



WATER METERS



HEAT METERS



METERING
SOLUTIONS

PRODUCT CATALOGUE



**GRUPA
APATOR**



WATER
METERS



HEAT
METERS



METERING
SOLUTIONS

FROM METERING to data management

Vision

Apator Group- is the leader in Central-East Europe in range of systems and metering equipment, and also the switchgear equipment.

Mission

Our challenge is to make the newest technologies effectively managing all kinds of energy. Safety of our clients and protection of the environment is the determinant of our action.

Strategic goal

Building the Polish technological group based on the strong Apator brand and aimed to increase sale on the foreign markets.

Apator Powogaz

■ EXISTING FROM:

1925; since 2008 has been a part of the Apator Group.

■ OBJECTS OF THE COMPANY'S ENTERPRISE:

One of the largest manufacturer of water meters in Poland and Europe. The company also offers wide range of flow meters, heat meters, volume parts to heat meters and system solutions.

■ CERTIFICATES:

ISO 9001:2009, ISO 14001:2005, PN-N 18001:2004

■ AWARDS:

Przedsiębiorstwo Fair Play [Fair Play Company], Polska Nagroda Jakości [Polish Award for Quality Management], Solidna Firma [Solid Company], Panteon Polskiej Ekologii [Polish Ecology Hall of Fame], Innowacja Roku 2007 [2007 Innovation], Mister Eksportu [Mister of Export]

■ DID YOU KNOW THAT:

Water was an object of interest of Leonardo da Vinci. The Italian scientist made hundreds of drafts and experiments about the water flow. He made plans of drains and constructed the device to measure water in drains.

Vane-wheel water meters **06**

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Apator Powogaz

tradition and innovation

Ladies and Gentlemen,

The last couple of years have been time for new challenges and assignments as well as many successes for the Apator Powogaz S.A. We introduced innovative solutions and set new goals. The effects of our actions were noticed and appreciated by our clients. Furthermore, we gained trust of new clients, who appreciated our efforts. They value the high quality of our products and services. We are extremely glad that you, Ladies and Gentlemen, are with us in this, special for us moment- 85 anniversary of our company's existence. This year as the continuation of the previous one- is time of successive, ambitious goals. We continuously seek for new, unconventional solutions which bring measurable effects and contribute to satisfy your needs.

What kind of partner are we? Solid, modern, competing.

The strength of our company is: first of all, competitive and attractive products, and high quality of service. This contributes to mutual success of us and our clients, because this determines mutual success.

Having continued the last 85 years of efforts of the Water Meter Factory PoWoGaz S.A.- since the 2008 under the name of Apator Powogaz S.A.- we supply you with the highest quality of our products. Apator Powogaz S.A. is a part of Aprator Group which gathers the biggest Polish manufacturers of the metering equipment. It also gathers manufacturers of controlling and metering systems.

Thanks to using the innovative construction and technological solutions, also because of the introducing new methods of managing, we give you, Ladies and Gentlemen, the guarantee of purchasing immensely highest performance. The source of satisfaction and inspiration for further enrichment of our offer are numerous prizes and awards. We won the Gold Medal on the Polish National Exhibition, we were awarded twice of the "Mister Exportu" [Mister of Export] award. Moreover, we won the Gold Medal on the Poznan International Fair for the compound water meter and for the water meter with the horizontal impeller axle. The confirmation of our high market position and solid implementation with our trade partners and clients are obtained titles: "Solidny Partner" + "Przedsiębiorstwo Fair Play"[Fair Play Company] , "Solidna Firma"[Solid Company], "Certyfikat Marki Firmowej"[Certificate of Company Brand]. Products of Apator Powogaz S.A. were appreciated and were awarded with prestige title: "Laur Klienta- Odkrycie Roku" [Discovery of the Year] and "Innowacyjni 2007"[2007 Innovation] . Our AMR radio reading system of the water meters won the gold medal on the TIWS fair trade in Kielce in 2009 and was given honourable mention in the 2010.



smart+

the best protected
dry-dial water meter



- Radio module (Wireless M-Bus)
- Optical reading interference resistant
- Hermetic counter squeeze-resistant
- Counter mechanism with blockade against multiple rotating
- Triple antimagnetic protection
- Anti-freeze panel
- Double-sided bearing axle
- Inlet strainer



DRY-DIAL VANE-WHEEL SINGLE-JET WATER METERS JS; JS90-

USAGE

For measuring the flow and volume of the cold water with a temperature up to 30°C or hot water with a temperature up to 90°C in the closed-circuit system with the full flow of the flux, and on the maximum working pressure up to 16 Bar (PN16). Installed on the pipeline, in the horizontal and vertical position (H/V) in flats and detached houses. It proves itself great in the billing systems (possibility of installing the radio module or Reed contact).

ACCURACY CLASS:

- Cold water **R100 – H; R50 – V** (= B+ class according to ISO4064)
- Hot water **R80 – H; R40 – V** (= B class according to ISO4064)



Tabela 1. BASIC TECHNICAL CHARACTERISTICS

Type*	Q3 [m ³ /h]	DN [mm]	Length [mm]	Thread	Weight [kg]				Pulse Value 1K	
					-01		-02** Smart+	-04; -NK; -NKP	NK	
					Without transmitter	-NK; -NKP			Standard	On request
JS 1,6	1,6	15	110	G¾	0,2	0,35	0,5	0,65	10 dm ³	0,25 dm ³ 1 dm ³ 2,5 dm ³ 25 dm ³ 100 dm ³ 250 dm ³ 1000 dm ³
JS90 1,6	1,6	15	110	G¾	0,2	0,35	0,5	0,65		
JS 2,5	2,5	15	110	G¾	0,2	0,35	0,5	0,65		
JS90 2,5	2,5	15	110	G¾	0,2	0,35	0,5	0,65		
JS 2,5-G1	2,5	20	130	G1	–	–	0,6	0,75		
JS 90 2,5-G1	2,5	20	130	G1	–	–	0,6	0,75		
JS 4	4	20	130	G1	–	–	0,6	0,75		
JS90 4	4	20	130	G1	–	–	0,6	0,75		

*) -01 – 5 or 8 roller counter, plastic body

-02 – 8 roller counter, brass body, water meter preequipped for installation of the radio module

-04 – 5 roller counter, brass body, water meter preequipped for installation of the NNK Reed contact

-NK – pulse transmitter (Reed contact)- remote transmission of the volume indications,

-NKP – preequipment of water meter for installation of the NK transmitter (Reed contact).

FEATURES AND ADVANTAGES

- Resistant to strong external magnetic field
- Preequipped for installation of radio module for communication in the Wireless M-Bus standard with the possibility of signaling the alarms(**)
- Readings reliability- fulfils the newest metrological requirements of MID
- Easy reading of the water meter counter
- Hermetic counter (with increased tightness) resistant to steaming
- Counter mechanism with blockade against multiple rotating
- Protection against mechanical tampering
- Anti-freeze protection
- Tropical version for outdoor installation (with durable plastic lid)

DRY-DIAL VANE-WHEEL SINGLE-JET WATER METERS JS i JS-130

USAGE

For measuring the flow and volume of the cold water with a temperature up to 50°C or hot water with a temperature up to 130°C in the closed-circuit systems with the full flow of the flux with the maximum working pressure up to 16 Bar (PN16). Installation in pipelines in the position determined by the temperature range (**H/V** 50°C and **H** 130°C) in the multi-family houses, detached houses and manufacturing plants. It proves itself great in the billing systems (possibility of installing radio module or Reed contact).

ACCURACY CLASS:

- Cold water **B-H, A-V,**
- Hot water **A-H.**



Tabela 2. BASIC TECHNICAL CHARACTERISTICS

Type*	q _p [m ³ /h]	DN [mm]	Length [mm]	Thread	Weight [kg]		Pulse Value 1K	
					Without transmitter	-NK; -NKP	NK	
							Standard	On request
JS 3,5	3,5	25	260	G1¼	2,2	2,4	10 dm ³	2,5 dm ³ 25 dm ³ 100 dm ³ 250 dm ³ 1000 dm ³
JS 3,5/165**	3,5	25	165	G1¼	1,6	1,8		
JS130 3,5	3,5	25	260	G1¼	2,2	2,4		
JS 6-G1¼	6	32	260	G1¼	2,5	2,7		
JS 6	6	32	260	G1½	2,6	2,8		
JS130 6-G1¼	6	32	260	G1¼	2,5	2,7		
JS130 6	6	32	260	G1½	2,6	2,8	100 dm ³	2,5 dm ³ ; 10 dm ³ ; 25 dm ³ ; 250 dm ³ ; 1000 dm ³
JS 10	10	40	300	G2	2,8	3,0		
JS130 10	10	40	300	G2	2,8	3,0		

*1) -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications,

-NKP – preequipment of the water meter for installation of the NK transmitter (Reed contact).

**1) On request

FEATURES AND ADVANTAGES

- Adapted for installation the radio module for communication in the Wireless M-Bus standard with the possibility of signaling the alarms
- Easy reading of the water meter counter
- Hermetic counter (with increased tightness) resistant to steaming
- Counter mechanism with blockade against multiple rotating
- Protection against mechanical tampering



WET-DIAL VANE-WHEEL SINGLE-JET WATER METERS JM

USAGE

For measuring the flow and volume of the cold water with a temperature up to 30°C or 50°C in the closed-circuit systems with the full flow of the flux, and maximum working pressure up to 16 Bar (PN16).

Suitable for apartment and housing installations in horizontal pipelines with counter directed upwards- **H** and vertical or horizontal pipelines with counter directed sideways-**V** in the flats and detached houses.

ACCURACY CLASS:

- Water with the temperature 30°C or 50°C **R160 – H** (=C class according to ISO 4064); **R80 – V** (=B class according to ISO 4064),



JM

Tabela 3. BASIC TECHNICAL CHARACTERISTICS

Type	Q3 [m³/h]	DN [mm]	Length [mm]	Thread	Weight [kg]
					Without transmitter
JM 2,5	2,5	15	110	G¾	0,4
JM 4	4	20	130	G1	0,5

FEATURES AND ADVANTAGES

- Resistant to strong external magnetic field
- Counter with rollers and pointer, rollers are flooded with glycerine solution
- Easy reading of the counter
- Readings reliability- fulfils the newest metrological requirements of MID
- Protection against mechanical tampering

DRY-DIAL VANE-WHEEL MULTI-JET WATER METERS WS

USAGE

For measuring the flow and volume of the cold water with a temperature up to 30°C or hot water with a temperature up to 120°C in the closed-circuit systems with the full flow of the flux with maximum working pressure up to 16 Bar (PN16).

Suitable for installation in the horizontal pipelines with counter directed upwards-H, in the multi-family houses and manufacturing plants. It proves itself great in the billing systems (possibility of installing the radio module or Reed contact).



ZAKRES POMIAROWY:

- Cold water **R100 – H** (= B+ class according to ISO4064)
- Hot water **B – H**

Tabela 4. BASIC TECHNICAL CHARACTERISTICS

Type*	Q3/q _p [m ³ /h]	DN [mm]	Length [mm]	Thread	Weight [kg]		Klasa temper.	Pulse Value 1K	
					Without transmitter	-NK; -NKP		NK	
								Standard	On request
WS 2,5	2,5	15	165	G¾	1,2	1,4	T30, T50	1 dm ³	0,25 dm ³ ; 0,5 dm ³ (1 dm ³); 2,5 dm ³
WS 4	4	20	190	G1	1,4	1,6		10 dm ³	5 dm ³ ; (10 dm ³) 25 dm ³ ; 50 dm ³ (100 dm ³)
WS 6,3	6,3	25	260	G1¼	1,9	2,1		100 dm ³	250 dm ³ ; 500 dm ³ 1000 dm ³
WS 10	10	32	260	G1½	2,1	2,3			
WS 16	16	40	300	G2	3,9	4,1			

*) -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications,
-NKP – preequipment of water meter for installation of the NK transmitter (Reed contact).

FEATURES AND ADVANTAGES

- The new generation protection against the external magnetic field , resistant according to PN-EN 14154
- Indications reliability- fulfils the newest metrological requirements of MID
- Hermetic counter (with increased tightness) resistant to steaming
- Protection against mechanical tampering
- NK Water meters preequipped to cooperate with the AT-WMBUS-04 external radio module



WET-DIAL VANE-WHEEL MULTI-JET WATER METERS WM

USAGE

For measuring the flow and volume of the cold water with a temperature up to 30°C/50°C in the closed-circuit systems with the full flow of the flux with maximum working pressure up to 16 Bar (PN16).

Suitable for installation in the horizontal pipelines with counter directed upwards-H, in the multi-family houses and manufacturing plants.

ACCURACY CLASS:

- WM – Cold water R160 – H (= C class according to ISO4064)



WM

Tabela 5. BASIC TECHNICAL CHARACTERISTICS

Type**	Q3/q _p [m ³ /h]	DN [mm]	Length [mm]	Thread	Weight [kg]		Klasa temper.	Pulse Value 1K	
					Without transmitter	-NK; -NKP		NK	
								Standard	On request
■ WM 2,5*	2,5	15	165	G¾	1,2	1,4	T30, T50	1 dm ³	0,25 dm ³
		20	190	G1	1,4	1,6			0,5 dm ³ , (1 dm ³)
■ WM 4*	4	20	190	G1	1,4	1,6		10 dm ³	2,5 dm ³ , 5 dm ³
■ WM 6,3*	6,3	25	260	G1	2,1	2,3			(10 dm ³)
■ WM 10*	10	25/32	260	G1¼	2,1	2,3			25 dm ³ , 50 dm ³
		32	260	G1½	2,0	2,2	(100 dm ³)		
■ WM 16*	16	40	300	G2	5,7	5,9	100 dm ³	250 dm ³	
									500 dm ³
									1000 dm ³

**): -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications,
-NKP – preequipped of water meter for installation of the NK transmitter (Reed contact).

FEATURES AND ADVANTAGES

- Fully resistant to external magnetic field
- Readings reliability- fulfils the newest metrological requirements of MID (*)
- Easy reading of the counter
- Hermetic counter (with increased tightness) resistant to steaming
- Protection against mechanical tampering
- NK Water meters preequipped to cooperate with the AT-WMBUS-04 external radio module
- Counter with rollers and pointer, rollers are flooded with glycerine solution

INDUSTRIAL VANE-WHEEL SINGLE-JET WATER METERS JS

USAGE

For precise measuring of the high amounts of cold water with a temperature up to 50°C in the closed-circuit systems with the full flow of the flux with maximum working pressure up to 16 Bar (PN16).

Suitable for installation in the apartment and housing installations in horizontal pipelines with counter directed upwards- **H** and vertical or horizontal pipelines with counter directed side-wards-**V** in the multi-family houses and manufacturing plants.

ACCURACY CLASS:

- Cold water **C – H, B – V,**



Tabela 6. BASIC TECHNICAL CHARACTERISTICS

Type*	q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]		Pulse Value 1K					
				Without transmitter	-NK; -NO; -NK O; -NKOP	NK		NO			
						Standard	On request				
■ JS 50	15	50	270	11,8	12,2	1000 dm ³	2,5 dm ³ 10 dm ³ 25 dm ³ 100 dm ³ 250 dm ³	1 dm ³			
			300**	14,3	14,7						
■ JS 65	20	65	300	16,6	17,0						
■ JS 65	25	65	300	16,6	17,0						
■ JS 80	30	80	300	20,0	20,4						
			350**	21,6	22,0						
■ JS 80	40	80	300	20,0	20,4						
			350**	21,6	22,0						
■ JS 100	50	100	350	23,0	23,4						
			360**	23,5	23,9						
■ JS 100	60	100	350	23,0	23,4						
			360**	23,5	23,9						

*) -**NK** – pulse transmitter (Reed contact)- remote transmission of the volume indications
 -**NO** – opto-electronic transmitter- remote transmission of the volume indications,
 -**NKO** – water meter equipped with the NK and NO transmitter,
 -**NKOP** – preequipment of water meter for installation of the NK transmitter (Reed contact) i NO.
 **) according to ISO 4064

FEATURES AND ADVANTAGES

- Wide measuring range
- Low starting flow rate
- Double sided axle bearing
- Removable measuring insert
- Ability to equip with pressure gauge
- Hermetic counter in the IP68 option, not available for NO and NKO version
- Counter mechanism with blockade against multiple rotating
- Preequipped for installation of the radio module for communication in the Wireless M-Bus standard with the possibility of signaling the alarms
- Indications reliability



TURBINE WOLTMAN WATER METERS MWN, MWN130 and MZ-G WITH HORIZONTAL IMPELLER AXLE

USAGE

For measuring the flow and volume of the cold water with a temperature to 30°C or hot water with a temperature to 130°C in the closed-circuit systems with the full flow of the flux with maximum working pressure up to 16 Bar (PN16) with flange drilling option up to PN25 (2.5 MPa).

Suitable for installation in horizontal, vertical and inclined pipelines with the counter directed upwards or sideways in the transitional positions **H-V** in the multi-family houses and manufacturing plants.

ACCURACY CLASS:

- MWN – Cold water **R100÷200 – H, V**
- MWN – Hot water **R25÷40 – H, V**
- MZ-G – Cold water **A – H,V**



MWN



MZ



Tabela 7. BASIC TECHNICAL CHARACTERISTICS

Type*	Q3/q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]		Pulse Value 1K			
				Without transmitter	-NK; -NO; -NKO; -NKOP	NK****		NO	
						Standard	On request		
MWN 40**	25	40	200	7,9	8,3	1000 dm ³	2,5 dm ³ 10 dm ³ 25 dm ³ 100 dm ³ 250 dm ³	1 dm ³	
MWN 50**	40	50	200	9,9	10,3				
MWN 65**	63	65	200	10,6	11				
MWN 80**	100	80	225	13,3	13,7				
			200***	13,8	14,2				
MWN 100**	160	100	250	15,6	16				
MWN 125**	250	125	250	18,1	18,5				
MWN 150	400	150	300	40,1	40,5	10000 dm ³	250 dm ³ 1000 dm ³ 2500 dm ³	10 dm ³	
MWN 200	630	200	350	51,1	51,5				
MWN 250	1000	250	450	75,1	75,5				
MWN 300	1600	300	500	103,1	103,5			1000 dm ³	105,26 dm ³
MWN 400	1000	400	600	240	240,4				
MWN 500	1500	500	800	380	380,4				
MWN 130-40	25	40	200	7,9	8,3	100 dm ³	2,5 dm ³ 10 dm ³ 25 dm ³ 250 dm ³ 1000 dm ³	-	
MWN 130-50	25	50	200	9,9	10,3				
MWN 130-65	40	65	200	10,6	11				
MWN 130-80	63	80	225	13,3	13,7				
			200***	13,8	14,2				
MWN 130-100	100	100	250	15,6	16				
MWN 130-125	160	125	250	18,1	18,5				

*) -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications

-NO – opto-electronic transmitter- remote transmission of the volume indications,

-NKO – water meter equipped with the NK and NO transmitter,

-NKOP – preequipment of water meter for installation of the NK transmitter (Reed contact) i NO.

***) Made especially for demineralised water – on request

****) According to ISO 4064

*****) Pulse value for hermetic counter IP68, include only full dozens (from the range) e.g. 10, 100, 1000...

Type*	Q3/q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]		Pulse Value 1K		
				Without transmitter	-NK; -NO; -NKO; -NKOP	NK****		NO
						Standard	On request	
MWN 130-150	250	150	300	40,1	40,5	1000 dm ³	25 dm ³	-
MWN 130-200	400	200	350	51,1	51,5		100 dm ³	
MWN 130-250	630	250	450	75,1	75,5		250 dm ³	
MWN 130-300	1000	300	500	103,1	103,5		2500 dm ³	
MZ50-G	15	50	200	3,7	4,1	1000 dm ³	25 dm ³ 100 dm ³ 250 dm ³	-

*1) -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications

-NO – opto-electronic transmitter- remote transmission of the volume indications,

-NKO – water meter equipped with the NK and NO transmitter,

-NKOP – preequipped of water meter for installation of the NK transmitter (Reed contact) i NO.

**1) Made especially for demineralised water – on request

***1) According to ISO 4064

****1) Pulse value for hermetic counter IP68, include only full dozens (from the range) e.g. 10, 100, 1000...

FEATURES AND ADVANTAGES

MWN

- Wide measuring range
- Low starting flow rate
- Removable measuring insert
- Ability to equip with the pressure gauge (cold water DN50;65;80;100;150)
- Double sided axle bearing
- Easy reading of the counter
- Hermetic counter in the IP68 option, only cold water without NO, NKO versions
- Counter mechanism with blockade against multiple rotating
- Preequipped for installation the radio module for communication in Wireless M-Bus standard with the possibility of signaling the alarms
- Indications reliability

MZ-G

- Double sided axle bearing
- Threaded connection

TURBINE WOLTMAN WATER METERS WITH THE VERTICAL IMPELLER AXLE MP, MP130

USAGE

For measuring the flow of large amounts of cold water with a temperature up to 30°C or hot water with a temperature up to 130°C with maximum working pressure up to 16 Bar (PN16). Suitable for installation in the horizontal pipelines, with the counter directed upwards in the multi-family houses and manufacturing plants.



ACCURACY CLASS:

- Cold water **B-H**
- Hot water **C-H**,

Tabela 8. BASIC TECHNICAL CHARACTERISTICS

Type*	q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]		Pulse Value 1K		
				Without transmitter	-NK; -NO; -NKO; -NKOP	NK***		NO
						Standard	On request	
MP 40	15	40	300	11,6	12,1	1000 dm ³	1 dm ³	
MP 50	15	50	270	12,7	13,2			
			200	11,5	12			
			300**	13,4	13,9			
MP 65	25	65	300	19	19,5			
MP 80	40	80	300	21	21,5			
			350**	25	25,5			
MP 100	60	100	360	30	30,5			
			350**	29,6	30,1			
MP 130-40	15	40	300	11,6	12,1			
MP 130-50	15	50	270	12,7	13,2			
			200	11,5	12			
			300**	13,4	13,9			
MP 130-65	25	65	300	19	19,5			
MP 130-80	40	80	300	21	21,5			
			350**	25	25,5			
MP 130-100	60	100	360	30	30,5			
			350**	29,6	30,1			

*1) -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications

-NO – opto-electronic transmitter- remote transmission of the volume indications,

-NKO – water meter equipped with the NK and NO transmitter,

-NKOP – preequipping of water meter for installation of the NK transmitter (Reed contact) i NO.

***) On request

***) Pulse value for hermetic counter IP68, include only full dozens (from the range) e.g. 10, 100, 1000...

FEATURES AND ADVANTAGES

- Wide measuring range
- Low starting flow rate
- Removable measuring insert
- Double sided axle bearing
- Easy reading of the counter
- Hermetic counter in the IP68 option, not available for NO, NKO versions
- Counter mechanism with blockade against multiple rotating
- Preequipped for installation the radio module for communication in Wireless M-Bus standard with the possibility of signaling the alarms
- Indications reliability

WELL WATER METERS (WOLTMAN) WITH THE VERTICAL IMPELLER AXLE MK-01

USAGE

For measuring the flow of large amounts of cold water with a temperature up to 30°C with maximum working pressure up to 16 Bar (PN16).

Suitable for installation in the knee joint place on the pipeline transition between the horizontal and vertical pipes with the counter directed upwards in the water intake objects.

ACCURACY CLASS:

- Cold water B,



MK-01

Tabela 9. BASIC TECHNICAL CHARACTERISTICS

Type*	q _p [m ³ /h]	DN [mm]	Length** [mm]	Weight [kg]		Pulse Value 1K		
				Without transmitter	-NK; -NO; -NKO; -NKOP	NK***		NO
						Standard	On request	
■ MK 80	40	80	180	18	18	1000 dm ³	2,5 dm ³	1 dm ³
■ MK 100	60	100	200	24	24		10 dm ³	
■ MK 150	150	150	250	45	45		100 dm ³	

- *)-NK – pulse transmitter (Reed contact)- remote transmission of the volume indications,
 -NO – opto-electronic transmitter- remote transmission of the volume indications,
 -NKO – water meter equipped with the NK and NO transmitter,
 -NKOP – preequipment of water meter for installation of the NK transmitter (Reed contact) i NO.
 **) Wymiar odmierzony od pionowej osi wlotu do powierzchni zewnętrznej kołnierza wypływu.
 ***) Pulse value for hermetic counter IP68, include only full dozens (from the range) e.g. 10, 100, 1000...

FEATURES AND ADVANTAGES

- Wide measuring range
- Low starting flow rate
- Removable measuring insert
- Double sided axle bearing
- Easy reading of the counter
- Hermetic counter in the IP68 option, not available for NO and NKO versions
- Counter mechanism with blockade against multiple rotating
- Preequipped for installation the radio module for communication in Wireless M-Bus standard with the possibility of signaling the alarms
- Indications reliability



HYDRANT WATER METER

- PROPELLER WITH VERTICAL (MH) AND HORIZONTAL (MZGH) IMPELLER AXLE
- VANE-WHEEL SINGLE-JET (JSH)

USAGE

MH-01 – For metering the volume of water with a temperature up to 30°C by quick connection to the underground hydrant of the 80 mm diameter with maximum working pressure up to 10 Bar (PN10). The hydrant outlet equipped with the quick-disjoining connection and the 75 nozzle size.

JSH-10 i MZGH-50 – for immediate measuring the water volume with the temperature up to 30°C, by quick connections of the DN80 and DN100 overground hydrants. The quick-disjoining connection on 75 nozzle size and the max work pressure up to 16 Bar (PN16). The build up adjusted to the counter directed upwards.

ACCURACY CLASS:

- Cold water **B**,

Tabela 10. BASIC TECHNICAL CHARACTERISTICS

Type	q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]
				Without transmitter
■ MH-01	15	50	130*	9,5
	25	65		10,5
■ JSH-10	10	40	300	3,6
■ MZGH-50	15	50		5,6

*) Length measured from the vertical inlet axle to the outer surface of inlet flange.

FEATURES AND ADVANTAGES

- Measurement mobility
- Easy reading of the counter
- Hermetic counter
- Counter mechanism with blockade against multiple rotating
- Double sided axle bearing
- Indications reliability



MH-01



MZGH-50



JSH-10

COMPOUND WATER METERS WITH THE SPRING VALVE MWN/JS-S; MWN/WS-S

USAGE

For measuring of diverse flow of the cold water up to 30°C with the maximum working pressure up to 16 Bar (PN16), where large water consumption may appear occasionally or at emergency situations.

Suitable for installation in the horizontal pipelines, with the counter directed upwards e.g. in hospitals, hotels, schools, buildings of public utility and manufacturing buildings with a large fire hazard.

ACCURACY CLASS:

- Cold water B

INSTALLATION OF THE SIDE WATER METER:

- Standard execution- right side looking in the way of the flow,
- On request – left side looking in the way of the flow.

Tabela 11. BASIC TECHNICAL CHARACTERISTICS

Type*	q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]		Pulse Value 1K									
				Without transmitter	-NK; -NKP	NK									
						Standard (główny/boczny)	On request								
■ MWN/JS 50/2,5-S	15	50	270	17,5	18	1 m ³ / 10 dm ³	2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ / 0,25 dm ³ , 1 dm ³ , 2,5 dm ³ , 25 dm ³ , 1000 dm ³ , 250 dm ³ , 1000 dm ³								
			300**	19,4	19,9										
■ MWN/JS 65/2,5-S	25	65	300	21	21,5			10 m ³ / 100 dm ³	250 dm ³ , 1000 dm ³ , 2500 dm ³ / 2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ , 1000 dm ³						
			300	25	25,5										
■ MWN/JS 80/2,5-S	40	80	300	27,7	28,2					1 m ³ / 10 dm ³	2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ 100 dm ³				
			350**	27,7	28,2										
■ MWN/JS 100/2,5-S	60	100	360	30	30,5							10 m ³ / 100 dm ³	250 dm ³ , 1000 dm ³ , 2500 dm ³ / 2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ , 1000 dm ³		
			350**	30	30,5										
■ MWN/JS 150/10-S	150	150	500±15	75	75,5									1 m ³ / 10 dm ³	2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ 100 dm ³
			300	26,2	26,7										
■ MWN/WS 50/2,5-S	15	50	270	20	20,5	10 m ³ / 100 dm ³	250 dm ³ , 1000 dm ³ , 2500 dm ³ / 2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ , 1000 dm ³								
			300**	21,9	22,5										
■ MWN/WS 65/2,5-S	25	65	300	22,2	22,7			1 m ³ / 10 dm ³	2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ 100 dm ³						
			300	26,2	26,7										
■ MWN/WS 80/2,5-S	40	80	300	28,7	29,2					10 m ³ / 100 dm ³	250 dm ³ , 1000 dm ³ , 2500 dm ³ / 2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ , 1000 dm ³				
			350**	28,7	29,2										
■ MWN/WS 100/2,5-S	60	100	360	31,2	31,7							1 m ³ / 10 dm ³	2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ 100 dm ³		
			350**	33,5	34,2										
■ MWN/WS 150/10-S	150	150	500±15	76,9	77,4									10 m ³ / 100 dm ³	250 dm ³ , 1000 dm ³ , 2500 dm ³ / 2,5 dm ³ , 10 dm ³ , 25 dm ³ , 100 dm ³ , 250 dm ³ , 1000 dm ³
			300	26,2	26,7										

*1) -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications
-NKP – preequipment of water meter for installation of the NK transmitter (Reed contact).
**1) On request

FEATURES AND ADVANTAGES

- Mutual overlap of the measuring ranges of the main and side water meters
- Wide measuring range- from the minimum flow rate of the side water meter to maximum flow rate of the main water meter
- Automatic switch spring valve, which depending on the flow rate, directs the water flow through the main or side water meter
- Low starting flow rate
- Double sided axle bearing
- Ability to equip with the pressure gauge
- Hermetic counters, IP68 optional for the main water meter
- Counter mechanism with blockade against multiple rotating
- Preequipment for installation the radio module for communication in Wireless M-Bus standard with the possibility of signaling the alarms
- Indications reliability





IRRIGATION FLOW METERS WI-01; -02

USAGE

For measuring the water usage while taking from river and water reservoir, water in irrigation systems and also for measuring the flow of treated sewage in the closed-circuit pipelines, cleaned in sewage treatment plants with a temperature up to 50°C and maximum working pressure up to 16 Bar (PN16). Suitable for installation in the horizontal pipelines with the counter directed upwards, in the vertical or inclined pipelines.



VERSIONS OF WI FLOW METERS:

- 01 – metal lid,
- 02 – plastic lid,

Tabela 12. BASIC TECHNICAL CHARACTERISTICS

Type*	q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]		Pulse Value 1K	
				Without transmitter	-NK; -NP	NK	
						Standard	On request
WI 40-01	25	40	200	7,8	8,1	1 m ³	0,1 m ³ 10 m ³
WI 50-01	30	50	200	8,9	9,2		
WI 65-01	50	65	200	9,9	10,2		
WI 80-01	90	80	225; 200**	12,3	12,6		
WI 100-01	125	100	250	15	15,3		
WI 125-01	175	125	250	19	19,3		
WI 150-01	250	150	300	24,8	25,1		
WI 200-01	450	200	350	34,9	35,2		
WI 40-02	25	40	200	7,5	8		10 m ³
WI 50-02	30	50	200	8,6	9,1		
WI 65-02	50	65	200	9,6	9,9		
WI 80-02	90	80	225; 200**	12	12,3		
WI 100-02	125	100	250	14,7	15		
WI 125-02	175	125	250	18,7	19,2		
WI 150-02	250	150	300	24,5	25		
WI 200-02	450	200	350	34,6	35,1		

*1) -NK – pulse transmitter (Reed contact)- remote transmission of the volume indications
 -NKP – preequipment of water meter for installation of the NK transmitter (Reed contact).
 **) On request

FEATURES AND ADVANTAGES

- Easy reading of the counter
- Hermetic counter, IP68 (optional)
- Counter mechanism with blockade against multiple rotating
- Double sided axle bearing
- Indications reliability

VANE-WHEEL SINGLE-JET VOLUME PARTS FOR HEAT METERS JS90-NC / JS130-NC

USAGE

JS90-NC; JS130-NC – are designed for cooperation with heat meter calculators, possibility of measuring water with a temperature up to 90°C (JS90-NC) and up to 130°C (JS130-NC) with maximum working pressure up to 16 Bar (PN16). Suitable for installation in horizontal pipelines with the counter directed upwards **H** (JS90-NC; JS130-NC) or in vertical pipelines **-V** (JS90-NC) in the multi-family houses, detached houses or plants.

ACCURACY CLASS:

- JS90-NC class **B – H, A – V**
- JS130-NC class **A – H**



Tabela 13. BASIC TECHNICAL CHARACTERISTICS

Type	q_p [m ³ /h]	DN [mm]	Length [mm]	Thread	Weight [kg]	Pulse Value 1K	
						NC	
						Standard	On request
JS90-0,6-NC	0,6	15	110	G $\frac{3}{4}$	0,49	10 dm ³	0,25 dm ³
JS90-1-NC	1	15	110	G $\frac{3}{4}$	0,49		1 dm ³ , 2,5 dm ³
JS90-1,5-NC	1,5	15	110	G $\frac{3}{4}$	0,49		25 dm ³
JS90-1,5-G1-NC	1,5	20	130	G1	0,56		100 dm ³
JS90-2,5-NC	2,5	20	130	G1	0,58	10 dm ³	250 dm ³
JS130-3,5-NC	3,5	25	260	G1 $\frac{1}{4}$	2,2		1000 dm ³
JS130-6-G1 $\frac{1}{4}$ -NC	6	25	260	G1 $\frac{1}{4}$	2,6		2,5 dm ³
JS130-6-NC	6	32	260	G1 $\frac{1}{2}$	2,6		25 dm ³
JS130-10-NC	10	40	300	G2	2,9	10 dm ³	100 dm ³
							250 dm ³
							1000 dm ³

-NC – pulse transmitter (Reed contact) with 2m standard length wire - remote transmission of volume indications

FEATURES AND ADVANTAGES

- Low starting flow rate
- Easy reading of the counter
- Hermetic counter
- Counter mechanism with blockade against multiple rotating
- Resistant to external magnetic field
- Indications reliability



PROPELLER VOLUME PARTS FOR HEAT METERS MWN130-NC / MP130-NC

USAGE

MWN130-NC; MP130-NC- are designed for cooperation with heat meter calculators, possibility of measuring water with a temperature up to 130°C with the maximum working pressure up to 16 Bar (PN16). Suitable for installation in the horizontal pipelines with the counter directed upwards H (MWN130-NC; MP130-NC) or with vertical and inclined pipelines with the counter directed sideways and in the intermediate position –V (MWN130-NC) in the heating installations in multi-family houses and manufacturing plants.

ACCURACY CLASS:

- MWN130-NC class 3 – H, A – V
- MP130-NC class 3 – H



Tabela 15. BASIC TECHNICAL CHARACTERISTICS

Type	q _p [m ³ /h]	DN [mm]	Length [mm]	Weight [kg]	Pulse Value 1K	
					NC	
					Standard	On request
MWN130-40-NC	15	40	200	7,9	100dm ³	2,5 dm ³ 10 dm ³ 25 dm ³ 100 dm ³ 250 dm ³
MWN130-50-NC	15	50	200	9,9		
MWN130-65-NC	25	65	200	10,6		
MWN130-80-NC	40	80	(200)**, 225	13,3		
MWN130-100-NC	60	100	250	15,6		
MWN130-125-NC	100	125	250	18,1		
MWN130-150-NC	150	150	300	40,1	1000dm ³	25 dm ³ 100 dm ³ 250 dm ³ 2500 dm ³ 10000 dm ³
MWN130-200-NC	250	200	350	51,1*		
MWN130-250-NC	400	250	450	75,1*		
MWN130-300-NC	600	300	500	103,1*		
MP130-40-NC	15	40	300	12	100dm ³	2,5 dm ³ 10 dm ³ 25 dm ³ 100 dm ³ 250 dm ³
MP130-50-NC	15	50	(200)**, 270, (300)**	13		
MP130-65-NC	25	65	300	19,5		
MP130-80-NC	40	80	300, (350)**	21,5		
MP130-100-NC	60	100	360, (350)**	30		

-NC – pulse transmitter (Reed contact) with 2m standard length wire- remote transmission of volume indications

*) Flange drilling PN-10, PN-16 according to the PN-EN-1092-2 or according to other standards requested in the order

***) On request

FEATURES AND ADVANTAGES

- Wide measuring range and low starting flow rate
- Removable measuring insert
- Pointer-roller counter placed in the hermetic casing
- Counter mechanism with blockade against multiple rotating
- Resistant to external magnetic field
- Indications reliability

COMPACT HEAT METERS WITH MECHANICAL VOLUME PARTS

ELF – with JS90-NI type volume parts JS90-NI*

CQM-III-K – with JS90-NE type volume parts JS90-NE*

USAGE

Elf – precise and reliable heat meter, equipped with high class heat calculator and volume part of class 2. It is equipped with electronic detection of rotor rotation and archiving many of data readings. Metering of water to the temperature up to 90°C and maximum working pressure up to 16 Bar (PN16).

CQM-III-K – with a professional heat calculator LQM-III type with possibility of archiving many of data readings. Metering of water of temperature up to 90°C and max work pressure up to 16 Bar (PN16).

ACCURACY CLASS:

- ELF – EN1434 class 2 – H, V
- CQM-III-K class B – H, A – V

Tabela 16. BASIC TECHNICAL CHARACTERISTICS

Type	q_p [m ³ /h]	DN [mm]	Length [mm]	Thread	Weight [kg]
ELF*	0,6	15	110	G $\frac{3}{4}$	0,38
	1	15	110	G $\frac{3}{4}$	0,38
	1,5	15	110	G $\frac{3}{4}$	0,38
	1,5	20	130	G1	0,48
	2,5	20	130	G1	0,48
CQM-III-K*	0,6	15	110	G $\frac{3}{4}$	0,6
	1	15	110	G $\frac{3}{4}$	0,6
	1,5	15	110	G $\frac{3}{4}$	0,6
	1,5	20	130	G1	0,8
	2,5	20	130	G1	0,8

* Equipped with a pair of temperature sensors: one installed in the body; the second one in the tee

FEATURES AND ADVANTAGES

ELF

- The modern multi-functional microprocessor heat counter
- Maintenance using one button
- Power supply independent- battery powered
- Fully resistant on the external magnetic field
- Flat characteristics of flow transducer error
- Highly accurate readings (class 2)
- Removable communication modules

CQM-III-K

- The modern multi-functional microprocessor heat counter
- Removable communication modules
- Power supply independent- battery powered



ELF





CQM-III-K





ELECTRONIC CALCULATORS FOR HEAT METERS

Type	Version/Equipped	Application for split type heat meters mechanical and ultrasonic
 <p>LQM-III</p>	LQM-III...	Measuring of the heat energy/ cooling energy
	LQM-III	For split type heat meters with mechanical volume parts
	LQM-III-K	For compact heat meters CQM-III-K
	LQM-III-U	For split type heat meters with ultrasonic volume parts
	LQM-III...D	Version for two metering modules
	Standard	Opto junction, 4 impulse inputs
	Communication modules (optional)	M-Bus,RS32,RS485, RS485 Modbus, RS485 Lumbus, Lon Works, pulse output, radio module
	Cooperation with sensors	Pt 500
 <p>LEC-5</p>	LEC-5	Measuring of the heat energy/ cooling energy
		For split type heat meters with mechanical volume parts
		For split type heat meters with ultrasonic volume parts
	Standard	4 pulse inputs
	Communication modules (optional)	M-Bus,ASI,RS232,RS485, Lon Works, pulse output, radio module, opto junction- optional
	Cooperation with sensors	Pt 500, Pt100

REMOTE READING SYSTEM FOR WATER METERS AND HEATING COST ALLOCATORS

USAGE

AT-WMBUS-01; 07 MODULE

Designed for direct installation on the water meters counter mechanism (for cold and hot water):

- Apartment JS-01 and 02 type
- Household JS
- Industrial MWN;MP;JS C class; MK or MWN/JS type.



AT-WMBUS-08 MODULE

Designed for direct installation on the apartment water meters counter mechanism (for cold and hot water) JS-02 (Smart+) type



AT-WMBUS-04 MODULE

External radio module- designed to cooperate with water meter, equipped with impulse transmitters (e.g. NK, NO)**



E-ITN 30 HEATING COST ALLOCATOR

Designed for counting the costs of room heating with heating systems. The recommended range of usage in vertical or horizontal heating system with one or two pipes with the average minimal temperature of the heat carrier $\geq 35^{\circ}\text{C}$ and max $\leq 90^{\circ}\text{C}$.



Tabela 17. BASIC TECHNICAL CHARACTERISTICS

Type	AT-WMBUS-01; 07	AT-WMBUS-08	AT-WMBUS-04*	E-ITN 30
Range of reading in the open area	< 300 m	< 300 m	< 300 m	< 250 m
Transmission speed	100 kbit/s	100 kbit/s	100 kbit/s	-
Format of the data protocol	Wireless M-Bus	Wireless M-Bus	Wireless M-Bus	-
Frequency range	868,95 MHz	868,95 MHz	868,95 MHz	868,95 MHz
Power output	10mW/50Ω	10mW/50Ω	10mW/50Ω	<5mW
Function control	Automatic, activated and controlled externally			
Protection level	IP65	IP68	IP65	IP42
Weight	0,06 kg	0,033 kg	0,18 kg	0,076 kg

***) cooperation with the NO transmitter available on condition that additional power supply 5÷24V DC is available

FEATURES AND ADVANTAGES

- Data reading with PDA or by the stationary network of data readings
- Elimination of eventual mistakes caused by the human factor
- Easy data reading from the hard to reach installed appliances
- Optical sensor system allows to identify the flow direction (*not applicable)
- Data reading is fully resistant for any interference from the magnetic field (* in limited scale)



REMOTE READING SYSTEMS

N300-S947 – programmable meter

P120-S739 – pulse converter

IZM-972 – pulse counter for remote volume count

USAGE

N300-S947, **P120-S739** i **IZM972** – are used for remote water volume counting, which has flown through the water meter and measurement of instantaneous rate of flow.

It is adapted for cooperation with water meter equipped with pulse transmitter NK, (NC) type or opto-electronic NO type.



N300



P120



IZM 972

Tabela 18. BASIC TECHNICAL CHARACTERISTICS

Function/ details	N300-S947	P120-S739	IZM972*
Information display	Exchangeable value and volume of flow displayed on the monitor	Simultaneous value and volume of flow displayed on the monitor	Change of the flow rate and flow volume displays on the monitor when the "INFO" button is pressed
Amount of the pulse inputs	1	1	3
Interface maintenance	RS485 w protokole MODBUS RTU	RS485 w protokole MODBUS ASCII i RTU	RS232, RS485 and M-Bus
Dosing function possibility	Yes	Yes	No
Mounting	On table	On the rail	On wall
Class of protection	IP65	IP40	IP65
Working temperature	-25 ÷ 85°C	-25 ÷ 55°C	+5 ÷ 50°C
Weight	0,2 kg	0,3 kg	0,2 kg

*) Cooperation with the NO transmitter available on condition that additional power supply 5÷24V DC is available

CHLORINATOR C 53

USAGE

Chlorinator C53- used for water disinfection by Sodium hypochlorite (NaOCl) reduced in water to max chlorine concentration of 3%.

It is used mainly as coagulant, potassium permanganate solution and liquid fertilizers dispenser used as well in:

- Pool technology (swimming pools)
- Small waterworks
- Water pump systems
- Water disinfection of the industrial water or small amounts of wastewater.



C 53

Tabela 19. BASIC TECHNICAL CHARACTERISTICS

Type	Chlorator C53
Maximum performance	18 l/h
Minimum performance	1 l/h
Maximum pressure	0,6 MPa
Tank capacity	50 l
Weight	22 kg

FEATURES AND ADVANTAGES

- Simple construction
- Operational reliability





ACCESSORIES

WATER AND HEAT METER CONNECTORS

Model	Size of connector thread [g]	Size of nut thread [G]	Length
Connectors set with gaskets DN 15 mm	1/2"	3/4"	40
Connectors set with gaskets DN 20 mm	3/4"	1"	50
Connectors set with gaskets DN 25 mm	1"	1 1/4"	60
Connectors set with gaskets DN 32 mm	1 1/4"	1 1/2"	60
Connectors set with gaskets DN 40 mm	1 1/2"	2"	70



NON RETURN VALVES FOR WATER AND HEAT METERS CONNECTORS

Model	Size of connector thread [g]
EA valve for installation on the DN 15mm water meter outlet	1/2"
RV-FK valve for installation in the DN 15mm connector	1/2"



CONNECTORS FOR WATER AND HEAT METERS WITH NON-RETURN VALVE

Model	Size of connector thread [g]	Size of nut thread [G]	Length
Connector with valve DN 15 mm	1/2"	3/4"	34
Connector with valve DN 20 mm	3/4"	1"	46
Connector with valve DN 25 mm	1"	1 1/4"	58



CLAMPING RINGS FOR CONNECTORS WITH THE SEALING CATCH

Model	PP	SAN	BLUE
Clamping ring DN 15 (1/2") with seal	X	X	X
Clamping ring DN 20 (3/4") with seal	X	X	X
Clamping ring DN 25 (1") with seal	X	X	
Clamping ring DN 32 (1 1/4") with seal		X	
Clamping ring DN 40 (1 1/2") with seal		X	



TEES FOR INSTALLATION ON THE IMMERSION TEMPERATURE SENSORS

Model	Size
DN 15 tee	1/2"
DN 20 tee	3/4"



BALL VALVES FOR IMMERSION TEMPERATURE SENSORS

Model	Size
Ball valve DN 20	3/4"
Ball valve DN 25	1"





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