Domestic hot water modules DN 15-32

Catalogue 01/2024

Solutions for domestic hot water technology

Valid for the EU

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Overview product range Friwa
Domestic hot water technology

Design data FriwaMicro - DN 15 (½") - up to 20 l/min (acc. to SPF LK 1)*, cold water entry temperature = 10 °C			
Set hot water temperature	**Withdrawal of hot water with 45 °C at the preset hot water temperature**	**Transmission performance**	**Primary required flow temperature**
45 °C	20 l/min	49 kW	60 °C (LK 1)*
	23 l/min	57 kW	70 °C
60 °C	19 l/min	48 kW	70 °C (LK 2)*
	Modules		
thermally controlled	6400010		
	6400030	(coated heat exchanger)	

Design data FriwaMini - DN 15 (½") - up to 28 l/min (acc. to SPF LK 1)*, cold water entry temperature = 10 °C			
Set hot water temperature	**Withdrawal of hot water with 45 °C at the preset hot water temperature**	**Transmission performance**	**Primary required flow temperature**
45 °C	28 l/min	69 kW	60 °C (LK 1)*
	38 l/min	93 kW	70 °C
60 °C	28 l/min	69 kW	70 °C (LK 2)*
	Modules		
without circulation	6401511	6401531 (coated heat exchanger)	
with circulation**	6401516	6401536 (coated heat exchanger)	

Design data FriwaMidi - DN 20 (¾") - up to 50 l/min (acc. to SPF LK 1)*, cold water entry temperature = 10 °C			
Set hot water temperature	**Withdrawal of hot water with 45 °C at the preset hot water temperature**	**Transmission performance**	**Primary required flow temperature**
45 °C	50 l/min	121 kW	60 °C (LK 1)*
	63 l/min	155 kW	70 °C
60 °C	52 l/min	130 kW	70 °C (LK 2)*
	Modules		
without circulation	6405511	6405531 (coated heat exchanger)	
with circulation (internal)**	6405516	6405536 (coated heat exchanger)	

Single-family house (up to two showers)
LK 1 = performance indicator 1
at a set hot water temperature of 45 °C
at a primary flow temperature of 60 °C

LK 2 = performance indicator 2
at a set hot water temperature of 60 °C
at a primary flow temperature of 70 °C

****Friwa modules can be equipped subsequently with internal circulation sets - see equipment**

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Cascade solutions
Selection table

Design data FriwaMaxi - DN 25 (1") - up to 77 l/min (acc. to SPF LK 1)*, cold water entry temperature = 10 °C			
Set hot water temperature	**Withdrawal of hot water with 45 °C at the preset hot water temperature**	**Transmission performance**	**Primary required flow temperature**
45 °C	77 l/min 88 l/min	187 kW 215 kW	60 °C (LK 1)* 70 °C
60 °C	81 l/min	201 kW	70 °C (LK 2)*
	Modules		
without circulation	6406511	6406531 (coated heat exchanger)	
with circulation (internal)**	6406516	6406536 (coated heat exchanger)	

Design data FriwaMega - DN 32 (1¼") - up to 123 l/min (acc. to SPF LK 1)*, cold water entry temperature = 10 °C			
Set hot water temperature	**Withdrawal of hot water with 45 °C at the preset hot water temperature**	**Transmission performance**	**Primary required flow temperature**
45 °C	123 l/min 130 l/min	300 kW 317 kW	60 °C (LK 1)* 70 °C
60 °C	132 l/min	324 kW	70 °C (LK 2)*
	Modules		
without circulation	6407511	6407530 (coated heat exchanger)	
with circulation (internal)**	6407517	6407535 (coated heat exchanger)	

Single-family house (up to two showers)
LK 1 = performance indicator 1
at a set hot water temperature of 45 °C
at a primary flow temperature of 60 °C

LK 2 = performance indicator 2
at a set hot water temperature of 60 °C
at a primary flow temperature of 70 °C

****Friwa modules can be equipped subsequently with internal circulation sets - see equipment**

Example: FriwaMini combined with a mixed CoolBloC C34 and a heat pump

Dimensioning Friwa

The performance of the Friwa primarily depends on the temperature in the buffer tank which delivers the energy to heat up the domestic hot water module.

The demand of domestic hot water depends on the flow and the number of consumers. In larger apartment buildings, a certain statistic distribution of withdrawals can be observed. The following table gives a general overview of the application range of the different Friwa modules.

Housing unit	70 °C / 60 °C / 10 °C	70 °C / 45 °C / 10 °C ***	60 °C / 50 °C / 10 °C ***
Single-family house (up to two showers)	FriwaMicro	FriwaMicro	FriwaMicro
Single-family house (three or more showers)	FriwaMini	FriwaMini	FriwaMini
Two-family house	FriwaMidi	FriwaMidi	FriwaMidi
3	FriwaMidi	FriwaMidi	FriwaMidi
5	FriwaMidi	FriwaMidi	FriwaMidi
10	FriwaMidi	FriwaMidi	FriwaMidi
15	FriwaMaxi	FriwaMidi	FriwaMaxi
20	FriwaMaxi	FriwaMidi	FriwaMaxi
30	2x FriwaMidi	FriwaMaxi	2x FriwaMidi
50	FriwaMega	2x FriwaMidi	FriwaMega
70	2x FriwaMaxi	FriwaMega	2x FriwaMaxi
100	2x FriwaMega	2x FriwaMaxi	2x FriwaMega

***A DHW temperature below 60 °C during operation does not comply with DVGW 551 (German association for gas and water).
The compliance with water quality standards must be observed.

70 °C / 60 °C / 10 °C flow temperature 70 °C / Hot water temperature 60 °C / Cold water temperature 10 °C
The DHW demand of max. 12 l/min and the simultaneity factor according to DIN 4708 represent the basis of calculation.

