Lane closure

Lane closure systems

LANE CLOSURE SYSTEM GATE

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Concept and System

Lane closure

In a motorway, road, expressway and tunnel context, lane neutralization is an important action in the large family of equipment intended to ensure the safety of agents and users.

The lane-closure system are adaptable signaling equipment, automatic and/or manual, making it possible to physically materialize the closure of a traffic lane.

They consist of a sequence of panels or light signals constituting the approach signaling and a series of barriers of increasing length intended to materialize the lane-closure system.

The system

Once deployed, the barriers materialize a folding arm allowing users to anticipate the lane closure and to fall back safely. When not active, the devices are parallel to the road, folded along the restraint.

When the system is activated, the barriers pivot to place themselves perpendicular to the direction of traffic, and thus act as temporary signals.

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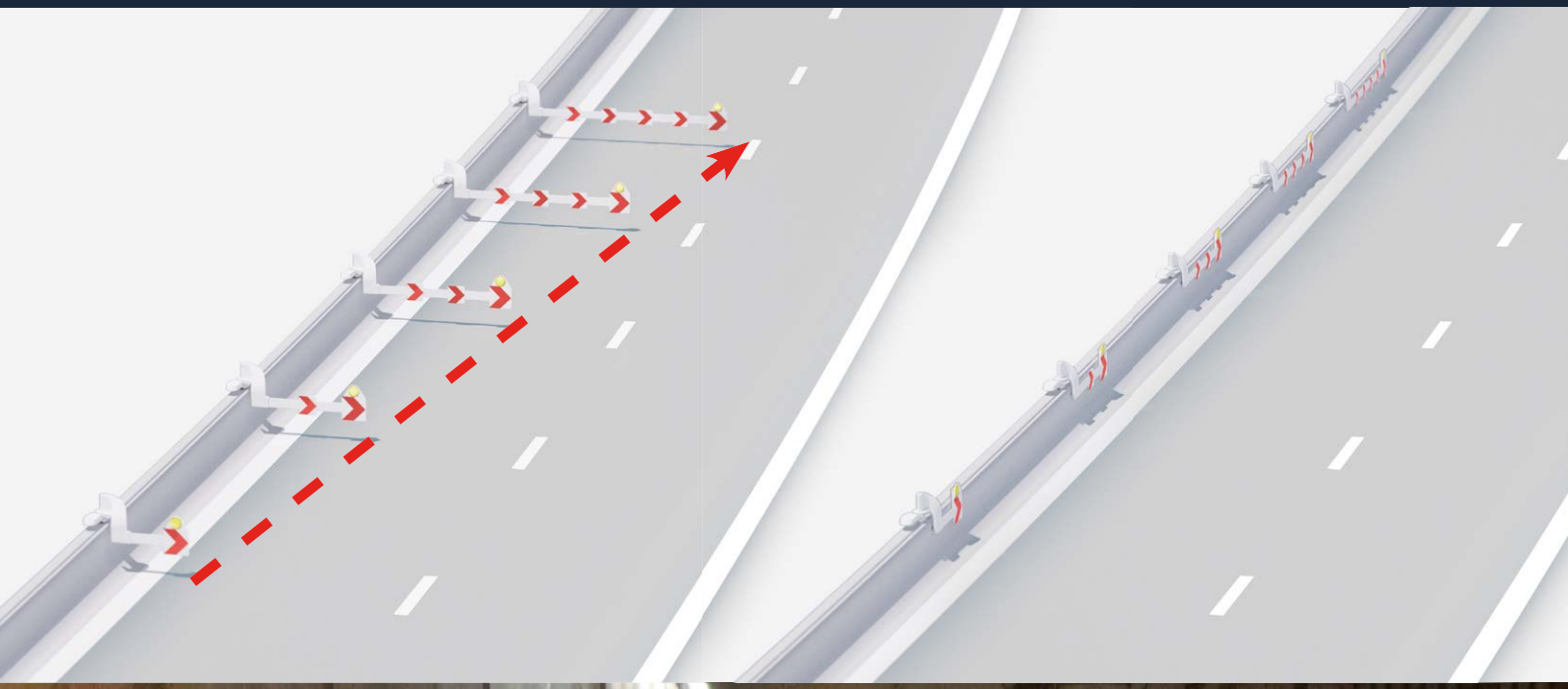
The advantages of our product



Innovation according to TTS

A barrier concept made of composite material:

- Efficiency without compromising safety.
- Perfect rigidity without sagging.
- Frangible material in the event of impact (bursting of the barrier).
- Exceptional UV resistance.
- Versatile composite elbow for all supports.
- Retrospective motorization of a manual barrier to make it automatic.
- Multiple communication interfaces (TOR, RS232, RS485, Radio, 4/5G, IP, etc.).
- Multi protocols & languages (TEDI-LCR, TCP/IP, NTCIP, JBus, Modbus, etc).
- Powerline transmission.

