

CIRCULATION UNIT

BIVALENT FUNCTION, SERIES GBC200



GBC211

GBC212

PRODUCT DESCRIPTION

The ESBE series GBC200 is a circulation mixing unit which is intended for heating circulations where the outside temperature control and the efficient use of energy are required. Equipped with two shut-off valves with thermometers, check valve, high class insulation shell and high efficiency circulation pump. The GBC200 is delivered with the bivalent rotary mixing valve and actuator combined with outdoor temperature controller. The Circulation Mixing Unit ensures efficient use of energy thanks to the bivalent rotary mixing valve, as well as the system control thanks to the controller features.

SERVICE AND MAINTENANCE

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

PRODUCT ASSORTMENT

KEY BENEFITS

- Efficient use of energy thanks to the bivalent valve
- Actuator combined with outdoor temperature controller
- System control
- One size fits all – auto adapt

RELATED ACCESSORIES

See separate data sheet for further detailed information.

ESBE Manifold

Manifold for 1, 2, or 3 circulation units. With integrated separator function.

Art. No.

66001100 _____ GMA411- for 1 unit

66001600 _____ GMA521 - for 2 units

66001700 _____ GMA531 - for 3 units

Manifold for 2, 3, 4 or 5 circulation units. Without integrated separator function.

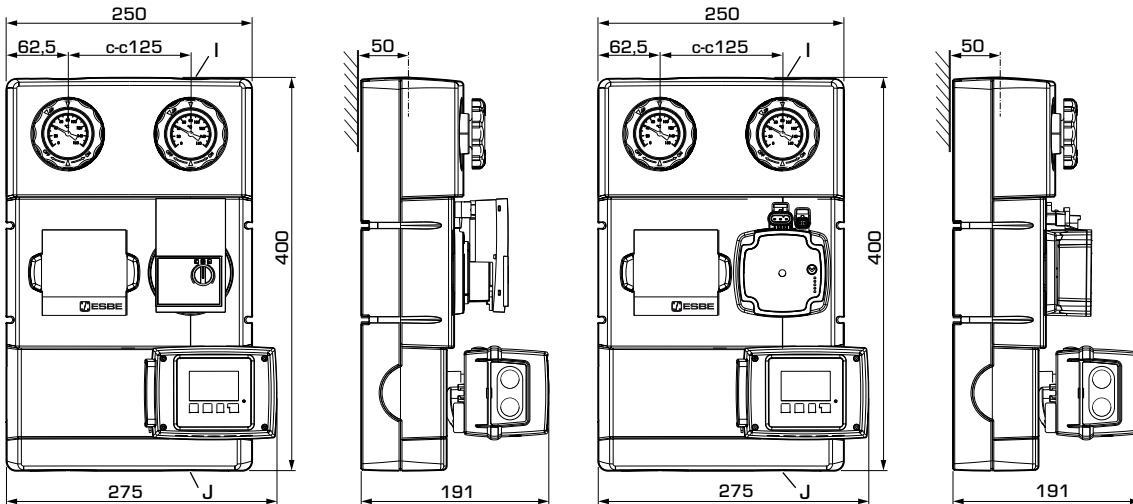
Art. No.

66001200 _____ GMA421- for 2 units

66001300 _____ GMA431 - for 3 units

66001400 _____ GMA441 - for 4 units

66001500 _____ GMA451 - for 5 units



GBC211

GBC212


SERIES GBC200

| Art. No. | Reference | DN | Pump | Connections | | Weight [kg] | Note |
|----------|-----------|----|----------------|-------------|-------|-------------|------|
| | | | | I | J | | |
| 61060200 | GBC211 | 25 | Wilo 25/6 | G 1" | G 1½" | 7,6 | |
| 61060400 | | 32 | Wilo 25/7,5 | G 1¼" | G 1½" | 8,3 | |
| 61060600 | GBC212 | 25 | Grundfos 25-50 | G 1" | G 1½" | 7,7 | |
| 61060800 | | 32 | Grundfos 25-70 | G 1¼" | G 1½" | 8,4 | |

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TECHNICAL DATA

 Visit 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. +40°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 λ 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

EEI (Energy Efficiency Index),

Wilo circulation pump: _____ <0,21
 Grundfos circulation pump: _____ <0,20

Conformities and certificates:

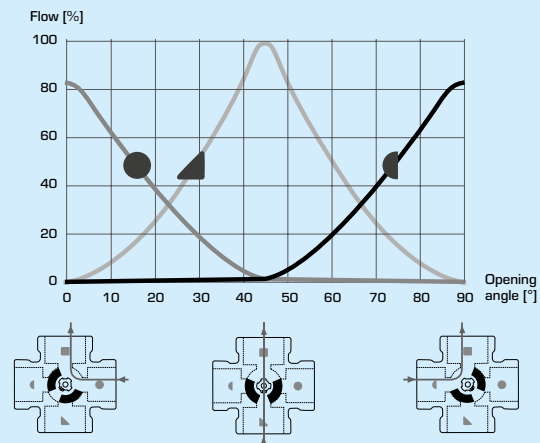
 LVD 2014/35/EU
 EMC 2014/30/EU
 RoHS 2011/65/EU
 PED 2014/68/EU, article 4.3