Optional accessories - WiFi3.10

Internet Gateway module - item no. 1339003

- ✓ For the connection of DHW modules to an Internet platform with the controller FC3.10
- ✓ System monitoring and parametrisation
- ✓ Display of the activated functions and graphic overview of the nominal values
- ✓ E-mail notification in case of error messages
- ✓ Display of the alarms history

Optional accessories - MB3.10

Modbus RTU module - item no. 1339002

- ✓ Connection of a cascade to a BMS
- ✓ The controller FC3.10 offers 2500 registers that can be processed by means of the MB3.10
- ✓ Communication status visible via LED codification
- ✓ Modbus RTU protocol
- ✓ Modbus specific parameters can be set at the controller – high flexibility and possibility to adapt to an existing BMS

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Cascade solutions
Selection table

Required module and pipe set for double cascade*** - example FriwaMini

Example: 2x


Basic module

+


Pipe set for cascade

+


Return distribution set

+


Circulation line

	FriwaMini			
Basic modules	2x 6401510			
	2x 6401530 (coated heat exchanger)			
Pipe set for cascade	64042933			
Return distribution set	640425			
Optional: circulation line	6404111			
	Optional accessories: WiFi3.10 Internet Gateway module and MB3.10 Modbus RTU module			

Required module and pipe set for double cascade*** - example FriwaMidi

Example: 2x


Basic module

+


Pipe set for cascade

+


Return distribution set

+


Circulation line

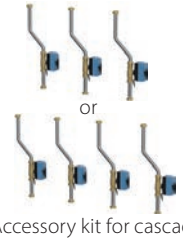
		FriwaMidi	FriwaMaxi	FriwaMega
Basic modules		2x 6405511	2x 6406511	2x 6407511
		2x 6405531 (coated heat exchanger)	2x 6406531 (coated heat exchanger)	2x 6407530 (coated heat exchanger)
Pipe set for cascade		64042943	64042953	1x 64042963
Return distribution set		6404242	6404242	6404244
Optional: circulation line		6404136GM7	6404136GM7	6404136GM7
		6404136GH10	6404136GH10	6404136GH10
		6404136GH12	6404136GH12	6404136GH12
	Optional accessories: WiFi3.10 Internet Gateway module and MB3.10 Modbus RTU module			

Required module for triple or quadruple cascade*** - example FriwaMidi

Example: 3x or 4x


Basic module

+


or

Accessory kit for cascade

+


Return distribution set

+


Circulation line

		FriwaMidi	FriwaMaxi	FriwaMega
Basic modules		3x or 4x 6405511	3x or 4x 6406511	3x or 4x 6407511
		3x or 4x 6405531 (coated heat exchanger)	3x or 4x 6406531 (coated heat exchanger)	3x or 4x 6407530 (coated heat exchanger)
Accessory set for Friwa cascade		64042622 (2-fold) 64042632 (3-fold) 64042642 (4-fold)	64042722 (2-fold) 64042732 (3-fold) 64042742 (4-fold)	64042820 (2-fold) 64042830 (3-fold) 64042840 (4-fold)
Return distribution set		6404242	6404242	6404244
Optional: circulation line		6404136GM7	6404136GM7	6404136GM7
		6404136GH10	6404136GH10	6404136GH10
		6404136GH12	6404136GH12	6404136GH12
	Optional accessories: WiFi3.10 Internet Gateway module and MB3.10 Modbus RTU module			

*** The cascade solution is available on request; / = not possible

FriwaMicro, thermally controlled up to 20 l/min (as per SPF LK1)*

Application range

- Domestic hot water preparation operating on the principle of a flow-type water heater

The CE-conformity of the module has been certified according to DIN EN 60335 and SVGW.

Application range

- in solar thermal systems
- in systems with solid fuel boilers, oil or gas boilers
- connection to a buffer tank

Operating data

Max. operating pressure	primary: 3 bar secondary: 10 bar
Operating temperature	80 °C
Min. flow rate as per SPF LK 1*	2 l/min
Max. flow rate as per SPF LK 1*as per SPF LK1*	20 l/min
Transmission performanceas per SPF LK1*	48 kW

*For information on design data, see "Product range Friwa" ; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

Equipment

Heat exchanger	E8ASH, 24 plates
Cartridge sensor	30-60 °C
Flow switch	Type 1.3 l/min

Materials

Valves and fittings	Brass
Gaskets	EPDM / AFM34
Insulation	EPP
Cartridge sensor	Stainless steel
Flow switch	Noryl
Thermostatic valve	Housing / valve plate: brass
Heat exchanger	Solder: copper; Plates + connecting pieces: stainless steel; coating (optional): based on silica

Dimensions

Nominal diameter	DN 15 (½")
Connections	¾" int. thread
Centre distance	65 mm
Centre distance sec.	65 mm
Width	282 mm
Height	420 mm
Depth	265 mm
Installation length	418 mm

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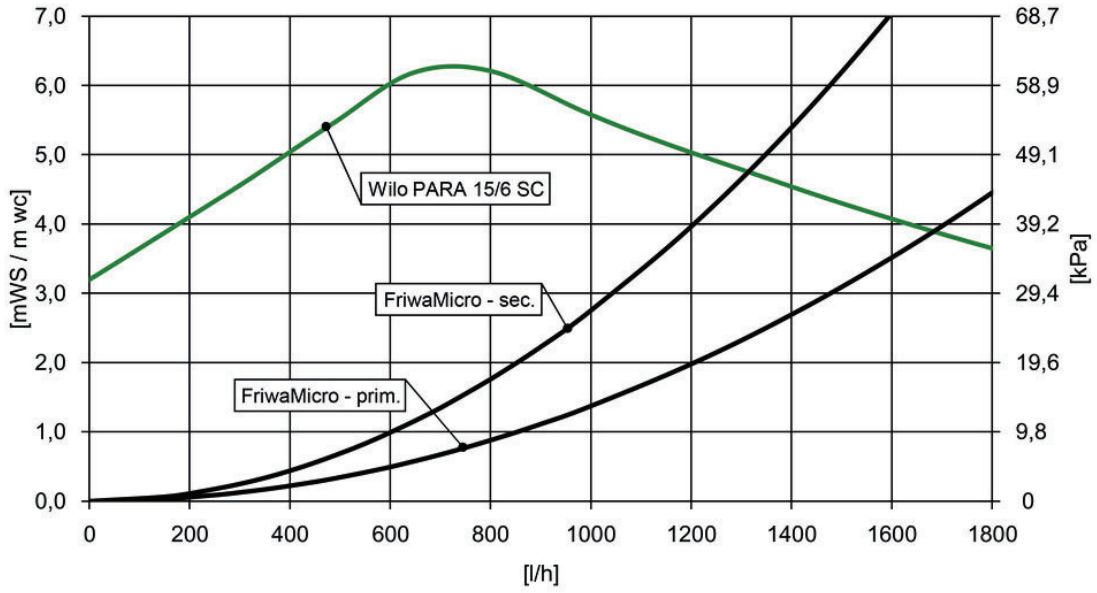
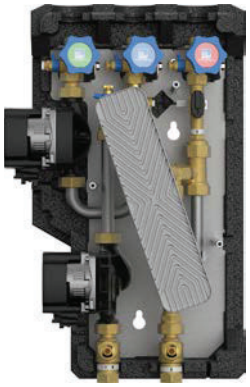
FriwaMicro, thermally controlled up to 20 l/min (as per SPF LK1)*



