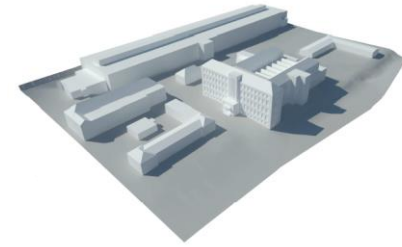


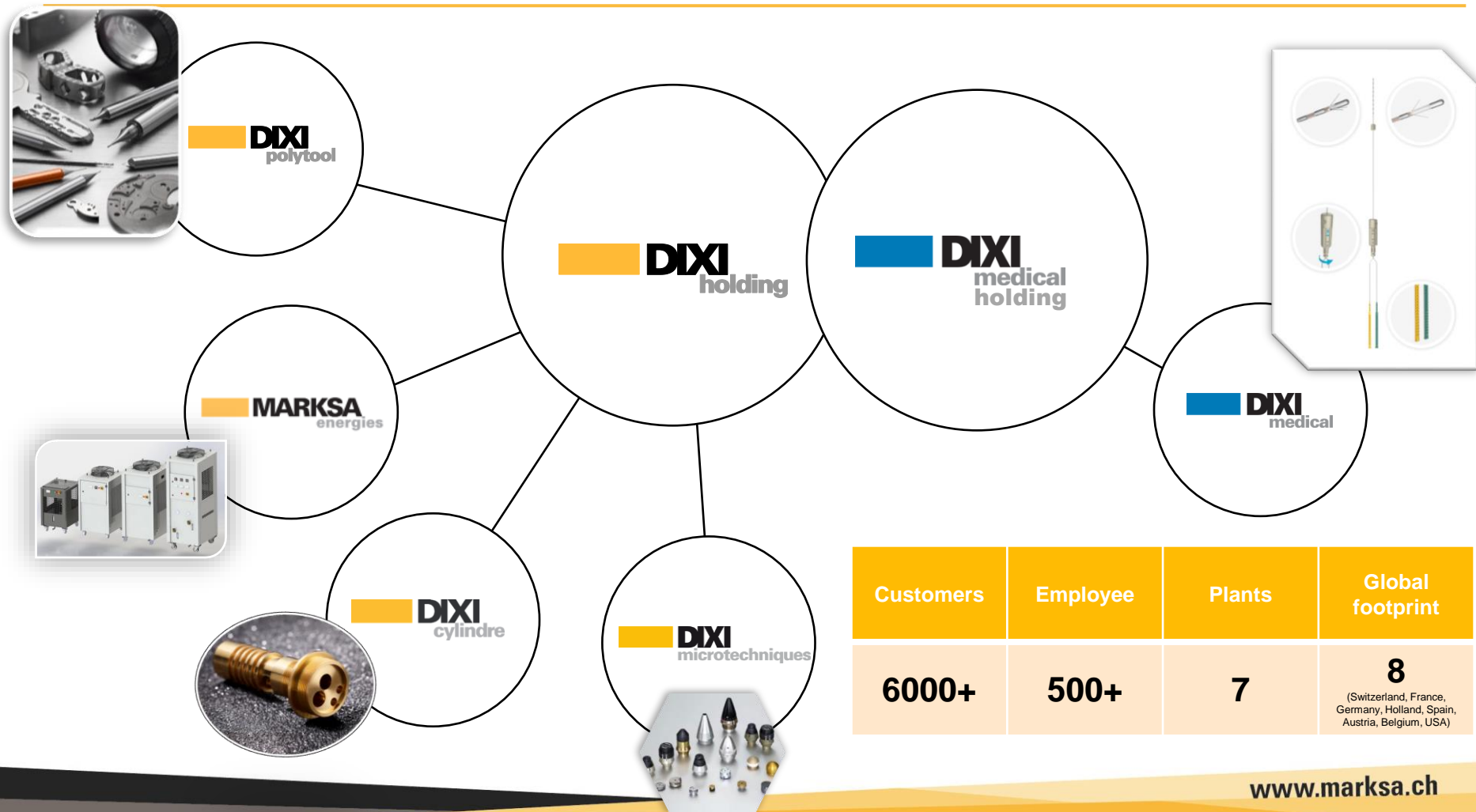
DIXI is a family company founded in 1904 in Le Locle, Switzerland.

