

The **new** generation of flow meters  
In Touch with the Future



**Safety is our Concern**

# You can count on Lutz.

Precise work counts more than ever in laboratories as well as in production and fluids handling. Flow measurement must therefore be efficient, economical and, above all, practical – in mobile application as well as in stationary operation.

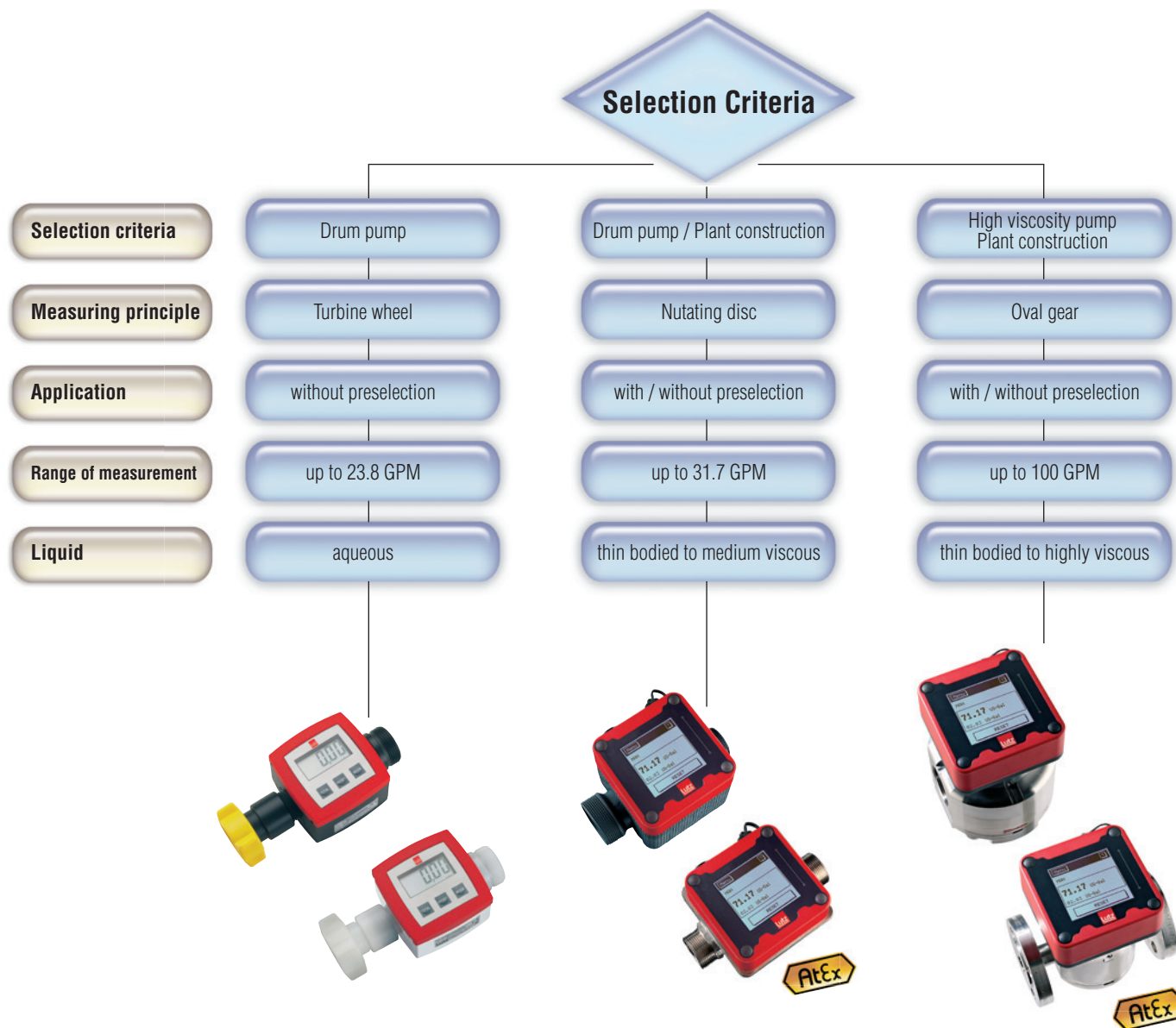
Precise capture of fluid data ensures quality work processes and economical handling of operating resources.

For nearly 20 years, experts have relied on tried-and-true Lutz flow meters – and the new generation of meters will inspire you.

- **TR turbine wheel meter**
- **TS nutating disc meter**
- **HDO oval gear meter**

Scan for  
product video





### TR Series

- ✓ Can be combined with all drum and container pumps
- ✓ Wide measuring range
- ✓ Also for small volume flow
- ✓ Sub totals can be reset

(see pages 10-11)

### TS Series

- ✓ Touch screen display
- ✓ Multilingual menus
- ✓ Simple plain-text operation
- ✓ Plug & play modular design

(see pages 12, 14, 15, 16)

### HDO Series

- ✓ Touch screen display
- ✓ Multilingual menus
- ✓ Simple plain-text operation
- ✓ Plug & play modular design
- ✓ For high flowrates, temperatures and pressures

(see pages 13, 17, 18, 19)





## Flexible to use. A wide array of possibilities:

- Food, gourmet and beverage industry
- Chemical industry
- Petrochemicals
- Chemicals and mineral oils
- Machine shops and metal working
- Automotive industry and suppliers
- Electroplating and surface treatment
- Paint and varnish industry
- Pharmaceuticals and cosmetics
- Plant and apparatus construction
- Engineering and design





There are a lot of measuring devices for fluids.  
But the advantages of the new Lutz flow meters stand out from them all.  
Their precision, flexibility and user-friendliness will win you over.

## Discover the pluses of innovative Lutz technology:

- + Touch screen display
- + Multilingual menus
- + Simple plain-text operation
- + Integrated help function
- + High precision through overrun correction and characteristic adjustment
- + Safety and monitoring functions
- + Simple system connection
- + Plug & play modular design

Scan for  
product video



## Outstanding user-friendliness.

The first flow meter with a **touch screen display** and backlighting will convince you with its simple requirements-oriented display and usability, multilingual interface and compact design.

With **plain-text instructions, system reports and help texts**, as well as **monitoring functions**, its user controls practically eliminate errors. Manual operation is just as possible as external control.

