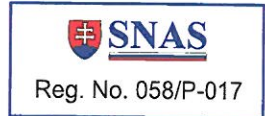




EU - TYPE EXAMINATION CERTIFICATE



No. SK 18 - 121 MI-001 Rev. 2

Issued by **Slovenská legálna metrologia, n. o.** Notified Body number **1432**
Hviezdoslavova 31
974 01 Banská Bystrica
Slovak Republic

In accordance with Annex II, Module B to Government Ordinance of the Slovak Republic No 145/2016 Coll. relating to the making available on the market of measuring instruments, which implements, in Slovakia, the Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments as later amended (MID).

Applicable essential requirements Annex I and Annex III to MID

Manufacturer **YAVUZ METAL SANAYİ VE TİCARET ANONİM ŞİRKETİ**
Organize Sanayi Bolgesi 2.Cadde No:4,
Arsin / TRABZON, Turkey

Applicant **Manufacturer**

Measuring instrument **Water meter**

Type **KT11, KT12, KT13, KT14, KT15, KT16, KT17, KT18**

Trade mark **CEM**

Environment classes

- climatic (-10 to +55) °C
- mechanical M1
- electromagnetic E1

Description and documentation The principal technical and metrological data, characteristics, instrument description and approval conditions are set out in the Descriptive annex to this EU - type examination certificate (25 pages), which is part of this EU - type examination certificate. The test reports, designs, schematic diagrams and documentation used during certification process are recorded under reference folder Yavuz_KT11 to 18_00 to 02.

Valid until **17 September 2028**

Date of issue **6 May 2020**




Ing. Štefan Král, PhD.
Representative of Notified Body



Where the instrument is subject to other Directives covering other aspects, this EU - type examination certificate is valid, assuming that the instrument conforms to the provisions of those Directives. Without written permission of the notified body this certificate may be reproduced only as a whole.



1. Designation

The mechanical single-jet dry dial water meters types **KT11, KT12, KT13, KT14, KT15, KT16, KT17, KT18** are designed to measure, memorise and display the volume of water passing through the measurement transducer at metering conditions. They are intended for the measurement of volumes (consumption) of clean cold and hot water in household and commercial use.

The mechanical water meters are single-jet rotary vane wheel water meters with the mechanical indication device and with brass body.

The water meters are installed to operate into pipe lines in horizontal position with the indication device positioned at the top and in vertical position with the indication device positioned at the side. The water meter is not designed to measure the reverse flow.

2. Description

Essential parts of the water meters types **KT11, KT12, KT13, KT14, KT15, KT16, KT17, KT18**:

- measuring mechanism - consisting of a measuring chamber and the rotary vane wheel (impeller) with an axle perpendicular to the flow direction;
- dry type mechanical register and indication device with following variants:
 - register type 1 and 3 - with 8 digital drums and 1 pointer;
 - register type 2 - with 7 digital drums and 1 pointer;and with gearing mechanism for all figures, inside vacuumed cover (including magnetic field protection),
- brass housings of water meter with inlet and outlet connections;
- adjustment device - flux adjustment part;
- magnetic coupling for the connection of the register with the measuring part (impeller);
- recording mechanism can rotate 359 degrees around the axis (optional) – Fig. 7.

Non-essential parts of water meter:

- strainer in the inlet of the meter;
- non - return valve in the outlet tube of water meter (optional).

2.1 Metrological functions

- measuring, memorizing and displaying the volume of water passing through the water meter

2.2 Software

- not applicable

2.3 Optional equipment and functions subject to MID requirements

- not applicable

2.4 Integrated equipment and functions not subject to MID

- data output module RF or MBUS (optional);
- pulse output module (optional).

Via the above mentioned part listed in the point 2.4 of this descriptive Annex no legally relevant data shall be altered. The above mentioned part is outside the scope of Annex III of MID. Data transferred via these part are not considered as a metrological relevant data in sense of MID. In case of dispute the reading of the mechanical register of water meter is the measurement result that serves as the basis for the price to pay.

3. Technical and metrological data

3.1 Technical and metrological data for water meter type KT11

Type		<i>KT11</i>			
Nominal diameter DN	mm	15			
Permanent flowrate Q_3	m ³ /h	1,6			
Minimum flowrate Q_1	m ³ /h	0,0200	0,0160	0,0400	0,0320
Transitional flowrate Q_2	m ³ /h	0,0320	0,0256	0,0640	0,0512
Overload flowrate Q_4	m ³ /h	2			
Ratio Q_3/Q_1	-	80	100	40	50
Ratio Q_2/Q_1	-	1,6			
Connection thread	-	G 3/4 B			
Construction length L	mm	110			
Installation position	-	H		V	
Water temperature range	°C	0,1 to 90			
Meter temperature class	-	T30, T50, T70, T90, T30/90			
Maximum working pressure	bar	16			
Pressure loss ΔP	bar	0,63			
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)			
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5			
Scale interval	m ³	0,00005			
Capacity of calculator	m ³	register type 1: 99999 register type 2: 9999 register type 3: 99999			
Mechanical class	-	M1			
Climatic class	°C	-10 to +55			
Electromagnetic class		E1			

Flow profile sensitivity class	-	U0 D0
--------------------------------	---	-------

3.2 Technical and metrological data for water meter type KT12

Type		KT12				
Nominal diameter DN	mm	15				
Permanent flowrate Q_3	m ³ /h	2,5				
Minimum flowrate Q_1	m ³ /h	0,0313	0,0250	0,0156	0,0625	0,0500
Transitional flowrate Q_2	m ³ /h	0,0500	0,0400	0,0250	0,1000	0,0800
Overload flowrate Q_4	m ³ /h	3,125				
Ratio Q_3/Q_1	-	80	100	160	40	50
Ratio Q_2/Q_1	-	1,6				
Connection thread	-	G ¾ B				
Construction length L	mm	110				
Installation position	-	H			V	
Water temperature range	°C	0,1 to 90				
Meter temperature class	-	T30, T50, T70, T90, T30/90				
Maximum working pressure	bar	16				
Pressure loss ΔP	bar	0,63				
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)				
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5				
Scale interval	m ³	0,00005				
Capacity of calculator	m ³	register type 1: 99999 register type 2: 9999 register type 3: 99999				
Mechanical class	-	M1				
Climatic class	°C	-10 to +55				
Electromagnetic class	-	E1				
Flow profile sensitivity class	-	U0 D0				

3.3 Technical and metrological data for water meter type KT13

Type		KT13				
Nominal diameter DN	mm	20				
Permanent flowrate Q_3	m ³ /h	2,5				
Minimum flowrate Q_1	m ³ /h	0,0312	0,0250	0,0156	0,0625	0,0500

Transitional flowrate Q_2	m ³ /h	0,0500	0,0400	0,0250	0,1000	0,0800
Overload flowrate Q_4	m ³ /h	3,125				
Ratio Q_3/Q_1	-	80	100	160	40	50
Ratio Q_2/Q_1	-	1,6				
Connection thread	-	G 1 B				
Construction length L	mm	110				
Installation position	-	H			V	
Water temperature range	°C	0,1 to 90				
Meter temperature class	-	T30, T50, T70, T90, T30/90				
Maximum working pressure	bar	16				
Pressure loss ΔP	bar	0,63				
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)				
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5				
Scale interval	m ³	0,00005				
Capacity of calculator	m ³	register type 1: 99999 register type 2: 9999 register type 3: 99999				
Mechanical class	-	M1				
Climatic class	°C	-10 to +55				
Electromagnetic class	-	E1				
Flow profile sensitivity class	-	U0 D0				

3.4 Technical and metrological data for water meter type KT14

Type		KT14				
Nominal diameter DN	mm	20				
Permanent flowrate Q_3	m ³ /h	2,5				
Minimum flowrate Q_1	m ³ /h	0,0312	0,0250	0,0156	0,0625	0,0500
Transitional flowrate Q_2	m ³ /h	0,0500	0,0400	0,0250	0,1000	0,0800
Overload flowrate Q_4	m ³ /h	3,125				
Ratio Q_3/Q_1	-	80	100	160	40	50
Ratio Q_2/Q_1	-	1,6				
Connection thread	-	G 1 B				
Construction length L	mm	130				
Installation position	-	H			V	
Water temperature range	°C	0,1 to 90				

