



CONSTRUCTION
INDUSTRY COUNCIL
建造業議會

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

此文件關於空調製冷設備技工（獨立系統）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 (Unitary System)

Skill Level : Medium-skilled worker

Test: Complete the following practical tasks 1 and 2 at the specified locations.

The aggregated total score of this test (two tasks) is 100. To pass the test, candidates must score a total of 60 marks from the two tasks.

Time Limit : Three hours

- Points to note :
- (1) Before you start, read all instructions for candidates below;
 - (2) You will fail the test if you do not take proper safety measures during the respective test;
 - (3) After the test, clean up the venue and restore its original condition as instructed by the invigilators; and
 - (4) Candidates should wear appropriate protective goggles and gloves when welding.

List of materials, equipment and tools

Item	Name	Quantity
Materials		
1	5/8" copper pipe (Length: 500mm)	1
2	5/8" copper pipe (Length: 120mm)	3
3	5/8" hand valve	1
4	5/8" copper cap (closed cap)	1
5	5/8" copper nut	2
6	5/8" welding tee	1
7	5/8" × 1/4" straight connecting nozzle	1
8	Silver welding rod	1
9	Sand paper	1 piece
10	# 8 steel screw	6
11	3/16" washer	6
12	M8 x 10mm machine screw, flat washer with screw nuts	6 sets
13	M8 x 19mm machine screw, flat washer with screw nuts	4 sets
14	M8 x 60mm machine screw, flat washer, spring washer with screw nuts	4 sets
15	Shock-absorbing rubber	4
16	Plastic skirting of machine base	4
Equipment		
1	Acetylene welding equipment	1 set
2	Air-cooled split type air conditioner	1 set
Tools		
1	5/8" pipe bender	1
2	Copper pipe clip set	1 set
3	Copper pipe cutter	1
4	Pipe flush set	1 set
5	Copper pipe scraper	1
6	Measuring tape, 5M	1
7	Straight ruler	1
8	Angle square	1
9	File	1
10	Hand hammer	1
11	Welding gloves	1 pair
12	Acetylene welding goggles	1 pair
13	8", 10" and 12" adjustable wrench	1 of each
14	Spirit level	1
15	Screwdriver, crosshead	1
16	Screwdriver, flathead	1
17	Lighter	1
18	Pencil	1

Test Paper for Trade Test
Refrigeration / Air-conditioning /
Ventilation Mechanic (Unitary System)

