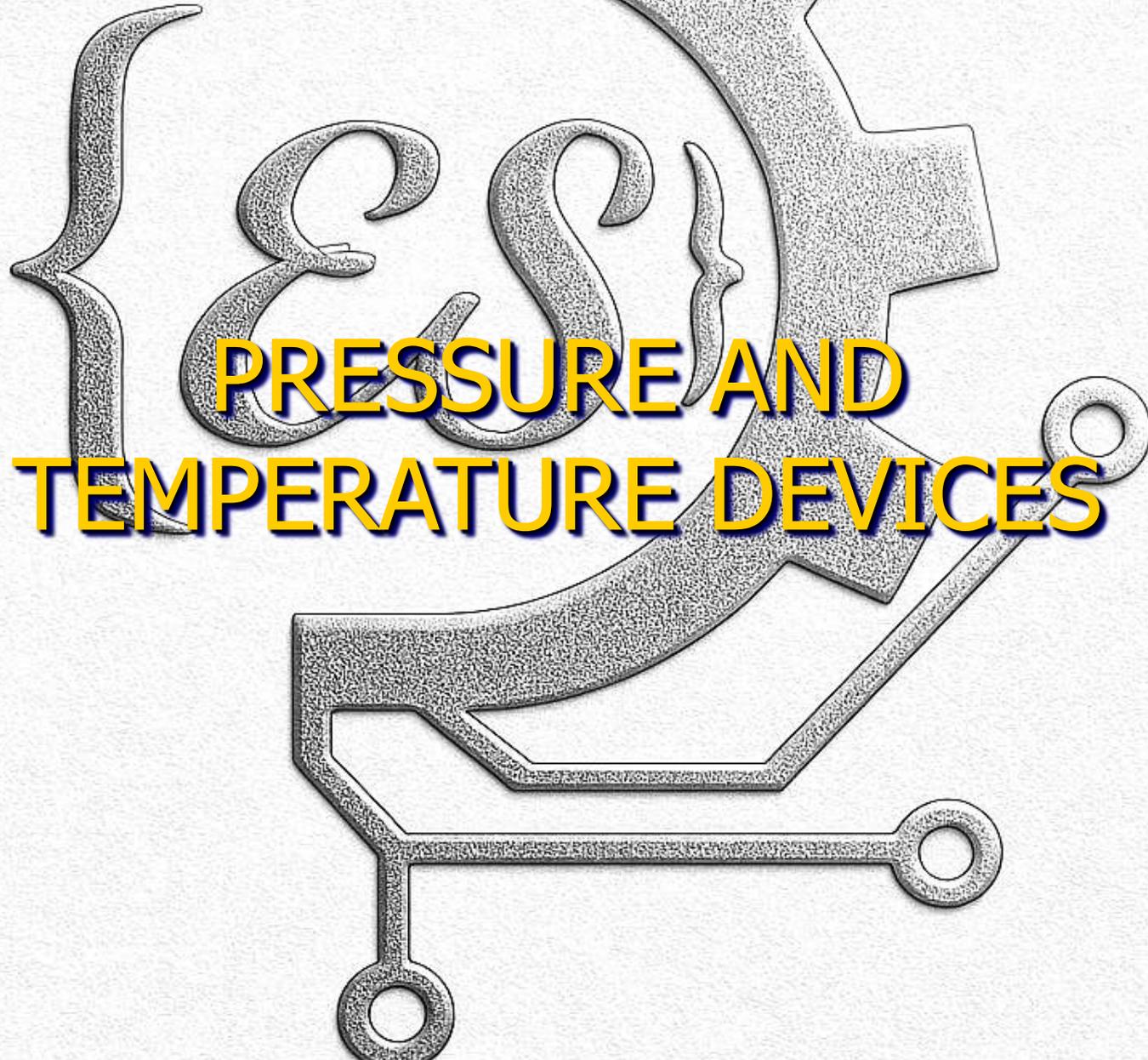
