

FLUID PROCESSING DEVICE

[Technical Field]

The invention concerns Fluid Processing Device that performs fluid processing such as sterilization, deodorization, molecule down-sizing, activation and prevention of deterioration of fluids such as water, air, gas and oils used or fuel, using ionization effect.

[Background Technology]

In conventional fluid processing devices, α -ray radiator, containing α -ray radiating material that radiated α granular rays (Helium atom), was installed inside the frame that had inner space as the flow-route of fluid from fluid inlet to outlet. This type of Fluid processing device performed fluid processing by causing ionization after radiating α granular rays (referred to hereinafter as " α -ray") to the fluid. This kind of device, the structure of which is shown in Patent Document 1 and Patent Document 2 is already well known.

The α -ray radiator, in the above mentioned Patent Document 1, had Elvan powder as the main element and was mixed with rock crystal powder or Titanium oxide powder, Aluminum silicate compound powder, used as the binder and grains of about 5mm particle size were formed and sintered. As a result, hard crystals showing piezoelectricity phenomenon were formed and then, α rays granular radiators were formed by making Thorium Oxide adhere to the surface of these granular particles. Thus, the structure has adjacent intervals in circulation of several of these α -ray granular radiators and holding material of net shape.

Also, the α -ray radiator in Patent Document 2 had a high radiation action efficiency since α -ray radiation material formed by Thorium Oxide was turned into α -ray radiation ceramics, after α -ray radiator was passed through the adhesion layer to the holding core material - such as the expanded metal or punched metal and similar materials - that enabled circulation of the fluid.

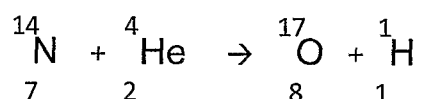
Both of the above-mentioned α -ray radiators caused ionization of fluid molecules and artificial conversion of nucleus through the large electrolytic dissociation action that α -rays have and caused changes in molecular structure of air, gas, oil or water etc. In other words, for water, the clusters are down-sized through forceful ionization and sterilization, deodorization or de-colorization etc. of water is done with good efficiency. Similarly, for air, artificial conversion of the air molecule nucleus, shown in the following formula according to the Theory of Rutherford, is caused and improvement in fuel efficiency, deodorization and sterilization of floating bacilli is carried out. Again, for many types of oil, ion activation and

prevention of deterioration and the like can be carried out. Thus, molecule down-sizing due to separation of carbon molecule bonding and improvement of fuel efficiency due to radicalization becomes a possibility in fuel oil.

[Patent Document 1] Patent Announcement No. 2005- 9898 Gazette

[Patent Document 2] Patent Announcement No. 2008- 224233 Gazette

[Formula 1]



[Explanation of Invention]

[Problems that can be solved by the Invention]

The Fluid processing device according to the above-mentioned Patent Document 1 and 2 does ionization through electrolytic dissociation action of molecules in a fluid after colliding with α -ray has the feature that shows the anticipated effect after various reformations. However, there is restriction of α -ray energy radiated by α -ray radiation material and also there is restriction of effective radiation distance. Therefore, the problem is that α -ray cannot be radiated efficiently to the fluid molecules that flow from upper current side to lower current side in the circulation direction inside the frame. As such, an attempt has been made to coat α -ray radiation material in large volume over the holding material such as the holding core material or granular particles, but in such case, a large quantity of α -ray radiation material is required. As a result, the cost of device becomes very high and at the same time, there are manufacturing problems, such as the difficulties to have a thick coat of α -ray radiation material over the holding materials and so forth.

On the other hand, in a situation where the surface area of holding material is enlarged, or when α -radiation material is coated on the net shaped holding material having small mesh, even if the α -ray radiation material is thinly coated, α -ray quantity can be secured. However, the problem is that the flow resistance of α -ray radiator, installed in the direction that intersects the flow direction within the frame, becomes too large.

In order to solve the above-mentioned problems, this invention offers a Fluid Processing Device that can improve the radiation efficiency of α -ray using α radiator by causing activation of molecular motion of the fluid that circulates within the frame.

[Means of solving the problem]

Firstly, the Fluid Processing Device for solving the above-mentioned problems, has α -ray Radiator (2), equipped with α rays radiation material that radiates α -ray inside Processor Tube (4), which has inner space from fluid Inlet (14) towards Outlet (16) as the fluid flow route. The feature of Fluid Processing Device (1), which processes fluid by causing ionization after radiating α -ray on the fluid, is that it has a Molecular Motion Accelerator (3), which causes activation of molecular motion of fluid in the above-mentioned Processor Tube (4) and it is structured to do fluid processing by radiating α -ray on the fluid that has molecular motion activation done using Molecular Motion Accelerator (3).

The second feature is α -ray Granular Radiation Piece (2a) - which is made of granular particles coated with α -ray radiation material - that allows the α -ray radiator and multiple α -ray Granular Radiator (2) to move in Processor Tube (4) and allows flow of fluid.

The third feature is that it has α -ray Radiator (2) installed adjacent to upper current side and lower current side of Air Filter (17) installed in Processor Tube (4).

The fourth feature is that it supports the rotation of α -ray Radiator (2) inside Processor Tube (4).

The fifth feature is that it uses Molecular Motion Accelerator (3) as Ultrasonic Generator (7) to generate ultrasonic frequency towards α -ray Radiator (2).

The sixth feature is that it uses Molecular Motion Accelerator (3) as Magnetic Force Generator (6) to generate lines of magnetic force towards α -ray Radiator (2).

The seventh feature is that it has Fluid Supply Nozzle (31) installed in Processor Tube (4) to supply separate fluid for internal circulation.

The eighth feature is that it has Mist Supply Pipe (23) installed in Processor Tube (4) for supplying mist onto upper current side or lower current side of α -ray Radiator (2) for the internal fluid circulation.

The ninth feature is that it does fluid processing by connecting the Outlet (16) of Fluid Processing Device (1) to Processor Tube (4) of another Fluid processing device (1a) and supplying the fluid that is to be circulated in Processor Tube (4) of another Fluid processing device (1a).

The tenth feature is that it has Outlet (16) connected to Processor Tube (4) of lower current side Fluid processing device (1b) and the fluid - that was processed by the upper current Fluid Processing Device - is supplied to the fluid that circulates in Processor Tube (4) of lower current side Fluid processing device (1b) and at the same time it comes with a

Burner Device (36) that supplies high temperature energy to the chimney at upper current side of this supply section.

[The Effect of the Invention]

The Fluid Processing Device, having the above-mentioned configuration, shows the following results. According to the invention in Claim 1, molecular motion activity and ionization is caused in the fluid due to molecular motion activity energy generated by the molecular motion accelerator, and at the same time, radiation efficiency is increased through radiation of α -ray radiated by α -ray radiator on the fluid that is turned into agitated state.

Thus, since a larger amount of fluid molecules and atom nucleus are forced to come in contact with α -ray, it promotes electrolytic dissociation action (ionization) that enables efficient improvement of fluid processing.