### ■ In Touch with the Future.







## Simply easy to use: Flow measurement with volume preselection.

The relay module – an intelligent cornerstone of Lutz meter innovation – helps you automate work processes and organize more efficiently.

The desired volume can simply be preselected and started with the touch of a button. Whether for mobile use with a drum pump or for controlling complex systems: With easy volume preselection, your processes will be simpler and safer. The pump, the system and/or the solenoid valve are turned on and off by the integrated electronics.

■ **Precise, safe and economical.**



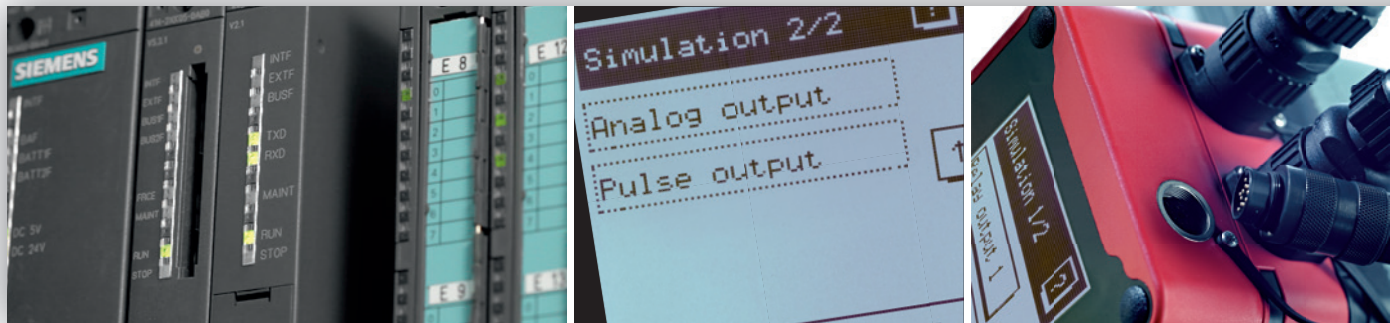


## **Combine to your needs. Easy to assemble.**

The Lutz flow meter can be connected to your system quickly and with no wiring work, using socket connections that can't be confused. The new connection system is assembled like a modular design, allowing individual modules, such as the basic meter, control unit and relay module, to be combined with each other and installed.







## The flexible meter system you can rely on.

- Simple installation and start-up
- External controls and data evaluation  
through standard interfaces
- Modules can be installed separately by location
- Always the best technical and financial solution
- Short maintenance times



Menu ?

MAN

**71.17** US-Gal

82.83 US-Gal

RESET

# Lutz Flow Meter Program

## The Reasonable: Lutz flow meter TR



### Easy handling

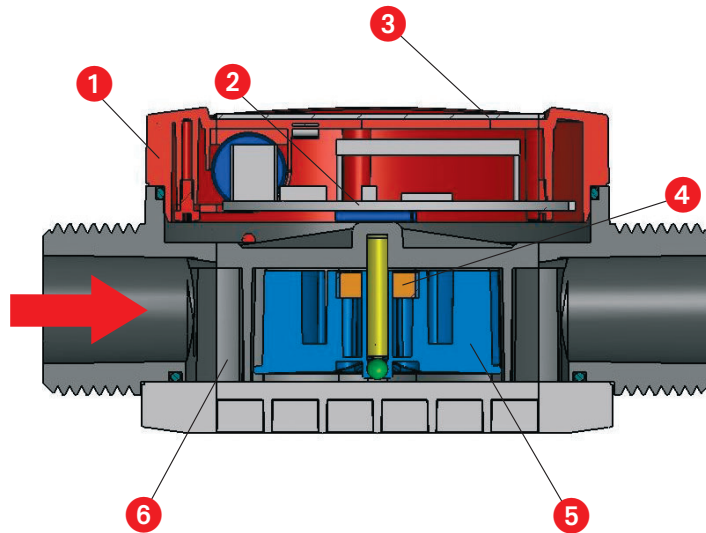
Easy handling, compact built and a quick assemble to all drum and container pumps:  
The Lutz flow meter TR in PP or.

A manageable meter which you can count on in all situations. This flow meter measures accurately thin-bodied, non-inflammable liquids.

### A quick and reliable measurement:

#### How it works

The flowing liquid causes the turbine to rotate thereby it accurately measures the pulses. The measured values are transmitted and processed electronically as a result. Thereupon the digital in front of display shows the sub total and the total volume.



- ❶ Housing top (PP or PVDF)
- ❷ PCB
- ❸ Keypad foil
- ❹ Magnet
- ❺ Radial turbine wheel (PP or PVDF)
- ❻ Measuring chamber (PP or PVDF)



# The economical liquid volume measurement

The choice is yours



Lutz offers complete pumping systems for the laboratory and research sector. The pump set Lutz B2 Vario can be optionally equipped with a flow meter TR90-PP (Order No. 0213-031).



## PP for neutral and aggressive liquids

such as glycol, ferric (III) chloride, hydrochloric acid, phosphoric acid, etc.

## PVDF for highly aggressive fluids

such as chlorine solution, nitric acid, sulphuric acid, etc.

Type		TR90-PP		TR90-PVDF
<b>Material</b>	housing top keypad	PP PES		PVDF PES
<b>Material</b> (in contact with the medium)	measuring chamber turbine shaft, bearing ball seal	PP PP Hastelloy C-2000 (2.4675) FPM		PVDF PVDF Hastelloy C-2000 (2.4675) FPM
<b>Range of measurement</b>	GPM	1.3-23.8		1.3-23.8
<b>Range of viscosity</b>	cps	0.8-40		0.8-40
<b>Operating pressure</b>	psi	58 (at 68 °F)		58 (at 68 °F)
<b>Accuracy of measurement</b>	%	± 1*		± 1*
<b>Repeating accuracy</b>	%	± 0.5		± 0.5
<b>Connection</b>		1" BSP	1 1/4" BSP	1 1/4" BSP
<b>Weight</b>	lbs.	0.7		0.9
<b>Protection class</b>		IP 65		IP 65
<b>Range of temperature</b>	°F	14 up to 122		14 up to 122
<b>Order No.</b>	Assembly at Lutz B2 Vario	<b>0213-031</b>	—	—
<b>Order No.</b>	Assembly at drum pump	—	<b>0213-030</b>	<b>0213-040</b>
<b>Order No.</b>	Assembly at nozzle	—	<b>0213-032</b>	<b>0213-042</b>