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The range

Automated (BRA) or manual (BRM) system

To carry out an emergency intervention in the event of an accident or incident, to carry out maintenance or operating operations, the use of folding barriers makes it possible to neutralize the lane very quickly and in complete safety, both for road users and operators.

The opening of the barriers formalizing the lane closure can be carried out:

- Manually by an agent on site, who must then open each barrier. We then speak of Manual Folding Barriers (BRM).
- Automatically by a remote, or on-site agent who controls the opening of all the barriers in a single action. We then speak of Automated Folding Barriers (BRA).

BRA «*Biseaux de Rabattements Automatiques*»

BRM «*Biseaux de Rabattements Manuels*»

A scalable system

The TTS manual folding barriers is operated in a few seconds using an indexing pin requiring no tools or wrenches. However, depending on the progress of your projects, it is often necessary to switch to automatic mode.

This is why our devices are completely scalable and can be upgraded as standard to automation and motorization equipment.

This means that our Manual Folding Barrier (BRM) can easily and at any time be transformed, by adding a standard module, into an Automatic Folding Barrier (BRA).

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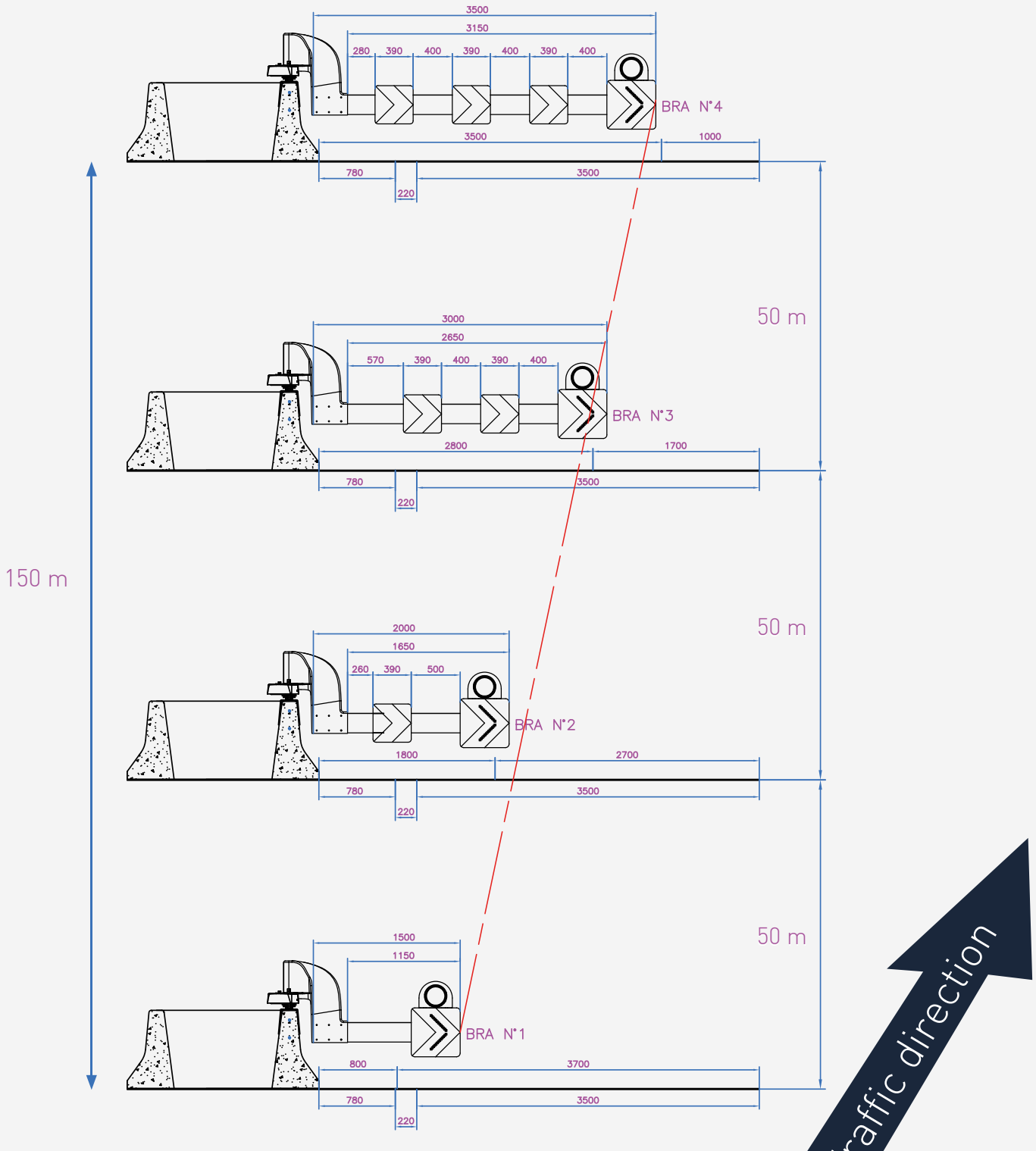
Sequence example

