

Not an Authorized Translation

Standards and documents applied:

LST EN ISO 4064-1:2017;
LST EN ISO 4064-2:2017;
LST EN ISO 4064-4:2014;
LST EN ISO 4064-5:2017;
OIML R 49-1:2013;
OIML R 49-2:2013;
WELMEC 7.2:2015.

The measuring instrument must correspond with the following specifications:

1 Design of the instrument

1.1 Construction

Ultrasonic complete water meter QALCASONIC W1 consists of a measurement transducer with a primary flow sensor, an electronic calculator and indicating device. Plastic measuring sections with two ultrasonic transducers are installed in the plastic meter body (for meters with threaded end connection G 2 and flanges DN50 – with four ultrasonic transducers). A filter strainer can be installed in the meter inlet. A non-return valve can be installed in the meter outlet (except for meters with threaded end connection G $\frac{3}{4}$ length 80 mm, G 1 length 105 mm and 110 mm, G 1½ and flanges DN50). The meter has an electronic calculator and a LCD indicating device mounted in the same body.

The meter, depending on the modification, is designed to measure forward flow or forward and reverse flow. The volume passed during reverse flow is registered in a separate register and additionally can be subtracted from the volume of the forward flow.

The meter is powered by a non-replaceable 3,6 V DC lithium battery (one or two).



Fig.1. Water meter QALCASONIC W1, $Q_3 = 1,6/2,5/4,0 \text{ m}^3/\text{h}$, with threaded end connection G $\frac{3}{4}$ or G 1 (meter design initial version)



Fig.2. Water meter QALCASONIC W1, $Q_3 = 1,6/2,5/4,0 \text{ m}^3/\text{h}$, with threaded end connection G $\frac{3}{4}$ or G 1 (meter design version „n“)

Handwritten signature

Not an Authorized Translation



Fig. 3. Water meter QALCOSONIC W1,
 $Q_3 = 6,3/10 \text{ m}^3$, with threaded
end connection
G 1¼ or G 1½



Fig. 4. Water meter QALCOSONIC W1,
 $Q_3 = 10/16/25 \text{ m}^3$, with threaded
end connection
G2



Fig. 5. Water meter QALCOSONIC W1,
 $Q_3 = 16/25/40 \text{ m}^3$, with flanges DN50

1.2 Sensor

Ultrasonic flow sensor.

1.3 Measurement value processing

The flow measurement principle is based on the measurement of ultrasonic signal propagation time on the downstream and upstream of water flow. The difference between the measuring times is proportional to the water flow through the meter, which is calculated by the meter calculator.

1.4 Indication of the measurement results

Measured volume of water is indicated on the two-line LCD indicating device.

Upper line: 9 columns, intended for volume of water, passing through the meter.

Indications in operating mode: m^3 , three digits after decimal point.

Indications in TEST mode : m^3 , six digits after decimal point.

Lower line: 5 columns for displaying current flow in m^3/h and information symbols.

Not an Authorized Translation

1.5 Optional equipment and functions subject to MID requirements

None.

1.6 Technical documentation

Ultrasonic water meter QALCASONIC W1. Technical description, installation manual and user guide: PE_QW1_V14_EN, 01-2023.

Assembly drawing N10.0001.00.00-01, 07-12-2021.

Assembly drawing N10.0013.00.00-01, 24-08-2018.

Assembly drawing N14.0010.00.00-00, 01-10-2020.

Assembly drawing N10.0033.00.00-00, 01-10-2020.

Assembly drawing N14.013.00.00 W1 DN40 L300, 11-12-2020.

Assembly drawing N10.0052.100.00-00, 15-10-2021.

Assembly drawing N10.0052.100.00-00, 15-10-2021.

Assembly drawing N10.0043.00.00-00, 10-12-2020.

Other reference documents on which basis this certificate is issued, are stored in a file Nr.LEI-12-MP-131.22.

1.7 Integrated equipment and functions not subject to MID

NFC (near-field communication) interface is integrated in the meter, intended for data reading. The optical interface according to requirements of EN 62056-21 is integrated in the meter, intended for data reading via M-Bus protocol, for meter parameters setting and for optical pulses output.

The meter is equipped with one of the following wireless communication interfaces:

- RF 868 MHz;
- RF 433 MHz;
- RF 915 MHz;
- RF 920,5 MHz;
- NB-IoT, frequency bands B1, B3, B5, B8, B20, B28.

Data via RF communication interfaces may be transmitted using the following protocols:

- W-M-Bus-T1;
- W-M-Bus-T2;
- W-M-Bus-S1;
- W-M-Bus-C1;
- SIGFOX;
- LORA WAN;
- CoAP.

The meter can be equipped (optional, only for meters with threaded end connection G2 and flanges DN50) with one or both of the following additional wired communication interfaces (cable length 1,5 m):

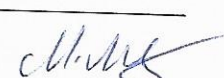
- M-Bus;
- wired pulse output.

2 Technical data

2.1 Rated operating conditions

2.1.1 Measurand

The volume of water passing through the meter, indicated on the LCD indicator.



Not an Authorized Translation

2.1.2 Measurement range

The measurement range of the water meter QALCASONIC W1 and other technical characteristics are presented in table 1:

Table 1

Flowrate, m ³ /h				The ratio R, Q ₃ /Q ₁	End connections	Overall length L, mm	Pressure loss class: without filter/ with filter strainer
Q ₃	Q ₄	Q ₁	Q ₂				
1,6	2,0	0,020	0,032	80	G ¾	80 ¹ ; 105; 110; 115 ¹ ; 165;170	For forward and reverse flow: Δp 16/ Δp 16
1,6	2,0	0,010	0,016	160	G ¾		
1,6	2,0	0,0064	0,010	250	G ¾		
1,6	2,0	0,005	0,008	315	G ¾		
1,6	2,0	0,004	0,0064	400	G ¾		
2,5	3,125	0,031	0,050	80	G ¾	80 ¹ ; 105; 110; 115 ¹ ; 165;170	For forward flow: Δp 25/ Δp 25 For reverse flow: Δp 25/ Δp 40
2,5	3,125	0,0156	0,025	160	G ¾		
2,5	3,125	0,010	0,016	250	G ¾		
2,5	3,125	0,0062	0,010	400	G ¾		
2,5	3,125	0,005	0,008	500	G ¾		
2,5	3,125	0,0031	0,005	800	G ¾	105; 110; 130;165; 190	For forward and reverse flow: Δp 16/ Δp 16
2,5	3,125	0,031	0,050	80	G 1		
2,5	3,125	0,0156	0,025	160	G 1		
2,5	3,125	0,010	0,016	250	G 1		
2,5	3,125	0,0062	0,010	400	G 1		
4,0	5,0	0,050	0,080	80	G 1	105; 110; 130; 165; 190	For forward flow: Δp 25/ Δp 40 ² For reverse flow: Δp 25/ Δp 40
4,0	5,0	0,025	0,040	160	G 1		
4,0	5,0	0,016	0,026	250	G 1		
4,0	5,0	0,010	0,016	400	G 1		
4,0	5,0	0,008	0,0128	500	G 1		
4,0	5,0	0,005	0,008	800	G 1	260	For forward and reverse flow: Δp 25/ Δp 40
6,3	7,875	0,079	0,126	80	G 1¼		
6,3	7,875	0,040	0,063	160	G 1¼		
6,3	7,875	0,0252	0,040	250	G 1¼		
6,3	7,875	0,016	0,0252	400	G 1¼		
6,3	7,875	0,0126	0,0202	500	G 1¼	260	For forward and reverse flow: Δp 16/ Δp 16
6,3	7,875	0,008	0,013	800 ³	G 1¼		
6,3	7,875	0,079	0,126	80	G 1½		
6,3	7,875	0,040	0,063	160	G 1½		
6,3	7,875	0,0252	0,040	250	G 1½		
6,3	7,875	0,016	0,0252	400	G 1½	260	For forward flow: Δp 63/ Δp 63 For reverse flow: Δp 63/ – ⁴
10,0	12,5	0,125	0,200	80	G 1¼		
10,0	12,5	0,0625	0,100	160	G 1¼		
10,0	12,5	0,040	0,064	250	G 1¼		
10,0	12,5	0,025	0,040	400	G 1¼		
10,0	12,5	0,020	0,032	500	G 1¼	260	For forward and reverse flow: Δp 25/ Δp 25
10,0	12,5	0,0125	0,020	800 ³	G 1¼		
10,0	12,5	0,010	0,016	1000 ³	G 1¼		
10,0	12,5	0,125	0,200	80	G 1½		
10,0	12,5	0,0625	0,100	160	G 1½		
10,0	12,5	0,025	0,040	400	G 1½	260	
10,0	12,5	0,020	0,032	500	G 1½		
10,0	12,5	0,0125	0,020	800 ³	G 1½		





Not an Authorized Translation

Flowrate, m ³ /h				The ratio $R, Q_3/Q_1$	End connections	Overall length $L, \text{ mm}$	Pressure loss class: without filter/ with filter strainer
Q_3	Q_4	Q_1	Q_2				
10,0	12,5	0,125	0,200	80	G 2	300	For forward and reverse flow: $\Delta p 16/ \Delta p 16$
10,0	12,5	0,0625	0,100	160	G 2		
10,0	12,5	0,040	0,064	250	G 2		
16,0	20,0	0,200	0,320	80	G 2	300	For forward and reverse flow: $\Delta p 16/ \Delta p 16$
16,0	20,0	0,100	0,160	160	G 2		
16,0	20,0	0,064	0,102	250	G 2		
16,0	20,0	0,040	0,064	400	G 2		
16,0	20,0	0,032	0,0512	500	G 2		
16,0	20,0	0,020	0,032	800 ³	G2		
25,0	31,25	0,3125	0,500	80	G 2	300	For forward and reverse flow: $\Delta p 16/ \Delta p 16$
25,0	31,25	0,156	0,250	160	G 2		
25,0	31,25	0,100	0,160	250	G 2		
25,0	31,25	0,0625	0,100	400	G 2		
25,0	31,25	0,050	0,080	500	G 2		
25,0	31,25	0,0312	0,050	800 ³	G 2		
16,0	20,0	0,200	0,320	80	DN50	200	For forward and reverse flow: $\Delta p 16/ \Delta p 16$
16,0	20,0	0,100	0,160	160	DN50		
16,0	20,0	0,064	0,102	250	DN50		
16,0	20,0	0,040	0,064	400 ³	DN50		
25,0	31,25	0,3125	0,500	80	DN50	200	For forward flow: $\Delta p 16/ \Delta p 16$ For reverse flow: $\Delta p 16/ -^4$
25,0	31,25	0,156	0,250	160	DN50		
25,0	31,25	0,100	0,160	250	DN50		
25,0	31,25	0,0625	0,100	400	DN50		
25,0	31,25	0,050	0,080	500	DN50		
25,0	31,25	0,0312	0,050	800 ³	DN50		
40,0	50,0	0,500	0,800	80	DN50	200	For forward flow: $\Delta p 16/ \Delta p 16$ For reverse flow: $\Delta p 16/ -^4$
40,0	50,0	0,250	0,400	160	DN50		
40,0	50,0	0,160	0,256	250	DN50		
40,0	50,0	0,100	0,160	400	DN50		
40,0	50,0	0,080	0,128	500	DN50		
40,0	50,0	0,050	0,080	800 ³	DN50		

Notes:

¹ – meters with a length $l = 80 \text{ mm}$ and $l = 115 \text{ mm}$ are produced only in the initial design version.

