

# BIOMASS UNIT

## SYSTEM SEPARATION FUNCTION, SERIES SKx100



SKP100



SKC100



SKS100

### PRODUCT DESCRIPTION

The Biomass Units are used in heating system with two heating devices for hydraulic separation. The product is dedicated for installation where a solid fuel boiler / heating source, such as water fireplace, wood stove and pellet boiler, is working together with a gas or oil boiler. The Biomass Unit separate hydraulically the two heating devices in one heating installation, and it is required by INAIL regulations. The hydraulic separation is necessary (according to INAIL standards) when the nominal power sum of the two heating generators working in the same heating system exceeds 35kW.

Depending of version, product comes equipped with plate heat exchanger, pump, diverting valve and backflow preventer.

The Biomass Units can be equipped with a controller CSK211 (available as accessory) for easy control and automatization of the heat supply.

### VERSIONS

#### ESBE Biomass Unit SKP111

The SKP111 is dedicated to separate two heating devices when nominal power sum exceeds 35kW.

The SKP111 comes with 30kW plate heat exchanger, a Wilo PARA 7,5m pump and back flow preventer.

The unit can be equipped with a controller CSK211 (available as accessory) to control the pump and the turn off the gas or oil boiler in case of biomass boiler usage. The SKP111 is prepared for a secondary pump (available as accessory) for the primary heating circuit.

#### ESBE Biomass Unit SKS101

The SKS101 is dedicated for potable water preparation with biomass heating sources, such as water fireplaces, wood stoves and pellet boilers.

The SKS101 comes with a 20kW plate heat exchanger and diverting valve. It can deliver 12 l/min of potable water at 45°C.

The unit is prepared for a pump (available as accessory) in case the biomass heating source is not equipped with such. The CSK211 controller (available as accessory) can be used to switch the pump on if the heating source has reached working temperature. For anti-scalding protection, ESBE is recommending one of the thermostatic mixing valves available in ESBE product portfolio.

#### ESBE Biomass SKC111

The SKC111 is dedicated to separate two heating devices when the nominal power sum exceeds 35kW, as well as potable water preparation.

The SKC111 comes with a 30kW plate heat exchanger, a Wilo PARA 7,5m pump, back flow preventer, diverting valve and 20kW plate heat exchanger for potable water preparation. The unit can deliver 12 l/min of potable hot water with a temperature of 45°C.

The SKC111 is prepared for a secondary pump (available as accessory) for the primary heating circuit, and can be equipped with a controller CSK211 (available as accessory) to control the pump and potable hot water, as well as turning off the gas or oil boiler, in case of biomass boiler usage.

For anti-scalding protection, ESBE is recommending one of the thermostatic mixing valves available in ESBE product portfolio.

### SERVICE AND MAINTENANCE

The Biomass Units does not require any specific maintenance under normal conditions.

### KEY BENEFITS

- Preassembled and pressure tested unit
- Easy and quick installation
- Potable water preparation (SKS111 & SKC111)
- Flexible design with the possibility of upgrade
- Dedicated unit controller
- Ensures the system compliance with INAIL

### RELATED ACCESSORIES

Art. No.

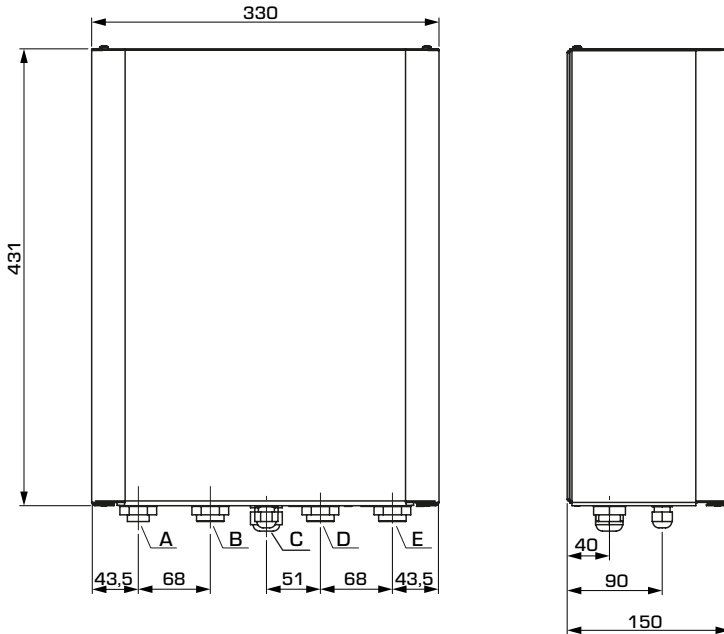
62100200 \_\_\_\_\_ CSK211 Biomass Units Controller

