

## Description

The GEA Diessel system, type **DICON-MS™**, is designed for the high-precision standardization of cream and milk. Changes of the fat content of the raw milk are corrected automatically.

The standardization system is installed downstream of the separator. From the separator it is fed with skimmed milk and cream. The fat content of the raw milk, the flow ratio of cream and skimmed milk, and the separation precision of the separator determine the fat contents of cream and skimmed milk.

At fat contents of cream of  $\geq 38\%$ , the separation precision of the separator can be regarded as constant, i.e. the fat content in the skimmed milk is known.

The fat content of the cream is calculated using a high-precision density metering system and a temperature measurement following well proven algorithms in the GEA Diessel controller. Dependent on this metering value and the setpoint value entered, the flow ratio is automatically set (the lower the flow of cream, the higher the fat content in the cream). This means, that the fat content of the cream is independent of the fat content of the raw milk. The design and the effectiveness of the separator determine the upper limit for the fat content.

The constant fat content of the standardized milk is achieved by means of the ratio control between standardized cream and skimmed milk. On the basis of the entered setpoint value, the controller calculates the ratio automatically.

High-quality control valves enable to control in an ample flow range and with this they enable as well the standardization using an ample range for the fat content.

The system is ready for connection, mounted on a base frame made of stainless steel and its function is tested. It goes without saying that it is suitable for CIP.

## Controller

The system controller enables the adaptation to different tasks without the necessity of carrying out any program modifications, but just by selecting and changing the corresponding parameters. It includes the following functions:

- Automatic control of the fat content of the cream
- Automatic control of the fat content of the standardized milk
- Display of the current values (ratios, flow rates, quantities, and setpoints)
- Manual control of the outputs
- Recipe storage to keep the default values for different products
- Control of the valves at CIP

## Available versions:

- **DICON-MS1™** for fat contents of cream of  $\geq 38\%$
- **DICON-MS2™** for fat contents of cream of even less than 38 %

## Technical Data

<b>Flow ranges up to:</b>	5,000 l/h; 10,000 l/h; 20,000 l/h; 30,000 l/h; 40,000 l/h further flow ranges on request
<b>Pressure in the system:</b>	>1 bar
<b>Fat content of the stand. milk: Without cream addition:</b>	from 0.3% to the fat content of the raw milk depending on the separation precision of the separator
<b>Standard deviation:</b>	$\leq \pm 0.05\%$ of fat
<b>Fat content of cream – system type MS1:</b>	38% ... 45% (further values on request)
<b>Fat content of cream – system type MS2:</b>	18% ... 45% (further values on request)
<b>Standard deviation:</b>	$\leq \pm 0.3\%$ of fat
<b>Materials:</b>	
<b>Product-contacting parts:</b>	1.4301 (AISI 304)
<b>Seals:</b>	EPDM
<b>Operating unit:</b>	Touch panel, 6" colour display, 320 x 240 pixels
<b>Control air:</b>	7 ... 10 bar, dry, oil-free
<b>Mains connection:</b>	230 V; 50 Hz

## Connection Scheme of DICON-MS1™

