



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

Refrigeration/ Air- conditioning/ Ventilation Mechanic (Water System) Intermediate Trade Test Mock Practical Test Paper

此文件關於空調製冷設備技工（水系統）中級工藝測試考題。如有需要索取此文件的中文版本，請致電 2100 9000 與香港建造業工藝測試中心聯絡。

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Test Paper for Intermediate Trade Test

Job Title : Refrigeration / Air-conditioning / Ventilation Mechanic (Water System)

Skill Level : Medium-skilled worker

Test : Complete the following practical tasks at the specified locations. Full score of this test is 100, 60 marks to pass.

Time Limit : Three hours

Points to note : (1) Before you start, read all instructions for candidates below and test paper carefully. If you have any questions, ask an invigilator immediately;
(2) You will fail the test if you do not take proper safety measures during the respective test; and
(3) After the test, clean up the venue and restore its original condition as instructed by the invigilators.

Task : Install a fan coil

Time Limit: Three hours

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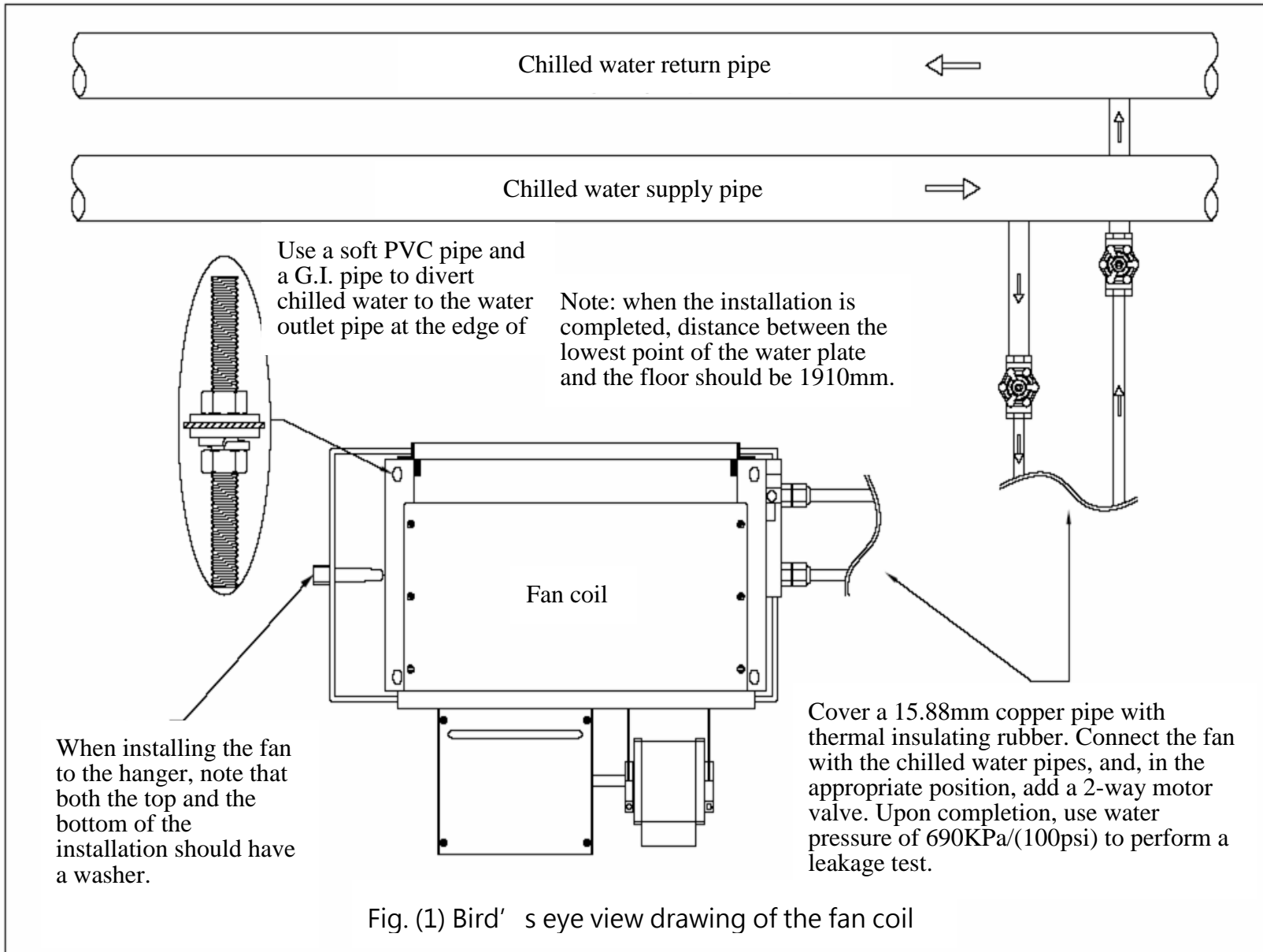
(Before working, please read the “instructions for candidates” first.)