FriwaMicro - DN 15 (½")		Item no.
	**FriwaMicro, thermally controlled** Wilo Para SC 15/6-43	**6400010**
	FriwaMicro, thermally controlled, coated heat exchanger Wilo Para SC 15/6-43	**6400030**

FriwaMini
up to 28 l/min (as per SPF LK1)*



Application range

- Domestic hot water preparation operating on the principle of a flow-type water heater

The CE-conformity of the module has been certified according to DIN EN 60335 and SVGW.

Application range

- in solar thermal systems
- in systems with solid fuel boilers, oil or gas boilers
- connection to a buffer tank

Operating data

Max. operating pressure	primary: 3 bar secondary: 10 bar
Operating temperature	95 °C
Min. flow rate as per SPF LK 1*	2 l/min
Max. flow rate as per SPF LK 1* as per SPF LK1*	28 l/min
Transmission performance as per SPF LK1*	69 kW
Kvs value	primary: 3,1 secondary: 2.4

*For information on design data, see "Product range Friwa" ; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

Equipment

Check valves	primary: 1 x 200 mm wc
Heat exchanger	E8ASW-N, 32 plates
Sensors	2 x Pt1000
Controller	FC3.10
Circulation line	optional

Materials

Valves and fittings	Brass
Gaskets	EPDM / AFM34
Insulation	EPP
Heat exchanger	Solder: copper; Plates + connecting pieces: stainless steel; coating (optional): based on silica

Dimensions

Nominal diameter	DN 15 (½")
Connections	primary: ¾" int. thread secondary: ¾" ext. thread
Width	309 mm
Centre distance prim.	90 mm
Centre distance sec.	90 mm
Height	539 mm
Installation length	494 mm
Depth	314 mm
Connection circulation line	1" ext. thread

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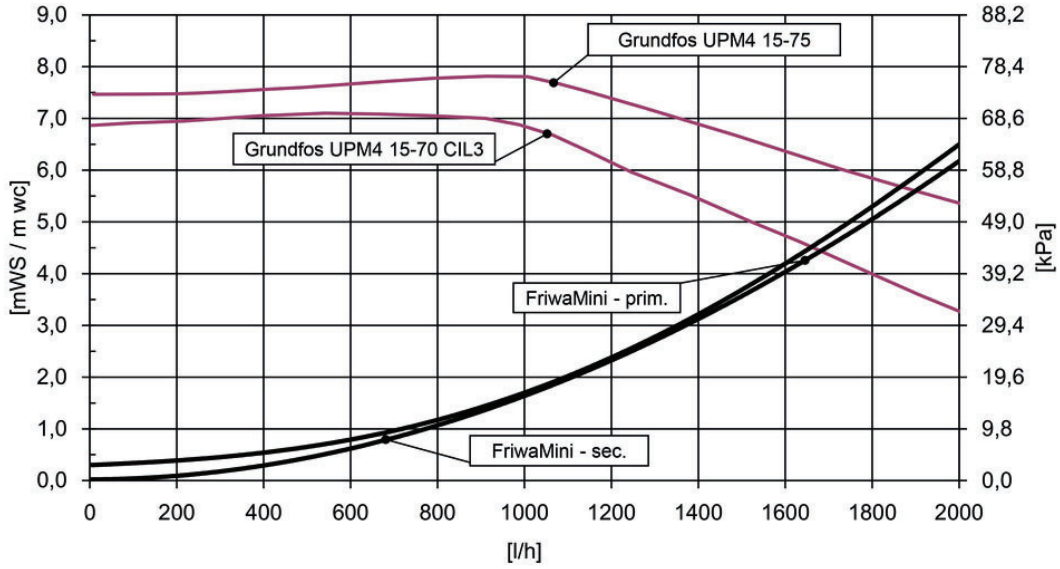
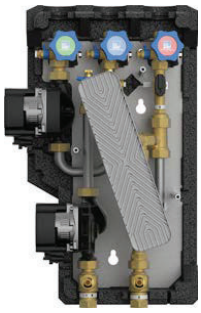
FriwaMini
up to 28 l/min (as per SPF LK1)*



FriwaMini - DN 15 (½")		Item no.
	**FriwaMini, without circulation** Primary pump: Grundfos UPM4 15-75	**6401510**
	FriwaMini, with circulation Primary pump: Grundfos UPM4 15-75 Secondary pump: Grundfos UPM4 15-70 CIL3	**6401515**
	FriwaMini, without circulation, coated heat exchanger Primary pump: Grundfos UPM4 15-75	**6401530**
	FriwaMini, with circulation, coated heat exchanger Primary pump: Grundfos UPM4 15-75 Secondary pump: Grundfos UPM4 15-70 CIL3	**6401535**

FriwaMidi
up to 50 l/min (as per SPF LK1)*

Application range

- Domestic hot water preparation operating on the principle of a flow-type water heater

The CE-conformity of the module has been certified according to DIN EN 60335 and SVGW.

