



GlasStile GSS

Installation Operation and Maintenance Manual

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Introduction

Any maintenance or modification of Emergency Stop and Guarding Circuitry must be followed by safety checks on the whole hardwired Emergency Stop and Guarding Circuitry.

Prior to a hardware change, records must be made of the change, one of which **MUST** be sent to the Technical Department at Gunnebo.

Rotating Machinery

Rotating industrial machinery may possess huge amounts of stored energy. On no account must you commence maintenance if you do not fully understand what you are doing and/or have not taken all the safety precautions normally associated with industrial electronic control systems and machines.

Before starting to work on the equipment, please make yourself familiar with all the associated blocks in the system, including control loops, mechanics, drives, transducers and electrics. Please read all the Manuals of the equipment you are unfamiliar with first.

Warnings, Cautions and Notes

Where necessary within the technical manual, Warnings, Cautions and Notes may be given.

Warnings

Are for conditions that might endanger people. The instructions given in Warnings must be followed precisely. They are given to avoid injury or death.

Cautions

Are for conditions that may cause damage to equipment, or may spoil work. The instructions given in Cautions must be followed to avoid spoilt work or damage to equipment.

Notes

Alert the user to pertinent facts and conditions.

Static Sensitive Devices

Some of the PCB's in the equipment covered by this Technical Manual contain Static Sensitive Devices. It is recommended that maintenance and service engineers are fully aware of the Local Industry Regulations and procedures when handling such devices.

Good Practices

Equipment being installed must not be left unattended unless all potential mechanical and electrical hazards have been made safe. A competent person must be left in charge when the equipment is to be left while potentially unsafe.

The following points indicate good practice that will contribute to safety and avoid equipment damage.

- i Ensure that all electrical power supplies are turned OFF and disconnected before working on any of the equipment.
- ii Never leave the equipment in a potentially dangerous state.
- iii Use only the correct tools for the task in hand.
- iv When working on the equipment, remove any personal jewellery that may be conductive, or clothing that may become entangled with mechanical parts.

Safety systems and controls, such as interlocks, covers and guards, must not be overridden or bypassed by personnel other than authorised staff who are qualified to carry out prescribed actions within specified Warnings.

Risk assessment is graded into categories of safety, rated 1 to 8 (where 8 is the highest risk level). The following activities are covered.

Rating 1: Cleaning.

Rating 2: General Installation

Rating 4: General Maintenance

Using Chemical Fixer

Rating 5: Commissioning

Who is at Risk	Site Engineer
Hazard	Power Supply/Moving Parts
Current Controls	Isolate Power

Rating 8: Floor Drilling

Who is at Risk	Installation Engineer
Hazard	Flying Debris and Noise
Current Controls	Protective Equipment <u>must</u> be worn

Glass Panel Installation

Who is at Risk	Installation Engineer
Hazard	Glass Breaking
	Incorrect handling techniques
Current Controls	Protective Equipment <u>must</u> be worn.

CE - Marking

The Gunnebo GlasStile GSS is CE marked, developed and manufactured according to the EU's Machinery, Low-Voltage and EMC-Directives.

Section 2

Product Description

The Gunnebo GlasStile GSS is a revolving entrance gate with glazed panels. The gate rotates clockwise or counter-clockwise to its User Programmed opening positions and then returns to the home position, where it is locked by an electro-mechanical brake. The gate is activated by impulses to the driving electronics unit from either a reception area or impulse unit (e.g. card reader) which determines the direction of rotation.

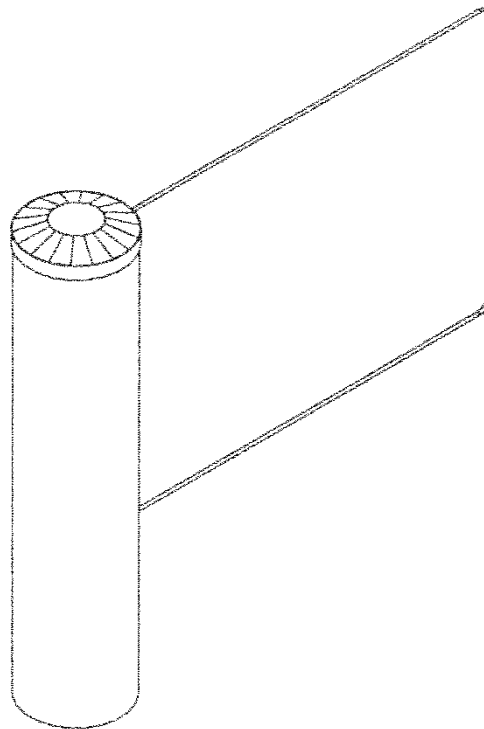
Any impulse unit with a dry contact closing for between 0.5 - 1.0 seconds can be connected to the gate. An acknowledgement impulse of completed rotations is given before or after each rotation is started/complete. The status of the gate is indicated on its volt free alarm output.

The speeds, opening time, drive mode and individual settings of the panels opening and home positions are set using a special programming unit. In the event of a power failure the programmable functions are stored in a non volatile memory.

The drive electronics are mounted on a printed circuit board which has connection points for power, motor, brakes, sensors, impulse units and LED's.

A 24V DC motor with planetary gears controls the gate. An opto-sensor is connected to the outgoing shaft by a gear belt. Its function is to monitor the position of the gate.

Fig 2.1 – Typical Unit



Technical Specification

Unit Dimensions	Column Height:	1000mm
	Column Diameter:	220mm
	Standard Clear Opening:	1000mm
Drive:	24V DC Motor with gearing	
Orientation:	Pass Left or Pass Right	
Materials:	Mechanical parts:	304 grade Stainless Steel
	Glass Wing:	10mm Toughened Glass
Power Failure:	Gate Rotates freely with any power loss or emergency signal	
Power Supply Voltage:	110/230 VAC 50/60Hz	
Power rating:	250 W, fuse 1.0 A	
Mains Input Fuse	2A	
Operating Temperature:	0 to 55°C	
Transportation and Storage:	-25 to +55° C	
Relative Humidity:	95% Maximum	

- Note**
- Class C mains circuit breaker is required.
 - Other finished and sizes are available upon request to Gunnebo

Section 3

Instructions for Use

Starting the GlasStile GSS

When the power is switched on, the gate automatically searches for its internal zero position, moving at a lower speed than normal. The blocking panel then automatically moves to its programmed home position. The first time the gate is powered up it will move to a factory pre-set home position.

When the internal zero and home positions are being sought the alarm output flashes slowly. When searching has been completed the closed gate closed output switches.

