

**Description**

Microcontroller operated Flow Meter to measure and monitor flow velocity, volume flow and temperature of water.

The RS232 interface allows configuration, operation and data logging by means of a PC software.



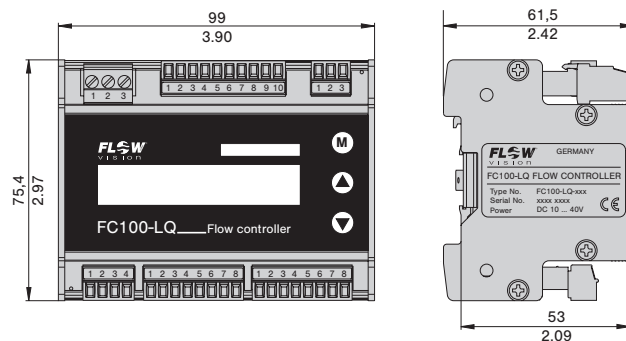
**FC100-LQ**  
rail mounted housing                      surface mounted housing

**Features**

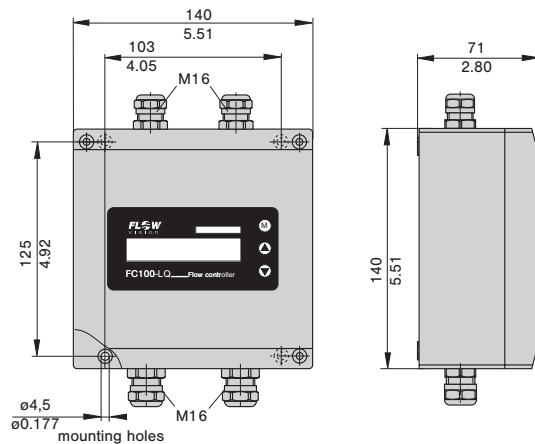
- Menu driven (keypads)
- LC display (2 x 16 digits) can show:
  - actual flow velocity, volume flow rate, temperature
  - directions for parameter assignment, configuration, diagnostics and error correction;
  - peak values indication
- Two scalable analogue outputs
- Minimum/maximum memory of flow velocity, volume flow and temperature
- Two freely selectable limit contacts
- Quantity dependent pulse output
- Totalizer (with external reset), power fail-safe
- display illumination
- RS232 interface allows configuration, operation and data logging by means of a PC software

**Dimensions**

FC100-LQ (rail mounted housing)



FC100-FH-LQ (surface mounted housing)



This is a metric design and millimeter dimensions take precedence ( $\frac{mm}{inch}$ )

**Ordering information**

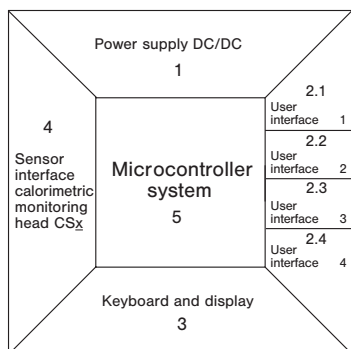
Type	
<b>FC100-LQ</b>	Flow Meter in rail mounted housing
<b>FC100-FH-LQ</b>	Flow Meter in surface mounted housing
<b>Input voltage</b>	
<b>U1</b>	DC 10 ... 40 V
<b>Signal outputs</b>	
<b>R2</b>	2 relay outputs (2 limit values)
<b>T4</b>	4 transistor outputs (2 limit values + 2 status or 2 limit values + 1 status + 1 pulse output)
<b>Analogue outputs</b>	
<b>V1</b>	0/1-5 Volt
<b>V2</b>	0/2-10 Volt
<b>C1</b>	0/4-20 mA (self-powered, galvanically isolated)
<b>Serial interface</b>	
<b>K1</b>	RS232 (with PC-Software)
<b>FC100-LQ</b>	- U1 R2 V1 K1 ordering example

