WATER METER

eREGISTER

JV400e

JV600e

JM300e

JM600e

WATER METER FOR DRIKING WATER WITH ELECTRONIC REGISTER
VOLUMETRIC | SINGLEJET
MULTIPROTOCOL

Contents

WATER METER

eREGISTER

JV400e

- DN15 to DN40
- Q_3=1,6 to 16 m^3/h
- Up to R800
- T50
- MAP 16
- Electronic register
- IoT Ready

VOLUMETRIC WATER METER WITH ELECTRONIC REGISTER MULTIPROTOCOL

LoRaWAN M-Bus wireless

The accuracy of the volumetric measurement allied to a high-performance electronic register.

Starting flow rate < 1,0 L/h.

Secure data: four circular buffers for a high data storage capacity.

Alarms on Demand: Allows the reception of any alarm.

Effective protection against external influences.

WATER METER

eREGISTER

JV400e offers:

- **IoT Ready:** Volumetric water meter with electronic register. Multiprotocol, able to work with wM-Bus and LoRaWAN mode.
- An **extended curve error accuracy**. Exactness from flowrates under the minimum standardized up to the maximum flowrate.
- Materials **consciously selected** to be resistant to corrosion and hydrolysis.
- **Shock resistant** thermoplastic components that can be safely submitted to temperatures up to 50 °C.
- **Grooved piston**, makes the meter tolerant to small quantities of particles in suspension.

OPERATIONAL FEATURES:

Maximum Admissible Pressure (bar): MAP 10 | MAP 16

Temperature Class (ºC): T30 | T50

Ratio Q_3/Q_1: up to R800

Pressure Loss-Class: ΔP 63

Installation Position: Any position

Flow Profile Sensitivity Classes: U0/D0

Indicating range (m³): LCD 7 segments, 6 digits (m^3) with 3 decimals, UV protection

Resolution of the indicating device (L): 0,001 in test mode

Body: Brass

Certification:

UE Examination Certificate TCM 142/10 - 4738 in accordance with directive 2014/32 UE, CE, ISO 4064-1: 2014, OIML Recommendation R49: 2006, ACS, WRAS, KTW, RoHs, WEE, OMS, LoRaWAN, EMC, RED 2014/53/EU, ETSI and EN14154: 2005 + A2: 2011.

Retention valve incorporated: available

WATER METER

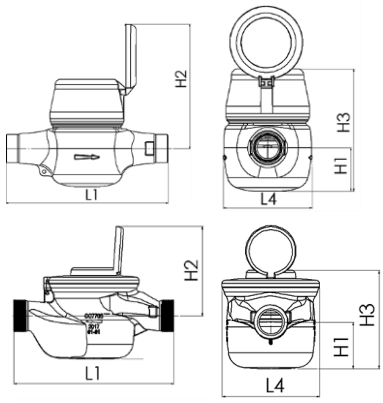
eREGISTER

TECHNICAL DATA:

DN			15	20	25	32	40
Ratio Q_3/Q_1		R		200 - 800			200 - 500
Permanent Flowrate	**Q_3**	m^3/h	≤ 2,5	≤ 4	≤ 6,3	≤ 10	≤ 16
Overload Flowrate	**Q_4**	m^3/h			Q_3 x 1,25		
Transitional Flowrate	**Q_2**	dm^3/h			Q_1 x 1,6		
Minimum Flowrate	**Q_1**	dm^3/h			Q_3 / R		
Quadrant Indication		m^3			999 999, 999		
Verification Division		L			0,001		

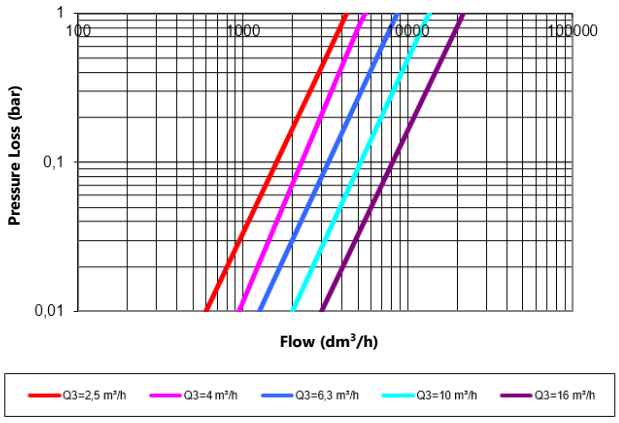
DIMENSIONS:

Nominal Diameter	DN		15	20	25	32	40
Threaded Connections*	**R1-R2**	''	$G^{3/4}$	G1	$G1^{1/4}$	$G1^{1/2}$	G2
Length	**L1**	mm	110-190	110-190	198-260	260	300
Height	**H1**	mm	38	45	63	75	81
Height	**H2**	mm	152	153	151	169	169
Height Register	**H3**	mm	119	128	138	167	179
Width	**L4**	mm	80	86	129	145	169
Weight		kg	0,85	1,25	3,15	4,50	6,80

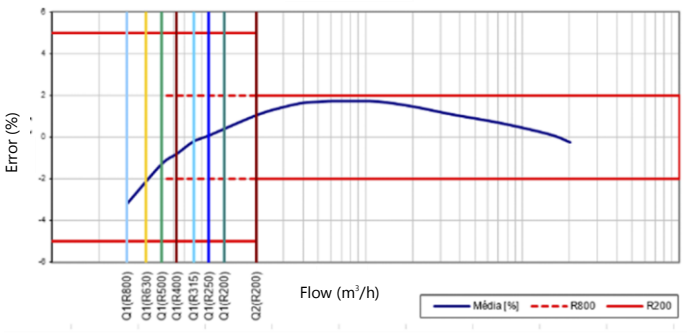


*Other available options

HEAD LOSS DIAGRAM



TYPICAL CURVE ERROR



WATER METER

eREGISTER

TECNOLOGY:

The magnetic coupling in the **JV400e** was designed to reduce the number of mechanisms and components immersed in water, thus increasing the longevity of the product. This feature also provides effective protection against external influences. Protected against magnetic fraud.

RADIO FEATURES:

Sensor Type: Inductive, bidirectional
Battery Lifetime*: Standard Profile: Up to 13 years
Electric Power: Lithium battery LiSoCI2 3.6 V
Protection: IP68
Operating Temperature: -10º C to 50ºC
Recommended Warehousing Temperature: -20ºC to 60ºC
Communication technology: LoRaWAN and wM-Bus
Radio Setup: Automatically after the passage of 10L

*Depending on configuration and environmental conditions

COMMUNICATION MULTI-PROTOCOL FEATURES:

Possibility to configure protocols and alarms for optimized communication.

Model	LoRaWAN	M-Bus wireless
Frequency	868 MHz	868 MHz
Modulation/Transmission Mode	Class A, EU868	C1 default, T1

DISPLAY:

The display is a passive type, 7 segments, with 9 digits and symbol icons. UV protection is provided by the LCD itself.

Display has the following displaying cycle:

- Main view for 60 seconds
-Billing date view for 12 seconds
- Segment test and firmware view for 12 seconds

WATER METER

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ICONS FUNCTIONALITIES:

- START INDICATOR
  - Moves in succession 2 quarters that chase each other:
    - Forward flow = clockwise
    - Backflow = counterclockwise
- Backflow
  - Is reflected in BACKFLOW alarm
- Leak
  - Is reflected in LEAKAGE alarm
- Antenna
  - At every transmission must toggle for 6 times the status of the icon (blinks)
  - Icon status (optional):
    - If the radio scheduler is disabled the icon status is OFF
    - If the radio scheduler is enabled the icon status is:
      - ON if the parameter RADIO_ICON_ON_ENABLED = true
      - OFF if the parameter RADIO_ICON_ON_ENABLED = false
      - NOTE: the parameter RADIO_ICON_ON_ENABLED must be activated by the assistance service
- Battery is ON
  - If the calculated life is finishing
  - if the battery measured voltage is LOW. In this case the Error icon must be on
- Calendar is ON
  - During the billing dates visualizations (1 and 2 are used to define which billing date is shown)
- Error
  - It is ON when an error appears
- Test
  - It is ON during verification test

DATA LOGGING:

The device has datalogging functionality with different data periodicity and storage timespan. For each period the following data is saved: Current volume, current backflow volume, minimum and maximum flowrate of the period.