Meter temperature class	-	T30, T50, T70, T90, T30/90
Maximum working pressure	bar	16
Pressure loss ΔP	bar	0,63
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5
Scale interval	m ³	0,00005
Capacity of calculator	m ³	register type 1: 99999 register type 2: 9999 register type 3: 99999
Mechanical class	-	M1
Climatic class	°C	-10 to +55
Electromagnetic class	-	E1
Flow profile sensitivity class	-	U0 D0

3.5 Technical and metrological data for water meter type KT15

Type		KT15				
Nominal diameter DN	mm	20				
Permanent flowrate Q_3	m ³ /h	2,5				
Minimum flowrate Q_1	m ³ /h	0,0312	0,0250	0,0156	0,0625	0,0500
Transitional flowrate Q_2	m ³ /h	0,0500	0,0400	0,0250	0,1000	0,0800
Overload flowrate Q_4	m ³ /h	3,125				
Ratio Q_3/Q_1	-	80	100	160	40	50
Ratio Q_2/Q_1	-	1,6				
Connection thread	-	G 1 B				
Construction length L	mm	190				
Installation position	-	H			V	
Water temperature range	°C	0,1 to 90				
Meter temperature class	-	T30, T50, T70, T90, T30/90				
Maximum working pressure	bar	16				
Pressure loss ΔP	bar	0,63				
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)				
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5				
Scale interval	m ³	0,00005				

Capacity of calculator	m ³	register type 1: 99999 register type 2: 9999 register type 3: 99999
Mechanical class	-	M1
Climatic class	°C	-10 to +55
Electromagnetic class	-	E1
Flow profile sensitivity class	-	U0 D0

3.6 Technical and metrological data for water meter type KT16

Type		KT16				
Nominal diameter DN	mm	20				
Permanent flowrate Q ₃	m ³ /h	4				
Minimum flowrate Q ₁	m ³ /h	0,0500	0,0400	0,0250	0,1000	0,0800
Transitional flowrate Q ₂	m ³ /h	0,0800	0,0640	0,0400	0,1600	0,1280
Overload flowrate Q ₄	m ³ /h	5				
Ratio Q ₃ /Q ₁	-	80	100	160	40	50
Ratio Q ₂ /Q ₁	-	1,6				
Connection thread	-	G 1 B				
Construction length L	mm	110				
Installation position	-	H			V	
Water temperature range	°C	0,1 to 90				
Meter temperature class	-	T30, T50, T70, T90, T30/90				
Maximum working pressure	bar	16				
Pressure loss ΔP	bar	0,63				
Maximum permissible error in upper flowrates range Q ₂ ≤ Q ≤ Q ₄	%	± 2 (at $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)				
Maximum permissible error in lower flowrates ranges Q ₁ ≤ Q < Q ₂	%	± 5				
Scale interval	m ³	0,00005				
Capacity of calculator	m ³	register type 1: 99999 register type 2: 9999 register type 3: 99999				
Mechanical class	-	M1				
Climatic class	°C	-10 to +55				
Electromagnetic class	-	E1				
Flow profile sensitivity class	-	U0 D0				

3.7 Technical and metrological data for water meter type KT17

Type		KT17				
Nominal diameter DN	mm	20				
Permanent flowrate Q_3	m ³ /h	4				
Minimum flowrate Q_1	m ³ /h	0,0500	0,0400	0,0250	0,1000	0,0800
Transitional flowrate Q_2	m ³ /h	0,0800	0,0640	0,0400	0,1600	0,1280
Overload flowrate Q_4	m ³ /h	5				
Ratio Q_3/Q_1	-	80	100	160	40	50
Ratio Q_2/Q_1	-	1,6				
Connection thread	-	G 1 B				
Construction length L	mm	130				
Installation position	-	H			V	
Water temperature range	°C	0,1 to 90				
Meter temperature class	-	T30, T50, T70, T90, T30/90				
Maximum working pressure	bar	16				
Pressure loss ΔP	bar	0,63				
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^\circ\text{C}$) ± 3 (at $\Theta > 30^\circ\text{C}$)				
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5				
Scale interval	m ³	0,00005				
Capacity of calculator	m ³	register type 1: 99999 register type 2: 9999 register type 3: 99999				
Mechanical class	-	M1				
Climatic class	°C	-10 to +55				
Electromagnetic class	-	E1				
Flow profile sensitivity class	-	U0 D0				

3.8 Technical and metrological data for water meter type KT18

Type		KT18				
Nominal diameter DN	mm	20				
Permanent flowrate Q_3	m ³ /h	4				
Minimum flowrate Q_1	m ³ /h	0,0500	0,0400	0,0250	0,1000	0,0800
Transitional flowrate Q_2	m ³ /h	0,0800	0,0640	0,0400	0,1600	0,1280

Overload flowrate Q_4	m^3/h	5				
Ratio Q_3/Q_1	-	80	100	160	40	50
Ratio Q_2/Q_1	-	1,6				
Connection thread	-	G 1 B				
Construction length L	mm	190				
Installation position	-	H			V	
Water temperature range	$^{\circ}C$	0,1 to 90				
Meter temperature class	-	T30, T50, T70, T90, T30/90				
Maximum working pressure	bar	16				
Pressure loss ΔP	bar	0,63				
Maximum permissible error in upper flowrates range $Q_2 \leq Q \leq Q_4$	%	± 2 (at $\Theta \leq 30^{\circ}C$) ± 3 (at $\Theta > 30^{\circ}C$)				
Maximum permissible error in lower flowrates ranges $Q_1 \leq Q < Q_2$	%	± 5				
Scale interval	m^3	0,00005				
Capacity of calculator	m^3	register type 1: 99999 register type 2: 9999 register type 3: 99999				
Mechanical class	-	M1				
Climatic class	$^{\circ}C$	-10 to +55				
Electromagnetic class	-	E1				
Flow profile sensitivity class	-	U0 D0				

4. Interfaces and compatibility conditions

- not applicable.

5. Marking and inscriptions

The following data shall be marked on the water meter:

- manufacturer's name or mark;
- manufacturer's postal address (article 8, point 6 of Directive 2014/32/EU), (Fig. 4);
- type of water meter;
- measuring unit m^3 ;
- year of production and serial number;
- flowrate Q_3 and ratio Q_3/Q_1 ; (R);
- installation position of the water meter (H or V);
- maximum working pressure;
- temperature class (according to tables in point 3);
- EU - type examination certificate number;

- k) CE marking and supplementary metrology marking according to Article 21 and Article 22 of Directive 2014/32/EU (CE marking and supplementary metrology marking following with number of a notified body).

The flow direction shall be marked on a water meter's body in form of an arrow. All inscriptions on the water meter shall be in the EC official language; the international abbreviations are admitted.

5.1 Designation of trademark on the water meters

The manufacturer uses following trademark on its water meters:



6. Security measures

The water meters shall be protected against unauthorised manipulation by one seal on seal ring securing the connection of the water meter head with the water meter body (Fig. 5).

7. Requirements on production, putting into use and utilization

7.1 Requirements on production

- no special requirements identified

7.2 Requirements on putting into use

- water meters must be installed in accordance with the requirements listed in the installation and user manual issued by the manufacturer;
- no requirements for straight pipeline length in upstream and downstream;
- initial verification tests of the water meters can be carried out in line with EN 14154-1 +A2: 2011 (point 9.2) or EN ISO 4064-2: 2014 (point 10.1).

7.3 Requirements for utilization

- in accordance with the requirements of the manufacturer's documentation.

8. Documentation used for assessment purposes

- Evaluation report No 25/1432/20 MI-001, of 06/05/2020, issued by SLM NB 1432;
- Manufacturer's technical documentation stored in folder YAVUZ_KT11 to KT18_00 to 02.



9. Standards and regulations used for assessment purposes

9.1 Regulations, harmonized standards and normative documents

- Government Ordinance of the Slovak Republic No. 145/2016 Coll. relating to the making available on the market of measuring instruments, which implements, in Slovakia, the Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonisation of the laws of the Member States relating to the making available on the market of measuring instruments as later amended (MID);
- EN 14154-1: 2005 + A2: 2011 Water meters - Part 1: General requirements
- EN 14154-2: 2005 + A2: 2011 Water meters - Part 2: Installation and conditions of use
- EN 14154-3: 2005 + A2: 2011 Water meters - Part 3: Test methods and equipment.