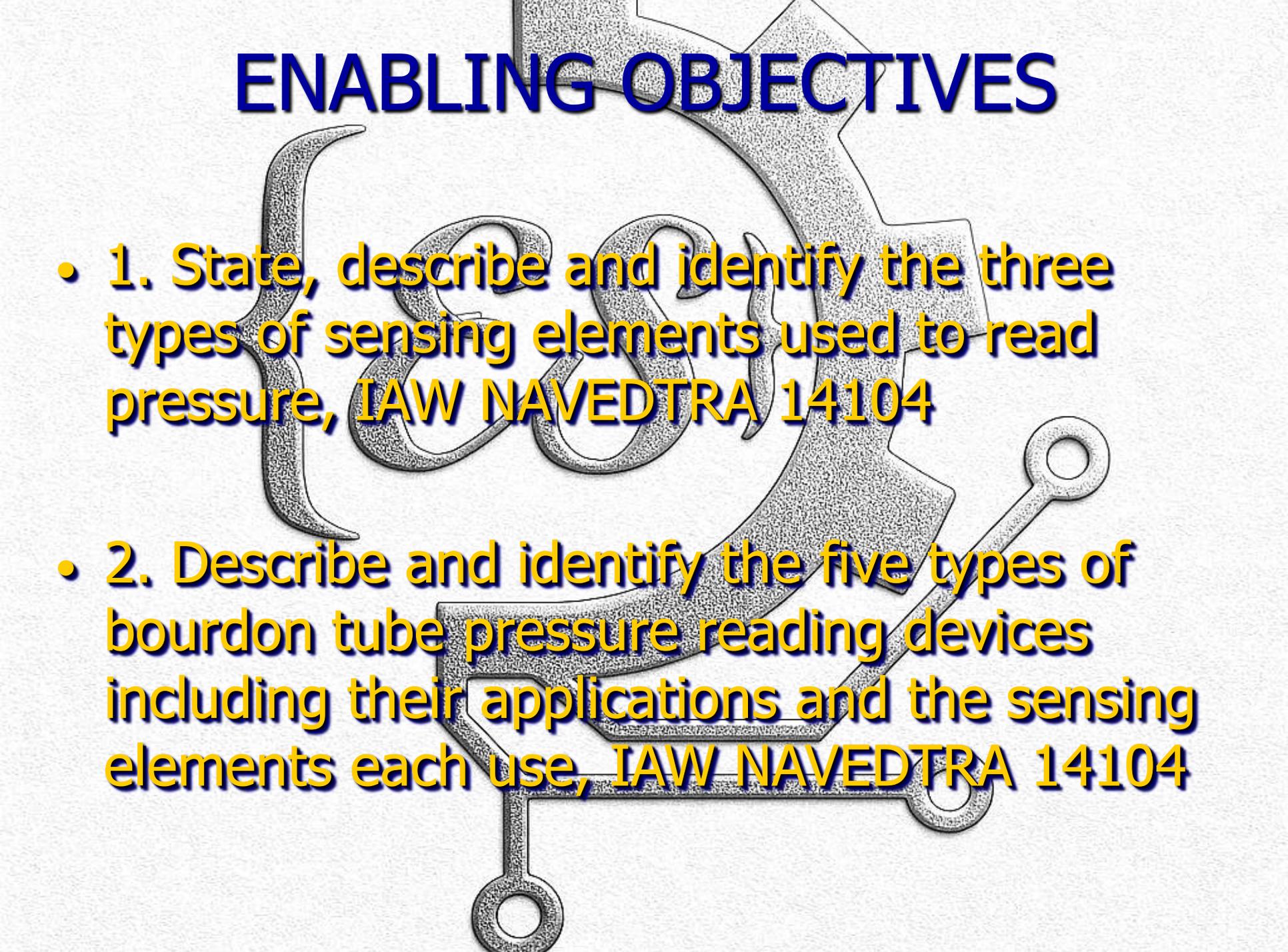


