

Automatic Hydraulic Bollards

User Manual Ver 1.1



Contact



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1. Product description

A. Split hydraulic rising bollard product pictures



B. Picture of parts:

main body



Hydraulic station



control system



Installation of 1 connect with 6 :

electronic-control box



Hydraulic station



Control line connection

Tubing connection



Model: AX-Z759

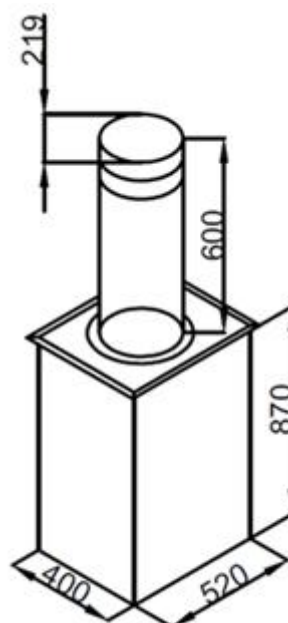
Specifications:

Diameter: 168, 219, 275, 324mm;

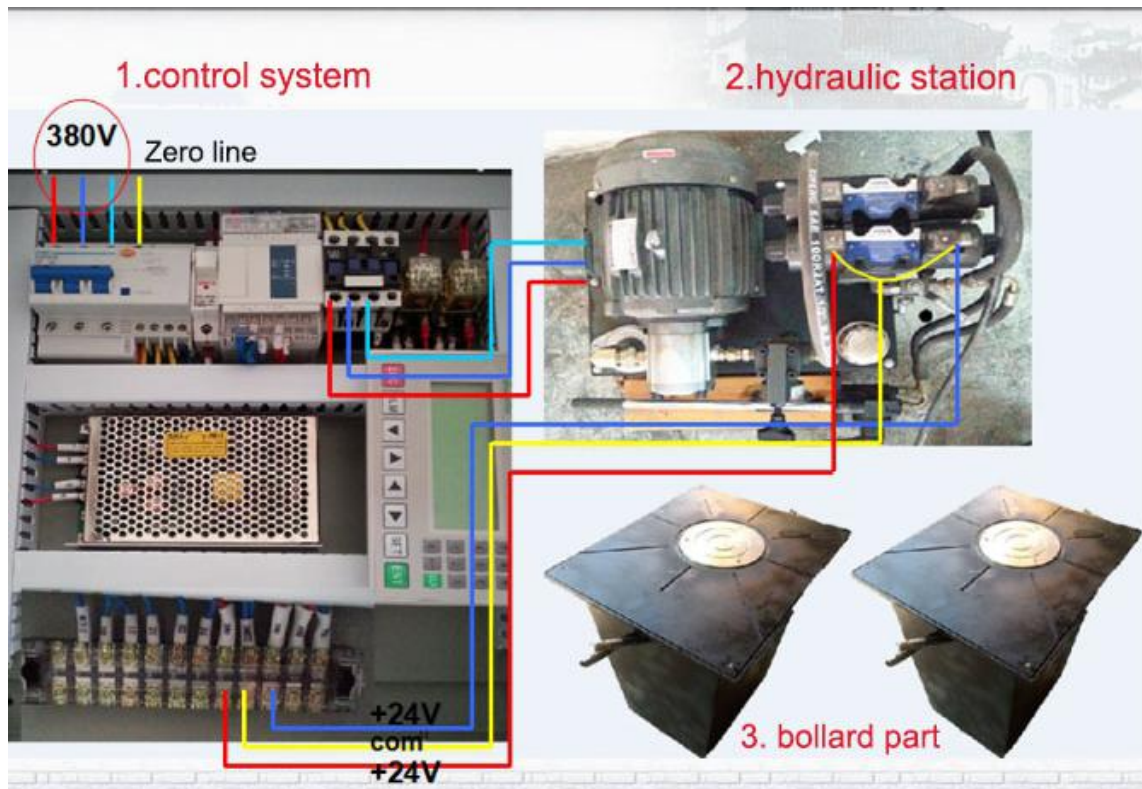
Lifting height: standard 600mm (400~800mm optional),

Bollard wall thickness: 6-12mm (customized);