² – for meters $Q_3 = 4 \text{ m}^3/\text{h}$, threaded end connection G 1, $l = 190 \text{ mm}$, when installed the filter strainer, the pressure loss class $\Delta p 40$ is valid. For all other lengths of meters $Q_3 = 4 \text{ m}^3/\text{h}$ with filter, the pressure loss class $\Delta p 25$ applies.

³ – this ratio is only valid for meters with temperature class T30.

⁴ – meters with reverse flow measurement function are installed only without filter strainer.

2.1.3 Meter temperature classes and maximum permissible errors

Meter temperature classes and maximum permissible errors are presented in table 2:

Table 2

Meter temperature class	Water temperature ranges	Maximum permissible errors
T30	between 0,1 °C and 30 °C	$\pm 5 \%$ in flow range $Q_1 \leq Q < Q_2$ $\pm 2 \%$ in flow range $Q_2 \leq Q \leq Q_4$

Handwritten signature

Not an Authorized Translation

Meter temperature class	Water temperature ranges	Maximum permissible errors
T50	between 0,1 °C and 50 °C	$\pm 5\%$ in flow range $Q_1 \leq Q < Q_2$ $\pm 2\%$ in flow range $Q_2 \leq Q \leq Q_4$ (for water temperature between 0,1 °C and 30 °C) $\pm 3\%$ in flow range $Q_2 \leq Q \leq Q_4$ (for water temperature between 30 °C and 50 °C)
T30/90	between 30 °C and 90 °C	$\pm 5\%$ in flow range $Q_1 \leq Q < Q_2$ $\pm 3\%$ in flow range $Q_2 \leq Q \leq Q_4$
T90	between 0,1 °C and 90 °C	$\pm 5\%$ in flow range $Q_1 \leq Q < Q_2$ $\pm 2\%$ in flow range $Q_2 \leq Q \leq Q_4$ (for water temperature between 0,1 °C and 30 °C) $\pm 3\%$ in flow range $Q_2 \leq Q \leq Q_4$ (for water temperature between 30 °C and 90 °C)

2.1.4 Environmental conditions / Influence quantities

Ambient working temperature	:	-15 °C to 70 °C;
Humidity level	:	condensing;
Installations	:	indoor or outdoor;
Electromagnetic environment	:	class E2;
Degree of protection	:	IP68.

2.2 Other operating conditions

2.2.1 Maximum admissible working pressure

The maximum admissible working pressure of water meter is 1,6 MPa (MAP 16).

2.2.2 Mounting position of the water meter

Water meter can be mounted either horizontally, vertically or inclined.

3 Interfaces and compatibility conditions

The communication interfaces of the meter are described in section 1.7 of this appendix.

4 Requirements on production, putting into use and utilization

4.1 Requirements on production

At the end of the manufacturing and adjustment process the water meters shall be tested according to the requirements of the EN ISO 4064-2, section 10.1. Errors of water meters shall not exceed the maximum permissible errors, described in Annex III (MI-001) of the Directive 2014/32/EU.

The meters shall be tested within each of the following flowrates:

between Q_1 and $1,1Q_1$;

between Q_2 and $1,1Q_2$;

between $0,9Q_3$ and Q_3 .

For meters class T30 and T50: water temperature of tests $20\text{ °C} \pm 10\text{ °C}$.

For meters class T30/90: water temperature of tests is $50\text{ °C} \pm 10\text{ °C}$.

For meters class T90: water temperature of tests $20\text{ °C} \pm 10\text{ °C}$ and $50\text{ °C} \pm 10\text{ °C}$.

Not an Authorized Translation

4.2 Requirements on putting into use

The water meter QALCOSONIC W1 must be installed in accordance with the requirements of technical description specified in section 1.6.

The straight pipelines in upstream and downstream the meter is not necessary (flow profile sensitivity class U0 D0).

4.3 Requirements for consistent utilization

No special requirements identified.

5 Control of the measuring process after tasks of the instrument in use

5.1 Documentation of the procedure

None.

5.2 Special equipment or software

- optical reading head according to standard LST EN 62056-21, with special holder;
- service software **W1 TOOL**.

5.3 Identification of hardware and software

Identification of hardware:

- see Fig.1– Fig. 5 of this appendix.

Identification of software. The software version number is:

- **1.03** for meters with threaded end connection G $\frac{3}{4}$, G 1, G $1\frac{1}{4}$, G $1\frac{1}{2}$ (when the Renesas RF10WMGAFB microprocessor is used);
- **3.01** for meters with threaded end connection G $\frac{3}{4}$, G 1, G $1\frac{1}{4}$, G $1\frac{1}{2}$ (when the Nuvoton M258KE3AE microprocessor is used);
- **2.02** for meters with threaded end connection G 2 and flanges DN50 (in all cases, the Renesas RF10WMGAFB microprocessor is used).

The version number is marked on the label of the device (SW:1.03, SW:3.01 or SW:2.02).

5.4 Calibration-adjustment procedure

Using an optical head and computer with **W1 TOOL** software the meter verification mode (TEST) is activated. Optical head should be connected to the computer USB interface.

After placing the optical head on the meter with the special holder and opening the program startup window, computer port number (to which optical head is connected) is entered in the field „**Com Port**“.

Click „**Wake Up Meter**“ button, then click the „**Enter Test Mode**“ button. When the meter TEST mode is activated, meter readings are displayed with a resolution of 1 ml.

The meter's measurement errors shall be evaluated at the reference flow rates indicated in section 4.1 of this appendix. Optical pulse output of the meter is used or volume indications can be read directly from meter's LCD.

The volume pulse value in TEST mode is presented in table 3.

Table 3

Permanent flowrate Q_3 of the meter, m ³ /h	Volume pulse value in verification mode (TEST), litre/pulse
1,6	0,001
2,5	0,002

Not an Authorized Translation

Permanent flowrate Q_3 of the meter, m ³ /h	Volume pulse value in verification mode (TEST), litre/pulse
4	0,004
6,3	0,005
10	0,010
16	0,015
25	0,020
40	0,025

Using an optical head and computer with **W1 TOOL** software the meter is returned to the operating mode. After opening the program startup window, click the „**Wake Up Meter**“ button, then click the „**Enter User Mode**“ button, the meter returns to the operating mode.

The meter returns to its operating mode itself, 24 hours after activation of the TEST mode.

6 Security measures

6.1 Sealing

The meter casing is imperceptibly closed. Any unauthorized opening of the housing is impossible without damaging. When the upper cover is opened, the safety button that is installed in the meter body is activated and the error code appears on the meter display, with the first digit „4“.

Holes in the meter body are provided for sealing the meter with threaded end connection after installation (Fig. 6 a and b).

For meter with flanges DN50, the mounting screws are sealed after installation (Fig. 6 c).

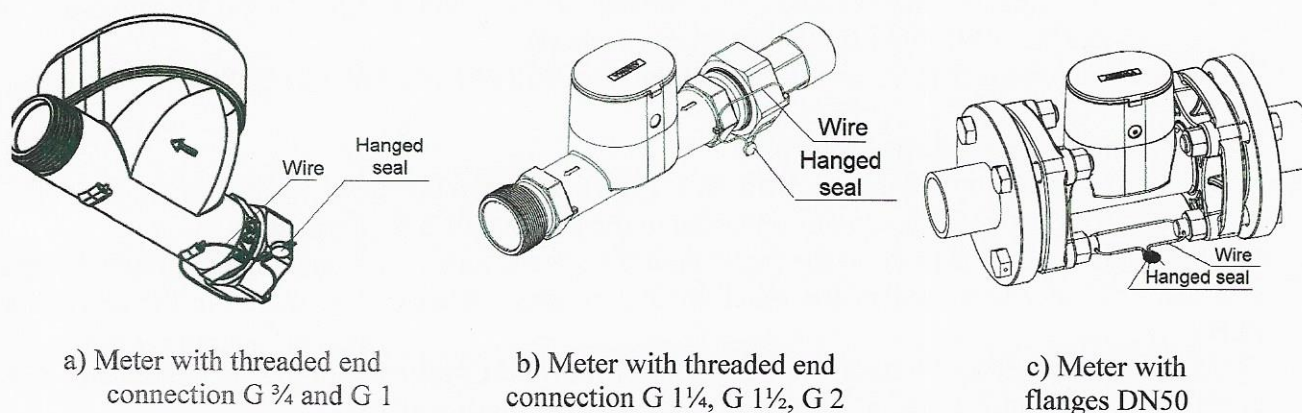


Fig. 6. Sealing of the water meter QALCOSONIC W1 after installation

7 Marking and inscriptions

7.1 Information to be borne by and to accompany the measuring instrument

The water meter housing cover contains the following information:

- EU-type examination certificate number;
- trade mark of the manufacturer;
- distributor's logo (if applicable);
- type designation of the meter;
- year of manufacture and serial number;

Not an Authorized Translation

- unit of measurement: m^3 (on LCD display);
- permanent flowrate Q_3 ;
- the ratio Q_3/Q_1 , preceded by „R“;
- the temperature class, where it differs from T30;
- the maximum admissible working pressure (MAP);
- pressure loss class;
- the installation sensitivity class of the meter;
- the latest date by which the meter shall be replaced;
- software version number;
- IP code;
- QR code or barcode;
- communication interface NB-IoT (if installed on the meter).

Arrow to indicate the direction of the flow shall appear on flow sensor body.

7.2 Conformity marking

In addition, the label of water meter should contain the following marking:

- „CE” marking;
- supplementary metrology marking, consisting of the capital letter „M” and the last two digits of the year of its affixing, surrounded by a rectangle;
- the number of the notified body that carried out the conformity assessment.

8 List of the drawings attached to the certificate

Assembly drawing N10.0001.00.00-01, 07-12-2021.
Assembly drawing N10.0013.00.00-01, 24-08-2018.
Assembly drawing N14.0010.00.00-00, 01-10-2020.
Assembly drawing N10.0033.00.00-00, 01-10-2020.
Assembly drawing N14.013.00.00 W1 DN40 L300, 11-12-2020.
Assembly drawing N10.0052.100.00-00, 15-10-2021.
Assembly drawing N10.0055.100.00-00, 15-10-2021.
Assembly drawing N10.0043.00.00-00, 11-12-2020.

