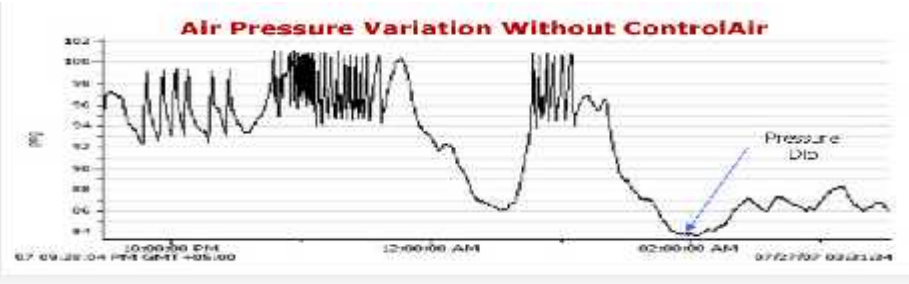
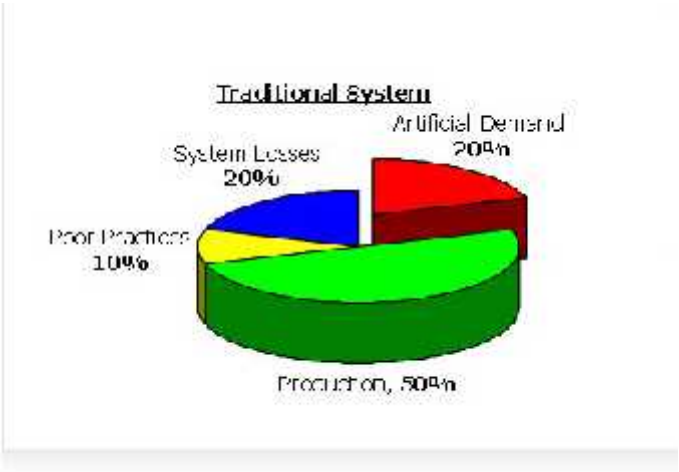
Intervening Technique	Reducing Fluctuating Compressed Air Demand
Description	Plant is operating various air compressors for process application, while 2 nos, air compressors of 75 kW rated power and 484 CFM free air delivery capacity each were operating for instrumentation air purpose. Industry usually have problem of fluctuating air pressure. This is caused by intermittent use of several pneumatic equipments. It begins with sudden air demand pulling down pressure at the point of use. The only way for the Air Compressors to know about it, is when it travels to upstream through distribution network. The capacity control mechanism of the Air Compressor in the form of Load/Unload or VSD then starts delivering compressed air in the system. Practically it takes a while for the entire air system to fill up to the required pressure.  • This lag in response time between demand & supply, force the Compressor operators to maintain higher level of pressure in the air system to sustain a sudden demand. Thus more Compressors are needed to meet the artificial demand along with real air demand. This causes wastage of

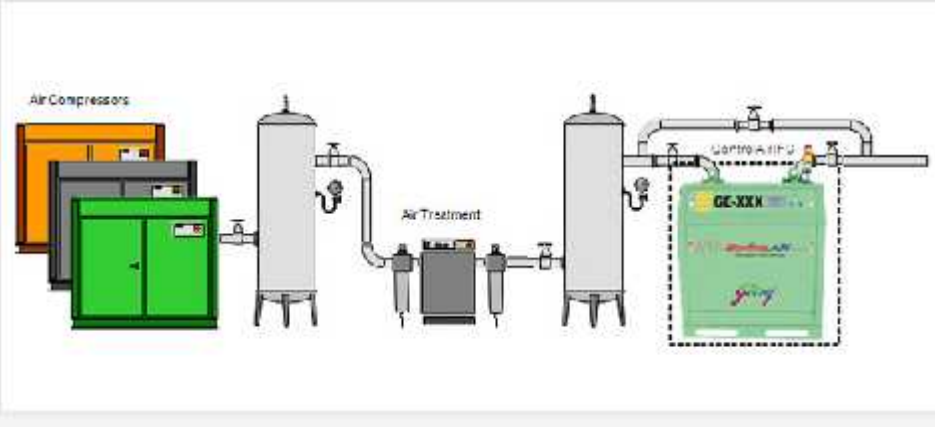
compressed air & leads to an energy inefficient system. This translates into high energy bills. Isn't it time, you controlled the cost of energy for your Air Compressors?

