

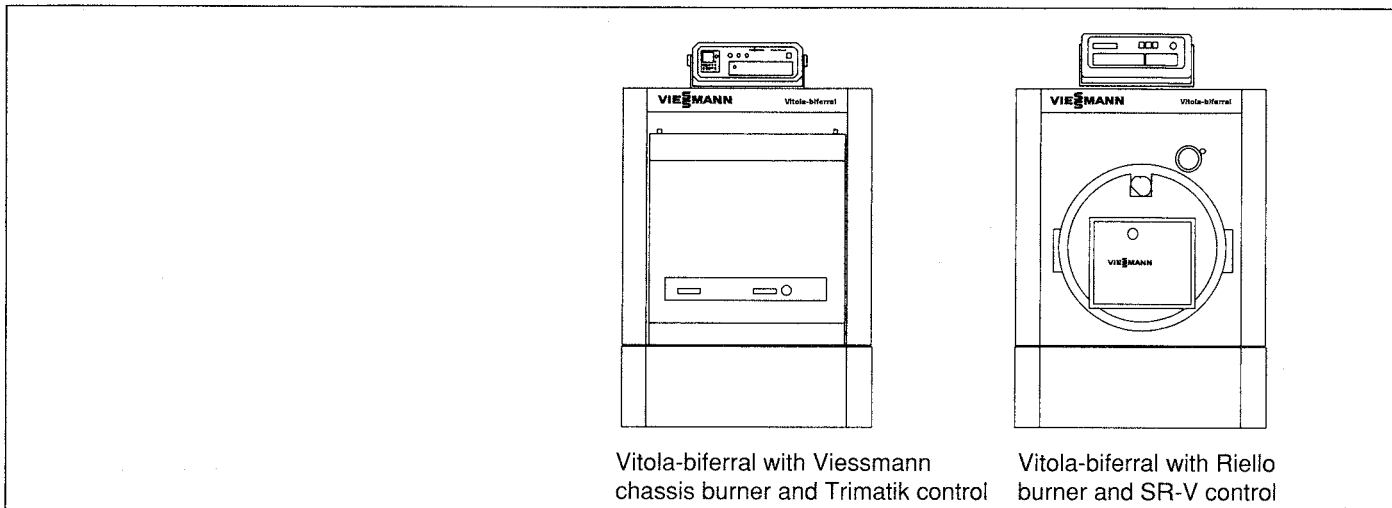
Installation / Service Manual

for Vitola-biferral-e Oil/Gas Boiler

Series VBC Hot Water Heating Boiler



IMPORTANT: READ AND SAVE THESE INSTRUCTIONS FOR FUTURE REFERENCE



Vitola-biferral with Viessmann chassis burner and Trimatik control

Vitola-biferral with Riello burner and SR-V control

This boiler is for use with the Viessmann chassis burner for #2 fuel oil or natural gas. Alternate burner is the Riello burner for #2 fuel oil, natural gas, or propane. One burner is standard equipment. Use only the fuel stated on the burner nameplate.

For detailed wiring instructions, please refer to wiring schematics provided with control systems. Burner set-up and wiring instructions are packaged in the separate burner carton.

The Vitola-biferral installation shall be in accordance with the regulations of the authorities having jurisdiction or, in the absence of such requirements, in accordance with National Codes. In Canada use CSA B-139 for oil boiler installations, or use CAN/CGA-B149.1 or .2 for gas boiler installations. In the U.S. use NFPA 31, "Standard for the Installation of Oil Burning Equipment" for oil boiler installations and the National Fuel Gas Code ANSI Z223.1 for gas boiler installations. Always use latest editions of codes.

Where required by the authority having jurisdiction, the installation must conform to the Standard for Controls and Safety Devices for Automatically Fired Boilers, ANSI/ASME CSD-1.

All electrical wiring is to be done in accordance with the latest edition of the National Electrical Code ANSI/NFPA 70. In Canada use CSA C22.1 Part 1 and/or local codes.

If boiler is equipped with boiler control SR-V, SR-VR or Trimatik, two safety high limits are already factory installed, (1 manually adjustable max. up to 90°C [194°F], 1 fixed at 120°C [248°F] with manual reset).

Max. boiler operating pressure 30 psi (207 kPa).
Max. boiler temperature 248°F (120°C).

Any damages caused by operation in excess of the above mentioned temperature and pressure are not the responsibility of Viessmann Manufacturing Company Inc.

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DOE





Warning: If the information in this manual is not followed exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

Do not store or use gasoline or other flammable liquids in the vicinity of this or any other appliance.

WHAT TO DO IF YOU SMELL GAS

- Do not try to light any appliances.
- Do not touch any electrical switches, do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

Installation and service must be performed by a qualified installer, service agency or the gas supplier.



Warning:

The installation, adjustment, service, and maintenance of this boiler must be done by a professional service technician who is qualified and experienced in the installation, service, and maintenance of the gas- or oil-fired hot water boiler used. There are no user serviceable parts on the boiler, burner, or control. Failure to heed this warning can cause property damage, severe personal injury, or loss of life.



Warning:

Improper installation, adjustment, service, or maintenance can cause flue products to flow into living space. Flue products contain poisonous carbon monoxide gas which can cause nausea or asphyxiation resulting in severe personal injury or loss of life.



Warning:

Should overheating occur or the gas supply fail to shut off, do not disconnect the electrical supply to the pump. Instead, shut off the gas supply at a location external to the appliance.

Do not use this boiler if any part has been under water. Immediately call a qualified service technician to inspect the boiler and to replace any part of the control system and any gas control which has been under water.

Do not store chemicals containing chlorine or other corrosive materials near the boiler, such as bleach, cleaning solvents, detergents, acids, hair spray, spray cans, paint thinners, paint, water softener salt, refrigerants.



Warning:

Before each heating season begins, have the following service and maintenance done by a professional service technician:

- 1) Boiler heat exchanger inspected and cleaned.
- 2) Vent system inspected for deterioration, leaks, corrosion, proper draft, and proper operation. Check vent system for compliance with local and national code requirements. Repair or replace as required.
- 3) Burner checked and if necessary adjusted for proper combustion and operation. Check for adequate supply of fresh outside combustion and ventilation air.

Neglecting to perform necessary maintenance can cause unsafe operation.



Warning:

Never operate the boiler without an installed venting system which safely vents all products of combustion to the outdoors. The vent system must comply with all applicable local and/or national codes.

Improper, incomplete, obstructed, or deteriorated vent systems can present a serious risk of flue gases leaking into living space which could cause carbon monoxide poisoning.



Warning:

Never operate the boiler without an adequate supply of fresh combustion air. This boiler needs fresh air for safe operation and must be installed so there are provisions for adequate combustion and ventilation air. All combustion and ventilation air must be supplied from the outside. Failure to heed this warning can cause severe personal injury or loss of life.



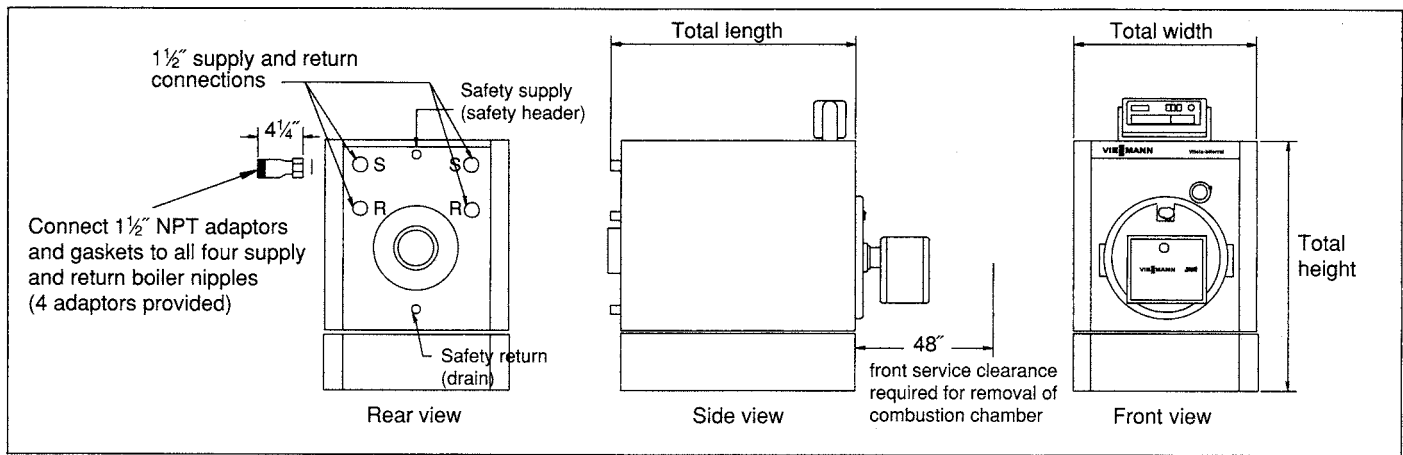
Warning:

Shut off all electrical power and turn off gas or oil supply to boiler before performing any service or maintenance on the boiler, burner, or control. Failure to heed this warning could result in electrical shock, serious personal injury, or loss of life.



Attention

Ensure that any existing piping radiation is flushed out to remove sludge and debris from the system. Failure to do so could cause system sludge to settle in boiler causing overheating and failure. This type of failure is not covered under warranty.



