



**SWEDISH** HYDRONIC SOLUTIONS SINCE 1906 



## Separation Units

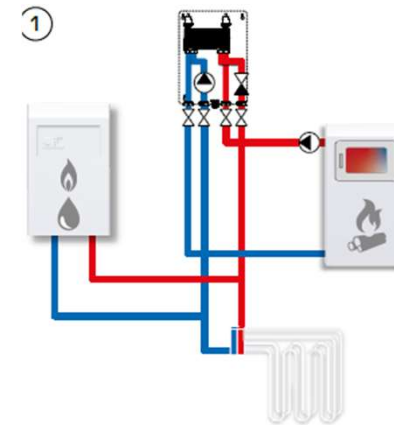
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## Introduction – Italy

- According to INAIL regulation/ISPESL 2006-09-18 in the Italian market, hydraulic separation is necessary when the nominal power sum of two heating generators\* working in the same heating systems exceeds 35kW.

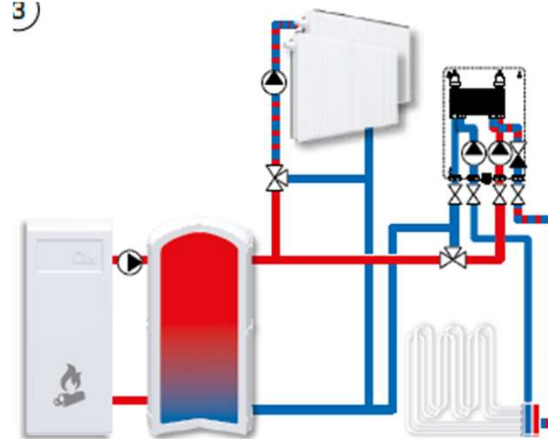
*\*solid fuel boiler / heating source, such as water fireplace, wood stove and pellet boiler, is working together with a gas or oil boiler*



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## Introduction – Germany

- Germany still has many old heating circuits installed with old plastic piping which are oxygen diffusible. Since oxygen can damage the heating boiler these circuits need to be hydraulically separated from the boiler.
- When the heating boiler in old systems are replaced, German sales organization sees an opportunity to sell ESBE SKx100 as a hydraulic system separation.



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## Introduction – Generally

- Heat exchangers are used to enable the use of different liquids in two connected circuits, eg glycol on the primary side and water on the secondary side – *Tap water production*.
- Secondary circuits in old installation sometimes consist of old plastic piping that let oxygen through. To avoid oxygen entering the primary circuit and damaging the heating boiler a heat exchanger is installed to *separates the primary and secondary circuit*.
- The heat exchanger *enables pressure differences* between the primary circuit and the secondary circuit.



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## Product range – Separation Units SKx

- 3 Different units
  - ESBE SKP100
  - ESBE SKS100
  - ESBE SKC100
  
- 2 Accessories
  - ESBE CSK211
  - ESBE PSK111



SERIES	FUNCTION
ESBE SKP100	
ESBE SKS100	
ESBE SKC100	



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## Product range – SKP100

The SKP100 is dedicated to separate two circuits in a heating system. The SKP100 comes with:

- 30kW plate heat exchanger
- Wilo PARA 8m pump
- Check valve
- Prepared for installation of a secondary pump

### Separation 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: \_\_\_\_\_ 0,6 MPa (6 bar)  
 Plate heat exchanger (heating): \_\_\_\_\_ 30 kW

Connections, \_\_\_\_\_ External thread (G), ISO 228/1  
 Media: \_\_\_\_\_ Heating water, in accordance with VDI2035

### Conformities and certificates

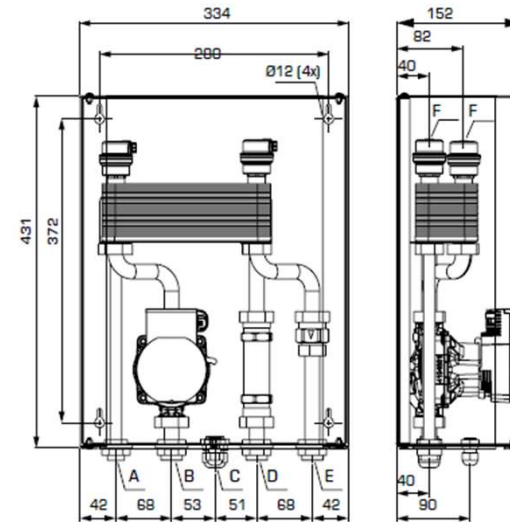
**CE** LVD 2014/35/EU SI 2016 No. 1101  
 EMC 2014/30/EU SI 2016 No. 1091  
**UK CA** RoHS 2015/863/EU SI 2012 No. 3032  
 ErP 2009/125/EU SI 2010 No. 2617