Data is stored in 4 circular buffers with the following data periodicity and storage timespan:

DATA PERIOD	STORAGE TIMESPAN
15 minutes	9 days
Hour	37 days
Day	896 days
Month	21 years

When the buffer is full, older data is removed.

WATER METER

eREGISTER

ALARMS:

- **Leakage:** a continuous flow has been detected.
- **Overflow:** flow exceeds a given value in a defined time interval.
- **Backflow:** flow in opposite direction above a defined value.
- **Blocked Meter:** the meter does not register flow for a defined time period.
- **Reversed Meter:** constant negative consumption for more than 10 days.
- **Battery Status:** low battery level.
- **Meter Lifetime Expired:** the device can send an alarm for end of lifetime after achieving configured lifetime (programable up to 15 years).
- **Occasional Hardware Error:** non-critical hardware problem.
- **Permanent Hardware Error:** critical hardware issues.

OPTIONS:

JV400e water meters can be integrated into a smart city project by being combined with JANZ Telemetry System MWATER or any other similar product.

WATER METER

eREGISTER

JV600e

DN15 to DN25

Q_3=2,5 to 6,3 m^3/h

Up to R800

T50

MAP 16

Electronic register

IoT Ready

VOLUMETRIC WATER METER WITH ELECTRONIC REGISTER MULTIPROTOCOL

LoRaWAN M-Bus wireless

The accuracy of the volumetric measurement allied to a high-performance electronic register.

Starting flow rate < 1,0 L/h.

Secure data: four circular buffers for a high data storage capacity.

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WATER METER

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JV600e offers:

- **IoT Ready:** Volumetric water meter with electronic register. Multiprotocol, able to work with wM-Bus and LoRaWAN mode.
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- Materials **consciously selected** to be resistant to corrosion and hydrolysis.
- **Shock resistant** thermoplastic components that can be safely submitted to temperatures up to 50 °C.
- **Grooved piston**, makes the meter tolerant to small quantities of particles in suspension.

OPERATIONAL FEATURES:

Maximum Admissible Pressure (bar): MAP 10 | MAP 16

Temperature Class (ºC): T30 | T50

Ratio Q_3/Q_1: up to R800

Pressure Loss-Class: ΔP 63

Installation Position: Any position

Flow Profile Sensitivity Classes: U0/D0

Indicating range (m³): LCD 7 segments, 6 digits (m^3) with 3 decimals, UV protection

Resolution of the indicating device (L): 0,001 in test mode

Body: Composite

Certification:

UE Examination Certificate TCM 142/10 - 4738 in accordance with directive 2014/32 UE, CE, ISO 4064-1: 2014, OIML Recommendation R49: 2006, ACS, WRAS, KTW, RoHs, WEE, OMS, LoRaWAN, EMC, RED 2014/53/EU, ETSI and EN14154: 2005 + A2: 2011.

Retention valve incorporated: available

WATER METER

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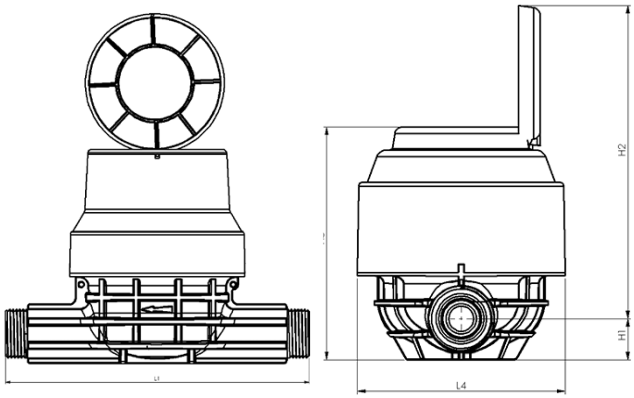
TECHNICAL DATA:

DN			15	20	25
Ratio Q_3/Q_1		R		200, 250, 315, 400, 500, 630, 800	
Permanent Flowrate	**Q_3**	m^3/h	1,0 – 1,6 – 2,5	2,5 – 4	6,3
Overload Flowrate	**Q_4**	m^3/h		Q_3 x 1,25	
Transitional Flowrate	**Q_2**	dm^3/h		Q_1 x 1,6	
Minimum Flowrate	**Q_1**	dm^3/h		Q_3 / R	
Quadrant Indication		m^3		999 999, 999	
Verification Division		L		0,001	

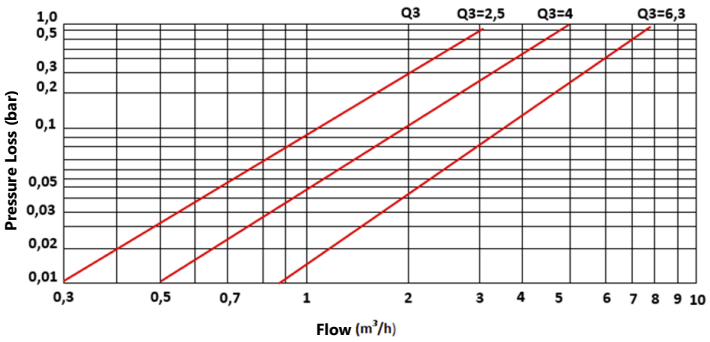
DIMENSIONS:

Nominal Diameter	DN		15	20	25
Threaded Connections*	R1-R2	''	$G^{3/4}$	G1	$G1^{1/4}$
Length	L1	mm	110-190	110-190	198-260
Height	H1	mm	16	18,5	26
Height	H2	mm	181	190	202
Height Register	H3	mm	127	139	159
Width	L4	mm	95	108	132
Weight		kg	0,46	0,9	1,3

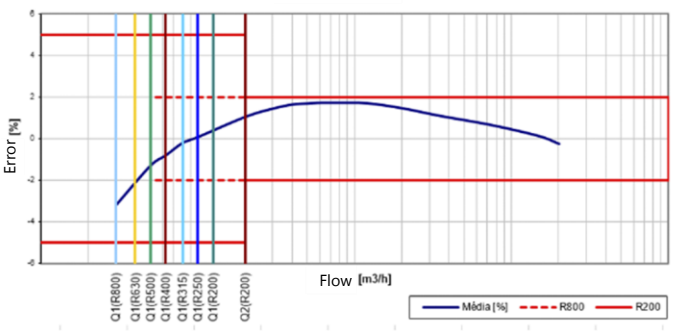


*Other available options

HEAD LOSS DIAGRAM



TYPICAL CURVE ERROR



WATER METER

eREGISTER

TECNOLOGY:

The magnetic coupling in the **JV600e** was designed to reduce the number of mechanisms and components immersed in water, thus increasing the longevity of the product. This feature also provides effective protection against external influences. Protected against magnetic fraud.

RADIO FEATURES:

Sensor Type: Inductive, bidirectional
Battery Lifetime*: Standard Profile: Up to 13 years
Electric Power: Lithium battery LiSoCI2 3.6 V
Protection: IP68
Operating Temperature: -10º C to 50ºC
Recommended Warehousing Temperature: -20ºC to 60ºC
Communication technology: LoRaWAN and wM-Bus
Radio Setup: Automatically after the passage of 10L

*Depending on configuration and environmental conditions

COMMUNICATION MULTI-PROTOCOL FEATURES:

Possibility to configure protocols and alarms for optimized communication.

Model	LoRaWAN	M-Bus wireless
Frequency	868 MHz	868 MHz
Modulation/Transmission Mode	Class A, EU868	C1 default, T1

DISPLAY:

The display is a passive type, 7 segments, with 9 digits and symbol icons. UV protection is provided by the LCD itself.