9 Certificate history

Issue	Date and reference No.	Description
1	2	3
LT-1621-MI001-034	31-08-2018, No. LEI-12-MP-076.18	Type examination certificate first issued.
LT-1621-MI001-034 Revision 1	30-07-2019, No. LEI-12-MP-088.19	1. The meter has been supplemented with water temperature class T50. 2. The design of the meter marking label has been changed (Fig. 1) 3. The document PL_QW1_V02, issued 29-08-2018, has been replaced by the document PL_QW1_V04, issued 24-07-2019.

chilis

Not an Authorized Translation

1	2	3																																																				
LT-1621-MI001-034 Revision 2	09-12-2019, No. LEI-12-MP-092.19	1. The meter has been supplemented by new modifications with extended flow measurement limits: <table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Overall length L, mm</th><th rowspan="2">Pressure loss class</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td rowspan="5">1,6</td><td rowspan="5">2,0</td><td rowspan="5">0,004</td><td rowspan="5">0,0064</td><td rowspan="5">400</td><td>G ¾</td><td>80</td><td>ΔP 25</td></tr><tr><td>G ¾</td><td>105</td><td>ΔP 25</td></tr><tr><td>G ¾</td><td>110</td><td>ΔP 25</td></tr><tr><td>G ¾</td><td>165</td><td>ΔP 25</td></tr><tr><td>G ¾</td><td>170</td><td>ΔP 25</td></tr><tr><td rowspan="5">2,5</td><td rowspan="5">3,125</td><td rowspan="5">0,0031</td><td rowspan="5">0,005</td><td rowspan="5">800</td><td>G ¾</td><td>80</td><td>ΔP 40</td></tr><tr><td>G ¾</td><td>105</td><td>ΔP 40</td></tr><tr><td>G ¾</td><td>110</td><td>ΔP 40</td></tr><tr><td>G ¾</td><td>165</td><td>ΔP 40</td></tr><tr><td>G ¾</td><td>170</td><td>ΔP 40</td></tr></table> 2. New meter labeling drawings with distributor's NeoVac logo. 3. The document PL_QW1_V04, issued 24-07-2019, has been replaced by the document PL_QW1_V05, issued 21-08-2019.	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm	Pressure loss class	Q ₃	Q ₄	Q ₁	Q ₂	1,6	2,0	0,004	0,0064	400	G ¾	80	ΔP 25	G ¾	105	ΔP 25	G ¾	110	ΔP 25	G ¾	165	ΔP 25	G ¾	170	ΔP 25	2,5	3,125	0,0031	0,005	800	G ¾	80	ΔP 40	G ¾	105	ΔP 40	G ¾	110	ΔP 40	G ¾	165	ΔP 40	G ¾	170	ΔP 40
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm					Pressure loss class																																											
Q ₃	Q ₄	Q ₁	Q ₂																																																			
1,6	2,0	0,004	0,0064	400	G ¾	80	ΔP 25																																															
					G ¾	105	ΔP 25																																															
					G ¾	110	ΔP 25																																															
					G ¾	165	ΔP 25																																															
					G ¾	170	ΔP 25																																															
2,5	3,125	0,0031	0,005	800	G ¾	80	ΔP 40																																															
					G ¾	105	ΔP 40																																															
					G ¾	110	ΔP 40																																															
					G ¾	165	ΔP 40																																															
					G ¾	170	ΔP 40																																															
LT-1621-MI001-034 Revision 3	31-01-2020, No. LEI-12-MP-098.20	1. The meter may additionally equipped with the following wireless communication interfaces: - RF 920,5 MHz; - NB-IoT, frequency bands B1, B3, B5, B8, B20, B28. 2. The document PL_QW1_V05, issued 21-08-2019, has been replaced by the document PL_QW1_V06, issued 09-01-2020.																																																				
LT-1621-MI001-034 Revision 4	25-08-2020, No. LEI-12-MP-106.20	1. The meter has been supplemented by modifications with additional values of the ratio $R(Q_3/Q_1) = 80$ and $R(Q_3/Q_1) = 160$. 2. For meters with end connections G ¾ and permanent flowrate $Q_3 = 1,6$ m³/h, pressure-loss class has been changed from Δp 25 to Δp 16. 3. For meters with end connections G ¾ and permanent flowrate $Q_3 = 2,5$ m³/h, pressure-loss class has been changed from Δp 40 to Δp 25. 4. New meter marking labels with distributor logos (Fig.1p). 5. The document PL_QW1_V06, issued 09-01-2020, has been replaced by the document PL_QW1_V08, issued 22-07-2020.																																																				
LT-1621-MI001-034 Revision 5	25-08-2020, No. LEI-12-MP-106.20	1. The meter has been supplemented with the following new modifications: <table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Overall length L, mm</th><th rowspan="2">Pressure loss class</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>6,3</td><td>7,875</td><td>0,079</td><td>0,126</td><td>80</td><td>G 1¼</td><td>260</td><td>Δp 25</td></tr><tr><td>6,3</td><td>7,875</td><td>0,040</td><td>0,063</td><td>160</td><td>G 1¼</td><td>260</td><td>Δp 25</td></tr><tr><td>6,3</td><td>7,875</td><td>0,0252</td><td>0,040</td><td>250</td><td>G 1¼</td><td>260</td><td>Δp 25</td></tr><tr><td>6,3</td><td>7,875</td><td>0,016</td><td>0,0252</td><td>400</td><td>G 1¼</td><td>260</td><td>Δp 25</td></tr></table>	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm	Pressure loss class	Q ₃	Q ₄	Q ₁	Q ₂	6,3	7,875	0,079	0,126	80	G 1¼	260	Δp 25	6,3	7,875	0,040	0,063	160	G 1¼	260	Δp 25	6,3	7,875	0,0252	0,040	250	G 1¼	260	Δp 25	6,3	7,875	0,016	0,0252	400	G 1¼	260	Δp 25								
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm					Pressure loss class																																											
Q ₃	Q ₄	Q ₁	Q ₂																																																			
6,3	7,875	0,079	0,126	80	G 1¼	260	Δp 25																																															
6,3	7,875	0,040	0,063	160	G 1¼	260	Δp 25																																															
6,3	7,875	0,0252	0,040	250	G 1¼	260	Δp 25																																															
6,3	7,875	0,016	0,0252	400	G 1¼	260	Δp 25																																															



Not an Authorized Translation

1	2	3																																																																																																																																				
		<table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Overall length L, mm</th><th rowspan="2">Pressure loss class</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>6,3</td><td>7,875</td><td>0,008</td><td>0,013</td><td>800*</td><td>G 1¼</td><td>260</td><td>Δp 25</td></tr><tr><td>6,3</td><td>7,875</td><td>0,079</td><td>0,126</td><td>80</td><td>G 1½</td><td>260</td><td>Δp 16</td></tr><tr><td>6,3</td><td>7,875</td><td>0,040</td><td>0,063</td><td>160</td><td>G 1½</td><td>260</td><td>Δp 16</td></tr><tr><td>6,3</td><td>7,875</td><td>0,0252</td><td>0,040</td><td>250</td><td>G 1½</td><td>260</td><td>Δp 16</td></tr><tr><td>6,3</td><td>7,875</td><td>0,016</td><td>0,0252</td><td>400</td><td>G 1½</td><td>260</td><td>Δp 16</td></tr><tr><td>10,0</td><td>12,5</td><td>0,125</td><td>0,200</td><td>80</td><td>G 1¼</td><td>260</td><td>Δp 63</td></tr><tr><td>10,0</td><td>12,5</td><td>0,0625</td><td>0,100</td><td>160</td><td>G 1¼</td><td>260</td><td>Δp 63</td></tr><tr><td>10,0</td><td>12,5</td><td>0,040</td><td>0,064</td><td>250</td><td>G 1¼</td><td>260</td><td>Δp 63</td></tr><tr><td>10,0</td><td>12,5</td><td>0,025</td><td>0,040</td><td>400</td><td>G 1¼</td><td>260</td><td>Δp 63</td></tr><tr><td>10,0</td><td>12,5</td><td>0,0125</td><td>0,020</td><td>800*</td><td>G 1¼</td><td>260</td><td>Δp 63</td></tr><tr><td>10,0</td><td>12,5</td><td>0,010</td><td>0,016</td><td>1000*</td><td>G 1¼</td><td>260</td><td>Δp 63</td></tr><tr><td>10,0</td><td>12,5</td><td>0,125</td><td>0,200</td><td>80</td><td>G 1½</td><td>260</td><td>Δp 25</td></tr><tr><td>10,0</td><td>12,5</td><td>0,0625</td><td>0,100</td><td>160</td><td>G 1½</td><td>260</td><td>Δp 25</td></tr><tr><td>10,0</td><td>12,5</td><td>0,025</td><td>0,040</td><td>400</td><td>G 1½</td><td>260</td><td>Δp 25</td></tr><tr><td>10,0</td><td>12,5</td><td>0,0125</td><td>0,020</td><td>800*</td><td>G 1½</td><td>260</td><td>Δp 25</td></tr></table> Note: * – this ratio is only valid for meters with temperature class T30. 2. Meter version with additional wired M-Bus or pulse output communication interface has been removed. 3. For meters with end connections G 1 and permanent flowrate Q₃ = 2,5 m³/h, pressure-loss class has been changed from Δp 25 to Δp 16. 4. For meters with end connections G 1 and permanent flowrate Q₃ = 4,0 m³/h, pressure-loss class has been changed from Δp 40 to Δp 25. 5. Additional technical description for meters Q₃ = 6,3 m³/h and Q₃ = 10 m³/h: PL_QW1DN25-32_V01, issued 19-10-2020.	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm	Pressure loss class	Q ₃	Q ₄	Q ₁	Q ₂	6,3	7,875	0,008	0,013	800*	G 1¼	260	Δp 25	6,3	7,875	0,079	0,126	80	G 1½	260	Δp 16	6,3	7,875	0,040	0,063	160	G 1½	260	Δp 16	6,3	7,875	0,0252	0,040	250	G 1½	260	Δp 16	6,3	7,875	0,016	0,0252	400	G 1½	260	Δp 16	10,0	12,5	0,125	0,200	80	G 1¼	260	Δp 63	10,0	12,5	0,0625	0,100	160	G 1¼	260	Δp 63	10,0	12,5	0,040	0,064	250	G 1¼	260	Δp 63	10,0	12,5	0,025	0,040	400	G 1¼	260	Δp 63	10,0	12,5	0,0125	0,020	800*	G 1¼	260	Δp 63	10,0	12,5	0,010	0,016	1000*	G 1¼	260	Δp 63	10,0	12,5	0,125	0,200	80	G 1½	260	Δp 25	10,0	12,5	0,0625	0,100	160	G 1½	260	Δp 25	10,0	12,5	0,025	0,040	400	G 1½	260	Δp 25	10,0	12,5	0,0125	0,020	800*	G 1½	260	Δp 25
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm					Pressure loss class																																																																																																																											
Q ₃	Q ₄	Q ₁	Q ₂																																																																																																																																			
6,3	7,875	0,008	0,013	800*	G 1¼	260	Δp 25																																																																																																																															
6,3	7,875	0,079	0,126	80	G 1½	260	Δp 16																																																																																																																															
6,3	7,875	0,040	0,063	160	G 1½	260	Δp 16																																																																																																																															
6,3	7,875	0,0252	0,040	250	G 1½	260	Δp 16																																																																																																																															
6,3	7,875	0,016	0,0252	400	G 1½	260	Δp 16																																																																																																																															
10,0	12,5	0,125	0,200	80	G 1¼	260	Δp 63																																																																																																																															
10,0	12,5	0,0625	0,100	160	G 1¼	260	Δp 63																																																																																																																															
10,0	12,5	0,040	0,064	250	G 1¼	260	Δp 63																																																																																																																															
10,0	12,5	0,025	0,040	400	G 1¼	260	Δp 63																																																																																																																															
10,0	12,5	0,0125	0,020	800*	G 1¼	260	Δp 63																																																																																																																															
10,0	12,5	0,010	0,016	1000*	G 1¼	260	Δp 63																																																																																																																															
10,0	12,5	0,125	0,200	80	G 1½	260	Δp 25																																																																																																																															
10,0	12,5	0,0625	0,100	160	G 1½	260	Δp 25																																																																																																																															
10,0	12,5	0,025	0,040	400	G 1½	260	Δp 25																																																																																																																															
10,0	12,5	0,0125	0,020	800*	G 1½	260	Δp 25																																																																																																																															
LT-1621- MI001-034 Revision 6	21-01-2021, No. LEI-12- MP-111.21	1. The meter has been supplemented with the following new modifications with threaded end connection G2: <table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Overall length L, mm</th><th rowspan="2">Pressure loss class</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>10,0</td><td>12,5</td><td>0,125</td><td>0,200</td><td>80</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>10,0</td><td>12,5</td><td>0,0625</td><td>0,100</td><td>160</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>10,0</td><td>12,5</td><td>0,040</td><td>0,064</td><td>250</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>16,0</td><td>20,0</td><td>0,200</td><td>0,320</td><td>80</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>16,0</td><td>20,0</td><td>0,100</td><td>0,160</td><td>160</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>16,0</td><td>20,0</td><td>0,064</td><td>0,102</td><td>250</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>16,0</td><td>20,0</td><td>0,040</td><td>0,064</td><td>400</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>25,0</td><td>31,25</td><td>0,3125</td><td>0,500</td><td>80</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>25,0</td><td>31,25</td><td>0,156</td><td>0,250</td><td>160</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>25,0</td><td>31,25</td><td>0,100</td><td>0,160</td><td>250</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>25,0</td><td>31,25</td><td>0,0625</td><td>0,100</td><td>400</td><td>G 2</td><td>300</td><td>Δp 16</td></tr><tr><td>25,0</td><td>31,25</td><td>0,0312</td><td>0,050</td><td>800*</td><td>G 2</td><td>300</td><td>Δp 16</td></tr></table> Note: * – this ratio is only valid for meters with temperature class T30.	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm	Pressure loss class	Q ₃	Q ₄	Q ₁	Q ₂	10,0	12,5	0,125	0,200	80	G 2	300	Δp 16	10,0	12,5	0,0625	0,100	160	G 2	300	Δp 16	10,0	12,5	0,040	0,064	250	G 2	300	Δp 16	16,0	20,0	0,200	0,320	80	G 2	300	Δp 16	16,0	20,0	0,100	0,160	160	G 2	300	Δp 16	16,0	20,0	0,064	0,102	250	G 2	300	Δp 16	16,0	20,0	0,040	0,064	400	G 2	300	Δp 16	25,0	31,25	0,3125	0,500	80	G 2	300	Δp 16	25,0	31,25	0,156	0,250	160	G 2	300	Δp 16	25,0	31,25	0,100	0,160	250	G 2	300	Δp 16	25,0	31,25	0,0625	0,100	400	G 2	300	Δp 16	25,0	31,25	0,0312	0,050	800*	G 2	300	Δp 16																								
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Overall length L, mm					Pressure loss class																																																																																																																											
Q ₃	Q ₄	Q ₁	Q ₂																																																																																																																																			
10,0	12,5	0,125	0,200	80	G 2	300	Δp 16																																																																																																																															
10,0	12,5	0,0625	0,100	160	G 2	300	Δp 16																																																																																																																															
10,0	12,5	0,040	0,064	250	G 2	300	Δp 16																																																																																																																															
16,0	20,0	0,200	0,320	80	G 2	300	Δp 16																																																																																																																															
16,0	20,0	0,100	0,160	160	G 2	300	Δp 16																																																																																																																															
16,0	20,0	0,064	0,102	250	G 2	300	Δp 16																																																																																																																															
16,0	20,0	0,040	0,064	400	G 2	300	Δp 16																																																																																																																															
25,0	31,25	0,3125	0,500	80	G 2	300	Δp 16																																																																																																																															
25,0	31,25	0,156	0,250	160	G 2	300	Δp 16																																																																																																																															
25,0	31,25	0,100	0,160	250	G 2	300	Δp 16																																																																																																																															
25,0	31,25	0,0625	0,100	400	G 2	300	Δp 16																																																																																																																															
25,0	31,25	0,0312	0,050	800*	G 2	300	Δp 16																																																																																																																															

