

CIRCULATION UNIT MIXING FUNCTION, SERIES GRF100



GRF111

GRF121

PRODUCT DESCRIPTION

The ESBE series GRF100 is a circulation mixing unit which is intended for heating circulations where the flow and temperature control are required. Equipped with two shut-off valves with thermometers, check valve and high class insulation shell. The GRF100 is delivered with the 3-way rotary progressive mixing valve, which ensures low oversizing risk and best regulation performances independent from flow rate. The ESBE Circulation Unit GRF100 is ready to work with 180mm pumps. The smart adjustable insulation shell makes it sure that any kind of pump will be insulated in a right way. Choose the best system control and select one of the actuators or controllers from ESBE program.

KEY BENEFITS

- Perfect control thanks to progressive valve characteristic
- 180mm pump ready – be free to use favorite pump manufacturer
- Control the system manually, via actuator or even controller
- High class, adjustable insulation shell

SERVICE AND MAINTENANCE

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

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.

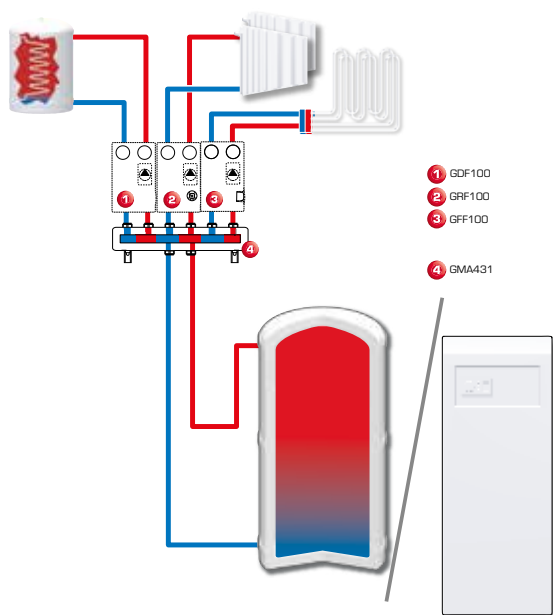
66001200 _____ GMA421- for 2 units

66001300 _____ GMA431 - for 3 units

66001400 _____ GMA441 - for 4 units

66001500 _____ GMA451 - for 5 units

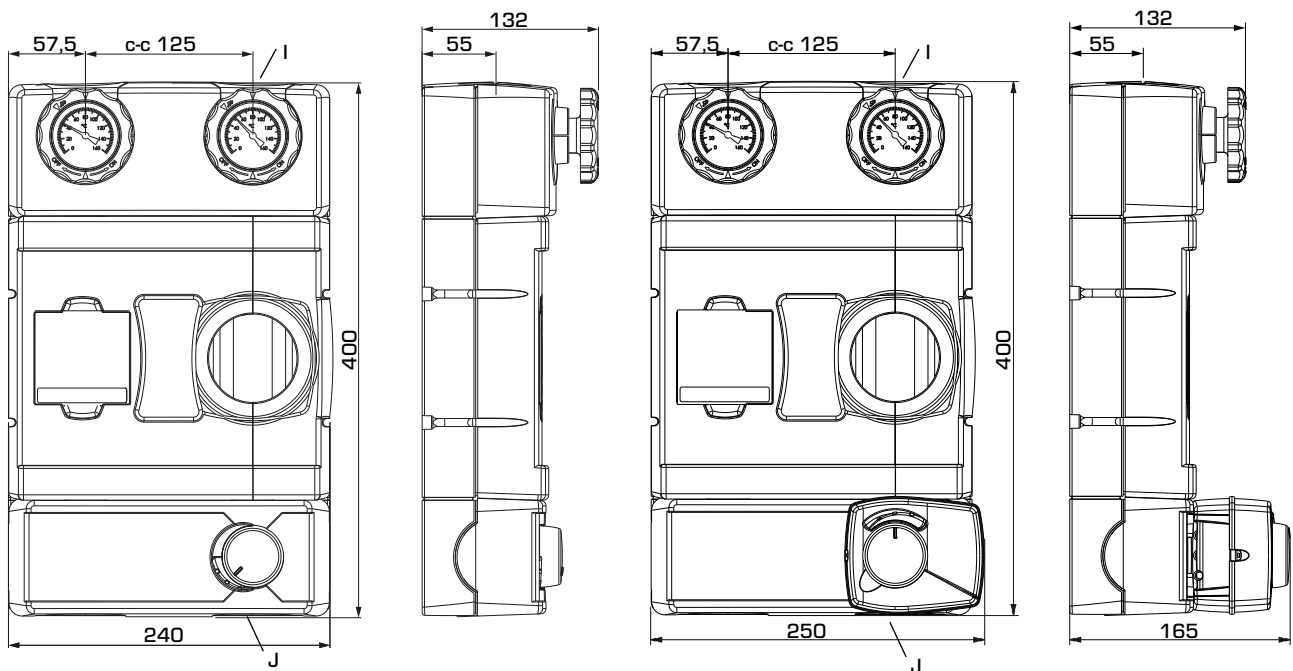
INSTALLATION EXAMPLE



CIRCULATION UNIT

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PRODUCT ASSORTMENT



GRF111

GRF121

SERIES GRF100

Art. No.	Reference	DN	Connections		Weight [kg]	Note
			I	J		
61240100	GRF111	25	G 1"	G 1½"	3,8	
61241100	GRF121	25	G 1"	G 1½"	4,2	230V, 3 point control signal

CIRCULATION UNIT

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TECHNICAL DATA

i 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, GRF121: _____ max. +50°C / min. 0°C
 GRF111: _____ max. °C / min. °C
 (depends on the electronic equipment)
 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 flow data must be checked)

Material, in contact with water:

Components of: _____ Brass, Steel
 Sealing material of: _____ PTFE, Aramid fibre, EPDM

Conformities and certificates:

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

EnEV2014 EnEV2014

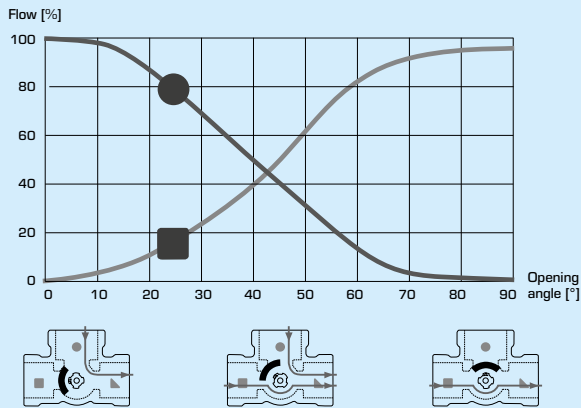
The integrated mixing valve:

Max. differential pressure drop: _____ 100 kPa (1 bar)
 Close off pressure: _____ 200 kPa (2 bar)
 Leakrate in % of flow*: _____ < 0,05%
 * Differential pressure 100kPa (1 bar)

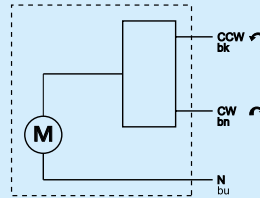
The integrated actuator, GRF121:

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

VALVE CHARACTERISTICS



ACTUATOR WIRING*



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

CHARACTERISTICS