At first a manufacturer of high precision machinery for the watch-making industry, DIXI diversified its activities in several high precision industries, and since the last 30 years, in the medical field.

As of today, DIXI Group is constituted of 5 independent divisions, internationally active.



# DIXI Group organisation



Customers	Employee	Plants	Global footprint
6000+	500+	7	8 (Switzerland, France, Germany, Holland, Spain, Austria, Belgium, USA)

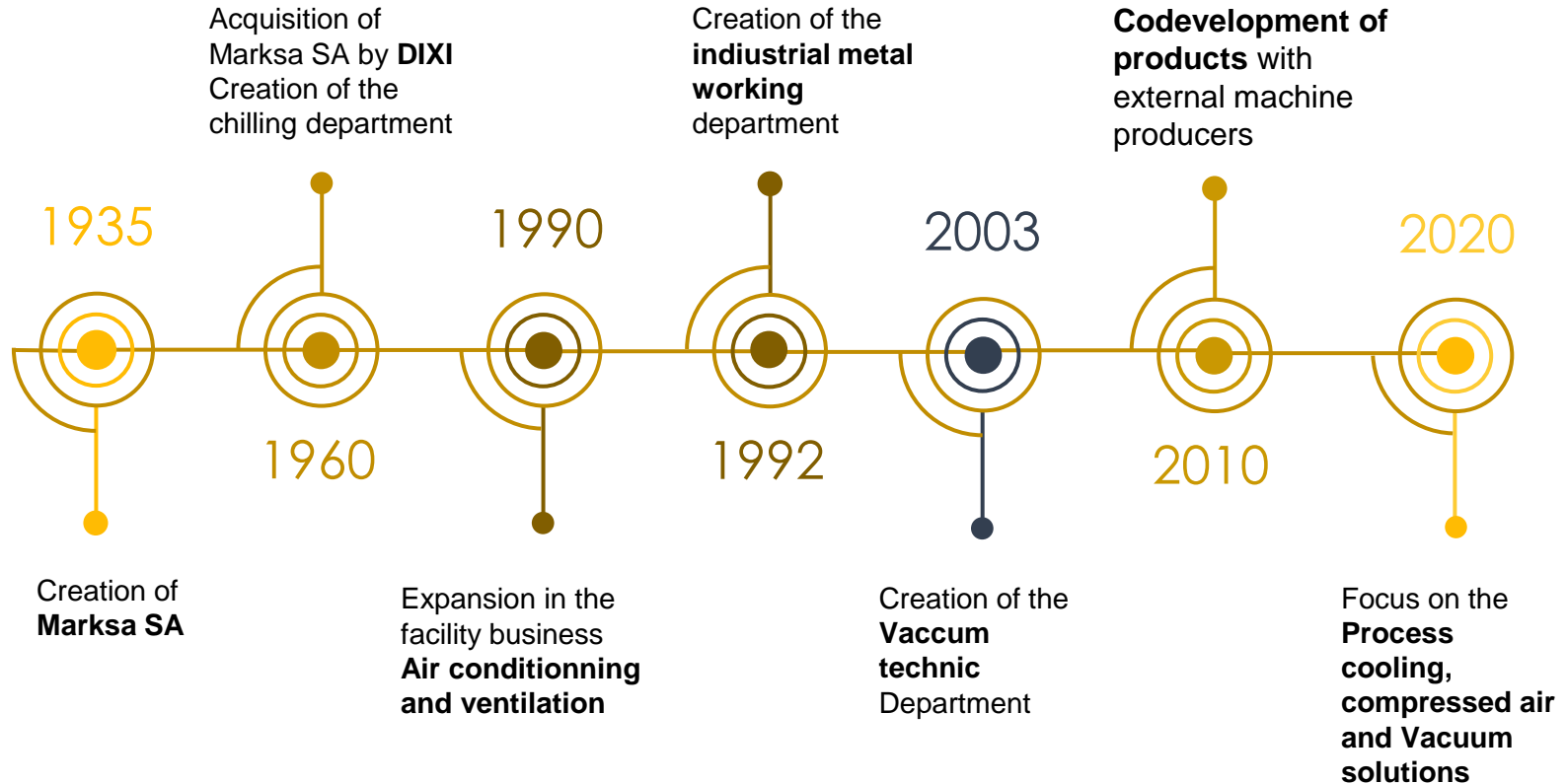
MARKSA is a company specialized in industrial cooling as well as compressed air and vacuum solutions.

