

The Lutz Flow Control System

Batch Control System



Batch Control System



Quality,
Innovation
and
Precision

Lutz Flow Meter Program

The Reasonable: Lutz flow meter TR



Easy handling

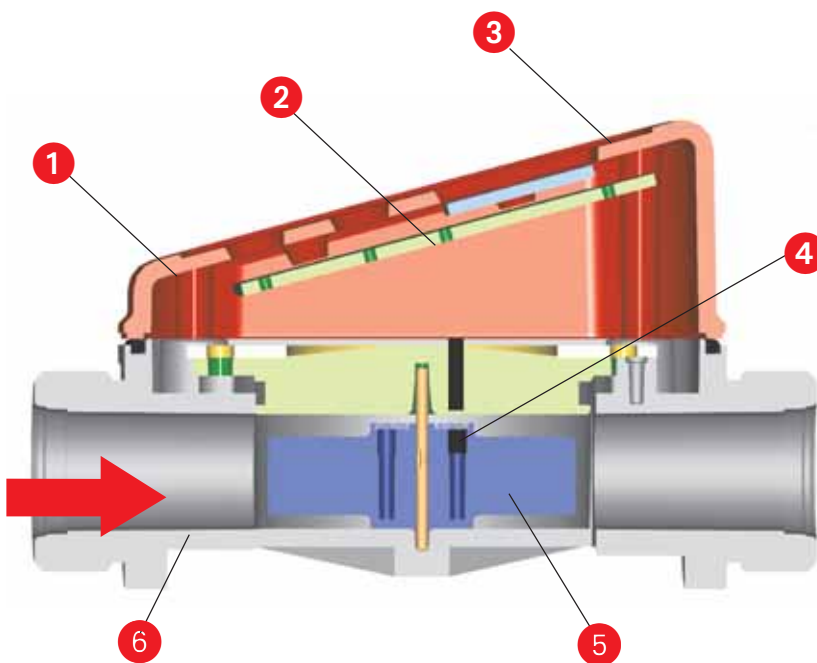
Easy handling, compact built and a quick assemble to all drum and container pumps: The Lutz flow meter TR in PP or PVDF. A manageable meter which you can count on in all situations. This flow meter measures accurately thin-bodied, non-flammable liquids.

The Advantages:

- ✓ Measurement by radial turbine technology
- ✓ Can be combined with all drum and container pumps
- ✓ For thin-bodied, non-flammable liquids
- ✓ Available in PP or PVDF
- ✓ Total gallon instantly displayed
- ✓ Displays both sub-total and total volume
- ✓ Sub totals can be reset
- ✓ One fixed total volume and 4 resettable totals
- ✓ Easy calibration
- ✓ Durable lithium battery

Instantly knowing total gallons transferred: How it works

Liquid passing through meter sets the turbine in motion initiating pulses magnetically transmitted to the electronics. Easy to read displays instantly shows totals. Due to minimal friction loss, the TR series is the optimal answer for low pressure pumps.



- 1 Housing top (POM)
- 2 PCB
- 3 Keypad foil
- 4 Magnet
- 5 Radial turbine (PP or PVDF)
- 6 Measuring chamber (PP or PVDF)

The economical liquid volume measurement

The choice is yours



PP for neutral and aggressive liquids
such as glycol, ferric (III) chloride, hydrochloric acid

PVDF for highly aggressive fluids
such as chlorine solution, nitric acid, sulphuric acid

Instant action - A complete system

Lutz offers you a complete system for light duty applications. System consists of: drum pump B2 in polypropylene, flow meter TR50-PP, wall bracket, discharge spout, 5 ft PVC-hose and nozzle.

Installed in no time!

The TR series flow meter can be combined with all drum and container pumps with the 3/4" or 1 1/4"-connection. Simply attach the union fitting - and it is ready for use.

