

Pearson BTEC Levels 4 Higher Nationals in Engineering (RQF)

Unit 29: Electro, Pneumatic and Hydraulic Systems

Unit Workbook 2

in a series of 4 for this unit

Learning Outcome 2

Pneumatic and Hydraulic Notation and Symbols

INTRODUCTION

LO2 Identify the notation and symbols of pneumatic and hydraulic components

Performance of hydraulic and pneumatic components:

The use and importance of International Standards, including relative symbols and devices

Fluid power diagrams

Pneumatic and hydraulic critical equipment and their purpose

Circuit diagrams, component interaction and purpose

Dynamics of modern system use

Sample

Contents

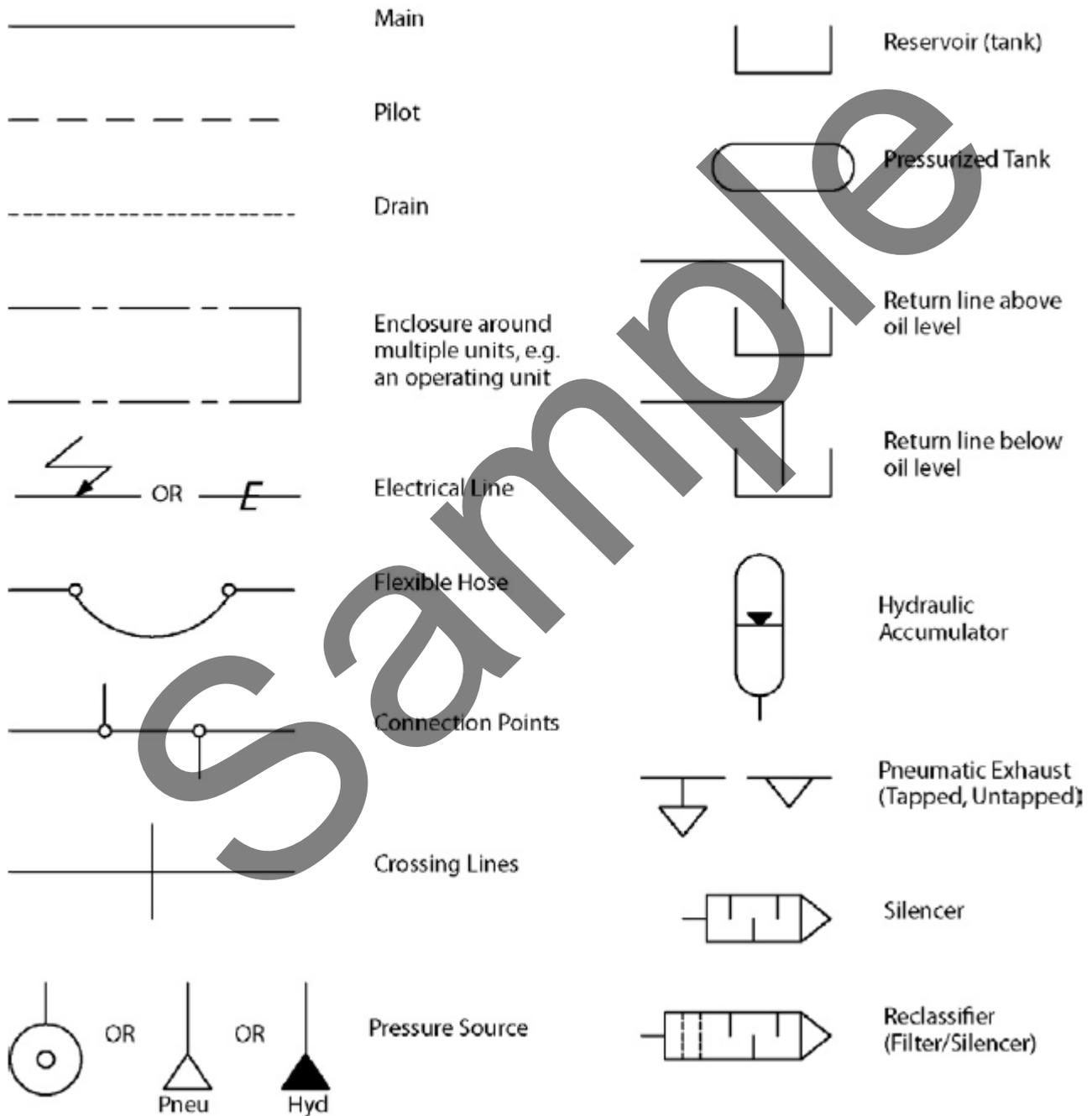
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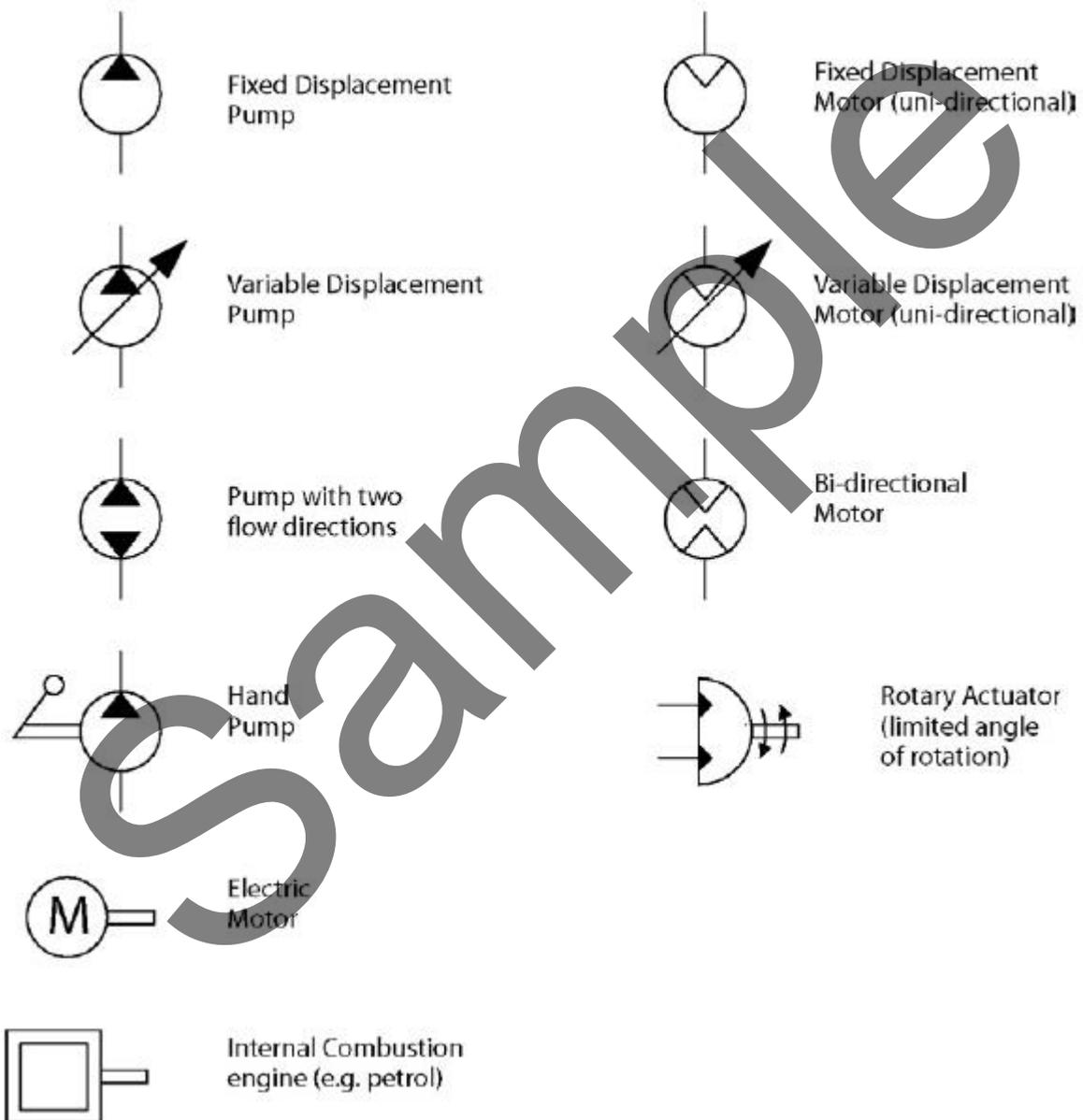
Sample

