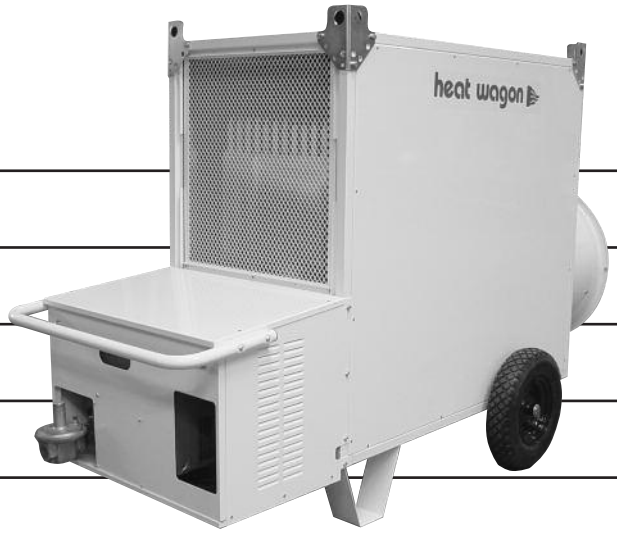
342 N. Co. Rd. 400 East
Valparaiso, IN 46383
888-432-8924 • Fax 219-462-7985
www.heatwagon.com

Installation and Maintenance Manual

Please retain this manual for future reference.

VF/VG700C
VF/VG900C

Construction Heater



C US

CAUTION: Do not use this heater in a space where gasoline or other liquids having flammable vapors are stored.

Revision 9-16

CONSTRUCTION HEATER GENERAL HAZARD WARNING:

Failure to comply with the precautions and instructions provided with this heater, can result in death, serious bodily injury and property loss or damage from hazards of fire, explosion, burn, asphyxiation, carbon monoxide poisoning, and/or electrical shock.

Only persons who can understand and follow the instructions should use or service this heater.

If you need assistance or heater information such as an instruction manual, labels, etc., contact your local Heat Wagon dealer or the manufacturer.

W A R N I N G

Fire, burn, inhalation, and explosion hazard. Keep solid combustibles, such as building materials, paper or cardboard, a safe distance away from the heater as recommended by the instructions. Never use the heater in spaces which do or may contain volatile or airborne combustibles, or products such as gasoline, solvents, paint thinner, dust particles or unknown chemicals.

Not for home or recreational vehicle use!

Heater is not intended for use in pest remediation.

WARRANTY

All new Heat Wagon and Sure Flame heaters and fans are guaranteed against defective materials and workmanship for one (1) year from invoice date.

Warranty repairs may be made only by an authorized, trained and certified Heat Wagon dealer. Warranty repairs by other entities will not be considered. Warranty claims must include model number and serial number.

LIMITATIONS

Warrant claims for service parts (wear parts) such as spark plugs, igniters, flame rods will not be allowed. Diagnostic parts such as voltage meters and pressure gauges are not warrantable.

Evidence of improper fuel usage, fuel pressures outside of manufacturer's specification, poor fuel quality, and improper electric power, misapplication or evidence of abuse may be cause for rejection of warranty claims.

Travel time, mileage and shipping charges will not be allowed. Minor adjustments of heaters are dealers' responsibility. Defective parts must be tagged and held for possible return to the factory for 60 days from date of repair. The factory will provide a return goods authorization, (RGA) for defective parts to be returned.

No warranty will be allowed for parts not purchased from Heat Wagon.

heat wagon

342 N. Co. Rd. 400 East • Valparaiso, IN 46383
219-464-8818 • 888-432-8924 • Fax 800-255-7985
www.heatwagon.com

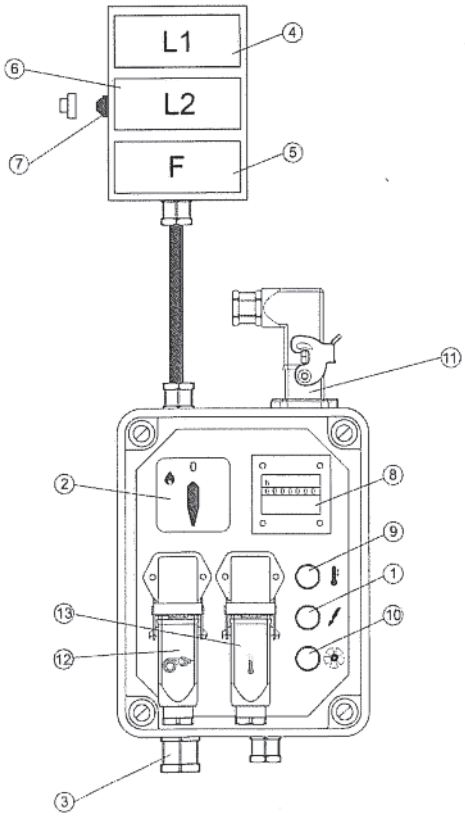
TECHNICAL SPECIFICATIONS			V700	V700C	V900	V900C
Heat input		[kBTU/h]	700	700	900	900
Air flow		[cfm]	7.420	7.420	8.830	8.830
Heat output		[kBTU/h]	595	595	765	765
Oil N°2 Max fuel consumption		[GPH]	5.17	5.17	6.64	6.64 → Pump 160 psi
Natural gas fuel consumption		[CFH]	684,9 [1]	684,9 [1]	880.6[1]	880.6[1]
Propane fuel consumption		[CFH]	274,7 [2]	274,7 [2]	353.2	353.2
Power supply	Phase		1	1	1	1
	Voltage	[V]	240	240	240	240
	Frequency	[Hz]	60	60	60	60
Electric consumption		[kW]	2,120	2,300	2,850	4,000
	Max total running amps		10.5	14.8		20
	Main blower running amps		7.5	11		16
	*Main blower starting amps		27	43		50
	Min. circuit size amps		20	20		25
Diesel burner model			Riello 40 F15	Riello 40 F15	Riello 40F 20	Riello 40F 20
Nozzle		[USgal/h]	3,50 GPH 60° B	3,50 GPH 60° B	4.5 GPH 60° B	4.5 GPH 60° B
Gas burner model (natural gas or propane)			Riello 40 G750	Riello 40 G750	Riello 40 G750	Riello 40 G750
Gas supply pressure: natural gas			min 7" w.c. max 14" w.c.	min 7" w.c. max 14" w.c.	min 7" w.c. max 14" w.c.	min 7" w.c. max 14" w.c.
Gas supply pressure: propane			min 8" w.c. max 14" w.c.	min 8" w.c. max 14" w.c.	min 8" w.c. max 14" w.c.	min 8" w.c. max 14" w.c.
Static pressure		[in WC]	0,4	0.8	0,4	
Flue diameter		[in]	7,9	7,9	7,9	7,9
Compulsory flue draft		[in WC]	0,05	0,05	0,05	0,05
Maximum air temperature		°F	250,0	250,0	250,0	250,0
JUMBO Dimensions, L x W x H		[in]	85x35x53	101 x 35 x 53	95 x 38 x 59	114 x 38 x 58
Weight		[lb]	550	550	793	815
Manifold Pressure		NG	2.8"W.C.	2.8"W.C.	3.8" W.C.	3.8" W.C.
		Vapor Propane	2.8" W.C.	2.8" W.C.	5.2" W.C.	5.2" W.C.

[1] 3.7 Orifice
[2] 2.0 Orifice

Note: V900/V900C, long combustion tube

*Note-Could take up to 4 seconds to achieve full RPM.

CONTROL BOARD



1 CONTROL LAMP
2 CONTROL KNOB HEAT - STOP - VENTILATION ONLY
3 POWER CORD FASTENER
4 OVERHEAT SAFETY THERMOSTAT, L1
5 FAN THERMOSTAT, F
6 LIMIT THERMOSTAT WITH MANUAL RESTART, L2
7 THERMOSTAT RESET SWITCH
8 HOUR COUNTER
9 OVERHEAT THERMOSTATS CONTROL LAMP, L1, L2
10 FAN STOP CONTROL LAMP
11 HEATED DIESEL FILTER PLUG
12 BURNER PLUG
13 ROOM THERMOSTAT PLUG

DESCRIPTION

These space heaters have been designed for use in small to medium-sized rooms and buildings where a fixed or mobile heating system is required.

Heat is produced by combustion and the heat from the smoke is transmitted to the fresh air through the metal walls of the combustion chamber and the heat exchanger. The combustion chamber is of the type where smoke circulates twice.

The air and smoke pass through separated ducts, both of which are welded and sealed. When, after combustion, the waste gases have cooled, they are expelled through a duct which must be connected to a chimney or chimney flue. The chimney or chimney flue must be big enough to guarantee that the smoke is expelled efficiently.

The air which is used in combustion is aspirated directly from the room or building which is being heated. It is therefore of utmost importance that the room or building be properly ventilated so that enough fresh air is circulating at all times.

The air outlet can be replaced by outlet panels with two or four openings, all of which must be kept open.

These heaters can operate with burners that are fuelled by diesel oil #2 max., natural gas or propane.

Warning

Only the burners which are chosen and supplied by the manufacturer can be used. If another type of burner is used the heater no longer complies with CSA / UL regulations.
Applied burners are listed in the final "TECHNICAL CHARACTERISTICS" sheet

There are three safety devices which are activated in case of serious malfunction. The Burner Control Device, which is mounted on the burner and has a restart button, automatically stops the burner if the flame goes out. The Overhrat Thermostat, L2, of the manuel restart type, is activated if the temperature of the combustion chamber rises above the set maximum limit; the warning light (9) lights up and the heater stops working. The Thermal Relay,RM, is activated if the fan motor starts to use more electrical current than the maximum permitted limit; the warning light (10) lights up and the heater stops working.

If any of these safety devices are activated you should check carefully what the problem actually is before pressing the restart button and starting the heater off again ("OBSERVED FAULTS, CAUSES AND REMEDIES").

Overheat safety thermostat, L1, shuts down the heater if air flow is not sufficient to cool off combustion chamber: the heater will restart automatically as soon as the heater has cooled down enough (The lamp (9) lights up and then it cuts down).

GENERAL ADVICES

The heater is designed and approved for use as a construction heater in accordance with Standard ANSI Z83.7 - CGA 2.14.

Intended use is the temporary heating of buildings or structures under construction, alteration or repair.

Warning

CHECK WITH YOUR LOCAL FIRE SAFETY AUTHORITY IF YOU HAVE QUESTIONS ABOUT APPLICATIONS.

Here are a few general guidelines which should be followed:

- Follow the instructions in this booklet very carefully.
- Don't install the heater in places where there may be a risk of fire or explosion.
- Inflammable material should be kept at a safe distance from the heater (Minimum 6 feet).
- All fire prevention regulations must be adhered to.
- The room or building which is being heated must be sufficiently ventilated so that the heater has enough air to function properly.
- The heater must be near a chimney or chimney flue and a suitable electric switchboard.
- Don't let animals or children near the heater.
- Make sure heater is inspected before each use, and at least annually bya qualified service person.
- After use make sure the disconnecting switch is off.

