

# The Generation of Flow Meters In Touch with the Future

Turbine Wheel Meter TR Series  
Nutating Disc Meter TS Series  
Oval Gear Meter HDO Series



**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.

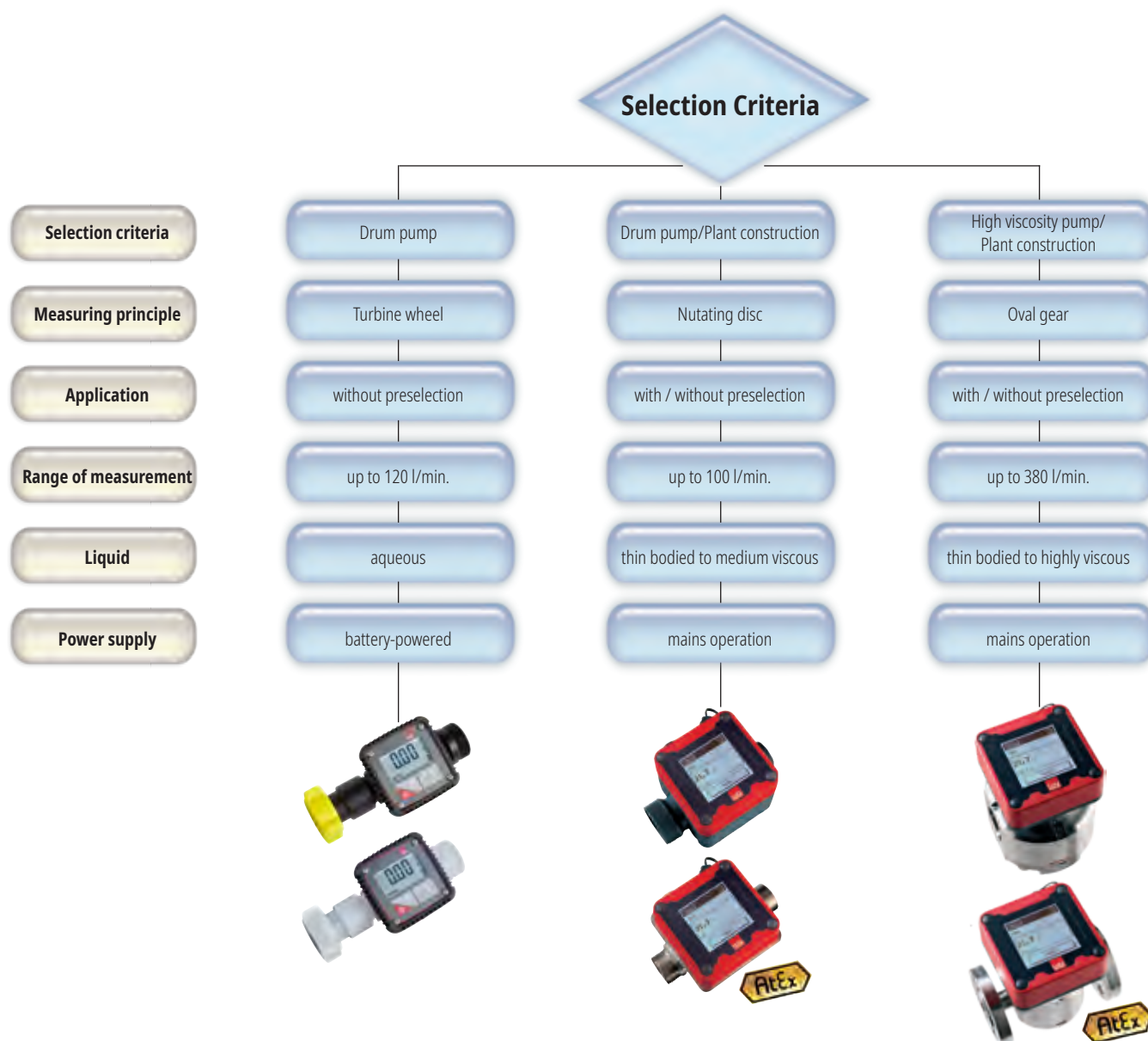
Precise capture of fluid data ensures quality work processes and economical handling of operating resources.

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**

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product video





### TR Series

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

(see pages 4-5)

### TS Series

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

(see pages 6-15)

### HDO Series

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

(see pages 16-23)

# Lutz flow meter program

## The Reasonable: Lutz flow meter TR

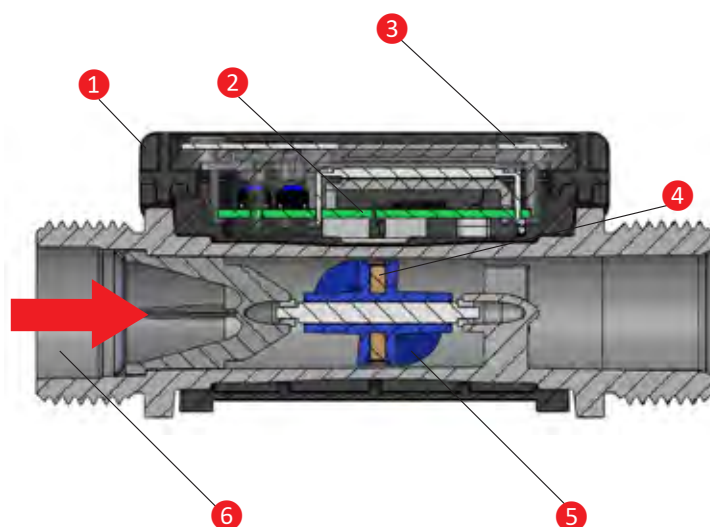


### Easy to operate

Easy to operate, compact and quick to install on all drum and container pumps: The new Lutz flow meter TR3 in PP or PVDF. A flow meter, easy to handle, that you can „count on“ in any situation. The symmetrical measuring chamber can be used for all flow directions and measures low-viscosity, non-flammable substances precisely, quickly and above all efficiently.

### With drive to the measurement result

The new TR3 with illuminated, digital display according to the measuring principle of a turbine wheel meter has a two-line LED display showing the current output and the total memory or the 8 partial quantity memories. The display can be mounted adapted to the viewing angle or moved when mounted. The measuring accuracy is better than  $\pm 1\%$ , the nominal operating pressure is 10 bar.



#### Benefits:

- Flexible installation
- Variable display alignment
- Larger volume flow range
- Easy change of battery

- 1 Housing top (PC) with shock protector (NBR)
- 2 PCB
- 3 Keypad foil
- 4 Magnet
- 5 Axial flow 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

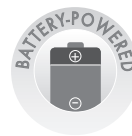
such as glycol, ferric (III) chloride, hydrochloric acid, phosphoric acid, etc.



## PVDF for highly aggressive fluids

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

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 TR3-PP (Order No. 0213-051).



| Type                                            |                                    | TR3-PP                                |                 | TR3-PVDF                              |                 |
|-------------------------------------------------|------------------------------------|---------------------------------------|-----------------|---------------------------------------|-----------------|
| <b>Material</b>                                 | Housing top                        | PC                                    |                 | PC                                    |                 |
|                                                 | Housing                            | POM                                   |                 | POM                                   |                 |
|                                                 | Keypad                             | PES                                   |                 | PES                                   |                 |
|                                                 | Shock protector                    | NBR                                   |                 | NBR                                   |                 |
| <b>Material</b><br>(in contact with the medium) | Measuring chamber                  | PP                                    |                 | PVDF                                  |                 |
|                                                 | Rotor                              | PP                                    |                 | PVDF                                  |                 |
|                                                 | Shaft                              | Hastelloy C-22                        |                 | Hastelloy C-22                        |                 |
|                                                 | Bearing ball                       | PTFE                                  |                 | PTFE                                  |                 |
|                                                 | Seal                               | PTFE                                  |                 | PTFE                                  |                 |
| <b>Range of measurement</b>                     |                                    | 5-120 l/min.                          |                 | 5-120 l/min.                          |                 |
| <b>Range of viscosity</b>                       |                                    | 0.8-40 mPas                           |                 | 0.8-40 mPas                           |                 |
| <b>max. operating pressure</b>                  |                                    | 10 bar                                |                 | 10 bar                                |                 |
| <b>Measuring accuracy (uncalibrated)</b>        |                                    | ± 2%*                                 |                 | ± 2%*                                 |                 |
| <b>Measuring accuracy (calibrated)</b>          |                                    | ± 1%*                                 |                 | ± 1%*                                 |                 |
| <b>Repeating accuracy</b>                       |                                    | ± 0,5%                                |                 | ± 0,5%                                |                 |
| <b>Connection</b>                               |                                    | G 1                                   | G 1 1/4         | G 1                                   | G 1 1/4         |
| <b>Protection class</b>                         |                                    | IP 65                                 |                 | IP 65                                 |                 |
| <b>Battery</b>                                  |                                    | Two 1.5 V batteries (AAA) replaceable |                 | Two 1.5 V batteries (AAA) replaceable |                 |
| <b>Range of temperature</b>                     |                                    | -10 up to +50 °C                      |                 | -10 up to +50 °C                      |                 |
| <b>Dimensions</b>                               |                                    | 85 x 123 x 52 mm                      |                 | 85 x 123 x 52 mm                      |                 |
| <b>Weight</b>                                   |                                    | 0.22 kg                               |                 | 0.24 kg                               |                 |
| <b>Order No.</b>                                | Assembly at B1/B2 Battery/B2 Vario | <b>0213-051</b>                       | –               | <b>0213-061</b>                       | –               |
| <b>Order No.</b>                                | Assembly at drum pump              | –                                     | <b>0213-050</b> | –                                     | <b>0213-060</b> |
| <b>Order No.</b>                                | Assembly at nozzle                 | –                                     | <b>0213-052</b> | –                                     | <b>0213-062</b> |

\* Test assembly: Medium: water/diesel, flow in the preferred direction, settling section of 0.2 m on inlet and outlet of the flow meter

# Lutz flow meter program

TS Series: Nutating disc principle



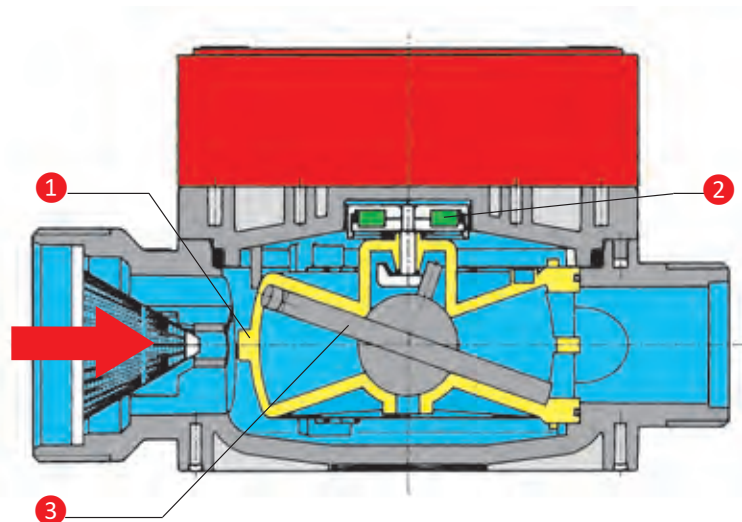
## Product Features

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

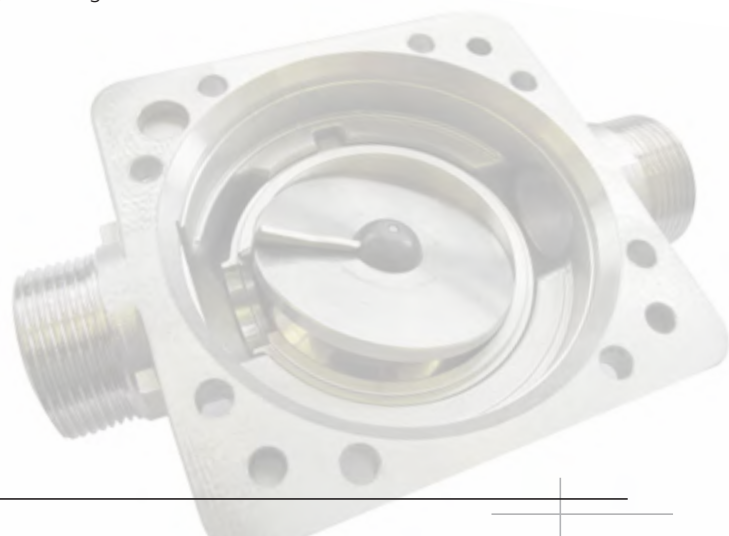
- Wide application range
- Optionally in PURE version

## 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

The innovative: Lutz flow meter TS

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.

