ESBE SYSTEM UNITS

CIRCULATION UNIT
DIRECT SUPPLY, SERIES GDA300



GDA311

PRODUCT DESCRIPTION

The direct groups are used for the direct energy distribution in the heating systems, which means that the heating water is delivered to the heating receiver with the same temperature that leaves the heating source. The groups are used in the systems where the heating source is controlling the heating water temperature e.g. through a weather compensated control - in this case no additional mixing / heating water control is needed. The groups can also be used if the heating water needs to be ”transported” to an accumulation tank, or for heating water distribution in bigger systems (so called central distribution pump groups). Another application area for the direct group is for potable water heating in combination with potable water tank equipped with heating coil or tank in tank solutions.

The units are equipped with two shut-off valves with colour coded thermometers, one shut-off valve placed directly under the pump and one check valve placed under the return from the heating circuit and insulation shell.

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

SERIES GDA300

The ESBE Series GDA300 is a compact but powerful direct supply circulation unit designed for applications where space matters, however there is no room for compromises. The GDA300 is a DN20 circulation unit 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 GDA300 is equipped with Wilo pump which can be set to variable pressure, 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 GDA300 without integrated hydraulic separation function. See separate data sheet for further detailed information.

Art. No.

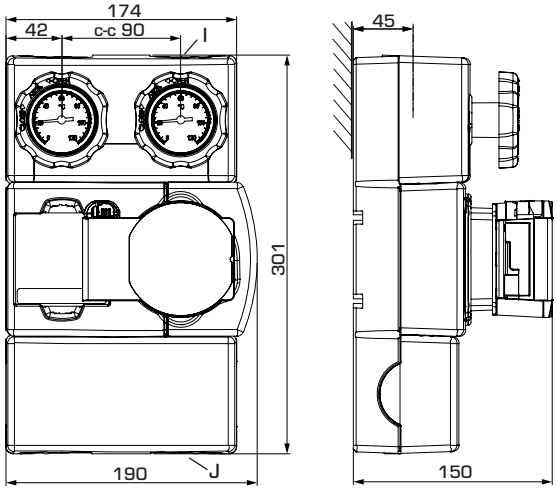
66000500 _____ GMA321- for 2 units

66000600 _____ GMA331 - for 3 units

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GDA311

SERIES GDA300

Art. No.	Reference	DN	Pump	Connections		Weight [kg]	Note
				I	J		
61003202	GDA311	20	Wilo PARA STG 15/8	G 1"	G 1"	3,9	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 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 GDA300

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

Material, in contact with water

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

Conformities and certificates

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

UKCA
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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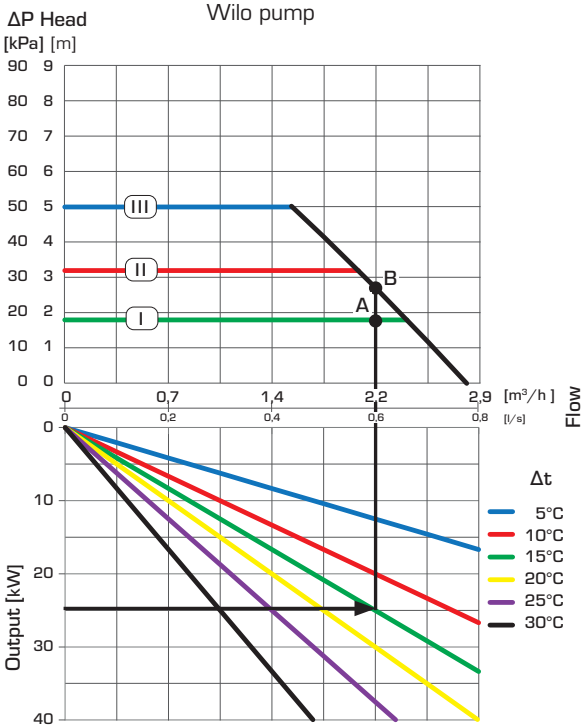
CIRCULATION UNIT
DIRECT SUPPLY, SERIES GDA300

