

Temperature control Applications



Clorius
Controls A/S

- ensures reliable
control of heating, cooling
and ventilation systems.

Clorius Controls solves the task of temperature control

Any task where a media is heated or cooled to a certain temperature, Clorius Controls has the solution.

Examples of medias to be heated / cooled:

- Fresh water**
- Hot water**
- Lubricating oil**
- Fuel oil**
- Air**
- Asphalt**

Examples of valve media:

- Fresh water**
- Sea water**
- Hot water**
- Lubricating oil**
- Steam**
- Heat transfer oil**

Limits for the valve media:

- Temperature up to **350°C**
- Pressure up to **40 bar**
- k_{vs} up to **1250 m³/h**

The Clorius Controls Scope of Supply

Valves:

2-way valves

Sizes DN 15/4 - DN 150
Single / double seated

3-way valves

Sizes DN 15 - DN 300

Body material:	gun metal cast iron nodular cast iron cast steel
Spindle:	stainless steel
Cone and seat:	stainless steel gun metal

Control equipment:

Selfacting temperature control
consisting of

thermostat
sensor
capillary tube

Electronic temperature control
consisting of

valve motor
PI(D) controller
sensor

Pneumatic temperature control
consisting of

actuator
positioner
PI controller
sensor

Certificates

Work certificates
Test certificates from a
Classification Society

Instructions

Installation guidelines
Maintenance instructions
Operation instructions

Application examples

Main engine and auxiliary engine:

- Jacket cooling water system
- Piston cooling
- Nozzle cooling
- Load- and scavenging air cooling
- Lubricating oil cooling

Oil preheating:

- Fuel oil and diesel oil
- in storing-, settling-, and service tanks
- Preheating prior to separation and injection

Heat Exchangers:

- Water heaters for radiator plant
- Water heaters for domestic water
- Evaporators (production of freshwater)

Tank Heating:

- Bilge water tank
- Cargo tank
- Sludge tank
- FO drain tank
- FO overflow tank
- Asphalt tank

Air Conditioning Plant:

- Preheating of air
- Reheating of air
- Cooling of air

Solutions are depending on the actual method required:

2-way valve with self-acting thermostat or with actuator, controller and sensor

3-way valve (mixing or diverting) with self-acting thermostat or with actuator, controller and sensor


Actuators can be electrical or pneumatic or electric/pneumatic


Hydraulic and electric/hydraulic actuators are optional solutions


Communication with central control systems (RS 485 for controller type ER 2000)


Solutions

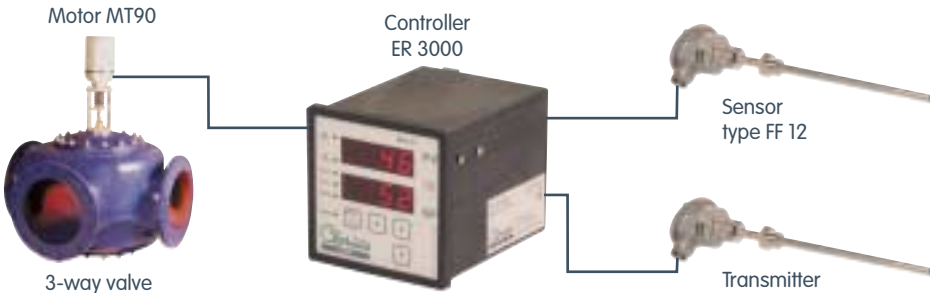
- 1.** 2-way valve
Thermostat type V



- 2.** Thermostat type V
3-way valve



- 3.** Motor type V
2-way valve
Controller ER 2000
Sensor type FF 12


- 4.** Motor MT90
3-way valve
Controller ER 2000
Sensor type FF 12


- 5.** Motor MT90
3-way valve
Controller ER 3000
Sensor type FF 12
Transmitter


- 6.** Pneumatic actuator type S
Positioner SR-100-2
2-way valve
Controller S80
Transmitter R11

