

TSA 325 A (Automatic)

Revolving Door Drive for Automatic Doors



Operation & Maintenance Manual

GB

Contents

Safety Instructions	3
General rules of safety and accident protection.	
System Description	4
Detailed description of drive components	
Occupier Safety Tests	5
Safety check list to be adhered to by the User	
Occupier Safety Test (continued)	6
Safety check list to be adhered to by the User	
Occupier Safety Test (continued)	7
Safety check list to be adhered to by the User	
Operational Switches	8
Detailed review of control switches.	
Trouble Shooting	9
Detailed review of all fault codes	
Trouble Shooting (cont`d)	10
General Cleaning & Maintenance	11
Detailed review of cleaning and maintenance procedures.	
Service Information	12
Contact numbers, Warranty & Post Warranty information.	

Safety Instructions

General Safety Instructions

Before starting to use the door, read this user manual with care and comply with the following safety instructions at all times:

- The GEZE TSA 325A automatic revolving door operator is only intended for normal usage with automatic doors.
- Please comply with relevant accident prevention regulations.
- Please follow the guidelines for **BS 7036 1996 Safety at Powered Doors for Pedestrian Use**.
- Please adhere to the operating, servicing and repair conditions specified by **GEZE**.
- Servicing and repair work may only be carried out by properly trained **GEZE** personnel or authorized **GEZE** partner.
- Isolate all power before removing cover.
- **IMPORTANT:** The cover may only be removed by properly trained personnel authorized by **GEZE**.
- **GEZE** does not accept responsibility for damage resulting from unauthorized modification of the equipment. Warranty will be void if damage is caused from unauthorized modification.

System Description

Fully Automatic Revolving Door System

Micro processor controlled, electro mechanical drive with infinitely variable speed and two speeds that can be pre-set. For normal operation 3-4 min and 1 min, if the door is equipped with buttons for the disabled.

Product Features

Attractive and slim aluminium profiles with rounded edges.

From 1800mm to 3600mm and every specific diameter may be produced..

Passage heights up to 3000mm are possible. Larger passage heights on request.

Side elements of curved 10mm clear laminated glass. Door leaf of flat 10mm toughened safety glass. Night time sliding doors of curved 10mm clear laminated glass.

Functionality.

New, higher torque drive with integrated overwind safety and emergency brake.

Power transmission using chains as an external rotor over rollers.

Service friendly: the control system is mounted separately from the drive.

The GEZE TSA 325A control system automatically registers system specific data for a constant and secure motion control.

Recognition of obstacles and edge safety.

Connection facilities for:

- 4 sensors
- Safety devices
- Key switch
- Lock
- Emergency off switch
- Control panel lock

Operational Parameters

GEZE control switch:

- Night
- Revolve
- Auto
- Exit
- Manual
- Parameter settings are adjustable for: normal speed, standby speed, slow speed and time out in operating mode REVOLVE and MANUAL.
- Reset function
- Fault diagnosis display

Occupier Safety Test

Extract from BS 7036 : Part 5 : 1996 (Annex B normative)

This annex provides check lists (see figure B.1 and figure B.2) for occupier tests on powered revolving doors which suit the majority of installations. However, the person / organization responsible for the operation and maintenance of the doors should consider each individual installation and adopt a safety test procedure that is suitable for that installation. Additional tests to those given in this section may be necessary if specified by the manufacturer.

Figure B.1

Occupier safety check list for powered revolving doors of internal diameter less than or equal to 3000mm

The occupier is responsible for undertaking the following test procedure which should be carried out at least weekly unless a different frequency for tests is identified in the Hazard Analysis and Risk Assessment (see 4.6.2.1 of Part 1).

For safety reasons it should not be assumed that equipment is working safely. There should be no notice boards, literature racks, merchandise displays, or other distractions or obstructions in the vicinity of the door that may congest or inhibit the traffic flow.

If a fault is found which affects the safe operation of the door, the door operating equipment should be switched off and the door made safe. Use of the door should not be re-instated until an authorized technician has undertaken repairs.

Safety Device Activation

- 1) Test the leading mullion buffer sensor(s) (to both doorway openings) as follows
 - a) where a presence sensing device is used (see item b of 2.2) place a test object (see 8.4.2 of part 1) on the threshold of the door in front of the leading mullion buffer and verify that the door stops;
 - b) where the sensor is of a switched type (see item a 2.2), depress the leading mullion buffer and verify that the door stops.

