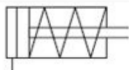
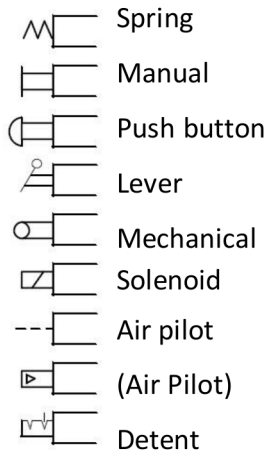


# Pneumatic systems

Kjartan Halvorsen

April 30, 2020

# Pneumatic elements



Simple acting cylinder, spring return



Double acting cylinder



Compressed air supply

# Valves

Nomenclature:

Number of ports

Possible positions

3 ports

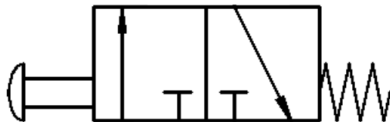
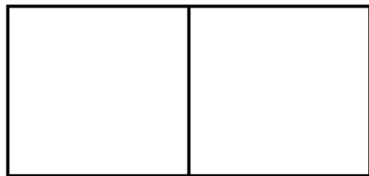
2 positions

3/2 valve

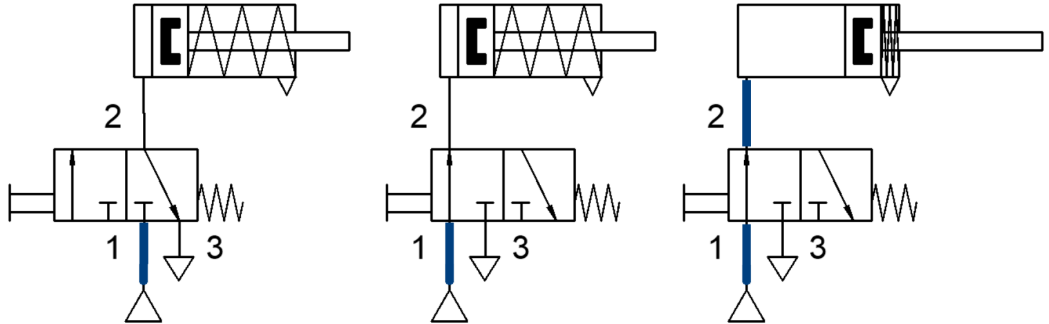
Normally closed

Spring return

Push-button activated

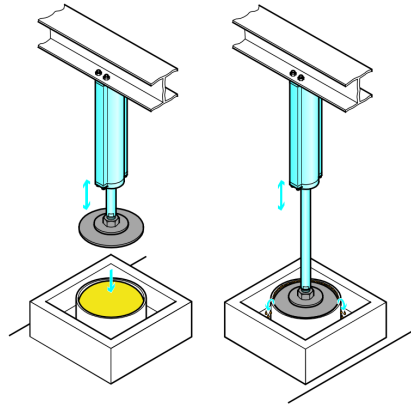


## Example - 3/2 valve with single acting cylinder



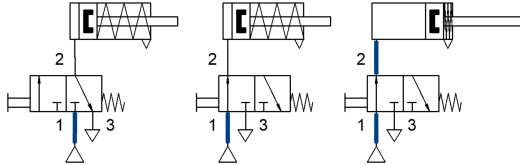
By José Solís

## Exercise - Pressing cheeses



From FESTO Didactic In cheese production a pneumatic cylinder is used to press cheese into a mold. Design and implement a logic control system for this process step.

## Activity 1 - Explain briefly (individual)

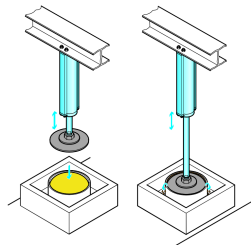


Answer each question with 2-4 sentences (send in chat directly to prof)

How does a 3/2 valve work?

How does a single-acting cylinder work?

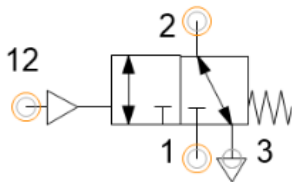
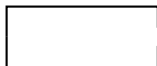
## Activity 2 - Complete diagram (group work)



From FESTO Didactic

The cylinder should initially be retracted. On the push of a button, it extends. The button causes compressed air to open a 3/2 valve, which in turn directs compressed air to a single-acting cylinder which then extends.

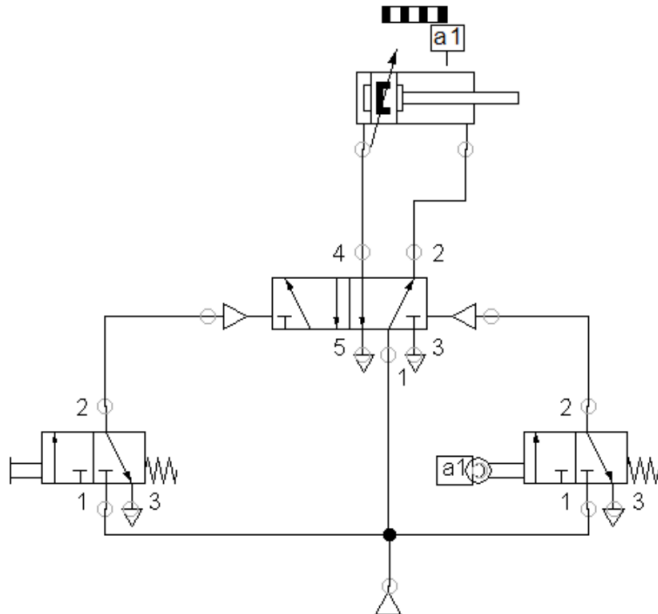
## Activity 2 - Diagram





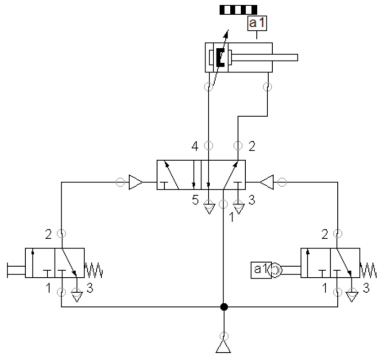


## Double-acting cylinder and the 5/2 valve



### Activity 3 - Explain briefly (individual)

Write 2-4 sentences (send in chat directly to prof)



## How does a 5/2 valve work?

## How does a double-acting cylinder work?