When using any type of space heater it is obligatory:

- not to exceed the maximum level of heat output of the furnace ("TECHNICAL SPECIFICATION TABLE");
- to make sure that there is adequate air circulation and air supply to the heater and that nothing is obstructing the aspiration and expulsion of air; movement of air may be obstructed in various ways including placing covers or other objects on the heater or positioning the heater too near a wall or other large object. If the airflow is not adequate, the combustion chamber will overheat and the overheat safety thermostat L1 will turn the burner off and on continnously ("OBSERVED FAULTS, CAUSES AND REMEDIES").

INSTALLATION

Warning

The following operations must be carried out by qualified personnel only.

ELECTRICAL CONNECTIONS AND SETTINGS

Every space heater is supplied along with the safety and control devices which are indispensable to the correct functioning of the unit. The electric switchboard, burner, the fan thermostat, overheat safety thermostat and the overheat thermostat with manual restart have already been connected.

Warning

Power supply cord of proper dimension shall be connected to the main switchboard and heater shall be grounded.
Electrical grounding shall be in compliance with the National Electrical Code ANSI/NFPA 70 or the CSA C22.1 Canadian Electrical Code, Part I.

The following operations must now be carried out:

- Plug in the power cord having read the adhesive label which details electricity supply characteristics.
- The burner must be connected to the fuel supply (Burner Instruction Manual).
- Connect the burner to the electricity supply with the burner plug.
- Connect accessories such as the room thermostat or clock to the unit's electric switchboard with the thermostat plug.

Having completed all these operations check carefully that all electrical connections correspond to the wiring diagram. (When the heater is first turned on you must check that the fan does not use more current than the maximum permitted limit. See Page 2 Specifications)

Finally, to regulate the burner follow the instructions in the Burner Instruction Manual.

CONNECTION TO HOT AIR DUCTS

The space heater provides heat by releasing and dispersing hot air. An air head is supplied with each unit but it can be replaced by other types of head with two or four openings which allow for flexible tubes in heat distribution. The screws which hold the original outlet in place should be removed and the new outlet should be screwed on in place of the old.

The new head may be connected to new air ducts if the user wishes to satisfy specific needs. In this case and in particular if the diameter and length of the ducts have been changed or if the number of bends has been modified, air output may vary. Consequently it is very important to check and regulate air output when any modification is made to air heads or air ducts. In all circumstances you must ensure

that:

- The fan motor does not absorb more current than the maximum permitted limit; See Page 2 Specifications
- The volume of air flow corresponds to the recommended level.

If the heater is equipped with centrifugal fan and if the volume of hot air differs from preset values proceed as follows (Fig. 1):

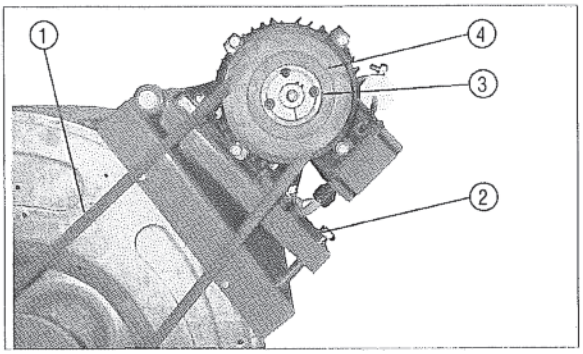


Fig. 1

1) Remove the aspiration grill which is on fan motor side of the unit.
2) Remove the screws (2) from the motor slide.
3) Remove the belt (1).
4) Loosen the bolts (3).
5) Turn the pulley clockwise and anti-clockwise in order to increase or reduce the volume of air.
6) Tighten the bolts (3).
7) Put back the aspirations grill
8) Repeat operations from (1) to (7) until the correct volume of air flow has been achieved.

DRAFT

The evacuation smoke flues shall be made with steel.

Efficient combustion and trouble-free working of the burner depend on efficient flue draft. The unit must be connected to the chimney flue in accordance with current legal regulations and in line with the following guidelines:

- The tube which carries the smoke should cover as short a distance as possible and should slant upwards.
- There should be no sharp bends in the tubes and the diameter of the tubes must never be reduced.
- Every heater must have its own chimney.
- Flue draft must at least correspond to the minimum compulsory level in the Technical Specifications.

ANALYSIS OF COMBUSTION WASTE PRODUCTS

The probes which check the composition of combustion waste products and smoke temperature must be positioned as indicated in Fig. 2.

When these tests have been completed the hole which was drilled for the probe must be sealed with a material which is resistant to high temperatures and which ensures that the tube remains airtight.

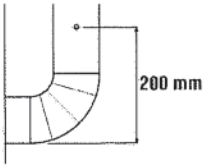


Fig. 2

CONNECTION TO FUEL SUPPLY

To connect the burner to the fuel supply follow the instructions in the Burner Instruction Manual.

The gas burner can use both natural gas or propane. Burners are predisposed at factory to be used with propane. If natural gas shall be used, burners shall be adapted according to the instruction manual of the burner.

In case of connection of heater to natural gas,the installation shall conform with local codes, or, in the absence of local code, with the National Fuel Gas Code ANSI Z223.1/NFPA and the Natural Gas and Propane Installation Code, CSA B149.1.

In case of connection of heater to propane supply cylinder, the installation shall conform with local codes or, in the absence of local code, with the Standard for the Storage and Handling of Liquified Petroleum Gases, ANSI/FNPA 548 and the Natural Gas and Propane Installation Code, CSA B149.1.

Heater must be located at least 6 ft in the U.S. or 10 ft in Canada from any propane gas container.

Propane gas cylinder shall be in compliance with national standards and shall be arranged to provide for vapor withdrawal from the operating cylinder.

The gas shall be turned off at the propane supply cylinder when the heater is not in use.

Visually inspect hose assembly prior to each use of the heater. If it is evident there is excessive abrasion or wear, or the hose is cut, it must be replaced prior to the heater being put into operation.

After installation, proper instruments or devices shall be used to check and avoid any gas leakage. Gas leakage testing shall be regularly operated.

NOTE: Manifold Pressure - Natural Gas 2.8" W.C. 3.7 Orifice
Vapor Propane 2.8" W.C. 2.0 Orifice

REGULATION OF COMBUSTION - I° OPERATION

After having checked the hermetic seal and of combustion waste products line, heater may be operated for the first time.

To perform regulation of combustion correctly, combustion waste products must be analyzed using appropriate instruments: values recommended by actual standards must be reached.

The regulation procedure has been on the Burner Instruction Manual; final values of CO2 shall be correspondant to excess air factor of 1,2 (12,5 for gas-oil, 9,7% for G20, 9,6% for G25, 11,7% for G30 and 11,7% for G31) while CO level shall be less than 75 ppm.

INSTRUCTIONS FOR USE

SWITCHING ON

- Set the control knob (2) in position "0";
- Turn on the disconnecting switch on the electric switchboard;
- If the unit is operated manually turn the control knob to . The burner starts up, the combustion chamber heats up and then the fan starts;
- If the unit operates automatically set the room thermostat at the desired level and turn the control knob (2) to : the heater will now start and stop automatically.
- If the heater doesn't start after you have completed the above operations consult the Troubleshooting section of this manual.

TURNING OFF

In manual operation turn control knob (2) to "0" or turn off control thermostat in automatic operation.

The burner stops while the fan turns itself on and off until the combustion chamber has completely cooled down.

Warning

Never stop the heater by simply turning off the disconnecting switch on the electric switchboard. The electrical supply must only be disconnected when the fan has come to a complete stop.

VENTILATION

When the control knob is turned to the symbol the heater operates in continuous fan mode.

MAINTENANCE

Warning

The following operations must be carried out by qualified personnel only.
Before carrying out any maintenance operation the heater must be disconnected from the mains. Therefore:

- **Stop the machine as instructed above**
- **Turn off the disconnecting switch on the electric switchboard.**
- **Wait until the heater has cooled.**

CLEANING THE HEAT EXCHANGER AND THE COMBUSTION CHAMBER

For the heater to operate efficiently the heat exchanger and combustion chamber must be cleaned after a period of prolonged use and more frequently if too much soot builds up. Soot builds up when there is not enough chimney draft, when the fuel is of very poor quality, when the burner is regulated incorrrectly or when the heater is switched on and off too frequently. If the heater starts vibrating when it is turned on there is probably too much soot.

To get at the heat exchanger (1) take off the front panel (3) and then remove the smoke box panel (2) and remove baffle plates (7). To get at the combustion chamber (4) remove the burner (5).

CLEANING THE FAN

Remove any dirt or extraneous material from the mesh of the aspiration grill (6) and if necessary clean the propeller with an air-suction tool.

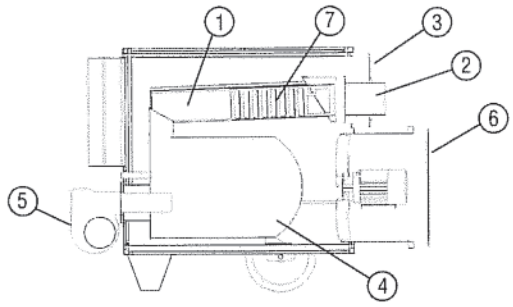


Fig. 3

CLEANING THE BURNER

For the heater to work efficiently the burner must be serviced regularly by an Authorized Service Technician. All cleaning, servicing and regulation operations must be carried out as indicated in the Burner Instruction Manual.

Warning

After every type of technical maintenance, please verify that the machine starting regularly.

TRANSPORTING AND MOVING THE HEATER

To move the heater use the front handles and back wheels.

Warning

Before moving the unit:
- **Turn it off as indicated above.**
- **Disconnect electricity by pulling out the plug.**
- **Wait until the heater cools down**

Suitable equipment must always be used when moving a unit and the instructions given above must be scrupulously adhered to.

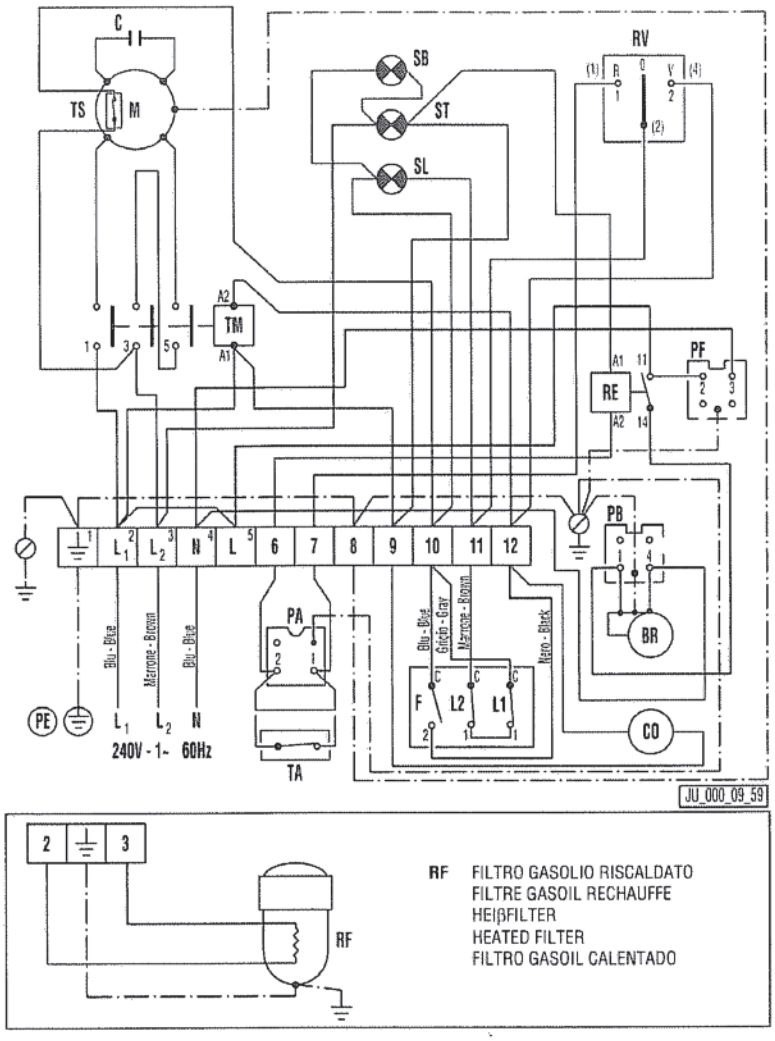
Warning

Never try to lift the heater manually. Doing so could result in physical injury.

