

**For optimal control of heat pumps
and refrigerating plants**

Energy-saving, safe, efficient

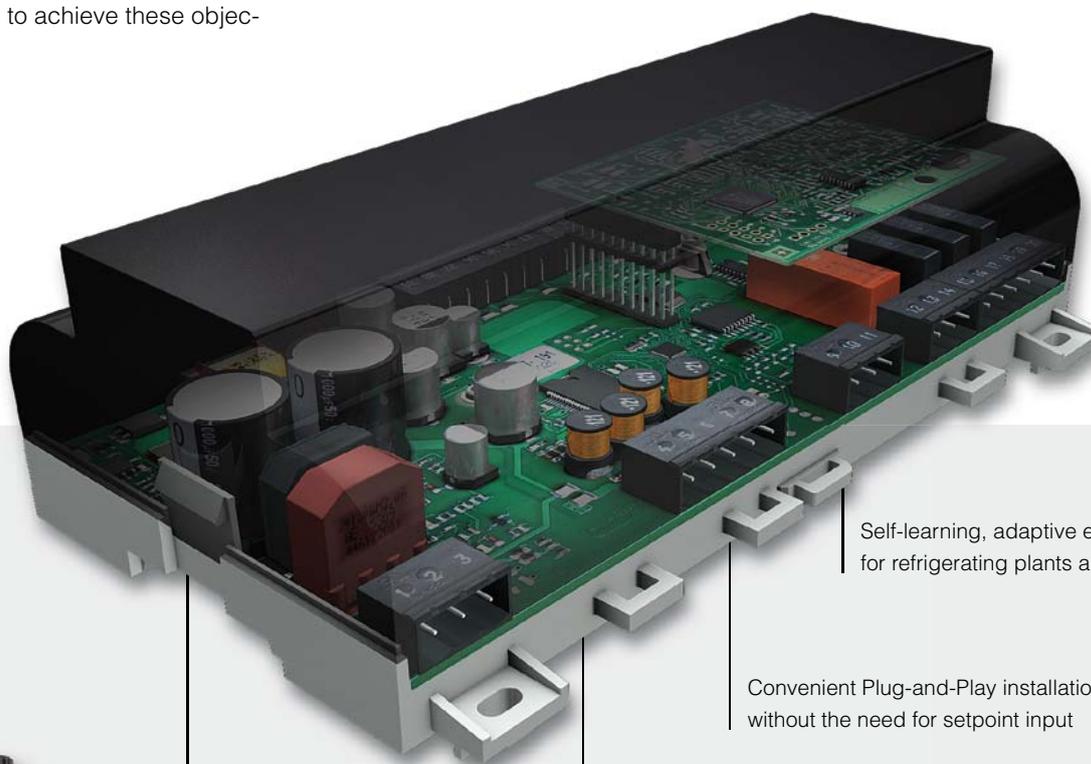
The new Honeywell SHC Superheat Controller uses adaptive, knowledge-based technology to control heat pumps and refrigerating plants.

This intelligent system offers clear benefits, particularly in terms of the dynamic mode of operation of plant. Excellent Coefficient of Performance (COP) means double-digit savings and maximum precision. The SHC continually adapts and improves its performance to achieve these objectives.

The SHC Superheat Controller achieves optimal precision control of electronic expansion valves right from the start, while the integrated control algorithm takes into account previously stored data and saves it. Refrigerating plants and heat pumps reach their optimal operating point much faster.

These benefits come with smoother operation, longer service life, extensive monitoring functions and a reduction in testing/commissioning costs.

The result is an intelligent and comprehensive solution which considerably reduces costs, amortizes quickly, and greatly simplifies processes.