INSTRUMENTATION



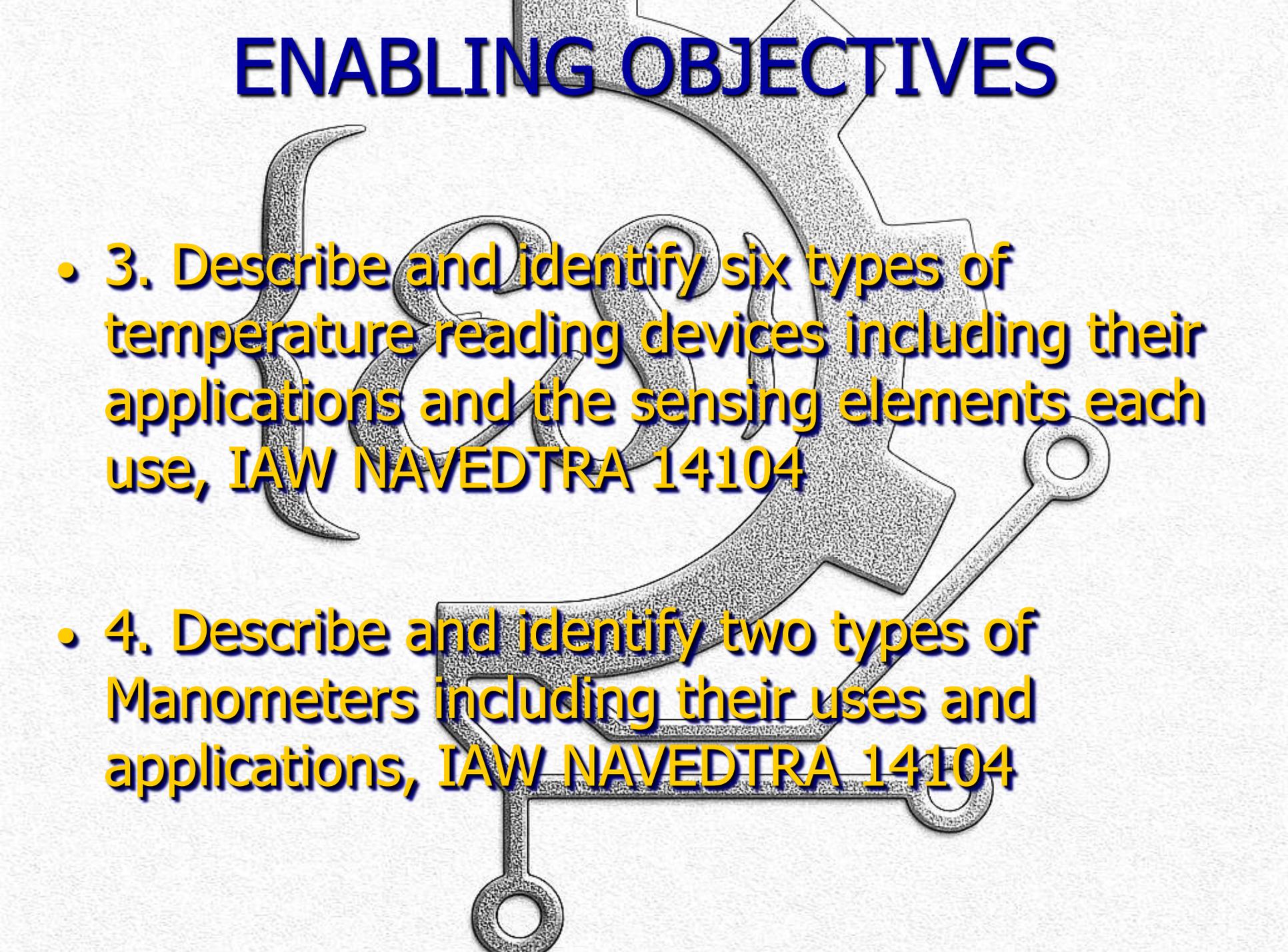
PRESSURE AND TEMPERATURE DEVICES

ENABLING OBJECTIVES

The background of the slide features a large, stylized, metallic-looking gear. Overlaid on the gear is a large, decorative letter 'E' that also has a metallic, textured appearance. The gear and 'E' are rendered in a light gray color with a fine, dotted texture.

