PORTABLE ALUMINUM FOIL SEALING APPARATUS

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ABSTRACT
The present invention is an aluminum foil sealing apparatus which is simple in structure and readily applied for various size of vessel. The invention is comprising: a main body on the upper surface of which a manipulator is provided and on the lower surface of which a power input unit is provided; a coil unit formed in a case in which a number of induction coils are disposed concentrically and horizontally; a power supply device which supplies electric power to the coil unit; a high frequency generator which is connected with the power supply device; a selector whose one end is connected with the power supply device and whose other end is connected in parallel with the respective induction coils, to thus supply one of the induction coils with the power; and a vessel mounting table arranged on the lower portion of the main body.
PORTABLE ALUMINUM FOIL SEALING APPARATUS

TECHNICAL FIELD

[0001] The present invention relates to an aluminum foil sealing apparatus, and more particularly, to a portable aluminum foil sealing apparatus which can be used as a portable aluminum foil cap sealing apparatus which makes aluminum sealing paper arranged beforehand in the inside of a cap of a vessel adhered to and seal the vessel by high-frequency heating, in a seal-up packaging process of the vessel that has the cap or a portable aluminum foil sealing apparatus which makes aluminum sealing paper adhered to and seal a vessel by high-frequency heating, in a seal-up packaging process of the vessel that has no cap.


BACKGROUND ART

[0003] Usually, vessels are fabricated using various kinds of materials such as PE, PP, PVC, PET, PS, ABS, glass, and ceramics. In the case of these vessels, a sealing paper is inserted into the inside of a screw-coupling type cap, respectively. That is, a cap is screw-coupled with the upper portion of a vessel while interposing a sealing paper between the cap and the vessel. Here, a thermoplastic adhesive on the aluminum surface of an aluminum foil sealing apparatus is melted to then be adhered with the upper portion of the vessel. Meanwhile, a vessel having no cap is sealed by a pressurizing adhesive through heating by an electric heater in another sealing apparatus, in which case a cap sealing is achieved by heating. That is, an electromagnetic wave that is generated in an inductance coil transmits a non-metallic cap and then makes a metallic aluminum sealing paper which is arranged in the inside of the cap generate heat by Joule’s heat to thus melt a thermoplastic adhesive deposited on the surface of the metallic aluminum sealing paper and to then make the metallic aluminum sealing paper adhered to the entrance portion of the vessel through cooling of the heat at the state where the metallic aluminum sealing paper has contacted the entrance portion of the vessel.

[0004] The conventional sealing apparatuses are not available so as to be comfortably used by ordinary people at homes or convenience stores, but are used by professional workers in factories or production lines. Further, it has not been so easy for houseworkers or consumers to directly perform a sealing work with the conventional art sealing apparatuses in view of the size, weight, and external design of the sealing apparatus.

[0005] In addition, it is difficult to apply the conventional sealing apparatuses to various sizes of vessels because an inductance coil of an identical size is arranged in a coil unit arranged in a single individual sealing apparatus. Further, since the induction coils used for the conventional sealing apparatuses cannot be selected into various kinds of specifications or dimensions of vessels, a problem of heating unnecessary portions on the surfaces of the sealing apparatuses has been caused. Accordingly, although a problem may be caused when small-size vessels are applied to a large-size inductance coil, a problem that excessive electrical energy is wasted has been raised, since the heat is delivered for the whole area of a large-size sealing paper when large-size vessels are applied to a large-size coil.

[0006] Also, since sealing may be achieved by adhesion only in the outer circumferential part of a vessel, the size of a coil is required to fit the size of the entrance of the vessel. The conventional sealing apparatuses may make a sealing paper deformed due to the heat generated over the whole surface of the sealing paper and transmit excessive heat to contents in vessels to thus bring out a phenomenon of making the contents spoiled.

[0007] Also, when an inductance coil is wound, the radius of the wound coil differs between the inner and outer portions of the coil. As a result, the densities of the generated magnetic fields differ, and thus heat is not generated uniformly.