We **develop** and **produce** our **own cooling systems** for various industrial applications (production machines, measuring devices, etc.). Our customers are mostly machine manufacturers and industries with a production area.

In the field of compressed air, MARKSA is an **official dealer of Atlas Copco**, which we dimension, install and maintain. We also produce our own vacuum stations.



# Story of Marksa



## Industrial cooling

### Conception

Complete development based on customer requests

Adaptation of our standard products

Sizing of Cooling industrial installations

### Production

Swiss Production with high flexibility

All product 100% controlled

### After-sale

Installations

Maintenance

Repair

## Compressed air + Vacuum

### Conception

Sizing of Compressed air and Vacuum installations

### Production and distribution

Vacuum  
• Swiss production

Compressed air  
• Official distributor Atlas Copco

### After-sale

Installations

Maintenance

Repair

## Our range of standard products

Water cooling system (CSW), custom design (CPW), Oil cooling system (CSO) and CPO)

Water heat exchanger (GH), Oil heat exchanger (GHO) and electrical cabinet cooling (GAE).

## Scope of use

CNC, Special machines, Laser machines, Measurment machines, Industrial facilities, Industrial process, etc.





## Adaptation of existing products

In order to simplify and save time, an adaptation of our standard products is a preferred solution. As MARKSA has a complete mastery of the design of these products, this is often THE preferred solution.

## Complete design

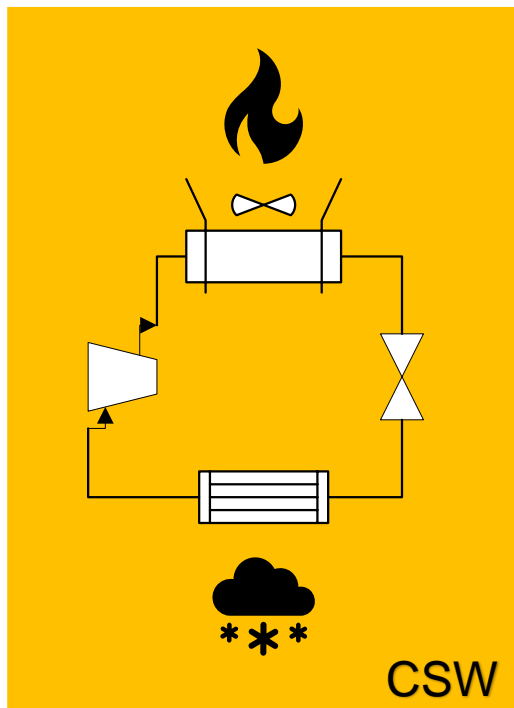
Thanks to its internal development skills, MARKSA can create a product from scratch according to the customer's requirements, and within a short timeframe.