Example of Lane Closure System made of 4 arms:

The Lane Closure System Gate falls into the category of temporary signaling equipment. They are therefore subject to the installation guidelines of the site manager.



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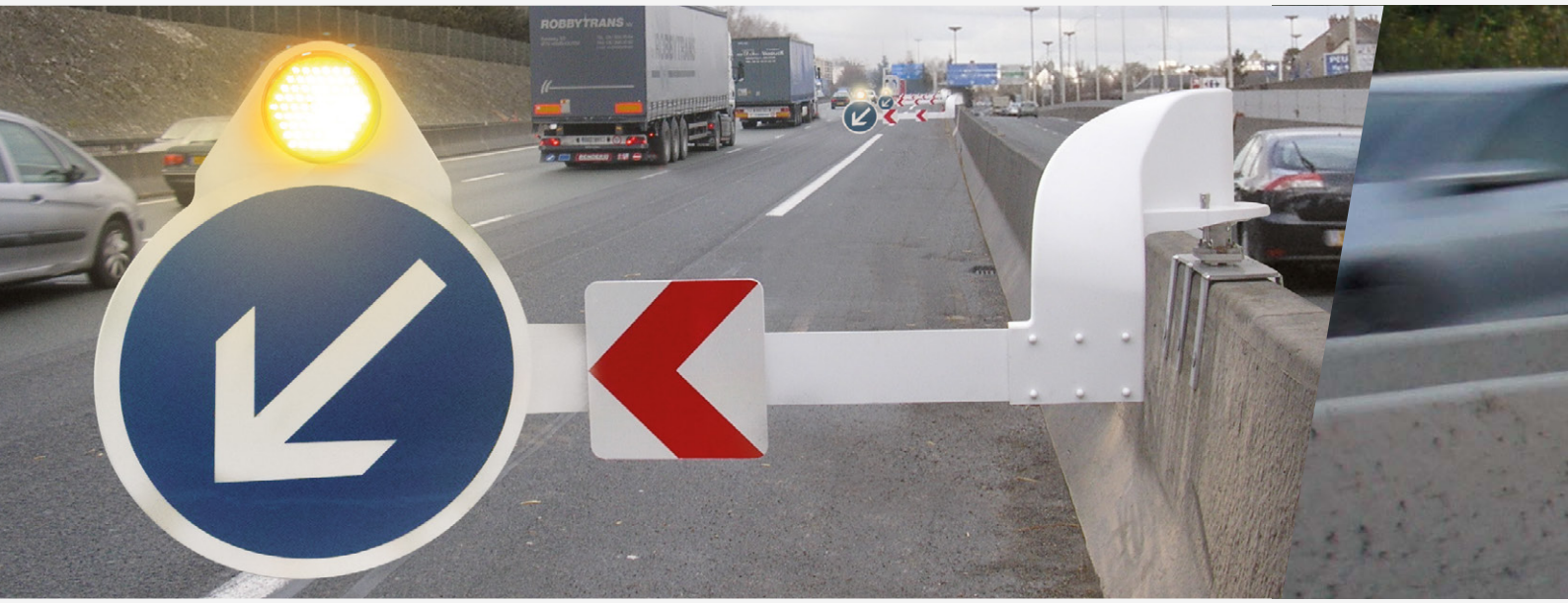
Various components

The signaling

Each barrier can be equipped with the desired and variable signaling according to each project. Each of the barriers is by default fitted at its end with a class 2 retro-reflective B21a or K8 signal, supplemented by several intermediate K8 chevrons.

