



Refrigeration/ Air- conditioning/ Ventilation Mechanic (Electrical Control) Intermediate Trade Test Mock Practical Test Paper

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Test Paper for Intermediate Trade Test

Job Title : Refrigeration / Air-conditioning / Ventilation Mechanic (Electrical Control)

Skill Level : Medium-skilled worker

Test : There are 3 items to be completed. Candidate must pass all items to pass the whole test.

- (1) Answer questions on electrical safety (10 questions in total, 10 marks each, 60marks to pass)
- (2) Color vision test (All answers must be correct in order to pass)
- (3) Complete the practical test on pages 3 and 4 at the specified locations. The full mark of this test is 100, 60 marks to pass.

Time Limit : Three hours

Points to note:

- (1) Before you start, read all instructions for candidate 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 test.
- (3) After the test, clean up the venue and restore its original condition as instructed by the invigilators.
- (4) The power plug is installed solely for examination purpose; Please note that all fixed electrical installations at the site must be performed by registered Electrical Workers.

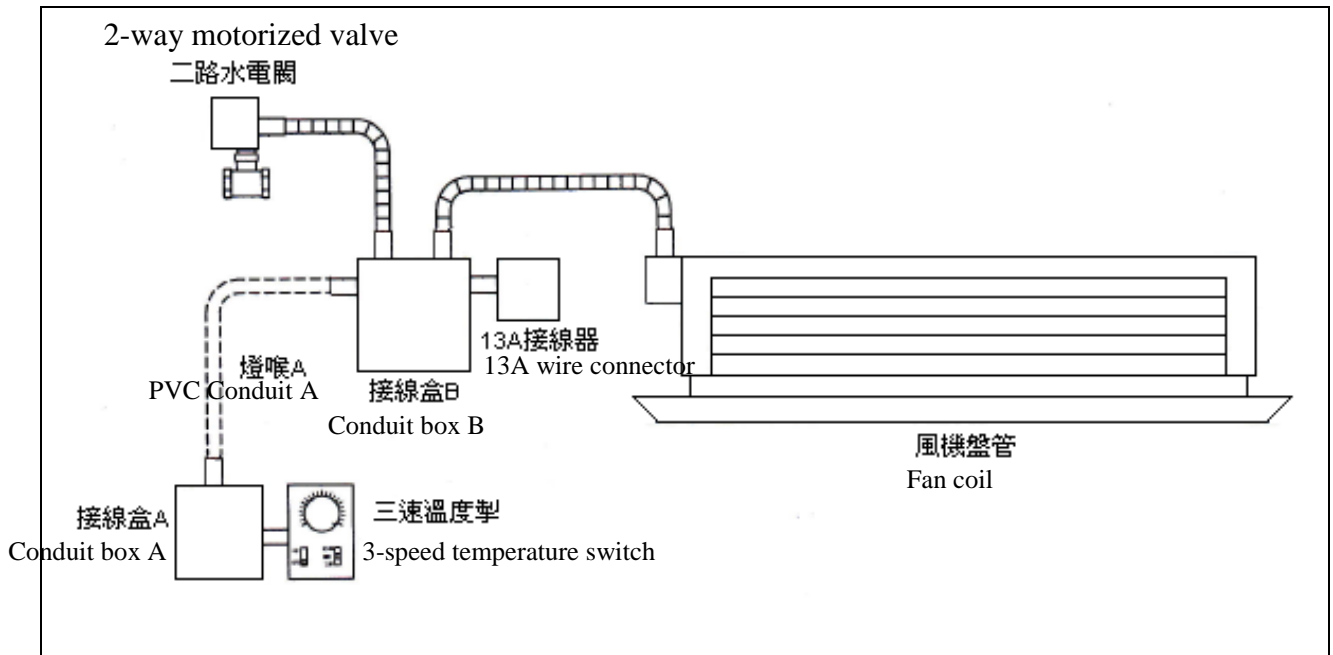
Task: Install a control circuit for a fan coil

