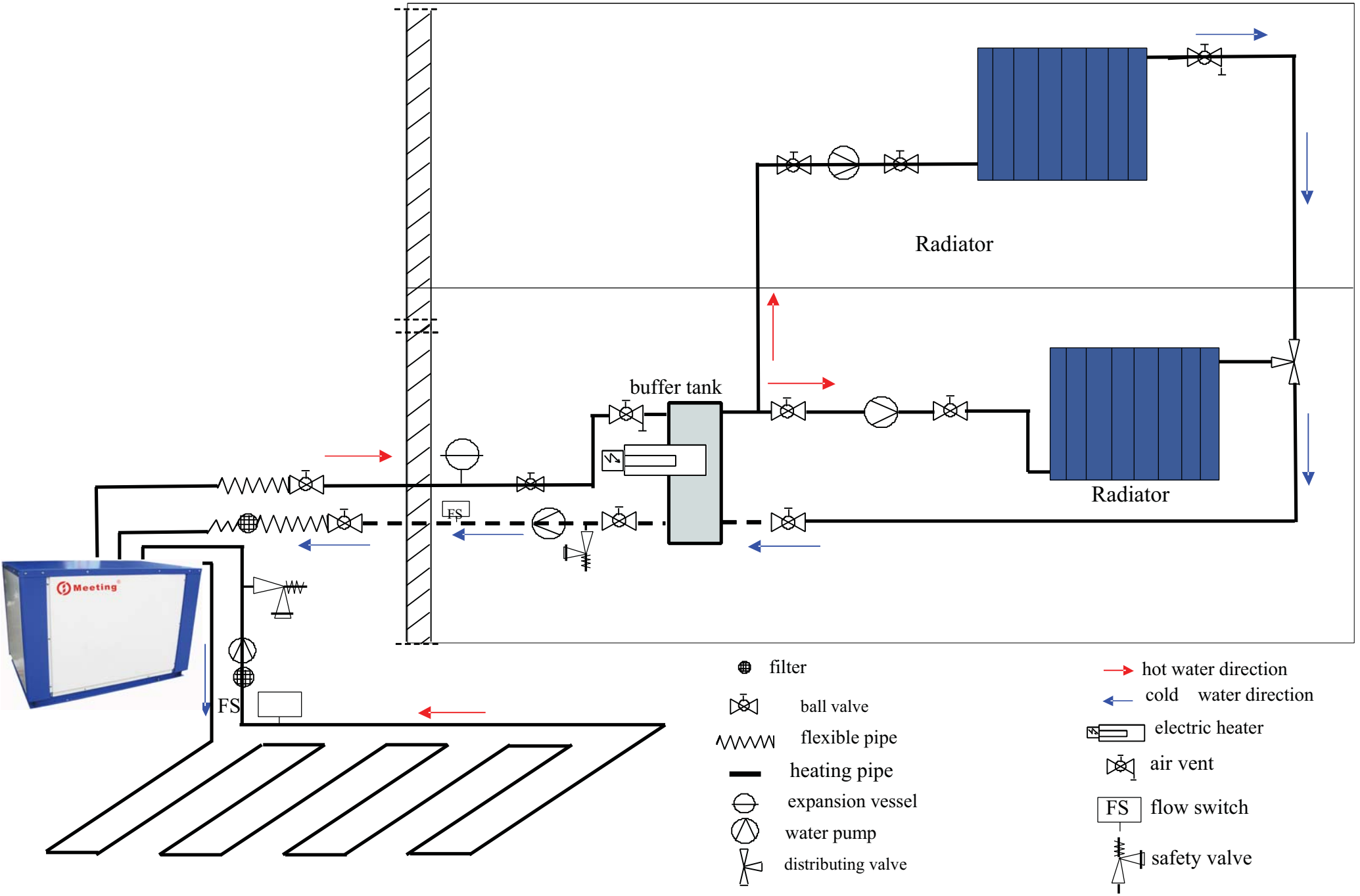
