

071605T4MCT

MECHATRONICS TECHNOLOGY LEVEL 5

ENG/OS/MC/CR/05/5

Operate Pneumatic and Hydraulic Systems

July/August 2025



**TVET CURRICULUM DEVELOPMENT, ASSESSMENT AND CERTIFICATION
COUNCIL (TVET CDACC)**

PRACTICE ASSESSMENT

3 HOURS

INSTRUCTIONS TO CANDIDATE

- i. DO NOT write on the question paper.
- ii. DO NOT switch ON power without assessor's permission.
- iii. The assessor will assess your performance at critical points and may record your performance using audio-visual means.
- iv. You are required to have a name tag.

1. In this practical, you are required to perform the following tasks:

Task 1: Install a multi-cylinder electro-pneumatic combine delay control loop as per the schematic diagrams provided in **Figure 1** (electrical schematic diagram) and **Figure 2** (pneumatic schematic diagram).

Task 2: Operate the multi-cylinder electro-pneumatic combine delay control loop such that when button SB1 is pressed:

- a) Cylinder A extends to actuate the stroke valve and delays for a set time.
- b) Then Cylinder B extends to deactivate the microswitch.
- c) Cylinder A retracts, followed by Cylinder B retracting.
- d) The sequence in a, b, and c repeats.
- e) Both cylinders stop when button SB2 is pressed.

2. You have been provided with the following resources for the practical tasks:

- i. 1 DLYQ HP201 Pneumatic Station
- ii. 1 5/2 single solenoid valve
- iii. 1 Stroke valve
- iv. 1 Time delay valve
- v. 2 Double acting cylinder
- vi. 1 Service unit
- vii. 1 Manifold
- viii. 1 Four- distributor
- ix. 1 5/2 single pneumatic control valve
- x. 1 24V power module
- xi. 1 Button module
- xii. 1 Relay module
- xiii. 1 Micro switch module (Left)
- xiv. Enough Testing lead
- xv. Enough Air pipe
- xvi. Labelling stickers

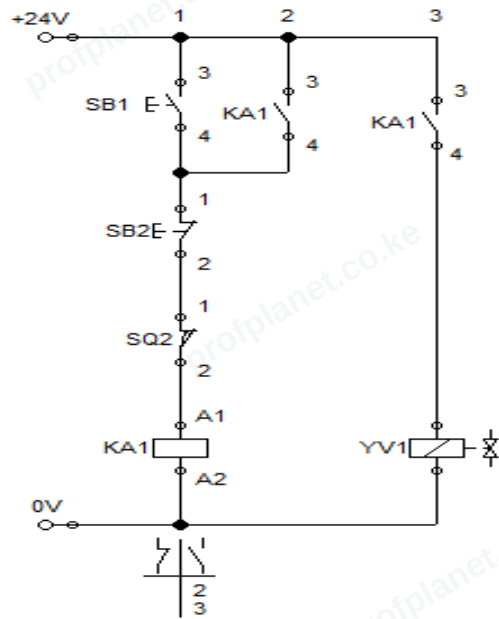


Figure 1: Electrical Schematic Diagram

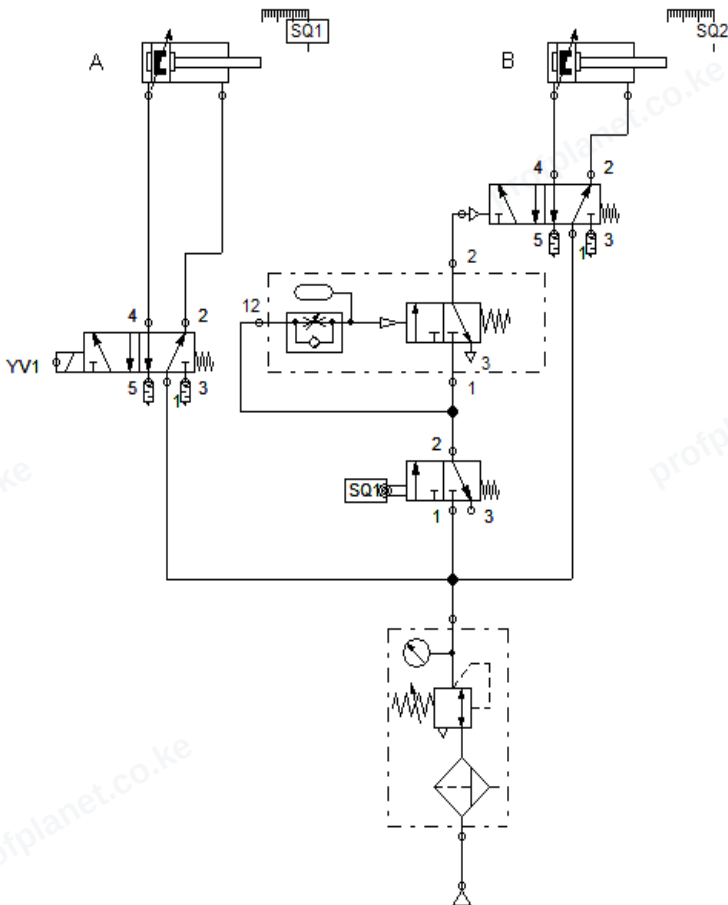


Figure 2: Pneumatic Schematic Diagram