

Lutz Flow Meter Program

A flexible friend: Lutz flow meter TS

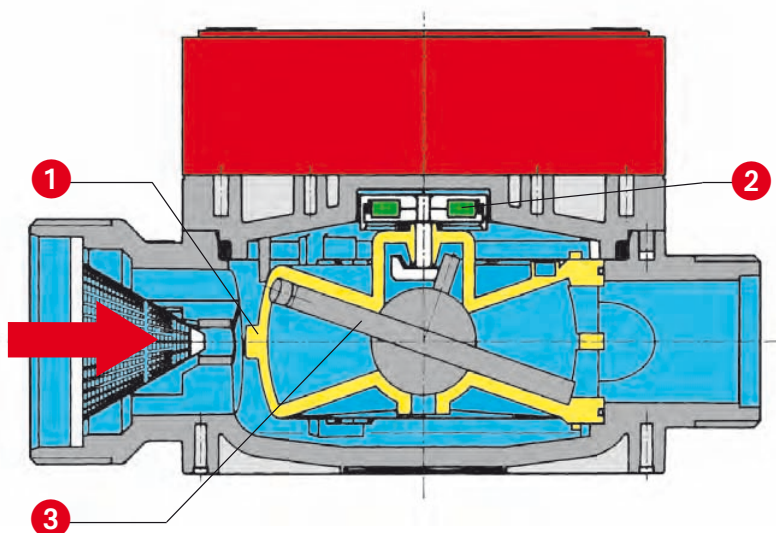


Mixing and Matching:

The modular flow meter system TS offers almost unlimited application possibilities. You are free to select the basic meter, operating unit, relay module and protective cap to match the respective application and duty.

Benefits

- ✓ Optionally with or without volume pre-selection (batching)
- ✓ Explosion protection with ATEX certification
- ✓ Convenient, user-friendly display with numeric keypad
- ✓ Large 6-digit LCD
- ✓ Keyboard lock as protection against inadvertent operation
- ✓ Cycle counter
- ✓ Flow rate display at a keystroke
- ✓ System protection through failure detection
- ✓ Memory capacity for 9 different liquids
- ✓ Can be supplied ex stock ready for connection
- ✓ Ready to use in next to no time
- ✓ Data output for external signal processing (e.g. PLC)



Take control: TS operates so

The liquid streaming causes a nutating disc to gyrate about its own axis. A multi-pole solenoid is made to rotate via a driver and switches a reed contact through the housing cover. The volume flowing through is determined from the number of pulses.