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**TECHNICAL DATA**

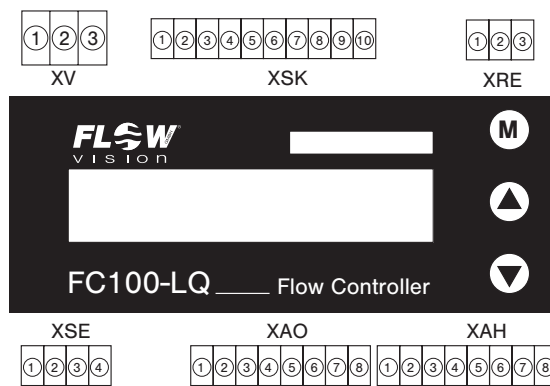
Flow Meter FC100-LQ		with monitoring head CSP and sensor adapter TP/ball valve BV	with monitoring head CSF
<b>General data</b>			
Suitable for		water	
Measuring functions		flow velocity, volume flow rate, temperature	
Display		2 x 16-digit LC display (illuminated)	
Configuration by		keypads or PC software	
Serial interface		RS232, PC-Software runs on Windows® XP/Windows Vista®/Windows® 7	
Ambient temperature range (electronic control unit)		+5 °C ... +50 °C/+41 °F ... +122 °F	
<b>Electrical data</b>			
Supply voltage		DC 10 ... 40 V	
Power consumption		DC 10 V: 650 mA; DC 24 V: 240 mA; DC 40 V: 150 mA	
Analogue outputs	flow and temperature	0/4-20 mA or 0/2-10 V or 0/1-5 V	
Signal outputs	2 relay outputs (2 limit values)	2 SPDT contacts AC/DC 50 V/1 A/50 W	
	4 transistor outputs (2 limit values + 2 status, or 2 limits values + 1 status + 1 pulse output)	open collector outputs DC 36 V/150 mA/1,5 W	
<b>Flow measurement</b>			
Measuring range 0.05 ... 3 m/s / 0.164 ... 9.84 fps (display range 0 ... 4 m/s / 0 ... 13.1 fps)		in TP-01	0,02 - 2,2 (2,9) m³/h
		in TP-02	0,04 - 3,4 (4,5) m³/h
		in TP-03	0,05 - 5,3 (7,1) m³/h
		in TP-04	0,10 - 8,7 (11,6) m³/h
		in TP-05	0,14 - 13,6 (18,1) m³/h
		in TP-06	0,20 - 21,2 (28,3) m³/h
		see table flow measurement range (next page)	
Accuracy <sup>(2)</sup>		see failure diagram	
Repeatability (5 % MRFV - 100 % MRFV) <sup>(1)</sup>		±1% of measured value ±0.5 % of measuring range final value	
Temperature drift of electronic control unit		0.05 % of measuring range final value/°C 0.09 % of measuring range final value/°F	
<b>Temperature measurement</b>			
Measuring range		-40 ... +130 °C/-40 ... +266 °F	
Accuracy		±1 % of measuring range	
<b>Mechanical data (electronic control unit)</b>			
Degree of protection	rail mounted	IP20	
	surface mounted	IP65	
Materials	rail mounted	Aluminium, display: polyester foil	
	surface mounted	Aluminium/acrylic	
Housing dimensions (LxWxH)		see dimensions (previous page)	
Weight	rail mounted	365 g/0.805 lb	
	surface mounted	1200 g/2.65 lb	
Cables	voltage supply	3x0,75 mm²/3x1.16·10 <sup>-3</sup> in. <sup>2</sup> (AWG 18)	
	to monitoring head	LifYCY 4x2x0,2 mm²/4x2x0.31·10 <sup>-3</sup> in. <sup>2</sup> (AWG 24)	
	analogue outputs	2 x LifYCY 2x0,25 mm²/2x0.388·10 <sup>-3</sup> in. <sup>2</sup> (AWG 24)	
	limit value outputs	2 x LifYCY 3x0,38 mm²/3x0.589·10 <sup>-3</sup> in. <sup>2</sup> (AWG 22)	
	Max. cable length to monitoring head	200 m/656 ft	
<sup>(1)</sup> At constant temperature and flow conditions and stable thermal conductivity. <sup>(2)</sup> The accuracy values were determined under ideal conditions: - symmetrical complete flow profile - correct mounting in the pipe - inlets and outlets according to EN ISO 5167-1 MRFV=measuring range final value Windows and Windows Vista are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.			

**Block diagram**



- 1 Input voltage: DC 10 ... 40 V
- 2.1 User interface 1: relay outputs: 2 limit values  
transistor outputs: 2 limit values + 1 error indication + 1 busy signal or pulse output (software selected)
- 2.2 User interface 2: analogue outputs: temperature and flow current or voltage
- 2.3 User interface 3: RS232 interface
- 2.4 User interface 4: totalizer reset: edge controlled potential free, normally open contact or voltage pulse DC10 ... 40 V
- 3 Keyboard/Display: keypads  
LC display  
2 x 16 digits  
backlight (can be switched off)
- 4 Sensor interface: calorimetric monitoring head type CSx
- 5 Controller system: signal processing  
I/O - controlling  
monitoring  
parameter memory  
communication

**Connection diagram**



- XV - power supply
- XSK - calorimetric monitoring head
- XRE - totalizer reset
- XSE - RS232 communication interface
- XAO - analogue outputs
- XAH - signal outputs

**Flow measurement range (CSF-11.. monitoring head)**

The flow measurement range is determined by the inside pipe diameter (see table). It can be calculated with the following equation:

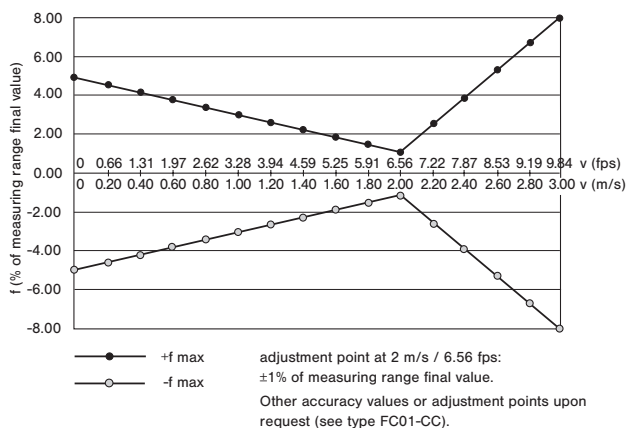
$$Q = V_N \times A_R$$

Q (m<sup>3</sup>/h) - flow quantity  
 V<sub>N</sub> (m/h) - average velocity  
 A<sub>R</sub> (m<sup>2</sup>) - inside pipe diameter

Setting range for inside pipe diameter:  
 50.0 mm ... 999.9 mm/1.97 in. ... 39.4 in.  
 velocity measuring range:  
 0 ... 3 m/s (0 ... 4 m/s)/0 ... 9.84 fps (0 ... 13.1 fps)