Not an Authorized Translation

1	2	3																				
		2. Additional data transmission protocol CoAP for meter communication interfaces. 3. Additional software version for meters with threaded end connection G2. The version number is 1.02. 4. Additional technical description for meters with threaded end connection G2: PL_QW1DN40_V01, issued 20-01-2021.																				
LT-1621-MI001-034 Revision 7	25-05-2021, No. LEI-12-MP-114.21	1. Meter marking labels with new distributors logos (Fig. 1p). 2. New technical description for meters of all sizes: TM_QW1_V01_LT, issued 05-05-2021.																				
LT-1621-MI001-034 Revision 8	14-06-2021, No. LEI-12-MP-115.21	1. Additional data transmission protocol W-M-Bus-T2 for meter RF communication interfaces. 2. New software version for meters with threaded end connection G $\frac{3}{4}$, G 1, G $1\frac{1}{4}$, G $1\frac{1}{2}$. The version number is 1.03. 3. The document TM_QW1_V01_LT, issued 05-05-2021, has been replaced by the document TM_QW1_V02_LT, issued 07-06-2021.																				
LT-1621-MI001-034 Revision 9	28-10-2021, No. LEI-12-MP-119.21	1. Additional design version for meters with threaded end connection G $\frac{3}{4}$ and G 1 (design version „n“). 2. Possibility of filter strainer installation in the meter inlet. Information on pressure loss classes for meters with filter. 3. Possibility of non-return valve instalation in the meter outlet. 4. Additional wired communication interfaces: M-Bus and/or wired pulse output (optional). 5. Meter marking labels with new distributors logos (Fig. 1p). 6. The document TM_QW1_V02_LT, issued 07-06-2021, has been replaced by the document TM_QW1_V03_LT, issued 18-10-2021.																				
LT-1621-MI001-034 Revision 10	10-12-2021, No. LEI-12-MP-116.21	1. The meter has been supplemented with the following new modifications with flanges end connection DN50: <table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Length L, mm</th><th rowspan="2">Pressure loss class: without filter/ with filter strainer</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>16</td><td>20,0</td><td>0,200</td><td>0,320</td><td>80</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr></table>	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm	Pressure loss class: without filter/ with filter strainer	Q ₃	Q ₄	Q ₁	Q ₂	16	20,0	0,200	0,320	80	DN50	200	Δp 16/ Δp 16
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm					Pressure loss class: without filter/ with filter strainer											
Q ₃	Q ₄	Q ₁	Q ₂																			
16	20,0	0,200	0,320	80	DN50	200	Δp 16/ Δp 16															