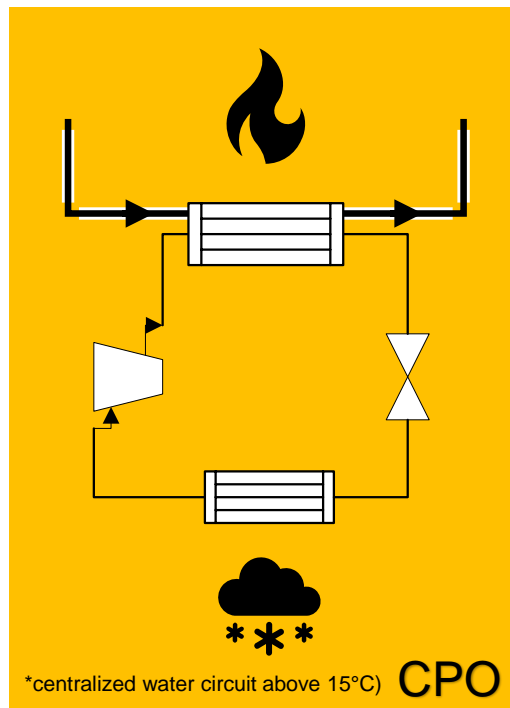


# Different Cooling systems

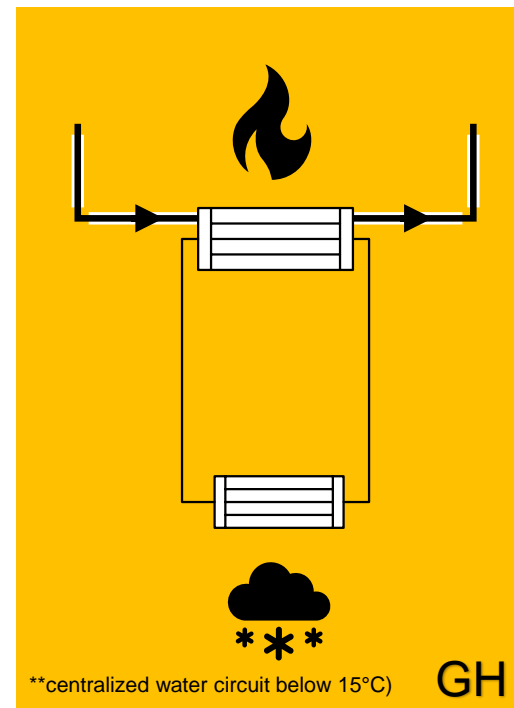
**Active system**  
Cooling production +  
Heat evacuated through air



