The invention claimed is:

1. A temperature control system, comprising: a plurality of temperature equalizers (1000) made up of equalizer members respectively formed with an adjacent heat transferring surface (1005) and a fluid channel (1001) for allowing an external heat transfer fluid to pass therethrough, the plurality of temperature equalizers (1000) being installed on an object (103) such that the adjacent heat transferring surfaces (1005) are in thermal contact with an external surface (5000) and/or an internal surface (5001) of the object (103), a temperature of the object (103) being controlled by transfer of thermal energy between the object (103) and the temperature equalizers (1000) through the adjacent heat transferring surfaces (1005), and by transfer of thermal energy between the temperature equalizers (1000) and the external heat transfer fluid passing through the fluid channels (1001); a single respective fluid pipe opening (1012, 1013) at opposite ends of each fluid channel (1001); a plurality of fluid valves (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d), a pipeline (1004) having segments respectively connected to the fluid pipe openings (1012, 1013) of each of the temperature equalizers (1000) and to each of the plurality of fluid valve (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d); wherein the plurality of temperature equalizers (1000), the pipeline (1004), and the at least one fluid valve (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d) are arranged in at least one of the following configurations:
a) one or more of said temperature equalizers (1000a, 1000b, 1000c, 1000d) is series connected with at least a first one of said fluid valves (TV120a, TV120b, 120a, 120b) to form at least one equalizer-valve series, and at least a second one of said fluid valves (TV120c, TV120d, 120c, 120d) is parallel connected with the at least one equalizer-valve series to provide bypass control for the at least one equalizer-valve series, and wherein individual ones of the fluid valves (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d) are respectively and/or jointly operated to regulate an amount of the external heat transfer fluid passing through the temperature equalizers (1000a, 1000b, 1000c 1000d), thereby regulating thermal energy to or from the object (103), and
b) at least a first two of the temperature equalizers (1000a, 1000b) are series connected to each other and to at least a first one of said fluid valves (TV120a, TV120b, 120a, 120b) to form a first equalizer-valve series, at least a second two of the temperature equalizers (1000c, 1000d) are series connected to each other and to at least a second one of said fluid valve

(TV120c, TV120d, 120c, 120d) to form a second equalizer-valve series, and the first and second equalizer-valve series are parallel connected to provide mutual bypass control, and wherein the individual ones of the fluid valves (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d) are respectively and/or jointly operated to regulate the amount of the external heat transfer fluid passing the temperature equalizers (1000a, 1000b, 1000c, 1000d), thereby regulating the transfer of thermal energy to or from the object (103).

2. The temperature control system as claimed in claim 1, wherein the individual ones of the fluid valves (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d) are operated by manual force, mechanical force, electromagnetic force, air pressure force, and/or hydraulic force to provide ON/OFF control of the fluid valve or to control the amount of the external heat transfer fluid passing through the temperature equalizers (1000a, 1000b, 1000c, 1000d).

3. The temperature control system as claimed in claim 1, wherein surfaces of the temperature equalizers (1000) other than the heat transferring surfaces (1005) are thermally insulated by an insulation layer (1010).

4. The temperature control system as claimed in claim 1, wherein the temperature equalizers (1000) are made of a thermally conductive material selected from gold, silver, copper, aluminum, magnesium aluminum alloy, iron and ceramic.

5. The temperature control system as claimed in claim 1, wherein the temperature equalizers (1000) are fastened to the object (103) by an adhesive, pressing, soldering, riveting or screwing.

6. The temperature control system as claimed in claim 1, wherein surfaces of the temperature equalizers (1000) other than the heat transferring surfaces (1005) have heat-dissipating fin structures (1011) extending therefrom.

7. The temperature control system as claimed in claim 1, wherein the plurality of temperature equalizers (1000), the pipeline (1004), and the at least one fluid valve (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d) are arranged in said configuration (a).