62100400 \_\_\_\_\_ PSK111 Pump Wilo PARA 15/8-75/SC 130

# BIOMASS UNIT

## SYSTEM SEPARATION FUNCTION, SERIES SKx100

### PRODUCT ASSORTMENT




#### Connections,

- A - Return, primary side \_\_\_\_\_ G 3/4"
- B - Return, secondary side \_\_\_\_\_ G 3/4"
- C - Cable leading
- D - Supply, primary side \_\_\_\_\_ G 3/4"
- E - Supply, secondary side \_\_\_\_\_ G 3/4"

### SERIES SKP100

Art. No.	Reference	Connections A, B, D, E	Weight [kg]	Note
62000100	SKP111	G 3/4"	8,2	

### TECHNICAL DATA

 Visit [esbe.eu](http://esbe.eu) for further detailed information.

#### Biomass unit SKP100, in general:

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +90°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C

Max. Working pressure - primary: \_\_\_\_\_ 0,5 MPa (5 bar)  
 - secondary: \_\_\_\_\_ 1,0 Mpa (10 bar)  
 Plate heat exchanger (heating): \_\_\_\_\_ 30 kW  
 Connections, \_\_\_\_\_ External thread (G), ISO 228/1  
 Media: \_\_\_\_\_ Heating water, in accordance with VDI2035

#### The integrated circulation pump:

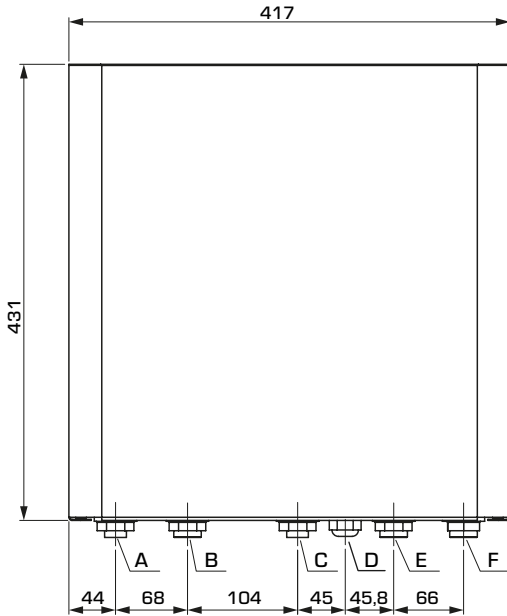
Pump reference: \_\_\_\_\_ Wilo PARA 15/8-75/SC 130  
 Pressure class: \_\_\_\_\_ PN 10  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Power consumption: \_\_\_\_\_ 10-75 W  
 Enclosure rating: \_\_\_\_\_ IP X4D  
 Insulation class: \_\_\_\_\_ F  
 EEI (Energy Efficiency Index): \_\_\_\_\_ ≤0,21 - part 3

Wiring - please see Installation instruction

# BIOMASS UNIT

## SYSTEM SEPARATION FUNCTION, SERIES SKx100

### PRODUCT ASSORTMENT




Connections,

- A - Potable hot water outlet \_\_\_\_\_ G 1/2"
- B - Supply, primary side \_\_\_\_\_ G 3/4"
- C - Potable water inlet \_\_\_\_\_ G 1/2"
- D - Cable leading
- E - Return, primary side \_\_\_\_\_ G 3/4"
- F - Heating receiver outlet \_\_\_\_\_ G 3/4"

### SERIES SKS100

Art. No.	Reference	Connections Heating B, E, F	Connections PHW A, C	PHW	Weight [kg]	Note
62001100	SKS101	G 3/4"	G 1/2"	12 l/min	8,0	

### TECHNICAL DATA

 Visit [esbe.eu](http://esbe.eu) for further detailed information.