The perception of the barrier can be reinforced by R2d beaconing and scrolling warning lights located at the end of each barrier. As part of a mobile battery power supply (powerbox), the scrolling sequence of the optics will be carried out with radio-synchronized scrolling optics.

Finally, the B21a or K8 signal placed at the end of each barrier can be reinforced with LEDs.



The composite elbow

The centerpiece of our equipment, the elbow is fitted on the axis of rotation. It allows the operation of the system and keeps it perfectly horizontal to the barriers.

Its unique ergonomics allows our standard system to be installed anywhere; including on concrete foundation behind safety barriers.

Its streamlined shape and composite material are designed to offer maximum on-site safety to road users.

The material

We have achieved the most important objective: to obtain perfect rigidity without sagging, including over the longest barrier lengths in a frangible material. Thus an impact will cause the barrier to burst, minimizing the damage caused to vehicles and their occupants.

In addition, our research has enabled us to develop a material offering exceptional resistance to UV and weathering.

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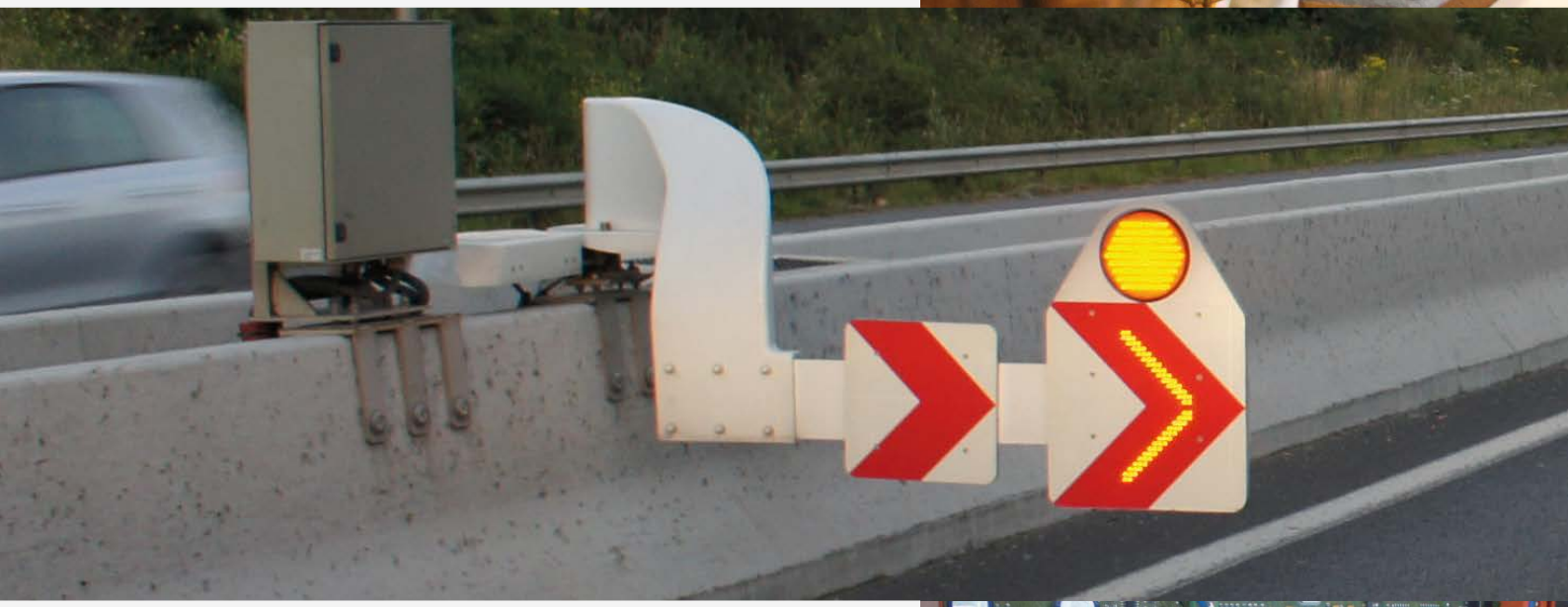
The automatic System Range

The motorization

In its automatic version (BRA), the deployment of the barriers is motorized so as to be able to perform a 90° rotation. They are therefore presented either facing the traffic (open position), or parallel to the direction of road traffic (hidden position).