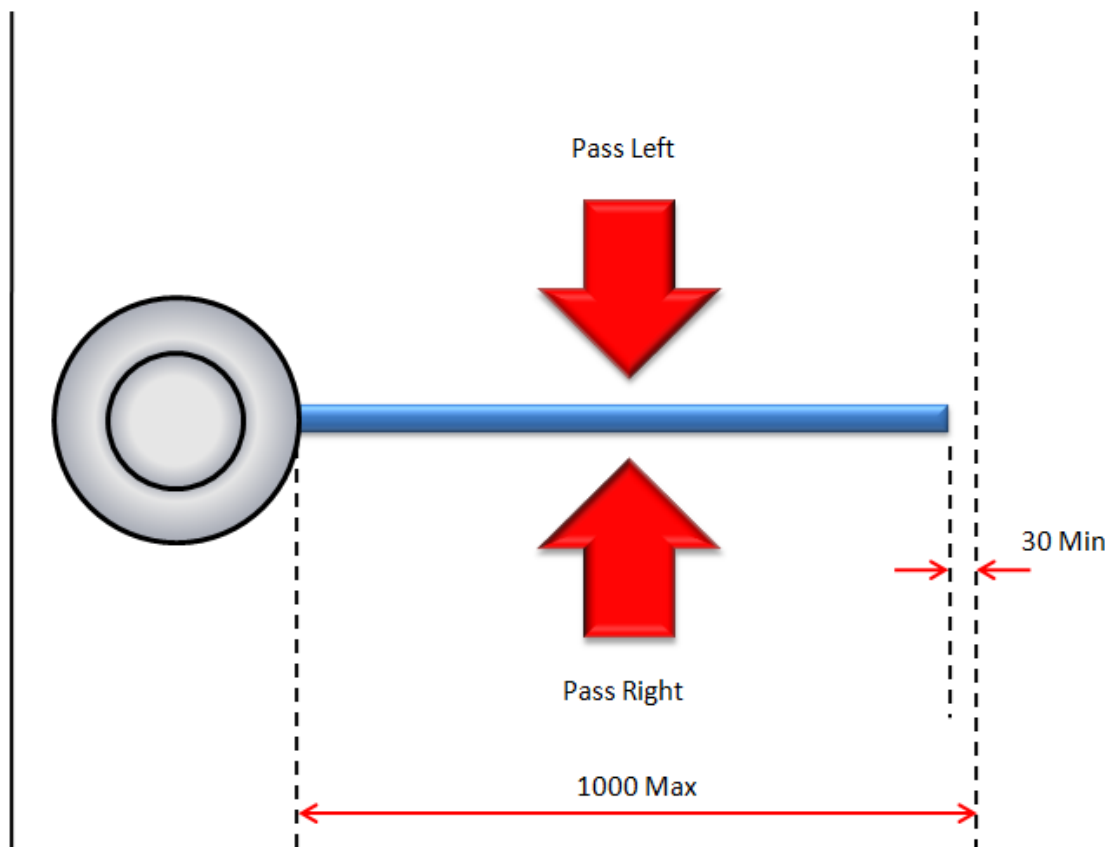
Reception Control Pass Left/Right (Option)

There are two momentary pushbuttons, one each for PASS LEFT and RIGHT entry, which instantly affect the rotation of the gate.

The gate opens for as long as the pushbutton remains pressed. Upon release the gate returns to its home position, where the electro-mechanical brake locks it.

Walkway Details

Fig 3.1 - Walkway Details



Technical Information

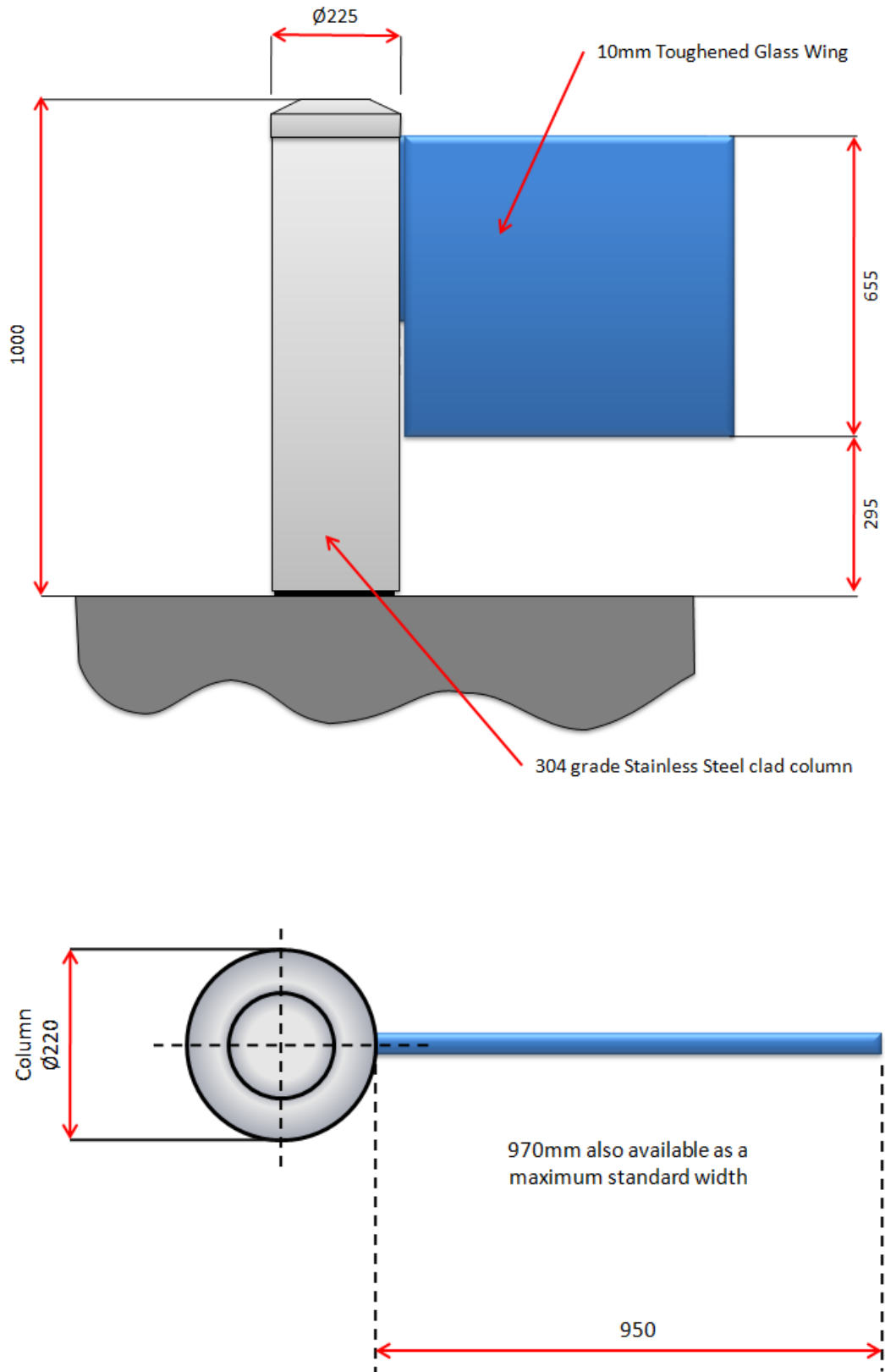
All that is required is a GO signal of >0.5 / <1 second from the access control technical system (voltage-free contact normally open).

