate should NOT open.
2. Intrusion direction B - Place the test box in B direction detection zone and give an open command from A direction, the gate should NOT open.

	<b>TAILGATING</b> - The following tests assume the gate is set in full safety mode. If the gate is set to a higher security the gate leaves may close on you.
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3. Tailgating, direction A - Give an open command in direction A ask someone to pass slightly ahead of you, gate should remain open and sound the buzzer.
4. Tailgating, direction B - Give an open command in direction B ask someone to pass slightly ahead of you, gate should remain open and sound the buzzer.





**WRONG DIRECTION** - The following tests assume the gate is set in full safety mode. If the gate is set to a higher security the gate leaves may close on you.

5. Wrong Direction, direction A - Give an open command in direction A but walk through from direction B, gate should remain open and sound the buzzer.
6. Wrong Direction, direction B - Give an open command in direction B but walk through from direction A, gate should remain open and sound the buzzer.
7. Loitering, direction A - Give an open command in direction A but walk through from direction B, gate should remain open and sound the buzzer.
8. Loitering, direction B - Give an open command in direction B but walk through from direction A, gate should remain open and sound the buzzer.
9. Fire Alarm – Check the gates during the building fire alarm test. They should open when the fire alarm is activated.
10. Check status LEDs
11. Check functional LEDs
12. Carry out a basic risk assessment to highlight any changes to the building and types of users, using the gates.
13. Visually inspect the gates for chipped/broken glass.
14. Visually check all signage is readable and in place.
15. Check reception activation devices, push buttons, hold open key switches etc.
16. Clean outside of the cabinet and glass.

## 6.2 Cleaning

As a minimum Evolve recommend weekly cleaning of the cabinets and arms by the building owner/occupiers.

1. Clean the outside of the cabinet with Ambersil anti-static foam cleaner or an alternative.
2. Clean the glass with Ambersil glass cleaner or an alternative.



Be careful as arms may be set in motion when standing in control zone

## 6.3 Regular Maintenance

Regular maintenance at least annually must be carried out by manufacturer trained personnel in compliance with the equipment's maintenance manual.

The frequency of maintenance must be adapted to conditions of use of the equipment, especially when placed in an oxidizing atmosphere: at the entrance to a swimming pool (heated and chlorinated atmosphere), by the sea, in an industrial environment, clean to external doors, etc.



The equipment **MUST** be maintained and inspected at least annually by manufacturer trained personnel.



Lack of maintenance can lead to unsafe operation.

## 7. **BASIC RISK ASSESSMENT.**

To ensure continued safe operation of the gates, the installation and its environment must be subjected to systematic operational checks as often as is appropriate to the type of installation and its traffic flow.

### Hazards.

Powered paddle gates have potential hazards in the following five areas:

- during the opening cycle – users can be struck, drawn in, trapped or walk into the door.
- during the closing cycle – users can be struck, drawn in, trapped or walk into the door.
- tripping hazards.
- congestion.
- Other hazards, for example: -
  - Lack of supervision.
  - Lack of training.
  - Installed on an emergency escape route.
  - Two-way traffic.

Attention is drawn to the increased risk when paddle gates are specified for two-way traffic, due to the gate leaf potentially opening towards the user. Particularly when a significant proportion of users could be elderly, infirm, disabled or young children, additional protective devices may be needed..

### Hazards during the opening cycle.

Provision should be made to deter people from occupying the swept area of the gates. If a risk remains after the appropriate safety measures have been selected, appropriate signage should be fitted to draw the user's attention to the risk, e.g., "Automatic door", "Keep clear", "No entry", "Direction of travel".

### Hazards during the closing cycle.

Provision should be made using one of the following means to prevent gate leaves from closing on users during the closing cycle:

- Speed limitation.
- Protective devices i.e., High, and low detection sensors.
- Low energy movement.

### Additional recommendations

The PG300 is not intended to be used as an escape door, if the equipment is being installed on an escape route and are intended as means of escape doors, then the specifier must seek advice from the manufacturer, relevant fire and building control authorities.