Not an Authorized Translation

1	2	3																																																																																																																																								
		<table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Length L, mm</th><th rowspan="2">Pressure loss class: without filter/ with filter strainer</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>16</td><td>20,0</td><td>0,100</td><td>0,160</td><td>160</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>16</td><td>20,0</td><td>0,064</td><td>0,102</td><td>250</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>16</td><td>20,0</td><td>0,040</td><td>0,064</td><td>400*</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>25</td><td>31,25</td><td>0,3125</td><td>0,500</td><td>80</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>25</td><td>31,25</td><td>0,156</td><td>0,250</td><td>160</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>25</td><td>31,25</td><td>0,100</td><td>0,160</td><td>250</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>25</td><td>31,25</td><td>0,0625</td><td>0,100</td><td>400</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>25</td><td>31,25</td><td>0,0312</td><td>0,050</td><td>800*</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 16</td></tr><tr><td>40</td><td>50,0</td><td>0,500</td><td>0,800</td><td>80</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 40</td></tr><tr><td>40</td><td>50,0</td><td>0,250</td><td>0,400</td><td>160</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 40</td></tr><tr><td>40</td><td>50,0</td><td>0,160</td><td>0,256</td><td>250</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 40</td></tr><tr><td>40</td><td>50,0</td><td>0,100</td><td>0,160</td><td>400</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 40</td></tr><tr><td>40</td><td>50,0</td><td>0,050</td><td>0,080</td><td>800*</td><td>DN50</td><td>200</td><td>Δp 16/ Δp 40</td></tr></table> 2. The meter has been supplemented with the following new modification with threaded end connection G2: <table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Length L, mm</th><th rowspan="2">Pressure loss class: without filter/ with filter strainer</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>16</td><td>20,0</td><td>0,020</td><td>0,032</td><td>800*</td><td>G 2</td><td>300</td><td>Δp 16/ Δp 16</td></tr></table> Note: * – this ratio is only valid for meters with temperature class T30. 3. New software version 2.02 for meters with threaded end connection G 2. 4. The document TM_QW1_V03_LT, issued 18-10-2021, has been replaced by the document TM_QW1_V04_LT, issued 07-12-2021.	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm	Pressure loss class: without filter/ with filter strainer	Q ₃	Q ₄	Q ₁	Q ₂	16	20,0	0,100	0,160	160	DN50	200	Δp 16/ Δp 16	16	20,0	0,064	0,102	250	DN50	200	Δp 16/ Δp 16	16	20,0	0,040	0,064	400*	DN50	200	Δp 16/ Δp 16	25	31,25	0,3125	0,500	80	DN50	200	Δp 16/ Δp 16	25	31,25	0,156	0,250	160	DN50	200	Δp 16/ Δp 16	25	31,25	0,100	0,160	250	DN50	200	Δp 16/ Δp 16	25	31,25	0,0625	0,100	400	DN50	200	Δp 16/ Δp 16	25	31,25	0,0312	0,050	800*	DN50	200	Δp 16/ Δp 16	40	50,0	0,500	0,800	80	DN50	200	Δp 16/ Δp 40	40	50,0	0,250	0,400	160	DN50	200	Δp 16/ Δp 40	40	50,0	0,160	0,256	250	DN50	200	Δp 16/ Δp 40	40	50,0	0,100	0,160	400	DN50	200	Δp 16/ Δp 40	40	50,0	0,050	0,080	800*	DN50	200	Δp 16/ Δp 40	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm	Pressure loss class: without filter/ with filter strainer	Q ₃	Q ₄	Q ₁	Q ₂	16	20,0	0,020	0,032	800*	G 2	300	Δp 16/ Δp 16
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm					Pressure loss class: without filter/ with filter strainer																																																																																																																															
Q ₃	Q ₄	Q ₁	Q ₂																																																																																																																																							
16	20,0	0,100	0,160	160	DN50	200	Δp 16/ Δp 16																																																																																																																																			
16	20,0	0,064	0,102	250	DN50	200	Δp 16/ Δp 16																																																																																																																																			
16	20,0	0,040	0,064	400*	DN50	200	Δp 16/ Δp 16																																																																																																																																			
25	31,25	0,3125	0,500	80	DN50	200	Δp 16/ Δp 16																																																																																																																																			
25	31,25	0,156	0,250	160	DN50	200	Δp 16/ Δp 16																																																																																																																																			
25	31,25	0,100	0,160	250	DN50	200	Δp 16/ Δp 16																																																																																																																																			
25	31,25	0,0625	0,100	400	DN50	200	Δp 16/ Δp 16																																																																																																																																			
25	31,25	0,0312	0,050	800*	DN50	200	Δp 16/ Δp 16																																																																																																																																			
40	50,0	0,500	0,800	80	DN50	200	Δp 16/ Δp 40																																																																																																																																			
40	50,0	0,250	0,400	160	DN50	200	Δp 16/ Δp 40																																																																																																																																			
40	50,0	0,160	0,256	250	DN50	200	Δp 16/ Δp 40																																																																																																																																			
40	50,0	0,100	0,160	400	DN50	200	Δp 16/ Δp 40																																																																																																																																			
40	50,0	0,050	0,080	800*	DN50	200	Δp 16/ Δp 40																																																																																																																																			
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm	Pressure loss class: without filter/ with filter strainer																																																																																																																																			
Q ₃	Q ₄	Q ₁	Q ₂																																																																																																																																							
16	20,0	0,020	0,032	800*	G 2	300	Δp 16/ Δp 16																																																																																																																																			
LT-1621- MI001-034 Revision 11	10-03-2022, No. LEI-12- MP-123.22	1. The meter has been supplemented with this new modification of length l = 115 mm: <table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Length L, mm</th><th rowspan="2">Pressure loss class: without filter/ with filter strainer</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>1,6</td><td>2,0</td><td>0,020</td><td>0,032</td><td>80</td><td rowspan="7">G ¾</td><td rowspan="7">115*</td><td>Δp 16/ Δp 16</td></tr><tr><td>1,6</td><td>2,0</td><td>0,010</td><td>0,016</td><td>160</td><td>Δp 16/ Δp 16</td></tr><tr><td>1,6</td><td>2,0</td><td>0,0064</td><td>0,010</td><td>250</td><td>Δp 16/ Δp 16</td></tr><tr><td>1,6</td><td>2,0</td><td>0,005</td><td>0,008</td><td>315</td><td>Δp 16/ Δp 16</td></tr><tr><td>1,6</td><td>2,0</td><td>0,004</td><td>0,0064</td><td>400</td><td>Δp 16/ Δp 16</td></tr><tr><td>2,5</td><td>3,125</td><td>0,031</td><td>0,050</td><td>80</td><td>Δp 25/ Δp 25</td></tr><tr><td>2,5</td><td>3,125</td><td>0,0156</td><td>0,025</td><td>160</td><td>Δp 25/ Δp 25</td></tr></table>	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm	Pressure loss class: without filter/ with filter strainer	Q ₃	Q ₄	Q ₁	Q ₂	1,6	2,0	0,020	0,032	80	G ¾	115*	Δp 16/ Δp 16	1,6	2,0	0,010	0,016	160	Δp 16/ Δp 16	1,6	2,0	0,0064	0,010	250	Δp 16/ Δp 16	1,6	2,0	0,005	0,008	315	Δp 16/ Δp 16	1,6	2,0	0,004	0,0064	400	Δp 16/ Δp 16	2,5	3,125	0,031	0,050	80	Δp 25/ Δp 25	2,5	3,125	0,0156	0,025	160	Δp 25/ Δp 25																																																																																
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm					Pressure loss class: without filter/ with filter strainer																																																																																																																															
Q ₃	Q ₄	Q ₁	Q ₂																																																																																																																																							
1,6	2,0	0,020	0,032	80	G ¾	115*	Δp 16/ Δp 16																																																																																																																																			
1,6	2,0	0,010	0,016	160			Δp 16/ Δp 16																																																																																																																																			
1,6	2,0	0,0064	0,010	250			Δp 16/ Δp 16																																																																																																																																			
1,6	2,0	0,005	0,008	315			Δp 16/ Δp 16																																																																																																																																			
1,6	2,0	0,004	0,0064	400			Δp 16/ Δp 16																																																																																																																																			
2,5	3,125	0,031	0,050	80			Δp 25/ Δp 25																																																																																																																																			
2,5	3,125	0,0156	0,025	160			Δp 25/ Δp 25																																																																																																																																			

Not an Authorized Translation

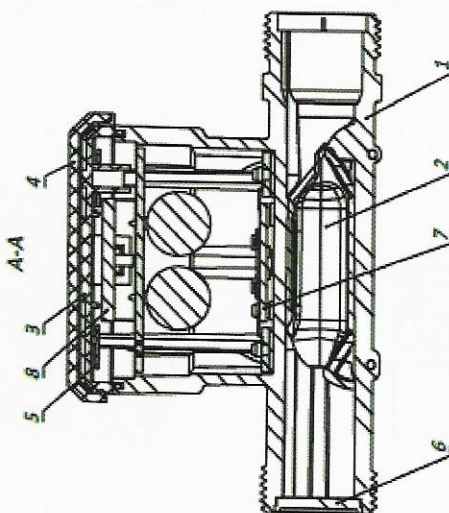
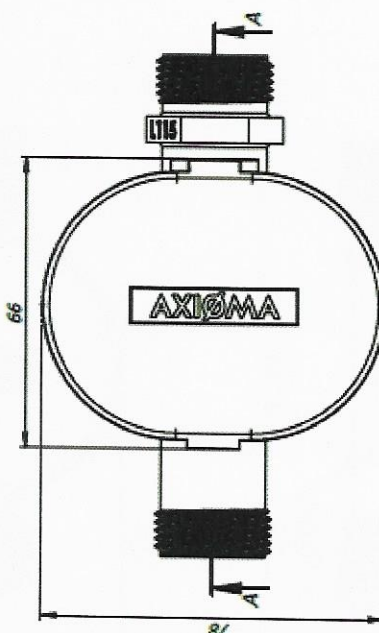
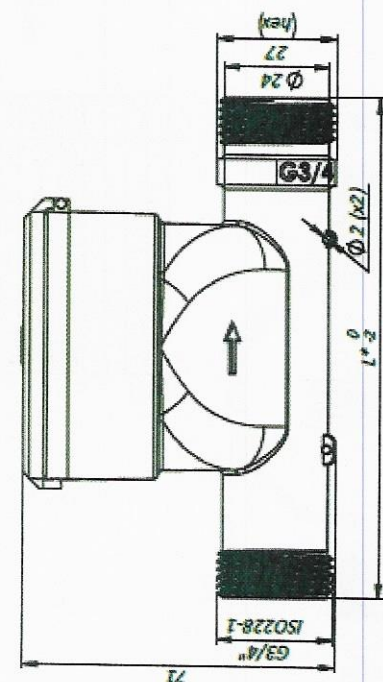
1	2	3																																
		<table><tr><th colspan="4">Flowrate, m³/h</th><th rowspan="2">R, Q₃/Q₁</th><th rowspan="2">End connections</th><th rowspan="2">Length L, mm</th><th rowspan="2">Pressure loss class: without filter/ with filter strainer</th></tr><tr><th>Q₃</th><th>Q₄</th><th>Q₁</th><th>Q₂</th></tr><tr><td>2,5</td><td>3,125</td><td>0,010</td><td>0,016</td><td>250</td><td rowspan="3">G ¾</td><td rowspan="3">115*</td><td>Δp 25/ Δp 25</td></tr><tr><td>2,5</td><td>3,125</td><td>0,0062</td><td>0,010</td><td>400</td><td>Δp 25/ Δp 25</td></tr><tr><td>2,5</td><td>3,125</td><td>0,0031</td><td>0,005</td><td>800</td><td>Δp 25/ Δp 25</td></tr></table> Note: * – meters are produced only in the initial design version. 2. Meter marking labels with new distributor logos (Fig.1p – distributors AQUAS NUEVAS, EWA, IREN, VandCenterSyd). 3. The document TM_QW1_V04_LT, issued 07-12-2021, has been replaced by the document TM_QW1_V05_LT, issued 11-01-2022.	Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm	Pressure loss class: without filter/ with filter strainer	Q ₃	Q ₄	Q ₁	Q ₂	2,5	3,125	0,010	0,016	250	G ¾	115*	Δp 25/ Δp 25	2,5	3,125	0,0062	0,010	400	Δp 25/ Δp 25	2,5	3,125	0,0031	0,005	800	Δp 25/ Δp 25
Flowrate, m³/h				R, Q ₃ /Q ₁	End connections	Length L, mm					Pressure loss class: without filter/ with filter strainer																							
Q ₃	Q ₄	Q ₁	Q ₂																															
2,5	3,125	0,010	0,016	250	G ¾	115*	Δp 25/ Δp 25																											
2,5	3,125	0,0062	0,010	400			Δp 25/ Δp 25																											
2,5	3,125	0,0031	0,005	800			Δp 25/ Δp 25																											
LT-1621-MI001-034 Revision 12	20-09-2022, No. LEI-12-MP-128.22	1. The following types of microprocessors can be used in the meter: - 16-bit microprocessor Renesas R5F10WMGAFB (in the meters of all modifications); - 32-bit microprocessor Nuvoton M258KE3AE (in meters with threaded end connection G ¾, G 1, G 1½, G 1½). 2. New software version 3.01 for meters equipped with a Nuvoton M258KE3AE microprocessor. 3. Meter marking label with new distributor logo (Fig.1p – distributor TENNACOLA).																																
LT-1621-MI001-034 Revision 13	28-12-2022, No. LEI-12-MP-131.22	1. The meter has been supplemented with a reverse flow measurement function. 2. Meter marking labels with new distributor's logo (Fig.1p – distributor Watercare, PAVIA ACQUE and GSA). 3. Technical description TM_QW1_V05_LT, issued 11-01-2022, has been replaced by technical description PE_QW1_V13_EN, issued 12-2022.																																
LT-1621-MI001-034 Revision 14	25-01-2023, No. LEI-12-MP-132.23	1. Meters with a permanent flow rate from Q₃ = 2,5 m³/h to Q₃ = 40 m³/h has been supplemented with a modification with a ratio Q₃/Q₁ (R) = 500. 3. Technical description TM_QW1_V13_EN, issued 12-2022, has been replaced by technical description PE_QW1_V13_EN, issued 01-2023.																																



