



# EU-TYPE EXAMINATION CERTIFICATE

Number: TCM 142/23 - 5910

Page 1 from 7 pages

- In accordance:** with Directive 2014/32/EU of the European Parliament and of the Council on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (implemented in Czech Republic by Government Order No. 120/2016 Coll.).
- Manufacturer:** SENSOYLAR Klape Tesisat Malzeme Sanayi ve Ticaret Ltd., Sti  
Bakırcılar ve Prinççiler Sanayi Sitesi Menekşe Caddesi No:13  
Beylikdüzü  
34520 Istanbul  
Turkey
- For:** water meter – Woltman, dry dial  
type: CML  
  
Accuracy class: 2  
Temperature class: T30, T50
- Valid until:** 1 March 2033
- Document No:** 0511-CS-A004-23
- Description:** Essential characteristics, approved conditions and special conditions, if any, are described in this certificate.
- Date of issue:** 2 March 2023



Certificate approved by:

Ing. František Staněk PhD.

## 1 Characteristics of instrument:

The water meters type CML are designed to measure, memorise and display the volume at metering conditions of water passing through the measurement transducer in the sense of the Directive 2014/32/EU of the European Parliament and of the Council of the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments (implemented in Czech Republic by Government Order No. 120/2016 Coll.), as amended.

The water meters type CML are horizontal Woltman meters. The water meters type CML consist of a cast iron body with connecting flanges and a measuring unit and a dry mechanical indicating device. The measuring unit is connected to the body by a flange cover which is fixed by screws and sealed by a rubber o-ring.

The measuring unit consists of a plastic holder with bushes for an impeller and a straightener, an impeller with a stainless steel shaft, a transmission with magnetic coupling to an indicating device, a flange cover made of iron with an adjusting screw, a plastic register cover fixed by a pin, a dry mechanical indicating device and an upper plastic lid.

The water meters type CML are equipped with a dry indicating device. The reading consists of numbered rollers with six drums and three rotary pointers. The meters are equipped with a star wheel with six arms. The adjustment is realized by adjusting screw. The access to the adjusting screw is protected by sealed plastic register cover.

The water meters type CML can be installed to operate in horizontal position only with the indicating device positioned at the top.

## 2 Main characteristics:

Basic technical data of water meters type CML from DN 50 to DN 200:

Nominal diameter:	50	65	80	100	125	150	200
$Q_1$ [m <sup>3</sup> /h]:	flowrates are shown in Table <i>flowrates</i>						
$Q_2$ [m <sup>3</sup> /h]:							
$Q_3$ [m <sup>3</sup> /h]:							
$Q_4$ [m <sup>3</sup> /h]:							
$Q_3/Q_1$ :	100; 80; 63; 50; 40						
Accuracy class:	2						
Maximum permissible error for the lower flowrate zone	±5%						
Maximum permissible error for the upper flowrate zone	± 2 % for water having a temperature ≤ 30 °C						
Temperature class:	T30 or T50						
Water pressure class:	MAP10						
Pressure loss class:	ΔP 63						
Orientation limitation:	horizontal with the indicating device at the top						
Indicating range [m <sup>3</sup> ]:	999 999					9 999 999	
Resolution of the indicating device [dm <sup>3</sup> ]:	0.5					5	
Connection type:	flange						
Flow profile sensitivity classes:	U10 D5						
Length [mm]:	200	200	225	250	250	300	350

Basic technical data of water meters type CML - *Flowrates*

Manufacturer:	SENSOYLAR Klape Tesisat Malzeme Sanayi ve Ticaret Ltd., Sti					
Model number:	CML					
Nominal diameter:	50					
$Q_1$ [m <sup>3</sup> /h]:	0.630	0.788	1.000	1.260	1.575	
$Q_2$ [m <sup>3</sup> /h]:	1.008	1.260	1.600	2.016	2.520	
$Q_3$ [m <sup>3</sup> /h]:	63.0	63.0	63.0	63.0	63.0	