**Half-Active System\***  
Cooling production +  
Heat evacuated through water

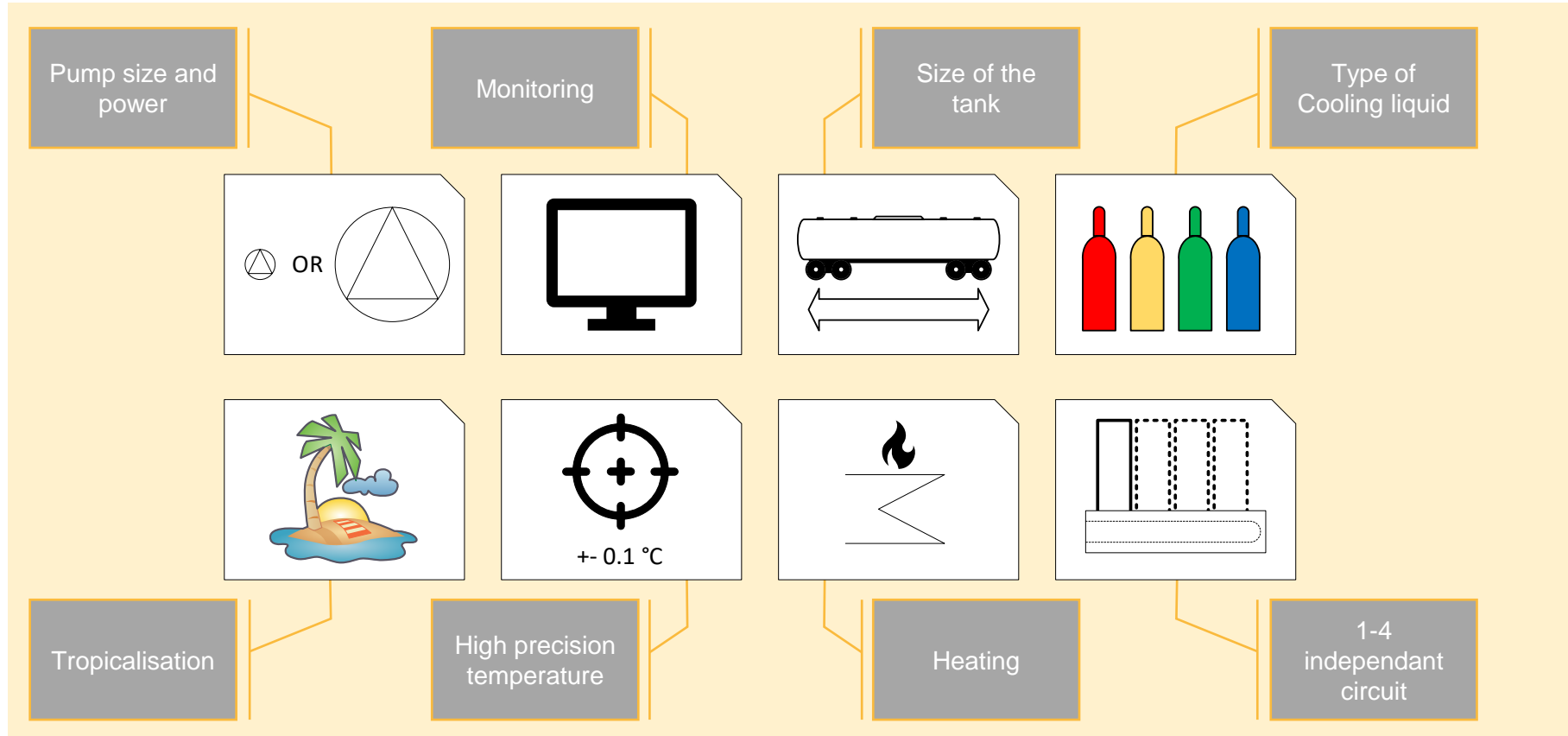


**Passive System**  
Cooling production from  
centralized water circuit

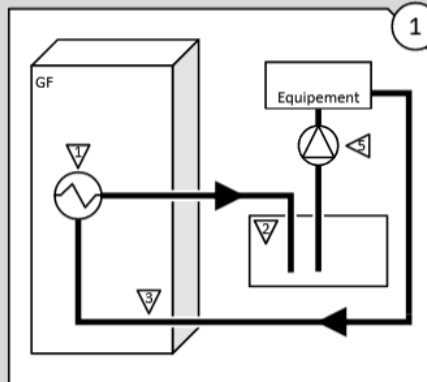


Target temperature range : **between 0°C and 30°C**  
Optional range : **between -20°C and 40°C**

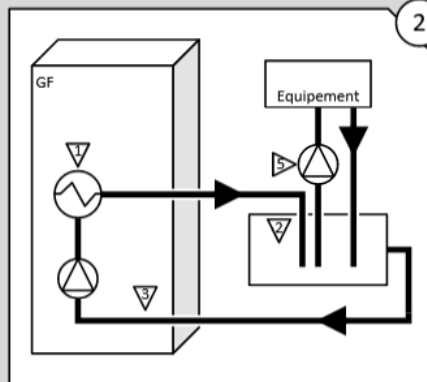
# Options possibles



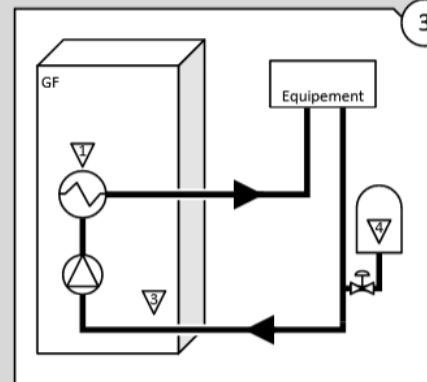
# Cooling system examples



The heat transfer fluid is injected into the equipment by the external pump (5) before being cooled by the Cooling Source (1). The cooled fluid is stored in the external reservoir (2).



The heat transfer fluid is injected by the external pump (5) into the equipment before being stored in the external reservoir (2). A second pump, internal to the chiller, circulates the fluid to be tempered by the cooling source (1) to the required temperature.

