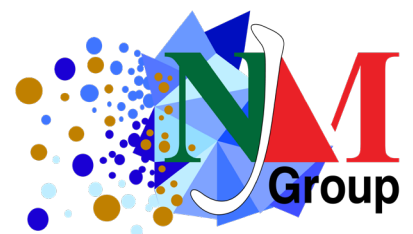




TECHNICAL INSTRUCTIONS

Pneumatic Automatic Bollard Series

🌐 AustralianBollards.com.au ☎ + 613 9459 3488



COPYRIGHT STATEMENT

Respected customer:

Thank you for choosing our bollard. This is a product with high technology, so please read this manual carefully before operation.

The appearance and technologies involved in this product belong to us.

The copyright of this manual belongs to us. Without permission, no unit or individual is allowed to copy or use any contents of it, Offenders should take responsibility caused by above actions.

All rights to improve and perfect our products are reserved. We can't promise this manual is in full accord with the product you receive, but we will check and revise the manual at regular interval. No further notification will be sent in the case of any modifications to the manual.

WARRANTY SERVICE STATEMENT

We provide technical support within warranty period from the day of purchasing. This commitment will automatically terminate when any of the following actions occur.

1. User makes modification, dismantlement or anything else which may possibly impair the completeness of software and hardware.
2. User fails to operate correctly according to this manual and causes damage to the equipment completely or partly.

SAFETY ATTENTIONS

Pneumatic automatic bollard contains many mechanical and electronic parts. Any assembly or operation carelessness may threaten your security.

Any person or agency which sell and install bollard product should take corresponding responsibility and comply with the following requirements:

All the bollard moving positions should be clearly marked (such as audio and/or optical signal ground sign) to make sure that every passer-by notice the existence of bollard. You have compelling obligation to these signal signs and system.

WARNINGS:

This manual introduces correct use information and important cautions to prevent accidents from happening. Please read it carefully and use the product correctly. Any actions disobeying safety attentions or misusing the bollard will possibly threaten people's life.

Only professionals who are technically trained and know well about the electronic and mechanical risks of bollard are qualified to install and operate automatic bollard so as to avoid unnecessary dangers caused by incorrect operations.

We are not responsible for results caused by the following kinds of operations: operations unmentioned in this manual, vicious destructive operation, unprofessional operation by untrained technician.

Please keep this manual for future reference.

1 SYSTEM INTRODUCTION

1.1 Introduction

Pneumatic automatic bollard is usually installed in the vehicle entrance/exit and control point. Commands are sent by remote control or other control system to make bollard automatically back to ground level to realize barrier-free passing.

Pneumatic automatic bollard system is the very choice for present access control. Its high-strength anti-collision performance can effectively stop illegal vehicle intrusion and protect the area divided by bollard. With a distance of 1.5m between bollards, it offers barrier-free passing for pedestrians and realizes pedestrian-vehicle division function which road barrier doesn't have.

Bollard system is suitable for custom, port, wharf, high-class estate, Pedestrian Street, government building, prison, airport, military base and other places in need of control.

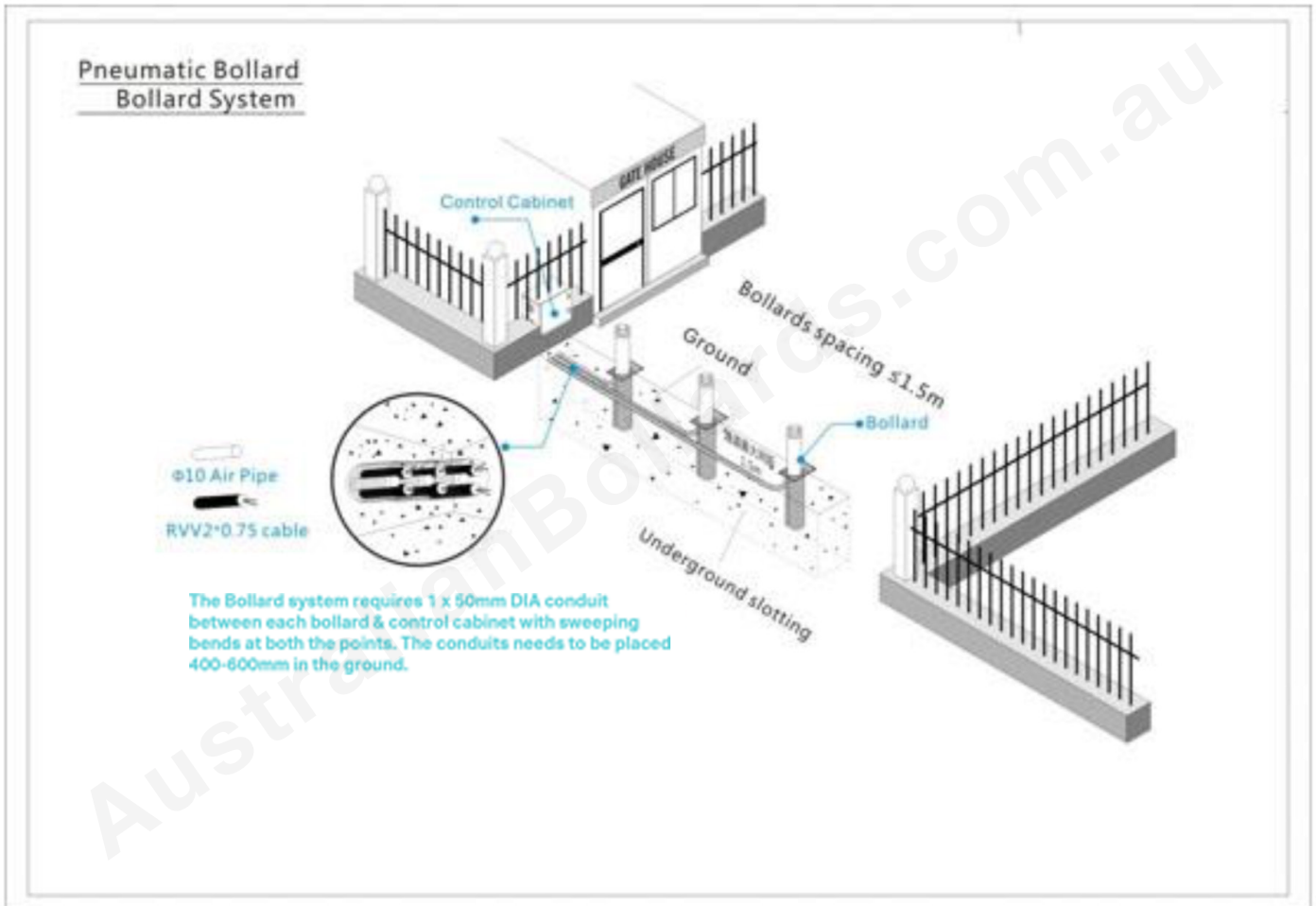


1.2 System Composition

Pneumatic automatic bollard mainly consists of cylinder and control cabinet. It uses air pressure as dynamic to realize the rise/fall of bollard.

As a moving device, bollard is usually installed at vehicle entrance/exit. It rises to block the vehicle and falls to the ground level to authorize free passing.

Control cabinet contains dynamic system and logic control system and it is normally installed within 30-50m of the bollard.



- Above picture shows standard control cabinet. Each can control **max 4 bollards as 1 group together**. For more groups, we need to recheck and cost would be different. Please let us know before you place the order.
- Strong control cabinet can be customized (optional). It is possible for 1 control cabinet to connect with **max 6 bollards as 1 group together**. For more groups, we need to recheck, and cost would be different. Please let us know before you place the order.

1.3 Function Features

- Pedestrian-vehicle division control and 1.5m bollard spacing can effectively control vehicle entrance/exit and make sure pedestrian passes freely at the same time.
- Use control system which makes system performance stable and reliable, and can be easily integrated to user's system.
- Optional cylinder materials. With elegant overall appearance, it can be integrated with all kinds of environment.
- Automatic fall: bollard falls automatically when electricity is cutoff (default setting).
- Various control methods: manual button control, wireless remote control and other system control.
- Can be connected with road barrier, ticket dispenser, card reader and other systems to realize automatic control function.
- Can connect traffic lights to control the access.
- Grounding to activate valid anti-collision function, leaving drivers no worries.
- Bollard rise/fall time can be adjusted.

