Milk Cooling Systems

DARI-KOOL®

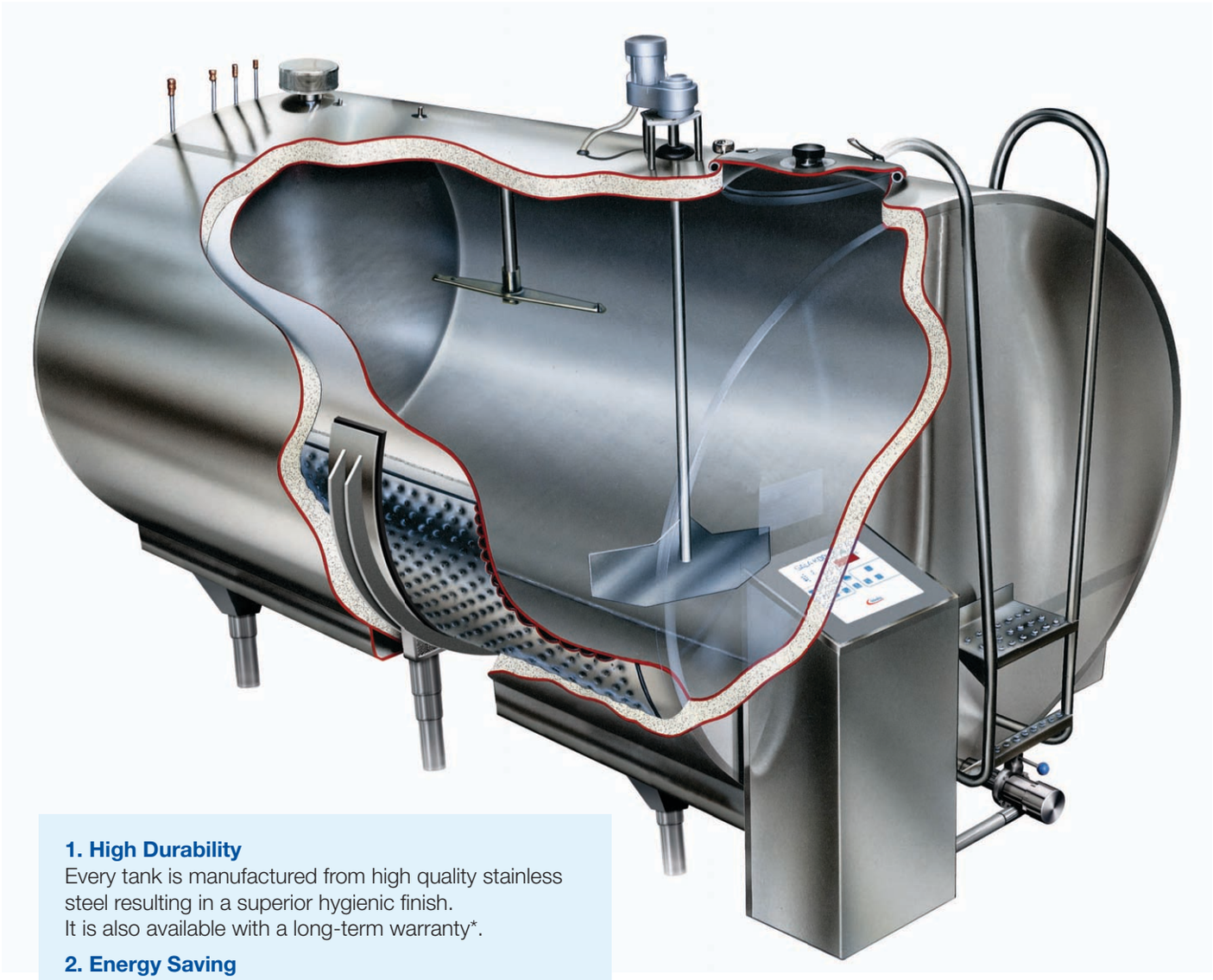
Ireland

Milk cooling systems

fabdec

Milk Cooling Systems

DARI-KOOL DX-FF & DELTA-T



1. High Durability
Every tank is manufactured from high quality stainless steel resulting in a superior hygienic finish.
It is also available with a long-term warranty*.