This produces results such as purification of air or gas, water and oil variety, improvement of quality functions, prevention of deterioration, activation and improvement of fuel emission or combustion efficiency. At the same time, the Fluid Processing Device can be built easily and at lower cost.

According to the invention in Claim 2, each α -ray granular radiator turns to a layered state that can be moved and circulated in the frame and since the fluid is forced to circulate by bringing the molecules to come in contact with surface of granular particles repeatedly, it is possible to increase fluid processing by using α -ray.

According to the invention in Claim 3, since α -ray radiator is brought closer to upper current side or lower current side of the filter, α -ray radiator can be installed easily by using the filter or filter mounting structure.

According to the invention in Claim 4, by making α -ray radiator operate within the frame, α -ray radiated from α -ray radiator can be efficiently brought into contact with the molecules of fluid to be circulated, which in turn will improve fluid processing.

According to the invention in Claim 5, since the Ultrasonic Generator (7) generates ultrasonic frequency towards α -ray generator, the fluid molecules motion is activated and the efficiency of radiation due to α rays increases. This enables the fluid to be processed efficiently. Also, the Ultrasonic Generator can be installed in a small place at appropriate position in the frame, and at the same time modification works for cleaner equipment also becomes easier.

According to the invention in Claim 6, since the magnetic force generator generates magnetic field towards α -ray generator, the fluid molecules motion is activated due to magnetic energy, and the efficiency of radiation due to α -ray increases. This enables the fluid to be processed efficiently. Also, the magnetic force generator can be installed easily at appropriate position in the frame.

Again, if magnetic force generator is turned into alternating-current type, which generates magnetic field by A/C electricity, it causes faster motion activation of fluid molecules due to magnetic field energy that changes direction, resulting in better efficiency of radiation due to α ray increases and fluid processing can also be improved.

According to the invention in Claim 7, it is possible to supply another fluid easily to the fluid in the frame from the Fluid Supply Nozzle (31), and following that, processing of fluids with mixture of several kinds of fluid, can be performed.

Consequently, it is possible to mix other fluids supplied in the frame with the fluid that has undergone electrolytic dissociation and ionization due to α -ray, radiated by α -ray radiator, and the processed fluid mixture can be supplied to all types of useful devices, such as engines or combustion furnaces, chemical compound devices etc.

According to the invention in Claim 8, mist can be easily supplied to the fluid in the frame from the Mist Supply Pipe and at the same time, processing of fluids with mixture of mist can be performed. As a result, if the mist supplied in the frame is ionized by α -rays radiated by α -ray radiator, the ionized mist and fluid already processed can be mixed easily.

According to the invention in Claim 9, when the fluid already processed by the Fluid Processing Device is supplied and mixed with the fluid circulating in the frame of another fluid processing device, the fluid of the other fluid processing device can be processed easily with the fluid already processed, having ion activation using the Fluid Processing Device. Further, since the installation of α -ray radiator in the frame of other fluid processing device can also be omitted, and the other fluid processing device can be of simpler type with less maintenance to do.

According to the invention in Claim 10, by connecting outlet to the frame of lower current side of Fluid Processing Device and supplying the fluid already processed by the upper current side of Fluid Processing Device to the fluid circulating in frame of lower current side of Fluid Processing Device, and following that, by installing Burner Device (36), it allows supply of high temperature energy into the chimney in upper current side of this supply section, and due to the high temperature energy supplied by the Burner Device at upper current side of the frame of above-mentioned upper current side of Fluid Processing Device,

for example, after combustion tar section in exhaust gas flowing into the chimney and removing it again, the exhaust gas processing can be carried out efficiently using the upper current side of the Fluid Processing Device.

The execution format of this invention is explained in the drawing. In *Figure 1* to *Figure 10*, Sign 1 shows the Fluid Processing Device that consist of α -Ray Radiator (2) and Molecular Motion Accelerator (3) installed in Processor Tube (4), which forms the fluid processing route (processing chamber). The α -ray Radiator (2), used in this format, radiates α -granular energy of up to 4.01 to 10 MeV as the radiation energy through Thorium Oxide based on the technology shown in the earlier mentioned Patent Document 1 and 2. As a result, when α -Ray Radiator (2) irradiates α -ray on fluid such as air, gas, water or oil as the object to be processed, it is already well known that α -rays collide (contact) on the molecules or atomic nucleus, which constitute the fluid, and electrolytic dissociation (ion activation) is done. In this manner, fluid processing (reformation) can be performed.

When α -ray are irradiated on the air, ionization action of air molecules due to α -ray is strongly accelerated and hence, Nitrogen (N), which comprises 79.7% of atmospheric air is converted into Hydrogen (H) and Oxygen (O) through atomic nucleus artificial conversion function. Also, the moisture (H_2O) in the air is made to change into Ion Hydrogen (H^+) and hydroxyl (OH^-). As a result, the air is changed to combustible object artificially and becomes an additional combustible. When this air, along with the fuel oil, is supplied to an internal combustion engine or any type of combustion device, a complete combustion operation becomes possible at the time of combustion. As such, even if fuel supply pipe is twisted, the expected combustion energy can be obtained sufficiently and the consumption volume of fuel oil can be decreased easily. The harmful elements in exhaust gas can be reduced, and furthermore, for all types of gases, α -ray can reform the elements contained in the gases.

When α -rays are irradiated on oil, the carbon (C) bonding in oil is destroyed and molecular volume becomes even smaller and it gasifies eventually. Thus oil can be obtained easily and combustion efficiency can be enhanced.

When α -rays are irradiated on water, the water (H_2O) is transformed to Ion Hydrogen (H^+) and hydroxyl (OH^-) and simultaneously, due to the volume of dissolved oxygen, Hydrogen Peroxide (H_2O_2) can be generated. Which means fluid processing of water is done through α -rays and water can be reformed to become functional water having sterilizing effect.

Besides, the composition can also be done by installing Molecular Motion Accelerator (3) in Processor Tube (4), which guides the flow of fluid direction (processing direction) from upper current side to lower current side, by combining with magnetic power Generator (6) or Ultrasonic Generator (7) described later or with high frequency generator, which is not shown in the diagram.

The molecular motion activity energy (referred to as 'motion energy') generated by Molecular Motion Accelerator (3), accelerates activation of molecular motion and ionization (referred to as 'molecular motion activity') of the fluid that circulates in Processor Tube (4) and turns it into agitated state.

In other words, since the molecules of fluid have molecular motion activated in flow direction (Y- direction) and side direction (X-direction) and also in combined direction, the motion-activated fluid molecules and α -rays, which are regularly radiated by α -ray radiator, can reciprocally contact (collide) and the irradiation percentage increases significantly. As a result, even if the fluid is flowing in one fixed direction, much more acceleration of ionization of those molecules and artificial conversion are possible.

Accordingly, with regards to the fluid, which is circulating and moving in one fixed direction, moving towards α -ray radiator and the radiated α -rays, dispersion acceleration can be generated so that those molecules have a swaying motion (molecular motion activity) towards side direction and they are forced to come in contact with α -rays. The result of which is ionization of fluid molecules by α -rays is accelerated and fluid processing can be performed very efficiently.

