DESCRIPTION

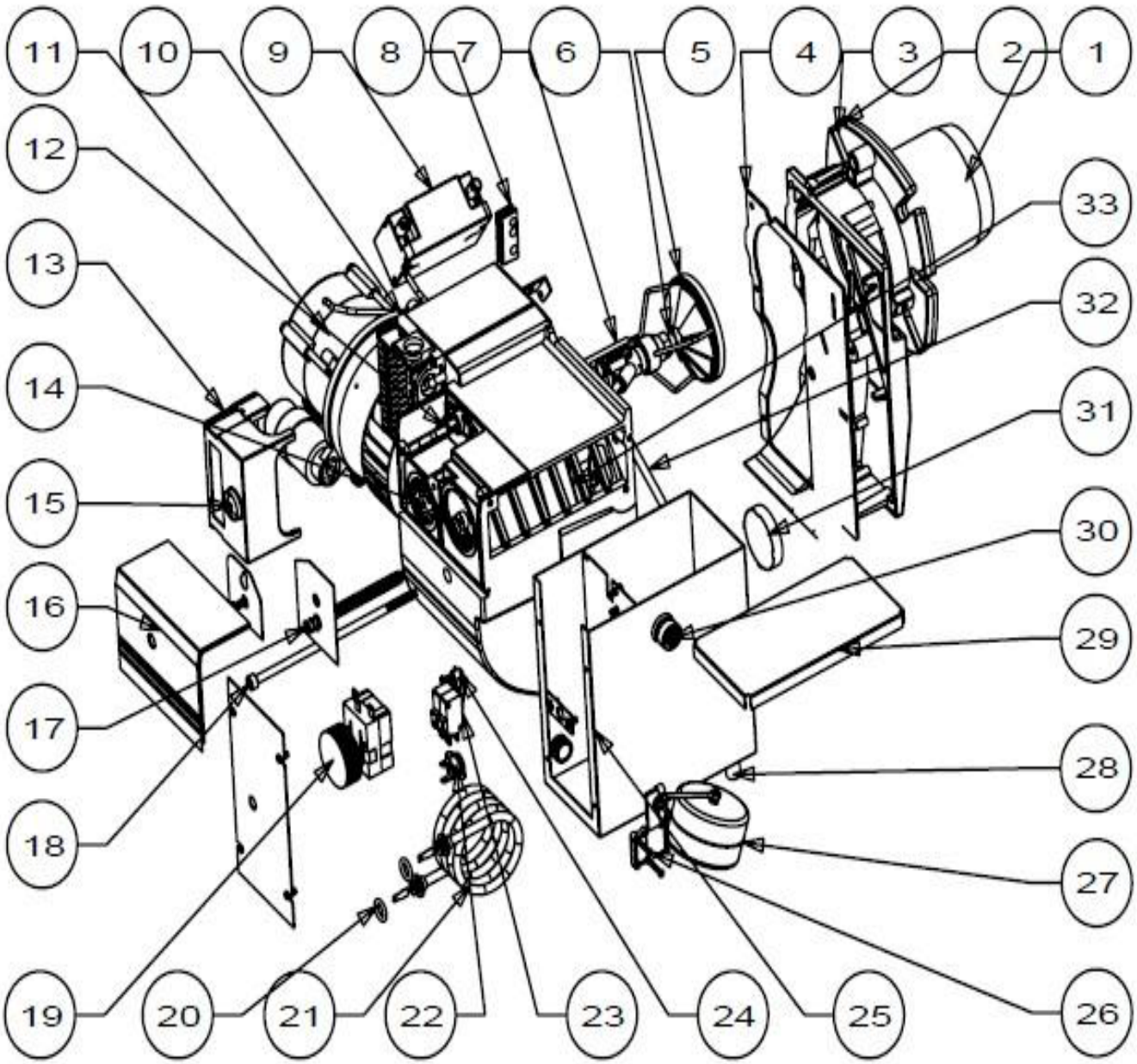


Fig. 1

1.Blast tube 2.Asbestos gasket 3.Flange 4.Body gasket 5. Brake plate 6. Oil n ozzle 7.Heater 8.Rubber block 9. Transformer 10. Controller base 11.Motor 2.Photocell 13. Controller 14. Compressor air 15. Reset button 16.Cover 17. Air regulator 1 8. Body screw 19.Oil temperature 20. Seal gas ket 21. Heating tube 22. Limit s of controller 23. Level switch 24. Level height adjust or 25. Oil tank 26.Level switch base 27. Float bal l 28. Overflow connector 29. Oil tank cover 30. Oil inlet connector 31. Filter 32. Oil pipe 33. Air inlet