#### Biomass unit SKS100, in general:

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +90°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Max. Working pressure - primary: \_\_\_\_\_ 0,5 MPa (5 bar)  
 - secondary: \_\_\_\_\_ 1,0 MPa (10 bar)  
 Plate heat exchanger (PHW): \_\_\_\_\_ 20 kW

Potable hot water capacity: \_\_\_\_\_ 12 l/min  
 Potable hot water temperature: \_\_\_\_\_ +45°C  
 (at 12l/min and cold water 15°C)  
 Connections, \_\_\_\_\_ External thread (G), ISO 228/1  
 Media,  
 Primary side: \_\_\_\_\_ Heating water, in accordance with VDI2035  
 Secondary side: \_\_\_\_\_ Potable water

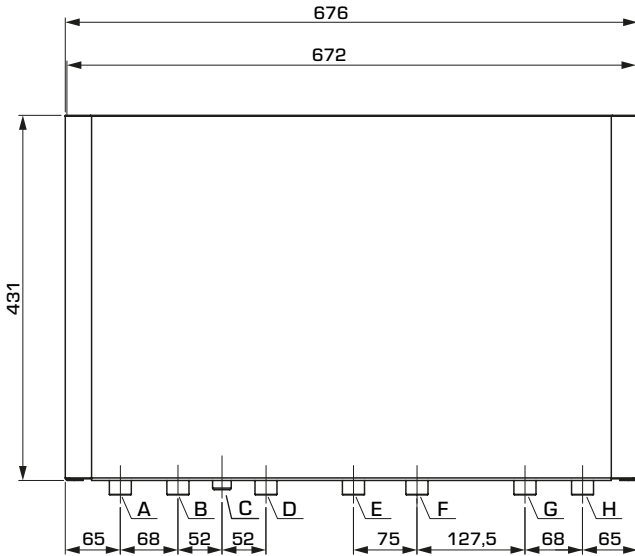
#### The integrated diverting valve:

Valve reference: \_\_\_\_\_ 3VNTB-2520 + GRSF-4V  
 Pressure class: \_\_\_\_\_ PN 16  
 Differential pressure: \_\_\_\_\_ ΔP 5 bar  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Power consumption,  
 during operation: \_\_\_\_\_ 4,1 W  
 at closed position (end of stroke): \_\_\_\_\_ 0 W  
 Running time 90°: \_\_\_\_\_ 30 s

# BIOMASS UNIT

## SYSTEM SEPARATION FUNCTION, SERIES SKx100

### PRODUCT ASSORTMENT



Connections,

- A - Return, secondary side \_\_\_\_\_ G 3/4"
- B - Return, primary side \_\_\_\_\_ G 3/4"
- C - Cable leading
- D - Heating receiver outlet \_\_\_\_\_ G 3/4"
- E - Potable hot water supply to the gas/oil heat generator: \_\_\_\_\_ G 1/2"
- F - Potable water inlet \_\_\_\_\_ G 1/2"
- G - Potable hot water outlet \_\_\_\_\_ G 1/2"
- H - Supply, primary side \_\_\_\_\_ G 3/4"

SKC111

### SERIES SKC100

Art. No.	Reference	Connections Heating A, B, D, H	Connections PHW E, F, G	PHW	Weight [kg]	Note
62002100	SKC111	G 3/4"	G 1/2"	12 l/min	14,7	

### TECHNICAL DATA

Visit [esbe.eu](http://esbe.eu) for further detailed information.

#### Biomass unit SKC100, in general:

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +90°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Max. Working pressure - primary: \_\_\_\_\_ 0,5 MPa (5 bar)  
 - secondary: \_\_\_\_\_ 1,0 MPa (10 bar)  
 Plate heat exchanger, heating: \_\_\_\_\_ 30 kW  
 PHW: \_\_\_\_\_ 20 kW

Potable hot water capacity: \_\_\_\_\_ 12 l/min  
 Potable hot water temperature: \_\_\_\_\_ +45°C  
 (at 12l/min and cold water 15°C)  
 Connections, \_\_\_\_\_ External thread (G), ISO 228/1  
 Media,  
 Primary side: \_\_\_\_\_ Heating water, in accordance with VDI2035  
 Secondary side: \_\_\_\_\_ Potable water

#### The integrated diverting valve:

Valve reference: \_\_\_\_\_ 3STMA20 + RSF-4V  
 Pressure class: \_\_\_\_\_ PN 16  
 Differential pressure: \_\_\_\_\_ ΔP 5 bar  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz

Power consumption,  
 during operation: \_\_\_\_\_ 4,1 W  
 at closed position (end of stroke): \_\_\_\_\_ 0 W  
 Running time 90°: \_\_\_\_\_ 30 s

#### The integrated circulation pump, SKC100:

Pump reference: \_\_\_\_\_ Wilo PARA 15/8-75/SC 130  
 Pressure class: \_\_\_\_\_ PN 10  
 Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Power consumption: \_\_\_\_\_ 10-75 W

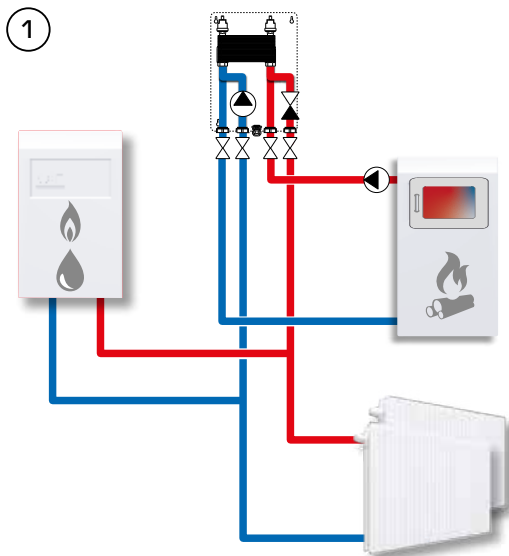
Enclosure rating: \_\_\_\_\_ IP X4D  
 Insulation class: \_\_\_\_\_ F  
 EEI (Energy Efficiency Index): \_\_\_\_\_ ≤0,21 -part 3

Wiring - please see Installation instruction

# BIOMASS UNIT

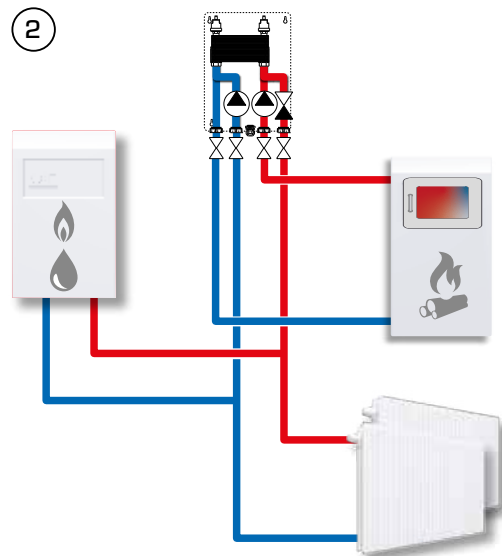
## SYSTEM SEPARATION FUNCTION, SERIES SKx100

### INSTALLATION EXAMPLES



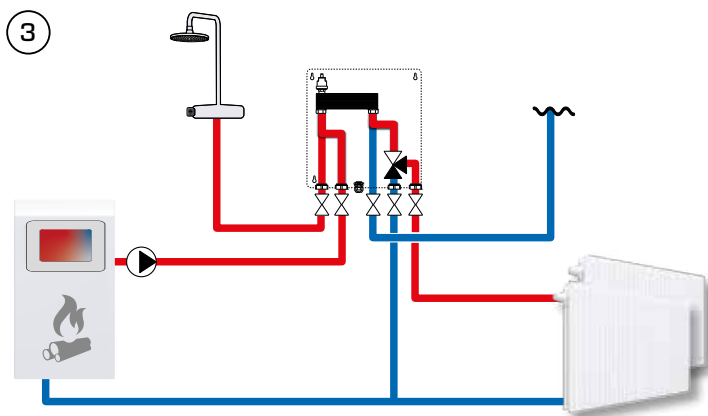
#### SKP111

Application example for SKP111 with two heating devices (gas boiler and water fireplace). The SKP111 provides the system separation. The Water fireplace has its own circulation pump.



#### SKP111 with secondary pump (available as accessory)

Application example for SKP111 with two heating devices (gas boiler and water fireplace). The SKP111 provides the system separation. The Water fireplace has no its own circulation pump and the SKP111 has been equipped with second pump (accessory).