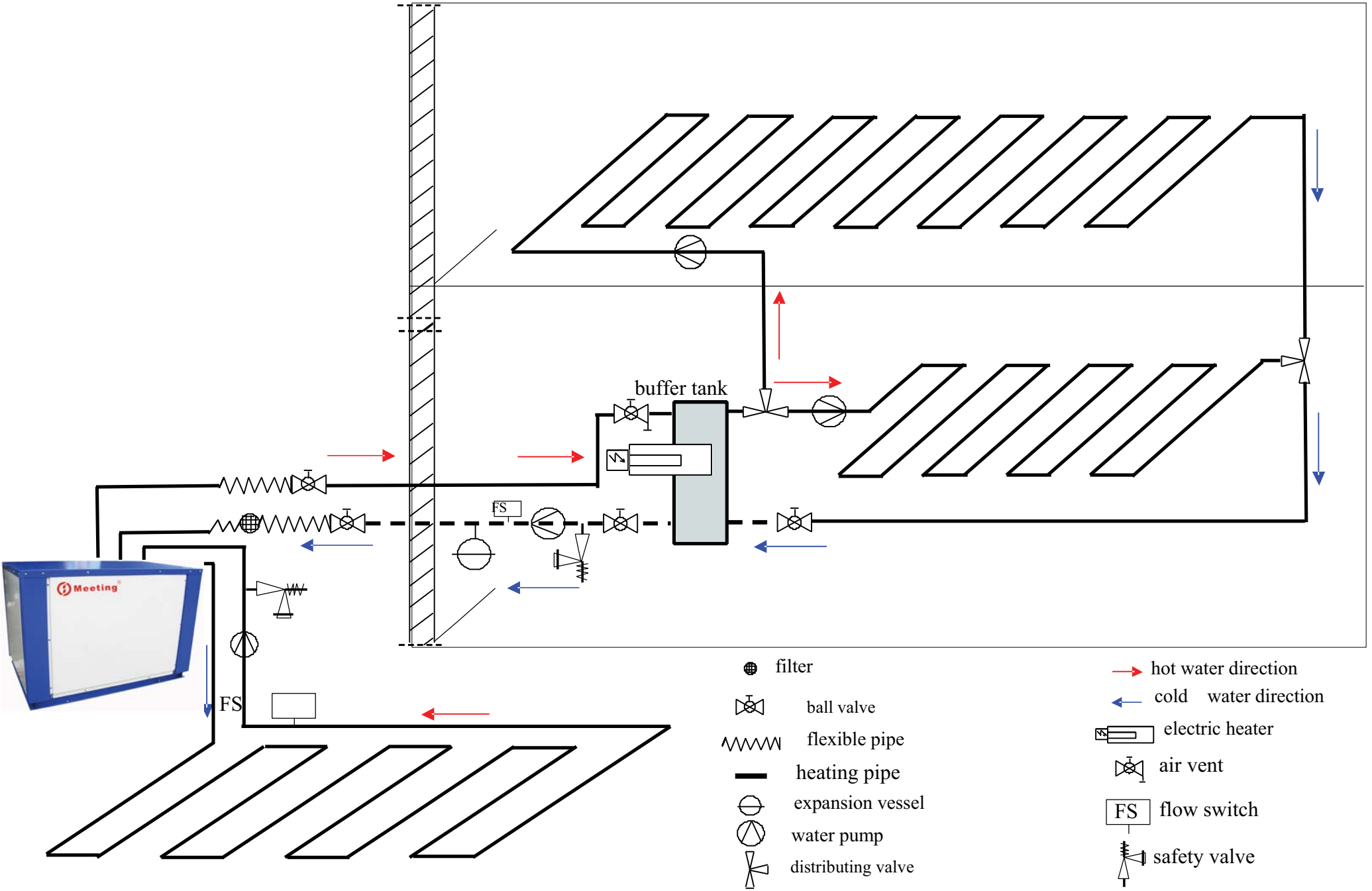
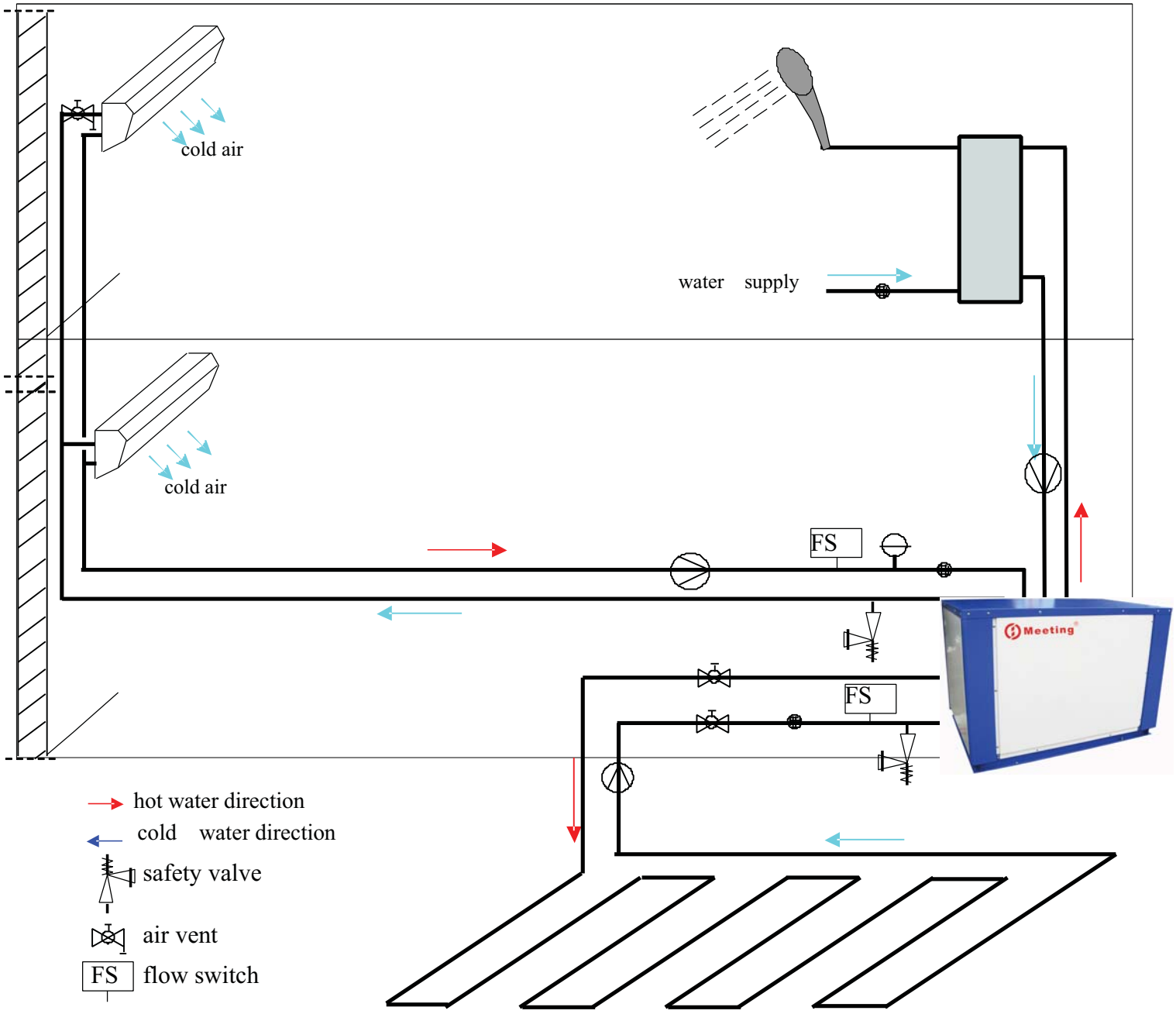
Drawing of Heat Pump Radiator Heating