Display has the following displaying cycle:

- Main view for 60 seconds
-Billing date view for 12 seconds
- Segment test and firmware view for 12 seconds

WATER METER

eREGISTER

ICONS FUNCTIONALITIES:

- START INDICATOR
  - Moves in succession 2 quarters that chase each other:
    - Forward flow = clockwise
    - Backflow = counterclockwise
- Backflow
  - Is reflected in BACKFLOW alarm
- Leak
  - Is reflected in LEAKAGE alarm
- Antenna
  - At every transmission must toggle for 6 times the status of the icon (blinks)
  - Icon status (optional):
    - If the radio scheduler is disabled the icon status is OFF
    - If the radio scheduler is enabled the icon status is:
      - ON if the parameter RADIO_ICON_ON_ENABLED = true
      - OFF if the parameter RADIO_ICON_ON_ENABLED = false
      - NOTE: the parameter RADIO_ICON_ON_ENABLED must be activated by the assistance service
- Battery is ON
  - If the calculated life is finishing
  - if the battery measured voltage is LOW. In this case the Error icon must be on
- Calendar is ON
  - During the billing dates visualizations (1 and 2 are used to define which billing date is shown)
- Error
  - It is ON when an error appears
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  - It is ON during verification test

DATA LOGGING:

The device has datalogging functionality with different data periodicity and storage timespan. For each period the following data is saved: Current volume, current backflow volume, minimum and maximum flowrate of the period.

Data is stored in 4 circular buffers with the following data periodicity and storage timespan:

DATA PERIOD	STORAGE TIMESPAN
15 minutes	9 days
Hour	37 days
Day	896 days
Month	21 years

When the buffer is full, older data is removed.

WATER METER

eREGISTER

ALARMS:

- **Leakage:** a continuous flow has been detected.
- **Overflow:** flow exceeds a given value in a defined time interval.
- **Backflow:** flow in opposite direction above a defined value.
- **Blocked Meter:** the meter does not register flow for a defined time period.
- **Reversed Meter:** constant negative consumption for more than 10 days.
- **Battery Status:** low battery level.
- **Meter Lifetime Expired:** the device can send an alarm for end of lifetime after achieving configured lifetime (programable up to 15 years).
- **Occasional Hardware Error:** non-critical hardware problem.
- **Permanent Hardware Error:** critical hardware issues.

OPTIONS:

JV600e water meters can be integrated into a smart city project by being combined with JANZ Telemetry System MWATER or any other similar product.

WATER METER

eREGISTER

JM300e

DN15 to DN20

Q_3=2,5 to 4 m^3/h

R200

T50

MAP 16

Electronic register

IoT Ready

SINGLE JET WATER METER WITH ELECTRONIC REGISTER MULTIPROTOCOL

LoRaWAN M-Bus wireless

High accuracy singlejet meter allied to a high-performance electronic register.

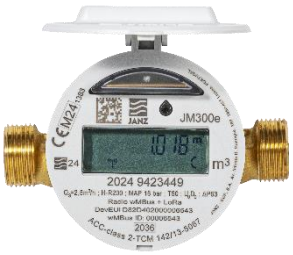
Secure Data: four circular buffers for a high data storage capacity.

Alarms on Demand: Allows the reception of any alarm.

Effective protection against external influences.

WATER METER

eREGISTER



JM300e offers:

- **IoT Ready:** singlejet water meter with electronic register. Multiprotocol, able to work with wM-Bus and LoRaWAN mode.
- An **extended curve error accuracy**. Exactness from flowrates under the minimum standardized up to the maximum flowrate.
- Materials **consciously selected** to be resistant to corrosion and hydrolysis.
- **Shock resistant** thermoplastic components that can be safely submitted to temperatures up to 50 °C.

OPERATIONAL FEATURES:

Maximum Admissible Pressure (bar): MAP 10 | MAP 16

Temperature Class (ºC): T30 | T50

Ratio Q_3/Q_1: up to R200

Pressure Loss-Class: ΔP 63

Installation Position: Any position

Flow Profile Sensitivity Classes: U0/D0

Indicating range (m³): LCD 7 segments, 6 digits (m^3) with 3 decimals, UV protection

Resolution of the indicating device (L): 0,001 in test mode

Body: Brass

Certification:

UE Examination Certificate TCM 142/10 - 4738 in accordance with directive 2014/32 UE, CE, ISO 4064-1: 2014, OIML Recommendation R49: 2006, ACS, RoHs, WEE, OMS, LoRaWAN, EMC, RED 2014/53/EU, ETSI and EN14154: 2005 + A2: 2011.