Not an Authorized Translation

Pos.	Description	Qty.
1	Housing DN15	1
2	Insert assembly (DN15)	1
3	Top cover	1
4	Top cover lid	1
5	Antenna	1
6	Strainer D20	1
7	SMP bottom assembly	1
8	SMP top assembly	1

Table No.1	
Configuration	L (length,mm)
DN15 L80	80
DN15 L105	105
DN15 L110	110
DN15 L115	115
DN15 L165	165
DN15 L170	170



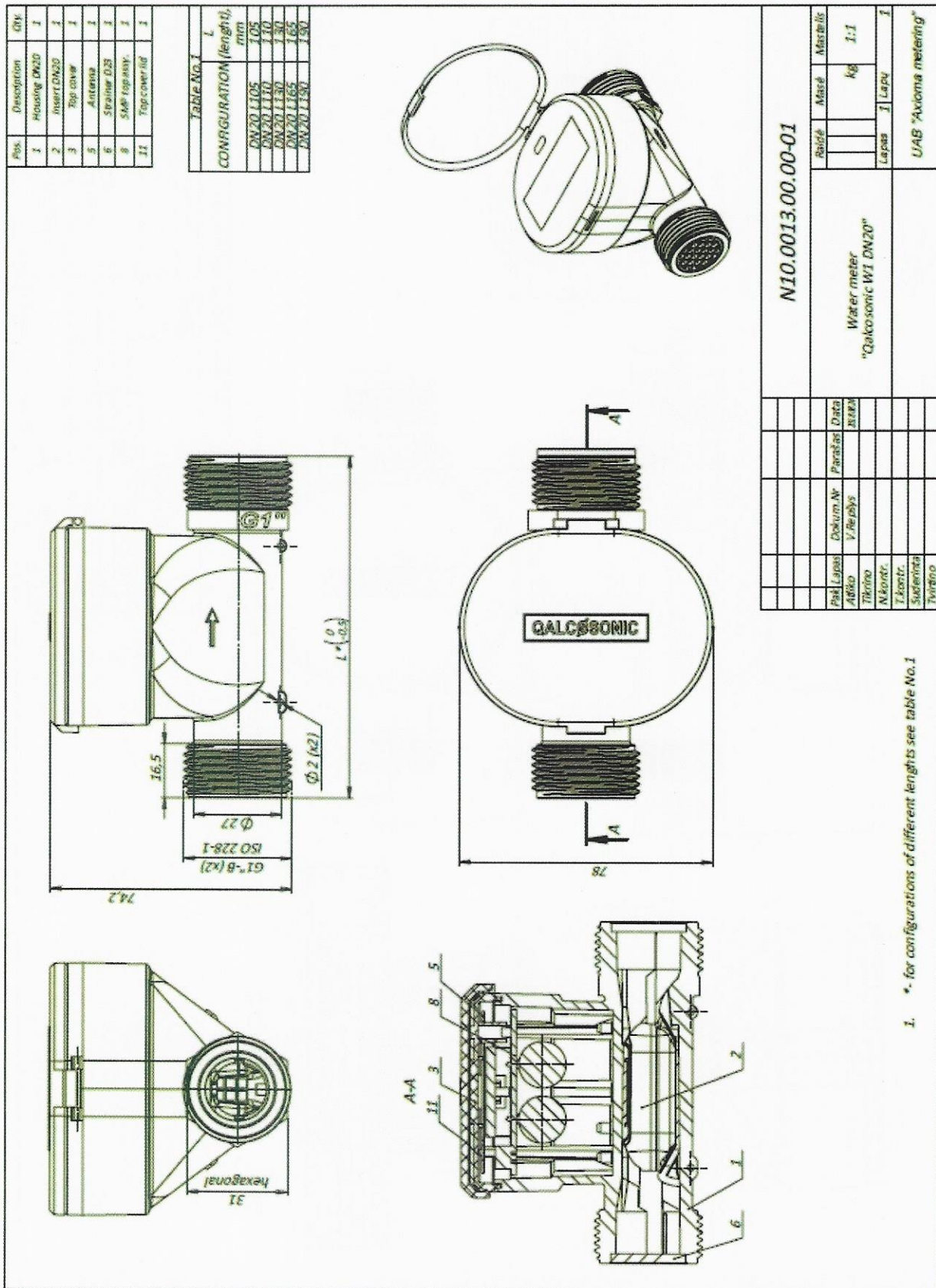
1 - configurations of different lengths - see table No.1

IDENTIFY AND MARK JUMP		DOWNSCALE MARKING		METER	
NAME	NAME	SIGNATURE	DATE	AXIOMA	METER
DATE	DATE	DATE	DATE	Water meter	
				"Qdicosonic W1 DN15"	
				EMIS. NO.	N10.0001.00.00-01
				SCALE	A3
				VOLUME	1000 L
				SCALE	1000 L