Application range

- in solar thermal systems
- in systems with a heat pump, a solid fuel boiler, oil or gas boiler
- connection to a buffer tank
- as a quadruple cascade up to 200 l/min (as per SPF LK 1)*

Operating data

Max. operating pressure	primary: 3 bar secondary: 10 bar
Operating temperature	95 °C
Min. flow rate as per SPF LK 1*	2 l/min
Max. flow rate as per SPF LK 1* as per SPF LK1*	50 l/min
Transmission performance as per SPF LK1*	129 kW
Kvs value	primary: 4,5 secondary: 3.9

*For information on design data, see "Product range Friwa" ; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

Equipment

Check valves	primary: 2 x 190 mm wc
Heat exchanger	40 plates, copper solder/coated
Sensors	primary: 1 x Pt1000 / secondary: 2 x Pt1000 / 1 x flow meter
Controller	FC3.10
Circulation line	optional

Materials

Valves and fittings	Brass
Gaskets	EPDM / AFM34
Insulation	EPP
Heat exchanger	Solder: copper; Plates + connecting pieces: stainless steel; coating (optional): based on silica

Dimensions

Nominal diameter	DN 20 (¾")
Connections	primary: 1½" ext. thread secondary: 1" ext. thread
Width	602 mm
Centre distance prim.	120 mm
Centre distance sec.	100 mm
Height	795 mm
Installation length	757 mm
Depth	298 mm

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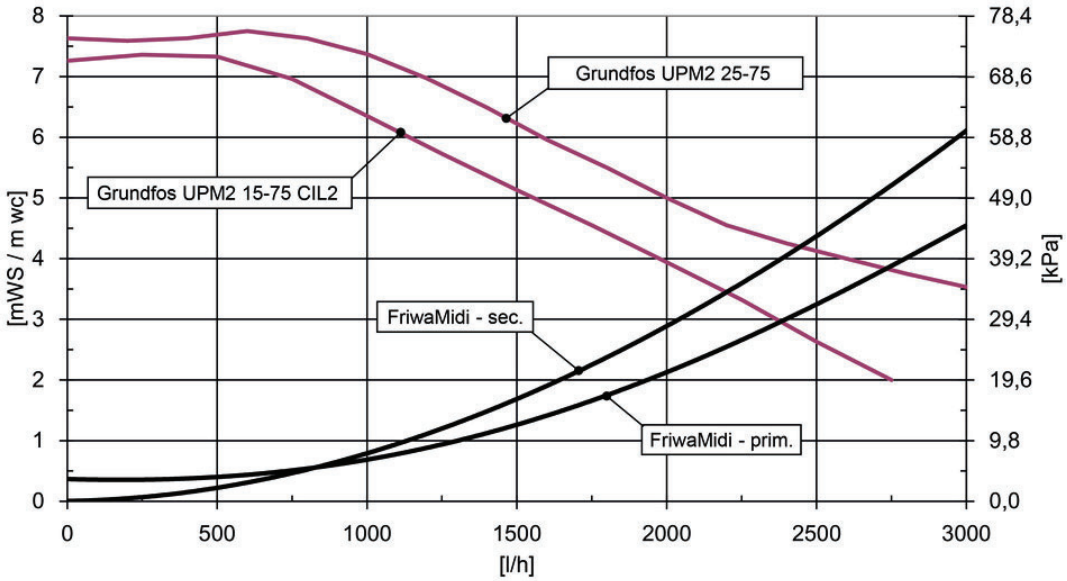
FriwaMidi
up to 50 l/min (as per SPF LK1)*



FriwaMidi - DN 20 (¾")		Item no.
	**FriwaMidi, without circulation** Primary pump: Grundfos UPM2 25-75 LowFlow	**6405511**
	FriwaMidi, with circulation Primary pump: Grundfos UPM2 25-75 LowFlow Secondary pump: Grundfos UPM2 15-75 CIL2	**6405516**
	FriwaMidi, without circulation, coated heat exchanger Primary pump: Grundfos UPM2 25-75 LowFlow	**6405531**
	FriwaMidi, with circulation, coated heat exchanger Primary pump: Grundfos UPM2 25-75 LowFlow Secondary pump: Grundfos UPM2 15-75 CIL2	**6405536**

FriwaMaxi
up to 77 l/min (as per SPF LK1)*

Application range

- Domestic hot water preparation operating on the principle of a flow-type water heater

The CE-conformity of the module has been certified according to DIN EN 60335 and SVGW.

Application range

- in solar thermal systems
- in systems with a heat pump, a solid fuel boiler, oil or gas boiler
- connection to a buffer tank
- as a quadruple cascade up to 308 l/min (as per SPF LK 1)*

Operating data

Max. operating pressure	primary: 3 bar secondary: 10 bar
Operating temperature	95 °C
Min. flow rate as per SPF LK 1*	2 l/min
Max. flow rate as per SPF LK 1* as per SPF LK1*	77 l/min
Transmission performance as per SPF LK1*	187 kW
Kvs value	primary: 5,6 secondary: 5.2

*For information on design data, see "Product range Friwa" ; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

Equipment

Check valves	primary: 2 x 400 mm wc
Heat exchanger	60 plates, copper solder/coated
Sensors	primary: 1 x Pt1000 / secondary: 2 x Pt1000 / 1 x flow meter
Controller	FC3.10
Circulation line	optional

Materials

Valves and fittings	Brass
Gaskets	EPDM / AFM34
Insulation	EPP
Heat exchanger	Solder: copper; Plates + connecting pieces: stainless steel; coating (optional): based on silica

Dimensions

Nominal diameter	DN 25 (1")
Connections	primary: 2" ext. thread secondary: 1 ¼" ext. thread
Width	602 mm
Centre distance prim.	120 mm
Centre distance sec.	100 mm
Height	795 mm
Installation length	769 mm
Depth	298 mm

