

O&M Manual
Revision 1.0



D4150

Full Height Turnstile

120 Rotor
100 % Duty cycle

Made in the 

This equipment is part of a large range of traffic flow products. They are designed to be easy to install, as all settings and internal wiring have been completed in our factory. Any of the instructions in this manual should only be carried out by a qualified service engineer or a competent person.

The turnstiles are ready to bolt down, connect to a single phase power supply and have any access control wired into them (Please note that advice should be sought on wiring instructions). The steps must be completed before the power is turned on to prevent accidents.

The following information is a guide only, and whilst we have made every effort to be accurate and correct there may be errors which we cannot be held responsible for.

With a correct installation you can expect to enjoy many years of reliable service from this product, we do however recommend that the product has a bi-annual service carried out by a qualified engineer. Please contact our service department to obtain a quote. As we manufacture the products we are best suited to care for your equipment.

Thank you for your custom and welcome to the exciting world of Total Traffic Flow Solutions.

Important Safety Notice



Automatic turnstiles are designed to Control the flow of human traffic only. It can be dangerous to allow the passage of any other self-powered animal or device to utilise this method of access without appropriate warnings and or signage. It may be necessary for the end user of this product to provide an alternative, safe method of access to cater for the previously mentioned categories.

The end user should fit all necessary signage and warning notices to either side of the turnstile, which should be visible and clear from all directions of approach.

The product that was shipped to you was designed with a control program to protect all categories from harm or affect this however is only a precaution. It should not be modified or tampered with by any unauthorised person not sanctioned by the manufacturer.

Please sign and date below to say that you have read and understood this notice before ANY installation work:

/ /20

Information on using this manual



- Read all information thoroughly
- Pay attention to all safety advice
- Be aware of the symbols (shown above right and above left) as they have different meanings. One is an information symbol, the other a warning.
- There are many artists impressions of the product in this manual you should refer to the images as a guide only. Professional CAD drawings should be used as a reference drawing and nothing else. As before every effort has been made to be 100% accurate in this manual but we cannot make any guarantees.
- As we constantly innovate our products we may change the quoted spec and any other details that have been documented in this manual so you should always refer to the supplier to see if the manual that was shipped with your product is the latest edition.
- As with all electrical installations you should use a qualified electrician and obey all of the latest laws and regulations.
- Be sure to fill out and complete ALL paperwork where instructed as this manual is the equipments log book and maintenance manual.

The "Warnings" leaflet and "Instruction booklet" supplied with this product should be read carefully as they provide important information about safety, installation, use and maintenance.

Scrap packing materials (plastic, cardboard, polystyrene etc) according to the provisions set out by current standards. Keep nylon or polystyrene bags out of children's reach.

Keep the instructions together with the technical brochure for future reference.

This product was exclusively designed and manufactured for the use specified in the present documentation. Any other use not specified in this documentation could damage the product and be dangerous.

The Company declines all responsibility for any consequences resulting from improper use of the product, or use which is different from that expected and specified in the present documentation.

Do not install the product in explosive atmosphere.

The construction components of this product must comply with the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments. As for all non-EEC countries, the abovementioned standards as well as the current national standards should be respected in order to achieve a good safety level.

The Company declines all responsibility for any consequences resulting from failure to observe Good Technical Practice when constructing closing structures (door, gates etc.), as well as from any deformation which might occur during use.

The installation must comply with the provisions set out by the following European Directives: 89/336/CEE, 73/23/EEC, 98/37/EEC and subsequent amendments.

Disconnect the electrical power supply before carrying out any work on the installation. Also disconnect any buffer batteries, if fitted.

Fit an omnipolar or magnetothermal switch on the mains power supply, having a contact opening distance equal to or greater than 3mm.

Check that a differential switch with a 0.03A threshold is fitted just before the power supply mains.

Check that earthing is carried out correctly: connect all metal parts for closure (doors, gates etc.) and all system components provided with an earth terminal.

Fit all the safety devices (photocells, electric edges etc.) which are needed to protect the area from any danger caused by squashing, conveying and shearing, according to and in compliance with the applicable directives and technical standards.

This article describes how your equipment will be delivered to you, specifications on the transportation used and advice including health & safety on movement of the equipment.