If heater is connected to propane supply cylinder and it is to be stored indoors, the connection between the propane cylinder and the heater must be disconnected and the cylinder removed from the heater and stored in accordance with Stnadard for the Storage and Handling of Liquified Petroleum Gases, ANSI/NFPA 58 and CSA B149.1, Natural gas and Propane Installation Code.

OBSERVED FAULTS, CAUSES AND REMEDIES

OBSERVED FAULT	*CAUSE*	*REMEDY*
• The heater won't start	• Faulty electrical supply	• Check function and positioning of main switch
		• Check power cord
		• Check electrical connections
		• Check fuses
	• Wrong positioning of main switch	• Put main switch in correct position
	• Wrong setting of room thermostat	• Check setting of room thermostat
		• Check function of room thermo-stat
	• Safety device (burner, thermostat L2, fan thermal relay) not reset after repairs	• Press the appropriate restart button: • burner (button on control device) • thermostat (button (6) • fan thermal relay (button (11)
• Overheat safety thermostat L1 cuts out (the lamp (9) lights up and then it cuts down	• The combustion chamber has overheated	• Check fuel flow
		• Check position registers, draw - holes, etc.
		• Remove extraneous material from air ducts and ventilation grills
• Limit thermostat L2 cuts out (warning lamp (9) lights up)	• Excessive combustion chamber over heating	• Check as indicated above, confirm correct burner orifice (see page 14)
		• If fault persists contact our Service Center
• Thermal relay TM cuts out (warning light (10) lights up)	• Fan motor current absorption is excessive	• Heater with helicoidal ventilator: remove eventual debris preventing free flow of air on intake and outlet. Check length of air ducts, reduce if excessive.
		• Heater with centrifugal ventilator: check setting of transmission belt as indicated in chapter ("CONNECTION TO HOT AIR DUCTS").
		• Always check that current absorption remains below value indicated on Page 2 Specifications Chart
• The burner starts up, the flame doesn't light up and the reset light on the control device comes on	• Burner not working correctly	• Press the reset button to turn on the heater. If the same problem arises again call and Authorized Service Technician
	• No electrical power	• Check fuses
		• Check electrical connections
• The fan doesn't start up or starts up late	• Improper electrode settings	• Refer to chart on page 13
	• F thermostat out of order	• Check the thermostat, set it and replace it if necessary
	• Winding of motor burnt or interrupted	• Replace the fan motor
	• Capacitor burnt (mod. "M")	• Replace the capacitor
	• Motor bearings blocked	• Replace the bearings
• The fan vibrates or makes unusual noise	• Extraneous material on fan blades	• Remove extraneous material
	• Not enough air circulation	• Remove obstacles to air circulation
• Not enough heat	• Wrong burner set-up	• Call an Authorized Service Technician