Technical Data

Boiler electrical requirements: 120 VAC, 60 Hz, 1 PH, less than 15A

Boiler Model No.		VBC-18	VBC-22	VBC-33	VBC-40	VBC-50	VBC-63
Oil Burner	Riello	F3-VBC-18	F3-VBC-22	F5-VBC-33	F5-VBC-40	F5-VBC-50	F10-VBC-63
	Viessmann Chassis	VG-G-18	VG-G-22	VG-G-33	VG-G-40	VG-G-50	
Input	kW	24	31	39	50	64	88
	Btu/h	83,000	107,000	135,000	170,000	219,000	300,000
DOE output	kW	21	27	34	43	55	76
	Btu/h	72,000	92,000	116,000	146,000	189,000	258,000
Net I=B=R rating*	Btu/h	63,000	80,000	101,000	128,000	164,000	224,000
Annual Fuel Utilization Efficiency, A.F.U.E.**		87.4%	87.4%	87.4%	87.3%	87.3%	87.1%
Natural Gas Burner	Riello	40-N200S-VBC-18	40-N200S-VBC-22	40-N200S-VBC-33	40-N200S-VBC-40	40-N400S-VBC-50	40-N400S-VBC-63
	Viessmann Chassis	VEC-0-18	VEC-0-22	VEC-0-33	VEC-0-40	VEC-0-50	
Input	kW	26	34	42	54	69	88
	Btu/h	90,000	116,000	146,000	185,000	238,000	300,000
DOE Output	kW	22	28	35	45	57	73
	Btu/h	75,000	97,000	122,000	154,000	198,000	249,000
Net I=B=R rating*	Btu/h	65,000	84,000	106,000	134,000	172,000	217,000
Annual Fuel Utilization Efficiency, A.F.U.E.**		83.7%	83.7%	83.7%	83.7%	83.8%	83.9%
Propane Gas Burner	Riello	40-P200S-VBC-18	40-P200S-VBC-22	40-P200S-VBC-33	40-P200S-VBC-40	40-P400S-VBC-50	40-P400S-VBC-63
Boiler shell dimensions							
Length		589mm 23 1/4"	753mm 29 1/2"	817mm 32 1/4"	817mm 32 1/4"	956mm 37 1/2"	1070mm 42 1/4"
Width		537mm 21 1/4"	599mm 23 1/2"	599mm 23 1/2"	674mm 26 1/2"	674mm 26 1/2"	674mm 26 1/2"
Height		644mm 25 1/2"	681mm 26 3/4"	681mm 26 3/4"	729mm 28 3/4"	791mm 28 3/4"	791mm 28 3/4"
Overall Dimensions							
Total Length		792mm 31"	956mm 37 1/2"	1020mm 40"	1035mm 40 3/4"	1174mm 46 1/4"	1288mm 50 3/4"
Total Width		639mm 25"	701mm 27 1/2"	701mm 27 1/2"	776mm 30 1/2"	776mm 30 1/2"	776mm 30 1/2"
Total Height		936mm 36 3/4"	973mm 38 1/2"	973mm 38 1/2"	1017mm 40"	1084mm 42 3/4"	1084mm 42 3/4"
Shipping weight		222 kg 490 lbs.	285 kg 629 lbs.	302 kg 666 lbs.	364 kg 803 lbs.	442 kg 976 lbs.	482 kg 1063 lbs.
Boiler water content		70L 18.5USG	88L 23.2USG	118L 31.2USG	140L 37.0USG	199L 52.6USG	223L 59.0USG
Maximum operating pressure		207kPa 30psi	207kPa 30psi	207kPa 30psi	207kPa 30psi	207kPa 30psi	207kPa 30psi
Boiler connections using NPT adaptors provided							
Supply & return connections		1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"	1 1/2"
Safety supply (safety header)		1"	1"	1"	1"	1"	1"
Safety return (drain)		1"	1"	1"	1"	1 1/2"	1 1/2"
Boiler vent connection O.D.							
O.D. using supplied sheet metal adaptor		130mm 5"	130mm 5"	130mm 5"	150mm 6"	150mm 6"	150mm 6"
		130mm 5"	130mm 5"	150mm 6"	150mm 6"	180mm 7"	180mm 7"
Minimum draft requirement with positive pressure in combustion chamber							
		-0.005 kPa	-0.005 kPa	-0.005 kPa	-0.005 kPa	-0.005 kPa	-0.005 kPa
		-0.02 "w.c.	-0.02 "w.c.	-0.02 "w.c.	-0.02 "w.c.	-0.02 "w.c.	-0.02 "w.c.

Propane burners have same input and output as natural gas burners. All kW figures are approximate.

*Net I=B=R rating based on piping and pick-up allowance of 1.15. **With optional stack damper.

Boiler Location

Boiler can be installed with factory supplied stand on combustible floor without additional base requirements. Do not install boiler on carpeting. Boiler must be located in a heated indoor space. Boiler should be located near a floor drain. Locate the boiler as close as possible to a vertical chimney or vent.

The preferred and safest location for the Vitola-biferral boiler is in a separate mechanical room isolated from the living space and other occupied areas such as a laundry room. An adequate supply of fresh combustion and ventilation air from the outside must be supplied to the mechanical room. It is recommended that during the early stages of new home design proper consideration be given to constructing a separate mechanical room dedicated for gas- or oil-fired heating boilers and domestic hot water storage tank(s).

Use the four levelling bolts provided on boiler base to level boiler on uneven floor.

Alcove installation – minimum clearances

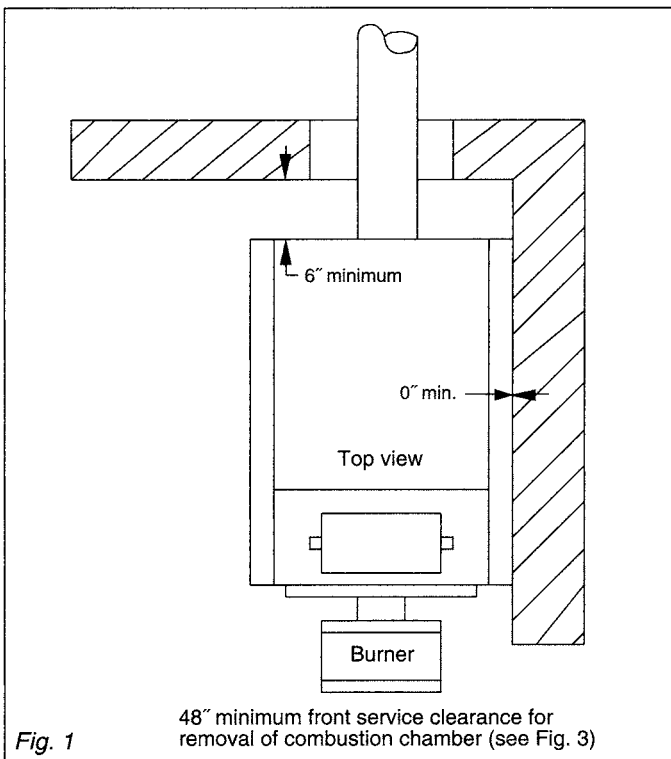


Fig. 1

48" minimum front service clearance for removal of combustion chamber (see Fig. 3)

Recommendation:

If boiler is located in a confined space, install oil shut-off valve or main gas shut-off valve (gas cock) and main power supply switch in easily accessible location outside the confined space.

Combustion air supply

This boiler needs fresh air for safe operation and must be installed so there are provisions for adequate combustion and ventilation air.



Warning:

Failure to provide an adequate supply of fresh combustion air can cause poisonous flue gases to enter living space which can cause severe personal injury or loss of life.

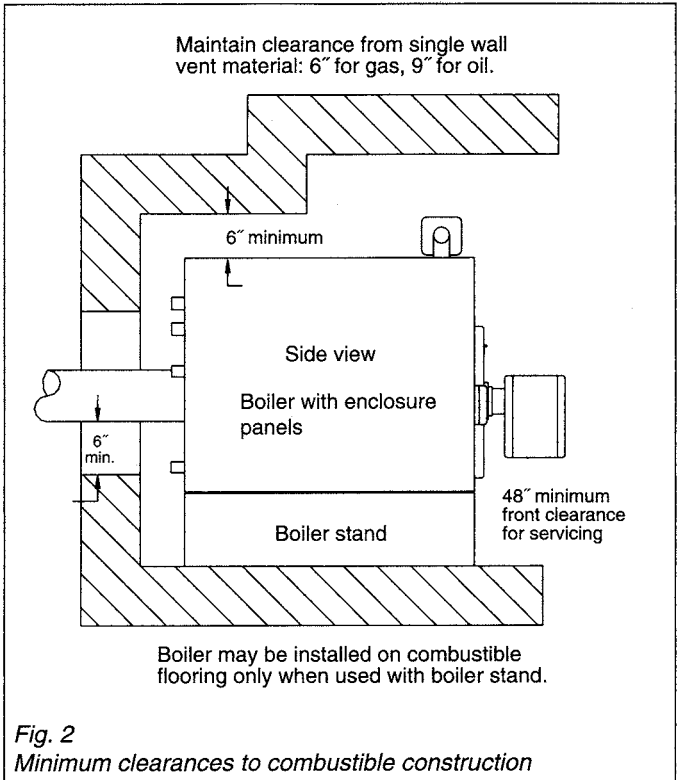


Fig. 2

Minimum clearances to combustible construction

Canada

For combustion and ventilation air requirements refer to the Installation Code For Oil Burning Appliances (CSA B139-1991 and Addenda) for oil burners, and the Natural Gas Installation Code (CAN/CGA-B149.1 or .2) for gas burners. Always use latest edition of installation codes.

USA

Provisions for combustion and ventilation air must be made in accordance with section 5.3, Air for Combustion and Ventilation, of the National Fuel Gas Code, ANSI Z223.1 (latest edition), or applicable provisions of the local building codes.

Recommended Minimum Air Supply Duct Size						
Boiler Model No.	VBC-18	VBC-22	VBC-33	VBC-40	VBC-50	VBC-63
Round duct	4" Ø	4" Ø	4" Ø	5" Ø	6" Ø	7" Ø

Provide ample clearance at the boiler front to allow for easy removal of the boiler combustion chamber (see Fig. 3).

Boiler model number	Length of combustion chamber	
VBC-18	626 mm	24 ⁵ / ₈ "
VBC-22	685 mm	27"
VBC-33	854 mm	33 ⁵ / ₈ "
VBC-40	854 mm	33 ⁵ / ₈ "
VBC-50	982 mm	38 ⁵ / ₈ "
VBC-63	1096 mm	43 ¹ / ₄ "

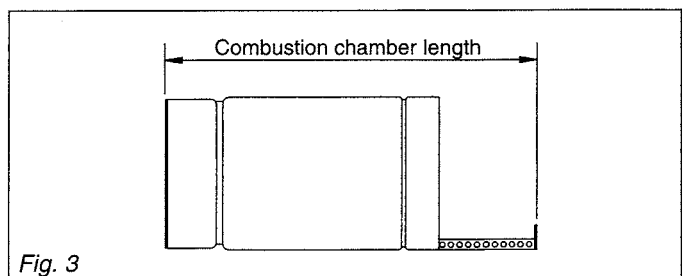


Fig. 3

Minimum clearances to combustibles (see Figs. 1 and 2)		
Back	150 mm	6"
Sides	0 mm	0"
Flue (gas-fired)	150 mm	6"
(oil-fired)	230 mm	9"
Alcove installation		
Top	150 mm	6"
Back	150 mm	6"
Flue (gas-fired)	150 mm	6"
(oil-fired)	230 mm	9"
Sides	0 mm	0"

For proper maintenance and service we recommend maintaining a front clearance of 1200 mm (48") on all models.

ATTENTION

The boiler must not be located in areas or rooms where chemicals (for example bleach, refrigerants, paint, cleaning solvents, water softener salt, etc.) are stored or aggressive vapors (for example from hair spray, perchloroethylene, or carbon tetra chloride) may be present. Do not locate boiler in areas where high humidity or high dust levels exist.

Boiler corrosion caused by chlorides from chemicals stored near boiler will void any warranty on the complete boiler and related components.

Be aware that best overall system performance is achieved when all components are properly sized. Sizing of the required circulation pump according to the pipe layout and calculation of a proper water expansion tank is vital to obtain the system's peak performance. The boiler should be selected based on an accurate calculation of the building's heat loss. The boiler must be compatible with the connected radiation.

Standard equipment

- (Boiler shell and all packages will fit through 32" doorway)
- Boiler shell with stainless steel combustion chamber and combustion chamber door.
- Boiler mounting stand packed in separate carton.
- Boiler enclosure and insulation packed in separate carton with cleaning brush.
- Accessory hardware, cast-iron safety header, pressure relief valve, pressure gauge, and air vent.
- Burner (oil or gas) packed in separate carton complete with barometric draft control.
- Boiler control packaged in separate carton.

ATTENTION

Permits from local authorities should be obtained before installing the boiler. For boiler assembly please follow the step by step assembly instructions. Installation must be made in accordance with local ordinances which may differ from this Installation Manual. Never use compression fittings or Teflon tape in fuel oil piping.

Excerpt from Viessmann warranty terms

Boiler is not covered under any warranty terms for damages resulting from the following:
 Improper application and installation, installation by unqualified personnel, ignorance of instructions, improper service and maintenance work, incorrect replacement component selection or application, incorrect field wiring.

Full warranty applies only when boiler is installed and operated according to instructions and used only with the proper gas and the applicable gas pressures. For details, refer to boiler warranty certificate. Read and save warranty certificate.

This boiler is for use in closed loop forced circulation hot water heating systems only.