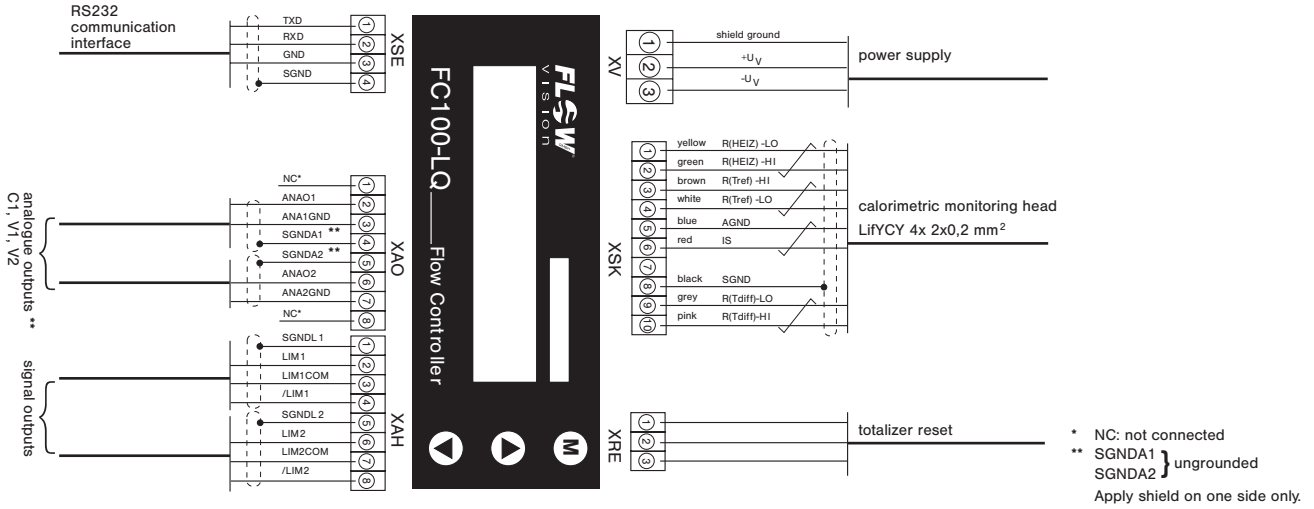
inside pipe diameter	measuring range	display range
D in mm	in m <sup>3</sup> /h	in m <sup>3</sup> /h
50	21	28
80	55	70
100	85	110
150	190	250
200	340	450
250	530	700
350	1040	1380
500	2120	2830