\*Test assembly: Medium water, 0.66 ft inlet runs and outlet runs

# Lutz Flow Meter Program

## TS Series: Nutating disc principle



### Product Features

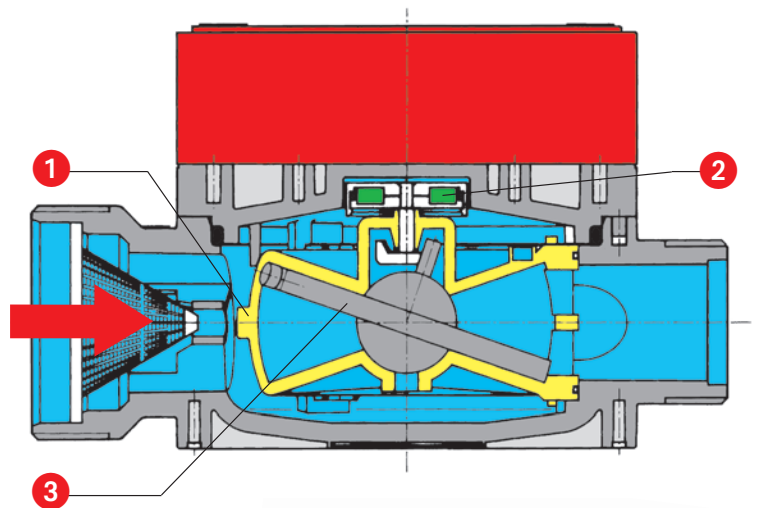
The flow meters in plastic or metal version are nutating disc types and are suitable for the transfer of neutral, aggressive, flammable and viscous liquids.

- Wide application range
- Available in PU version

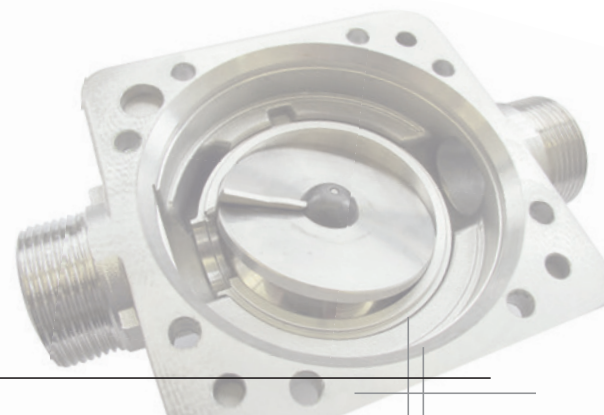
### Take control: TS operates so

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



# Lutz Flow Meter Program

## HDO Series: Oval gear principle



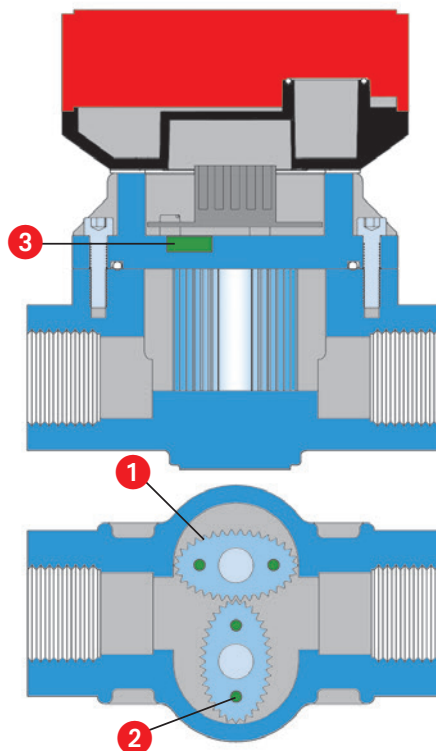
### Product Features

The flow meters in plastic or metal version are oval gear types and are suitable for the transfer of thin bodied to highly viscous liquids.

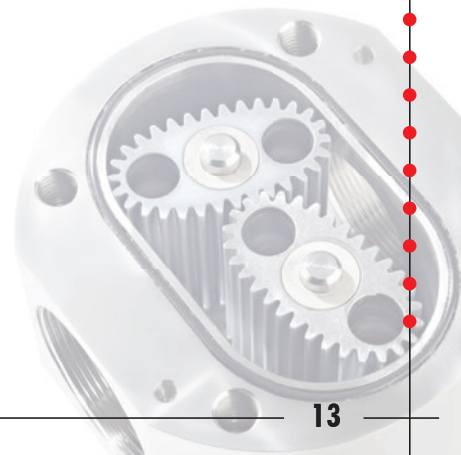
- For high flow volumes, temperatures and pressures
- Few components and wearing parts
- Low pressure loss in the plant

### This is the way the HDO operates

Two oval gears interlocked and displaced by 90° in the meter housing are rotated by the flowing fluid. By means of the two oval gears a defined fluid volume „in portions" is transported. The magnets placed on the rotors are also rotated. A reed contact fitted outside of the measuring chamber records the magnetic impulses produced. The volume of the flowing fluid is determined by the number of impulses recorded.