- 1 Measuring chamber
- 2 Magnet
- 3 Nutating disc

To the system step by step

Lutz modular flow meter system TS

You have got the choice:
Plastic or stainless steel design

Type ST **for neutral liquids**

such as water, heating oil, diesel and hydraulic fluid

Type SL **for aggressive acids and caustic solutions**

such as hydrochloric acid, sulphuric acid and caustic

Type LM **for easily inflammable solvents**

such as methanol, petrol, isopropanol, kerosene

Type UN **for easily inflammable and aggressive media**

such as formic acid, acetic acid, toluene

Type VA I **for easily inflammable and aggressive media**

such as acetone, styrene, xylene, nitric acid, tetrahydrofuran

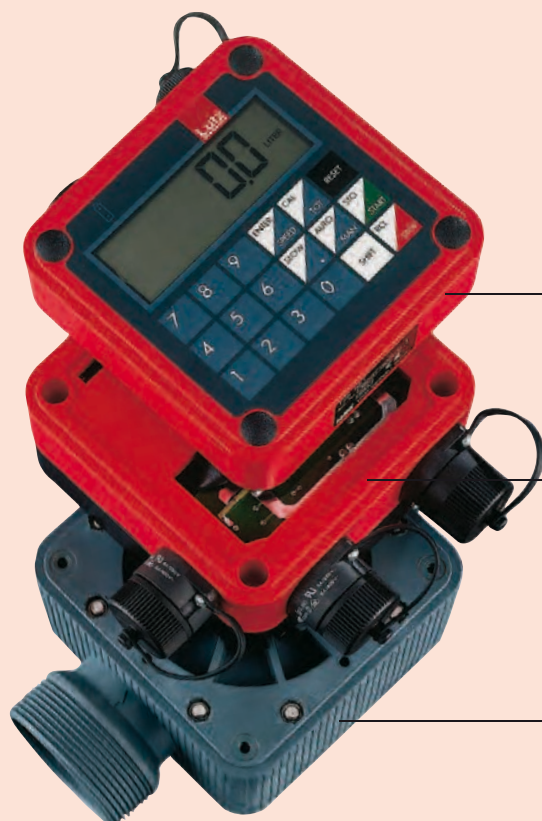


One system for all areas of application

Whether sub totals need to be tracked or continuous tracking is required, whether mobile or stationary, non-explosion-protected or explosion-protected: The modular structure guarantees your flexibility and safety.

Assembly made easy

The flow meter is built from the base module and operating unit. By adding a relay module with control cables and a solenoid valve, the flow meter becomes a batching unit with a presettable delivery rate.



Operating unit BE1 and Ex-BE1

Evaluation electronics with numeric keypad and LCD display. Together with the basic meter they form the basic equipment of the Lutz flow meter system. Also available in protection class II 2 G Ex ib IIB T4.

Relay module RM1 and Ex-RM1 m

By integrating the new relay module the flow meter turns into a filling unit with pre-set volume control. The module operates the motor and valve switching control.

So far unique: The explosion proof version Ex-RM1m with protection class II 2 G Ex me [ib] IIC T4 permits the mobile use of batching in explosion proof areas.

Basic meter ST, SL, LM, UN, VA I

The core of the flow meter, comprising the mechanical meter which records the volume of the flowing liquid according to the tried and tested swash-plate principle and transmits the signals to the operating unit.

Lutz Flow Meter Program TS

Relay Module: Filling at the push of a button



It can't be done any easier: Flow measurement with preset volume

You want to preset in a simple way how much liquid is to be measured? This is easily done with Lutz Relay Module – an innovative component that helps to automate work processes and to make them more efficient. Simply preset the requested volume – and press the button to operate the pump or system until the preset volume has been achieved. The Relay Module switches off the pump, the system and/or the solenoid valve.

- ✓ Available off the shelf
- ✓ Modules available for retrofitting
- ✓ Unmistakeable plug-type connectors ensure easy installation

Relay module
RM1

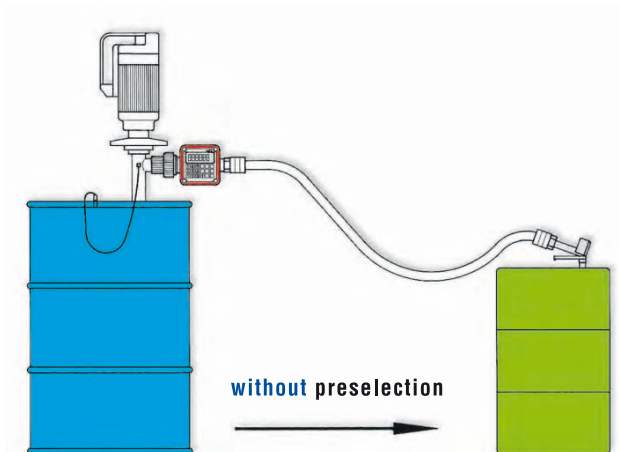


Relay module
Ex-RM1 m



The choice is yours

With or without?



