

Domestic hot water modules DN 15-32







Catalogue 04/2025

Solutions for domestic hot water technology

Valid for the EU







Overview product range Friwa Domestic hot water technology





| Design data FriwaMicro - D | N 15 (½") - up to 20 l/min (acc. to SPF L | K 1)*, cold water entry t | emperature = 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 |
| | 20 l/min | 49 kW | 60 °C (LK 1)* |
| 45 °C | 23 l/min | 57 kW | 70 °C |
| 60°C | 14 l/min | 48 kW 70 °C (LI | |
| | Modules | | |
| thermally controlled | 6400010 | | |
| | 6400030 | (coated | d heat exchanger) |



| Design data FriwaMini - DN 15 (1/2") - 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 | - | ransmission erformance | Primary required flow temperature |
| 45 °C | 28 l/min | 69 kW | | 60 °C (LK 1)* |
| 45 C | 38 l/min 93 kW | | 70 °C | |
| 60 °C | 20 l/min | | 69 kW | 70 °C (LK 2)* |
| | Modules | | | |
| without circulation | 6401511 | | 6401531 (coa | ted heat exchanger) |
| with circulation** | 6401516 | | 6401536 (coa | ted heat exchanger) |



| Set hot water temperature | Withdrawal of hot water with 45°C at the preset hot water temperature | Transmission performance | Primary required flow temperature |
|----------------------------------|---|--------------------------|-----------------------------------|
| 45.00 | 50 l/min | 121 kW | 60 °C (LK 1)* |
| 45 °C | 63 l/min | 155 kW | 70 °C |
| 60 °C | 37 l/min | 130 kW | 70 °C (LK 2)* |
| | | Modules | |
| without circulation | 6405511 | 6405531 (cc | pated heat exchanger) |
| with circulation (internal)** | 6405516 | 6405536 (cc | pated 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 $^{\circ}$ C at a primary flow temperature of 70 $^{\circ}$ C

 $^{{\}tt **Friwa\ modules\ can\ be\ equipped\ subsequently\ with\ internal\ circulation\ sets\ -\ see\ equipment}$







| Set hot water temperature | Withdrawal of hot water with 45 °C at the preset hot water temperature | Transmission performance | Primary required flow temperature |
|----------------------------------|--|--------------------------|-----------------------------------|
| 45.00 | 77 l/min | 187 kW | 60 °C (LK 1)* |
| 45 °C | 88 l/min | 215 kW | 70 °C |
| 60 °C | 58 l/min | 201 kW | 70 °C (LK 2)* |
| | | Modules | |
| without circulation | 6406511 | 6406531 (co | ated heat exchanger) |
| with circulation (internal)** | 6406516 | 6406536 (co | ated heat exchanger) |



| Set hot water temperature | Withdrawal of hot water with 45 °C at the preset hot water temperature | Transmission performance | Primary required flow temperature |
|----------------------------------|--|--------------------------|-----------------------------------|
| 45.06 | 123 l/min | 300 kW | 60 °C (LK 1)* |
| 45 °C | 130 l/min 317 kW | | 70 °C |
| 60 °C | 93 l/min | 324 kW | 70 °C (LK 2)* |
| | | Modules | |
| vithout circulation | 6407511 | 6407530 (cc | oated heat exchanger) |
| with circulation (internal)** | 6407517 | 6407535 (cc | pated heat exchanger) |

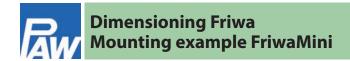
Single-family house (up to two showers) LK 1 = performance indicator 1 at a set hot water temperature of 45 °C at a primary flow temperature of 60 °C

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.