[0008] Also, in the case of a vessel having no cap, preheating is necessary by use of a heater. In particular, there is no composite sealing apparatus to enable to seal a vessel having a cap which is called a cap sealing and to seal a vessel having no cap which is called a no-cap sealing. As a result, an individual sealing apparatus should be prepared for a cap sealing vessel and a no-cap sealing vessel.

TECHNICAL PROBLEM

[0009] To solve the above problems, it is an object of the present invention to provide a portable aluminum foil sealing apparatus which is used to simply and rapidly seal aluminum foils in any places.

[0010] It is another object of the present invention to provide an economic portable aluminum foil sealing apparatus which enables to seal various specifications or dimensions of vessels through portable compact sealing apparatus, which can prevent the contents in the vessels from being spoiled by wrapping food, medicine, manufactured goods in a clean and hygienic state.

[0011] It is still another object of the present invention to provide a portable aluminum foil sealing apparatus which can prevent transformation of a sealing paper since a heating temperature of a coil unit is kept equal for all areas of the sealing apparatus.

[0012] It is yet another object of the present invention to provide a portable aluminum foil sealing apparatus which can seal aluminum foils regardless of existence of a cap.

TECHNICAL SOLUTION

[0013] To accomplish the above object of the present invention, according to an aspect of the present invention, there is provided a portable aluminum foil sealing apparatus comprising: a main body on the upper surface of which a manipulator is provided and on the lower surface of which a power input unit is provided; a coil unit formed of a case in which a number of induction coils are disposed concentrically and horizontally; a power supply device which supplies electric power to the coil unit; a high frequency generator which is connected with the power supply device; a selector whose one end is connected with the power supply device and whose other end is connected in parallel with the respective induction coils, to thus supply one of the induction coils with the power; and a vessel mounting table arranged on the lower portion of the main body.

[0014] As described above, the present invention provides a portable aluminum foil sealing apparatus which is used to simply and rapidly seal aluminum foils in any places because of being compact and easy-to-carry. In addition, the present
invention can prevent transformation of a sealing paper since a heating temperature of a coil unit is kept equal for all areas of the sealing apparatus. In addition, the present invention enables to seal various specifications or dimensions of vessels through a portable compact sealing apparatus. In addition, the present invention selectively heats an induction coil of a desired size in a corresponding specification, to thereby save electric power consumption.

[0015] In addition, the present invention provides an economic portable aluminum foil sealing apparatus which can seal vessels in large quantity, to thus prevent the contents in the vessels from being spoiled by wrapping foods, medicine, manufactured goods in a clean and hygienic state.

[0016] Further, the present invention provides a portable aluminum foil sealing apparatus which can seal aluminum foils regardless of existence of a cap.

[0017] In addition, the main body further comprises an external output end which can be connected with a separate coil unit so that a large size vessel which is impossible to be sealed in the main body can be sealed in the outside of the main body, and a sealing work can be conveniently performed.

DESCRIPTION OF DRAWINGS

[0018] The above and/or other objects and/or advantages of the present invention will become more apparent by describing the preferred embodiments thereof in detail with reference to the accompanying drawings in which:

[0019] FIG. 1 is a perspective view showing an external form of a sealing apparatus according to the present invention;

[0020] FIG. 2 is a block diagram of a sealing apparatus according to the present invention;

[0021] FIG. 3 is a cross-sectional view cut along a line A-A of FIG. 1, which shows a corresponding relationship between sizes of vessels and an induction coil;

[0022] FIG. 4 is a perspective view showing a configuration of a vessel mounting table in the sealing apparatus according to the present invention;

[0023] FIG. 5 is a side cross-sectional view cut along a line B-B of FIG. 4, which shows a mounted state of the vessel mounting table in the sealing apparatus according to the present invention;

[0024] FIG. 6 is a perspective view showing a vessel mounting table in a sealing apparatus according to another embodiment of the present invention;

[0025] FIG. 7 is a perspective view showing a sealing apparatus according to still another embodiment of the present invention;

[0026] FIG. 8 is a cross-sectional view cut along a line C-C of FIG. 7;

[0027] FIG. 9 is a cross-sectional view cut along a line D-D of FIG. 8; and

[0028] FIGS. 10 and 11 are a configurational view showing a sealing apparatus according to yet another embodiment of the present invention, respectively.

