



Version examples: VOLUMTEC in compact version with process connection adapter, welding adapter for pipes according to DIN 11850 and VOLUMTEC in separate version without measuring transducer

## **CHARACTERISTICS**

- **FLEXIBLE PROCESS INTEGRATION WITH CONNECTION ADAPTER**
- **MEASURING RANGE 30 L/h ... 280 m<sup>3</sup>/h f. MEASURING FLOW AND VOLUME OF CONDUCTIVE LIQUIDS WITH HIGH ACCURACY IN THE ENTIRE MEASURING RANGE**
- **MEASURING PIPE DIAMETER = PROCESS PIPE DIAMETER, NO PRESSURE LOSS  
>> HYGIENIC DESIGN IN DETAIL**
- **RESISTANT AGAINST ACIDS + BASES DUE TO LINING MATERIAL PFA**
- **VACUUM-RESISTANT MEASURING PIPE DESIGN EVEN AT HIGHER MEDIUM TEMPERATURES**
- **SUITED FOR METERING TASKS + SMALL PULSATING FLOWS**
- **"QUICK START" FUNCTION FOR SIMPLE AND USER-FRIENDLY PARAMETRISATION**

## **DESCRIPTION**

The VOLUMTEC magnetic-inductive flow measuring device was designed for measuring/metering the flow and volume of all liquids from 5 µS/cm upwards, complying with high hygienic requirements. VOLUMTEC fulfils the high-level requirements for modern flow measurements due to its compact and simplified but effective design that is fully implemented in stainless steel as well as due to its electrical features. The special electronics of VOLUMTEC smoothens the signals and therefore also makes it suitable for applications with small, pulsating flows, e.g. in systems with piston pumps.

A standard, integrated and turnable display facilitates continuous observation of the measuring values during initial operation and fast and easy operation without opening the device.

The graphic display shows text messages and the flow profile. This information and the "Quick Start" menu helps during initial operation.

VOLUMTEC has no moving parts and therefore no risk of mechanical wear. Regular exchange of the process seals may be beneficial for hygiene and preventative reasons.

An internal monitoring routine ensures that a plain text message is sent in the event of a fault and that an appropriate signal is sent to the control unit.

Modern circuits reduce the power requirements of the electronic system and increase sustainability. A more favourable energy balance when using several VOLUMTECs implies lower operating costs for the operator and protection of the environment.

Flexible process integration due to a range of standardised as well as manufacturer-specific connection adapters as well as different additional functions have proven their worth during their use on site, resulting in reduced stock-keeping and a compact design that is always appreciated. The design complies with hygiene criteria. Design without "corners and edges" is not only implemented for the standard, aseptic process connector, but also for the milk-compatible sensor. The process pipe diameter is equal to the measuring pipe diameter, which ensures that no pressure drop occurs.

The resistance against all cleaning processes and the materials used for this purpose, e.g. bases and acids, results from the full stainless steel construction and the use of PFA as a lining material. The measuring pipe construction is resistant against low pressure, even at higher temperatures, as well as against flows higher than the nominal flow, e.g. during CIP processes. An automatic measuring range selection with intelligent electronics even compensates for excessive flow rates. The devices measure in both flow directions.

The VOLUMTEC is available in a compact version and a separate version and enables applications at process temperatures of up to 160°C in the separate version.

An analogue output, either active or passive, and impulse outputs are provided as a standard. Actions and processes can be controlled with a digital output. The counter can be reset, stopped or re-activated by using the impulse input.