9.2 Further applied standards and documents

- OIML R 49-1, edition 2013 (E): Water meters for cold potable water and hot water. Part 1: Metrological and technical requirements
- EN ISO 4064-1: 2014 Water meters for cold potable water and hot water. Part 1: Metrological and technical requirements
- EN ISO 4064-5: 2014 Water meters for cold potable water and hot water. Part 5: Installation requirements
- WELMEC Guide 11.1 Measuring Instruments Directive 2004/22/EC Common application for utility meters (Issue 5: 2014)
- WELMEC Guide 11.3 Guide for sealing of Utility meters (Issue 1: 2012)

10. Final provisions on water meter

Construction, technical and metrological parameters of the water meters must comply with the documentation presented within the process of type certification. All the characteristics of the measuring instrument (including those not mentioned) shall meet the respective requirements of Government Ordinance of the Slovak Republic No. 145/2016 Coll. relating to the making available on the market of measuring instruments, which implements, in Slovakia, the Directive 2014/32/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of measuring instruments as later amended (MID).



11. Figures

Type 1



Type 2

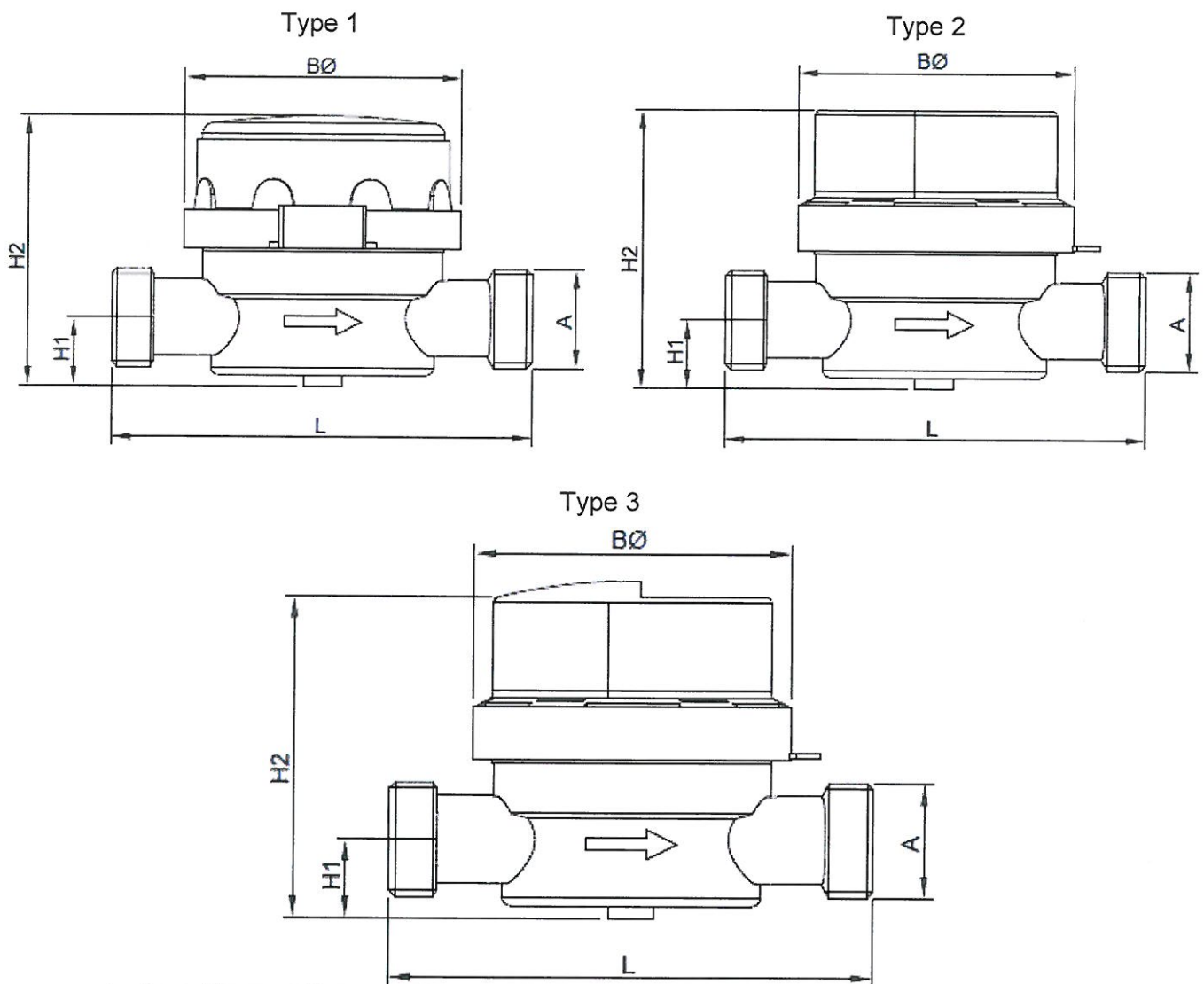


Type 3



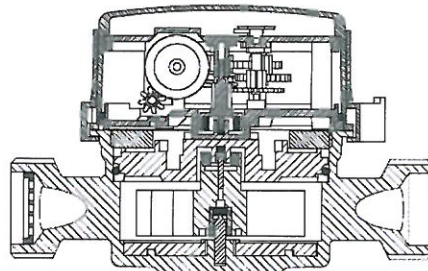
Fig. 1: Illustrative views on water meters types KT11 / KT18
with registers type 1, 2, 3



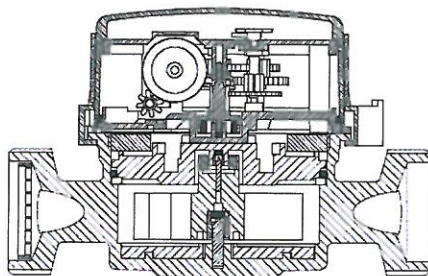


		KT11	KT12	KT13	KT14	KT15	KT16	KT17	KT18
DN		15		20					
L	mm	110	110	110	130	190	110	130	190
A	-	G 3/4 B		G 1 B					
H1	mm	18							
H2	mm	71							
B	mm	70							

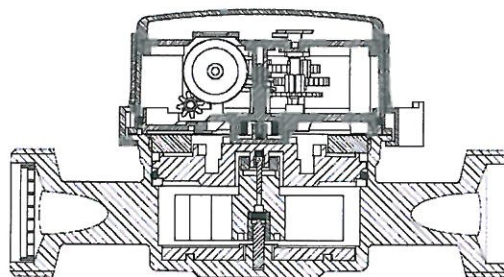
Fig. 2: Main dimensions on water meters types KT11 / KT18
with registers type 1, 2, 3



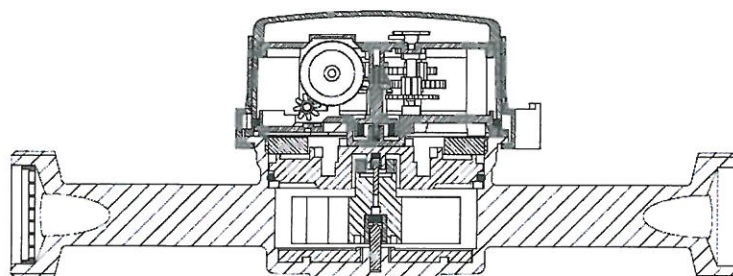
KT 11-12 Type 1



KT 13-16 Type 1

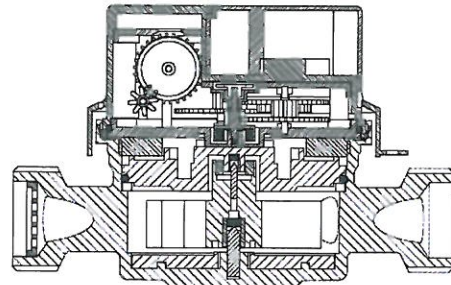


KT 14-17 Type 1

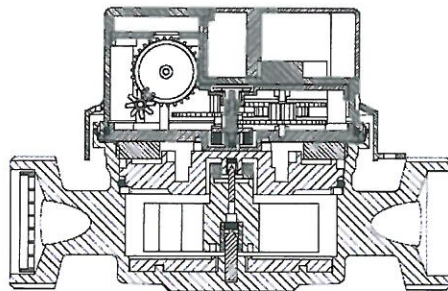


KT 15-18 Type 1

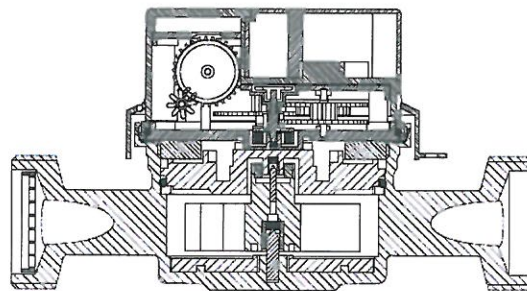
Fig. 3a: Cross section of water meters types KT11 - KT18 (register type 1)