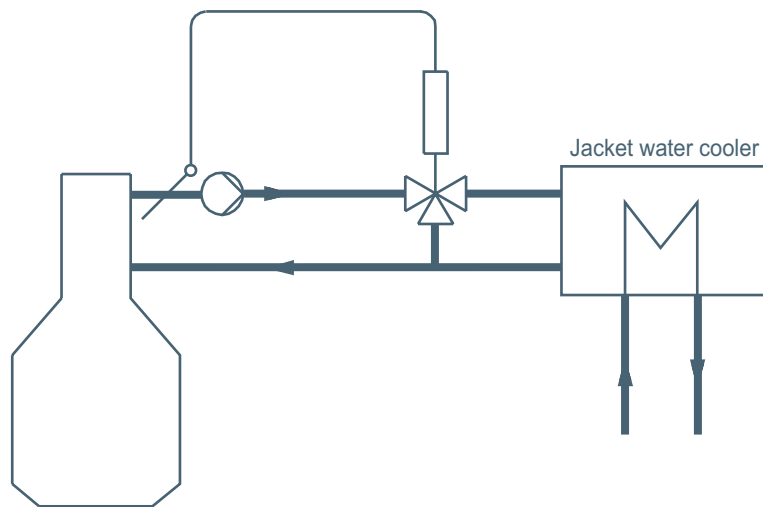

- 7.** Pneumatic actuator type S
Positioner SR-100-2
3-way valve
Controller S80
Transmitter R11



