CHELYABINSK
CHKZ COMPRESSOR PLANT

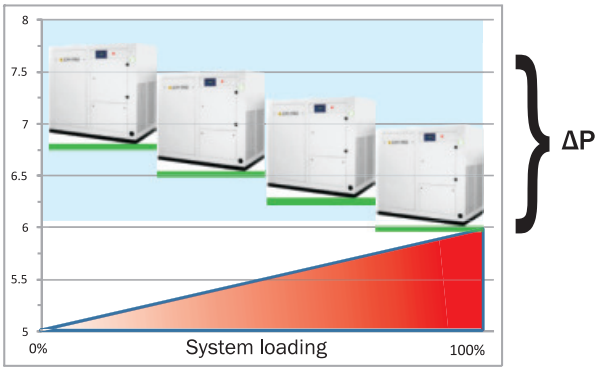
## Energy Saving due to Air Compression Control


**«Chelyabinsk Compressor Plant» CJSC offers «METACENTRE» controllers (CMC, Belgium), which are designed especially for compressor groups control.**

### Possible saving due to following factors:

- Compressor station efficiency and energy consumption conform to current compressed air consumption;
- Pressure fluctuation range is minimized, average pressure is lowered;
- Adaptive control system: fixation of switching (Start/Stop) losses, adjustment losses (idling and emergency losses) and pressure changes (exceeding of required pressure), optimization of these factors and energy consumption minimization, coordination of compressors operationare fixed;
- The leakages during stops are prevented.

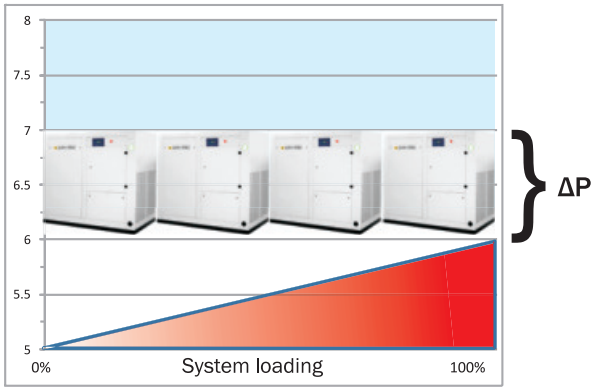
Cascading system




### Compressors group pressure control technology

Traditional cascading control scheme causes range increase between compressor load pressure and relief pressure (P), which results in pressure range increase, which overload the net. If the working pressure increases by 1 bar (1kgs/cm$^2$), energy consumption increases additionally by 7%. When the compressors group is controlled by «METACENTRE», the value P decreases

Metacentre control




**Calculation example:**

**For system consisting of 4 compressors, power 132kW, the energy saving is 132kW*4*0,07 = 37kW-hour**

**If the compressor station is loaded for 80% during a day, up to 710 kW-hour or $1960 per month can be saved.**

**METACENTRE provides the supply of required compressed air quantity at minimum energy cost. It saves up to 25% energy in comparison with traditional cascading compressor stations control systems.**