The manufacturer will use a qualified transport company to deliver the product conforming to the necessary regulations as detailed below:

- All drivers are qualified
- All drivers are tested once yearly
- All drivers carry risk assessments and method statements (available on request)
- They are controlled under law to conform as there are no trade regulation standards to comply with

Health and safety Considerations:

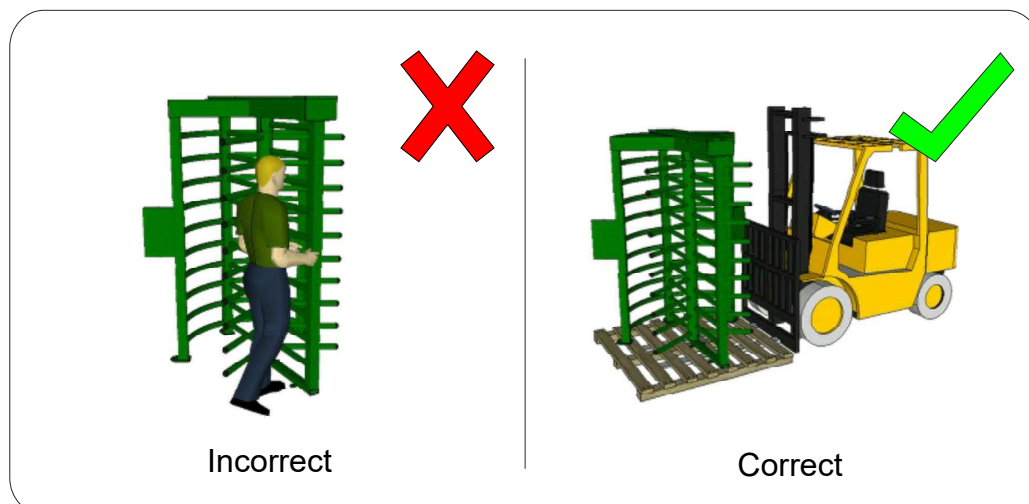
Moving Goods Safely (MGS) is a national project involving both the Health and Safety Executive (HSE) and Local Authorities (LA) working in partnership. The project aims to reduce injuries and ill-health arising from the movement of goods from supplier through haulier to the recipient and end user including any home deliveries. The project will focus upon the delivery and collection of goods and the hazards this generates. It covers the main areas that cause the majority of injuries and ill-health to workers, including:

- Workplace transport;
- Slips & trips, and;
- Musculoskeletal disorders (MSD).

The movement of goods presents us, as health and safety regulators, with the challenge of dealing with a huge variety of issues. The commercial organisations involved within the movement of goods are diverse including haulier, third party logistics providers, pallet networks, retailers etc, with some very large companies, thousands of small businesses and the self-employed. The movement of goods is more than just trucks on the road with a large proportion of accidents happening at the delivery/collection sites that are often not directly under the control of the company making the delivery or collection. Communication and cooperation problems can arise due to the many organizations involved in the movement of the goods, and this can also lead to difficulties in effectively managing health and safety.

(Source H&S Executive UK 2008)

The Turnstile should ALWAYS! be moved with care and attention. The products are very heavy individually as well as a whole. You should not attempt to move this or any other products by unapproved handling methods.



Component Identification and Notes:

You should check that you have received the following in your order as they are referred to throughout this manual (note this can change per barrier spec i.e. manual components are different from automatic):

Turnstile



Box of bits C/w

7 x M12 x 120 Parabolts
2 x Manual release keys



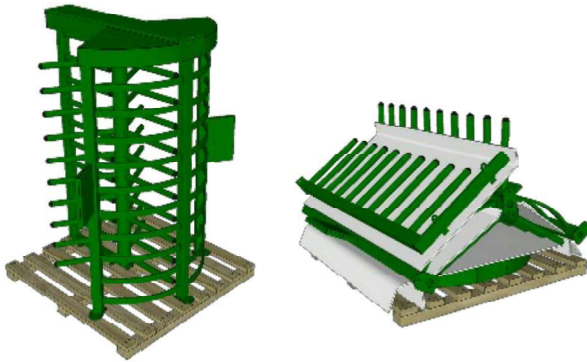
O and M manual



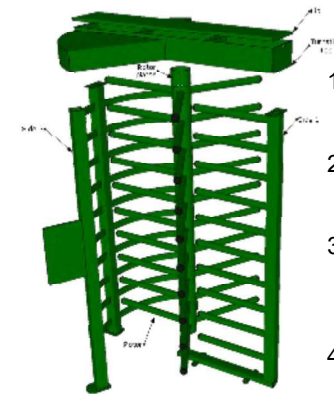
Follow the steps below for Installation.

