

# RETURN TEMPERATURE UNIT

## THERMOSTATIC, MIXING FUNCTION

### SERIES GST100



GST131



GST141

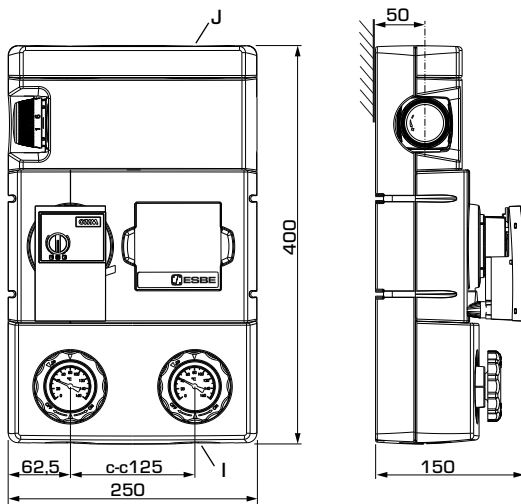
#### PRODUCT DESCRIPTION

The ESBE series GST100 is a return temperature unit designed for applications, where the return temperature control is required. Equipped with two shut-off valves with thermometers, check valve, high class insulation shell and high efficiency circulation pump. The GST100 is delivered with the 3-way thermostatic mixing valve, which comes with two versions: fixed temperature or adjustable temperature setting.

#### KEY BENEFITS

- Thermostatic constant temperature control
- Available with fixed or adjustable temperature setting
- High class insulation shell
- High efficiency circulation pump

#### PRODUCT ASSORTMENT



GST131, GST141

#### SERIES GST130, FIXED TEMPERATURE SETTING

Art. No.	Reference	DN	Pump	Temperature range	Connections		Weight [kg]	Note
					I	J		
61120100	GST131	25	Wilo 25/6	50/55/60°C	G 1"	G 1½"	5,0	1)

Notes: 1) The Return Temperature Units Series GST130 are delivered with three wax elements: 50/55/60°C. Factory assembly: 55°C.

#### SERIES GST140, ADJUSTABLE TEMPERATURE SETTING

Art. No.	Reference	DN	Pump	Temperature range	Connections		Weight [kg]	Note
					I	J		
61120200	GST141	25	Wilo 25/6	50-75°C	G 1"	G 1½"	5,4	

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**TECHNICAL DATA**

 Visit [esbe.eu](http://esbe.eu) for further detailed information.

**The Return temperature unit, in general:**

Pressure class: \_\_\_\_\_ PN 6  
 Media temperature: \_\_\_\_\_ max. +100°C  
 \_\_\_\_\_ min. 0°C  
 Ambient temperature: \_\_\_\_\_ max. +50°C  
 \_\_\_\_\_ min. 0°C  
 Working pressure: \_\_\_\_\_ 0,6 MPa (6 bar)  
 Dimensions: \_\_\_\_\_ DN25  
 Connections, \_\_\_\_\_  
 \_\_\_\_\_ Internal thread (G), ISO 228/1  
 \_\_\_\_\_ External thread (G), ISO 228/1  
 Insulation: \_\_\_\_\_ EPP  $\lambda$  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, Iron, Steel  
 Sealing material of: \_\_\_\_\_ PTFE, Aramid fibre, EPDM

**EEl (Energy Efficiency Index),**

Wilo circulation pump: \_\_\_\_\_ <0,20

**Conformities and certificates:**

 LVD 2014/35/EU  ErP 2015   
 EMC 2014/30/EU  RoHS3 2015/863/EU  EnEV2014  
 PED 2014/68/EU, article 4.3

**The integrated Thermostatic mixing valve:**

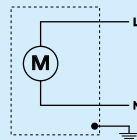
Max. differential pressure drop: \_\_\_\_\_ 100 kPa (1 bar)  
 Rangeability  $Kv^{max}/Kv^{min}$ , A-AB: \_\_\_\_\_ 100  
 Leakrate in % of flow\*, A-AB: \_\_\_\_\_ Tight  
 Leakrate in % of flow\*, B-AB: \_\_\_\_\_ max. 3% of  $Kvs$   
 Opening temperature - Fixed temperature: \_\_\_\_\_ 50, 55, 60 °C  
 - Adjustable temperature: \_\_\_\_\_ 50-75°C

