

FLOW Measurement for Tanker Vehicles



for Air Gas, CO₂,
N₂O, C₂H₄, and CH₄



FLOWCOM 2000

flow

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Since 1981 Flow Instruments has been successfully designing and manufacturing flow meter systems for cryogenic liquids as well as carbondioxide, nitrousoxide and LNG. In 2001 Flow introduced its first flow meter for propane-butane and obtained approval from PTB. The latest addition to the flowcom product line, the Flowcom 2000, was made possible due to up-to-date microprocessor technology and know-how, gained over 20 years of experience in this field. The main feature of the Flowcom 2000 is its user-friendly and intuitive operation. For instance, it is possible to configure the flow processor without

any ancillary equipment such as a laptop or handheld computer. While the flow processor is being configured, help information as well as minimum and maximum values are displayed for each parameter individually. The four push buttons of the flow meter are labeled on the display above and clearly indicate their current function depending on the context. The user is guided through the menus which allows the meter to be operated and configured even without a manual. This minimizes user errors by offering clear instructions.

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Features

- Flow Meter for mobile and stationary applications
- High Accuracy
- Products: CO₂, N₂O, LIN, LOX, LAR, CH₄, C₂H₄, LNG
- Temperature Compensation
- Intuitive Operation
- Large illuminated Graphic Display (Resolution: 240x64 pixels)
- Enclosure: Aluminium, IP65
- Service Port RS232, Mil-plug
- Software Updates can be downloaded via Service Port
- Printer Port RS232

Approvals

- CE and OIML
- PTB Germany
- Further Approvals on Request

Technical Data

- Dimensions, HxWxD: 200 x 230 x 175 mm
- Power supply: 9 ... 36 VDC
- Power consumption (w/o options): max. 30 VA
- Operating temperature range: -20 ... 55°C
- Storage temperature range: -30 ... 65°C

Options

- Vapour Return Set for Two Hose Deliveries consisting of Valves, Solenoids and Pressure Transmitter
- Ticket Printer



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Components

1. Metering Section

The metering section is the nucleus of the system. It operates on the basis of effective pressure measurement. The quantity of media flowing is calculated from the pressure drop across an orifice restrictor in the line. The metering section features no moving parts, and thus is totally maintenance-free.

2. Temperature Sensor*

The used temperature sensor, type PT100, is a resistance platinum sensor which operates on the basis of the 4-conductor principle.

3. Ticket Printer

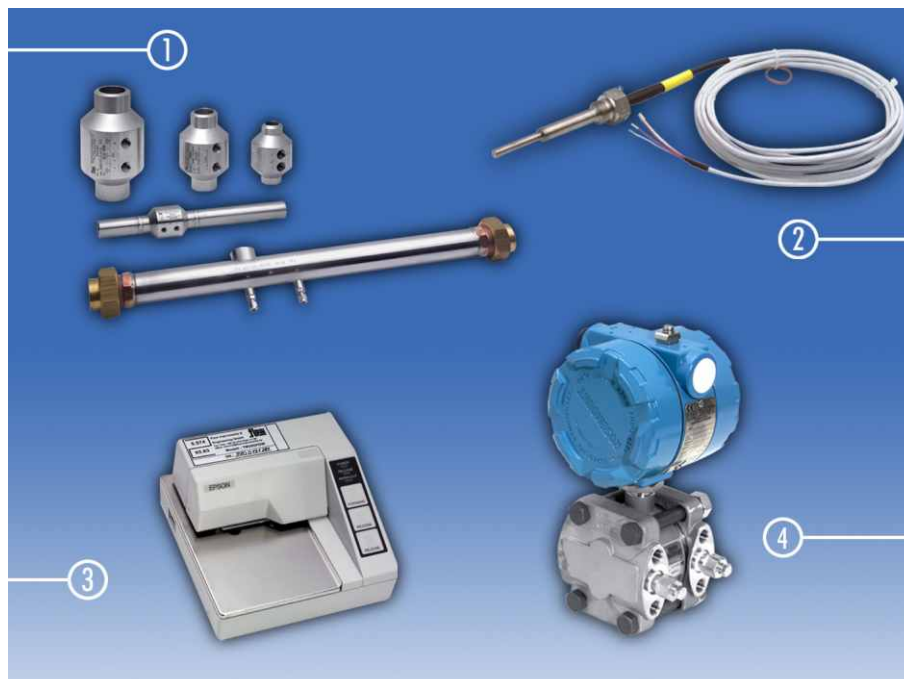
The world's smallest record-printer prints 42 characters per line on paper formats varying from 80x80 mm up to 182x257 mm. The TM-295 produces duplicates

along with the original and its graphics capability is unmatched in this class. The printer can work with various fonts in 3 sizes.

For rough everyday-handling the printer is optionally available with a IP65 stainless steel enclosure.

4. DP-Transmitter

In order to measure the differential pressure the reliable ROSEMOUNT 1151 DP5 SMART, is installed to the metering section. The transmitter provides a 4 ... 20 mA output signal, from which the electronic processor calculates the flow rate. Oxygen applications are provided with a special model.



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Alternative Flow Processors

1. The FLOWCOM S8, approved in numerous countries around the world, is installed on more than one thousand road tankers. It features temperature compensation and optional vapor return compensation for applications with dual hose delivery of carbon dioxide and nitrous oxide. It comes with eight binary inputs and outputs which allow the flow processor to control valves and pump.

2. The FLOWCOM LC aims at applications where system cost is a critical factor. It is the most basic member of the Flowcom product line and works without temperature compensation. Thus, it is ideal for metering of products which have a fairly

constant temperature such as cryogenic liquids stored in low pressure tanks. The Flowcom LC is intended to be used in applications where specific approvals are not required. An optional ticket printer can be connected.

3. The FILLCOM 250 system was especially designed for stationary applications like loading stations for road- and railroad tanker vehicles. The LC-Display allows for easy operation because menus and messages can be displayed in different languages. Its expandable input and output ports make it an ideal choice for many applications.



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