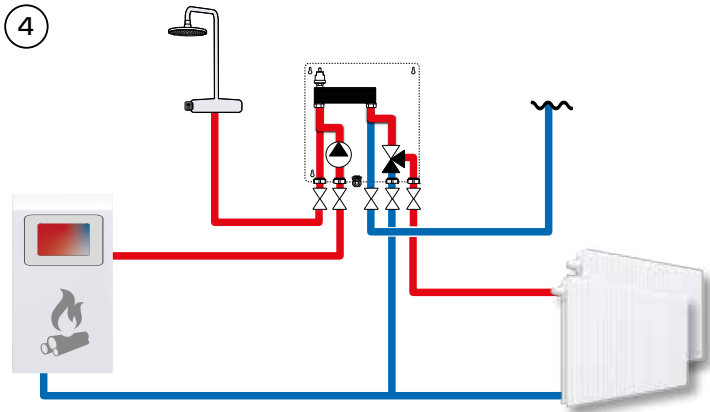
#### SKS101

The SKS101 provides hot water from the biomass boiler. The boiler has its own pump.

# BIOMASS UNIT

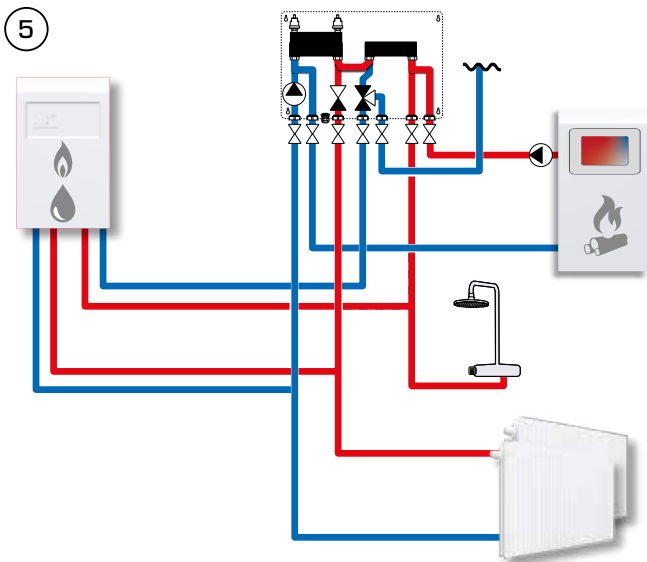
## SYSTEM SEPARATION FUNCTION, SERIES SKx100

### INSTALLATION EXAMPLES



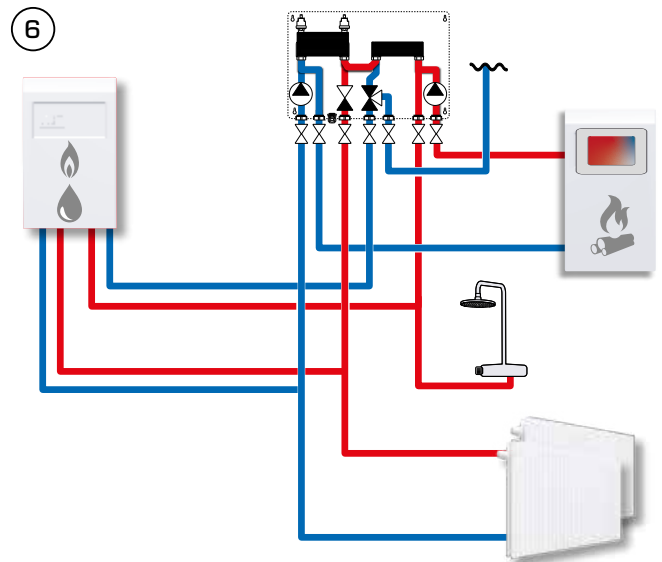
#### SKS101 in pump

The SKS101 equipped in a pump (accessory) in case when the heating source do not have its own circulation pump. The SKS101 is providing the potable hot water.



#### SKC111

The SKC111 is providing the system separation and potable hot water preparation. The stove has its own circulation pump. The SKC111 provides heat and potable hot water from two heating devices.



#### SKC111 with secondary pump (available as accessory)

The SKC111 is providing the system separation and potable hot water preparation. The stove has no own circulation pump but the SKC111 can be equipped in secondary pump (accessory). The SKC111 provides heat and potable hot water from two heating devices