2. Energy Saving
Polyurethane foam (CFC Free) is injected between the inner and outer tanks creating high rigidity and excellent insulation, thereby reducing running costs.

3. Outstanding Washing
High pressure water jetting action from the rotating spray head and a fully programmable wash sequence with automatic dosage of chemicals ensures tank cleaning of the highest standards.

4. Excellent Milk Quality
Gentle agitation keeps the milk in motion, ensuring it preserves its milk fat quality.

5. Efficient Cooling
The large surface area of Fabdec's unique dimple plate technology allows the milk to be cooled efficiently via direct contact with the plates, even at low milk volumes.

6. Range of Tank Sizes
We produce tanks in various profiles up to 32,000 litres to suit any farm. Please call for details.

* Subject to terms and conditions.

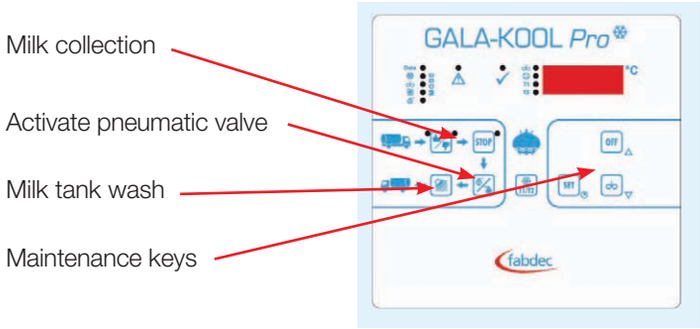
A front manway is possible, offering easier access and better inspection

Milk Cooling Systems

Efficiency, choice and reliability

State-of-the-Art Control and Wash System GALA-KOOL *Pro*

- For conventional milk tanks and tanks linked to robotic milking systems
- Fully adjustable parameters, programmable wash cycle, wash fill level probe, pneumatic actuator operation for robots
- Emergency cooling & stirring over-ride switch built into the console
- Ability to communicate via SMS
- Integrated data logger



Condensing Units CHILL-PAK with Copeland Scroll Compressors

- Built using genuine Copeland compressors
- Blue Fin treated condensor
- Terminal box with contactor, overload, high and low pressure switches
- Scroll type compressors for high efficiency and to prevent damage to the condensing unit when low levels of milk are being cooled

Outlet valve with threadwash cap

- Self-cleaning threadwash with screw cap, cleans the outer thread where the milk is collected for optimum hygiene
- 3” outlet valve, reduced to either 2.5” or 2” truck connection
- RJT type as standard, NW, SMS & other thread types available
- Robot compatible modular extensions, with pneumatic actuators

Efficient Solutions

ACTIV-KOOL Technology - the System for Block Calving

ACTIV-KOOL technology delivers a cooling capacity that is adapted to the milk quantity in the tank. This ensures the safe cooling of a low milk yield but offers a boosted capacity when the bulk milk tank is full.

On a traditional milk tank the evaporators are on both sides of the vessel (see Figure A). At low volumes these expose an area of the cooling surface that is not yet covered with milk. This can hinder the cooling process.

With ACTIV-KOOL technology, the evaporators are positioned in a way to allow maximum contact and plate coverage as the yield increases (see Figure B).

Figure A - traditional evaporator layout

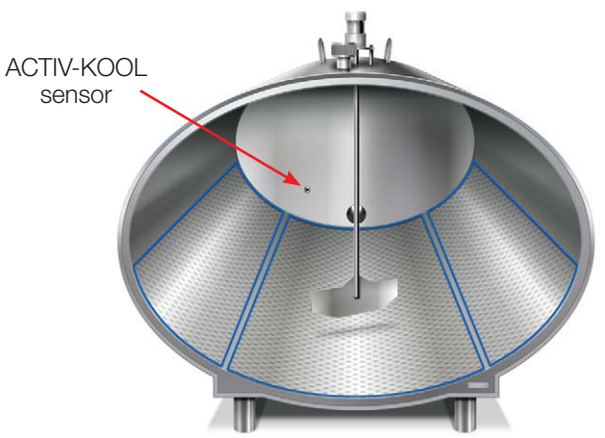


Figure B - ACTIV-KOOL evaporator layout

The lower evaporator is connected to the first condensing unit, and operates immediately with good evaporator coverage even at low milk volumes. The two higher evaporators are connected to a second unit, and controlled by the ACTIV-KOOL sensor (see Figure C).