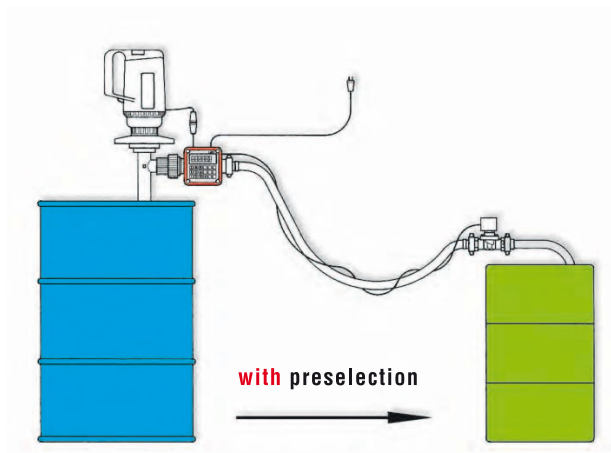
Flow meter TS without preselection

Consists of:

Operating unit

Basic meter

Liquid measurement **without preselection**, totalling only from a container to another.
The meter system is installed directly at the pump and/or in the piping, in order to total the amount of liquid transferred.



Flow meter TS with preselection

Consists of:

Operating unit

Relay module

Basic meter

Liquid measurement **with preselection** (batching). The relay module, integrated in the meter system, switches off the pump motor and/or the solenoid valve after reaching the preselection quantity.

03

Flow measurement without volume preselection - TS

for non flammable liquids



Flow meter type VA I in physiologically safe version (PU). The flow meters are mainly used in the food-, cosmetics- and pharmaceutical industry. Additional costs see price list.

Technical data	Type ST	Type SL	Type VA I
Range of use	Neutral liquids like water, mineral oils	Abrasive liquids like acids and alkalis	Many acids, alkalis and other liquids
Flow volume l/min.	min. 10 – max. 100**	min. 10 – max. 100**	min. 10 – max. 100
Temperature °C	60	60	80
Viscosity mPas	2,000	2,000	5,000
Operating pressure bar	4	4	10
Accuracy	+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%
Inlet port	G 2 outer thread to fit connector with union nut	G 2 outer thread to fit connector with union nut	G 1 1/4 outer thread
Outlet port	G 1 1/4 outer thread	G 1 1/4 outer thread	G 1 1/4 outer thread
LCD display	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible
Materials:			
Housing	PPO	PPO	Stainless steel (1.4581)*
Measuring chamber	PPO/PPS	PPO/PPS	Stainless steel / ETFE / ETFE
Seals	FPM	FPM	FEP
Magnet	BaFe / PA / Stainless steel 1.4401	PPS encapsulated	ETFE encapsulated
Protection class	IP 54	IP 54	IP 54
Weight kg	1.0	1.0	3.6
Order No.	0212-101	0212-201	0212-501

* Special materials on request. General information to the chemical resistant of the different flow meters you will find in our chemical resistant list (chapter 06 pages 181-197).

** Short-time 120 l/min.

Flow measurement without volume preselection - TS

for highly flammable liquids



Technical data	Type LM	Type UN	Type VA I
Range of use	Solvents and other easily inflammable liquids, oils and neutral liquids.	Solvents and easily inflammable liquids, most of acids and alkalis.	Nearly all solvents and easily inflammable liquids. Many acids, alkalis and other liquids
Flow volume l/min.	min. 10 – max. 100**	min. 10 – max. 100**	min. 10 – max. 100
Temperature °C	60	60	60
Viscosity mPas	2,000	2,000	5,000
Operating pressure bar	4	4	10
Accuracy	+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%
Inlet port	G 2 outer thread to fit connector with union nut	G 2 outer thread to fit connector with union nut	G 1 1/4 outer thread
Outlet port	G 1 1/4 outer thread	G 1 1/4 outer thread	G 1 1/4 outer thread
LCD display	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible
Materials: Housing Measuring chamber Seals Magnet	PPS LCP FEP BaFe / MS / Stainless steel 1.4401	PPS LCP FEP PPS encapsulated	Stainless steel (1.4581)* Stainless steel / ETFE / ETFE FEP ETFE encapsulated
Type of protection Operating unit Basic flow meter	II 2 G Ex ib IIB T4 II 2 G T4	II 2 G Ex ib IIB T4 II 2 G T4	II 2 G Ex ib IIB T4 II 2 G T4
Protection class	IP 54	IP 54	IP 54
Weight kg	1.0	1.0	3.6
Order No.	0212-302	0212-402	0212-502

* Special materials on request General information to the chemical resistant of the different flow meters you will find in our chemical resistant list (chapter 06 pages 181-197.