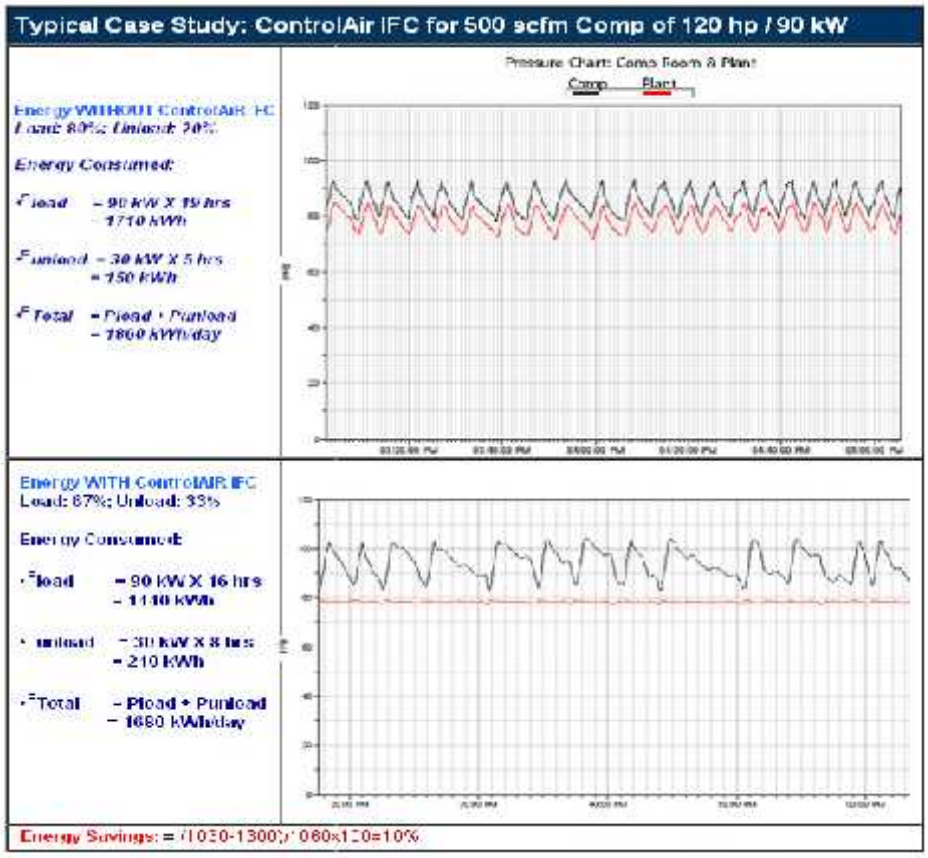


Benefits of Control Air IFC System:

- Constant Air Pressure throughout the plant
- Artificial Demand Reduction
- Reduced Compressed Air leaks
- Satisfy Peak Demand with Useful Storage
- Improved product quality
- Increased productivity
- Reduction in Comps operating & maintenance costs
- 80% depreciation under prevailing income tax laws in India
- Payback between 7 to 22 months

- The Control Air IFC is designed to operate at the intermediate point of the compressed air system; i.e. on the downstream of Dryers / Receivers & upstream of the main piping distribution system. Control Air IFC creates useful storage which isolates Compressors from demand side peaks & troughs to provide a stable air supply at optimum pressure. It monitors demand side rate of change of pressure & releases only required amount of storage air to satisfy the peak demands instead of starting additional Compressors. Thus energy is saved through reduction in mass of air & reduction in load period of Compressors.





- Thus, it is suggested to install the Control Air system for instrumentation air supply, this will save approximately 10 % of electricity consumption by air compressor.

Benefit	
Environmental	• Reduction in Greenhouse Gas (CO_2) emission
Economical	Investment: Rs. 6,00,000/- Annual Savings: Rs. 4,97,000/- per annum Payback Period: 15 months