



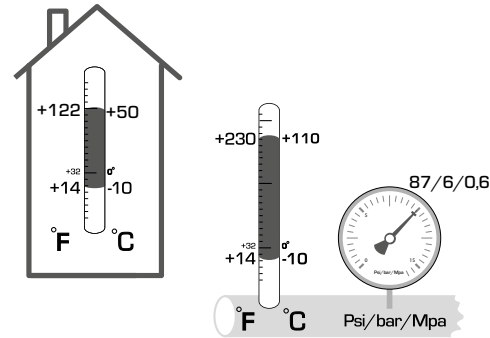
ESBE System Units  
**CIRCULATION UNIT DN20**



Series GDA311  
Series GRA311  
Series GFA311

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  
EnEV 2014

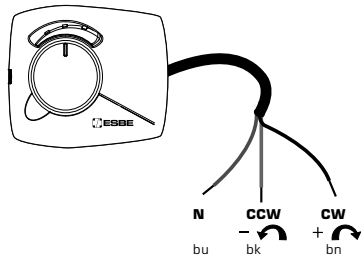


SERIES	FUNCTION
ESBE GDA311	
ESBE GRA311 ARA600	
ESBE GFA311	

Mtrl.nr: 98141069 • Ritn.nr: 7818 vers. A • Rev. 2021-05-26

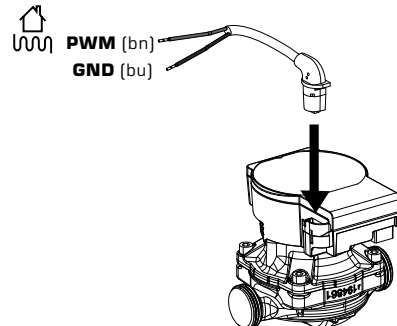
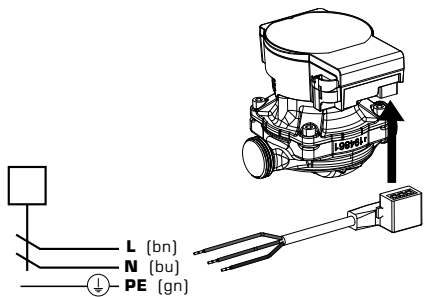


**Electric installation**



Power

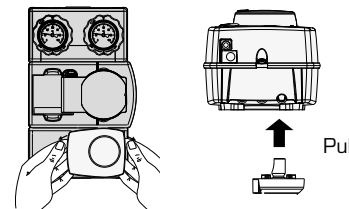
Signal



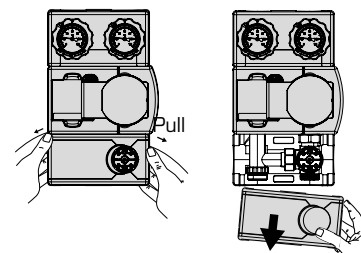
[www.esbe.eu](http://www.esbe.eu)



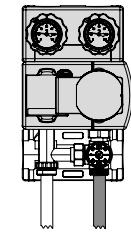
**Remove actuator**  
Series GRA311



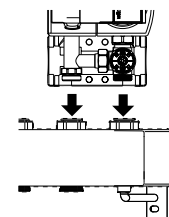
**Disassembly insulation**



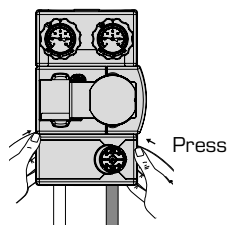
**Fit supply pipes**



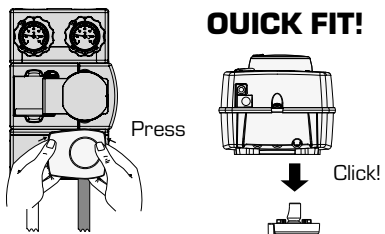
**Assemble on manifold**



### 3 Assemble lower insulation

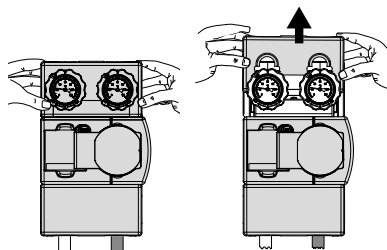


#### Assemble actuator

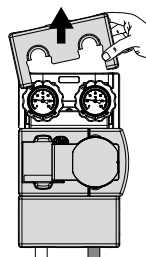


**QUICK FIT!**

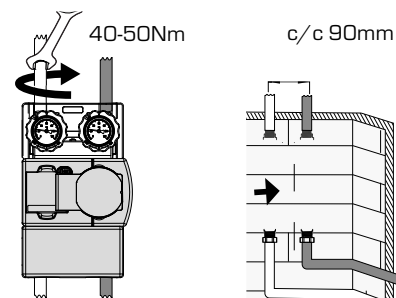
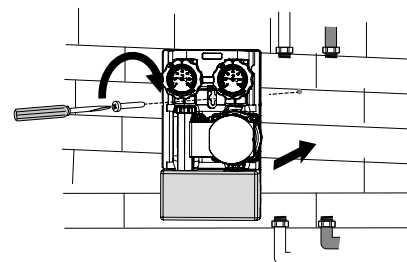
### 4 Pull up insulation 7mm