- 1 Oval gears
- 2 Permanent magnets
- 3 Reed contact





# Flow measurement without volume preselection - TS

for non flammable liquids



Flow meter type VA10 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 ST10	Type SL10	Type VA10	Type HC10
Compatibility:	Consult Lutz chemical resistance table	Consult Lutz chemical resistance table	Consult Lutz chemical resistance table	Consult Lutz chemical resistance table
Flow volume GPM	min. 2.6 – max. 26.4**	min. 2.6 – max. 26.4**	min. 2.6 – max. 26.4	min. 2.6 – max. 26.4
Temperature °F	140	140	176	176
Viscosity cps	2.000	2.000	4.000	4.000
Operating pressure psi	58	58	145	145
Accuracy	+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%	+/- 1%
Inlet port	2" male BSP to fit connector with union nut	2" male BSP to fit connector with union nut	1 1/4" male BSP	1 1/4" male BSP
Outlet port	1 1/4" male BSP	1 1/4" male BSP	1 1/4" male BSP	1 1/4" male BSP
LCD display	Touch-Screen 2.5x2.5 inch 128x128 pixels Display sub-total and total volume can be reset			
Menu language	DE, GB, ES, FR, IT, NL, PT, RU			
Materials:				
Housing	PPO	PPO	Stainless steel (1.4581)*	Hastelloy C (2.4610)
Measuring chamber	PPO/PPS	PPO/PPS	Stainless steel / ETFE / ETFE	HC / ETFE / ETFE
Seals	FPM	FPM	FEP	FEP
Magnet	BaFe / PA / Stainless steel 1.4401	PPS encapsulated	ETFE encapsulated	ETFE encapsulated
Protection class	IP 55	IP 55	IP 55	IP 55
Weight lbs.	2.4	2.4	8.2	8.8
<b>Order No.</b>	<b>0231-000</b>	<b>0231-010</b>	<b>0231-049</b>	<b>0231-059</b>

\* Special materials on request

\*\* Short-time 31.7 GPM

# Flow measurement without volume preselection - TS

for highly flammable liquids



Technical data	Type LM10 Ex	Type UN10 Ex	Type VA10 Ex	Type HC10 Ex
Compatibility:	Consult Lutz chemical resistance table	Consult Lutz chemical resistance table	Consult Lutz chemical resistance table	Consult Lutz chemical resistance table
Flow volume GPM	min. 2.6 – max. 26.4**	min. 2.6 – max. 26.4**	min. 2.6 – max. 26.4	min. 2.6 – max. 26.4
Temperature °F	140	140	140	140
Viscosity cps	2.000	2.000	4.000	4.000
Operating pressure psi	58	58	145	145
Accuracy	+/- 1% standard < 1% with adjustment to application conditions	+/- 1% standard < 1% with adjustment to application conditions	+/- 1%	+/- 1%
Inlet port	2" male BSP to fit connector with union nut	2" male BSP to fit connector with union nut	1 1/4" male BSP	1 1/4" male BSP
Outlet port	1 1/4" male BSP	1 1/4" male BSP	1 1/4" male BSP	1 1/4" male BSP
LCD display	Touch-Screen 2.5x2.5 inch 128x128 pixels Display sub-total and total volume can be reset			
Menu language	DE, GB, ES, FR, IT, NL, PT, RU			
Materials:				
Housing	PPS	PPS	Stainless steel (1.4581)*	Hastelloy C (2.4610)
Measuring chamber	LCP	LCP	Stainless steel / ETFE / ETFE	HC / ETFE / ETFE
Seals	FEP	FEP	FEP	FEP
Magnet	BaFe / MS / Stainless steel 1.4401	PPS encapsulated	ETFE encapsulated	ETFE encapsulated
Type of protection:				
Operating unit	II 2 GEx IIB T4***	II 2 GEx IIB T4***	II 2 GEx IIB T4***	II 2 GEx IIB T4***
Basic flow meter	II 2 G T4	II 2 G T4	II 2 G T4	II 2 G T4
Protection class	IP 55	IP 55	IP 55	IP 55
Weight lbs.	2.4	2.4	8.2	8.9
<b>Order No.</b>	<b>0231-020</b>	<b>0231-030</b>	<b>0231-040</b>	<b>0231-050</b>

\* Special materials on request

\*\* Short-time 31.7 GPM

\*\*\* Also available in protection class II 2 GEx IIC T4

# Flow measurement with volume preselection - TS

for non flammable liquids



Flow meter type VA10 in physiologically safe version (PU). The flow meters are mainly used in the food-, cosmetics- and pharmaceutical industry.

Technical data		Type ST10 / RM10 120 V	Type SL10 / RM10 120 V	Type VA10 / RM10 120 V
Compatibility:		Consult Lutz chemical resistance table	Consult Lutz chemical resistance table	Consult Lutz chemical resistance table
Flow volume	GPM	min. 2.6 – max. 26.4**	min. 2.6 – max. 26.4**	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 BSP to fit connector with union nut	2" male BSP to fit connector with union nut	1 1/4" male BSP
Outlet port		1 1/4" male BSP	1 1/4" male BSP	1 1/4" male BSP
LCD display		Touch-Screen 2.5x2.5 inch 128x128 pixels Display sub-total and total volume can be reset		
Menu language		DE, GB, ES, FR, IT, NL, PT, RU		
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 55	IP 55	IP 55
Weight	lbs.	3.5	3.5	8.8
<b>Relay module RM10</b>				
Voltage	V	100-120		
Frequency	Hz	50-60		
Switching outputs		2 NO (potentially bound)		
Output 1 (pump)		8 A, cos > 0.7		
Output 2 (valve)		0.5 A		
<b>Order No.</b>		<b>0231-002</b>	<b>0231-012</b>	<b>0231-042</b>


\* Special materials on request

\*\* Short-time 31.7 GPM






# Lutz Flow Meter HD0250

for non flammable liquids and easily flammable liquids

- ✓ Housing material plastic or metal
- ✓ For small and medium flow volumes up to 45 GPM
- ✓ **Non Ex-Version:**  
For neutral liquids, many acids and alkalis mineral oil and cosmetic products, food-, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For flammable mineral oil products, easily flammable hydrocarbons and other chemicals in explosion hazardous area
- ✓ With thread- or flange connection



