Case History

Blooming Good Order for Tranter

The use of Tranter International AB's plate heat exchangers (PHE) for greenhouse water disinfection equipment is resulting in substantial energy savings for flowers, fruit and vegetable growers around the world.

The Ecoster drain water disinfector, from Netherlands-based specialist Van Dijk Heating, is used to disinfect the drainage water from the greenhouses - and remove fungi, bacteria and viruses - prior to its re-use. A further benefit derives from the fact that the disinfected water contains valuable fertilisers which would otherwise have to be flushed away and disposed of. Using this equipment, cost savings of up to 50% on fertilizers have been recorded, depending on the drain percentage and the exact nature of the crop.

Van Dijk Heating manufactures two types of disinfector unit; one which has an integral gas burner and a second which is linked to an existing source of energy such as a heating circuit via another heat exchanger. After the disinfection process the water is quickly cooled and passed into a holding tank for re-use. The inclusion of the Tranter PHE is the means by which this cooling is achieved, taking heat from heat and channelling it into the early stage of the process to save energy and maximise the overall efficiency of the plant.

Disinfection is based on a simple heating principle and takes place in a continuous process. The incoming water is quickly heated from around 20°C to 95°C and maintained at this temperature for 40 seconds. Complete disinfection is guaranteed by a sophisticated computer-based temperature control system. Such is the efficiency of the system that the heat exchanger raises the temperature of the disinfector's 20 °C intake water by as much as 70 °C and requires the gas burner or additional heat exchanger to 'add' only another 5°C.

Commenting on the use of Tranter PHEs, Van Dijk Heating's Nico de Bruin said, "Tranter PHEs give us the energy efficiency, performance, compactness and reliability that we require, coupled with a highly service-oriented and problem-solving approach."

TRANTER®
The heat transfer people