1.4 Model

- Bollard

A---Diameter **B**---Block Height **P**---Pneumatic bollard

0/4---0 stands for steel; 4 stands for stainless steel

A	168	220	275
DIAMETER	168	220	275
B	600	750	900
BLOCK HEIGHT	600	750	900

2 PRODUCT INTRODUCTION

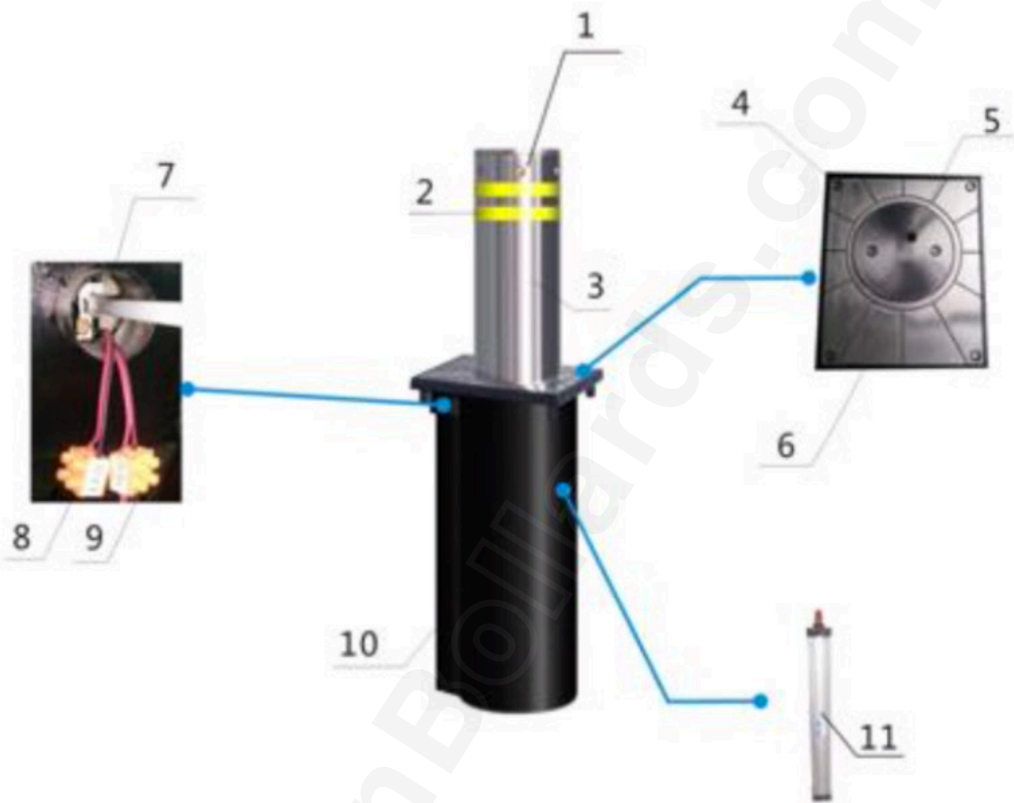
2.1 Main technical parameters

(all data are for reference; subject to real item)

Basic Parameter										
Model	168/600	168/750	168/900	220/600	220/750	220/900	275/600	275/750	275/900	
Weight	86 Kg	94 Kg	103 Kg	116 Kg	128 Kg	141 Kg	146 Kg	162 Kg	178 Kg	
Diameter	168mm	168mm	168mm	220mm	220mm	220mm	275mm	275mm	275mm	
Block Height	600mm	750mm	900mm	600mm	750mm	900mm	600mm	750mm	900mm	
Embedded Height	837mm	987mm	1137mm	837mm	987mm	1137mm	837mm	987mm	1137mm	
Rise Speed Fall Speed	≤30cm/s (Adjustable)			≤25cm/s (Adjustable)			≤20cm/s (Adjustable)			
	≤20cm/s (Adjustable)			≤20cm/s (Adjustable)			≤20cm/s (Adjustable)			
Impact Resistance (J)	200,000	200,000	200,000	250,000	250,000	250,000	300,000	300,000	300,000	
Lift (Kg)	106~168	103~165	100~162	95~157	90~152	86~148	163~213	157~207	151~201	
Thick-ness	steel	5mm	5 mm	5 mm	6 mm	6 mm	6 mm	6 mm	6 mm	
	Stainless steel	5mm	5mm	5mm	6 mm	6 mm	6 mm	6 mm	6 mm	
Drive Mode	Pneumatic Type									
Voltage Input	AC 220V air pump(AC 110V Optional)									
Material	304 Stainless steel /316 stainless steel Optional					steel				
Surface Finish	brushed finish					Powder coating; black and grey				
Emergency Power off	Down automatically									
Power	AC 220V / 1000W/ 50Hz									
Frequency	High working frequency; service life>2,000,000 times &2,000 daily operations (for reference; it may change based on using environment, using frequency, installation way...)									
IP Class	IP67									
Temperature	-5~70°C.									

2.2 Bollard Structure

Pneumatic Bollard Bollard Structure



Composition

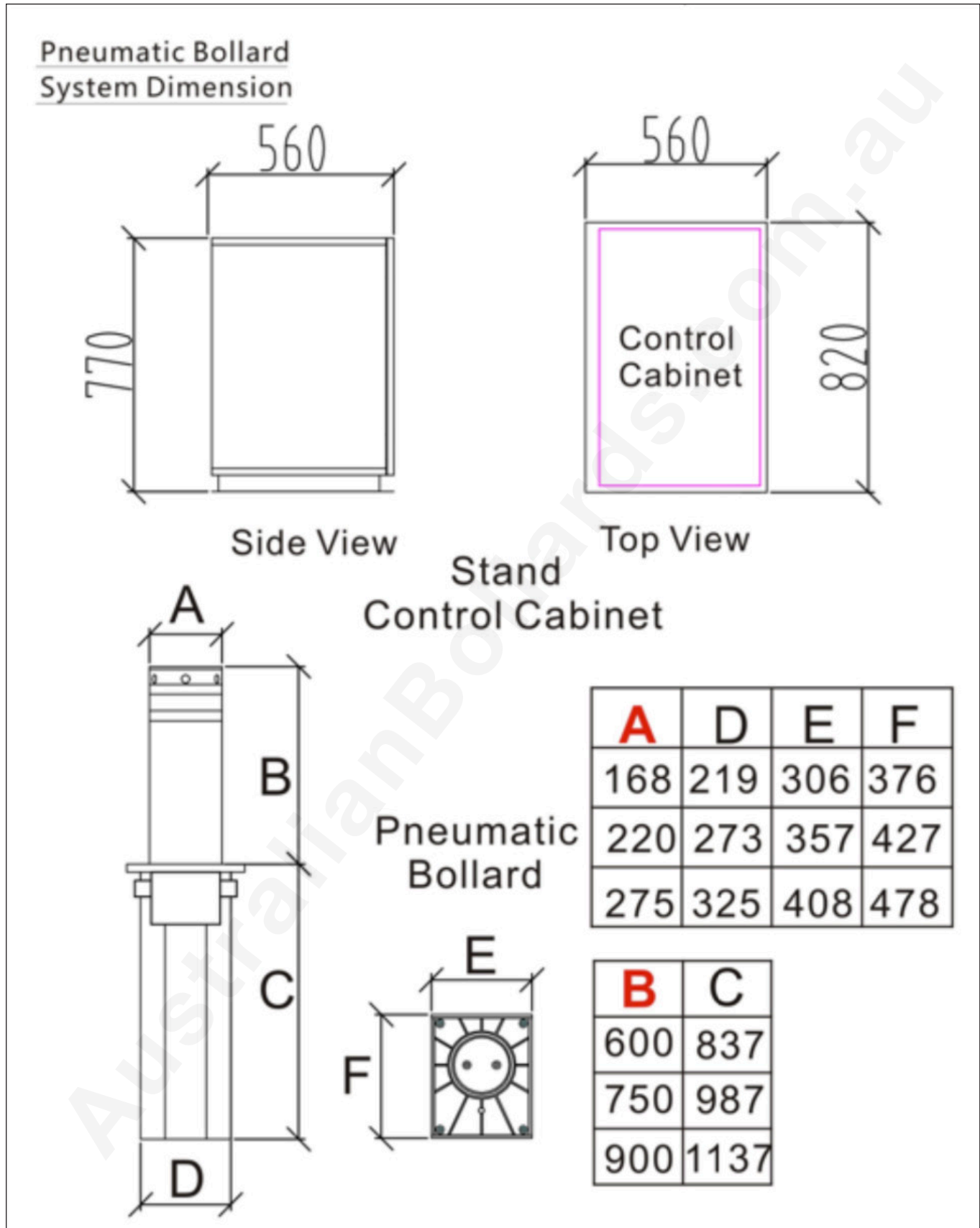
1	Hightlight LED Light	7	Solenoid Valve
2	3M Diamond Level Reflective Stripe	8	LED Power Wiring port
3	Stainless Steel Inner Cylinder	9	Solenoid Valve Wiring Port
4	Anti-theft Bolt	10	Pre-buried outer Cylinder
5	Inner Cylinder Top Cover	11	Air Cylinder
6	Outer Cylinder Flange		