Scan for  
product video



## Discover the pluses of innovative Lutz technology:

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





## 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.**

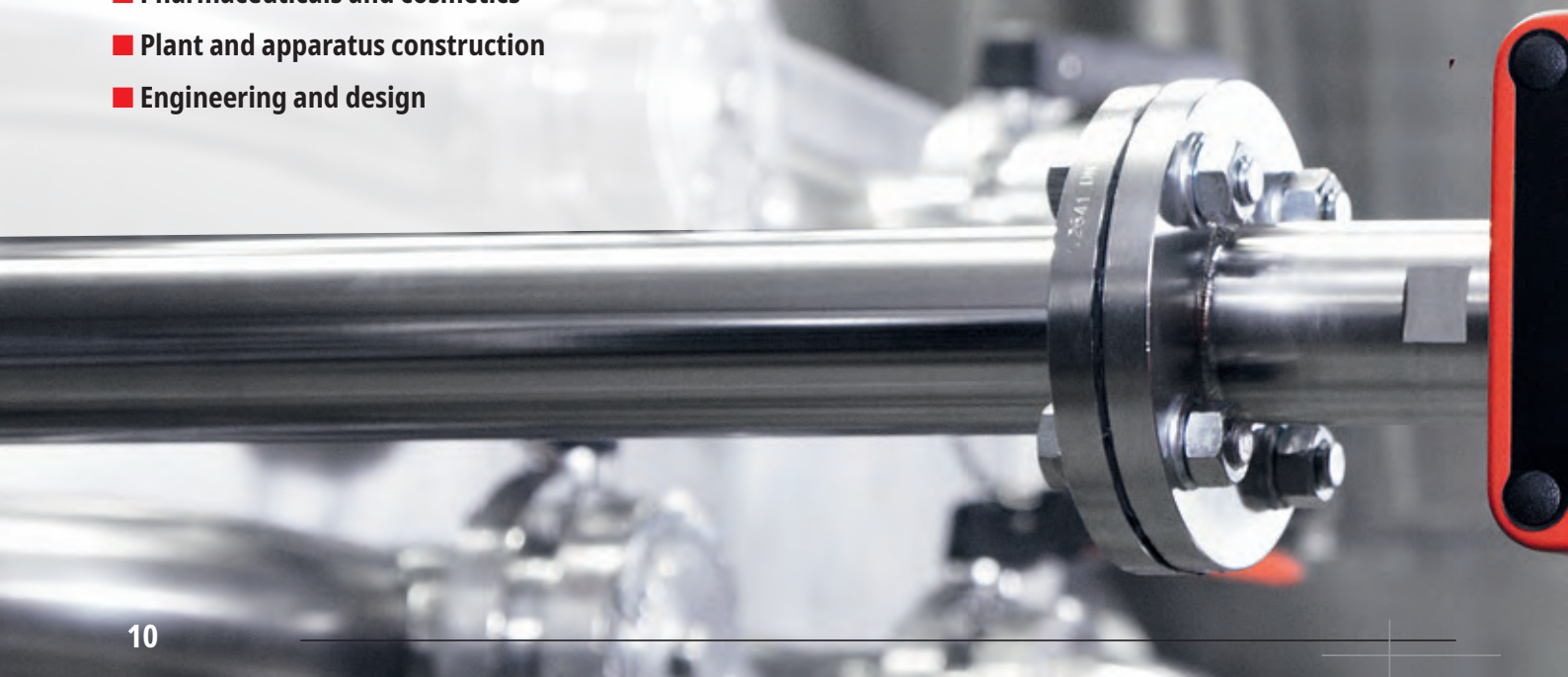


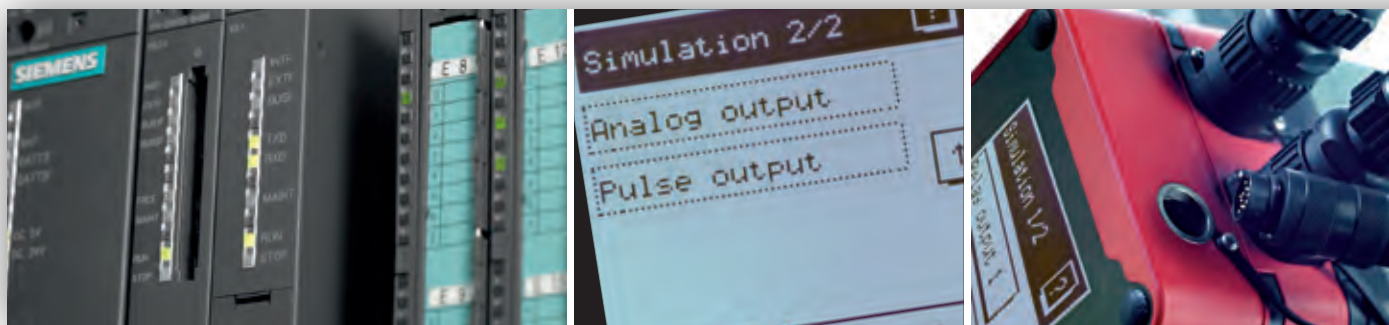
## **Combine to your needs. Easy to assemble.**

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.

### **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





## 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





# Flow measurement without volume preselection - TS

for non inflammable liquids



Flow meters type VA10 in PURE-version are optionally available for the food-, cosmetics and pharmaceutical industry.

| Technical data     | Type ST10                                                                              | Type SL10                                                       | Type VA10                                   |
|--------------------|----------------------------------------------------------------------------------------|-----------------------------------------------------------------|---------------------------------------------|
| Range of use       | Neutral liquids like water, mineral oils.                                              | Abrasive liquids like acids and alkalis.                        | Many acids, alkalis and other liquids.      |
| Flow volume        | min. 10 – max. 100** l/min.                                                            | min. 10 – max. 100** l/min.                                     | min. 10 – max. 100 l/min.                   |
| Temperature        | 60 °C                                                                                  | 60 °C                                                           | 80 °C                                       |
| Viscosity          | 2.000 mPas                                                                             | 2.000 mPas                                                      | 5.000 mPas                                  |
| Operating pressure | 4 bar                                                                                  | 4 bar                                                           | 10 bar                                      |
| Accuracy           | ± 1% standard<br>< 1% with adjustment to application conditions                        | ± 1% standard<br>< 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        | Touch-Screen 63x63 mm, 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/ 1.4571)*           |
| Measuring chamber  | PPO/PPS                                                                                | PPO/PPS                                                         | Stainless steel (1.4581/1.4571) ETFE / PTFE |
| Seals              | FPM                                                                                    | FPM                                                             | FEP                                         |
| Magnet             | BaFe / PA / Stainless steel1.4401                                                      | PPS encapsulated                                                | PTFE encapsulated                           |
| Protection class   | IP 55                                                                                  | IP 55                                                           | IP 55                                       |
| Weight             | 1,1 kg                                                                                 | 1,1 kg                                                          | 3,7 kg                                      |
| <b>Order No.</b>   | <b>0231-000</b>                                                                        | <b>0231-010</b>                                                 | <b>0231-049</b>                             |

\* Special materials on request General information to the chemical resistance of the different flow meters you will find in our chemical resistance list.  
 \*\*Short-time 120 l/min.

## Recommended Accessories: Power supply unit NG10\*\*\*

|                  |                 |
|------------------|-----------------|
| Voltage          | 220-230 V       |
| Frequency        | 50-60 Hz        |
| <b>Order No.</b> | <b>0230-230</b> |

\*\*\* Limited battery operation without power supply unit possible.

# Flow measurement without volume preselection - TS

for highly inflammable liquids



Flow meters type VA10 in PURE-version are optionally available for the food-, cosmetics and pharmaceutical industry.

| Technical data                                            | Type LM10 Ex                                                                           | Type UN10 Ex                                                        | Type VA10 Ex                                                                               |
|-----------------------------------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 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                                               | min. 10 – max. 100** l/min.                                                            | min. 10 – max. 100** l/min.                                         | min. 10 – max. 100 l/min.                                                                  |
| Temperature                                               | 60 °C                                                                                  | 60 °C                                                               | 60 °C                                                                                      |
| Viscosity                                                 | 2.000 mPas                                                                             | 2.000 mPas                                                          | 5.000 mPas                                                                                 |
| Operating pressure                                        | 4 bar                                                                                  | 4 bar                                                               | 10 bar                                                                                     |
| Accuracy                                                  | ± 1% standard<br>< 1% with adjustment to application conditions                        | ± 1% standard<br>< 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                                               | Touch-Screen 63x63 mm, 128x128 pixels, Display sub-total and total volume can be reset |                                                                     |                                                                                            |
| Menu language                                             | DE, GB, ES, FR, IT, NL, PT, RU                                                         |                                                                     |                                                                                            |
| Materials:<br>Housing<br>Measuring chamber                | PPS<br>LCP                                                                             | PPS<br>LCP                                                          | Stainless steel (1.4581/1.4571)*<br>Stainless steel (1.4581/1.4571) ETFE/PTFE              |
| Seals<br>Magnet                                           | FEP<br>BaFe / MS / Stainless steel 1.4401                                              | FEP<br>PPS encapsulated                                             | FEP<br>PTFE encapsulated                                                                   |
| Type of pretection:<br>Operating unit<br>Basic flow meter | II 2G Ex ib IIB T4 Gb***<br>II 2G T4 Gb                                                | II 2G Ex ib IIB T4 Gb***<br>II 2G T4 Gb                             | II 2G Ex ib IIB T4 Gb***<br>II 2G T4 Gb                                                    |
| Protection class                                          | IP 55                                                                                  | IP 55                                                               | IP 55                                                                                      |
| Weight                                                    | 1,1 kg                                                                                 | 1,1 kg                                                              | 3,7 kg                                                                                     |
| <b>Order No.</b>                                          | <b>0231-020</b>                                                                        | <b>0231-030</b>                                                     | <b>0231-040</b>                                                                            |

\* Special materials on request General information to the chemical resistance of the different flow meters you will find in our chemical resistance list. \*\*Short-time 120 l/min. \*\*\*Protection class II 2G Ex ib IIC T4 Gb on request

## Recommended Accessories: Power supply unit NG10\*\*\*

|                  |                 |
|------------------|-----------------|
| Voltage          | 220-230 V       |
| Frequency        | 50-60 Hz        |
| <b>Order No.</b> | <b>0230-230</b> |

\*\*\* Limited battery operation without power supply unit possible.

# Flow measurement with volume preselection - TS

for non inflammable liquids



Flow meters type VA10 in PURE-version are optionally available for the food-, cosmetics and pharmaceutical industry.

| Technical data           | Type ST10 / RM10 230 V                                                                 | Type SL10 / RM10 230 V                                          | Type VA10 / RM10 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              | min. 10 – max. 100** l/min.                                                            | min. 10 – max. 100** l/min.                                     | min. 10 – max. 100 l/min.                 |
| Temperature              | 60 °C                                                                                  | 60 °C                                                           | 80 °C                                     |
| Viscosity                | 2.000 mPas                                                                             | 2.000 mPas                                                      | 5.000 mPas                                |
| Operating pressure       | 4 bar                                                                                  | 4 bar                                                           | 10 bar                                    |
| Accuracy                 | ± 1% standard<br>< 1% with adjustment to application conditions                        | ± 1% standard<br>< 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              | Touch-Screen 63x63 mm, 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 (1.4581/1.4571)*          |
| Measuring chamber        | PPO/PPS                                                                                | PPO/PPS                                                         | Stainless steel (1.4581/1.4571) ETFE/PTFE |
| Seals                    | FPM                                                                                    | FPM                                                             | FEP                                       |
| Magnet                   | BaFe / PA / Stainless steel 1.4401                                                     | PPS encapsulated                                                | PTFE encapsulated                         |
| Protection class         | IP 55                                                                                  | IP 55                                                           | IP 55                                     |
| Weight                   | 1,6 kg                                                                                 | 1,6 kg                                                          | 4,1 kg                                    |
| <b>Relay module RM10</b> |                                                                                        |                                                                 |                                           |
| Voltage                  | 220-230 V                                                                              |                                                                 |                                           |
| Frequency                | 50-60 Hz                                                                               |                                                                 |                                           |
| Switching outputs        | 2 NO (potentially bound)                                                               |                                                                 |                                           |
| Output 1 (pump)          | 8 A, cos > 0,7                                                                         |                                                                 |                                           |
| Output 2 (valve)         | 0,5 A                                                                                  |                                                                 |                                           |
| Order No.                | 0231-001                                                                               | 0231-011                                                        | 0231-041                                  |

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

\*\*Short-time 120 l/min.



