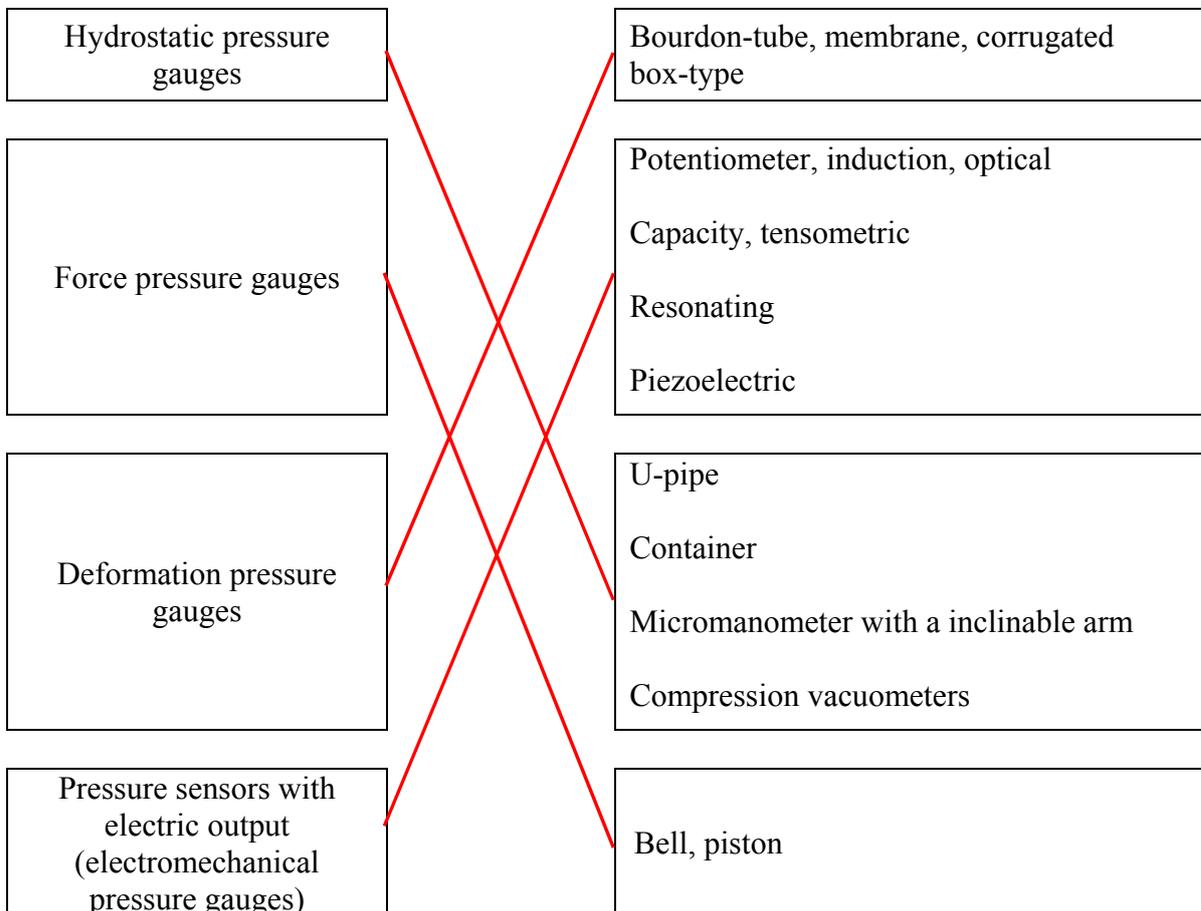


1. Choose the correct options: Sensors consist of

- Sensor transmitter
- HMI
- Measuring circuit and amplifier
- DCS
- Signal processing circuits
- Analogue to digital converter
- Communication circuit

2. Assign the terms from the left column to the corresponding ones on the right!



3. Complete the sentence!

(
~~Pitot Tubes~~
~~Section Gauges~~
~~Paddle Wheel Flow Meters~~
Piston Flow Meters) are the most accurate sensors used for flow metering.

4. Choose the correct option: Programming according to IEC/EN 61131-3 can use the following types:

IRL (Independent Relay Language)

X LD (Ladder Diagram)

PL (Pascal language)

X ST (Structured Text language)

X IL (Instruction List language)

X FBD (Function Block Diagram language)

5. Fill the correct elements in the corresponding blocks!

Frequency Converters are used
for **smooth control of
asynchronous motors**

Softstarters are used for **smooth
starting of asynchronous
motors**

6. Complete the sentences!

Control is a **process using a feedback to reach the desired objective.**

SCADA (Supervisory Control And Data Acquisition) **enables supervision, control, and archiving of events in technological processes.**

7. Explain the main types of systems

Hybrid systems – **are combination of logical and continuous systems**

Logical (binary) systems – **are systems which communicate with their neighbourhood through binary signals (yes/no or 1/0).**

8. Choose the correct option!

_____ **a** _____ – is the main characteristic of synchronous motor

- a) **Equality of rotor speed with magnetic stator field**
- b) Mutual electromagnetic influence of rotating magnetic field of rotors and stators
- c) Non-equality of rotor speed with magnetic stator field

_____ **b** _____ – are suited especially for high-force applications

- a) Asynchronous Motors
 - b) **Hydraulic actuators**
 - c) Pneumatic actuators
-

9. Complete the sentence!

Ultrasonic Flow Meters use $\left(\begin{array}{l} \text{semiconductor effect} \\ \text{Doppler effect} \\ \text{Aharonov-Bohm effect} \\ \text{Gibbons-Hawking effect} \end{array} \right)$ as the main principle for measurement.