Function Instructions

NO.	Accessory Name	Instructions
1	Highlight LED light	Alarm light: normally on after bollard rises, indicating that access is under control, not allowed to pass; twinkle during rise/fall, indicating that bollard is in process of operation and warning vehicle/pedestrian to be careful.
2	3M diamond grade reflective stripe	Have strong reflective effect when shined by certain light, providing the most efficient and secure protection for pedestrians in darkness and night workers.
3	Stainless steel inner tube	Bollard moving part used for blocking vehicles.
4	Anti-theft bolt	Protect the security of accessories inside the cylinder.
5	Inner tube top cover	Convenient for bollard maintenance.
6	Outer tube flange	Anti-skid flange; can be opened during maintenance.
7	Solenoid valve	Rise/fall control switch.
8	LED power line port	Port used for connect control cabinet with bollard LED light.
9	Solenoid valve wiring port	Port used for connect control cabinet with bollard solenoid valve.
10	Pre-buried outer tube	Cylinder fixed part, buried under the ground.
11	Air cylinder	Moving parts, controlled by air pressure

2.3 Control Cabinet & Bollard Size

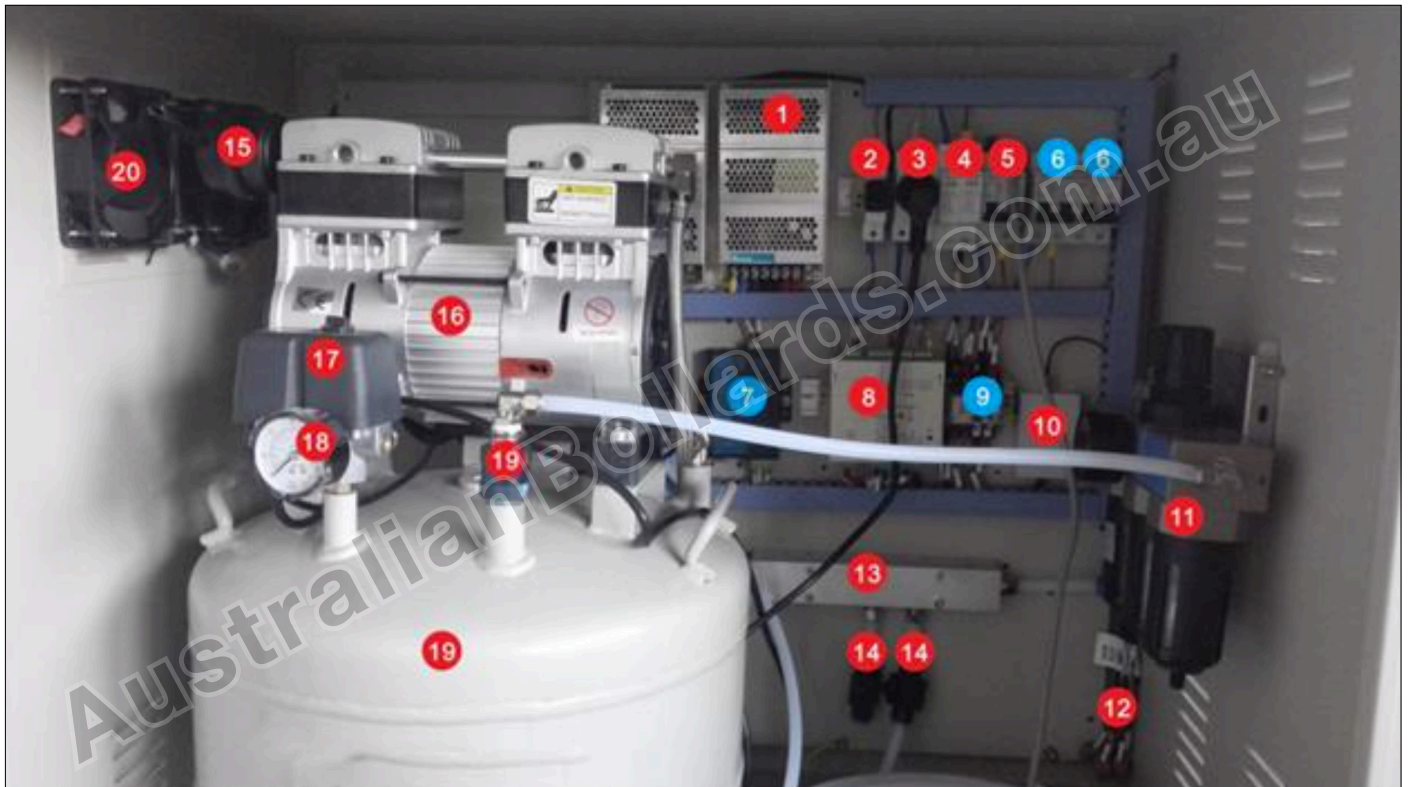
For reference; subject to real one.



2.4 Pneumatic Control System

Pneumatic control system is the dynamic of the whole system and logic control part. It provides dynamic and signal to the rise/fall of bollard.

See standard control cabinet (for reference; subject to real one).



- | | | | |
|----|---|-----|------------------------------|
| 1. | Power supply | 9. | Relay (for local only) |
| 2. | Plug for fan | 10. | Module for remote controller |
| 3. | Plug for pump | 11. | Double unit with filter |
| 4. | Switch | 12. | Wire port |
| 5. | Air switch | 13. | Splitter |
| 6. | Switch for water pump
(for local only) | 14. | Joint (for local only) |
| 6. | Switch for heating rod
(for local only) | 15. | Air filter |
| 7. | Long distance Remote Controlling
module (for local only) | 16. | Motor head |
| 8. | Control board | 17. | Rotating switch |
| | | 18. | Pressure gage |
| | | 19. | Pump |
| | | 20. | Cooling fan |

3

SYSTEM INSTALLATION

3.1 Bollard Installation

Tool list:

You may need the following tools except conventional tools:

- Stick
- Bandage which can withstand 200kg
- PA air pipe cutter
- Road smash hammer
- Small size forklift
- Small size excavator about 40kw
(according to construction size and installation geological conditions)

Preparations:

- 1) Transport: Use small size forklift to transport bollard to installation spot. Keep bollard vertical or horizontal.
- 2) Package: Cylinder and control cabinet are packaged by wooden boxes separately.
- 3) Distance measurement: Measure the distance between bollard installation place and control cabinet referring to blueprint. Too long distance may cause unwanted results such as wire & pipe winding and squeezing.

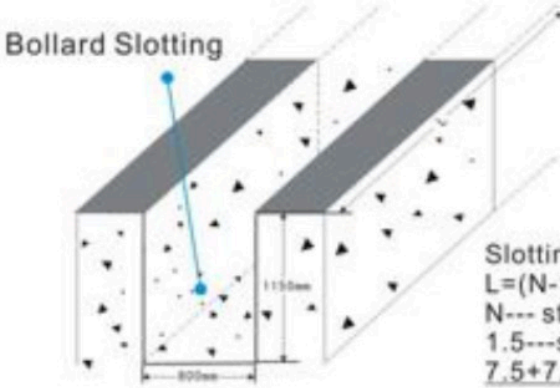
Geological Survey:

Try to install bollard in places without rainwater deposition, otherwise you may need to excavate drainage channel connecting with existed or additional drainage system.

Construction Illustration:(Take 168-600 for example)

1. First-phase preparations: affirm construction site, excavate channels and custom drainage system

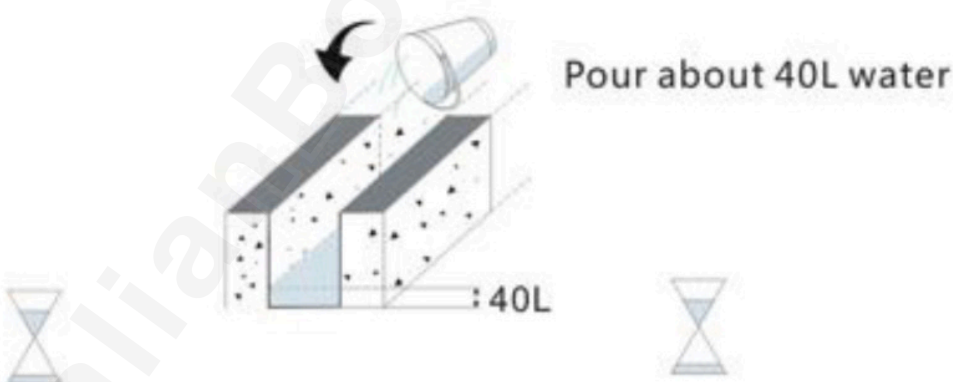
Construction Diagram
First Phase Preparation



Bollard Slotting

Slotting Length Computational Formula
 $L = (N-1) * 1.5 + 7.5 + 7.5 = 1.5N \text{ m}$
N--- stands for bollards amount
1.5---stands for the central spacings of each bollard
7.5+7.5---stands for the distance sum between the 2 bollards on the very sides.