TS FANS THERMAL RELAY

TM FANS TELE-CONTACTOR

C CONDENSER MOTOR

PA ROOM THERMOSTAT PLUG

RE RELAY 220V/60Hz

SB FAN STOP CONTROL LAMP

PB STECKDOSE BURNER PLUG

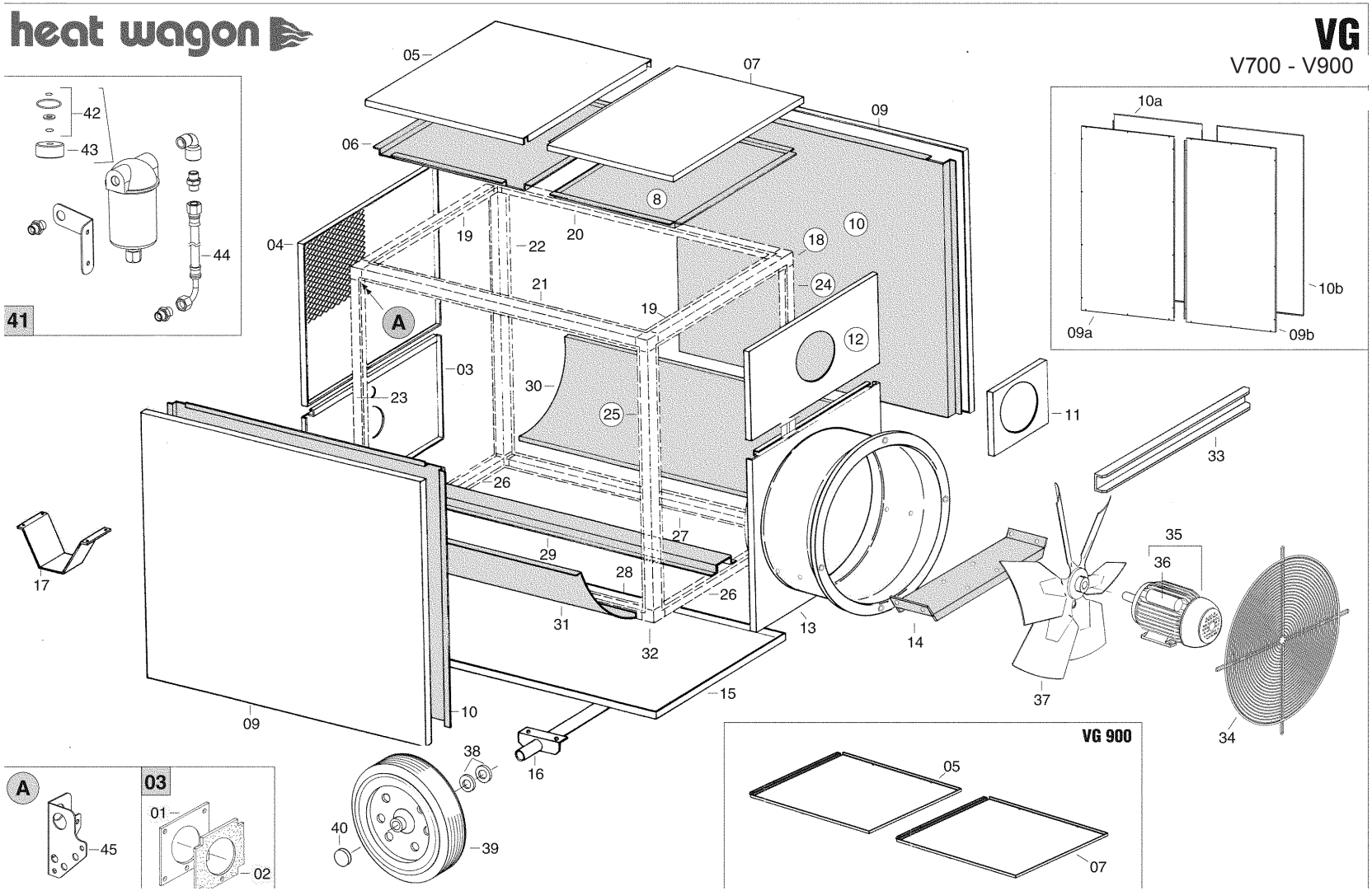
CO HOUR-COUNTER

PF HEATED FILTER PLUG

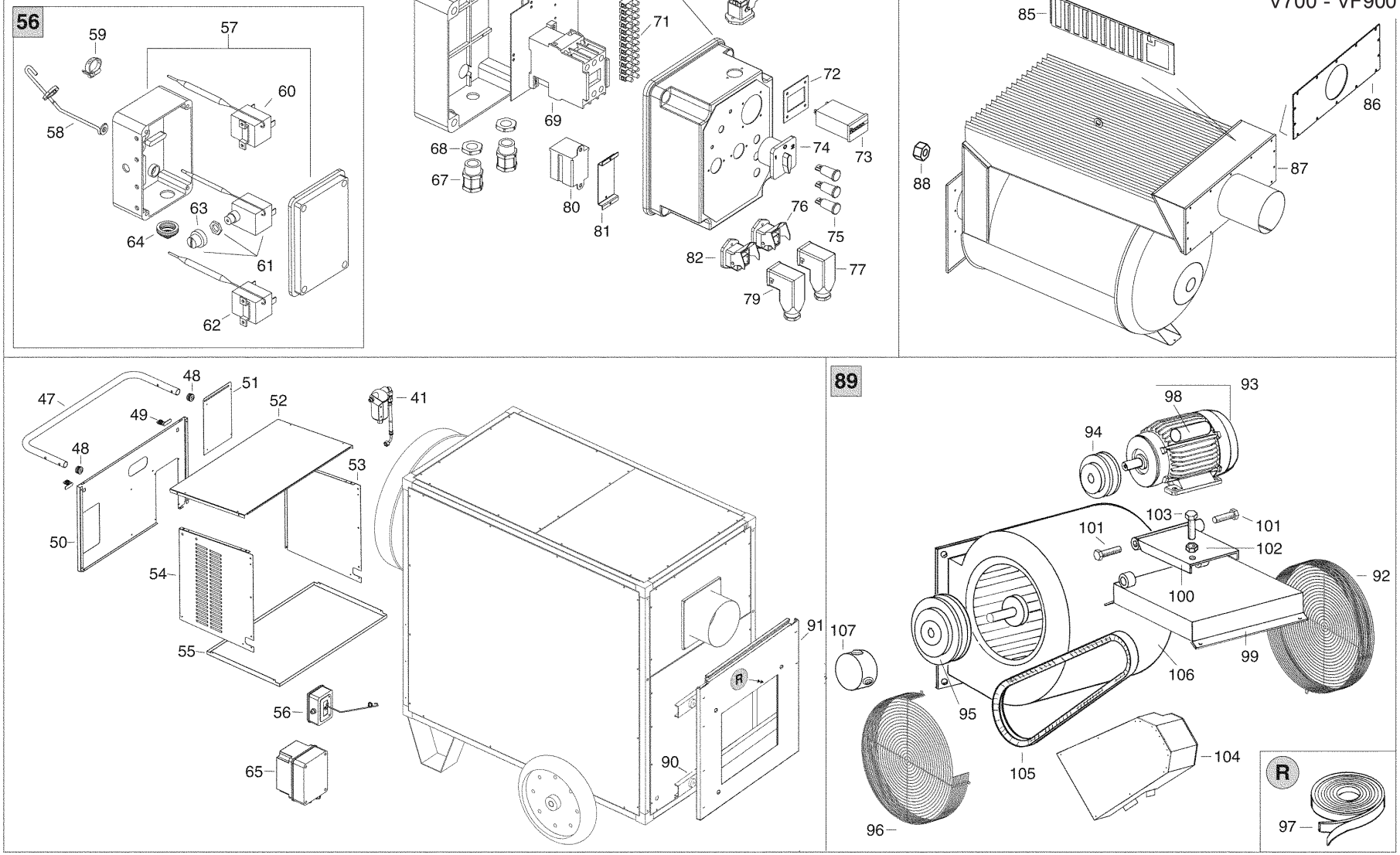
heat wagon

VG

V700 - V900



heat wagon



heat wagon

Pos.	Cod.	€	V 700	V 700/C	V 900	V 900/C	PART LIST
01	G04230-9005		•	•	•	•	Burner support
02	T10634		•	•	•	•	Burner plate seal 210x210x5
03	G04018-9010 G04019-9010		•	•	•	•	Burner panel
04	G04175-9010 G04176-9010		•	•	•	•	Outlet air panel
05	G01086-9010 G04177-9010		•	•	•	•	Front upper panel
06	G01235 G01680		•	•	•	•	Inner front upper panel
07	G01716-9010 G04178-9010		•	•	•	•	Rear upper panel
08	G01718 G01682		•	•	•	•	Inner rear upper panel
09	G01720-9010		•	•			Side panel
09a	G01683-9010				•	•	Side front panel
09b	G01685-9010				•	•	Side rear panel
10	G01722		•	•			Inner side panel
10a	G01684				•	•	Inner panel front panel
10b	G01686				•	•	Inner panel rear panel
11	G01687-9010		•	•	•	•	Chimney flange Ø150
12	G01724-9010 G01688-9010		•	•	•	•	Chimney panel
13	G01726-9010 G01689-9010		•	•	•	•	Fan support panel
14	G01728 G01690		•	•	•	•	Motor support plate
15	G01730-9010		•	•			Bottom panel
16	G01732-9010 G01691-9010		•	•	•	•	Wheel axle
17	G01692-9010		•	•	•	•	Front support
18	U10103-9010		•	•	•	•	Aluminum joint
19	G01734-9010 G01693-9010		•	•	•	•	Upper front short angle steel
20	G01736-9010 G01694-9010		•	•	•	•	Upper long SX angle steel
21	G01738-9010 G01695-9010		•	•	•	•	Upper long DX angle steel
22	G01740-9010 G01696-9010		•	•	•	•	Vertical front SX angle steel
23	G01742-9010 G01697-9010		•	•	•	•	Vertical front DX angle steel
24	G01744-9010 G01698/1-9010		•	•	•	•	Vertical back SX angle steel
25	G01746-9010 G01699/1-9010		•	•	•	•	Vertical back DX angle steel
26	G04184-9010 G04222-9010		•	•	•	•	Lower short angle steel
27	G01750-9010 G04223-9010		•	•	•	•	Lower long SX angle steel
28	G01752-9010 G04224-9010		•	•	•	•	Lower long DX angle steel
29	G01754 G01703		•	•	•	•	Comb. chamber support
30	G01756 G01704		•	•	•	•	Comb. chamber SX support
31	G01758 G01705		•	•	•	•	Comb. chamber DX support
32	U10101-9010		•	•	•	•	Aluminum joint
33	G01909-9010 G01908-9010		•		•		Reinforced frame
34	P30139 P30131		•		•		Inlet grill

Pos.	Cod.	€	V 700	V 700/C	V 900	V 900/C	PART LIST
35	E10682-220 E10683-220		•		•		Motor HP 2 110/60 mono Motor HP 3 220/60 mono
36	E11235 E11236		•		•		Capacitor 25 µF Capacitor 50 µF
37	T10230-1 T10229-1		•		•		Fan Ø500 23° Fan Ø580 18°
38	M20111		•	•	•	•	Washer Ø26xØ44x4
39	C10545		•	•	•	•	Wheel Ø300 - Ø25
40	M20202		•	•	•	•	Wheel holder
41	02AC550		•	•	•	•	Kit Oil pre-heaters filter 1/4"
42	T20241		•	•	•	•	OR KITOil filter
43	T20242		•	•	•	•	Filter cartridge
44	B98012		•	•	•	•	Hoses
45	G04152		•	•	•	•	Flask
46	G04181-9010 G04182-9010		•	•	•	•	Upper back short angle steel
47	G04050-9010 G04188-9010		•	•	•	•	Handle
48	C30328		•	•	•	•	Plug
49	M20418		•	•	•	•	Wing nut lock
50	G04190-9010 G04191-9010		•	•	•	•	Casing front panel
51	G04193-9010 G04194-9010		•	•	•	•	Flap door
52	G04196-9010 G04197-9010		•	•	•	•	Burner casing top cover
53	G04199-9010 G04200-9010		•	•	•	•	Burner casing SX cover
54	G04202-9010 G04203-9010		•	•	•	•	Burner casing DX cover
55	G04205-9010 G04206-9010		•	•	•	•	Tank casing lower panel
56	G00218		•	•	•	•	El. control box
57	E20719-02		•	•	•	•	Electrical components box
58	P30159		•	•	•	•	Bulbs holder
59	C30712		•	•	•	•	Clip
60	E50748		•	•	•	•	Thermo stat TY95 30/90 °C Campini
61	E50749		•	•	•	•	Thermosta t TY95H 120 °C Campini
62	E50747		•	•	•	•	Thermosta t TY95 0/60 °C Campini
63	E50750		•	•	•	•	Safety thermostat plastic profile
64	C30343		•	•	•	•	Cable protection Ø19
65	G00221 G00222 G00223 G00224		•	•	•	•	El. control box
66	E20707-55		•	•	•	•	Electrical components box
67	E20949		•	•	•	•	Cable fastener PG 13,5
68	E20950		•	•	•	•	Ring nut PG13,5
69	E10419 E10446		•	•	•	•	Contactor Wimex KN22-00 V110-60 Contactor Wimex KN16-10 V230
70	G04042		•	•	•	•	Plate for electrical components
71	E20301		•	•	•	•	Terminal board 12 el. mmq 10
72	G04041		•	•	•	•	Hour-counter support plate
73	S10104		•	•	•	•	Hour-counter
74	E10109		•	•	•	•	Control knob
75	E11021		•	•	•	•	Red pilot lamp Ø12 V230
76	E20640		•	•	•	•	Thermostat plug 3P + T
77	E20677		•	•	•	•	Plate plug 3P + T
79	E20678		•	•	•	•	Plate plug 4P + T
80	E11120		•	•	•	•	Relay Finder 65.31 AC
81	G04207		•	•	•	•	Relay flange
82	E20639		•	•	•	•	Thermostat plug 4P + T
83	E20665		•	•	•	•	Drain plug

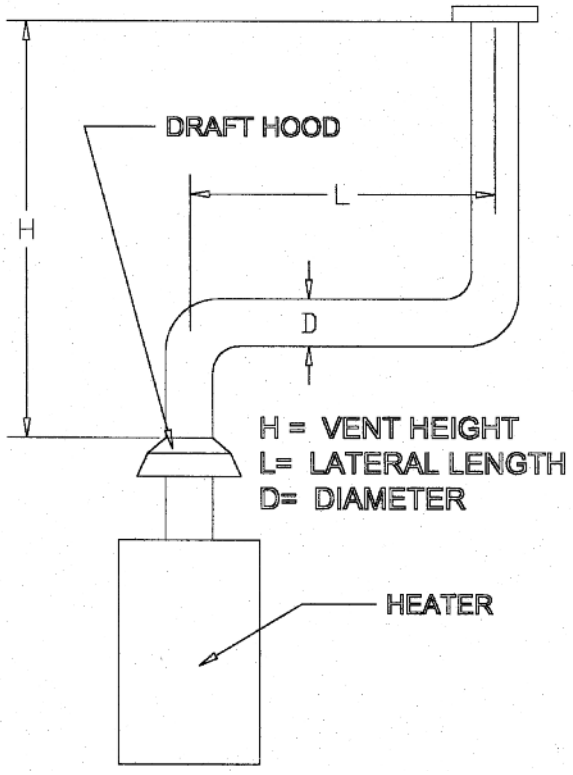
Pos.	Cod.	€	V 700	V 700/C	V 900	V 900/C	PART LIST
84	G01773 G01672		•	•	•	•	Combustion chamber
85	G01759 G01673		•	•	•	•	Baffle plate
86	T10635 T10633		•	•	•	•	Chimney seal 438x248x5 Chimney sea 551x248x5
87	G01760 G01674		•	•	•	•	Chimney cover
88	I25001		•	•	•	•	Female plug 1"
89	G04209 G04210			•		•	Centrifuge air fan
90	G01767-9010 G01675-9010			•		•	Reinforced frame
91	G01769-9010 G01676-9010			•		•	Fan panel
92	P30140 P30137			•		•	Protection grille
93	E10683-220 E10684-220			•		•	Motor HP 3 220/60 mono Motor HP 4 220/60 mono
94	C10929			•		•	Sheave Ø105 Var. Ø24
95	C10904			•		•	Sheave Ø160 1B Ø25
96	P30141 P30138			•		•	Protection grille
97	C30401			•		•	Seal 3x15
98	E11237 E11236			•		•	Capacitor 70 μF Capacitor 50 μF
99	G02001 G02002			•		•	Mounting plate on fan case
100	G01998 G01999			•		•	Motor support plate
101	M10234			•		•	Screw TE M12x55
102	M10714			•		•	Nut M12
103	M10221			•		•	Screw TE M12x55
104	G04214-9005 G04215-9005			•		•	Crankcase
105	C10923 C10930			•		•	Belt B43 Belt B50
106	AN006-1 AN007-1			•		•	Fan AT 15/15 Fan AT 18/13
107	E20712			•		•	El. components box 80x80

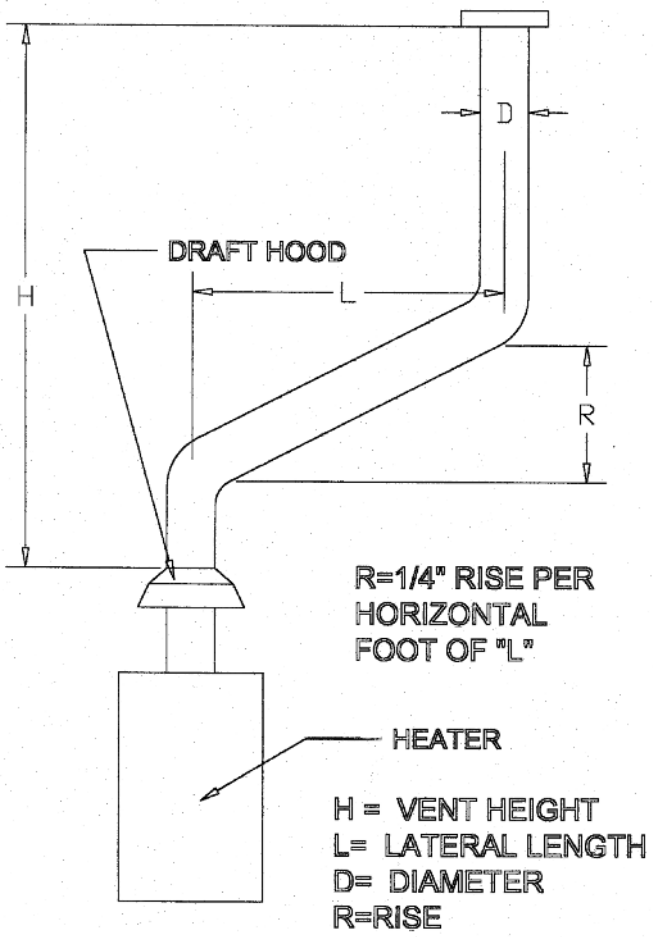
Parts Not Shown

(Gas Pipe Train)