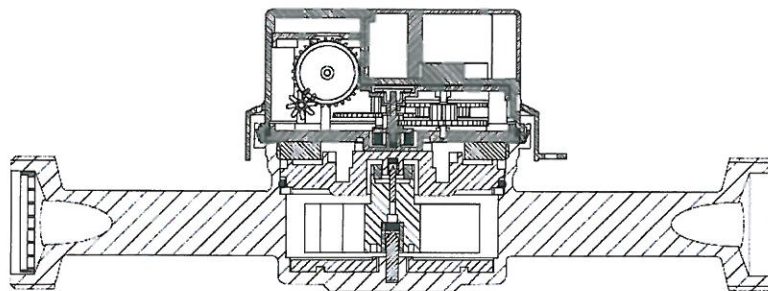
KT 11-12 Type 2



KT 13-16 Type 2

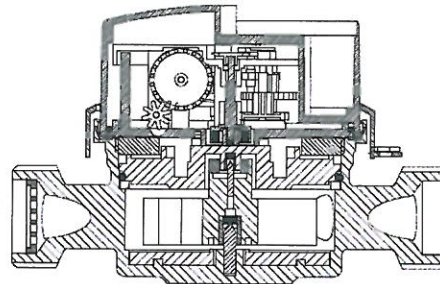


KT 14-17 Type 2

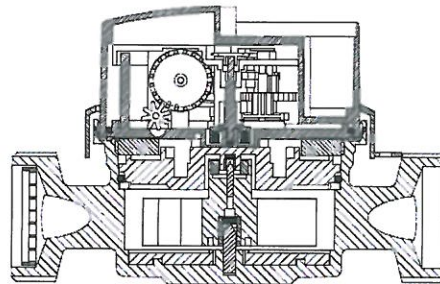


KT 15-18 Type 2

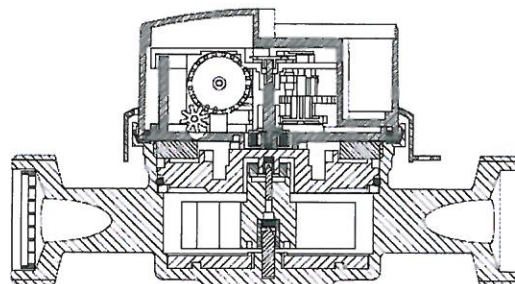
Fig. 3b: Cross section of water meters types KT11 - KT18 (register type 2)



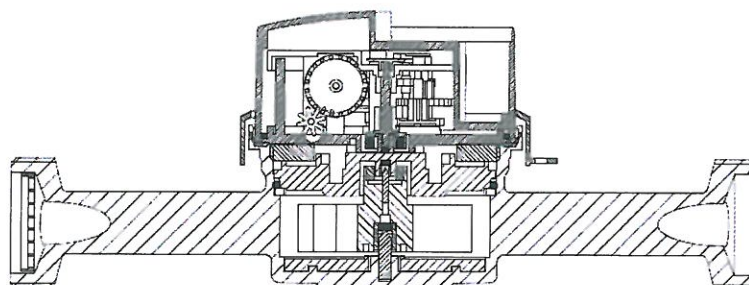
KT 11-12 Type 3



KT 13-16 Type 3



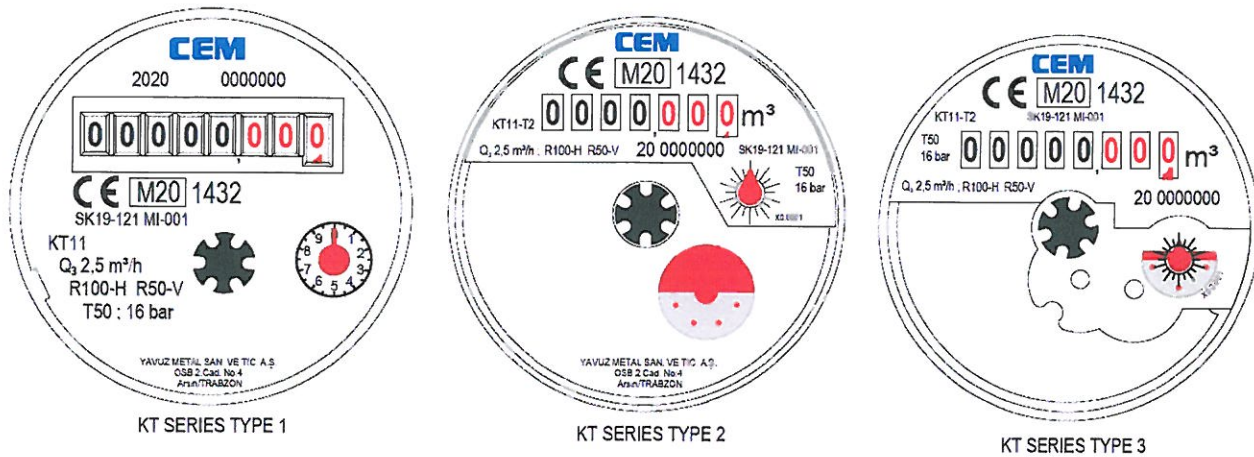
KT 14-17 Type 3



KT 15-18 Type 3

Fig. 3c: Cross section of water meters types KT11 - KT18 (register type 3)





T30, T50, T70, T90, T30/90							
HR80, R100, R160 VR40, R50							
KT11 DN15-110mm	KT12 DN15-110mm	KT13 DN20-110mm	KT14 DN20-130mm	KT15 DN20-190mm	KT16 DN20-110mm	KT17 DN20-130mm	KT18 DN20-190mm
KT11 Q3: 1,6 m³/h HR... VR... T...; 16 bar	KT12 Q3: 2,5 m³/h HR... VR... T...; 16 bar	KT14 Q3: 2,5 m³/h HR... VR... T...; 16 bar	KT14 Q3: 2,5 m³/h HR... VR... T...; 16 bar	KT15 Q3: 2,5 m³/h HR... VR... T...; 16 bar	KT16 Q3: 4 m³/h HR... VR... T...; 16 bar	KT17 Q3: 4 m³/h HR... VR... T...; 16 bar	KT18 Q3: 4 m³/h HR... VR... T...; 16 bar

Fig. 4a: Illustrative views of dial and marking of water meters types KT11 / KT18