Next, *Figure 1* to *Figure 3* explain Fluid Processing Device (1) and its usages concerning the execution format No. 1, 2 and 3 with α -ray Radiator (2) and Molecular Motion Accelerator(3). Initially, in Fluid Processing Device (1) of execution format No. 1, shown in *Figure 2*, the cleaner case of air cleaner (13), provided at upper stream side of gas container (12a), furnished in engine (12) of automobile (11), is Processing Tube (Frame) (4). And this device comprises installation of α -ray Radiator (2) and Molecular Motion Accelerator (3) in between fluid Inlet (14) and Outlet (16) at both ends of processing Pipe (4).

Fluid Processing Device (1) in example diagram has net-shaped α -ray radiator installed for free insertion and removal in the processing Pipe (4). It can be freely inserted or removed and is installed facing both the filter surfaces at upper current side and lower current side of Air Filter (17). The Molecular Motion Accelerator (3) becomes Ultrasonic Generator (7) that oscillates ultrasonic frequency and it is installed in such a way that it

oscillates ultrasonic frequency towards α -ray Radiator (2) installed at upper current side of air cleaner (13). The above-stated ultrasonic frequency generator should preferably have sufficient molecular motion activity and the specification for a commercial is discharge ultrasonic frequency of 200,000,000 to 2,500,000,000 Hz level.

Ultrasonic Generator (7) is installed at oscillating head in freely adjusting position at Mounting (7a), and installed at lower wall of processing pipe, so that the distance and direction can be adjusted in accordance with α -Ray Radiator (2). It is connected to Battery (power source) (18) mounted in Automobile (11) by providing Main Switch (19) and Ultrasonic Generator. Further, in the execution format, Main Switch (19) is operated by connecting to starter switch, which is not shown in the diagram but which is positioned at the control.

Ultrasonic Generator (7) in example diagram is installed at approximately center position of the lower wall that is winding and facing the side of fluid Inlet (14) in processing Pipe (4) as against α -ray Radiator (2), which is of the size and shape that briefly covers the filter surface of Air Filter (17). Thus, the ultrasonic frequency, discharged in air at upper current side of α -Ray Radiator (2) can be pretty uniform. As a result, ultrasonic frequency Generator (7) does molecular motion activation of the air at the upper current side of Air Filter (17) through ultrasonic frequency and accelerates contact with α -rays when air molecules pass α -ray Radiator (2). Further, Ultrasonic Generator (7) can also be installed on the bent upper wall facing side direction depending on necessity or on the sphere of processing Pipe (4).

The structure will allow Engine (12) in Automobile (11) to operate by supplying external air channeled through fluid Inlet (14) of Fluid Processing Device, to the combustion chamber after passing it through Ultrasonic Generator (7), No. 1 α -ray Radiator, Air Filter (17) and also through No. 2 α -ray Radiator.

Here, since air is given ultrasonic energy by the Ultrasonic Generator (7) at upper current side of α -ray Radiator (2), the air receives molecular motion activation and ionization and turns to agitated state. It becomes easier for α -rays to collide on even more nitrogen atom nucleus and artificial conversion of many nucleus are generated and a large quantity of hydrogen and nitrogen are produced.

The air or fluid processed in this manner is mixed with fuel oil in Carburetor (12a) which will enable complete combustion and improve fuel efficiency.

Again, the moisture in the air will also come in contact with α -rays and since it is separated into Hydrogen and Oxygen, it becomes additional combustible object and hence, combustion efficiency is increased further. This in turn decreases fuel consumption and at the same time reduces harmful elements in the emission. Thus clean emission can be discharged.

After m (1) in example diagram does the primary fluid processing as stated above, it causes the air to pass through Air Filter (17) and then again pass through α -ray Radiator (2) installed as lower current side of Air Filter (17). Thus, α -rays irradiation can be further done just before the combustion chamber. Accordingly, since air is delivered to combustion chamber by causing even more acceleration of fluid processing by combining with the primary fluid processing, combustion efficiency of Engine (12) improves further. Due to improvement of complete combustibility and reduction of fuel consumption rate and purification of exhaust gas, high efficiency can be achieved.

Since the capacity and shape of Air Filter (17) is fixed for each engine, if α -ray Radiator (2) is to be installed by using the structure of Air Cleaner (13), the installations and shape or size of α -ray Radiator (2) is done in accordance with the shape or flow volume in Air Cleaner (13). Also, Fluid Processing Device (1) in example diagram has two air-ventilating net-shaped α -ray radiators installed onto Air Filter (17), so that they intersect with air circulation direction and reduce the upper current side and lower current side. However, in order to reduce air circulation resistance internally, it is also possible to take one of α -ray Radiator (2) and it can be installed in either upper current side or lower current side of Air Filter (17).

Next, *Figure 3* explains Fluid Processing Device (1) and its usages using second execution format. Further, in all the following execution formats, since the structure and actions are the same as the one previously described, the explanation is omitted. Air Cleaner (13), in the shown example, has α -ray Radiator (2) installed facing Air Filter (17), similar to the one in first execution format. The Magnetic Force Generator (6) of alternating current type, which generates magnetic force using A/C electricity, is treated as Molecular Motion Accelerator (3). This Magnetic Force Generator (6) has a fixed width so that it can surround the sphere of α -ray Radiator (2) and it is installed at processing Pipe (4). It is connected to Power Supply (18) via Main Switch (19) and A/C modulation magnetic field Generator (21a). The magnetic force Generator (6) is installed at any adjustable position

along the processing Pipe (4) and it is possible to adjust the generated magnetic force using A/C modulation magnetic field Generator (21a).

In Fluid Processing Device (1), in accordance with the above-mentioned structure, when Start Switch is on, while Main Switch (19) is on, Engine (12) will start and the magnetic force Generator (6) generates magnetic force as electricity starts action. The alternating current magnetic field is formed towards the internal of flow-route from the sphere of processing Pipe (4). As a result, α -ray Radiator (2) can be placed between the magnetic field and the motion of air molecules in the air that reaches α -ray Radiator (2), and will be activated by the magnetic energy and fluid processing when α -ray Radiator (2) is accelerated.

Here, since magnetic force Generator (6) changes magnetic field direction instantly due to A/C electricity, because of the magnetic force that changes the state of magnetic field abruptly, air molecules can be turned to agitated state, by causing even more activation of molecular motion. As a result, ionization action efficiency of the air by means of α -rays can be increased, even more than a permanent magnet.

Further, since the magnetic force Generator (6) does not have operation section like Ultrasonic Generator (7), the device endurance can be improved and maintenance work can also be reduced. Since magnetic force Generator (6) can be installed easily on the external side of processing Pipe (4), the follow up work of Fluid Processing Device (1) for Engine (12) in existing automobiles can also be done easily. Again, since the magnetic force Generator (6) does not directly come in contact with the air (fluid) that flows in processing Pipe (4), stains due to fluid or wear and tear can be prevented and durability can be improved.

