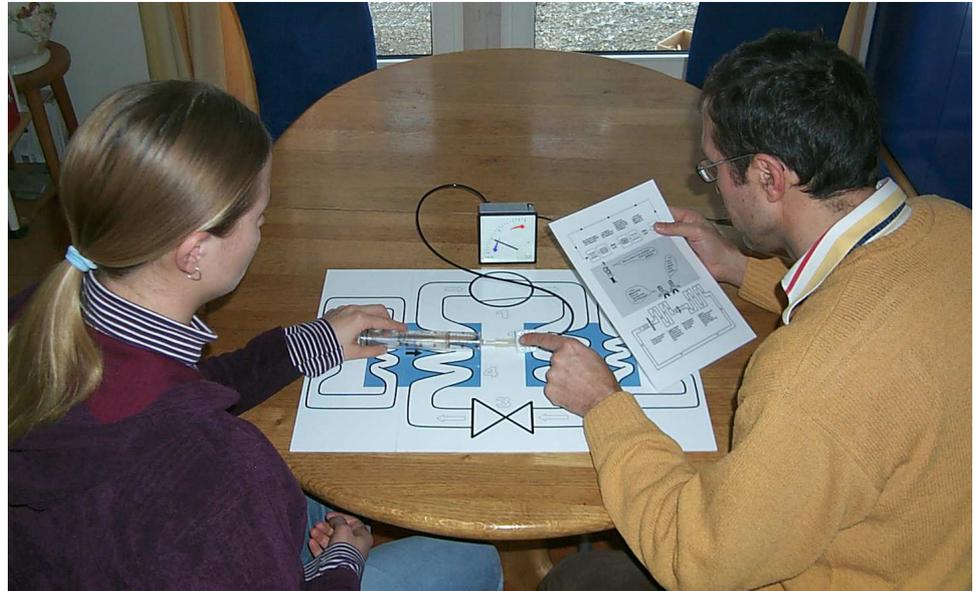


Pump Heat Yourself

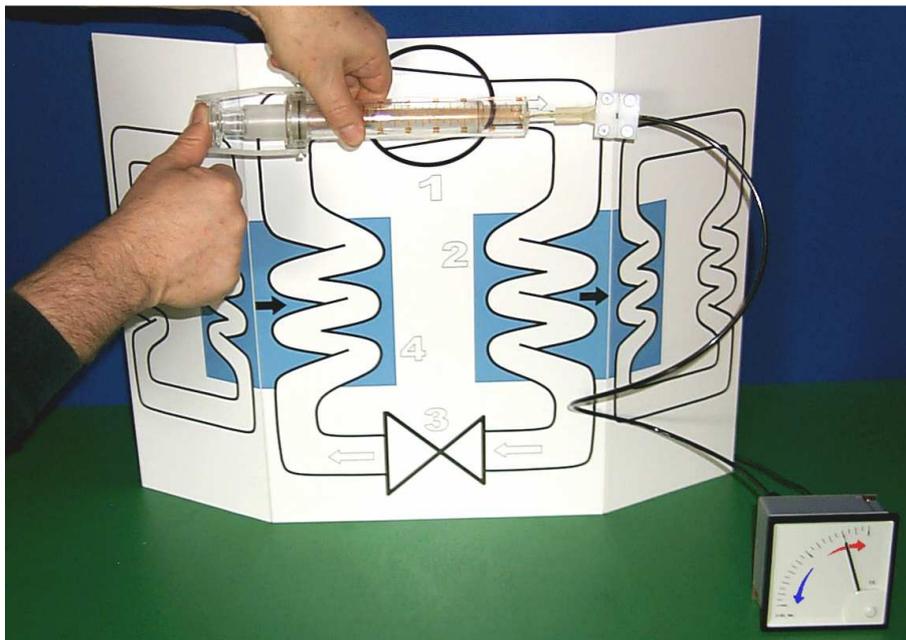
Learn by doing and understand the principle of the heat pump in an easily comprehensible didactic presentation



*Learn
by doing*

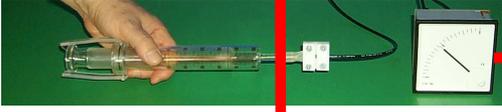
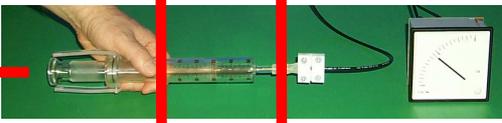
- Let a quantity of air (enclosed in a “moving part of the tube”) “circulate” along the tube on the plan of the heat pump.
- Compress and expand the air by hand at the right place.

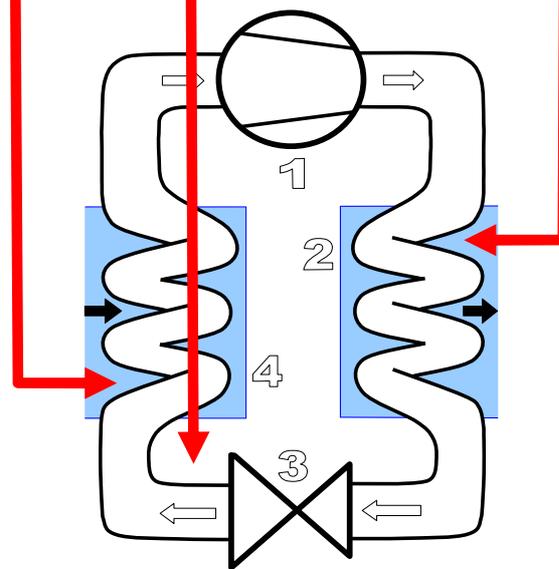
Temperature changes of the quantity of air make it clear that while the air is circulating heat is “absorbed”, transported and then “given off”. (In real heat pumps much more heat can be absorbed and given off because in that case the special gas circulating in the pipes is compressed so much that it partially becomes liquid and then again becomes a gas.)



demonstrate

The four basic operations with their effects upon the temperature of the enclosed quantity of air (best carried out initially with no change in location)

<p>1 rapid compression (push the piston in fast until the stop clicks in place)</p>		<p>quick heating</p>
<p>2 wait (the air remains compressed)</p>		<p>the temperature slowly returns down to room temperature (= giving off heat)</p>
<p>3 rapid expansion (open the stops: the piston pops out)</p>		<p>rapid cooling</p>
<p>4 wait (air remains expanded)</p>		<p>temperature slowly goes back up to room temperature</p>



Carry out the four basic operations each at the right place in the plan (at the corresponding number) while the quantity of air in the “moveable tube” is pushed along the plan of the tube.

Note: Because of the didactic nature of the presentation the warmth brought into the surroundings (in point 2) can be shown only indirectly, that is, the heating effect has to be deduced from the giving off of heat from the quantity of air that is closed off

Price: CHF 1150.- Euro 750.-

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