# Magnetic-inductive flow measurement device

## Type VOLUMTEC – *best performance*



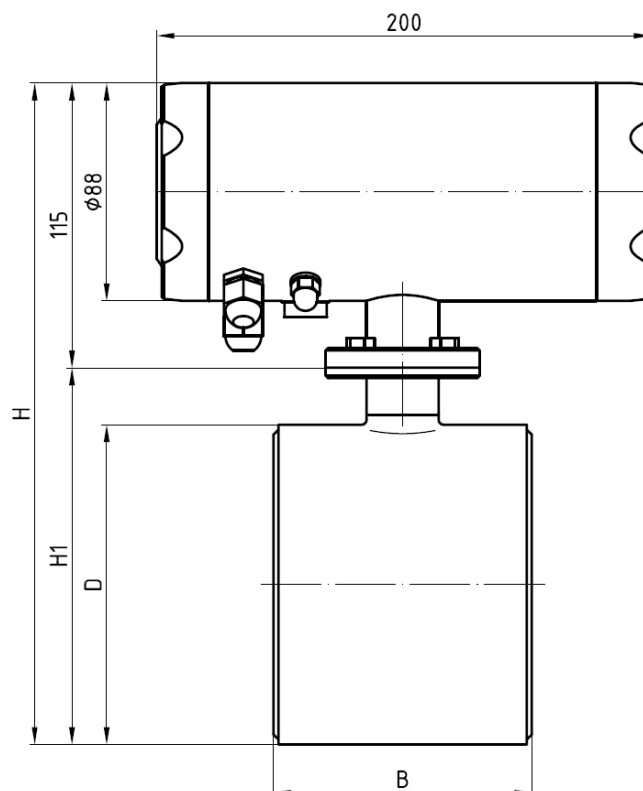
### TECHNICAL DATA

General information	
Device type	VOLUMTEC magnetic-inductive flow-measuring device for liquid media
Input	
Measuring range	0,1...10 m/s
Flow range	30 l/h...280 m³/h (depending on the nominal diameter)
Pressure range	PN 16
Control input	8...32 V, $R_i < 3,2 \text{ k}\Omega$ zero position, measuring interruption or start
Output	
Flow output	0/4...20 mA, active or passive, load max. 500 $\Omega$
Impulse output (volume)	2x opto-coupler, 32 V / 20 mA, max. 1 kHz
Status output	Opto-coupler passive, fault or direction
Measuring accuracy	
Typical accuracy	0,2% FS, at flow > 0,5 m/s
Conditions for use	
Medium temperature	Compact: 0...100°C permanent temperature, 130°C max. for 30 minutes Separate: 0...160°C permanent temperature
Environmental temperature	-25 ... + 55°C
Storage temperature	-25 ... + 55°C
Minimum conductivity medium	Compact version $\geq 5 \text{ }\mu\text{S/cm}$ (demineralized water > 20 $\mu\text{S/cm}$ ) Separate version $\geq 15 \text{ }\mu\text{S/cm}$ (demineralized water > 30 $\mu\text{S/cm}$ )
Upstream	$\geq 5 \times \text{DN}$
Downstream	$\geq 3 \times \text{DN}$
Protection class	IP 65 according to EN 60529
Electromagnetic compatibility	according to EMC Directive 2014 / 30 / EC
Design configuration	
Process connection	Modular connection system with aseptic collar flange according to DIN 11864-2 Form A
Process connection adapter	Welding sockets for pipes according to DIN 11850 (grooved flange according to DIN 11864-2 form A for welding to pipes according to DIN 11866 - Series A), threaded sockets and tapered sockets with grooved union nut according to DIN 11851, clamp according to DIN 32676 etc.
Materials for compact and separate version	Housing: AISI 304 In contact with product: AISI 316L PFA measuring pipe lining (FDA-compliant) Seal: on process side: EPDM (FDA-compliant)
Nominal diameter	DN 10...DN 100
Electrical connection	3x cable clamp M16x1,5
Connection cable for separate version	Coil cable: 2x 0.5 mm², shielded Electrode cable: 4x 0.5 mm², shielded
Display	Graphic LCD display 46x23 mm, backlit, 4x 90° rotatable
Auxiliary energy	
Supply voltage	9...32 V DC
Power input	8,5 W

Please check the compatibility of the seals with the medium for each application!