Technical data	Type HD0250P	Type HD0250 Alu/PPS		Type HD0250 SS/PPS		Type HD0250 SS/SS	
Range of measurement:							
below 5 cps	2.1 GPM - 18.5 GPM	1.5 GPM - 45 GPM		1.5 GPM - 45 GPM		1.5 GPM - 45 GPM	
above 5 cps	0.8 GPM - 19.8 GPM	2.5 GPM - 40 GPM		2.5 GPM - 40 GPM		2.5 GPM - 40 GPM	
Temperature	max. 176 °F	max. 176 °F (140 °F**)		max. 176 °F (140 °F**)		max. 168 °F (140 °F**)	
Viscosity max.	1,000 cps	500,000 cps		500,000 cps		500,000 cps	
Operating pressure max.	145 psi	232 psi		232 psi		232 psi	
Accuracy	+/- 0,5% of measured quantity	+/- 0,5% of measured quantity		+/- 0,5% of measured quantity		+/- 0,5% of measured quantity	
Reproducibility	0,03%	0,03%		0,03%		0,03%	
Nominal width	DN 25	DN 25		DN 25		DN 25	
Connections:							
thread/flange	1" female BSP	1" female BSP	PN 16	1" female BSP	PN 16	1" female BSP	PN 16
LCD display	Touch-Screen 2.5x2.5 inch 128x128 pixels Display sub-total and total volume can be reset						
Menu language	DE, GB, ES, FR, IT, NL, PT, RU						
Materials:							
Housing	PPS	Aluminium		Stainless steel (1.4404)		Stainless steel (1.4404)	
Rotors	PPS	PPS		PPS		Stainless steel (1.4401)	
Shaft	Hastelloy C (2.4610)	Stainless steel (1.4404)		Stainless steel (1.4404)		Stainless steel (1.4404)	
Seal	FPM (alt. FEP*)	FPM (alt. FFPM*)		FPM (alt. FFPM*)		FPM (alt. FFPM*)	
Protection class	IP 55	IP 55		IP 55		IP 55	
Weight	2.4 lbs.	4.9 lbs.	6.6 lbs.	10.4 lbs.	13 lbs.	10.6 lbs.	13.2 lbs.
<b>Order No.</b>	<b>Thread</b>	<b>Thread</b>	<b>Flange</b>	<b>Thread</b>	<b>Flange</b>	<b>Thread</b>	<b>Flange</b>
<b>up to 1.000 cps</b>	<b>0231-200</b>	<b>0231-209</b>	<b>0231-210</b>	<b>0231-205</b>	<b>0231-206</b>	<b>0231-201</b>	<b>0231-202</b>
<b>up to 500.000 cps</b>	<b>-</b>	<b>0231-211</b>	<b>0231-212</b>	<b>0231-207</b>	<b>0231-208</b>	<b>0231-203</b>	<b>0231-204</b>

Technical data	Type HD0250 Alu/PPS		Type HD0250 SS/PPS		Type HD0250 SS/SS	
Type of protection:	II 2 G Ex IIB T4*** 		II 2 G Ex IIB T4*** 		II 2 G Ex IIB T4*** 	
Operating unit	II 2 G c T4		II 2 G c T4		II 2 G c T4	
Basic flow meter						
<b>Order No.</b>	<b>Thread</b>	<b>Flange</b>	<b>Thread</b>	<b>Flange</b>	<b>Thread</b>	<b>Flange</b>
<b>up to 1.000 cps</b>	<b>0231-221</b>	<b>0231-222</b>	<b>0231-217</b>	<b>0231-218</b>	<b>0231-213</b>	<b>0231-214</b>
<b>up to 500.000 cps</b>	<b>0231-223</b>	<b>0231-224</b>	<b>0231-219</b>	<b>0231-220</b>	<b>0231-215</b>	<b>0231-216</b>


Optional: \*Additional price HD0 250P: seal FEP Order No. 0211-350, additional price HD0 250P: seal EPDM Order No. 0211-353, additional price HD0 250: seal FFPM Order No. 0230-312

\*\*in Ex-Version \*\*\* Also available in protection class II 2 G Ex IIC T4

Drum pump connection for B70 / HD-E pump – see page 23.




# Lutz Flow Meter HDO400

for non flammable liquids and easily flammable liquids

- ✓ Housing material metal
- ✓ For medium flow volumes up to 65 GPM
- ✓ **Non Ex-Version:**  
For neutral liquids, many acids and alkalis mineral oil and cosmetic products, foods, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For flammable mineral oil products, easily flammable hydrocarbons and other chemicals in explosion hazardous areas
- ✓ With thread- or flange connection



Technical data	Type HDO400 Alu/PPS		Type HDO400 SS/PPS		Type HDO400 SS/SS	
Range of measurement						
below 5 cps	2.5 GPM - 65 GPM		2.5 GPM - 65 GPM		2.5 GPM - 65 GPM	
above 5 cps	4 GPM - 60 GPM		4 GPM - 60 GPM		4 GPM - 60 GPM	
Temperature	max. 176 °F (140 °F**)		max. 176 °F (140 °F**)		max. 248 °F (140 °F**)	
Viscosity max.	500,000 cps		500,000 cps		500,000 cps	
Operating pressure max.	232 psi		232 psi		232 psi	
Accuracy	+/- 0.5% of measured quantity		+/- 0.5% of measured quantity		+/- 0.5% of measured quantity	
Reproducibility	0.03%		0.03%		0.03%	
Nominal width	DN 40		DN 40		DN 40	
Connections: thread/flange	1 1/2" female thread	PN 16	1 1/2" female thread	PN 16	1 1/2" female thread	PN 16
LCD display	Touch-Screen 2.5x2.5 inch 128x128 pixels Display sub-total and total volume can be reset					
Menu language	DE, GB, ES, FR, IT, NL, PT, RU					
Materials:						
Housing	Aluminium		Stainless steel (1.4404)		Stainless steel (1.4404)	
Rotors	PPS		PPS		Stainless steel (1.4401)	
Shaft	Stainless steel (1.4435)		Stainless steel (1.4404)		Stainless steel (1.4404)	
Seal	FPM (alt. FFPM*)		FPM (alt. FFPM*)		FPM (alt. FFPM*)	
Protection class	IP 55		IP 55		IP 55	
Weight	9.9 lbs.	12.1 lbs.	22.9 lbs.	26.5 lbs.	23.1 lbs.	26.7 lbs.
Order No.	Thread	Flange	Thread	Flange	Thread	Flange
up to 1,000 cps	0231-233	0231-234	0231-229	0231-230	0231-225	0231-226
up to 500,000 cps	0231-235	0231-236	0231-231	0231-232	0231-227	0231-228

Technical data	Type HDO400 Alu/PPS Ex		Type HDO400 SS/PPS Ex		Type HDO400 SS/SS Ex	
Type of protection: Operating unit Basic flow meter	II 2 G Ex IIB T4*** II 2 G c T4		II 2 G Ex IIB T4*** II 2 G c T4		II 2 G Ex IIB T4*** II 2 G c T4	
						
Order No.	Thread	Flange	Thread	Flange	Thread	Flange
up to 1,000 cps	0231-245	0231-246	0231-241	0231-242	0231-237	0231-238
up to 500,000 cps	0231-247	0231-248	0231-243	0231-244	0231-239	0231-240

Optional: \*Additional price seal FFPM Order No. 0230-313 \*\*in Ex-Version \*\*\* Also available in protection class II 2 GEx IIC T4  
Drum pump connection for B70 / HD-E pump – see page 23.