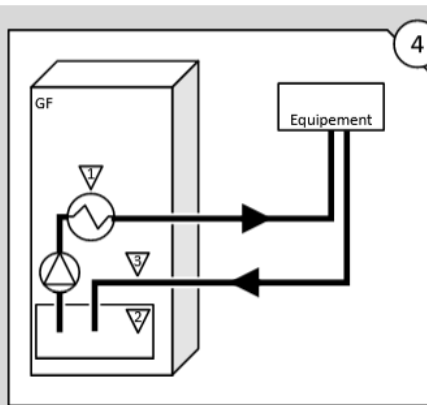


The internal pump circulates the heat transfer fluid, which is then tempered by the Cooling Source (1) to the required temperature, before being sent to the cooling consumer. As the system is a closed system, an expansion vessel (4) is integrated into the cooling circuit.

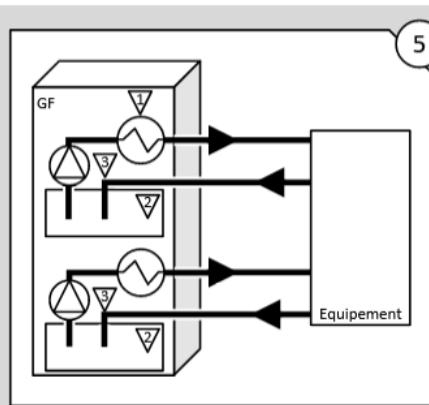
## Legend

- 1 Cooling production
- 2 Tank
- 2 Thermal sensor (possible location)
- 3 Expansion tank
- 4 Pump
- 5 Heater
- GF Chiller

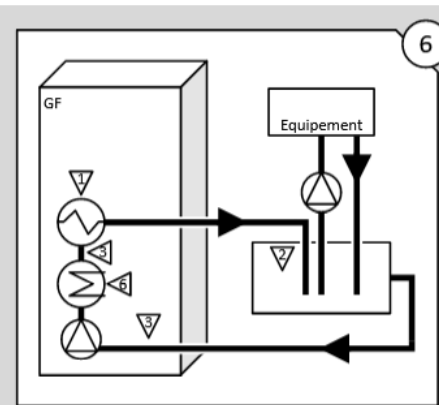
# Cooling system examples



The internal pump circulates the heat transfer fluid to be tempered by the Cooling Source (1) to the required temperature, then sent to the cold consumer equipment. The fluid is then stored in an internal reservoir.



Same configuration as diagram Nr 4, but with 2 separate circuits with potentially different tanks, fluids and temperatures.

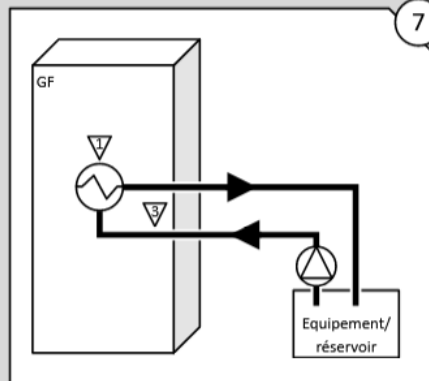


Same configuration as diagram Nr 2, but with an internal heating element (6) for heating the heat transfer fluid.

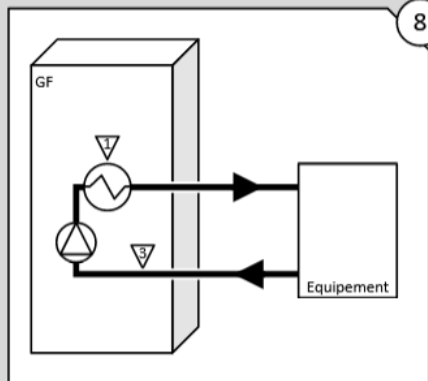
## Legend

- 1 Cooling production
- 2 Tank
- 2 Thermal sensor (possible location)
- 3 Expansion tank
- 4 Pump
- 5 Heater
- GF Chiller

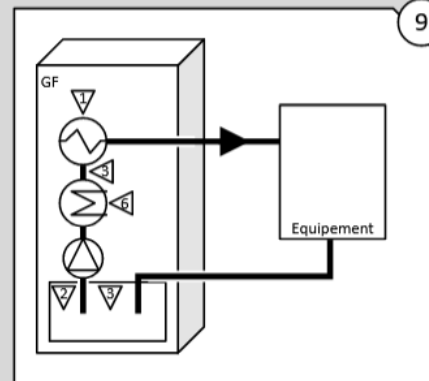
# Cooling system examples



Same configuration as diagram Nr 2, but the consumer equipment also acts as a reservoir.