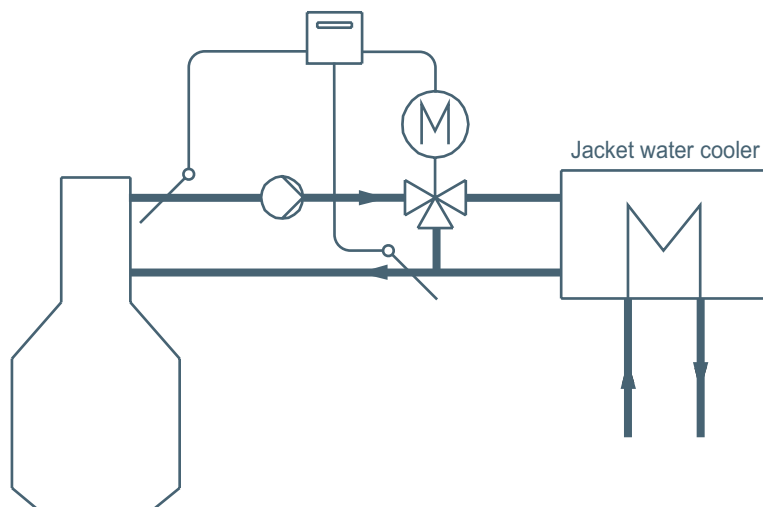
Application in principle

Engine jacket cooling water system

Solution 2, 4 and 7

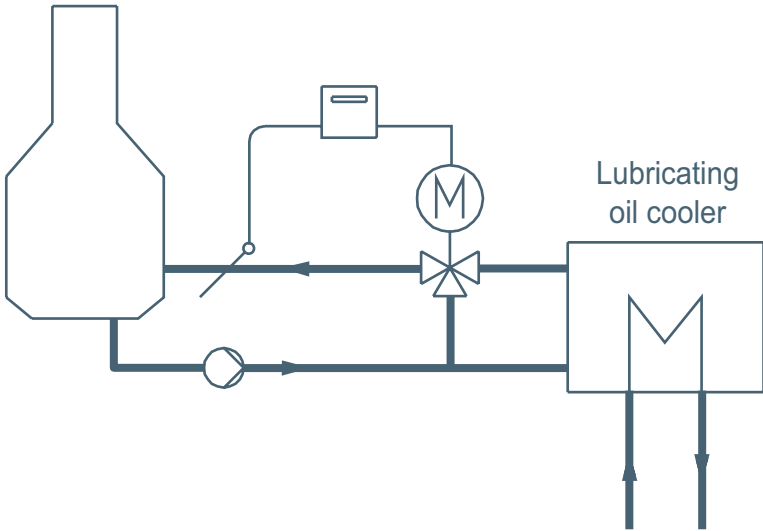


Solution 5



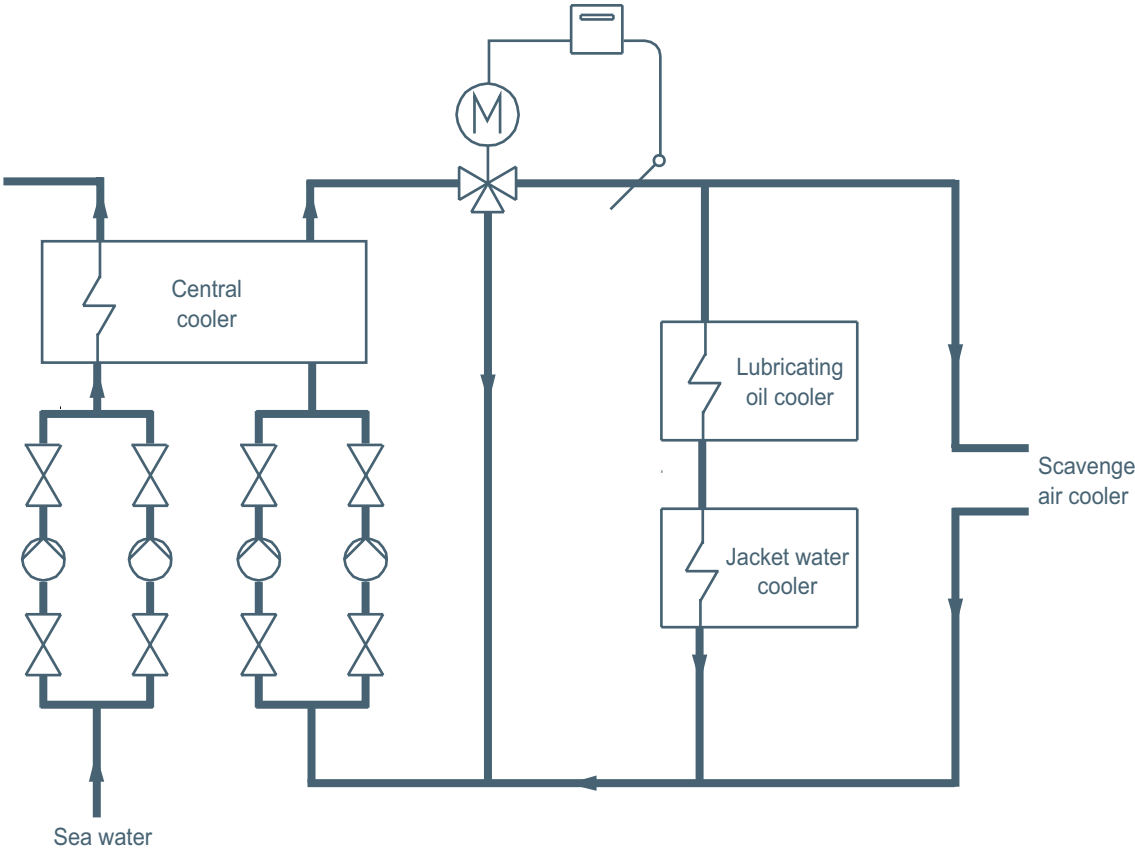
Lubricating oil cooling

Solution 2, 4 and 7 (ref. page 4)



