



## TECHNICAL SPECIFICATION

### CSG 10604

Trackless Bi-Folding Speed Gate  
(European Patent No 1595050 - Drive)



### PRODUCT OVERVIEW

The CSG 10604 trackless bi-folding speed gate consists of a post onto which a bi-folding leaf is attached. Unlike other bi-folding gate systems, this does not require a track either in the ground or overhead to fold the leaf but uses a folding system housed inside a casing on top of the post hung leaf.

Operating speed from 6 seconds depending on site conditions, gate configuration etc, rated for continuous operation - 100% duty cycle. The post hung section of the bi-fold leaf is driven by a unique innovation consisting of a torque motor driving a crank arm through 270 degrees giving good mechanical advantage. The 270 degree drive mechanism together with an electro magnetic brake locks the gate in both open and closed positions.

The folding mechanism transfers rotation from the post hung leaf to the leaf hung leaf at a ratio of 2:1. The sinusoidal action of the drive allows the gate to operate in both a smooth yet fast action closing in 6 seconds (or 8 seconds in particular windy locations where a more powerful drive is used).

The gate leaf sections are fully welded assemblies. The leaf frames are constructed of RHS steel section stiles and top rail with a wide folded steel bottom rail section. The leaves are in-filled with closely spaced vertical bars and/or other infill materials to suit and the gate structure is manufactured from proprietary steel.

Typically a system consists of a single unit of one post supporting one bi-folding leaf spanning up to 5 metres. The leading edge is received into a post on the other side of the roadway.

### CONTACT US

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On wider openings typically up to 10 metres span then a pair of opposite handed units (a bi-parting pair) needs to be used. In the centre of the roadway a receptor plate will be required to receive the leading edge rollers when the gate reaches the fully closed position.

The operation of the torque drive motor is controlled by a Programmable Logic Controller (PLC) based unit located within the associated control cabinet.

### CONSTRUCTION

- Hinges: 25mm dia stainless steel pins, DU self lubricating plain bearings and ball thrust bearings with stainless steel covers.
- Drive: Electromechanical or hydraulic driving through a 270 degree system (European Patent No 1595050).
- Leaf Folding: Duplex chain system configured to a 2:1 ratio mounted on the post hung leaf (Patent No 1595050).
- Gate structure is manufactured from proprietary mild steel.

## DIMENSIONS

Single unit:

- Maximum Width: Max 5m (between motor post and receptor post).
- Height Typically: 2.4m but can be higher.

Bi-parting pair:

- Maximum Width: Max 10m (between motor posts).
- Height Typically: 2.4m but can be higher with slight reductions to the maximum width.
- For bi-parting pairs the roadway needs to be level within 65mm between the posts or made-up to level on the installation.
- Typically the road receptor plate protrudes 50mm from the road surface, but where the road is not level between posts then the receptor will protrude more.

## INSTALLATION

Generally there are two fixing methods either 'surface-fix' or 'sub-fix'.

- Surface-fix is for existing surfaces usually within a building or where it is difficult to provide submerged foundations. Simply the base plates are bolted directly to a suitable concrete surface using chemical anchors bolts. Base-plates can be angled to suit ramp gradients. On larger gates it is sometimes found necessary to cleat to the structure of the building or design bracing to increase rigidity. Minimum slab thickness 300mm.
- Sub-fix is usual for perimeter applications whereby foundations are cast, to a required size, in two stages. Stage one is typically 500mm concrete poured into a 900mm hole, cast prior to the gate installation. Once cured, typically after one week, the gate is bolted to this foundation. With gates levelled, fully wired and operationally checked, stage two, concrete backfill, typically 400mm deep can be conducted.

Once the whole system has been proved, checked for level and operation then the "second pour" is applied to the finished level leanly finishing surface. This method is usually self standing.



## DRIVE

- Electromechanical drive up to 3.5m span per leaf.
- Hydraulic drive up to 5m span per leaf.

## SAFETY

- Designed to meet BS-EN13241-1 standard for installation, testing and ongoing compliance of automatic gate and door systems.
- The bi-folding method of gate operation requires considerably less power to operate than conventional swing gates and also has less wind effect. This combined with the 270 degree drive results in a relatively lower powered and thus safer drive.
- All gate systems come complete with a through photo beam system between posts. Additional photobeams can be added for extra protection.
- The leading edges of the leaves are fitted with electrical rubber safe edges, which if in contact with an obstruction will stop the operation of the gate.
- It is recommended that all installation include vehicle detection loop systems.

## CONTROLS

- Controls are Programmable Logic Controller (PLC) based and therefore are very flexible and can be configured to suit customer's requirements.
- Optional features can include conventional push button station or Human-machine interface (HMI) terminals.
- Single or multiple control positions and all forms of access control can be utilised.

## ELECTRICAL SUPPLY

Supply 240volt 50Hz single phase rated at 10 amp.

Please contact us to discuss your power supply requirements.

## FINISH

Polyester powder coated to a specific RAL No.

Galvanised or galvanised and polyester powder coated to a specific RAL No.

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