**Failure diagram for water**

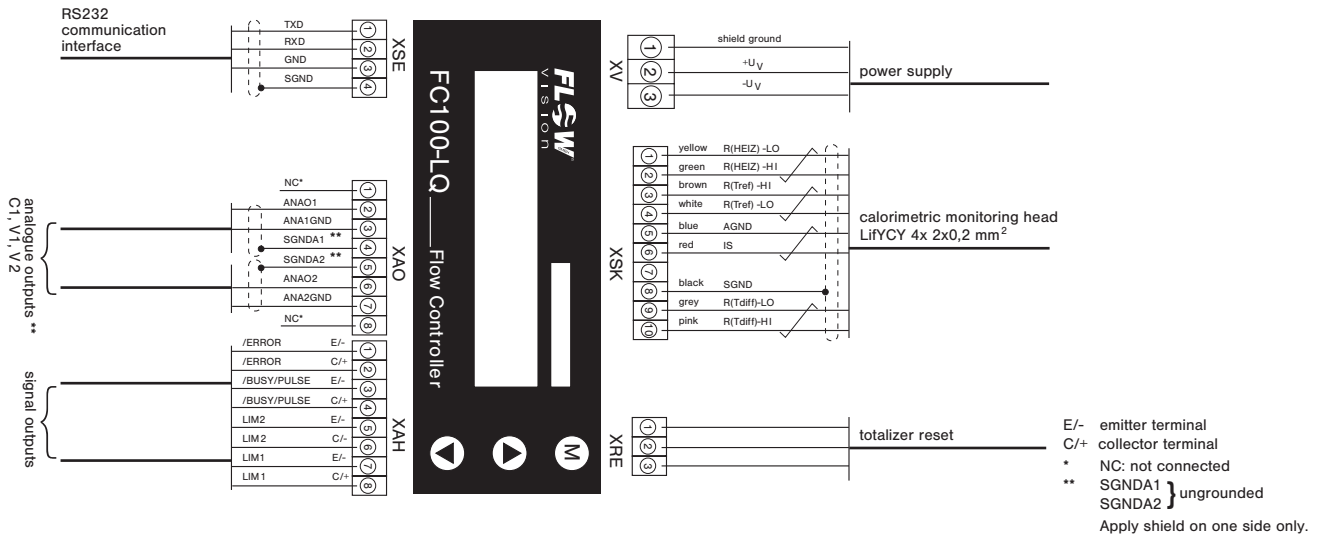


Connection diagrams

**FC100-LQ with relay outputs**

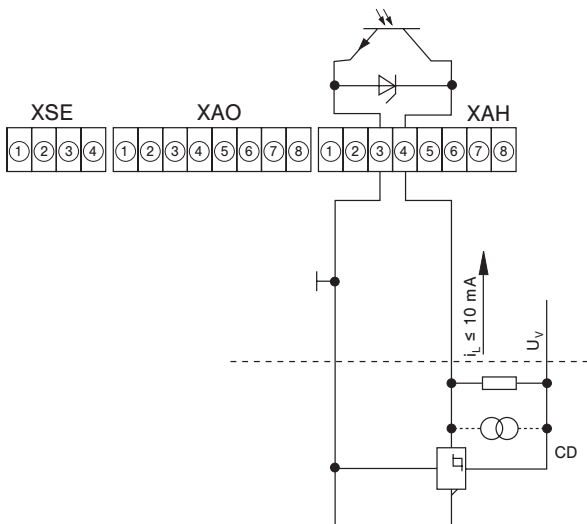


**FC100-LQ with transistor outputs**

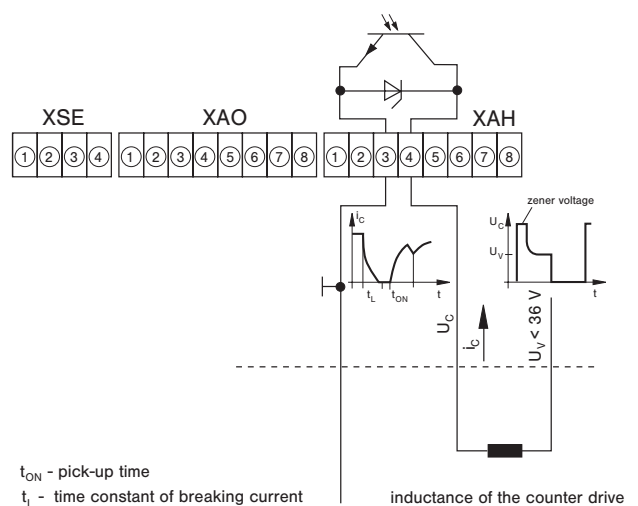


**FC100-LQ - Recommended connection of pulse output**

Electronic signal processing



Electromagnetic pulse counter

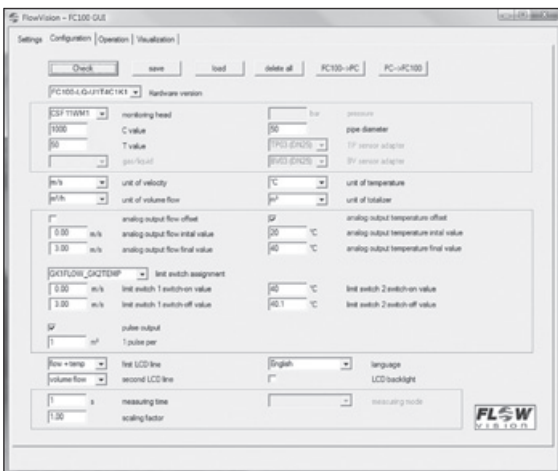


**PC-Software**



**General Settings:**

- Selection of the language of the PC software
- Definition how often measuring values are read from the FC100-LQ
- Indication of hardware and firmware version



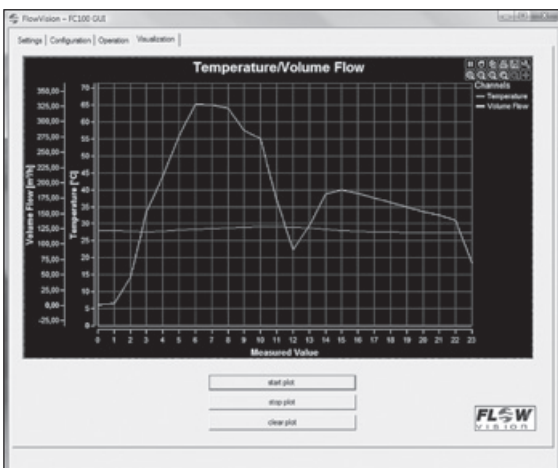
**Configuration of the FC100-LQ:**

- Basic settings (e.g. type of measuring head, pipe size)
- Selection of the units of all measured values
- Configuration of the analogue and signal outputs and the pulse output
- Settings of the display and further configuration possibilities



**Operation of the FC100-LQ:**

- Indication of the actual measured values and saved minimum and maximum values
- Indication of the actual condition of the signal outputs
- Logging of all measured values - export to Microsoft® Excel®



**Visualization of the measured values:**

- Plot of the measured values (volume flow and temperature)
- Flexible indication of the measured values (e.g. scale, zoom, scroll)

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**Description**

Sensor adapters TP and ball valves BV facilitate correct positioning and exchange of CSP monitoring heads, FC03, FC04 or FS10 in pipes with process connection DN 15 ... DN 50. Ball valve BV enables pressure-free installation and removal of CSP monitoring heads and Flow Meters FC03, FC04 and Flow Monitor FS10 simply by closing the input and output pipe. The measuring points are suited to temporary measurements; after completion of the measuring cycle they can be closed by means of blanking plugs.

**Features**

- Correct positioning of sensor
- Ease of sensor replacement
- Measuring point can be closed if not used
- Sensor adapter available as screw-in or welding type
- Ball valve also serves as a shutoff valve (both input and output)

**Ordering information**

Type	
<b>TP</b>	Sensor adapter with internal thread
<b>Process connection/Nominal size</b>	
<b>01</b>	DN 15 G 1/2 internal thread length: 50 mm/1.97 in.
<b>02</b>	DN 20 G 3/4 internal thread length: 64 mm/2.52 in.
<b>03</b>	DN 25 G 1 internal thread length: 78 mm/3.07 in.
<b>04</b>	DN 32 G 1 1/4 internal thread length: 94 mm/3.70 in.
<b>05</b>	DN 40 G 1 1/2 internal thread length: 110 mm/4.33 in.
<b>06</b>	DN 50 G 2 internal thread length: 138 mm/5.43 in.
<b>Material of the area exposed to medium</b>	
<b>M1</b>	stainless steel 1.4571/AISI 316Ti PN 315 bar/4570 psi
<b>M3</b>	brass (not TP-03..) PN 25 bar/363 psi
<b>M5</b>	red brass (only TP-03..) PN 16 bar/232 psi
<b>TP - 01</b>	<b>M3</b> ordering example