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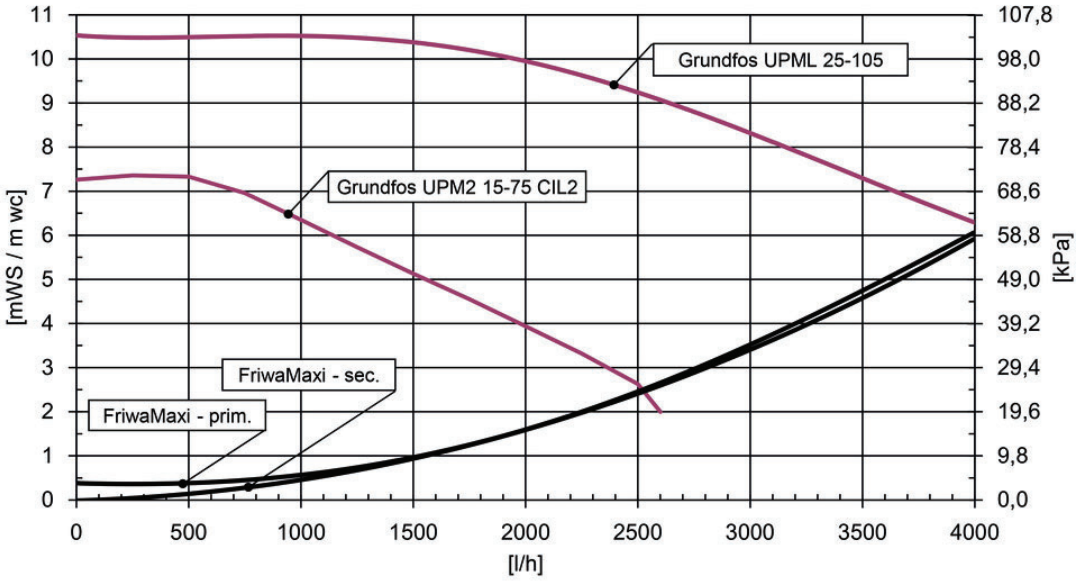
FriwaMaxi
up to 77 l/min (as per SPF LK1)*



FriwaMaxi - DN 25 (1")		Item no.
	**FriwaMaxi, without circulation** Primary pump: Grundfos UPML 25-105	**6406511**
	FriwaMaxi, with circulation Primary pump: Grundfos UPML 25-105 Secondary pump: Grundfos UPM2 15-75 CIL2	**6406516**
	FriwaMaxi, without circulation, coated heat exchanger Primary pump: Grundfos UPML 25-105	**6406531**
	FriwaMaxi, with circulation, coated heat exchanger Primary pump: Grundfos UPML 25-105 Secondary pump: Grundfos UPM2 15-75 CIL2	**6406536**

FriwaMega
up to 123 l/min (as per SPF LK1)*

Application range

- Domestic hot water preparation operating on the principle of a flow-type water heater

The CE-conformity of the module has been certified according to DIN EN 60335 and SVGW.

Application range

- in solar thermal systems
- in systems with a heat pump, a solid fuel boiler, oil or gas boiler
- connection to a buffer tank
- as a quadruple cascade up to 492 l/min (as per SPF LK 1)*

Operating data

Max. operating pressure	primary: 3 bar secondary: 10 bar
Operating temperature	95 °C
Min. flow rate as per SPF LK 1*	4 l/min
Max. flow rate as per SPF LK 1* as per SPF LK1*	123 l/min
Transmission performance as per SPF LK1*	300 kW
Kvs value	primary: 11,8 secondary: 10

*For information on design data, see "Product range Friwa" ; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

Equipment

Check valves	primary: 2 x 450 mm wc
Heat exchanger	2x 60 plates, copper solder/coated
Sensors	primary: 1 x Pt1000 / secondary: 2 x Pt1000 / 2 x flow meter
Controller	FC3.10
Circulation line	optional

Materials

Valves and fittings	Brass
Gaskets	EPDM / AFM34
Insulation	EPP
Heat exchanger	Solder: copper; Plates + connecting pieces: stainless steel; coating (optional): based on silica

Dimensions

Nominal diameter	DN 32 (1¼")
Connections	primary: 1½" int. thread secondary: 1½“ ext. thread
Width	710 mm
Centre distance prim.	158 mm
Centre distance sec.	158 mm
Height	1 423 mm
Installation length	1 205 mm
Depth	920 mm

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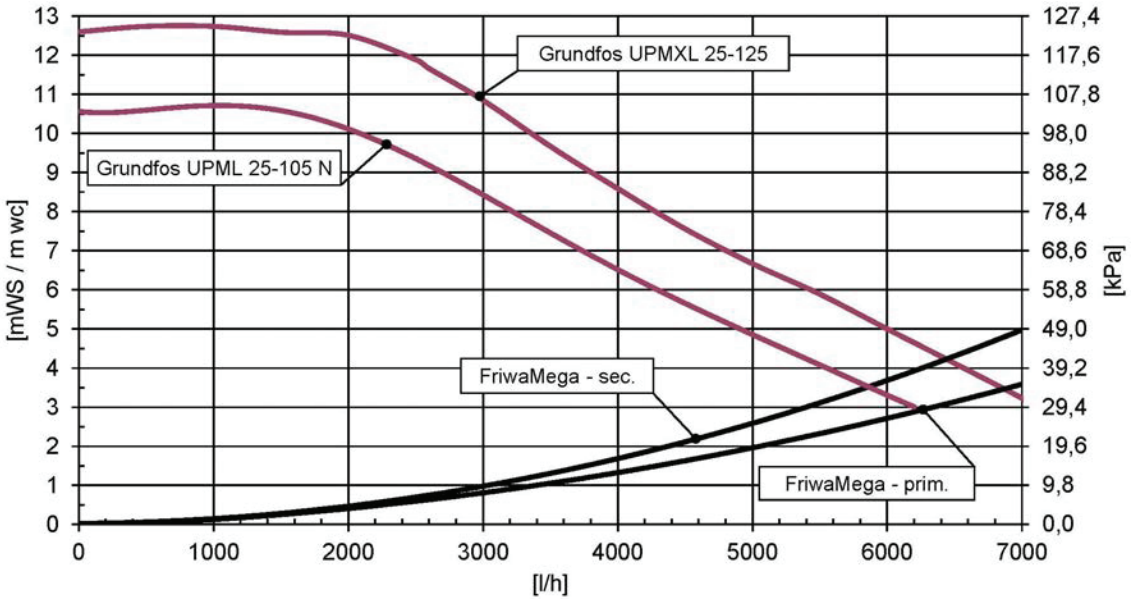
FriwaMega
up to 123 l/min (as per SPF LK1)*



FriwaMega - DN 32 (1¼")		Item no.
	**FriwaMega, without circulation** Primary pump: Grundfos UPMXL GEO 25-125	**6407511**
	FriwaMega, with circulation Primary pump: Grundfos UPMXL GEO 25-125 Secondary pump: Grundfos UPM2 15-75 CIL2	**6407517**
	FriwaMega, without circulation, coated heat exchanger Primary pump: Grundfos UPMXL GEO 25-125	**6407530**
	FriwaMega, with circulation (internal), coated heat exchanger Primary pump: Grundfos UPMXL GEO 25-125 Secondary pump: Grundfos UPML 25-105 N	**6407535**