# Lutz Flow Meter HD0500

for non flammable liquids and easily flammable liquids

- ✓ Housing material metal
- ✓ For large flow volumes up to 100 GPM
- ✓ **Non Ex-Version:**  
For neutral liquids, many acids and alkalis  
mineral oil and cosmetic products,  
foods, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For flammable mineral oil products, easily  
flammable hydrocarbons and other chemicals  
in explosion hazardous areas
- ✓ With flange connection



Technical data	Type HD0500 Alu/PPS	Type HD0500 SS/PPS	Type HD0500 SS/SS
Range of measurement: below 5 cps above 5 cps	4 GPM - 100 GPM 6 GPM - 100 GPM	4 GPM - 100 GPM 6 GPM - 100 GPM	4 GPM - 100 GPM 6 GPM - 100 GPM
Temperature	max. 176 °F (140 °F**)	max. 176 °F (140 °F**)	max. 248 °F (140 °F**)
Viscosity max.	500,000 cps	500,000 cps	500,000 cps
Operating pressure max.	232 psi	232 psi	232 psi
Accuracy	+/- 0.5% of measured quantity	+/- 0.5% of measured quantity	+/- 0.5% of measured quantity
Reproducibility	0.03%	0.03%	0.03%
Nominal width	DN 50	DN 50	DN 50
Connections: flange	PN 16	PN 16	PN 16
LCD display	Touch-Screen 2.5x2.5 inch 128x128 mm pixels Display sub-total and total volume can be reset		
Menu language	DE, GB, ES, FR, IT, NL, PT, RU		
Materials:			
Housing	Aluminium	Stainless steel (1.4404)	Stainless steel (1.4404)
Rotors	PPS	PPS	Stainless steel (1.4401)
Shaft	Stainless steel (1.4435)	Stainless steel (1.4404)	Stainless steel (1.4404)
Seal	FPM (alt. FFPM*)	FPM (alt. FFPM*)	FPM (alt. FFPM*)
Protection class	IP 55	IP 55	IP 55
Weight	14.6 lbs.	30 lbs.	30.5 lbs.
<b>Order No.</b>	<b>Flange</b>	<b>Flange</b>	<b>Flange</b>
<b>up to 1,000 cps</b>	<b>0231-253</b>	<b>0231-251</b>	<b>0231-249</b>
<b>up to 500,000 cps</b>	<b>0231-254</b>	<b>0231-252</b>	<b>0231-250</b>

Technical data	Type HD0500 Alu/PPS Ex	Type HD0500 SS/PPS Ex	Type HD0500 SS/SS Ex
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 c T4	II 2 G c T4	II 2 G c T4
<b>Order No.</b>	<b>Flange</b>	<b>Flange</b>	<b>Flange</b>
<b>up to 1,000 cps</b>	<b>0231-259</b>	<b>0231-257</b>	<b>0231-255</b>
<b>up to 500,000 cps</b>	<b>0231-260</b>	<b>0231-258</b>	<b>0231-256</b>

Optional: \*Additional price seal: FFPM Order No. 0230-314, Additional price seal: EPDM Order No. 0211-355 \*\* in Ex-Version \*\*\* Also available in protection class II 2 G Ex IIC T4



## Combination made to measure

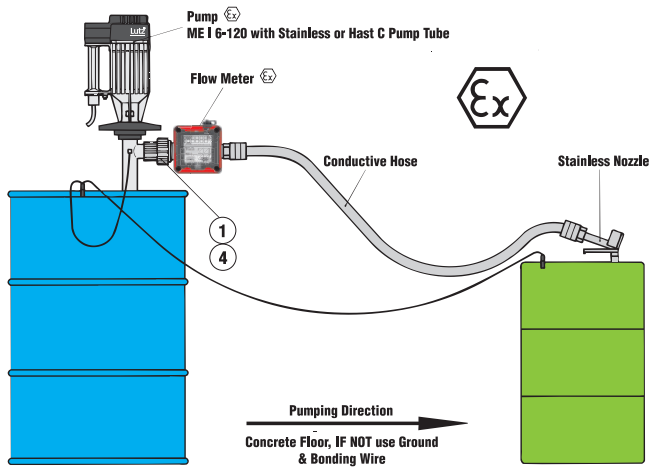
### Advantages of the Lutz flow meters:

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, 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.

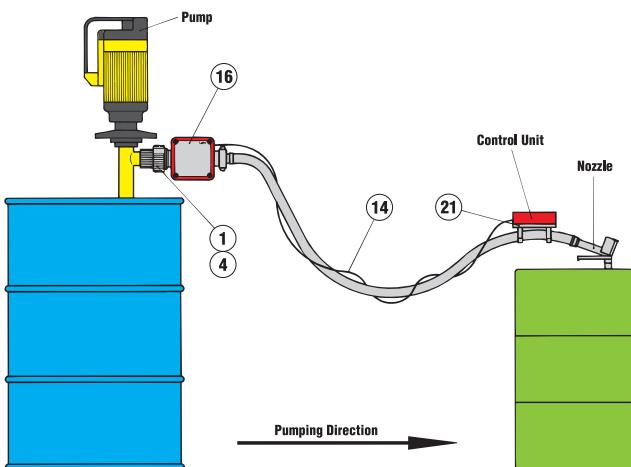


- 1 Drum pump connection
- 4 Non return valve

## Application 2

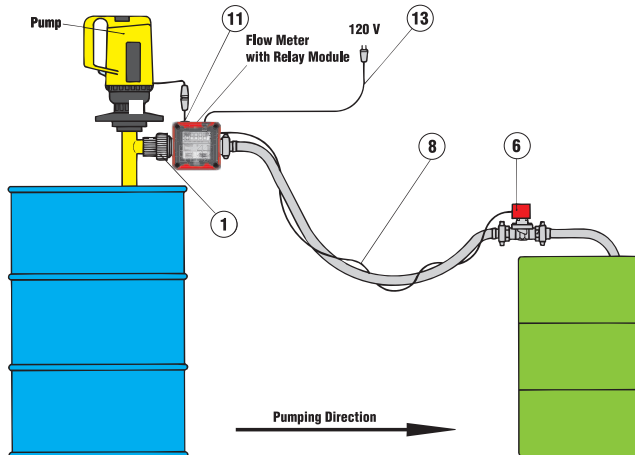
### Remote control

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.