Moreover, not only the above-mentioned A/C type magnetic force Generator (6), but the magnetic force generator of permanent magnet type can also be installed in the processing Pipe (4). And, as shown in dotted line, multiple permanent magnets can be installed in processing Pipe (4) by intersecting the circulation direction and keeping the circulation gap. In such case, if the adjacent permanent magnets are installed by keeping the same poles reciprocally, molecular motion activity can be made even stronger due to opposite magnetic force.

The combination of A/C type magnetic force Generator (6) mentioned above and magnetic force generator of permanent magnet type is also possible. In such case, when there is restriction of magnetic field due to A/C type magnetic force Generator (6), the restriction can be easily supplemented by magnetic force generator of permanent magnet type. Further, since it is also easy to install Ultrasonic Generator (7) in the processing Pipe

(4), the molecular motion activity at required places can be supplemented. Thus, this can be Fluid Processing Device (1) suitable for large engines or all types of fuel combustion or emission devices.

Here, *Figure 4* explains Fluid Processing Device (1) and its usages on the third execution format. In this example, similar to the second execution format, there is α -ray Radiator (2), Magnetic Force Generator (6) and Air Filter (17) and a Mist Supply Pipe (23) of mist Generator (22) installed in a section of processing Pipe (4) at lower current side of the Air Cleaner (17).

The above-mentioned mist Generator (22) is made up of Mist Generator (24) and Supply Device (26), which provides mist into the mist generator. The mist generated by Mist Generator (24) can be supplied from the Mist Supply Pipe (23), covered with heat insulated material to processing Pipe (4) and to Engine (12).

In mist Generator (22) in the example shown, the base section of Mist Supply Pipe (23) is treated as the tank installed in the upper section in the Mist Generator (24) and the bottom part of this tank is installed in Exhaust Pipe (25) of engine (12). As such, water drops from the Supply Device (26) and is evaporated by heat exchange due to the exhaust pipe, which becomes very hot. The generated water vapor (mist) can be supplied to processing Pipe (4) through Mist Supply Pipe (23).

Fluid Processing Device (1), equipped with mist generator of above structure, confluent the mist, supplied from Mist Supply Pipe (23), with the air that is processed in the same manner as described in the earlier execution format at the upper current side. The mist mixed with air can be supplied to Engine (12).

During which, the water particles of the mist radiated by α -rays will generate electrolysis due to the ionized air or α -ray radiation, and become hydrogen (H) and oxygen (O) that in turn become a flammable substance and mix with fuel as combustible additives to incite the combustion. Consequently, Fluid Processing Device (1) that incorporates mist Generator (22) reduces the energy consumption of the engine significantly by accelerating complete combustion of fuel, and at the same emits cleaner exhaust gas, when the mist is delivered in a tornado-shape screw flow that accelerates the air mixture, and improves the combustion efficiency.

As indicated in dotted lines, α -ray Radiator (2) can also be installed at the downstream of Mist Supply Pipe (23)'s outlet, which will allow the α -ray radiation to be directed to the mist to accelerate by means of water particles electrolysis, whereby the net condition of α -ray Radiator (2) can intersect with air flow direction by adjusting the inside of processing

Cylinder (4), separating the up and down stream that will allow better α -ray radiation on the spreading mist particles.

Further, there is advantage in installing Mist Supply Pipe (23) at the down-stream of Air Filter (17) as the filter will not leak the mist from the thanks to the large particle size of the mist.

Combining Engine (12) as shown in the drawing and Fluid Processing Device (1) for air treatment, Fluid Processing Device (1) for fuel treatment can be built as explained in *Figure 9* below, which will allow pretreatment of fuel and supply of better quality treatment fuel to Engine (12) that will in turn improve the combustion efficiency and fuel consumption rate

Furthermore, the above mentioned mist Generator (22) can be installed at any location, and not only on Exhaust Pipe (25) to preheat Engine (12). Besides water steam generator, the means to trigger the supply of mist can also be Ultrasonic Generator to turn the fluid into mists.

In case the above-mentioned Fluid Processing Device (1) is used to treat gas or fluid in exhaust gas treatment plant or chemical plant, for example, mist Generator (22) can also be used for oil or chemicals, instead of water.

If Fluid Processing Device (1) is installed in a truck or vessel's engine Air Cleaner (13), the cleaner will have cylindrical Air Filter (17) built into cylinder drum Processor (4), and using the structure, net α -ray Radiator (2) will be attached to Air Filter (17) in the space formed by Air Filter (17) and Processor Tube (4), and Molecular Motion Accelerator (3) should preferably be installed on the sphere of Processor Tube (4), as the capacity and shape of Air Filter (17) will be defined in accordance with each engine, and α -ray Radiator (2) numbers and shape or sizes will be set according to the shape and filtering capacity of Air Cleaner (13).

Figure 5 and *Figure 6* explains Fluid Processing Device (1) and its usage related to No.(4) actual condition. Fluid Processing Device (1) is located inside the cylindrical Processor Tube, and the following devices are installed one by one subsequently -- from the up stream, they are Air Filter (17), permanent Magnetic Generator (6) & rotating α -ray Radiator (2), permanent Magnetic Generator (6) & net-shape α -ray Radiator (2), and protection Net (24). External Cover (26) is installed into Gap (25) (air supply chamber) on the sphere of Treatment Cylinder (4), and Inlet Tube (27) is connected to Inlet (14), whereas Outlet Pipe (28) is connected to Outlet (16). An Air Filter (17) can be installed on Inlet (14), as shown in the drawing in dotted line, which can also be omitted if not required.

On the above-mentioned Processor Tube (4), at the location where α -ray Radiator (2) is on the outer sphere, A/C type Magnetic Generator (6) is installed, and depending on requirement, Ultrasonic Generator (7) can be installed as well at the desired location, and the same as the above, mist Generator (22) and Mist Supply Pipe (23) are installed, and also multiple Fluid Supply Nozzle (31) are fitted.

Fluid Supply Chamber (25) can deliver air or gas or any fluid received from Fluid Supply Device (30) installed outside to the required location in the Processor Tube (4) through Fluid Supply Nozzle (31).

Fluid Supply Device (30) has the same structure as the above-mentioned Fluid Processing Device (1) used in actual condition, and the air already processed in Fluid Processing Device (1) is supplied to Processor Tube (4).

α -ray Radiator (2) operates in intersectional direction to the flow direction of the fluid inside Processor Tube (4) to accelerate the contact between α -ray and air particles. In other words, the actual condition of α -ray Radiator (2) is as shown in *Figure 5* and *Figure 6 (B)* – a net-type Wing (4a) that forms a multiple net type propeller shape, and each Wing (4a) is supported along the center of Processor Tube (4), and installed in radiation direction of Rotating Axis (32), which can rotate on supporting Axis (33) installed on multiple bar-type permanent Magnetic Generator (6).

The multiple Wing (4a) also has intervals in the axial direction of Rotating Shaft (32), and the phase of each Wing (4a) also changes around the axis center, which causes the wings to line up over all the sections of Processor Tube (4) when seen from flow direction, that result in better contact with the air in each α -Ray Radiator (2).