Type		TR50-PP	TR120-PP	TR120-PVDF
Material	housing top	POM	POM	POM
Material (wetted parts)	measuring chamber	PP	PP	PVDF
	turbine	PP	PP	PVDF
	shaft	Hastelloy C4 (2.4610)	Hastelloy C4 (2.4610)	Hastelloy C4 (2.4610)
	seal	FPM (Viton®)	FPM (Viton®)	FPM (Viton®)
Range of measurement	GPM	2.6-10.6	5.3-31.7	5.3-31.7
Range of viscosity	cps	1-20	1-20	1-20
Operating pressure	psi	29 (at 68 °F)	29 (at 68 °F)	29 (at 68 °F)
Accuracy of measurement	%	± 1	± 1	± 1
Connection		3/4"	1 1/4"	1 1/4"
Weight	lbs.	0.51	0,51	0.8
Range of temperature	°F	14 up to 104	14 up to 104	14 up to 104
Order No.		0213-000	0213-010	0213-020
Inline Fittings 1 1/4 x 1" NPT Male (2 needed)		-	0213-119	0213-120

Lutz Flow Meter Program

The universal genius: Lutz flow meter TS

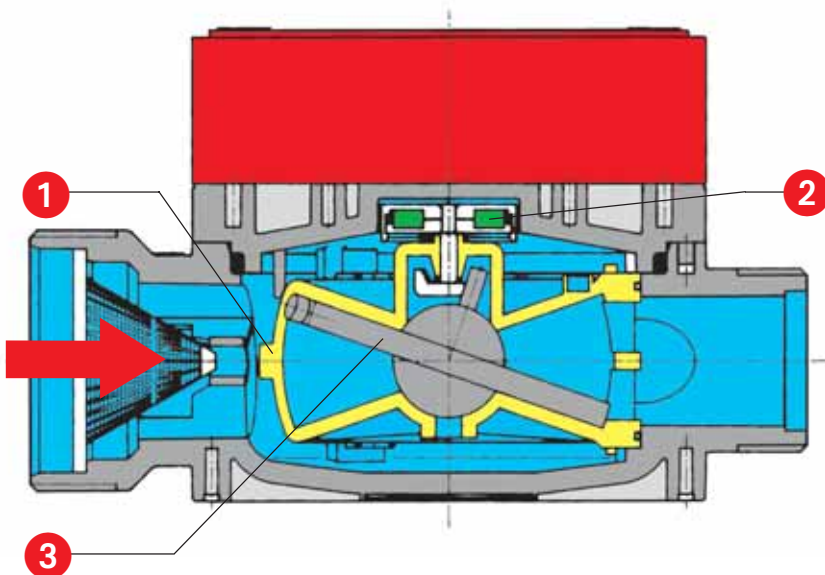


The combination – your choice for your needs

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

Benefits

- ✓ Optionally with or without volume pre-selection (batching)
- ✓ 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
- ✓ Ready to use in next to no time
- ✓ Data output for external signal processing (e.g. PLC)



The way the TS meter works:

The liquid causes the nutating disc to wobble about its axis. A multi-pole magnet 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

Design your 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 soda

Type LM

for highly flammable solvents

such as ethanol, petrol, isopropanol, kerosene

Type UN

for highly flammable and aggressive media

such as formic acid, acetic acid, tetrahydrofuran

Type VA I

for highly flammable and aggressive media

such as ether, 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, the modular structure guarantees your flexibility and safety.



Module for module: Assembly made easy

Base module and operating unit build the flow meter. The flow meter becomes a batch control system with pre-settable delivery rate by adding a relay module with control cables and a solenoid valve.

Operating unit BE 1 and Ex-BE1

Evaluation electronics with numeric keypad and LCD display. Together with the base module they form the basic equipment of the Lutz flow meter system.

Relay module RM1

By integrating the new relay module the flow meter turns into a filling unit with pre-set volume control. This module controls the motor and solenoid valve.

For installation in hazardous location please see application no. 4 page 9.

Base module 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 rotating disc principle and transmits the signals to the operating unit.

Flow measurement with or without pre-selection - TS

for non flammable liquids



NEW: Flow meter Type VA I is physiologically safe (PU) and therefore ideally suitable for use in the food-, cosmetics- and pharmaceutical industry.