Please note all installations should be carry out by a competent person and all electrical Connections should be made by a qualified electrician.

- When delivered, the Turnstile will either be on a Pallet or flat packed. If flat packed then follow Step's 2-4, if already assembled carry on to step 5. Note - please check for physical damage before You sign.

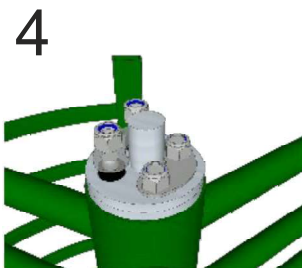
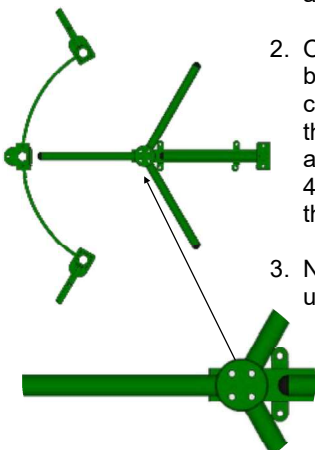


- To assemble the turnstile follow the steps below.



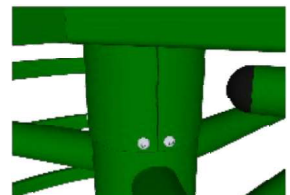
- Bolt down side 1 into the desired position.
- Measure, mark out and bolt down side two.
- Ensure both sides are level and are correctly spaced apart.
- Place the rotor onto the bottom bearing and hold in place ready for the top.

- Now make sure the rotor is in the correct position as shown below.
- Once you have the 4x rotor bolts lined up, Using the correct lifting equipment lift the top onto the two sides and rotor making sure the 4x rotor bolts locate through the head mechanism.
- Now bolt the top to the sides using the M12 bolts supplied.

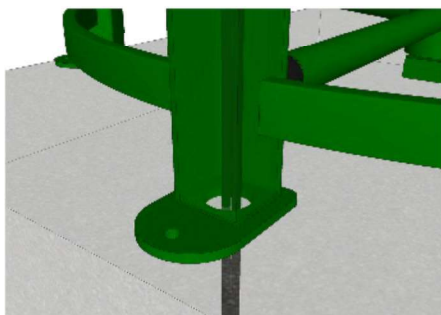


- Now insert the rubber mounts in between the 4x rotor bolts and the head Mechanism.
- Then place the kidney washers over and secure using M16 Nylock Nuts.

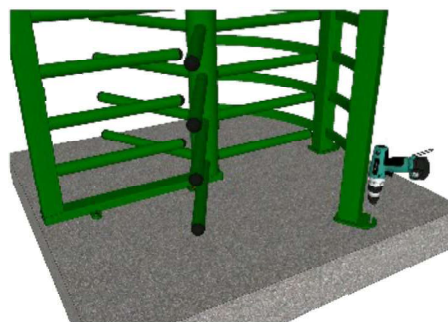
- Now fit the Rotor plates using the M6 button head bolts.



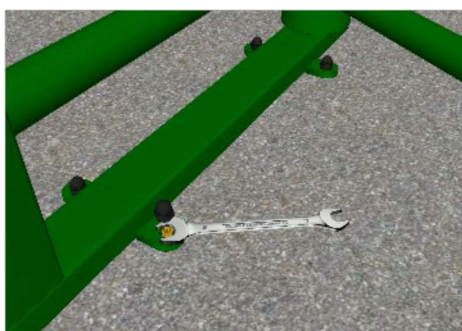
- 5** Taking into consideration that the plinth has been Prepared correctly and is absolutely level and true, Lower the turnstile onto the plinth and visually align. Make sure you have pulled all cables through the Box section into the top of the turnstile and ensure No cables are trapped ready to bolt down.



