

Magneto-inductive Flow Meter, type 6823-x

- **Calibratable precision instrument for measuring the quantity of milk in collection trucks during collection and delivery**
- **Suitable for measuring the volume and flow of electrically conductive liquids in the food industry and other sectors.**
- **High measurement precision unaffected by changes of flow velocity, by changeover from laminar to turbulent flow, by fluctuations of viscosity or conductivity**



Description

The magneto-inductive flow meter type MID, type 6823-x with teflon-coated stainless steel measuring tube and connecting flanges made of stainless steel meets the hygienic requirements of the food industry. Thanks to its compact and rugged construction it can be used for measurement jobs in both stationary and mobile systems.

Application

The MID type 6823-x is designed for use as a volumetric meter during milk truck collections and deliveries. It can be freely configured to suit country-specific conditions. The MID meets national requirements and has been issued with calibration licences by various countries.

Function

The central measuring element of the volumetric meter is a stainless steel measuring tube positioned in the magnetic field of two coils. When milk or any other electrically conductive liquid flows through the measuring tube, it generates a voltage proportional to its velocity of flow. Volume and flow are calculated from this induction voltage by a microprocessor.

The results are transmitted as a digital output signal via a field bus to a further processing unit. The MID has an analog output and a pulse output in addition to a P-NET port. A model with a three-channel pulse output (no analog output) is also available as an alternative. The microprocessor controls the measurement sequence and the transmission of measured values. It monitors all equipment functions, performs automatic zero point correction and temperature compensation, and permits flow measurement in both directions. The resolution of the volumetric measurement is programmable.

The P-NET interface enables the MID to be integrated in automated systems with bidirectional communication capabilities to higher-order units.

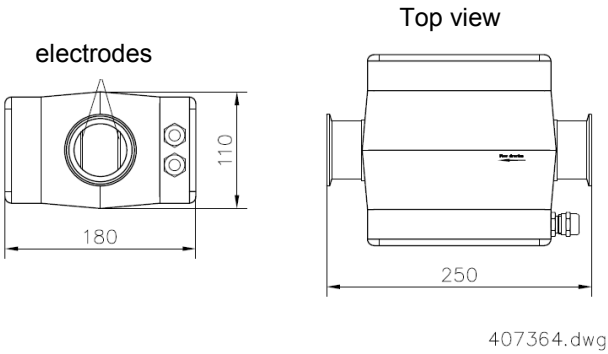
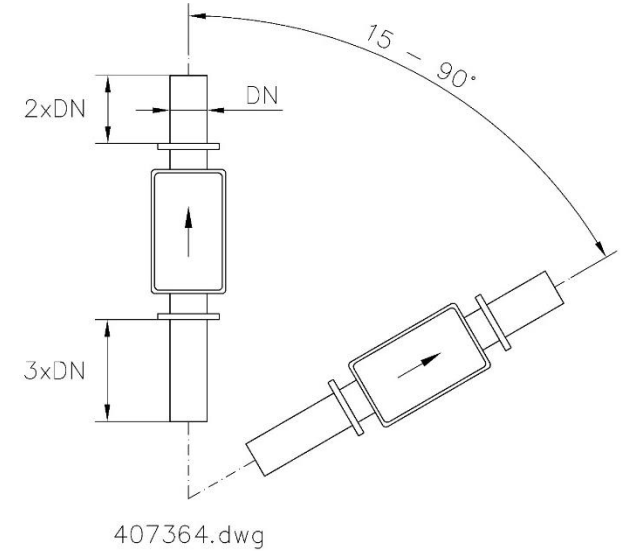
The flow meter is notable for being particularly convenient to assemble and service thanks on the one hand to its modular construction consisting of a counting head, electronic module and terminal box and on the other hand to its compact form and small dimensions. The measuring chamber has no moving parts, making it extremely reliable in operation and wear-proof. The measuring tube is CIP-compatible up to 100 °C.