## 8 **Warranty**

The equipment is covered by a twelve-month manufacturer's warranty against factory defective

parts, on a back to base basis, excluding any vandalism and physical damage. During the first year all manufacturers faulty components will be replaced FREE OF CHARGE excluding normal wear and tear and physical abuse items etc.

Extended PARTS warranties are available to give you continuing peace of mind that any faulty parts will be replaced free of charge even after your initial twelve-month manufacturer's warranty.

The Extended PARTS warranties are designed to provide expert protection for your investment and reduce your cost of ownership. The warranty is intended to be taken out when you first purchase the equipment. However, if you own a PG300 gate that's still within the manufacturer's twelve-month warranty period and would like to maintain the reassurance and protection against unexpected parts failure, then please contact the equipment supplier for more details.

## 9 AFTER-SALES SERVICE



Please contact your local supplier/installer.

<p><b>Original Equipment Manufacturer</b>          Evolve Autogate Products HK Limited.          Flat C, 3<sup>rd</sup> floor, Lladro Building,          No.72 Hoi Yuen Road,          Kwun Tong,          Kowlong          Hong Kong</p> <p>E-Mail : <a href="mailto:info@evolve-autogate.com">info@evolve-autogate.com</a>          TEL : 00852 35231568</p>	<p><b>European Service Centre</b>          Willings Services Limited          Unit 5,          Kenyons Yard          Weyhill Road          Andover          Hampshire          SP10 3NP</p> <p>E-Mail: <a href="mailto:Service@Willings.co.uk">Service@Willings.co.uk</a>          TEL: +44 (0) 1264 334786</p>
<p><b>UK Head Office</b>          Evolve Security Products Limited          Unit 4, Kenyons Yard          Weyhill Road, Andover,          Hampshire,          SP10 3NP</p> <p>E-Mail: <a href="mailto:Sales@EvolveSecurityProducts.com">Sales@EvolveSecurityProducts.com</a>          TEL: +44 (0) 1264 334786</p>	

### 9.0 SPARE PARTS

All spare parts partially the safety devices must be supplied by the original equipment manufacturer and installed by manufacturer trained personnel.

For more detailed information on spare parts, please refer to the spare parts manual available from EVOLVE.

	All spare parts practically safety devices <b>MUST</b> be supplied by the original equipment manufacturer and installed by manufacturer trained personnel.
	Access to the mechanism must be reserved for manufacturer trained personnel that are fully aware of the electrical and mechanical risks involved whilst working on the equipment.

### 9.1 Recommend Spare Parts

To enable a speedy repair, Evolve recommends that the following items are held on site. Quantity is based on 1 – 5 cabinets.

DESCRIPTION	PART No.	QTY
Coupling (Large)	PG-CPG-001	1
Top bearing	PG-BAR-001	2
Electromagnetic brake/Clutch	PG-CTH-001	1
Encoder disc	PG-ECD-002	2
Functional Pictogram PCB	PG-FPCB-001	1
Motor controller JX3.25	PG-JX	2
Cabinet Lock and keys	PG-LK-001	1
Motor and gearbox, 2wire, 35watt	PG-MOT-001	1
Power Supply NES-100-24	PG-NES-100-24	1
Orientation LED and cable (LONG)	PG-ORIEN-LED	1
Photocell transmitter and receiver	PG-PHOT-001	1
Photocell I/O controller	PG-PIO-001	1
Photocell PSU interface	PG-PPSU-001	1
Sounder	PG-SOUND-001	1
TD Controller for paddle gate	PG-TD	1

## 10 TECHNICAL SPECIFICATIONS

- Size: H1020\*W150\*L1600mm
- Obstacle Width: 300-520mm
- Obstacle Material: 10mm thick Plexi-glass
- Lane width: 600, 900 and 1120mm standard
- Noise: Static≤40db, Dynamic≤52db
- Flow rate: >30 passengers/min (depending on access control system reactivity and user speed).
- AISI 304L 220g brushed stainless steel housing, 1.5 mm thick.
- Steel frame with RoHS zinc electroplated corrosion resistance.
- Side walls: 10mm tempered safety glass.
- Weight:
  - 62 kg per left.
  - 64 kg per right.