DIMENSIONING, PUMP CAPACITY DIAGRAM

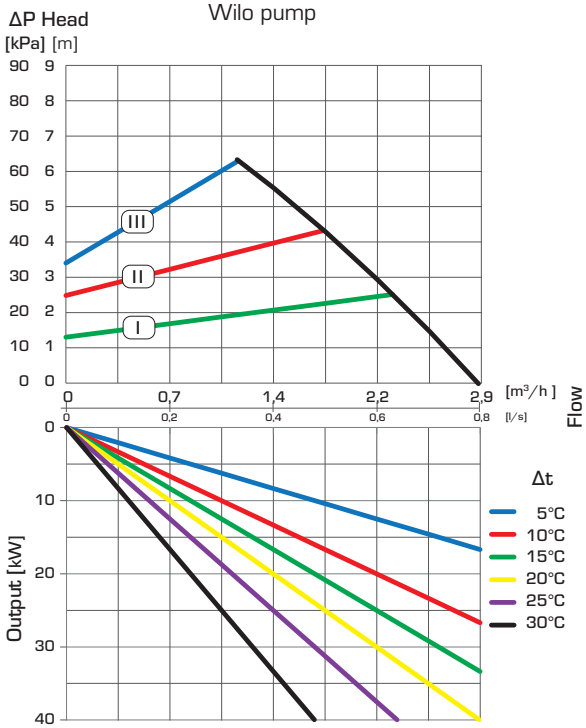
Example: Start with the heat demand of the heating circuit (e.g. 25 kW) and move horizontally to the right in the diagram to the choosen Δt, which is the temperature difference between flow and return of the heating circuit (e.g. 15°C). Next go up and find the possible duty points.

Setting I gives duty point A with a residual head of 18 kPa. Setting II and III gives duty point B with a residual head of 27 kPa.

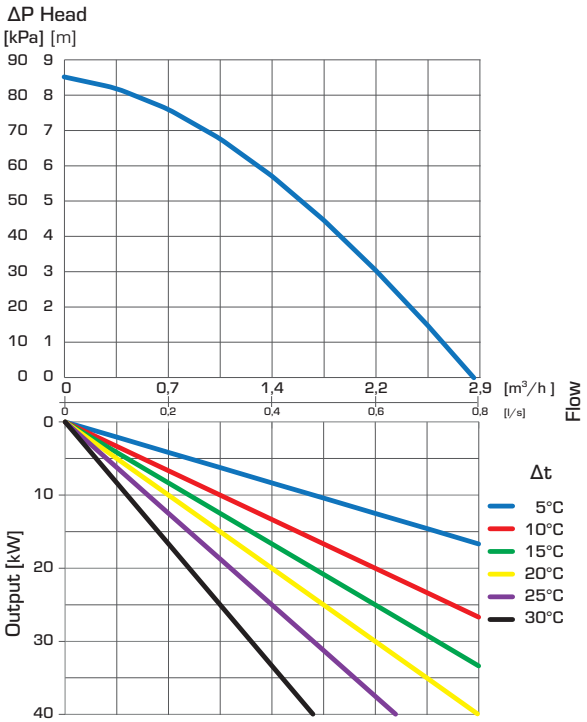
SERIES GDA311 – Constant differential pressure, Wilo pump



SERIES GDA311 – Variable differential pressure, Wilo pump



SERIES GDA311 – Ext iPWM 1/ iPWM 2, Wilo pump

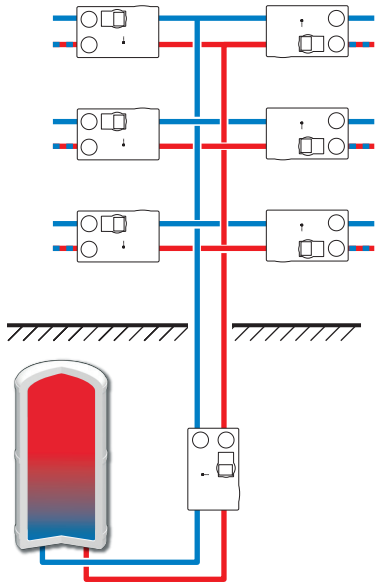


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INSTALLATION EXAMPLES

1



The application shows central heat distribution from a accumulation tank (so called central pump) across the whole building to different zones, for example to each floor level. The main function of the direct group (GDx) is to supply the heating water with unchanged flow temperature to the other circulation units with mixing function. In this example the GDx is used in bigger heating installation where additional central supply pump is needed to overcome the system pressure losses.

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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