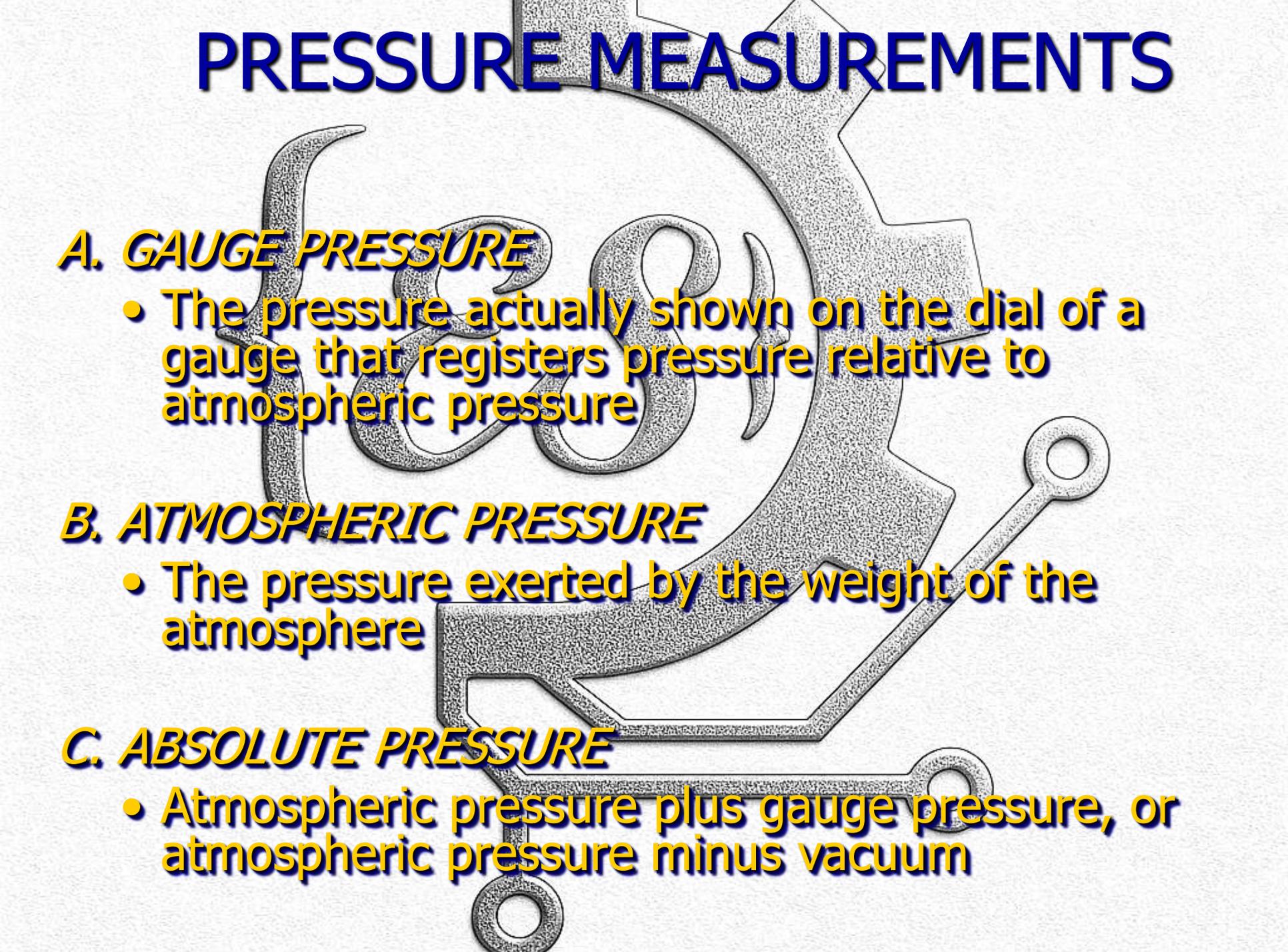
- 1. State, describe and identify the three types of sensing elements used to read pressure, IAW NAVEDTRA 14104
- 2. Describe and identify the five types of bourdon tube pressure reading devices including their applications and the sensing elements each use, IAW NAVEDTRA 14104

ENABLING OBJECTIVES



- 3. Describe and identify six types of temperature reading devices including their applications and the sensing elements each use, IAW NAVEDTRA 14104
- 4. Describe and identify two types of Manometers including their uses and applications, IAW NAVEDTRA 14104

