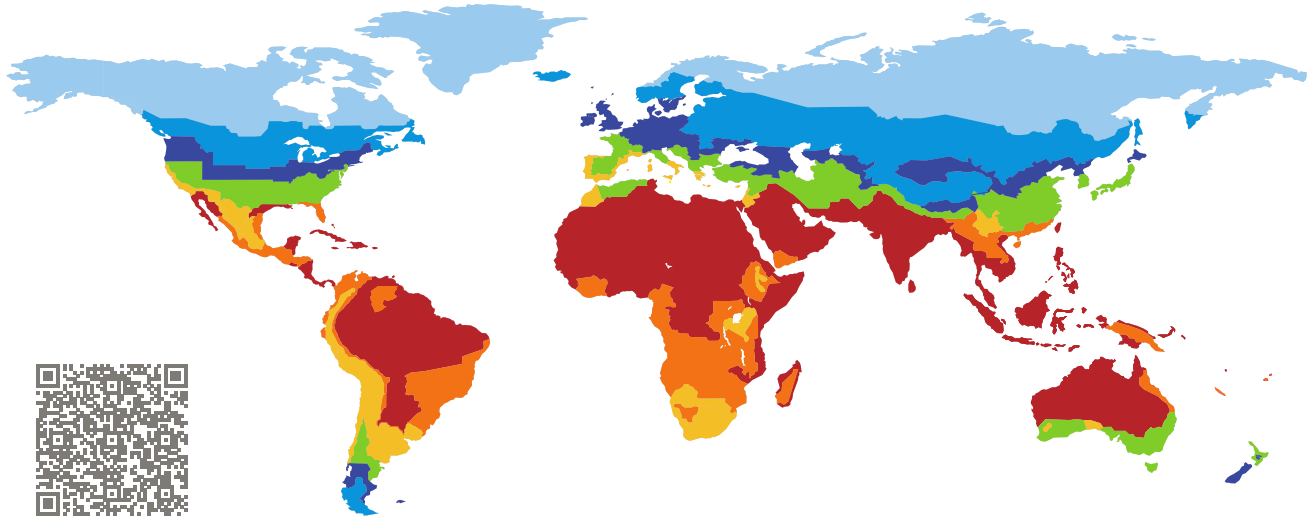


CERTIFICATE

Certified Passive House Component

Component-ID 1662sr03 valid until 31st December 2023

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category: **Drain water heat recovery**
Manufacturer: **joulia sa,
Biel,
Switzerland**
Product name: **Joulia Twinline 10P-830 LF**

This certificate was awarded based on the following criteria:

Tested under standard boundary conditions¹ the system reduces the useful energy demand for shower by

$$49\% \geq 30\%$$

Further properties

Pressure drop tap water at 8 l/min: 0.26 bar
Connection tap water: 1/2"
Connection waste water: DN 50

| |
|---------------------|
| nominal efficiency |
| 60 % |
| effective dead time |
| 5 s |
| design flow rate |
| 8 l/min |



¹Balanced flow rates, cold water temperature 10 °C, Temperature at shower head 40 °C, waste water temperature 35 °C, negligible pipe length, shower time 6 min, flow rate 8 l/min

Passive House
efficiency class

phE

phD

phC

phB

phA

phA+

all climate zones



**CERTIFIED
COMPONENT**

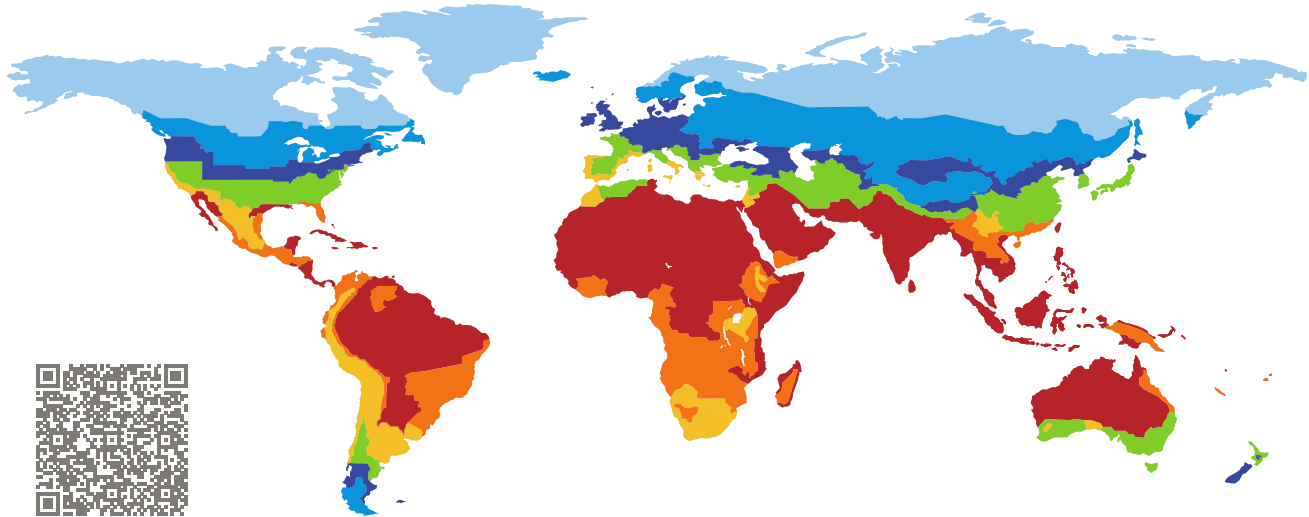
Passive House Institute

CERTIFICATE

Certified Passive House Component

Component-ID 1663sr03 valid until 31st December 2023

Passive House Institute
Dr. Wolfgang Feist
64283 Darmstadt
Germany



Category: **Drain water heat recovery**
Manufacturer: **joulia sa,
Biel,
Switzerland**
Product name: **Joulia Inline 5P-630**

This certificate was awarded based on the following criteria:

Tested under standard boundary conditions¹ the system reduces the useful energy demand for shower by

34 % \geq 30 %

Further properties

Pressure drop tap water at 8 l/min: 0.28 bar
Connection tap water: 1/2"
Connection waste water: DN 50

| |
|---------------------|
| nominal efficiency |
| 41 % |
| effective dead time |
| 5 s |
| design flow rate |
| 8 l/min |



¹Balanced flow rates, cold water temperature 10 °C, Temperature at shower head 40 °C, waste water temperature 35 °C, negligible pipe length, shower time 6 min, flow rate 8 l/min

Passive House
efficiency class

phE

phD

phC

phB

phA

phA+

all climate zones



**CERTIFIED
COMPONENT**

Passive House Institute