[CLAIMS]

[Claim 1]

A manifold assembly comprising:

a body having a common chamber provided therein;

a first chemical flow channel connected to the common chamber and configured to supply a first chemical;

a first valve configured to selectively open or close the first chemical flow channel;

a second chemical flow channel connected to the common chamber and configured to supply a second chemical;

a second valve configured to selectively open or close the second chemical flow channel; and

a discharge flow channel configured to communicate with the common chamber and discharge the first or second chemical, which is introduced into the common chamber, to the outside of the body, wherein

the first chemical flow channel includes:

a first supply flow channel provided in the body and configured to supply the first chemical; and

a first inflow flow channel provided in a lateral surface of the body and having a first inclined guide surface, the first inflow flow channel configured to communicate with the common chamber,

the second chemical flow channel includes:

a second supply flow channel provided in the body and configured to supply the second chemical; and

a second inflow flow channel provided in a lateral surface of the body and having a second inclined guide surface, the second inflow flow channel configured to communicate with the common chamber,

the first inclined guide surface forms a first inclined angle with respect to a reference line passing through the center of the common chamber to generate a first vortex flow with a swirling shape when the first chemical is introduced into the common chamber, and

the second inclined guide surface forms a second inclined angle with respect to the reference line to generate a second vortex flow with swirling shape when the second chemical is introduced into the common chamber.

[Claim 2]

The manifold assembly of claim 1, wherein the first chemical flow channel further comprises

a first guide flow channel provided in the lateral surface of the body and configured to communicate with the first supply flow channel and the first inflow flow channel and guide the first chemical to the first inflow flow channel.

[Claim 3]

The manifold assembly of claim 2, wherein the first valve opens or closes an outlet of the first supply flow channel or an inlet of the first inflow flow channel.

[Claim 4]

The manifold assembly of claim 3, wherein the first supply flow channel comprises:

a first vertical flow channel provided in an upper surface of the body; and

a first horizontal flow channel provided in a wall surface of the first guide flow channel and configured to communicate with the first vertical flow channel,

wherein an end of the first horizontal flow channel defines the outlet of the first supply flow channel in the wall surface of the first guide flow channel, and

wherein the inlet of the first inflow flow channel is provided in the wall surface of the first guide flow channel.

[Claim 5]

The manifold assembly of claim 4, wherein the first valve comprises:

a valve body disposed to cover the first guide flow channel;

a cylinder member provided in the valve body and configured to be rectilinearly movable in directions toward and away from the wall surface of the first guide flow channel; and

a diaphragm configured to selectively come into close contact with the wall surface of the first guide flow channel by being pressed by the cylinder member.

[Claim 6]

The manifold assembly of claim 2, wherein the first inclined guide surface is provided on a wall surface of the first inflow flow channel, and the first inclined guide surface guides the first chemical, which is introduced into the first inflow flow channel, in a direction inclined with respect to a reference line that passes through a center of the common chamber.

[Claim 7]

The manifold assembly of claim 1, wherein the second chemical flow channel further comprises

a second guide flow channel provided in the lateral surface of the body and configured to communicate with the second supply flow channel and the second inflow flow channel and guide the second chemical to the second inflow flow channel.

[Claim 8]

The manifold assembly of claim 7, wherein the second valve opens or closes an outlet of the second supply flow channel or an inlet of the second inflow flow channel.

[Claim 9]

The manifold assembly of claim 8, wherein the second supply flow channel comprises:

a second vertical flow channel provided in an upper surface of the body; and

a second horizontal flow channel provided in a wall surface of the second guide flow channel and configured to communicate with the second vertical flow channel,

wherein an end of the second horizontal flow channel defines the outlet of the second supply flow channel in the wall surface of the second guide flow channel, and

wherein the inlet of the second inflow flow channel is provided in the wall surface of the second guide flow channel.

[Claim 10]

The manifold assembly of claim 9, wherein the second valve comprises:

a valve body disposed to cover the second guide flow channel;

a cylinder member provided in the valve body and configured to be rectilinearly movable in directions toward and away from the wall surface of the second guide flow channel; and

a diaphragm configured to selectively come into close contact with the wall surface of the second guide flow channel by being pressed by the cylinder member.

[Claim 11]

A chemical sampling device comprising:

a first sampling line configured to supply a first chemical;

a second sampling line configured to supply a second chemical; and

the manifold assembly according to any one of claims 1 to 10.

[Claim 12]

The chemical sampling device of claim 11, wherein the second chemical is drained through the common chamber before the second chemical is sampled after the first chemical is sampled.