8. The temperature control system as claimed in claim 7, wherein a number of temperature equalizers (1000a, 1000b, 1000c) in the at least one equalizer-valve series is at least three, a number of the at least a first one of the fluid valves (TV120a, TV120b, 120a, 120b) in the at least one equalizer-valve series is at least two, and a number of the at least a second one of the fluid valves (TV120c, TV120d, 120c, 120d) is at least two.

9. The temperature control system as claimed in claim 1, wherein the plurality of temperature equalizers (1000), the pipeline (1004), and the at least one fluid valve (TV120a, TV120b, TV120c, TV120d, 120a, 120b, 120c, 120d) are arranged in said configuration (b).

10. The temperature control system as claimed in claim 9, wherein a number of the temperature equalizers (1000a) and a number the fluid valves (TV120a, 120a) in the at least one first equalizer-valve series is one, and wherein a number of the temperature equalizers (1000b) and a number of the fluid valves (TV120b, 120b) in the at least one second equalizer-valve series is one.

11. The temperature control system as claimed in claim 9, wherein a number of the temperature equalizers (1000a, 1000b) in the at least one first equalizer-valve series is at least two, a number of the fluid valves (TV120a, TV120c, 120a, 120c) in the at least one first equalizer-valve series is at least one, a number of the temperature equalizers (1000c, 1000d) in the at least one second equalizer-valve series is at least two, and a number of the fluid valves (TV120b, TV120d, 120b, 120d) in the at least one second equalizer-valve series is at least one.

12. The temperature control system as claimed in claim 11, wherein the fluid valves (TV120a, TV120c, 120a, 120c) in respective said first and second equalizer-valve series are each connected between two of the temperature equalizers (1000a, 1000b and 1000c, 1000d) in the respective series, and further connected to each other, to enable selective bypass of at least one of the temperature equalizers (1000a, 1000b and 1000c, 1000d) in the respective series, whereby the at least one fluid valve (TV120a, TV120c, 120a, 120c) in each respective series are selectively controlled to cause the fluid to flow along any one of the following paths:
(a) in parallel through the temperature equalizers (1000a, 1000b and 1000c, 1000d) and the respective valves (TV120a, TV120c, 120a, 120c) in each series;
(b) through at least one temperature equalizer (1000a . . . ) in the first series, through at least one connection between one of the fluid valves (TV120a, 120a . . . ) in the first series and one of the fluid valves (TV120c, 120c . . . ) in the second series, and through at least one second temperature equalizer (1000d . . . ) in the second series;
(c) through at least one temperature equalizer (1000c . . . ) in the second series, through at least one connection between one of the fluid valves (TV120c, 120c . . . ) in the second series and one of the fluid valves (TV120a, 120a . . . ) in the first series, and through at least one second temperature equalizer (1000b . . . ) in the first series.

13. The temperature control system as claimed in claim 11, wherein the temperature equalizers (1000a, 1000b and 1000c, 1000d) in respective said first and second equalizer-valve series are directly connected to each other by the pipeline segments, and then series connected to respective said fluid valves (TV120b, TV120d, 120b, 120d).

14. The temperature control system as claimed in claim 1, wherein each of the temperature equalizers (1000) is installed with a respective temperature sensor (TS120a, TS120b, TS120c, TS120d), and the respective temperature sensors (TS120a, TS120b, TS120c, TS120d) and each of the fluid valves (120a, 120b, 120c, 120d) are connected to an electronic control unit (ECU100) that controls the fluid valves (120a, 120b, 120c, 120d) in response to temperatures detected by the respective temperature sensors (TS120a, TS120b, TS120c, TS120d).

15. The temperature control system as claimed in claim 14, wherein the electronic control unit (ECU100) is further connected to an input control device (IP100) and to a power supply device (PS100).

16. The temperature control system as claimed in claim 1, wherein at least one of the fluid valves (TV120a, TV120b, TV120c, TV120d) is a temperature-actuated fluid valve.