 $70\,^{\circ}\text{C}$ / $60\,^{\circ}\text{C}$ / $10\,^{\circ}\text{C}$ flow temperature $70\,^{\circ}\text{C}$ / Hot water temperature $60\,^{\circ}\text{C}$ / Cold water temperature $10\,^{\circ}\text{C}$ 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

- \checkmark 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





Required module and pipe set for double cascade*** - example FriwaMini Example: Pipe set for cascade Basic module Return distribution set Circulation line FriwaMini Basic modules 2x 6401510 2x 6401530 (coated heat exchanger) Pipe set for cascade 64042933 Return distribution set 5675431 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 | | 5675431 | 6404242 | 6404244 |
| Optional: circulation line | | 6404136GM7 | 6404136GM7 | 6404136GM7 |
| | | 6404136GH10 | 6404136GH10 | 6404136GH10 |
| | | 6404136GH12 | 6404136GH12 | 6404136GH12 |
| | Optional accessories: WiFi3 | .10 Internet Gateway modu | le and MB3.10 Modbus RTU | module |

| Required module for triple or quadruple cascade*** - example FriwaMidi | | | | | |
|--|----------------|--------------------|---|---|---|
| Example: | 3x or 4x | Basic module | + or - | Return distribution set | Circulation line |
| | | Basic module | 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 |
| | Ontional | accessories: WiEi7 | .10 Internet Gateway module | and MP3 10 Madhus PTI | Lucadula |

^{***} 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 $\rm EN\,60335$ and $\rm SVGW.$

Application range

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

Transmission performanceas per SPF LK1*

Operating data

Max. operating pressure primary: 3 bar secondary: 10 bar

Operating temperature 80 °C

Min. flow rate as per SPF LK 1* 21/min

Max. flow rate as per SPF LK 1*as per SPF LK1* 20 1/min

48 kW

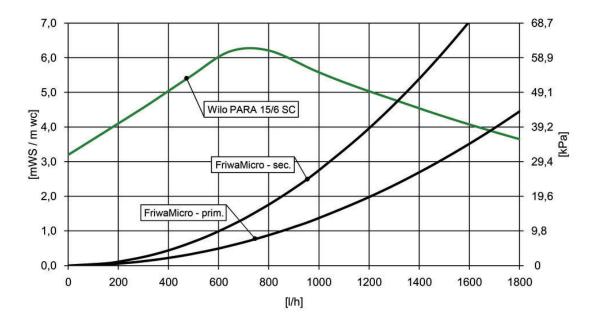
*For information on design data, see "Product range Friwa"; You will find the equipment at the end for the product family "Domestic hot water technology".

| Technical data | | | |
|---------------------|---|----------------------|----------------|
| Equipment | | Dimensions | |
| Heat exchanger | E8ASH, 24 plates | Height | 420 mm |
| Cartridge sensor | 30-60 °C | Width | 282 mm |
| Flow switch | Type 1.3 l/min | Depth | 265 mm |
| | | Installation length | 418 mm |
| Materials | | Centre distance | 65 mm |
| Valves and fittings | Brass | Centre distance sec. | 65 mm |
| Gaskets | EPDM / AFM34 | Nominal diameter | DN 15 (1/2") |
| Insulation | EPP | Connections | ¾" int. thread |
| Cartridge sensor | Stainless steel | | |
| Flow switch | Noryl | | |
| Thermostatic valve | Housing / valve plate: brass | | |
| Heat exchanger | coating (optional): based on silica; Solder: copper; Plates + connecting pieces: stainless steel | | |



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 |







 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. $\label{eq:certified} % \begin{center} \begin{center$

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

| mary: 1 x 200 mm wc |
|---------------------|
| 3.10 |
| Pt1000 |
| ASW-N, 32 plates |
| tional |
| tional |
| 1 |

Materials

MB3.10)

Valves and fittings Brass

Gaskets EPDM / AFM34

Insulation EPF

Heat exchanger coating (optional): based on silica;

Solder: copper;