# Flow measurement with volume preselection - TS

for highly inflammable liquids



Flow meters type VA10 in PURE-version are optionally available for the food-, cosmetics and pharmaceutical industry.

| Technical data                | Type LM10 / Ex-RM10dK                                                                  | Type UN10 / Ex-RM10dK                                               | Type VA10 / Ex-RM10dK                                                                      |
|-------------------------------|----------------------------------------------------------------------------------------|---------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| 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                   | min. 10 – max. 100** l/min.                                                            | min. 10 – max. 100** l/min.                                         | min. 10 – max. 100 l/min.                                                                  |
| Temperature                   | 40 °C                                                                                  | 40 °C                                                               | 40 °C                                                                                      |
| Viscosity                     | 2.000 mPas                                                                             | 2.000 mPas                                                          | 5.000 mPas                                                                                 |
| Operating pressure            | 4 bar                                                                                  | 4 bar                                                               | 10 bar                                                                                     |
| Accuracy                      | ± 1% standard<br>< 1% with adjustment to application conditions                        | ± 1% standard<br>< 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                   | Touch-Screen 63x63 mm, 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 (1.4581/1.4571)*                                                           |
| Measuring chamber             | LCP                                                                                    | LCP                                                                 | Stainless steel (1.4581/1.4571) ETFE/PTFE                                                  |
| Seals                         | FEP                                                                                    | FEP                                                                 | FEP                                                                                        |
| Magnet                        | BaFe / MS / Stainless steel 1.4401                                                     | PPS encapsulated                                                    | PTFE encapsulated                                                                          |
| Type of pretection:           |                                                                                        |                                                                     |                                                                                            |
| Operating unit                | II 2G Ex ib IIB T4 Gb***                                                               | II 2G Ex ib IIB T4 Gb***                                            | II 2G Ex ib IIB T4 Gb***                                                                   |
| Basic flow meter              | II 2G T4 Gb                                                                            | II 2G T4 Gb                                                         | II 2G T4 Gb                                                                                |
| Protection class              | IP 55                                                                                  | IP 55                                                               | IP 55                                                                                      |
| Weight                        | 4,3 kg                                                                                 | 4,3 kg                                                              | 6,7 kg                                                                                     |
| <b>Relay module Ex-RM10dK</b> |                                                                                        |                                                                     |                                                                                            |
| Voltage                       | 220-230 V                                                                              |                                                                     |                                                                                            |
| Frequency                     | 50-60 Hz                                                                               |                                                                     |                                                                                            |
| Switching outputs             | 2 NO (potentially bound)                                                               |                                                                     |                                                                                            |
| Output 1 (pump)               | 8 A, cos > 0,7                                                                         |                                                                     |                                                                                            |
| Output 2 (valve)              | 0,5 A                                                                                  |                                                                     |                                                                                            |
| Type of protection            | II 2G Ex de [ib Gb] IIC T6 Gb                                                          |                                                                     |                                                                                            |
| <b>Order No.</b>              | <b>0231-020 + 0230-251</b>                                                             | <b>0231-030 + 0230-251</b>                                          | <b>0231-040 + 0230-251</b>                                                                 |

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

\*\* Short-time 120 l/min.

\*\*\* Protection class II 2G Ex ib IIC T4 Gb on request

# Lutz Flow Meter Program

HDO Series: Oval gear principle

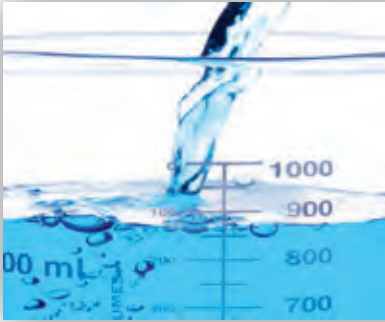


## Product Features

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

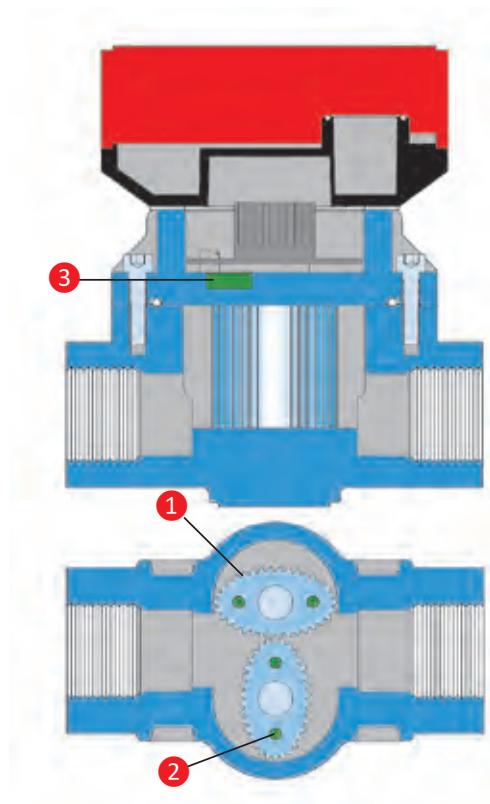




### This is the way the HDO operates

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



# Lutz Flow Meter HDO 080 with pulse output

## for very small flow volumes

- ✓ Housing material metal
- ✓ For very small flow volumes up to 8,3 l/min
- ✓ Compact basic flow meter with 0.3 m connecting cable and plug for connection to external operating unit
- ✓ For neutral liquids, many acids and alkalis, mineral oils, easily inflammable hydrocarbons, solvents, paints and lacquers, etc.
- ✓ With thread connection



| Technical data                                        | Type HDO 080 SS/SS                                                                                         |
|-------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Range of measurement:<br>below 5 mPas<br>above 5 mPas | 0.44 l/min - 8.3 l/min<br>0.25 l/min - 8.3 l/min                                                           |
| Temperature                                           | max. 80 °C                                                                                                 |
| Viscosity max.                                        | 1.000 mPas                                                                                                 |
| Operating pressure max.                               | 16 bar                                                                                                     |
| Accuracy                                              | below 5 mPas $\pm 2.5\%$ of measured quantity<br>above 5 mPas $\pm 1\%$ of measured quantity               |
| Reproducibility                                       | $\pm 0.03\%$                                                                                               |
| Nominal width                                         | DN 8                                                                                                       |
| Connections:<br>thread/flange                         | G 1/4 IG                                                                                                   |
| LCD display                                           | Basic flow meter without operating unit<br>(suitable operating unit: BE10/BE10 Ex see accessories)         |
| Materials:<br>Housing<br>Rotors<br>Shaft<br>Seal      | Stainless steel (1.4571)<br>Stainless steel (1.4571)<br>Stainless steel (1.4571)<br>FPM (alt, FFPM, EPDM)* |
| Weight                                                | 0.7 kg                                                                                                     |
| Type of protection:<br>Basic flow meter               | II 2G Ex h IIB T4 Gb                                                                                       |
| <b>Order No.</b>                                      | <b>Thread</b>                                                                                              |
| <b>up to 1.000 mPas</b>                               | <b>0230-600</b>                                                                                            |

Optional:

\*Additional price seal FFPM Order No. 0230-316

Additional price Seal EPDM Order No. 0230-322

# Lutz Flow Meter HDO 120

for non inflammable liquids and easily inflammable liquids

- ✓ Housing material metal
- ✓ For small flow volumes up to 30 l/min
- ✓ **Non Ex-Version:**  
For neutral liquids, many acids and alkalis  
mineral oil, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For inflammable mineral oil products, easily  
flammable hydrocarbons and other chemicals  
in explosion hazardous area
- ✓ With thread connection



| Technical data          | Type HDO 120 Alu/LCP                                                                   | Type HDO 120 SS/SS                                                               |
|-------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|
| Range of measurement:   |                                                                                        |                                                                                  |
| below 5 mPas            | 2 l/min - 25 l/min                                                                     | 2 l/min - 25 l/min                                                               |
| above 5 mPas            | 1 l/min - 30 l/min                                                                     | 1 l/min - 30 l/min                                                               |
| Temperature             | max. 80 °C (60 °C**)                                                                   | max. 120 °C (60 °C**)                                                            |
| Viscosity max.          | 1.000 mPas                                                                             | 1.000 mPas                                                                       |
| Operating pressure max. | 16 bar                                                                                 | 16 bar                                                                           |
| Accuracy                | below 5mPas ± 2% of measured quantity<br>above 5mPas ± 0,5% of measured quantity       | below 5mPas ± 2% of measured quantity<br>above 5mPas ± 0,5% of measured quantity |
| Reproducibility         | ± 0.03%                                                                                | ± 0.03%                                                                          |
| Nominal width           | DN 12                                                                                  | DN 12                                                                            |
| Connections:            |                                                                                        |                                                                                  |
| thread/flange           | G 1/2 IG                                                                               | G 1/2 IG                                                                         |
| LCD display             | Touch-Screen 63x63 mm, 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)                                                         |
| Rotors                  | LCP                                                                                    | Stainless steel (1.4404)                                                         |
| Shaft                   | Stainless steel (1.4404)                                                               | Stainless steel (1.4404)                                                         |
| Seal                    | FPM (alt. FFPM, EPDM)*                                                                 | FPM (alt. FFPM, EPDM)*                                                           |
| Protection class        | IP 55                                                                                  | IP 55                                                                            |
| Weight                  | 2.1 kg                                                                                 | 4.5 kg                                                                           |
| <b>Order No.</b>        | <b>Thread</b>                                                                          | <b>Thread</b>                                                                    |
| <b>up to 1.000 mPas</b> | <b>0231-101</b>                                                                        | <b>0231-100</b>                                                                  |

| Technical data          | Type HDO 120 Alu/LCP Ex                                                                                      | Type HDO 120 SS/SS Ex                                                                                          |
|-------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| Type of protection:     |                                                                                                              |                                                                                                                |
| Operating unit          | II 2G Ex ib IIB T4 Gb***  | II 2G Ex ib IIB T4 Gb***  |
| Basic flow meter        | II 2G Ex h IIB T4 Gb                                                                                         | II 2G Ex h IIB T4 Gb                                                                                           |
| <b>Order No.</b>        | <b>Thread</b>                                                                                                | <b>Thread</b>                                                                                                  |
| <b>up to 1.000 mPas</b> | <b>0231-103</b>                                                                                              | <b>0231-102</b>                                                                                                |

Optional: \*Additional price seal FFPM Order No. 0230-315, Additional price seal EPDM Order No. 0230-321 \*\*in Ex-Version \*\*\* Protection class II 2G Ex ib IIC T4 Gb on request.

| Recommended Accessories: Power supply unit NG10*** |                 |
|----------------------------------------------------|-----------------|
| Voltage                                            | 220-230 V       |
| Frequency                                          | 50-60 Hz        |
| <b>Order No.</b>                                   | <b>0230-230</b> |

\*\*\*\* Limited battery operation without power supply unit possible. Installation of power supply unit outside of the explosion hazard area required..