Maxitrol Regulator (RV61)	PN C5852400
Asco Solenoid	PN C5850607
Dungs Valve	PN C5850017

EXHAUST FLUE PIPE GUIDELINES





CAPACITY OF TYPE B DOUBLE-WALL VENTS SERVING A SINGLE DRAFT HOOD-HEATER x 1000 BTU'S

FOR INDOOR APPLICATIONS

VENT DIAMETER (D) INCHES					
		8	10	12	14
TOTAL VENT HEIGHT(H) FEET	LATERAL LENGTH (L) FEET				
6	0	370	570	850	1170
	2	285	455	650	890
	6	273	435	630	870
	12	255	406	610	840
8	0	415	660	970	1320
	2	322	515	745	1020
	8	303	490	720	1000
	16	281	458	685	950
10	0	450	720	1060	1450
	2	355	560	850	1130
	10	330	525	795	1080
	20	300	486	735	1030
15	0	525	840	1240	1720
	2	414	675	985	1350
	15	373	610	905	1250
	30	328	553	845	1180
20	0	575	930	1350	1900
	2	470	755	1100	1520
	10	443	710	1045	1460
	20	410	665	990	1390
	30	380	626	945	1270
30	0	650	1060	1550	2170
	2	535	865	1310	1800
	20	473	784	1185	1650
	40	415	705	1075	1520

REFERENCE CHARTS

VAPOR PROPANE QUICK REFERENCE HOSE CHART

Hose Length in Feet	BTU 1 Million 1/2PSI	10PSI
10	1-1/4	3/4
25	1-1/4	3/4
35	1-1/4	3/4
50	-	3/4
75	-	3/4
100	-	3/4
125	-	3/4
150	-	3/4
175	-	3/4
200	-	3/4
225	-	3/4

NATURAL GAS QUICK REFERENCE HOSE CHART

Hose Length in Feet	BTU 1 Million <1PSI	1PSI	2PSI	5PSI
10	1-1/2	1-1/4	3/4	3/4
25	2	1-1/4	3/4	3/4
35	2	1-1/4	3/4	3/4
50	2	1-1/4	1-1/4	3/4
75	2	1-1/4	1-1/4	3/4
100	2	1-1/4	1-1/4	3/4
125	2-1/2	1-1/2	1-1/4	3/4
150	2-1/2	1-1/2	1-1/4	3/4
175	2-1/2	1-1/2	1-1/4	3/4
200	2-1/2	1-1/2	1-1/4	3/4
225	2-1/2	1-1/2	1-1/4	3/4

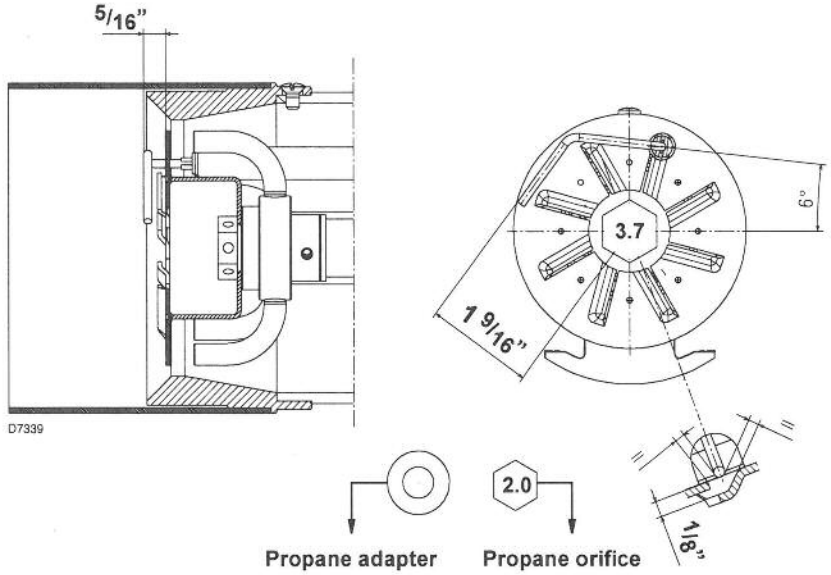
VAPORIZATION RATES IN BTUH @ 0 DEG. F

TANK SIZE	NUMBER OF TANKS MANIFOLDED	PERCENTAGE OF TANK FILLED 10%	20%	30%	40%	50%	60%
250							
	1	126,900	169,200	197,400	225,600	253,800	282,000
	2	279,180	372,240	434,280	496,320	558,360	620,400
	3	486,027	648,036	756,042	864,048	972,054	1,080,060
500							
	1	198,135	264,180	308,212	352,240	396,270	440,300
	2	435,897	581,196	687,066	774,928	871,794	968,660
	3	758,857	1,011,809	1,180,451	1,349,079	1,517,714	1,686,349
1000							
	1	354,240	472,320	551,040	629,760	708,480	787,200
	2	779,328	1,039,104	1,212,288	1,385,472	1,558,656	1,731,840
	3	1,356,739	1,808,985	2,110,483	2,411,980	2,713,478	3,014,976

NOTE: USE FOLLOWING MULTIPLIERS FOR OTHER AIR TEMPERATURES

For -10° F multiply x 0.50
For + 10°F multiply x 1.5
For +20°F multiply x 2.0
For +40°F multiply x 3.0
For +50°F multiply x 3.5
For +60°F multiply x 4.0

ELECTRODE AND FLAME PROBE ADJUSTMENTS



⚠ **WARNING:**
Do not turn the ignition electrode. Leave it as shown in the drawing.
If the ignition electrode is put near the ionization probe, the amplifier of the control box may be damaged.

LPG Kit

The LPG kit allows the above burners, suitable to run on natural gas, to burn LPG.

TECHNICAL FEATURES

The thermal output and working field of burners converted to use LPG are the same as those for the use of natural gas.
(See burner technical instructions).

GAS Family 3:

Net calorific value: 24 - 34 kWh/m^3

21,000 - 29,300 kcal/m^3

Min. pressure 25 - max. 50 mbar.

LIST OF KIT'S COMPONENTS

Quantity	Component
1	Washer
1	Diffuser 2
1	Adhesive label
1	Technical instructions

CONVERSION

On the combustion head of the burners, that natural gas diffuser should be replaced with the one used for LPG, **and a washer should be added.**

Proceed as follows: (Fig. A)

- Disassemble the ignition electrode and the ionisation probe.
- Take the distributor-diffuser disc off after removing the diffuser.
- Insert the washer, re-assemble the distributor-diffuser disc and fix the diffuser (stamping 2) sent as equipment.
- Reassemble the electrode and the ionisation probe in the position foreseen in the instructions for the natural gas.
- Affix the adhesive label as illustrated in Fig. B.

COMBUSTION HEAD ADJUSTMENT

This is the same as for the burners running on natural gas. (See burner technical instructions).

CORRELATION BETWEEN GAS PRESSURE AND BURNER OUTPUT (Fig. C)

Pressure measured at the pipe coupling of the burner working with LPG (Net calorific value 23,000 kcal/m^3), with combustion chamber at 0 mbar.

Fig. A

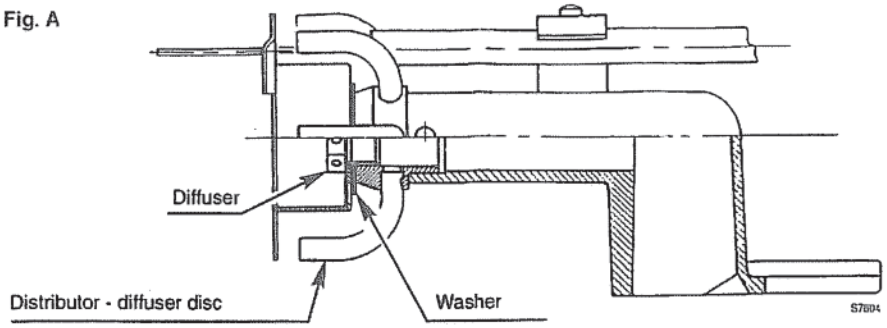


Fig. B

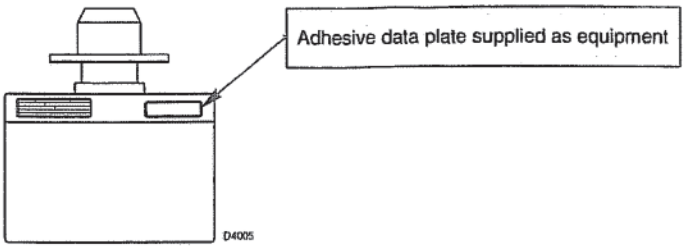
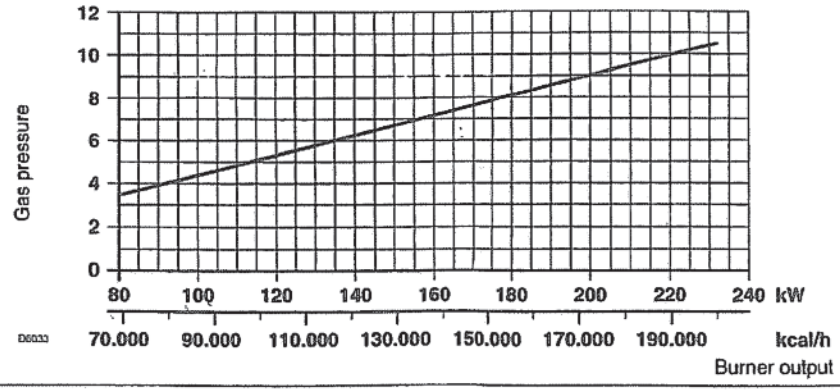