①Excavate a slot with depth 1150mm,width 800mm and length L



Pour about 40L water

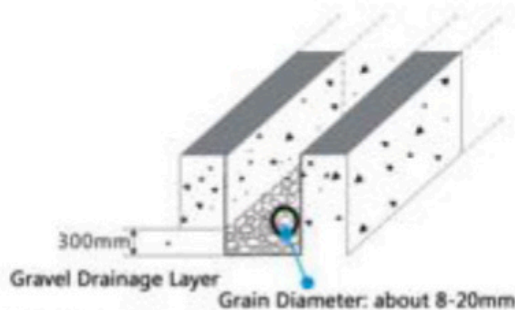
If the water are drained within 30 minutes, select gravel drainage system.

If only a few water or even none is drained, select drainage pipe system.

②Soil drainage ability test

First phase preparation: confirm pre-bury slot dimension,excavation and drainage system

Construction Diagram Drainage System



- ③ Select 300mm gravel porous layer as drainage layer
 - a. lay 300mm gravel layer used for seepage
 - b. cover a piece of tarpaulin on the surface of gravel layer to prevent cement infiltration
 - c. break the tarpaulin at the bottom of bollard installation site to make sure water inside the bollard can flow through drainage hole and sink into gravel layer



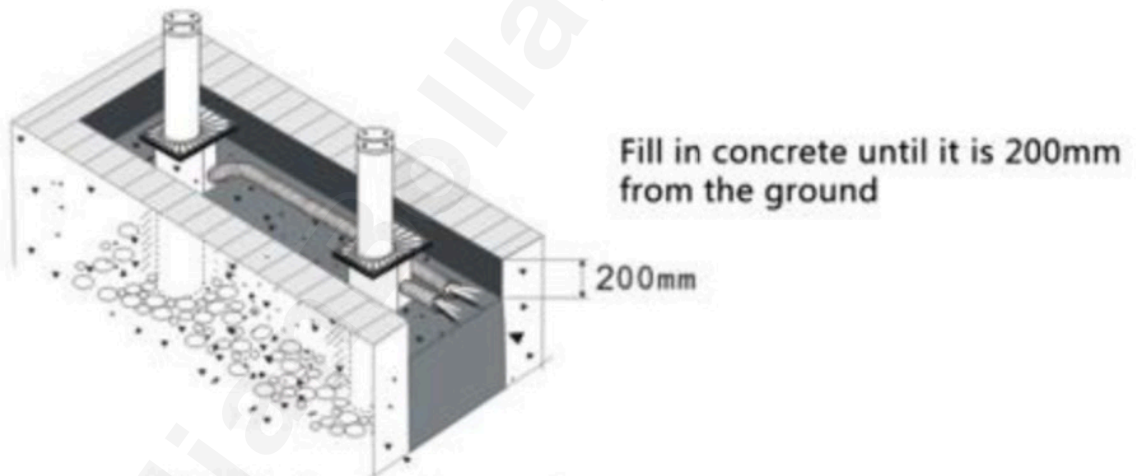
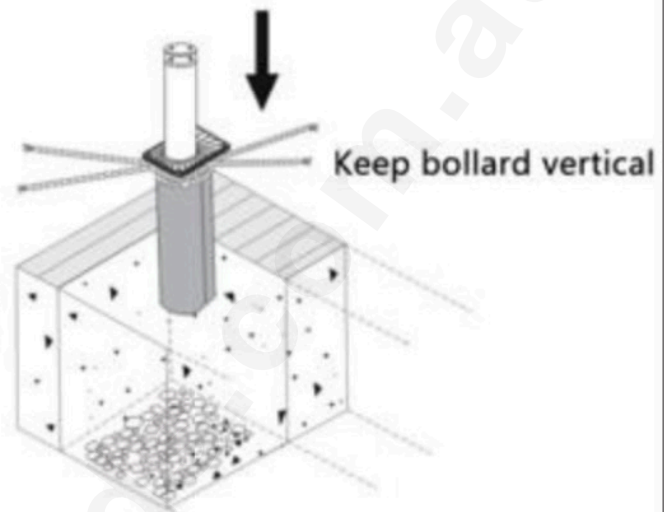
- ③ Select drain pipe drainage system
 - a. Use cement, brick or gravel to bottom the tunnel for 100mm.
 - b. Place a $\Phi 110$ PVC pipe or galvanized pipe for drainage. Use three-way joint to connect PVC pipe with bollard bottom.
 - c. Fasten the drainage pipe with cement, brick, gravel or cement block 840mm away from the ground.

Drainage: gravel layer drainage & PVC pipe drainage

3. Bollard Location and Fixing

Construction Diagram Bollard Placement and Fixture

- ④ Place the bollards at a spacing of 1.5 m each.
Placing requirements:
- Spacing between bollards: 1.5m.
 - All bollards keep the same height after installation and are horizontal with the ground.
 - Drainage hole at the bottom of the bollard must align with drainage pipe.

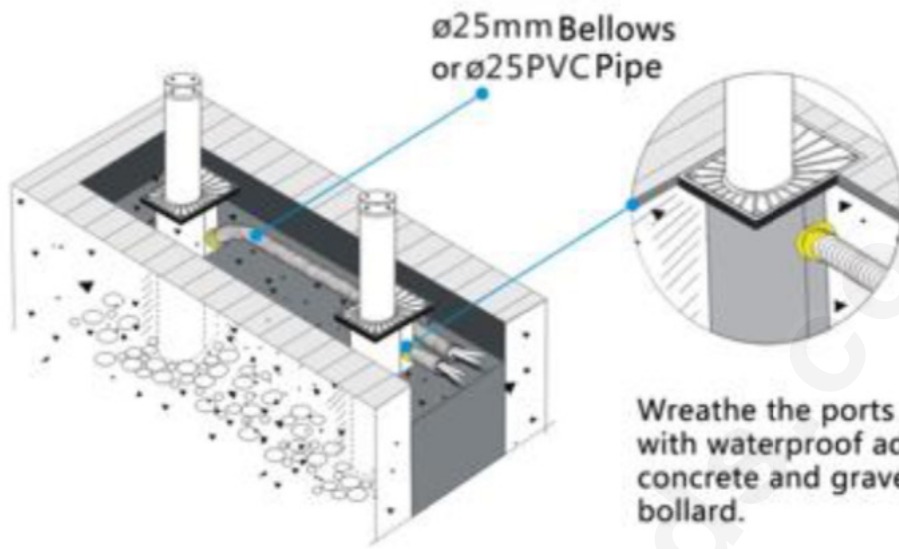


- Fix bollards and cast concrete
- Make sure bollards keep vertical and horizontal and drainage system works well. Then cast concrete.
 - To prevent bollard from inclining or moving, you can fix the footing first and then cast concrete for the whole construction.
 - Stop casting when concrete surface is 200mm from the ground.
 - Use concrete above BS 8110-2.

Bollard Placement & Fixture: location, horizontal adjustment and casting concrete

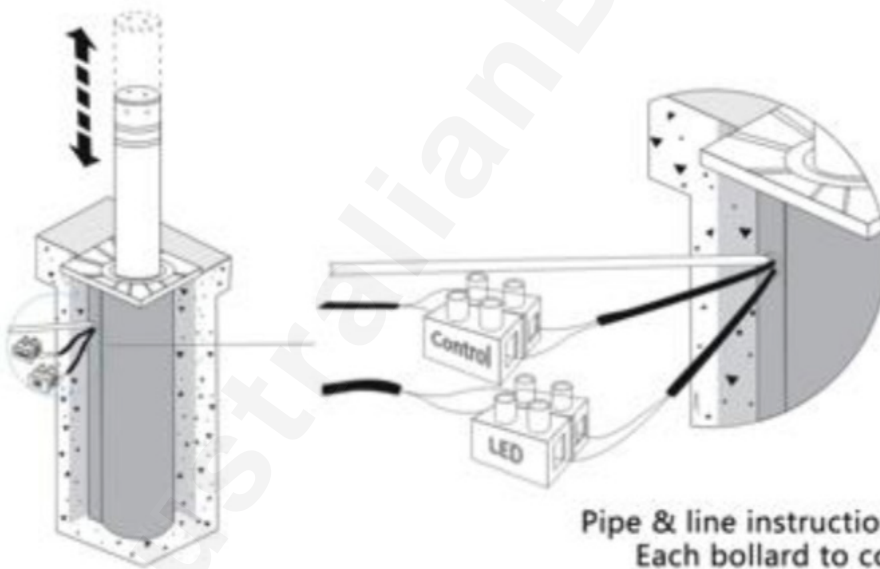
4. Wiring Connection

Construction Diagram Pipe & Line Connection



Wreathe the ports of bellows and bollard with waterproof adhesive tape to prevent concrete and gravel from entering into the bollard.

The Bollard system requires 1 x 50mm DIA conduit between each bollard & control cabinet with sweeping bends at both the points. The conduits needs to be placed 400-600mm in the ground.

