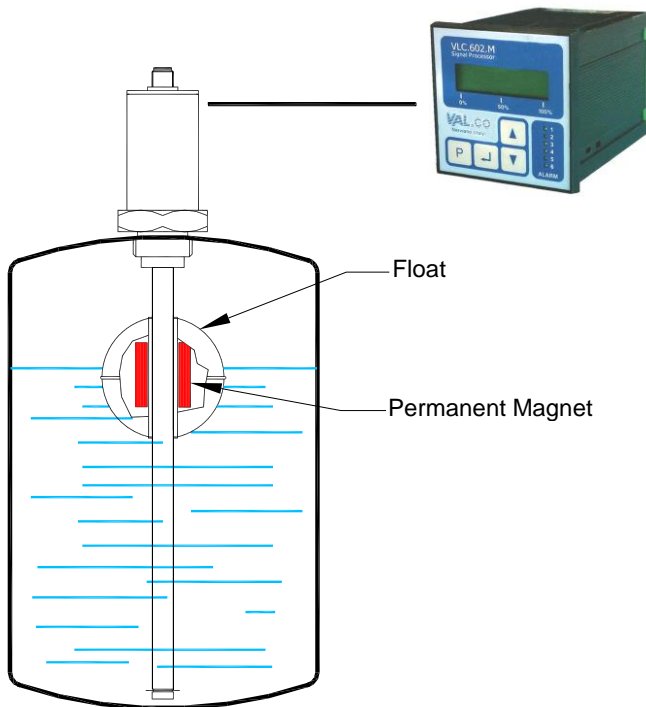


TECHNOLOGY



Theory

The magnetostriction is a physical phenomenon that occurs in ferromagnetic materials such as nickel, cobalt and their alloys. It consists in the mechanical deformation of a magnetostrictive element when it is magnetized or it is varied its magnetization.

Physical principle

The application of the **magnetostrictive** effect in industrial applications, are based on the principle called Wiedemann effect:

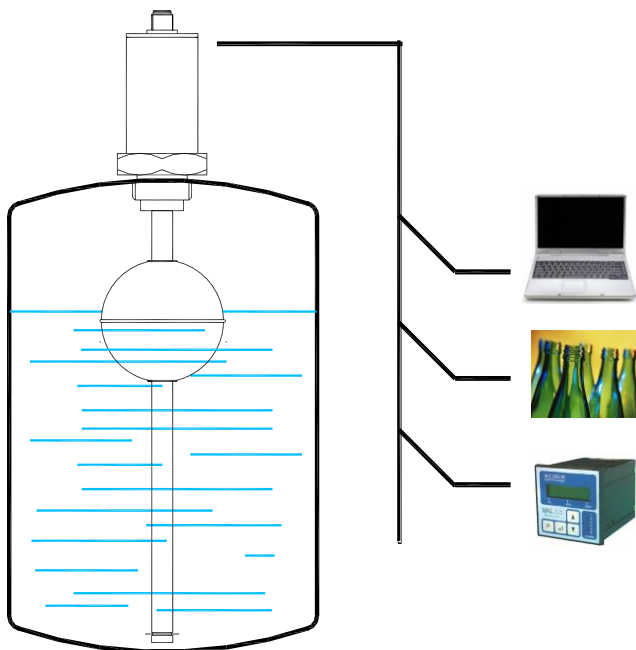
sending an electrical current pulse in a waveguide of magnetostrictive material, generates a circular magnetic field around it.

Along the waveguide is positioned a permanent magnet that generates a magnetic field, perpendicular to the first.

at the exact meeting point between the two magnetic fields, a mechanical wave is generated in the waveguide, due to the magnetostrictive torsional deformation.

This wave is propagated in the waveguide at the sound speed, characteristic of the magnetostrictive material.

APPLICATIONS AND FIELDS OF USE



- Accurate and continuous monitoring of the level, insensitive to: presence of foam, variations of dielectric properties, and conductivity of the fluid.
- Remote transmission of the level state through current and voltage signals.
- Linear measurement of the level, independent of the shape of the tank.
- Centralized storage plants.
- Control of drinking water and fuel on boats.
- Centralized lubrication systems.
- Water treatment plants.

ADVANTAGES

- Accurate and continuous level monitoring.
- Sizing of the instrument according to customer requirements.
- Maintenance free.