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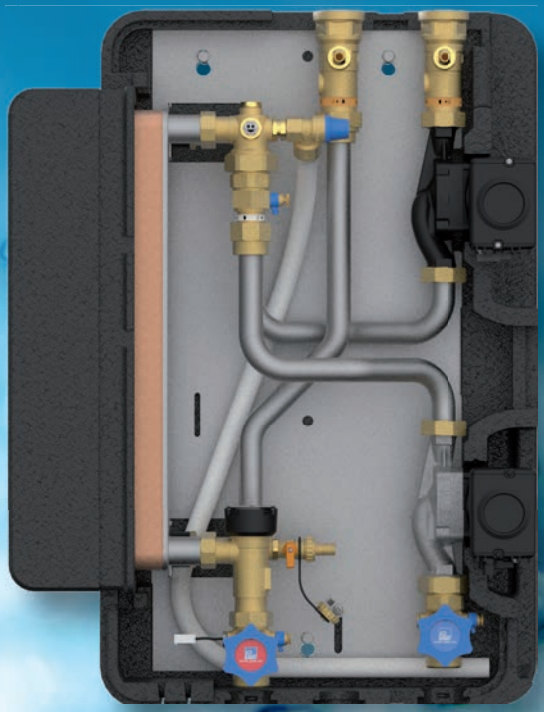

Tank heat transfer modules DN 20-25

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Solutions for domestic hot water technology

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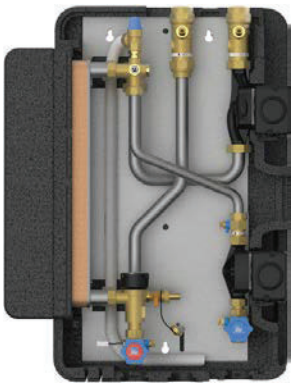
Tank heat transfer module Midi up to 33 l/min (as per SPF LK1)*



Application range

- for charging/preheating domestic hot water tanks via large buffer tank systems with high tap performances

The CE-conformity of the module has been certified according to DIN EN 60335 and SVGW.

Application range

- in solar thermal systems
- in systems with solid fuel boilers, oil or gas boilers
- connection to a buffer tank
- up to 33 l/min

Operating data

Max. operating pressure	primary: 3 bar secondary: 10 bar
Operating temperature	95 °C
Min. flow rate as per SPF LK 1*	2 l/min
Max. flow rate as per SPF LK 1* as per SPF LK1*	33 l/min
Transmission performance as per SPF LK1*	92 kW
Kvs value	primary: 4,1 secondary: 3.4

*For information on design data, see "Product range Friwa" ; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

Equipment

Check valves	primary: 2 x 190 mm wc
Heat exchanger	B25TH, 40 plates
Sensors	3 x Pt1000 (integrated) / 3 x Pt1000 (enclosed)
Controller	FC4.13

Materials

Valves and fittings	Brass
Gaskets	EPDM / AFM34
Insulation	EPP
Heat exchanger	Solder: copper; Plates + connecting pieces: stainless steel

Dimensions

Nominal diameter	DN 20 (¾")
Connections	primary: 1½" ext. thread secondary: 1" ext. thread
Width	602 mm
Centre distance prim.	120 mm
Centre distance sec.	220 mm
Height	795 mm
Installation length	757 mm
Depth	298 mm

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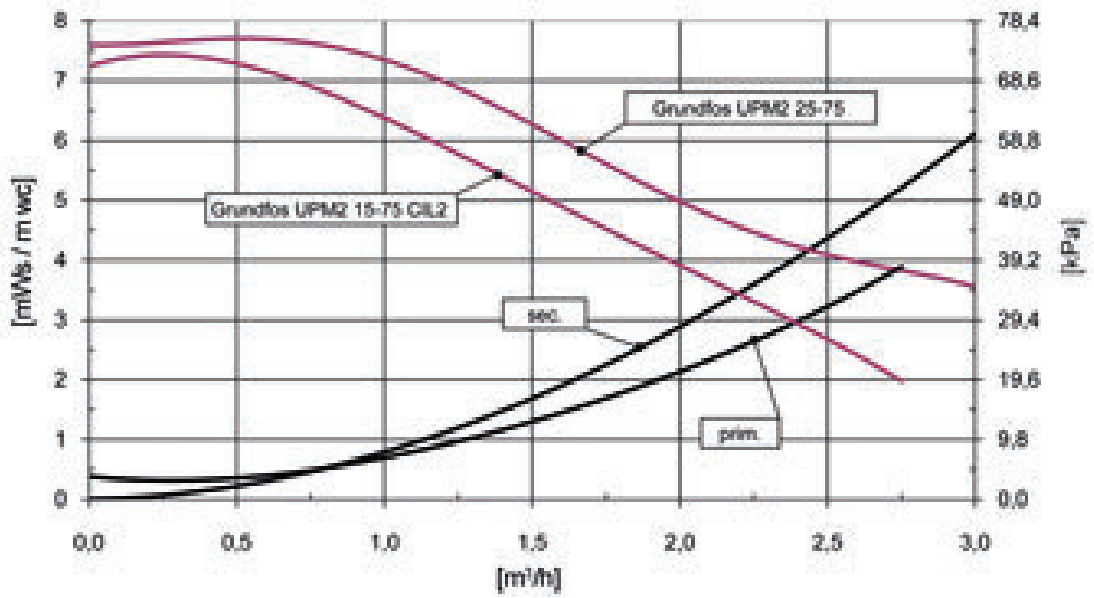
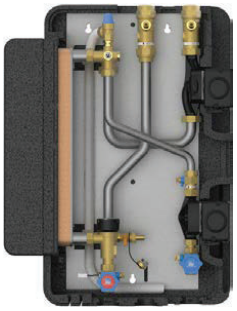
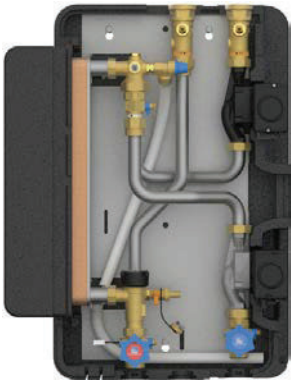
Tank heat transfer module Midi up to 33 l/min (as per SPF LK1)*



Tank heat transfer module Midi - DN 20 (¾")		Item no.
	**Tank heat transfer module Midi up to 33 l/min** Primary pump: Grundfos UPM2 25-75 LowFlow Secondary pump: Grundfos UPM2 15-75 CIL2	**6435445**

Tank heat transfer module Maxi up to 63 l/min (as per SPF LK1)*



Application range

- for charging/preheating domestic hot water tanks via large buffer tank systems with high tap performances

The CE-conformity of the module has been certified according to DIN EN 60335 and SVGW.