The cabinet

For the automatic version (BRA) the head control cabinet incorporates all the components ensuring the operation of the assembly. Each barrier is also equipped with its own cabinet, it is the heart of the system centralizing the electronic elements of control, power supply and means of control.

Implementation

The operation mode of the lane neutralization system made of folding barriers , can be carried out in two ways: Manually or via a power supply making it possible to operate a motor activating the rotation of the barrier.

- Without motorization we speak of Manual Folding Barrier (BRM).
- With a motorization we speak of Automatic Folding Barrier (BRA).

The equipment can be powered by an electrical connection, or, if the site allows it, independently with a photovoltaic power supply integrated into the equipment.

The different possible power supply modes are:
- Mains supply 230 V.
- Photovoltaic power supply (coupled to a battery).
- Powered by battery box.
- Portable power supply, powerbox box (with integrated battery charger).

230 V

Photovoltaic

Rechargeable battery

Powerbox

Piloting modes

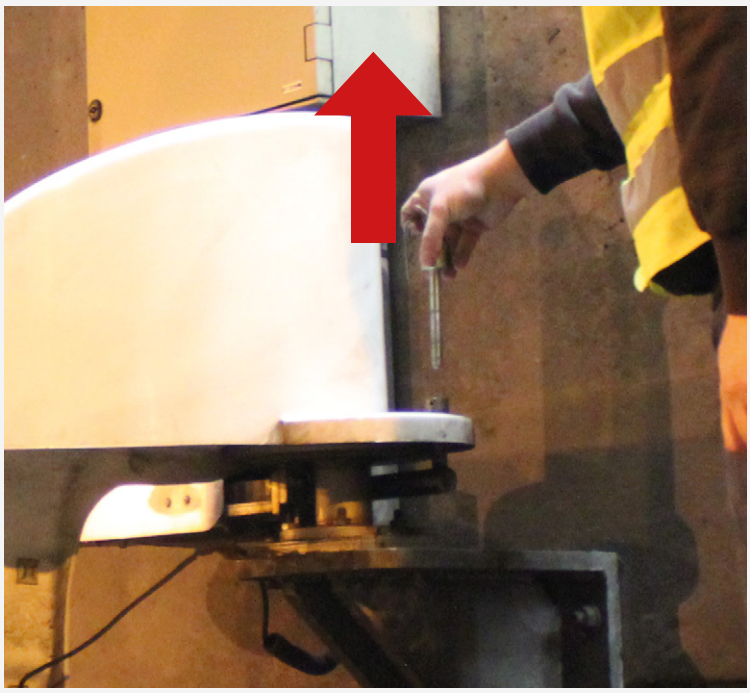
The sequences for activating or deactivating the Automatic Folding Barriers make it possible to deploy or fold the barriers , and to activate or deactivate the light signaling if the barriers are equipped with lights.
The activation of the sequences is carried out by an operator on site via a waterproof push button mounted on the main control box.

Long-distance control is also possible via wired, or 4/5G connections for an operator installed in a centralized control station.