Plates + connecting pieces:

stainless steel

Dimensions

| Height | 539 mm |
|-----------------------|--------|
| Width | 309 mm |
| Depth | 314 mm |
| Installation length | 494 mm |
| Centre distance prim. | 90 mm |
| Centre distance sec. | 90 mm |
| | |

Nominal diameter DN 15 (1/2")

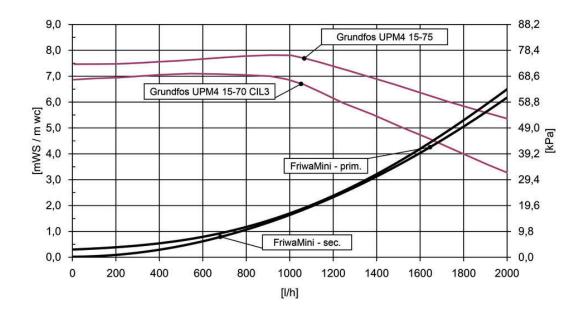
Connections primary: 3/4" int. thread

secondary: 3/4" ext. thread

Connection circulation line 1" ext. thread







| 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 | |







 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 $\rm EN\,60335$ and $\rm SVGW.$

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* 50 l/min

Transmission performance as per SPF LK1* 129 kW

Kvs value primary: 4,5 secondary: 3.9

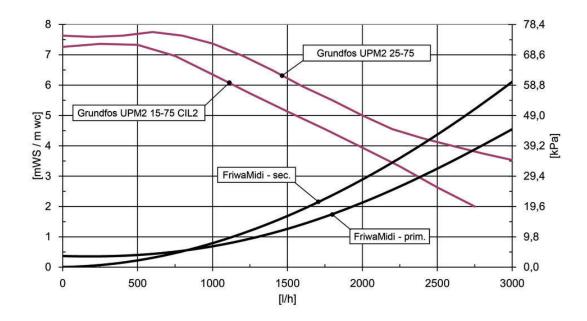
*For information on design data, see "Product range Friwa"; You will find the equipment at the end for the product family "Domestic hot water technology".

| Tech | nnica | l data |
|------|-------|--------|

| i echnicai data | | | |
|--|---|-----------------------------|--|
| Equipment | | Dimensions | |
| Check valves | primary: 2 x 190 mm wc | Height | 795 mm |
| Heat exchanger | 40 plates, copper solder/coated | Width | 602 mm |
| Sensors | primary: 1 x Pt1000 / secondary: 2 x Pt1000 / 1 x flow meter | Depth | 298 mm |
| Controller | FC3.10 | Installation length | 757 mm |
| Circulation line | optional | Centre distance prim. | 120 mm |
| Communication module (WiFi3.10/ MB3.10) | optional | Centre distance sec. | 100 mm |
| | | Nominal diameter | DN 20 (¾") |
| Materials | | Connections | primary: 1½" ext. thread secondary: 1" ext. thread |
| Valves and fittings | Brass | Connection circulation line | 1" ext. thread |
| Gaskets | EPDM / AFM34 | | |
| Insulation | EPP | | |
| Heat exchanger | coating (optional): based on silica; Solder: copper; Plates + connecting pieces: stainless steel | | |







| FriwaMidi - DN 20 (¾") | | ltem 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 |







 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 $\rm EN\,60335$ and $\rm SVGW.$

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* 37 l/min

Transmission performance as per SPF LK1* 187 kW

Kvs value primary: 5,6 secondary: 5.2

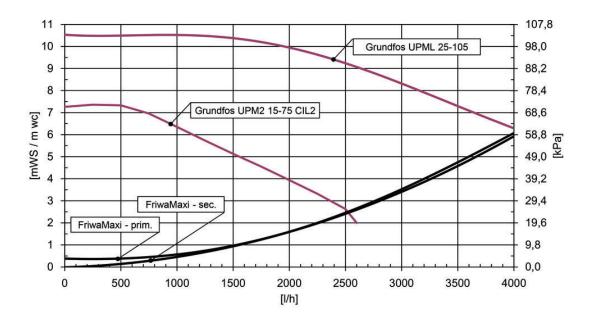
*For information on design data, see "Product range Friwa"; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