**Ordering information**

Type	
<b>TP</b>	Sensor adapter with welding nipples
<b>Process connection/Nominal size</b>	
<b>01</b>	DN 15 dia.d: 16 mm/.630 in. length: 80 mm/3.15 in.
<b>02</b>	DN 20 dia.d: 20 mm/.787 in. length: 70 mm/2.76 in.
<b>03</b>	DN 25 dia.d: 25 mm/.984 in. length: 80 mm/3.15 in.
<b>04</b>	DN 32 dia.d: 32 mm/1.26 in. length: 100 mm/3.94 in.
<b>05</b>	DN 40 dia.d: 40 mm/1.57 in. length: 110 mm/4.33 in.
<b>06</b>	DN 50 dia.d: 50 mm/1.97 in. length: 140 mm/5.51 in.
<b>Material of the area exposed to medium</b>	
<b>M1</b>	stainless steel 1.4571/AISI 316Ti
<b>Process connection</b>	
<b>SA</b>	welded connection
<b>TP - 01</b>	<b>M1 - SA</b> ordering example

**Sensor adapter TP... / Ball valve BV...**



TP-...

BV-...

**Ordering information**

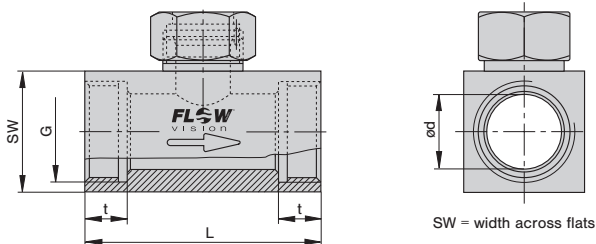
Type	
<b>BV</b>	ball valve with internal thread
<b>Process connection/Nominal size</b>	
<b>03</b>	DN 25 G 1 internal thread length: 88 mm/3.46 in.
<b>04</b>	DN 32 G 1 1/4 internal thread length: 100 mm/3.94 in.
<b>05</b>	DN 40 G 1 1/2 internal thread length: 110 mm/4.33 in.
<b>06</b>	DN 50 G 2 internal thread length: 131 mm/5.16 in.
<b>Material of the area exposed to medium</b>	
<b>M3</b>	nickel plated brass, Delrin seal
<b>BV - 03</b>	<b>M3</b> ordering example

**Accessories**

Description	Ref. No.
Blanking plug, brass, with O ring	0Z121Z000186
Union nut, brass	Y 306 901 01
Blanking plug, stainless steel 1.4571/AISI 316 Ti, with viton O ring	0Z121Z000187
Union nut, stainless steel	Y 306 901 03

**Dimensions**

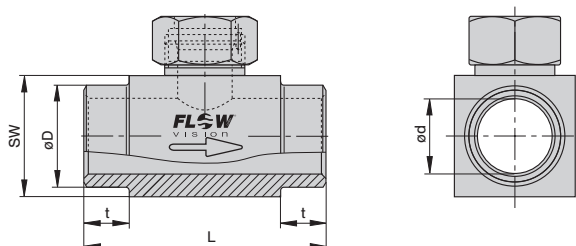
**TP-... Sensor adapter with internal thread**



Material stainless steel (-M1): PN 315 bar / 4570 psi  
 Material brass (-M3): PN 25 bar / 363 psi  
 Material red brass (-M5): PN 16 bar / 232 psi

Type	DN		dia. d		G	t		L		SW	
	mm	in.	mm	in.	in.	mm	in.	mm	in.	mm	in.
TP-01 ...	15	.591	16	.630	1/2"	11	.433	50	1.97	27	1.06
TP-02 ...	20	.787	20	.787	3/4"	12	.472	64	2.52	32	1.26
TP-03 ...	25	.984	25	.984	1"	14	.551	78	3.07	40	1.57
TP-04 ...	32	1.26	32	1.26	1 1/4"	15	.591	94	3.70	50	1.97
TP-05 ...	40	1.57	40	1.57	1 1/2"	15	.591	110	4.33	55	2.16
TP-06 ...	50	1.97	50	1.97	2"	19	.748	138	5.43	70	2.76

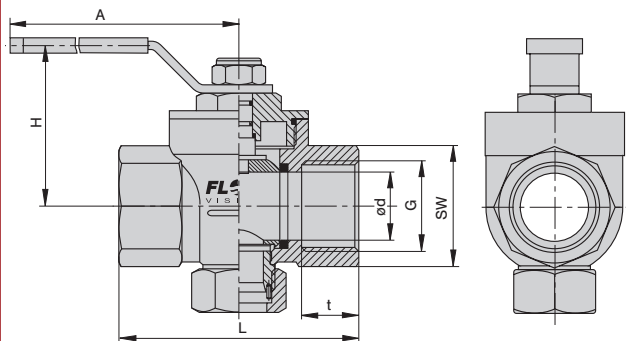
**TP-..M1-SA Sensor adapter with welding nipples**



PN 315 bar / 4570 psi

Type	DN		dia. d		dia. D		t		L		SW	
	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
TP-01M1-S A	15	.591	16	.630	21.3	.839	15	.591	80	3.15	27	1.06
TP-02M1-S A	20	.787	20	.787	26.9	1.06	15	.591	70	2.76	32	1.26
TP-03M1-S A	25	.984	25	.984	33.7	1.33	15	.591	80	3.15	40	1.57
TP-04M1-S A	32	1.26	32	1.26	42.4	1.67	15	.591	100	3.94	50	1.97
TP-05M1-S A	40	1.57	40	1.57	48.3	1.90	15	.591	110	4.33	55	2.16
TP-06M1-S A	50	1.97	50	1.97	60.3	2.37	15	.591	140	5.51	70	2.76