BEST MODE FOR CARRYING OUT THE INVENTION

[0029] Hereinafter, a portable aluminum foil sealing apparatus according to respective preferred embodiments of the present invention will be described with reference to the accompanying drawings. Like reference numerals denote like elements through the following embodiments.

[0030] Referring to FIGS. 1 to 3, a sealing apparatus 10 according to a preferred embodiment of the present invention largely includes a main body 100, a coil unit 200, a power supply device 300, a high frequency generator 400 and a vessel mounting table 500. The main body 100 is made of a plastic material whose weight is light in general. As shown, a manipulator 110 is arranged on the upper part of the main body 100. Manipulation buttons 111 with which working conditions of the coil unit 200 to be described later and the high frequency generator 400 are input are provided on the manipulator 110. A digital indication window 113 is provided in one side of the manipulation buttons 111 to store adhesion characteristics such as the material and size of a vessel, a current intensity or heating time to be described later in advance by respective vessels, and display a state where the output of the power supply device 300 to be described later is optimally controlled. Also, a power input unit 103 is provided in one side of the lower portion of the main body 100, and includes an outlet 104 that connects a plug 301 and an electric power switch 105 which supplies electric power.

[0031] At the lower side of the manipulator 110, that is, at the upper side of the main body 100 is arranged the coil unit 200. The coil unit 200 includes a case 201 and a number of inductance coils 210, 230 and 250. At the upper side of the inductance coils 210, 230 and 250 is arranged a ferrite core 270. The case 201 is formed of a circular or polygonal structure. An upward flange 211a is formed at the circumferential edge of the case 201, and a heating layer 211b is arranged horizontally at the bottom of the case 201. Because the heating layer 211b is lowered gradually from the central part of the heating layer 211b to both outer sides thereof, the heating layer 211b is formed of a pyramid shape having a step region “H.”

[0032] The inductance coils 210, 230 and 250 are arranged in a multiple layer in the inside of the case 201. That is, a number of the inductance coils 210, 230 and 250 are arranged from the center of the case 201 to the outer circumference thereof concentrically. The inductance coils 210, 230 and 250 are lowered gradually from the center thereof to the outer circumference thereof in the same manner as that of the step “H” of the heating layer 211b. The intensity of the electromagnetic field by the central part of the induction coil is higher than that of the outer part of the induction coil because the radius of the former is smaller than that of the latter. And the central part of the induction coil is high and more spaced from the vessel and the outer side of the induction coil is low and less spaced from the vessel. Therefore, when any one of the inductance coils 210, 230 and 250 is heated according to the specification or dimension of a vessel 20, the heating layer 211b is heated at uniform temperature. For convenience of explanation, three inductance coils 210, 230 and 250 have been described, but the present invention can correspond to vessels of various kinds of sizes if the quantity of the induction coils increases or decreases better.

[0033] The ferrite core 270 is arranged at the upper side of the inductance coils 210, 230 and 250. The ferrite core 270 facilitates the flows of the magnetic flux toward the side to be sealed or adhered. Accordingly, the electric current flows rapidly in the inductance coils 210, 230 and 250, and lines of magnetic force are sent toward the side to be sealed or adhered. As a result, a thermoplastic adhesive which is deposited on one surface of an object to be adhered, that is, an
aluminum sealing paper 30 which is called a sealing paper is quickly dissolved, to then be firmly glued with the entrance of the vessel.

[0034] The coil unit 200 is linked with the power supply device 300 of FIG. 2. Referring to [0035] FIG. 2, the power supply device 300 includes a plug 301 which is connected with an outlet 104, a power board 310 and a main board 330. The power supply device 300 rectifies alternating-current (AC) power that is input through the plug 301 into direct-current (DC) power in the power board 310 to thereby make DC 15V of four stages and DC 5V of two stages, to then be supplied to the main board 330 and the high frequency generator 400.