| reciliicai data | | | |
|--|---|-----------------------------|---|
| Equipment | | Dimensions | |
| Check valves | primary: 2 x 400 mm wc | Height | 795 mm |
| Heat exchanger | 60 plates, copper solder/coated | Width | 602 mm |
| Sensors | primary: 1 x Pt1000 / secondary: 2 x Pt1000 / 1 x flow meter | Depth | 298 mm |
| Controller | FC3.10 | Installation length | 769 mm |
| Circulation line | optional | Centre distance prim. | 120 mm |
| Communication module (WiFi3.10/ MB3.10) | optional | Centre distance sec. | 100 mm |
| | | Nominal diameter | DN 25 (1") |
| Materials | | Connections | primary: 2" ext. thread secondary: 1 ½" ext. thread |
| Valves and fittings | Brass | Connection circulation line | 1" ext. thread |
| Gaskets | EPDM / AFM34 | | |
| Insulation | EPP | | |
| Heat exchanger | coating (optional): based on silica; Solder: copper; Plates + connecting pieces: stainless steel | | |







| 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 |







 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 $\rm EN\,60335$ and $\rm SVGW.$

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

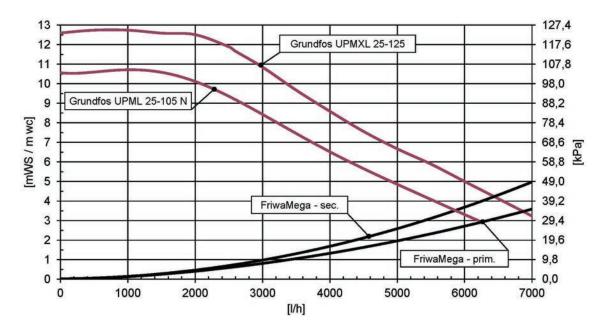
Kvs value primary: 11,8 secondary: 10

*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 | | Dimensions | |
| Check valves | primary: 2 x 450 mm wc | Height | 1 423 mm |
| Heat exchanger | 2x 60 plates, copper solder/coated | Width | 710 mm |
| Sensors | primary: 1 x Pt1000 / secondary: 2 x Pt1000 / 2 x flow meter | Depth | 920 mm |
| Controller | FC3.10 | Installation length | 1 205 mm |
| Circulation line | optional | Centre distance prim. | 158 mm |
| Communication module (WiFi3.10/MB3.10) | optional | Centre distance sec. | 158 mm |
| | | Nominal diameter | DN 32 (11/4") |
| Materials | | Connections | primary: 1½" int. thread secondary: 1½" ext. thread |
| Valves and fittings | Brass | Connection circulation line | thread / 1¼" ext. thread |
| Gaskets | EPDM / AFM34 | | |
| Insulation | EPP | | |
| Heat exchanger | coating (optional): based on silica; Solder: copper; Plates + connecting pieces: stainless steel | | |







| 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 UPML 25-105 N | 6407517 |
| | FriwaMega, without circulation, coated heat exchanger Primary pump: Grundfos UPMXL GEO 25-125 | 6407530 |
| الجاء | FriwaMega, with circulation (internal), coated heat exchanger Primary pump: Grundfos UPMXL GEO 25-125 Secondary pump: Grundfos UPML 25-105 N | 6407535 |





Tank heat transfer modules DN 20-25







Catalogue 04/2025

Solutions for domestic hot water technology

Valid for the EU











 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 $\rm EN\,60335$ and $\rm SVGW.$