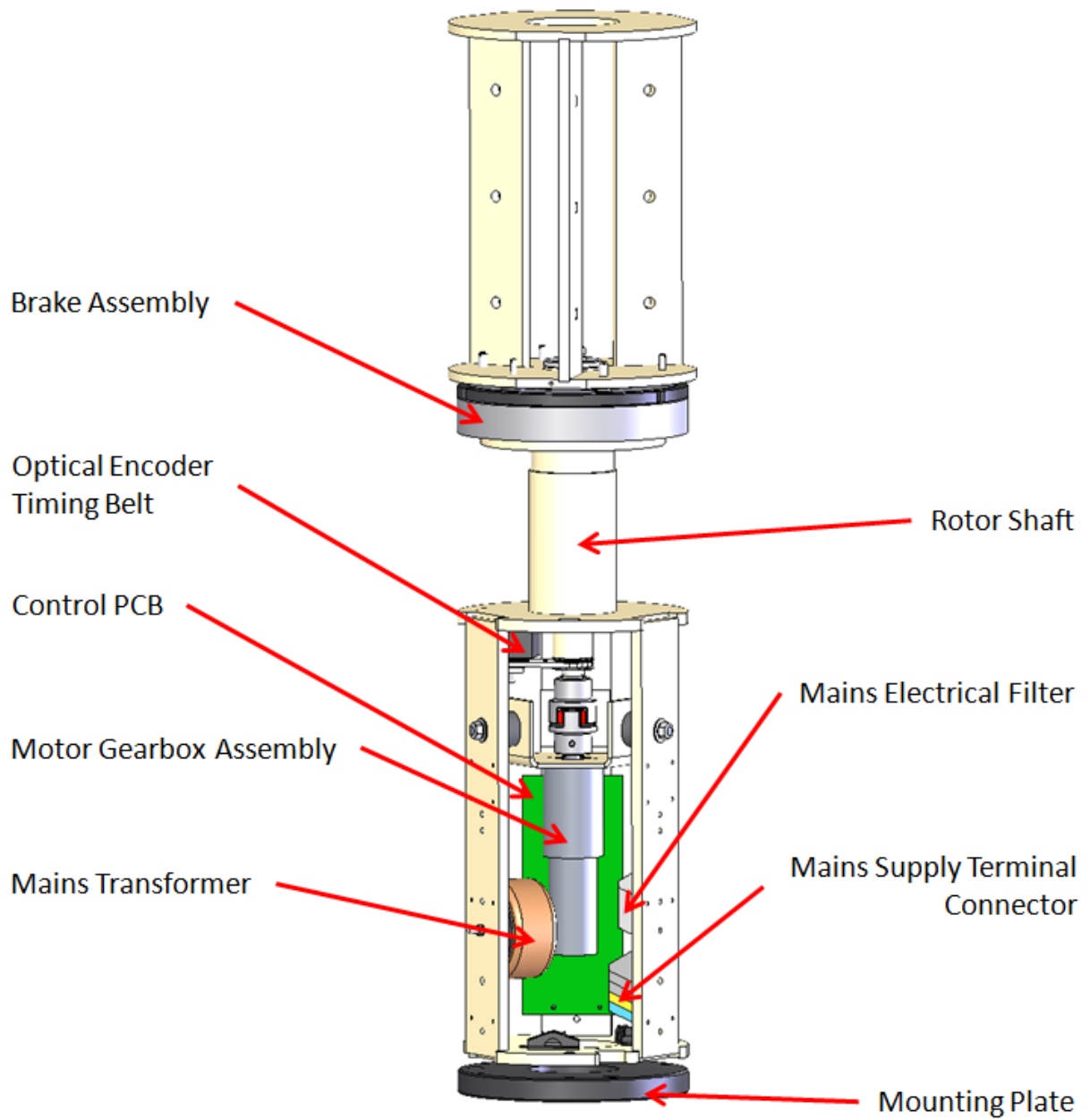
Flexibility of Design

The standard GlasStile GSS is clad with brushed stainless steel and the gate panels are of 10mm transparent toughened glass.

Standard Dimensions

Fig 4.1 – Standard GlasStile GSS Dimensions



Component Location**Fig 4.2 – Main Component Identification**

Installation Routines

Note - The GlasStile GSS should **NOT** be installed under a desk.

When planning the installation, it is important that everything is measured accurately and that all cable ways are marked out. All cables must be laid according to the specification indicated before installation begins.

All Electrical work MUST be carried out by a qualified engineer

1. Place the foundation plate and the centre column in the selected position. Turn the centre column so that the marking 'INDEX 0' on the non-rotating part, ends up as shown in Fig 5.1 to ensure that the panel can rotate without interference from the walls

Fig 5.1 – Opening in Both Directions (180°)

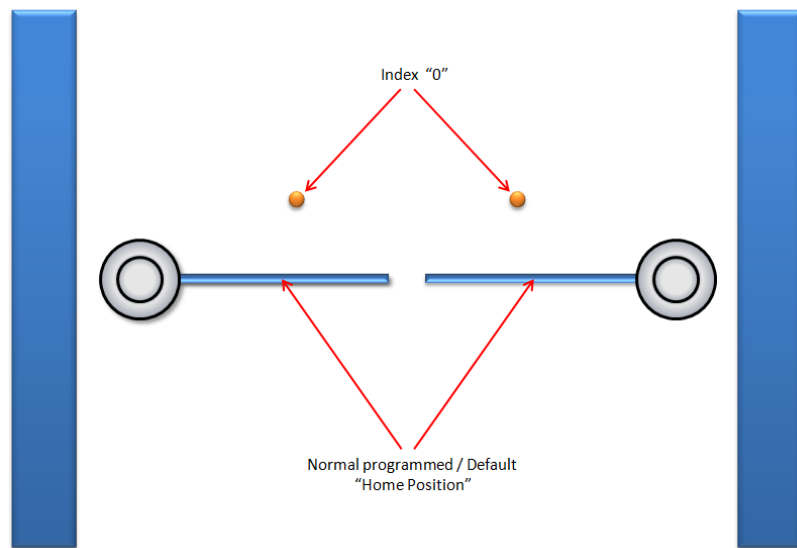


Fig 5.2 – Opening in Both Directions (90°)

