The following accessories are used in a typical Air compression system:

- Air Pre filter
- After Cooler
- Air Receiver
- Air Drying system: Adsorption type, Absorption type, Refrigeration type or using semi permeable membranes

Commonly Adsorption Driers are for used for large air flow capacities and for dew point up to –40 deg C
Air Receiver

Compressed Air Receiver is the most important accessory of air compression system from the point of storage of energy. Horizontal or Vertical Receivers can be used depending on available floor space. Air receivers should be equipped with delivery line, Safety valve, Drain cock, Pressure gauge. Drain connection located at the bottom of the Receiver is very important as the condensate collected in the Receiver should be periodically drained either manually or automatically.

Compressed Air Filter

In compressed air filter, dust and moisture are arrested outside the filter element as the air flows from outside to inside. Available in various grades from 100 to 2 microns Usually porous sintered bronze or ceramic filter elements are used. Denser water particles which is collected on the outer surface of the filter element, gets separated due to gravity and collects in the transparent bowl. This is periodically drained with the help of manual drain cock or automatic drain arrangement.

![Compressed Air Filter](image)

Figure 10.9 Compressed Air Filter

Maintenance of Filters

Care should be taken to see that the condensate level is always below the filter element so that re-entrainment of water in compressed air does not occur.
Periodically the pressure drop across the filter should be monitored to check excessive clogging of filter pores by dust. Some design of filters are provided with visual indicator which indicates permissible contamination. When the indicator show red signal, it is high time that the filter element is cleaned or replaced. Filter element is often cleaned with kerosene or soap water and compressed is air blown in the opposite direction to purge out the dust clinging to the pores.

**Compressed Air Regulator**

The Compressed Air Regulator serves two functions. The main function of the compressed air pressure regulator is to maintain constant down stream pressure in the air line, irrespective of variation of upstream pressure. In Vent type Regulators, if there is sudden surge or rise in pressure on the down stream side of the Regulator [ may be due to sudden closure of valves], the equipment is safe guarded from excess pressure by venting out the air through vent holes in the Pressure Regulator.