C. Split hydraulic rising bollard installation diagram



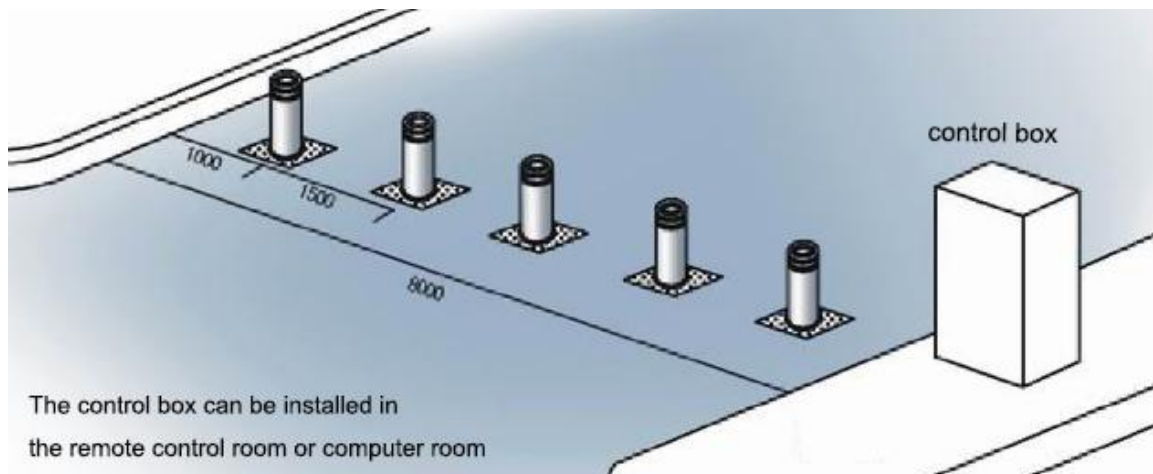
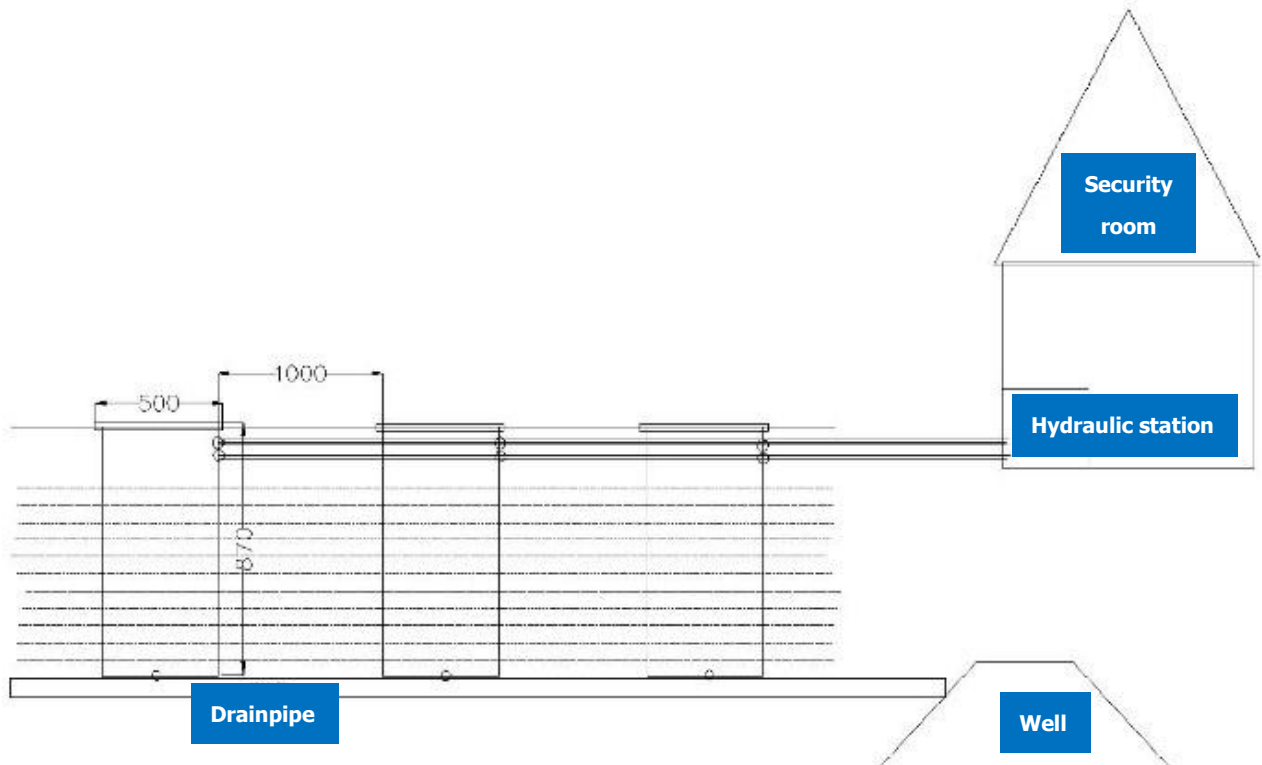
D. Split hydraulic rising bollard product description