# Lutz Flow Meter HDO 200

for non inflammable liquids and easily inflammable liquids

- ✓ Housing material metal
- ✓ For small and medium flow volumes up to 60 l/min
- ✓ **Non Ex-Version:**  
For neutrals liquids, many acids and alkalis  
mineral oil, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For inflammable mineral oil products, easily  
flammable hydrocarbons and other chemicals  
in explosion hazardous area
- ✓ With thread connection



| Technical data                                        | Type HDO 200 Alu/LCP                                                                                     | Type HDO 200 SS/SS                                                                                         |
|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| Range of measurement:<br>below 5 mPas<br>above 5 mPas | 4.5 l/min - 53 l/min<br>2 l/min - 60 l/min                                                               | 4.5 l/min - 53 l/min<br>2 l/min - 60 l/min                                                                 |
| Temperature                                           | max. 80 °C (60 °C**)                                                                                     | max. 120 °C (60 °C**)                                                                                      |
| Viscosity max.                                        | 1.000 mPas                                                                                               | 1.000 mPas                                                                                                 |
| Operating pressure max.                               | 16 bar                                                                                                   | 16 bar                                                                                                     |
| Accuracy                                              | below 5 mPas ± 2% of measured quantity<br>above 5 mPas ± 0,5% of measured quantity                       | below 5 mPas ± 2 % of measured quantity<br>above 5 mPas ± 0,5% of measured quantity                        |
| Reproducibility                                       | ± 0.03%                                                                                                  | ± 0.03%                                                                                                    |
| Nominal width                                         | DN 20                                                                                                    | DN 20                                                                                                      |
| Connections:<br>thread/flange                         | G 3/4 IG                                                                                                 | G 3/4 IG                                                                                                   |
| LCD display                                           | Touch-Screen 63x63 mm, 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)                                                                                   |
| Rotors                                                | LCP                                                                                                      | Stainless steel (1.4404)                                                                                   |
| Shaft                                                 | Stainless steel (1.4404)                                                                                 | Stainless steel (1.4404)                                                                                   |
| Seal                                                  | FPM (alt. FFPM, EPDM)*                                                                                   | FPM (alt. FFPM, EPDM)*                                                                                     |
| Protection class                                      | IP 55                                                                                                    | IP 55                                                                                                      |
| Weight                                                | 2.2 kg                                                                                                   | 4.8 kg                                                                                                     |
| <b>Order No.</b>                                      | <b>Thread</b>                                                                                            | <b>Thread</b>                                                                                              |
| <b>up to 1.000 mPas</b>                               | <b>0231-105</b>                                                                                          | <b>0231-104</b>                                                                                            |
| Technical data                                        | Type HDO 200 Alu/LCP Ex                                                                                  | Type HDO 200 SS/SS Ex                                                                                      |
| Type of protection:                                   |                                                                                                          |                                                                                                            |
| Operating unit                                        | II 2G Ex ib IIB T4 Gb***                                                                                 | II 2G Ex ib IIB T4 Gb***                                                                                   |
| Basic flow meter                                      | II 2G Ex h IIB T4 Gb  | II 2G Ex h IIB T4 Gb  |
| <b>Order No.</b>                                      | <b>Thread</b>                                                                                            | <b>Thread</b>                                                                                              |
| <b>up to 1.000 mPas</b>                               | <b>0231-107</b>                                                                                          | <b>0231-106</b>                                                                                            |

Optional: \*Additional price seal FFPM Order No. 0230-315, Additional price seal EPDM Order No. 0230-321 \*\*in Ex-Version \*\*\* Protection class II 2G Ex ib IIC T4 Gb on request.

| Recommended Accessories: Power supply unit NG10**** |                 |
|-----------------------------------------------------|-----------------|
| Voltage                                             | 220-230 V       |
| Frequency                                           | 50-60 Hz        |
| <b>Order No.</b>                                    | <b>0230-230</b> |

\*\*\*\* Limited battery operation without power supply unit possible. Installation of power supply unit outside of the explosion hazard area required.



# Lutz Flow Meter HDO 250

for non inflammable liquids and easily inflammable liquids

- ✓ Housing material plastic or metal
- ✓ For small and medium flow volumes up to 170 l/min
- ✓ **Non Ex-Version:**  
For neutral liquids, many acids and alkalis mineral oil, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For inflammable mineral oil products, easily flammable hydrocarbons and other chemicals in explosion hazardous area
- ✓ With thread- or flange connection



| Technical data            | Type HDO 250P                                                                                            | Type HDO 250 Alu/PPS                                                               |                                                                                                            | Type HDO 250 SS/PPS                                                                |                                                                                                            | Type HDO 250 SS/SS                                                                 |                 |
|---------------------------|----------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-----------------|
| Range of measurement:     |                                                                                                          |                                                                                    |                                                                                                            |                                                                                    |                                                                                                            |                                                                                    |                 |
| below 5 mPas              | 8 l/min - 70 l/min                                                                                       | 9,5 l/min - 150 l/min                                                              |                                                                                                            | 9,5 l/min - 150 l/min                                                              |                                                                                                            | 9,5 l/min - 150 l/min                                                              |                 |
| above 5 mPas              | 3 l/min - 75 l/min                                                                                       | 6 l/min - 170 l/min                                                                |                                                                                                            | 6 l/min - 170 l/min                                                                |                                                                                                            | 6 l/min - 170 l/min                                                                |                 |
| Temperature               | max. 80 °C                                                                                               | max. 80 °C (60 °C**)                                                               |                                                                                                            | max. 80 °C (60 °C**)                                                               |                                                                                                            | max. 120 °C (60 °C**)                                                              |                 |
| Viscosity max.            | 1.000 mPas                                                                                               | 500.000 mPas                                                                       |                                                                                                            | 500.000 mPas                                                                       |                                                                                                            | 500.000 mPas                                                                       |                 |
| Operating pressure max.   | 10 bar                                                                                                   | 16 bar                                                                             |                                                                                                            | 16 bar                                                                             |                                                                                                            | 16 bar                                                                             |                 |
| Accuracy quantity         | below 5 mPas ± 2 % of measured quantity<br>above 5 mPas ± 0.5% of measured quantity                      | below 5 mPas ± 2% of measured quantity<br>above 5 mPas ± 0.5% of measured quantity |                                                                                                            | below 5 mPas ± 2% of measured quantity<br>above 5 mPas ± 0.5% of measured quantity |                                                                                                            | below 5 mPas ± 2% of measured quantity<br>above 5 mPas ± 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            | G 1 IG                                                                                                   | G 1 IG                                                                             | PN 16                                                                                                      | G 1 IG                                                                             | PN 16                                                                                                      | G 1 IG                                                                             | PN 16           |
| LCD display               | Touch-Screen 63x63 mm, 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, EPDM)*                                                                                    | FPM (alt. FFPM, EPDM)*                                                             |                                                                                                            | FPM (alt. FFPM, EPDM)*                                                             |                                                                                                            | FPM (alt. FFPM, EPDM)*                                                             |                 |
| Protection class          | IP 55                                                                                                    | IP 55                                                                              |                                                                                                            | IP 55                                                                              |                                                                                                            | IP 55                                                                              |                 |
| Weight                    | 1,3 kg                                                                                                   | 2,2 kg                                                                             | 3,0 kg                                                                                                     | 4,7 kg                                                                             | 5,9 kg                                                                                                     | 4,8 kg                                                                             | 6,0 kg          |
| <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 mPas</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 mPas</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> |
| <b>Technical data</b>     | <b>Type HDO 250 Alu/PPS Ex</b>                                                                           |                                                                                    | <b>Type HDO 250 SS/PPS Ex</b>                                                                              |                                                                                    | <b>Type HDO 250 SS/SS Ex</b>                                                                               |                                                                                    |                 |
| Type of protection:       | II 2G Ex ib IIB T4 Gb***                                                                                 |                                                                                    | II 2G Ex ib IIB T4 Gb***                                                                                   |                                                                                    | II 2G Ex ib IIB T4 Gb***                                                                                   |                                                                                    |                 |
| Operating unit            | II 2G Ex h IIB T4 Gb  |                                                                                    | II 2G Ex h IIB T4 Gb  |                                                                                    | II 2G Ex h IIB T4 Gb  |                                                                                    |                 |
| 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>Flange</b>   |
| <b>up to 1.000 mPas</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>0231-214</b> |
| <b>up to 500.000 mPas</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>                                                                    | <b>0231-216</b> |

Optional: \*Additional price HDO 250P: seal FEP Order No. 0211-350, additional price HDO 250P: seal EPDM Order No. 0211-353, additional price HDO 250: seal FFPM Order No. 0230-312 additional price HDO 250: seal EPDM Order No. 0230-318. Drum pump connection for B70 / HD-E pump – see page 34. \*\*in Ex-Version \*\*\* Protection class II 2G Ex ib IIC T4 Gb on request.

## Recommended Accessories: Power supply unit NG10\*\*\*

|                  |                 |
|------------------|-----------------|
| Voltage          | 220-230 V       |
| Frequency        | 50-60 Hz        |
| <b>Order No.</b> | <b>0230-230</b> |

\*\*\*\* Limited battery operation without power supply unit possible. Installation of power supply unit outside of the explosion hazard area required.

# Lutz Flow Meter HDO 400

for non inflammable liquids and easily inflammable liquids

- ✓ Housing material metal
- ✓ For medium flow volumes up to 246 l/min
- ✓ **Non Ex-Version:**  
For neutral liquids, many acids and alkalis  
mineral oil, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For inflammable mineral oil products, easily  
flammable hydrocarbons and other chemicals  
in explosion hazardous areas
- ✓ With thread- or flange connection



| Technical data            | Type HDO 400 Alu/PPS                                                                                         |                 | Type HDO 400 SS/PPS                                                                                           |                 | Type HDO 400 SS/SS                                                                                             |                 |
|---------------------------|--------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------|-----------------|----------------------------------------------------------------------------------------------------------------|-----------------|
| Range of measurement:     | 15 l/min - 227 l/min                                                                                         |                 | 15 l/min - 227 l/min                                                                                          |                 | 15 l/min - 227 l/min                                                                                           |                 |
| below 5 mPas              | 9,5 l/min - 246 l/min                                                                                        |                 | 9,5 l/min - 246 l/min                                                                                         |                 | 9,5 l/min - 246 l/min                                                                                          |                 |
| above 5 mPas              | max. 80 °C (60 °C**)                                                                                         |                 | max. 80 °C (60 °C**)                                                                                          |                 | max. 120 °C (60 °C**)                                                                                          |                 |
| Temperature               | 500.000 mPas                                                                                                 |                 | 500.000 mPas                                                                                                  |                 | 500.000 mPas                                                                                                   |                 |
| Viscosity max.            | 16 bar                                                                                                       |                 | 16 bar                                                                                                        |                 | 16 bar                                                                                                         |                 |
| Operating pressure max.   | below 5 mPas ± 1% of measured quantity                                                                       |                 | below 5 mPas ± 1% of measured quantity                                                                        |                 | below 5 mPas ± 1% of measured quantity                                                                         |                 |
| Accuracy quantity         | above 5 mPas ± 0.5% of measured quantity                                                                     |                 | above 5 mPas ± 0.5% of measured quantity                                                                      |                 | above 5 mPas ± 0.5% of measured quantity                                                                       |                 |
| Reproducibility           | 0,03%                                                                                                        |                 | 0,03%                                                                                                         |                 | 0,03%                                                                                                          |                 |
| Nominal width             | DN 40                                                                                                        |                 | DN 40                                                                                                         |                 | DN 40                                                                                                          |                 |
| Connections:              |                                                                                                              |                 |                                                                                                               |                 |                                                                                                                |                 |
| thread/ flange            | G 1 1/2 IG                                                                                                   | PN 16           | G 1 1/2 IG                                                                                                    | PN 16           | G 1 1/2 IG                                                                                                     | PN 16           |
| LCD display               | Touch-Screen 63x63 mm, 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)                                                                                      |                 | (1.4404)                                                                                                       |                 |
| Rotors                    | PPS                                                                                                          |                 | PPS                                                                                                           |                 | Stainless steel (1.4401)                                                                                       |                 |
| Shaft                     | Stainless steel (1.4404)                                                                                     |                 | Stainless steel (1.4404)                                                                                      |                 | Stainless steel (1.4404)                                                                                       |                 |
| Seal                      | FPM (alt. FFPM, EPDM)*                                                                                       |                 | FPM (alt. FFPM, EPDM)*                                                                                        |                 | FPM (alt. FFPM, EPDM)*                                                                                         |                 |
| Protection class          | IP 55                                                                                                        |                 | IP 55                                                                                                         |                 | IP 55                                                                                                          |                 |
| Weight                    | 4,5 kg                                                                                                       | 5,5 kg          | 10,4 kg                                                                                                       | 12,0 kg         | 10,5 kg                                                                                                        | 12,1 kg         |
| <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 mPas</b>   | <b>0231-233</b>                                                                                              | <b>0231-234</b> | <b>0231-229</b>                                                                                               | <b>0231-230</b> | <b>0231-225</b>                                                                                                | <b>0231-226</b> |
| <b>up to 500.000 mPas</b> | <b>0231-235</b>                                                                                              | <b>0231-236</b> | <b>0231-231</b>                                                                                               | <b>0231-232</b> | <b>0231-227</b>                                                                                                | <b>0231-228</b> |
| Technical data            | Type HDO 400 Alu/PPS Ex                                                                                      |                 | Type HDO 400 SS/PPS Ex                                                                                        |                 | Type HDO 400 SS/SS Ex                                                                                          |                 |
| Type of protection:       | II 2G Ex ib IIB T4 Gb***  |                 | II 2G Ex ib IIB T4 Gb***  |                 | II 2G Ex ib IIB T4 Gb***  |                 |
| Operating unit            | II 2G Ex h IIB T4 Gb                                                                                         |                 | II 2G Ex h IIB T4 Gb                                                                                          |                 | II 2G Ex h IIB T4 Gb                                                                                           |                 |
| 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 mPas</b>   | <b>0231-245</b>                                                                                              | <b>0231-246</b> | <b>0231-241</b>                                                                                               | <b>0231-242</b> | <b>0231-237</b>                                                                                                | <b>0231-238</b> |
| <b>up to 500.000 mPas</b> | <b>0231-247</b>                                                                                              | <b>0231-248</b> | <b>0231-243</b>                                                                                               | <b>0231-244</b> | <b>0231-239</b>                                                                                                | <b>0231-240</b> |