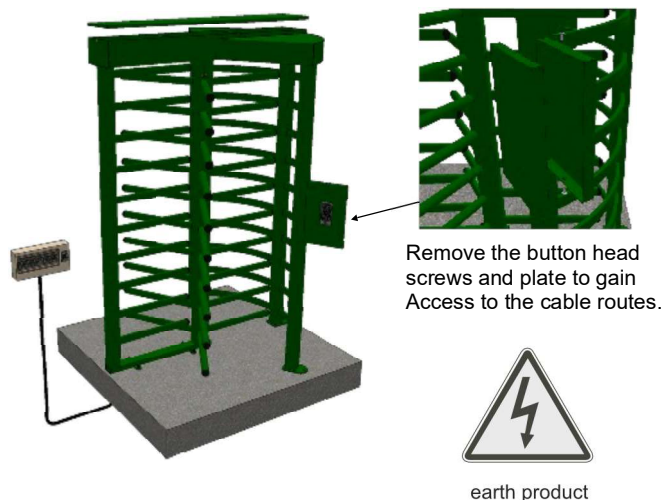
- 6** Once you have the Turnstile in position and Have checked that it is all level, Bolt down side 2 using M12 parabолts supplied. Then check For alignment and measure between the two Sides to make sure its that same distance as At the top of the Turnstile, Then carry on and Drill and fix the rest of the fixing points.



- 7** Now make sure you have tightened all the fixings And that the Turnstile is level and is under no Stress. You can then place the plastic caps on The bolts.



- 8** You are ready now to connect up Mains supply And access control using the diagram on page 8. Once you have everything connected, Check All connections are tight and correct. Then switch Power on and test.



- 9** Once you have completed all tests now fit the top cover and secure with M6 button heads. Make sure the Turnstile is safe to leave working. Now fill out the commissioning certificate on the Next page.

We certify that the system covered by this certificate has been commissioned satisfactorily.

Site Name		Completion	
Site Reference		Engineers Installing	
Installation Commenced	/ /20	Commissioning	
Equipment Fitted			
Handover Date			

Part 2. Existing Installation Items not covered under warranty/ This certificate:

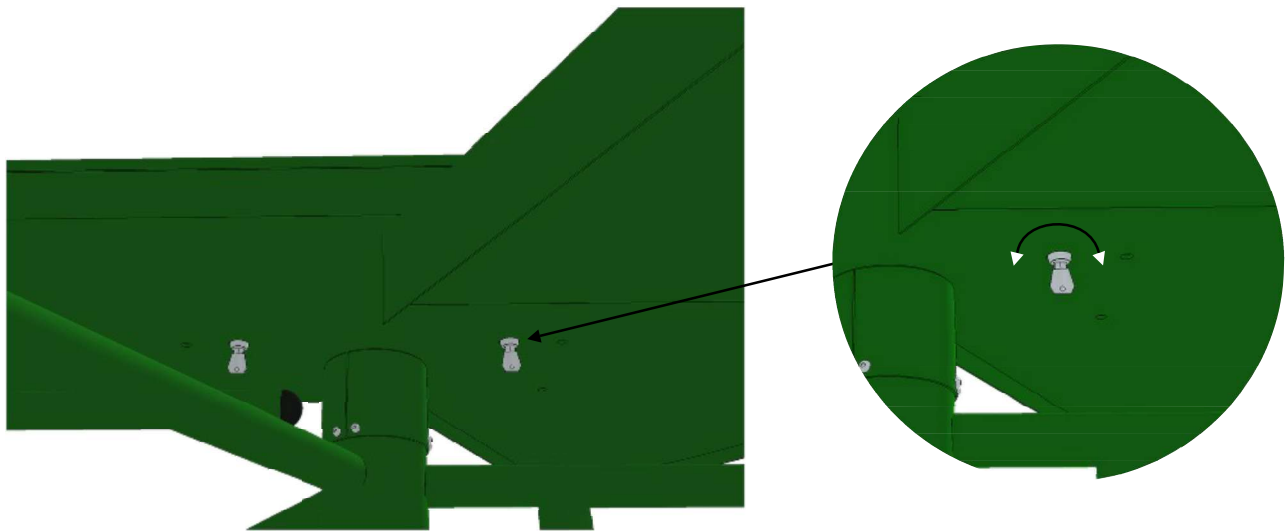
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Part 3. Certificate Signing off Section

Installers Name		Signature	
On Behalf of		Date of Signing	
Address		Position	
Client Name		Signature	
On Behalf of		Date of Signing	
Site Address		Position	

Please use the following instructions to operate the barrier manually, the following is assuming you have powered down the unit and opened the cabinet door:

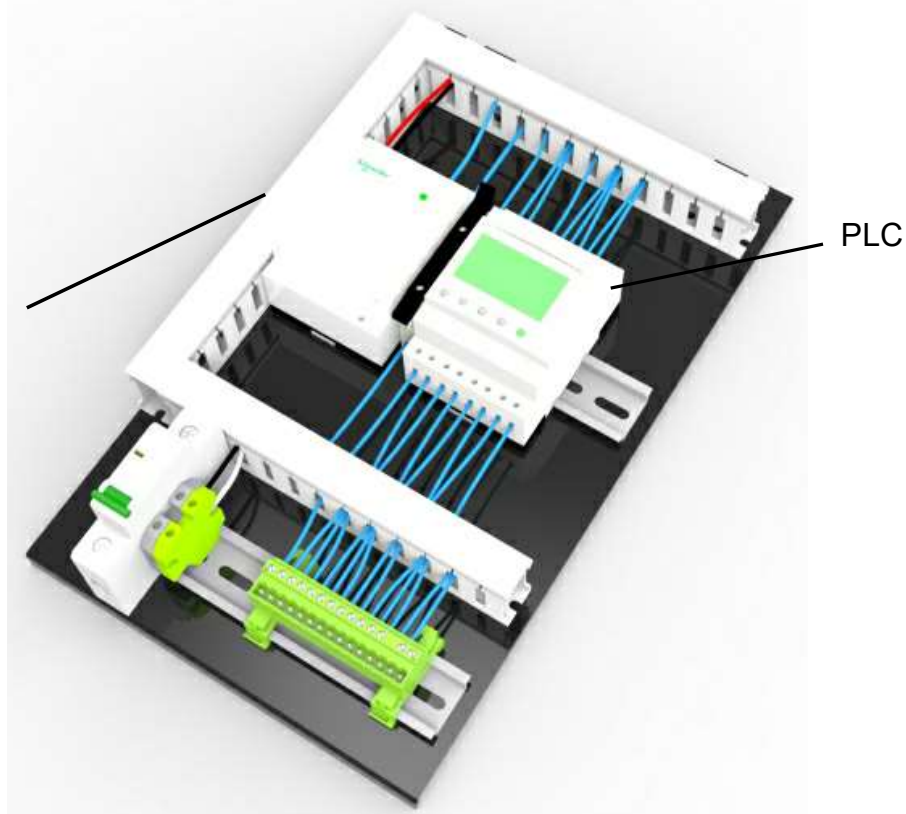
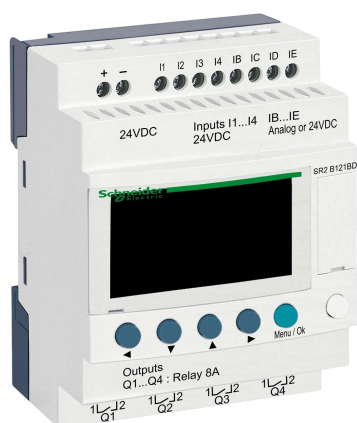
To Manually release the Turnstile, Turn the entry or exit key switch clockwise to release the rotor into free wheel. The key switches are located underneath the main header just above the rotor as illustrated below.



As stated at the beginning of this manual we recommend a bi-annual service, but at a bare minimum, it is imperative that you get a service done once every 12 months. This is not a sales tactic in disguise, there is a very serious health and safety issue/risk associated with not complying to this. Also in order for your equipment to keep complying with the appropriate legislation.

- Before carrying out any maintenance to the installation, Isolate the mains power supply.
- Make sure you have disconnected/Isolated the power before attempting any work.
- A Maintenance Contract should be sought from a specialist company after a maximum of 5000 manoeuvres or 1 year from the install date.
- Have a qualified technician (installer) check the correct setting of the electric clutch.
- If the power supply cable is damaged, it must be replaced by the manufacturer or its technical assistance service, or else by a suitably qualified person, in order to prevent any risk.
- When any operational malfunction is found, and not resolved, disconnect the mains power supply and request the assistance of a qualified technician (installer). When automation is out of order, activate the manual release to allow the opening and closing operations to be carried out manually.
- Bearing units are “sealed” for life and require no further lubrication.

24VDC
Power supply



Live 230vac Supply



Neutral 230vac Supply



Earth



Live 230vac For canopy lights (if fitted)



1) Common +24vdc



2) Free wheel N/O



3) Locked N/O



4) Entry Open N/O



5) Exit Open N/O



6) Common + 24vdc



7) Entry limit



8) Exit limit



9) + Entry Solenoid



10) - Entry Solenoid



11) + Exit Solenoid



12) - Exit Solenoid

13) + Aux supply

14) - Aux supply 24vdc 0.5 amp

The table (bottom) relates to the diagram directly below to help you trouble shoot electrical component errors

Example 1

There are Several Faults
Texts std in the program
Which will appear on the
PLC screen to help
Diagnose the fault.