Drawing of Heat Pump Floor Heating



Drawing of Heat Pump Cooling and Heat Recovery



Function of the Required Accessories

 filter: to avoid jam in the water piping and the heat exchanger of the heat pump.

 ball valve: for connection between two pipes, and uninstalling the pipes for washing.

 flexible pipe: for connections between the heat pump and normal pipes, between water tank and normal pipes.

 heating pipe: pipe for running hot water outlet.

 expansion vessel: to protect the water system from damage caused by water expansion.

 water pump: for running water.

 distributing valve: installed at place where one pipe separated into two pipes, or two pipes come together into one pipe.

 hot water direction

 return water direction

 electric heater: can be a back-up heater in the buffer tank.

 air vent: for discharging the air inside the pipes at the highest point of the water system.

flow switch: to protect the heat pump from running without water flow.

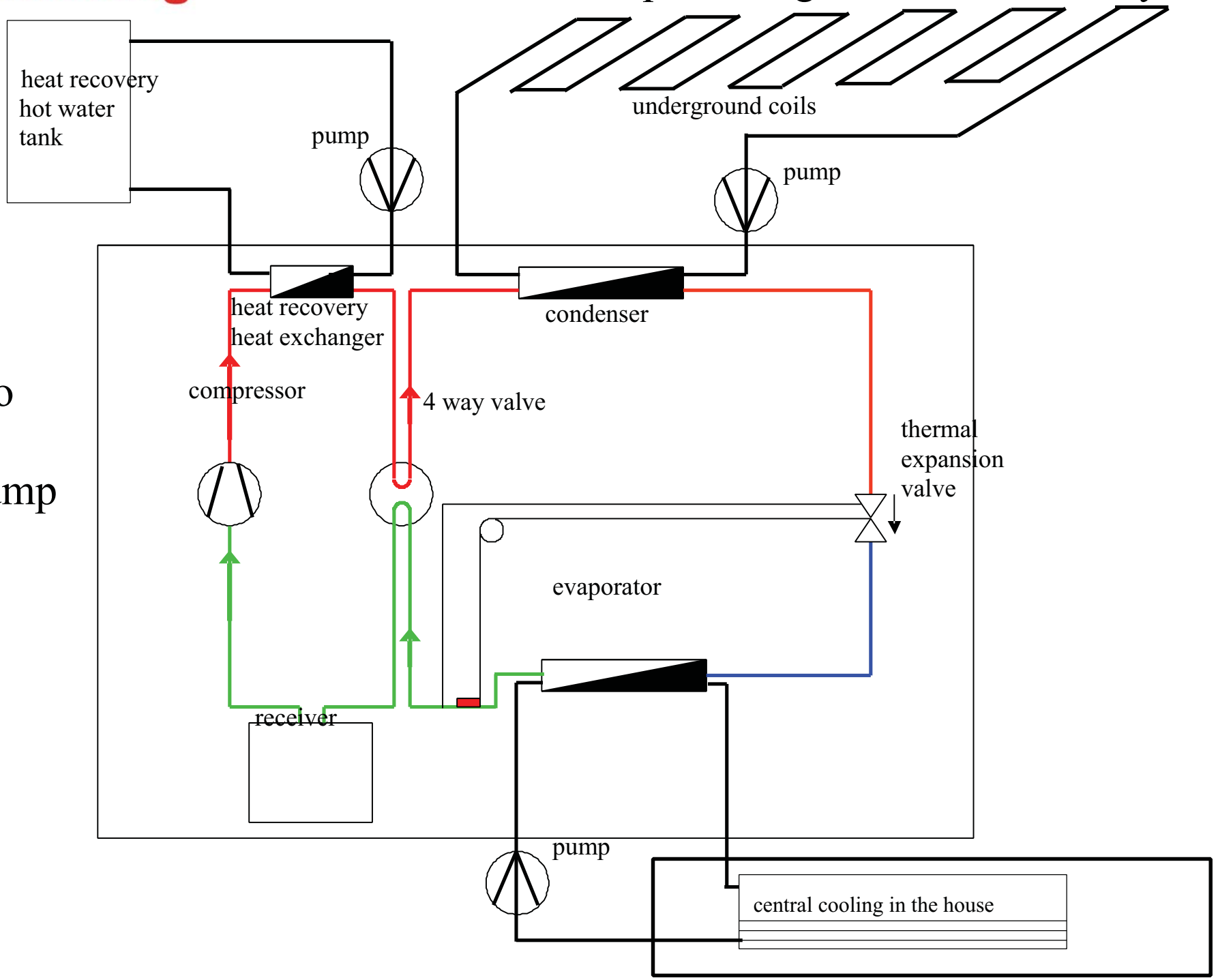
 safety valve: with function to protect the water system, water drainage, and water injection.