Application range

- in solar thermal systems
- in systems with solid fuel boilers, oil or gas boilers
- connection to a buffer tank
- up to 63 l/min

Operating data

Max. operating pressure	primary: 3 bar secondary: 10 bar
Operating temperature	95 °C
Min. flow rate as per SPF LK 1*	2 l/min
Max. flow rate as per SPF LK 1* as per SPF LK1*	63 l/min
Transmission performance as per SPF LK1*	175 kW
Kvs value	primary: 5,5 secondary: 5.1

*For information on design data, see "Product range Friwa" ; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

Equipment

Check valves	primary: 2 x 400 mm wc
Heat exchanger	B25TH, 60 plates
Sensors	3 x Pt1000 (integrated) / 3 x Pt1000 (enclosed)
Controller	FC4.13

Materials

Valves and fittings	Brass
Gaskets	EPDM / AFM34
Insulation	EPP
Heat exchanger	Solder: copper; Plates + connecting pieces: stainless steel

Dimensions

Nominal diameter	DN 25 (1")
Connections	primary: 2" ext. thread secondary: 1 ¼" ext. thread
Width	602 mm
Centre distance prim.	120 mm
Centre distance sec.	220 mm
Height	795 mm
Installation length	769 mm
Depth	298 mm

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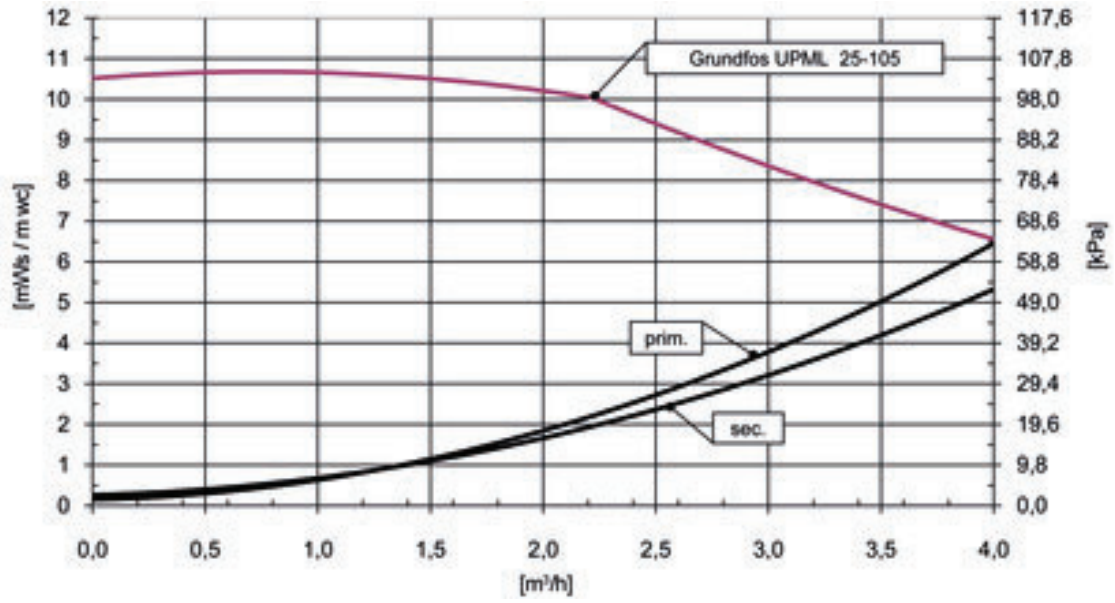
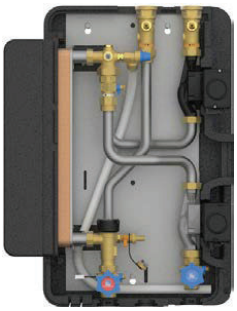
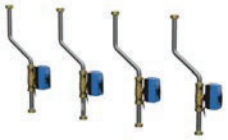
Tank heat transfer module Maxi
up to 63 l/min (as per SPF LK1)*



Tank heat transfer module Maxi - DN 25 (1")		Item no.
	**Tank heat transfer module Maxi up to 63 l/min** Primary pump: Grundfos UPML 25-105 Secondary pump: Grundfos UPML 25-105 N	**6436465**

Domestic hot water equipment

	**Service water mixing valve - DN 20** The PAW service water mixing valve is used for setting a constant temperature of the water withdrawn from solar or buffer storage tanks between 30 °C and 70 °C. With this valve, the danger of scalding due to hot water from the storage tank is reduced considerably. A must-have for each correctly designed solar thermal system for service water. Housing: Brass, insensitive to calcification, resistant to dezincification Precision of settings: +/- 2 °C Max. operating temperature: 98 °C Max. operating pressure: PN 10 Range of setting: 30-70 °C Withdrawal: 39 l/min (DP = 1.5 bar) Connections: thread connection with ¾" external thread	**56311**
	**Domestic hot water safety group ¾"** Safety group for hot water storage tank, with shut-off valve and adjustable check valve. For horizontal installation. With seat made of stainless steel. Brass housing. Chromed. Certified in conformity to EN 1487. Opening pressure 7 bar, max. power 10 kW	**563907**
	**Withdrawal valve** Flame-treated valves for sterile withdrawal of water. For the subsequent installation inside the Friwa module, on each piston valve of the domestic hot water circuit.	**640422**
	**Accessory set FriwaMicro** 3x ball valve DN 15 Authorisation according to DVGW Connection: ¾" ext. thread	**64042001**
	**Accessory set FriwaMidi-Kaskade 2-fold**	**64042622**
	Accessory set FriwaMidi-Kaskade 3-fold	**64042632**
	Accessory set FriwaMidi-Kaskade 4-fold The accessory set is for cascading of two, three or four identically constructed Friwa modules. The two-way valves are prefitted and can be easily mounted in the cold water line. Due to the short opening time of the valve there is no loss of comfort when connecting or disconnecting of single cascade modules.	**64042642**
	**Accessory set FriwaMaxi-Kaskade 2-fold**	**64042722**
	Accessory set FriwaMaxi-Kaskade 3-fold	**64042732**
	Accessory set FriwaMaxi-Kaskade 4-fold The accessory set is for cascading of two, three or four identically constructed Friwa modules. The two-way valves are prefitted and can be easily mounted in the cold water line. Due to the short opening time of the valve there is no loss of comfort when connecting or disconnecting of single cascade modules.	**64042742**