**BV-...M3 Ball valve with internal thread**



PN 25 bar / 363 psi

Type	DN		dia. d		G	t		L		SW		H		A	
	mm	in.	mm	in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.
BV-03M 3	25	.984	25	.984	1"	21	.827	88	3.46	41	1.61	59	2.32	115	4.53
BV-04M 3	32	1.26	32	1.26	1 1/4"	24	.945	100	3.94	50	1.97	65	2.56	115	4.53
BV-05M 3	40	1.57	40	1.57	1 1/2"	24	.945	110	4.33	54	2.13	77	3.03	150	5.91
BV-06M 3	50	1.97	50	1.97	2"	28	1.10	131	5.16	70	2.76	85	3.35	150	5.91

This is a metric design and millimeter dimensions take precedence (mm/inch)

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**Description**

Calorimetric plug-in type monitoring head for sensor adapter TP/BV and flow meter FC100-LQ, suitable for use with liquids and pipe sizes up to DN 50. Calibrated in water.

**Features**

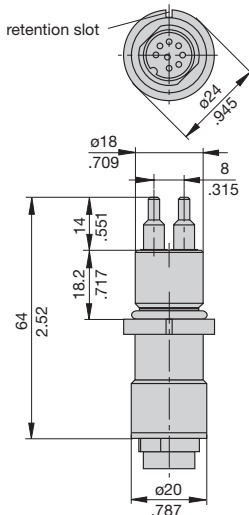
- Ease of installation
- Small physical size
- Medium temperature range -40 ... +130 °C/-40 ... +266 °F
- Material: stainless steel 1.4571/AISI 316 Ti
- Sealing: Viton o-ring

**Ordering information**

<b>Type No.</b>	
<b>CSP</b>	plug-in type monitoring head with calorimetric sensors
<b>Process connection</b>	
<b>11</b>	plug-in type
<b>Medium</b>	
<b>W</b>	water (standard)
<b>Material of areas exposed to medium</b>	
<b>M1</b>	stainless steel 1.4571/AISI 316 Ti (standard)
<b>Length of shank/thread</b>	
<b>L05</b>	18.2 mm/.717 in. (standard)
<b>Electrical connection</b>	
<b>E10</b>	round connector with tinned contacts (plug and cable to order separately)
<b>Certification</b>	
<b>T0</b>	without certificate (standard) *)
<b>Specification of medium</b>	
<b>xxx</b>	
<b>CSP - 11 W M1 L05 E10 T0 - ...</b>	ordering example

\*) for detailed information please see section 0.

**Dimensions**



This is a metric design and millimeter dimensions take precedence (mm/inch)

**Monitoring head CSP**



**CSP-11**

**Technical data**

Type of head	plug-in type
Shank diameter	18 mm/.709 in.
Length of shank	18.2 mm/.717 in.
Length of sensor	14 mm/.551 in.
Suitable for	water (other liquids upon request)
Temperature range *) (of medium)	-40 ... +130 °C/-40 ... +266 °F
Temperature drift of monitoring head	± < 0.05 % of measuring range/°C ± < 0.09 % of measuring range/°F (T = +20 ... +80 °C/+68 ... +176 °F)
Measuring ranges	in TP-01 0.02 - 2.2 (2.9) m³/h in TP-02 0.04 - 3.4 (4.5) m³/h in TP-03 0.05 - 5.3 (7.1) m³/h in TP-04 0.1 - 8.7 (11.6) m³/h in TP-05 0.14 - 13.6 (18.1) m³/h in TP-06 0.2 - 21.2 (28.3) m³/h
Pressure resistance <sup>(1)</sup>	100 bar/1450 psi
Degree of protection <sup>(2)</sup>	IP67
Material	
housing:	stainless steel 1.4571/AISI 316 Ti laser welded
o-ring:	Viton
Cable to electronic control unit	LifYCY 4x2x0.2 mm² (AWG 24)

<sup>(1)</sup> Admissible operating pressure DIN 2401, measured at max. temperature (= max. medium temperature)

<sup>(2)</sup> with mating connector

<sup>\*)</sup> max. +85 °C/+185 °F in the connector area

**Cable types 15/18 with connectors**



**Do + Ka type 15**  
**Do + Ka type 18**

**Technical data**

**Cable type 15**

**Features:** highly flexible, paired, fully shielded, electrical and thermal properties at +20 °C/+68 °F

Conductor resistance:	92 Ω/km
Insulation resistance:	20 MΩ x km
Operating voltage:	250 V
Withstand voltage:	500 V
Max. load:	2 A
Temperature range:	-10 °C ... +80 °C/+14 °F ... +176 °F (processing and operation) -30 °C ... +80 °C/-22 ° F ... +176 °F (transport and storage)

**Cable type 18**

**Features:** non-halogenous, highly flexible, cold- and heat resistant, paired, fully shielded, electrical and thermal properties at +20 °C/+68 °F

Conductor resistance:	80 Ω/km
Insulation resistance:	1200 MΩ x km
Operating voltage:	300 V
Withstand voltage:	1500 V
Max. load:	3 A
Temperature range:	-50 °C ... +180 °C/-58 °F ... +356 °F

