ESBE SYSTEM UNITS

CIRCULATION UNIT
FIXED TEMPERATURE, SERIES GFA300



GFA311

PRODUCT DESCRIPTION

The mixing groups are used for the temperature control, mixing function, in the heating systems. This means that the heating water prepared in the heating source is mixed down to the desired set temperature, which then is delivered to the heating receiver, e.g. underfloor heating.

The units GFxX00 are equipped with thermostatic mixing valves. The temperature control, mixing function, is performed without power supply to the valve, and the desired mixed temperature is set on the valve itself. The series GFxX00 are constant temperature units, which means that just the mixing temperature can be affected, and the indoor temperature is a result of the temperature settings on the valve. The groups are used in systems without controllers but still with a need of temperature control, systems where indoor temperature, comfort is not requested to be high. The series GFxX00 are often used in systems with controllers which cannot be upgraded and provide an easy solution for additional heating circuit which require temperature control, mixing function.

Products are equipped with two shut-off valves with colour coded thermometers, one check valve placed on the return from the heating circuit and a insulation shell. All units are equipped with thermostatic mixing valves which are responsible for the constant temperature control.

When designing the circulation unit product line ESBE focused on performance, design, user friendly usage and environment. This applies to everything from manufacturing, materials to packaging.

SERIES GFA300

The ESBE series GFA300 is a compact but powerful fixed temperature circulation unit designed for applications where space matters, however there is no room for compromises. The GFA300 is a DN20 circulation pump with performance equals the corresponding DN25 groups. This is possible by adjusting the pump curves and consider the pressure losses in the group. By putting focus on performance, we achived the smallest circulation unit with unique pump curves which are covering low and high demands.

The series GFA300 is equipped with a thermostatic mixing valve with kvs 3,4 and temperature range 20-55°C and with a Wilo pump which can be set to variable and constant pressure, and iPWM1/2.

SERVICE AND MAINTENANCE

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

KEY BENEFITS

- High class insulation of hydronic parts
- Compact design
- Pre tested and ready to use
- Symmetric design for left/right pump placement
- Designed to last and perform
- High-end product finish

RELATED ACCESSORIES

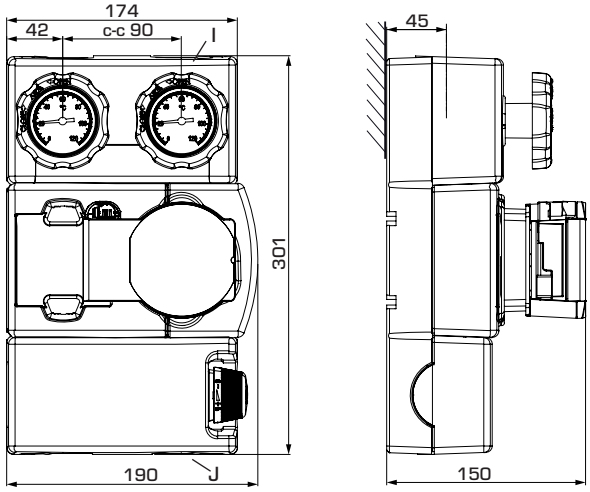
ESBE Manifold

Manifold for Series GFA300 without integrated hydraulic separation function. See separate data sheet for further detailed information.

Art. No.	
66000500	GMA321- for 2 units
66000600	GMA331 - for 3 units

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GFA311

SERIES GFA300

Art. No.	Reference	DN	Pump	Temperature range	Connections		Weight [kg]	Note
					I	J		
61023202	GFA311	20	Wilo PARA STG 15/8	20–55 °C	G 1"	G 1"	4,1	Campaign 2023

TECHNICAL DATA

Visit esbe.eu for further detailed information.

The Circulation unit, in general

Pressure class: PN 10
Working pressure: 1,0 MPa (10 bar)
Connections, Internal thread (G), ISO 228/1
External thread (G), ISO 228/1
Insulation: EPP λ 0,036 W/mK
EnEV2014

Media: Heating water (in accordance with VDI2035)
Water / Glycol mixtures, max. 50%.
Water / glycol mixtures are affecting the pump performance. In case of Applications where water / glycol mixtures are used, pump performance should be considered.

Series GFA300

Media temperature: max. +100°C
min. +5°C
Ambient temperature: max. +58°C
min. 0°C
Pump type, DN20: Wilo PARA STG 15-130/8-60/0
Power supply: 230 ± 10% V AC, 50/60 Hz
Power consumption: 2-60 W
Enclosure rating: IP X4D
Insulation class: F
EEI (Energy Efficiency Index): <0,20

Valve type: Thermostatic mixing valve VTA378
Max. differential pressure drop: 100kPa (1bar)
Temperature range: 20–55°C
Temperature stability: ±3°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.