Same configuration as diagram Nr 1, but without reservoir.

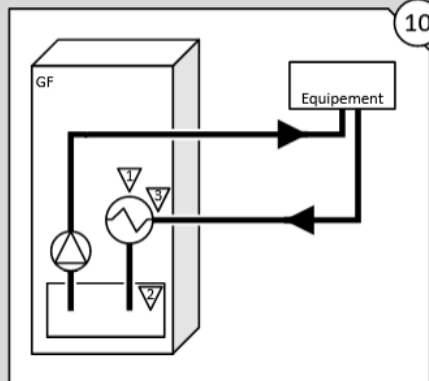


Same configuration as diagram N. 4, but with an internal heating element (6) for heating the heat transfer fluid.

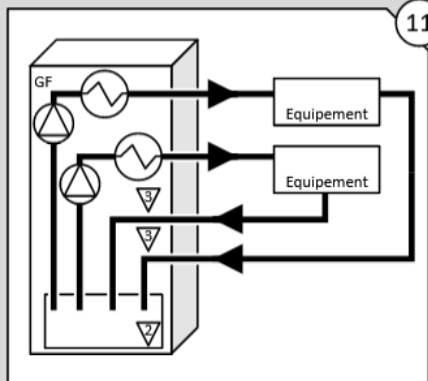
## Legend

- 1 Cooling production
- 2 Tank
- 2 Thermal sensor (possible location)
- 3 Expansion tank
- 4 Pump
- 5 Heater
- GF Chiller

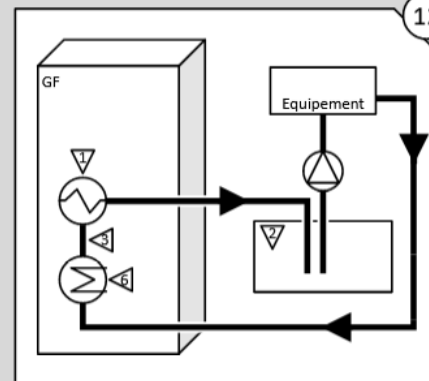
# Cooling system examples



The heat transfer fluid is injected into the equipment by the internal pump before being cooled by the Cooling Source (1). The tempered media is stored in the internal reservoir (2).



Same configuration as diagram Nr 10, but with 2 separate circuits with potentially different tanks, fluids and temperatures.



The heat transfer fluid is cooled or heated as required. Information on the type and power of the external pump used, as well as the reservoir capacity, is important to communicate.

## Legend

- 1 Cooling production
- 2 Tank
- 2 Thermal sensor (possible location)
- 3 Expansion tank
- 4 Pump
- 5 Heater
- GF Chiller

