Types of convey air compressors

Roots type blower

- high volumes -/- 900 m^3/min
- pressure 0,5 -/- 1,0 bar
- vacuum 0,5 -/- 0,6 bar
  -/- ,85 bar (with pre inlets)
- oil free
- isochoric compression (high power demand for high pressure ratio)
- mainly used in low vacuum installations (low energy consumption per ton due to the efficiency of the pneumatic system and the low power demand at partial load)
- used in high vacuum installations with pre inlets

Screwcompressor

- volumes -/- 250 m^3/min
- pressure -/- 3,5 bar
- vacuum -/- 0,7 bar
  -/- ,85 bar (with pre inlets)
- oil free
- internal adiabatic compression followed by isochoric expansion or compression
- used in high vacuum installations with pre inlets
- mainly used in pressure discharge systems

Oil-filled screw compressor

- volumes -/- 100 m^3/min
- pressure -/- 6,0 bar -/- 10 bar
- vacuum -/- not used
- not oil free
- oil separators
- inlet closes at set minimum and maximum discharge pressure
- internal adiabatic compression followed by throttled expansion or isochoric compression
- used in pressure discharge systems with pressure reducer.
- rental units available as replacement for a broken compressor or as additional booster.

Vane compressor

- volumes -/- 100 m^3/min
- pressure -/- 2,5 bar
- vacuum -/- 0,6 bar
- not oil free
- oil lubricated vanes
- inlet closes at set maximum discharge pressure
- internal adiabatic/isothermic compression followed by isochoric expansion or compression
- used in vacuum systems
- used in pressure discharge systems.

Piston compressors

- volumes -/- 80 m^3/min (double acting)
- pressure -/- 4,0 bar (single stage)
- vacuum -/- 0,65 bar
- not oil free
- lubricated pistons
- inlet closes at set maximum discharge pressure
- internal adiabatic/isothermic compression to delivery pressure
- used in pressure discharge systems.
- low power demand.

Turbo compressors

- volumes -/- 750 m^3/min
- pressure -/- 5,0 bar
- vacuum -/- 0,5 bar
- oil free
- diffuser vane control
- internal adiabatic compression
- used in low vacuum systems
- used in pressure discharge systems.
- complicated installation
- high energy demand
- expensive.

Water-ring compressor

- volumes -/- 200 m^3/min
- vacuum -/- 0,75 bar
- moisture to atmosphere
- internal adiabatic compression
- used in vacuum systems
- auxiliary equipment : water pump
- very high energy demand over full range.

Centrifugal fans

- volumes -/- 200 m^3/min
- vacuum -/- 500 mbar
- pressure -/- 500 mbar
- internal adiabatic compression
- used in low vacuum systems
- used in low pressure systems
- air volume varies with pressure ratio (unstable pneumatic conveying)