Material, in contact with water

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

Conformities and certificates

LVD 2014/35/EU
EMC 2014/30/EU
RoHS3 2015/863/EU
ErP 2009/125/EU

SI 2016 No. 1101
SI 2016 No. 1091
SI 2012 No. 3032
SI 2010 No. 2617

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

WIRING

Please see the Installation Instruction

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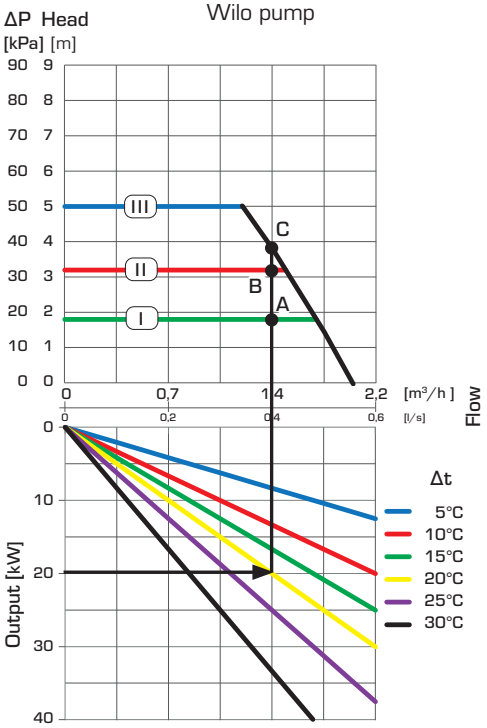
CIRCULATION UNIT
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DIMENSIONING, PUMP CAPACITY DIAGRAM

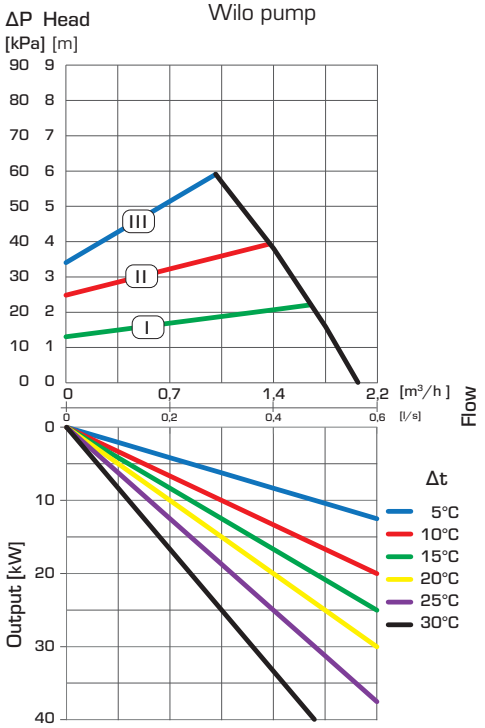
Example: Start with the heat demand of the heating circuit (e.g. 20 kW) and move horizontally to the right in the diagram to the choosen Δt, which is the temperature difference between flow and return of the heating circuit (e.g. 20°C). Next go up and find the possible duty points.

Setting I gives duty point A with a residual head of 18 kPa for DN32. Setting II gives duty point B with a residual head of 32 kPA and III gives duty point C with a residual head of 38 kPa for DN32.

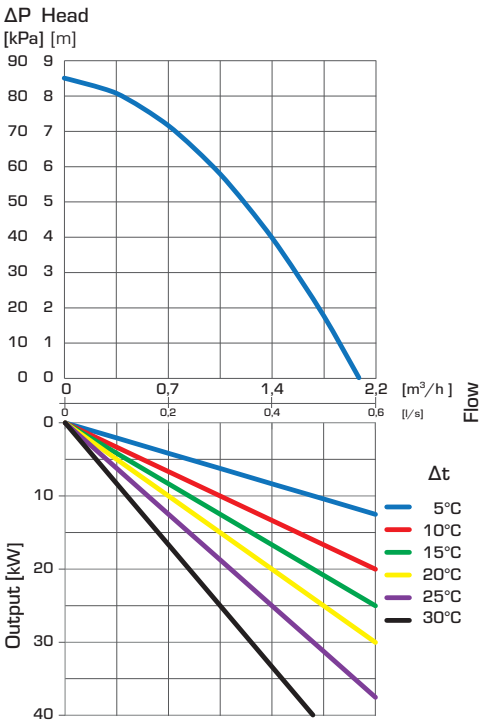
SERIES GFA311 – Constant differential pressure, Wilo pump



SERIES GFA311 – Variable differential pressure, Wilo pump



SERIES GFA311 – Ext iPWM 1/ iPWM 2, Wilo pump

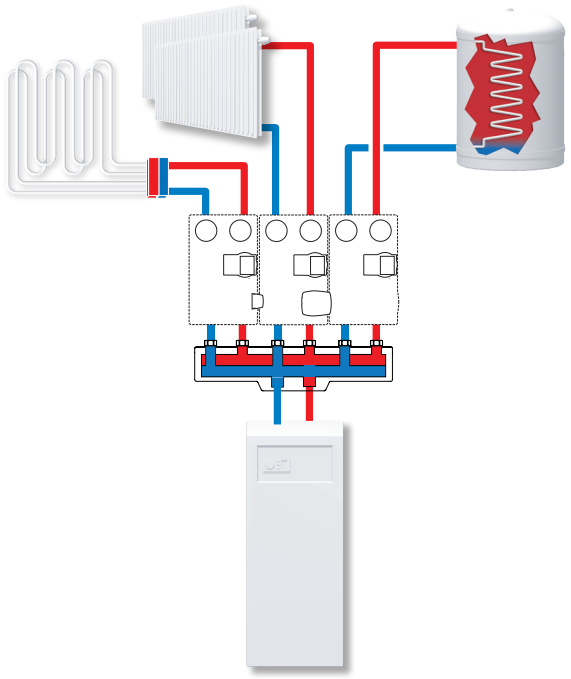


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INSTALLATION EXAMPLES

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The primary function of the thermostatic mixing unit (GFx) is flow temperature control, mixing function. The Series GFx of circulation units are used is systems where the heating source is not equipped with a controller or a controller with limited functions. The circulation units series GFx are the perfect choice for applications where mixing function is required and temperature comfort is not the highest priority.

The shown applications are only examples of product use!
Before using the product in any application, the regional and national regulations need to be checked.

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