- |           |                               |
|-----------|-------------------------------|
| <b>1</b>  | Drum pump connection          |
| <b>4</b>  | Non return valve              |
| <b>21</b> | Data cable                    |
| <b>22</b> | Protection cover              |
| <b>26</b> | 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.

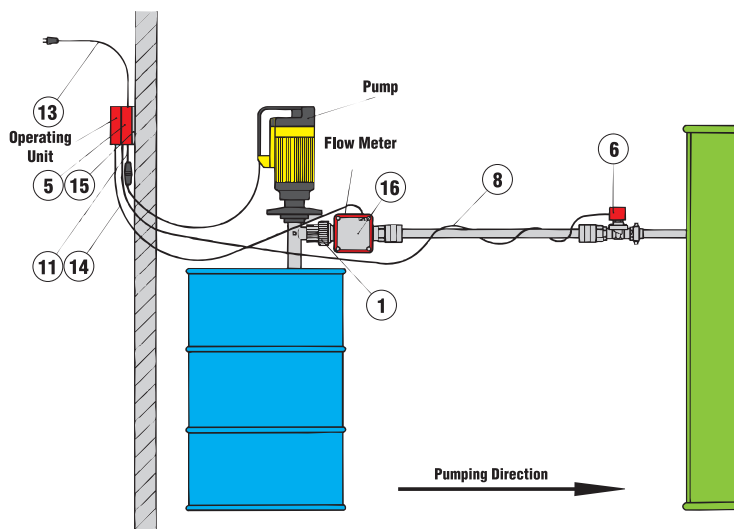
- 1 Drum pump connection
- 19 Solenoid valve
- 11 Connecting cable main valve
- 10 Connecting cable motor
- 9 Main supply cable relay module

## 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
- 19 Solenoid valve
- 11 Connecting cable main valve
- 10 Connecting cable motor
- 9 Main supply cable relay module
- 21 Data cable
- 24 Mounting plate
- 22 Protection cover

# Accessories Lutz Flow Meter Program

for mobile or stationary applications












Specification	Order-No.	Product detail
<b>1 Drum pump connection</b> Connects the flow meter to a drum and container pump.  PPO/FPM 1 1/4" IT for ST10, SL10 <b>0211-130</b> PPS/FPM-FEP 1 1/4" IT for LM10, UN10 <b>0211-132</b> ● Stainless steel/PTFE 1 1/4"- 1 1/4" IT for VA10 <b>0211-211</b> ● Stainless steel/PTFE 1 1/4"- 1 1/2" IT for VA10 <b>0211-214</b> ●		
<b>1 Drum pump connection</b> Connects the flow meter to an eccentric screw pump B70-V or HD-E  PP/PTFE 1" OT x 1 1/4" IT for HDO 250 P <b>0211-332</b> Stainless steel/PTFE 1" OT* x 1 1/4" IT* for HDO 250 <b>0211-330</b> Stainless steel/PTFE 1" OT* x 1 1/2" IT* for HDO 250 <b>0211-331</b>		
<b>2 Double nipple</b> Connects the flow meter to a pipeline system  PP 1" OT x 1 1/4" AG, for drum pump connection 1" OT x 1 1/4" IT <b>5000-070</b> Stainless steel 1" OT x 1 1/4" OT, for drum pump connection 1" OT x 1 1/4" IT <b>5000-073</b> Stainless steel 1" OT x 1 1/2" OT, for drum pump connection 1" OT x 1 1/2" IT <b>0211-340</b>		
<b>4 Thread connection</b> Connects the flow meter to screw-type flanges or threaded screw connections.  PPO/FPM 1 1/4" OT for ST10, SL10 <b>0211-135</b> PPS/FPM-FEP 1 1/4" OT for LM10, UN10 <b>0211-136</b> ●		
<b>Non-return valve</b> Prevents flow back of the liquid in the hose system.  PTFE/FPM for ST10, SL10 <b>0211-140</b> PTFE/FPM-FEP for LM10, UN10 <b>0211-141</b> ● Stainless steel/PTFE for VA10 <b>0372-050</b> ● Opening pressur e: 0.72 psi		

\*OT = Outer BSP / \*IT = Inner BSP

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

# Accessories

## for volume preselection

Product detail	Specification	Order-No.
	<b>5 Relay module RM10</b> Facilitates volume preselection in combination with the appropriate connection cables. 100-120 V, 50-60 Hz for ST10, SL10, VA10 HDO250, HDO400, HDO500	<b>0230-201</b>
	<b>7 Power supply unit NG10 120V</b> Supplies the control unit with power (instead of batteries). This function is already included in relay modules. 100-120 V, 50-60 Hz for ST10, SL10, VA10 HDO250, HDO400, HDO500	<b>0230-230</b>
	<b>Communication module</b> allows the communication with external control systems, analog output (0-20mA, 4-20mA, 0-10 V), analog output, RS485 interface, alarm output, Digital input (external start/stop) <b>8 Communication module KM10K (complete version)</b> with cable protective covering for ST10, SL10, VA10, HDO250, HDO400, HDO500	<b>0230-101</b>
	<b>9 Power cable relay module</b> 16 ft long 120 V for RM10, NG10	<b>0211-159</b>
	<b>10 Connecting cable Motor/Slow 1-way</b> 1.6 ft long 120 V for RM10	<b>0211-158</b>
	<b>11 Connecting cable main valve</b> 16 ft long 120 V for RM10 and RM30	<b>0211-157</b>
	<b>19 Solenoid valve</b> (Please consult factory)	

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## Miscellaneous installation accessories

