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technical brochure

THERMOSTATIC MIXING VALVES ATM

2018

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Double scale

The double legible scale with temperatures of mixed water and set points helps to preset the proper temperature of mixed water and guarantees the correct functioning of the ATM valve.

Socket for Allen key

Socket for the Allen 7 mm key allows to easily change the position of the knob. Especially in the case of difficult access to the valve top.

Inspection window

Window at the top of the protective cover gives the possibility to check the presetting of the valve. Especially important when the cap is locked with a seal.

Protective cover

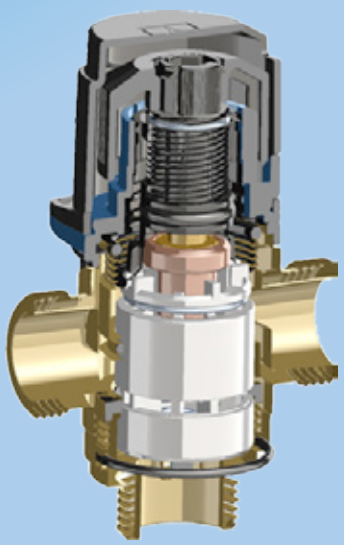
Every ATM valve comes with a cover for the temperature adjustment knob. It eliminates the possibility of accidental changes in temperature. The seal lock gives the possibility to lock the cover when the presetting should be protected.

Different types

Three types of connections and two Kvs factors allow to pick valves for almost all standard applications. As an additional option fittings with non-return valves are available.

Innovative internal construction

Thanks to the new, innovative construction, ATM valves work perfectly in hard dynamic pressure conditions and are more resistant to impurities.
An additional protection spring secures the thermostatic element against overheating.



THERMOSTATIC MIXING VALVES ATM

Under the article numbers showed in this brochure, the thermostatic mixing valves **ATM** are delivered in colourful boxes. The product name on the box is written in 4 languages (Polish, German, English, Russian). The technical data is written in Polish. Inside the box you will find the complete mixing valve and a Polish instruction manual.

COUPLINGS WITH NON-RETURN VALVES FOR ATM

The couplings with non-return valves for easy and fast mounting of **ATM** valves are also delivered in colourful boxes. The product name on the box is written in 4 languages (Polish, German, English, Russian). The technical data is written in Polish. Inside the box you will find two couplings with non-return valves, one without, a set of gaskets and a Polish instruction manual.

SETS OF THERMOSTATIC MIXING VALVES ATM WITH COUPLINGS

If you decide to buy a set containing the **ATM** mixing valve and couplings, it will be delivered in a transparent box with a label. Inside you will find the valve and the couplings in separate standard boxes as described above.

THERMOSTATIC MIXING VALVES ATM WITH BIGGER KVS

Under the article numbers showed in this brochure, the thermostatic mixing valves **ATM** with bigger Kvs are delivered in colourful boxes. The product name on the box is written in 4 languages (Polish, German, English, Russian). The technical data is written in Polish. Inside the box you will find the complete mixing valve and a Polish instruction manual.

Other packaging options are possible. For larger quantities we can deliver according to your specific needs. Please inquire: zok@afriso.pl, +48 32 330 33 55.

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THERMOSTATIC MIXING VALVES **ATM**

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APPLICATION

Thermostatic mixing valves **ATM** are designed to control the hot water temperature prepared for water taps. They should be always used when a need to protect the users from scalding or a fast reaction to temperature or pressure changes is required. The **ATM** valves also give the possibility to safely heat the water up in tap water systems to prevent from the Legionella. The "anti-scald" function closes the hot water inlet in case of cold water lack. Thermostatic mixing **ATM** valves can be also utilized in underfloor heating systems as mixing valves before manifolds. They can work with pure water or mixtures of water and glycol in concentrations of up to 50%.

Thanks to the wide range of different **ATM** models, one can find a valve for almost every domestic system. The valves can differ in threads or Kvs values. Please check the Selection table on page 6.

DESCRIPTION

Thermostatic mixing valves have a body made out of DZR brass. The knob allows to change the outlet temperature in the range of 35-60°C (recommended for main water tanks) or 20-43°C (recommended for underfloor heating and tap systems, e.g. in kindergarten). The knob with two scales (numeric and temperature) provides a slot for an 7 mm Allen key, when having difficulties while changing the temperature. The plastic cover protects from accidental changes in the temperature, while the opening in it allows to check the current setting. One can seal the cover to avoid interference by third parties. The "anti-scald" function present in every **ATM** valve blocks the hot water flow in case of cold water failure therefore protecting from scalds. **ATM** valves are maintenance-free and can be mounted in every position.