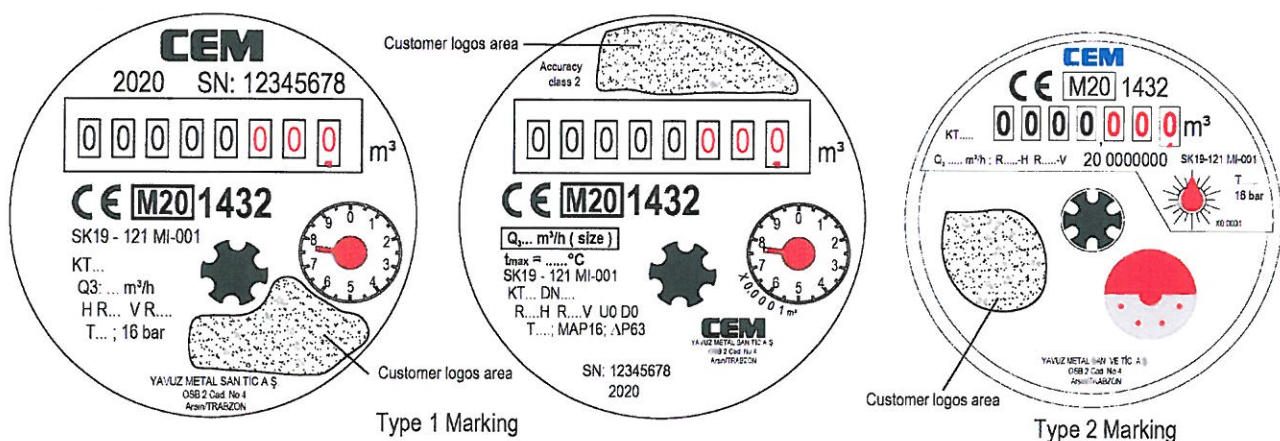
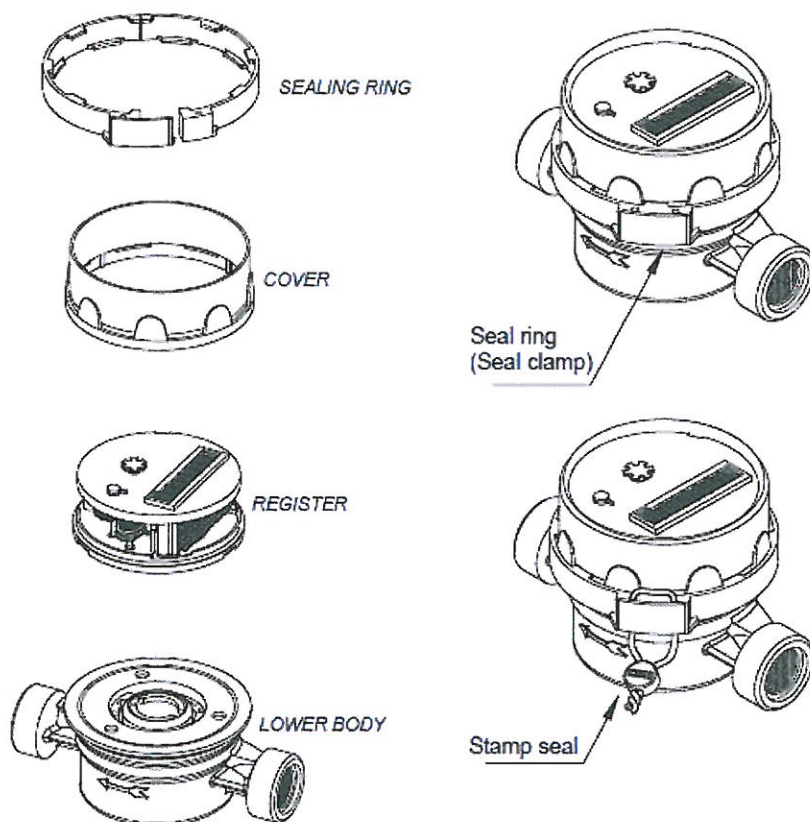


Fig. 4b: Illustrative views of dial and marking of water meters types KT11 / KT18 with places for customer logo (samples for registers types 1 and 2)





Seal ring (Type 1)

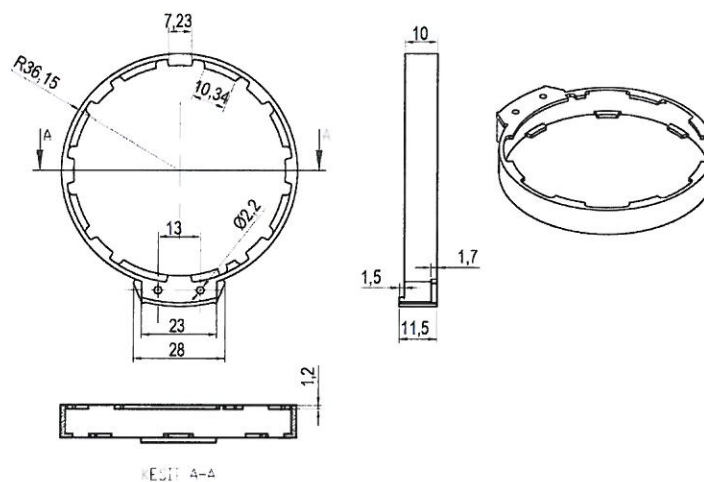


Fig. 5a: Sealing of water meters types KT11 / KT18
and view of seal ring (register type 1)

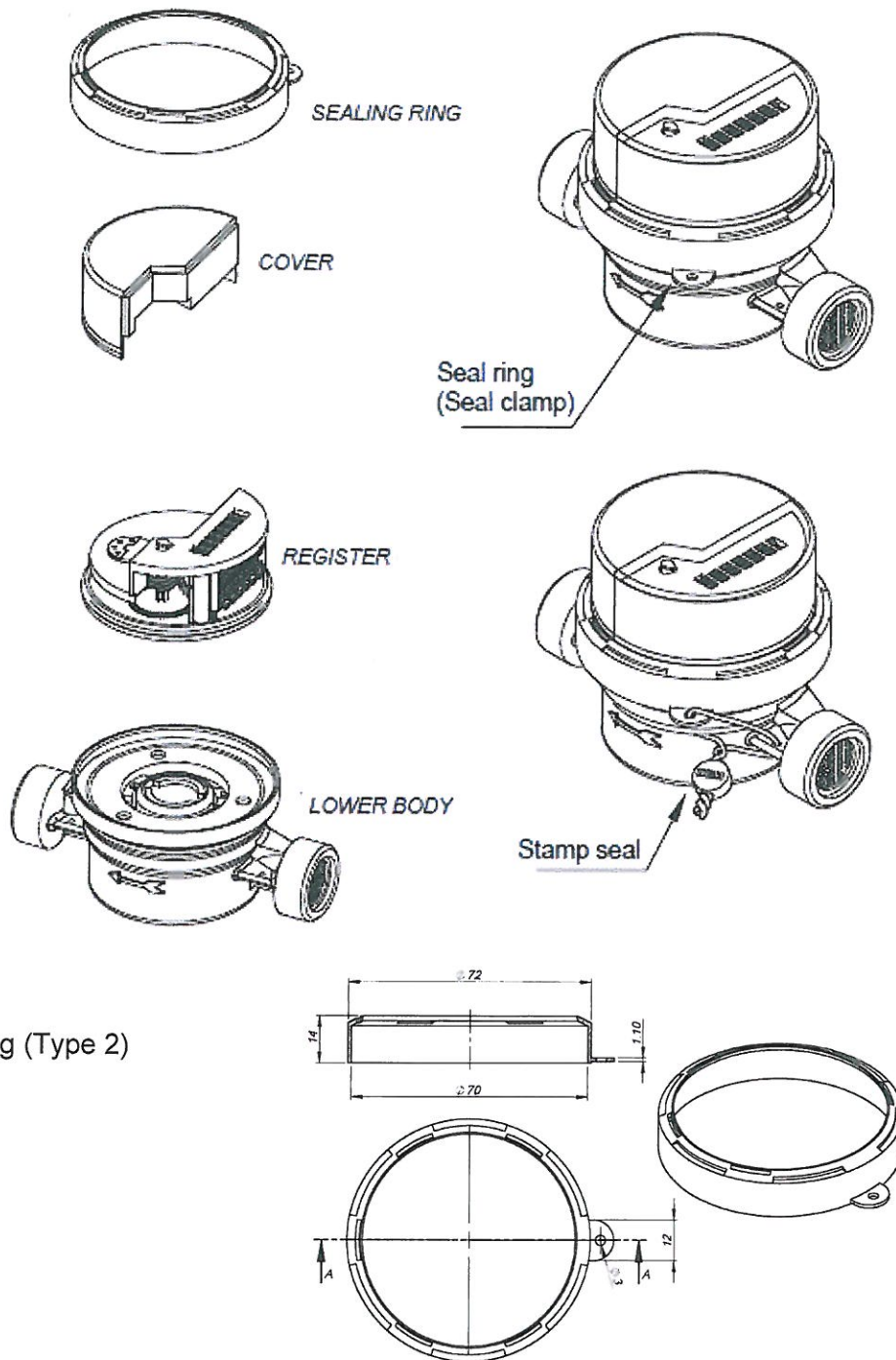
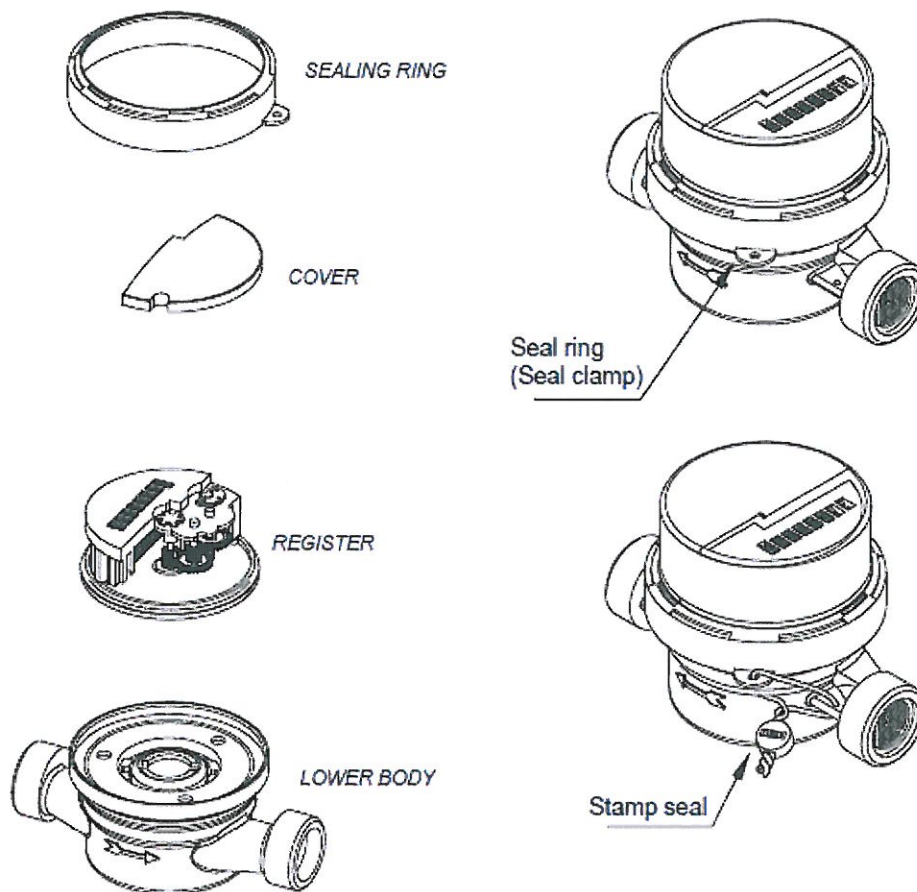


