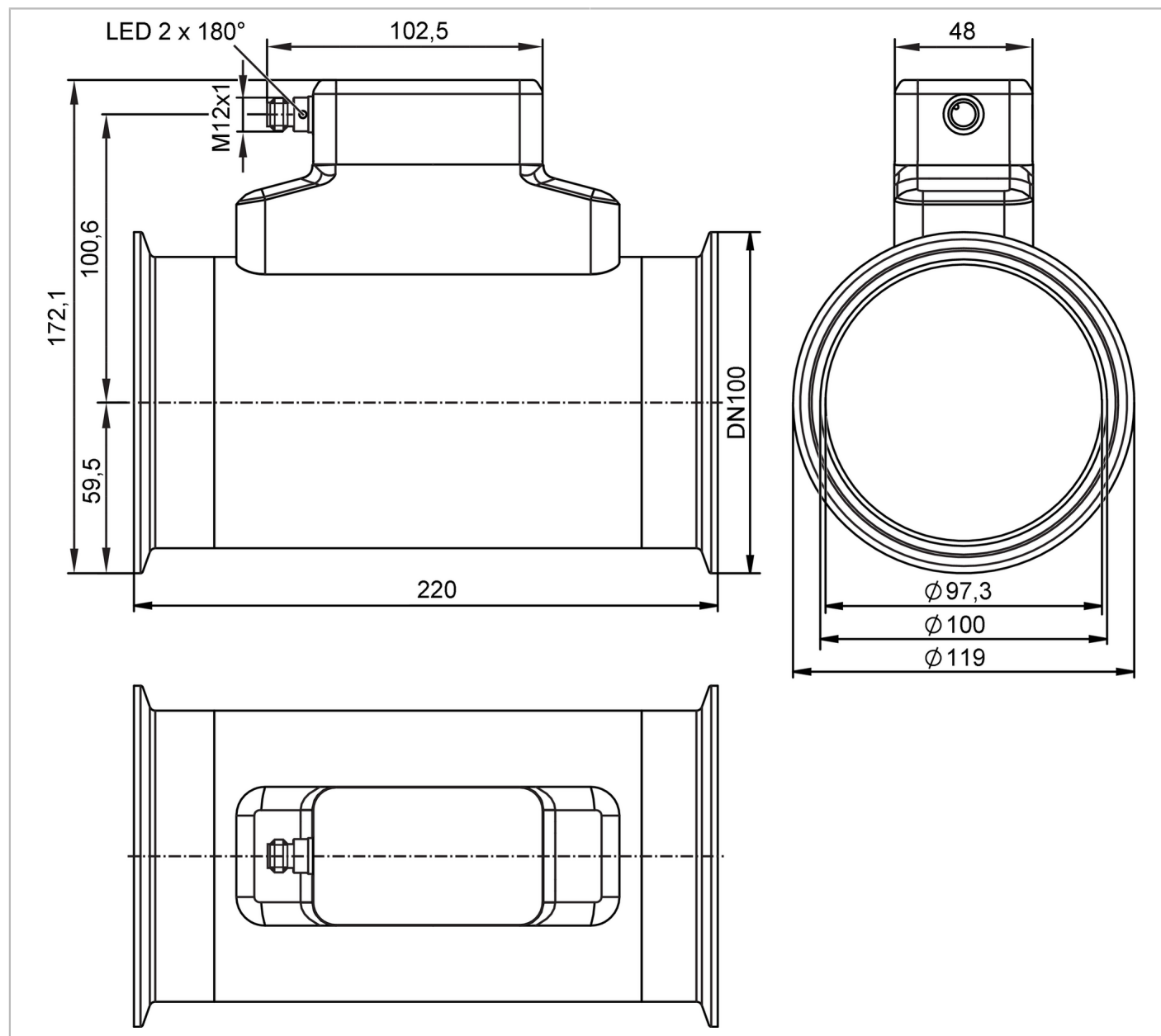


SUH720

Ultrasonic flow meter

SUCX0XJBFRKG/US



ACS



EC 1935/2004

FCM



IO-Link

KTW/W270 Reg31

Product characteristics

Measuring range	45...6000 l/min	2.7...360 m³/h	714...95102 gph	11.9...1585 gpm
Nominal diameter	DN100 (4")			
Process connection	Clamp DN100 DIN 32676 series A			

Application

Special feature	Gold-plated contacts			
Application	food and beverage industry			
Media	ultra-pure water; water; hydrous media			
Note on media	hydrous media: for media with >10 % additives, the repeatability is the only available value			
Medium temperature [°C]	-40...120; (< 1 h: 150)			
Min. burst pressure	40 bar	4 MPa		
Pressure rating	25 bar	2.5 MPa		