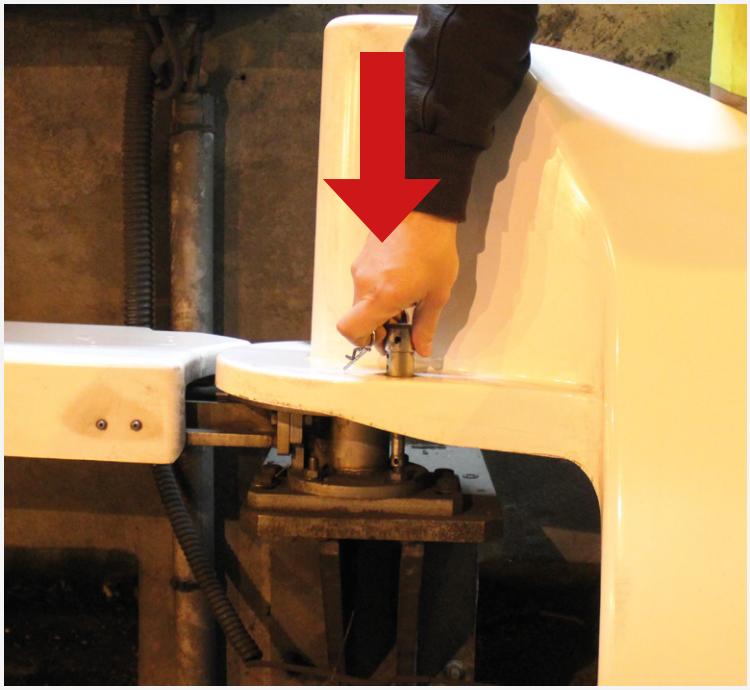
It is also possible at any time to disengage the electric cylinder in order to be able to maneuver the barrier and lock it. ↘ *more information on page 9.*

Manual disengagement of the rotating

In the event of an electrical fault, it is possible to disengage the electric cylinder in order to be able to maneuver and lock the barrier concerned.



Disengage the pin located at the rear of the folding barrier rotation elbow, so as to separate the BRA from the electric cylinder. The rotation device is then released.



Engage this same pin in the index of the device located at the front of the rotation elbow of the folding bevel.

In this state, this pin makes it possible to lock the position of the barrier perpendicular to the direction of traffic. The neutralization system is then active.

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Fixings and installation

The fixing adapted to your installation site

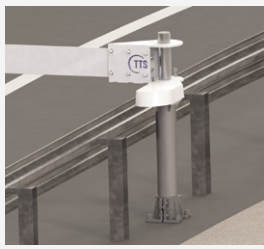

Concrete barrier back fixing


Fixing to the ground


Concrete barrier fixing


Type 1 wall mount


Type 2 wall mount


Fixing on mast

The barriers constituting a lane-closure system are permanently installed, on a straight wall-mount, on the central reservation or on the shoulder of the roadway, most often fixed to the restraint system or to the rear of it.

TTS offers a unique system adaptable to all types of installation. A complete range of supports allows the installation of our standard system on all known devices such as metal slides, oncrete slides, walls, etc.

For specific cases, we offer you our know-how in the study and production of supports adapted to the requirements of the sites.