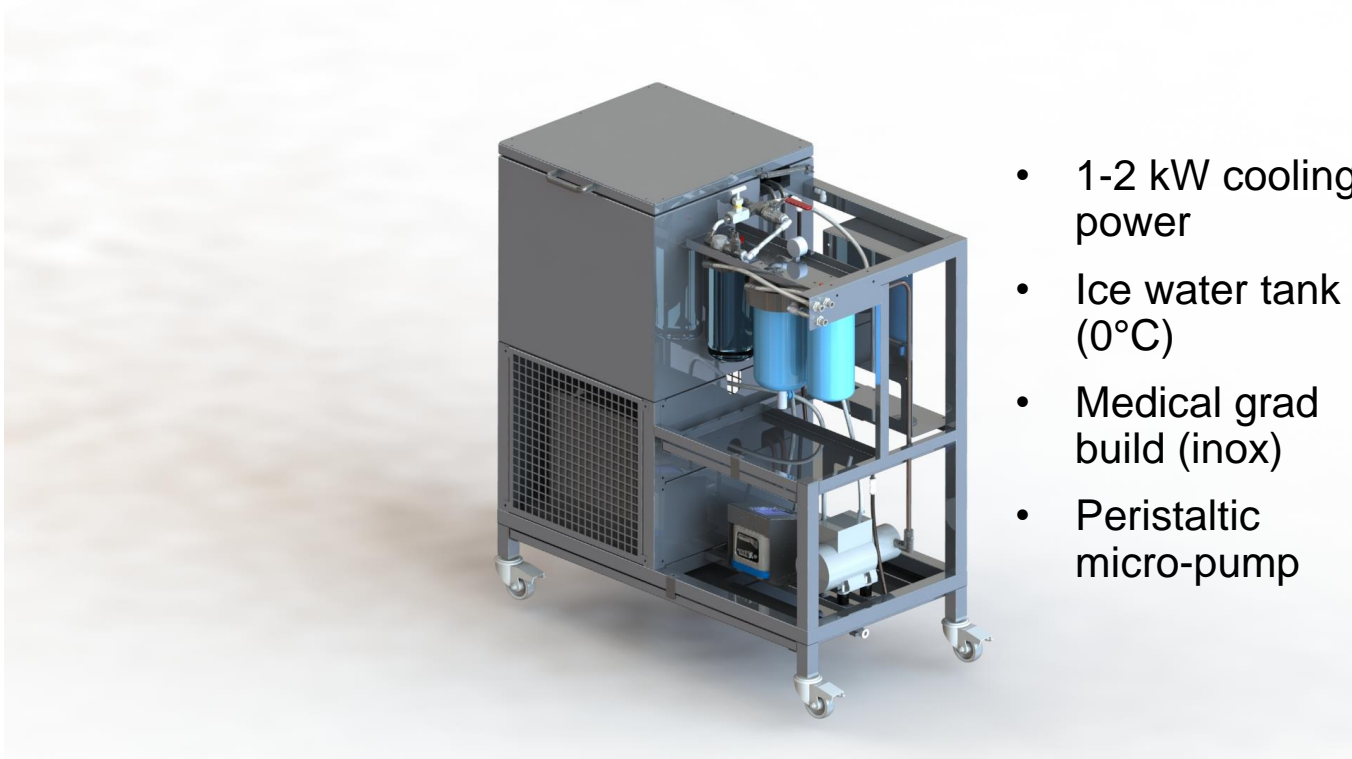
### CSW 900 – O3C (Production per year: 70)



- 9 kW cooling power
- Multi-circuit thermal regulation (Remplace 3 chillers)
- $\pm 0.1\text{ }^{\circ}\text{C}$  Precision
- Limited footprint



### CSW 100 custom (Production per year: 15)



- 1-2 kW cooling power
- Ice water tank (0°C)
- Medical grad build (inox)
- Peristaltic micro-pump

### CSW 100 «Desktop» (Production per year: 25)



- 1-2 kW cooling power
- Extremely compact
- Low noise build
- $\pm 0.1\text{ }^{\circ}\text{C}$  Precision

### **Incoterm:**

EXW by default (other Incoterm possible)

### **Rent and take back of used MARKSA chillers**

Marksa has a fleet of chillers of all types and capacities for temporary needs. In the event of a change, MARKSA occasionally buys back the chillers used by its customers.

### **Chiller disposal**

MARKSA takes back, destroys the chiller and, in particular, take care of the treatment of the cooling liquids.

### **Delivers**

Delivery is usually organized by the customer. If required, MARKSA can organize national and international delivery to the customer's premises.

### A complete range of work

Whether they are Marksa equipment or from our competitors, we are able to check them, overhaul them, maintain them and, of course, repair them.

Our service vehicles are equipped with all the necessary tools and equipment for a quick repair, without the need for a second intervention.

Our technicians are highly qualified in their field of activity. They regularly attend training courses to ensure that they are always up to date with the latest technology.

### Services

Installations of  
MARKSA systems

Maintenance of  
installations  
(MARKSA or other)

Quick response and  
troubleshooting

# Thank you for your attention !



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2400 Le Locle  
[www.marksa.ch](http://www.marksa.ch)