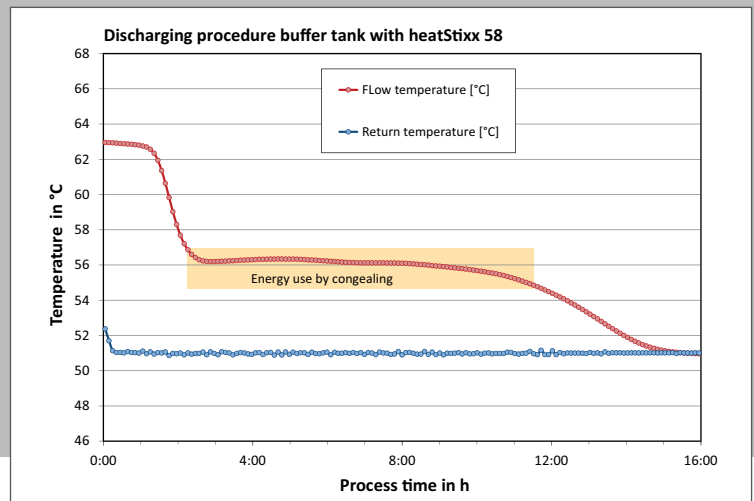
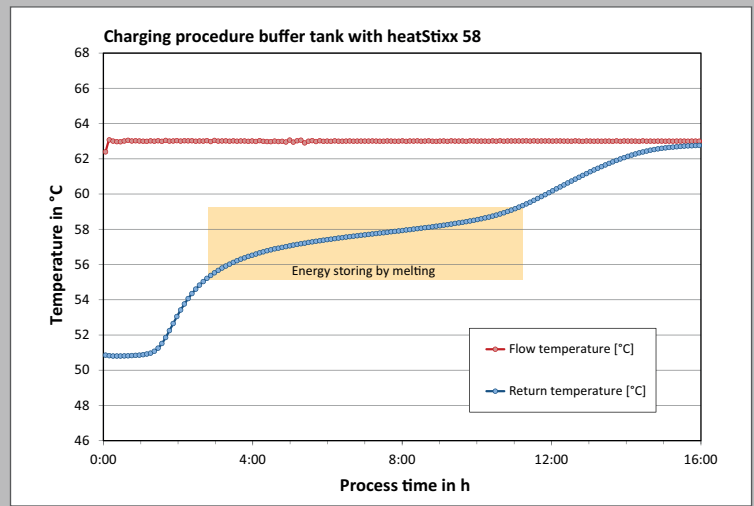




# PCM macroencapsulations

## Spectrum of application areas

**heatStixx**



**Request your heatStixx for testing purposes!**

Address

Full name

Company

Street

Post code / town / city

E.mail

Phone

**kraftBoxx**  
POWER TO HEAT SYSTEMS

kraftBoxx gmbh  
Riedweg 5, 88326 Aulendorf




Phone: +49 7525 / 924 382

E-mail: info@kraftBoxx.de

Web: www.kraftBoxx.de



## PRODUCTS

heatStixx	heatStixx L 	heatSel 	heatSel XL 
Dimensions	Ø 35 x 260 mm	185 x 185 x 32 mm	275 x 275 x 32 mm
Storage tank size	50 - 1,000 l	500 - 2,000 l	1,500 - 20,000 l
Storage tank diameter	400 - 1,000 mm	600 - 1,200 mm	From 1,200 mm
Number of heatStixx / Sel's per 100 l storage volume	Approx. 200	Approx. 90	Approx. 40
Installation	1½" sleeve	DN 200 flange	DN 300 flange
Max. operating pressure of storage tank	3 bar	3 bar	3 bar
Pressure loss in the storage tank per m layer thickness	Approx. 20-50 mbar	Approx. 20-50 mbar	Approx. 20-50 mbar
Expansion volume due to phase change	Approx. 5 %	Approx. 5 %	Approx. 5 %
Factor for capacity increase to water (<=0 °C compared to frost protection) at storage tank useful temperature of (varies depending on PCM)	10 K approx. 2.4 to 4.8	10 K approx. 2.5 to 4.9	10 K approx. 2.5 to 4.9
	15 K approx. 2.0 to 3.6	15 K approx. 2.0 to 3.6	15 K approx. 2.0 to 3.6
	30 K approx. 1.5 to 2.4	30 K approx. 1.5 to 2.4	30 K approx. 1.5 to 2.4

*made in germany*

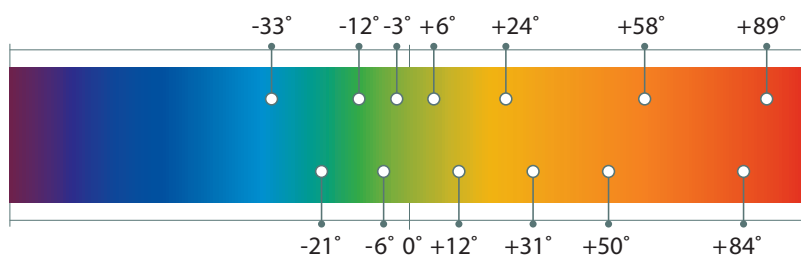
### Why PCM?

PCM (phase change materials) are used for storing thermal energy. Therefore the phase change plays the central role. Depending on the PCM (paraffin, salt-hydrates, etc.) the binding forces are energetically cracked when a certain temperature (that is the phase change temperature, which depends on the PCM) is reached. That is called the melting process. This process takes place at a constant temperature. The PCM will solidify as soon as it is cooled down again. This means that the stored energy is extracted at constant temperature. To indicate how much energy can be stored, we take a look on water-ice: It takes the same energy to bring 1 kg of water from 0 °C solid to 0 °C liquid, and to bring 1 kg of water from 0 °C liquid to 80 °C liquid. That is the latent-effect!

## AVAILABLE TEMPERATURES

### Our main application temperatures

Our heatStixx and heatSel are available for various phase change temperatures. This covers a very wide range of application areas and possibilities for heat and cold storages. The following figure shows our most common materials.



➔ If there is no suitable PCM temperature available for your application, we will develop this for your project.