

# Thermal energy recovery in air compressors using ORC

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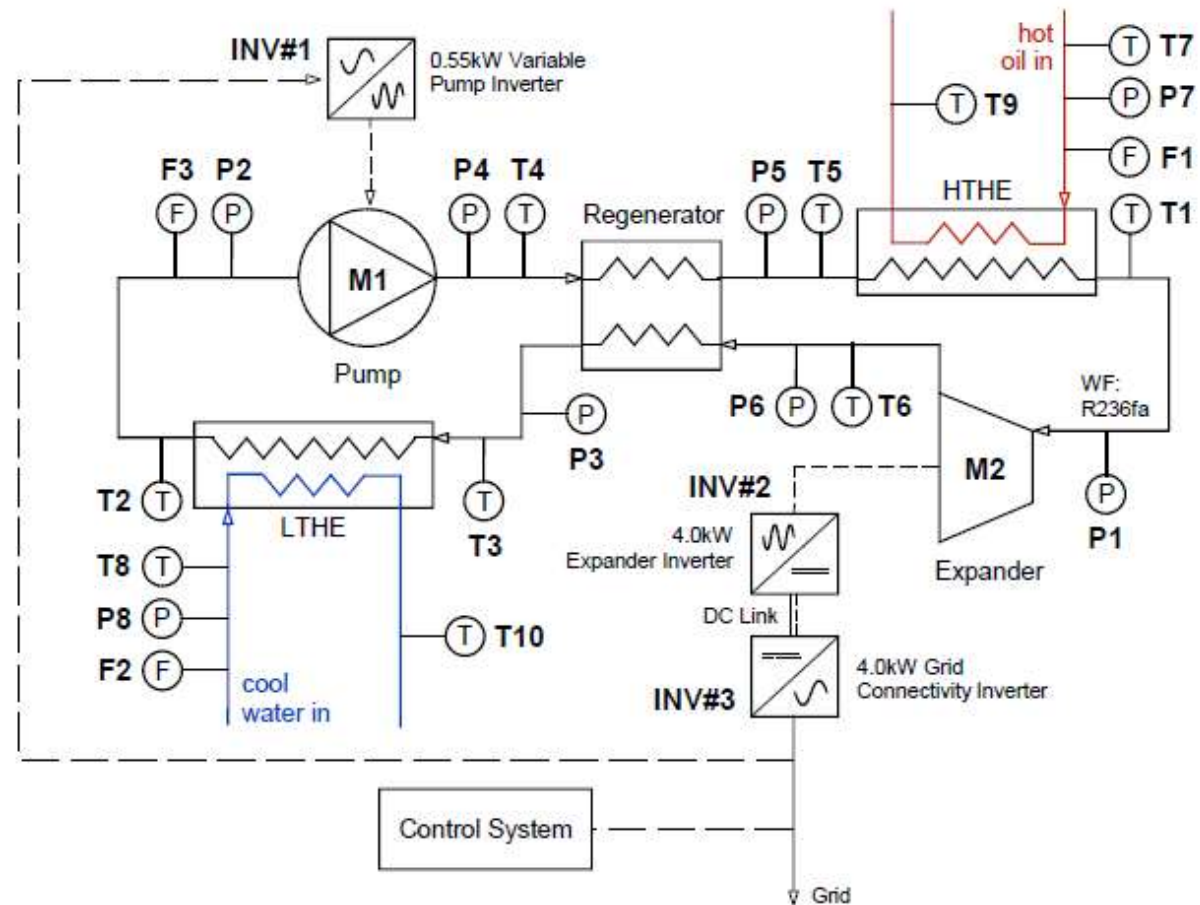
# 3kW Water-cooled Xpander

- Mattei Blade expander and pump
- Working Fluid (WF) – R236fa
- Oil temperature – 80-100°C
- Oil flow rate – up to 160l/min
- Cooling water temperature – 15-17°C
- Cooling water rate – 50l/min
- Magnetic couplings
- Electrical power output – 2.5-4.5kW
- Compliant with EN 50438:2013