Technical data		Type ST	Type SL	Type VA I
Compatibility		consult Lutz chemical resistance table	consult Lutz chemical resistance table	consult Lutz chemical resistance table
Flow volume	GPM	min. 2.6 – max. 31.7	min. 2.6 – max. 31.7	min. 2.6 – max. 26.4
Temperature	°F	140	140	176
Viscosity	cps	2.000	2.000	4.000
Operating pressure	PSI	58	58	145
Accuracy		+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%
Inlet port		2" male thread to fit connector with union nut	2" male thread to fit connector with union nut	1 1/4" male thread
Outlet port		1 1/4" male thread	1 1/4" male thread	1 1/4" male thread
LCD display		19 mm (0.75") character height, 6-digit display, individual and total volume reset possible	19 mm (0.75") character height, 6-digit display, individual and total volume reset possible	19 mm (0.75") 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
Enclosure		IP 54	IP 54	IP 54
Weight (without RM)	lbs	2.2	2.2	7.9
Order No. without relay module		0212-101	0212-201	0212-501
Order No. with relay module		0212-131 Type ST/RM	0212-231 Type SL/RM	0212-531 Type VA I/RM

* Depending on use ** Special materials on request General information to the chemical resistance of the different flow meters you will find in our chemical resistance table.

Flow measurement without volume preselection - TS

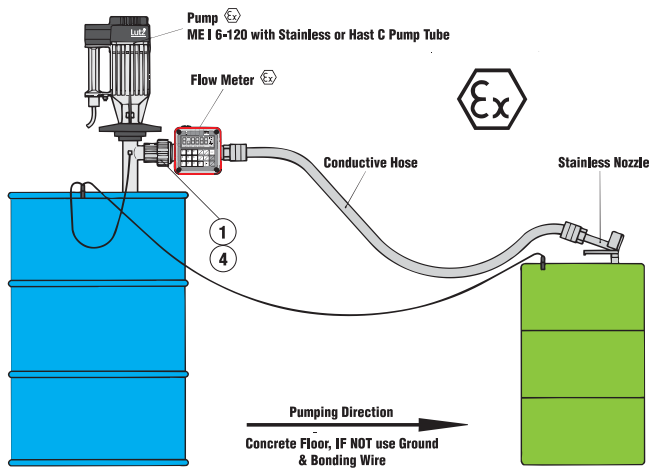
for highly flammable liquids



Technical data		Type LM (Ex)	Type UN (Ex)	Type VA I (Ex)
Compatibility		consult Lutz chemical resistance table	consult Lutz chemical resistance table	consult Lutz chemical resistance table
Flow volume	GPM	min. 2.6 – max. 31.7	min. 2.6 – max. 31.7	min. 2.6 – max. 26.4
Temperature	°F	140	140	176
Viscosity	cps	2.000	2.000	4.000
Operating pressure	PSI	58	58	145
Accuracy		+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%
Inlet port		2" male thread to fit connector with union nut	2" male thread to fit connector with union nut	1 1/4" male thread
Outlet port		1 1/4" male thread	1 1/4" male thread	1 1/4" male thread
LCD display		19 mm (0.75") character height, 6-digit display, individual and total volume reset possible	19 mm (0.75") character height, 6-digit display, individual and total volume reset possible	19 mm (0.75") 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
Enclosure operating unit Ex-BE1		EEx ib IIA T4	EEx ib IIA T4	EEx ib IIA T4
Enclosure		IP 54	IP 54	IP 54
Weight	lbs	2.2	2.2	7.9
Order No.		0212-302	0212-402	0212-502

* Depending on use ** Special materials on request General information to the chemical resistance of the different flow meters you will find in our chemical resistance table.

Combination made to measure



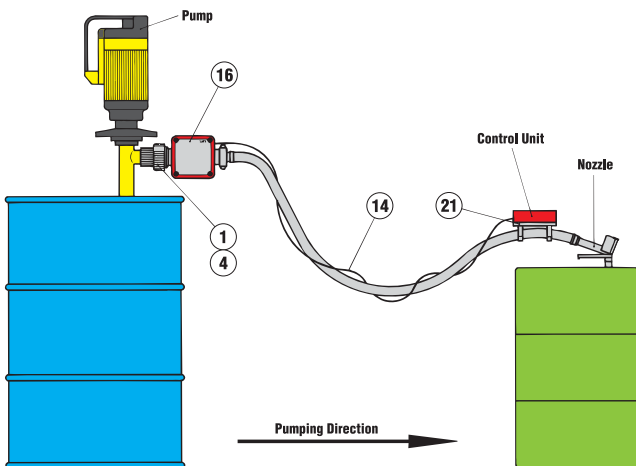
Advantages of the Lutz flow meters:

For mounting on drum and container pumps, fittings with screw thread, measuring cell protected from impurities by an integrated strainer, optional non-return valve, integrated control unit, either direct input or presettable delivery rate, large LCD for easy reading, even at a distance, control unit can be rotated in 90° steps in any direction, volume unit simple to set, additional operating mode display, 6-digit display of the total delivery rate, flow velocity display, optional liquid level function, easy battery replacement.