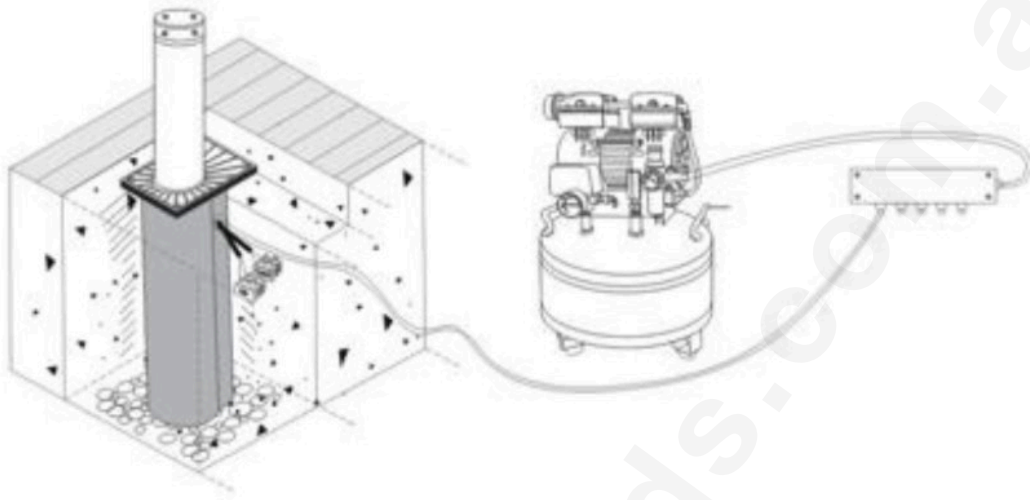


Pipe & line instructions:

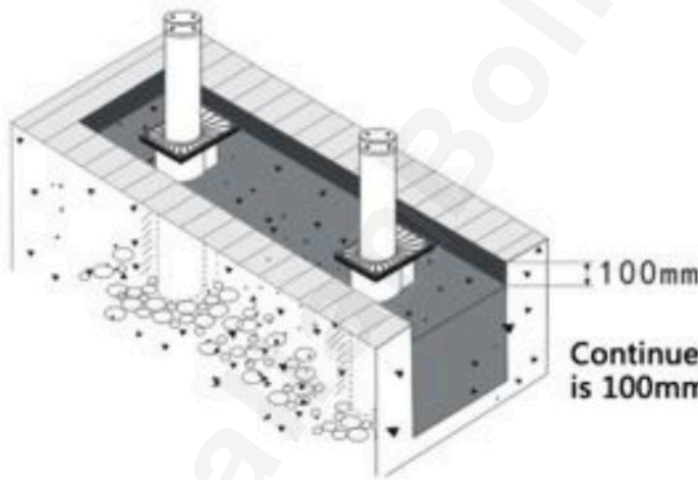
- Each bollard to control cabinet requires to pre-bury
1. a $\Phi 10$ air pipe connected to air pump
 2. a RVV4*0.75 lead or 2 RVV2*0.75 leads for connecting with solenoid valve (Control) and LED lights

Bollard wiring instructions: pipe & line connection instructions between bollard and control cabinet

Construction Diagram
Function Detection and Ground Process



After pipes and lines are connected, electrify the equipment to test its air impermeability (function condition).



Continue casting concrete till its surface is 100mm from the ground.

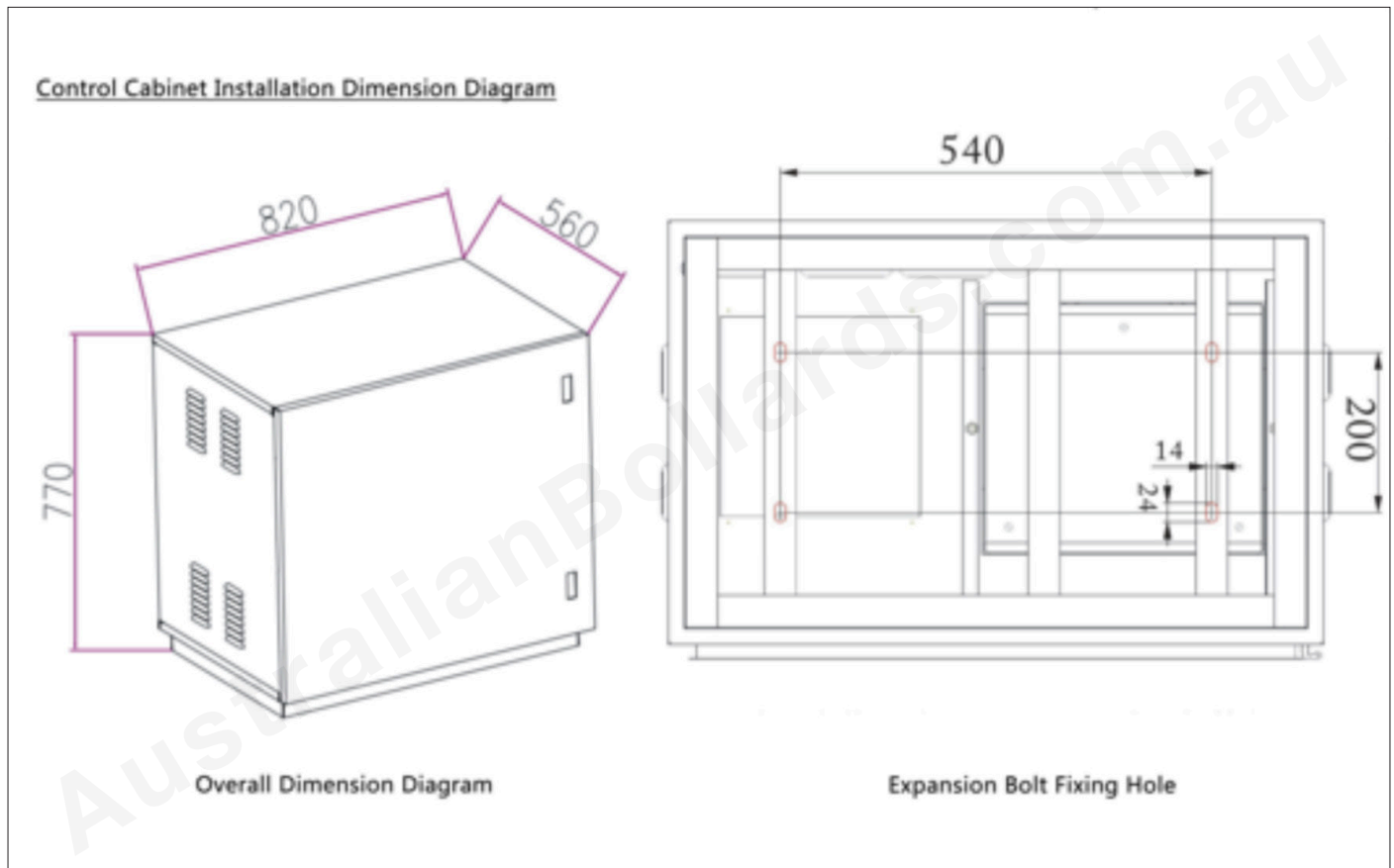
⑦ **Ground process**

After air impermeability and function tests are finished, continue casting concrete till its surface is 100mm from the ground. Landscape and ground construction department will use the same material as the ground to lay on the upper part after bollards are installed.

Function detection & ground process: check equipment working status and lay surface material