PRESSURE MEASUREMENTS



A. GAUGE PRESSURE

- The pressure actually shown on the dial of a gauge that registers pressure relative to atmospheric pressure

B. ATMOSPHERIC PRESSURE

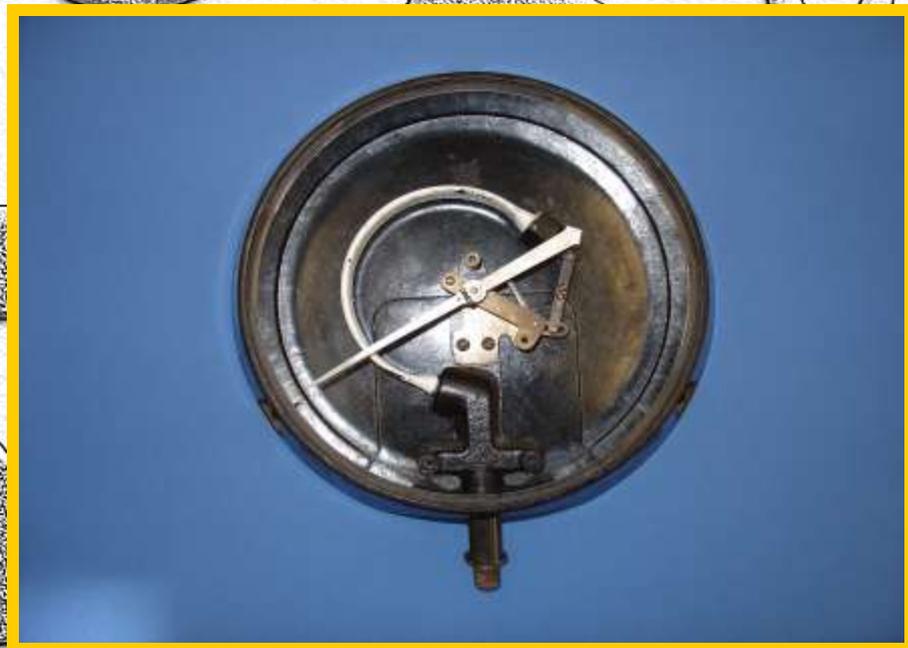
- The pressure exerted by the weight of the atmosphere