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	**Accessory set FriwaMega-Kaskade 2-fold**	**64042820**
	Accessory set FriwaMega-Kaskade 3-fold	**64042830**
	Accessory set FriwaMega-Kaskade 4-fold The set ist for cascading of two, three or four identically constructed Friwa modules. The two-way valves are prefitted and can be easily mounted in the cold water line. Due to the short opening time of the valve there is no loss of comfort when connecting or disconnecting of single cascade modules.	**64042840**
	**Circulation set for internal retrofitting for FriwaMini FC3.10** - with high-efficiency pump Grundfos UPM4 15-70 CIL3 - with piston valve and non-return valve Connection: 1" ext. thread	**6404111**
	**Circulation set for FriwaMidi/Maxi** - with high-efficiency pump Grundfos UPM3 15-70 CIL3 - with piston valve and non-return valve Connection: 1" ext. thread	**6404123**
	**Circulation set for internal retrofitting of FriwaMega** - with high-efficiency pump Grundfos UPML 25-105 N - with piston valve and non-return valve Connection: 1¼" ext. thread	**6404135GH10**
	**Circulation set for Friwa-Kaskade (Midi, Maxi, Mega) and for tank heat transfer module Midi, Maxi** - with high-efficiency pump Grundfos UPM4 15-70 CIL3 - with piston valves, non-return valve and draining Connection: 1" ext. thread	**6404136GM7**

Domestic hot water equipment

	**Circulation set for Friwa-Kaskade (Midi, Maxi, Mega) and for tank heat transfer module Midi, Maxi** - with high-efficiency pump Grundfos UPML 25-105 N - with piston valves, non-return valve and draining Connection: 1½" ext. thread	**6404136GH10**
	**Circulation set for Friwa-Kaskade (Maxi/Mega-Kaskade)** - with high-efficiency pump Grundfos UPMXL 25-125 N - with piston valves, non-return valve and draining Connection: 1½" ext. thread	**6404136GH12**
	**Return distribution set for FriwaMini - DN 25 (1")** 3-way valve with actuator, Kvs value: 11 3 x 1" int. thread	**640425**
	Return distribution set FriwaMidi, Tank heat transfer module Midi - DN 32 3-way valve with actuator, setting time for 90°: 18 sec., Kvs value: 15 3 x 1¼" int. thread	**640423**
	**Return distribution set for FriwaMaxi, tank heat transfer module Maxi - DN 32** 3-way valve with actuator, setting time for 90°: 35 sec., Kvs value: 16 3 x 1½" int. thread	**640424**
	Return distribution set for FriwaMidi/Maxi-Kaskade, FriwaMega, SolexMega HZ - DN 40 3-way valve with actuator, setting time for 90°: 35 sec., Kvs value: 25 3 x 1½" int. thread	**6404242**
	Return distribution set 2" int. thread - DN 50 (2") 3-way valve with actuator, setting time for 90°: 35 sec., Kvs value: 40 3 x 2" int. thread	**6404244**
	**Pipe set for FriwaMini-Kaskade** Insulated pipe set for cascading of two Friwa modules (item no. 6401510) - with 2 two-way valves for switching - with mounting rail for an easy wall assembly	**64042933**

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	**Pipe set for FriwaMidi-Kaskade** Insulated pipe set for cascading of two Friwa modules (item no. 6405511) - with 2 two-way valves for switching - with mounting rail for an easy wall assembly	**64042943**
	Pipe set for FriwaMaxi-Kaskade Insulated pipe set for cascading of two Friwa modules (item no. 6406511) - with 2 two-way valves for switching - with mounting rail for an easy wall assembly	**64042953**
	**Pipe set for FriwaMega-Kaskade** Insulated pipe set for cascading of two Friwa modules (item no. 6407511) - with two 2-way valves for switching	**64042963**
	**WiFi3.10 Internet Gateway Module** Communication module to connect PAW systems with domestic hot water controllers FC3.10 or solar controllers SC3.10 with the Internet visualisation platform emodul.eu. The communication module WiFi3.10 is connected to the FC3.10 or SC3.10 master via the integrated RS interface. The system specific data points are transmitted wirelessly to the platform emodul.eu via a router provided by the customer. An Internet access is required. Exclusive integration into the network structure provided by the customer. Consists of controller WiFi3.10, power supply unit, RS bus cable, instructions Operating voltage: 115-230 V/50-60 Hz Protection type: IP 20	**1339003**
	**MB3.10** Communication module to integrate PAW systems with domestic hot water controllers FC3.10 or solar controllers SC3.10 into superior systems with Modbus RTU interface. The communication module consists of two separate Modbus interfaces. The RS485 interface is connected with the master controller FC3.10 or SC3.10 of the PAW system. The communication module provides the superior Modbus server with the data via the Modbus RTU interface. All inputs and outputs of the connected controllers are available as readable data points.	**1339002**
	**2-way zone valve - DN 25 (1") for tank heat transfer module Midi** for connecting and disconnecting single storage tanks, DN 25, 1" int. thread, setting time for 90°: 30 sec., Kvs value = 68	**563542**
	2-way zone valve - DN 32 (1¼") for tank heat transfer module Maxi for connecting and disconnecting single storage tanks, DN 32, 1¼" internal thread, setting time for 90°: 30 sec., Kvs value = 123	**563552**