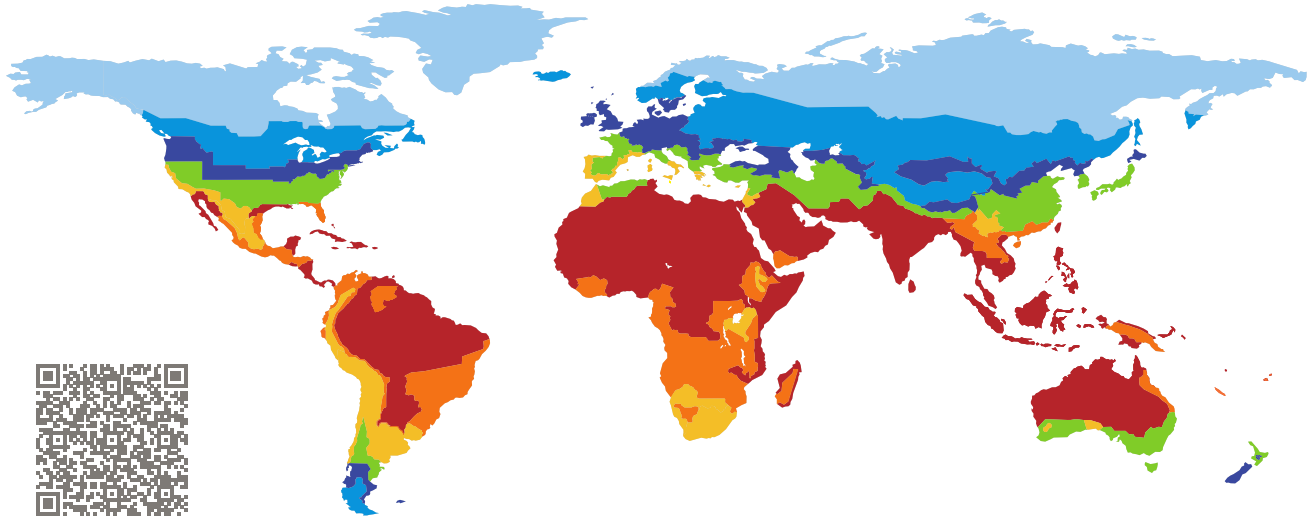


# CERTIFICATE

Certified Passive House Component

Component-ID 2173sr00 valid until 31st December 2025

Passive House Institute  
Dr. Wolfgang Feist  
64283 Darmstadt  
Germany



Category: **Drain water heat recovery**  
Manufacturer: **Technea,  
Leeuwarden,  
Netherlands**  
Product name: **HR tube 1-21 (Turbo Rotator)**

## This certificate was awarded based on the following criteria:

Tested under standard boundary conditions<sup>1</sup> the system reduces the useful energy demand for shower by

$$57\% \geq 30\%$$

## Further properties

Pressure drop tap water at 8 l/min: 0.29 bar  
Connection tap water: Rp 1/2" female  
Connection waste water: DN 50

nominal efficiency
69 %
effective dead time
5 s
design flow rate
8 l/min



<sup>1</sup>Balanced 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