Optional: \*Additional price seal: FFPM Order No. 0230-313, Additional price seal: EPDM Order No. 0230-319. Drum pump connection for B70 / HD-E pump – see page 34.

\*\* in Ex-Version \*\*\* Protection class II 2G Ex ib IIC T4 Gb on request.

## Recommended Accessories: Power supply unit NG10\*\*\*\*

|                  |                 |
|------------------|-----------------|
| Voltage          | 220-230 V       |
| Frequency        | 50-60 Hz        |
| <b>Order No.</b> | <b>0230-230</b> |

\*\*\*\* Limited battery operation without power supply unit possible. Installation of power supply unit outside of the explosion hazard area required.

# Lutz Flow Meter HDO 500

for non inflammable liquids and easily inflammable liquids

- ✓ Housing material metal
- ✓ For large flow volumes up to 380 l/min
- ✓ **Non Ex-Version:**  
For neutral liquids, many acids and alkalis mineral oil, paints and lacquers, etc.
- ✓ **Ex-Version:**   
For inflammable mineral oil products, easily flammable hydrocarbons and other chemicals in explosion hazardous areas
- ✓ With flange connection



| Technical data                                        | Type HDO 500 Alu/PPS                                                                      | Type HDO 500 SS/PPS                                                                | Type HDO 500 SS/SS                                                                 |
|-------------------------------------------------------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| Range of measurement:<br>below 5 mPas<br>above 5 mPas | 23 l/min - 380 l/min<br>15 l/min - 380 l/min                                              | 23 l/min - 380 l/min<br>15 l/min - 380 l/min                                       | 23 l/min - 380 l/min<br>15 l/min - 380 l/min                                       |
| Temperature                                           | max. 80 °C (60 °C**)                                                                      | max. 80 °C (60 °C**)                                                               | max. 120 °C (60 °C**)                                                              |
| Viscosity max.                                        | 500.000 mPas                                                                              | 500.000 mPas                                                                       | 500.000 mPas                                                                       |
| Operating pressure max.                               | 16 bar                                                                                    | 16 bar                                                                             | 16 bar                                                                             |
| Accuracy quantity                                     | below 5 mPas ± 1% of measured quantity<br>above 5 mPas ± 0.5% of measured quantity        | below 5 mPas ± 1% of measured quantity<br>above 5 mPas ± 0.5% of measured quantity | below 5 mPas ± 1% of measured quantity<br>above 5 mPas ± 0.5% of measured quantity |
| Reproducibility                                       | ± 0,03%                                                                                   | ± 0,03%                                                                            | ± 0,03%                                                                            |
| Nominal width                                         | DN 50                                                                                     | DN 50                                                                              | DN 50                                                                              |
| Connections:<br>thread/ flange                        | PN 16                                                                                     | PN 16                                                                              | PN 16                                                                              |
| LCD display                                           | Touch-Screen 63x63 mm, 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 (1.4404)                                                                  | Stainless steel (1.4404)                                                           | Stainless steel (1.4404)                                                           |
| Seal                                                  | FPM (alt. FFPM, EPDM)*                                                                    | FPM (alt. FFPM, EPDM)*                                                             | FPM (alt. FFPM, EPDM)*                                                             |
| Protection class                                      | IP 55                                                                                     | IP 55                                                                              | IP 55                                                                              |
| Weight                                                | 6,6 kg                                                                                    | 13,6 kg                                                                            | 13,8 kg                                                                            |
| <b>Order No.</b>                                      | <b>Flange</b>                                                                             | <b>Flange</b>                                                                      | <b>Flange</b>                                                                      |
| <b>up to 1.000 mPas</b>                               | <b>0231-253</b>                                                                           | <b>0231-251</b>                                                                    | <b>0231-249</b>                                                                    |
| <b>up to 500.000 mPas</b>                             | <b>0231-254</b>                                                                           | <b>0231-252</b>                                                                    | <b>0231-250</b>                                                                    |

| Technical data                                            | Type HDO 200 Alu/PPS Ex                                                                                                              | Type HDO 200 SS/PPS Ex                                                                                                                | Type HDO 500 SS/SS Ex                                                                                                                  |
|-----------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Type of protection:<br>Operating unit<br>Basic flow meter | II 2G Ex ib IIB T4 Gb*** <br>II 2G Ex h IIB T4 Gb | II 2G Ex ib IIB T4 Gb*** <br>II 2G Ex h IIB T4 Gb | II 2G Ex ib IIB T4 Gb*** <br>II 2G Ex h IIB T4 Gb |
| <b>Order No.</b>                                          | <b>Flange</b>                                                                                                                        | <b>Flange</b>                                                                                                                         | <b>Flange</b>                                                                                                                          |
| <b>up to 1.000 mPas</b>                                   | <b>0231-259</b>                                                                                                                      | <b>0231-257</b>                                                                                                                       | <b>0231-255</b>                                                                                                                        |
| <b>up to 500.000 mPas</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. 0230-320. \*\* in Ex-Version \*\*\* Protection class II 2G Ex ib IIC T4 Gb on request.

| Recommended Accessories: Power supply unit NG10**** |                 |
|-----------------------------------------------------|-----------------|
| Voltage                                             | 220-230 V       |
| Frequency                                           | 50-60 Hz        |
| <b>Order No.</b>                                    | <b>0230-230</b> |

\*\*\*\* Limited battery operation without power supply unit possible. Installation of power supply unit outside of the explosion hazard area required.



# Accessories Lutz Flow Meter Program

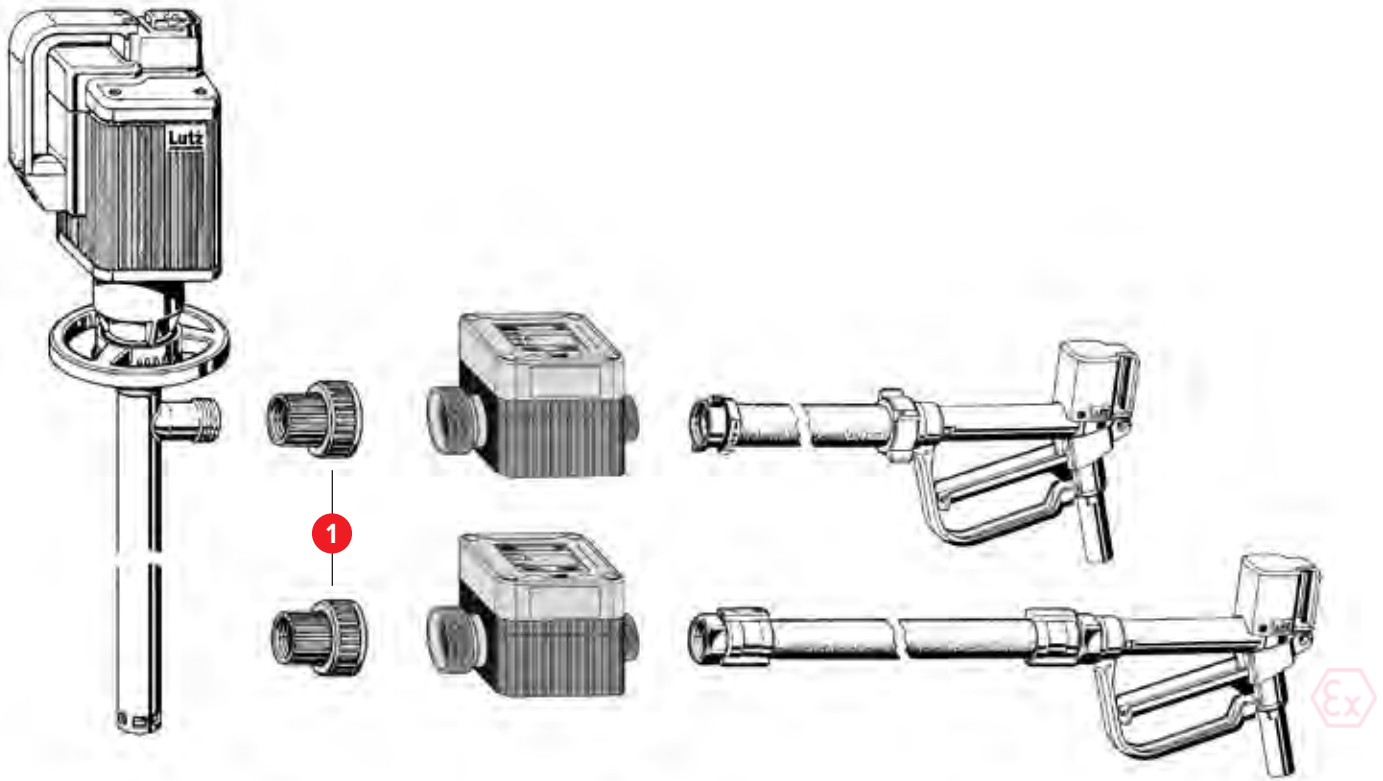
for mobile and stationary applications



**Take control**

The comprehensive range of accessories makes it possible to install the flow meter onto a pump or into a pipe line. With appropriate connecting cables the system is immediately ready for use.