The hygienic sensor detects when a sufficient milk level is in the bulk tank to enable operation of the upper cooling section of the tank, and activates the second condensing unit for additional cooling (see Figure D).

The system is especially suitable for milk producers with varying yields such as spring calving, block calving, and robotic systems. ACTIV-KOOL is available on all DARI-KOOL tanks, controlling the problem of varying milk volumes.

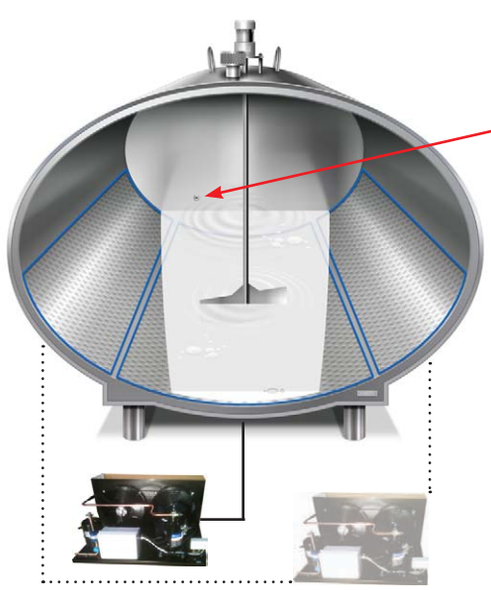


Figure C - ACTIV-KOOL first compressor in operation

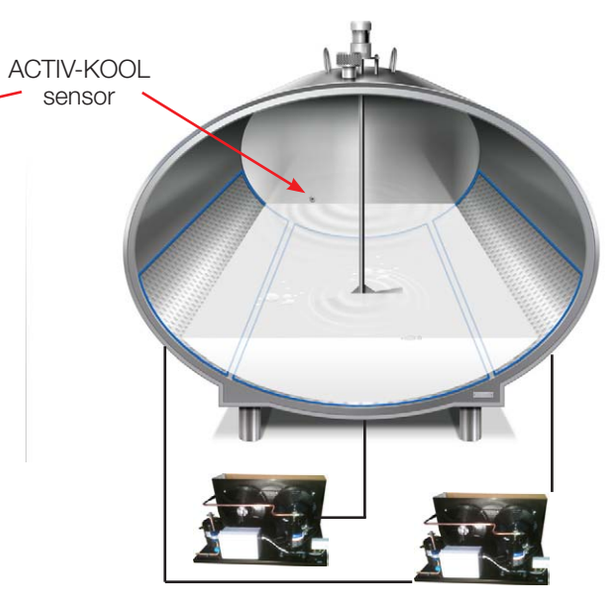


Figure D - ACTIV-KOOL sensor activated and both compressors in operation

Outdoor and Pre-Cooling Solutions

Hi-KOOL - Vertical Milk Tank

Fabdec's vertical milk tank Hi-KOOL is an additional option when storage space is limited.

The milk is cooled by using ice water from an ice builder and/or by using the evaporator plates located in the vessel walls. The level sensors and a cooling jacket on the outlet pipe ensure efficient cooling.

The milking room is easy to access via an alcove panel.

Many options are available, including a conical base or sloped bottom design and extra level and overfill sensors. Please call for full details.

Features

- Outer vessel of stainless steel
- Manway in tank wall
- Alcove front panel with 2 doors
- 2 level sensors for capacity controlled cooling
- Ladder support hooks
- Automated wash system
- Threadwash outlet as standard
- Outlet pipe with cooling jacket
- Cover for expansion valves
- Softstart for agitator motor
- Sample tap
- Sizes up to 40,000 litres

KOOL-PAK - Ice Builder

Ice builders work by generating ice using cheaper night rate electricity or by using solar energy. They are thus highly energy efficient and can cut cooling costs by a third.