C. ABSOLUTE PRESSURE

- Atmospheric pressure plus gauge pressure, or atmospheric pressure minus vacuum

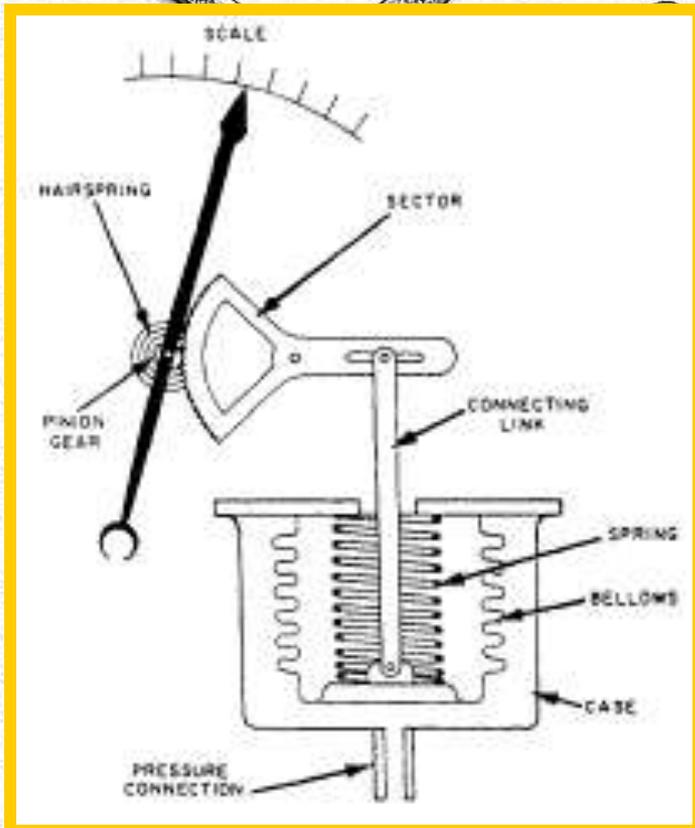
SENSING ELEMENTS

1. C-TYPE BOURDON TUBE



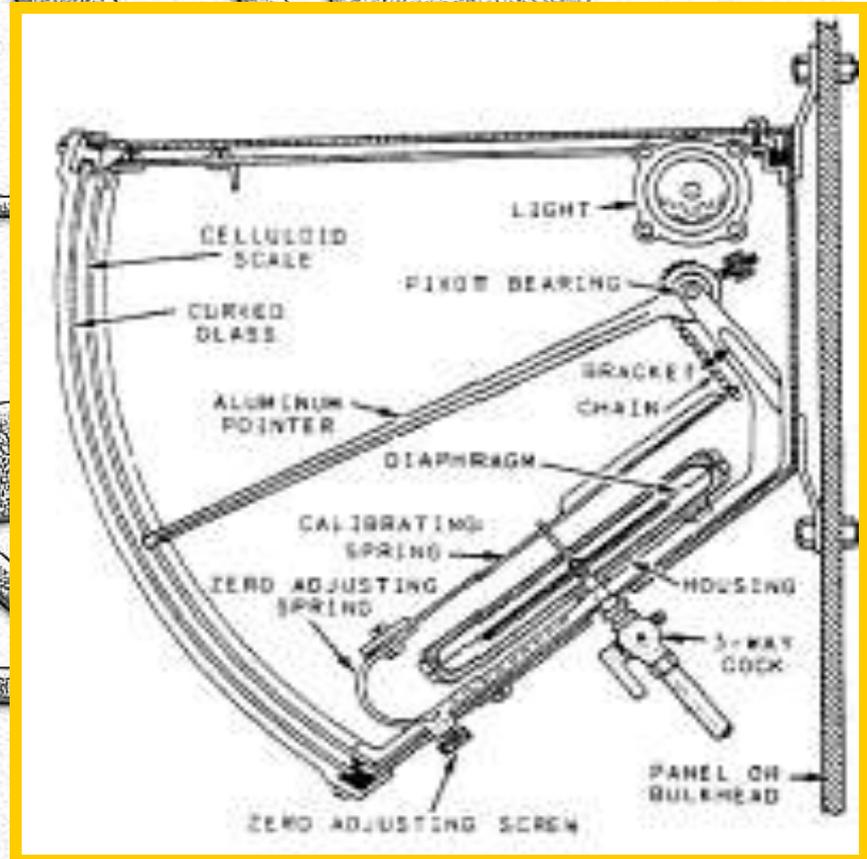
SENSING ELEMENTS

2. BELLOWS



SENSING ELEMENTS

3. DIAPHRAGM



BOURDON TUBE APPLICATIONS

1. SIMPLEX GAUGE



BOURDON TUBE APPLICATIONS

