

Cooling with Liquid Nitrogen

For demanding cooling applications the TURBOMATIC heating plant can be equipped with a liquid nitrogen (LIN) option. LIN will be utilized for cooling both aggregates and water enabling production of temperature controlled concrete.

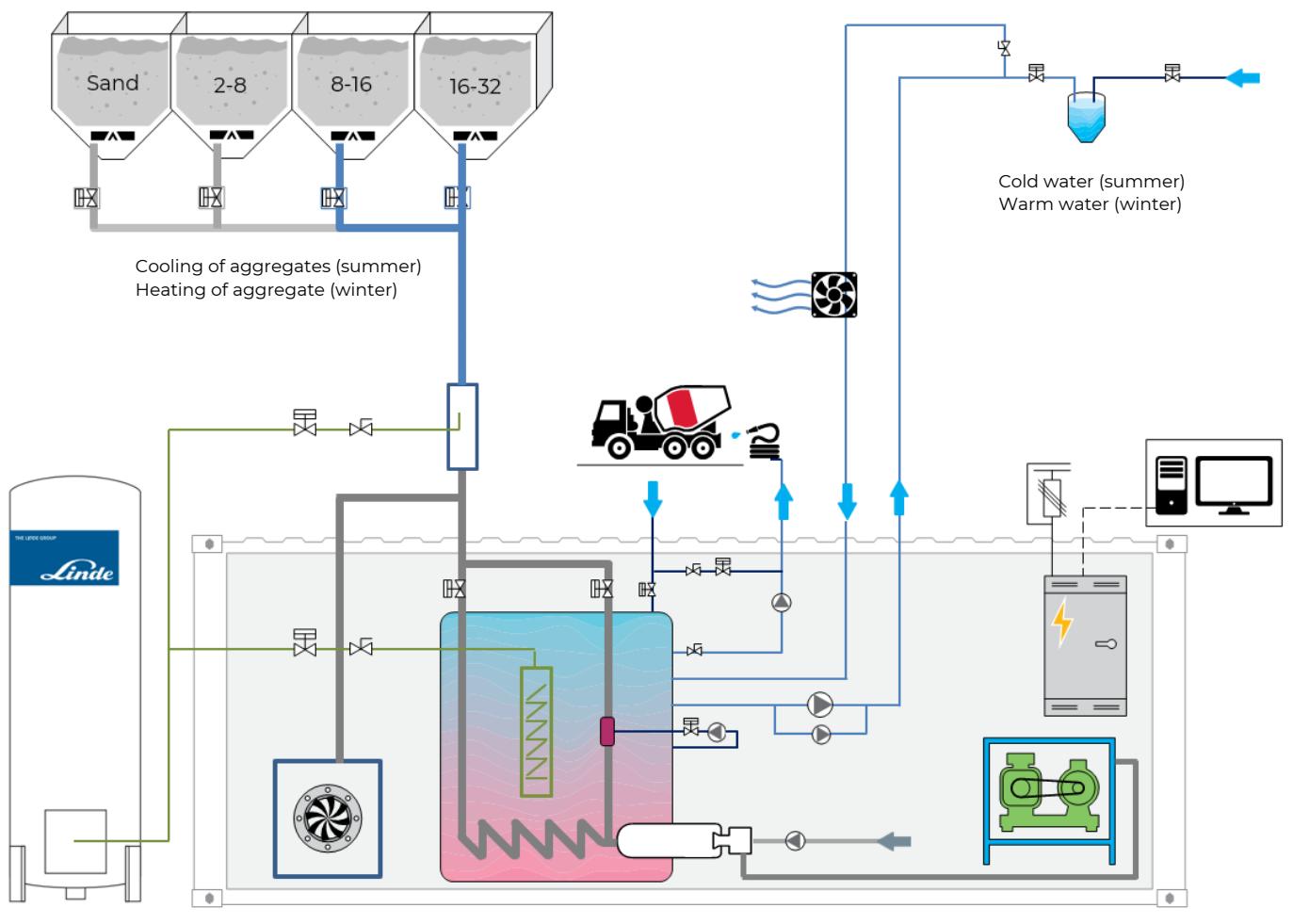
Aggregate cooling is realized by injecting LIN into the pipelines which are led to the aggregate bins, in order to cool the aggregates to the desired temperature.

For water cooling, a LIN heat exchanger is installed inside the water tank generating cold water for the concrete mixing process during the hot summer months.

When combined with TURBOMATIC heating unit for temperature control throughout the year, TURBOMATIC heating plant produces hot water and delivers Turbogas through the same pipelines used for cooling in summer to heat the aggregates.

Benefits

- SUPERIOR ENERGY EFFICIENCY:** Cooling results achieved fast and with 50-80% less LIN
- Water and aggregate cooling
- Flexible temperature control
- One stop solution with Linde as partner
- Low investment cost
- Easy integration into Polarmatic heating systems (LIN+TURBOMATIC)
- Safe and reliable
- Fully automatic & PC-controlled
- Low maintenance



Retrofitting Existing Heating Plants

An existing TURBOMATIC heating system can easily be retrofitted with a LIN cooling option.

Aggregate cooling is realized by injecting LIN into the existing air pipes leading to the aggregate silos to cool the aggregates to the desired temperature.

In winter operation mode, the TURBOMATIC produces hot water and delivers Turbogas through the same pipelines used for cooling in summer to heat the aggregates.

Polarmatic Oy

- Established: 1968
- Domicile: Tampere, Finland, local presence also in Germany, Sweden and United States
- Delivered units (9-2022): ~1.300 worldwide
- Brands:
 - TURBOMATIC heating systems
 - COOLMATIC cooling systems
 - CUREMATIC curing systems
 - ProCon X control system
 - POLARMOIST moisture sensors