PED 2014/68/EU, article 4.3 / SI 2016 No. 1105 (UK)

### The integrated circulation pump, SKP100:

Pump reference: \_\_\_\_\_ Wilo PARA 15-130/8-75/SC  
 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

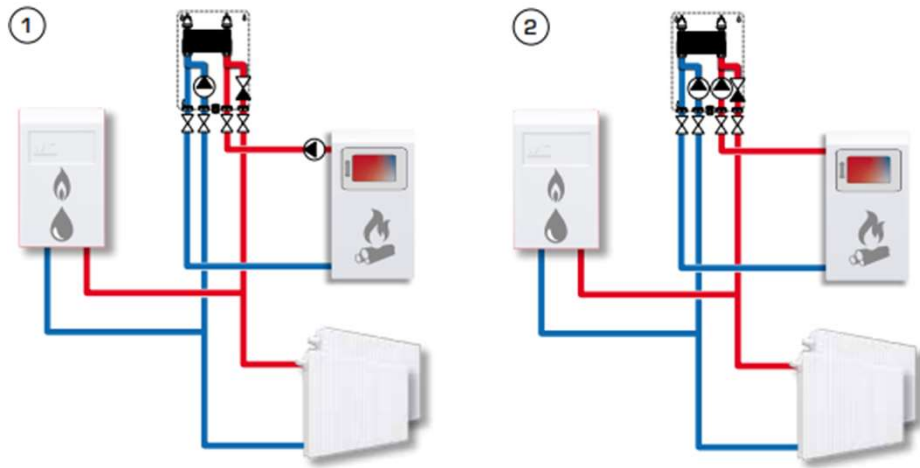


A - Return, primary side \_\_\_\_\_ G 3/4"  
 B - Return, secondary side \_\_\_\_\_ G 3/4"  
 C - Cable leading  
 D - Supply, primary side \_\_\_\_\_ G 3/4"  
 E - Supply, secondary side \_\_\_\_\_ G 3/4"  
 F - Air vent valve (2x)



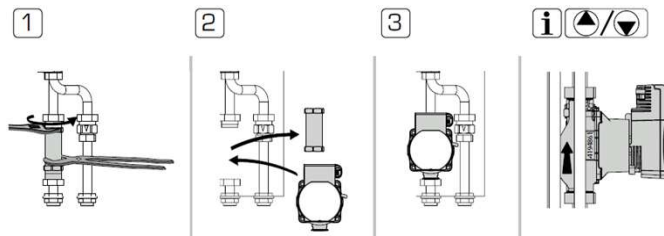
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## Product range – SKP100



Application examples for SKP111 with two heating devices (gas boiler and water fireplace). The SKP111 provides the hydraulic system separation.

### Pump installation





## Product range – SKS100

The SKS100 is dedicated for potable water preparation with solid fuel heating sources. The SKS100 comes with:

- 20kW plate heat exchanger
- Diverting valve
- It can deliver 12 l/min of potable water at 45°C
- Prepared for installation of a pump

### Separation 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: \_\_\_\_\_ 0,6 MPa (6 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 VD2035  
 Secondary side: \_\_\_\_\_ Potable water

### Conformities and certificates

CE LVD 2014/35/EU SI 2016 No. 1101  
 EMC 2014/30/EU SI 2016 No. 1091  
 RoHS 2015/863/EU UK CA SI 2012 No. 3032

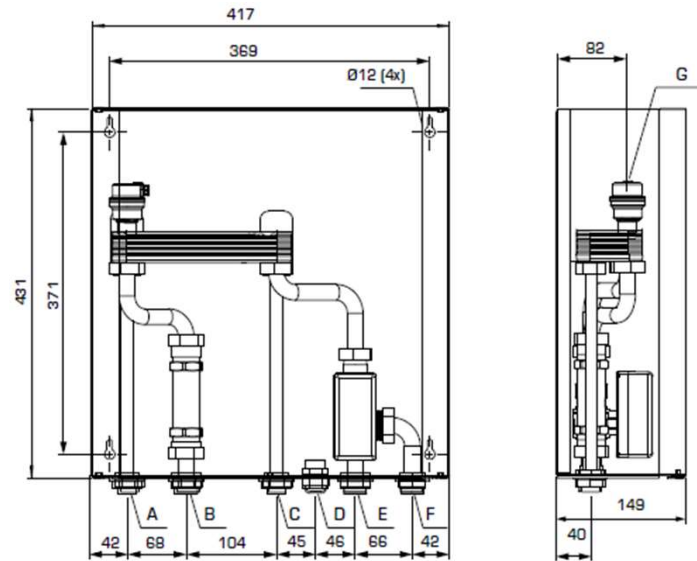
PED 2014/68/EU, article 4.3 / SI 2016 No. 1105 (UK)

