

Summary of study: Air compressor in a foundry unit: Unit - 4

Industry : Foundry (Investment Casting)

Unit profile : A foundry located in Rajkot (Gujarat) engaged in production of precision steel and alloy castings

Technology :

- Inverter type screw compressor
- Operating practice improvements



Application : Energy savings in compressed air system

Year of investigation : 2012

Key features:

- Adopting inverter type compressors (30 kW and 22 kW) in place existing screw compressors
- Improvement of compressed air piping networks
- Reduction of leakages

Energy and cost saving:

Details	Existing	Recommended
Compressed air system	30 kW X 1 + 22 kW X 1 unit (Screw compressors)	30 kW X 1 + 22 kW X 1 unit (Inverter type)
Input power (kW)	61.0	37.6
Power savings (%)		22
Energy saving (kWh/yr)		96,624
Energy cost saving (Rs/year)		628,056 (@ Rs 6.50 per kWh)
CO ₂ reductions (tonnes/yr)		89

Note:

This report is an example for investigating the potential of application of Japanese low carbon technology (LCT) in Indian industries. Adoption of energy efficient technologies and practices can generate greater benefits in compressed air applications in industries.