Notes:

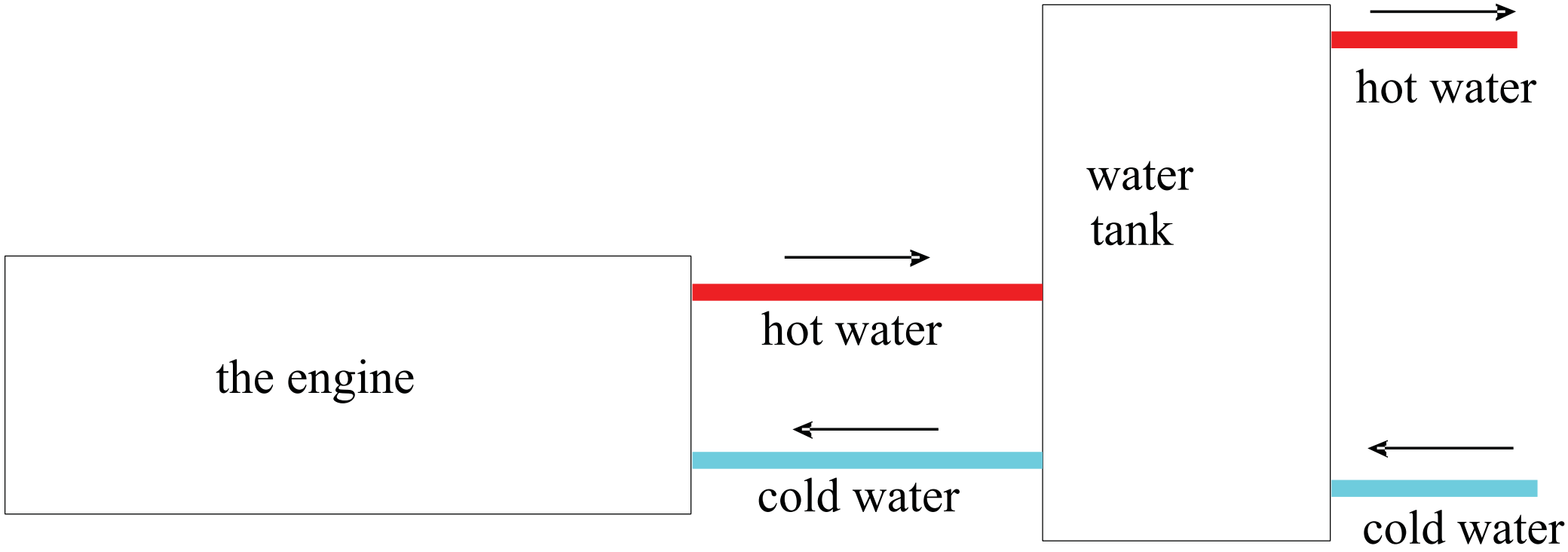
A buffer tank of about 100L is necessary for the whole water system, because the house is big up to 250 sqm.

Water-Water Heat Pump Cooling and Heat Recovery

Water to
Water
Heat Pump



How to Recovery the Heat from the Engine



By this way, the heat from the engine is recovered into the water in the water tank. The hot water in the water tank can be used for central heating or sanitary hot water heating. For sanitary hot water, the water tank must be with a coil(heat exchanger) to separate the water from the engine and the sanitary water, to avoid pollution.