

CIRCULATION UNIT

BIVALENT FUNCTION, SERIES GBA100



GBA111

GBA112

PRODUCT DESCRIPTION

The ESBE series GBA100 is a circulation mixing unit which is intended for heating circulations where the flow 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 GBA100 is delivered with the bivalent rotary mixing valve and actuator. The Circulation Mixing Unit ensures efficient use of energy thanks to the bivalent rotary mixing valve, as well as the working possibility with most controllers available on the market.

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
- Ready to use with most controllers available on the market
- High class insulation shell
- One size fits all – auto adapt

RELATED ACCESSORIES

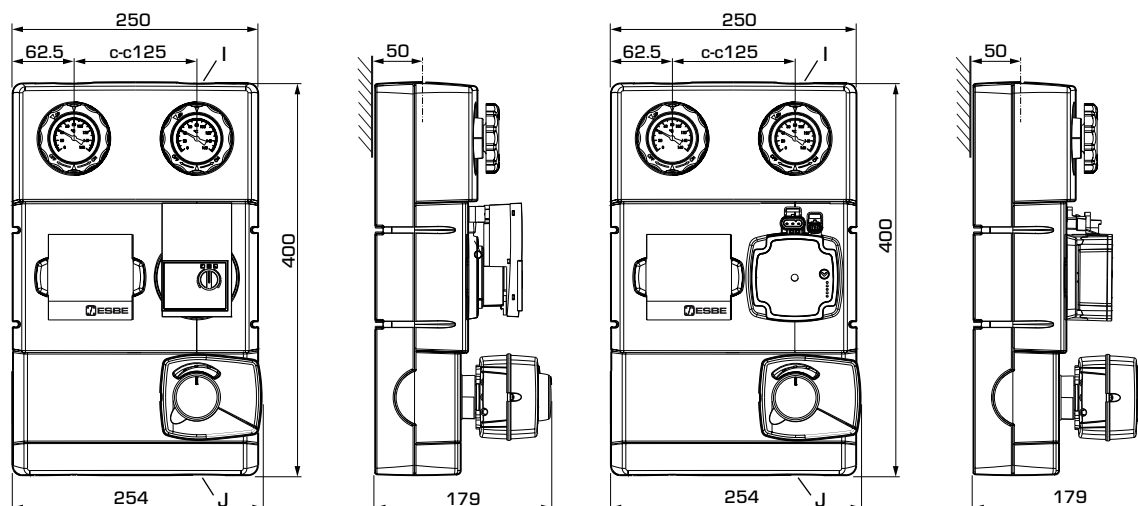
See separate data sheet for further detailed information.

ESBE Manifold

Manifold for 2 or 3 circulation units. With or without integrated separator function.

Art. No.

66000100	_____	GMA121
66000200	_____	GMA131
66000300	_____	GMA221
66000400	_____	GMA231



GBA111

GBA112

SERIES GBA100

Art. No.	Reference	DN	Pump	Connections		Weight [kg]	Note
				I	J		
61060100	GBA111	25	Wilco 25/6	G 1"	G 1½"	5.7	
61060300		32	Wilco 25/7.5	G 1¼"	G 1½"	6.4	
61060500	GBA112	25	Grundfos 25-50	G 1"	G 1½"	5.8	
61060700		32	Grundfos 25-70	G 1¼"	G 1½"	6.5	

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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. +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 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

Conformities and certificates:

PED 2014/68/EU, article 4.3



LVD 2014/35/EU
 EMC 2014/30/EU
 RoHS 2011/65/EU



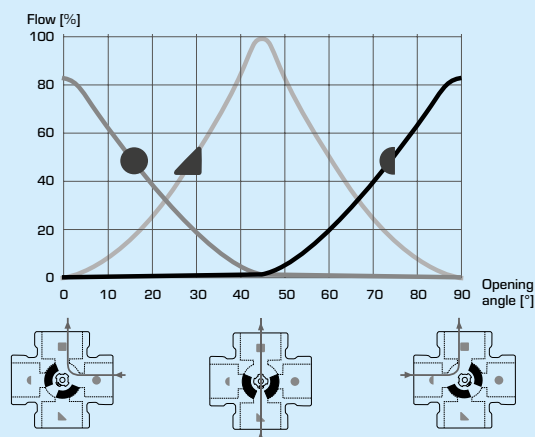
ErP 2009/125/EC
 ErP 2015
 EnEV2014

The integrated bivalent mixing valve:

Max. differential pressure drop: _____ 100 kPa (1 bar)
 Close off pressure: _____ 200 kPa (2 bar)
 Rangeability Kv^{max}/Kv^{min} , A-AB: _____ 100
 Leakrate in % of flow*: _____ < 0.5%

* Differential pressure 100kPa (1 bar)

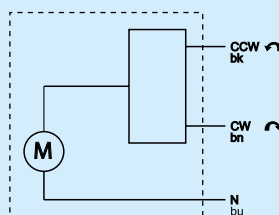
VALVE CHARACTERISTICS



The integrated actuator:

Actuator type: _____ ARA661
 Control signal: _____ 3-point
 Power supply: _____ 230 \pm 10% V AC, 50 Hz
 Power consumption: _____ 5 VA
 Running time 90°: _____ 120s
 Enclosure rating: _____ IP41
 Protection class: _____ II

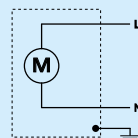
ACTUATOR WIRING*



The integrated circulation pump:

Power supply: _____ 230 \pm 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

PUMP WIRING*



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

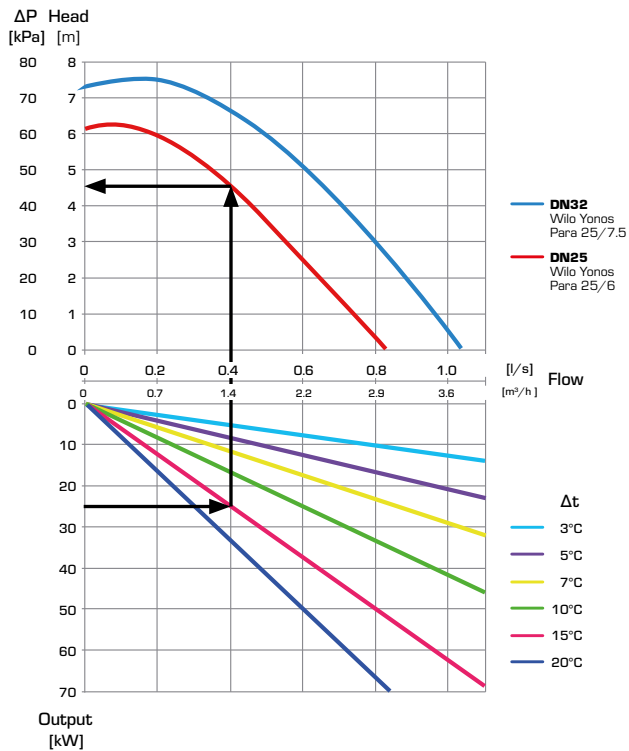
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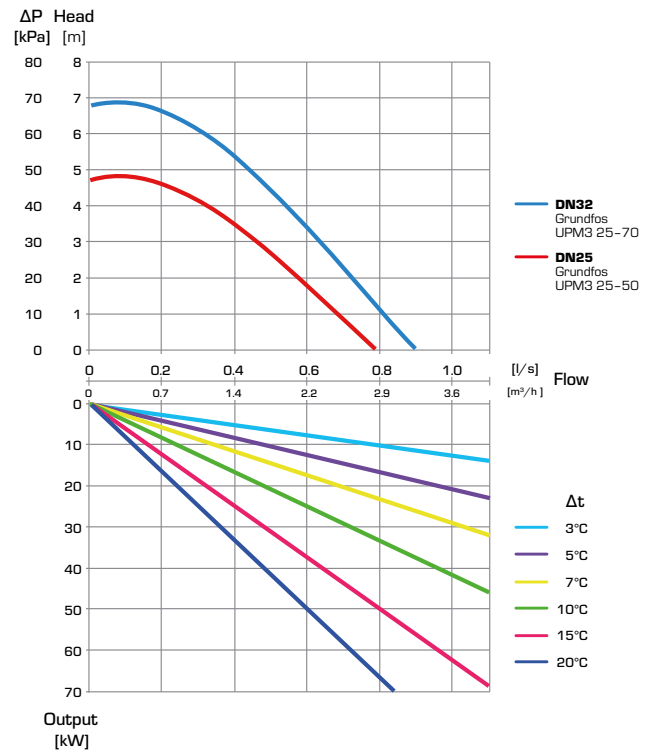
DIMENSIONING, PUMP CAPACITY DIAGRAM

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 GBA100 – available pressure, Wilo pump



SERIES GBA100 – available pressure, Grundfos pump



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INSTALLATION EXAMPLES