BURNER ACCESSORIES

No.	Description	QTY
1	Transfer oil pump	1PC
2	Air controller	1PC
3	Install flange	1PC
4	Asbestos gasket	1PC
5	Outlet-inlet pipe	2PC

No.	Description	QTY
6	Install screw	4
7	Inner six angle spanner	1
8	Nozzle Spanner	1
9	Oil filter	1
10	Oil line connector	4

TECHNICAL DATA

Item no.	Cap . (KW)	Motor	Nozzle Qty	Combustion (KG)	Transfer Motor	Power Supply
STW120 -P	10-50	130W	1	1-4	120W	230V/50Hz
STW120	12-50	90W	1	1-4	120W	230V/50Hz
STW133 -1	40-80	130W	1	3-7	180W	230V/50Hz
STW133 -1P	40-80	180W	1	3-7	180W	230V/50Hz
STW133 -2P	70-115	220W	2	6-10	180W	230V/50Hz
STW133 -2	70-115	130W	2	6-10	180W	230V/50Hz
STW146 -2	70-139	150W	2	6-12	180W	230V/50Hz
STW146 -2P	70-139	250W	2	6-12	180W	230V/50Hz
STW146 -3	115-200	180W	3	10-18	180W	230V/50Hz

OVERALL DIMENSIONS

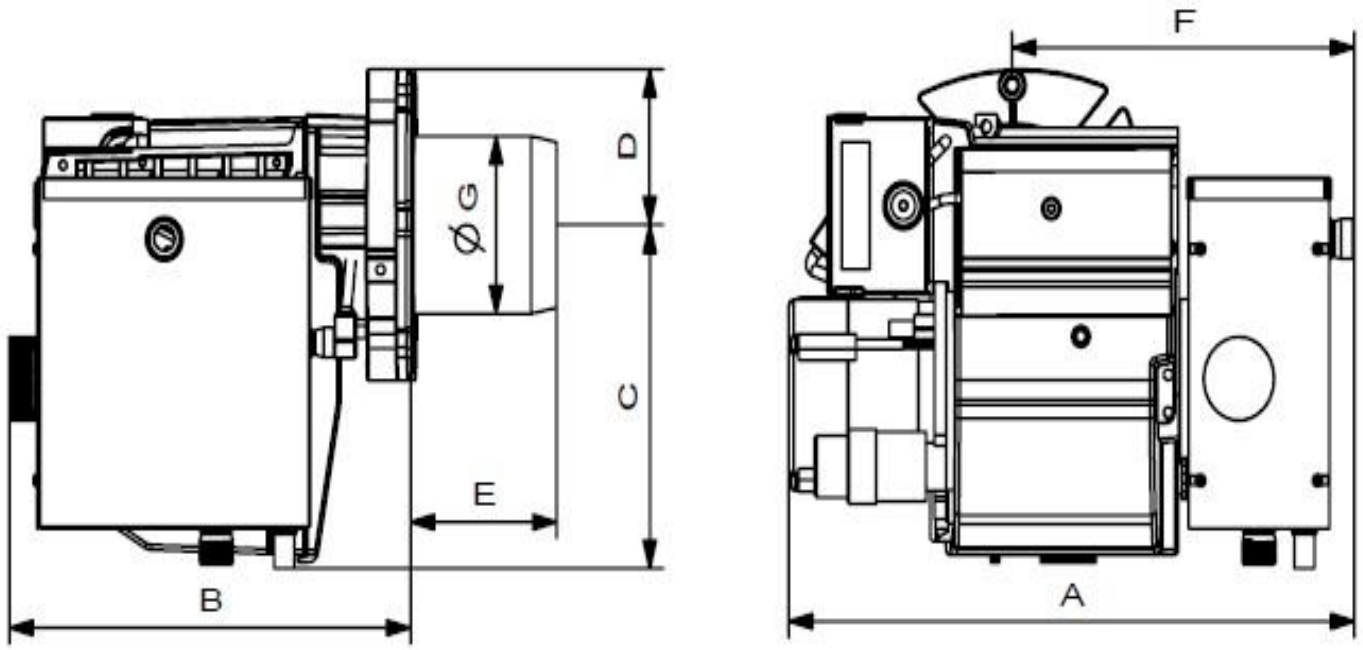
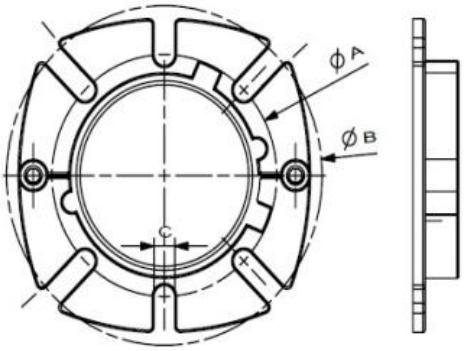