$Q_4$ [m <sup>3</sup> /h]:	78.75	78.75	78.75	78.75	78.75
$Q_3/Q_1$ :	100	80	63	50	40
<i>Nominal diameter:</i>	65				
$Q_1$ [m <sup>3</sup> /h]:	0.630	0.788	1.000	1.260	1.575
$Q_2$ [m <sup>3</sup> /h]:	1.008	1.260	1.600	2.016	2.520
$Q_3$ [m <sup>3</sup> /h]:	63.00	63.00	63.00	63.00	63.00
$Q_4$ [m <sup>3</sup> /h]:	78.75	78.75	78.75	78.75	78.75
$Q_3/Q_1$ :	100	80	63	50	40
<i>Nominal diameter:</i>	80				
$Q_1$ [m <sup>3</sup> /h]:	1.000	1.250	1.587	2.000	2.500
$Q_2$ [m <sup>3</sup> /h]:	1.600	2.000	2.540	3.200	4.000
$Q_3$ [m <sup>3</sup> /h]:	100	100	100	100	100
$Q_4$ [m <sup>3</sup> /h]:	125	125	125	125	125
$Q_3/Q_1$ :	100	80	63	50	40
<i>Nominal diameter:</i>	100				
$Q_1$ [m <sup>3</sup> /h]:	1.600	2.000	2.540	3.200	4.000
$Q_2$ [m <sup>3</sup> /h]:	2.560	3.200	4.063	5.120	6.400
$Q_3$ [m <sup>3</sup> /h]:	160.00	160.00	160.00	160.00	160.00
$Q_4$ [m <sup>3</sup> /h]:	200.00	200.00	200.00	200.00	200.00
$Q_3/Q_1$ :	100	80	63	50	40
<i>Nominal diameter:</i>	125				
$Q_1$ [m <sup>3</sup> /h]:	2.500	3.125	3.968	5.000	6.250
$Q_2$ [m <sup>3</sup> /h]:	4.000	5.000	6.349	8.000	10.000
$Q_3$ [m <sup>3</sup> /h]:	250.00	250.00	250.00	250.00	250.00
$Q_4$ [m <sup>3</sup> /h]:	312.50	312.50	312.50	312.50	312.50
$Q_3/Q_1$ :	100	80	63	50	40
<i>Nominal diameter:</i>	150				
$Q_1$ [m <sup>3</sup> /h]:	4.000	5.000	6.349	8.000	10.000
$Q_2$ [m <sup>3</sup> /h]:	6.400	8.000	10.159	12.800	16.000
$Q_3$ [m <sup>3</sup> /h]:	400.00	400.00	400.00	400.00	400.00
$Q_4$ [m <sup>3</sup> /h]:	500.00	500.00	500.00	500.00	500.00
$Q_3/Q_1$ :	100	80	63	50	40
<i>Nominal diameter:</i>	200				
$Q_1$ [m <sup>3</sup> /h]:	6.300	7.875	10.000	12.600	15.750
$Q_2$ [m <sup>3</sup> /h]:	10.080	12.600	16.000	20.160	25.200
$Q_3$ [m <sup>3</sup> /h]:	630.00	630.00	630.00	630.00	630.00
$Q_4$ [m <sup>3</sup> /h]:	787.50	787.50	787.50	787.50	787.50
$Q_3/Q_1$ :	100	80	63	50	40

### 3 Tests

Technical tests of the water meters type CML were performed in compliance with the International Recommendation OIML R 49 Edition 2013 (E) with conformity to ISO 4064, Evaluation report No. 0511-ER-V0127-22.