**Ordering information**

**Type** between calorimetric monitoring heads **CSP** and **FC100-LQ, FC100-FH-LQ**

**Do + Ka type 15** **PVC** insulated cable, type LifYCY 4x2x0,2 mm<sup>2</sup> (AWG 24) 8-pole round connector + 10-pole clamping connector

**Do + Ka type 18** **silicone** insulated cable, type 4x2x0,2mm<sup>2</sup> (AWG 24) 8-pole round connector + 10-pole clamping connector

**Available cable lengths**

**...m** 2 m, 3 m, 5 m, 8 m, 10 m, 15 m, 20 m, 25 m, 30 m, 40 m, 50 m, 60 m, 70 m, 80 m, 90 m, 100 m, 110 m, 120 m, 130 m, 140 m, 150 m, 160 m, 170 m, 180 m, 190 m, 200 m (up to max 656 ft)

**Do + Ka type 15** - **2 m/6.56 ft** ordering example

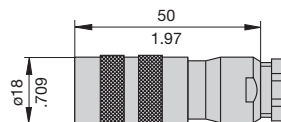
**Description**

Cable between Flow Meter FC100-xxx and calorimetric monitoring head type CSP.

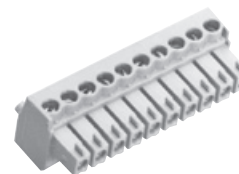
- Connection to monitoring head by means of 8-pole round connector
- Connection to FC100-xxx by means of 10-pole clamping connector (XSK)

**Accessories**

**8-pole round connector**  
(without cable, for individual wiring by customer)  
**OZ112Z003124**



**10-pole clamping connector for cable types 15 and 18**  
(without cable, for individual wiring by customer)  
**OZ112Z000167**



This is a metric design and millimeter dimensions take precedence ( $\frac{mm}{inch}$ )

Standard warranty cover will be invalidated if the correct FlowVision monitoring head/control unit connecting cable is not used.

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**Description**

Extended calorimetric monitoring head with variable immersion depth for Flow Meter FC100-LQ, suitable for use in pipelines with process connections DN 50 plus.

**Caution:** Fix with locking set 01 (see accessories).

**Features**

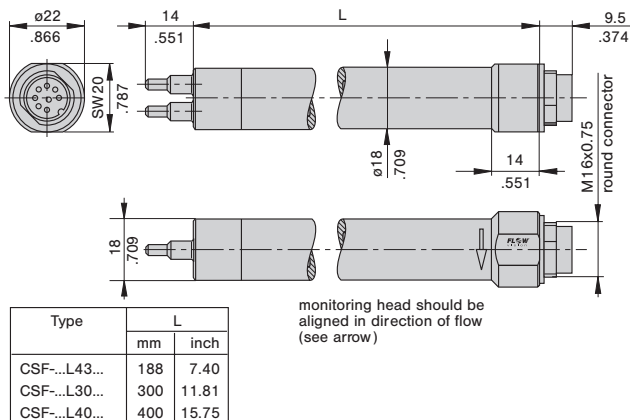
- Medium temperature range: -40 °C ... +130 °C/-40 °F ... +266 °F
- Material: stainless steel 1.4571/AISI 316 Ti

**Ordering information**

<b>Type</b>	<b>CSF</b>	Extended monitoring head with calorimetric sensors
		<b>Monitoring head design</b>
	<b>11</b>	Monitoring head with variable immersion depth
		<b>Medium</b>
	<b>W</b>	water
		<b>Material of areas exposed to medium</b>
	<b>M1</b>	stainless steel 1.4571/AISI 316 Ti
		<b>Process connection</b>
	<b>00</b>	without flange; see accessories for connections
		<b>Length of shank/thread</b>
	<b>L43</b>	188 mm/7.40 in. (standard) other lengths upon request
		<b>Electrical connection</b>
	<b>E10</b>	round connector with tinned contacts (plug and cable to order separately)
		<b>Certification</b>
	<b>T0</b>	without certificate (standard) *)
		<b>Specification of medium</b>
	<b>xxx</b>	
<b>CSF - 11 W M1 00 L43 E10 T0 - ... ordering example</b>		

\*) for detailed information please see section 0

**Dimensions**



This is a metric design and millimeter dimensions take precedence (  $\frac{\text{mm}}{\text{inch}}$  )

**Monitoring head CSF**



**CSF-11**  
variable immersion depth

**Technical data**

Type of head	push-in
Shank diameter	18 mm/.709 in.
Length of shank	188 mm/7.40 in.
Length of sensor	14 mm/.551 in.
Suitable for	water
Temperature range*)	-40 °C ... +130 °C/-40 °F ... +266 °F (of water)
Temperature drift of sensor	± < 0.05 % of measuring range/°C ± < 0.09 % of measuring range/°F (T = +20 °C ... +80 °C/+68 °F ... +176 °F)
Measuring range	0 ... 3 m/s / 0 ... 9.84 fps
Pressure resistance <sup>(1)</sup> (sensor)	100 bar/1450 psi
Pressure resistance (installation)	depending on connection (see accessories)
Degree of protection <sup>(2)</sup>	IP67
Material	stainless steel 1.4571/AISI 316 Ti
Cable to electronic unit	LifYCY 4x2x0.2 mm <sup>2</sup> /4x2x0.31·10 <sup>-3</sup> in. <sup>2</sup> (AWG 24)

<sup>(1)</sup> Admissible operating pressure DIN 2401, measured at max. temperature (= max. medium temperature)