Self-learning, adaptive electronic controller for refrigerating plants and heat pumps

Convenient Plug-and-Play installation without the need for setpoint input

Efficient control algorithm yields huge potential for energy savings

Maximum operating safety for components

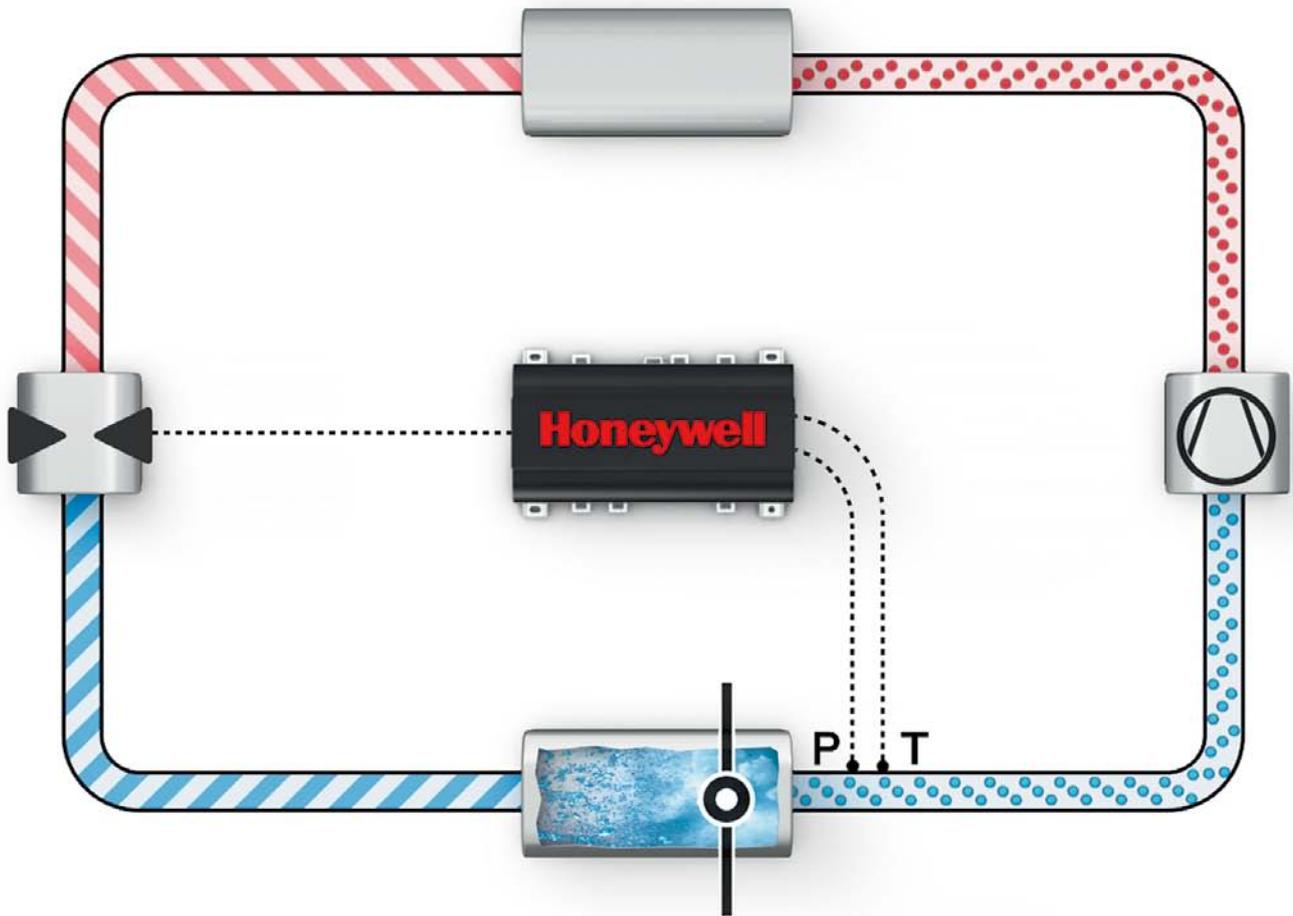


EEV2 Electronic expansion valve
Bidirectional, with bipolar stepper motor



PSR Pressure sensor
Ceramic sensor with ratiometric output signal

TS Temperature sensor
Highly dynamic NTC 10K sensor



Refrigerant circuit safety and efficiency

The refrigerant circuit consists of the following process steps: compression, liquefaction, expansion and evaporation. In this last step, the liquid refrigerant absorbs heat from the environment and is evaporated before being superheated.

During this process, it is vital that no liquid refrigerant enters the compressor, as this would destroy it.