Split hydraulic rising bollard wiring diagram

E. Installation matters :

1. Rising bollard size: 600*500*870mm
2. The following picture with width of 3M long, the construction of the depth of excavation is 1000mm, width 550mm
3. Cement steel and concrete foundation is 130mm thick
4. Do a good job of drainage channels
5. Well had better do 1.5m deep, if the surrounding has a drainage ditch, directly to the drainage pipe to the drainage ditch
6. The lifting column in dug pit inside, try the pillars for 800-1000mm
7. Please buy 300mm steel pipe, the pipe string in the inside of the pipe, to protect the tubing
8. The concrete pour in the pit dug inside
9. 3-5 days can be opened to traffic



Product description

Split Hydraulic rising bollard is the equipment mainly used for road vehicle traffic's control and can be used matching with the barrier gate control system, can also be used independently; It is mainly for sensitive areas to prevent non-permitted vehicles to force in and with specially designed and developed, very high practicability, reliability and safety. It is formed by the bottom of the base, lifting roadblocks and power transmission device, control and other parts, according to the different needs of different customers, with a variety of configurations can be for the user to choose, can meet customers' various functional requirements.

2. Main functions and features

2.1. Standard product features :

- Rugged and durable, large load bearing, smooth operation, low noise.
- Take PLC electric control system, stable and reliable system performance, ease of integration.
- Rising bollard could linkage control with other devices, such as barrier, but also with other control equipment, and automatic control.
- In case of power failure or malfunction, for example, when bollard is in the raised state but need to be down, it can let the cover of the rising bollard down to a horizontal position through manual operation to allow vehicles pass.
- Using the leading low-pressure hydraulic drive technology of the world, to make the entire system is safe, reliable and stable.
- Remote control device: wireless remote control, may be in the range of 100 meters around the controller (according to the site of the radio communication environment), rising bollard could be remote controlled by switch button.
- According to user requirements can add functions as follow:
- Controlled by card: the installation of card reader, which can control bollard lifting automatically by card.
- The linkage of barrier and rising bollard : with addition of barrier (stop buffer) / Access control , it can be realized the linkage of barrier, access control and rising bollard.
- Connection of computer management system or billing systems: it could be connected to management system and billing systems, and centralized control by the computer.

2.2. Features of split hydraulic rising bollard :

a) Fast speed and low noise

The fastest time of lifting is 2 seconds. Because it uses a hydraulic drive unit, its operation with low noise. It's a good solution to the traditional pneumatic lifting column for pump noise big.

b) Agility Control

The control unit uses a versatile logic controller, so it can modulate a variety of different functional modes to meet the different needs of different users on the functionality. **In addition, its movement stroke can be set to timing mode, and the user can freely control the lift height of the cover, to save energy consumption.**

c) Unique Structure

The core part of the hydraulic unit and mechanical mechanism is integrated design. Mechanical energy can be effectively transmitted to the hydraulic drive unit, And the operation is efficient. Hydraulic unit is a unique design to achieve the direct entrance of pressure. Its excellent performance is rare at home and abroad in the same field.

d) Safe and Reliable

In case of **power failure and other emergency situations**, the bollard **can be fallen manually** to open the channel to release vehicles, stable and reliable.

e) Economical and Practical

Environmental protection, energy saving, low consumption, low failure rate, long service life, reduce maintenance costs. In addition, the use of non traditional institutional design, installation and maintenance, more simple and quick.

2.3. Adaptive place

Products are widely used in urban transportation, military and important state organs door and the surrounding, pedestrian street, highway, toll stations, airports, schools, banks, large clubs, parking lots and many other occasions. By restricting the passing vehicles, it can effectively ensure the safety of the main facilities and places.