- 93 kg per middle.
- Electrical power supply: single phase 110 to 230Vac (+/-10%) - 5A - 50/60Hz + Ground.
- Electric power supply shall be protected by a 5A circuit breaker with 30 mA differential protection.
- Consumed power per lane:
  - Standby: 50 W
  - Cycle: 110 W
  - Maximum: 180 W
- Motor (2 motors per lane): 24 Vdc.
- Min. obstacle opening / closing time (depending on access control system reactivity and user speed):
  - 0.65 s (PG300)
  - 0.85 s (PG301)
- Ambient temperature in use: 0 to +80°C.
- Ambient relative humidity in use: <95%, non-condensing.
- Conforms to CE standards.
- Conforms to UL 2593 and ANSI 156.10 standards (certification in progress).

## 11. References

### 11.0 ESP documents

Document No.	Title
Paddle Gate MOGP	MOGP
TD116	TD Programming manual
JX325	JX Programming manual
PG300 Tech	Technical manual
PG300 Install	Installation manual
PG300 Maintenance	Maintenance manual
PG300 CheckSheets	Check sheets
PG300 Spare Parts	Spare Parts Manual

### 11.1 Statutory documents

Document No.	Title

### 11.2 Abbreviations

The following abbreviations are created:

- a. within this document;
- b. from published sources.




Abbreviation	Description	Source

ESP	Evolve Security Products Limited	a
Evolve	Evolve Security Products Limited	a
MOGP	manual of good practice	a

### 11.3 Definitions

The following topic specific definitions are created:

- a. within this document.
- b. from published sources.

Term	Definition	Source
	Mandatory symbol is used to identify something that MUST be followed.	a
	Danger symbol is used to identify a hazardous situation which, if not avoided, will result in serious personal injury.	a
	Caution symbol is used to identify a hazardous situation which, if not avoided, could result in minor or moderate injury.	a
Direction A	Direction of travel, generally from the outside to the inside.	a
Direction B	Direction of travel, generally from the inside to the outside	a
Security	Ability for the lane to detect fraud movements	a
Safety	Ability to protect users while using the lane	a
Competent person	ESP deems a competent person as someone who has been training by the equipment manufacturer.	a
Gate	Means PG300 range gates	a
Equipment	Means PG300 range of gates	a

### 11.4 Requirements owner

Paragraph Number	Owner
All	Andy Brown

### 11.5 History

Editions	Date	Changes	Author
00	18/02/2017	First draft	AB
01	20/02/2023	Full update	AB

## APPENDIX A – UKCA Certificate



# UK Declaration of Conformity

We, the undersigned importer/Manufacturer,

***Evolve Security Products Limited***  
***Unit 4, Kenyons Yard***  
***Weyhill Road***  
***Andover***  
***Hampshire***  
***SP10 3NP***  
***ENGLAND***

Herewith declare that our range of pedestrian entrance gates type PG100, 200, 300, 400 and 500 are designed and manufactures in accordance with the following directives, standards and other legislation:

- Machinery Directive 2006/42/CE.
- The Supply of Machinery (Safety) Regulation 2008.
- Electrical Equipment (Safety) Regulations 2016.
- Electromagnetic Compatibility Regulation 2016.
- BS EN ISO 12100:2010 Safety of machinery. General principles for design. Risk assessment and risk reduction.
- BS EN IEC 61000-3-2:2019 Electromagnetic compatibility (EMC).
- BS EN 61000-3-3:2013+A1:2019 Electromagnetic compatibility (EMC).
- BS EN 17352:2022 Power operated pedestrian entrance control equipment—Safety in Use—Requirements and test methods.

Manufactured in: SHENZHEN, CHINA  
By: Evolve (Shenzhen) Autogate Products Co., Ltd  
Date: 20/02/2023  
Name: Mr Andrew Brown  
Position: Technical Director

Signature:

*A D Brown*