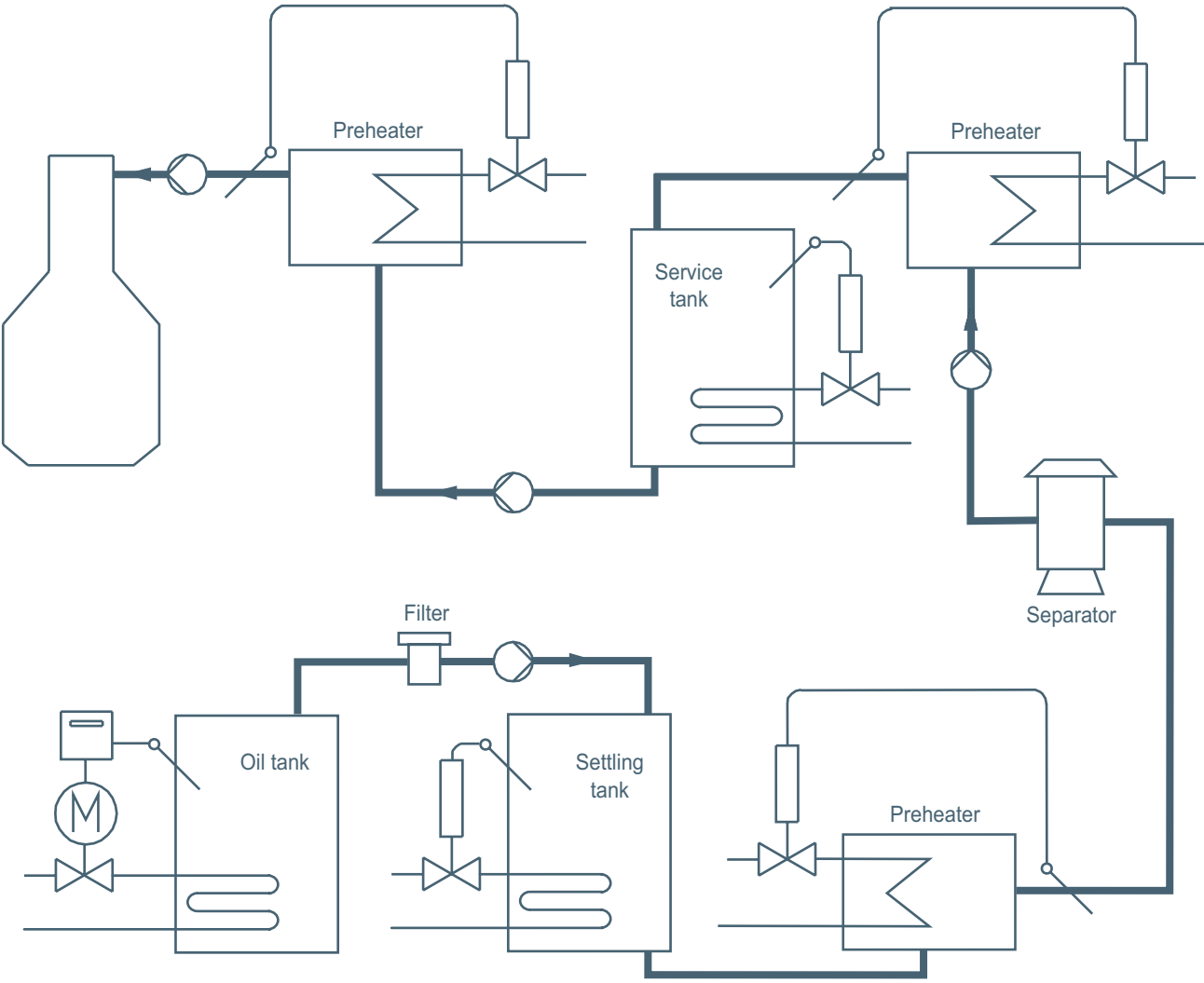
Central cooling water system

Solution 2, 4 and 7 (ref. page 4)