Caution

This boiler is not for use in systems where water is constantly or frequently replenished. Minerals such as calcium in make-up water can deposit on heat exchanger causing overheating, and eventually the boiler will leak. This type of failure is not covered by warranty. Water must not be drained from system for use by cleaning personnel.

Caution

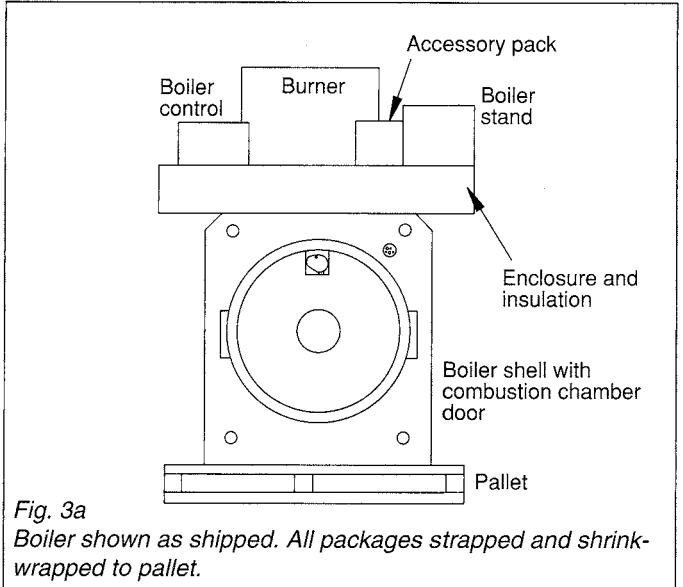
The boiler warranty does not cover leaks resulting from corrosion caused by the use of underfloor plastic tubing without an oxygen diffusion barrier. Such systems must have the non-oxygen diffusion barrier tubing separated from the boiler with a heat exchanger. Viessmann recommends the use of underfloor plastic tubing with an oxygen diffusion barrier.

Step by step installation instructions – Vitola-biferral boiler

Boiler transport and handling

(see Figs. 3a, 4, 5)

Boiler shell is shipped on pallet with all necessary packages as shown in Fig. 3a.



The boiler shell may be handled by a moving cart, or carried by two or more people using 3/4" steel pipe through the lifting lugs. Pipes may be used as rollers. Note that the moving cart must have the capacity to move the boiler shell. For example, for a VBC-63, the moving cart must have a capacity exceeding 810 lbs. (see table below).

Weights of boiler shell shown in Fig. 4.

VBC-18	VBC-22	VBC-33	VBC-40	VBC-50	VBC-63
297 lbs	422 lbs	455 lbs	571 lbs	735 lbs	810 lbs

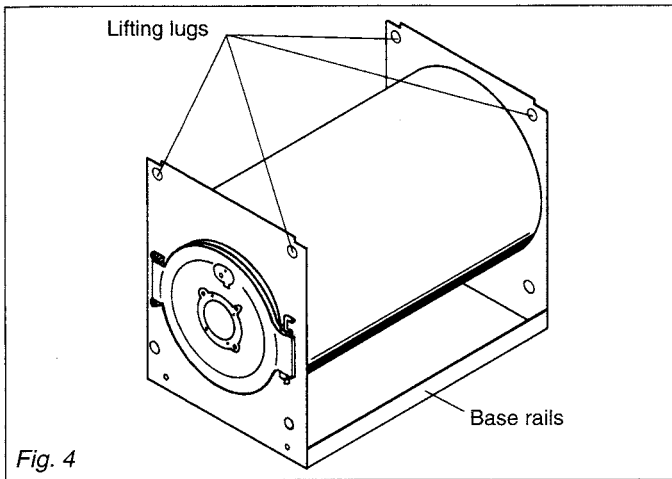


Fig. 4

General assembly

Follow steps listed below for the assembly of the Vitola-biferral boiler:

Boiler door removal

1. Remove combustion chamber door.
2. Remove any material, accessories, or debris which may be inside combustion chamber.
3. Remove boiler accessory package with levelling bolts. The observation port must be installed on the combustion chamber door.

Boiler stand assembly (if applicable)

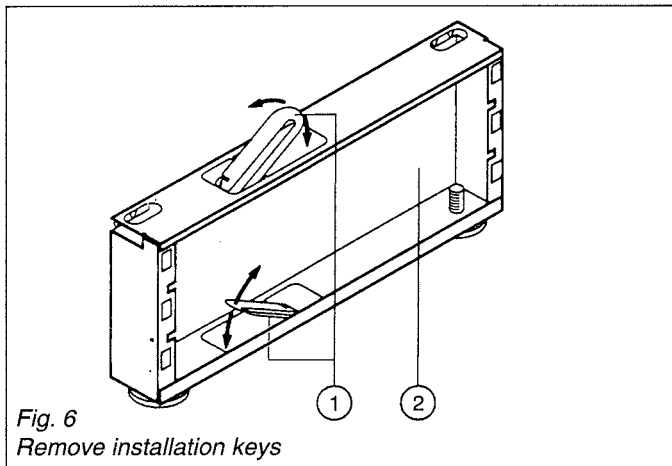


Fig. 6
Remove installation keys

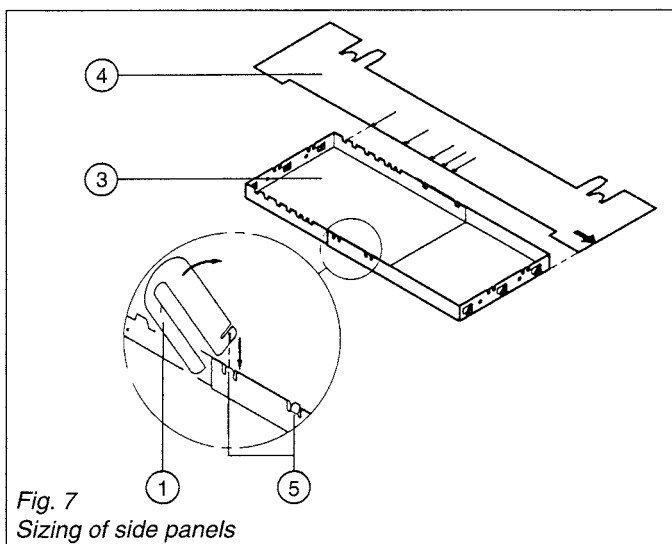


Fig. 7
Sizing of side panels

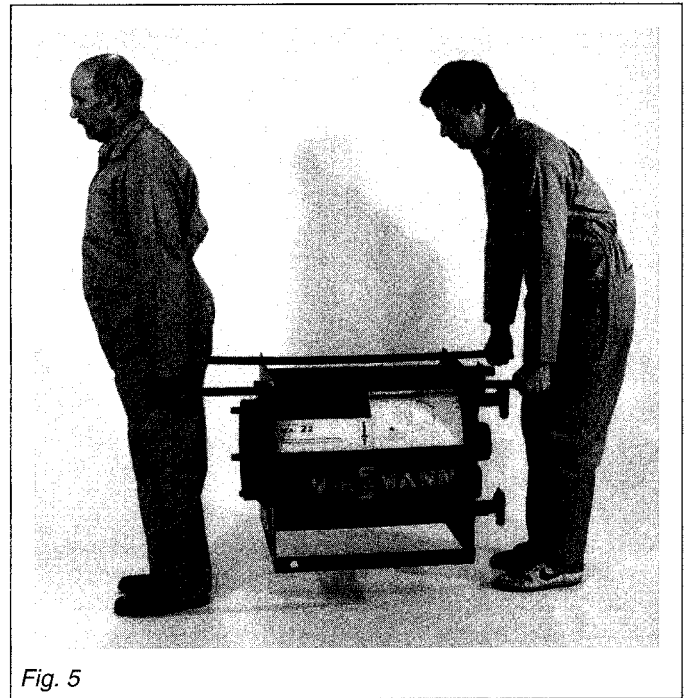
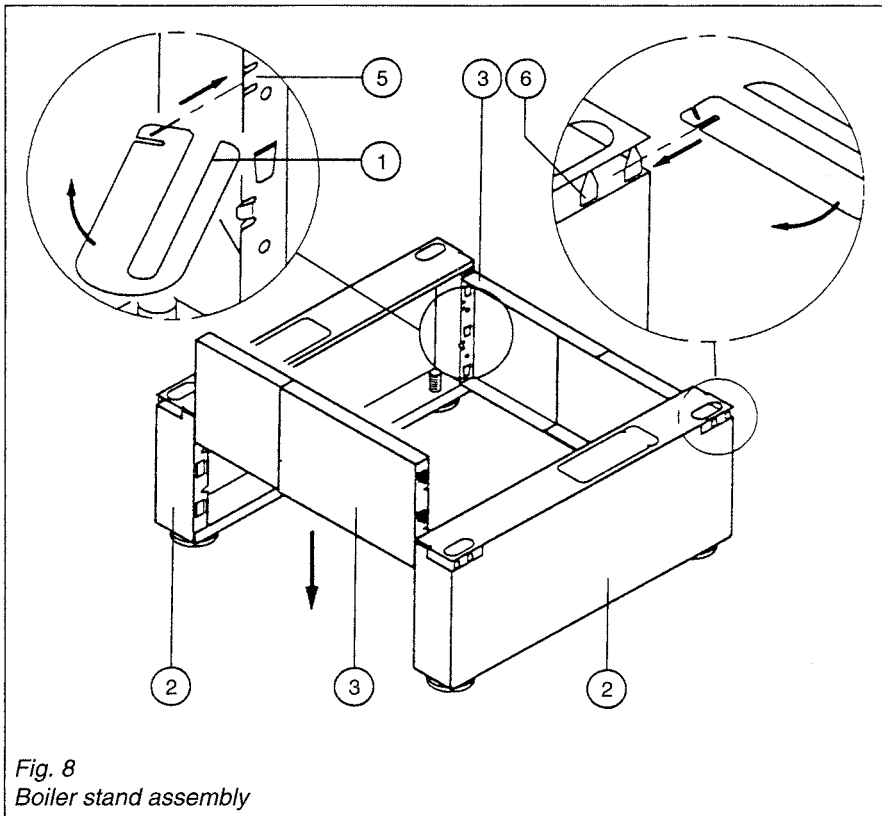


Fig. 5

1. Remove installation keys ① (4 pieces, for later use as washers) from boiler frame side panels ②.

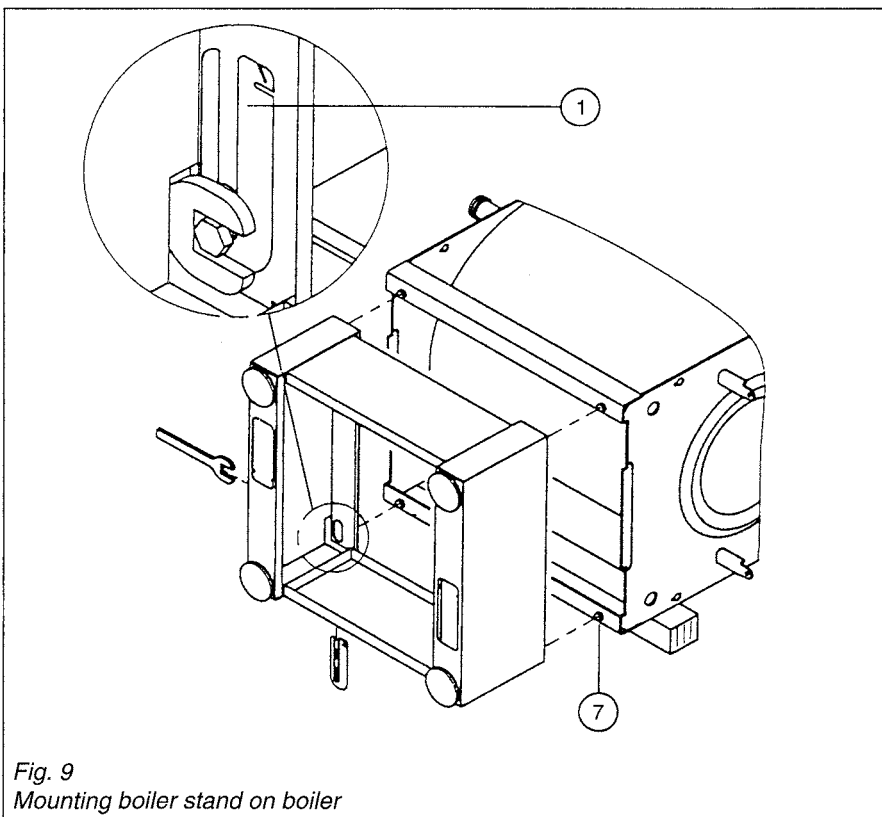
2. Align cardboard template edge labeled "ANLEGEPUKNT →" with edge of side panel. Pull apart side panels ③ (2 pieces) and use cardboard template ④ to size according to the boiler size being installed (see Fig. 7).