### The integrated diverting valve, SKS100:

Valve reference: \_\_\_\_\_ 3VNTB-2520 + GRSF-4V  
 Pressure class: \_\_\_\_\_ PN 16  
 Differential pressure: \_\_\_\_\_ ΔP 5 bar  
 Control signal: \_\_\_\_\_ 3-point SPDT  
 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  
 Enclosure rating: \_\_\_\_\_ IP41

**WIRING** - please see Installation instruction

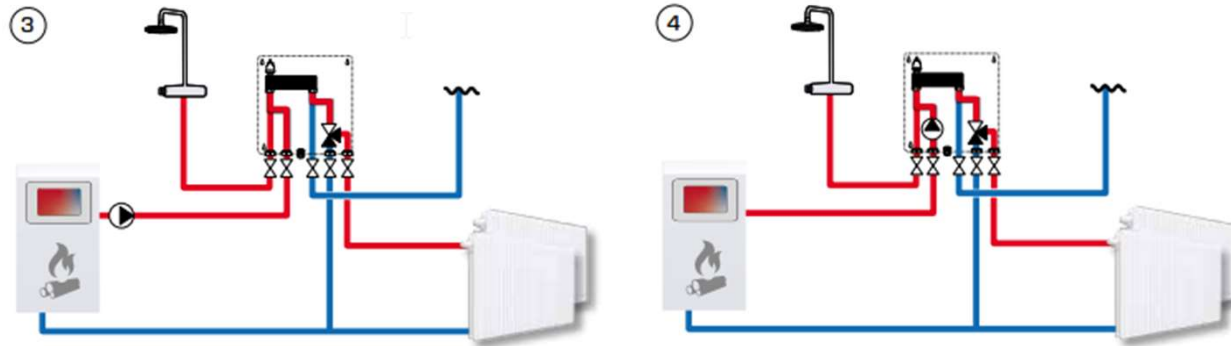


- A - Potable hot water outlet \_\_\_\_\_ G ½"
- B - Supply, primary side \_\_\_\_\_ G ¾"
- C - Potable water inlet \_\_\_\_\_ G ½"
- D - Cable leading
- E - Return, primary side \_\_\_\_\_ G ¾"
- F - Heating receiver outlet \_\_\_\_\_ G ¾"
- G - Air vent valve [1x]



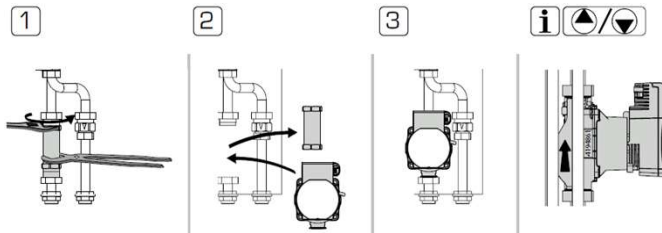
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## Product range – SKS100



The SKS100 provides hot water from the solid fuel boiler.

### Pump installation



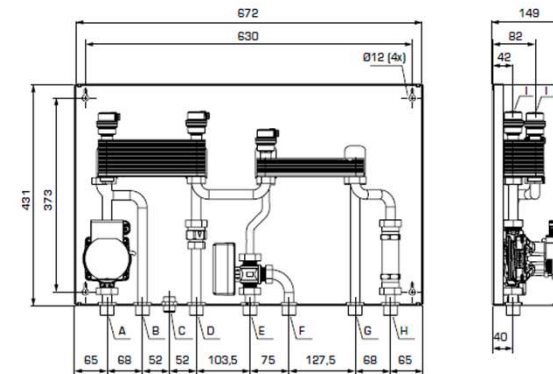
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## Product range – SKC100

The SKC100 is dedicated to separate two circuits in a heating system, as well as potable water preparation. The SKC100 comes with:

- 30kW plate heat exchanger
- Wilo PARA 8m pump
- Check valve
- Diverting valve
- 20kW plate heat exchanger for potable water preparation
- It can deliver 12 l/min of potable water at 45°C
- Prepared for installation of a secondary pump