Fig. C

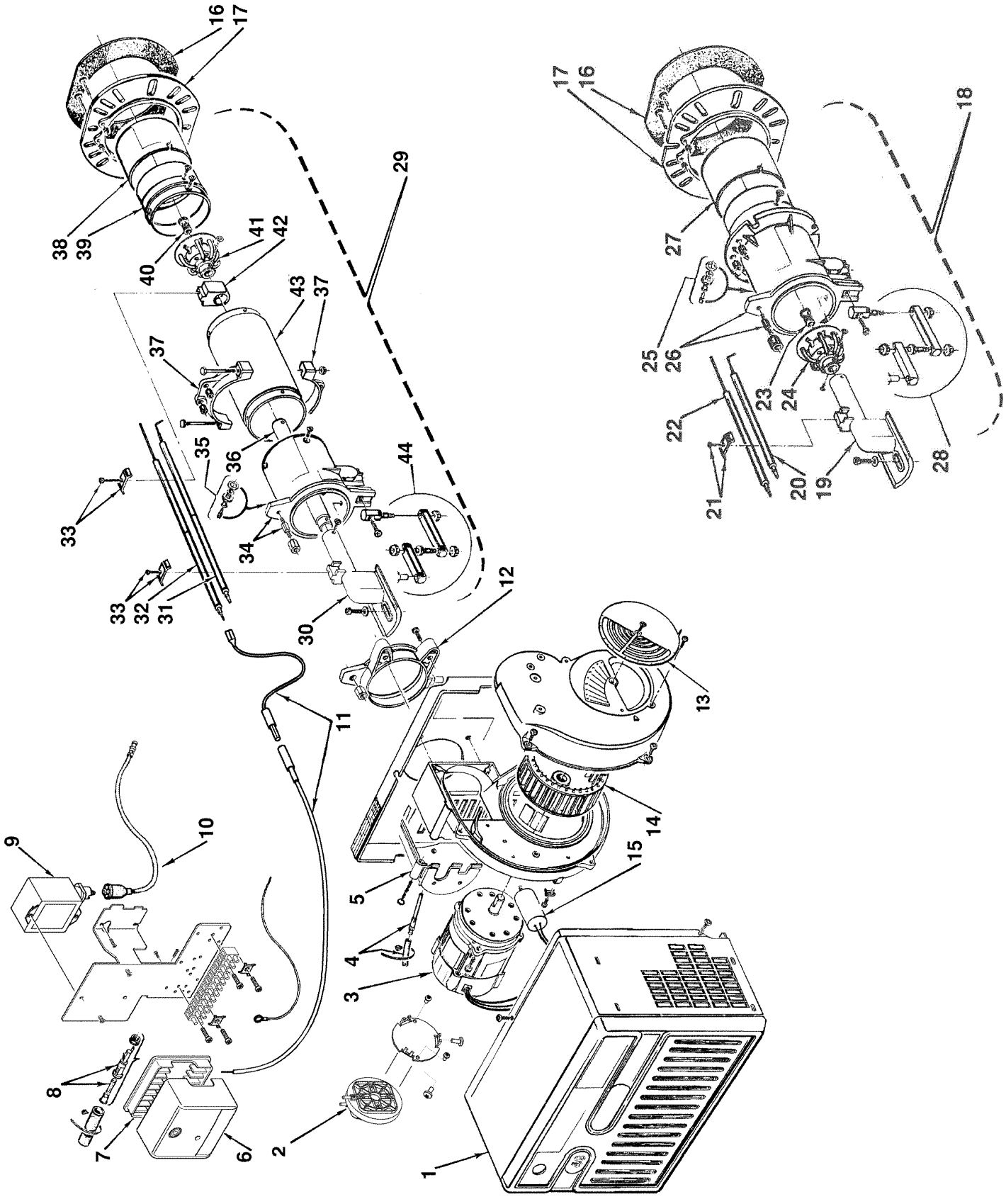


Propane Orifice Kit
PN BIE 3000886
2.0 orifice, washer/adapter used

Natural Gas Orifice
PN BIE 3006703
3.7 orifice, No washer or adapter needed

SPARE PARTS BREAKDOWN

VG700C - (18) Short Combustion Head
VG900C - (29) Long Combustion Head



heat wagon

SPARE PARTS LIST - VG700C and VG900C

No.	CODE	DESCRIPTION
1	**3007246**	Burner back cover
2	**3020314**	Air pressure switch
3	**3005845**	Burner motor
4	**3007288**	Air switch tube and connector
5	**3007294**	Air plate cover
6	**3013072**	Primary control box
7	**3003784**	Primary control sub-base
8	**3006804**	Fuse 6.25A
9	**3002462**	Transformer - Ignition
10	**3002461**	High voltage lead
11	**3007310**	Ionization lead
12	**3006689**	Chassis mounting collar
13	**3007206**	Air gate
14	**3005799**	Fan
15	**3007307**	Capacitor 20 μF
16	**3005852**	Mounting gasket
17	**3005851**	Universal mounting flange

No.	CODE	DESCRIPTION
18	**3950471**	**Short combustion head (280T1)**
19	**3006697**	Drawer assembly elbow
20	**3006706**	Electrode assembly
21	**3003409**	Electrode & ionization clamp
22	**3020209**	Ionization assembly
23	**3006703**	Natural gas diaphragm
24	**3006700**	Distributor head and mixing plate
25	**3005447**	Gas test point
26	**3007525**	Manifold
27	**3006694**	End cone
28	**3000870**	Hinge assembly
29	**3950472**	**Long combustion head (280T2)**
30	**3006697**	Drawer assembly elbow
31	**3006962**	Electrode assembly
32	**3020210**	Ionization assembly
33	**3003409**	Electrode & ionization clamp
34	**3007526**	Manifold
35	**3005447**	Gas test point
36	**3007313**	Natural gas tube
37	**3005849**	Semi flange 2 required
38	**3006694**	End cone
39	**3007283**	Combustion head connector
40	**3006703**	Natural gas diaphragm
41	**3006700**	Distributor head and mixing plate
42	**3007314**	Electrode support
43	**3007286**	Air tube-long
44	**3000870**	Hinge assembly

RIELLO BURNER - WIRING

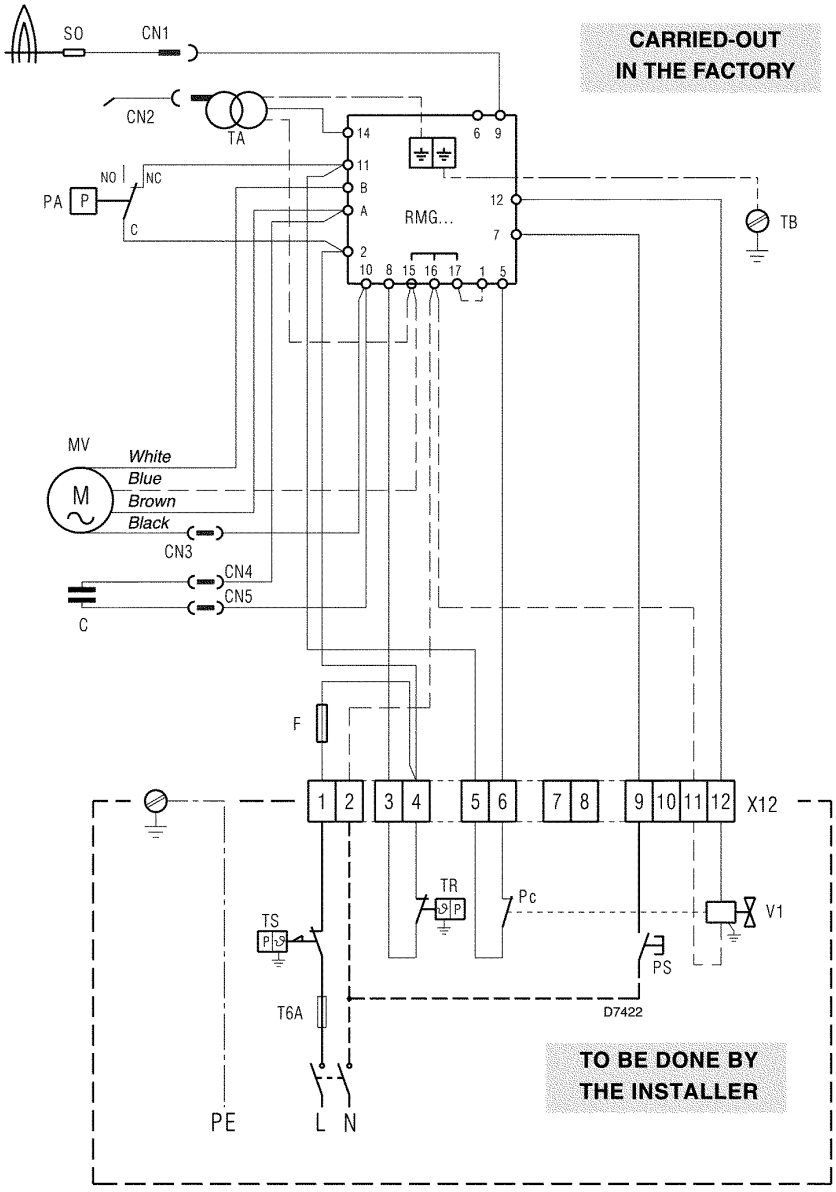
FACTORY WIRING DIAGRAM

CONTROL CIRCUITS

Burner operation may be controlled by 120V control systems.
The required controls must be connected to the burner as described on the following.

120V CONTROL SYSTEM

The burner provides it own power supply for the control circuits that is switched internal from terminal 1(L) & 2 (N), do not apply power on any other terminal or damaged to the control could occur.
The factory-installed jumper can be removed if a P.O.C device is desired.



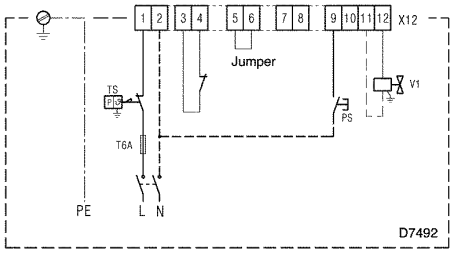
NOTE

If an external electrical source is utilized, the conversion burner, when installed, must be electrically grounded with a solid green wire to Earth Ground, in accordance with local codes or, in the absence of local codes, with the National Electrical Code ANSI/NFPA 70-1990 and the CSA Electrical Code.

Wiring legend

- **C** - Capacitor MV
- **F** - Fuse 6.25A
- **CN...** - Connectors
- **MV** - Motor
- **PA** - Air pressure switch
- **Pc** - Valve source interlock
- **PS** - Remote lock-out signal
- **SO** - Ionization probe
- **TA** - Ignition transformer
- **TB** - Burner earth
- **TR** - Limit thermostat
- **TS** - Safety thermostat
- **T6A** - Fuse
- **V1** - Gas valve
- **X12** - Terminal board 12 pole

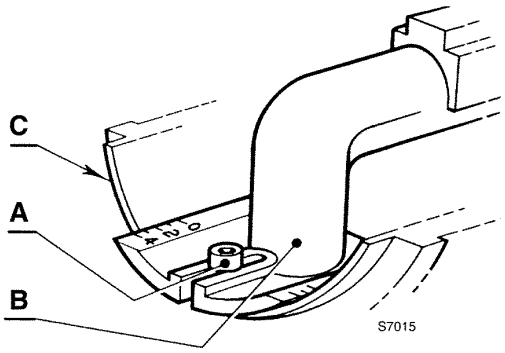
120V CONTROL SYSTEM



RIELLO BURNER - COMBUSTION HEAD

COMBUSTION HEAD SETTING

To set combustion head, loosen the Allen screw (**A**) and move the elbow (**B**) so that the rear edge of the air tube (**C**) coincides with the set point number.
See firing rate chart for set points.
Retighten the Allen screw (**A**).