3.2 Control Cabinet Installation

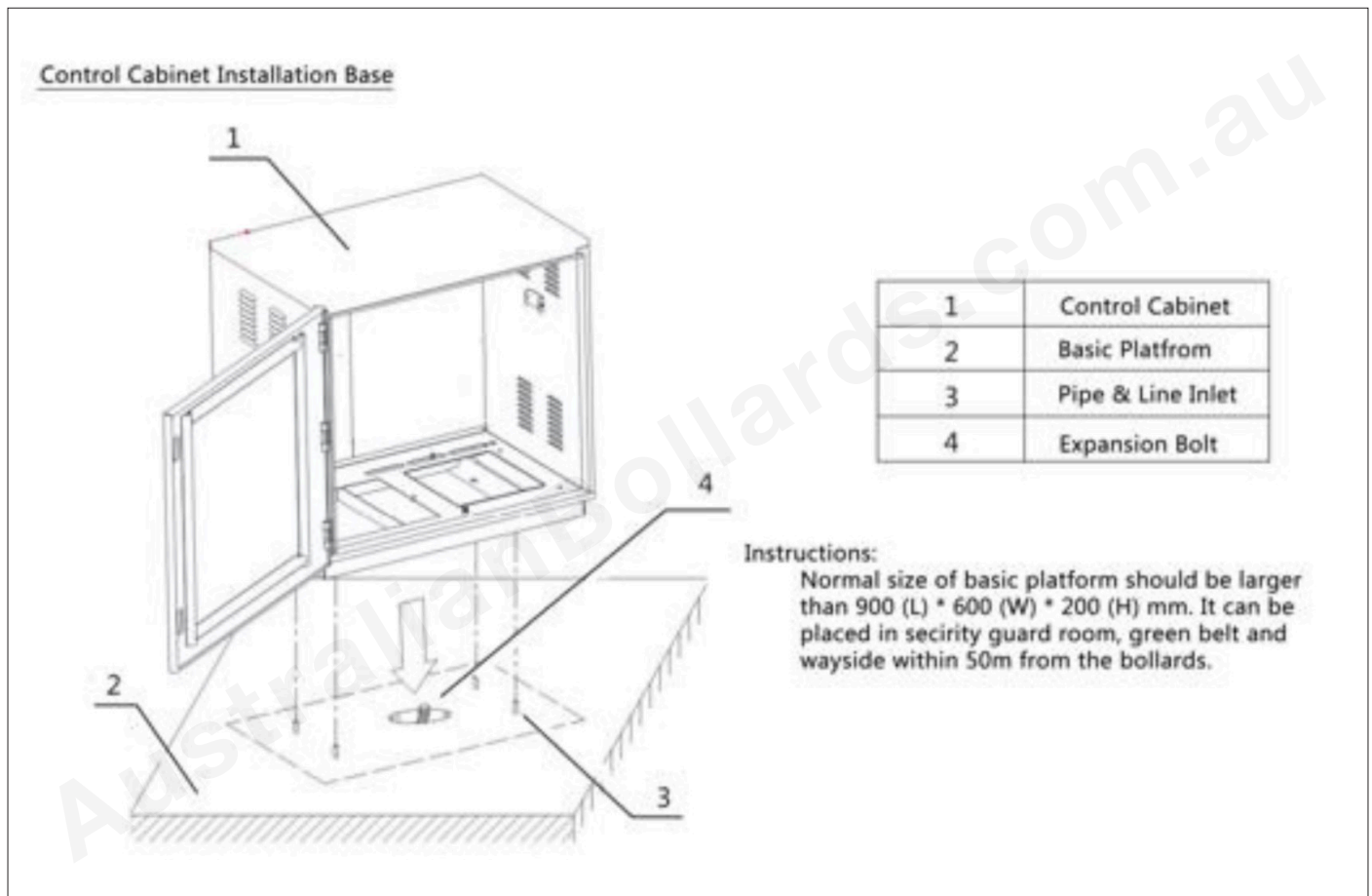
Fixed size diagram (for reference; subject to real item)



Placing requirements of control cabinet

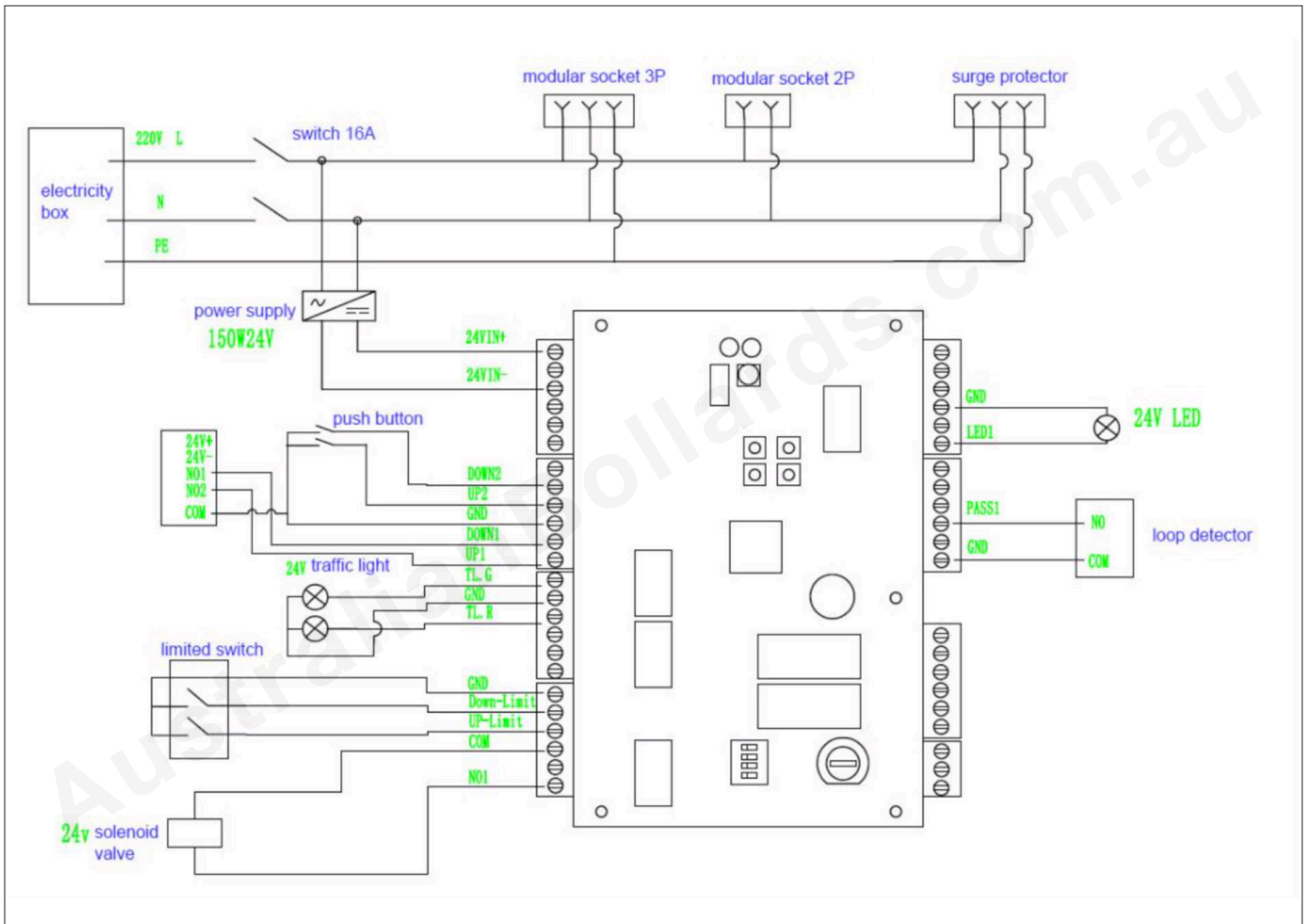
- This system has precise running status requirement. The ground must be horizontal without any bumpiness.
- Necessary wiring and civil work must be done before construction.
- To install control cabinet, you need to make a basic platform. Pre-bury the bollard in the basic platform and lift it to the pre-buried pipe and inlet of 220V power supply. Place the control cabinet on the basic platform and fasten it with 4 metal expansion bolts M12. Choose a suitable installation site (such as somewhere near the security guard room or some places with suitable landscape). It is suggested to place it within 30-50m distance away from the bollard. Or the sensitivity of bollard will be harmed.
- If the distance between bollard and control cabinet < 100m, gasholder room must be buried in the central position.

Install the base



Lay a basic platform where the control cabinet is placed. Make the control cabinet 200-300mm higher than the ground to prevent unwanted influence caused by rainwater. The center part of the platform must be hollow for wiring and other work. Finally fasten it on the platform with 4 expansion bolts.

3.3 Wiring



3.4 Lead In External Power

Lead-in external power: Pull standard power line (above RVV2*1.0) to the air switch inside the control cabinet.

In order to ensure long and stable working of the system, **external power must be stable between 220V-230V**. It is suggested to use 10A air switch.

If the voltage is unstable, pump may stop working because of overload protection. In this case, please confirm the stability of external power, and then reset the equipment according to steps in 8.2.

3.5 Entire Machine Debugging and Detection

After the installation is finished, please detect and debug the equipment according to the following steps.

1. Make sure all the wire & pipe connection is correct
2. Make sure external power 220V is stable
3. Make sure air pump switch is turned to “1”,
blow down valve is closed and air outlet switch is on.
4. Enable the power supply and turn on the air switch inside the control cabinet to make sure pump is working well. In normal condition, air pressure gage displays from 0kg to 8kg gradually.
5. Make sure the **RED** indicator light of control module is normally on.
6. Make sure the rise/fall function of manual control box works correctly.
7. Make sure the rise/fall function of wireless controller works correctly.
8. Make sure bollards keep the same rise/fall speed.
If not, please debug them referring to 7.5.
9. Make bollard rise/fall for several times to check the change of air pressure gage. In normal case: pressure value decreases from 8kg to 5kg, air pump works automatically, and then pressure value reaches 8kg again.

Attention: Passage must be closed during bollard rise/fall test to prevent accidents.

4 EXTENDED FUNCTIONS

4.1 Traffic Lights Control

Traffic lights can be added to assist bollards in access control according to actual requirements.

