

# CIRCULATION UNIT

## FIXED TEMPERATURE, SERIES GFA300



GFA311

### PRODUCT DESCRIPTION

The ESBE series GFA300 is a circulation mixing unit designed for heating circuits, where the constant temperature control is required. Equipped with two shut-off valves with thermometers, check valve, high class insulation shell and high efficiency circulation pump. The GFA300 is delivered with the 3-way thermostatic mixing valve for constant temperature control of the heating circuit. The thermostatic mixing valve has adjustable temperature setting.

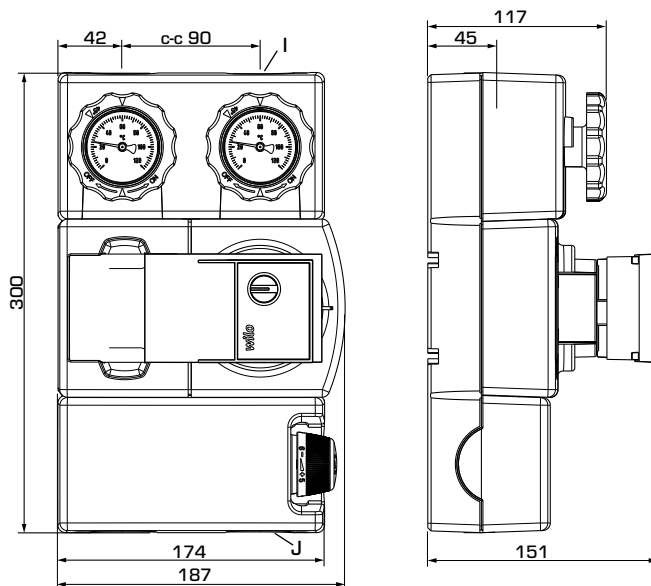
### KEY BENEFITS

- Thermostatic constant temperature control
- Adjustable temperature setting
- High class insulation shell
- High efficiency circulation pump
- Compact design

### SERVICE AND MAINTENANCE

The circulation unit does not require any specific maintenance under normal conditions.

### PRODUCT ASSORTMENT



GFA311


### SERIES GFA300

Art. No.	Reference	DN	Pump	Temperature range	Connections		Weight [kg]	Note
					I	J		
61023100	GFA311	20	Wilo 15/7,5	20-55 °C	G ¾"	G 1"	4,0	

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### TECHNICAL DATA

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

#### The Circulation unit, in general:

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +110°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Working pressure: \_\_\_\_\_ 0,6 MPa (6 bar)  
 Connections, \_\_\_\_\_ Internal thread (G), ISO 228/1  
 \_\_\_\_\_ External thread (G), ISO 228/1  
 Insulation: \_\_\_\_\_ EPP  $\lambda$  0,036 W/mK  
 Media: \_\_\_\_\_ Heating water (in accordance with VDI2035)  
 \_\_\_\_\_ Water / Glycol mixtures, max. 50%.  
 (above 20% admixture, the pump data must be checked)  
 \_\_\_\_\_ Water / Ethanol mixtures, max. 28%

#### Material, in contact with water:

Components of: \_\_\_\_\_ Brass, Cast iron, Steel  
 Sealing material of: \_\_\_\_\_ PTFE, Aramid fibre, EPDM

#### EEl (Energy Efficiency Index),

Wilco circulation pump: \_\_\_\_\_ <0,21

#### Conformities and certificates:

 LVD 2014/35/EU  ErP 2009/125/EU  
 EMC 2014/30/EU  ErP 2015  
 RoHS 2011/65/EU  ErEV 2014  
 PED 2014/68/EU, article 4.3

#### The integrated thermostatic mixing valve:

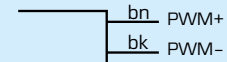
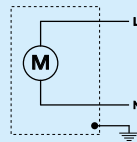
Max. differential pressure drop: \_\_\_\_\_ 100kPa (1bar)  
 Temperature range: \_\_\_\_\_ 20-55°C  
 Temperature stability: \_\_\_\_\_  $\pm 3^\circ\text{C}^*$

\* Valid at unchanged hot/cold water pressure, minimum flow rate 9 l/min.  
 Minimum temperature difference between hot water inlet and mixed water outlet 10°C.