Additional Safety Devices

- 2) If additional safety devices are fitted (see 2.3) carry out the applicable safety tests given in figure B.2.

Automatic Activation

- 3) Test the automatic activation device(s) by walking towards the doorway opening. The door should start to rotate when the person is approximately 1400mm from the door. The door should continue to rotate for a sufficient time to allow the user to pass completely through the door.
- 4) Repeat 3) on the other side if the door has 2 way operation.

Control Mat Activation

- 5) Test control mat by stepping onto it. The door should continue to rotate for a sufficient time to allow the user to pass completely through the door.
- 6) Repeat 5) on the other side if the door has 2 way operation.
- 7) Inspect the mat moulding and threshold. The mat should be complete and secured and should not give rise to tripping hazards.

Occupier Safety Test (cont`d)

Manual Activation

- 8) Test manual activation devices (if fitted) by pushing the door in its direction of activation. The door should continue to rotate for a sufficient time to allow the user to pass completely through and it should then come to rest in the draught proof position.

Power Assisted Operation

- 9) Test power assist operation (if fitted) by pushing the door in the direction of operation. On removal of hand pressure the door should stop.

General Tests

- 10) Check that the door area has no tripping or slipping hazards.
- 11) Check all door panels for broken or cracked glass.
- 12) Check that all doors have signs correctly displayed at recommended viewing heights.
- 13) Check the operation of remote activation or emergency stop device if fitted.
- 14) Check for distractions or obstructions in the vicinity of the door.

Figure B.2

Occupier safety check list for powered revolving doors of internal diameter less than or equal to 3000mm

The occupier is responsible for undertaking the following test procedure which should be carried out at least weekly unless a different frequency for tests is identified in the Hazard Analysis and Risk Assessment (See **4.6.2.1** of Part 1).

For safety reasons it should not be assumed that equipment is working safely. There should be no notice boards, literature racks, merchandise displays, or other distractions or obstructions in the vicinity of the door that may congest or inhibit the traffic flow.

If a fault is found which affects the safe operation of the door, the door operating equipment should be switched off and the door made safe. Use of the door should not be re-instated until an authorized technician has undertaken repairs.

Safety Device Activation

Leading Mullion Buffer Sensors

- 1) Test the leading mullion sensor(s) (to both door openings) by placing a test object (see **8.4.2** of part 1) on the threshold of the door in front of the leading mullion buffer.
- 2) The door should stop rotating before striking the test object, and should not move again until the test object has been removed.

Leading Face Sensor(s)

- 3) Test the leading face sensor(s) by placing a test object (see **8.4.2** of part 1) within the swept area of the revolving door. When the rotating door leaf is a minimum of 250mm away from the test object the door should reduce its speed to a maximum of 1 r/min.
- 4) Repeat 3 for each door leaf in turn.

Occupier Safety Test (cont`d)

Leading Edge Sensor

- 5) Test the leading edge sensor by placing a test object (see **8.4.2** of part 1) on the outer edge of the swept area in front of the leading edge of the rotating door leaf. As the rotating door leaf approaches the test object, rotation should stop before the leading edge comes into contact with the test object.
- 6) Repeat 5 for door leaf in turn.

Bottom Rail Detection Device

- 7) With the door rotating, activate the bottom rail detection device and ensure that the door stops. The door should not start to move again until the bottom rail detection device is de-activated.

Central Core Detection Device

- 8) With door rotating, activate the central core detection device (if fitted) and ensure that the door stops rotating. The door should not start to move again until the central core detection device is released.
- 9) Repeat 8 for each compartment.

Extract from BS 7036 : Part 1 : 1996 (4.6.2.1 Occupier Safety Checks)

To ensure continued operation of a powered door installation, the installation and its environment should be subjected to systematic operational checks as often as is appropriate to the type of installation and its traffic flow. This should be assessed with reference to the Hazard Analysis and Risk Assessment carried out under 4.1.4, e.g. in high traffic areas such as shops, hospitals and airports, an appropriate rate would be at least once a week using the tests given in parts 2 to 5.

Extract from BS 7036 : Part 1 : 1996 (8.4.2 Test Object)

The following test object should be used.