 ErP 2009/125/EU
 ErP 2015
 EnEV2014

The integrated bivalent mixing valve:

Max. differential pressure drop: _____ 100 kPa (1 bar)
 Close off pressure: _____ 200 kPa (2 bar)
 Rangeability K_v^{max}/K_v^{min} , A-AB: _____ 100
 Leakrate in % of flow*: _____ < 0,5%
 * Differential pressure 100kPa (1 bar)

VALVE CHARACTERISTICS



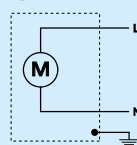
The integrated controller:

Controller type: _____ 90C-3A-90
 Power supply: _____ 230 ± 10% V AC, 50/60 Hz
 Power consumption: _____ 5 VA
 Running time at max. speed: _____ 120s
 No. of input sources: _____ 6
 No. of output sources: _____ 3
 Enclosure rating: _____ IP54
 Protection class: _____ II
 ErP Temperature controls class: _____ III
 Energy efficiency contribution: _____ 1,5%

The integrated circulation pump:

Power supply: _____ 230 ± 10% V AC, 50/60 Hz
 Power consumption - Wilo 25/6: _____ 3-45 W
 - Wilo 25/7,5: _____ 3-76 W
 - Grundfos 25-50: _____ 2-34 W
 - Grundfos 25-70: _____ 2-53 W
 Enclosure rating: _____ IP X4D
 Insulation class: _____ F
 EEI (Energy Efficiency Index) - Wilo 25/6: _____ <0,20
 - Wilo 25/7,5: _____ <0,21
 - Grundfos: _____ <0,20

PUMP WIRING*



* Controller and Circulation pump should be preceded by a multi-pole contact breaker in the fixed installation.

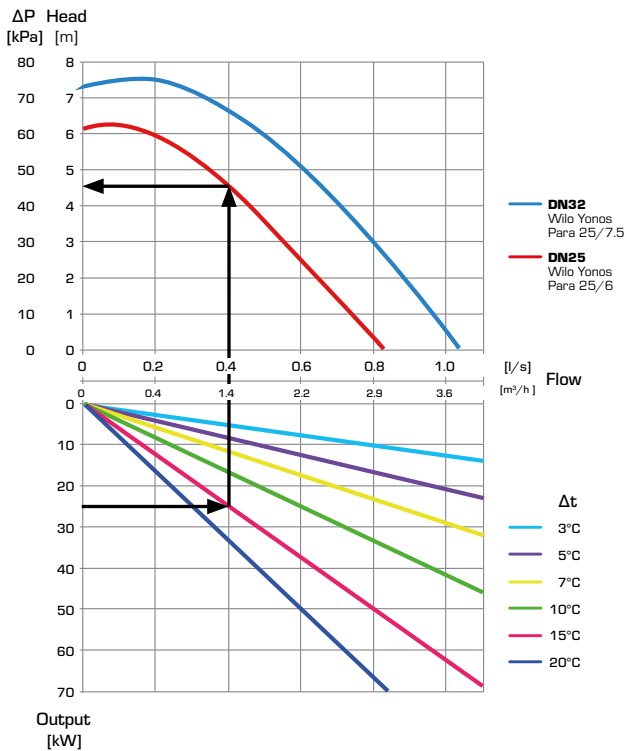
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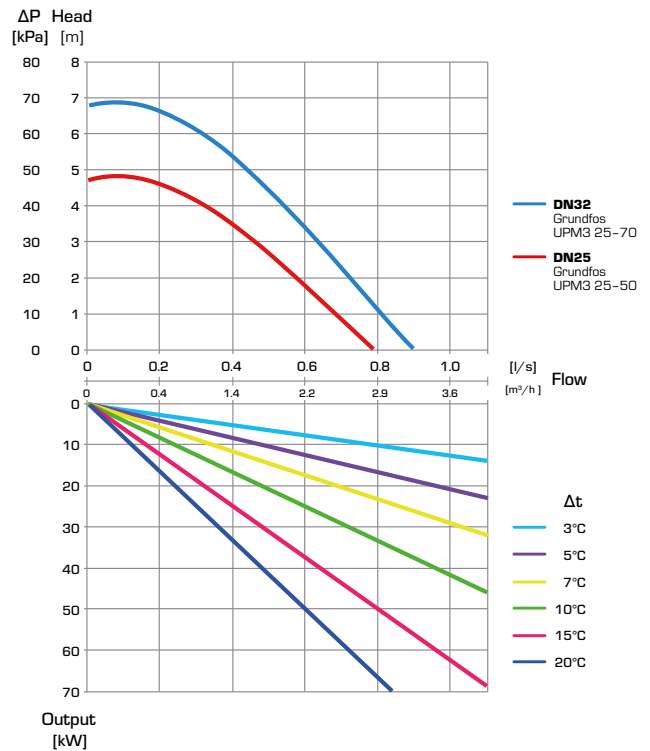
DIMENSIONING, PUMP CAPACITY DIAGRAM

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 - $\Delta p = 45 \text{ kPa}$.

SERIES GBC200 – available pressure, Wilo pumps



SERIES GBC200 – available pressure, Grundfos pumps



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INSTALLATION EXAMPLES