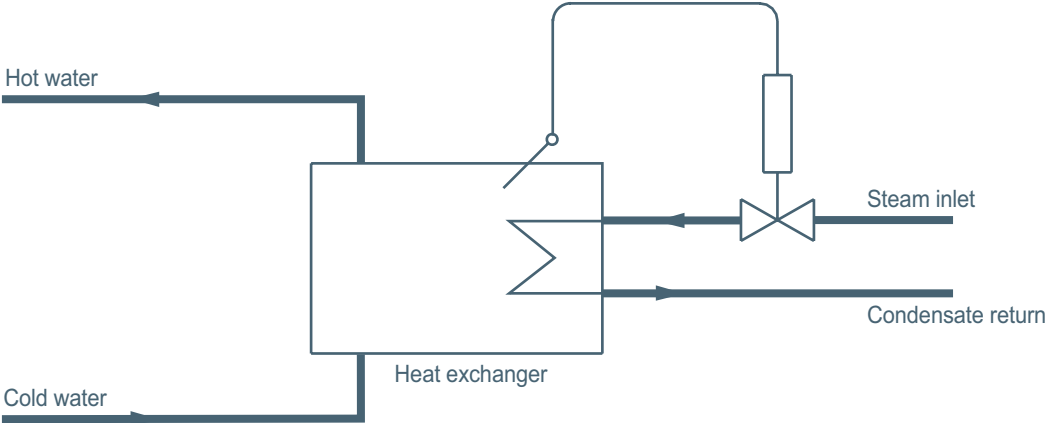
Oil preheating

Solution 1, 3 and 6 (ref. page 4)



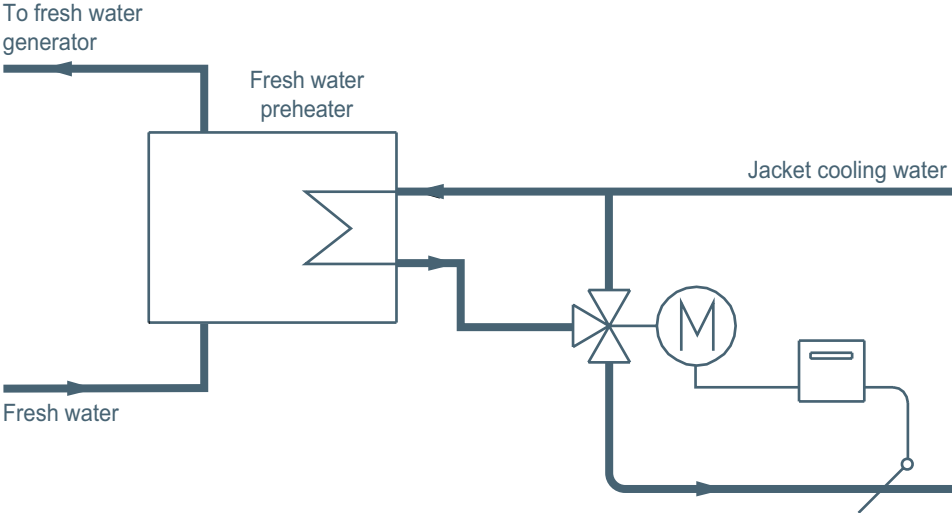
Hot water tank heating

Solution 1, 3 and 6 (ref. page 4)



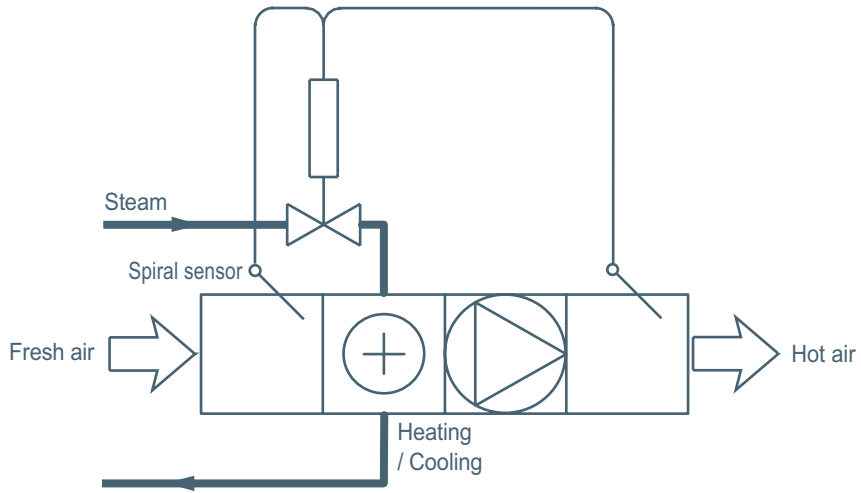
Heating system for fresh water generator