Fig. 2

	A	B	C	D	E	F	G
STW120	338	242	172	78	85	204	89
STW133	370	268	196	95	105	196	95
STW146	380	268	196	95	115	196	114

FLANGE DIMENSIONS



	A	B	C
STW120	120	160	11
STW133	145	170	11
STW146	145	170	11

Fig.3

AIR PUMP STRUCTURE DIAGRAM

WARNING: this air pump is no oil pump, is strictly prohibited to add lubricating oil.

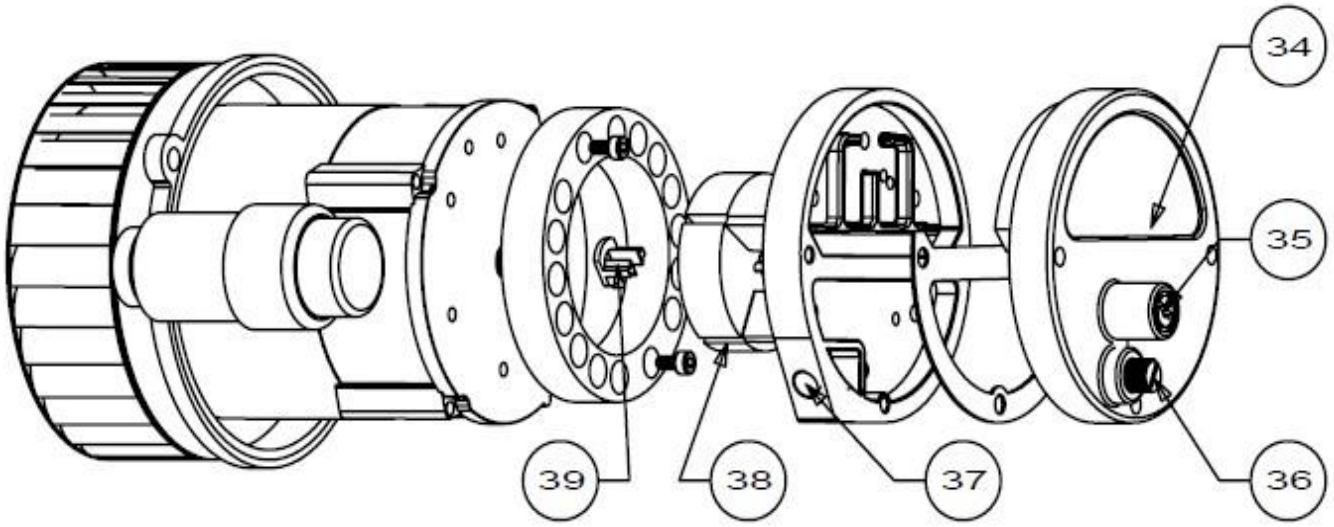


Fig.4 STW120 AIR PUMP

34. Air inlet 35. Pressure regulator 36.Pressure port 37.Air outlet 39.Coupling

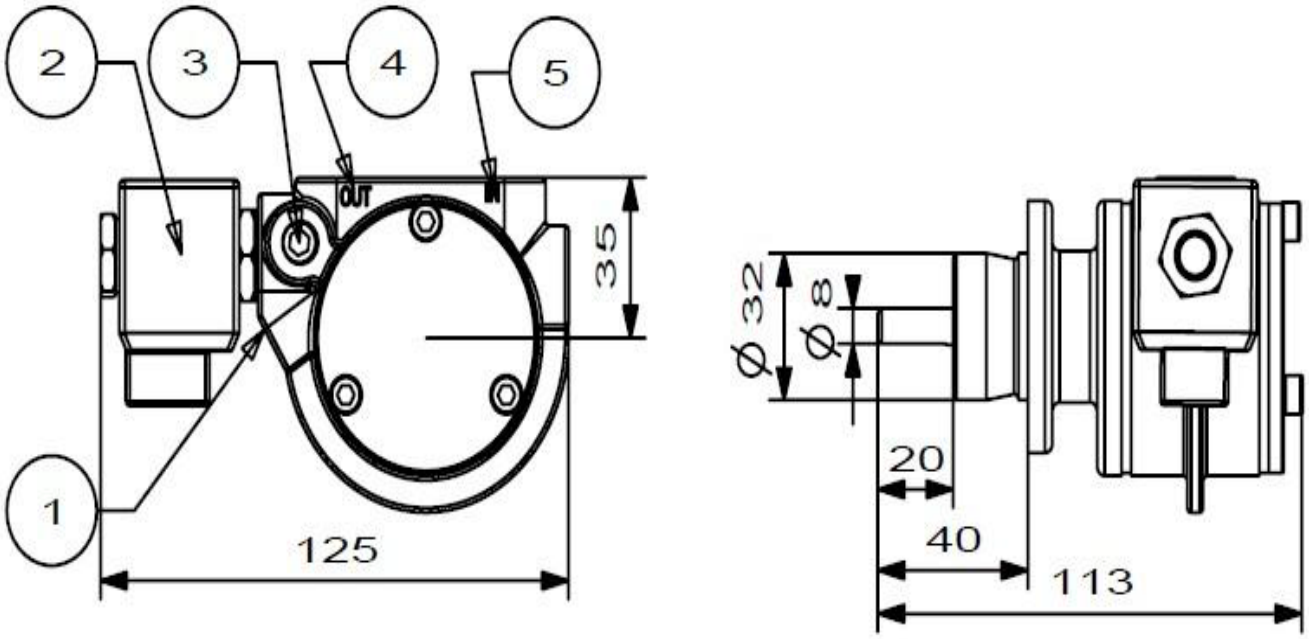


Fig.5 STW133 AIR PUMP

1. Pressure regulator 2. Solenoid 3. Pressure port
4. Air outlet 5. Air inlet