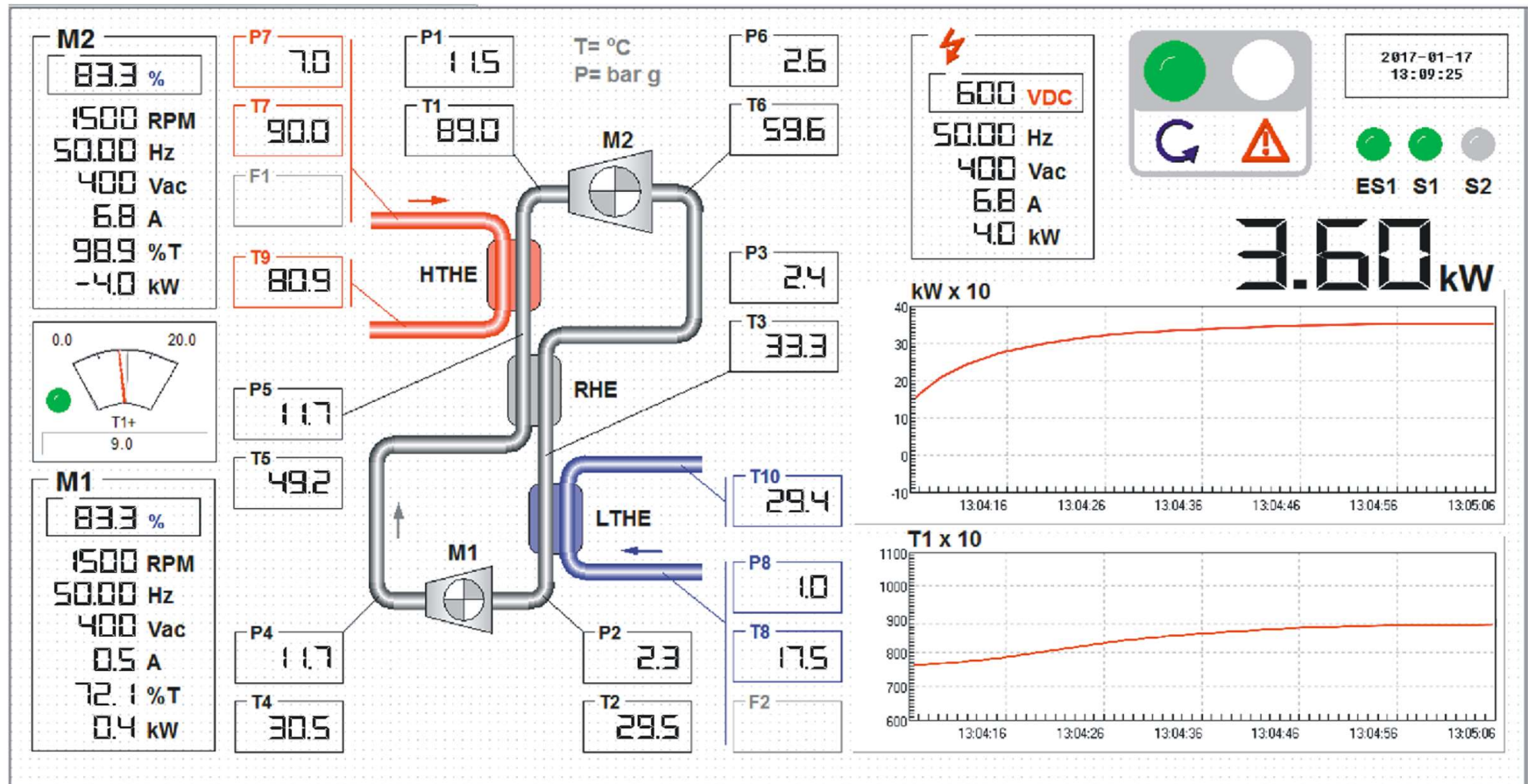


# Xpander. Test Rig Configuration

- INV –inverters
- M – electrical motors/generators
- F – flow sensor
- P – pressure sensor
- T – temperature sensor



# Xpander. Test Rig Scada Interface



## Xpander. Further Development

- Model rescaling based on analysis of the test results
- Development of control system for the industrial prototype
- Test run at the customer industrial sites with real life data acquisition
- Tweaking the control system for the industrial units
- Higher power range of Xpanders (5-10kW)
- Air-cooled Xpanders