#### The integrated circulation pump:

Type: \_\_\_\_\_ Wilco RSTG 15/7,5  
 Power supply: \_\_\_\_\_ 230  $\pm$  10% V AC, 50/60 Hz  
 Cable length: \_\_\_\_\_ 3m  
 Power consumption: \_\_\_\_\_ 4-75 W  
 Enclosure rating: \_\_\_\_\_ IP X4D  
 Insulation class: \_\_\_\_\_ F  
 EEl (Energy Efficiency Index): \_\_\_\_\_ <0,21

#### PUMP WIRING\*



Pumpspeed could be controlled by PWM signal

\* The circulation pump should be preceded by a multi-pole contact breaker in the fixed installation.

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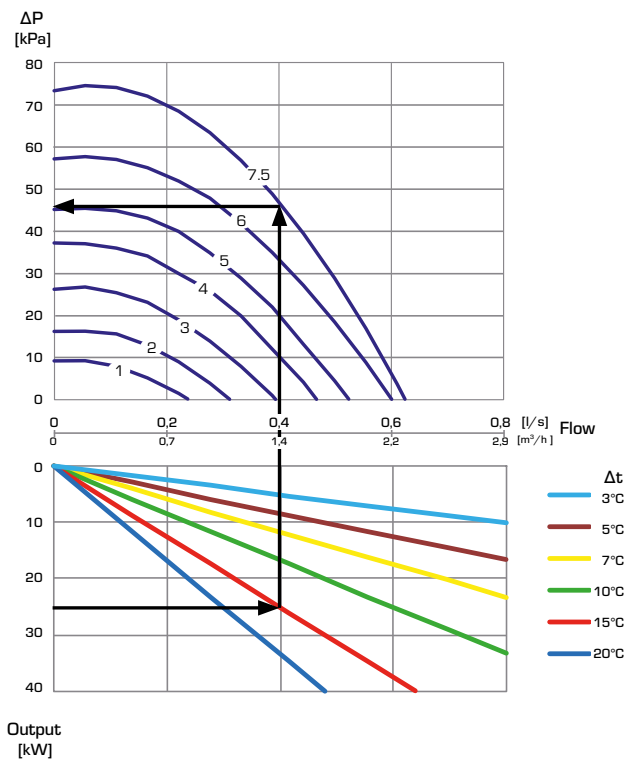
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### DIMENSIONING, PUMP CAPACITY DIAGRAM

**Example:** Start with the heating demand of heating circuit (e.g. 25 kW) and move horizontally to the right in the diagram to the  $\Delta t = 15^\circ\text{C}$  (temperature difference between flow and return of the heating circuit). Next go up and find working point and read the available pressure of the pump on the left -  $\Delta p = 47 \text{ kPa}$ .