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

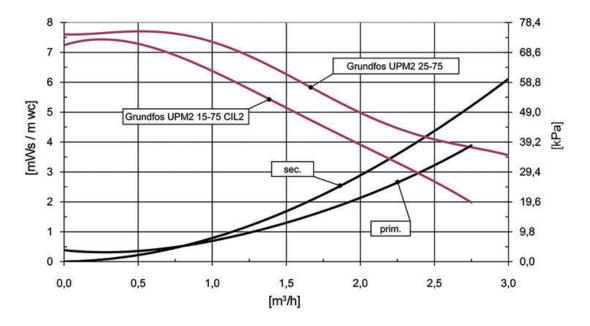
*For information on design data, see "Product range Friwa"; You will find the equipment at the end for the product family "Domestic hot water technology".

Technical data

| Equipment | | Dimensions | |
|---------------------|---|-----------------------|--|
| Check valves | primary: 2 x 190 mm wc | Height | 795 mm |
| Heat exchanger | B25TH, 40 plates | Width | 602 mm |
| Sensors | 3 x Pt1000 (integrated) / 3 x Pt1000 (enclosed) | Depth | 298 mm |
| Controller | FC4.13 | Installation length | 757 mm |
| | | Centre distance prim. | 120 mm |
| | | Centre distance sec. | 220 mm |
| | | Nominal diameter | DN 20 (¾") |
| Materials | | Connections | primary: 1½" ext. thread secondary: 1" ext. thread |
| Valves and fittings | Brass | | |
| Gaskets | EPDM / AFM34 | | |
| Insulation | EPP | | |
| Heat exchanger | Solder: copper; Plates + connecting pieces: stainless steel | | |







| neat transfer module Midi - DN | 20 (¾") | ltem 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 |







 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 $\rm EN\,60335$ and $\rm SVGW.$

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 $^{\circ}$ C

Operating temperature 95 °C

Min. flow rate as per SPF LK 1* 2 l/min

Max. flow rate as per SPF LK 1* 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".

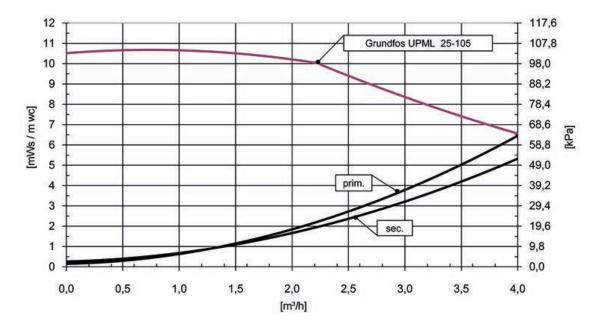
Technical data

| Equipment | | Dimensions | |
|---------------------|---|-----------------------|---|
| Check valves | primary: 2 x 400 mm wc | Height | 795 mm |
| Heat exchanger | B25TH, 60 plates | Width | 602 mm |
| Sensors | 3 x Pt1000 (integrated) / 3 x Pt1000 (enclosed) | Depth | 298 mm |
| Controller | FC4.13 | Installation length | 769 mm |
| | | Centre distance prim. | 120 mm |
| | | Centre distance sec. | 220 mm |
| | | Nominal diameter | DN 25 (1") |
| Materials | | Connections | primary: 2" ext. thread secondary: 1 ¼" ext. thread |
| Valves and fittings | Brass | | |
| Gaskets | EPDM / AFM34 | | |
| Insulation | EPP | | |
| Heat exchanger | Solder: copper; Plates + connecting pieces: stainless steel | | |