01.11.23

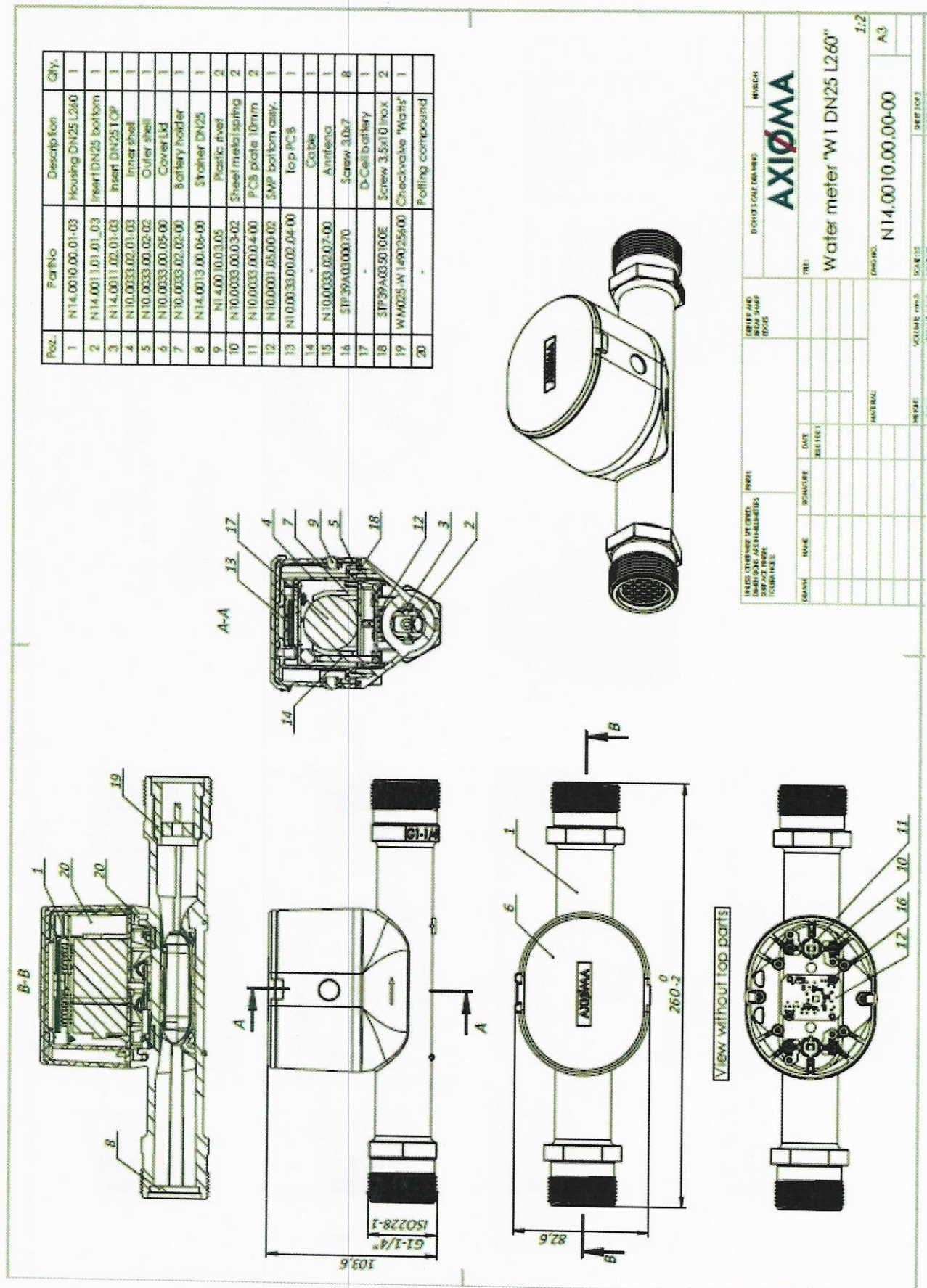


Not an Authorized Translation



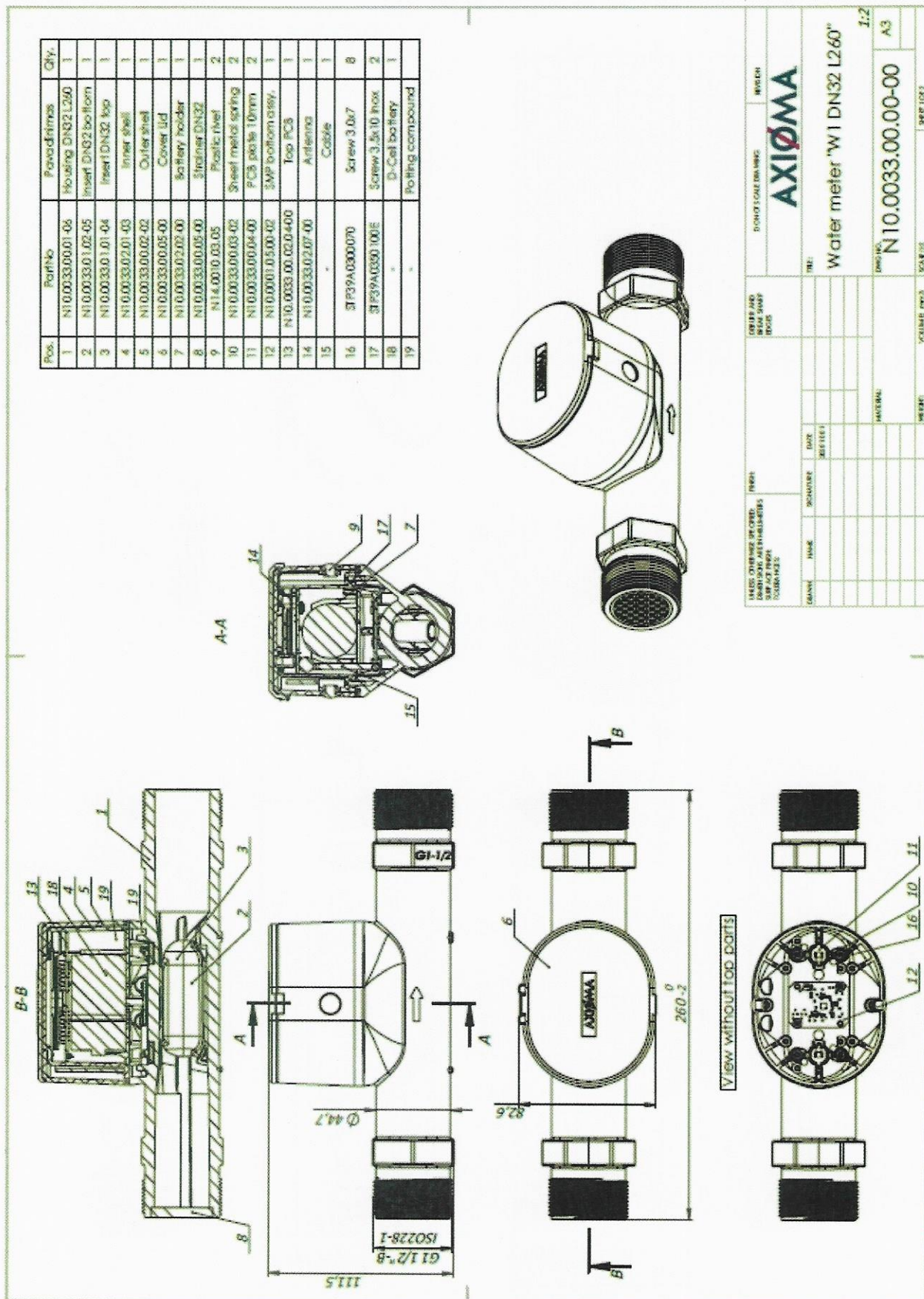


Not an Authorized Translation

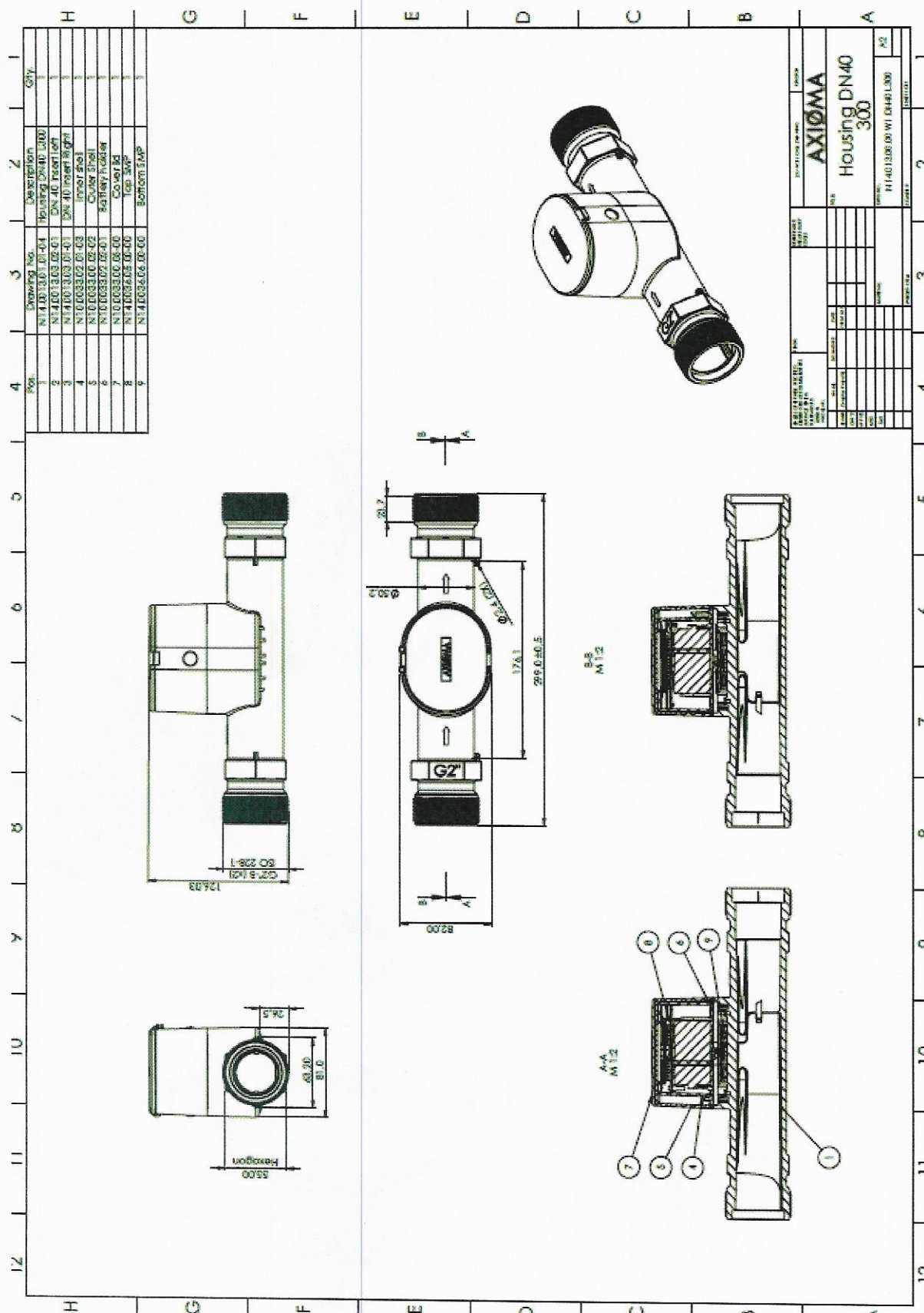




Not an Authorized Translation



Not an Authorized Translation

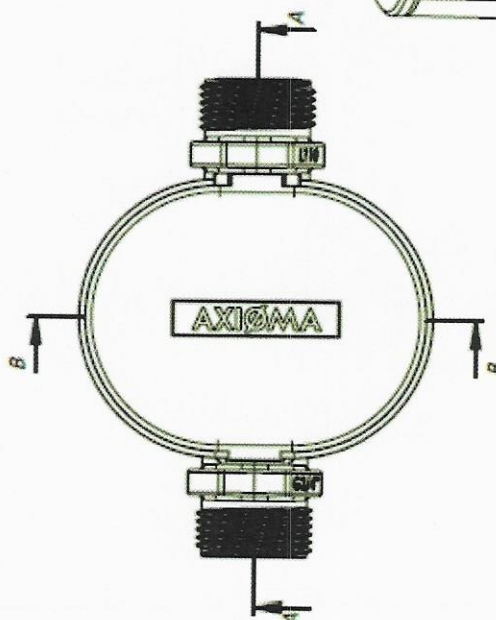
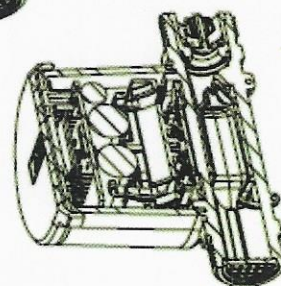
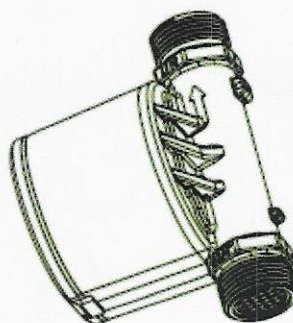
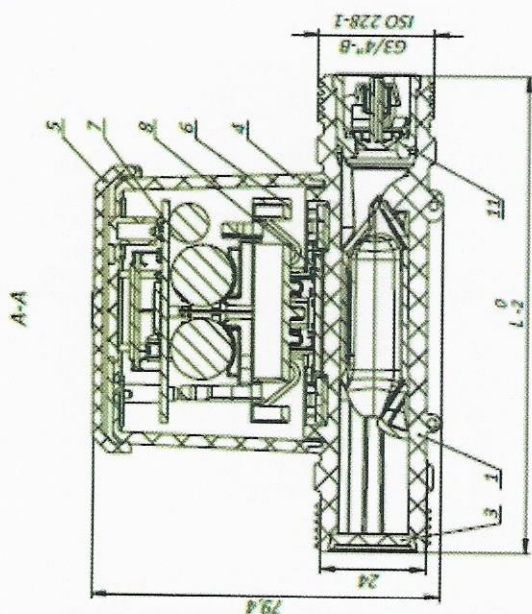
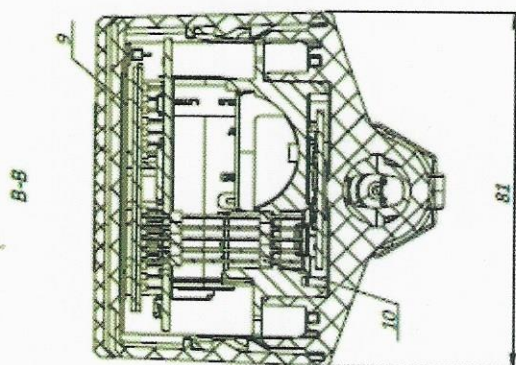


Harry

Not an Authorized Translation

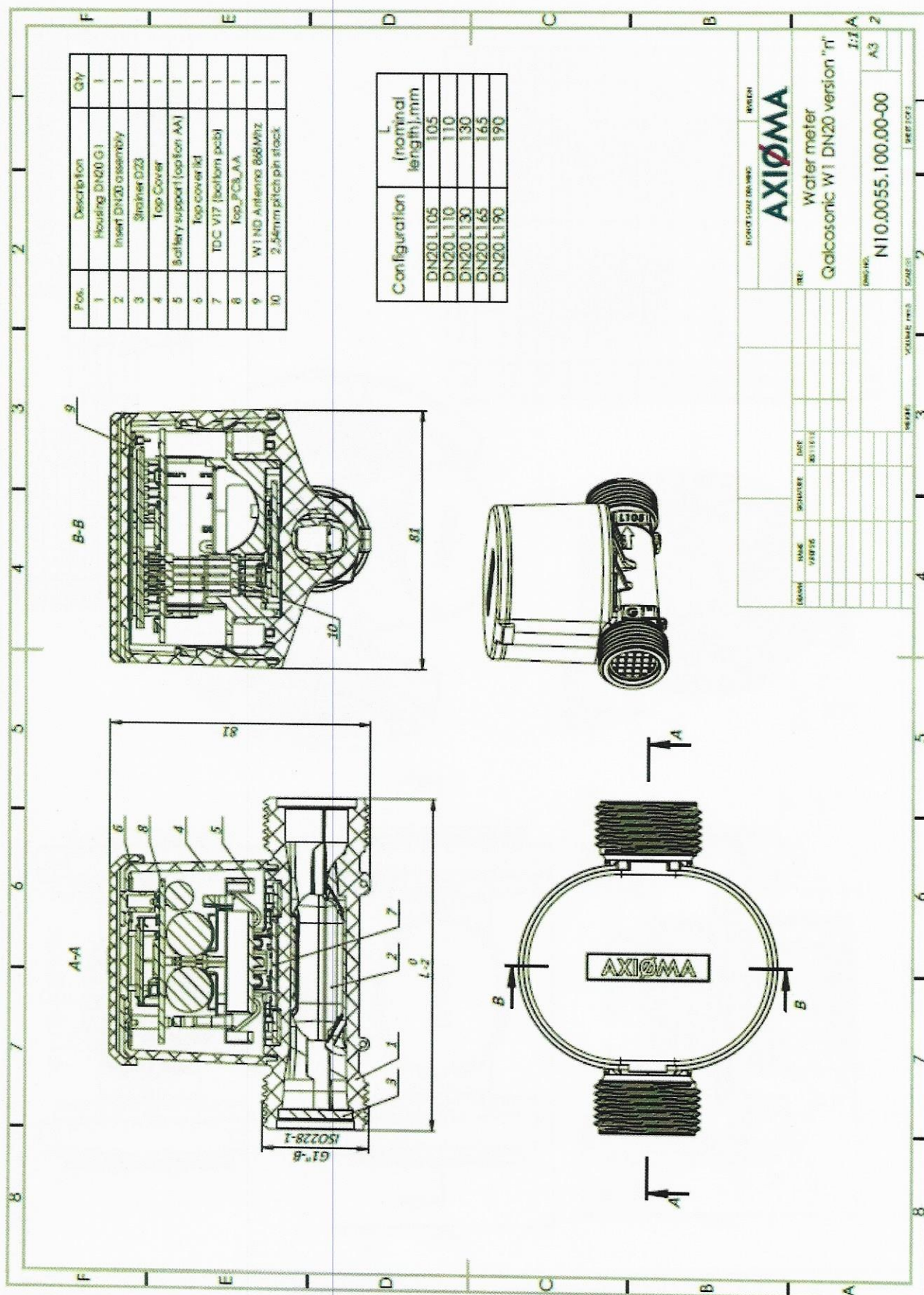
Qty.	Description	Pos.
1	Housing DN15 G3/4	1
1	Insert DN15 assembly	2
1	Strainer D20	3
1	Top Cover	4
1	Top cover lid	5
1	Battery support (option AA)	6
1	Top_PCB_AA	7
1	TDC V17 (bottom pcb)	8
1	W1 ND Antenna 868MHz	9
1	2.54mm pitch pin stack	10
1	Non return valve (WATTS_WM015-WI 4901 5600)	11