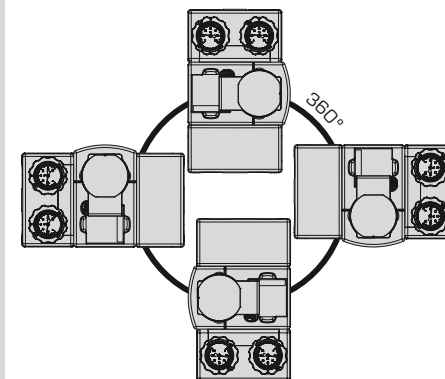
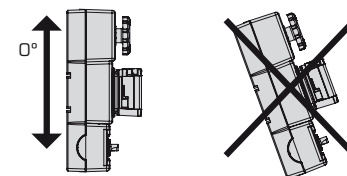
#### Remove



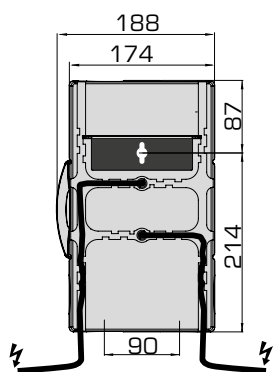
### 5 Assembling on wall without manifold



### i Mounting position



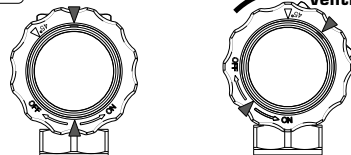
### i Cabling • Dimensions



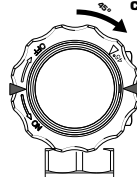
### 6 Commissioning



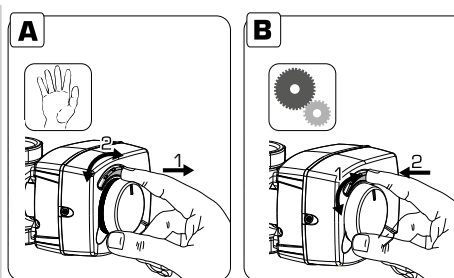
1 open      2 45° **Filling and venting**



2 closed

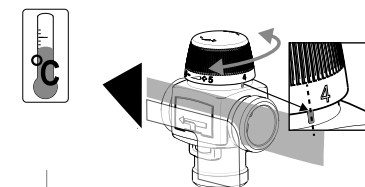


### i Commissioning actuator:



<http://www.esbe.eu/global/en/products/rotary-valves>

### i Commissioning fixed temperature Series GFA311



0,5	1	2	3	4	5	6
22°C	25°C	33°C	40°C	47°C	54°C	60°C



<http://www.esbe.eu/global/en/products/thermostatic-mixing-valves>



## Display

NORMAL OPERATION



FAULT

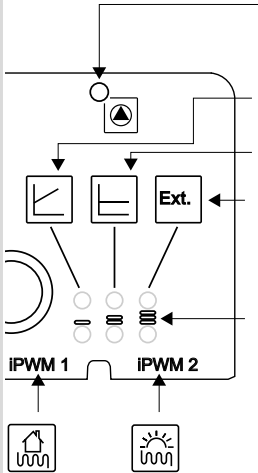


CONTROL MODE  
Variable differential pressure -  $\Delta p-v$

Constant differential pressure -  $\Delta p-c$

External signal (PWM)

PUMP CURVE  
I, II, III



## Recommended pump settings

### Applications

I, II, III	I, II, III	iPWM 1/ iPWM 2

### Factory setting



= Factory settings



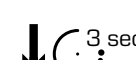
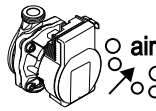
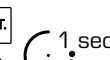
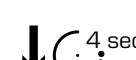
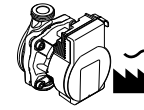
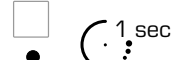
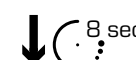
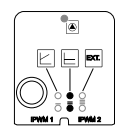
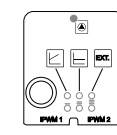
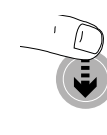
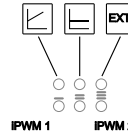
## Pump features