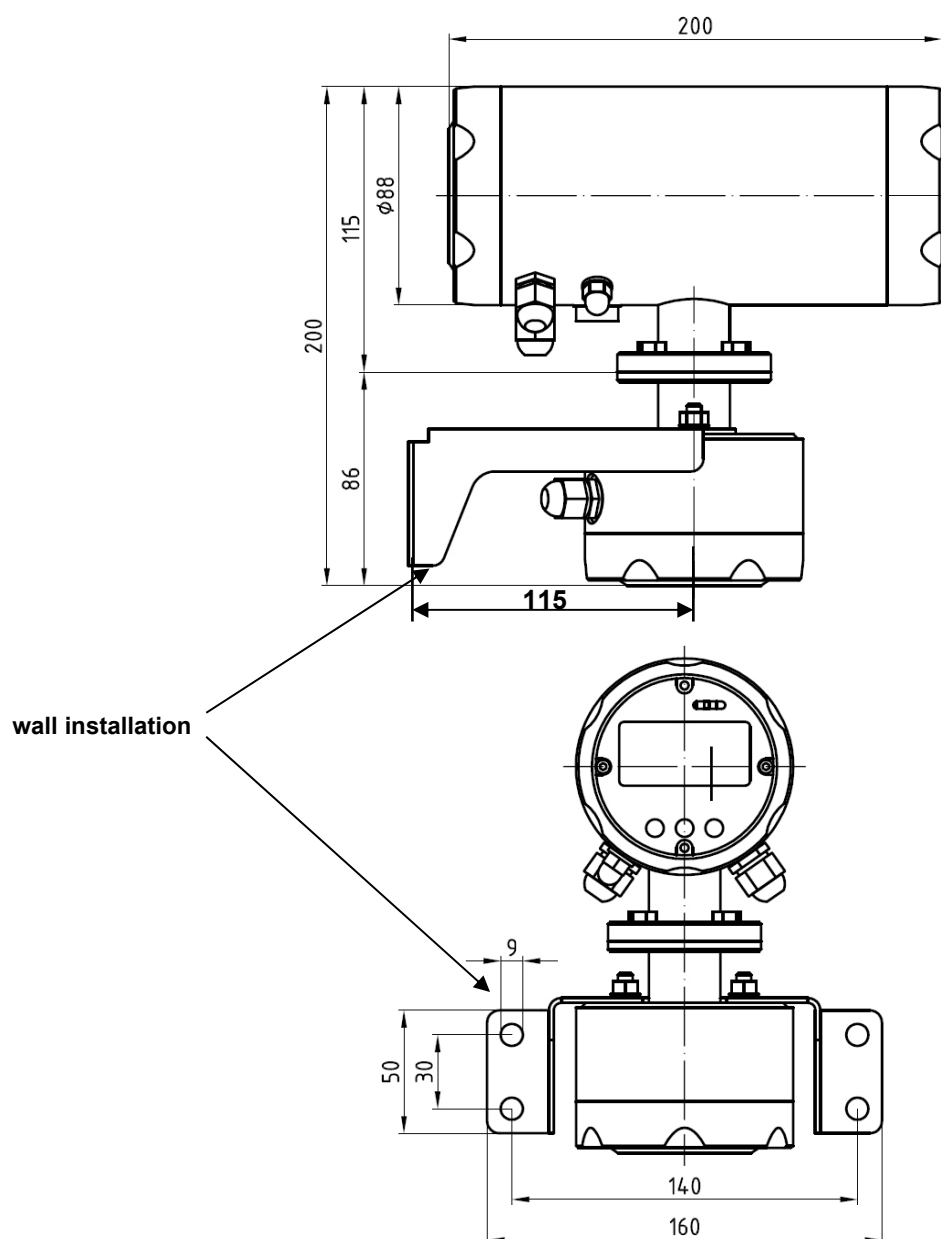
# DIMENSIONAL DRAWINGS

**Compact version**  
(without process-connection adapter)



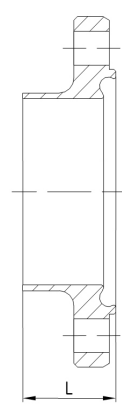
Nominal width	B [mm]	H [mm]	D [mm]	H1 [mm]	Flow rate [L/h]	Weight [kg]
						Compact version
DN 10	104	225	90	110	30...3.000	6
DN 15	104	225	90	110	70...7.000	6
DN 25	104	225	90	110	180...18.000	6
DN 32	104	240	105	125	300...30.000	7
DN 40	104	240	105	125	450...45.000	7
DN 50	104	265	130	150	700...70.000	8
DN 65	160	265	130	150	1.200...120.000	8
DN 80	160	290	155	175	1.800...180.000	12
DN 100	200	305	170	190	2.800...280.000	17

### Separated version transmitter



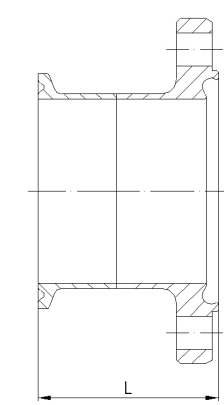
## **DIMENSIONAL DRAWINGS**

Grooved flange according to DIN 11864-2 form A  
 for welding to pipes according to DIN 11866 - series A