IGNITION ADJUSTION

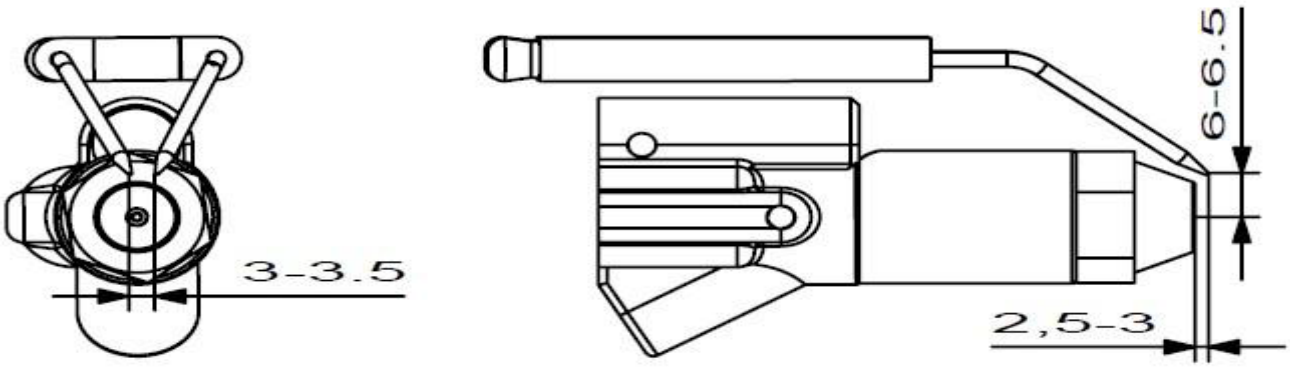
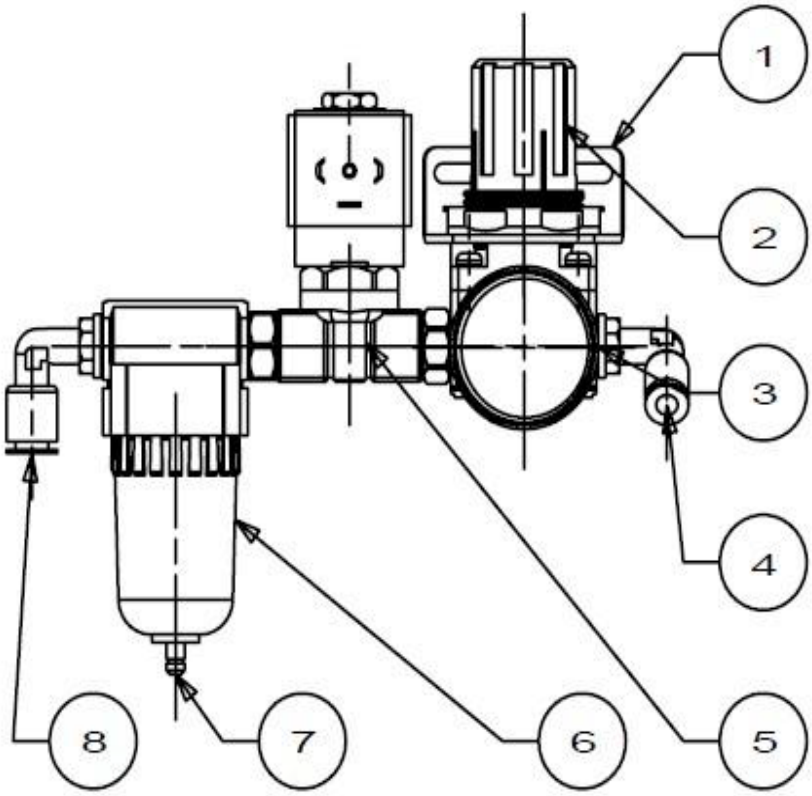


Fig.6

NOZZLE DATA (COMBUSTION ADJUSTMENT)

Nozzle	Nozzle	3 psig Air		4 psig Air		5 psig Air		Lift Height
Number	GPH	Fuel (GPH)	Air (CFM)	Fuel (GPH)	Air (CFM)	Fuel (GPH)	Air (CFM)	(Inches)
SN609-2	.20	.19 .16 .14	.36 .36 .36	.23 .20 .17	.45 .45 .45	.25 .22 .20	.49 .49 .49	1 4 7
SN609-3	.30	.29 .26 .23	.41 .41 .41	.33 .30 .27	.49 .49 .49	.36 .33 .30	.55 .55 .55	1 4 7
SN609-4	.40	.38 .34 .30	.45 .45 .45	.44 .40 .36	.54 .54 .54	.49 .45 .41	.61 .61 .61	1 4 7
SN609-5	.50	.48 .43 .38	.50 .50 .50	.54 .50 .46	.59 .59 .59	.58 .53 .48	.65 .65 .65	1 4 7
SN609-7	.65	.63 .57 .51	.59 .59 .59	.72 .65 .58	.67 .67 .67	.78 .72 .66	.76 .76 .76	1 4 7
SN609-8	.75	.75 .65 .59	.63 .63 .63	.83 .75 .67	.74 .74 .74	.93 .84 .75	.87 .87 .87	1 4 7
SN609-9	.85	.84 .75 .66	.71 .71 .71	.93 .85 .77	.80 .80 .80	1.04 .95 .86	.93 .93 .93	1 4 7
SN609-11	1.00	.96 .84 .72	.73 .73 .73	1.10 1.00 .90	.91 .91 .91	1.15 1.06 .97	1.02 1.02 1.02	1 4 7

AIR CONTROLLER (WITHOUT AIR PUMP)



1. Fixed base
2. Air regulating handle
3. Pressure gauge
4. Burner connector (6mm)
5. Solenoid valve
6. Air filter
7. Drainage outlet
8. Air inlet connector (8mm)

Fig.7

TRANSFER OIL PUMP

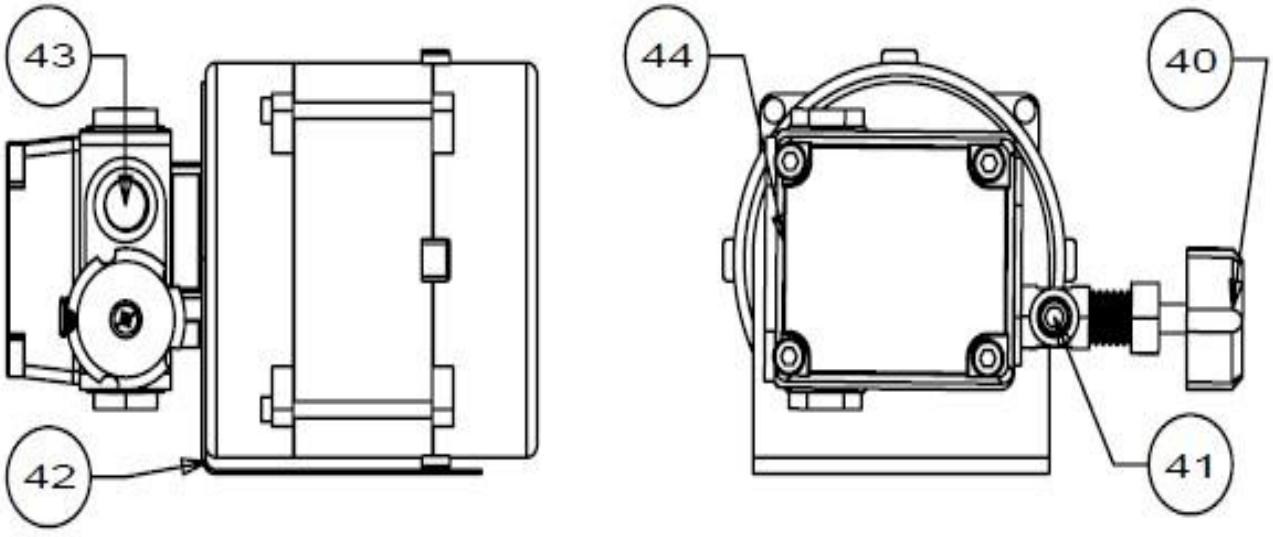


Fig.8

40. Oil flow rate adjusting handle
41. Oil outlet (to oil tank)
42. Fixed base
43. Oil inlet connector
44. Oil pump

BURNER INSTALLATION

Warning: the storage oil tank cannot be higher than the burner.

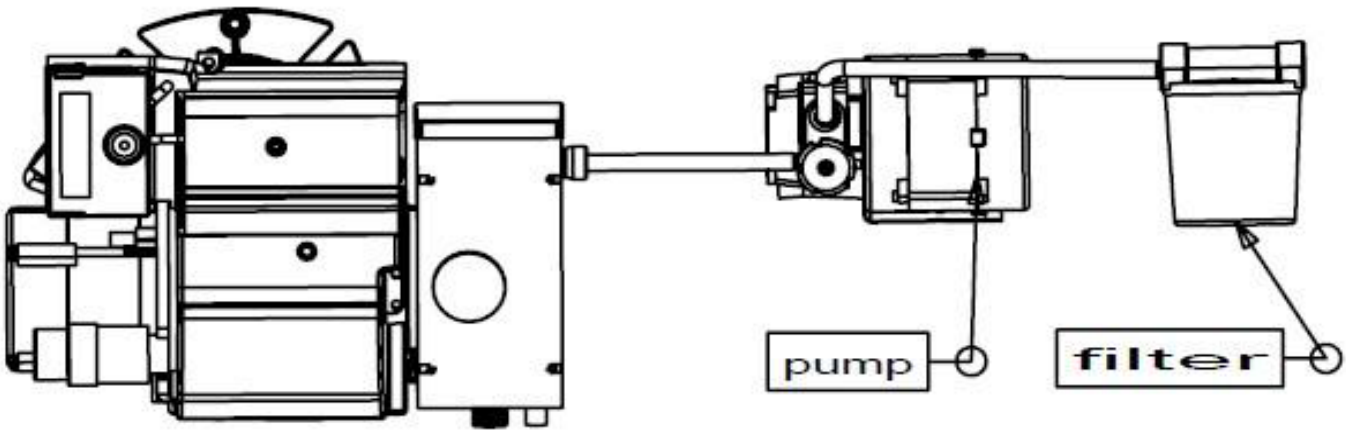
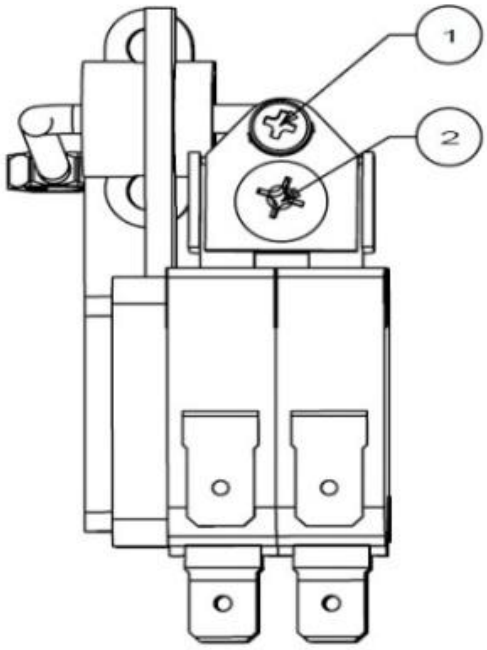


Fig.9

1. Accesso ries oil pipe connect with Fig.1 - 30 and Fig.8 - 41.
2. Access ories oil pipe connect with Fig.8 - 43 and connect a ccessories oil filter to Storage oil tank.
3. Fig.1 - 14 connect with Fig.7 - 4.
4. Fig.7 - 8 connect with air source .

THE HEIGHT OF LIQUID LEVEL ADJUSTMENT



1. Adjust screw Fig.10 - 1 to a djust the level upper limit
2. Release Fig. 10- 2, M ove up Or move down can adjust the upper or lower limit of the height for floating ball.

Fig. 10

OIL FLOW CONTROL

In order to reduce the frequent start of the transfer oil pump and instant cooling the oil temperature in heating oil tank, adjust handle no. 40 in Fig. 8. And control inlet oil rate to get the suitable oil flow rate. (With just over burning oil is better)

TEMPERATURE- SETTING

Rotate the temperature control switch in Fig.1 to set the preheat temperature. In general, engine oil is 80-90 degree, vegetable oil is 110-120 degree.

AIR PRESSURE- SETTING

Air pressure factory setting is in 0.35bar-0.4bar, too high air pressure will cause ignition difficult or cause oil atomization not good.

WARNING: the overflow pipe in preheating tank Fig.1 -28 must connect back oil to Storage oil tank

WORK PRINCIPLE

Turn on power supply, and then preheat oil, about 5-10 minutes (different kinds oil at different preheat oil times), after arrived at the set temperature, turn on the control box. Turn on Fig.1-15 to start burner.

1. Test photocell (dark).
2. Pre-purging and ignition (Normal working time is 13s).
3. Open air valve, injection oil.

4. Test photocell (bright).
5. After the normal combustion, oil level in heating tank will rise or drop by floating ball to control transfer oil pump.

FAULT LOCATION

1. Turn on power supply, transfer oil pump cannot work.
   a. Check motor and oil pump, whether the oil viscosity is too high to cause the transfer oil pump cannot start.
   b. Check the oil pump whether blocked by oil impurities.
   c. Check whether because blocked to make the oil pump connector slide.
2. After started the burner, stop work because have not make pre-purge time just ignition directly, fault lamp turn on.
   Check the air solenoid valve cannot close whether because blocked by sundries.
3. After started the burner, stop work after pre-purged and fault lamp turn on.
   Check the photocell, the control box have not detected photocell was dark.
4. After ignition burning, flame out suddenly, and fault lamp turn on.
   a. Photocell damaged.
   b. Oil atomization is not good.
   c. Air flow is too large.
   d. Preheating temperature is not upped
5. Transfer oil pump hard to stop.
   Check the float ball switch whether have fault.

WIRING DIAGRAM

A	Nozzle heater
B	Temperature
C	Oil Tank Heater
D	limit temperature contorller
M	Motor
M1	Oil Motor
VE	Valve
TA	Transformer
FR	Photoresitance
K1 K2	Oil Control