Fig. 5b: Sealing of water meters types KT11 / KT18
and view of seal ring (register type 2)





Seal ring (Type 3)

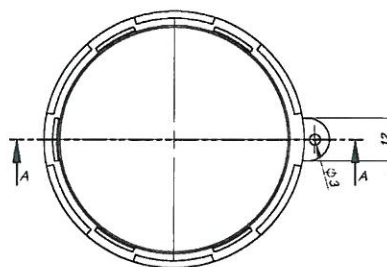
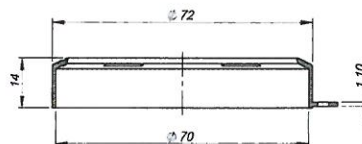
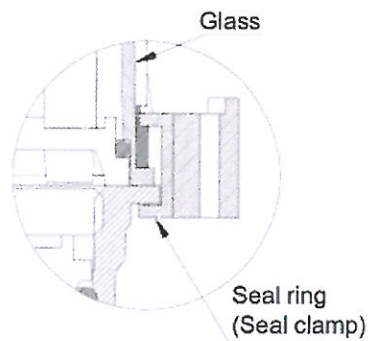


Fig. 5c: Sealing of water meters types *KT11 / KT18* and view of seal ring (register type 3)

Types 1 and 3



Type 2

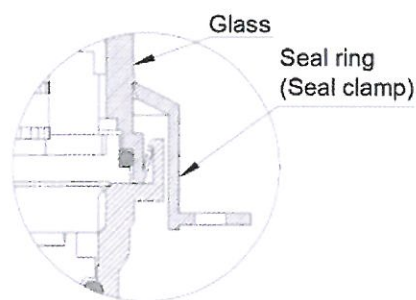
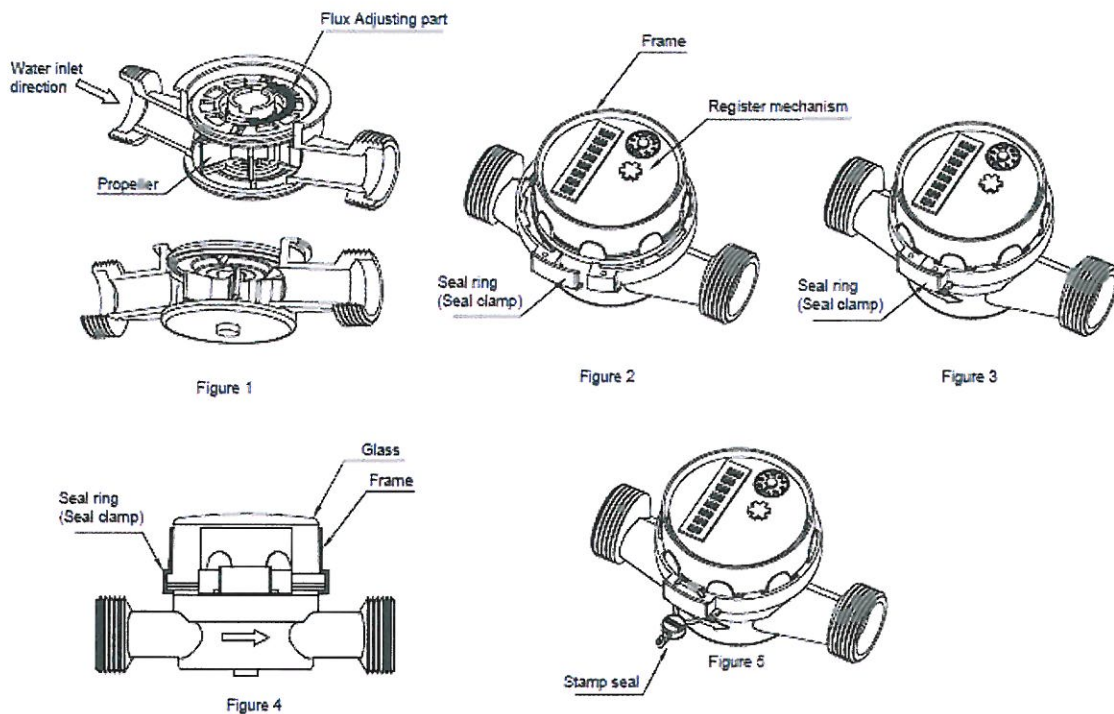


Fig. 5d: Sealing - view of seal ring of water meters types KT11 / KT18



Adjustment and sealing

- The effect on the water propeller is changed by rotating the flux adjustment piece and brought to the desired position. (Figure 1)
- The register mechanism, glass, frame, and seal ring (seal clamp) are mounted on the water meter. (Figure 2)
- The seal is locked by closing the ring (clamp). (Figure 3)
- Seal ring (clamp) locks the glass and frame in to the body. The flow adjustment is protected against external influences. (Figure 4)
- Stainless steel wire is passed through the holes in the seal ring.
- Stainless steel wire wring through the stamp seal.
- Stamp seal is crushed and seal logo is printed on it.
- The water meter can not be intervened before stam seal or seal ring breaks. (Can not be intervened) (Figure 5)