Configuration	L (nominal length), mm
DN15 L105	105
DN15 L110	110
DN15 L165	165
DN15 L170	170

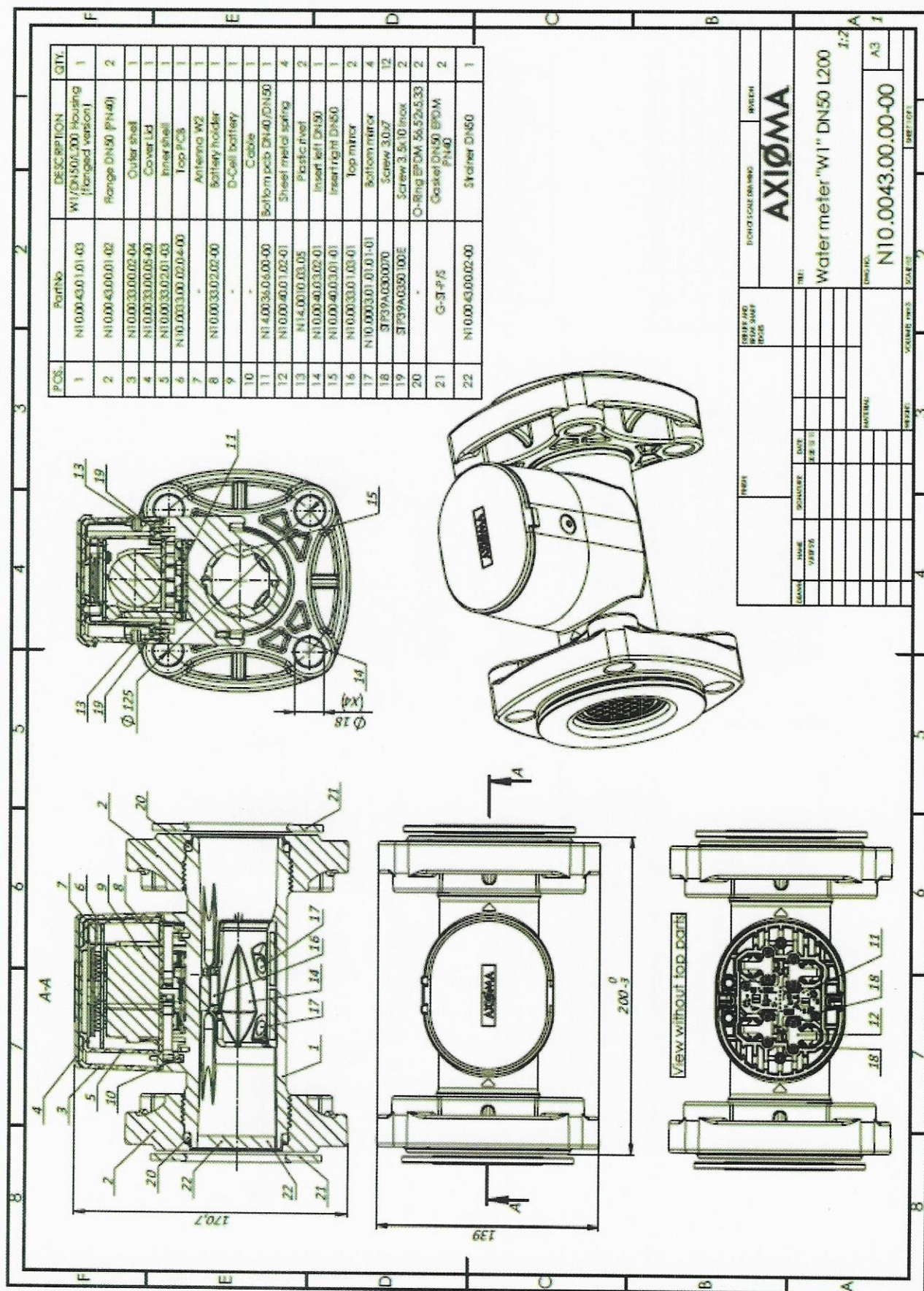


NAME		SCHAUER		DATE	2018-8		SYSTEM		REVISION	
VARIANTE								AXIOMA		
								TITEL		
								Water meter		
								Qidacosonic W1 DN15 version "n"		
								DRG-NR.		1:1
								N10.0052.100.00-00		A3
								SCALE 1:1		
								VOLUME 110.3		110.3
								WEIGHT 3		3
								4		

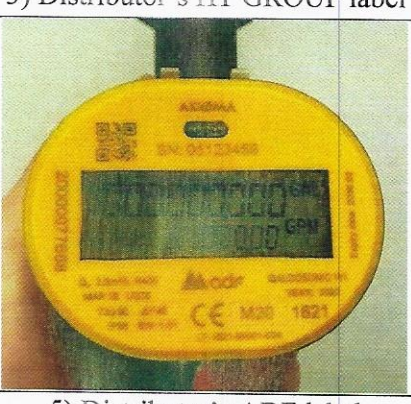
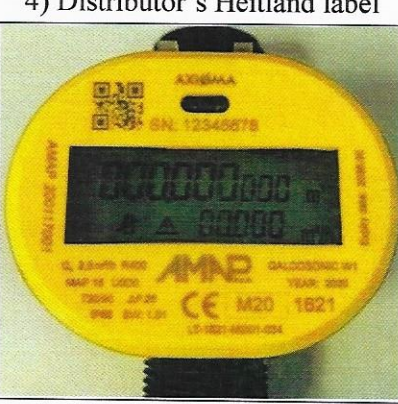
Not an Authorized Translation



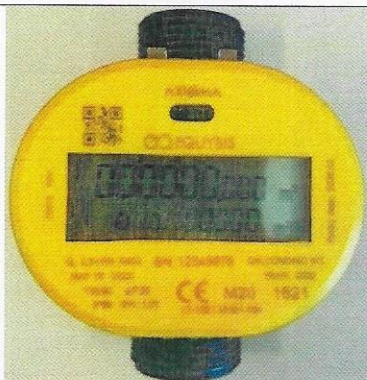
Not an Authorized Translation



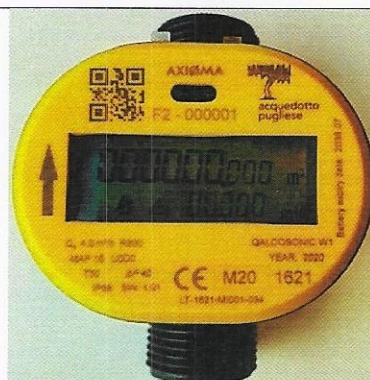
Not an Authorized Translation

	
1) Distributor's Neovac label	2) Distributor's DIAM label
	
3) Distributor's HT GROUP label	4) Distributor's Heitland label
	
5) Distributor's ADF label	6) Distributor's AMAP label
	
7) Distributor's OSE label	8) Distributor's GSP label

Not an Authorized Translation



9) Distributor's EQUYSIS label



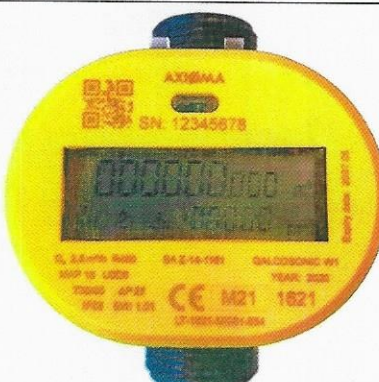
10) Distributor's AQP label



11) Distributor's SECAM label



12) Distributor's RKG label



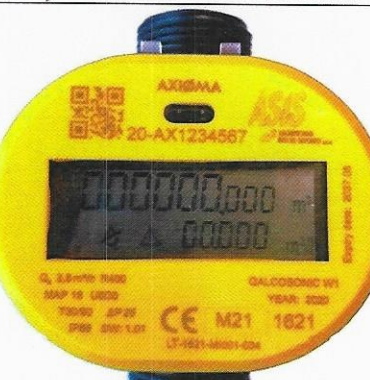
13) Distributor's Hydro Control label



14) Distributor's NSVA label



15) Distributor's VASYD label



16) Distributor's ASIS label



Not an Authorized Translation

17) Distributor's VERTO label	18) Distributor's ETRA label
19) Distributor's KIWA label	20) Distributor's PUBLIACQUA label
21) Distributor's ASA label	22) Distributor's Evides label
23) Distributor's acea label	24) Distributor's APS label

ally

Not an Authorized Translation

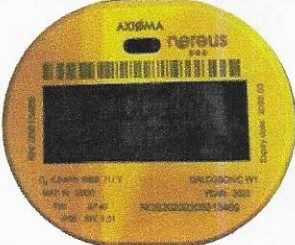
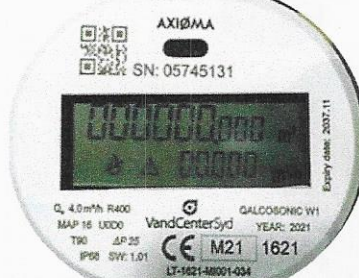
	
25) Distributor's AQUAS NUEVAS label	26) Distributor's EWA label
	
27) Distributor's IREN label	28) Distributor's VandCenterSyd label
	
29) Distributor's TENNACOLA label	30) Distributor's Watercare label
	
31) Distributor's GSA label	32) Distributor's PAVIA ACQUE label

Fig.1p. Meter labels with distributor logos

all-ny