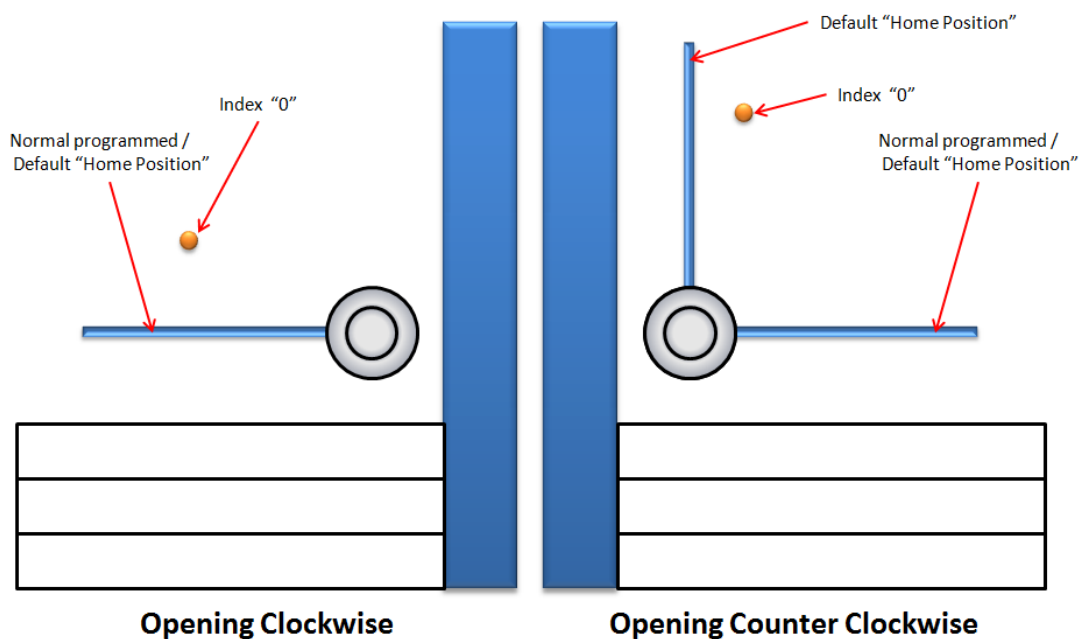
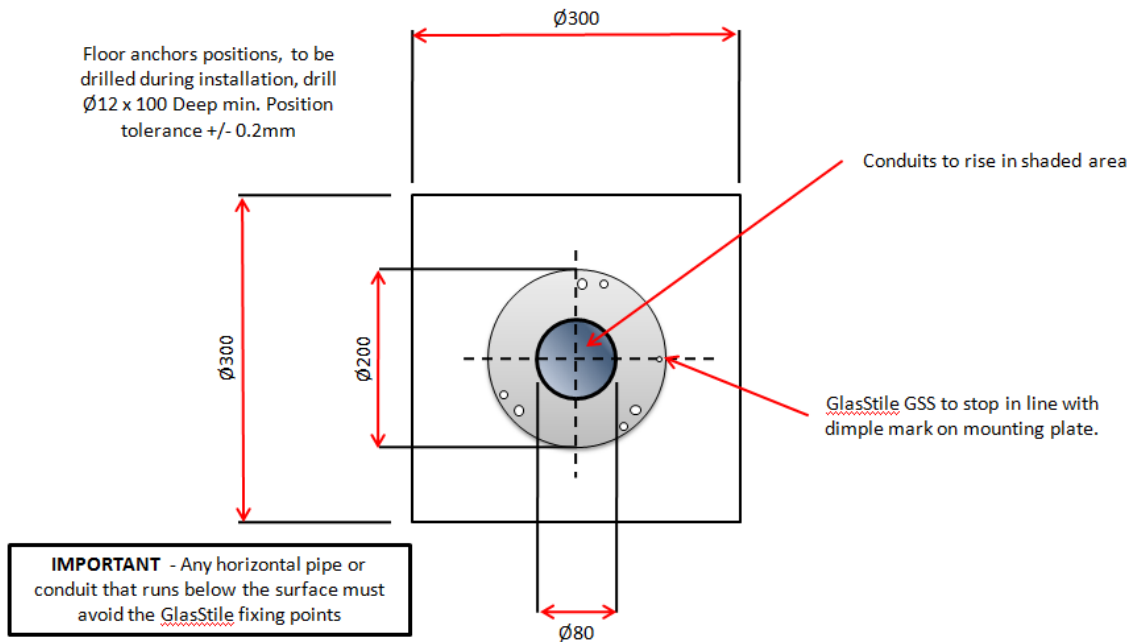
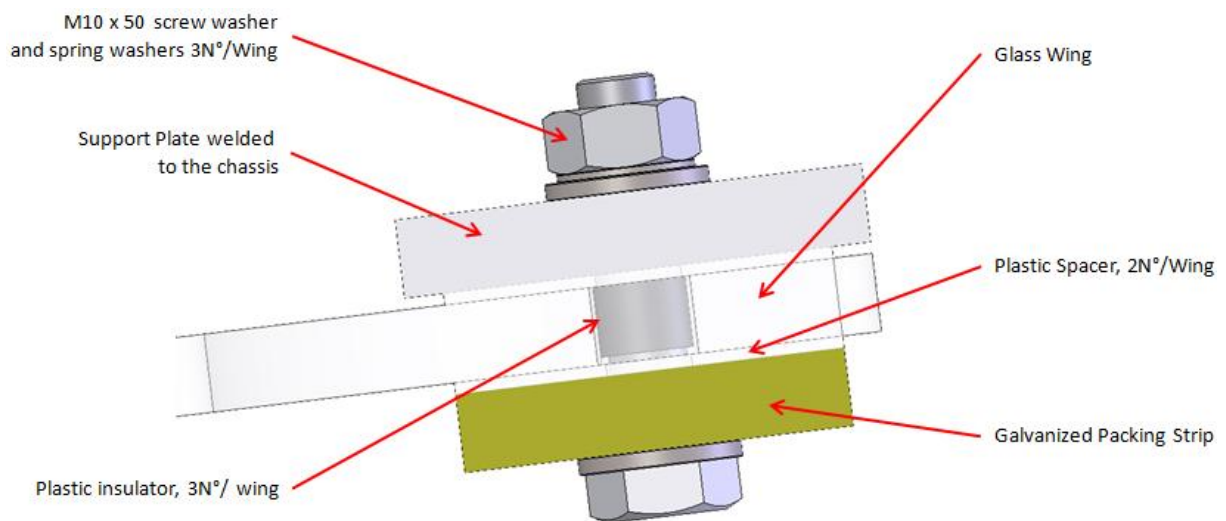