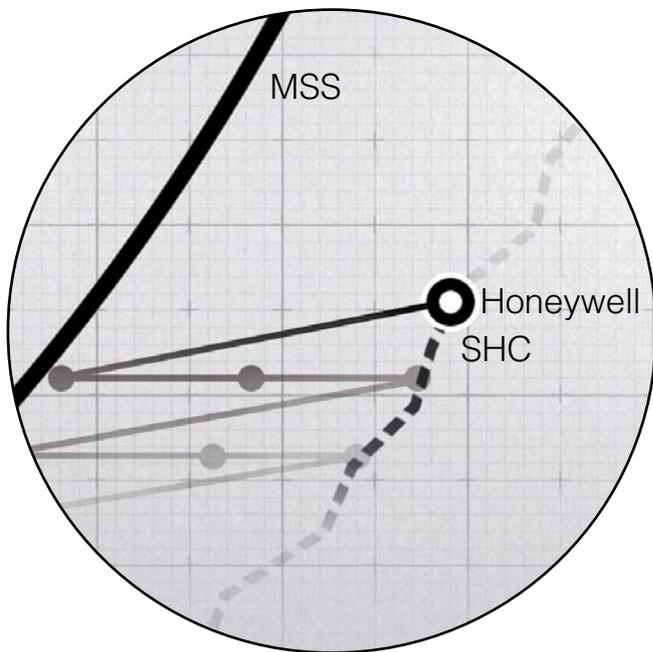
This is why the refrigerant is normally strongly superheated, although this results in higher power consumption.

The SHC works completely differently. Our new technology operates at maximum energy efficiency. The SHC controls the system in such a way that superheat ...

- achieves stable and safe values, protecting the compressor
- adapts to the respective operating conditions, to stay as low as possible

This means optimum results with flexible systems in areas such as:

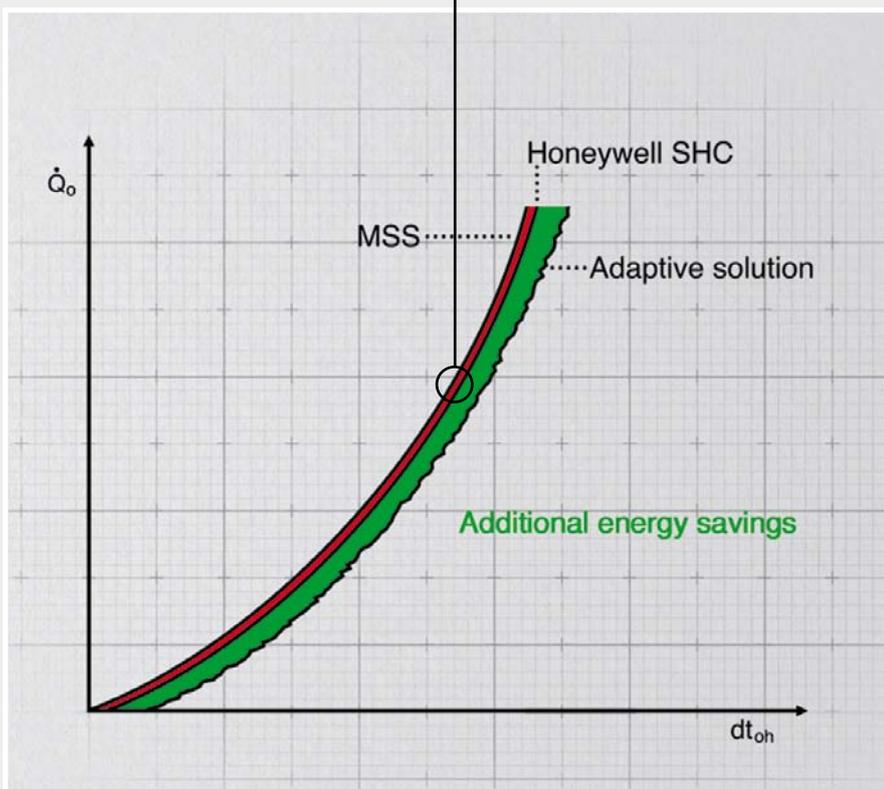
- heat pumps
- refrigerating plants
- air-conditioning
- cooling systems
- refrigeration systems
- transportation cooling
- cabinet cooling
- ice-makers
- chillers
- mobile cooling systems
- and many more



Precision through adaptation

The SHC sets itself apart with its ability to continually approximate to the stability limit of the evaporator (Minimum Stable Superheat, MSS).