This function requires an accessory to be added in the bollard before delivery. So if you need this function, please mention it specifically in early requirements before placing order

Traffic lights control function:

1. Traffic light is red during rise/fall and after rising to the full. Vehicle entrance is forbidden.
2. Traffic light becomes green after all bollards fall to the ground level. Vehicle entrance is allowed.

4.2 Lead In Anti-collision Ground Sensor

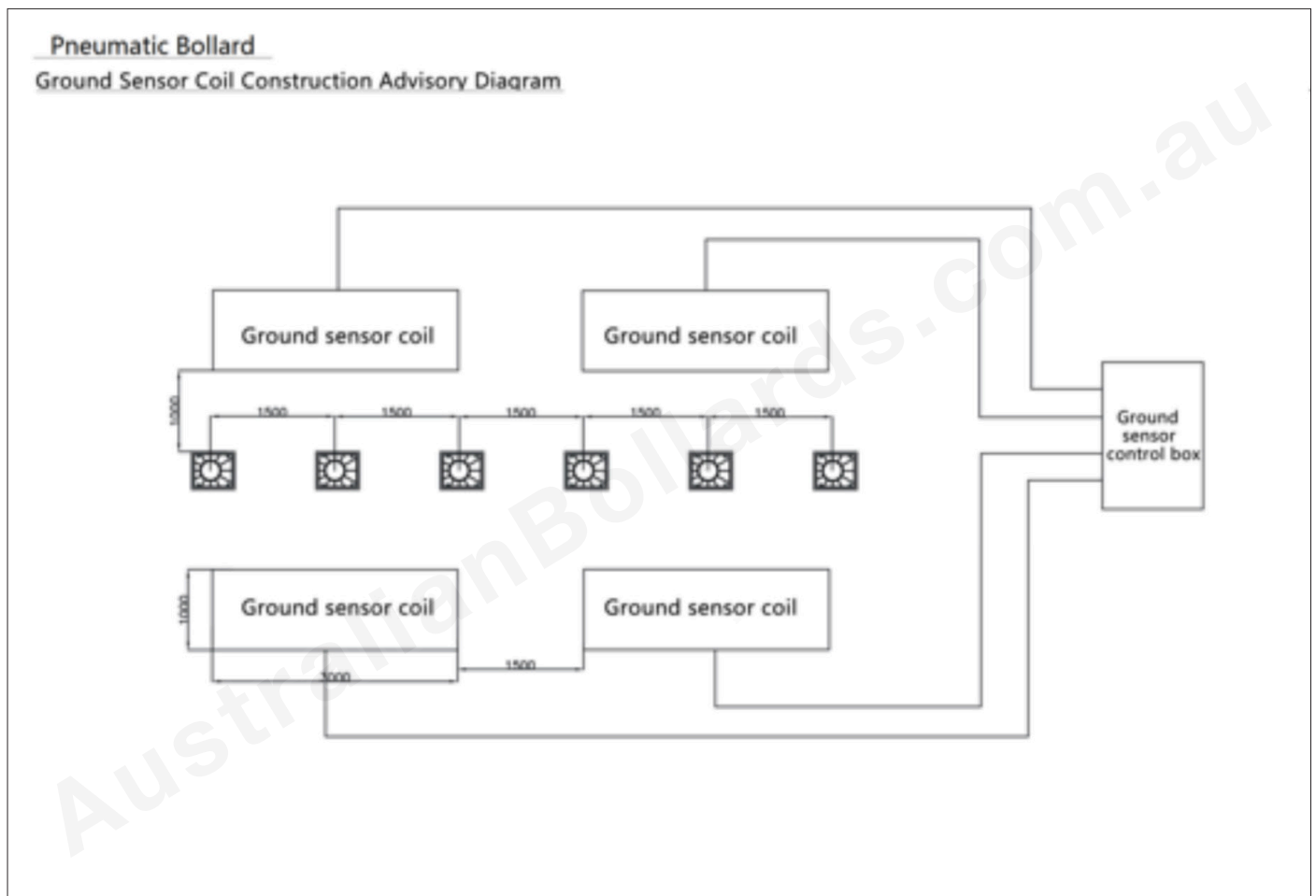
This is a kind of high security equipment. Incorrect use may cause injury to people.

Improper operation by managing personnel, accidental touching the controller by kids and other conditions may cause sudden bollard rise/fall and threat the safety of passing vehicles.

In order to avoid vehicle damage caused by improper operation, you can connect bollard system with vehicle detection system such as ground sensor. When ground sensor detects vehicles, bollard can't rise. Only when vehicles leave the detection range can bollard rises normally.

It is suggested to detect vehicles with ground sensor coil. Coil should be neither too large nor too small.

This function requires an accessory wire to be added in the bollard before delivery. So if you need this function, please mention it specifically in early requirements before placing order



5 WORKING MODES

5.1 Working Modes Introduction

Command control mode is default one.

If you need to change to other modes, please DO let us know before you place the order. Different modes should be set at factory before shipment.

Please note you can select only one mode.

- Bollard have the following 4 working modes:
- Command control mode (default mode)
- Delayed control mode
- Anti-collision control mode
- Flow control mode

Instructions:

- 1) Relay signal (AKA dry contact signal) can be directly used as the rise/fall signal of this system or cascaded with ticket dispenser, road barrier, card reader and other systems.
- 2) X,Y as delayed waiting time: After connecting control module with upper computer through 485 protocol converter, this value can be adjusted through the debugging tool provided by us. Detailed operations are as follows.
- 3) The following instructions are based on the configuration of ground sensor.

5.1.1 Command Control Mode

In this mode, it is necessary to input signal both for bollard rise/fall.

Scene: vehicle needs to **enter into/exit** controlled passage > operator authenticates and sends fall signal>vehicle **passes/fails to pass** the controlled passage >operator sends rise signal.

5.1.2 Delayed Control Mode

In this mode, you need to input signal to make bollard fall. To make it rise, you can input signal or just wait some time for the bollard to rise automatically.

Scene 1: vehicle needs to **enter into/exit** controlled passage > operator authenticates and sends fall signal>vehicle **passes/fails to pass** the controlled passage >operator sends rise signal.

Scene 2: vehicle needs to **enter into/exit** controlled passage > operator authenticates and sends fall signal>vehicle **passes** the controlled passage>bollard rises automatically after **Y seconds**.

Scene 3: vehicle needs to **enter into/exit** controlled passage > operator authenticates and sends fall signal>vehicle **fails to pass** the controlled passage> bollard rises automatically after **X seconds**.

5.1.3 Anti-collision Control Mode (default mode)

In this mode, you need to input signal to make bollard fall. To make it rise, you can input signal or just wait X seconds after passing the controlled area for the bollard to rise automatically.

Scene 1: vehicle needs to enter into/exit controlled passage > operator authenticates and sends fall signal>vehicle passes/fails to pass the controlled passage >operator sends rise signal.

Scene 2: vehicle needs to enter into/exit controlled passage > operator authenticates and sends fall signal>vehicle passes the controlled passage>bollard rises automatically after X seconds.

5.1.4 Flow Control Mode

In this mode, controlled passage has 2 directions (entrance & exit) and there're 2 kinds of ground sensors (inner ground sensor & outer ground sensor). Strictly follow Fig. P_4-3 as wiring instructions. NO. 26 & 27 ports both need to be connected. NO.22 & 23 ports both needs control part wiring,

Scene 1: vehicle needs to **enter into** controlled passage>operator authenticates and sends **entrance direction** fall signal>vehicle **passes** the controlled passage from **entrance direction** > bollard rises automatically.

Scene 2: vehicle needs to **enter into** controlled passage>operator authenticates and sends **entrance direction** fall signal>vehicle **fails to pass** the controlled passage and leaves directly>bollard rises automatically after **X seconds**.

Scene 3: vehicle needs to **enter into** controlled passage>operator authenticates and sends **entrance direction** fall signal>v **triggers one ground sensor** and leaves **without** passing the controlled passage>bollard rises automatically after **Y seconds**.

Scene 4: vehicle needs to **enter into** controlled passage>operator authenticates and sends **exit direction** fall signal>vehicle passes controlled passage from entrance direction>bollard won't rise and the control module **outputs a reverse entrance alarm signal** simultaneously.

Ground Sensor Anti-collision Function

All modes have anti-collision function after connecting with ground sensor.

Scene 1: bollard falls automatically when vehicle enters into the detection range of ground sensor during bollard rise process.

Scene 2: any rise signal input is invalid when there's vehicle with the detection range of ground sensor.

6 DAILY MAINTENANCE

Basic maintenance (Quarterly):

- Clean the pit. Use pump/suction pump to clean up settlings.
- Clean the drainage facilities at the bottom of the pit.
- Clean and oil main slide track.
- Check air leakage condition of the pipe.
- Make sure the screws on the bollard are fastened.

Check the following questions during running:

- Check flash light function on the top of the bollard.
- Check wireless remote control device function.
- Check electronic control panel function.