Fig 5.3 - Column Mounting Plate

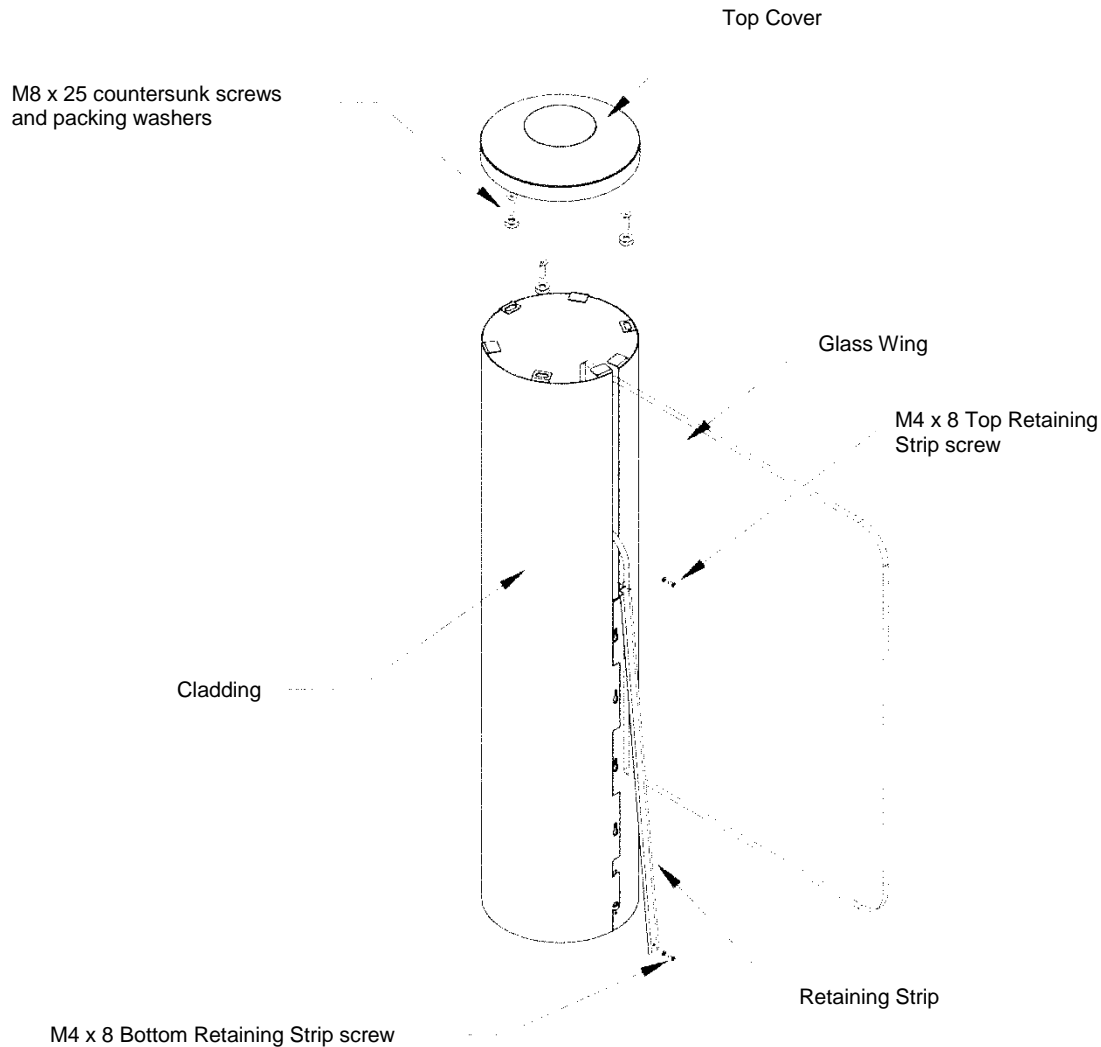


2. Mark out and drill the M10 holes, using the appropriate fixing items.
3. Place the centre column on the foundation plate and adjust the unit vertically, using the adjusting grub screws on the centre column's base plate. Lock in position using the fixing screws.
4. Fit the M4 x 8 Top Cladding Retaining screw into the chassis leaving approximately 2mm clearance between the head and surface.
5. Insert the glazed panel making sure that the plastic insulator, packing strip and the plastic spacer sit between the glass and the metal surrounds to avoid the risk of the glass cracking.

Fig 5.4 – Glazed Panel Fitting Detail



6. Using a spirit level adjust the glass so that the top is horizontal.
7. Rotate the gate manually to check that it rotates freely.

Fig 5.5 - Cladding Fitting Details


8. Prise the Cladding apart and slide into position.
9. Fit 2N^o packing washers and 1N^o M8 x 25 countersunk screw to each of the 3N^o positions through the Cladding into the top of the Rotor Column.
10. Mount the Top Cover on the centre column, so that the countersunk screws locate in the keyholes and rotate anti clockwise direction to lock into position.
11. Align the cladding edge profiles so that they interlock. This is achieved by compressing the middle of the cladding and engaging the 'lock' profile on the bottom edge.
12. Slot the Retaining Strip into the cladding key slots and slide upwards, taking care that the top cut out in the Retaining Strip, locates on the screw in the Rotor Column.

Note – The cladding may need to be compressed together to aid this function.

Lock the Retaining Strip into position using M4 x 8 security fixing.

110 to 230 VAC single phase 1.0 A, 250W.

Check that mains power is off with a certificated and calibrated voltage meter – when safe to do so connect the Earth first, and then the Neutral and then the Live connection last.

- Check that mains power is off with a certificated and calibrated voltage meter – when safe to do so, remove the live connection first, then the Neutral and then the Earth.