WATER METER

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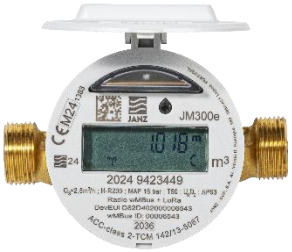
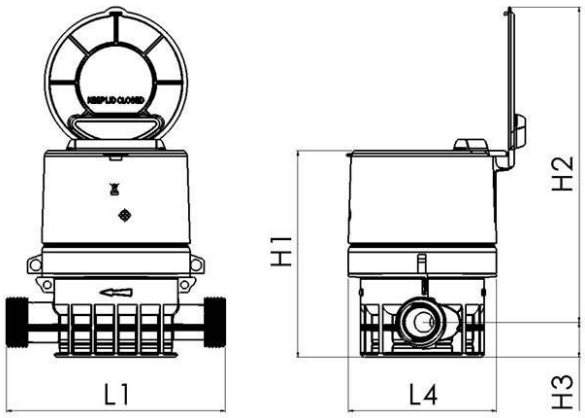


TECHNICAL DATA:

DN			15	20
Ratio Q_3/Q_1		R	200 H /63 V	
Permanent Flowrate	**Q_3**	m^3/h	2,5	4
Overload Flowrate	**Q_4**	m^3/h	3,13	5
Transitional Flowrate	**Q_2**	dm^3/h	Q_1 x 1,6	
Minimum Flowrate	**Q_1**	dm^3/h	Q_3 / R	
Quadrant Indication		m^3	999 999, 999	
Verification Division		L	0,001	

DIMENSIONS:

Nominal Diameter	DN		15	20
Threaded Connections*	R1-R2	''	¾ - ¾	1 -1
Length	L1	mm	110-190	110-190
Height	H1	mm	14	14
Height	H2	mm	165	165
Height Register	H3	mm	109	109
Width	L4	mm	78	78
Weight		kg	0,61	0,67



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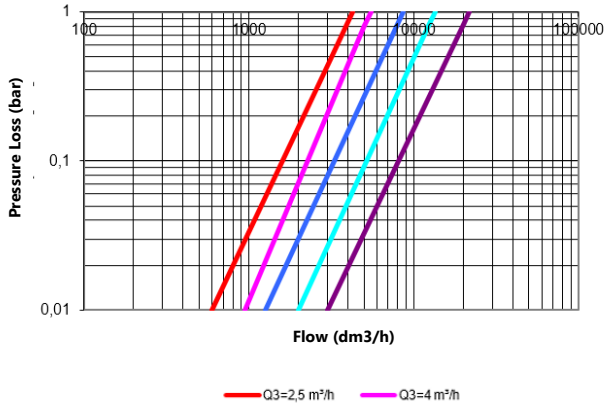

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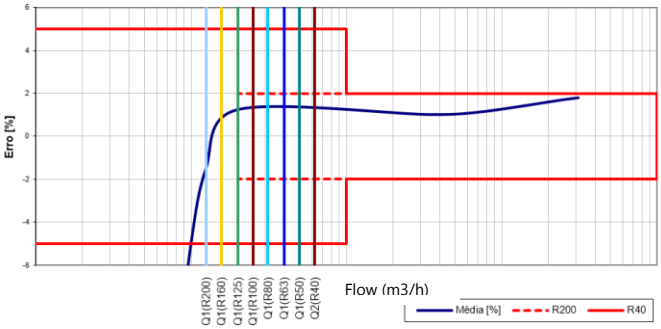

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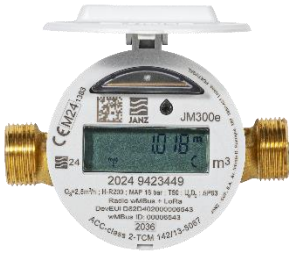

TECNOLOGY:

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RADIO FEATURES:

Sensor Type: Inductive, bidirectional
Battery Lifetime*: Standard Profile: Up to 13 years
Electric Power: Lithium battery LiSoCI2 3.6 V
Protection: IP68
Operating Temperature: -10º C to 50ºC
Recommended Warehousing Temperature: -20ºC to 60ºC
Communication technology: LoRaWAN and wM-Bus
Radio Setup: Automatically after the passage of 10L

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Possibility to configure protocols and alarms for optimized communication.

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Modulation/Transmission Mode	Class A, EU868	C1 default, T1

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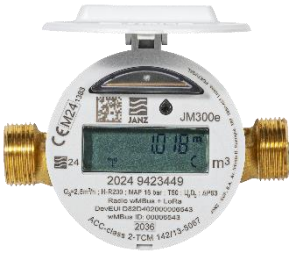

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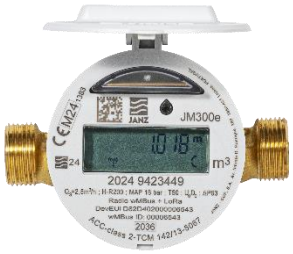

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WATER METER

eREGISTER

JM600e

DN13 to DN15

Q_3=2,5 m^3/h

R200

T50

MAP 16

Electronic register

IoT Ready

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Temperature Class (ºC): T30 | T50

Ratio Q_3/Q_1: R200

Pressure Loss-Class: ΔP 63

Installation Position: Any position

Flow Profile Sensitivity Classes: U0/D0

Indicating range (m³): LCD 7 segments, 6 digits (m^3) with 3 decimals, UV protection

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WATER METER

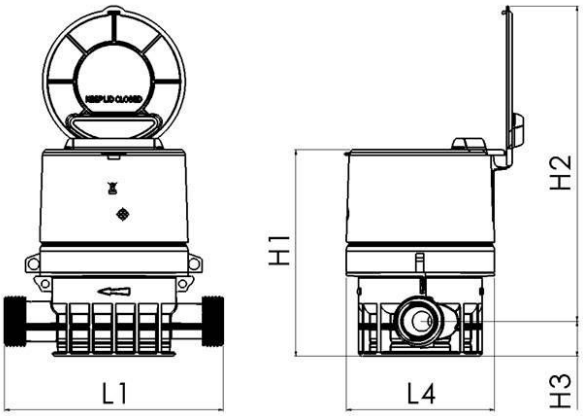
eREGISTER

TECHNICAL DATA:

DN			13	15
Ratio Q_3/Q_1		R	200 H /63 V	
Permanent Flowrate	**Q_3**	m^3/h	2,5	
Overload Flowrate	**Q_4**	m^3/h	3,13	
Transitional Flowrate	**Q_2**	dm^3/h	Q_1 x 1,6	
Minimum Flowrate	**Q_1**	dm^3/h	Q_3 / R	
Quadrant Indication		m^3	999 999, 999	
Verification Division		L	0,001	

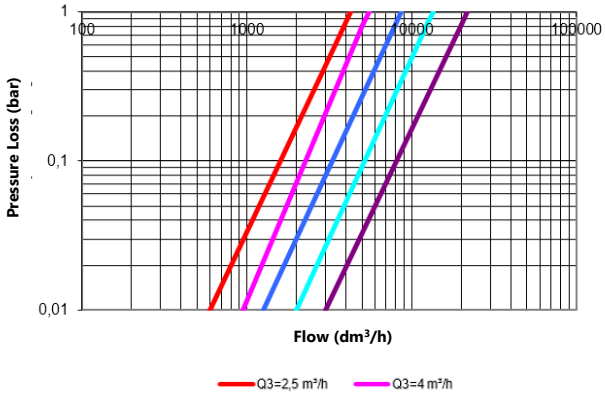
DIMENSIONS:

Nominal Diameter	DN		13	15
Threaded Connections*	R1-R2	''	$^7/_8$ - $^3/_4$	$^3/_4$ - $^3/_4$
Length	**L1**	mm	110-190	
Height	**H1**	mm	17	
Height	**H2**	mm	166	
Height Register	**H3**	mm	114	
Width	**L4**	mm	92	
Weight		kg	0,31	