[0036] On the other hand, a microcomputer 331 and a memory storage device 333 that store programs are disposed in the main board 330, to thereby communicate with the manipulator 110 and the digital indication window 113 to make the former transmit and receive signals to and from the latter, and make the high frequency generator 400 generate a high frequency signal of high power to the coil unit 200.

[0037] The memory storage device 333 in the main board 330 stores sealing characteristic information of respective vessels to then be applied at the time of sealing a corresponding vessel. That is, the main board 330 immediately finds out a corresponding vessel characteristic from the memory storage device 333 at the time of sealing various kinds of specifications or dimensions of vessels. Thus, whenever a vessel is changed, a program of the vessel by each standard is retrieved from the memory storage device 333 and then used. As a result, a sealing work can be immediately performed without re-establishing the characteristic of the vessel.

[0038] The power supply device 300 is connected with the high frequency generator 400.

[0039] The power supply device 300 is fabricated using a module of a high speed switching element such as an insulated gate bipolar transistor (IGBT) and a silicon controlled rectifier (SCR), because the high frequency generator 400 need to generate high power in a compact specification, and detects an abnormal signal during generation of an output to then display a signal indicating whether or not an abnormal signal exists on a display.

[0040] In addition, a selector 410 for selecting electric current which is generated from the high frequency generator 400 is arranged to send the electric current selectively to one of the inductance coils 210, 230 and 250 built in the coil unit 200. One side of the selector 410 is linked with the power supply device 300, and the other side thereof is coupled in parallel with the inductance coils 210, 230 and 250 of the coil unit 200.

[0041] Referring to FIG. 3, the powers supply device 300 rectifies a commercialized AC power input through the plug 301 into DC power to then apply the DC power to the high frequency generator 400.

[0042] Furthermore, an electromotive force is generated from any one inductance coil which is arranged near the entrance 20a of a vessel among the inductance coils 210, 230 and 250 which are disposed in a multiple layer in the coil unit 200 which is selected by the signal output from the manipulator 110, and generates heat in the edge portion of an aluminum sealing paper 30 that is an electric conductivity member.

[0043] Referring to FIG. 4, the sealing apparatus 10 according to the present invention includes a vessel mounting table 500 which is arranged in the lower part of the main body 100. The vessel mounting table 500 includes a base 510 and a slider 530. The base 510 is horizontally supported by support rods 105 that are arranged in the form of a multiple stage in both inner sides of the main body 100. The support rods 105 support the top and bottom of the rear side of the base 510 and support the base 510 horizontally.

[0044] On the other hand, on the base 510 are indicated outer diameter indication lines 511 at the upper-center of the concentric position perpendicularly with the coil unit 200. The outer diameter indication lines 511 are indicated according to the outer diameter of a vessel 20 of various kinds of specifications to be sealed. Elongate holes 513 are formed at both sides of both sides of the rear end of the outer diameter indication lines 511.

[0045] The slider 530 includes a guider 531 and a vessel support groove 533. The guider 531 is protruded lengthily with respect to the elongate holes 513 to penetrate the elongate holes 513, and slid in the front and rear direction along the elongate holes 513. At the lower side of the guider 531 is disposed a support member 535, to thereby confine the slider 530 not to secede upwards. In addition, at least one tap 537 is formed at both sides of the rear end of the slider 530, and a clamping bolt 539 is arranged at the tap 537. In addition, a V-shaped vessel support groove 533 is formed so that two contact points contact any one of the number of the vessel outer diameter lines 511.

[0046] On the following, referring to FIGS. 3 to 5, an effect of the sealing apparatus 10 according to the present invention will be described. First, the position of the vessel mounting table 500 is controlled according to the height of a vessel. Then, the vessel mounting table 500 is installed so as to be supported by the support rods 105. Thereafter, the slider 530 is moved to and fro according to the outer diameter of the vessel, so that two contact points of the vessel support groove 533 fit a desired outer diameter of the vessel 20. Continuously, if the clamping bolt 539 screw-combined with the tap 537 formed in both sides of the rear end of the slider 530 is tightened, the slider 530 is steadily fixed to the upper portion of the base 510 by the coupling force of the clamping bolt 539.

