CLAIMS

1. A refrigeration system comprising:

multiple containers (1A, 1B, 1C) joined together to form a storage, the multiple containers (1A, 1B, 1C) each including a refrigeration apparatus (20), wherein

the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) each include a control unit (51, 61, 71) and a communication unit (52, 62, 72),

the communication units (52, 62, 72) of the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) are configured so that the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) connect and communicate with each other,

the control unit (51) of one of the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) is set to a main control unit,

the control unit (61, 71) of a remaining one of the refrigeration apparatuses (20) is set to a slave control unit,

the communication units (52, 62, 72) in the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) allow the main control unit (51) and the slave control unit (61, 71) to communicate with each other,

when a defrosting operation is performed, the main control unit (51) sends time information of a clock (54) to the slave control unit (61, 71) and causes the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) to operate in synchronization with each other based on the time information of the clock (54).

2. The refrigeration system according to claim 1, wherein when the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) start the defrosting operation, the main control unit (51) synchronizes timing at which the refrigeration apparatuses (20) of

the containers (1A, 1B, 1C) start the defrosting operation.

3. The refrigeration system according to claim 1or 2, wherein when the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) end the defrosting operation, the main control unit (51) synchronizes timing at which the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) end the defrosting operation.

4. The refrigeration system according to any one of claims 1 to 3, wherein when the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) end the defrosting operation and then start a refrigerating-cooling operation, the main control unit (51) synchronizes timing at which the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) start the refrigerating-cooling operation.

5. The refrigeration system according to any one of claims 1 to 4, wherein

the communication unit (52) of a master device and the communication unit (62, 72) of a slave device send operating information of the master device and operating information of the slave device to each other, and

when the master device malfunctions as the master device, the slave control unit (61) synchronizes the master device with the slave device and controls the master device malfunctioning as the master device based on operating information of the master device before malfunctioning as the master device, or

when the master device malfunctions as the master device, the slave control unit (61) synchronizes the master device with the slave device and controls the master device malfunctioning as the master device based on operating information of the slave device.

6. The refrigeration system according to any one of claims 1 to 5, wherein the refrigeration system (1) causes the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) to separately perform a refrigerating-cooling operation at separate storage set temperatures.

7. The refrigeration system according to claim 6, wherein the refrigeration system (1) controls the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) so that one of the refrigeration apparatuses (20) performing the defrosting operation coincides with one of the refrigeration apparatuses (20) performing an operation other than the defrosting operation.

8. The refrigeration system according to any one of claims 1 to 7, wherein the refrigeration system (1) decreases cooling power of one of the refrigeration apparatuses (20) corresponding to a location where a storage temperature is relatively low and increases cooling power of one of the refrigeration apparatuses (20) corresponding to a location where the storage temperature is relatively high.

9. The refrigeration system according to any one of claims 1 to 8, wherein

each of the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) includes a blow-out air temperature detector (47) and an intake air temperature detector (46),

the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) send information related to detection results of the blow-out air temperature detectors (47) and information related to detection results of the intake air temperature detectors (46) of the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) to each other through the communication units (52, 62, 72), and

when the blow-out air temperature detector (47) or the intake air temperature detector (46) of one of the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) is faulty, the control unit (51) of the one of the refrigeration apparatuses (20) operates the one of the refrigeration apparatuses (20) based on information related to a detection result of the blow-out air temperature detector (47) or information related to a detection result of the intake air temperature detector (46) of a remaining one of the refrigeration apparatuses (20).

10. The refrigeration system according to any one of claims 1 to 4, wherein

one of the refrigeration apparatuses having the main control unit (51) is a master device,

one of the refrigeration apparatuses having the slave control unit (61, 71) is a slave device,

the communication unit (52) of the master device and the communication unit (62, 72) of the slave device send operating information of the master device and operating information of the slave device to each other, and

at least one of setting of control that synchronously operates the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) and control that separately operates the refrigeration apparatuses (20) of the containers (1A, 1B, 1C) or setting of the master device and the slave device is performed by an operating unit (53, 63, 73) or a remote operation,

the operating unit (53, 63, 73) is disposed on the refrigeration apparatuses (20) of the containers (1A, 1B, 1C), and

the remote operation is performed from an external device (100) communicating with the communication units (52, 62, 72).