SUH720



Ultrasonic flow meter

SUCX0XJBFRKG/US

Note on pressure rating	take into account the pressure resistance of the bracket and the seal used for clamp connection			
Vacuum resistance [mbar]	-1000			
Electrical data				
Operating voltage [V]	18...32 DC; (to SELV/PELV)			
Current consumption [mA]	< 75			
Protection class	III			
Reverse polarity protection	yes			
Power-on delay time [s]	5			
Measuring principle	ultrasonic			
Inputs / outputs				
Total number of inputs and outputs	2			
Inputs				
Inputs	OUT2	counter reset		
Outputs				
Total number of outputs	2			
Output signal	OUT1	switching signal; pulse signal; diagnostic signal; totaliser switching signal; frequency signal; IO-Link		
	OUT2	switching signal; pulse signal; diagnostic signal; totaliser switching signal; analogue signal		
Electrical design	PNP/NPN			
Pulse output	flow rate meter			
Short-circuit protection	yes			
Type of short-circuit protection	pulsed			
Overload protection	yes			
Analogue				
Number of analogue outputs	1			
Analogue current output [mA]	4...20			
Max. load [Ω]	500			
Digital				
Number of digital outputs	2			
Output function	normally open / normally closed; (parameterisable)			
Max. voltage drop switching output DC [V]	2			
Permanent current rating of switching output DC [mA]	100			
Switching frequency DC [Hz]	0...10000			
Measuring/setting range				
Measuring range	45...6000 l/min	2.7...360 m³/h	714...95102 gph	11.9...1585 gpm
Resolution	0.1 l/min	0.001 m³/h	1 gph	0.01 gpm
Note on factory setting	l/min, °C			
Set point SP	78...6000 l/min	4.7...360 m³/h	1236...95102 gph	20.6...1585 gpm
Reset point rP	46.8...5968.8 l/min	2.8...358.1 m³/h	742...94607 gph	12.4...1576.8 gpm

SUH720



Ultrasonic flow meter

SUCX0XJBFRKG/US

Analogue start point ASP	-6000...4800 l/min	-360...288 m³/h	-95102...76082 gph	-1585...1268 gpm
Analogue end point AEP	-4800...6000 l/min	-288...360 m³/h	-76082...95102 gph	-1268...1585 gpm
Low flow cut-off LFC	45...300 l/min	2.7...18 m³/h	713...4755 gph	11.9...79.3 gpm
Frequency end point, FEP	1203.7...6000 l/min	72.2...360 m³/h	19079...95102 gph	318...1585 gpm
Frequency at the end point FRP [Hz]	1...10000			

Volumetric flow quantity monitoring

Pulse length [s]	0.002...2
Pulse value	0.1...99990000 l; 0.026...26414563.515 gal

Temperature monitoring

Measuring range	-40...120 °C	-40...248 °F
Resolution	0.1 °C	0.1 °F
Set point SP	-39.4...120 °C	-39...248 °F
Reset point rP	-40...119.4 °C	-40...247 °F
Analogue start point	-40...88 °C	-40...190.4 °F
Analogue end point	-8...120 °C	17.6...248 °F
Frequency start point, FSP	-40...88 °C	-40...190.4 °F
Frequency end point, FEP	-8...120 °C	17.6...248 °F
Frequency at the end point FRP [Hz]	1...10000	

Accuracy / deviations

Accuracy (in the measuring range)	only up to 100 °C; at higher temperatures, only the repeatability is within the specification.
-----------------------------------	--

Flow monitoring

Accuracy (in the measuring range)	water	± (2,0 % MW + 0,5 % MEW)
Repeatability	± 0,2 % MEW	

Temperature monitoring

Accuracy [K]	± 2,5 (Q > 5 % MEW)
Temperature coefficient [% of the span / 10 K]	0,2

Response times

Flow monitoring	
Response time [s]	< 0.5; (dAP = 0, T09)
Damping process value dAP [s]	0...5

Temperature monitoring

Dynamic response T05 / T09 [s]	5,7 / 86
--------------------------------	----------

Software / programming

Diagnostic functions	direction of flow detection; signal quality
----------------------	---

Interfaces

Communication interface	IO-Link	
Transmission type	COM2 (38,4 kBaud)	
IO-Link revision	1.1.3	
SDCI standard	IEC 61131-9: 2013-07	
Profiles	BLOB	Binary Large Object transfer
	Common - I&D	Identification and Diagnosis