### 4 Conformity marks and inscription:

The water meters type CML shall be clearly and indelibly marked with the following information:

- Water meter type
- Unit of measurement ( $m^3$ )
- Numerical value  $Q_3$  in  $m^3/h$  ( $Q_3 \times \times$ ) and the ratio  $Q_3 / Q_1$ ,
- EU-type examination certificate number
- Manufacturer's name, registered trade name or registered trade mark
- Post address of manufacturer
- Year of manufacture, two last digits of the year of manufacture, or the month and year of manufacture
- Serial number (as near as possible to the indicating device)
- Direction of flow, by means of an arrow (shown on both sides of the body or on one side only provided the direction of flow arrow is easily visible under all circumstances)
- Letter H↑ (horizontal position with the indicating device at the top)
- Maximum admissible pressure (MAP  $\times \times$ )
- The temperature class (T $\times \times$ )
- The pressure loss class ( $\Delta P \times \times$ )
- The installation sensitivity class (Ux Dx)
- CE marking and metrology marking in line with the Directive 2014/32/EU

These markings shall be visible without dismantling the water meter after the instrument has been placed on the market or put into use. Examples are in Figure 4 and Figure 5.

### 5 Additional specifications:

The water meters type CML shall be put onto the market in line with the procedure of conformity assessment according to the Annex D or F of the Directive 2014/32/EU as well as in compliance with the technical description of this report and shall be tested in accordance with the requirements determined in ISO 4064-1:2017, respectively OIML R 49-1:2013.

A metrological test may only be performed by a producer, or a notified body respectively in line with the conformity assessment procedure by the D or F Annexes of the Directive 2014/32/EU, respectively.

### 6 Ensuring the integrity of the instruments:

One of the screws connecting the water meter body and the flange cover has to be sealed (Figure 1 and Figure 2). The removable indicating device has to be protected against manipulation by a seal fixing a pin near the connection of the upper plastic lid and the plastic register cover (Figure 1 and Figure 2). The seals are realized by a wire with a lead or plastic seal.

### 7 Drawing of the instrument:

Water meters type CML are manufactured according to the technical documentation of manufacturer. Technical documentation contains following drawings:

Document reference	Date	Brief description
CML-50	19.12.2022	CML-50 - outline drawing
CML5.201.101	19.12.2022	CML-50 - Counter drawing
CML-50-assembly	19.12.2022	CML-50 - assembly drawing
CML-50-EXP.	19.12.2022	CML-50 - exploded view
CML-65	19.12.2022	CML- 65 - outline drawing
CML5.201.101	19.12.2022	CML- 65 - Counter drawing
CML-65-assembly	19.12.2022	CML- 65 - assembly drawing

CML-65-EXP.	19.12.2022	CML- 65 - exploded view
CML-80	19.12.2022	CML-80 - outline drawing
CML5.201.101	19.12.2022	CML-80 - Counter drawing
CML-80-assembly	19.12.2022	CML-80 - assembly drawing
CML-80-EXP.	19.12.2022	CML-80 - exploded view
CML-100	19.12.2022	CML-100 - outline drawing
CML5.201.101	19.12.2022	CML-100 - Counter drawing
CML-100-assembly	19.12.2022	CML-100 - assembly drawing
CML-100-EXP.	19.12.2022	CML-100 - exploded view
CML-125	19.12.2022	CML-125- outline drawing
CML5.201.101	19.12.2022	CML-125 - Counter drawing
CML-125-assembly	19.12.2022	CML-125 - assembly drawing
CML-125-EXP.	19.12.2022	CML-125 - exploded view
CML-150	19.12.2022	CML-150 - outline drawing
CML5.201.101	19.12.2022	CML-150 - Counter drawing
CML-150-assembly	19.12.2022	CML-150 - assembly drawing
CML-150-EXP.	19.12.2022	CML-150 - exploded view
CML-200	19.12.2022	CML-200 - outline drawing
CML5.201.101	19.12.2022	CML-200 - Counter drawing
CML-200-assembly	19.12.2022	CML-200 - assembly drawing
CML-200-EXP.	19.12.2022	CML-200 - exploded view

#### History of additions

Addition No.	Description
-	Issuing certificate



Figure 1: The water meter type CML – view and sealing:



Figure 2: The dial plates of the water meter type CML DN 50 to DN 200:



