INTEGRATED APPARATUS FOR COMPREHENSIVE TREATMENT OF FOOD WASTE AND PRODUCT MANUFACTURING METHOD

BACKGROUND

Technical Field

The present invention discloses an integrated device for kitchen garbage all-around treatment and a product manufacturing method, and the present invention belongs to the field of comprehensive technologies of household garbage treatment, relates to an integrated device for kitchen garbage resource treatment and a manufacturing method as well as formula and process thereof, and also relates to a large number of technical fields such as microorganism, biochemistry, equipment manufacturing, photoelectricity, ozone application, functional plastics, plastic reverse engineering, clean coal, mineral fuel manufacturing, biomass fuel manufacturing, clean production, air purification and sewage treatment.

Related Art

Long-time application of science and technology of resource utilization of waste has proved a truth that, if a resource treatment technology of the waste is a single application, the consequences will bring about greater crisis to human living environments, especially that a serious problem of secondary pollution thus arising is hard to control, so comprehensive treatment of the waste has become a current development trend. The composition of kitchen garbage is extremely complex, including sewage, plastic bags, plastic bottles, waste cloth, putrefactive organic matter, paper, metal bottles, broken glass, broken ceramic chips, animal oil, plant oil, native bacteria and other substances. Current kitchen garbage resource treatment technologies have presented a situation of "a hundred flowers are in bloom" in methods and processes at home and abroad, but the technologies are basically simple single treatment, do not turn to international environmental-protection treatment trend and direction of comprehensive treatment, utilization and disposal from simple treatment, and may result in that necessary attachments in the kitchen garbage are transferred and filled and placed in a mess, leading to water and soil pollution or transfer, which not only blocks city water pipelines, smells foul, but also causes serious secondary pollution. The single treatment process of the kitchen garbage is feasible in consideration of the resource utilization value, but does more harm than good from the

CLAIMS

What is claimed is:

1. A kitchen garbage all-around comprehensive treatment system, characterized in that, the system comprises a kitchen garbage bag-breaking apparatus, a kitchen garbage joint screening apparatus, a wet advanced oxidation, deodorization, inactivation, cleaning and salt-reduction apparatus, a vertical dehydration apparatus, a material crusher and an automatic control apparatus, kitchen garbage is thrown into the kitchen garbage bag-breaking apparatus for bag-breaking treatment and then input to the kitchen garbage joint screening apparatus for joint screening, a screened oil, water and solid mixture is input to the wet advanced oxidation, deodorization, inactivation, cleaning and salt-reduction apparatus for inactivation treatment, the kitchen garbage that has been inactivated, deodorized, desalted and primarily dehydrated through wet advanced oxidation is sent into the dehydration apparatus by a screw-rod conveying pipeline, a material, after being dehydrated by the dehydration apparatus, is input into the material crusher for crushing, and the automatic control apparatus controls other apparatuses to operate, characterized in that, the lacerating apparatus comprises a horizontal tubular housing (D11), one end of the housing (D11) is a discharge port (D18), more than one cutting tool (D12) is fixed on an inner wall of the one end of the discharge port (D18) of the housing (D11), the other end of the housing (D11) is internally provided with a piston (D13) capable of sliding along an inner cavity of the housing (D11) and is connected with a power tool (D12) pushing the piston (D13) to move, a cutter groove (D14) is opened in a position on the piston (D13) corresponding to each cutting tool (D12), and a feeding port (D21) is opened in a middle position at the top of the housing (D11).

2. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, a pulley (D15) is installed at the bottom of the piston (D13), a concave sliding rail (D17) is fixedly disposed in a position at the bottom of an inner wall of the housing (D11) corresponding to the pulley (D15), and the pulley (D15) is capable of sliding back and forth on the concave sliding rail (D17).

3. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, a collecting tank (D19) is installed at the position of the feeding port (D21), an upper portion of the collecting tank (D19) is funnel-shaped, a lower portion is in communication with the feeding port (D21) on the housing (D11) through a blanking

pipeline (D20), and the blanking pipeline (D20) is provided thereon with a pneumatic slide gate valve (D27).

4. The kitchen garbage all-around comprehensive treatment system according to claim 2 or 3, characterized in that, a rolling clapper (D22) is installed at the position of the discharge port (D18) on the housing (D11), and the motor (D28) drives the rolling clapper (D22) to rotate.

5. The kitchen garbage all-around comprehensive treatment system according to claim 4, characterized in that, the rolling clapper (D22) is square or polygonal and is provided with an inner cavity.

6. The kitchen garbage all-around comprehensive treatment system according to claim 5, characterized in that, each side of the rolling clapper (D22) is provided thereon with more than one compressed air injection slot (D23), the rolling clapper (D22) is internally provided with a compressed air airway (D24) and a gas jet nozzle (D26), the gas jet nozzle (D26) is connected onto the compressed air airway (D24), and a jet flow direction of the gas jet nozzle (D26) is the same as a discharge direction of the discharge port.

7. The kitchen garbage all-around comprehensive treatment system according to claim 6, characterized in that, the compressed air injection slots (D23) are disposed in parallel.

8. The kitchen garbage all-around comprehensive treatment system according to claim 2 or 3, characterized in that, the blade of a cutting tool (D16) is at an angle of 90 degrees with a cross section of the discharge port of the housing or at an angle of 30 degrees with the inner wall of the housing.

9. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the kitchen garbage joint screening system comprises a shell (E11), the shell (E11) is internally provided with a partition plate (E25), the interior of the shell (E11) is divided into an air-floating zone (E10) and a non-air-floating zone (E32) through the partition plate (E25), the partition plate (E25) is provided thereon with a material leakage outlet (E26), the air-floating zone (E10) is provided with a feeding port, a lower portion of the air-floating zone (E10) is provided with a heavy material discharge outlet (E22), the heavy material discharge outlet (E22) is provided with a valve (E23), around the heavy material discharge outlet (E22) is more than one air nozzle (E24), an upper portion of the air-floating zone (E10) is provided with a rolling rake (E30), the non-air-floating zone (E32) is internally provided with a material output device (E33), one end of the

material output device (E33) is disposed in the shell (E11), the other end is disposed on an outer side of the shell (E11), the material output device (E33) is internally provided with an auger (E37), the material output device (E33) is provided thereon with a motor (E36) and a transmission (E34), and the motor (E33) coordinates with the transmission to drive the auger (E37) to rotate.

10. The kitchen garbage all-around comprehensive treatment system according to claim 9, characterized in that, the material leakage outlet (E26) is provided with a shutter guide groove (E27), the shutter guide groove (E27) is connected to a pneumatic push-pull rod (E28), a pneumatic apparatus (E38) drives the push-pull rod (E28) to move, and the push-pull rod (E28) controls opening and closing of the shutter guide groove (E27).