- 1. Adjust and fix the fan coil according to Fig. (1). [The water pan’s lowest distance from floor is 1910mm.]**
- 2. Install and connect water in/out cooper pipe and fittings. [Including 2-way motorized valve, copper connecting nozzle and thermal insulation sealant]**
- 3. Install and connect drainage pipe for cold condensate water.**

The below tasks should only be performed after you have informed the invigilators for on-the-spot verification

- 4. Use a spirit level to measure and adjust the fan coil surface. (Take the machine top surface as reference)**
- 5. Exhaust the fan coil.**
- 6. Increase water pressure to 690 kPa (100 psi) using a hand pump, and perform pressure test of the newly installed system.**
- 7. Use water to test the draining of the drainage pipe for cold condensate water.**
- 8. Complete the test record. (See page attached)**

Work drawing



List of materials, equipment and tools

Item	Name	Quantity
Materials		
1	5/8" copper pipe	2.4 m
2	3/4" × 5/8" straight nozzle	2
3	5/8" copper cap	2
4	5/8" copper nut	4
5	3/4" GI socket	1
6	3/4" 90° GI pipe elbow	1
7	3/4" GI pipe	2
8	3/4" outlet pipe	2 sets
9	1" drainage plastic pipe	1
10	1" pipe coupling	2
11	Insulating tape	3 rolls
12	Thermal insulating tape	As appropriate
13	5/8" thermal insulating sealant (joint sealant)	As appropriate
14	3/8" fan screws with screw nuts , washers and spring washers	As appropriate
15	Yarn	As appropriate
Equipment and tools		
1	Fan coil	1 set
2	Motorized valve	1
3	5/8" pipe bender	1
4	Copper pipe clip set	1 set
5	Copper pipe cutter	1
6	Copper pipe scrapper	1
7	Cutter	1
8	6" semicircle file	1
9	Measuring tape, 5m	1
10	Spirit level	1
11	Hand pump	1
12	7" Plier	1
13	8", 10" and 12" adjustable wrench	1 of each
14	Flathead and crosshead screwdrivers	1 of each
15	Pencil	1

Notes to Candidates :

1. Candidates should read the test papers carefully and ask the invigilator for any queries.
2. Candidates should study the drawings and specifications attached to test papers, if any, before the test begins.
3. Candidates should carry out the test according to test papers, working drawings and specifications provided.
4. Candidates shall bring their own safety shoes, other safety equipment will be provided by trade testing centre. Candidates must take all necessary safety precautions to ensure work safety.
5. All tools and materials required by the test will be provided by trade testing centre, candidates should check and ensure their adequacy and quality. Candidates shall use the tools and materials properly based on trade practice. All the tools must be returned to trade testing centre after the test. The candidates may ask the invigilator for any problems.
6. Candidates are required to handle and move the tools and materials for use in the test, and to carry out associated works.
7. Invigilator will take record photos periodically during the test.
8. Candidates are not allowed to take any photo or video with cameras or mobile phones.
9. Candidates are not allowed to use their mobile phones during the trade tests, except for emergency situation.
10. The marking scheme is based on the following criteria :
 - a) Understanding of drawing and specification
 - b) Preparation works before commencement of test
 - c) Working procedures
 - d) Accuracy and quality of works
 - e) Progress of works
 - f) Proper handling and use of materials
 - g) Proper use of tools and equipment
 - h) Safety precautions
 - i) Considerate of other trades
 - j) Housekeeping after completion of test
11. All candidates must stop when time is up.
12. Candidates are required to return the test paper to invigilator after the test.
13. Offering bribe to invigilator is an offence in law and trade testing centre will report to the ICAC for any such case.

In the event that the candidate fails to take any necessary safety precautions and / or works in any dangerous situations, he / she will be assessed failed