I to P Converter

- Is a field mounted instrument that is used to convert an electrical signal into a pneumatic signal

  pneumatic signal (air pressure signal)

- Pneumatic signal is used to open or close the pneumatic control valve.

Working Principle of I to P Converters

- Works on the principle of electromagnetic force balance

  Electric Current → Force → Pressure

- Using Nozzle flapper system Arrangement

Working Principle of Nozzle Flapper System

- Includes flapper, nozzle and a permanent magnet with a coil.
- Flapper is pivoted in one end and free at the other hand to has some degree of flexibility to move up and down.
- Ferromagnetic material is attached at the end of the flapper
- There is a gap between the nozzle and flapper to allow air pass through the nozzle.
- Air regulator regulates the air pressure to 15psi
- Current from controller passes through the coil wound around permanent magnet and produce magnetic field
- Electromagnet attract ferromagnetic material attached at free end of flapper and cause flapper moves toward the coil.
- Therefore, the gap at nozzle become smaller so less air pass through the nozzle end. Most of pressure move out from the end of opposite of the nozzle.