Separation unit SKC100, in general	
Pressure class: PN 6	Connections: External thread (G), ISO 228/1
Media temperature: max. +90°C	Media: Primary side: Heating water; in accordance with V032035
Ambient temperature: min. 0°C	Secondary side: Potable water
Max. Working pressure - primary: 0,6 MPa (6 bar)	<b>Conformities and certificates</b>
secondary: 1,0 MPa (10 bar)	CE PED 2014/68/EU
Plate heat exchanger: heating: 30 kW	EMC 2014/53/EU
P/W: 20 kW	EMC 2014/30/EU
Potable hot water capacity: 12 l/min	RoHS 2011/653/EU
Potable hot water temperature: +45°C	ErP 2009/125/EU
(at 12 l/min and cold water 15°C)	SI 2016 No. 1101
	S 2018 No. 1091
	SI 2012 No. 3036
	SI 2010 No. 2617
	PED 2014/68/EU article 4.3 / SI 2016 No. 1105 (UK)
The integrated diverting valve, SKC100:	
Valve reference: 3STMA-20 + RSF-4V	Power consumption during operation: 4,1 W
Pressure class: PN 16	at closed position (end of stroke): 0 W
Differential pressure: ΔP (5 bar)	Enclosure rating: IP41
Power supply: 230 ± 10% V AC, 50/60 Hz	<b>WIRING</b> please see Installation instruction
Running time 90°: 30 s	
The integrated circulation pump, SKC100:	
Pump reference: Wilo PARA 15-130/B-75/SC	Enclosure rating: IPX4D
Pressure class: PN 10	Insulation class: F
Power supply: 230 ± 10% V AC, 50/60 Hz	EE (Energy Efficiency Index): <math>\leq Q21 - part 3</math>
Power consumption: 10-75 W	<b>WIRING</b> please see Installation instruction

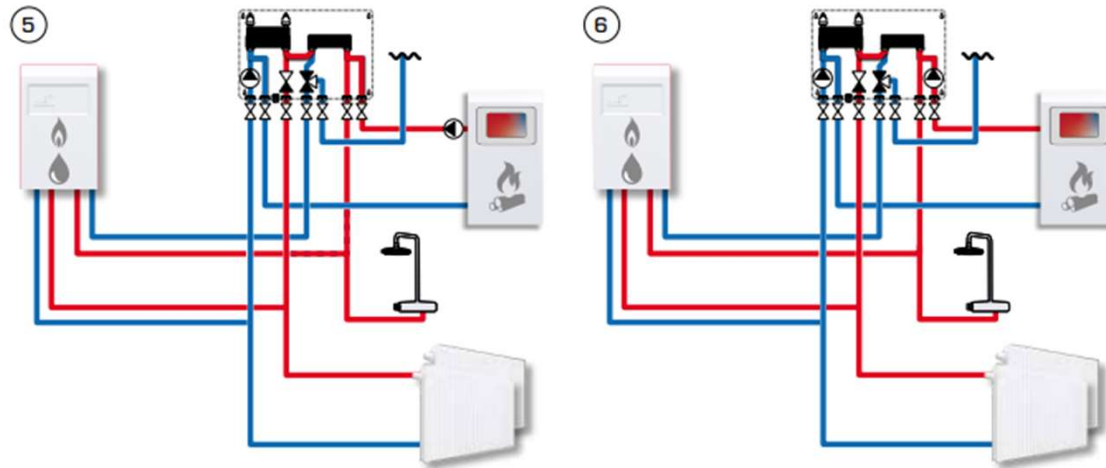


- A - Return, secondary side \_\_\_\_\_ G 3/4"
- B - Return, primary side \_\_\_\_\_ G 3/4"
- C - Cable leading
- D - Heating receiver outlet \_\_\_\_\_ G 3/4"
- E - Potable hot water supply to the gas/oil heat generator: \_\_\_\_\_ G 1/2"
- F - Potable water inlet \_\_\_\_\_ G 1/2"
- G - Potable hot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



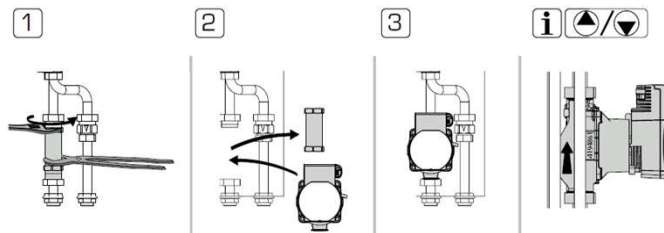
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## Product range – SKC100



SKC100 provides the heat and potable hot water from two heating devices (gas boiler and water fireplace) thru hydraulic system separation.

### Pump installation



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