STATUS

HOLD

LED DISPLAY

LAST SETTINGS



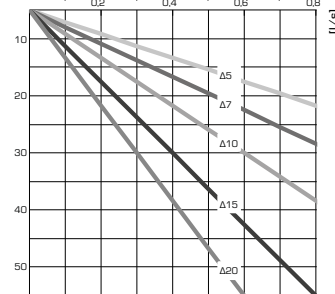
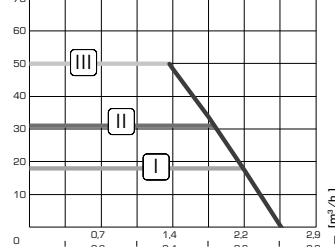
## Circulation Unit Performance

Heating output **GDA311** DIRECT SUPPLY



Constant differential pressure

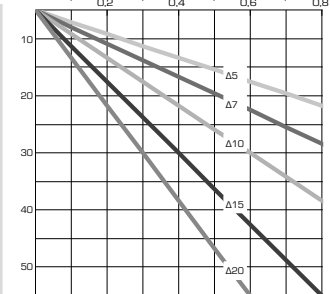
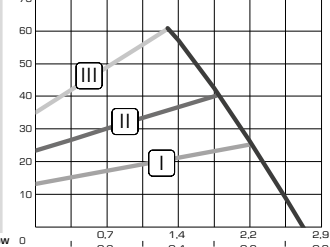
$\Delta P$  [kPa]



[kW]

Variable differential pressure

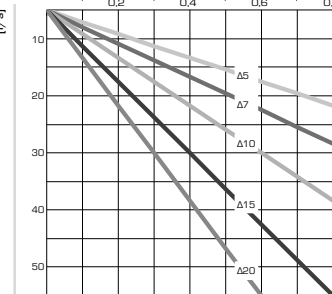
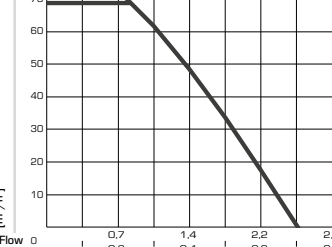
$\Delta P$  [kPa]



[kW]

Ext. iPWM 1/ iPWM 2

$\Delta P$  [kPa]



[kW]

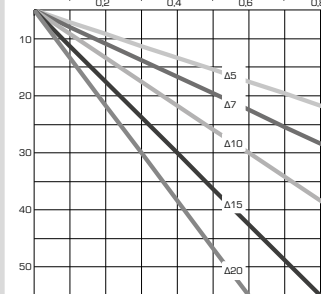
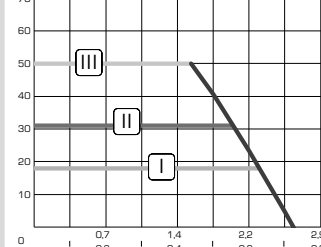
## Circulation Unit Performance

Heating output **GRA311** MIXING FUNCTION



Constant differential pressure

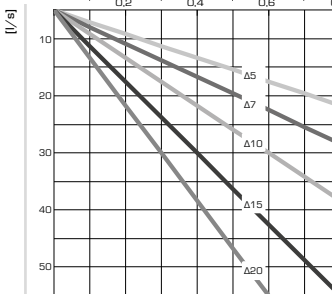
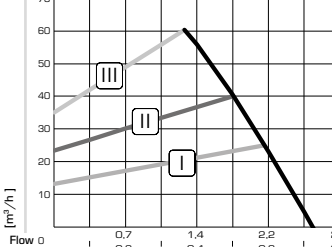
$\Delta P$  [kPa]



[kW]

Variable differential pressure

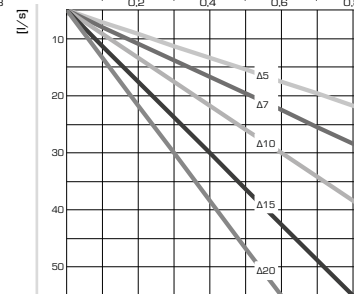
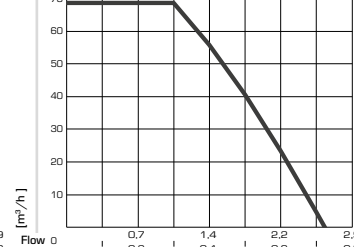
$\Delta P$  [kPa]



[kW]