Therefore, α -ray Radiator (2) structured as above will be able to receive resultant force of air flows (wind pressure) to process the fluid accelerated by contact between α -ray and air particles, as each propeller-shape Wing (4a) rotates around Rotating Shaft (32); and as flow resistance is low, and there are many Wing (4a), the fluid processing capacity can be increased.

Besides net, the shape of Wing (4a) can also be board-propeller coated with α -ray radiation material. When α -ray Radiator (2) made from Wing (4a) is forced to rotate on Rotating Shaft (32) by rotating device, it accelerates in flow direction while stirring the fluid that enables it to process the fluid with reduced flow resistance. The rotating α -ray Radiator (2) will also repel dust or water drops by centrifugal force, which enable the α -ray radiation

condition to be maintained over a long period, and cleaning as well as other maintenance works can be minimized.

α -ray Radiator (2) does not have to be always in the shape of above-mentioned Wing (4a) only, it can also be for instance α -ray radiation material in screw shape, and in this case, while the flow passes through it will be guided along the screw surface, which will accelerate the contact between α -ray and air particles, as well as create screw flow in the air and pass through. In case of rotating α -ray Radiator (2) with screw form, as it is solidly supported, flow resistance can be reduced, while at the same time create screw flow towards down stream that accelerates the flow. And Rotating Axis (32) can also be used a member of Magnetic Generator (6). α -ray Radiator (2) is not restricted to the above-mentioned rotating motion, it can also be reciprocating or vibrating in any direction in Processor Tube (4), which will create good contact between process the flow α -ray and fluid molecules to process the flow.

Fluid Processing Device (1) structured in the manner mentioned above will enable the air supplied from Flow Outlet (16) through Air Filter (17) to come into contact with α -ray radiated from α -Ray Radiator (2) that rotates the molecules activated by the most upstream permanent Magnetic Generator (6), and pre-treat it. Then the pre-treated air will receive magnetic field created by A/C type Magnetic Generator (6), and ultrasonic frequency created by Ultrasonic Generator (7), after which the second fluid treatment will be done under molecule-activation environment mentioned above; and when it passes through the net-shape α -Ray Radiator (2) installed at the lowest downstream, it will go through second fluid treatment, and delivered to Outlet Tube (28) from Outlet (16). The mist supplied from Mist Supply Pipe (23) as required will also mix with the air and receive the same efficient treatment.

By doing that, the air and mist will be fluid treated efficiently in the same Processor Tube (4), and can be supplied evenly and in mixed state to engines or furnace or chemical compound devices or any other equipment not indicated in the drawing.

Actual-state Fluid Processing Device (1) supplies air through Fluid Supply Nozzle (31) located inside Process Tube (4), and easily refill the treatment air or gas already treated at Fluid Supply Device (30). Therefore, gas or fluid required at various devices can be supplied by Process Tube (4) at the same time, and combined with air treatment they can be fluid treatment efficiently.

Fluid Processing Device (1) can supply various fluid mixtures at the same time and do the fluid treatment, and besides for combustion, the treated fluid can also be used for air purification device or exhaust gas treatment device, whereby multiple molecules are electrolyzed separately by α -ray, and possess the feature of wider usage in manufacturing devices in chemical plants and their pre-treatments. Further, Fluid Processing Device (1) used in many devices above-mentioned requires preheating or cooling that can be easily installed when required to allow many types of fluid processing at higher efficiency and lower cost.

Next, look at *Figure 7* and *Figure 8*, Fluid Processing Device (1) attached to actual item and its usage will be explained here. This Fluid Processing Device (1) attached to actual item can be, for instance, used in oil, coal, timber combustion by means of Combustion Device (35), and the installation of exhaust outlet (chimney etc) for its exhaust gas is shown here as an example, based on which the exhaust gas will be fluid treated using α -ray, converting the toxic portion to non-toxic or low toxic level for better efficiency and lower cost.

Exhaust Gas Treatment Device (1) as shown in the drawing is installed in the chimney next to Combustion Tube (37) that supplies high temperature energy generated in Burner Device (36), which receives exhaust gas coming from the upstream in flow direction in the midst of the chimney, and also next Fluid Supply Nozzle (31) of Upstream Fluid processing device (1a), the same Fluid Supply Device (30) mentioned earlier; and at the most down stream, a down stream Fluid processing device (1b) is installed. To prevent rain water from coming in, Parasol shaped Cover (28) is erected at the chimney exhaust gas outlet, and between Parasol shaped Cover (28) and exhaust gas outlet, a net-shape α -ray Radiator (2) is added.

Burner Device (36) of Exhaust Gas Treatment Device (1) supplies fire generated in the combustion to the chimney through Combustion Tube (37), so it burns off the tar contained in the exhaust gas, providing tar pretreatment of the exhaust gas. As a result, Burner Device (36) will have reduced treatment load of exhaust gas generated in Fluid processing device (1b) installed in down stream, and tar treatment efficiency will be better, and the decrease in stain, damage and treatment load caused by the tar's stain can be prevented.

Here, inside Flow Inlet Tube (27), screw flow Guide (38) is erected to allow fire supplied from Combustion Tube (37) to be curled and guided, and create a vortex shape

combustion gas flowing down stream, that will accelerate the combustion of tar for better tar treatment efficiency and smooth out the flow of exhaust gas.

Fluid Supply Device (30) supplies gas already treated by α -ray Radiator (2) from Fluid Supply Nozzle (31) for the above-mentioned pretreated exhaust gas, and sends it for secondary treatment.

In other words, the above-mentioned Fluid Supply Device (30) can mix the air supplied by Air Supplier (39) that consists of probes, and fluid process it in Upstream Fluid processing device (1a) in the same manner as the above-mentioned actual item, and supply the ionized treatment air to the exhaust gas in the supply area inside the chimney.

As a result, the exhaust gas is ionized properly by the treatment air, and within the ionized exhaust gas, for instance, carbon-monoxide (CO), the oxygen (O) is further oxidized to become carbon-dioxide (CO₂) which is anti-toxic. In the same manner, other toxic elements are also oxidized or reduced, and delivered to down stream in anti-toxic state.

Upstream Fluid processing device (1a) shown in the drawing comprises net-shape α -ray Radiator (2) with longish tube form, and detachable to Board Rotating Base (43) with Rotating Shaft (42) of Motor (41) inside Processor Tube (4), and on the sphere of Processor Tube (4), A/C type Magnetic Generator (6) is installed.

This will allow Fluid processing device (1a) to accelerate further the contact between air particles and α -ray and fluid processes the air supplied from Outlet (14) to the rotating α -ray Radiator (2) and out from Outlet (16), resulting in kinetic activation environment for the air particles due to Magnetic Generator (6) in Processor Tube (4) similar to No.4 Actual Item shown in *Figure 5*, and as α -ray Radiator (2) in Processor Tube (4) is rotated, the air will be stirred and pass α -ray Radiator (2) in multi-stages.