<sup>(2)</sup> with mating connector

<sup>\*)</sup> max. +85 °C/+185 °F in the connector area

**Cable types 15/18 with connectors**



**Do + Ka type 15**  
**Do + Ka type 18**

**Technical data**

**Cable type 15**

**Features:** highly flexible, paired, fully shielded, electrical and thermal properties at +20 °C/+68 °F

Conductor resistance:	92 Ω/km
Insulation resistance:	20 MΩ x km
Operating voltage:	250 V
Withstand voltage:	500 V
Max. load:	2 A
Temperature range:	-10 °C ... +80 °C/+14 ° F ... +176 °F (processing and operation) -30 °C ... +80 °C/-22 ° F ... +176 °F (transport and storage)

**Cable type 18**

**Features:** non-halogenous, highly flexible, cold- and heat resistant, paired, fully shielded, electrical and thermal properties at +20 °C/+68 °F

Conductor resistance:	80 Ω/km
Insulation resistance:	1200 MΩ x km
Operating voltage:	300 V
Withstand voltage:	1500 V
Max. load:	3 A
Temperature range:	-50 °C ... +180 °C/-58 °F ... +356 °F

**Description**

Cable between Flow Meter FC100-LQ-xxx and calorimetric monitoring head type CSF.

- Connection to monitoring head by means of 8-pole round connector
- Connection to FC100-LQ-xxx by means of 10-pole clamping connector (XSK)

**Ordering information**

**Type between calorimetric monitoring heads CSF and FC100-LQ, FC100-FH-LQ**

<b>Do + Ka type 15</b>	<b>PVC</b> insulated cable, type LifYCY 4x2x0.2 mm <sup>2</sup> (AWG 24) 8-pole round connector + 10-pole clamping connector
<b>Do + Ka type 18</b>	<b>silicone</b> insulated cable, type 4x2x0.2 mm <sup>2</sup> (AWG 24) 8-pole round connector + 10-pole clamping connector

**Available cable lengths**

<b>...m</b>	2 m, 3 m, 5 m, 8 m, 10 m, 15 m, 20 m, 25 m, 30 m, 40 m, 50 m, 60 m, 70 m, 80 m, 90 m, 100 m, 110 m, 120 m, 130 m, 140 m, 150 m, 160 m, 170 m, 180 m, 190 m, 200 m/656 ft (up to max 656 ft)
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**Do + Ka type 15 - 2 m** ordering example

A

1

2

3

4

5

6a

7

8

9

10

11

12

13

14

15

16

17

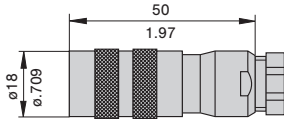
18

19

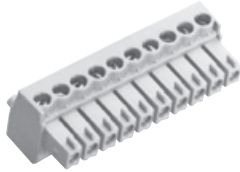
B

**Accessories**

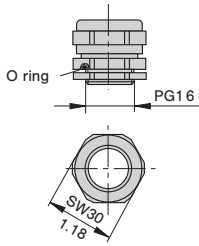
**8-pole round connector**  
(without cable, for individual wiring by customer)  
**OZ112Z003124**



**10-pole clamping connector for cable types 15 and 18**  
(without cable, for individual wiring by customer)  
**OZ112Z000167**

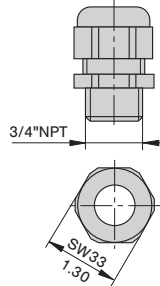


**PG16 nickel-plated brass**  
(standard)  
**OZ122Z000128**



pressure resistant up to 2 bar/29.0 psi

**NPT3/4" moulded, black**  
**OZ122Z000131**

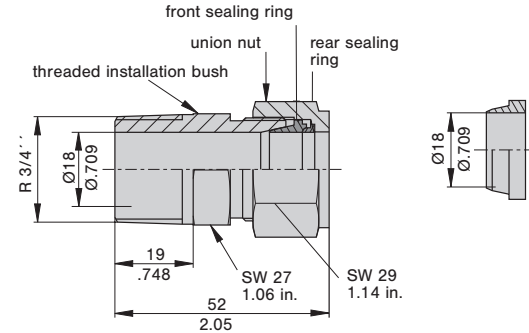


pressure resistant up to 2 bar/29.0 psi

This is a metric design and millimeter dimensions take precedence (  $\frac{\text{mm}}{\text{inch}}$  )

**Threaded installation bush**  
**OZ122Z000196**

**Teflon sealing ring**  
**OZ122Z000197**

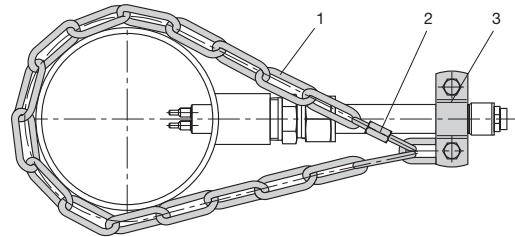


Suitable up to 25 bar/363 psi if used with stainless steel CSF-11 monitoring head.  
(Observe instructions for installation)

**Caution:** Stainless steel ring is designed to cut into monitoring head.  
Pressure resistant to 25 bar/363 psi.  
Teflon ring can only be used from 0 to 2 bar/29.0 psi.

Please observe user manual!

**Locking set 01**  
**OZ122Z000204**



- 1 chain 4 x 32 DIN 5685 (approx. 1 m/3.28 ft)
- 2 catch for chain NG 5
- 3 clip with screw and nuts DN15 to DIN 11850

**Caution:** Standard warranty cover will be invalidated if the correct FlowVision monitoring head/control unit connecting cable is not used.