⚠ **Make sure you are using the correct table for either Natural gas or Propane gas.**

BURNER SETUP CHART

	BTU Input	Air Gate	Stop Gate	Manifold Pressure	Line Pressure
NATUARAL GAS	250,000	1.1	0.0	1.00	1.37
	350,000	2.0	0.0	2.00	2.70
	450,000	2.5	1.0	1.87	3.10
	550,000	2.9	2.0	1.75	3.45
	650,000	4.0	3.0	2.05	4.35
	750,000	5.0	4.0	2.45	5.35
	900,000	9.0	5.0	3.35	7.75
PROPANE	250,000	1.20	0.0	1.23	1.40
	350,000	2.00	0.0	2.25	2.53
	450,000	2.40	1.0	2.15	2.60
	550,000	3.20	2.0	2.8	3.63
	650,000	4.25	3.0	3.2	4.30
	750,000	5.25	4.0	4.2	5.65
	900,000	8.00	5.0	5.2	6.90

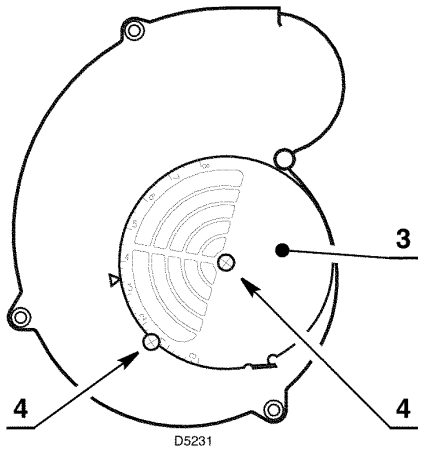
1) All tests were performed with 0" wc chamber pressure
2) Line pressure measured at test point before burner regulator.

NOTE:
The above settings are a starting point for adjustments ONLY; a qualified gas technician using proper test equipment must do the final adjustments.
Proper CO_2, O_2, and CO readings must be taken and be within regulating code requirements.
All the settings above are based on zero (0) over fire-draft.
If positive or negative chamber conditions exist some settings changes made be required.
For any referral to valve setting, please check the attached manufacturer valve specification.

RIELLO BURNER - AIR GATE

AIR GATE ADJUSTMENT

To regulate the combustion air, adjust the manual air gate (3), by loosening the locking screws (4).
Once the optimal adjustment is reached, tighten the locking screws (4).



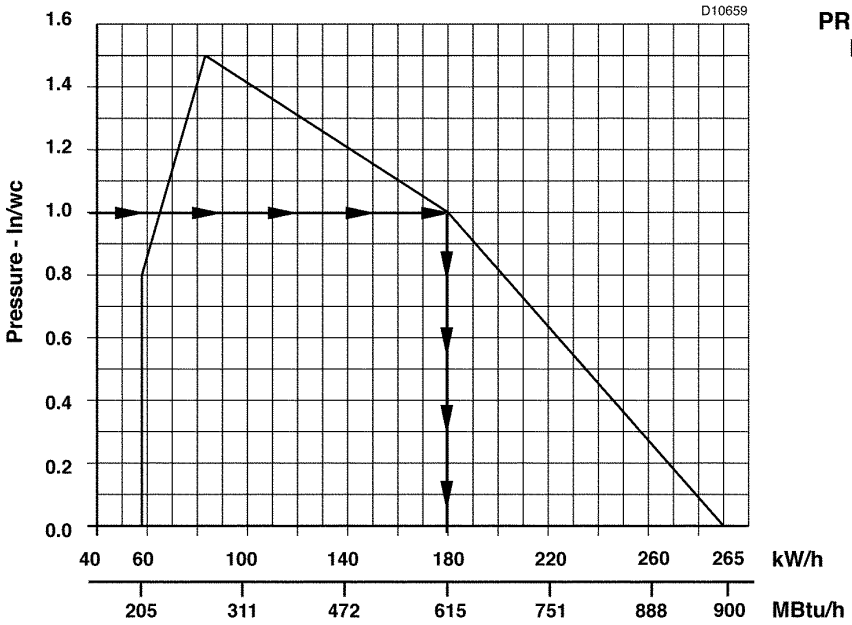
EXAMPLE SETTING - (for natural gas)
To set the air intake for a desired burner output of 450,000 Btu/hr, use **TABLE** to determine the correct air gate setting.
In this case, the setting would be 1.8 for natural gas.
Turn the manual air gate (3) until the arrow points to 1.8 on the scale.
Tighten locking screws (4).

All settings in **TABLE** are obtained with zero (0) pressure in the combustion zone and at normal operating temperatures. i.e., steady state hot conditions.

Note: Burner must be fired **ONLY** with fuel that is listed on the burner serial label.

PRESSURE WORKING CHART

The chart below shows effects of pressure in the combustion zone on the minimum/maximum burner outputs.
In this example, with a maximum operating pressure of 1.0 inches water column in the combustion zone, you will be able to obtain a maximum of 615 KBtu/h burner output.

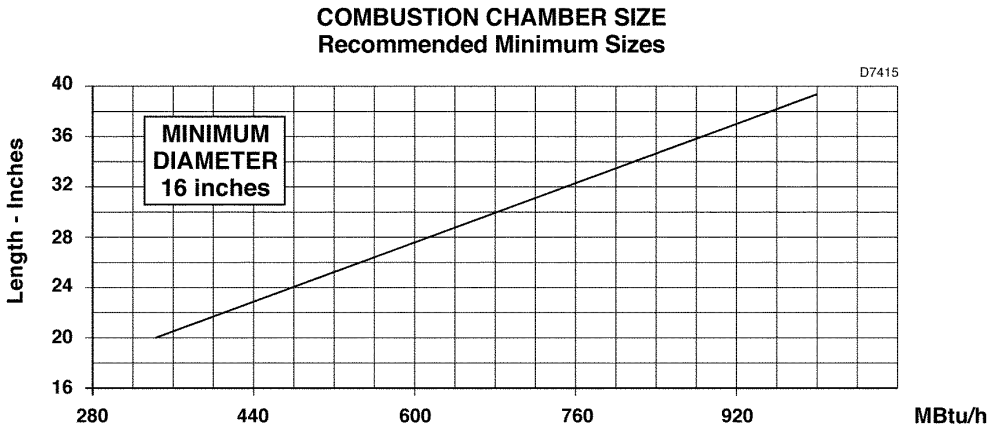


PRESSURE WORKING CHART
Natural and Propane Gas

Any change from zero (0) pressure in the combustion zone will affect the KBtu output of the burner. To supply the required input to the appliance, manifold pressure will have to be adjusted to compensate for this condition.

RIELLO BURNER - COMBUSTION CHAMBER

COMBUSTION CHAMBER SIZE



NOTES:

1) Sizes shown above are for cylindrical or wet base boilers, or air cooled heat exchangers.
2) To size the chamber in applications other than wet base boilers, you must calculate area in square inches of the combustion zone required to give you a grate area or floor area to match the BTU inputs according to local authority.
3) Recommended firebrick or cerafelt material has a continuous run limited to 2400 degrees Fahrenheit and a melting point of 3000 degrees Fahrenheit.

COMBUSTION CHECKS

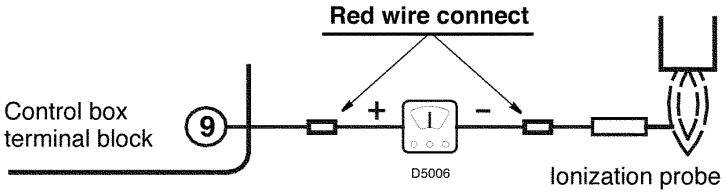
CO_2 It is advisable not to exceed a measured reading of 10% CO for Natural Gas or 12% CO for Propane Gas taken with the burner cover in place, to avoid the risk of the formation of CO due to minor changes in wind/draft conditions which may occur.

CO For safety reasons, the value of .02% (200ppm) free air sample must not be exceeded.

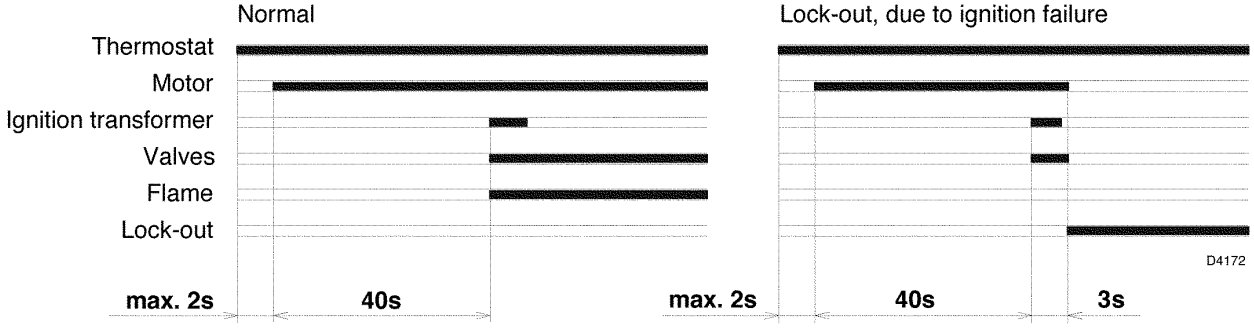
IONIZATION CURRENT

The minimum amount of current necessary for the control box to operate properly is 5 micro Amps DC.

To measure the ionization current, disconnect the red wire connector and insert a DC micrometer in series with control box terminal 9 and the ionization probe, which senses the flame.



BURNER START-UP CYCLE



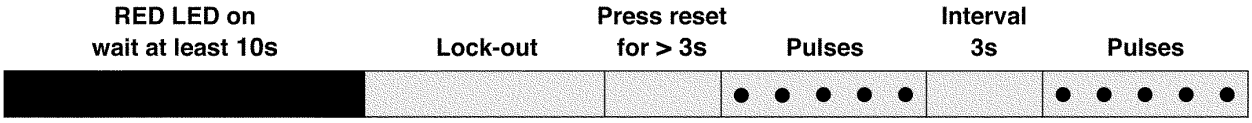
START-UP CYCLE DIAGNOSTICS

During start-up, indication is according to the followin table:

COLOUR CODE TABLE	
Sequences	**Colour code**
Pre-purging	●●●●●●●●●●●
Ignition phase	●○●○●○●○●○●
Operation, flame ok	❑❑❑❑❑❑❑❑❑❑❑❑
Operating with weak flame signal.	❑○❑○❑○❑○❑○
Electrical supply lower than ~ 170V	●▲●▲●▲●▲●▲●
Lock-out	▲▲▲▲▲▲▲▲▲▲▲
Extraneous light	▲❑▲❑▲❑▲❑▲❑▲
Index: ○ Off ● Yellow ❑ Green ▲ Red	

RESETTING THE CONTROL BOX AND USING DIAGNOSTICS

The control box features a diagnostics function through which any causes of malfunctioning are easily identified (indicator: **RED LED**).
To use this function, you must wait at least 10 seconds once it has entered the safety condition (**lock-out**), and then press the reset button. The control box generates a sequence of pulses (1 second apart), which is repeated at constant 3-second intervals.
Once you have seen how many times the light pulses and identified the possible cause, the system must be reset by holding the button down for between 1 and 3 seconds.



The methods that can be used to reset the control box and use diagnostics are given below.

RESETTING THE CONTROL BOX

To reset the control box, proceed as follows:
➢ Hold the button down for between 1 and 3 seconds.
The burner restarts after a 2-second pause once the button is released.
If the burner does not restart, you must make sure the limit thermostat is closed.

