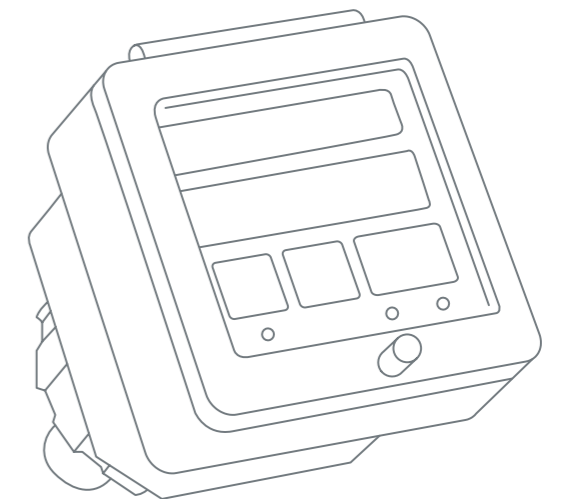




bürkert
FLUID CONTROL SYSTEMS

EMF, Type 8045

Electromagnetic Flowmeter
Insertion Model



Bürkert Fluid Control Systems
Christian-Bürkert-Straße 13-17
74653 Ingelfingen
Germany
Tel.: +49 (0) 7940/10-0
Fax: +49 (0) 7940/10-91 204
info@buerkert.com
www.buerkert.com



EMF Type 8045

Diversity in Applications

The electromagnetic flowmeter 8045 was developed by Bürkert in order to provide a single device for a very broad range of applications with diverse requirements. Type 8045 is ideal for flow regulation of dirty or clean conductive liquids. The liquid and process properties of the actual application can be taken into account. The 8045 can also be used in CIP processes and is optionally available with FDA- or KTW-approved materials.

Typical applications include:

- Waste water treatment
- Flow regulation of drinking water
- Drinking water supply in buildings
- Measuring and control of water consumption in laundry facilities
- Pump protection and flow control in swimming pools
- Monitoring of cleaning cycles in the food industry (FDA approval)
- Irrigation
- Applications with sea water, e.g. in desalination plants and fish farming



*EMF Type 8045:
All functions at a glance.*

Product Design and Features

Construction

Type 8045 uses the proven magnetic inductive measuring principle for measuring flow rates. The electrodes are not in the measuring tube, but rather at the end of a "finger", which is permanently connected to the electronic circuitry. This unit comprising the electronics and sensor element is inserted directly into the measuring tube or fitting and screwed on.

This design eliminates the need for installing sensor elements in a measuring tube or a fitting and therefore the entire measuring unit can be replaced independent of the pipeline. Measurements can be conducted in both horizontal and vertical pipelines. The flow direction is detected by the device, which ensures correct measurements even in case of a negative flow. Thanks to this construction and the small dimensions, Type 8045 can also be used in situations with limited installation space.

Type 8045 can be used in a range of diameters from DN06 to DN400. In addition to the different materials (PVDF or stainless steel), selectable depending on the medium, and the two different immersion lengths for adaptation to the pipe diameters, different process connection variants are also available. This facilitates an easy selection of a device, enables the use in diverse applications and minimises warehousing requirements.



Technology and Functions for the Greatest Customer Benefit

Flexibility through variety of signals

The basic version features both an mA output and a digital output. Depending on the functions required the 8045 can be equipped with an additional digital output as well as a digital input. Up to two relays increase the possibilities for connecting external devices.

The digital input allows remote control of selected device functions: resetting the totalizers, zero point calibration, switching the measuring state to HOLD (freeze measurement) and activation of a substitute measurement value from a higher-level unit, for example a PLC.