Time Limit: Three hours

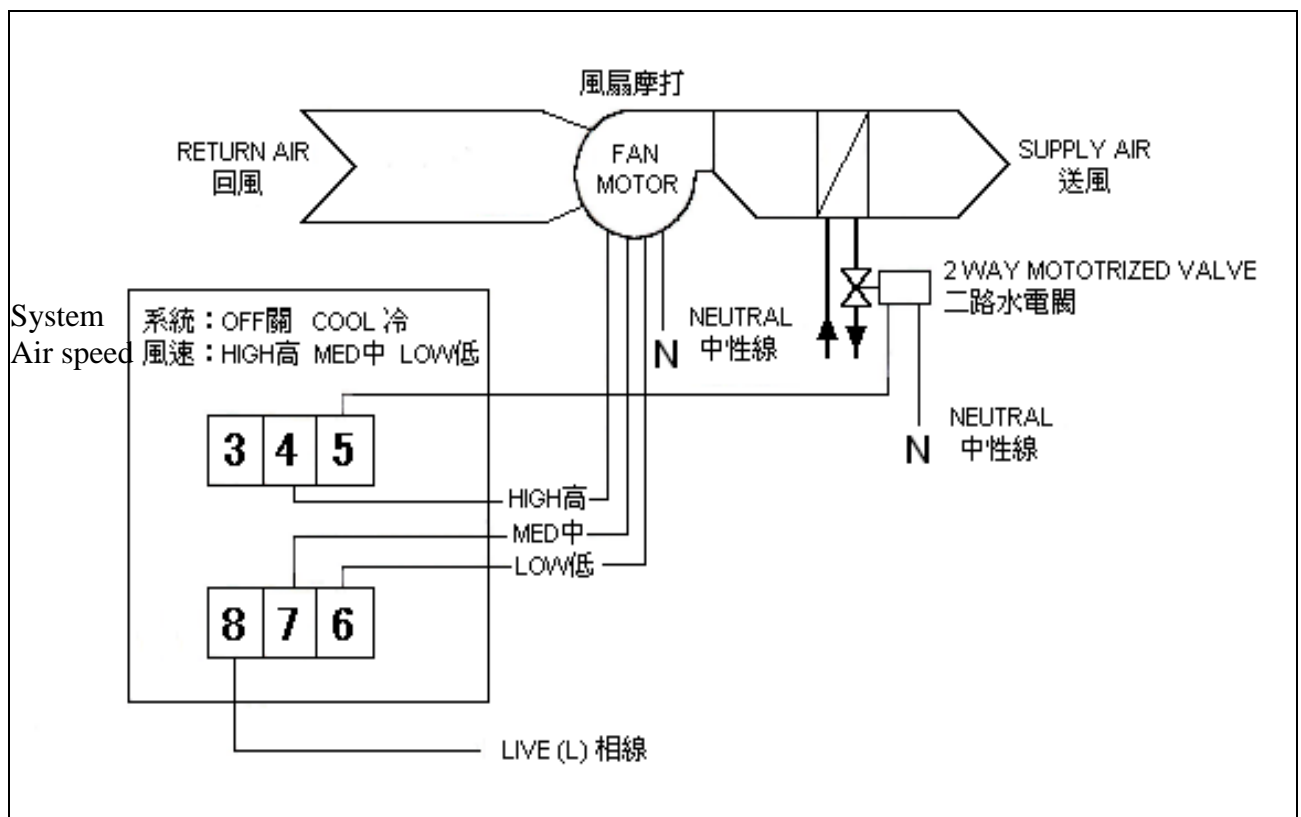
1. Prepare and install conduit A according to Fig. 1.
2. Connect the control circuit for the fan coil, 3-speed temperature switch and 2-way motorized valve according to Fig. (1) and Fig. (2).
3. Connect system electricity and safety earth. **(To facilitate invigilators' inspection, do not close the covers of all conduit boxes.)**

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

4. Using the multi-meter, test whether the circuit is suitable for electrification, and fill in the test form.
5. Upon assessors' approval, electrify the circuit for operational test and fill in the form.



Installation drawing of power system for fan coil (Fig.1)



Electricity wiring diagram of 3-speed temperature control (Fig.2)

List of materials, equipment and tools

Item	Name	Quantity
Materials		
1	Electrical cable, I/C, PVC insulated, brown, 1mm ²	1 roll
2	Electrical cable, I/C, PVC insulated, blue, 1mm ²	1 roll
3	Electrical cable, I/C, PVC insulated, yellow/green stripes, 1mm ²	1 roll
4	20 mm PVC conduit	1
Equipment		
1	Control circuit set for fan coil	1 set
Tools		
1	Threading belt	1
2	Large screwdriver tester	1
3	Screwdriver, flathead	1
4	Screwdriver, crosshead	1
5	Combination plier, 150mm	1
6	Long-nose plier, 150mm	1
7	Plier, 150mm	1
8	Measuring tape, 3.6m	1
9	PVC conduit cutter	1
10	20mm spring	1
11	Multi-meter	1
12	Plier meter	1
13	Insulating tape	1 roll
14	Masking tape	1 roll
15	Oil-based marker	1
16	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