Ext. iPWM 1/ iPWM 2

$\Delta P$  [kPa]

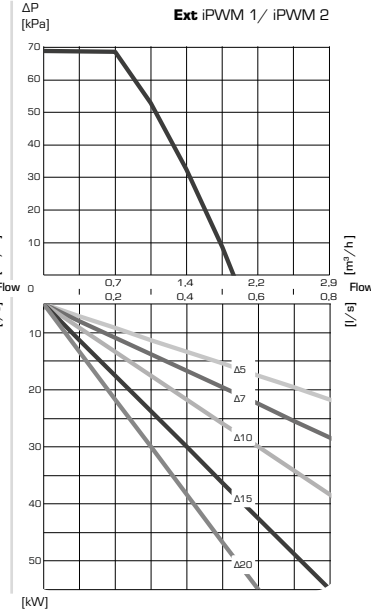
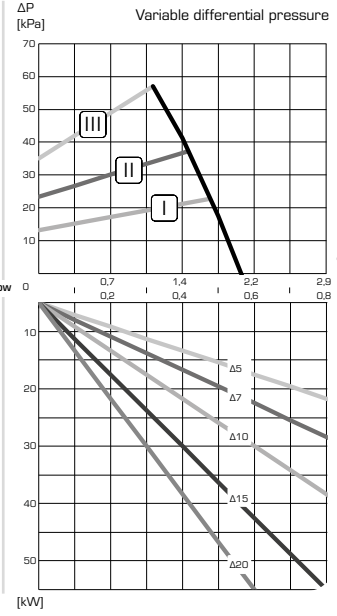
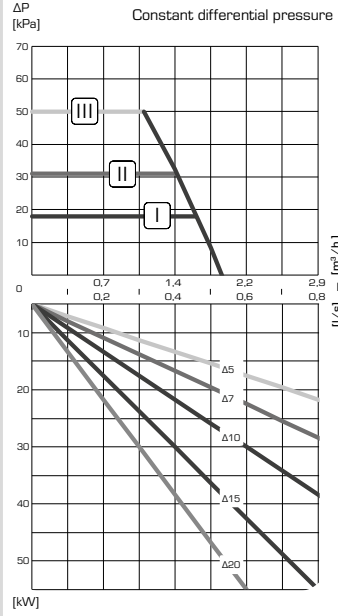


[kW]



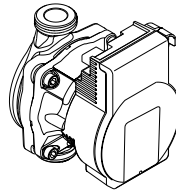
# Circulation Unit Performance

Heating output **GFA311** FIXED TEMPERATURE



# WILO - Faults, Causes and Remedies

LED Indicator	Meaning	Diagnostic	Cause	Remedy
lights green	Pump in operation	Pump runs according its setting	Normal operation	
lights orange	Pump is in PWM mode	Pump is speed controlled by the PWM signal	Normal operation	
blinks red/green	Pump in function but stopped	Pump restarts by itself after the fault is disappeared	<ol style="list-style-type: none"> <li>Undervoltage <math>U &lt; 160</math> V or Overvoltage <math>U &gt; 253</math> V</li> <li>Modul overheating: temperatur inside motor too high</li> </ol>	<ol style="list-style-type: none"> <li>Check voltage supply <math>195</math> V <math>&lt; U &lt; 253</math> V</li> <li>Check water and ambient temperature</li> </ol>
blinks red	Pump out of function	Pump stopped (blocked)	Pump does not restart by itself due to a permanent failure	Change pump
blinks orange	Pump out of function	Pump stopped	Pump is not starting	Change pump
LED off	No power supply	No voltage on electronics	<ol style="list-style-type: none"> <li>Pump is not connected to power supply</li> <li>LED is damaged</li> <li>Electronics are damaged</li> </ol>	<ol style="list-style-type: none"> <li>Check cable connection to power supply</li> <li>Check if pump is running</li> <li>Change pump</li> </ol>



[http://www.esbe.eu/global/en/products/circulation\\_units](http://www.esbe.eu/global/en/products/circulation_units)



# Pump Settings

Click | LED display | Control mode | Pump setting | Application

Recommended | Alternative

1	Control mode icons	Pump setting III	Application icon
2	Control mode icons	Pump setting II	Application icon
3	Control mode icons	Pump setting I	Application icon
4	Control mode icons with house icon	Pump setting IPWM 1	Application icon
5	Control mode icons with sun icon	Pump setting IPWM 2	Application icon
6	Control mode icons	Pump setting III	Application icon
7	Control mode icons	Pump setting II	Application icon
8	Control mode icons	Pump setting I	Application icon



# Expose application info using leaflet