Also by reducing the temperature rapidly they help to maintain a low bacteria count.

The milk flow first passes through a double stage plate cooler which uses bore hole or mains water in the first stage.

The second stage uses ice water generated by the ice builder, which will drop the milk temperature almost instantly before it reaches the milk tank.

Features

- Economical milk cooling system using off-peak rate electricity
- Reduces the load on milk tank
- Twin pump models available
- Sizes from 20kW to 300kW

More Pre-Cooling Solutions

QUANTUS & MAGNUS - Plate Coolers

Fabdec plate coolers are manufactured from high quality stainless steel with food-grade rubber gaskets, easy to dismantle for inspection and maintenance.

We offer the QUANTUS model with 1½" connections, which is intended for wall-mounting. We also offer the MAGNUS model with 2" connections for use with large milk volumes.

Both can be used in a double circuit with ice water.

Features

- High quality stainless steel
- Can be used in double circuit with ice water
- Easy to dismantle for inspection and maintenance
- Floor or wall mounting
- Herringbone profile of plates enhances flow
- Full range of sizes

Heat Recovery & Water Heating

SPAR-HEAT *Plus* & UNI-HEAT

How SPAR-HEAT *Plus* works

For use with a single cooling circuit SPAR-HEAT *Plus* uses an internal double-walled coil heat exchanger to recover the waste heat.

Two immersion elements can be fitted to boost the heated water up to 85°C at around a third of the traditional water heating costs associated with a standard boiler.

How UNI-HEAT works

UNI-HEAT provides hot water for tank washing and use on the farm. Constructed from Duplex stainless steel with butt-welded joints for the inner tank, UNI-HEAT offers superior corrosion resistance.

Titanium Immersion elements ensure a long life expectancy, with no sacrificial anode to replace and few serviceable parts.

