



EC-TYPE EXAMINATION CERTIFICATE

Number: TCM 142/14 - 5172

Page 1 from 8 pages

- In accordance:** with Directive 2004/22/EC of the European Parliament and of the Council as amended implemented in Czech Republic by Government Order No. 464/2005 Coll. as amended that lays down technical requirements on measuring instruments.
- Manufacturer:** ŞENSOYLAR Klape Tesisat Malz. San. ve Tic. Ltd. Şti.
Bakırcılar ve Prinççiler Sanayi Sitesi Menekşe Caddesi No:13
İstanbul / Beylikdüzü
Turkey
- For:** water meter - single jet, dry dial
type: NIL SJD-xx-T
Accuracy class: 2
Temperature class: T30, T50, T30/90 and T90
- Valid until:** 22 June 2024
- Document No:** 0511-CS-A046-14
- Description:** Essential characteristics, approved conditions and special conditions, if any, are described in this certificate.
- Date of issue:** 23 June 2014

Certificate approved by:



RNDr. Pavel Klenovský

1. Measuring device description

The single jet water meters type NIL SJD-xx-T 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 of the European Parliament and of the Council no. 2004/22/EC of measuring instruments, as amended.

The water meters type NIL SJD-xx-T, where xx means nominal diameter, are single jet rotary vane wheel water meters with dry mechanical indicating device (Plastic Can Calculator).

The water meters type NIL SJD-xx-T variant D2 consist of a brass body with connecting threads and inlet strainer, a regulating plate, a bush for impeller with agate bearing, a rotary vane impeller with magnetic ring and stainless steel shaft, a rubber O-ring, a pressure plate with agate bearing, a brass inner screw ring, a plastic gasket (optional), two antimagnetic protection rings, a dry mechanical indicating device, a plastic cover with a closing ring or a plastic clamp on cover.

The water meters type NIL SJD-xx-T variant D4 consist of a brass body with connecting threads and inlet strainer, an adjusting screw, a regulating plate, a bush for impeller with agate bearing, a rotary vane impeller with magnetic ring and stainless steel shaft, a plastic gasket, a rubber O-ring, a pressure plate with agate bearing, a brass inner screw ring, two antimagnetic protection rings, a dry mechanical indicating device and a plastic cover with a closing ring.

There are three variants for composition of the mechanical indicating device: variant with 5 numbered rollers and 4 rotary pointers, variant with 8 numbered rollers and 1 rotary pointer and variant with 7 numbered rollers and 2 rotary pointers. There is a star wheel with 6 arms on the indicating device which can be used for rapid testing. There are two variants for reading of the numbered rollers in case of an indicating device with 8 rollers and 1 pointer: variant with top reading and variant with inclined reading.

The water meters type NIL SJD-xx-T can be equipped by a reed impulse transmitter which can be used for remote reading.

Water meters type NIL SJD-xx-T are manufactured according to technical documentation of manufacturer. Technical documentation contains among others assembly drawing No. ŞENSOYLAR TS14/03-001 to ŞENSOYLAR TS14/03-011 from 3/2014.

2. Basic technical data

Nominal diameter (DN) [mm]:	15	20	25
Ratio Q_3 / Q_1 :	$\leq 200^1$		
Ratio Q_2 / Q_1 :	1.6		
Ratio Q_4 / Q_3 :	1.25		
Accuracy class:	2		
Maximum permissible error for the lower flowrate zone (MPE _l):	$\pm 5\%$		
Maximum permissible error for the upper flowrate zone (MPE _u):	$\pm 2\%$ for water having a temperature $\leq 30\text{ }^\circ\text{C}$ $\pm 3\%$ for water having a temperature $> 30\text{ }^\circ\text{C}$		
Temperature class:	T30, T50, T30/90 and T90		
Water pressure classes:	MAP 16		
Pressure-loss classes:	ΔP 63		
Indicating range [m ³]:	99 999		
Resolution of the indicating device [m ³]:	0.00005 or 0.00002		
Resolution of the device for the rapid testing [pulse/L]:	62.0000	40.5000	22.2353
Flow profile sensitivity classes:	U0 D0		
Orientation limitation:	H		
Length L [mm]:	80 to 115	130	160
Connection type– Screw thread size:	G $\frac{3}{4}$ B, G1B	G1B	G1 $\frac{1}{4}$ B, G1 $\frac{1}{2}$ B
Reed switch power supply (U_{\max} / I_{\max}):	max. 24 V / 0.01 A		
Reed switch K-factor [impulse / L]:	0.001, 0.01, 0.1 and 1		

¹ The ratio Q_3 / Q_1 shall be chosen from the R10 line from ISO 3:1973 and this value shall be higher than 40.