3. Bend locking tabs ⑤ using installation key ①.



4. Slide side panels ③ fully into frame hardware ②.
5. Bend locking tabs ⑤ using installation key ①.
6. Using installation key ①, break tabs ⑥ off frame hardware ②.

Fig. 8
Boiler stand assembly



7. Lay boiler on its side, elevated by a block of wood.
8. Using hex bolts (4 pieces, from boiler accessory package) which can thread up to .4" / 10mm into the boiler footing rail, mount boiler base to boiler.
9. Position boiler base in such a way that the hex bolts slide through elongated base holes.
10. Slide installation keys ① (4 pieces) as washers under hex bolts.
11. Reposition boiler base and tighten hex bolts.
12. Place boiler in upright position.
13. Level boiler using levelling bolts (see Fig. 10).

Fig. 9
Mounting boiler stand on boiler

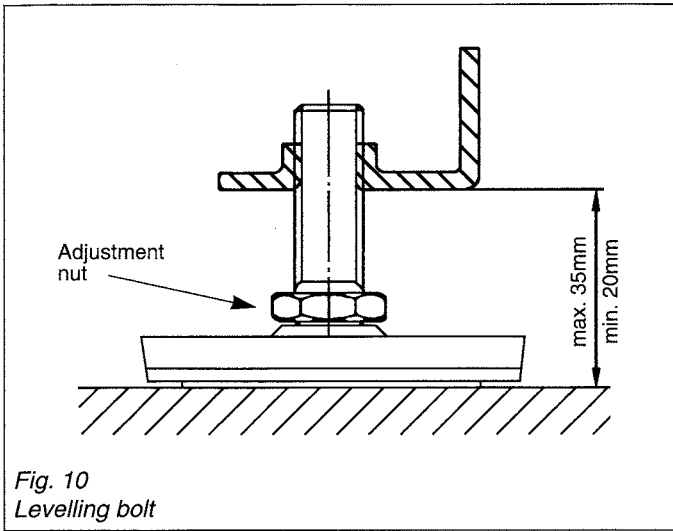


Fig. 10
Levelling bolt

ATTENTION

Before any piping or breeching connections can be made, the rear panel and insulation blanket must be attached.

Assembly of boiler enclosure, control, and burner

1. Attach fiberglass insulation to boiler using spring clips (see Fig. 11).
2. Attach hexagon spacers (011, 012) to front and rear corners of boiler shell (see Fig. 12).
3. Attach back panel using screws provided (see Fig. 12).

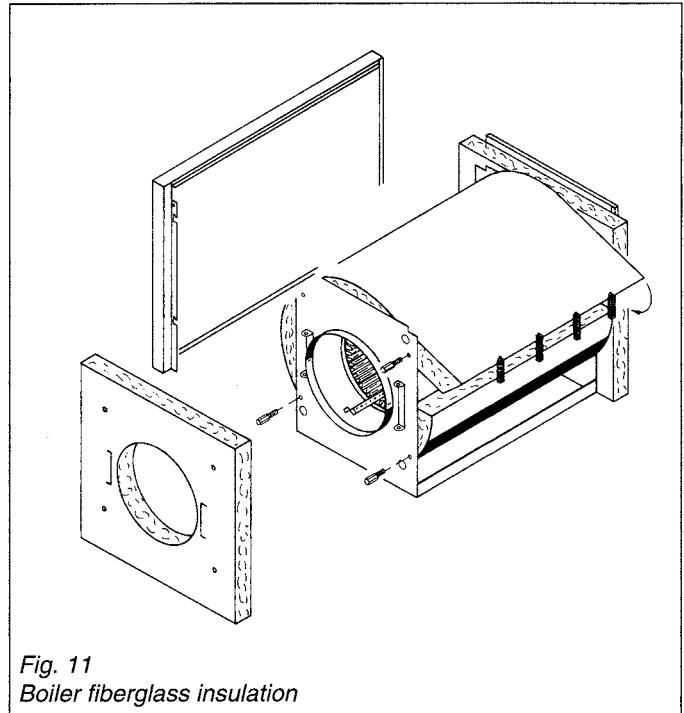


Fig. 11
Boiler fiberglass insulation

4. Attach side panels (see Fig. 12).
5. Attach front top panel, shorter of the two top panels (see Fig. 12).
6. Attach the boiler control. The boiler control will be either the SR-V, SR-VR, or the Trimatik control (see Fig. 13). Refer to instructions packaged with control.

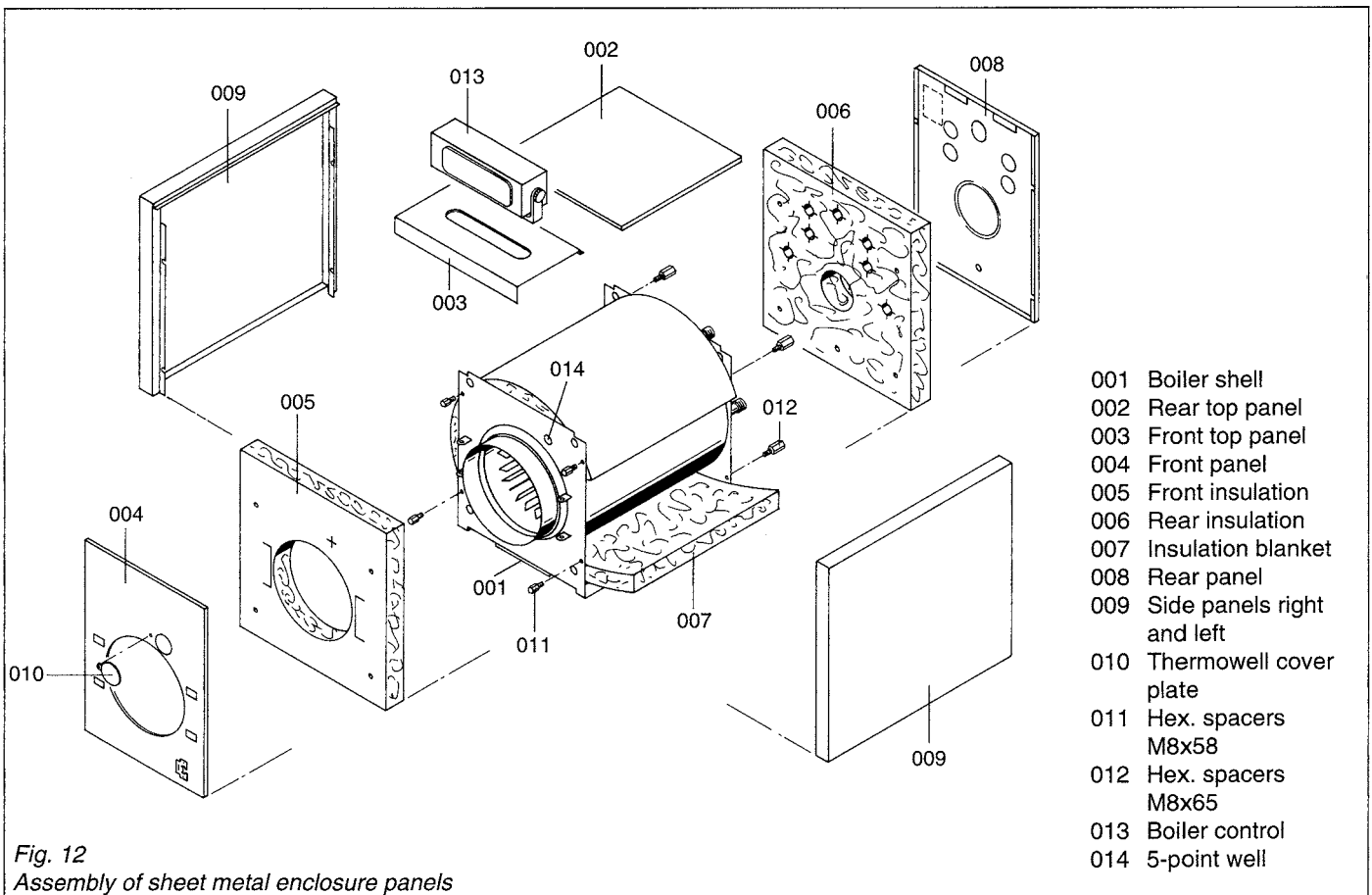


Fig. 12
Assembly of sheet metal enclosure panels

- 001 Boiler shell
- 002 Rear top panel
- 003 Front top panel
- 004 Front panel
- 005 Front insulation
- 006 Rear insulation
- 007 Insulation blanket
- 008 Rear panel
- 009 Side panels right and left
- 010 Thermowell cover plate
- 011 Hex. spacers M8x58
- 012 Hex. spacers M8x65
- 013 Boiler control
- 014 5-point well

7. Route capillaries and sensors from the control to the 5-point stainless steel well. Route the electrical cable with the male 7-pole plug towards the front of the boiler and out the plastic strain relief on the front panel. Route appliance cord for incoming power through rear of top panel. Refer to wiring instructions packaged with control. The Trimatik-MC has a terminal box which is placed under the top panel. The SR control does not have this terminal box (see Figs. 13, 14, and 16).
8. Install front panel (see Fig. 12).
9. Attach rear top panel (see Fig. 14).
10. Attach combustion chamber door (see Fig. 17).