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





| eat transfer module Maxi - Di | l 25 (1") | ltem 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 |





| | Service water mixing valve - DN 20 | 56311 |
|------------------------|---|----------|
| | 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 3/4" external thread | 563907 |
| | Domestic hot water safety group ¾" | 503907 |
| | 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 | |
| | Opening pressure / Bul/max.power Tokin | |
| - Notice design (C.C.) | Withdrawal valve | 640422 |
| | 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. | |
| | Accessory set FriwaMicro | 64042001 |
| | 3x ball valve DN 15 Authorisation according to DVGW | |
| | Connection: ¾" ext. thread | |
| | Accessory set FriwaMidi-Kaskade 2-fold | 64042622 |
| IIII | Accessory set FriwaMidi-Kaskade 3-fold | 64042632 |
| 200 | Accessory set FriwaMidi-Kaskade 4-fold | 64042642 |
| r r h | 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. | |
| | Accessory set FriwaMaxi-Kaskade 2-fold | 64042722 |
| IIII | Accessory set FriwaMaxi-Kaskade 3-fold | 64042732 |
| 5111 | Accessory set FriwaMaxi-Kaskade 4-fold | 64042742 |
| le le le Je | 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. | |
| | Accessory set Friwa Mega-Kaskade 2-fold | 64042820 |
| | Accessory set Friwa Mega-Kaskade 3-fold | 64042830 |
| rrrr | Accessory set Friwa Mega-Kaskade 4-fold | 64042840 |
| | The accessory set serves for cascading two, three or four identically constructed domestic hot water modules. | |
| | The two-way valves are prefitted and can be easily mounted in the cold water line. Thanks to the short opening time of the valve, there is no loss of comfort when connecting or disconnecting of single cascade modules. | |





| 4 | Circulation set for FriwaMidi/Maxi | 6404123 |
|----------|---|-------------|
| | - with high-efficiency pump Grundfos UPM3 15-70 CIL3 - with piston valve and non-return valve Connection: 1" ext. thread | |
| * | | |
| | - with high-efficiency pump Grundfos UPML 25-105 N - with piston valve and non-return valve Connection: 11/4" ext. thread | 6404135GH10 |
| | 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 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 |
| | 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 |





| 1 | Circulation set for Friwa-Kaskade (Maxi/Mega-Kaskade) | 6404136GH12 |
|-----------|--|-------------|
| | - with high-efficiency pump Grundfos UPMXL 25-125 N - with piston valves, non-return valve and draining Connection: 1½" ext. thread | |
| | 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 | 640424 |
| | 3 x 1½" int. thread | 6404242 |
| - U | 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") | 6404244 |
| | 3-way valve with actuator, setting time for 90°: 35 sec., Kvs value: 40 3 x 2" int. thread | |
| 7 | Pipe set for FriwaMini-Kaskade | 64042933 |
| | 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 | |
| | Pipe set for FriwaMidi-Kaskade Insulated pipe set for cascading of two Friwa modules (item no. 6405511) - with 2 two-way valves for switching | 64042943 |
| 7 | - with mounting rail for an easy wall assembly Pipe set for FriwaMaxi-Kaskade | 64042953 |
| | 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 | 04042555 |
| | Pipe set for FriwaMega-Kaskade | 64042963 |
| 11 Police | Insulated pipe set for cascading of two Friwa modules (item no. 6407511) - with two 2-way valves for switching | |
| - | WiFi3.10 Internet Gateway Module | 1339003 |
| | Communication module to connect PAW systems with domestic hot water controllers FC3.10 with the Internet visualisation platform emodul.eu. The communication module WiFi3.10 is connected to the FC3.10 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 | |





| ● Common ● Common | 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 |
|-------------------|--|---------|
| To vo | 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, 14 " internal thread, setting time for 90° : $30 \sec$., Kvs value = 123 | 563552 |
| | 3-way valve PV3 - DN 25 (1") | 5675431 |
| | 3-way valve PV3 with union nut - DN 25 (1") Can be used in solar and heating installations, to switch between different zones or to connect and disconnect different parts of the system. The actuator is equipped with a relay which is actuated by a 2-point signal, if needed, it can also be manually operated. The 3-way zone PV3 valve can be operated in both directions. Power supply: 230 V - 50 Hz Power consumption: 5 Nm Setting time 90°: 13 s Kvs value: 15.5 | 5675432 |