Fig. 5e: Sealing of water meters types KT11 / KT18 - description

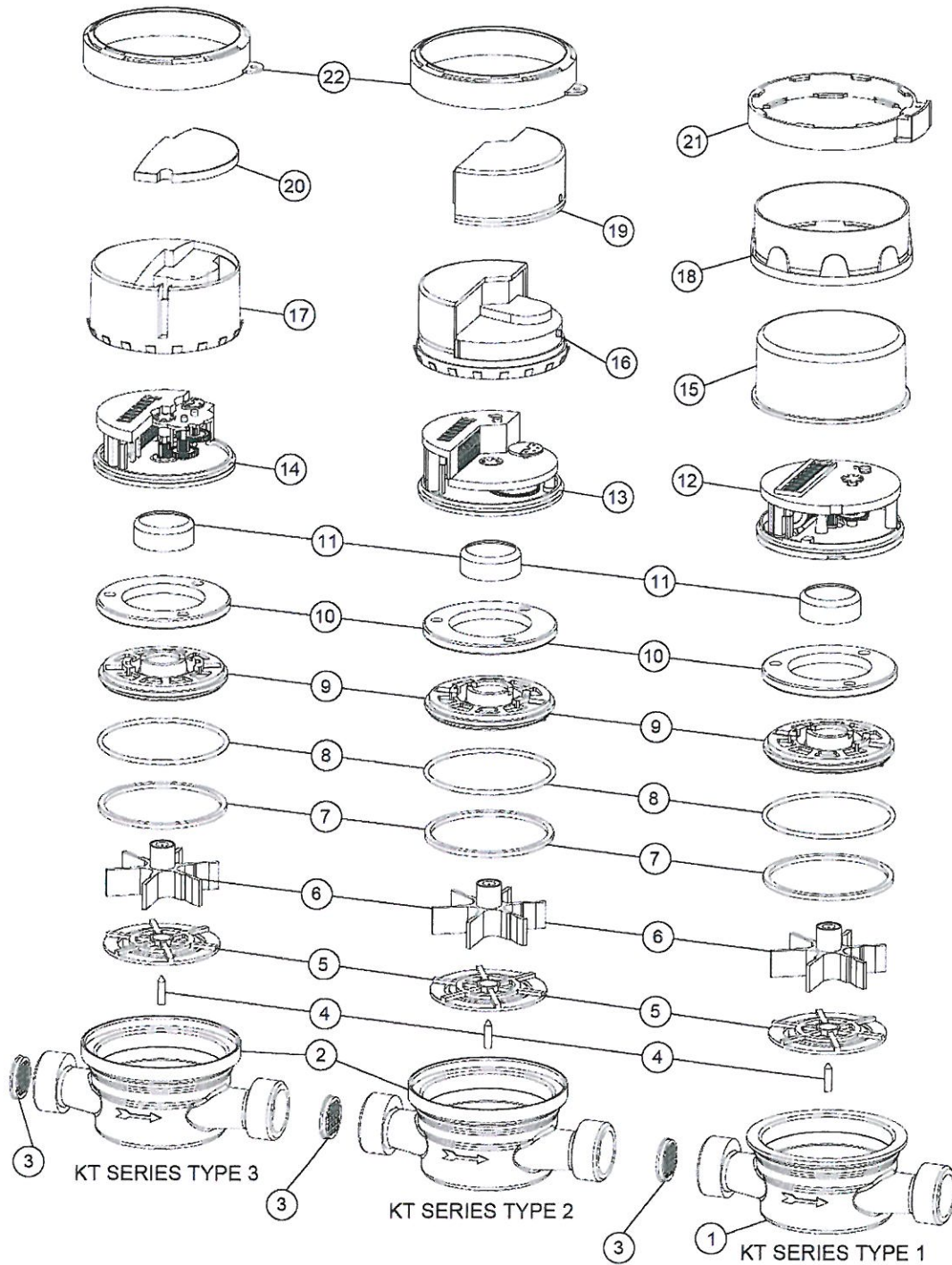


Fig. 6a: Exploded views of water meters types KT11 / KT18
(with registers types 1, 2, 3)

NO	Parça Numarası ve Adı <i>Part Number And Name</i>	Malzeme <i>Material</i>
1	01.01.04.01.04_ALT GÖVDE_LOWER BODY	Pirinç Brass
2	01.01.07.01.01_ALT GÖVDE_LOWER BODY	Pirinç Brass
3	16.01.04.08.02_DUZ FILTRE_FLAT FILTERS	ABS
4	06.01.03.20.01_PERVANE MILI_PROPELLER PIN	Paslanmaz Çelik Stainless Steel
5	63.01.01.01.01_AKIS DIZLESTIRICI_FLUX REGULATOR	ABS
6	08.01.01.06.02_PERVANE_PROPELLER	Paslanmaz Çelik, Safir Taşı, ABS Ferit Miknatıs Stainless Steel, Sapphire Stone, Ferite Magnet, ABS
7	32.01.02.04.03_KAYDIRMA PULU_SHIFTING RING	ABS
8	10.02.02.19.01_ORING_ORING	PVC
9	64.01.01.01.01_AKIŞ AYARLAYICI_FLUX ADJUSTMENT	ABS, Safir Taşı ABS, Sapphire Stone
10	66.01.01.01.01_VIDA HALKASI_SCREW RING	Çelik Steel
11	44.01.02.04.01_MK HALKASI_AM RING	Çelik Steel
12	201.01.07.04.05_YAZICI GRUBU_REGISTER GROUP-TYPE 2	ABS, Paslanmaz Çelik ABS, Stainless Steel
13	201.01.08.05.05_YAZICI GRUBU_REGISTER GROUP-TYPE 1	ABS, Paslanmaz Çelik ABS, Stainless Steel
14	201.01.09.05.05_YAZICI GRUBU_REGISTER GROUP-TYPE 3	ABS, Paslanmaz Çelik ABS, Stainless Steel
15	33.01.09.06.01_CAM_GLASS_Ø74xL32	PC
16	33.01.08.05.01_CAM_GLASS_Ø74xL32	PC
17	33.01.10.05.01_CAM_GLASS_Ø65	PC
18	04.01.02.02.01_CERCEVE_COVER	ABS
19	56.01.05.06.05_MODUL ÜST KAPAK_MODUL TOP COVER	ABS
20	56.01.11.06.05_MODUL ÜST KAPAK_MODUL TOP COVER	ABS
21	65.01.01.01.01_MUHURLEME HALKASI_SEALING RING	ABS
22	65.01.02.02.02_MUHURLEME HALKASI_SEALING RING	ABS
23	RF, MBUS, PULSE, GMS MODULE	

Fig. 6b: Description of exploded views positions of water meters types KT11 / KT18