11. The kitchen garbage all-around comprehensive treatment system according to claim 9, characterized in that, the number of the rolling rake (E30) is two, the two rolling rakes (E30) are disposed up and down, half of the lower rolling rake is disposed in a liquid level of the air-floating zone (E10), the upper rolling rake is disposed above the liquid level of the air-floating zone (E10), and the two rolling rakes (E30) are in mesh.

12. The kitchen garbage all-around comprehensive treatment system according to claim 11, characterized in that, the shell (E11) is provided thereon with a rolling rake motor (E39), and the rolling rake motor (E39) simultaneously drives the two rolling rakes (E30) to rotate.

13. The kitchen garbage all-around comprehensive treatment system according to any one of claims 9 to 12, characterized in that, the transmission (E34) is installed at the material output device (E33), and the motor (E36) drives the auger (E37) to rotate through the transmission (E34).

14. The kitchen garbage all-around comprehensive treatment system according to any one of claims 9 to 12, characterized in that, a liquid level automatic control apparatus (E29) for controlling a liquid level is installed at the air-floating zone (E10).

15. The kitchen garbage all-around comprehensive treatment system according to any one of claims 9 to 12, characterized in that, the shell (E11) is provided thereon with a pipeline for conveying the kitchen garbage into the shell (E11), and the pipeline is connected onto an intake pipeline (E20).

16. The kitchen garbage all-around comprehensive treatment system according to any one of claims 9 to 12, characterized in that, a circulating water inlet of the air-floating zone

(E10) is connected to a hydraulic booster pump (E21), a water source is provided by a circulating water storage tank, middle and lower portions of the non-air-floating zone (E32) are provided with water outlets, and water is input into the circulating water storage tank through a water pump, used for circulating the water in the air-floating zone (E10) and the non-air-floating zone (E32) and strengthening strong rolling of the water in the air-floating zone (E10).

17. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the oxidation, deodorization, inactivation, cleaning and salt-reduction apparatus of the kitchen garbage comprises more than one reactor (F34) and a gas, water and material mixer (F42) for mixing ozone, water and a material, the mixer (F42) is connected with a waterproof check valve, one end of the waterproof check valve, after being connected to a gas pipe, is connected to an ozone generating device (F44), the mixer (F42) is further connected with an outlet of a high viscosity cam rotor pump (F49), an outlet of the mixer (F42) extends into one reactor (F34), an inlet of the high viscosity cam rotor pump (F49) is connected with another reactor (F34), the reactors (F34) are internally provided with more than one granular activated carbon reaction ball (F41), the granular activated carbon reaction balls (F41) contain granular activated carbon, and a material outlet is disposed at the bottom of each of the reactors (F34).

18. The kitchen garbage all-around comprehensive treatment system according to claim 17, characterized in that, the total volume of the granular activated carbon accounts for 15%-98% of the volume of a spherical cavity of the granular activated carbon reaction balls (F41).

19. The kitchen garbage all-around comprehensive treatment system according to claim 17, characterized in that, an automatic exhaust valve (F38) is disposed at the top of each of the reactors (F34), and the automatic exhaust valve (F38) is connected with an ozone destroyer (F39).

20. The kitchen garbage all-around comprehensive treatment system according to claim 17 or 18 or 19, characterized in that, a semicircular head (F35) is disposed at the bottom of each of the reactors (F34), and the material outlet is disposed on the semicircular head (F35).

21. The kitchen garbage all-around comprehensive treatment system according to claim 17 or 18 or 19, characterized in that, the most front-end reactor (F34) in the reactors

(F34) is provided thereon with an inclined helical ribbon conveyor (F36), and a rear-end reactor (F34) is provided thereon with a water level adjustment pipeline.

22. The kitchen garbage all-around comprehensive treatment system according to claim 17 or 18 or 19, characterized in that, the material outlet is connected with a solid-liquid separator.

23. The kitchen garbage all-around comprehensive treatment system according to claim 22, characterized in that, the solid-liquid separator comprises a housing (F45) and a tilted reticular barrel (F52), the tilted reticular barrel (F52) is disposed in the housing (F45), the motor coordinates with the transmission to drive the tilted reticular barrel (F52) to rotate, the front end of the tilted reticular barrel (F52) is provided with more than one row of meshes, and the tilted reticular barrel (F52) is internally provided with a helical ribbon connected to an inner wall of the reticular barrel, and a water butt (F47) is disposed at the bottom of the housing (F45).

24. The kitchen garbage all-around comprehensive treatment system according to claim 23, characterized in that, the helical ribbon accounts for the overall length of the tilted reticular barrel (F52).

25. The kitchen garbage all-around comprehensive treatment system according to claim 23, characterized in that, the housing (F45) is provided thereon with a window (F46).

26. The kitchen garbage all-around comprehensive treatment system according to claim 17 or 18 or 19, characterized in that, side faces of the reactors (F34) are provided with manholes.

27. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the vertical dehydration apparatus comprises a housing (G49), a vertical inleakage tower (G50) and a helical ribbon push rod (G51), the vertical inleakage tower (G50) is disposed inside the housing (G49), the helical ribbon push rod (G51) is disposed inside the vertical inleakage tower (G50), side faces of the vertical inleakage tower (G50) are opened with more than one leakage hole (G58), a feeding port (G62) is disposed at the bottom of the vertical inleakage tower (G50), a discharge port (G60) is disposed at the top of the vertical inleakage tower (G50), the bottom of the housing (G49) is installed with a power source that drives the helical ribbon push rod (G51) to rotate, inside the housing (G49), corresponding to four sides of the bottom of the vertical inleakage

tower (G50), are water catchers (G55), and the water catchers (G55) are connected with water outlets (G63).

28. The kitchen garbage all-around comprehensive treatment system according to claim 27, characterized in that, more than one water pipe (G65) is disposed inside the housing (G49) and around the vertical inleakage tower (G50), and each water pipe (G65) is connected with more than one high-pressure water recoil nozzle (G53).

29. The kitchen garbage all-around comprehensive treatment system according to claim 27 or 28, characterized in that, the top of the vertical inleakage tower (G50) is installed with an axis-retaining plate (G61) of the helical ribbon push rod (G51).

30. The kitchen garbage all-around comprehensive treatment system according to claim 29, characterized in that, a helical ribbon tail end on the helical ribbon push rod (G51) is installed with a seal plate that adjusts a discharging speed.

31. The kitchen garbage all-around comprehensive treatment system according to claim 27 or 28, characterized in that, spacing of helical ribbons on the helical ribbon push rod (G51) is gradually narrowed from a lower portion to the tower top.

32. The kitchen garbage all-around comprehensive treatment system according to claim 31, characterized in that, spacing of helical ribbon lower ends on the helical ribbon push rod (G51) is 25 CM, and terminal spacing is 10 CM.

33. The kitchen garbage all-around comprehensive treatment system according to claim 27 or 28, characterized in that, the power source comprises a motor (G54), a transmission (G64) and a steering transform apparatus (G66) that turns horizontal axial rotation into vertical axial rotation, the motor (G54) drives the transmission (G64) to rotate, the transmission (G64) drives the steering transform apparatus (G66) to rotate, and the steering transform apparatus (G66) drives the helical ribbon push rod (G51) to rotate.

34. The kitchen garbage all-around comprehensive treatment system according to claim 27 or 28, characterized in that, the housing (G49) is internally provided with a stainless steel support sleeve (G56).

35. The kitchen garbage all-around comprehensive treatment system according to claim 27 or 28, characterized in that, around an outer side of the vertical inleakage tower (G49) is more than one stainless steel vertical plate (G56), around the stainless steel vertical

plates (G56) is more than one reinforced trap, and each reinforced trap is provided thereon with an inclined anti-recoil diversion eave.

36. The kitchen garbage all-around comprehensive treatment system according to claim 27 or 28, characterized in that, the vertical inleakage tower (G49) is composed of more than one towers, upper and lower circumferential positions of each tower are provided with reinforced flanges, connections between adjacent towers are abutting joints between upper and lower flanges of the towers, which are fixed with bolts, and an upper flange in a position where flanges of each tower are connected is provided with an inclined anti-recoil diversion eave.

37. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the biochemical fermentation apparatus comprises an anaerobic fermentation pool (I65) and a primary fermentation apparatus (I70), the primary fermentation apparatus (I70) comprises two secondary fermenters (I71) and more than one primary fermenter, the two secondary fermenters (I71) are disposed above the primary fermenters, feeding ports (I84) are disposed where the secondary fermenters (I71) are connected with the primary fermenters, the primary fermentation apparatus is externally provided with a material hoist (I64) for inputting a material into the secondary fermenters (I71), the secondary fermenters (I71) are internally provided with stirring devices (I73), the primary fermenters are internally provided with double-layered helical ribbon stirrers (I78), the anaerobic fermentation pool (I65) is connected with the primary fermenters, and the anaerobic fermentation pool (I65) throws the material into the primary fermenters through an automatic unloading system (I67).

38. The kitchen garbage all-around comprehensive treatment system according to claim 37, characterized in that, the double-layered helical ribbon stirrers (I78) each comprise a shaft body, an internal helical ribbon and an external helical ribbon, the internal helical ribbon is disposed inside the external helical ribbon, the internal helical ribbon and the external helical ribbon are helical strips and respectively fixedly installed on the shaft body, spiral directions of the internal helical ribbon and the external helical ribbon are opposite, and a share vane (I79) is added around the shaft body of each of the double-layered helical ribbon stirrers (I78).

39. The kitchen garbage all-around comprehensive treatment system according to claim 37 or 38, characterized in that, in the middle of each of the stirring devices (I73) is a spindle, and more than one stirring vane is fixedly installed on a central shaft.

40. The kitchen garbage all-around comprehensive treatment system according to claim 37 or 38, characterized in that, an upper side in the anaerobic fermentation pool (I65) is provided with a material stirrer (I68) that can move automatically.

41. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the automatic unloading multi-stage drying apparatus comprises a pre-drying device (J93) and a main drying device, the pre-drying device (J93) is installed above the main drying device, a housing of the pre-drying device (J93) is two-sided, a sandwiched housing cavity (J97) of the pre-drying device is formed between two sides, the pre-drying device (J93) is internally provided with a material automatic flap (J94), in the middle of the main drying device is a horizontal cylinder body (J102) capable of rotating counterclockwise and clockwise at 360 degrees, front and rear ends of the main drying device are respectively fixed heads (J101), the horizontal cylinder body (J102) is internally provided with more than one secondary barrel fixedly installed together with the horizontal cylinder body (J102), inside the horizontal cylinder body (J102) and the respective secondary barrels are material-guiding helical ribbons, the main drying device is provided thereon with a gas or liquid fuel combustion chamber (J99) and a burner (J100), heat produced by the burner (J100) is introduced into the main drying device, tail gas of the main drying device is input into the sandwiched housing cavity (J97) through a hot air outlet (J107), and a material output port of the pre-drying device (J93) is disposed corresponding to the innermost secondary barrel of the main drying device.

42. The kitchen garbage all-around comprehensive treatment system according to claim 41, characterized in that, the bottom of the pre-drying device (J93) is provided with a helical ribbon auger automatic discharging device (J95), and the helical ribbon auger automatic discharging device (J95) is tubular and internally provided with a helical ribbon auger.

43. The kitchen garbage all-around comprehensive treatment system according to claim 41, characterized in that, the top of the pre-drying device (J93) is provided with an air-inducing device (J98).

44. The kitchen garbage all-around comprehensive treatment system according to claim 41 or 42 or 43, characterized in that, the respective secondary barrels are nested together, and material inlets of external secondary barrels are longer than material outlets of internal secondary barrels.

45. The kitchen garbage all-around comprehensive treatment system according to claim 41 or 42 or 43, characterized in that, outer sidewalls of the respective secondary barrels are fixedly installed with airflow disturbance wings (J103).

46. The kitchen garbage all-around comprehensive treatment system according to claim 41 or 42 or 43, characterized in that, the material-guiding helical ribbons inside the horizontal cylinder body (J102) and the respective secondary barrels are in opposite directions.

47. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the material selection apparatus comprises a base (K108), a metal rolling sieve tube (K110), a material loader (K113), an automatic conveying tool (K114), a chain conveyor (K115) and a bypass damper (K116), the metal rolling sieve tube (K110) is installed on the base (K108), the material loader (K113) is disposed below the metal rolling sieve tube (K110), the automatic conveying tool (K114) is disposed below the material loader (K113), the front end of the metal rolling sieve tube (K110) is provided with screen holes, the rear end is provided with a helical ribbon, the chain conveyor (K115) is disposed below a discharge port of the metal rolling sieve tube (K110), and the bypass damper (K116) is disposed at the tail end of the chain conveyor (K115).

48. The kitchen garbage all-around comprehensive treatment system according to claim 47, characterized in that, the screen holes each have a diameter of 4 mm to 6 mm, and the screen holes are at a distance of 2 mm.

49. The kitchen garbage all-around comprehensive treatment system according to claim 47, characterized in that, the metal rolling sieve tube (K110) is disposed obliquely, and an oblique angle is 1 degree to 20 degrees.

50. The kitchen garbage all-around comprehensive treatment system according to claim 47 or 48 or 49, characterized in that, the bypass damper (K116) is provided with an adjustment apparatus for adjusting the height between the bypass damper (K116) and the chain conveyor (K115), and one side of the bypass damper is provided with a pneumatic switch device.

51. The kitchen garbage all-around comprehensive treatment system according to claim 47 or 48 or 49, characterized in that, an outer side of the metal rolling sieve tube (K110) is installed with a protection cover (K109).

52. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the kitchen garbage joint screening apparatus is provided with a plastic solid output end, and the plastic solid output end of the kitchen garbage joint screening apparatus is connected with a waste plastic reverse engineering apparatus.

53. The kitchen garbage all-around comprehensive treatment system according to claim 52, characterized in that, the waste plastic reverse engineering apparatus mainly comprises a main-body treatment apparatus, the main-body treatment apparatus conveys a material into an air-pressure type automatic feeder (M123) through a conveyor belt (M122), the material is conveyed into a cracking catalytic horizontal reaction kettle (M124) through the air-pressure type automatic feeder (M123), the reaction kettle (M124) can rotate clockwise and counterclockwise at 360 degrees, the reaction kettle (M124) internally has an automatic random scrapping apparatus (M125), the reaction kettle (M124) is connected with a back-stage vacuum system (M130), the reaction kettle (M124) is connected with an oil-wax separator (M129) through a pipeline, the pipeline is provided thereon with a check valve (M128), the oil-wax separator (M129) is connected with a first-stage heavy oil separator (M131) through the pipeline, the first-stage heavy oil separator (M131) is connected with a first-stage condenser (M132) through the pipeline, the bottom of the first-stage condenser (M132) is connected with an oil container (M133), the rear end of the first-stage condenser (M132) is connected with a negative pressure device (M134), the rear end of the negative pressure device (M134) is connected with a vertical water-sealed gas safety conveyor (M135), the rear end of the vertical water-sealed gas safety conveyor (M135) is connected with a secondary gas compressor (M136), and the secondary gas compressor (M136) is connected with a gas repository (M137).

54. The kitchen garbage all-around comprehensive treatment system according to claim 53, characterized in that, the bottom of the reaction kettle (M124) is provided with a cracking furnace (M126), and an outlet pipeline of the cracking furnace (M126) is connected with a tail gas environmental-protection equipment system (M127).

55. The kitchen garbage all-around comprehensive treatment system according to claim 53, characterized in that, the oil container (M133) is connected with a decarbonizing pure floating device (M139) and a dewaxing and degumming device (M140).

56. The kitchen garbage all-around comprehensive treatment system according to claim 52, characterized in that, the system further comprises a coarse carbon black treatment apparatus, and the coarse carbon black treatment apparatus is connected at a residue outlet of the waste plastic reverse engineering apparatus.

57. The kitchen garbage all-around comprehensive treatment system according to claim 56, characterized in that, the coarse carbon black treatment apparatus comprises a coarse carbon black artificial aging processor (N144), the coarse carbon black artificial aging processor (N144) is connected with a physical aging bed (N145), the physical aging bed (N145) is connected with a material matching device (N146) through an automatic conveying tool, the material matching device (N146) is connected with a liquid-solid automatic quantitative charging device (N147), the rear end of the material matching device (N146) is provided with a multi-layered push-pull type screw rod (N148), and the rear end of the multi-layered push-pull type screw rod (N148) is connected with a low-sulfur high-energy environmentally friendly cleaning coal forming machine (N149).

58. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the system further comprises a distillation-free biodiesel production apparatus, the respective apparatuses first carry out oil-water separation on an oil, water and solid mixture through a pipeline, and then the mixture after oil-water separation is sent into the distillation-free biodiesel production apparatus.

59. The kitchen garbage all-around comprehensive treatment system according to claim 58, characterized in that, the distillation-free biodiesel production system comprises a horizontal helical ribbon solid-liquid separation device (O151), an oil-water separating column (O152), an oil storage container (O149), a grease colloid removal device (O158), a bio-oil normal-temperature grease exchange device (O161), a liquid separation device (O172) and a filtering device (O173), an outlet of the horizontal helical ribbon solid-liquid separation device (O151) is connected to a middle-lower end of the oil-water separating column (O152) through a pipeline, the oil-water separating column (O152) is internally provided with a heating pipeline (O153), the heating pipeline (O153) extends to the interior of the oil-water separating column (O152) from a lower portion of the oil-water separating

column (O152) and then is output to an outer side of the oil-water separating column (O152) from a middle-upper portion of the oil-water separating column (O152), the top of the oil-water separating column (O152) is provided with an oil wiper (O155), the oil-water separating column (O152) is connected with the oil storage container (O149) through an oil outlet pipeline (O156), an inlet of the oil outlet pipeline (O156) is disposed corresponding to the oil wiper (O155), the oil storage container (O149) is in communication with the grease colloid removal device (O158) through a pipeline, a hole impact plate (O159) is fixedly disposed inside the grease colloid removal device (O158), corresponding positions on two sides of the impact plate (O159) are respectively installed with a propeller-type hydraulic pusher (O160), propeller blades of the propeller-type hydraulic pusher (O160) are disposed in the grease colloid removal device (O158), the motor is disposed on an outer side of the grease colloid removal device (O158), the motor drives the propeller blades to rotate, a lower portion of the grease colloid removal device (O158) is provided with a grease outlet, the grease outlet is communicated into the bio-oil normal-temperature grease exchange device (O161) through a pipeline, the bio-oil normal-temperature grease exchange device (O161) is internally provided with more than one ultrasonic generator (O162), the top of the bio-oil normal-temperature grease exchange device (O161) is opened with a feeding port (O169), the bottom of the bio-oil normal-temperature grease exchange device (O161) is communicated to the liquid separation device (O172) through a pipeline, the bottom of the liquid separation device (O172) is connected to the filtering device (O173) through an oil pipeline, and the filtering device (O173) outputs biodiesel.

60. The kitchen garbage all-around comprehensive treatment system according to claim 59, characterized in that, the horizontal helical ribbon solid-liquid separation device (O151) comprises a horizontal cylinder housing, the housing is internally provided with a strainer, a conveying helical ribbon is fixedly disposed inside the strainer, the helical ribbon drives the motor to coordinate with the transmission to drive the strainer and the helical ribbon to rotate, and the bottom of the horizontal helical ribbon solid-liquid separation device (O151) is provided with an oil-water mixture output pipeline.

61. The kitchen garbage all-around comprehensive treatment system according to claim 59, characterized in that, the top of the oil-water separating column (O152) is provided with an infrared water liquid-level locator (O154).

62. The kitchen garbage all-around comprehensive treatment system according to claim 59, characterized in that, the periphery of the ultrasonic generator (O162) is provided with a casing (O163), internal thread jet holes (O164) are opened around the casing (O163), a locking device (O165) is fixedly disposed above the casing (O163), and the ultrasonic generator (O162) is installed inside the bio-oil normal-temperature grease exchange device (O161) through the locking device (O165).

63. The kitchen garbage all-around comprehensive treatment system according to claim 61, characterized in that, the bio-oil normal-temperature grease exchange device (O161) contains a liquid diversion pipe (O166), one end of the liquid diversion pipe (O166) is connected to an upper portion of the bio-oil normal-temperature grease exchange device (O161), the other end is connected to the bottom of the bio-oil normal-temperature grease exchange device (O161), and the liquid diversion pipe (O166) is connected with a pump (O167).

64. The kitchen garbage all-around comprehensive treatment system according to claim 59, characterized in that, the bottom of the bio-oil normal-temperature grease exchange device (O161) is provided with an air-blowing pipe (O171), and one end of the air-blowing pipe (O171) is connected with a compressed air engine.

65. The kitchen garbage all-around comprehensive treatment system according to claim 59, characterized in that, the system further comprises a grease colloid removal device, and bio-oil is input from the oil storage container to the grease colloid removal device by a special oil pump and then enters into the grease exchange device.

66. The kitchen garbage all-around comprehensive treatment system according to claim 65, characterized in that, the system further comprises an emulsified biodiesel manufacturing apparatus, and the bio-oil from a grease exchange process is output to the emulsified biodiesel manufacturing apparatus.

67. The kitchen garbage all-around comprehensive treatment system according to claim 66, characterized in that, the emulsified biodiesel manufacturing apparatus comprises a shell (P174), the shell (P174) contains a vertical stirrer (P175), a power source drives the vertical stirrer (P175) to rotate, a central shaft of the vertical stirrer (P175) is provided thereon with more than one paddle-type flat stirring impeller (P178) or paddle-type blade impeller, a lower portion of the central shaft of the vertical stirrer (P175) is installed with a turbine or disc curved blade (P179), an upper portion in the shell (P174) is provided with

an oxygen-enriched water atomization nozzle (P185), the top of the shell (P174) is provided with more than one feeding port (P181), each feeding port (P181) is connected with a quantitative charging device (P182) through a pipeline, one side of a middle-upper portion of the shell (P174) is provided with an oil feeding port (P192) which is connected to the oil pump through a pipeline, the upper portion of the shell (P174) is provided with an intake pipeline (P186) and is connected with a high-pressure pump (P187), a water source of the intake pipeline (P186) is provided by an oxygen-enriched water storage tank (P191), oxygen-enriched water outputs O_3 gas by an ozone generator (P188) and, after entering into a strong gas-water mixer through a gas delivery pipeline and entering into water through a pipeline (P190) for mixing, enters into the oxygen-enriched water storage tank (P191), and a lower portion of the shell (P174) is provided with a finished-product discharge port (P184).

68. The kitchen garbage all-around comprehensive treatment system according to claim 67, characterized in that, the upper portion of the shell (P174) is cylindrical, and the lower portion is semicircular.

69. The kitchen garbage all-around comprehensive treatment system according to claim 68, characterized in that, more than one liquid diversion plate is installed around cylindrical inner walls of the shell (P174).

70. The kitchen garbage all-around comprehensive treatment system according to claim 68, characterized in that, the bottom of the shell (P174) is installed with a support bracket (P180) for supporting a rotation shaft of the vertical stirrer (P175).

71. The kitchen garbage all-around comprehensive treatment system according to any one of claims 67 to 70, characterized in that, the power source comprises a motor (P176) and a variable speed device (P177), the variable speed device (P177) is installed to the top of the shell (P174), the motor (P176) is disposed above the variable speed device (P177), and the motor (P176) drives the vertical stirrer (P175) to rotate through the variable speed device (P177).

72. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the system further comprises a rapid sewage recycling apparatus, and sewage produced by the apparatuses is connected to the rapid sewage recycling apparatus through pipelines.

73. The kitchen garbage all-around comprehensive treatment system according to claim 72, characterized in that, the rapid sewage recycling apparatus comprises a sewage filtering basin (Q185), the sewage filtering basin (Q185) is internally provided with a sundries barrier (Q186), the sundries barrier (Q186) is internally provided with an anti-fouling recoil device (Q187), the sewage filtering basin (Q185) is connected with a scorching blanket sewage treatment device (Q188) through an intake pipeline, the scorching blanket sewage treatment device (Q188) comprises an inner cavity (Q189) and an enclosure (Q190), the top of the enclosure (Q190) is provided with a plurality of atomizing ejection heads (Q192) in communication with an intake pipe, below the atomizing ejection heads (Q192) is a scorching blanket (Q193), the scorching blanket (Q193) is internally provided with a heat-conducting oil pipeline (Q195), the bottom below the scorching blanket (Q193) is provided with a micro solid precipitation zone (Q196), the bottom of the micro solid precipitation zone (Q196) is provided with a sewage outlet (Q197), above the sewage outlet (Q197) is an anti-fouling recoil damper (Q198), below the scorching blanket (Q193) is a high-temperature-resistant cushion layer (Q199) for supporting the scorching blanket (Q193), the top of the enclosure (Q190) is opened with an automatic suction and discharge valve (Q200), the enclosure (Q190) is opened with a hot steam collecting port (Q201) above the scorching blanket (Q193), the hot steam collecting port (Q201) is connected with a heat exchanger (Q202) through a pipeline, the rear end of the heat exchanger (Q202) is connected with a collecting basin (Q203), the collecting basin (Q203) is connected with an advanced oxidation system (Q204) through a pipe section, the advanced oxidation system (Q204) has two cavities, i.e., inner and outer cavities, the inner cavity is a gas-water reaction chamber (Q205), the outer cavity is a gas-water circular reaction cushion chamber (Q206), an end portion of an inlet pipe at a water inlet of the inner cavity is provided with an activated carbon reaction ball (Q209), the activated carbon reaction ball (Q209) contains granular activated carbon, the bottom of the inner cavity is provided with a sewage outlet (Q212), the sewage outlet (Q212) is connected with a sewage outlet (Q213) of the housing, the sewage outlet (Q212) of the inner cavity is further installed with an anti-recoil damper (Q214), an advanced oxidation reactor is connected with a gas-water mixer (Q215) through a circulating pipeline, the gas-water mixer (Q215) is tee joint, two ends are in communication with circulating water, a port in the middle is connected with a waterproof check valve (Q216), the other interface of the waterproof check valve (Q216) is in communication with a gas pipeline of an ozone generator, the advanced oxidation system (Q204) is connected with a transit pool (Q218),

the transit pool (Q218) is connected with an activated carbon filter fixed bed (Q219), the activated carbon filter fixed bed (Q219) is connected with a composite filtering device (Q220), the composite filtering device (Q220) comprises more than one filtering tank (Q221), the filtering tanks (Q221) each are provided with more than one vertical filter column (Q222), a water outlet hole is opened at a position half the length of each vertical filter column (Q222), the bottom of each of the vertical filter columns (Q222) is provided with a strainer with 80-140 meshes, the top of each of the filtering tanks (Q221) has a water inlet (Q223) and a pressurized pipe (Q224), the tank body of each of the filtering tanks (Q221) is divided into two layers, the tank in each layer is provided with a filter column carrier (Q226), orifices matching the diameter of the filter columns (Q222) are opened on the filter column carrier (Q226), the filter columns (Q222) are inserted into the filter column carrier (Q226), one side of an upper portion of the upper tank body is installed with an inffluent diversion pipeline (Q228), the inffluent diversion pipeline (Q228) leads to an upper portion of the lower tank body, one side of a lower portion of the upper tank body is installed with an effluent diversion pipeline (Q229), the effluent diversion pipeline (Q229) leads to a lower portion of the lower tank body, one side of the upper and lower layers of the tank body is respectively installed with an exhaust port (Q230), water outlets of the filtering tanks (Q221) are disposed on one side (Q233) of a bottom head of the composite filtering device (Q220), and a central position of the bottom head is provided with a precipitate discharge port (Q234).

74. The kitchen garbage all-around comprehensive treatment system according to claim 73, characterized in that, a surface of the scorching blanket (Q193) is provided with a plurality of running water shallow grooves (Q194).

75. The kitchen garbage all-around comprehensive treatment system according to claim 73, characterized in that, the top of the inner cavity is installed with an automatic exhaust valve (Q207) and a liquid level control online monitor (Q208) for monitoring a liquid level.

76. The kitchen garbage all-around comprehensive treatment system according to claim 75, characterized in that, an upper portion of the activated carbon reaction ball (Q209) is impermeable, and a lower portion is a reticular water outlet (Q210).

77. The kitchen garbage all-around comprehensive treatment system according to claim 73, characterized in that, the volume of the granular activated carbon in the activated

carbon reaction ball (Q209) accounts for 15%-95% of the volume of the inner cavity of the reaction ball.

78. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the system further comprises a hybrid charged adsorbent production apparatus for treating remaining solid sludge, and sludge produced by various sections is input to the hybrid charged adsorbent production apparatus.

79. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the system further comprises a tail gas environmental-protection treatment apparatus carrying out centralized treatment on flue gas, hot flue gas, dust and the like produced in various processes.

80. The kitchen garbage all-around comprehensive treatment system according to claim 79, characterized in that, the tail gas environmental-protection treatment apparatus comprises a tail gas buffer device, a water-solid separator (S257), a twin-tower rotary spray system (S259) and a flue gas emission device (S264), an air buffer (S247) and a primary flue gas treatment pipeline (S253), tail gas is introduced into the air buffer (S247), input into the primary flue gas treatment pipeline (S253) through the air buffer (S247) and discharged into the water-solid separator (S257) through the primary flue gas treatment pipeline (S253), the outlet of the water-solid separator (S257) leads into the twin-tower rotary spray system (S259), and the tail gas is input into the flue gas emission device (S264) after being treated by the twin-tower rotary spray system (S259) and then is discharged after being treated by the flue gas emission device (S264).

81. The kitchen garbage all-around comprehensive treatment system according to claim 80, characterized in that, the air buffer (S247) comprises a cylindrical housing, an upper side in the housing is provided with more than one water curtain jet (S272), and the bottom of the housing is provided with a sewage outlet (S249).

82. The kitchen garbage all-around comprehensive treatment system according to claim 80, characterized in that, more than one tail gas inlet is opened around a housing of the tail gas buffer device (S253).

83. The kitchen garbage all-around comprehensive treatment system according to claim 81, characterized in that, the tail gas buffer device further comprises a water storage tank, and the sewage outlet (S249) is connected to the water storage tank through a pipe section.

84. The kitchen garbage all-around comprehensive treatment system according to claim 83, characterized in that, pipe sections of the circulating water are connected to an upper portion of the water storage tank through a water valve (S250), and middle and lower portions of the water storage tank are connected to a water curtain sprinkler in the air buffer (S247) through pumps and pipe sections.

85. The kitchen garbage all-around comprehensive treatment system according to claim 81 or 82 or 83 or 84, characterized in that, an upper side inside the air buffer (S247) is further installed with an online liquid level monitor (S251) for detecting a liquid level inside the air buffer (S247).

86. The kitchen garbage all-around comprehensive treatment system according to claim 80 or 81 or 82 or 83 or 84, characterized in that, the primary flue gas treatment pipeline (S253) is internally provided with more than one negative ion charged ceramic (S254), the ceramics can release negative ions naturally without power supply, and a rear end of each negative ion charged ceramic (S254) is correspondingly installed with a high-speed spray nozzle (S255).

87. The kitchen garbage all-around comprehensive treatment system according to claim 86, characterized in that, a rear end of each high-speed spray nozzle (S255) is installed with a diversion plate (S256).

88. The kitchen garbage all-around comprehensive treatment system according to claim 87, characterized in that, the diversion plate (S256) is an obtuse diversion plate.

89. The kitchen garbage all-around comprehensive treatment system according to claim 86, characterized in that, the anion charged ceramics (S254) are installed on left, right and upper surfaces in the primary flue gas treatment pipeline (S253).

90. The kitchen garbage all-around comprehensive treatment system according to claim 80 or 81 or 82 or 83 or 84, characterized in that, the tail gas treatment system further comprises a cooling tower (S269), and the cooling tower (S269) cools hot water in the heat exchanger (S266) in the flue gas emission device (S264).

91. The kitchen garbage all-around comprehensive treatment system according to claim 1, characterized in that, the system further comprises a plasma photocatalytic negative ion air deodorization and sterilization apparatus that treats air thought to be male ends and air in production areas, and air inlets of the plasma photocatalytic negative ion air

deodorization and sterilization apparatus are installed around various kitchen garbage collection pools.

92. The kitchen garbage all-around comprehensive treatment system according to claim 91, characterized in that, the plasma photocatalytic negative ion air deodorization and sterilization apparatus comprises an air delivery pipeline (T272), a photocatalytic main processor (T274) and an activated carbon air filter (T281), gas is input into the air delivery pipeline (T272), the air delivery pipeline (T272) is internally provided with an anion apparatus, the gas is input into the photocatalytic main processor (T274) through the air delivery pipeline (T272), the photocatalytic main processor (T274) is internally provided with an air channel, the air channel is internally installed with more than one ultraviolet light pipe (T276) whose emission wavelength is 253 nm to 258 nm, rear ends of the ultraviolet light pipes (T276) are fixedly installed with titanium dioxide photocatalytic touch plates (T278), the tail end of the air channel is in communication with the activated carbon air filter (T281), and the gas is output through the activated carbon air filter (T281).

93. The kitchen garbage all-around comprehensive treatment system according to claim 92, characterized in that, an air discharge pipeline (T279) is connected between the photocatalytic main processor (T274) and the activated carbon air filter (T281), the air discharge pipeline (T279) is internally provided with an anion apparatus, the tail end of the air channel is in communication with the air discharge pipeline (T279), and the air discharge pipeline (T279) is in communication with the activated carbon air filter (T281).

94. The kitchen garbage all-around comprehensive treatment system according to claim 92, characterized in that, the anion apparatus is an anion corrugated plate (T273), and the anion corrugated plate (T273) is installed in a stacked manner.

95. The kitchen garbage all-around comprehensive treatment system according to claim 94, characterized in that, the anion corrugated plate (T273) is provided with two sections, the front section is installed horizontally, and the rear section is installed vertically.

96. The kitchen garbage all-around comprehensive treatment system according to any one of claims 92 to 95, characterized in that, a front end of the air delivery pipeline (T272) is provided with an air inlet (T270), and a rear end of the air inlet (T270) is installed with an automatic slide gate valve (T271).

97. The kitchen garbage all-around comprehensive treatment system according to any one of claims 92 to 95, characterized in that, back sides of the ultraviolet light pipes (T276) are all provided with smooth reflect plates (T277).

98. The kitchen garbage all-around comprehensive treatment system according to any one of claims 92 to 95, characterized in that, the air channel in the photocatalytic main processor (T274) is Z-shaped, and a plasma generator is disposed in a corner position of the Z-shaped air channel.

99. The kitchen garbage all-around comprehensive treatment system according to any one of claims 92 to 95, characterized in that, sizes and shapes of the titanium dioxide photocatalytic touch plates (T278) match a cross section of the air channel, which can be just blocked in the air channel.

100. The kitchen garbage all-around comprehensive treatment system according to any one of claims 92 to 95, characterized in that, the titanium dioxide photocatalytic touch plates (T278) are honeycomb-like.

101. The kitchen garbage all-around comprehensive treatment system according to claim 100, characterized in that, the titanium dioxide photocatalytic touch plates (T278) have a thickness of 1 cm to 10 cm, and are opened with more than one holes.

102. A method for manufacturing conversion products by using the kitchen garbage all-around comprehensive treatment system according to any one of claims 1 to 101, characterized in that, the method comprises:

A. collecting kitchen garbage, and throwing the kitchen garbage into the kitchen garbage bag-breaking apparatus for bag-breaking treatment;

B. jointly screening the kitchen garbage after bag-breaking treatment through the kitchen garbage joint screening apparatus, to separate solid plastics and others therefrom;

C. carrying out inactivation treatment on other kitchen garbage from which the solid plastics have been removed through the wet advanced oxidation, deodorization, inactivation, cleaning and salt-reduction apparatus;

D. carrying out dehydration treatment on the inactivated garbage through the vertical dehydration apparatus; and

E. crushing a dehydrated material through the material crusher.

103. The method according to claim 102, characterized in that, the crushed material in step E is biochemically treated by a biochemical treatment apparatus and then dried by an automatic unloading multi-stage drying apparatus, to form mixed feeds after multi-stage drying and material selection.

104. The method according to claim 103, characterized in that, the biochemical treatment comprises:

A. generating a prefermented material under the simultaneous action of an anaerobic fermentation pool (I65) and two secondary fermenters (I71);

B. after completion of a prefermentation section, feeding the material in the two secondary fermenters (I71) into a primary fermenter through an automatic delivery device (I74) disposed at the bottom of the secondary fermenters (I71), and also feeding the material in the anaerobic fermentation pool (I65) into the primary fermenter through an automatic unloading system (I67), to carry out secondary fermentation; and

C. after completion of the secondary fermentation, discharging the material.

105. The method according to claim 104, characterized in that, when the prefermented material is generated in the anaerobic fermentation pool (I65), bean crop straw that accounts for 50%-80% of the total fermentation basic material weight and seasonal straw of gramineae crop that accounts for 20%-50% of the total fermentation basic material weight are crushed into powder whose particle size is 0.5 mm to 1 mm, a composite inoculant that can break down crude fiber is added thereto to biochemically treat the mixed material, the composite inoculant contains not less than two strains, one is Aspergillus oryzae, the input amount of the composite inoculant is 1% of a hybrid solid basic material, and chemical compositions of calcium oxide, sodium chloride, dibasic sodium phosphate and urea are added thereto.

106. The method according to claim 105, characterized in that, when the prefermented material is generated in one of the secondary fermenters (I71), the kitchen garbage artificially inactivated is added to the secondary fermenter (I71) as a basic material, bran that accounts for 1%-2% of the weight of the basic material, rice bran that accounts for 1%-3% of the weight of the basic material and white sugar that accounts for 1% of the weight of the basic material are added thereto to serve as a mixture, an appropriate amount of water is added to make the mixture into a paste, the temperature is controlled in a range between 20ºC and 30ºC, bread yeast that accounts for 2%-4% of the mixture is added to the mixture

and then is fully stirred with the mixture to strengthen aeration, so as to enhance yeast growth, and the fermentation manner may be old leavening.

107. The method according to claim 106, characterized in that, when the prefermented material is generated in one of the secondary fermenters (I71), the kitchen garbage artificially inactivated, cleaned and dehydrated is added to the secondary fermenter (I71) as a basic material for solid-state fermentation, Trichoderma viride, Candida tropicalis, water bacteria and Endomycopsis yeast are selected to form a four-strain mixed inoculant, a weight ratio of the four strain is 2:2:1:1, the inoculation quantity is 2% of the total weight, urea that accounts for 1%-1.5% of the total weight is added at the same time, the temperature is 25ºC-42ºC, a stirring device (I73) rolls the mixture once every hour, and the fermentation time is 9 h to 10 h.

108. The method according to claim 107, characterized in that, during the secondary fermentation, the material on which preliminary biochemical treatment has been carried out is input to the primary fermenter, the straw fermentation material accounts for 10%-40% of the total material weight percentage, the bread yeast fermentation material accounts for 20% of the total material weight percentage, the fermentation material in the second secondary fermenter (I71) accounts for 40%-70% of the total material weight percentage, when the three materials after prefermentation treatment enter into the primary fermenter, the double-layered helical ribbon stirrers (I78) rotates at 360 degrees in a round-trip direction, to slowly stir the materials at a low speed, the temperature in the primary fermenter starts to ramp up from initial 20ºC, an average temperature of the materials in the ramp-up stage is 20ºC-28ºC, an air valve I87 is closed after a holding time of 4 h, the temperature is raised to 35ºC-38ºC at the same time, after a holding time of 3 h, a first-stage air-inducing apparatus I92 is opened, to carry out lightweight ventilation, and after completion of the two holding times, the temperature is raised to 82ºC, the time is 2 h, and a second-stage air-inducing apparatus I92 is opened to carry out strong ventilation.

109. The method according to claim 102, characterized in that, waste plastics produced in step B are reversed into biodiesel through the waste plastic reverse engineering apparatus.

110. The method according to claim 109, characterized in that, the artificial aging processor of residue and coarse carbon black produced by manufacturing of the biodiesel ages the materials by using ozone, the coarse carbon black after chemical aging enters a

physical aging bed, after artificial aging, the coarse carbon black is input to a material matching device through a special automatic conveying tool, each compatible adjuvant is added by a liquid-solid automatic quantitative charging device, the materials are fully mixed and input to a low-sulfur high-energy environmentally friendly cleaning coal forming machine through a multi-layered push-pull type screw rod, and the coarse carbon black is obtained after the materials are formed.

111. The method according to any one of claims 102 to 110, characterized in that, sewage produced in step A to step E, after being treated by a rapid sewage recycling apparatus, is discharged or recycled.

112. The method according to any one of claims 102 to 110, characterized in that, solid sludge produced in step A to step E, after being treated by a hybrid charged adsorbent production apparatus, generates a hybrid charged adsorbent.

