Claims

1. A system for chilling a supply of water, the system comprising;

a chilling chamber with at least two portions in selective fluid communication;

an inlet for receiving a water supply and directing said water supply into a first end of a first of said portions;

a two way conduit assembly for selectively operating as an inlet, arranged to receive the water supply and directing said water supply into a first end of a second of said portions, or operating as an outlet arranged to direct flow from the first end of the second of said portions;

a selectively operable outlet arranged to direct flow from a second end of the chamber;

wherein the two portions are in fluid communication proximate to the second end of the chamber, and the system is arranged to selectively operate in at least two modes;

a first mode having the outlet open and the two way conduit assembly arranged to direct water into the first end of the second portion, such that water flows from the first portion inlet into first end of the first portion and from the two way conduit assembly into the first end of the second portion, said water drained by the outlet from the second end of the chamber, and;

a second mode having the outlet closed and the two way conduit assembly arranged to drain water from the first end of the second portion, such that water flows from the first portion inlet into the first end of first portion to the first end of the second portion, and is drained by the two way conduit assembly.

2. The system according to claim 1, wherein the two-way conduit assembly includes a pipe and valve set arranged to selectively act as an inlet or as an outlet.

3. The system according to claim 1, wherein the two-way conduit assembly includes an inlet pipe and an outlet pipe and a valve set arranged to selectively connect or isolate the inlet pipe or outlet pipe.

4. The system according to claim 1, wherein the outlet is connected to a pipe and a valve set, said pipe and valve set arranged to ~~be~~ selectively isolate the outlet.

5. The system according to claim 1, wherein an attachment comprising two compartments is provided at the first end of the chamber, and the inlet is disposed in a first compartment and the two way conduit assembly is disposed in a second compartment of the attachment.

6. A method for chilling a supply of water, the method comprising the steps of;

providing a chilling chamber with at least two portions in selective fluid communication, said chamber including an inlet and an outlet;

a two way conduit assembly for selectively operating as an inlet or operating as an outlet;

wherein the two portions are in selectively fluid communication proximate to a second end of the chamber, and the system is arranged to selectively operate in at least two modes;

selecting a first mode, including opening the outlet, and so, flowing water from ~~the~~ a first inlet into ~~the~~ a first end of ~~the~~ a first portion and flowing water from the two way conduit assembly into ~~the~~ a first end of the second portion, so as to drain water from the outlet from ~~the~~ a second end of the chamber, or;

selecting a second mode, including closing the outlet, and so, flowing water from the first inlet into ~~a~~ the first end of the first portion to ~~a~~ the first end of the second portion, and draining the water through the two way conduit assembly.

~~7. A system for chilling water, the system comprising~~

~~a chamber for receiving a supply of water, said chamber arranged to chill said water and then release said chilled water;~~

~~wherein the chamber is selectively convertible from a first mode to a second mode, such that;~~

~~in the first mode, the chamber is arranged such that the inlet flow rate is higher than an inlet flow rate in the second mode;~~

~~the chamber arranged to output said water through a first outlet in the first mode, and through a second outlet in the second mode.~~

~~8. The system according to claim 7, wherein the second outlet is selectively convertible to be an inlet for receiving water in the first mode.~~

~~9. The system according to claim 7, wherein the first outlet is closed in the second mode.~~

~~10. The system according to any one of claims 7 to 9, wherein flow rate in the 1st mode is approximately 1.5 times flow rate in the 2nd mode.~~

~~11. The system according to any one of claims 7 to 10, wherein a residence time of water in the chamber in the first mode is less than a residence time of water in the chamber in the second mode.~~

~~12. The system according to claim 11, wherein the residence time of water in the 1st mode is half of the residence time of water in the 2nd mode.~~

~~13. The system according to any one of claims 7 to 12, wherein a temperature differential between the supply water and the chiller water in the first mode is smaller than a temperature differential in the second mode.~~

~~14. The system according to claim 8, wherein an attachment comprising two compartments is provided at an end of the chamber, and the first inlet is disposed in a first compartment and the second outlet is disposed in a second compartment of the attachment.~~

~~15. The system according to claim 8, wherein~~

~~the second outlet is connected to a receiving pipe via a first valve and connected to an output pipe via a second valve,~~

~~the first valve is open in the first mode such that the second outlet is converted into a second inlet and in fluid communication with the receiving pipe for receiving the supply of water, and~~

~~the second valve is open in the second mode such that the second outlet is in fluid communication with the output pipe for releasing the chilled water.~~

~~16. The system according to claim 15, wherein~~

~~the first outlet is connected to the output pipe via a third valve,~~

~~the third valve is open in the first mode such that the first outlet is in fluid communication with the output pipe for releasing the chilled water.~~

~~17.~~7. A chiller plant comprising:

a first set of chiller, providing chilled water with a first temperature differential;

a second set of chiller, providing chilled water with a second temperature differential; and

a first set of backup chiller system according to claim 1 or claim 6;

wherein the backup chiller system is selectively in fluid communication with the first set of chiller and the second set of chiller, the first temperature differential is smaller than the second temperature differential, the backup chiller system is selectively operate to provide chilled water with a first temperature differential in the first mode and provide chilled water with a second temperature differential in the second mode.

~~18. The chiller plant according to claim 17, wherein the first set of chiller has higher coefficient of performance than the second set of chiller.~~

~~19.~~8. The chiller plant according to claim ~~17~~7, wherein the first set of chiller provides chilled water to a chilled beam.