Installation and Operating of Hydraulic Rock Drilling Rig

1. Drill rig installation
   (1) Remove bucket of excavator.
   (2) Move the rig to the front of the excavator.
   (3) Turn the rig over 90 degrees by hoisting with excavator.
   (4) Install the rig on the excavator as shown in the picture.
(5) Connect the oil inlet of the excavator crusher hammer with the oil inlet of the drilling rig valve. Then connect the oil outlet of the excavator crusher hammer with the oil outlet of the drilling rig valve (As shown in the figure, oil port: P port to P port; T port-T port;). And the type of hydraulic pipeline is 4SP19-2800mm. The number of this type pipes is two.
2. Installation of Air Compressor

(1) Remove excavator toolbox.

(2) Hoisting air compressor in excavator toolbox.

(3) Connect excavator floor with air compressor floor by screw.
(4) Install the air compressor switching valve in the excavator tank position and screw the bottom plate of the valve.

(5) Remove the other side of the crushing hammer intake pipe
(6) As shown in the figure, the oil outlet of the dismantled excavator walking pipeline is connected with the oil outlet of the compressor switching valve P2. This pipeline needs to be manufactured locally. Pay attention to the sealing method at the joint.
(7) As shown in the picture, the P1 port of the air compressor switching valve is connected to the crushing hammer oil inlet (adding a tee joint). The pipeline is 4SP-M26-G1-1800mm.
(8) As shown in the picture, P4 port of air compressor switching valve is connected with walking oil inlet. This pipeline needs to be manufactured locally. Pay attention to the sealing method at the joint.

(9) As shown in the picture, Connect the air compressor switching valve P3 with the motor oil inlet. The pipeline is 4SP-M26-1800mm. Then connect motor oil return port with crushing hammer oil return port (add a tee joint). The pipeline is 4SP-M26-G1-1800mm.
(10) As shown in the picture, connect motor outlet with compressor valve outlet. The pipeline is 1SP-M14-2500mm.

(11) As shown in the picture, drill holes in the oil tank cover of excavator and weld joints on the oil tank cover. Then, connect the outlet of the air compressor switching valve and the welded joint of the oil tank with the three-way joint. The pipeline is 1SP-M14-1500mm.

3. Installation of guide rail outlet
Connect the oil drain port on the guide rail with the three-way joint of the welded joint of the tank, and fix it along the forearm and arm of the excavator. The pipeline is 2SP-M18-15000mm.
4. Installation of Pneumatic Pipeline

Connect the pneumatic interface on the guide rail with the air outlet of the air compressor and fix it along the forearm and arm of the excavator. The pipeline is 2SP-M26-15000mm.
5. Installation of Electronic Control System

(1) Fixation of electronic control box

(2) Installation of Control Circuit

As shown in the figure, the wiring interface of the control box is connected with the wiring box on the guide rail. The length of the line is 15 meters, and the installation form of the line joint is the same. This line is fixed along the excavator arm and main arm, and enters the cab through the cab skylight.
(3) Installation of Power Wire and Air Compressor Control Wire
As shown in the figure, this main wire has two lines. One of the lines is connected to the switch valve of the air compressor, another line is connected to the excavator bottle.

6. Test machine
(1) Check whether the power supply is connected and whether the pipes are tightened.
(2) Step on the breaking hammer switch of excavator to supply oil to the guide rail system, and test whether the pressure of M1 port reaches 16Mpa.
(3) Stay on the breaker switch and open the air compressor button on the control box, then gently pull the right walking handle forward and backward to observe whether the air compressor rotates. If the excavator moves forward and backward, then gently pull the left walking handle forward and backward. When you see the air compressor rotates, remember the direction of pulling the walking handle.

7. How to operate the rig
(1) After choosing the location of the hole to be drilled, turn on the main power switch and the air compressor button. At this time, step on the breaker switch and pull the walking handle to make the air compressor rotate.
(2) Then turn on the rotary switch to the right to rotate the drill pipe.
(3) Open the push feed button to make the bit touch the rock, then open the impact switch to start drilling.
(4) When the rotary speed is not uniform or the drill pipe is stuck, it is necessary to open the push switch in time to reverse gear and lift the drill pipe up in order to prevent the drill pipe from being stuck and unable to be removed.
(5) When the drilling depth is enough, turn on the push back switch and lift the drill pipe up.
(6) Turn off the rotary, impact and push switches, then loosen the running handle and breaker switch of the air compressor rotation.
(7) Turn off the air compressor switch, turn off the main power supply, complete punching.
(8) Please operate in strict accordance with the above basic order, otherwise the consequences will be at your own expense.