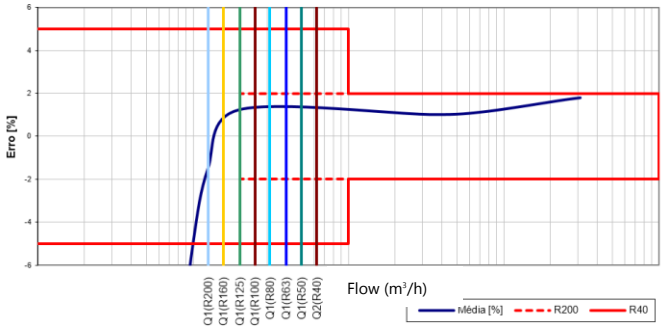


*Other available options

HEAD LOSS DIAGRAM



TYPICAL CURVE ERROR



WATER METER

eREGISTER

TECNOLOGY:

The magnetic coupling in the **JM600e** was designed to reduce the number of mechanisms and components immersed in water, thus increasing the longevity of the product. This feature also provides effective protection against external influences. Protected against magnetic fraud.

RADIO FEATURES:

Sensor Type: Inductive, bidirectional
Battery Lifetime*: Standard Profile: Up to 13 years
Electric Power: Lithium battery LiSoCI2 3.6 V
Protection: IP68
Operating Temperature: -10º C to 50ºC
Recommended Warehousing Temperature: -20ºC to 60ºC
Communication technology: LoRaWAN and wM-Bus
Radio Setup: Automatically after the passage of 10L

*Depending on configuration and environmental conditions

COMMUNICATION MULTI-PROTOCOL FEATURES:

Possibility to configure protocols and alarms for optimized communication.

Model	LoRaWAN	M-Bus wireless
Frequency	868 MHz	868 MHz
Modulation/Transmission Mode	Class A, EU868	C1 default, T1

DISPLAY:

The display is a passive type, 7 segments, with 9 digits and symbol icons. UV protection is provided by the LCD itself.

Display has the following displaying cycle:

- Main view for 60 seconds
-Billing date view for 12 seconds
- Segment test and firmware view for 12 seconds

WATER METER

eREGISTER

ICONS FUNCTIONALITIES:

- START INDICATOR
  - Moves in succession 2 quarters that chase each other:
    - Forward flow = clockwise
    - Backflow = counterclockwise
- Backflow
  - Is reflected in BACKFLOW alarm
- Leak
  - Is reflected in LEAKAGE alarm
- Antenna
  - At every transmission must toggle for 6 times the status of the icon (blinks)
  - Icon status (optional):
    - If the radio scheduler is disabled the icon status is OFF
    - If the radio scheduler is enabled the icon status is:
      - ON if the parameter RADIO_ICON_ON_ENABLED = true
      - OFF if the parameter RADIO_ICON_ON_ENABLED = false
      - NOTE: the parameter RADIO_ICON_ON_ENABLED must be activated by the assistance service
- Battery is ON
  - If the calculated life is finishing
  - if the battery measured voltage is LOW. In this case the Error icon must be on
- Calendar is ON
  - During the billing dates visualizations (1 and 2 are used to define which billing date is shown)
- Error
  - It is ON when an error appears
- Test
  - It is ON during verification test

DATA LOGGING:

The device has datalogging functionality with different data periodicity and storage timespan. For each period the following data is saved: Current volume, current backflow volume, minimum and maximum flowrate of the period.

Data is stored in 4 circular buffers with the following data periodicity and storage timespan:

DATA PERIOD	STORAGE TIMESPAN
15 minutes	9 days
Hour	37 days
Day	896 days
Month	21 years

When the buffer is full, older data is removed.

WATER METER

eREGISTER

ALARMS:

- **Leakage:** a continuous flow has been detected.
- **Overflow:** flow exceeds a given value in a defined time interval.
- **Backflow:** flow in opposite direction above a defined value.
- **Blocked Meter:** the meter does not register flow for a defined time period.
- **Reversed Meter:** constant negative consumption for more than 10 days.
- **Battery Status:** low battery level.
- **Meter Lifetime Expired:** the device can send an alarm for end of lifetime after achieving configured lifetime (programable up to 15 years).
- **Occasional Hardware Error:** non-critical hardware problem.
- **Permanent Hardware Error:** critical hardware issues.

OPTIONS:

JM600e water meters can be integrated into a smart city project by being combined with JANZ Telemetry System MWATER or any other similar product.

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