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CCEC/ OM Manual GlasStile GSS 1.6 EN 07.2009

Input/output signals Shielded multi-core cable with conductor area of 0.22mm (min).

1. Strip the sheath to the require length ensuring enough length for the shielding to be fixed to the terminal.
2. Secure the cable by its sheath in the clamp provided.
3. Connect the shield to the terminal provided.
4. Make all required connections ensure all cable contained within the centre column.

Load-relieving clamps on the adjustment plate shall secure the cables as follows:

Fig 5.6 - Electrical Connections

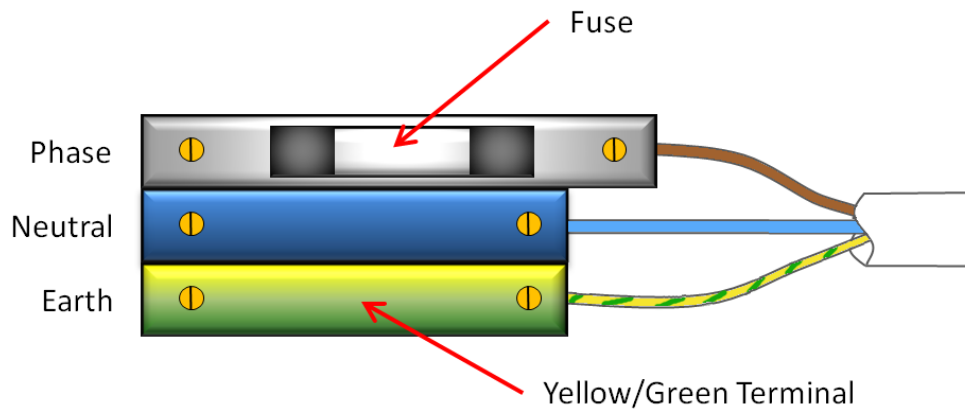
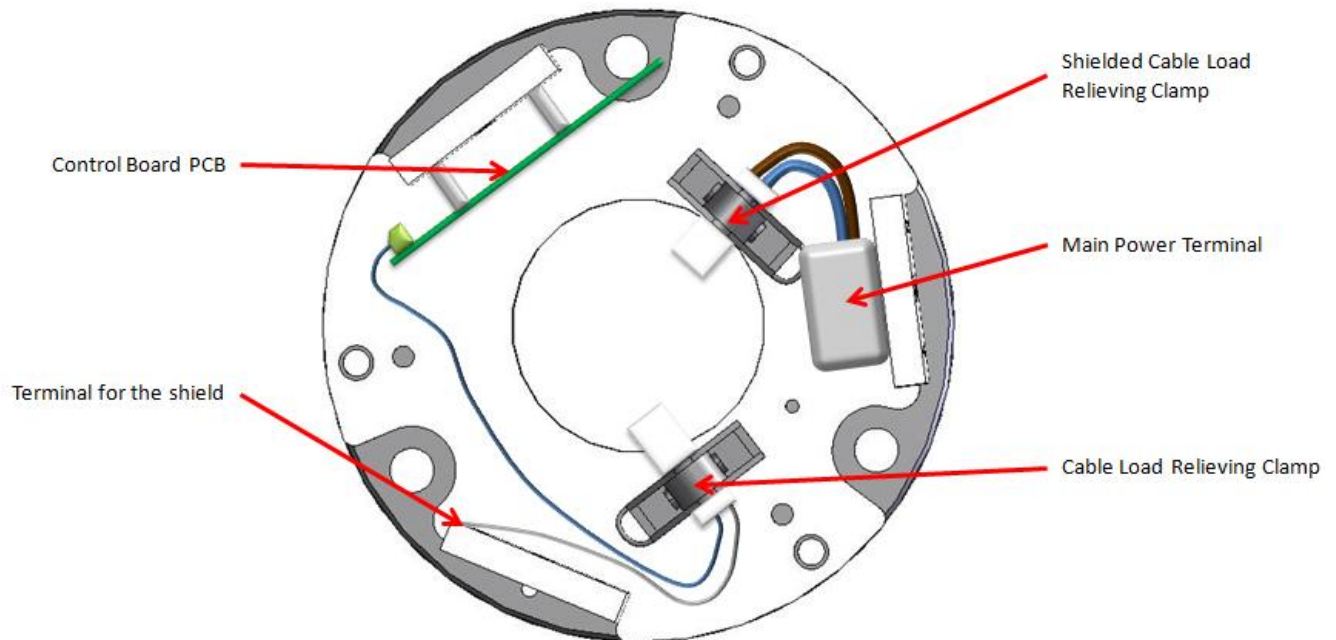
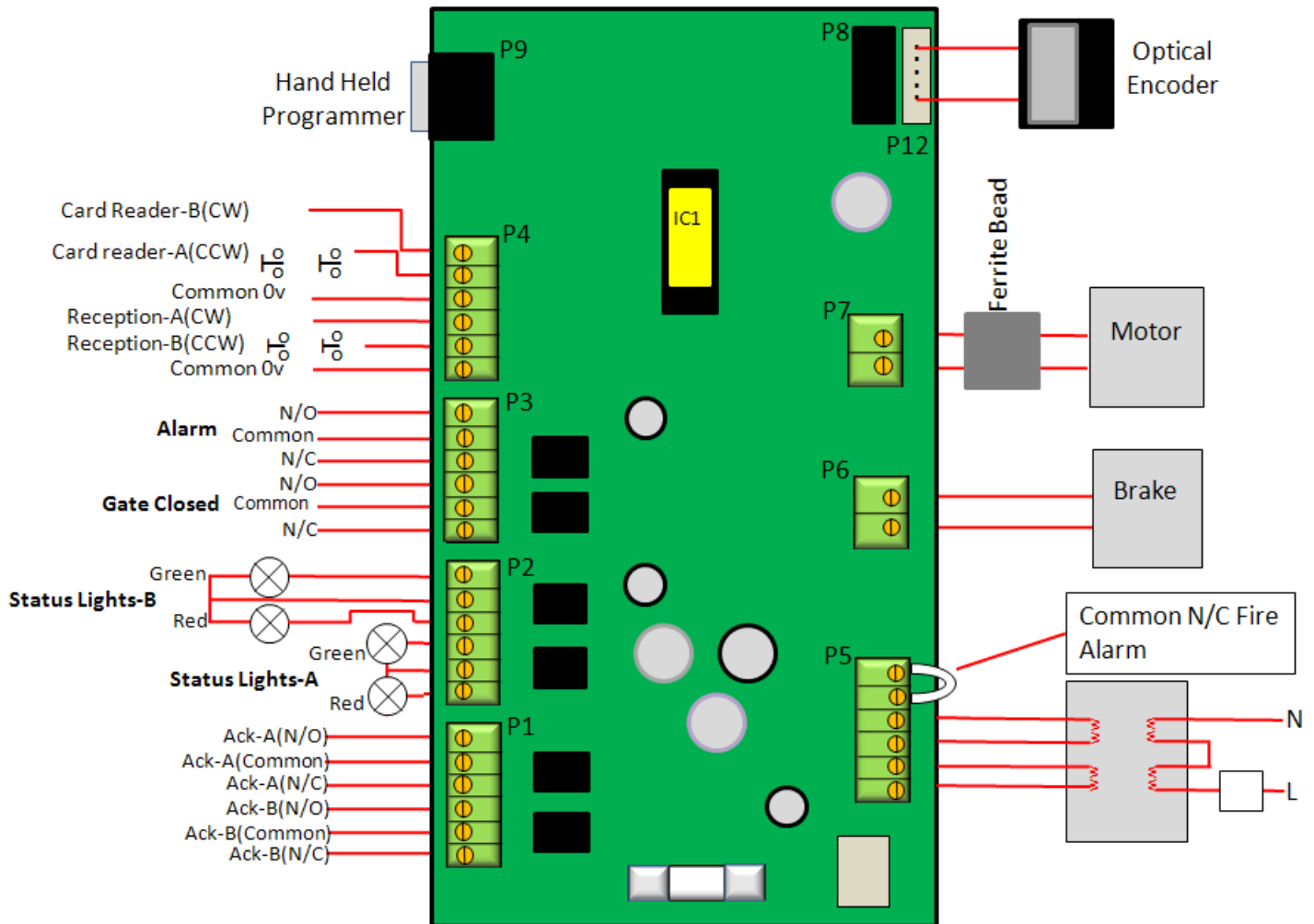