Solution 2, 4 and 7 (ref. page 4)

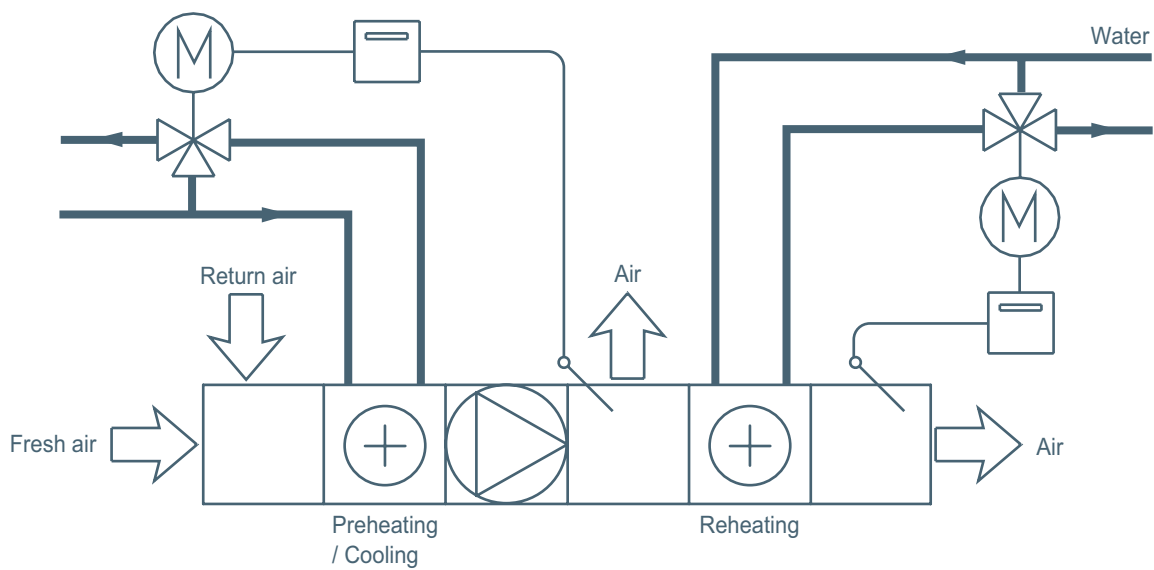


Air conditioning plant

Solution 1 (ref. page 4)



Solution 2, 4 and 7 (ref. page 4)



Complete control systems

Clorius Controls offers a complete range of tested and reliable equipment for control of heating, cooling and ventilation systems, all with the purpose of achieving the highest reliability and saving energy.

Specialists in selected areas



Residences and institutions

Equipment for control and regulation of heating and ventilation systems



Industry

Valves and thermostats for the regulation of heating, cooling and process heat



Maritime industry

Certified valves, thermostats and motors



Control valves

Clorius valves are simple and reliable for regulation of temperature and pressure differences in heating, cooling and ventilation systems for maritime industry, general industry, institutions and residences.



Controllers

Clorius Controls offers a wide range of electronic controllers for heating, cooling and ventilation systems. The controllers are available for systems in the maritime industry, general industry, institutions and residences. Clorius Controls offers controllers for simple stand-alone solutions or for larger BMS-plants.



Motors

Clorius Controls offers a large program of conventional regulation motors and analogue motors. This includes special motors for maritime use, which are designed to withstand vibrations.

Thermostats

Self-acting thermostats from Clorius Controls function directly and are available with sensors for air or liquids. They are also available as safety thermostats for the protection of secondary pipe installations.



Balancing valves

With Ballorex balancing valves the amount of water in the individual heating circuits can be balanced and regulated.

Pressure differential controllers

The controllers from Clorius Controls lower large and variable pump pressure to stabilize the flow in the plant.



Clorius Controls' products can also be found on Tribon.com.

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