113. The method according to any one of claims 102 to 110, characterized in that, flue gas, hot flue gas, dust and pumping-drainage-port air produced in step A to step E are discharged after being treated by an environmental-protection treatment apparatus.

114. The method according to claim 113, characterized in that, the gas after treatment is discharged after being treated by a plasma photocatalytic negative ion air deodorization and sterilization apparatus.

115. The method according to any one of claims 102 to 110, characterized in that, an oil-water mixture produced in step A to step E products biodiesel with a distillation-free biodiesel production method, the method comprising:

(1) carrying out solid removal treatment on an oil, water and solid mixture produced during production of the kitchen garbage through a horizontal helical ribbon solid-liquid separation device (O151), to obtain an oil-water mixture;

(2) conveying the oil-water mixture to an oil-water separating column (O152) for oil-water separation, and inputting separated grease to an oil storage container (O149);

(3) when it is necessary to process biolipid, after the biolipid is sent into a grease colloid removal device (O158) through tools such as a delivery pump, starting an propeller-type hydraulic pusher (O160), adding phosphoric acid, a ratio of the phosphoric acid to the biolipid not exceeding 0.8%-1.2% of the total amount of oil, using propeller thrust on two ends of the grease colloid removal device (O158) to make the liquids inside the grease

colloid removal device (O158) generate face-to-face impact, the impact time being 10 min to 15 min, and after the face-to-face impact of the liquids ends, immediately adding dilute brine, a weight ratio of water to salt in the dilute brine being between 95:5 and 90:10, and a weight ratio of the biolipid to the dilute brine being between 90:10 and 80:20;

(4) continuously starting the propeller-type hydraulic pusher (O160), the time being 10 min to 20 min;

(5) retaining a grease mixture in the grease colloid removal device (O158) for 60 min to 120 min;

(6) inputting the biolipid from which colloid has been removed into a bio-oil normal-temperature grease exchange device (O161);

(7) when a liquid level of the grease input in the bio-oil normal-temperature grease exchange device (O161) reaches a liquid level set in a production process, stopping the inputting, beginning to start an air-blowing pipe (O171) at the bottom of the bio-oil normal-temperature grease exchange device (O161), opening a feeding port (O169), adding a solid catalyst and methanol, dosage of the solid catalyst being 1.5%-3.5% of the mass of the biolipid, and dosage of the methanol being 3%-8% of the mass of the biolipid, and adding a cosolvent after adding the methanol;

(8) continuously stirring for 10 min to 15 min by using a stirrer, and adding a solid metal alkali catalyst, the adding quantity being 3%-4.5% of the mass of the biolipid;

(9) after an adjuvant required is added, closing the feeding port (O169), opening a material circulation delivery pump, and opening an ultrasonic generator (O162), wherein the initial frequency of the ultrasonic generator (O162) is 25 KHZ, the time is 1 min, then the initial frequency gradually increases to 30 KHZ, the time is 30 min to 40 min, and the reaction temperature is 25℃-35℃;

(10) after grease exchange of the grease is completed in the bio-oil normal-temperature grease exchange device (O161), inputting the biolipid mixture to a liquid separation device (O172) for standing and layering, wherein the upper layer is a mixed liquid of methanol and glycerol, and the lower layer is crude biodiesel; and

(11) first disposing and opening the liquid separation device at a lower liquid outlet, conveying the crude biodiesel into a filtering device (O173), obtaining a refined biodiesel after filtering and recycling a solid catalyst.

116. The method according to claim 115, characterized in that, during the oil-water separation, the oil-water mixture in the oil-water separating column (O152) is heated to 60ºC-85ºC, after the biolipid floats up, oil water dissociation is achieved, and the biolipid in the upper layer is scraped by an oil scraper (O155) and is sent into the oil storage container through an oil outlet pipeline (O156).

117. The method according to claim 115, characterized in that, the cosolvent is selected as a mixture of methanol and ethanol in any proportion, the adding quantity of the cosolvent is 0.5%-2% of the mass of the biolipid, and the cosolvent further comprises butanol whose adding quantity is 0.5% of the mass of the biolipid.

118. The method according to claim 115, characterized in that, the solid anionic metal alkali catalyst is characterized by taking reagent activated carbon and nano particles of cyclic-structure silicate minerals of aluminum, sodium, iron and lithium as a core, externally wrapped with silicon, aluminum, and lithium mesh skeleton mediums and having a hybrid charged carrier with polarity, then the carrier is immersed in a KNO_3 liquid, and becomes a hybrid charged solid anionic metal alkali catalyst with polarity and containing 15%-25% of KNO_3.

119. The method according to claim 115, characterized in that, the biodiesel is made into an emulsified biodiesel through a micro-emulsified biodiesel manufacturing apparatus, the method comprising:

(1) inputting crude biodiesel into the micro-emulsified biodiesel manufacturing apparatus, starting a stirring system, adding 30%-80% of National III standard diesel, and then stirring the mixture for 5 min;

(2) adding a hydrophilic agent, whose adding quantity is 2-3% of the total weight of pure biodiesel and the National III standard diesel, to be stirred for 1 min to 15 min;

(3) adding the butanol as an intermediate, whose adding quantity is 2-4% of the total weight of the pure biodiesel and the National III standard diesel, and continuously stirring the mixture directly for 15 min, wherein, during the stirring, a vertical stirrer (P175) stirs the mixture at a rotating speed of 100 r/min-130 r/m;

(4) adding isopentane as a spontaneous combustion temperature regulator, whose adding quantity is 1.5-2% of the total weight of the pure biodiesel; and

(5) adding oxygen-enriched water, wherein the water accounts for 1%-20% of the total weight of the product, stirring the mixture for 15 min, adjusting the rotating speed as 170 r/min-200 r/m, and adding Octadec-cis-9-enoic acid as an emulsifier, wherein the adding quantity of the Octadec-cis-9-enoic acid is 70%-90% of the weight of clean water added, the mixture is continuously stirred by the stirring device until the mixture becomes clear, at this time, the rotating speed of the stirrer is adjusted as 280-340 r/min, the mixture generally needs to be continuously stirred for 40-60 min, and after standing for a certain time, a finished product is obtained after the emulsified oil is observed as clean and transparent without layering.

120. The method according to claim 119, characterized in that, for the hydrophilic agent, a cationic surfactant and non-ionic surfactant associated compound material is selected as a composite surfactant, and the mixing proportion is that the cationic surfactant is 50% and the non-ionic surfactant is 50%.

121. The method according to claim 119, characterized in that, the surfactant is triethanolamine or hexahydroaniline or cetrimonium bromide and ammonia.

122. The method according to claim 119, characterized in that, the adding quantity of the oxygen-enriched water is 10%-20% of the total weight.

123. The method according to claim 119, characterized in that, the acid value of the setting quantity of the Octadec-cis-9-enoic acid is 200.