** Short-time 120 l/min.

Flow measurement with volume preselection - TS

for non flammable liquids



Flow meter type VA I in physiologically safe version (PU). The flow meters are mainly used in the food-, cosmetics- and pharmaceutical industry. Additional costs see price list.

Technical data	Type ST / RM 1 230 V	Type SL / RM 1 230 V	Type VA I / RM 1 230 V
Range of use	Neutral liquids like water, mineral oils.	Abrasive liquids like acids and alkalis.	Many acids, alkalis and other medias.
Flow volume l/min.	min. 10 – max. 100**	min. 10 – max. 100**	min. 10 – max. 100
Temperature °C	60	60	80
Viscosity mPas	2,000	2,000	5,000
Operating pressure bar	4	4	10
Accuracy	+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%
Inlet port	G 2 outer thread to fit connector with union nut	G 2 outer thread to fit connector with union nut	G 1 1/4 outer thread
Outlet port	G 1 1/4 outer thread	G 1 1/4 outer thread	G 1 1/4 outer thread
LCD display	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible
Materials:			
Housing	PPO	PPO	Stainless steel (1.4581)*
Measuring chamber	PPO/PPS	PPO/PPS	Stainless steel / ETFE / ETFE
Seals	FPM	FPM	FEP
Magnet	BaFe / PA / Stainless steel 1.4401	PPS encapsulated	ETFE encapsulated
Protection class	IP 54	IP 54	IP 54
Weight kg	1.4	1.4	3.9
Relay module RM 1			
Voltage V	220-240		
Frequency Hz	50-60		
Switching outputs	2 NO (potentially bound)		
Output 1 (pump)	4 A, cos > 0.7		
Output 2 (valve)	0.5 A		
Order No.	0212-121	0212-221	0212-521

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 ** Short-time 120 l/min.

Flow measurement with volume preselection - TS

for highly flammable liquids



Technical data	Type LM / Ex-RM 1m K	Type UN / Ex-RM 1m K	Type VA I / Ex-RM 1m K
Range of use	Solvents and many other easily inflammable liquids, oils and neutral liquids.	Solvents and easily inflammable liquids, most of acids and alkalis.	Nearly all solvents and easily inflammable liquids. Many acids, alkalis and other liquids.
Flow volume l/min.	min. 10 – max. 100**	min. 10 – max. 100**	min. 10 – max. 100
Temperature °C	40	40	40
Viscosity mPas	2,000	2,000	5,000
Operating pressure bar	4	4	10
Accuracy	+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%
Inlet port	G 2 outer thread to fit connector with union nut	G 2 outer thread to fit connector with union nut	G 1 1/4 outer thread
Outlet port	G 1 1/4 outer thread	G 1 1/4 outer thread	G 1 1/4 outer thread
LCD display	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible	19 mm character height, 6-digit display, individual and total volume reset possible
Materials:			
Housing	PPS	PPS	Stainless steel (1.4581)*
Measuring chamber	LCP	LCP	Stainless steel / ETFE / ETFE
Seals	FEP	FEP	FEP
Magnet	BaFe / MS / Stainless steel 1.4401	PPS encapsulated	ETFE encapsulated
Type of protection			
Operating unit	II 2 G Ex ib IIB T4	II 2 G Ex ib IIB T4	II 2 G Ex ib IIB T4
Basic flow meter	II 2 G T4	II 2 G T4	II 2 G T4
Protection class	IP 54	IP 54	IP 54
Weight kg	4.1	4.1	6.5

Relay module Ex-RM 1 m

Voltage	V	220-240
Frequency	Hz	50-60
Switching outputs		2 NO (potentially bound)
Output 1 (pump)		4 A, cos > 0.7
Output 2 (valve)		0.5 A
Type of protection		II 2 G Ex me [ib] IIC T4

Order No.	0212-352	0212-452	0212-552
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** Short-time 120 l/min.