[0047] Thus, if the above-described preparation work is finished, a vessel 20 is pushed toward the upper part and rear portion of the base 510 from the front portion of the base 510. Then, the rear portion of the vessel 20 is automatically supported by the vessel support groove 533, and the vessel entrance 20a of the top portion of the vessel 20 is disposed proximate with the coil unit 200. Accordingly, a workable state is ended.

[0048] Thus, if the vessel entrance 20a is proximate with the coil unit 200, a high frequency signal is generated using the manipulation buttons 111 in the manipulator 110. The lines of the magnetic force that are generated from any one inductance coil among the inductance coils 210, 230 and 250 transmit a vessel cap 200 which is a n on-conductor and generates an electromotive force for an aluminum sealing paper 30 that is a conductor. Here, induced current flows in the aluminum sealing paper 30 in which the Joule’s heat is produced. This Joule’s heat liquefies a thermoplastic adhesive (not shown) that is provided at the edge region in one side of the aluminum sealing paper 30. Here, if the heat is removed from the thermoplastic adhesive, the thermoplastic adhesive is cooled to become a solid phase to then be glued with the vessel entrance 20a instantaneously.

[0049] Also, because the induction coil 210, 230 and 250 of the coil unit 200 according to the present invention are arranged in a structure that they are gradually lowered from
the central part thereof to the outer circumference thereof, the heating layer 201b is generally heated at uniform temperature in spite of the difference of the intensity of the magnetic fields of the induction coil 210, 230 and 250 due to the difference of the radius.

[0050] Also, because one of the inductance coils 210, 230 and 250 arranged in a multiple layer can be selectively heated according to the size of the vessel entrance 20a, waste of unnecessary electric power can be prevented. Also, because one of the inductance coils 210, 230 and 250 arranged in a multiple layer can be selectively heated, only the edge portion including the vessel entrance 20a can be heated not the surface of the sealing paper 30. As a result, transformation of the sealing paper 30 can be prevented.

[0051] Referring to FIG. 6, a vessel mounting table 500 according to another embodiment of the present invention will be described below. Herein below, because compositions of the base 510 and the slider 530 in the vessel mounting table 500 are equal to the above-described previous embodiment of the present invention, the detailed description thereof will be omitted. Here, composition of only a control screw 550 and a movable nut 570 will be described below. The control screw 550 is arranged at the lower portion of the base 510 in parallel with any one elongate hole 513, and both ends of the control screw 550 are axially coupled to easily rotate. Also, a handle 553 is arranged at the leading end of the control screw 550, so that the control screw 550 can be easily rotated.

[0052] The movable nut 570 is achieved by forming a support member of the previous embodiment largely and thus a tap (not shown) to be screw-combined with a thread part 551 of the control screw 550. Therefore, if the handle 553 arranged at the leading end of the control screw 550 is rotated in one direction or the other direction, the movable nut 570 arranged at the lower side of the slider 530 is screwed and moved, so that the vessel support groove 533 of the slider 530 can be fit for the vessel outer diameter lines 511.

[0053] Referring to FIGS. 7 to 10, a sealing apparatus 10 according to another embodiment of the present invention will be described below. Since a main body 100, a coil unit 200, a power supply device 300, and a high frequency generator 400 in this embodiment of the present invention are same as those of the previous embodiment of the present invention, the detailed description thereof will be omitted. The composition of only a height control unit 280 and a horizontal supply unit 450 will be described below. The height control apparatus 280 includes a vertical frame 281, a guide rail 283, a rack gear 285 and a pinion gear 287.

[0054] The vertical frame 281 is arranged vertically at the rear end of the base 510 that is disposed horizontally, and guide grooves 282 are vertically formed at both sides of the vertical frame 281. Guide rails 283 are arranged at both sides of the guide grooves 282, to thereby guide the vertical frame 281 to easily move up and down. In addition, the rack gear 285 is vertically disposed at the rear end of the vertical frame 281, in which the rack gear 285 is tooth-engaged with the pinion gear 287.

