

Power	: Standard 380V 3-Phase 50/60 Hz, 2,2-5,5 kW motor (depending on the number of bollards in the set to be fed). Opt. 220V, 110V 1-Phase 50/60 Hz; or 24V DC (for some models/sizes only).	
Control Pack	: 24V DC powered and PLC control unit is placed in power unit cabinet. Solenoids 24V DC (Ops.12V DC / 220V AC)	
Speed	: Standard Operation ~1,8 - 4 sec. (ascend/descend, depending on the number of bollards in the set to be fed). Emergency raise up by optional hydraulic accumulator ~1,5 sec.	
IP Rating	: IP 55 - Hydraulic Power Unit, IP 58 - Underground Structure, IP 67 - Electronics (optional), protection with housing/box, IP 68 - Hydraulic Piston	
Crash/Impact Rating	: -	
Axle Load Resistance	: 50T	
Hydraulic Cylinder Unit	: Heavy duty, double acting 40 mm diameter, honed at H9 quality pipe, dust sealed hydraulic cylinder.	
Hydraulic Power Unit	: Strengthened industrial pump, 45-60 lt (depending on the number of bollards in the set to be fed) oil tank capacity with magnetic metal collector and particle filter. Built-in oil level and oil temperature indicators with low oil level warning. 30-80 Bar pressure (depending on the number of bollards in the set to be fed); 10mt R2 (double wire braided mesh) reinforced hydraulic hose. Interconnecting hoses for multiple bollard installations will be supplied.	
System	: Down, Up, Emergency and external sensor inputs/outputs (e.g. Loop Detector, Beam Detector, Signalization, Remote Control, etc.). System alerts with an audio signal during lowering and raising operation. A loud siren output in case of alarm or emergency. Can be lowered or raised automatically in case of emergency (user's preference, optional at no cost), programmed to stop as standard. Can be lowered and raised manually in case of power failure or during the maintenance service with manual pump and manual discharge feature. Automatic raise up mode deploys (optionally with synchronized loop detector) the bollard after the vehicle has passed over.	
Power Unit	: Motor, hydraulic pump and solenoid valves are contained in an easily accessible hot-dip galvanized and electrostatic powder painted cabinet with a built-in lock lid. (Opt. Stainless Steel Cabinet) Cabinet Dimensions: 1000 x 570 x 1200mm (WxLxH)	
Underground Structure	: Bollard Anchorage Casing: Ø284-338mm steel casing hot dip galvanized and structured for maximum strength. Casing is designed so that no vehicle crashing effect can displace it after embedded or installed into the ground. Hydraulic hose and cable entry openings enabling to use either of the three directions as per hydraulic power unit position and site conditons. Designed for easy access to hydraulic hose and cable connections. Ground mounting plate with installation holes for bolt type easy ground fixing. Includes cut-out for connection of submersible pump for rainwater drainage. Main Housing: Ø273-324 mm hot dip galvanised steel, structured to provide main housing for the bollard cylinder. Bollard cylinder pivoted with and moves through replaceable 5 rails (inner railing) made of special non-metal and positioned with equal distances from eachother for maximum rigidity/minimum material fraction.	

Contains the hydraulic cylinder lower connection.
Thanks to the bollard anchorage casing, the main housing can be easily replaceable together with the bollard cylinder in case of a damage in any kind.

Above Ground Structure

: Bollard Cylinder (impact blocking unit) :
Ø220 - 270mm stainless steel sleeve on hot-dip galvanised steel with 10mm wall thickness.

Demountable bollard top plate made of aluminium with 360° visible red flashing LED indicators.

Furnished with red, white or yellow reflecting strips compliant to "E" standard.

Special star-formed, vertical 5 mm solid steel infills for evenly distributed impact absorption.

Bollard cylinder pivoted with and moves through replaceable 5 rails (outer railing) made of special non-metal and positioned with equal distances from each other for maximum rigidity and minimum material fraction.

Contains the hydraulic cylinder upper connection.

Road Surface Plate:

15 mm steel hot-dip galvanised, colored with electrostatic powder coating in RAL9006 (other RAL colors are optionally available).
Easy disassembly by its bolt type connection.

Dust sealant / wiper seal.

Control System

: Manual Control Button Unit:

Provided with an IP67 CRM yellow box and 10mt cable including 3 switches for downwards, upwards, stop (optional emergency operation), equipped with built-in LED visual indications.

Compatibility with Access Control Systems:

Can be utilized through, card reader, finger print, biometric systems and similar any kind of access control systems (by third parties).

Optional Features and Accessories

: Traffic Lights (red-green), Traffic Light Pole, Loop Detector (double/single antenna), Beam Detector, 220V or 24V DC Motor, Remote Control (receiver and transmitter are 3 channels), UPS, Photocell Sensor (receiver+ transmitter with 50cm height pole), RB CONT. UNIT.V.001 Control Unit, Intercom, External Buttons, Emergency Submersible Pump, Hydraulic Accumulator for Emergency Fast Raise-up, Oil Cooler, Oil Heater, Heater for Electronic Components, Powered Audio Signal (siren), PLC Diagnostic Monitor, IP67 box (for PLC, SMPS, connectors etc inside power unit).

Installation

: Easy Installation with C30 grade concrete. Possible to install multiple units. In case of multiple unit installation, 1200mm gap between the bollards is recommended.