Installation on mast


Installation on concret barrier


Wall installation


Installation on low wall

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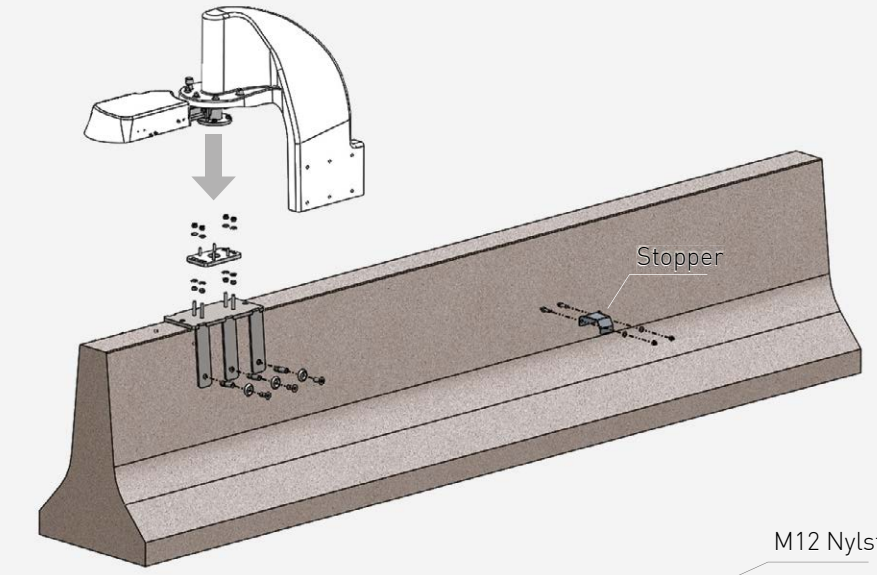
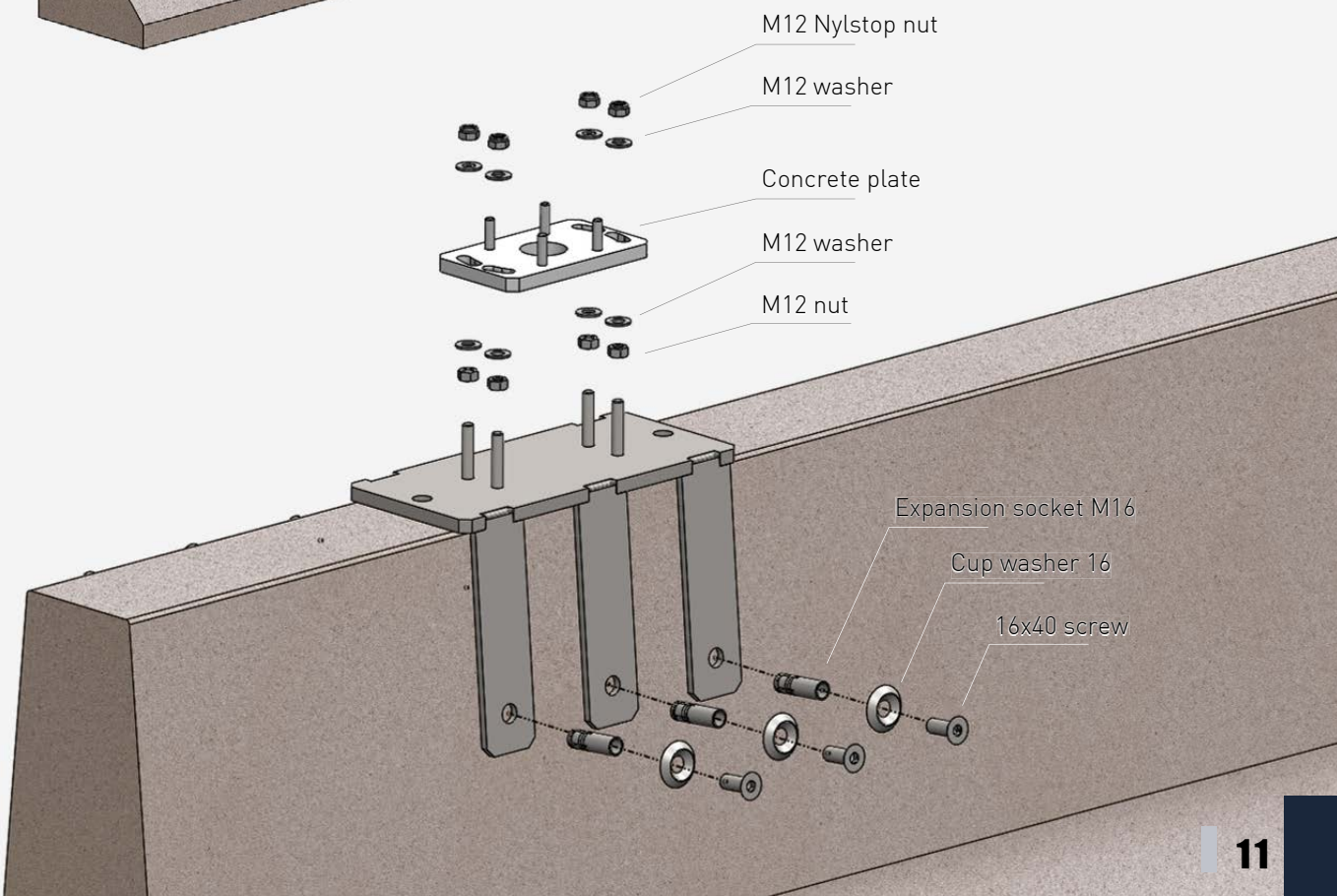
Fixings and installation

Concrete barrier Fixings Example

This fixing device is designed to adjust to a GBA from 145 to 175mm thick, it ensures the perfect verticality of the mast according to the inclination of the road.

Verticality adjustment system: The mast will be engaged in the 3 fixing collars, without being tightened.





The world changes and TTS innovates.

With over thirty years commitment to the development of new safety and signaling solutions, we continue to maintain standards whilst ensuring that innovation plays its full part.

We have the resources to provide you with innovative and proven solutions for traffic management, with over 90% of the added-value achieved using manufacturing facilities in France.

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ISO 9001:2015
BUREAU VERITAS
Certification

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