In line with the motto “as much as necessary, but as little as possible”, the SHC controls the refrigerant superheating ideally in all operating modes. At the same time, the system learns by storing historical data. This yields special evaporator characteristics, thus enabling the optimum operating point to be reached quickly – a feature that is unique on the market.



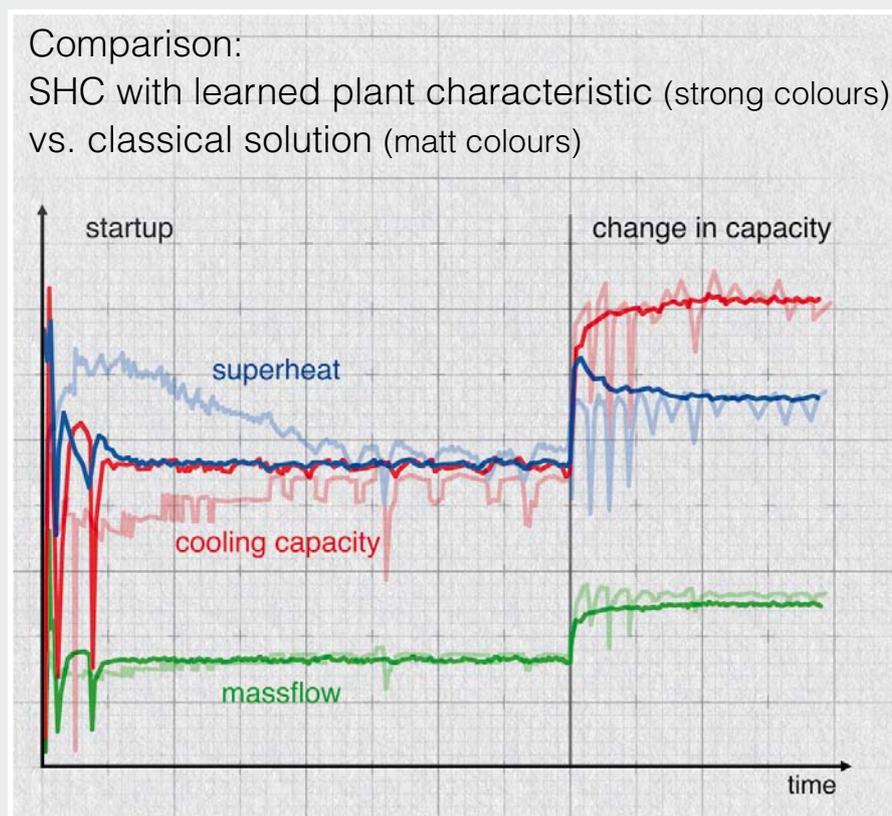
A quick comparison reveals the true benefits of the SHC:

The Honeywell SHC Superheat Controller is closer to the MSS in each operating phase and displays significantly less energy loss. The results are impressive, with savings of 15% on energy costs.

Knowledge-based, adaptive control

The benefits of Honeywell SHC are undeniable:

- reduction of operating costs by up to 15%
- optimum operating point reached very quickly
- reduction of energy consumption and maintenance costs
- rapid amortization
- Plug-and-Play installation
- no external setpoint needed
- reduced testing and system set-up costs



The benefits of SHC:
Optimisation up to five times faster,
less refrigerant superheat,
noticeably higher energy savings

SHC: At your service and full of energy

Intelligent and reliable solutions are a prerequisite for highly efficient operations. The Superheat Controller SHC uses a knowledge-based, adaptive control algorithm which ...

- offers extensive monitoring functions, e.g. Start, MOP, temperature monitoring, pump down, ...
- controls a wide range of valves
- recognises the degree of icing on the surface and only defrosts when and as long as necessary

We help you save energy by encouraging you to use it in ways specific to your requirements.

The following components are necessary for maximum energy efficiency:

- The Honeywell SHC Superheat Controller
- EEV Electronic expansion valve
- PSR Pressure sensor
- TS Temperature sensor



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