Fig 5.7a – Cable Fixing Locations



Customer Connections

Fig 5.7 – Customer Connections



Note: - The GlasStile should always have an independent fire signal. If an echo signal is used the unit will not function correctly.

P7 Motor Connections	
Pin	Description
1	Red positive
2	Black Negative

Programming (Program Options are given on page 25)

Warning – Programming must be undertaken with the mains power switched on.

• Settings

The mode of operation can be selected for standard firmware program options that are accessible via the Hand Held Programmer. This device should be ordered with the main equipment purchase, it is not supplied as part of the standard installation kit.

To program the GlasStile GSS the cladding must be moved. The Hand Held Programmer is then connected to the serial port on the Control PCB.

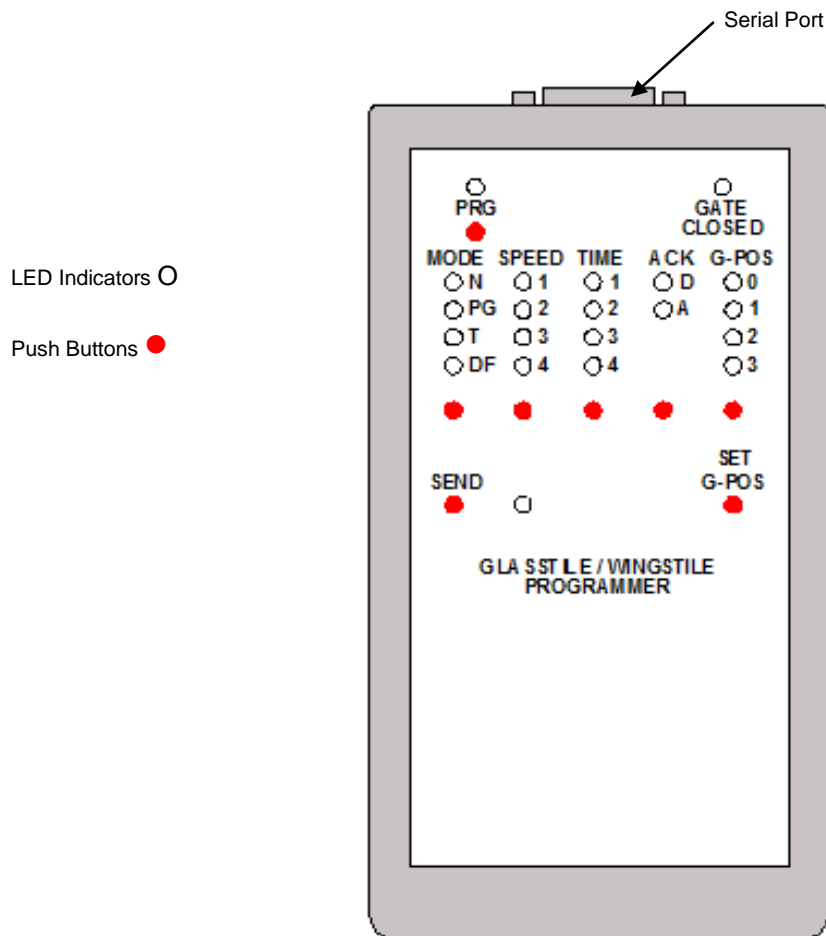
How the gate operates depends on certain selected functions.

DF = Factory settings.

• Selection of the Programming Position

- Press **PRG**. The red programme diode lamp will come on.

When the brake has been released the yellow lamp extinguishes. The gate now transmits its set parameters to the programming unit.



- Select a position, using the **POS** switches on the programming unit.
- Place the panel in the desired position, manually.
- Press the **SET POS** button. The green lamp will flash in acknowledgement.
- Repeat this process for the next position as required.
- Always end by selecting **POS 0** on the programming unit.

- Set by pressing the relevant buttons to the required settings.

End Programming

- If any settings have been made which affect the home position of any of the panels an automatic search is now made.

When the installation is complete, test the system. The GlasStile GSS will now search for a zero position (INDEX 0). Do not interfere with the gate until this has been achieved and the brake has been activated in the home position.

- Allow the unit to calculate and store its stopping distances by pressing '**PRG**' followed by '**T**' from the mode options, then press **SEND** and finally '**PRG**'. A ten minute test procedure will start, once you exit the Program Mode.

Should the GlasStile GSS not operate as desired, carry out the following checks...

- Press '**PRG**'.
- Make a note of the current settings from the Hand Held Programmer.
- Select mode '**DF**', followed by **SEND**.
- Exit the programming mode by pressing '**PRG**'.
- Adjust the gate panels home position and settings as described in this manual.
- Return to the procedure detailed above and repeat the set-up with new settings. This should also include the Home Position settings plus ten minutes test etc.