Application 1 Flow meter with drum pump

The liquid is pumped from one container to another. The explosion proof meter system is installed directly on the drum pump.

- 1 Drum pump connection
- 4 Non return valve

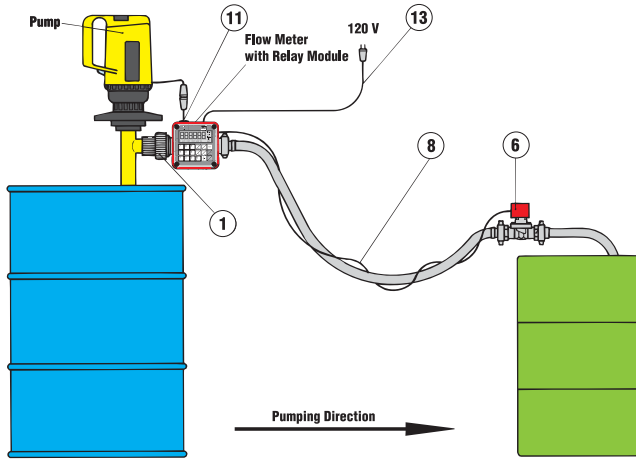


Application 2 Remote control

The liquid is pumped from one container to another. The two containers are a long distance apart or in separate rooms. The control unit is secured to the hose at the nozzle. The pulses are transmitted by means of the protective cover through data line to display unit.

- 1 Drum pump connection
- 4 Non return valve
- 14 Data cable
- 16 Protective cover
- 21 Hose bracket for control unit

Combination made to measure



Advantages of the Lutz relay module:

Simple, reliable plug connection between the measuring element and the control unit, easily assembled, ready to use immediately, integrated in the meter assembly to save space, simultaneous control of the pump motor and the solenoid valve, system protected by fault detection function.

Application 3

Batch control system with presettable delivery rate and solenoid valve

The liquid is pumped at a preset read amount. Both the pump motor and solenoid valve are activated by the relay module integrated in the batch control system.

- 1 Drum pump connection
- 6 Solenoid valve
- 8 Connecting cable main valve
- 11 Connecting cable motor
- 13 Main supply cable relay module

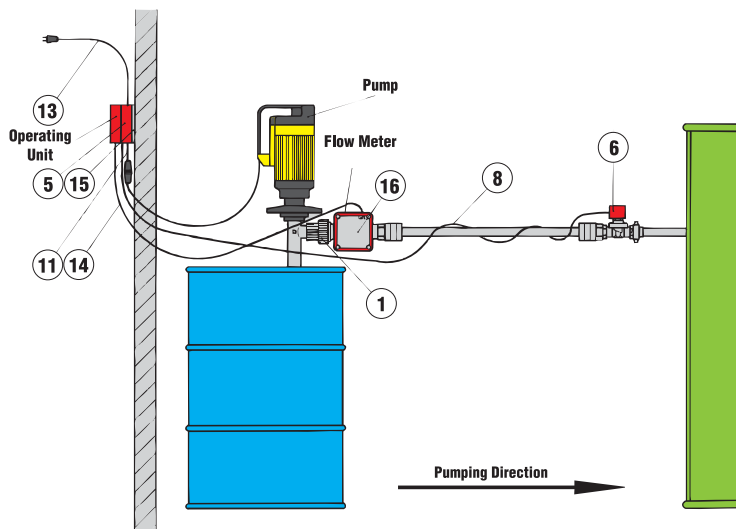
Application 4

Batch control system with presettable amount for remote operation

With the relay/operating unit located away from the transfer station you are able to operate from your control room avoiding operator to be exposed to toxic fumes from liquid being transferred. Also, the most efficient way to operate 2 or more drum pumps when batching multiple liquids in mixing processes. This option will also extend the life of the electronics in the relay and operating unit when used in a corrosive environment.