As shown in dotted lines in *Figure 8*, if net-shape α -ray Radiator (2) is installed in the rotating tubular α -ray Radiator (2), the air will be stirred by the rotation and further accelerate the contact between the air particles and α -ray, which in turn will prevent leakage in fluid processing.

Further, in the tubular α -ray Radiator (2), maintenance structure comprising cleaning nozzle (44) is installed at the side, and once the rotation starts the cleaning agents will be sprayed to α -ray Radiator (2) – an automatic cleaning – and after the cleaning, the waste agent will be discharged from Outlet (46).

Now we will explain the tertiary exhaust gas treatment installed at the lowest stream side of the chimney – downstream Fluid processing device (1b) attached to No.5 actual item.

This downstream Fluid processing device (1b) has a large drum Processor Tube (4) which is larger than chimney diameter. At Inlet (14) side, Inlet Tube (27) that forms downstream chimney is connected, and at Outlet (16), Outlet Tube (28) that forms the upstream chimney is connected. Then, at the inner side of Processor Tube (4), net-shape α -ray Radiator (2) that forms downward-facing plate shape is installed across Inlet (14), and at the upper center of α -ray Radiator (2), Ultrasonic Generator (7) is installed facing downward. On the inner sphere of Processor Tube (4) also, net-shape α -ray Radiator (2) that forms ring-shape is installed to form a flow interval on the upper side of the above plate-shape α -ray Radiator (2). On the inner sphere of Processor Tube (4), panel-shape α -ray Radiator (2) coated with α -ray radiation material on the panel is attached.

A/C type Magnetic Generator (6) which is different from above-mentioned Ultrasonic Generator (7) and acts as Molecular Motion Accelerator (3) is installed on the sphere of Processor Tube (4) and the edge of Inlet Tube (27). On the lower side of the above-mentioned plate-shape α -ray Radiator (2), permanent magnetic α -ray Radiator (2) is installed when required.

Downstream Fluid processing device (1b) with above-mentioned structure activates the molecules in Processor Tube (4) through Molecular Motion Accelerator (3) of exhaust gas supplied from Inlet (14). In the environment where the molecules are activated, after fluid processing by downward facing α -ray Radiator (2), the exhaust gas flowing from the outer sphere will be Molecular Motion Accelerator further fluid processed completely by the upper α -ray Radiator (2), and panel-shape α -ray Radiator (2) will process the exhaust gas along the internal wall of Processor Tube (4) to complete the tertiary gas processing and smooth out the exhaust.

Fluid Processing Device (1) structured as above will preprocess the exhaust gas to remove the tar, and the air already fluid processed by α -ray Radiator (2) will be delivered to mix with the exhaust gas to go through secondary treatment (exhaust gas treatment), and the exhaust gas will be passed through α -ray Radiator (2) in Processor Tube (4), to proceed to the tertiary treatment using α -ray radiation, which can be done consecutively in the chimney with high efficiency regardless of the volume of exhaust gas to produce clean exhaust gas.

In the above fluid processing, Fluid Supplier (30) with upstream Fluid processing device (1a) will force feed treated air into the large Processor Tube (4) with large diameter located downstream to mix with large volume of exhaust gas in Processor Tube (4) to

properly accelerate treatment of exhaust gas. It also allows dirt and without damage of α -ray Radiator (2) in Processor Tube (4) and the inner wall to clean up the devices and at the same time minimize maintenance work.

Further, if α -ray Radiator (2) and Magnetic Generator (6) of Processor Tube (4) are sufficient to treat exhaust gas supplied by Fluid Supply Device (30), the installation can be omitted.

If Mist Supply Pipe (23) is installed due to requirement on Exhaust Gas Processor (1a), Mist Processor similar to actual item above mentioned can be added, and depending on the condition of exhaust gas it may accelerate cleaning. If cleaning device similar to above-mentioned upstream Fluid processing device (1a) is installed on Processor Tube (4), cleaning agent will be sprayed from cleaning nozzle not shown in the drawing to minimize maintenance work.

Besides treating exhaust gas, above-mentioned Fluid Processing Device (1) can also be used to remove odor or cleaning and to increase oxygen in food processing, or livestock barn, or plant. In such case, Burner Device (36) or downstream Fluid processing device (1b) can be omitted, and outside air can be brought into the tube to supply to the room, and upstream Fluid processing device (1a) should preferably be supplied with air from the room.

Now look at *Figure 9* and *Figure 10*, Fluid Processing Device (1) attached to No.6 actual item and its usage will be explained. If Fluid Processing Device (1) is installed on Fuel Piping System (12b) of Engine (12) at No.3 actual item as shown in *Figure 4*, it can be used as Fluid Processing Device for fuel quality improvement. In this example, Processor Tube (4) has a round-pipe form, and the built-in α -Ray Radiator (2) is similar to Patented Document 1, which comprises α -ray coated multi-particle piece (2a) (referred to as " α -Ray Granular Radiation Piece"). The fluid that passes through above structured Fluid Processing Device (1) has oil that activates after strong electrolysis by multiple α -Ray Granular Radiation Piece (2a) to prevent deterioration, and in the case of fuel oil, due to cutting of carbon molecule compound, the combustion efficiency is improved due to finer molecules and radicalization, and at the same time it cleans the exhaust gas.

Fluid Processing Device (1) as shown in the drawing has circular plate and net-type Separator (47) insert that separates and retains a certain amount of α -Ray Granular Radiation Piece (2a) in Processor Tube (4) that comprises a cover (48) with multiple Holes (48a) at Inlet (14) and Outlet (16), whereas Molecular Motion Accelerator (3) comprises A/C type Magnetic Generator (6) attached to the sphere of Processor Tube (4) or at least at the downstream.

And through Fittings (49) on the right of Cover (48), Fuel Pipe (27) will be connected to the left of the cover through Fittings (49), and connect to Outlet Tube (28), as shown in fuel piping system for Fluid Processing Device (1) in *Figure 4*.

Multi-separator (47) in above structure has bar-type Core (51) at certain interval that supports the center, and multiple chambers are separated in Processor Tube (4). In each chamber, depending on the space, certain amount of α -Ray Granular Radiation Piece (2a) are present, and each α -Ray Granular Radiation Piece (2a) can move freely inside, that prevents bottle neck, and control the rise of fluid resistance. When the fuel oil moves downstream, α -Ray Granular Radiation Piece (2a) in each chamber is retained by Separator (47) to allow them to accumulate, and restrict their movement to the neighboring chamber.

Based on the flow of the fluid, α -Ray Granular Radiation Piece (2a) are accumulated downstream, and the space between upstream Separator (47) and Cover (48) is formed, so when compared to Separator (47) not being installed in Processor Tube (4) and many α -Ray Granular Radiation Piece (2a) are present, fuel oil resistance is less. Therefore, if Processor Tube (4) is maximized in size and even when there are many α -ray Granular Radiation Pieces (2a) inside, there will be no obstruction to the flow of fuel oil, and fluid processing performance can be improved.