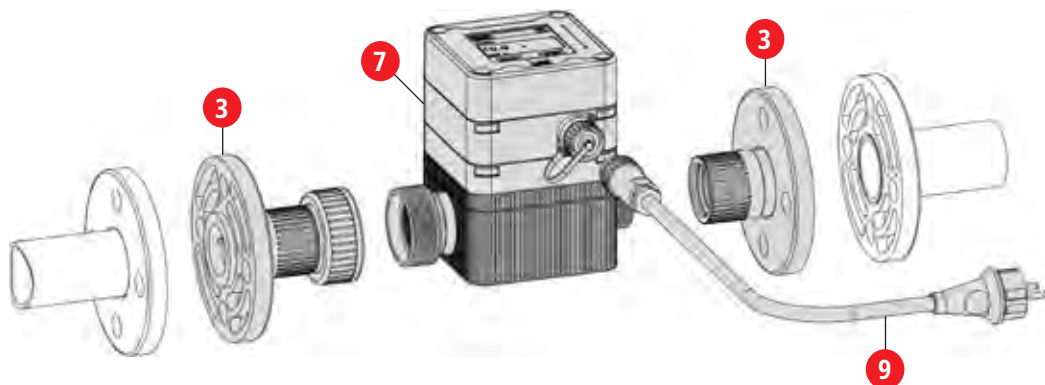


... Flange version

**1** Drum pump connection

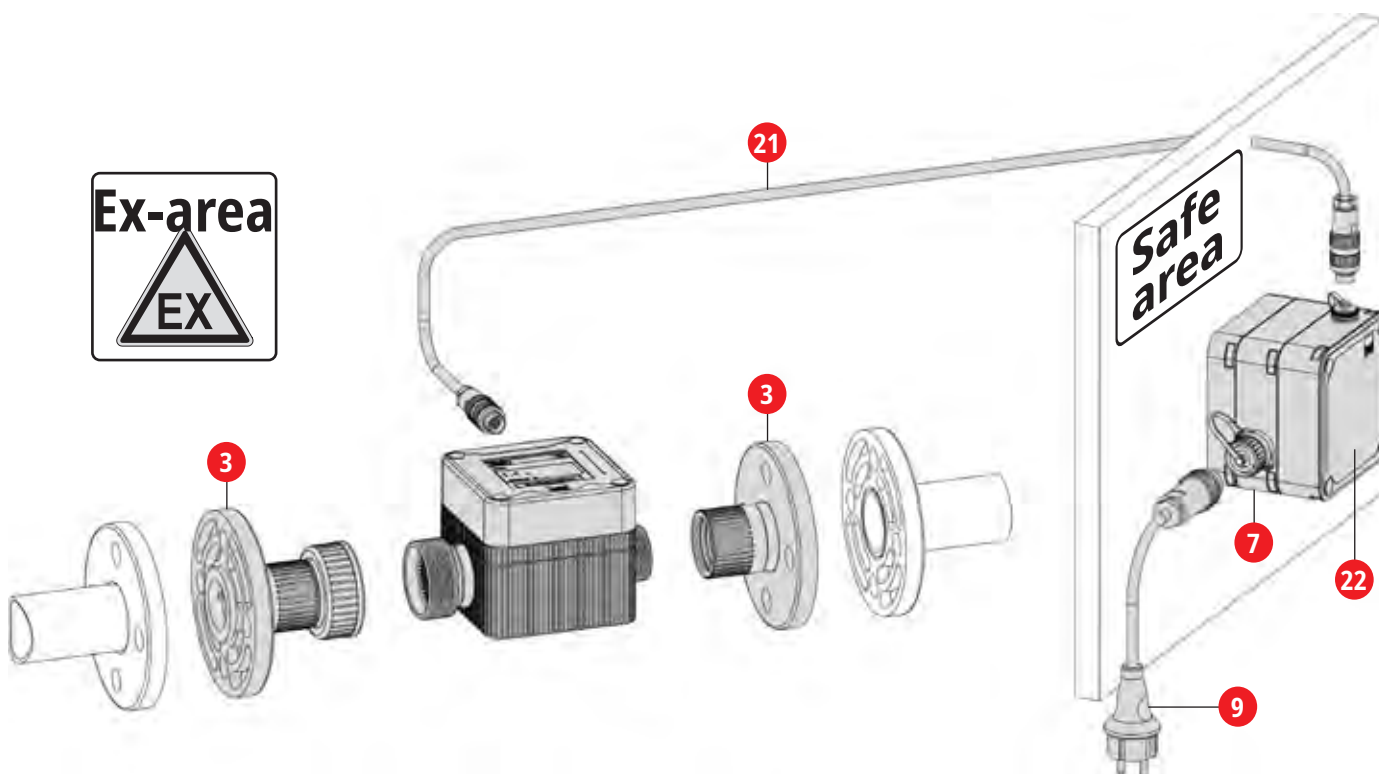
# Accessories

## Flow meter TS without volume preselection



... with power supply unit in plant engineering

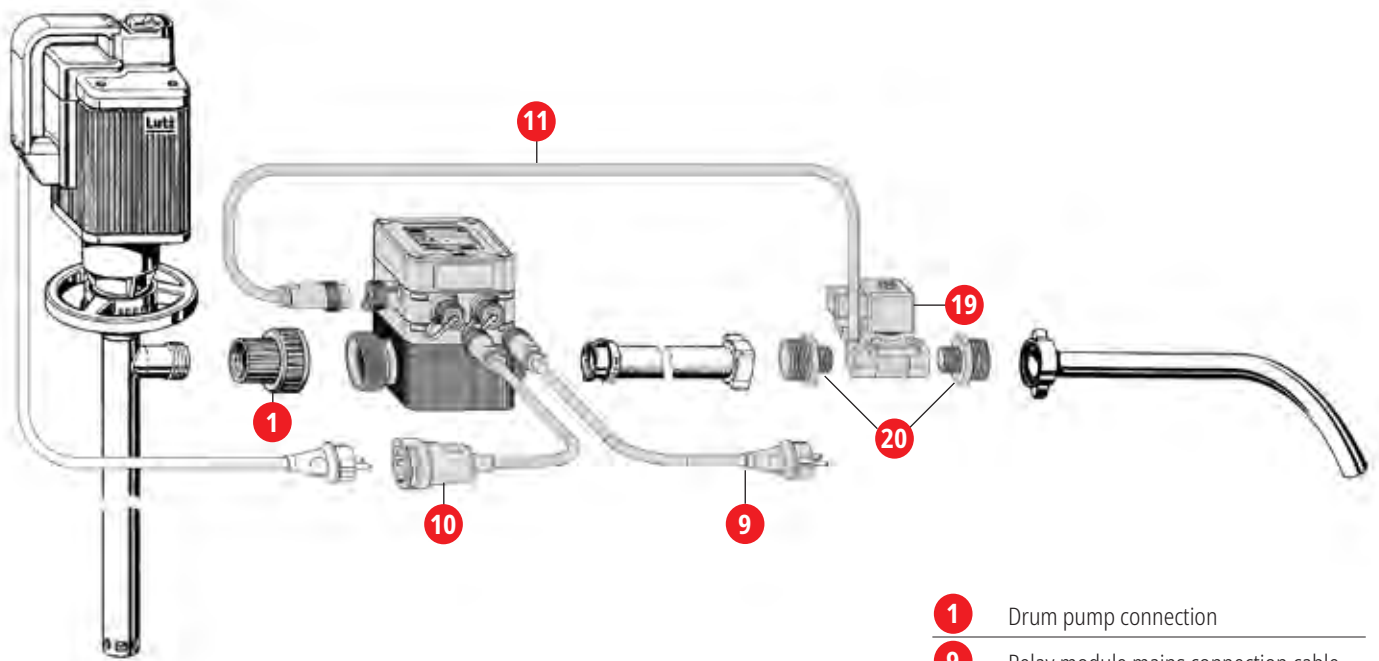
- 3** Flange connection
- 7** Power supply unit NG10
- 9** Mains connection cable



... with power supply unit in plant engineering (Ex)

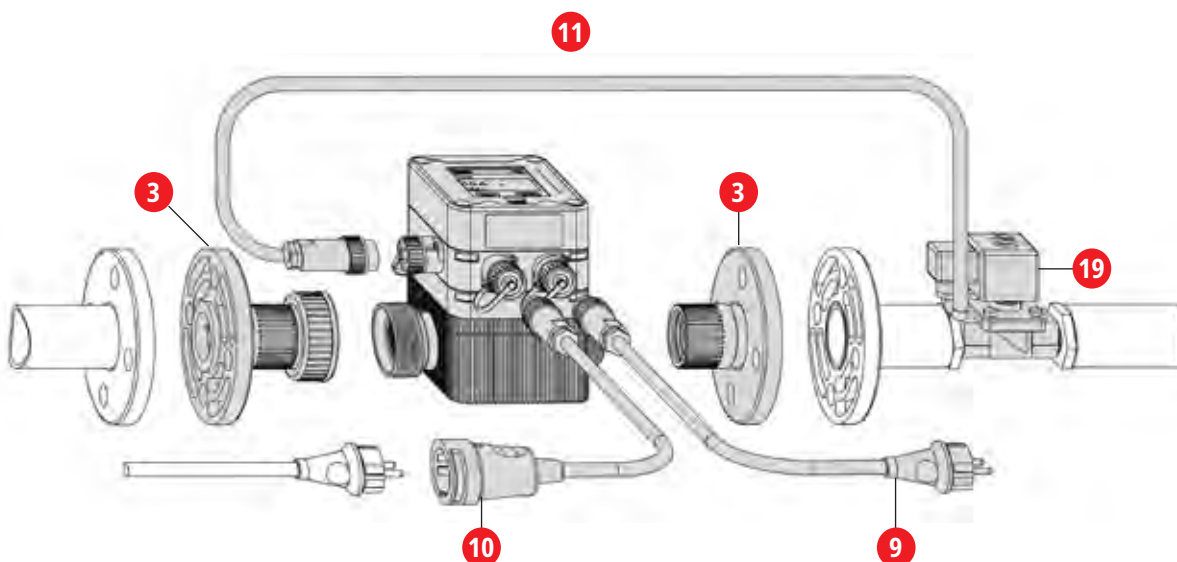
- 3** Flange connection
- 7** Power supply unit NG10
- 9** Mains connection cable
- 21** Data cable
- 22** Protection cover SH10

## Flow measurement with volume preselection



... Thread version

- 1** Drum pump connection
- 9** Relay module mains connection cable
- 10** Motor/Slow connection cable, single
- 11** Main valve connection cable
- 19** Solenoid valve
- 20** Double nipple

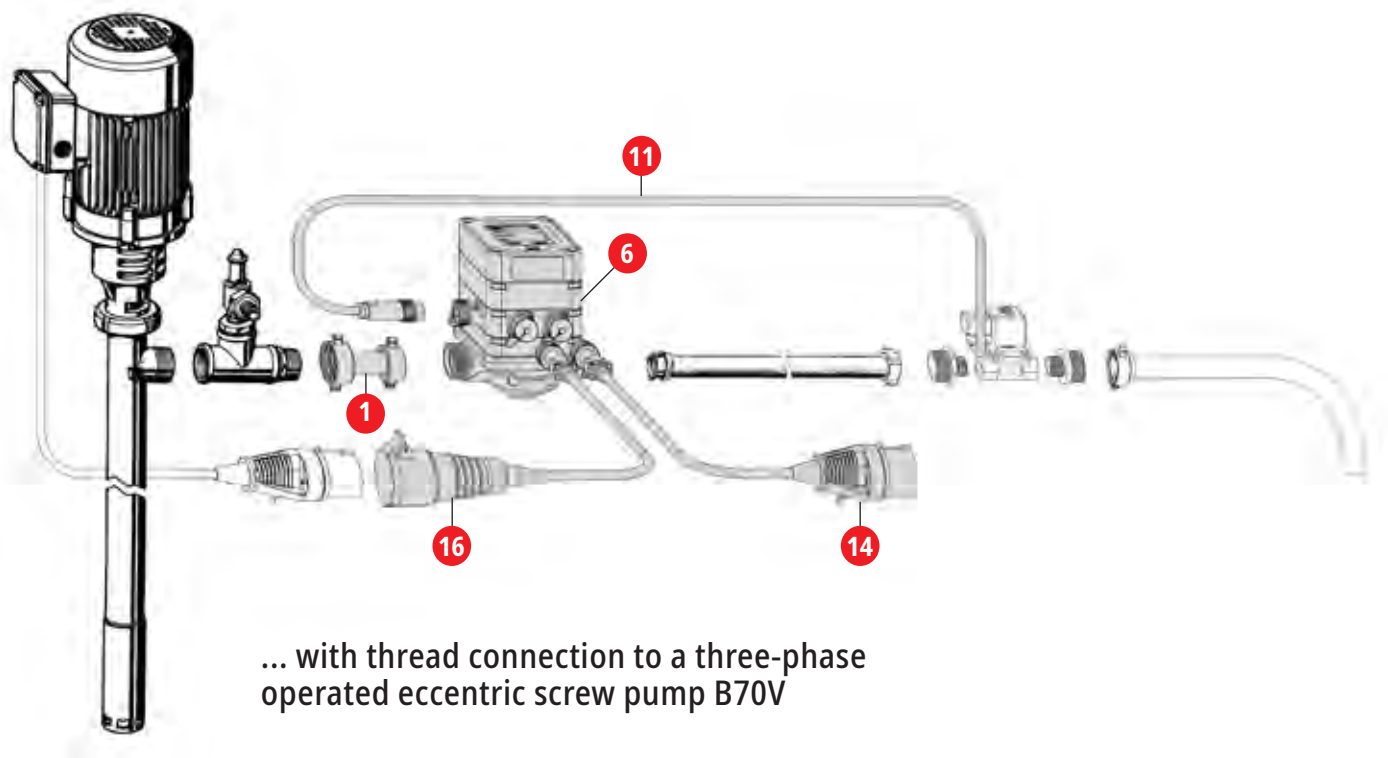


... Flange version

- 3** Flange connection
- 9** Relay module mains connection cable
- 10** Motor/Slow connection cable, single
- 11** Main valve connection cable
- 19** Solenoid valve

# Accessories

Flow measurement with volume preselection ...