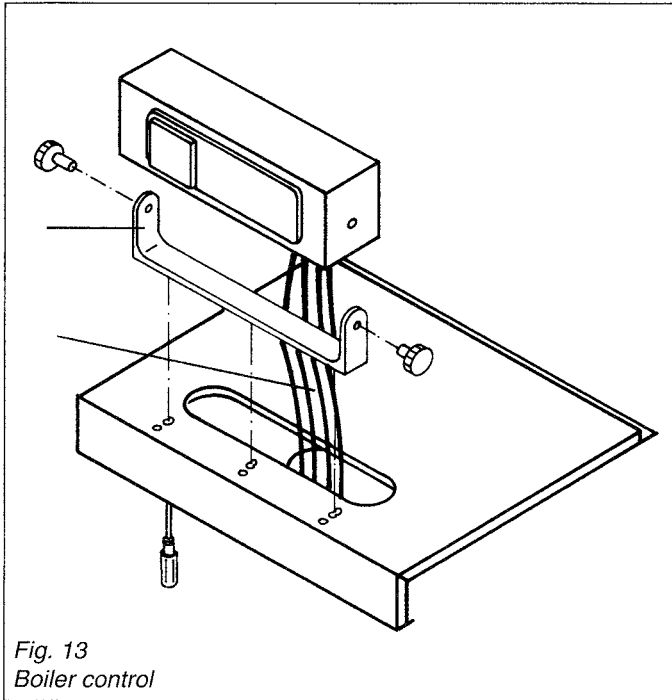


Fig. 13
Boiler control

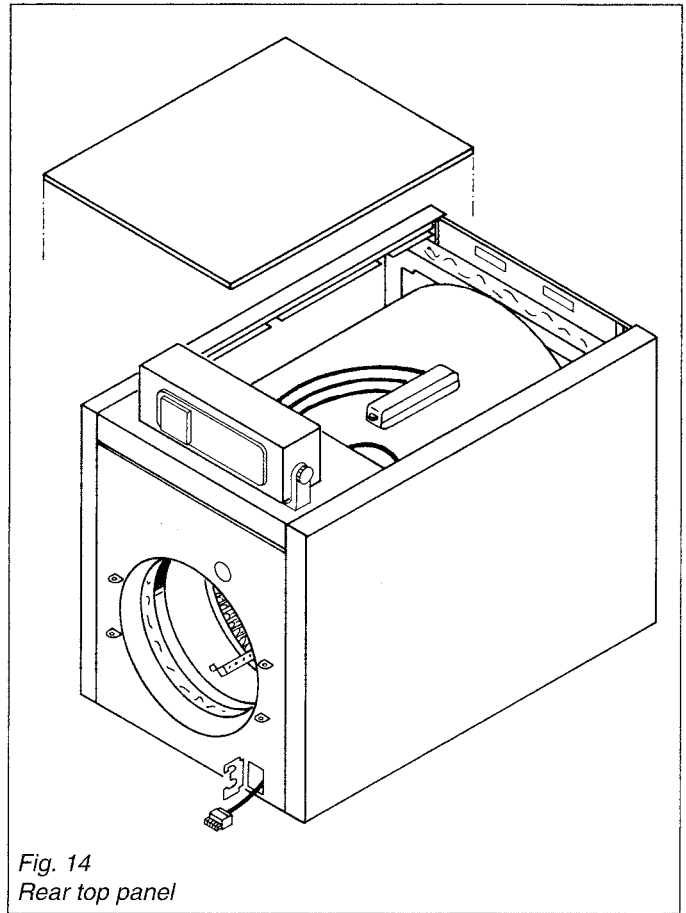


Fig. 14
Rear top panel

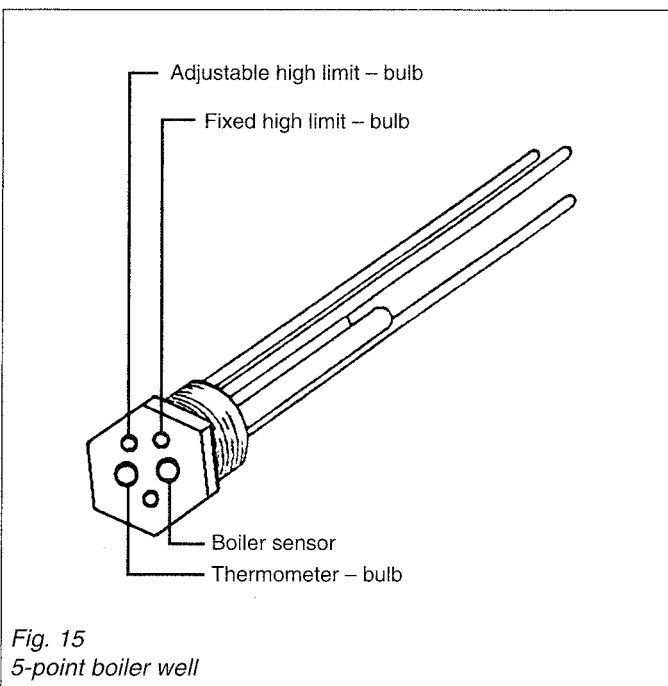


Fig. 15
5-point boiler well

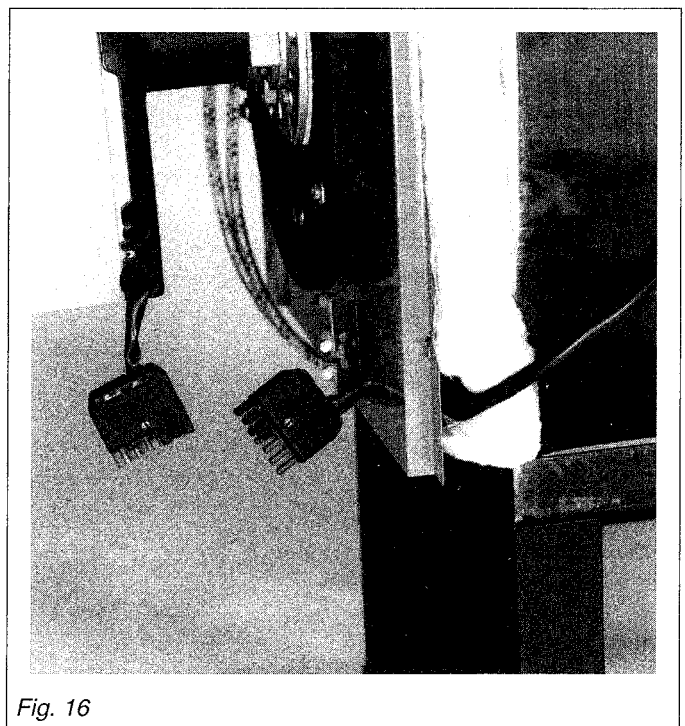


Fig. 16

Cable for #41 plug from control runs behind side panel and through strain relief.

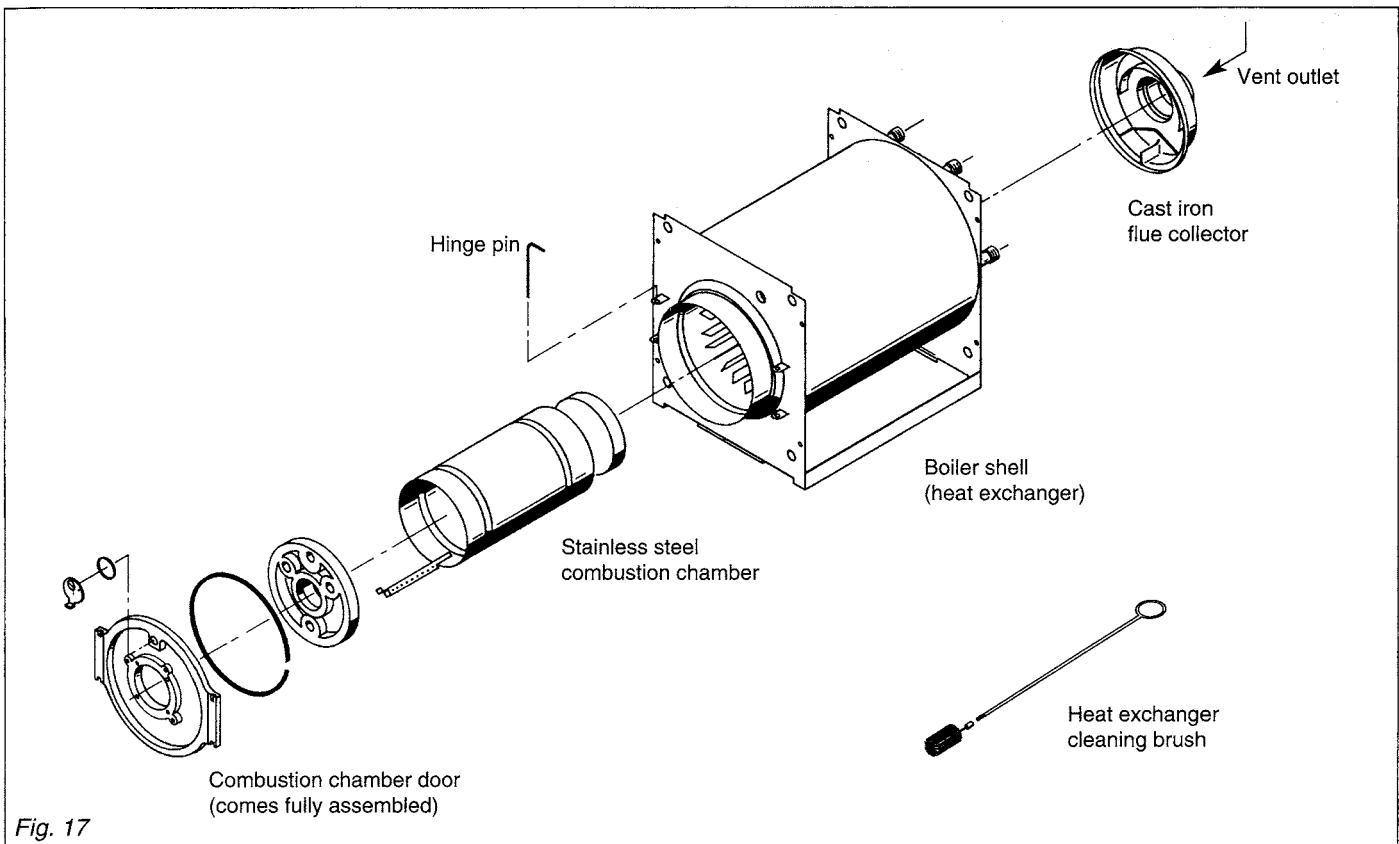


Fig. 17

- Attach sheet metal vent pipe adaptor supplied with each VBC boiler to the boiler cast iron flue collar. Use high temperature (500°F) silicone to seal between sheet metal adaptor and boiler cast iron vent connection. Drill pilot holes with $\frac{1}{64}$ " cobalt HSS drill bit and fasten using three equally spaced # 10 x $\frac{1}{2}$ " stainless steel self drilling screws. Reinforce with locking band. Vent pipe adaptors are shipped in accessory pack.

Warning:

Failure to securely fasten all vent connections, including vent pipe adaptor to boiler, can cause flue gases to enter living space. Flue gases leaking into living space can cause carbon monoxide poisoning.

- Complete installation of venting system. See venting instructions on page 16.
- Attach oil, natural gas, or propane burner. Refer to instructions packaged with burner for mounting and set-up. Read and save burner instructions.

The burner must be adjusted for acceptable combustion results under local conditions of the installation.

Perform burner set-up only after all system piping, all safety devices (i.e. LWCO) and venting systems have been installed. All fuel lines must be leak tested and all necessary safety inspections completed. Boiler and system must be full of water and purged of air before burner is fired.

Complete remaining installation steps in this manual before operating burner.

Burner set-up must be done by qualified, experienced burner service technicians holding all necessary licences. The measuring instruments needed for burner adjustment are listed below.