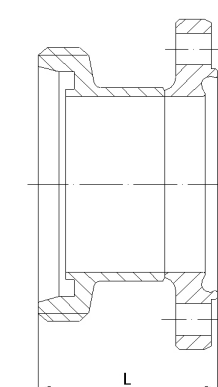
Nominal width	L [mm]
DN10	25,5
DN15	25,5
DN25	25,5
DN32	25,5
DN40	25,5
DN50	25,5
DN65	25,5
DN80	27,5
DN100	27,5

Clamp according to DIN 32676



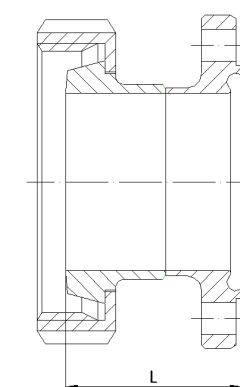
Nominal width	L [mm]
DN10	49,5
DN15	49,5
DN25	49,5
DN32	49,5
DN40	49,5
DN50	49,5
DN65	49,5
DN80	49,5
DN100	71,5

Threaded socket according to DIN 11851



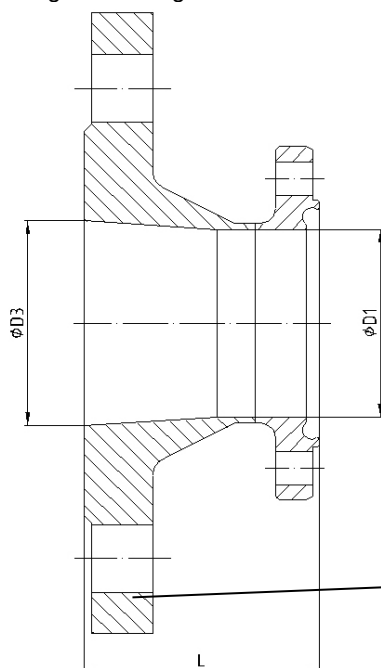
Nominal width	L [mm]
DN10	49,5
DN15	49,5
DN25	49,5
DN32	49,5
DN40	49,5
DN50	49,5
DN65	49,5
DN80	49,5
DN100	71,5

Conical socket with groove nut according to DIN 11851



Nominal width	L [mm]
DN10	49,5
DN15	49,5
DN25	49,5
DN32	49,5
DN40	49,5
DN50	49,5
DN65	49,5
DN80	49,5
DN100	71,5

Flange according to DIN EN ISO 1092-1



Nominal width	L [mm]
DN10	49,5
DN15	49,5
DN25	49,5
DN32	49,5
DN40	49,5
DN50	49,5
DN65	49,5
DN80	49,5
DN100	71,5

Threaded holes on the device side

Nominal width	Quantity	Thread width
DN10	4	M8
DN15	4	M8
DN25	4	M8
DN32	4	M8
DN40	4	M8
DN50	4	M8
DN65	8	M8
DN80	8	M10
DN100	8	M10

All non-dimensioned sizes are per  
 DIN EN 1092-1  
 PN16, Typ 11, Form B (DN10-100)  
 PN10, Typ 11, Form B (DN125-150)

Further dimensional drawings on request.

**ORDERING-INFORMATION VOLUMTEC**

**Version**

K	Compact version: sensor and transmitter are directly connected
G	Separated version: connection between sensor and transmitter via cable, 5m (standard)

**Auxiliary**

DC	9...32 V DC
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**Electronics**

0	Standard
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**Nominal width**

B	DN 10
C	DN 15
D	DN 25
E	DN 32
F	DN 40
G	DN 50
H160	DN 65
I160	DN 80
K200	DN 100

VOLUMTEC

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**ORDERING-INFORMATION PROCESS CONNECTION ADAPTERS**

**Process connection adapter**

FES	Grooved flange acc. to DIN 11864-2 form A for welding to pipes acc. to DIN 11866 - series A
FAF	FG hygiene flange
FMN	Conical socket with groove nut acc. to DIN 11851
FMG	Threaded socket acc. to DIN 11851
FCL	Clamp acc. to DIN 32676
FVA	VARIVENT® Type N
FFB	Flange acc. to DIN EN 1092-1, type 11, form B

**Nominal width**

B	DN10
C	DN15
D	DN25
E	DN32
F	DN40
G	DN50
H	DN65
I	DN80
K	DN100

		FVLT
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**Customized process connection adapters and connection solutions for existing applications on request.**

Our products are constantly in further development, therefore subjects to modifications.