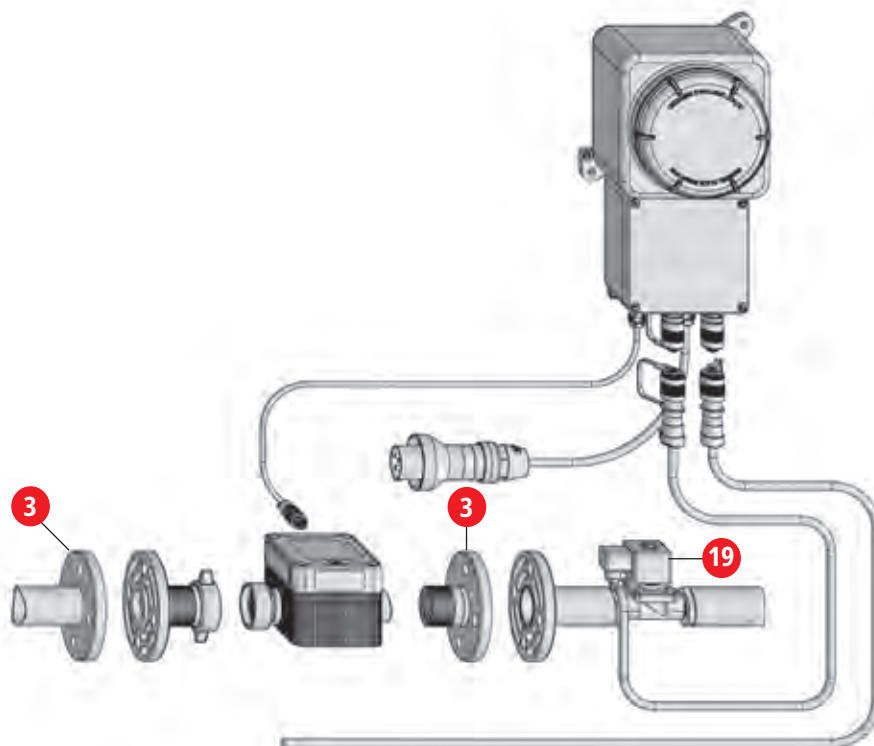
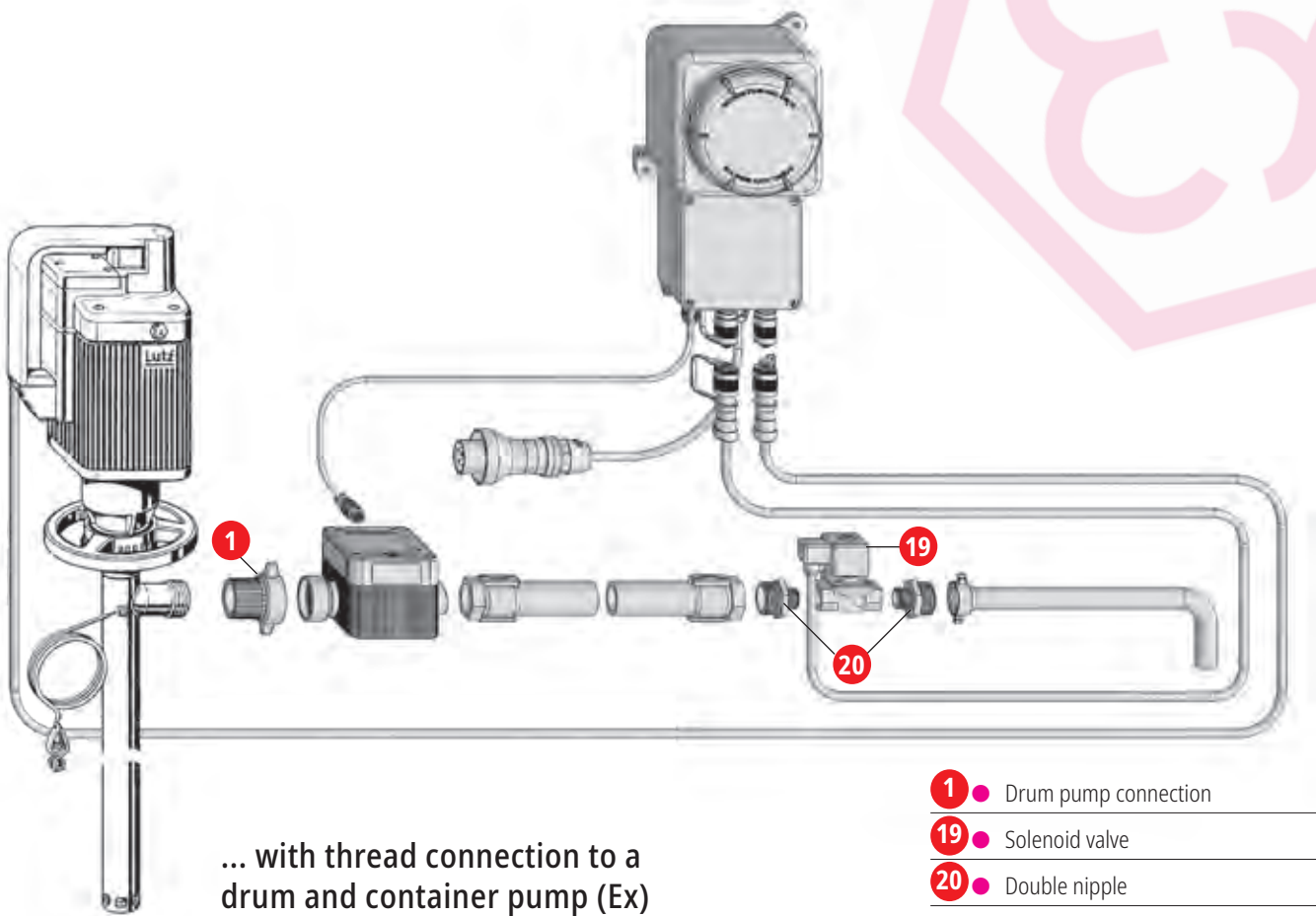


... with thread connection to a three-phase operated eccentric screw pump B70V

|    |                                   |
|----|-----------------------------------|
| 1  | Drum pump connection              |
| 6  | Relay module RM30                 |
| 11 | Main valve connection cable       |
| 14 | Mains connection cable RM30 400 V |
| 16 | Connection cable motor RM30 400 V |



## Flow measurement with volume preselection ...



# Accessories

## Connection fittings

| Product detail                                                                      | Specification                                                                                                                                                                                                                                                                                                                                                                                         | Order-No.                                                                                                                |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|
|    | <b>1 Drum pump connection</b><br>Connects the flow meter to a drum and container pump.<br><br>PPO/FPM G 1 1/4 inner tread for ST10, SL10<br>PPS/FPM-FEP G 1 1/4 inner tread for LM10, UN10<br>Stainless steel/PTFE G 1 1/4 - G 1 1/4 IT for VA10<br>Stainless steel/PTFE G 1 1/4 - G 1 1/2 IT for VA10                                                                                                | <b>0211-130</b><br><b>0211-132</b> ●<br><b>0211-211</b> ●<br><b>0211-214</b> ●                                           |
|    | <b>1 Drum pump connection</b><br>Connects the flow meter to an eccentric screw pump B70-V or HD-E<br><br>PP/PTFE G 1 OT x G 1 1/4 IT for HDO250 P<br>Stainless steel/PTFE G 1 OT* x G 1 1/4 IT* for HDO250<br>Stainless steel/PTFE G 1 OT* x G 1 1/2 IT* for HDO250                                                                                                                                   | <b>0211-332</b><br><b>0211-330</b> ●<br><b>0211-331</b> ●                                                                |
|    | <b>2 Double nipple</b><br>Connects the flow meter to a pipeline system<br><br>PP G 1 OT x G 1 1/4 AG, for drum pump connection G 1 OT x G 1 1/4 IT<br>Stainless steel G 1 OT x G 1 1/4 OT, for drum pump connection G 1 OT x G 1 1/4 IT<br>Stainless steel G 1 OT x G 1 1/2 OT, for drum pump connection G 1 OT x G 1 1/2 IT<br><br><small>*Spacer ring 0231-545 is additionally required</small>     | <b>5000-070</b><br><b>5000-073*</b><br><b>0211-340*</b>                                                                  |
|  | <b>3 Flange connection</b><br>Connects the flow meter to a pipeline system.<br><br>PPO/FPM DN 32, PN 10, two-sided for ST10, SL10<br>PPS/FPM-FEP DN 32, PN 10, two-sided for LM10, UN10<br>Stainless steel DN 25, PN 6, one-sided for VA10<br>Stainless steel DN 32, PN 6, one-sided for VA10<br>Stainless steel DN 32, PN 10, one-sided for VA10<br>Stainless steel DN 40, PN 10, one-sided for VA10 | <b>0211-131</b><br><b>0211-133</b> ●<br><b>0208-620</b> ●<br><b>0208-621</b> ●<br><b>0208-622</b> ●<br><b>0208-623</b> ● |
|  | <b>4 Thread connection</b><br>Connects the flow meter to screw-type flanges or threaded screw connections.<br><br>PPO/FPM G 1 1/4 outer tread for ST10, SL10<br>PPS/FPM-FEP G 1 1/4 outer tread for LM10, UN10                                                                                                                                                                                        | <b>0211-135</b><br><b>0211-136</b> ●                                                                                     |
|  | <b>Non-return valve</b><br>Prevents flow back of the liquid in the hose system.<br><br>PTFE/FPM for ST10, SL10<br>PTFE/FPM-FEP for LM10, UN10<br><br>Opening pressure: 0.05 bar                                                                                                                                                                                                                       | <b>0211-140</b><br><b>0211-141</b> ●                                                                                     |