[0055] The coil unit 200 which is horizontally installed in one side of the vertical frame 281 by the height control unit 280 can be moved up and down according to the size of the vessel. On the other hand, the height control unit 280 can be driven not by manually operating the handle 280a but by connecting the pinion gear 287 and a deceleration motor (not shown) unlike the previous embodiment. On the other hand, the horizontal supply unit 450 is arranged at the lower side of the height control unit 280.

[0057] As illustrated in FIGS. 7 and 9, the horizontal supply unit 450 is a belt conveyer which is horizontally moved by a drive motor (not shown), and is horizontally lengthily disposed to thereby bond a sealing paper 30 with the vessel entrance 20a. In addition, the horizontal supply unit 450 includes a guide (not shown) which is lengthily installed and makes the center of the vessel which moves to one side congruent with the center of the coil unit 200.

[0058] Herein below, function of a sealing apparatus 10 according to still another embodiment of the present invention will be described. First, height of the height control unit 280 is controlled according to height of a vessel 20 using a handle 280 or an electric motor (not shown) which is connected with a pinion gear 283. Here, the adjusted height is desirably controlled to have a gap of about 1-2 mm not so as to contact the vessel cap 20b. The reason is because the sealing paper 30 need not be compressed since the sealing apparatus 10 according to the present invention is configured to have a sealing paper 30 disposed between the vessel cap 20b and the vessel entrance 20a. In other words, since the sealing paper 30 is disposed at the upper end of the vessel entrance 20a is firmly compressed by the vessel cap 20b, it has only to heat the sealing paper 30 at a temperature with which the thermoplastic adhesive (not shown) deposited on the sealing paper 30 can be dissolved.

[0059] When the thermoplastic adhesive is heated and dissolved, the thermoplastic adhesive (not shown) which has been dissolved between the vessel entrance 20a of the vessel 20 that escapes the coil unit 200 by transfer of the horizontal supply unit 450 and the sealing paper 30 is rapidly cooled and sealed. Thus, a number of vessels can be sealed by the horizontal supply unit 450. As a result, medicines and chemicals in hospitals or research institutes can be kept protected for a long time. In addition, the horizontal supply unit 450 has been described only with respect to a linear type horizontal supply unit. However, the horizontal supply unit can be formed of a circular or elliptical shape, so as to enable to seal a more number of vessels.

[0060] On the other hand, in sealing of a vessel having no vessel cap 20b, a vessel entrance 20a and a sealing paper 30 are adhered by pressurization of a heating layer 201b of a coil unit 200 as illustrated in FIG. 10. That is, the coil unit 200 is moved up and down by a height control unit 280 that moves up and down by an air cylinder (not shown) or an electric motor (not shown) unlike the previous embodiments, to thereby achieve a sealing work. As described above, the coil unit 200 is heated at the state where the heating layer 201a directly contacts with the sealing paper 30. Therefore, if silicon rubber having elasticity is disposed at the bottom of the heating layer 201b with a thickness of 0.5-1.5 mm, the vessel entrance 20a and the sealing paper 30 can be uniformly achieved.

[0061] Also, as illustrated in FIG. 11, a sealing apparatus 10 includes an outer output end 190 with which a special vessel 20 that cannot do sealing in the inside of the main body 100 since height of the vessel is high, can be sealed. As illustrated, a sealing work can be performed by inserting a power cable 205 of the coil unit 200 which is separately formed in a power input unit 103 arranged at the lower portion of one side of the sealing apparatus 10 according to the present invention into the outer output end 190. Here, electric power is supplied to
the power input unit 103 through a plug (not shown). A working condition has been set in advance according to the characteristics of the vessel 20 in the manipulator 110.

[0062] As described above, a portable aluminum foil sealing apparatus 10 according to the present invention is used to simply and rapidly seal aluminum foils in all places. In addition, the present invention provides an economic portable aluminum foil sealing apparatus which can seal vessels in large quantity, to thus prevent the contents in the vessels from being spoiled by wrapping food, medicine, manufactured goods in a clean and hygienic state. In addition, the present invention can prevent transformation of a sealing paper since a heating temperature of a coil unit is kept equal for all areas of the sealing apparatus. Further, the present invention provides a portable aluminum foil sealing apparatus which can seal aluminum foils regardless of existence of a cap.