Specification	Order-No.	Product detail
<b>21 Data cable</b> Connects the modules in the case of decentralised installation. 14-pole, 16 ft long for ST10, SL10, LM10, UN10, VA10, HDO250, HDO400, HDO500 <b>0230-306</b> ●		
14-pole, 32 ft long for ST10, SL10, LM10, UN10, VA10, HDO250, HDO400, HDO500 <b>0230-309</b> ●		
<b>22 Protection cover SH10 with 1 data socket</b> Protects the modules in the case of decentralised installation. for ST10, SL10, LM10, UN10, VA10, HDO250, HDO400, HDO500 <b>0230-350</b> ●		
<b>22 Protection cover SH20 with 2 data socket</b> Protects the modules in the case of decentralised installation. for ST10, SL10, LM10, UN10, VA10, HDO250, HDO400, HDO500 <b>0230-351</b> ●		
<b>Pulse converter</b> for a signal amplification, must be mounted on the basic meter if the distance to the next module is more than 16.5 ft		
<b>23 Pulse converter IW10 with 1 data socket</b> for ST10, SL10, VA10, HDO250, HDO400, HDO500 <b>0230-352</b>		
<b>23 Pulse converter IW20 with 2 data socket</b> for ST10, SL10, VA10, HDO250, HDO400, HDO500 <b>0230-353</b>		
<b>24 All-purpose plate</b> For wall-mounting or as a heat protection plate for ST10, SL10, LM10, UN10, VA10, HDO250, HDO400, HDO500 <b>0230-304</b> ●		
<b>25 Wall bracket set</b> Additional clamp fixing for DIN rails (TS 35) EN 50022 for ST10, SL10, LM10, UN10, VA10, HDO250, HDO400, HDO500 <b>0230-307</b> ● Installation together with all-purpose plate 0230-304. (all-purpose plate not included in wall bracket set)		
<b>26 Hose bracket for control unit</b> For decentralised installation of the modules on a hose line. for ST10, SL10, LM10, UN10, VA10, HDO250, HDO400, HDO500 <b>0230-303</b> ●		

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



# Accessories

## Basic meter for decentralised assembly and external data evaluation

Given larger distances between the measuring and control point or installation locations difficult to access in the plant, the individual modules (basic meter, operating unit, relay module, etc.) can be installed in different locations. The data connection between the components is established by data cable and plug connection without awkward and complicated wiring.

For data transmission to an external signal processor (e.g. SPS), a communication module is necessary.

**A protective cover and a data line are required for the data network.**

Product detail	Specification	Order-No.
	<b>28 Basic meter ST10 (FPM)</b> PPO/PPS/BaFe/FPM	<b>0230-500</b>
	<b>Basic meter SL10 (FPM)</b> PPO/PPS/FPM	<b>0230-510</b>
	<b>Basic meter LM10 (FPM-FEP)</b> PPS/LCP/BaFe/FPM-FEP II 2 G T4	<b>0230-520</b> ●
	<b>Basic meter UN10 (FPM-FEP)</b> PPS/LCP/FPM-FEP II 2 G T4	<b>0230-530</b> ●
	<b>28 Basic meter VA10 (FPM-FEP)</b> Stainless steel 1.4571/PTFE/FEP II 2 G T4	<b>0230-540</b> ●
	<b>28 Basic meter HC10 (FPM-FEP)</b> Hastelloy C 2.4610/PTFE/FEP II 2 G T4	<b>0230-550</b> ●
	<b>28 Basic meter HDO</b> II 2 G c T4 (Stainless steel/Alu)	on request ●
	With hall effect sensor, 4-20 mA outlet or tri-clamp connection on request	

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

# Flow meter planning made easy

Copy – fill in – fax to your nearest Lutz Distributor



Customer No.: \_\_\_\_\_ Zipcode/City: \_\_\_\_\_  
Company: \_\_\_\_\_ Country/State: \_\_\_\_\_  
Name: \_\_\_\_\_ Phone/Extension: \_\_\_\_\_  
Department: \_\_\_\_\_ Fax: \_\_\_\_\_  
P.O.Box/Street: \_\_\_\_\_ E-Mail: \_\_\_\_\_

## 1. Which meter execution

- ☐ Turbine wheel meter Series TR  
☐ Nutating disc meter Series TS  
☐ Oval gear meter Series HDO

## 2. Which medium

Designation: \_\_\_\_\_  
Chemical formula: \_\_\_\_\_  
Concentration: \_\_\_\_\_ %  
Hazardous duty: ☐ yes ☐ no  
Specific gravity: \_\_\_\_\_ lb/ft<sup>3</sup> \_\_\_\_\_ kg/dm<sup>3</sup>  
Viscosity: cps mPas \_\_\_\_\_ cps \_\_\_\_\_ mPas  
Pumped fluid temperature: \_\_\_\_\_ degF \_\_\_\_\_ °C  
Ambient temperature: \_\_\_\_\_ degF \_\_\_\_\_ °C  
Solid content: ☐ yes ☐ no

Which materials are resistant to the medium according to your own experience? \_\_\_\_\_

Safety data sheet available? ☐ yes ☐ no

## 3. Operating conditions

Flow rate: \_\_\_\_\_ GPM (US) \_\_\_\_\_ l/min.  
Operating pressure: \_\_\_\_\_ ft. or \_\_\_\_\_ PSIG  
\_\_\_\_\_ m or \_\_\_\_\_ bar  
Filling quantities/batch sizes: \_\_\_\_\_ gal (US) \_\_\_\_\_ Liter

Operating conditions: ☐ Without pre-selection  
☐ With pre-selection

If pre-selection, control of:

☐ Pump motor \_\_\_\_\_ Volt \_\_\_\_\_ Hz  
☐ 2/2 way solenoid valve \_\_\_\_\_ Volt \_\_\_\_\_ Hz

## 4. Installation of the meter

☐ Mounted on the pump  
☐ Fitted in-line systems \_\_\_\_\_ DN(DIN) \_\_\_\_\_ DN(ANSI)

## 5. Decentral installation

☐ Handling by PLC  
☐ Control unit installed separately (e.g. control cabinet or room)  
\_\_\_\_\_ ft. \_\_\_\_\_ m  
(Distance between control unit and basic meter)

## 6. Your desires

Here you can describe your cases of application or add remarks:

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