FPM is a registered trademark of DuPont Performance Elastomers.  
 \*OT = Outer Thread / \*IT = Inner Thread

| Specification                                                                                                                                                                                                                                                                                                                                                                                                                           | Order-No.         | Product detail                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------|
| <b>5 Relay module RM10</b><br>Facilitates volume preselection in combination with the appropriate connection cables.<br>220-230 V, 50-60 Hz, II (2) G [Ex ib] IIC<br>for ST10, SL10, VA10<br>HDO080, HDO120, HDO200,<br>HDO250, HDO400, HDO500                                                                                                                                                                                          | <b>0230-200</b>   |    |
| <b>5 Relay module Ex-RM10dK (complete version)</b><br>Facilitates the filling with volume preselection in Ex-areas.<br>Ex-plug-type connections „mini CLIX®/eXLink-System®“<br>With 5 m connecting cable and 3-pole ex-plug (CEAG),<br>incl. data line 5 m and coupling plug 14-pole.<br>220-230 V, 50-60 Hz, II 2G Ex de [ib Gb] IIC T6 Gb<br>for LM10, UN10, VA10<br>HDO080Ex, HDO120Ex,<br>HDO200Ex, HDO250Ex,<br>HDO400Ex, HDO500Ex | <b>0230-251</b> ● |    |
| <b>5 Relay module Ex-RM10dB (basic version)</b><br>Facilitates volume preselection in ex-areas.<br>Without cables, accessories on request,<br>incl. data line 5 m and coupling plug 14-pole.<br>220-230 V, 50-60 Hz, II 2G Ex de [ib Gb] IIC T6 Gb<br>for LM10, UN10, VA10<br>HDO080Ex, HDO120Ex,<br>HDO200Ex, HDO250Ex,<br>HDO400Ex, HDO500Ex                                                                                          | <b>0230-250</b> ● |   |
| <b>6 Relay module RM30</b><br>Facilitates volume preselection in combination with the appropriate connection cables.<br>For controlling rotary current and capacitor motors.<br>400 V, 1.5 kW, 50 Hz resp. 230 V, 0.8 kW, 50 Hz<br>II (2) G [Ex ib] IIC<br>for ST10, SL10, VA10<br>HDO080, HDO120, HDO200,<br>HDO250, HDO400, HDO500                                                                                                    | <b>0230-220</b>   |  |
| <b>7 Power supply unit NG10 230V</b><br>Supplies the control unit with power (instead of batteries).<br>This function is already included in relay modules.<br>220-230 V, 50-60 Hz, II (2) G [Ex ib] IIC<br>for ST10, SL10, VA10<br>HDO080, HDO120, HDO200,<br>HDO250, HDO400, HDO500                                                                                                                                                   | <b>0230-230</b>   |  |

eXLink-System® is a registered trademark of Cooper Crouse-Hinds GmbH

# Accessories

for volume preselection

| Product detail                                                                      | Specification                                                                                                                                                                                                                                                                                                                                                                                  | Order-No.       |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
|    | <p><b>Communication module</b><br/>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)</p> <p><b>8 Communication module KM10K (complete version)</b><br/>with cable protective covering for ST10, SL10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500</p> | <b>0230-101</b> |
|    | <p><b>9 Power cable relay module</b><br/>5 m long<br/>230 V, 50 Hz</p> <p>for RM10, NG10</p>                                                                                                                                                                                                                                                                                                   | <b>0211-155</b> |
|   | <p><b>10 Connecting cable Motor/Slow 1-way</b><br/>0.5 m long<br/>230 V, 50 Hz</p> <p>for RM10</p>                                                                                                                                                                                                                                                                                             | <b>0211-153</b> |
|  | <p><b>Connecting cable motor/slow 3-way</b><br/>0.5 m long<br/>230 V, 50 Hz</p> <p>for RM10</p>                                                                                                                                                                                                                                                                                                | <b>0211-154</b> |



| Specification                                                                                                                                                                                                                                     | Order-No.                                 | Product detail                                                                        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|---------------------------------------------------------------------------------------|
| <b>11 Connecting cable main valve</b><br>5 m long<br>230 V, 50 Hz<br>for RM10 and RM30                                                                                                                                                            | <b>0211-150</b>                           |    |
| <b>12 Connecting cable slow-valve</b><br>5 m long<br>230 V, 50 Hz<br>for RM10                                                                                                                                                                     | <b>0211-151</b>                           |    |
| <b>13 Extension cable</b><br>5 m long<br>230 V, 50 Hz<br>for RM10                                                                                                                                                                                 | <b>0211-152</b>                           |    |
| <b>14 Power cable RM30 400 V</b><br>5 m long<br>400 V, 50 Hz, 5-wire<br>for RM30                                                                                                                                                                  | <b>0211-388</b>                           |   |
| <b>15 Connector relay module</b><br>for individual wiring<br><br><b>Plug for motor-/valve connection</b><br>230 V, 50 Hz, 4-pole<br>230 V, 50 Hz, „mini CLIX®/eXLink-System®“<br><br><b>Coupling for mains connection</b><br>230 V, 50 Hz, 4-pole | for RM10<br>for Ex-RM10mK<br><br>for RM10 | <b>0336-095</b><br><b>0336-108*</b><br><br><b>0336-099</b>                            |
| <b>16 Connecting cable motor RM30 400 V</b><br>0.6 m long<br>400 V, 50 Hz, 5-pole<br>for RM30                                                                                                                                                     | <b>0211-386</b>                           |  |
| <b>17 Power cable RM30 230 V</b><br>5 m long<br>230 V, 50 Hz<br>for RM30                                                                                                                                                                          | <b>0211-387</b>                           |  |
| <b>18 Connecting cable motor RM30 230 V</b><br>0.5 m long<br>230 V, 50 Hz<br>for RM30                                                                                                                                                             | <b>0211-385</b>                           |  |

\*special Crimp tool required for connection. eXLink-System® is a registered trademark of Cooper Crouse-Hinds GmbH

# Accessories

for volume preselection

| Product detail                                                                      | Specification                                                                                                                                                                                | Order-No.                            |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------|
|    | <b>19 Solenoid valve brass</b><br>FPM seal, connection G 3/4 inner thread<br>230 V, 50 Hz                                                                                                    | for RM10 and RM30<br><b>0211-096</b> |
|                                                                                     | <b>19 Solenoid valve stainless steel</b><br>FPM seal, connection G 3/4 inner thread<br>230 V, 50 Hz                                                                                          | for RM10 and RM30<br><b>0211-097</b> |
|                                                                                     | <b>19 Solenoid valve PVC*</b><br>FPM seal, connection G 3/4 inner thread<br>230 V, 50 Hz                                                                                                     | for RM10 and RM30<br><b>0211-098</b> |
|  | <b>19 Solenoid valve brass, Ex</b><br>PTFE seal, connection G 3/4 inner thread, incl. 5 m connecting cable and „mini CLIX®/eXLink®-plug“<br>230 V, 50 Hz, II 2G Ex eb mb IIC T3 Gb           | for Ex-RM10mK<br><b>0211-396</b> ●   |
|                                                                                     | <b>19 Solenoid valve stainless steel, Ex</b><br>PTFE seal, connection G 3/4 inner thread, incl. 5 m connecting cable and „mini CLIX®/eXLink®-plug“<br>230 V, 50 Hz, II 2G Ex eb mb IIC T3 Gb | for Ex-RM10mK<br><b>0211-395</b> ●   |
|  | <b>20 Double nipple PP</b><br>G 3/4 outer thread – G 1 1/4 outer thread                                                                                                                      | <b>0211-606</b>                      |
|                                                                                     | <b>Double nipple brass</b><br>G 3/4 outer thread – G 1 1/4 outer thread                                                                                                                      | <b>0204-346</b> ●                    |
|                                                                                     | <b>Double nipple stainless steel</b><br>G 3/4 outer thread – G 1 1/4 outer thread                                                                                                            | <b>0204-347</b> ●                    |

\*Non-return valve (0211-140 or 0211-141) for full hose system needed.

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

| Specification                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Order-No. | Product detail                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------------------------------------------------------------------------------------|
| <b>21 Data cable</b><br>Connects the modules in the case of decentralised installation.<br>14-pole, 5 m long for ST10, SL10, LM10, UN10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-306</b> ●<br><br>14-pole, 10 m long for ST10, SL10, LM10, UN10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-309</b> ●<br><br><b>Data cable SPS</b><br>for the connection of a basic flow meter with protection cap onto a PLC.<br>14-pole, with a free cable end, 5 m long. <b>0230-317</b> ● |           |    |
| <b>22 Protection cover SH10 with 1 data socket</b><br>Protects the modules in the case of decentralised installation. for ST10, SL10, LM10, UN10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-350</b> ●<br><br><b>22 Protection cover SH20 with 2 data socket</b><br>Protects the modules in the case of decentralised installation. for ST10, SL10, LM10, UN10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-351</b> ●                                                             |           |   |
| <b>Pulse converter</b><br>for a signal amplification, must be mounted on the basic flow meter if the distance to the next module is more than 5 m<br><br><b>23 Pulse converter IW10 with 1 data socket</b><br>for ST10, SL10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-352</b><br><br><b>23 Pulse converter IW20 with 2 data socket</b><br>for ST10, SL10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-353</b>                                                                  |           |  |
| <b>24 All-purpose plate</b><br>For wall-mounting or as a heat protection plate for ST10, SL10, LM10, UN10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-304</b> ●                                                                                                                                                                                                                                                                                                                                    |           |  |
| <b>25 Wall bracket set</b><br>Additional clamp fixing for DIN rails (TS 35) EN 50022 for ST10, SL10, LM10, UN10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-307</b> ●<br><br>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><br>For decentralised installation of the modules on a hose line. for ST10, SL10, LM10, UN10, VA10, HDO080, HDO120, HDO200, HDO250, HDO400, HDO500 <b>0230-303</b> ●                                                                                                                                                                                                                                                                                                          |           |  |

# Accessories

| Product detail                                                                    | Specification                                                                                                                                                                           | Order-No.         |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|
|  | <b>27 Control unit BE10</b><br>for ST10, SL10, VA10,<br>HDO080, HDO120, HDO200,<br>HDO250, HDO400, HDO500                                                                               | <b>0230-000</b>   |
|                                                                                   | <b>27 Control unit BE10V</b><br>With compound-filled electronics<br>for ST10, SL10, VA10,<br>HDO080, HDO120, HDO200,<br>HDO250, HDO400, HDO500                                          | <b>0230-001</b>   |
|                                                                                   | <b>27 Control unit Ex-BE10B</b><br>II 2G Ex ib IIB T4 Gb<br>for LM10, UN10, VA10,<br>HDO080Ex, HDO120Ex, HDO200Ex,<br>HDO250Ex, HDO400Ex, HDO500Ex                                      | <b>0230-010</b> ● |
|                                                                                   | <b>27 Control unit Ex-BE10BV</b><br>With compound-filled electronics<br>II 2G Ex ib IIB T4 Gb<br>for LM10, UN10, VA10,<br>HDO080Ex, HDO120Ex, HDO200Ex,<br>HDO250Ex, HDO400Ex, HDO500Ex | <b>0230-011</b> ● |
|                                                                                   | <b>27 Control unit Ex-BE10C</b><br>II 2G Ex ib IIC T4 Gb<br>for LM10, UN10, VA10,<br>HDO080Ex, HDO120Ex, HDO200Ex,<br>HDO250Ex, HDO400Ex, HDO500Ex                                      | <b>0230-020</b> ● |
|                                                                                   | <b>27 Control unit Ex-BE10CV</b><br>With compound-filled electronics<br>II 2G Ex ib IIC T4 Gb<br>for LM10, UN10, VA10,<br>HDO080Ex, HDO120Ex, HDO200Ex,<br>HDO250Ex, HDO400Ex, HDO500Ex | <b>0230-021</b> ● |



## Basic flow 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 flow meter, operating unit, relay module, etc.) can be installed in different locations. The data transfer between the components is

established by data cable, protective cover/ pulse converter and plug connection without awkward and complicated wiring.

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

| Specification                                                                                                                                                                                                                                                                           | Order No.                                                                                | Product detail                                                                        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| <b>28 Basic flow meter ST10 (FPM)</b><br>PPO/PPS/BaFe/FPM<br><br><b>Basic flow meter SL10 (FPM)</b><br>PPO/PPS/FPM<br><br><b>Basic flow meter LM10 (FPM-FEP)</b><br>PPS/LCP/BaFe/FPM-FEP<br>II 2G T4 Gb<br><br><b>Basic flow meter UN10 (FPM-FEP)</b><br>PPS/LCP/FPM-FEP<br>II 2G T4 Gb | <b>0230-500</b><br><br><b>0230-510</b><br><br><b>0230-520 ●</b><br><br><b>0230-530 ●</b> |    |
| <b>28 Basic flow meter VA10 (FPM-FEP)</b><br>Stainless steel 1.4571/PTFE/FEP<br>II 2G T4 Gb                                                                                                                                                                                             | <b>0230-540 ●</b>                                                                        |  |
| <b>28 Basic flow meter HDO</b><br>II 2G Ex h IIB T4 Gb (Stainless steel/Alu)                                                                                                                                                                                                            | <b>on request ●</b>                                                                      |  |

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## A Measured Step Forward



Dosing pumps and accessories

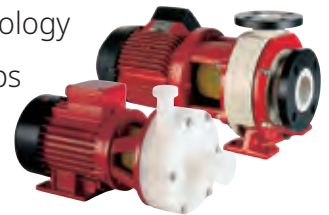
Chlorinators

Measuring and control technology

System and process technology

Chemical centrifugal pumps

Water disinfection



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