Celeroton

Turbo up your cryo-loop

# Expanders and compressors for cryogenics


## Celeroton solution

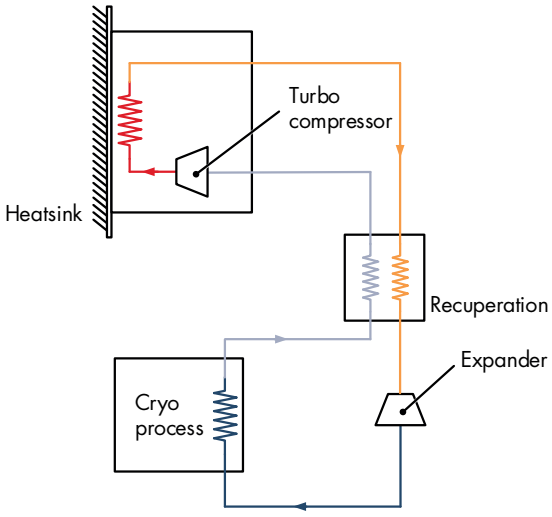
Expanders and compressors with control electronics for cryogenic applications:

- Lowest extra premium due to highest efficiency
- Wide operating and start/stop temperature range – from ambient down to 20 K and less
- Restart capability at cryogenic temperatures
- Compatible with helium, neon and other rare and non-rare gases
- Vacuum compatible
- Helium leak-tight
- No rotating seals – oil-free by design
- Contamination-free – Minimal wetted surfaces and materials
- Reliable – maintenance-free for years
- Robust – several 100,000 start/stop cycles
- Lowest vibration emissions

## Application: Turbo Brayton cycle

With the turbo compressor the operating fluid is compressed before it is cooled to a desired level and afterwards expanded and therefore cooled in the turbine / expander.

Rethinking cryo solutions: Instead of using one common shaft for compressor and turbine with the drawback of thermal coupling, two separate units for compressor and turbine add additional degrees of freedom: flexibility for control, integration in the cryogenic process and energy recovery to the electric grid.

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