SUH720



Ultrasonic flow meter

SUCX0XJBFRKG/US

Required master port type	A	
Process data analogue	3	
Process data binary	2	
Min. process cycle time [ms]	9.6	
IO-Link process data (cyclical)	function	bit length
	totaliser	32
	Flow monitoring	32
	Temperature monitoring	32
	status	4
	Output 1	1
	Output 2	1
Supported DeviceIDs	Type of operation	DeviceID
	default	1858

Operating conditions		
Ambient temperature [°C]	-20...60	
Storage temperature [°C]	-25...80	
Protection	IP 69; (DIN EN 60529)	

Tests / approvals		
EMC	DIN 61326-1:2021	
Shock resistance	DIN IEC 68-2-27	20 g (11ms)
Vibration resistance	DIN IEC 68-2-6	20 g (10...2000Hz)
MTTF [years]	136	
UL approval	UL approval no.	I038
	File number UL	E174189
Pressure Equipment Directive	can be used for group 2 fluids; group 1 fluids on request	

Mechanical data		
Weight [g]	2328.25	
Housing	rectangular	
Inlet pipe length	15 x DN	
Outlet pipe length	3 x DN	
Dimensions [mm]	220 x 119 x 172.1	
Materials	housing: stainless steel (316L/1.4404); connector: PEI, FKM	
Materials (wetted parts)	Pipe section: stainless steel (316L/1.4435); Process connection: stainless steel (316L/1.4404)	
Nominal diameter	DN100 (4")	
Process connection	Clamp DN100 DIN 32676 series A	
Process connection suitable for pipe standard	DN100 / Ø 104 mm x 2 mm; (DIN 11866 series A); (DIN EN 10357 series A)	
Surface characteristics Ra/Rz of the wetted parts	Ra < 0.4 µm (16 µin); Rz = 4 µm (157 µin)	

Displays / operating elements		
Display	operating status	1 x LED, green

Accessories		
Items supplied	package insert	

SUH720



Ultrasonic flow meter

SUCX0XJBFRKG/US

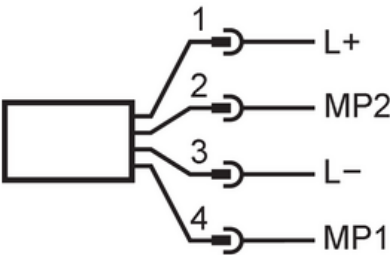
Remarks	
Remarks	MW = measured value
	MEW = Final value of the measuring range
	pulse and totaliser signal are only available for one of the two outputs
	the specified surface characteristics Ra/Rz of the wetted surfaces do not apply to the weld seam.
Pack quantity	1 pcs.

Electrical connection - plug

Connector: 1 x M12; coding: A; Contacts: 4, gold-plated



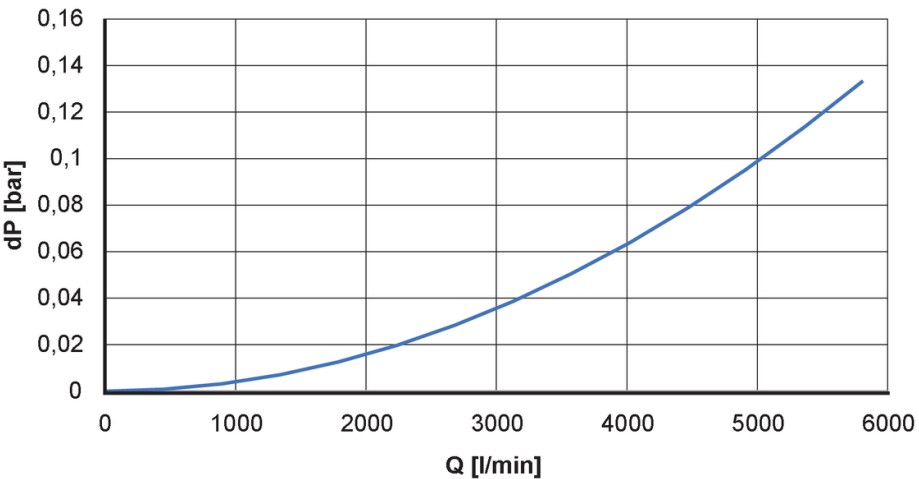
Connection



1 (L+)	L+	
2 (OUT2)	MP2	DO2, AO, DI
3 (L-)	L-	
4 (OUT1)	MP1	DO1, FO, IO-Link

AO: analogue output; DI: digital input; DO: digital output; FO: frequency output; MP: multi-function connection

Diagrams and graphs



dP [bar] Pressure loss
Q [l/min] volumetric flow quantity