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Operating Manual

Separated type hydraulic auto bollard ---KVS-AHB220.600.6



Please read the instructions prior to performance any task!





Separated type hydraulic auto bollard Installation instruction

1. Summary:

This separated type hydraulic auto bollard system includes three main parts: hydraulic pump and control system cabinet (control cabinet), oil pipeline, bollard.

This hydraulic auto bollard system needs an external power supply (AC 380V/50HZ).One control cabinet connects with three bollards. These three bollards can be operated by remote controller and push button synchronously. Bollard move speed can be adjusted.

The control cabinet includes control system and hydraulic pump. The hydraulic pump motor power is 3.85Kw, AC 380V/50HZ, revolving speed is 1450rpm.

Between control cabinet and bollard are oil pipelines. Every bollard has two separated oil pipelines.





(P 1) Bollard dimension drawing



(P 2)Control cabinet dimension<L: 800(mm) W: 550(mm) H: 1380(mm)>



2. Installation:

2.1Trenching:

Use navy to dig a foundation trench.

Foundation dimension (L:4500mm W:1200mm D:1700mm).



(P 3)





(P 4)

2.2 structure the basic rebar frame:

Pour concrete into foundation trench to make a flat base, the concrete base thickness should be 300mm. Then plug diameter 16mm rebar and M12*160 foundation screw into concrete base. Every bollard will be fixed on flat base by 4 foundation screws. Refer to the illustration below.







(P 6)









(P 8)



Main rebar

(P 9)







(P 10)



Rebar B

(P 11)



Rebar C



(P 12)

2.3 Install bollards:

Strap bollard, use crap to move bollard into foundation trench.

Please note, bollard need to be located on foundation screw, and fix bollard on foundation screw by M12 nuts. Adjust nuts to make bollard balance.



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⁽P 14)

2.4 Lay wire PVC pipe and drainage PVC pipe:

There are two reserved holes at the bottom of bollard. The lower hole is for drainage system. Another hole is for wires.

Drainage system needs one PVC110 pipe. Lay the PVC 110 pipe in foundation trench. One end should be connected with lower reserved hole; another end should be in catch basin or river.

Lay one PCV90 pipe in foundation trench. This pipe is enclosure of wires and oil pipelines. One PCV90 end should be connected with wire/oil reserved hole at the bottom of bollard; another end should be connected with control cabinet.

Please note: don't bend PVC pipe. If PVC pipe need to be turned, Joint PVC pipe by 45° elbow in corner.

Please refer P 15&16. Green pipe is drainage pipe. Purple pipes are wire



and oil pipes



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(P 16)

2.5 Build rebar frame:

Add Dia14mm rebar on basic rebar frame. Then pour concrete into rebar

frame until the distance between concrete and ground level is 300mm.









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3.0 Install control cabinet

3.1 construct control cabinet foundation

Construct a concrete foundation for control cabinet. Foundation dimension is L: 1100mm W: 800mm H: 200mm. Inlay 5 PVC90 pipes in foundation. These PVC pipes will be connected with control cabinet. 3 of 5 pipes will enclose oil pipes and wires. 1 of 5 pipes will enclose external power line. Keep the rest pipe the standby





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(P 21)

3.2 Install control cabinet:

Install 4 unit M12*129 expansion screws on foundation. Put the control cabinet on expansion screws. Fix it by nuts.





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(P 23)



(P 24)







3.3 Lay PVC conduit

Lay PVC conduit between control cabinet and bollards. Every PVC includes 2 oil pipelines, 1 RVVP4X0.75 wire (it is for up/down limited switch), 1 RVV4X0.5 power line (it is for LED lights and alarm). Connect oil pipeline and wires with control system (refer wire instruction 4.0). Then pour concrete into trench to make sure all PVC pipes are in concrete.





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3. Testing of equipment

To make sure there is enough oil in hydraulic pump (check oil level meter) before first starting up bollard.

Plug them in to make sure the motor is rotating clockwise. (If motor rotates counterclockwise, change the order of external power line).

Each oil pipeline is connected with speed valve. Rotating speed valve

can control oil flow. Bollard move speed is depended on oil flow.





Bollard up



Bollard down



Wire instruction



Step 1: Connect 380V general power with "General power input"

Step 2: According to electrical schematic diagram, connect Air switch with General power input.

Step 3: Connect bollard LED line with "LED port". Each line has a label to show what this line is.

Step 4: Connect bollard Up & Down limit with "Up & Down limit port"



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