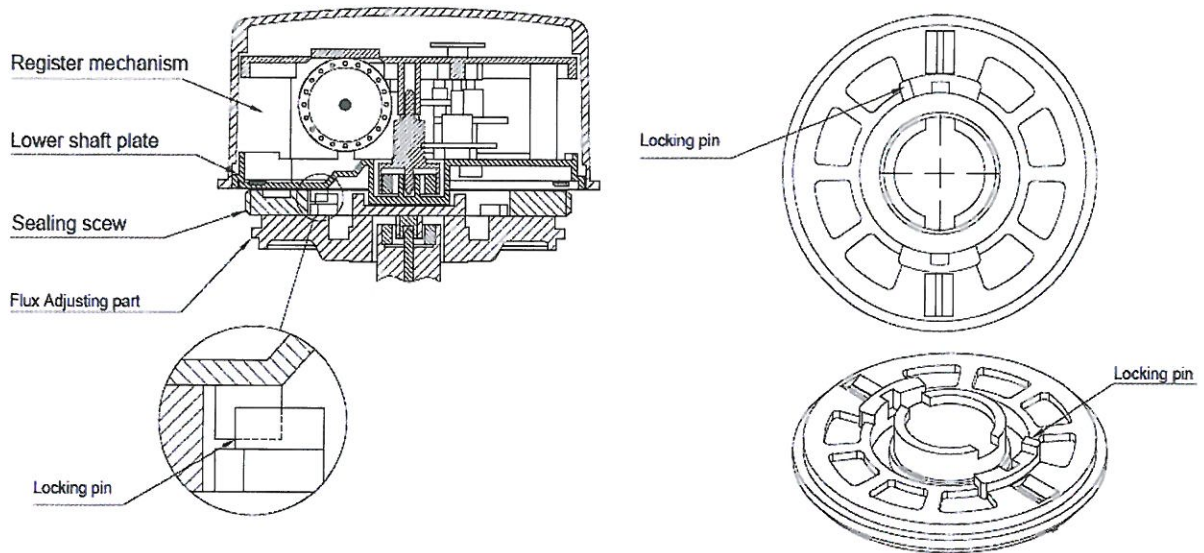
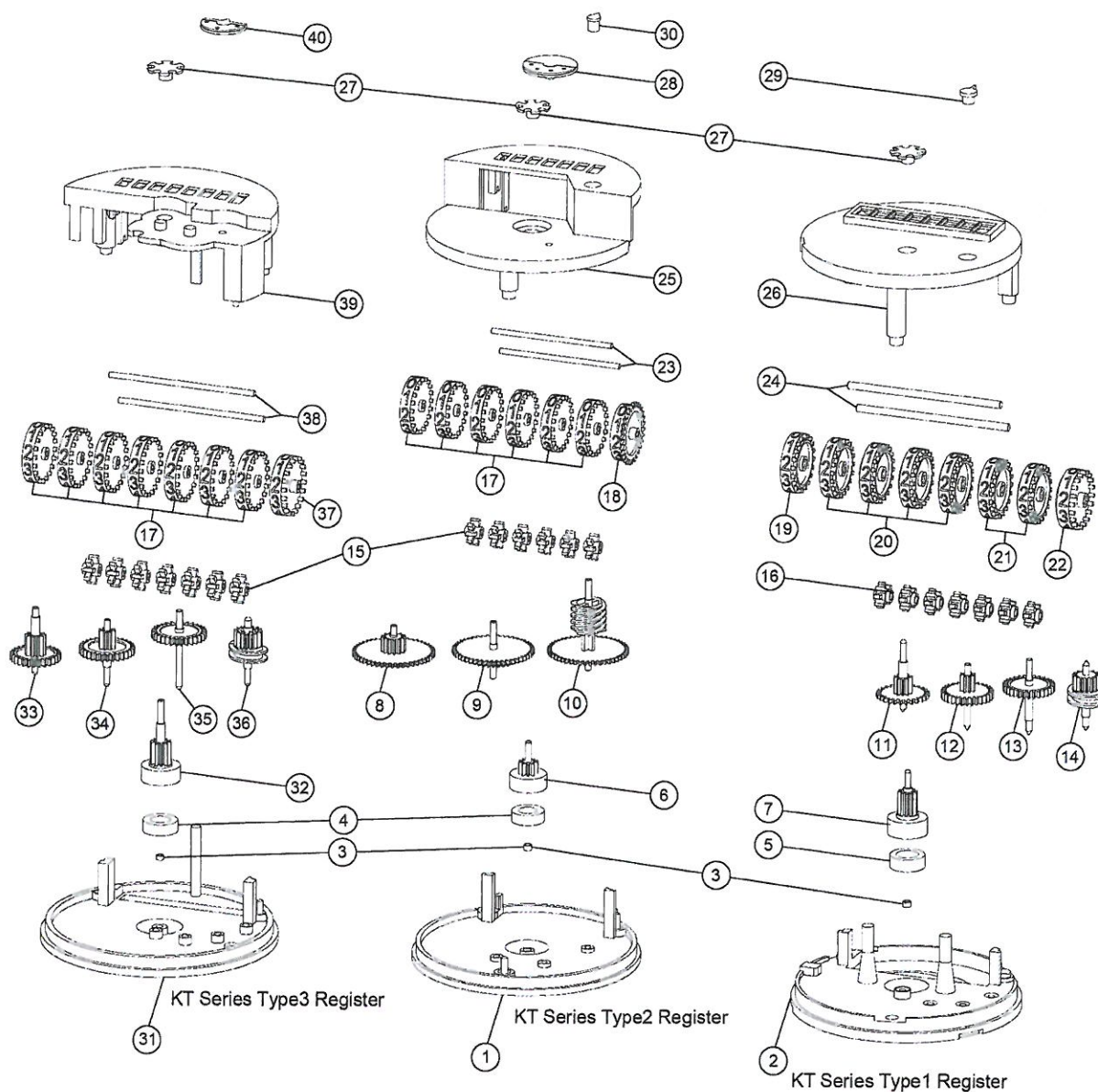


Fig. 7: Rotary register mechanism





Gear Wheel Information Table

Type 1 Register			Type 2 Register			Type 3 Register		
Part Number	Big Gear Piece	Small Gear Piece	Part Number	Big Gear Piece	Small Gear Piece	Part Number	Big Gear Piece	Small Gear Piece
7	10	-	6	10	-	32	10	-
11	27	10	8	27	13	33	27	10
12	30	8	9	48	28	34	30	8
13	30	-	10	48	three step helical	35	30	-
14	16	single step helical				36	15	single step helical

Fig. 8a: Exploded views of register mechanism
(registers types 1, 2, 3)

NO	Parça Numarası ve Adı <i>Part Number And Name</i>	Malzeme <i>Material</i>
1	20.01.05.04.02_ALT YATAK PLAKASI_LOWER BEARING PLATE	ABS
2	20.01.06.03.02_ALT YATAK PLAKASI_LOWER BEARING PLATE	ABS
3	07.01.01.03.01_YATAK TAŞI_BEARING STONE_01.8xH1.2	Safir Taşı Sapphire Stone
4	47.01.01.04.01_HALKA MIKNATIS_RING MAGNET_09X05.3XL3	Ferit Miknatıs Ferite Magnet
5	47.01.01.02.01_HALKA MIKNATIS_RING MAGNET_09.5x05.2xL3.5	Ferit Miknatıs Ferite Magnet
6	48.01.01.03.01_MAGNET DISLI_MAGNETIC GEAR	ABS
7	48.01.01.04.01_MAGNET DISLI_MAGNETIC GEAR	ABS
8	29.01.08.01.02_1_DISLI_GEAR	ABS
9	29.01.08.02.02_2_DISLI_GEAR	ABS
10	29.01.03.05.01_HELIS DISLI_HELIX GEAR	ABS
11	29.01.09.01.02_1_DISLI_GEAR	ABS
12	29.01.09.02.02_2_DISLI_GEAR	ABS
13	29.01.09.03.02_3_DISLI_GEAR	ABS
14	29.01.07.01.02_HELIS DISLI_HELIX GEAR	ABS
15	31.01.01.03.01_YILDIZ DISLI_STAR GEAR	ABS
16	31.01.01.01.01_YILDIZ DISLI_STAR GEAR	ABS
17	30.01.01.04.01_ORTA TAMBUR_MIDDLE DRUM	ABS
18	30.01.03.04.01_ILK TAMBUR_FIRST DRUM	ABS
19	30.01.04.05.01_SON TAMBUR_LAST DRUM	ABS
20	30.01.01.01.01_ORTA TAMBUR_MIDDLE DRUM	ABS
21	30.01.01.01.02_ORTA TAMBUR_MIDDLE DRUM	ABS
22	30.01.02.02.02_ILK TAMBUR_FIRST DRUM	ABS
23	06.01.03.19.01_TAMBUR MILI_DRUM SHAFT	Paslanmaz Çelik Stainless Steel
24	06.01.02.22.01_YILDIZ DISLI MILI_STAR GEAR SHAFT	Paslanmaz Çelik Stainless Steel
25	21.01.05.04.03_UST YATAK PLAKASI_UPPER BEARING PLATE	ABS
26	21.01.06.05.03_UST YATAK PLAKASI_UPPER BEARING PLATE	ABS
27	23.01.02.02.01_ILK HAR İBRESİ_START FLOW POINTER	ABS
28	24.01.04.05.01_LITRE İBRESİ_LITERS POINTER	ABS
29	24.01.01.07.01_LITRE İBRESİ_LITERS POINTER	ABS
30	24.01.01.06.01_LITRE İBRESİ_LITERS POINTER	ABS
31	20.01.09.03.02_ALT YATAK PLAKASI_LOWER BEARING PLATE	ABS
32	48.01.01.07.01_MAGNET DISLI_MAGNETIC GEAR	ABS
33	29.01.13.01.02_1_DISLI_GEAR	ABS
34	29.01.13.02.02_2_DISLI_GEAR	ABS
35	29.01.13.03.02_3_DISLI_GEAR	ABS
36	29.01.10.01.01_HELIS DISLI_HELIX GEAR	ABS
37	30.01.02.04.01_ILK TAMBUR_FIRST DRUM	ABS
38	06.01.03.31.01_TAMBUR MILI_DRUM SHAFT	Paslanmaz Çelik Stainless Steel
39	21.01.09.04.03_UST YATAK PLAKASI_UPPER BEARING PLATE	ABS
40	24.02.04.09.01_LITRE İBRESİ_LITERS POINTER	ABS

Fig. 8b: Description of exploded views positions of registers types 1, 2, 3