Test equipment required for adjustment of gas burners:

- Instruments to measure 0 - 12.0% CO₂ or 0 - 21.0% O₂, such as Bacharach Fyrite Gas Analyzer or suitable electronic combustion efficiency analyzer.
- Multimeter to measure 0 - 120 VAC, 0 - 12 A AC, and 0 - 20µA DC
- Liquid manometer or non-electric Magnehelic pressure gauge to measure accurately 0 - 5 "w.c.
- Liquid manometer or non-electric Magnehelic pressure gauge to measure accurately 0 - 14 "w.c.
- Stack thermometer 0 - 500°F such as Bacharach Tempoint thermometer, model 12-7014.
- Carbon monoxide measuring equipment (0 - 400 ppm) such as Bacharach Monoxor (glass tube indicators with manual sample pump), Monoxor II electronic CO gas analyzer specifically for CO only. The CO cell on a suitable electronic combustion efficiency analyzer will also measure CO in the range 0 - 400 ppm.

Acceptable combustion results for natural gas are 7.5 - 9.5% CO₂ or 7.5 - 4.5% O₂, 200 - 350°F gross stack temperature, -0.02 to -0.04 "w.c. chimney draft, +0.01 to +0.04 "w.c. overfire draft. Combustion results must be field verified using proper instruments.

Acceptable combustion results for propane gas are 8.0 - 11.0% CO₂ or 9.0 - 4.0% O₂, 225 - 380°F gross stack temperature, -0.02 to -0.04 "w.c. chimney draft, +0.01 to +0.04 "w.c. overfire draft. Combustion results must be field verified using proper instruments.

Test equipment required for set-up of oil burners:

- Instruments to measure 0 - 15.0% CO₂ or 0 - 21.0% O₂ such as Bacharach Fyrite Gas Analyzer or suitable electronic combustion analyzer
- Multimeter to measure 0 - 120 VAC, 0 - 12 A AC, and 0 - 20µA DC
- Oil pressure gauge 0 - 14 bar (0 - 200 psi)
- Oil vacuum gauge 0 - 30" Hg
- Stack thermometer 0 - 500°F such as Bacharach Tempoint thermometer, model 12-7014
- Bacharach smoke spot tester
- Draft gauge to measure breeching draft and overfire draft
- CO measuring equipment as described above

Acceptable combustion measurements with #2 fuel oil are 11.0 - 13.0% CO₂, 5.5 - 3.0% O₂, 0 - 1 smoke spot, 250 to 450°F gross flue gas temperature, -0.02 to -0.04 "w.c. chimney draft, +0.01 to +0.04 "w.c. overfire draft. Combustion results must be field verified using proper instruments.

The preceding combustion values given are based on average results. Slightly higher or lower values may be suitable depending on installation conditions. All measurements in vent taken between boiler and barometric damper before dilution air. Overfire draft is measured at observation port on combustion chamber door.

Carbon monoxide concentration for boilers fired with natural gas, propane, or #2 fuel oil must be less than 50 ppm measured in the flue between boiler and barometric damper before dilution air enters vent. Carbon monoxide must be measured at initial burner start-up and at every service and maintenance inspection. If carbon monoxide concentrations are higher than 50 ppm, then steps must be taken by a qualified, experienced burner technician to decrease concentration below 50 ppm. Steps to follow include, but are not limited to, the following:

- 1) cleaning boiler flue passages of debris, soot, etc.
- 2) ensuring adequate supply of fresh outside combustion air
- 3) inspection of vent and chimney and correction of any problem related to deterioration, leakage, condensation, blockage by birds' nests, debris, snow, ice, or other materials, incorrect size, lack of adherence to local and/or national venting codes
- 4) verifying fuel input by clocking gas meter and, if necessary, adjusting gas valve regulator to input on boiler nameplate, checking oil nozzle and oil pump pressure
- 5) adjusting burner by increasing combustion air adjustment on burner to lower CO₂ and CO concentrations
- 6) cleaning oil or gas burner, changing oil nozzle, changing any deteriorated or defective part on gas or oil burner
- 7) contacting manufacturer for assistance

Warning:

Checking for safe concentration of carbon monoxide will ensure continual safe operation of boiler and burner. Annual maintenance and cleaning as described in this manual must be done. Failure to heed this warning may lead to severe personal injury or loss of life.

Warning:

Follow local regulations with respect to CO detectors. Follow all safety information from oil or gas supplier.

ATTENTION

When the boiler is fired for the first time, the ceramic fiber insulation on the back of the combustion chamber door will require ½ to 1 hour of firing time to "cure". An odour will occur during this time. If possible, homeowners should not be at home so as to avoid the odour during the initial firing. Final measurements of CO must be done only after the "cure" is complete.

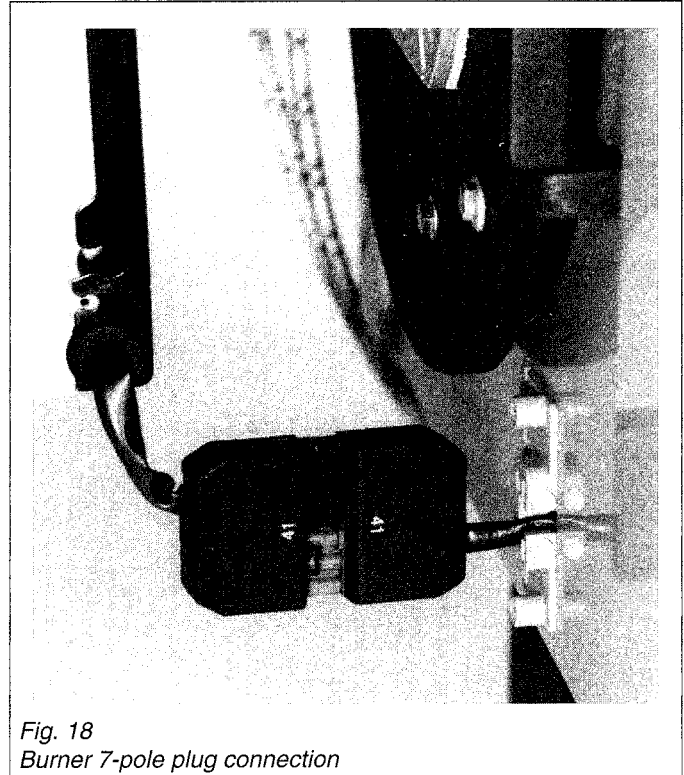


Fig. 18
Burner 7-pole plug connection

14. Attach female 7-pole plug from burner to male 7-pole plug from boiler control (see Fig. 18). 120V is switched to burner through 7-pole plug wiring harness on a call for heat. Do not connect additional 120V power supply to the burner. Provide a grounded 120V receptacle for appliance cord shipped with SR-V or SR-VR control. For Trimatik control provide 120V supply into power/pump control module supplied with Trimatik. Always provide disconnect switch and overcurrent protection. Refer to wiring diagrams provided with control for details and sequence of operation.

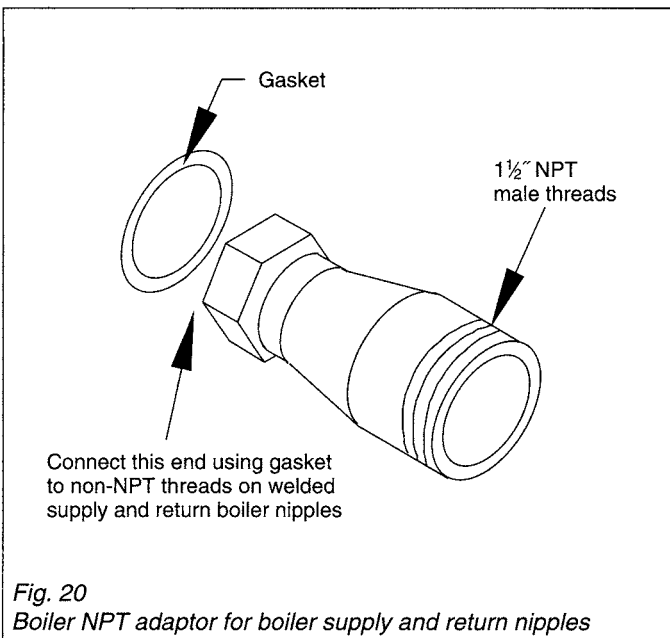
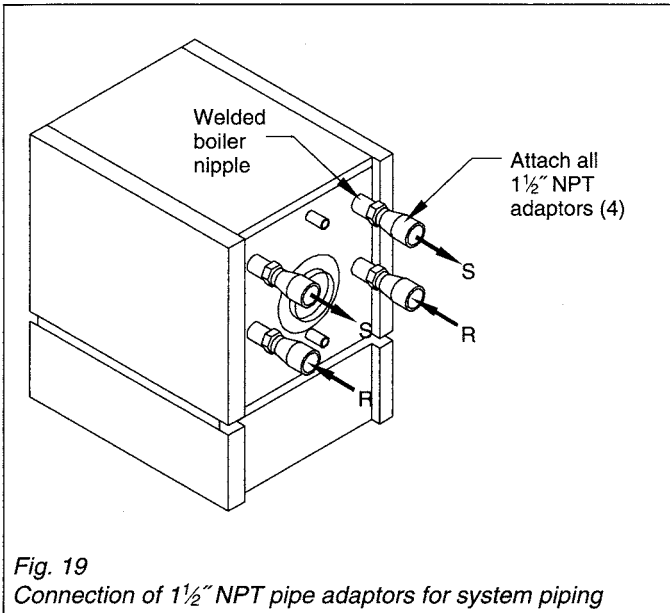
Electrical requirements of each Vitola-biferral boiler with either SR-V, SR-VR or Trimatik control: 120VAC, 60 Hz, 1 PH, less than 15A.

Warning:

The boiler must be grounded in accordance with the latest edition of ANSI/NFPA 70. In Canada, use CSA C22.1. Do not rely on piping to ground the boiler. Service personnel standing in wet areas may be electrocuted by an ungrounded boiler.

- Attach all four 1½" NPT adaptors and gaskets to the supply and return welded non-NPT nipples on boiler before any system piping is connected. Adaptors and gaskets are found in accessory pack. Do not connect system piping directly to supply and return nipples. If one set of supply and return connections are not used they may be capped (see Figs. 19 and 20).

The top safety header and bottom drain connections have NPT threads and do not need adaptors.



Caution

Ensure that any existing piping radiation is flushed out to remove sludge and debris from the system. Failure to do so could cause system sludge to settle in boiler causing overheating and failure. This type of failure is not covered under warranty.

Boiler pressure test

The boiler must be leak tested before being placed in operation.

Before boiler is connected to piping or electrical power supply, it must be hydrostatically pressure-tested with a max. of 45 psi (310 kPa).

- Install safety manifold with pressure gauge and air vent. Install temporary cap on ¾" nipple extension (nipple for pressure relief valve mounting).

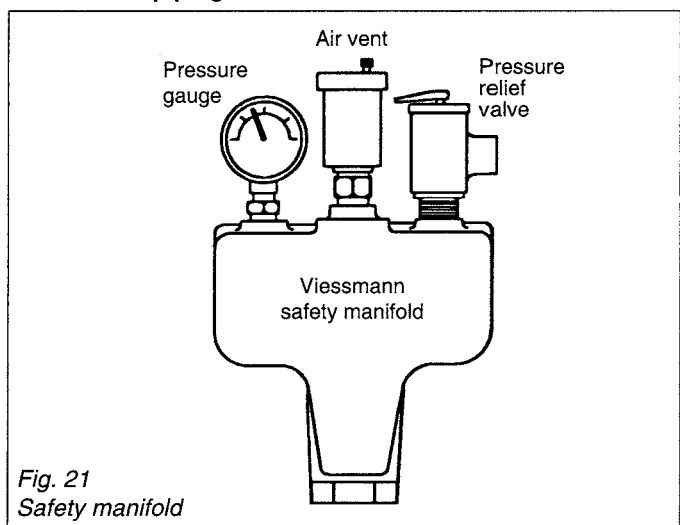
ATTENTION

Do not install an isolation valve between boiler and safety manifold (see boiler piping section).