Maintenance

The GlasStile GSS Entrance Gate should be cleaned and greased, where directed, at regular intervals, using the following approved materials.

Cleaning agent.	Soap or mild detergent water.
Action:	Sponge rinse with clean water, wipe dry as necessary

Cleaning agent:	Soap or warm water or organic solvent (acetone, alcohol, genciene)
Action:	Rinse with clean water and wipe if necessary

Cleaning agent:	Mild cleaning solutions or domestic service cleaners.
Action:	Rinse well with clean water and wipe dry.

Cleaning agent:	Organic solvents (acetone, alcohol genciene, trichlorethane)
Action:	Clean after with soap and water, rinse well with clean water and wipe dry.

Cleaning agent:	Oxalic acid. The cleaning solution should be applied with a swab and allowed to stand for 15 to 20 minutes before being washed away with water. May continue using a domestic surface cleaner to give final clean
Action:	Rinse well with clean water (precautions for acid cleaners should be observed).

Cleaning agent:	Lightly rub with cutting paste. Rinse area with water and dry. Apply touch-up paint in fine layers.
Action:	Allow 2 weeks to harden. Blend into surrounding paintwork, using a fine cutting paste.

Cleaning agent:	Remove rust with a small sharp knife. Apply rust inhibiting paint (red oxide). Fill scratch with fine body filler to just under finished surface. Follow procedure for minor scratches.
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Scratches on Brush (Satin) Finish

Cleaning agent: For slight scratches, use impregnated nylon pads then polish with scruffs dressed with iron free abrasives. For deeper scratches, apply in direction of polishing. Then clean with soap or detergent as per routine cleaning.

Action: Do not use ordinary steel wool, iron particles can become embedded in stainless steel and cause further surface problems.

Greasing

Service Engineer carries out this action during service visits.

- **General Indications**

The mechanism should be inspected and cleaned at regular intervals in order to maintain the components in good working order and to check for signs of wear.

Note: The following indications refer to an installation where the average number of transits per year is equal to one million.

When used in dusty conditions, increase the inspection intervals.

Warning - To avoid the risk of electric shock, always ensure that the electrical power is disconnected before inspecting the mechanism.

- **Lubricants**

For the lubrication of parts subject to wear, use Molycote BR2 Plus grease or equivalent grease containing graphite or molybdenum sulphide (MoS)

Do not grease moving parts unless specifically indicated in this manual. The use of grease can lead to a build up of dust that can impair operation of the mechanism.

Components

Annual Checks (Operations to be carried out with the power supply disconnected)

Cables and Connectors (Operations to be carried out with the power supply disconnected)

- Check that the wire connectors are firmly attached.
- Check that the terminals are fully tightened.
- Check that the insulation of the wires is in good condition and that no conductors are exposed.

Electrical Circuits

No general maintenance is required apart from replacement fuses in the event of a failure.

General Component Maintenance

Ensure the assembly is kept clean.

Should it become necessary to adjust the Brake during set up or routine servicing the following procedure should be used.

- ## Encoder Replacement

- Disconnect the power supply
- Replace the device
- Check all relevant connections
- Restore the power supply
- Re-set to normal functioning

- Disconnect the power supplies.
- Remove all connectors from the PCB.
- If necessary remove the PCB supports.
- Reconnect the cables and connectors.
- Replace the PCB.
- Reconnect the power supplies.
- Switch ON the Unit and return it to normal operation.

Table 6.1 – Fault Finding

Symptom	Check	Action
Unit Free Wheels	Mains Supply is correct and present.	• Switch on
	Fuses on Control Board	• Replace blown fuses
Unit will not stop and lock	Encoder is fitted correctly	• Adjust and/or replace timing belt or encoder
	Desired position may not be obtainable.	• Reprogram new positions
At power up the unit moves at great speed	Encoder is fitted correctly	• Adjust and/or replace timing belt or encoder
Unit Fails to reach the target position	Brake setting	• Adjust brake
	Bearing for correct alignment.	• Loosen and re-tighten bearing
	Transmission to the Optical Unit	• Check connections and replace if unserviceable
	Pulley Belt for tension	• Adjust and replace if unserviceable

Spare Parts

Quantities listed are per GlasStile GSS over a 24 month period.

Code	Description	Qty
SM-BO-GS-0001	Motor/Gearbox G42x40 40VDC	1
SE-FU-GS-0001	Fuse Q/B 20mm 2.A	1
SM-TR-GS-0001	Transformer Toroidal	1
SM-CB-GS-0001	Timing Belt (2.5 x 80T)	1
SE-EL-GS-0007	Electromagnetic Brake	1
SA-MC-MU-0008	Optical Sensor Assembly (Encoder)	1
SE-LB-GS-0004	PCB excluding Chip	1
SA-FM-GS-0002	GSS Firmware	1
SM-DA-GS-0001	Damper Magnetic Brake	3
SK-LK-GS-0002	Shaft Key (Top Cradle)	1
SK-LK-GS-0003	Shaft Key For top of coupler	1
SM-LK-MU-0047	Shaft Key	1
SE-EL-GS-0006	Motor Coupler	1

Section 8

Declaration of conformity



Competence Centre Entrance Control

DECLARATION OF CONFORMITY

Manufacturing Plants of the Competence Centre Entrance Control located c/o Gunnebo Entrance Control S.p.A., via A. Volta, 15, 38015 Lavis (TN), Italy; and c/o Gunnebo Entrance Control Ltd, Bellbrook Business Park, Uckfield, East Sussex, TN22 1QQ, United Kingdom, declare under their own responsibility that the products:

GlassStile R Type A
GlassStile R Type B
GlassStile R Type C
GlassStile S

to which this declaration refers, comply with the provisions of the following directives:

2006/42/EC Machine Directive
2004/108/EC EMC Directive
2006/95/EC Low Voltage Directive

And moreover declares that the following harmonized norms have been applied:

EN 61000-6-3 (2007) Electromagnetic compatibility – generic standard, emission
EN 61000-6-2 (2005) Electromagnetic compatibility – generic standard, immunity
EN 60335-1 (2002) Safety of household and similar electrical appliances

Uckfield, 11th of May 2009

Rob Wheeler
Legal Representative for
Gunnebo Entrance Control S.p.A. and
Gunnebo Entrance Control Ltd

Notes

For further information please contact:



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Note: In pursuit of its policy of continuous refinement and improvement, Gunnebo Entrance Control Ltd reserves the right to modify design and details.