

## **Micro-fluid system**

For enzymes, vitamins, fats, and oils



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▲ System for addition of micro- and/or macro-fluids

## Technical data

MFS 500/650

Capacity range: 10-50/10-65 tph

Addition quantity: Micro-fluid 100-500/  
100-650 ml per ton

Macro-fluid 1-5 % addition

System for addition of micro-fluids to feed pellets.

## Advantages of the system

- High fluid dosing accuracy, even at low flow rates
- Precise fluid distribution
- Operational flexibility
- Control system trend curves and statistics provide historical documentation and diagnostics
- Modular configuration allows future expansion, including addition of fat and oil
- Compact design facilitates installation in new or existing plants
- Hygienic design
- Easy access for cleaning
- Constructed in sandblasted stainless steel
- Enclosed system for workers' health and safety

## Application

The micro-fluid system is a PPLA (Post Pellet Liquid Application) and is designed for continuous spraying of macro- and micro-fluids, such as enzymes, amino acids, vitamins, aromatics, bacteria cultures, fats, and oils onto animal feed pellets after drying/cooling of the pellets. The benefits of adding micro ingredients after pelleting are enlarged pelleting line flexibility and increased capacity as multiple feed variants may be produced without restarting the pelleting process. Additionally, post pellet application of heat-sensitive micro ingredients provides costs savings compared to liquid application before pelleting (pre-heat treatment).

## Operation and maintenance

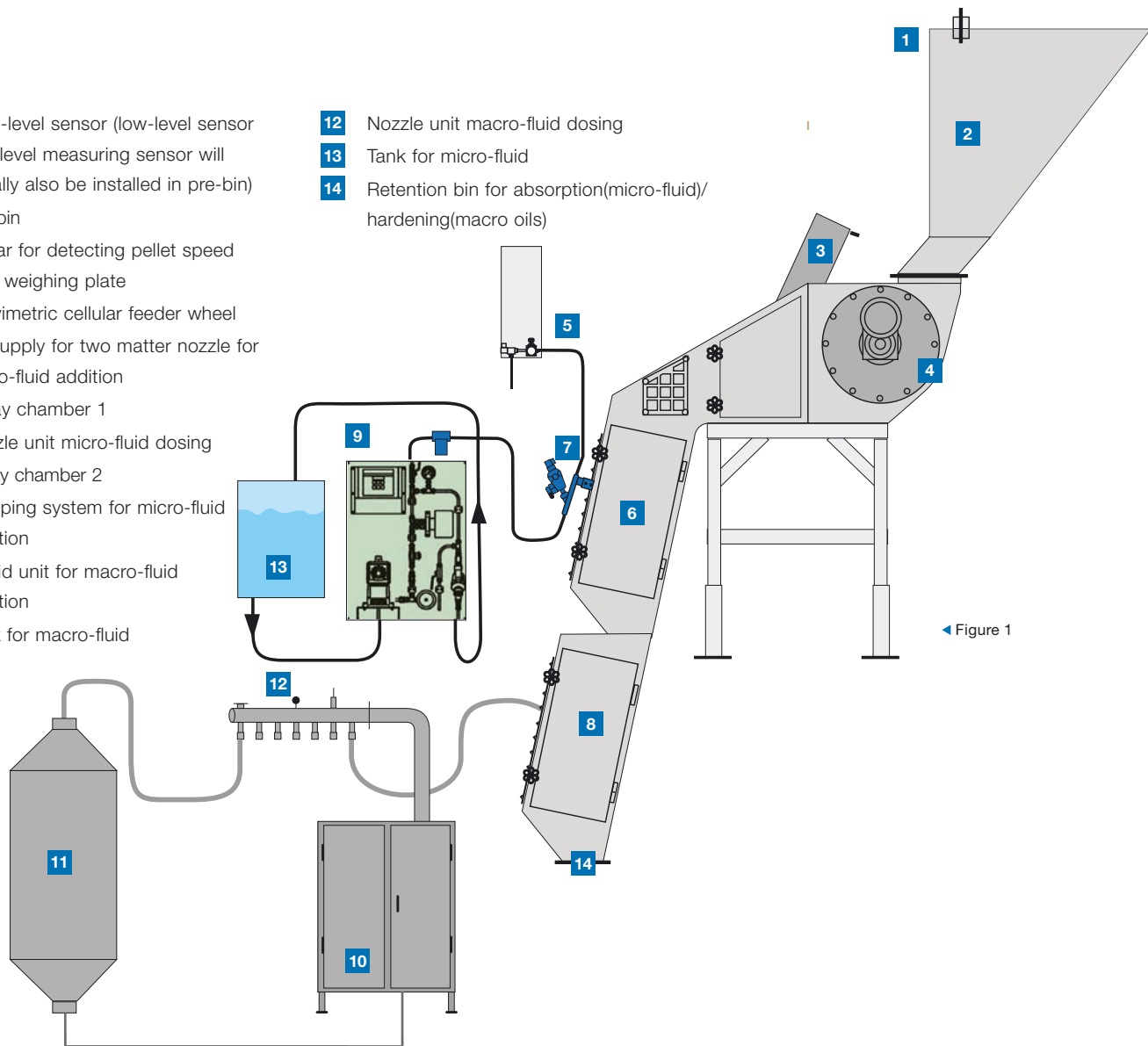
With respect to microbial hygiene, the mechanical equipment is designed with smooth surfaces, which can be cleaned through large access doors during normal cleaning routines. The system is fully enclosed, which reduces employee exposure to harmful vapors during operation.