If the Screen is not showing
A fault then Press the right
Arrow key once and the
Input screen will appear
As shown in Example 2.

Example 2

Inputs 1 and 4 are highlighted
Which indicates that the stop
Circuit and raise limit is
Activated as shown in the
Table below

1. Inputs			
Input	Polarity	Connected to	Operation when active
I1	Normally Open	Free wheel	Free wheels in both directions
I2	Normally Open	Entry signal	Allows one person through the entry of the turnstile
I3	Normally Open	Exit signal	Allows one person through the exit of the turnstile
I4	Normally Open	Entry limit switch	Switches solenoid off after one person is through
IB	Normally Open	Exit limit switch	Switches solenoid off after one person is through
IC	Normally Open	Lock signal	Locks the turnstile in both positions electrically
ID	Normally Open	Spare	
IE	Normally Open	Spare	
2. Outputs			
Output:	Polarity:	Connected to:	Operation when active:
Q1	Normally Open	Entry Solenoid	Activates Entry solenoid
Q2	Normally Open	Exit Solenoid	Activates Exit solenoid
Q3	Normally Open	Down lights	Controls down lights(if fitted) from Plc timeclock
Q4	Normally Open	Spare	



Note:

Depending which way the turnstile has been installed the entry/exit may be the opposite way round,
This will not affect the operation in any way.

MECHANICAL ERRORS	CAUSE	CORRECTION
Turnstile is free wheeling	Paddles are not latched in	check manual release keyswitches
Rotor is not spinning	Check bearings top/bottom	Oil or grease bearings
Rotor has a lot of play when locked	Check paddle bolts	Tighten both paddle bolts
Turnstile making grinding noise	Top Cog/Spring assist requires lubrication	Lubricate both items
Turnstile Rotor is tight	Turnstile is out of square/level	check turnstile/frame is all square/level
Turnstile Rotor is tight	Bottom bearing is ceased	Replace bottom bearing
ELECTRICAL ERRORS	CAUSE	CORRECTION
Blank screen on PLC but power to other devices in the control panel	On-board fuse blown	Replace fuse and reset barrier
	PLC has developed an electrical fault or had a power spike	Change PLC
No 24DC to Plc or other devices	24V PSU faulty	Change PSU
	Blown fuse	Replace fuse
Turnstile Free wheels	If fail safe turnstile then solenoids may have no power	Check solenoid relay and replace if faulty
	If fail secure turnstile then solenoids may Have permanent power	Check solenoid relay and replace if faulty
Turnstile lets more then one Person pass through	Limit switches are not working	Adjust position of limit or replace if faulty
	Access control signal set too long	Turn access signal down to 1 second



This Manual must be completed in accordance with the guidelines below, at any point service/repair work is carried out on the product. This is to achieve two things;

1. To keep a history of the product for yourself and your supplier/manufacturer.
2. To keep an accurate log of any historical or recent modifications, and/or problems, to help an engineer in the event of any future work required on the product.
3. This page is continued on the next page if extra space is needed.

[illegible]

Specification

Dimensions:

Frame: 1520 mm x 1360 mm x 2230 mm

Rotor: 120 mm Ø tube with bottom support bearing

Arms: 50 mm Ø tube with domed capped ends

Side frames: 50 x 20 Rolled Box section welded 80 box Uprights.

Specification

Power Requirement: 220 v, Single Phase, 50 Hz, 5 Amps

Arms and body: Primed/Powder Coated finish

Duty Cycle: 100% continuous duty rating

Flow Rate: 15 to 22/min in a single direction

Key Points: Bi-Directional control Fail safe or Fail secure, Factory settings need no adjustment, PLC controlled can work with all access and revenue systems, cable routes through side frames, Turnstiles will suit interior and exterior installations.

Access Controls: Push-button, Proximity cards, card readers, tokens, voice/video intercoms, keypads and remote fobs.

Accessories

Optional extras:

- Directional Flow indicator lights
- Canopy Lights
- Siren/Sounder
- Bespoke Signage



M a d e i n t h e U K

