CLAIMS:

1. A chemical filter replacement apparatus comprising:

a filter assembly fixing part which fixes a filter assembly including a filter housing, in which a cartridge for filtering a chemical is accommodated, and a filter head coupled to an open one side of the filter housing; and

a filter housing detaching and attaching module which moves the filter housing in order to separate the filter housing from the filter assembly or couple the separated filter housing to the filter assembly,

wherein the filter housing detaching and attaching module includes a housing grip member which grips the filter housing and is moved together with the filter housing, and at least one elastic member to apply an elastic force to the housing grip member so that the elastic force acts on a close contact surface between the filter housing and the filter head when the filter housing is moved toward the filter head and brought into close contact with the filter head.

2. The chemical filter replacement apparatus of claim 1, wherein the filter housing detaching and attaching module includes:

a housing transfer part which provides a driving force to move the filter housing; and

a first connection member which is connected to the housing transfer part and moved by a driving unit of the housing transfer part;

wherein the housing grip member is moved together with the first connection member by the driving unit,

the elastic member is provided to apply the elastic force between the first connection member and the housing grip member.

3. The chemical filter replacement apparatus of claim 2, wherein the filter housing detaching and attaching module includes:

a connection shaft of which one end is connected to the first connection member and has a length in a movement direction due to the driving unit of the housing transfer part; and

a second connection member coupled to the other end of the connection shaft,

wherein the housing grip member is provided between the first connection member and the second connection member.

4. The chemical filter replacement apparatus of claim 2, wherein the filter housing detaching and attaching module includes:

a connection shaft of which one end is coupled to the first connection member and which has a length in a movement direction due to the driving unit of the housing transfer part; and

an intermediate connection member integrally provided with the housing grip member,

wherein the connection shaft passes through a shaft through hole formed in the intermediate connection member in a direction in which the filter housing is moved.

5. The chemical filter replacement apparatus of claim 4, wherein a ball bushing is provided between an outer circumferential surface of the connection shaft

and an inner side surface of the intermediate connection member in which the shaft through hole is formed so that the intermediate connection member and the connection shaft are relatively moved in a longitudinal direction of the connection shaft.

6. The chemical filter replacement apparatus of claim 5, wherein, in a case in which the filter housing and the filter head are pressed against each other, the housing grip member is twistable with respect to a horizontal plane due to a gap generated between an outer circumference of the connection shaft and an inner circumference of the ball bushing.

7. The chemical filter replacement apparatus of claim 1, wherein, in a case in which the filter housing and the filter head are pressed against each other, the housing grip member is inclinable with respect to a horizontal plane to correspond to an inclination angle of the close contact surface of the filter housing and the filter head.

8. The chemical filter replacement apparatus of claim 1, wherein, in a case in which the filter housing and the filter head are pressed against each other, the elastic member is compressed.

9. The chemical filter replacement apparatus of claim 1, wherein the elastic member is formed as a coil spring.

10. The chemical filter replacement apparatus of claim 1, wherein the elastic member is provided as a plurality of elastic members.

11. The chemical filter replacement apparatus of claim 1, comprising:

a first clamp which clamps an outer side surface of the filter head; and

a second clamp which clamps an outer side surface of the filter housing,

wherein the filter assembly fixing part includes a pressing member to press the first clamp or the second clamp in opposite directions in which the first clamp and the second clamp face each other so that the first clamp and a portion, which faces the first clamp, of the second clamp are pressed against each other in a case in which the filter head is coupled to the filter housing.