Features

Microprocessor-controlled, magneto-inductive flow meter

- **Can be configured in many different ways**
- **Models with measuring tubes in the sizes 2", 2,5" and 3"**
- **Volumetric flow up to 2000 l/min**
- **Volumetric measurement with programmable resolution**
- **Pulse/analog output or three-channel pulse output**
- **Serial field bus interface (P-NET)**
- **Hygienic stainless steel measuring tube**
- **Meets OIML recommendations concerning measurement systems for liquids other than water**
- **CE coding**
- **Calibration licence for several countries**

Technical Data				
Specific Data				
Measure range	100 l/min to 2000 l/min, depending on version see table			
Accuracy	≤ 0,3 % (In the above measuring range)			
Conductivity	> 5 μS/cm			
Pressure	max. 10bar			
Electrical Data				
Auxiliary voltage	24V DC ±15%			
Power consumption	max. 6W			
Outputs	PNET/ 3-Chanal (open collector)			
Pulse output	0 - 1000 Hz			
	volumetric measurement signal for counter			
	indication of the current flow			
3 channel pulse output	as 1 channel pulse output with direction signal and error signal			
	as 2- or 3 channel pulse output			
Analog output	4 ... 20 mA (external source)			
Connection	7 m connection cable 10x0,25mm ² shielded, with open ends PG11 cable bushings, internal screw-type terminals.			
Connection cable assignment	MID-terminal	Wire color	Signal	
	1	pk/gy	+24V	
	2	Shield	GND	
	7	wh	+ Display	
	8	bu	- Display	
	13	bn	S	P-NET
	14	gn	B	
	15	ye	A	
	16	vt	Output 3	Output 3
	17	bk	GND	
Connection three-channel pulse output	MID (terminal)	1 channel	2 channel 90°	3 channel 120°
	3 - 4	Phase 1	Error	Phase 1
	18 - 17	Error	Phase 1	Phase 2
	16 - 17	UP/DOWN	Phase 2	Phase 3
Ambient conditions				
Admissible operating temperature	-10 ... +50°C			
Admissible storage temperature	-10 ... +50°C			
Protection class	IP 67			
Mechanical data				
Dimensions	See drawing			
Weight	Approx 5kg			

Material	Stainless steel teflon coated, stainless steel, PPO Noryle	
Connection	Clamp NW 2", NW 2,5", NW 3"	ISO 2852
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>Dimensions</p>  </div> <div style="width: 45%;"> <p>Mounting position</p>  </div> </div>		
Point of installation	<ul style="list-style-type: none"> • lowest point of the pipe system, slightly rising to flow direction • position where the MID is always full of liquid. • point of maximum pressure in the pipeline system. • following the air separator if there is any possibility of air being drawn in. • The electrodes in the MID must always be oriented vertically 	

MID order data								
MAK 3003		MAK 3002		Diameter	Flow min.	Flow max.	Min. volume	Country
Type	Order number	Type	Order number					
		6823-1	U950 20 68231	NW 2"	25 l/min	500 l/min	20 l	D, A, CH
		6823-3	U950 20 68233	NW 2"	66 l/min	660 l/min		NL
		6823-4	U950 10 68234	NW 2,5"	75 l/min	1000 l/min	50 l	D, A, CH
		6823-4.1 (für V2000)	U950 10 682341	NW 2,5"	75 l/min	1000 l/min	50 l	D, A, CH
		6823-4.2	247094	NW 2,5"	100 l/min	1250 l/min	100 l	D
6823-4.3	387985			NW 2,5"	83 l/min	1333 l/min	50 l	D, A, CH
		6823-5	215774	NW 2,5"	83 l/min	1167 l/min	50 l	NL
		6823-6	242839	NW 3"	50 l/min	2000 l/min	100 l	NL
		6823-9.1	247093	NW 3"	100 l/min	1400 l/min	200 l	D
6823-9.2	301246			NW 3"	200 l/min	2000 l/min	100 l	
6823-9.3	303361	6823-9.3	303361	NW 3"	200 l/min	2000 l/min	100 l	
		6823-15	U950 20 682315	NW 2"	25 l/min	500 l/min	50 l	B
		6823-16 ****	U950 10 682316	NW 2,5"	75 l/min	1000 l/min	50 l	D
		6823-17 ****	U950 10 682317	NW 2"	25 l/min	500 l/min	20 l	D
		6823-19	U95020 682319	NW 2,5"	75 l/min	1000 l/min	100 l	B
		6823-18	U950 20 682318	NW 2"	25 l/min	500 l/min	20 l	D
		6823-19.1	U950 20 6823191	NW 2,5"	75 l/min	1000 l/min	50 l	B
		6823-20 **	U950 20 682320	NW 3"	100 l/min	2000 l/min	200 l	NZ
		6823-25	U950 20 682325	NW 2,5"	75 l/min	100 l/min	50 l	D
		6823-28 *	U950 20 682328	NW 2"	25 l/min	500 l/min	20 l	PL

* Resolution 0,05 ltr.

** without 5m-connecting cable

*** MID with 3 channel pulse output: coding for 1 channel pulse output, direction signal and error signal

**** MID with 3 channel pulse output: 120° phase displacement