TECHNICAL DATA

Static pressure	max 10 bar
Dynamic pressure	max 5 bar
Pressure ratio*	max 2:1
Working temperature	90°C (temporarily 110°C)
Temperature range	35–60°C or 20–43°C
Kvs	1,6 m^3/h or 2,5 m^3/h
Temperature stability	±2°C
Body	DZR brass
Housing and cover	PBT and ABS
Glycol concentration	max 50%
Required flow**	min 6 l/min

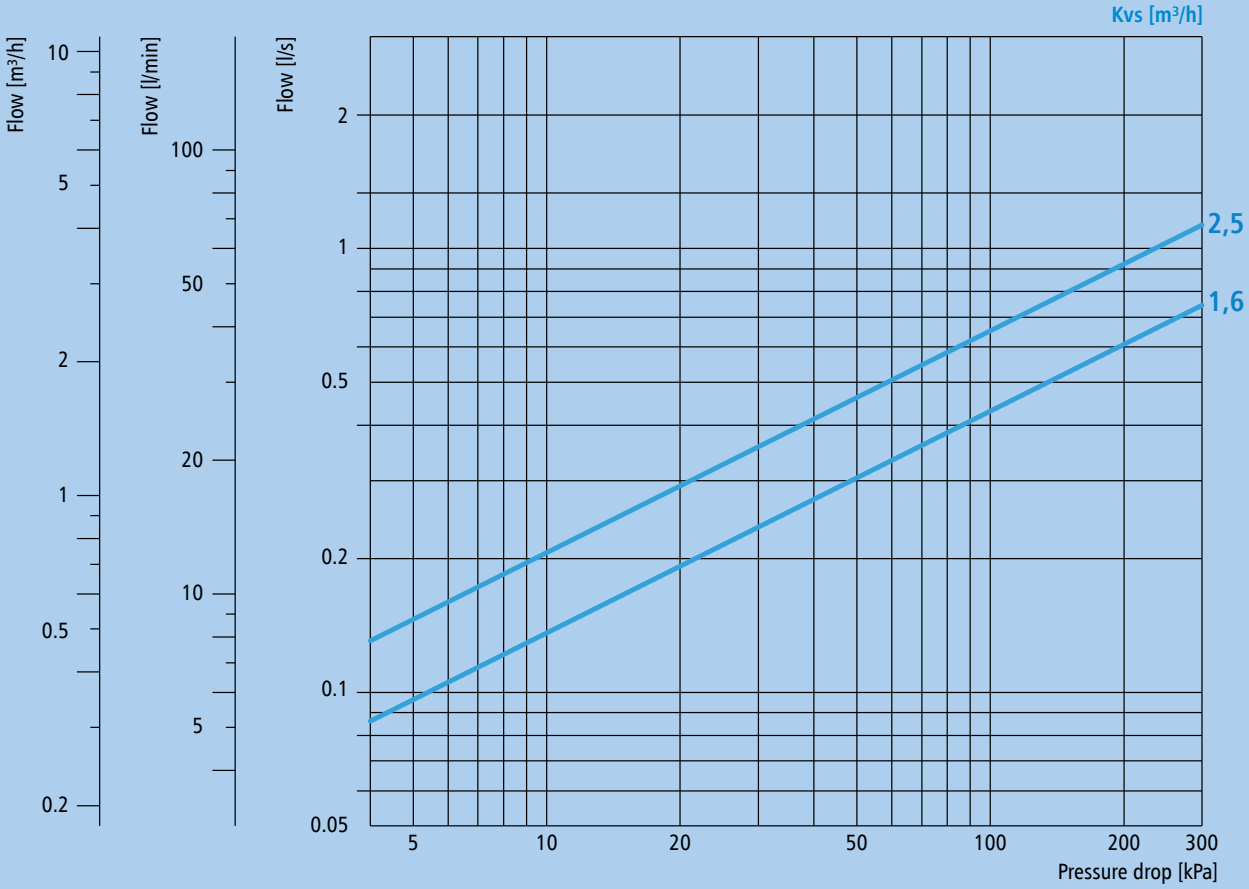
* Example: when the pressure on the hot water inlet is 1,5 bar, the pressure on the cold inlet must not be more than 2 times higher, so must not exceed 3 bar. This is required to obtain the best regulation characteristics of the valve. The "anti-scald" function works always, regardless the pressure ratio.

** Temperature stability can be higher than ±2˚C when the flow will reach below 6 l/min.

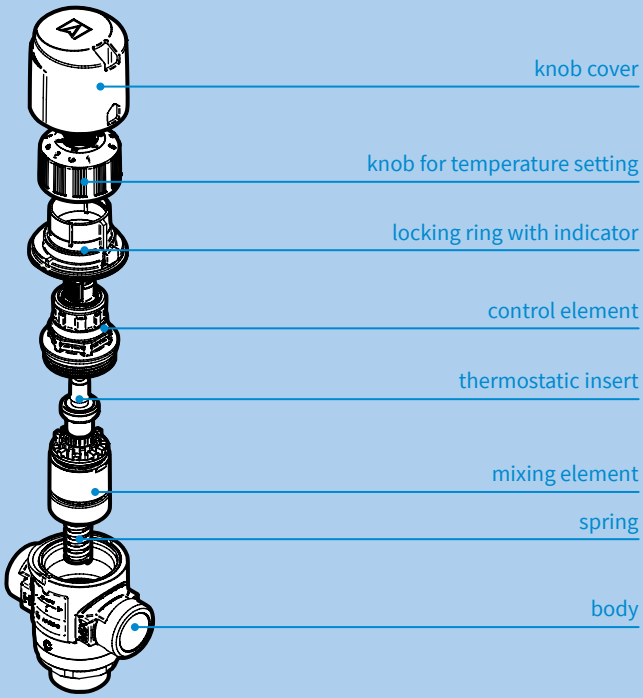
APPROVALS AND CERTIFICATES

The thermostatic mixing valves **ATM** comply with the Pressure Directive PED 2014/68/EU and according to article 4.3 (sound engineering practice) must not wear the CE mark.

FLOW RATE TO PRESSURE DROP CHART

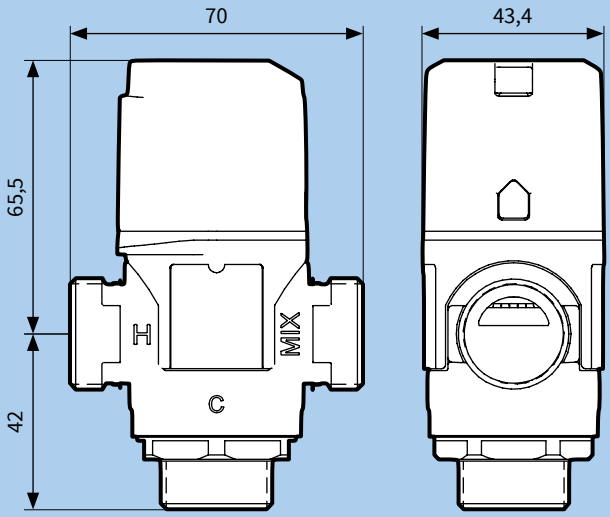


CONSTRUCTION



The drawing with the construction of the **ATM** valve is shown only for illustrative purposes. Please do not disassemble the valve. This may lead to improper work and scalds.

DIMENSIONS [mm]



VALVE SELECTION

Kvs	Traditional tap	Spout
1,6	3 pcs.	2 pcs.
2,5	5 pcs.	4 pcs.

In the table above, one can find the approximate maximum number of supported traditional taps (hot water and cold water provided separately) or spouts (only mixed water provided) while pressure of minimum 3 bar is ensured. The real number can differ depending on the type and output of installed taps/ spouts.

SELECTION TABLE

Art.-No	Type	Temperature range	DN	Connections	Kvs	Flow scheme
12 341 10	**ATM 341**	20–43°C	15	G¾"	1,6	
12 343 10	**ATM 343**	35–60°C	15	G¾"	1,6	
12 361 10	**ATM 361**	20–43°C	20	G1"	1,6	
12 363 10	**ATM 363**	35–60°C	20	G1"	1,6	
12 331 10	**ATM 331**	20–43°C	20	Rp¾"	1,6	
12 333 10	**ATM 333**	35–60°C	20	Rp¾"	1,6	
12 561 10	**ATM 561**	20–43°C	20	G1"	2,5	
12 563 10	**ATM 563**	35–60°C	20	G1"	2,5	

APPLICATION

The couplings with non-return valves for **ATM** are designed to connect the 3-way thermostatic mixing valves with G3/4″ (Art.-No 12 201 10) or G1″ (Art.-No 12 202 10) threads with the system. The set allows for fast mounting and dismounting of the mixing valve for maintenance purposes or replacement. Additionally the two couplings with non-return valves on the inlet connections prevent from backflows when the pressure drops on one inlet.

DESCRIPTION

In the set there are 3 couplings with gaskets included. Two of which are equipped with non-return valves. The nuts have hexagonal shape. Moreover the fitting itself has flat surfaces to keep it still while mounting. Flat gaskets are included for every coupling.

The coupling are a response to installers' problems with finding the ideal fittings for 3-way valves. They ensure fast and easy mounting and dismounting of valves with G3/4″ and G1″ threads.

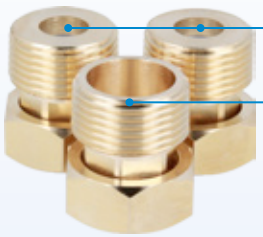
TECHNICAL DATA

Working pressure	max 10 bar
Working temperature	90°C (temporarily 110°C)
Material	DZR brass (CW617N)
Glycol concentration	max 50%

APPROVALS AND CERTIFICATES

The couplings with non-return valves for **ATM** comply with the Pressure Directive PED 2014/68/EU and according to article 4.3 (sound engineering practice) must not wear the CE mark.

TYPE OF COUPLINGS



couplings with non-return valves (hot and cold water)

coupling without non-return valve (mixed water)

SELECTION TABLE

Art.-No	Description
12 201 10	Couplings with non-return valves for **ATM** with gaskets, inner thread G3/4″ x R3/4″
12 202 10	Couplings with non-return valves for **ATM** with gaskets, inner thread G1″ x R1″

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SETS OF THERMOSTATIC MIXING VALVES **ATM** WITH COUPLINGS

APPLICATION

Sets of thermostatic mixing valves **ATM** with couplings fit in underfloor heating systems and domestic water systems as well. The couplings make mounting and dismounting easier while the non-return valves prevent from backflows.

DESCRIPTION

The sets consists of a **ATM** mixing valve, a set of couplings in an adequate size (two of three with non-return valves) and three flat gaskets.

The couplings with non-return valves are meant for the hot (H) and cold (C) water inlets.

SELECTION TABLE

Art.-No	Valve type	Temperature range	DN	Connections to the system	Kvs	Flow scheme
12 341 44	**ATM 341**	20–43°C	15	R¾″	1,6	
12 343 44	**ATM 343**	35–60°C	15	R¾″	1,6	
12 361 44	**ATM 361**	20–43°C	20	R1″	1,6	
12 363 44	**ATM 363**	35–60°C	20	R1″	1,6	
12 561 44	**ATM 561**	20–43°C	20	R1″	2,5	
12 563 44	**ATM 563**	35–60°C	20	R1″	2,5	

THERMOSTATIC MIXING VALVES **ATM** WITH BIGGER KVS

APPLICATION

Thermostatic mixing valves **ATM** with bigger Kvs are designed to control the hot water temperature prepared for water taps in larger systems. They should be always used when a need to protect the users from scalding or a fast reaction to temperature or pressure changes is required. The **ATM** valves also give the possibility to safely heat the water up in tap water systems to prevent from the Legionella. The "anti-scald" function closes the hot water inlet in case of cold water lack. Thermostatic mixing **ATM** valves can be also utilized in underfloor heating systems as mixing valves before manifolds. They can work with pure water or mixtures of water and glycol in concentrations of up to 50%.

We recommend to use **ATM** valves with bigger Kvs in systems where minimum 3 traditional taps or 2 spouts always work simultaneously.

DESCRIPTION

Thermostatic mixing valves **ATM** with bigger Kvs have a body made out of brass. The knob allows to change the outlet temperature in the range of 35-60°C (recommended for main water tanks) or 20-43°C (recommended for underfloor heating and tap systems, e.g. in kindergarten). The knob has two scales - numeric and temperature scale. The plastic cover protects from accidental changes in the temperature, while the opening in it allows to check the current setting. One can seal the cover to avoid interference by third parties. The "anti-scald" function present in every **ATM** valve blocks the hot water flow in case of cold water failure therefore protecting from scalds. **ATM** valves are maintenance-free and can be mounted in every position.

TECHNICAL DATA

Static pressure	max 10 bar
Dynamic pressure	max 5 bar
Pressure ratio*	max 2:1
Working temperature	
• 20–43°C	max 90°C
• 35–60°C	max 110°C
Temperature range	35–60°C or 20–43°C
Kvs	3,2 m^3/h or 4,2 m^3/h
Temperature stability	±3°C
Body	brass CW614N and CW617N
Housing and cover	PBT and ABS
Glycol concentration	max 50%
Required flow**	min 9 l/min

* Example: when the pressure on the hot water inlet is 1,5 bar, the pressure on the cold inlet must not be more than 2 times higher, so must not exceed 3 bar. This is required to obtain the best regulation characteristics of the valve. The "anti-scald" function works always, regardless the pressure ratio.

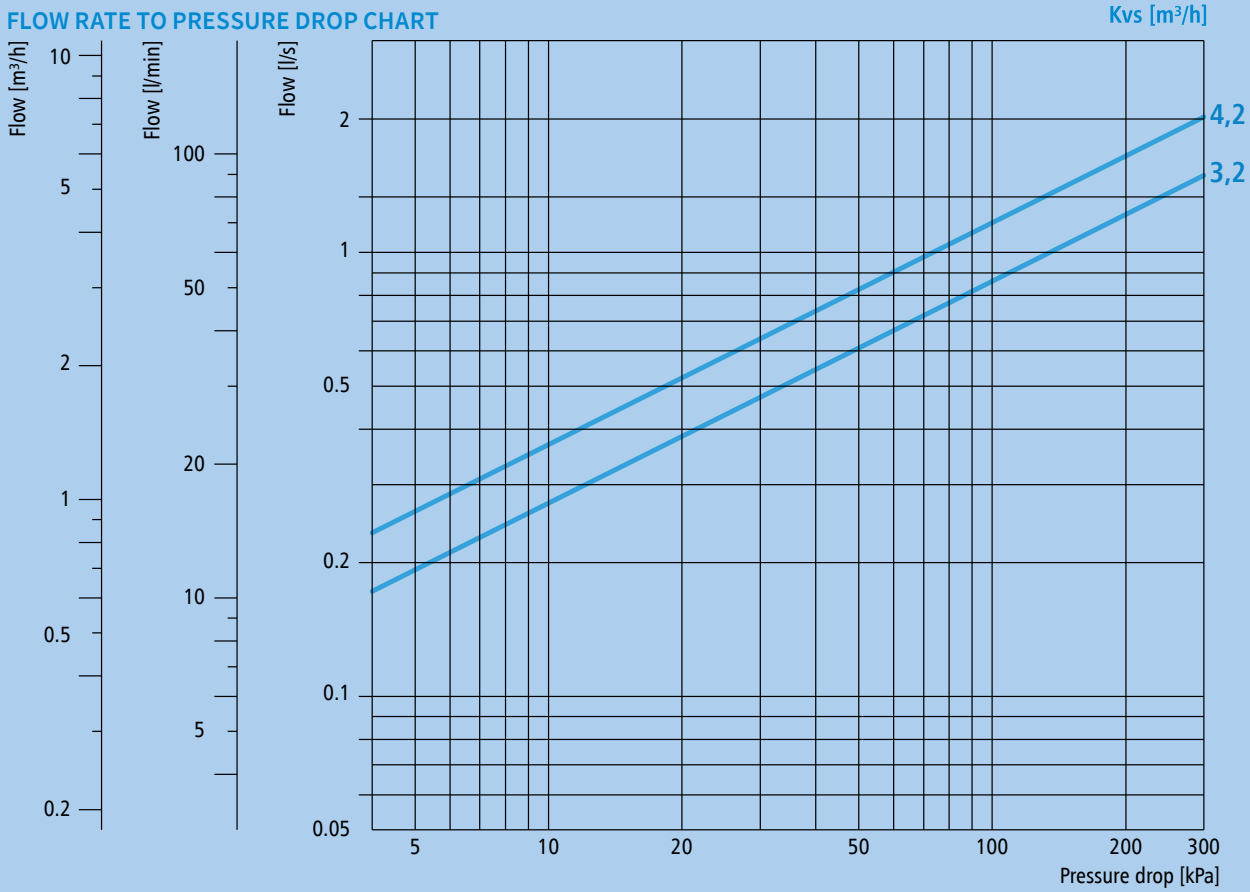
** Temperature stability can be higher than ±3˚C when the flow will reach below 9 l/min.

SELECTION TABLE

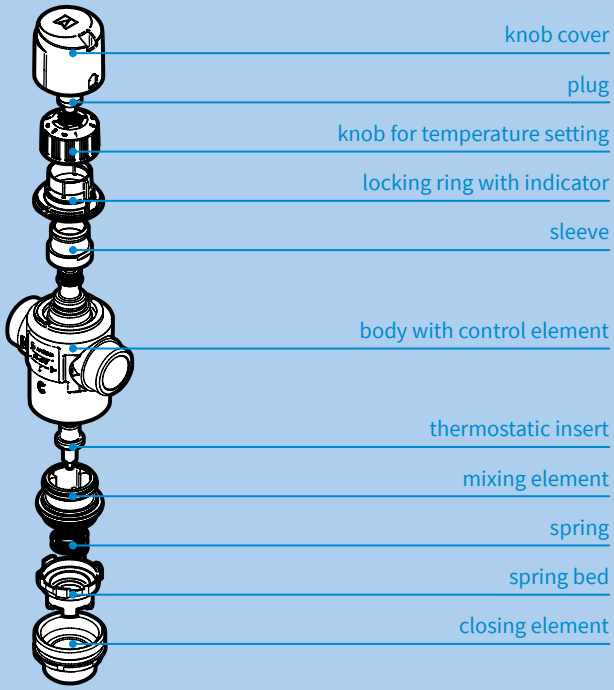
Art.-No	Type	Temperature range	DN	Connections	Kvs	Flow scheme
12 761 10	**ATM 761**	20–43°C	20	G1"	3,2	
12 763 10	**ATM 763**	35–60°C	20	G1"	3,2	
12 881 10	**ATM 881**	20–43°C	25	G1¼"	4,2	
12 883 10	**ATM 883**	35–60°C	25	G1¼"	4,2	

THERMOSTATIC MIXING VALVES **ATM** WITH BIGGER KVS

FLOW RATE TO PRESSURE DROP CHART

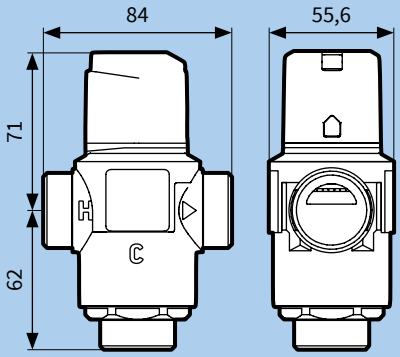


CONSTRUCTION



The drawing with the construction of the **ATM** valve is shown only for illustrative purposes. Please do not disassemble the valve. This may lead to improper work and scalds.

DIMENSIONS [mm]



APPROVALS AND CERTIFICATES

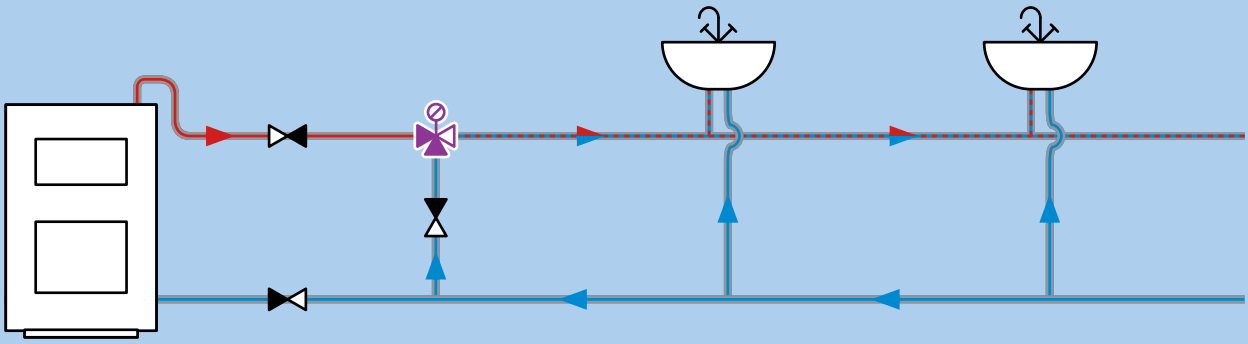
The thermostatic mixing valves **ATM** comply with the Pressure Directive PED 2014/68/EU and according to article 4.3 (sound engineering practice) must not wear the CE mark.

VALVE SELECTION

Kvs	Traditional tap	Spout
3,2	6 pcs.	5 pcs.
4,2	8 pcs.	6 pcs.

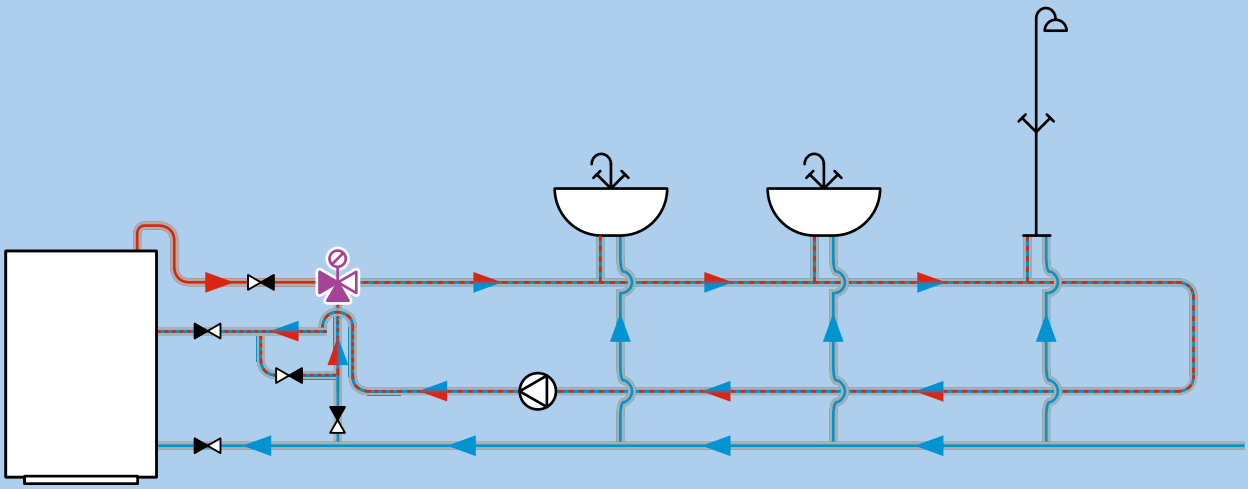
In the table above, one can find the approximate maximum number of supported traditional taps (hot water and cold water provided separately) or spouts (only mixed water provided) while pressure of minimum 3 bar is ensured. The real number can differ depending on the type and output of installed taps/spouts.

An ATM mixing valve used to maintain constant (set) temperature of hot water before taps



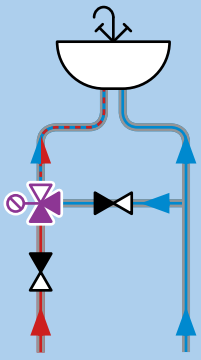
The **ATM** mixing valve presented on the scheme prepares the hot water before several taps (e.g. basin, tub, shower tap). One can use an **ATM** valve with different Kvs values depending on the number of taps. To prepare the hot water for the whole building, just behind the water heater, we recommend to mount valves with minimum 2,5 m^3/h Kvs. Adding non-return valves as shown on the scheme will prevent from gravity flows and cooling down the water inside the tank. Gravity flows can also overheat the valve when currently no water is used.

An ATM mixing valve used to maintain constant (set) temperature in a circulation loop



The **ATM** mixing valve presented on the scheme prepares the hot water flowing to the circulation loop. One can use an **ATM** valve with different Kvs values depending on the number of taps. To prepare the hot water for the whole building, just behind the water heater, we recommend to mount valves with minimum 2,5 m^3/h Kvs. Adding non-return valves as shown on the scheme will guarantee proper functioning of the circulation loop and prevent from gravity flows or cooling down the water inside the tank. Gravity flows can also overheat the valve when currently no water is used.

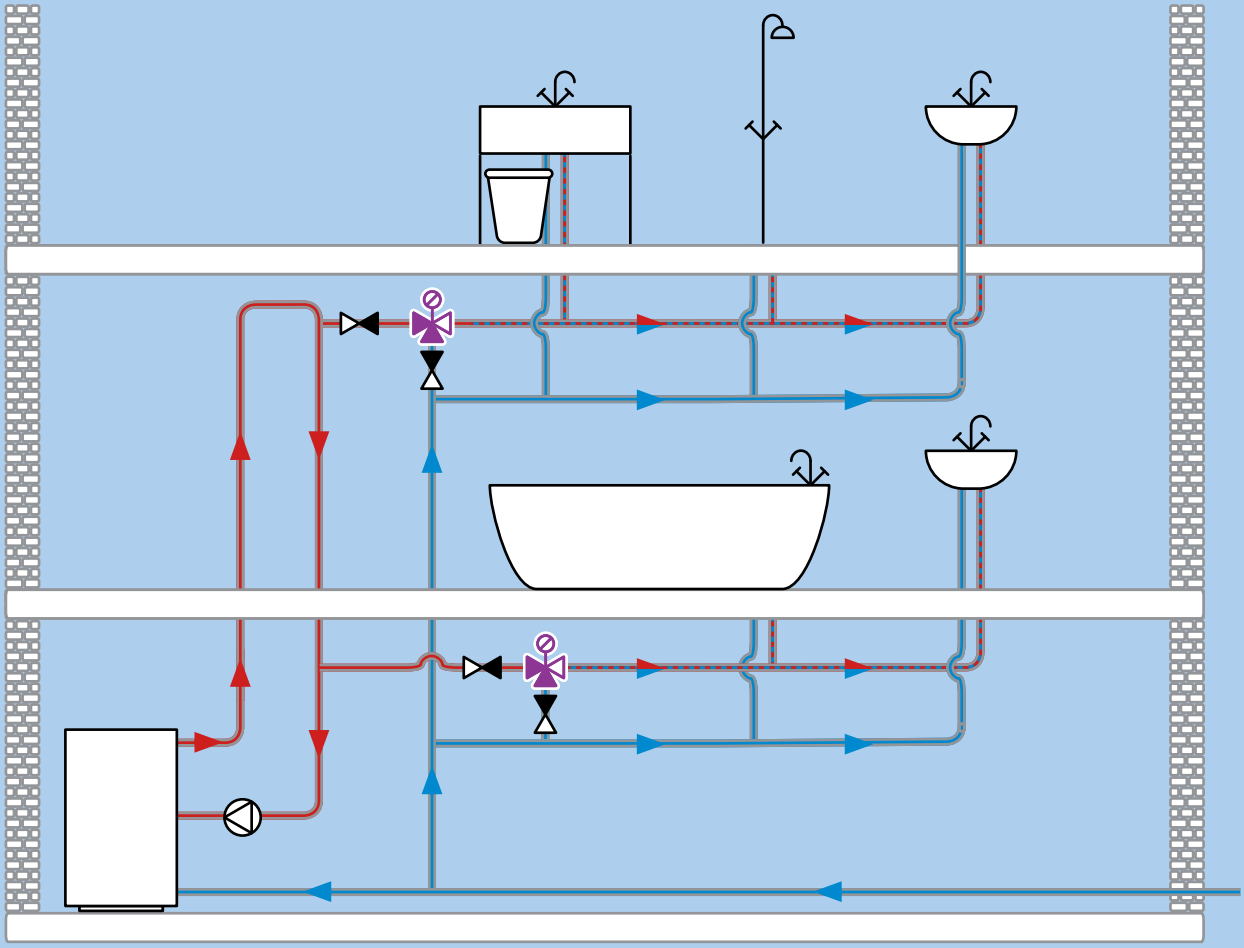
An ATM mixing valve used to maintain constant (set) temperature of hot water in one water tap



The **ATM** mixing valve presented on the scheme prepares the hot water flowing directly to one water tap. One should use an **ATM** valve with Kvs 1,6 m^3/h. Other valves with different Kvs values can also be utilized, but the minimum flow required must always be ensured (see technical data on page 4 and 9). Adding non-return valves as shown on the scheme, will guarantee that the valve will not be overheated due to gravity flows, when no water is used.

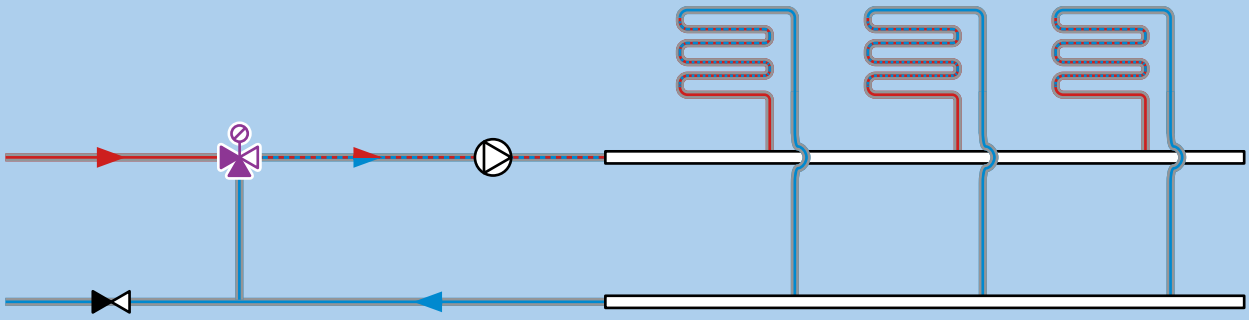
MOST COMMON APPLICATIONS

An ATM mixing valve used to maintain constant (set) temperature of hot water in a big commercial building



The **ATM** mixing valves presented on the scheme prepare the hot water in a system with an independent circulation loop. The **ATM** valves use the hot water from the loop and cold water from the supply to prepare it for use in a flat, hotel room or single bathroom. Such application gives the possibility to use **ATM** valves regardless of the size of the system. One should use an **ATM** valve with Kvs 1,6 m^3/h. Other valves with different Kvs values can also be utilized, but the minimum flow required must always be ensured (see technical data on page 4 and 9).

An ATM mixing valve used to maintain constant (set) temperature of hot water before the underfloor heating manifold



The **ATM** mixing valve presented on the scheme prepares the supply medium for the underfloor heating system. One can use an **ATM** valve with different Kvs values. For manifolds with more than 5 circuits we recommend valves with minimum 2,5 m^3/h Kvs. Adding the non-return valve as shown on the scheme will prevent from taking water from the return side and stop gravity flows when the pump does not work.

Using the pump after an **ATM** valve in such cases is mandatory to ensure proper mixing

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