Mode for Invention

[0063] As described above, the present invention has been described with respect to particularly preferred embodiments. However, the present invention is not limited to the above embodiments, and it is possible for one who has an ordinary skill in the art to make various modifications and variations, without departing off the spirit of the present invention. Thus, the protective scope of the present invention is not defined within the detailed description thereof but is defined by the claims to be described later and the technical spirit of the present invention.

INDUSTRIAL APPLICABILITY

[0064] As described above, the present invention provides a portable aluminum foil sealing apparatus which can be used as a portable aluminum foil cap sealing apparatus which makes aluminum sealing paper arranged beforehand in the inside of a cap of a vessel adhered to and seal the vessel by high-frequency heating, in a seal-up packaging process of the vessel that has the cap or a portable aluminum foil sealing apparatus which makes aluminum sealing paper adhered to and seal a vessel by high-frequency heating, in a seal-up packaging process of the vessel that has no cap.

1. A portable aluminum foil sealing apparatus comprising: a main body on the upper surface of which a manipulator is provided and on the lower surface of which a power input unit is provided; a coil unit formed of a case in which a number of induction coils are disposed concentrically and horizontally; a power supply device which supplies electric power to the coil unit; a high frequency generator which is connected with the power supply device; a selector whose one end is connected with the power supply device and whose other end is connected in parallel with the respective induction coils, to thus supply one of the induction coils with a high frequency operation current; and a vessel mounting table arranged on the lower portion of the main body.

2. The portable aluminum foil sealing apparatus according to claim 1, wherein a memory storage device is further included in a main board of the power supply device to thereby store sealing characteristic information of respective vessels to then be applied at the time of sealing a corresponding vessel.

3. The portable aluminum foil sealing apparatus according to claim 1, wherein the main body further comprises an external output end which can be connected with a separate coil unit so that a large size vessel can be sealed in the outside of the main body.

4. The portable aluminum foil sealing apparatus according to claim 1, wherein the inductance coils are disposed to be lowered gradually from the central part of the induction coils to the outer circumference thereof.

5. The portable aluminum foil sealing apparatus according to claim 1, wherein support rods of at least two steps are further arranged in both inner sides of the main body so as to support the vessel mounting table.

6. The portable aluminum foil sealing apparatus according to claim 5, wherein the vessel mounting table comprises a base on which a number of vessel outer diameter lines is indicated at the upper-center of a position concentric with the coil unit, and which is horizontality supported by the support rods, and a slider which is slid in the front and rear direction in which a guider is penetrated into elongate holes formed at both sides of the base, and in which a V-shaped vessel support groove is formed so that two contact points contact any one of the number of the vessel outer diameter lines.

7. The portable aluminum foil sealing apparatus according to claim 6, wherein the vessel mounting table is comprised of a control screw which is arranged in the front and rear direction at the lower side of the base, and a movable nut which is arranged at the lower side of the slider and is screw-combined with the control screw.

8. A portable aluminum foil sealing apparatus comprising: a main body on the upper surface of which a manipulator is provided and on the lower surface of which a power input unit is provided; a coil unit formed of a case in which a number of induction coils are disposed concentrically and horizontally; a height control unit which makes the coil unit move up and down according to size of a vessel; a power supply device which supplies electric power to the coil unit; a high frequency generator one side of which is connected with the power supply device; a selector whose one end is connected with the power supply device and whose other end is connected in parallel with the respective induction coils, to thus supply one of the induction coils with a high frequency operation current; and a horizontal supply unit which is disposed in the lower side of the main body and supplies vessels continuously so as to perform a continuous sealing operation.

9. The portable aluminum foil sealing apparatus according to claim 8, wherein the horizontal supply unit is a belt conveyor.

10. The portable aluminum foil sealing apparatus according to claim 8, wherein the height control unit includes a rack and pinion gear, in which the pinion gear is driven by a manual handle or an electric motor.

11. The portable aluminum foil sealing apparatus according to claim 8, wherein the height control unit is driven by an air cylinder or an electric motor.