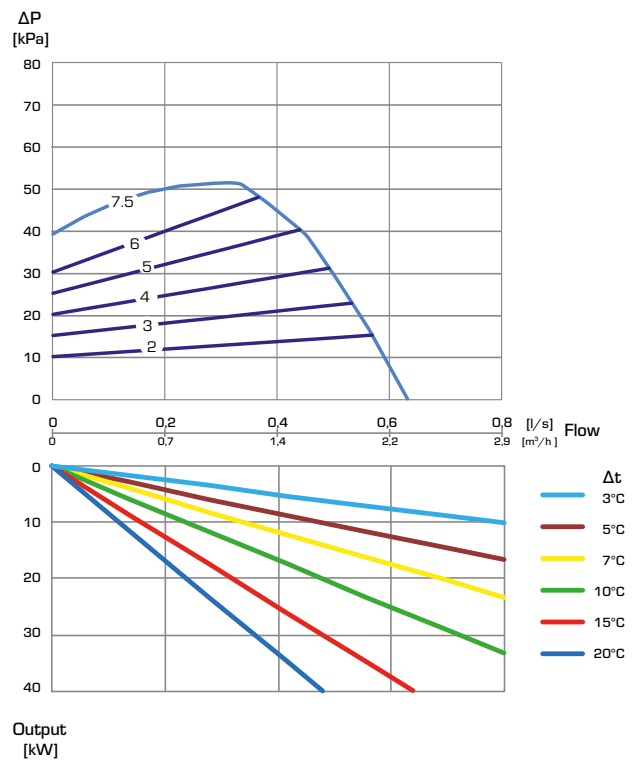
#### SERIES GFA300 –available pressure

##### Constant speed



#### SERIES GFA300 –available pressure

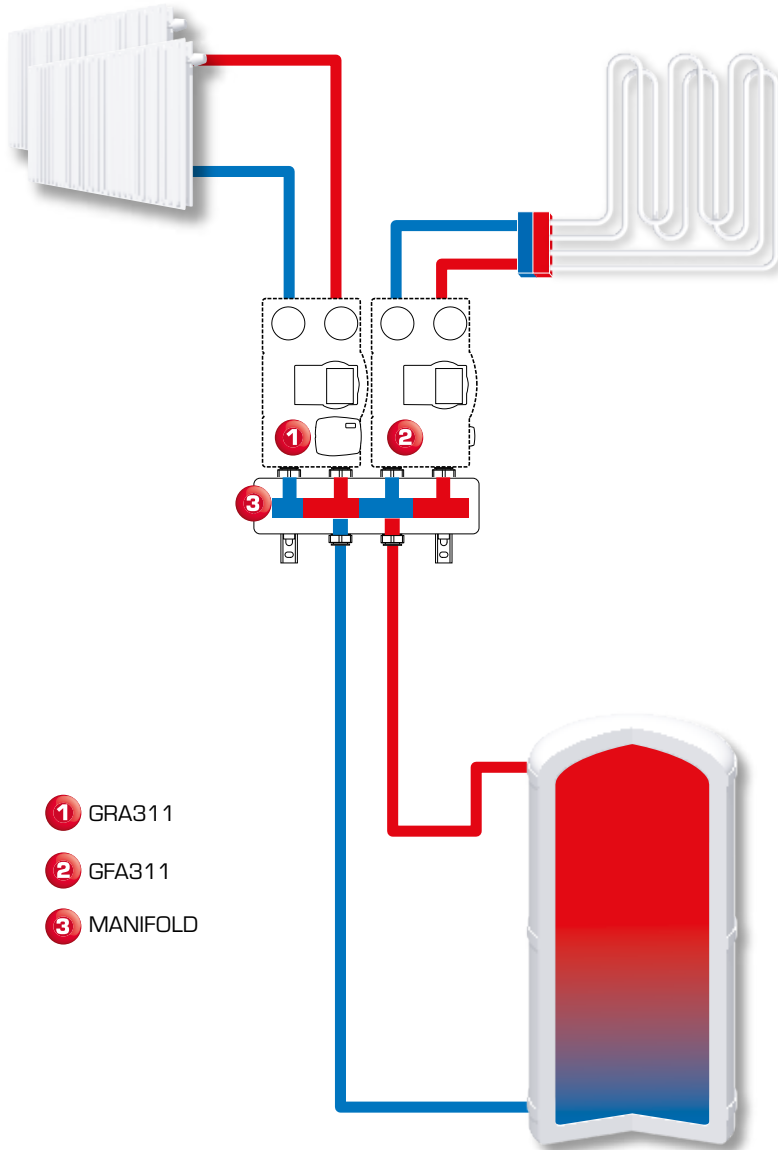
##### Variable pressure



ESBE SYSTEM UNITS

# CIRCULATION UNIT FIXED TEMPERATURE, SERIES GFA300

## INSTALLATION EXAMPLE



- 1 GRA311
- 2 GFA311
- 3 MANIFOLD