Each α -Ray Granular Radiation Piece (2a) moves freely in the chamber due to the flow and vibration of fuel oil, and the flowing fuel oil has good surface contact with each α -ray Granular Radiation Piece (2a) to accelerate fluid processing by the α -ray. Under the environment of molecule activation of fuel oil generated by Magnetic Generator (6), fuel oil processing can be further accelerated, which result in better combustion efficiency of fuel oil and reduce the toxic contents in the exhaust gas at the same time.

On the outer sphere of Processor Tube (4) in Fluid Processing Device (1) mentioned above, the same Fluid Supply Nozzle (31) as mentioned above is installed to conveniently supply air to the required location inside Processor Tube (4). This Fluid Supply Nozzle (31) is installed preferably close to the downstream of Upstream Separator (47), that will allow supply of air to the upstream of treatment chamber, and no obstruction to α -Ray Granular Radiation Piece (2a) accumulated downstream, and the air already fluid processed can be mixed with fuel oil.

When the air and fuel oil mixture passes through the small gaps with complicated bends formed as a result of accumulation of α -Ray Granular Radiation Piece (2a) at

downstream, they come into surface contact with multiple α -Ray Granular Radiation Piece (2a), creating an improved fuel oil with tiny bubbles (nano-bubbles).

Improved fuel oil that had been processed in that manner is delivered to Engine (12) for better combustion efficiency, and reduce toxic pollutants in the exhaust gas as well reduce the fuel consumption rate.

Core (51) mentioned above has the structure to share permanent Magnetic Generator (6), and in this case, the magnetic force at the center of Processor Tube (4) can be strengthened, and the size of A/C type Magnetic Generator (6) can be reduced. And when A/C Magnetic Generator (6) is not utilized, and if Core (51) or Separator (47) is treated as permanent Magnetic Generator (6), fluid processing can be simpler and cost less. At the center of the downstream of α -Ray Granular Radiation Piece (2a), if we install, for instance, Flow Controller (52) at Core (51) to partially restrict the flow, or make the flow Holes (48a) at the center of Separator (47) smaller, the flow can be restricted partially and contact with α -Ray Granular Radiation Piece (2a) can be made more uniform.

Fluid Processing Device (1) as shown in the drawing is actually α -Ray Granular Radiation Piece (2) that had been converted to α -Ray Granular Radiation Piece (2a) by multiplying the particles, and it can also be made into α -Ray Granular Radiation Piece (2) with net-shape or sheet-shape (board type), similar to actual item shown in above *Figure 10*.

In other words, α -Ray Granular Radiation Piece (2) shown in *Figure 10(A)* is actually a sheet-shape with α -ray material on the surface and twisted to become screw shape and rounded, it is inserted into Processor Tube (4) sections to form flow intervals at certain locations. Further, α -Ray Granular Radiation Piece (2) is actually a net-shape that had been converted into multiple round tubes of difference sizes at certain length with certain flow intervals at the sectional direction of Processor Tube (4), which intersects with each other to hold.

α -ray Granular Radiation Piece (2) shown in *Figure 10 (B)* has the same net-shape or sheet-shape as mentioned above, whereby unit chamber at certain interval along the flow direction are installed, forming multiples in sectional direction, which looks like honeycomb when seen from flow direction. As a result, in each process chamber in the large Processor Tube (4), it forms compartment to process the fluid effectively. Plus the twist or inclination or bended surface of the flow direction in the board shape, each chamber can have good direct contact with α -ray radiation material when they pass through, and at the same time, if the chamber is made shorter, the device can become smaller and more α -ray saving.

Each chamber that has inclination or twist at the intersection of flow direction in the board shape can be arranged to face the opposite direction, which will result in screw flow at the lowest downstream and discharged.

Processor Tube (4) structured as mentioned above can be connected with inter-connecting pipes not shown in the drawing, and fluid processing can be done over a long flow, depending on the objective. Consequently, Fluid Processing Device with higher efficiency required in each device can be made at lower cost. On the inter-connecting pipes also, the required Mist Supply Pipe (23) or Fluid Supply Nozzle (31), Molecular Motion Accelerator (3) and other attachment can be added easily.

In case the fluid to be processed is long as mentioned above, long pipe or hose not shown in the drawing can be used as Processor Tube (4), and inside, α -Ray Granular Radiation Piece (2a) or other α -Ray Granular Radiation Piece (2) can be attached to do processing. In such case, how the long Processor Tube (4) will be shaped at length and diameter desired and bended, to allow installation of Fluid Processing Device and use device to suit the purpose. Processor Tube (4) can be flexible hose, and α -Ray Granular Radiation Piece (2a) can be inserted, and the round section or section of any shape as frame can be made into screw shape to allow easier attachment; and the fluid can be moved along long screw path to enable each gas to be fluid processed effectively. The structure of Fluid Processing Device (1) can have smaller space and cost less to fabricate.

The Fluid Processing Device (1) of above mentioned actual item can be used not only for fuel oil, but also for dirty oil or waste oil cleaning process or vegetable oil improvement – it is simple and low cost.

In case of processing water using Fluid Processing Device (1) as structured above, when the accumulated water particles pass through α -Ray Granular Radiation Piece (2a), they are subject to many times α -ray radiation, and the treated water will generate effectively Hydrogen peroxide (H_2O_2) and $\text{H}^+ + \text{OH}^-$ ion.

Consequently, if the improved water is used to water plants or trees, it affects the bacteria or plant diseases, and the $\text{H}^+ + \text{OH}^-$ ion will cause reaction that has sterilization effect, which means sterilization agent is no more needed, and the diseases can be controlled that will enhance the protection of the plants. The improved water will accelerate the reaction mentioned above after sterilizing and form cluster of small water particles and absorbed by animals and plants.

In other words, the improved water reduces the use of sterilization agent and nurture growth reasonably, besides hand-washing and dirt-washing, for cleaning of treatment devices such as cooking plate, and to prevent mold. Without relying on toxic agent or cleaning agent, we can have human and environment-friendly sterilizer, and installation at hospital for contamination prevention such as virus, or food processing facility or cleaning facility can become faster and cheaper.

Fluid Processing Device (1) structure on actual item can be replaced by above α -Ray Granular Radiation Piece (2a), and instead of α -ray coating, ceramic particles (hard-balls) can fill up Processor Tube (4). In other words, the hard-balls in this case as shown in Patent Document 1; the inner layer of ceramic material comprises mainly of Elvan powder, and as a piezoelectricity phenomenon electricity conductor, crystal powder and oxidized Titanium powder are added with silica acid aluminum compound powder to form the size and particle shape to be sintered and become a preferred hard ceramic ball.

As a result, Fluid Processing Device (1) filled with conductive hard-balls will cause the hard-balls to contact with each other once the water starts flowing, and the clash force or surface will come into contact with the water to create friction that will result in electrical discharge in the ball that repeats endlessly, and the water particles will be ionized by $H^+ + OH^-$ ion to form small water clusters. The chlorine and toxic substances present in tap water will be dissolved to create improved water.