Regular maintenance

- Daily cylinder surface cleaning and maintenance: once a day
- Clean around the bollard (sand, gravel, etc.). Avoid gravel dropping into the bollard through tiny gaps which may cause stuck condition: once a day
- Blow down maintenance shown once a week
- Clean and change air filter shown in Fig. P_6-2: Quarterly



remove air filter in clockwise rotation

Air filter maintenance

period	one time per half of year
reason	when pump works, air filter help to filter dust, so it may be blocked easily, and then cause noise and make the life of pump shorter.
how to do	<ol style="list-style-type: none"> 1. remove air filter 2. brush it with soft brush; replace it would be better 3. remount it

Check oiler **every 3 months**. Add ISOVG32 or similar oil when it is running out of oil. Normally once every year. Add the oil as shown **once a year**.

**Pneumatic Bollard
Oiler Maintenance**



Pull out the oiler after turning it clockwise

it has updated to double unit

Air pump blowdown maintenance

Maintenance Period	Suggest: once a year
Maintenance Reason	Oil of the oiler enters into air cylinder through air pipe. It not only lubricates pipe wall but also prolongs service life of the equipment.
Maintenance Steps	<ol style="list-style-type: none"> ① Cut off the equipment power ② Discharge all the air inside the pump by blowdown of making bollards rise/fall for several times ③ Take down the oiler as shown in the photos ④ Add oil ISOVG32 ⑤ Install oiler back ⑥ Electrify the equipent

7

COMMON FAILURE ANALYSIS

7.1 Bollard Fails to Rise

If bollard fails to rise, check the following possible conditions:

1. Open control cabinet and check whether power supply is enabled and switch power indicator light is on.
2. Make sure the RED indicator light is normally on. If not, you should change the control panel.
3. Press the button of “Key 3” and “Key 4” on control panel; check whether it can control rise/fall. If not, you need to change control panel.
4. Make sure air pump pressure is normal (in normal condition, gasholder pressure gage value is among 4-8 and working pressure gage value is among 4-6), working valve is open and it is parallel with air pipe during open process.
5. Check whether wiring is loose or there's any disconnection.
6. When remote control makes RISE command, measure the voltage between NO 1 and COM on control panel with multimeter and check whether the value is DC 24V and wire connection is fastened. Change the wiring panel if there's no voltage output.
7. Check whether there're stone stuck between the cylinder and flange. If so, clean them up and try again.

7.2 Air Pump Fails to Work

If gasholder pressure gage value is less than 5Bar but it still fails to activate automatically, you need to check up.

1. Whether it is normally electrified.
2. Whether the power switch of air pump turns to 1.
3. Whether working voltage is lower than 215V. If working voltage isn't stable, air pump will enable self-protection when the value is lower than 215V. In this case, press the overload protector on the backside of the air pump to restart it. If the temperature of air pump is too high, please wait 20 minutes for the device to cool down before enabling overload protector.

If the problem reoccurs, please check whether its power supply also connects with high-power devices such as air conditioner. If so, change the wiring to make sure external voltage AC 220V is stable at any time.

7.3 Air Pump Continues working

Scene: Air pump continues working, but gasholder pressure gage value is less than 8Bar.

Solutions: Check whether the blow down valve is closed. Turn off air outlet switch and check the change of gasholder pressure gage.

If the value reaches 8Bar and pump stops working, that means there's air leakage in the pipe. Carefully check whether the air circuit connection (air pipe) is broken. Once air leakage failure is removed, this problem is solved.

If pump still continues working while gasholder pressure gage value is less than 8Bar, that means the pump has a problem of air leakage and needed to be replaced.

7.4 LED Light is not working

Scene 1: All LED lights are not working.

Solution: Check whether the voltage of LED1, GND, LED output port is DC 24V and the wiring is fine. If output is abnormal, change control module.

Scene 2: LED lights of some bollards are unlit.

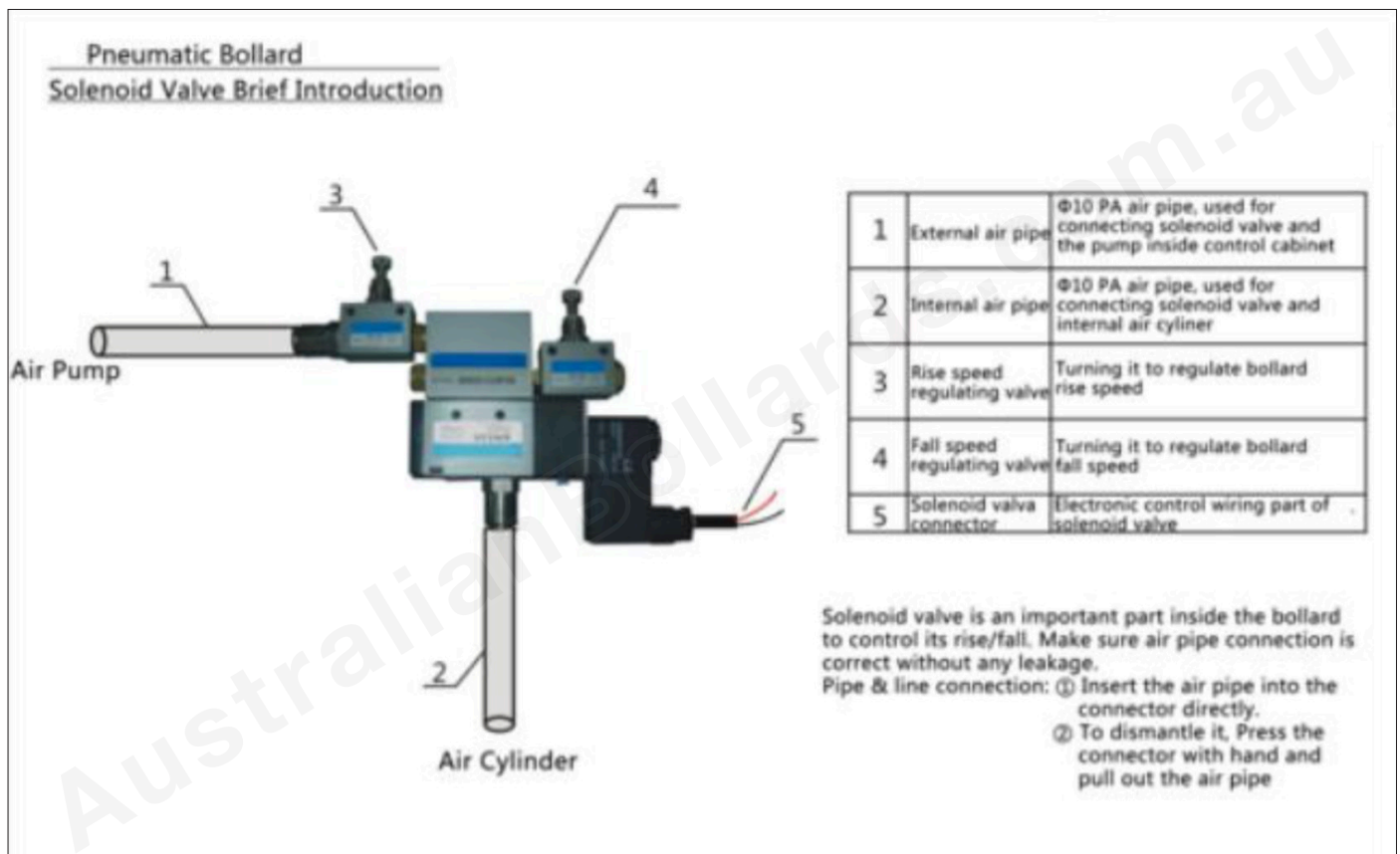
Solution: Check whether the wiring of LED lights are correct and input voltage is DC 24V. If output is normal but lights still fail to work, change LED lights.

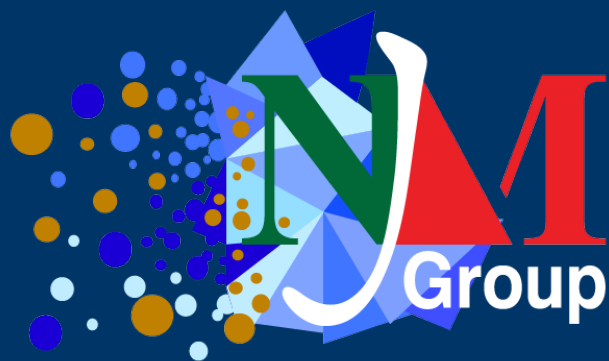
7.5 Different Rise/Fall Speed

Scene: Bollard rise/fall speed is different, which is not elegant.

Solution: Adjust the speed by adjusting solenoid valve to uniform the bollards:

- 1) Open flange cover and you can see solenoid valve
- 2) Adjust “rise speed adjusting valve” and “fall speed adjusting valve” to change and uniform the speed.





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+ 613 9459 3488