- a) For presence sensing devices, a cardboard box of approximate dimensions 250mm x 150mm x 710mm high (10in x 6in x 28in high) is a suitable test object.
- b) For motion sensing devices, testing is achieved by the tester approaching the door from several directions in turn.

Extract from BS 7036 : Part 5 : 1996 (2.2 Safety during operating cycle)

Protection against trapping of hands, feet etc should be provided at each leading mullion by one of the following devices.

- a) a passive safety device such as a compressible buffer incorporating a full height switching system which, when activated, stops the door; or
- b) a presence sensing (active) safety device such as a photo electric device installed immediately before each leading mullion buffer which, when activated, stops the door.

Extract from BS 7036 : Part 5 : 1996 (2.3 Additional safety during operating cycle)

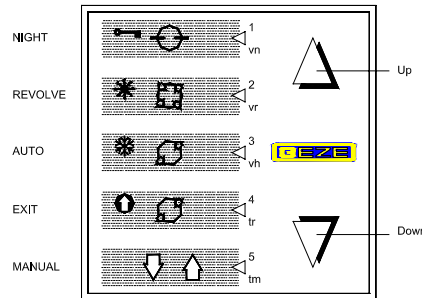
If the hazard analysis and Risk Assessment indicates that additional safety devices are necessary to protect the user (particularly young children, the elderly and the infirm) then appropriate devices should be fitted.

Operational Switches

Operation of Settings

This type of programme switch carries out various functions. They are; select mode of operation, view error messages and programme and service the system. The modes of operation are as follows.

- Select the desired operating mode at the programme switch. Press either the UP or DOWN key till desired operating mode is indicated on the panel via a illuminated LED.



NIGHT

In operating mode NIGHT, the door is at standstill and can only be activated by a device approved for NIGHT mode. Afterwards, the door rotates into the final position and is held by the magnetic brake (if fitted). Manual locking is also possible once the door has reached final position. NIGHT mode is also used as the reset function following the emergency off function.

REVOLVE

As soon as the REVOLVE operating mode is activated, the door starts rotating in standby speed (vr). If an activator (IG) becomes active that is approved for the operating mode, the door accelerates to normal speed (vn). If the activator becomes inactive again, the door continues to rotate for the preset number of sectors then brakes again to standby speed (vr). If nobody passes through the door during the preset time out (tm), it stops in the final position and restarts only when the activator becomes active again. If the time out at the switch is set to maximum, the door never stops.

AUTO

The operating mode AUTO is the main operating mode. When activated from either inside or outside, the door rotates from standstill to normal velocity or slow speed depending on the preset parameters. If the activator becomes inactive, the door continues to rotate for the preset number of sectors, brakes to standstill and waits for a new activation instruction.

EXIT

The operating mode EXIT can, for example, be applied during shop closure time. The door is activated only by the internal activator. The operation of the door behaves just as in the operating mode AUTO.

MANUAL

In the operating mode manual, the door can be moved by hand. If, during the programmed down time (time out), the door is no longer moved by hand or is given a activation signal approved for manual activation, a final position run takes place. The overwind safety prevents a rotational speed that is to fast for manual operation.

Trouble Shooting

Fault Messages

With the occurrence of a fault, the corresponding fault code is displayed on the programme switch. To obtain fault code compare flashing LED's with table listed below

Code and description of all error messages. Please confirm this code when reporting the fault to the Service Dept.

The table shows the LED combinations (code)

Flashing LED

	1	2	9	10	11	12	13	16	19	20	21	22	31
NIGHT													
REVOLVE													
AUTO													
EXIT													
MANUAL													

Error	Meaning
01	Lock not locked
02	Circumference of the revolving door is not yet registered or is invalid
09	Transmission error
10	Emergency off was activated
11	Motor temperature to high
12	Overload
13	Standstill in position run
16	Door stopped due to an obstacle
19	Burglary alarm
20	Maintained contact of an activator during at least 1 min
21	Maintained contact of a safety device during at least 1 min
22	Maintained contact of a rear activator during at least 1 min
31	Caused by system reset

Adjustable Parameters

VN	Normal Speed
VR	Standby Speed (velocity revolve)
VH	Slow Speed (velocity handicapped)
TR	Time Out in operating mode REVOLVE
TM	Time Out

Trouble Shooting

Operation on Power Failure

During a power interruption, the door can be turned manually in both directions. The overwind safety prevents a movement that is too fast.