- State organs, the military and other important units' door: install anti rising bollard, can be electric, remote control or swipe card and other ways to control the lift, effectively prevent the entry of foreign and illegal vehicles into the door.
- Pedestrian street: pedestrian street intersection install rising bollard, usually in the up position, limiting vehicle access, in case of emergency or special circumstances (such as fire, first aid, leadership inspection etc.), the bollard will fall quickly to make vehicles access.
- Road Isolation Belt: in the non fully enclosed road isolation belt can use rising bollard to stop the vehicle turn left or turn around. In case of road construction, road congestion and other special circumstances, can put down the bollard, so that the vehicle is diverted to traffic.
- Multi-purpose Square: bollard in up position during the day to prohibit vehicles entering the square. In the nighttime, using the square as a temporary parking lot, put down rising bollard, so that the vehicle can enter the parking.
- Open Park: Open Park Road junction install rising bollard, usually in up position, to prevent vehicles access, while visitors can freely pass. In case of special circumstances, put down the bollard, so that

vehicles can pass.

- Residential quarters, bank, school and other places to restrict the entry of vehicles and ensure the effective use of fire exits.
- Highway: need for road closure, use of automatic rising bollard, convenient and quick, and can solve the problem of shortage of police force.

3. Main structure and configuration

Buried pile equipment mainly consists of three parts, **rising bollard, hydraulic station and electric control part:**

- Rising bollard: use 304, 316 GB stainless steel composition (seamless steel pipe) to weld together, with high strength bearing and anti - impact capacity; There is no electrical and line set in side of bollard body, so it's waterproof and safety. The device is embedded in the specified position of the driveway or gate, through the instruction of staff on duty to Limit vehicle access.
- Hydraulic transmission station: mainly consists of oil box, manual oil pump, a full set of hydraulic solenoid valve group, high power motor, oil pump, oil cylinder, oil table, high-pressure hydraulic tubing. It is power source of the roadblock system . The device is installed on one side of the rising bollard, using with the rising bollard (by regulating valve to change speed up and down). Bollard can be manually up and down when power off.
- Electronic control system: automatic electronic control parts: PLC control motherboard, leakage switch, No contact noise, high life of the contact and other precision starting time settings (The impact force generated after the stroke of the cylinder is increased, and the service life of the oil cylinder is increased).

3.1. Hydraulic station components:

- 1) Motor: 3HP * 4P three-phase 380V (industrial grade)
- 2) Pump: (gear pump) (technical grade)
- 3) Lifting solenoid valve: (Industrial) (solenoid valve fall relief check valve) (DONGCUN)
- 4) Heavy-duty hydraulic cylinders: HOB50-200CA + I into a long length of 200 heavy-duty industrial pole (ASHUN)
- 5) Double acting double oil pump manually: 2.3ML / times 63mpa (industrial grade)
- 6) Fuel tank capacity: 60 liters
- 7) Hydraulic tube: PT International Standard gongs profiling interfaces, 1/2 double high pressure steel pipe
- 8) Tubing: from the factory with 5 m, shall be extended USD4 per meter.

3.2. Control Box Components:

- 1) PLC control command chip: The United States imported original chip (industrial grade)

- 2) Power switch: three-phase 220V (industrial grade)
- 3) control solenoid valve: Industrial
- 4) Power Supply Industrial Grade: (--28--85 degrees)
- 5) Remote control range: within 30 meters
- 6) Display text : can be set to your company name and address of the phone contacts)

4. Technical Parameters

Diameter selection	168mm; 219mm; 273mm; 324mm optional
Outside the box dimension	600mm(L)×500mm(W)×870mm(H)
Outside bollard height	600mm (customized 800mm ; 900mm ; 1000mm)
Thickness	6mm (customized 8mm; 10mm; 12mm)
Bollard material	304 stainless steel
Through the pressure	bearing over 80 tons container truck
Bollard weight	±180kg
Protection level	IP68
Collision grade	K12 (Equivalent to the impact of 120KM/, the car was stopped, the equipment as usual)
Speed	rising speed: ≤3S(adjustable), falling speed: ≤3S (adjustable)
Power supply	380V(Control voltage 24V)
System Power	3.7KW
Working temperature	-35°C~75°C(suitable); Storage environment: -10°C~65°C, anti-rain and anti-moisture and anti-dust

5. Adaptive place

Mainly used in: urban transportation, military and national key organs of the gate and the surrounding, pedestrian street, highway, toll stations, airports, schools, banks, large clubs, parking lots and so on.

Project showcase



Installation type: Split hydraulic rising bollard

Product packaging



Wooden Case

Product packaging process:

Dismantling of product → Protection for product → Wrapping stretch film packed into cartons → Placed in wooden carton and nailed → Waiting for shipping