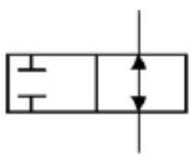
Performance of hydraulic and pneumatic components

Symbols

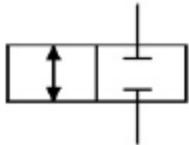
The symbols below correspond to the ISO 1219 international standard. Similar symbols are used for both pneumatics and hydraulics. Energy triangles may be found on pumps and motors, and these triangles are coloured black for hydraulic systems and clear for pneumatic systems.



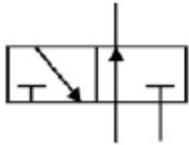




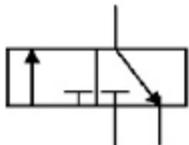
2 port, 2 position
Normally Open



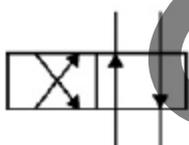
2 port, 2 position
Normally Closed



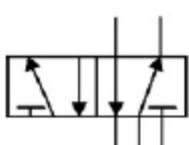
3 port, two position
Normally Open



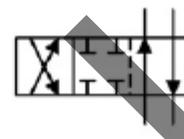
3 port, two position
Normally Closed



4 port, two position
Directional Control



5 port, two position
Directional Control



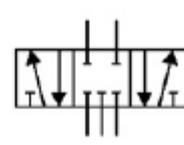
4 port, 2 position DCV
(all ports blocked)



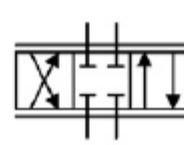
4 port, 3 position DCV
All ports blocked
in center



4 port, 3 position DCV
Pump unloads to tank
in center



5 port, 3 position DCV
all ports blocked
in center



4 port proportional
(throttling) DCV with
center off position