IMPORTANT NOTICE

If manual locks are fitted to the door leaf, please ensure they are **UNLOCKED** prior to switching the drive unit into one of the operational modes. Also switch the drive unit to **NIGHT MODE** before locking the door.

General Cleaning & Maintenance

Maintenance of Drive Unit

Aluminium Cover

Wipe Clean with a damp cloth. DO NOT allow water to enter through the drive unit cover.

Activation & Safety Sensors

Ensure plastic lenses are clean & dust free. Wipe with a dry soft cloth if necessary.

Preventative Maintenance

GEZE strongly advise that a preventative maintenance programme is entered into, in line with the recommendations of BS 7036 : Safety at powered doors for Pedestrian Use.

An Authorized Technician to BS 7036 must carry out any servicing.

Fabricated Doors / Screenwork only - See separate section for electrical drive unit covers.

Atmospheric deposits, sulphurous acids, carbon dioxides and other chemicals in the air will discolour and tarnish all metalwork, and in time cause corrosion. Regular maintenance prevents atmospheric deposits building up and attacking the metals.

Anodized Aluminium.

Wash with mild soap and water or a mild detergent solution, rinse down with clean water and dry off with a soft cloth or chamois leather. Apply a liquid wax polish to protect the metal from the atmosphere.

AVOID : Metal polish of any kind, abrasive cleaners, strong alkalines or acids, and the use of ammonia based cleaners for washing windows as they can cause staining of the surrounding framework.

Recommended frequency - WEEKLY.

Polyester Powder Coated Aluminium.

As with any organic coating, in order to retain the aesthetic properties, it is recommended that the coating be regularly maintained. Wash at intervals of not more than three months using a solution of warm water and mild detergent. (e.g. 5 % Teepol solution or mild washing up liquid.) All surfaces should be cleaned using a soft cloth or sponge but nothing harsher than a natural bristle brush.

AVOID : Abrasive cleaners or cleaning solutions such as ketones, esters, or alcohols.

Recommended frequency - THREE MONTHLY (depending on environment.)

Polished or Satin Stainless Steel.

Wash away grime and grit with luke warm soapy water or a mild detergent solution using a nailbrush for awkward crevices or corners. Repeat with clean water. Dry and polish with a soft duster or chamois leather.

AVOID : Metal polishes, and all abrasives, toxic materials, acids, strong alkalines, nylon pads, wire wool.

Recommended frequency - WEEKLY.

Glass.

Wash as often as possible with clean water and a chamois leather, scrim or squeegee, and dry off. The occasional application of a proprietary window cleaner or polish can be beneficial providing it does not contain ammonia. Advice may be given by a reputable window cleaning company.

Service Information

We are committed to the very best in customer service. To ensure rapid response and total peace of mind we offer 24 hour 7 day a week service and repair for all makes of automatic and manual doors throughout the UK.

Warranty Period - Up to 12 months from installation

Fully comprehensive GEZE parts and labour warranty which covers all faults other than those caused by abuse.

For Nationwide Assistance call 08456 777781

Post - Warranty period

Following the warranty period - GEZE provides a range of Service Contracts to suit individual site requirements. The current BS7036 recommends that powered doors are serviced twice per year - our Service Contracts are therefore based on this important recommendation.

**A comprehensive, 24 hour service,
nationwide – from your local office...**

GEZE Service *Midlands*

Blenheim Way
Fradley Park
Lichfield
Staffordshire
WS13 8SY

Tel: 0845 078 0880
Fax: 0845 078 0881

GEZE Service *South West*

Unit 39, Old Mills Industrial Estate
Old Mills
Paulton
Bristol
BS39 7SU

Tel: 0845 078 0884
Fax: 0845 078 0885

GEZE Service *South East*

Unit 15, Farnborough Business Centre
Eelmoor Road
Farnborough
Hampshire
GU14 7XA

Tel: 0845 078 0878
Fax: 0845 078 0879

GEZE Service *North*

Unit 24a, Oak Road
West Chirilton North Industrial Estate
North Shields
Tyne & Wear
NE29 8SF

Tel: 0845 078 0882
Fax: 0845 078 0883