- Cap supply and return pipes.
- Connect ½" garden hose to boiler drain valve and fill boiler slowly until pressure gauge indicates max. 45 psi (310 kPa).
- Maintain pressure for 15 minutes. During time of pressure testing, do not leave boiler unattended.
- Inspect all pipe joint connections, the safety manifold, and boiler base with flashlight for leaks.
- After 15 minutes, release water pressure from boiler by opening boiler drain valve slowly, remove caps from supply and return pipe as well as ¾" cap from safety manifold nipple, and install pressure relief valve immediately instead of ¾" cap.

After boiler has passed pressure test, proceed with installation.

Boiler water piping



ATTENTION

Install safety manifold with pressure relief valve, pressure gauge, and air vent to boiler supply directly. Do not install an isolation valve between boiler and safety manifold. Before boiler is connected to a piping/heating system which has previously been in service (boiler is a replacement boiler), piping system should be flushed thoroughly with water in order to remove sludge or other contaminants, especially in large piping systems such as old gravity pipe layouts.

Check system for pipe leaks, defective valves, etc. and make required corrections immediately.

Once pressure test is finished, remove ¾" cap and install 30 psi pressure relief valve.

In case a low water cut-off is required by local codes, install probe type (as shown below) or float type in pipe connection to safety header.

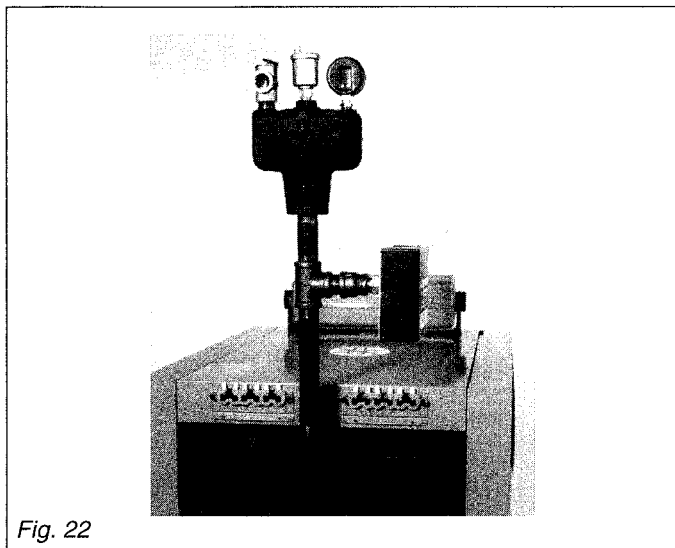


Fig. 22

Low water cut-off
(see Figs. 22 and 23)

If boiler is installed above radiation level, a low water cut-off device of approved type must be installed in all instances. An approved low water cut-off device must be supplied and installed by the mechanical contractor where required by local codes.

This boiler does not require a flow switch.

System piping schematics

(see Figs. 23 - 30)

Pressure relief valve is mounted on the safety manifold. A discharge pipe in the same diameter as the pressure relief valve discharge opening must be rigidly installed directly onto the pressure relief valve. This discharge pipe should extend to a floor drain and end approximately 150mm (6") above drain. The end of the discharge pipe must not be threaded. Do not install shut-off valve in this discharge pipe or reduce pipe diameter. Do not pipe discharge to outdoors!

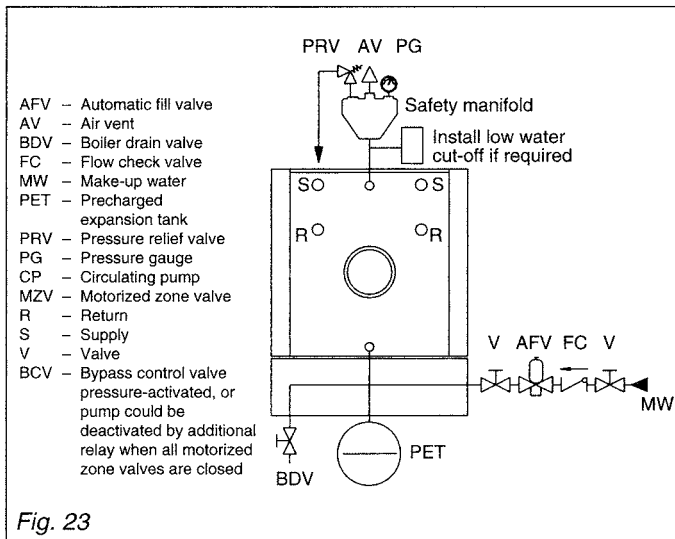


Fig. 23

Location of safety manifold, make-up water, and expansion tank connections is shown in Fig. 23.

ATTENTION

The Vitola-biferral boiler is a special low temperature heating boiler which is designed to “cold-start”. For the vast majority of installations, the Vitola-biferral can “cold-start” without low water temperature limit. Do not use the Vitola-biferral boiler in systems with return water designed to be continuously at 50°F or less.

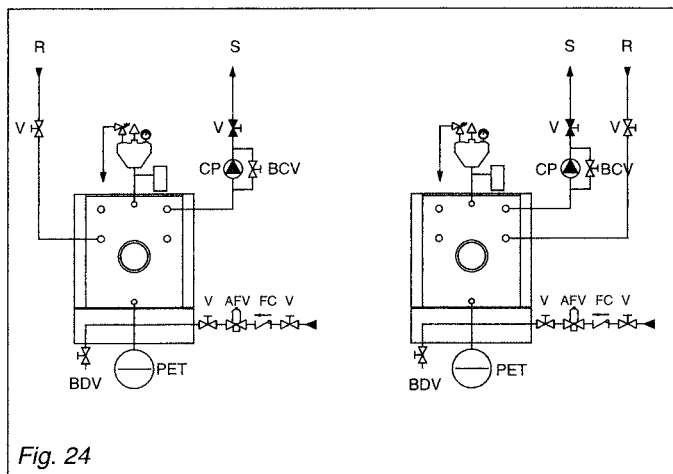


Fig. 24

1 Heating zone – 1 Operating control (Fig. 24)

Circulating pump running continuously. System is not zoned. Boiler operating control is a single room thermostat or independent indoor/outdoor control system, boiler water temperature therefore fully modulated. Recommended boiler operating control: Viessmann Trimatik.

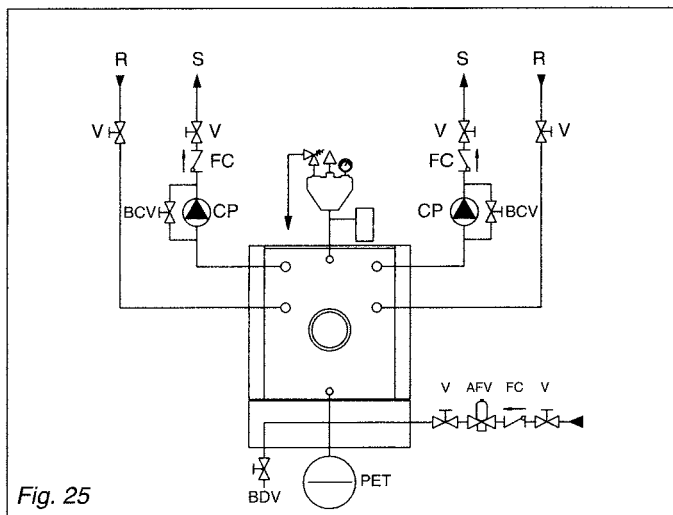


Fig. 25

2 Heating zones – 1 Operating control (Fig. 25)

One circulating pump running continuously on one zone, system has two zones. Second zone pump is activated on demand by individual thermostat, only on/off. Main zone where circulating pump runs continuously also operates boiler with room thermostat (larger one of the two loops), or independent indoor/outdoor control. Recommended boiler operating control: Viessmann Trimatik.

Option:
The two circulating pumps are controlled individually by room thermostats on/off, boiler is independently controlled by an indoor/outdoor control system. Recommended boiler control: Viessmann Trimatik.

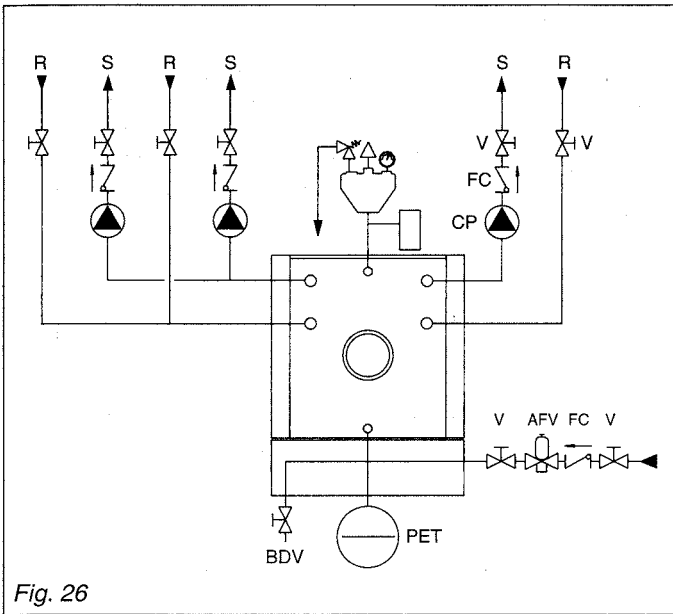


Fig. 26

3 Heating zones – 1 Operating control (Fig. 26)
 Same as Fig. 25 except three zones. (Third zone may be domestic hot water storage tank.) Recommended boiler control: Viessmann Trimatik.

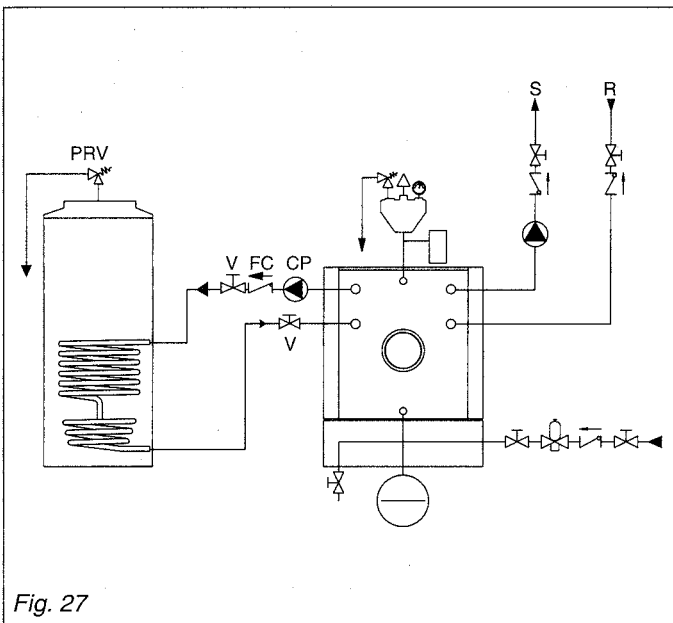


Fig. 27

2 Heating zones – Space heating and domestic hot water (Fig. 27)
 Circulating pump for heating system running continuously. System is not zoned, or, if zoned, a pump pressure activated bypass should be installed, or end switch shuts down circulating pump when all zones are closed. Recommended boiler operating control: Viessmann Trimatik. Boiler water temperature fully modulating.