VISUAL DIAGNOSTICS

Indicates the type of burner malfunction causing lock-out.
To view diagnostics, proceed as follows:
➢ Hold the button down for more than 3 seconds once the red LED (burner lock-out) remains steadily lit.
A yellow light pulses to tell you the operation is done.
Release the button once the light pulses. The number of times it pulses tells you the cause of the malfunction, indicated in the table below.

RIELLO BURNER - DIAGNOSTICS/TROUBLESHOOTING

SOFTWARE DIAGNOSTICS

Reports the life of the burner by means of an optical link with the PC, indicating hours of operation, number and type of lock-outs, serial number of control box etc ...

To view diagnostics, proceed as follows:

➢ Hold the button down for more than 3 seconds once the red LED (burner lock-out) remains steadily lit.
A yellow light pulses to tell you the operation is done.
Release the button for 1 second and then press again for over 3 seconds until the yellow light pulses again.
Once the button is released, the red LED will flash intermittently with a higher frequency: only now can the optical link be activated.

Once the operations are done, the control box's initial state must be restored using the resetting procedure described above.

BUTTON PRESSED FOR	CONTROL BOX STATUS
Between 1 and 3 seconds	Control box reset without viewing visual diagnostics.
More than 3 seconds	Visual diagnostics of lockout condition: (LED pulses at 1-second intervals).
More than 3 seconds starting from the visual diagnostics condition	Software diagnostics by means of optical interface and PC (hours of operation, malfunctions etc. can be viewed)

The sequence of pulses issued by the control box identifies the possible types of malfunction, which are listed in the table below.

Signal	Problem	Possible cause	Recommended remedy
2 blinks ● ●	Once the pre-purging phase and safety time have passed, the burner goes into lockout without the appearance of the flame	The operation solenoid lets little gas through	Increase
		One of the two solenoid valves does not open.	Replace
		Gas pressure too low	Increase pressure at governor
		Ignition electrode incorrectly adjusted	Adjust
		Electrode grounded due to broken insulation	Replace
		High voltage cable defective	Replace
		High voltage cable deformed by high temperature	Replace and protect
		Ignition transformer defective	Replace
		Incorrect valve or transformer electrical wiring	Check
		Defective control box	Replace
		A closed valve upline the gas train	Open
		Air in pipework	Bleed air
		Gas valves unconnected or with interrupted coil	Check connections or replace coil
3 blinks ● ● ●	The burner does not switch on, and the lockout appears	Air pressure switch in operating position	Adjust or replace
	The burner switches on, but then stops in lockout	- Air pressure switch inoperative due to insufficient air pressure:	
		Air pressure switch incorrectly adjusted.	Adjust or replace
		Pressure switch pressure test point pipe blocked	Clean
		Poorly adjusted head	Adjust
		High pressure in the furnace	Connect air pressure switch to fan suction line
	Lockout during pre-purging phase	Defective motor control contactor (only three-phase version)	Replace
		Defective electrical motor	Replace
		Motor lockout (defective electrical motor)	Replace

RIELLO BURNER - DIAGNOSTICS/TROUBLESHOOTING

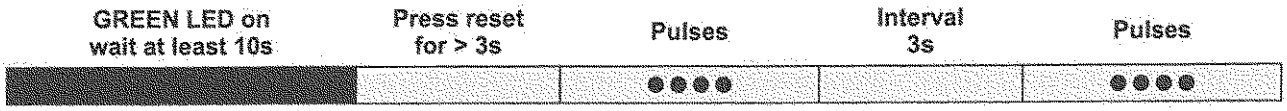
Signal	Problem	Possible cause	Recommended remedy
4 blinks ● ● ● ●	The burner switches on, but then stops in lockout	Flame simulation	Replace the control box
	Lockout when burner stops	Permanent flame in the combustion head or flame simulation	Eliminate persistence of flame or replace control box
6 blinks ● ● ● ● ● ●	The burner switches on, but then stops in lockout	Defective or incorrectly adjusted servomotor	Adjust or replace
7 blinks ● ● ● ● ● ● ●	The burner goes into lockout immediately following the appearance of the flame	The operation solenoid lets little gas through	Increase
		Ionisation probe incorrectly adjusted	Adjust
		Insufficient ionisation (less than 5 A)	Check probe position
		Earth probe	Withdraw or replace cable
		Burner poorly grounded	Check grounding
		Phase and neutral connections inverted	Invert them
		Defective flame detection circuit	Replace the control box
	Burner lockout moving between 1st and 2nd stages, or between 2nd and 1st stages	Too much air or too little gas	Adjust air and gas
	Burner goes into lockout during operation	Probe or ionisation cable grounded	Replace worn parts
10 blinks ● ● ● ● ● ● ● ● ● ●	The burner does not switch on, and the lockout appears	Incorrect electrical wiring	Check
	The burner goes into lockout	Defective control box	Replace
		Presence of electromagnetic disturbances in the thermostat lines Presence of electromagnetic disturbance	Filter or eliminate Use the radio disturbance protection kit
No blink	The burner does not start	No electrical power supply	Close all switches - Check connections
		A limiter or safety control device is open	Adjust or replace
		Line fuse blocked	Replace
		Defective control box	Replace
		No gas supply	Open the manual valves between contactor and train
		Mains gas pressure insufficient	Contact your GAS COMPANY
		Minimum gas pressure switch fails to close	Adjust or replace
		Servomotor fails to move to min. ignition position	Replace

RIELLO BURNER - DIAGNOSTICS/TROUBLESHOOTING

Signal	Problem	Possible cause	Recommended remedy
No blink	The burner continues to repeat the start-up cycle, without lockout	The gas pressure in the gas mains lies very close to the value to which the minimum gas pressure switch has been set. The sudden drop in pressure after valve opening causes temporary opening of the pressure switch itself, the valve immediately closes and the burner comes to a halt. Pressure increases again, the pressure switch closes again and the ignition cycle is repeated. And so on	Reduce the minimum gas pressure switch intervention pressure. Replace the gas filter cartridge.
	Ignition with pulsations	Poorly adjusted head	Adjust
		Ignition electrode incorrectly adjusted	Adjust
		Incorrectly adjusted fan air damper: too much air	Adjust
		Output during ignition phase is too high	Reduce
	The burner does not move into the 2nd stage	Remote control device TR fails to close	Adjust or replace
		Defective control box	Replace
		Defective servomotor	Replace
	Burner stops with air damper open	Defective servomotor	Replace

NORMAL OPERATION / FLAME DETECTION TIME

The control box has a further function to guarantee the correct burner operation (signal: **GREEN LED** permanently on). To use this function, wait at least ten seconds from the burner ignition and then press the control box button for a minimum of 3 seconds. After releasing the button, the GREEN LED starts flashing as shown in the figure below.



The pulses of the LED constitute a signal spaced by approximately 3 seconds.
The number of pulses will measure the probe DETECTION TIME since the opening of gas valves, according to the following table:

SIGNAL	FLAME DETECTION TIME
1 blink ●	0.4s
2 blinks ● ●	0.8s
6 blinks ● ● ● ● ● ●	2.8s

This is updated in every burner start-up. Once read, the burner repeats the start-up cycle by briefly pressing the control box button.

WARNING

If the result is > 2s, ignition will be retarded. Check the adjustment of the hydraulic brake of the gas valve, the air damper and the combustion head adjustment.

OWNER INFORMATION AND ROUTINE MAINTENANCE

SAFETY LOCKOUT

This burner is equipped with multiple interlocking safety devices. In the event of a failure in the flame, or any blockage of the combustion air supply, the burner will "lock out" in a safety condition. In such an event, an illuminated red button will show on the front of the red cover.

To restart the burner, press the button once only. Should the burner return to the lock out condition, call a qualified service technician or your gas company for assistance. In the case of loss of pressure in the gas supply line, the burner will go off on safety. If supplied with an optional gas pressure switch (or field installed), the burner will simply switch off on low gas pressure, and start up again when the gas pressure returns to normal.

NOTE: Keep the area around the burner free and clear of all combustible materials, gasoline and other flammable vapours and liquids. Do not allow any obstructions, which may prevent the free, flow of air to the burner.

MAINTENANCE

Like all precision equipment, your burner will require periodic maintenance. At an interval of 2 months, you should:

1) If your boiler/furnace has an observation port, visually check the flame.
2) Check and clean the air intake louver to remove any buildup of fluff, dust, pet hair, etc.

For any maintenance or repairs over and above those listed, contact your service technician or gas company. **THERE ARE NO OWNER SERVICEABLE PARTS INSIDE THE BURNER COVER.**

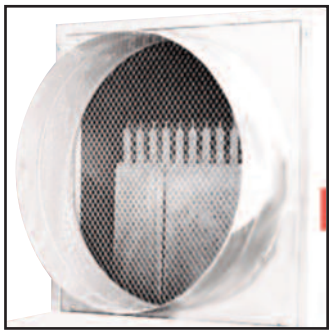
Once a year, you should have the burner checked as indicated below, by your local authorized Riello dealer.

1) Check burner distributor head and mixing plates. Clean if necessary.
2) Check ignition electrode. Clean, adjust, or replace as necessary.
3) Check the flame sensor rod (ionization rod) for dirt or carbon build up. Clean, adjust, or replace as necessary.
4) Check manifold gas pressure.
5) Check all burner adjustments.
6) Generally clean all exposed parts and components.
7) Repeat combustion tests.

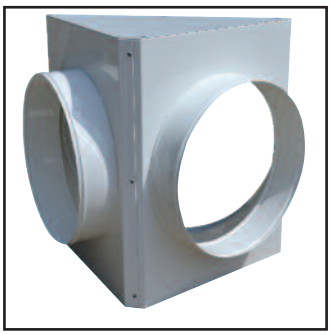
Your Riello 40 gas burner is only part of your heating system.
Once every year you should have your heating appliance serviced by a qualified service technician.
You should also have the chimney checked, and cleaned if necessary.

For VF700C / VF900C burner info
refer to Riello Burner Manual
(can be viewed from Heat Wagon website)
www.heatwagon.com

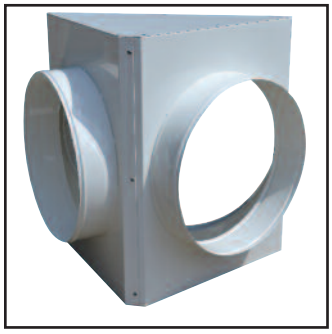
ACCESSORIES



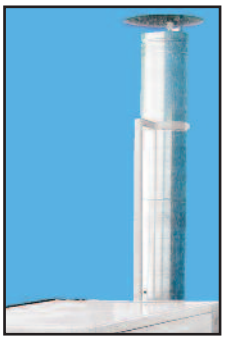
SINGLE DUCT ADAPTOR - V700
#AR702
Duct #WD2425 - 24” x 25’



SPLIT DUCT ADAPTOR - V700
#AR712
Duct #WD2025 - 20” x 25’



SPLIT DUCT ADAPTOR - V900
#AR912
Duct #WD2025 - 20” x 25’



CHIMNEY SUPPORT KIT
#AR714

VF700 On Optional
225 gal. Fuel Cell

PUMP PRESSURE GAUGE
#99AM003