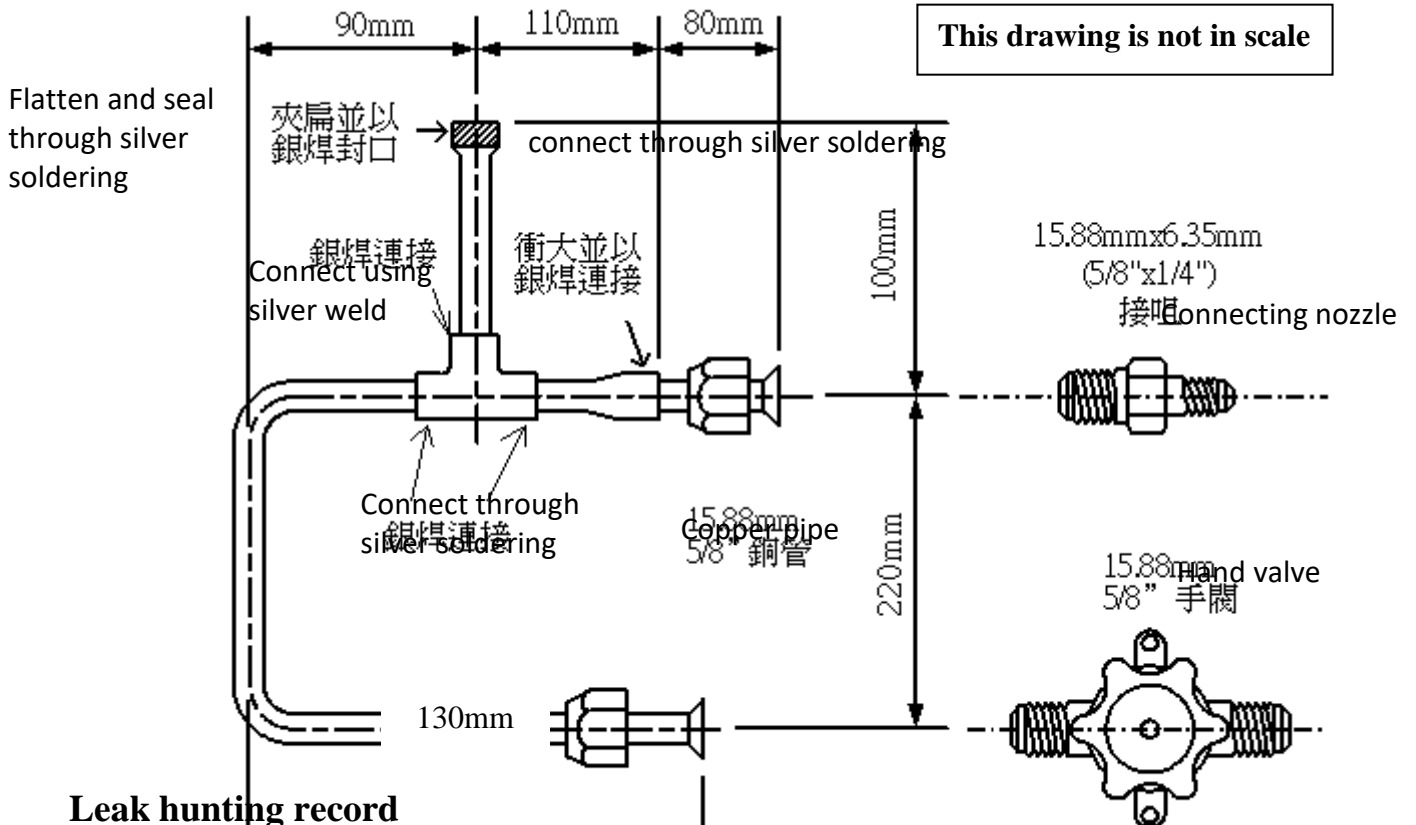
Seat number

Candidate's name : _____

Exam date : _____

Task 1 : Make a copper pipe

1. Make a pipe set according to the drawing below. Notify the invigilator for checking upon completion.
2. Once verified by the invigilator, connect hand valve and straight nozzle with the diverging nozzle to tighten up, and use 1,000 kPa (145 psi) nitrogen to conduct leak hunting. (Note: a. size error must be less than +5mm. b. before you start to work, please read the "instructions for candidates" on the above page.)



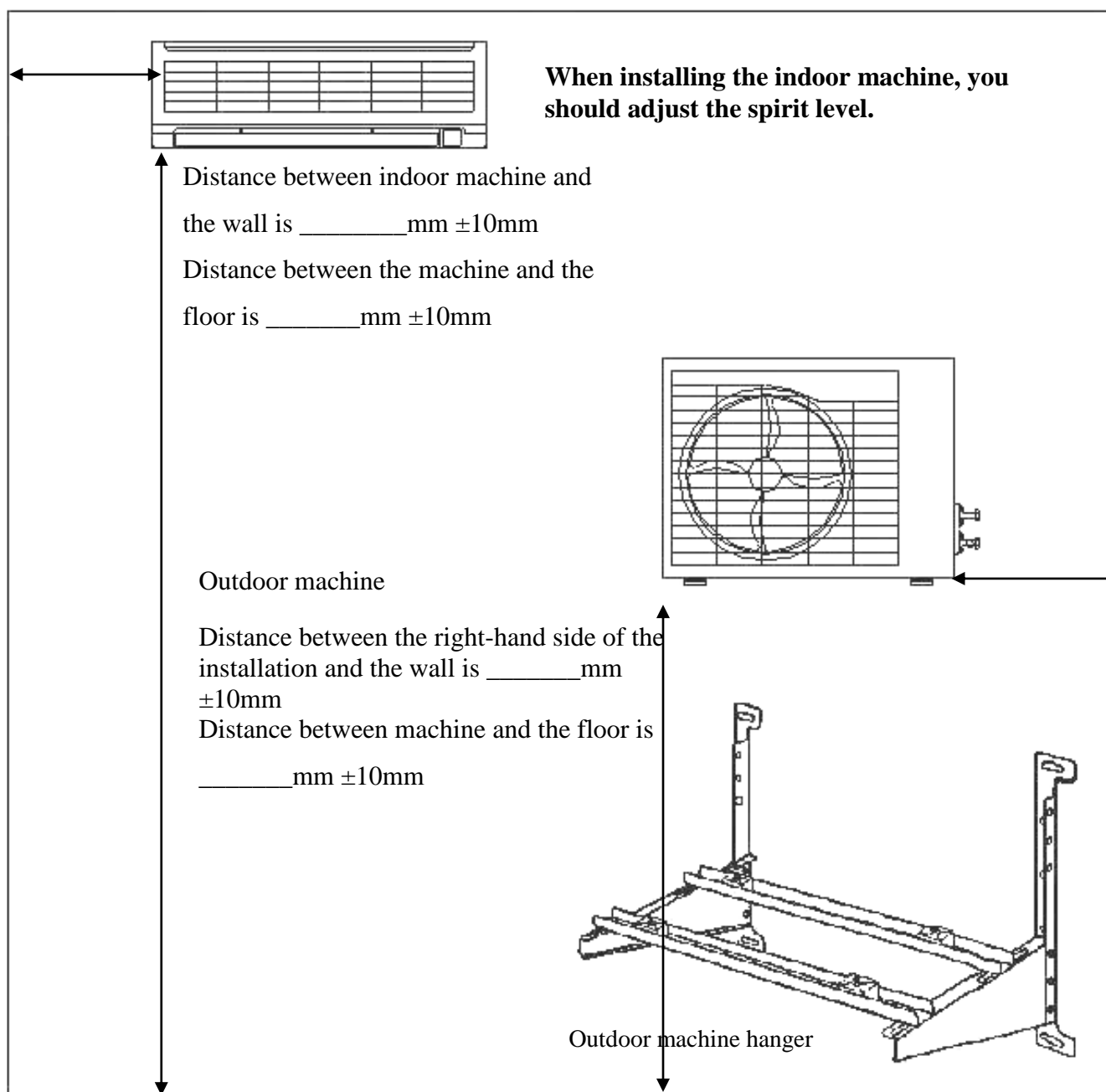
Leak hunting record

Leak hunting	Leak hunting start time	Leak hunting result	Leak hunting success time	Candidate's signature	Invigilator's signature
1 st time		Successful / Unsuccessful			
2 nd time		Successful / Unsuccessful			
3 rd time		Successful / Unsuccessful			

Test Paper for Trade Test
Refrigeration / Air-conditioning /
Ventilation Mechanic (Unitary System)

Task 2 : Install a split type air conditioner

- 1. Install the outdoor machine hanger and fix the machine according to drawing and measures.**
- 2. Install and fix the indoor machine and hanger according to drawing and measures.**



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