2. VACUUM GAUGE

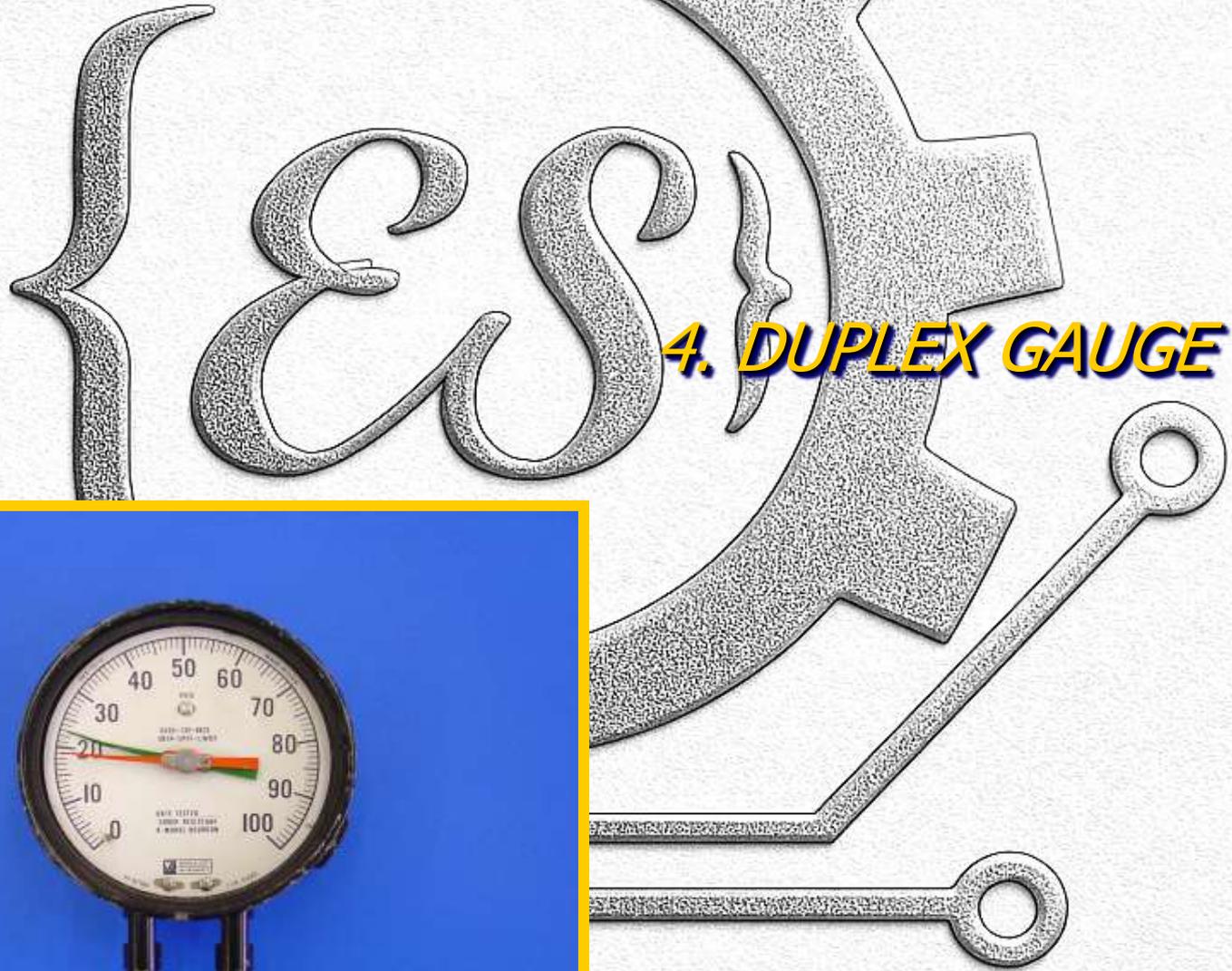


BOURDON TUBE APPLICATIONS

3. COMPOUND GAUGE



BOURDON TUBE APPLICATIONS



4. DUPLEX GAUGE



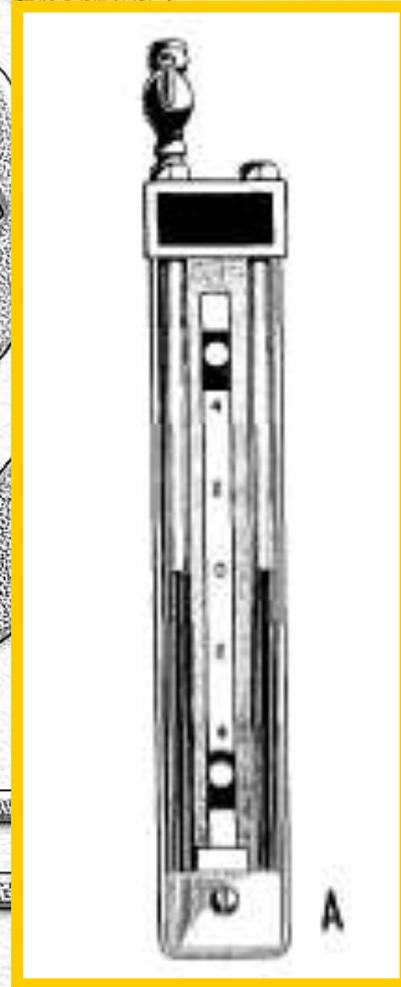
BOURDON TUBE APPLICATIONS

5. DIFFERENTIAL GAUGE



MANOMETERS

1. U-TUBE MANOMETER



MANOMETERS



2. INCLINED TUBE MANOMETER

TEMPERATURE DEVICES

1. LIQUID IN GLASS THERMOMETER