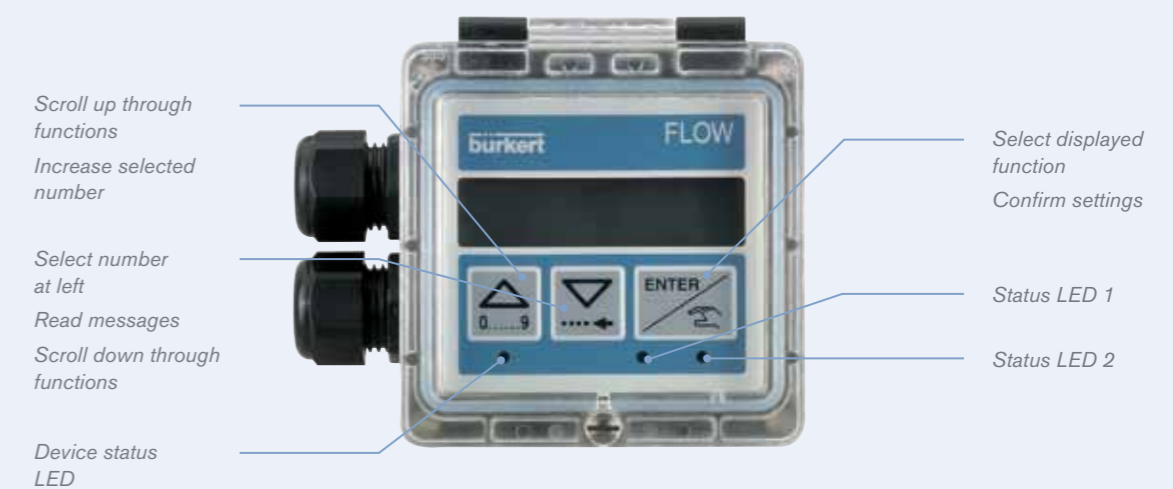
Complete information at every time

The display of the 8045 features adjustable backlighting, which provides for sufficient contrast for unrestricted readability and operability even under poor light conditions. The plain text messages for errors and threshold values can be viewed directly on the display in the interest of shorter response times. This eliminates the need for interpretation of the messages by means of a reference table.

The integrated status LEDs make it possible to control the state of the outputs from outside at any time. An additional three-colour LED (green, orange, red) provides an overview of the device status and visually signals the difference between warnings and errors.

The analogue output provides an alarm current of 22 mA in case of a fault in order to activate the automatic fault detection of connected devices, such as a PLC. This transparency of the device function status not only contributes to higher availability, but also increases system and process reliability.

All features at the click of a few buttons:



Intelligent Functions for Optimal Process Control

Precision – a matter of adjustment

Standard EMF are calibrated by the manufacturer under normal conditions. If the fluid properties vary significantly from those conditions, however, it often makes sense to calibrate a flow meter to the respective fluid properties, process conditions and sensor position and flow rate range.

For these conditions the 8045 features an integrated Teach-In function. In addition to an on-site manual K-factor input this function allows to adapt the K-factor to the respective operating conditions by means of a menu-guided comparison to a volumetric measurement or a comparison of the 8045 totalizer to an external volume metering unit, which improves the measuring accuracy up to 0.5% of the measured value.

- Simulation of the output signals allows support for signal and function controls, e.g. during commissioning
- Integrated password definition offers protection against unauthorised parametrisation
- Setting of different measurement filters optimises the measured value processing and output
- Assigning threshold values allows the user to monitor the measured value with respect to the permitted process limits
- Integrated zero point calibration can ensure the required measuring accuracy in case very different types of liquids are used in alternation and also in case of strong fluctuations in the operating conditions. For automatic control an optional digital input can be used to start this function. This increases the degree of system automation and saves valuable time.
- A low flow cut-off function can be activated to compensate measurement fluctuations near the start of the measuring range by setting a threshold. The unrealistic measurement fluctuations that occur under special process conditions then no longer cause reading errors and negative effects on totalizers and any active controlling process is directly prevented
- Type 8045 includes 2 totalizers, which can be used for example to differentiate between daily and total quantities and which can be reset separately, for convenient controlling of quantities
- Diverse configuration options for the digital outputs allow a large range of functions and a high degree of flexibility for adapting applications, saving the user time and effort. Configuration options include the pulse output, status of window and hysteresis functions with and without delay times and inverting, also for output of the status

Options and Versions

Fitting and fluidic connection variants



Additional options for universal application

- Large range of diameters from DN06 to DN400
- PVDF and stainless steel versions
- Optionally with 2 relays in addition to a transistor output
- Version without display (Type 8041) for cost optimisation using the same technology with reduced functions

The 8045 in use with diverse fittings and with actuators