Consequently, Fluid Processing Device (1) filled with hard-balls as reaction device to fluid process water will not generate peroxide as above mentioned α -Ray Granular Radiation Piece (2a), and tap water can be processed at low cost, and it can be installed in the households for tap water or industrial use, for water treatment, hot springs, etc, which requires only simple installation to optimize usage. One of the features is that Fluid Processing Device (1) can have the Processor Tube (4) installed in up/down direction and the fluid from downstream can be supplied against the weight of the hard-balls to make further use of the function of the hard-balls and accelerate the fluid processing.

The improved water in the tube is not attached with calcium ion, so it can be used as boiler water that does not cause scales at lower cost. Fluid Processing Device (1) also can be easily attached to boilers.

In Processor Tube (4), air can also be easily supplied to be mixed to easily produce activated water that possesses bubbles with highly activated ion that contains nano-bubbles. As a result, for various combustion devices, activated water that contains bubbles can be supplied together with fuel, and to improve surface activation, the rate of fuel mixture is

higher with complete emulsification to make it easier to burn. Consequently, complete combustion is possible and fuel can be saved, and exhaust gas cleaning can be accelerated.

As shown in above actual items, Fluid Processing Device (1) that possesses α -Ray Granular Radiation Piece (2) or α -Ray Granular Radiation Piece (2a), is not only a device to reduce CO_2 in exhaust gas, but also makes use of the resource present in CO_2 . In other words, Fluid Processing Device (1) allows the α -ray to come into contact with CO_2 in exhaust gas, and CO_2 is easily broken up into $\text{O} + \text{CO}$. The CO as a result of the break up is solidified using catalyst, and the solidified CO is again exposed to α -ray to be further broken up into $\text{C} + \text{O}$, and C is stabilized into C_2 using catalyst and collected.

C_2 collected is mixed with H_2 , and exposed again to α -ray in catalyst to produce carbon-hydrate compound. Using Fluid Processing Device (1) mentioned above, CO_2 can be reduced or collected, so exhaust gas can be converted into fuel or fuel additives – it is simple and economical, and contributes to global warming protection.

CO_2 treatment based on Fluid Processing Device (1) is not limited to exhaust gas from chimney or exhaust pipes, it is suitable for any CO_2 reduction purpose to reduce the size of device and make it easier.

[Figure 1] Drawing showing Fluid Processing Device in this invention mounted on car engine

[Figure 2] Drawing showing No. 1.actual item of this invention with Fluid Processing Device structure

[Figure 3] Drawing showing No. 2.actual item of this invention with Fluid Processing Device structure

[Figure 4] Drawing showing No. 3.actual item of this invention with Fluid Processing Device structure

[Figure 5] Drawing showing No. 4.actual item of this invention with Fluid Processing Device structure

[Figure 6] (A) Section drawing A-A of Figure 5. (B) Section drawing B-B of Figure 5. Section drawing C-C of Figure 5.

[Figure 7] Sectional drawing of Fluid Processing Device in this invention attached to actual item No.5

[Figure 8] Sectional drawing of Fluid Processing Device structure per Figure 5

[Figure 9] Sectional drawing of Fluid Processing Device structure attached to actual item No. 6 in this invention

[Figure 10] Drawing showing other actual item of α -ray Radiator installed in Processor Tube (4) of Figure 9: (A) Sectional drawing of net-shape α -ray Radiator in round shape; (B) Honey-comb shape α -ray Radiator structure sectional drawing.

[Code explanation]

- 1 Fluid Processing Device
- 1a Other Fluid processing device
- 2 α -ray Radiator
- 2a α -ray Granular Radiation Piece
- 3 Molecular Motion Accelerator
- 4 Processor Tube / Frame
- 7 Ultrasonic Generator
- 14 Inlet
- 16 Outlet
- 17 Filter
- 23 Mist Supply Pipe
- 31 Fluid Supply Nozzle
- 36 Burner Device

SCOPE OF PATENT CLAIMS :**[Claim 1]**

A Fluid Processing Device (1) comprises α -ray Radiator (2), equipped with α -ray radiation material that radiate α -rays, in the inner side of Processor Tube (4) with the flow-route of the fluid in the internal space from fluid Inlet (14) towards Outlet (16). In Fluid Processing Device (1), fluid processing is done by causing ionization after radiating α -rays to the fluid. One of the special features of this Fluid Processing Device is that it has a structure that does the fluid processing by radiating α -rays to the fluid on which molecular motion activation is done using a Molecular Motion Accelerator (3), by installing the Molecular Motion Accelerator (3) that causes activation of molecular motion of the fluid in the above-mentioned Processor Tube (4).

[Claim 2]

The Fluid Processing Device in claim 1 has a structure that comprises of α -ray Radiator (2) that has α -ray Granular Radiation Piece (2a), made up of grains coated with α -ray radiation material and which enables the movement of several α -ray Granular Radiation Piece (2a) and fluid flow in Processor Tube (4).

[Claim 3]

The Fluid Processing Device in claim 1 and claim 2 has α -ray Radiator (2) installed adjacent to the upper current side or lower current side of Air Filter (17) which is installed inside Processor Tube (4).

[Claim 4]

The Fluid Processing Device in claim 1, 2 and 3 supports the possibility of rotation of α -ray Radiator (2) in Processor Tube (4).

[Claim 5]

Molecular Motion Accelerator (3) as the Fluid Processing Device in claim 1, 2, 3 and 4 - with Ultrasonic Generator (7), which generates ultrasonic frequency towards α -ray Radiator (2).

[Claim 6]

Molecular Motion Accelerator (3) as the Fluid Processing Device in claim 1, 2, 3, 4 and 5 - with Magnetic Force Generator (6), which generates lines of magnetic force towards α -ray Radiator (2).

[Claim 7]

The Fluid Processing Device in claim 1, 2, 3, 4, 5 and 6 has a Fluid Supply Nozzle (31) installed in Processor Tube (4) for supplying separate fluid that is circulated internally.

[Claim 8]

The Fluid Processing Device in claim 1, 2, 3, 4, 5, 6 and 7 has a Mist Supply Pipe (23) installed in Processor Tube (4) for supplying mist in upper current side or lower current side of α -ray Radiator (2) for the fluid that is circulated internally.

[Claim 9]

The Fluid Processing Device in claim 1, 2, 3, 4, 5, 6, 7 and 8 does fluid processing by connecting Outlet (16) of Fluid Processing Device (1) to Processor Tube (4) of another Fluid processing device (1a) and supplying the fluid that is to be circulated in Processor Tube (4) of Fluid processing device (1a).

[Claim 10]

The Fluid Processing Device in claim 1, 2, 3, 4, 5, 6, 7, 8 and 9 has Outlet (16) connected to Processor Tube (4) of lower current side Fluid processing device (1b) and the processed fluid, which is processed by upper current Fluid processing device (1a), is supplied to the fluid that circulates in Processor Tube (4) of lower current side Fluid processing device (1b) and at the same time is provided with a Burner Device (36) that supplies high temperature energy in the chimney at upper current side of this supplier section.