TEMPERATURE DEVICES

2. WELL TYPE LIQUID IN GLASS THERMOMETER



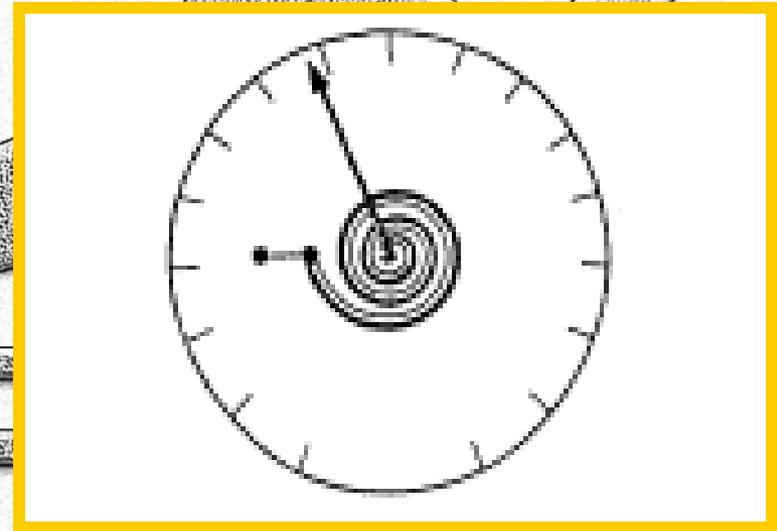
TEMPERATURE DEVICES



3. DISTANT READING THERMOMETER

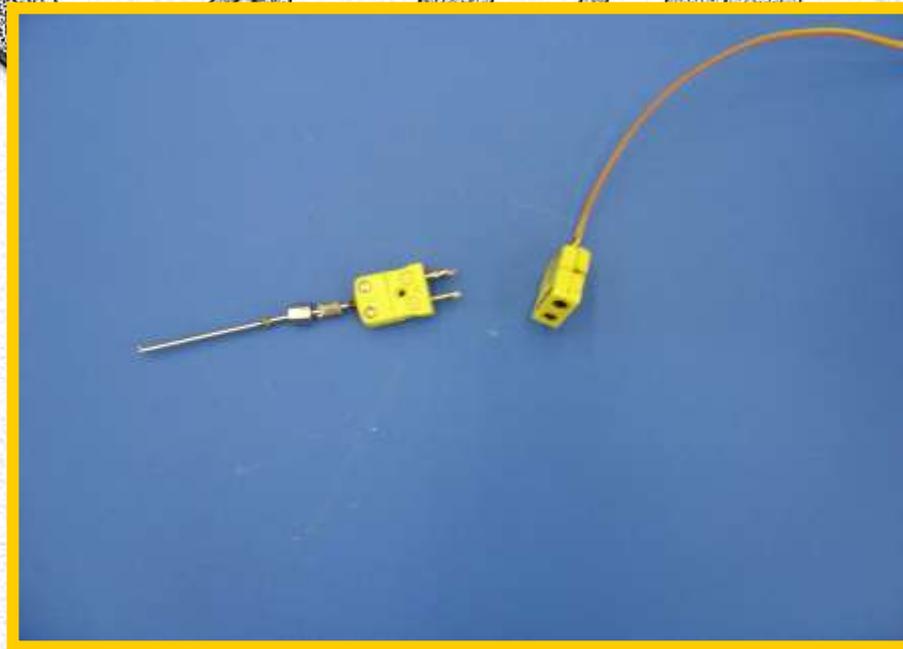
TEMPERATURE DEVICES

4. *BIMETALLIC EXPANSION THERMOMETER*



TEMPERATURE DEVICES

5. PYROMETER



TEMPERATURE DEVICES

6. RESISTANCE TEMPERATURE DETECTOR