\* Differential pressure 100kPa (1 bar)

**The integrated circulation pump:**

Power supply: \_\_\_\_\_ 230 ± 10% V AC, 50/60 Hz  
 Power consumption - Wilo 25/6: \_\_\_\_\_ 3-45 W  
 Enclosure rating: \_\_\_\_\_ IP X4D  
 Insulation class: \_\_\_\_\_ F  
 EEl (Energy Efficiency Index) - Wilo 25/6: \_\_\_\_\_ <0,20

**PUMP WIRING\***



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

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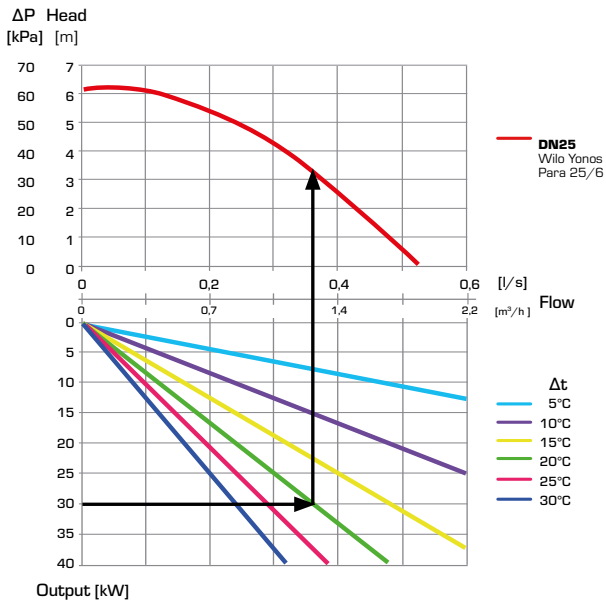
### SERIES GST100

#### DIMENSIONING, PUMP CAPACITY DIAGRAM

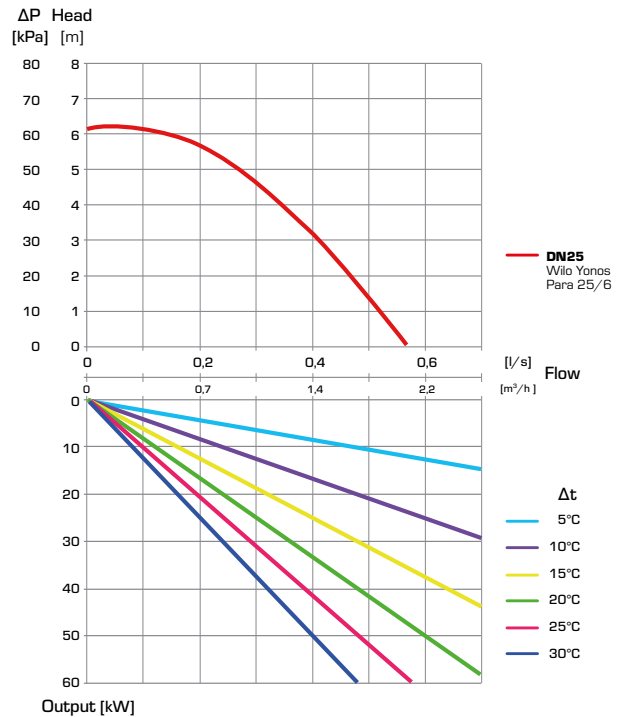
**Example:** Start with the heat output of the boiler (e.g. 30 kW) and move horizontally to the right in the diagram to the chosen  $\Delta t$  (recommended by boiler supplier), which is the temperature difference between the riser from the boiler and the return to the boiler (e.g.  $85^{\circ}\text{C} - 65^{\circ}\text{C} = 20^{\circ}\text{C}$ ).

Move vertically up to the curves representing load unit performance. Check that the pump curve overcomes the additional pressure drops in system components such as pipes, boiler and storage tank.

**SERIES GST130** – available pressure, Wilo pump



**SERIES GST140** – available pressure, Wilo pump



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## INSTALLATION EXAMPLES