Nominal diameter (DN):	Installation position:	Minimum flowrate (Q_1)	Transitional flowrate (Q_2)	Permanent flowrate (Q_3)	Overload flowrate (Q_4)
mm	-	m ³ /h	m ³ /h	m ³ /h	m ³ /h
15	H	≥ 0.0125	≥ 0.0200	$\leq 2.50^1$	≤ 3.13
20	H	≥ 0.0200	≥ 0.0320	$\leq 4.00^1$	≤ 5.00

25	H	≥ 0.0315	≥ 0.0504	≤ 6.30 ¹	≤ 7.88
----	---	---------------	---------------	--------------------------	-------------

¹ The value of Q_3 shall be chosen from the R5 line of ISO 3:1973.

3. Test

Technical tests of the water meters type NIL SJD-xx-T were performed in compliance with the International Recommendation OIML R 49 Edition 2006 (E) with conformity to EN 14154-1:2005+A2:2011, Test Report No. 6015-PT-P0034-14.

4. The measuring device data

The water meters type NIL SJD-xx-T shall be clearly and indelibly marked with the following information:

- The “CE” marking and supplementary metrology marking
- Number of EC-type examination certificate
- Manufacturer’s mark or name
- Year of manufacture (last two digit)
- Serial number (as near as possible to the indicating device)
- Measuring device type
- Unit of measurement (m^3)
- Accuracy class 2
- Numerical value Q_3 in m^3/h ($Q_3 \times \times$)
- The ratio Q_3 / Q_1 , ($R \times \times$)
- The temperature class ($T \times \times$)
- The maximum admissible pressure (MAP $\times \times$)
- The pressure loss class ($\Delta P \times \times$)
- Classes on sensitivity to irregularities in velocity field ($U \times D \times$)
- Orientation limitation (H / V)
- Direction of flow arrow on both sides of the meter body

There are additional data required if the water meter is equipped with impulse transmitter:

- Output signals for ancillary devices (type / levels)
- External power supply requirements (voltage – frequency)

5. Sealing

For the NIL SJD-xx-T meters with the closing ring the junction of the closing ring has to be sealed by a wire with a lead seal or secured by self-destructive sticker.

For the NIL SJD-xx-T meters with plastic clamp on cover the clamp on cover has to be marked by safeguarding marks.

For the NIL SJD-xx-T meters with outer adjusting screw (the D4 variant) the adjusting screw has to be sealed by a wire with a lead seal connecting the adjusting screw with the closing ring junction or with the meter body.

The connection of water meter calculator and reed impulse transmitter has to be sealed, if equipped.

The location of seal is described in Figures 1 – 3.



Figure 1: The water meter type NIL SJD-xx-T variant D2, DN 15, 7+2 dial – view and sealing:



Figure 2: The water meter type NIL SJD-xx-T variant D2, DN 25, 7+2 dial – view and sealing:



Figure 3: The water meter type NIL SJD-xx-T variant D4, DN 15, 7+2 dial – view and sealing:



Figure 4: The water meter type NIL SJD-xx-T variant D4, DN 15, 5+4 dial – view:



Figure 5: The water meter type NIL SJD-xx-T variant D2, DN 15, 8+1 dial – view:



Figure 6: The dial plates of the water meter type NIL SJD-xx-T: the 5+4, 8+1 and 7+2 registers:

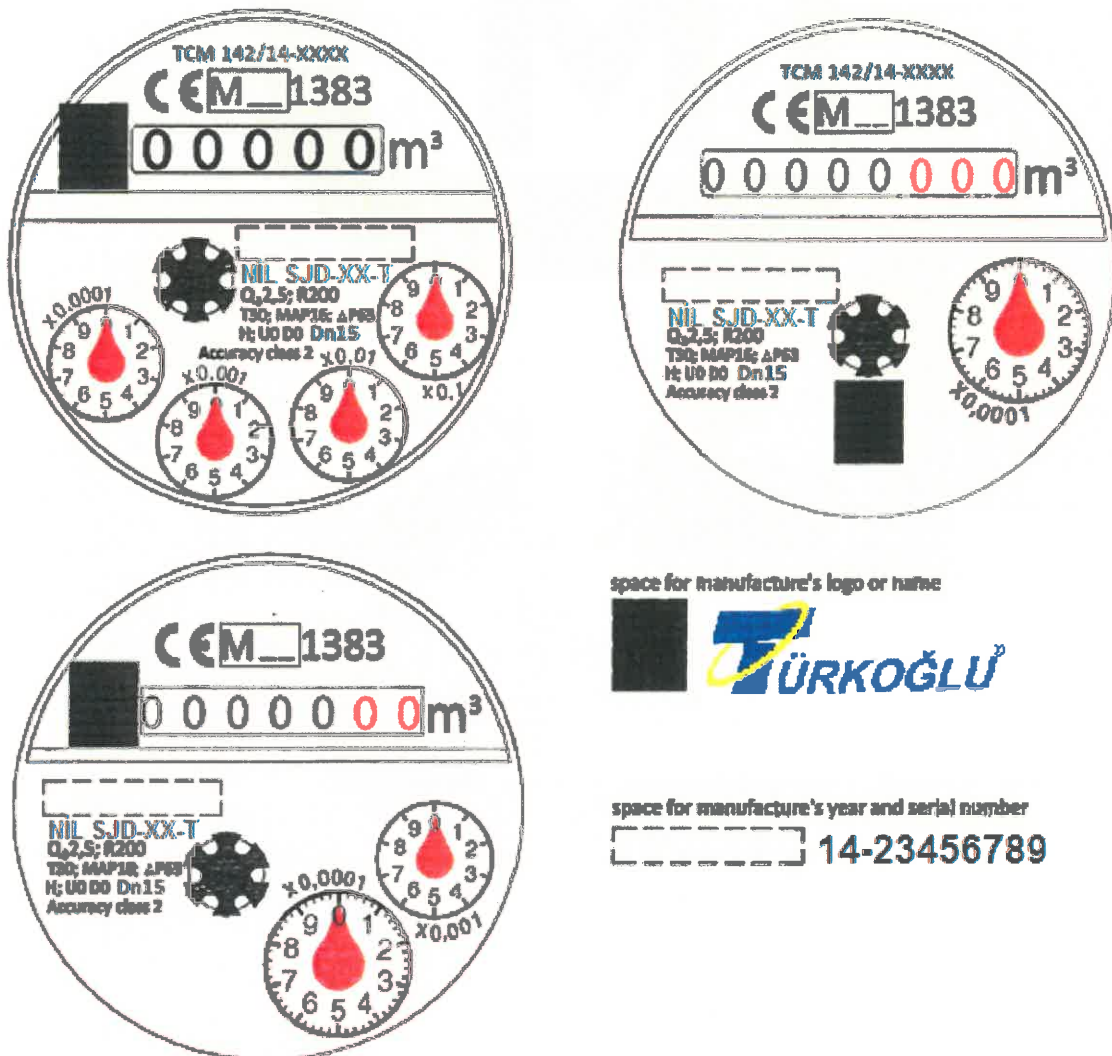


Figure 7: The dial plates of the water meter type NIL SJD-xx-T: the 5+4, 8+1 and 7+2 registers equipped for remote reading:

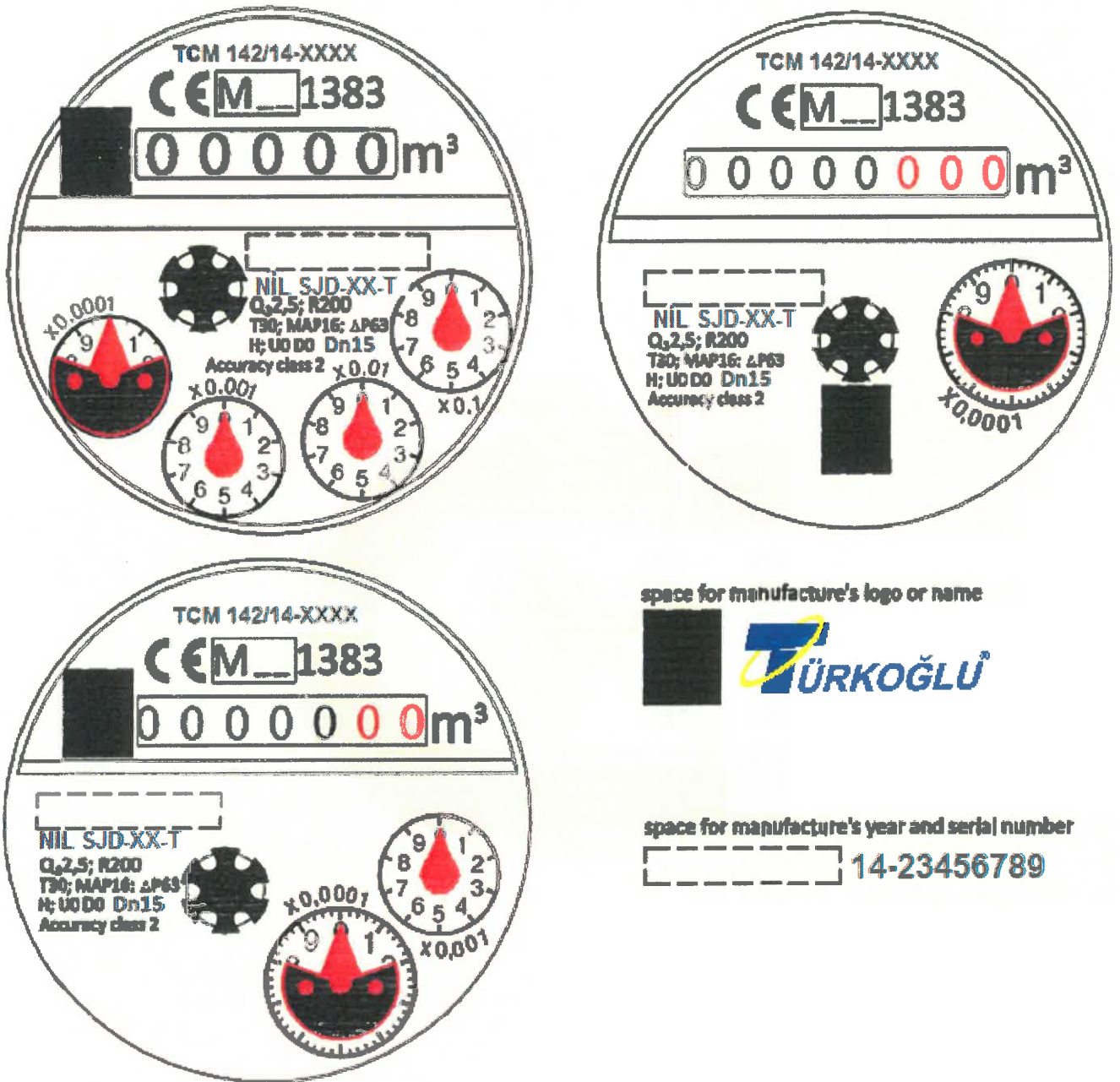
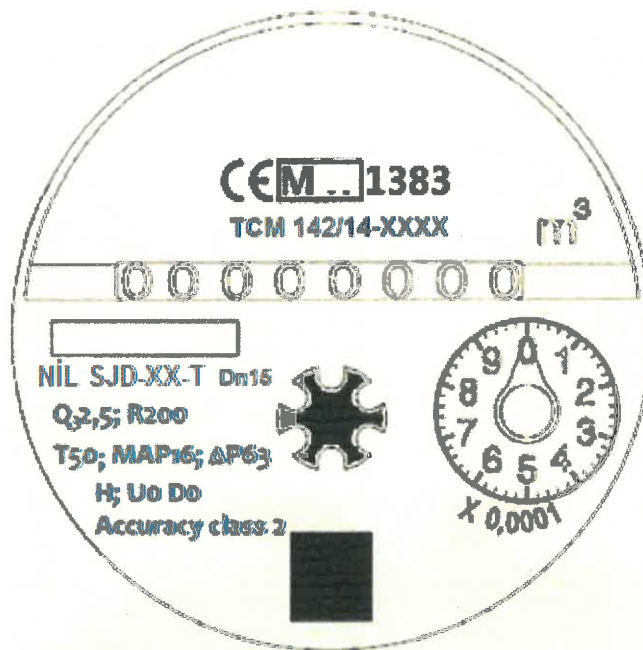


Figure 8: The dial plate of the water meter type NIL SJD-xx-T with inclined reading, the 8+1 register:




Manufacture's mark or logo

manufacture year and serial number
 **14-23456789**