Features

SPAR-HEAT *Plus*

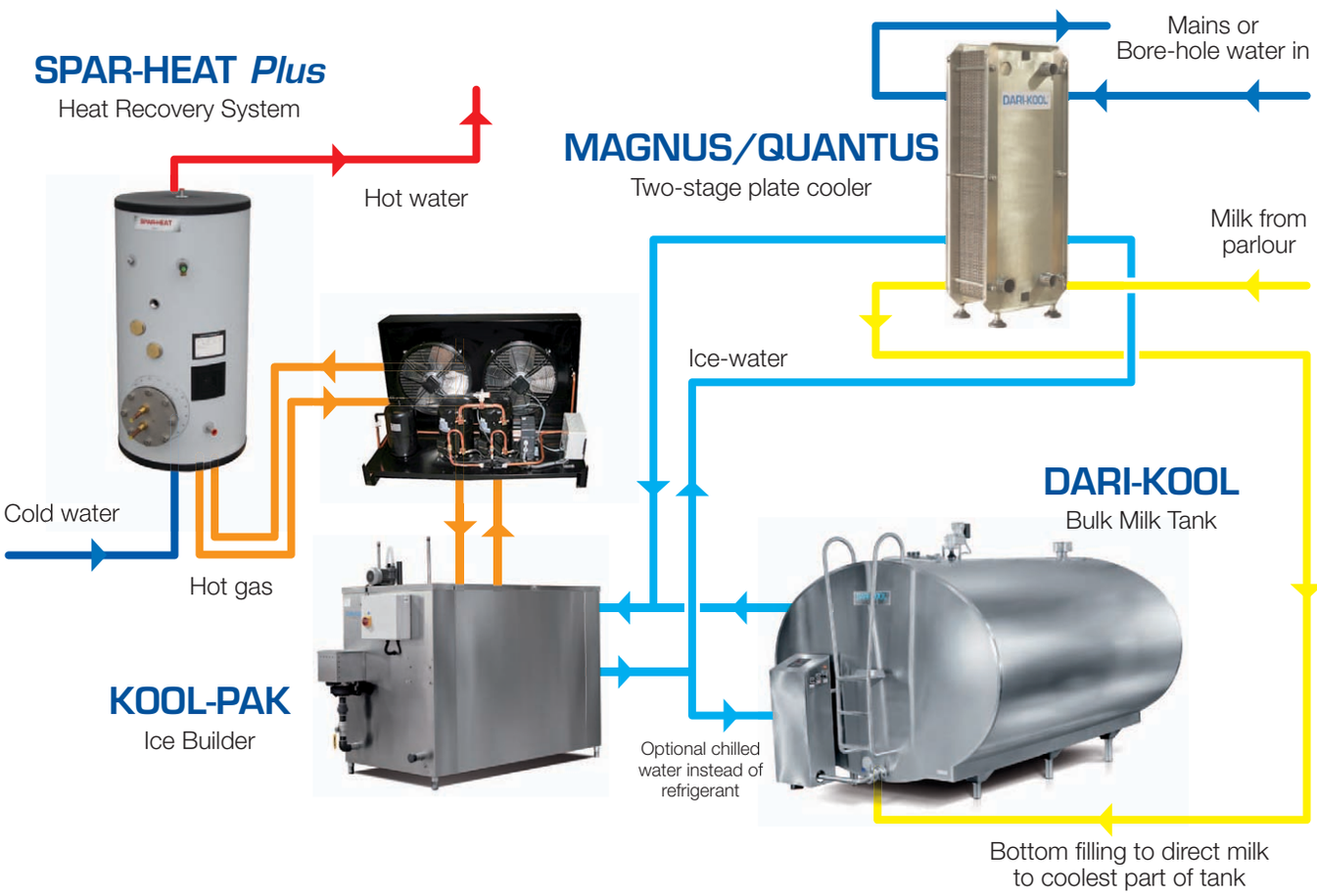
- Indirect coil heat exchange
- For use with up to 2 refrigeration units
- 2 immersion pockets for temperature boost
- Sizes from 150 to 3000 litres
- Indirect heat exhange meeting DIN standard EN12897 and PD5500

UNI-HEAT

- For effective washing with economical performance
- Superior corrosion resistance
- Accessory boss ½" BSP for thermometer or sensor pocket
- Sizes from 150 to 500 litres

Efficiency Plus Range

Uniting energy efficiency with milk quality



System Summary

The ultimate in energy efficient and quality preserving milk cooling from Fabdec.

Milk coming from the receiver passes through a two stage QUANTUS/MAGNUS plate cooler which uses mains or bore-hole water in the first stage.

The second stage uses ice water generated by a KOOL-PAK ice builder. This reduces the milk temperature almost instantly before it reaches the milk tank. This instant cooling will yield a considerable gain in milk quality when compared to other types of pre-cooling.

The ice created by the KOOL-PAK will largely be produced at night, using off-peak electricity.

The ice water is then used to circulate through the double jacket of the bulk milk tank to cool the milk even further and without the risk of the milk freezing in the tank.

By using the KOOL-PAK ice builder smaller condensing units are required which lowers the peak power demand.

Finally, heat generated by the condensing unit is used to produce hot water by the SPAR-HEAT *Plus* heat recovery system.

Features

- **The Best Milk Quality**
  Milk temperature drops instantly.
- **Low Running Costs**
  Off peak electricity utilised, lower energy consumption and integrated heat recovery.
- **Smaller Condensing Unit**
  Lower peak power demand.
- **No Ice Build Up In Milk Tank**
- **Longer System Working Life**
  Less stress on pumps etc.
- **Consistent Bulk Milk Tank Temperature**
  Consistently lower temperature with no blend.

Option - Standalone Tank Monitoring System DATA-SAFE

- Measures the milk temperature and then stores and analyses the data
- Monitors the stirring mechanics and cleaning control
- Completely independent from the tank control
- Intelligent probe mounts directly on inner milk vessel
- Can be retrofitted to all makes of milk tank
- Meets Arlagarden Green farm technology requirements
- Alarm function can be linked to buzzer, warning light or dialling unit

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