## Accuracy and precision

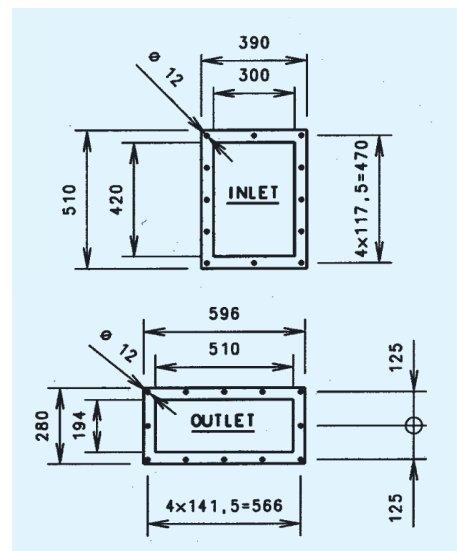
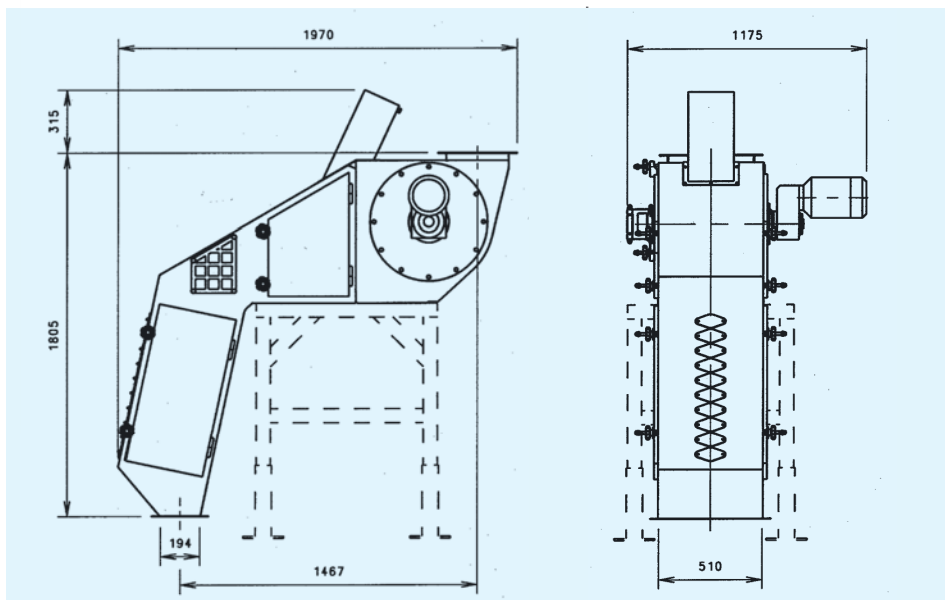
The control system aims to obtain a constant gravimetric pellet flow in order to ensure precise and accurate specific liquid dosing. At a given pellet flow, the control system automatically adjusts the pump system to obtain the correct flow rate. At start-up, the preset liquid flow is toggled from idle recycling to pellet spraying, ensuring almost instantaneous combination of liquid and pellets in the correct proportions.



- 1** High-level sensor (low-level sensor and level measuring sensor will usually also be installed in pre-bin)
- 2** Pre-bin
- 3** Radar for detecting pellet speed over weighing plate
- 4** Gravimetric cellular feeder wheel
- 5** Air supply for two matter nozzle for micro-fluid addition
- 6** Spray chamber 1
- 7** Nozzle unit micro-fluid dosing
- 8** Spray chamber 2
- 9** Pumping system for micro-fluid addition
- 10** Liquid unit for macro-fluid addition
- 11** Tank for macro-fluid
- 12** Nozzle unit macro-fluid dosing
- 13** Tank for micro-fluid
- 14** Retention bin for absorption(micro-fluid)/hardening(macro oils)



◀ Figure 1





# Where to find us

## Global supplier – local presence

**ANDRITZ is truly a global organization – but also with local presence.** We are represented all over the world. The global market for feed technologies is served from five main locations:

- Esbjerg, Denmark
- Sanshui, Guangdong Province, China
- Geldrop, Netherlands
- Muncy, PA, USA
- Humenné, Slovakia

In addition, we operate from several strategic regional sales, engineering, and service locations in China, Vietnam, India, Australia, Mexico, Venezuela, Brazil, Chile, France, the UK, and Germany – and are also represented locally by agents and distributors in many other markets.



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