For hazardous locations:

Items to the left away from hazardous area could alternatively be installed in an Ex. approved conduit.



- 1 Drum pump connection
- 5 Relay module
- 6 Solenoid valve
- 8 Connecting cable main valve
- 11 Connecting cable motor
- 13 Main supply cable relay module
- 14 Data cable
- 15 Mounting plate
- 16 Protective cover

Accessories Lutz Flow Meters

Drum pump connection, Non return valve, Relay module, Solenoid valve, Connecting cable

Product detail	Specification	Order-No.
	<p>1 Drum pump connection Connects the flow meter to a drum and container pump</p> <p>PPO/Viton® 1 1/4" female thread for ST, SL PPS/Viton® - FEP 1 1/4" female thread for LM, UN Stainless steel/PTFE 1 1/4" - 1 1/4" female thread for VA I Stainless steel/PTFE 1 1/4" - 1 1/2" female thread for VA I</p>	<p>0211-130 0211-132 ● 0211-211 ● 0211-214 ●</p>
	<p>4 Non return valve Prevents back flow of the liquid in the hose system</p> <p>PTFE/Viton® for ST, SL PTFE/Viton® - FEP for LM, UN Stainless steel/PTFE for VA I</p>	<p>0211-140 0211-141 ● 0372-050 ●</p>
	<p>5 Relay module 120V* Control unit activates motor and solenoid valve</p> <p>120 V, 60 Hz for ST, SL, VA I</p>	<p>0211-030</p>
	<p>6 Solenoid valve (Please consult factory)</p>	
	<p>8 Connecting cable main valve 16 ft long</p> <p>120 V, 60 Hz for RM 120 V</p>	<p>0211-157</p>
	<p>11 Connecting cable motor 16 ft long</p> <p>120 V, 60 Hz for RM 120 V</p>	<p>0211-158</p>







Viton® is a registered trademark of DuPont Dow Elastomers.

* Adequate protection against splashwater and accidental contact must be ensured if the flow meter is to be installed separately. Can be achieved in combination with mounting plate (15) and protective cover (16) or equivalent measures.

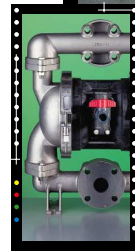
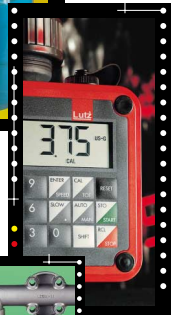
● Suitable for the delivery of combustible and easily inflammable liquids (e.g. ethanol, petrol) and for pumping in potentially explosive environments.

Accessories Lutz Flow Meters

Data line, Mounting plate, Protection cover, Hose bracket, Reducer

Specification	Order-No.	Product detail
<p>13 Main supply cable 16 ft long</p> <p>120 V, 60 Hz</p> <p>for RM 120 V</p>	0211-159	
<p>14 Data line Connects the modules in the case of decentralised installation, 16 ft long</p> <p>for ST, SL, LM, UN, VA I</p>	0211-156 ●	
<p>15 Mounting plate for remote installation For wall-mounting or as a heat protection plate</p> <p>for ST, SL, LM, UN, VA I</p>	0212-010 ●	
<p>16 Protection cover Protects the modules in the case of decentralised plate</p> <p>for ST, SL, LM, UN, VA I</p>	0212-009 ●	
<p>21 Hose bracket for control unit For decentralised installation of the modules on a hose line</p> <p>for ST, SL, LM, UN VA I</p>	0212-600 ●	
<p>22 Reducer Female thread 1 1/4 BSP x 1" NPT</p> <p>Material</p> <p>Stainless steel</p>	0372-019	

● Suitable for the delivery of combustible and easily inflammable liquids (e.g. ethanol, petrol) and for pumping in potentially explosive environments.



Lutz offers the
optimum
solution for
professional
Fluid Management



Lutz Pumps, Inc.

1160 Beaver Ruin Road
Norcross, GA 30093-4898
Phone: (770) 925-1222
(800) 843-3901
Fax: (770) 923-0334

<http://www.lutzpumps.com>
e-mail: info@lutzpumps.com

Drum and Container Pumps · Flow Meters · Double Diaphragm Pumps