Caution
 Boiler must be installed in such a way that gas and oil ignition system components are protected from water (dripping, spraying, rain, etc.) during boiler operation and service (circulator replacement, control replacement, etc.).

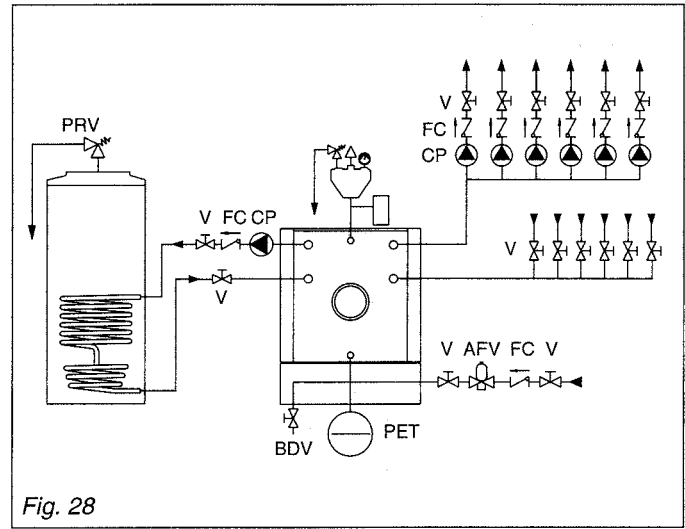


Fig. 28

Multi-zone system with individual pumps (Fig. 28)
 Individual zone pumps on/off operated by individual room thermostats. Recommended boiler control: Viessmann Trimatik.

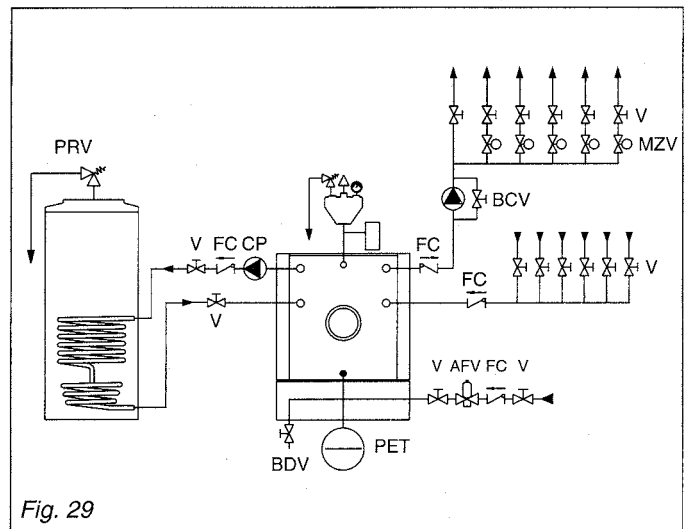


Fig. 29

Multi-zone system with pumps and zone valves (Fig. 29)
 Individual zone valves operated by the individual room thermostats open/close. Recommended boiler control: Viessmann Trimatik. Boiler water temperature fully modulating. Use pump pressure activated bypass, or end switch shuts down circulating pump when all zones are closed.

- AFV – Automatic fill valve
- BCV – Bypass control valve pressure-activated, or pump could be deactivated by additional relay when all motorized zone valves are closed
- BDV – Boiler drain valve
- CP – Circulating pump
- FC – Flow check valve
- MZV – Motorized zone valve
- PET – Precharged expansion tank
- R – Return
- S – Supply
- V – Valve

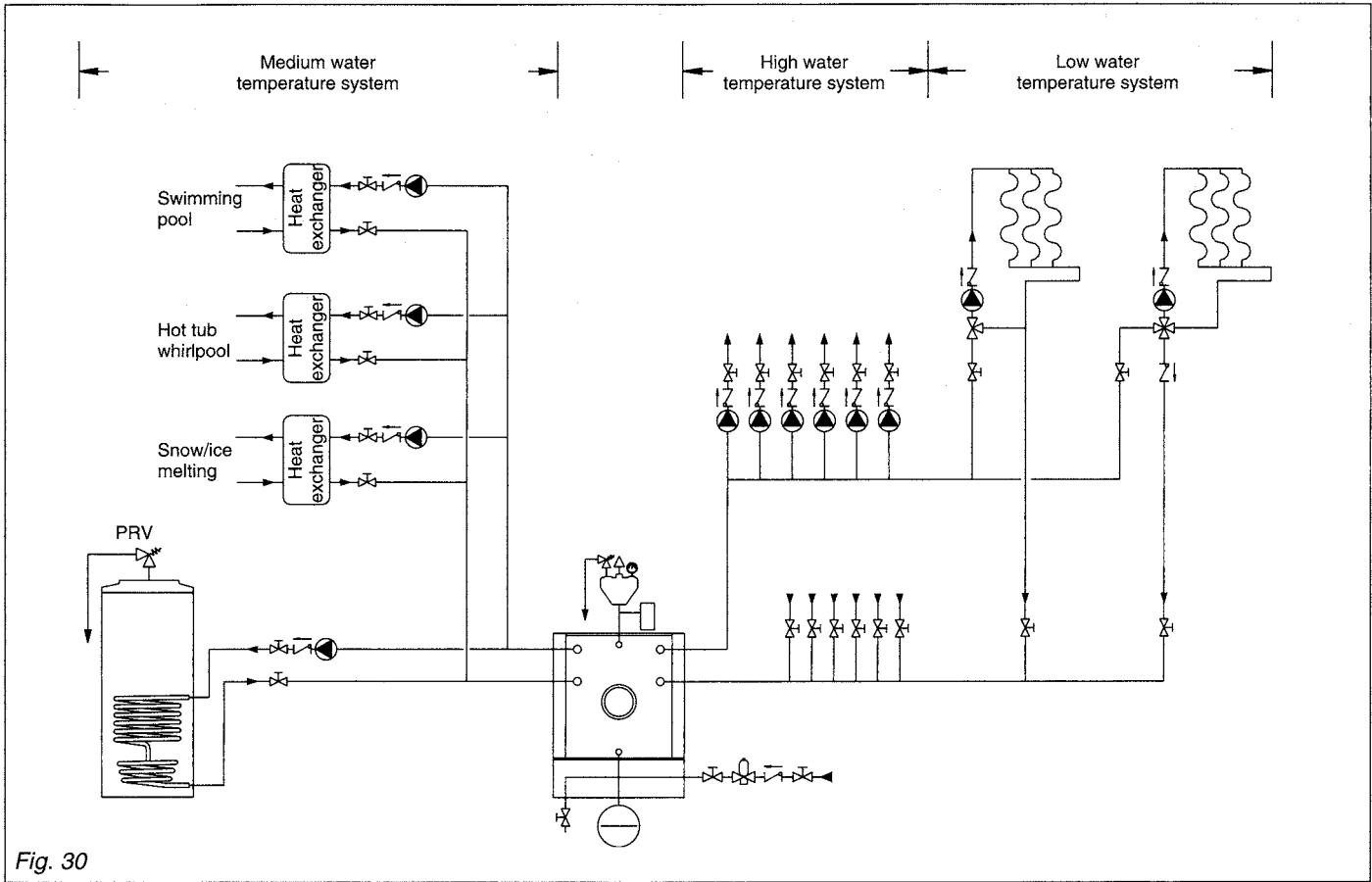


Fig. 30

Multi-zone variable temperature system (Fig. 30)

For multi-zone variable temperature systems, please consult Viessmann sales representative office for control options.

The preceding system schematics, Figs. 23–30, do not necessarily reflect all system components required to construct the system to make it fully functional. These schematics are to be seen as guidelines only. They further do not display all system varieties, safety devices, or concepts possible. Specific system layouts may be further discussed with the local Viessmann sales representative office.

A minimum of 2" circumferential clearance from non-insulated hot water pipes to combustible construction must be maintained. In cases where the pipes are insulated with pipe insulation of appropriate and sufficient thickness and insulation values, the above clearance may be reduced to 0".

Caution:

For underfloor heating applications, an additional immersion or strap-on aquastat must be installed in the low temperature underfloor loop (ahead of the mixing valve) to de-energize the pump and/or boiler to prevent overheating. High water temperatures can damage concrete slabs.

Pressure drop

Use the chart below to determine pressure drop for a given water flow.

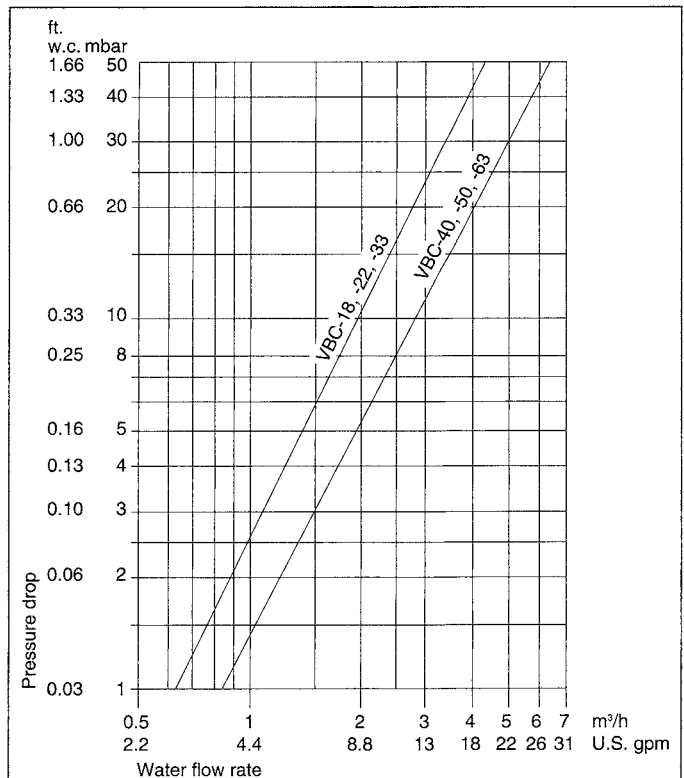


Fig. 31

For example a VBC-63 with a flow rate of 22 gpm will have a pressure drop of 1.00 ft.

To calculate the water temperature rise for a VBC-63 gas boiler with a flow of 22 gpm use the following formula:

$$\text{Rise (°F)} = \frac{\text{Boiler output (Btu/h)}}{500 \times \text{flow (gpm)}} = \frac{249,000}{500 \times 22}$$

$$= 22.6^\circ\text{F}$$

The Vitola boiler must be installed in a forced circulation closed loop hot water system. The circulator can run continuously. The Vitola boiler does not require a flow switch.

The following chart lists typical water flow rates for Vitola-biferral boilers.

	Flow rate (gpm) for 20°F rise	Flow rate (gpm) for 30°F rise
VBC-18	7.5	5.0
VBC-22	9.7	6.4
VBC-33	12.2	8.1
VBC-40	15.4	10.2
VBC-50	20.0	13.2
VBC-63	25.7	17.2

ATTENTION

Do not at any time store chemical substances in close vicinity of hot water pipes!

Boiler piping in heating/cooling application

The boiler, when used in connection with a refrigeration system, must be installed so the chilled medium is piped in parallel with the boiler with appropriate valves to prevent the chilled medium from entering the boiler.

The boiler piping system of a hot water heating boiler connected to heating coils located in air handling units where they may be exposed to refrigerated air circulation must be equipped with flow control valves or other automatic means to prevent gravity circulation of the boiler water during the cooling cycle.

Check installation instructions of chiller manufacturer carefully for additional requirements.

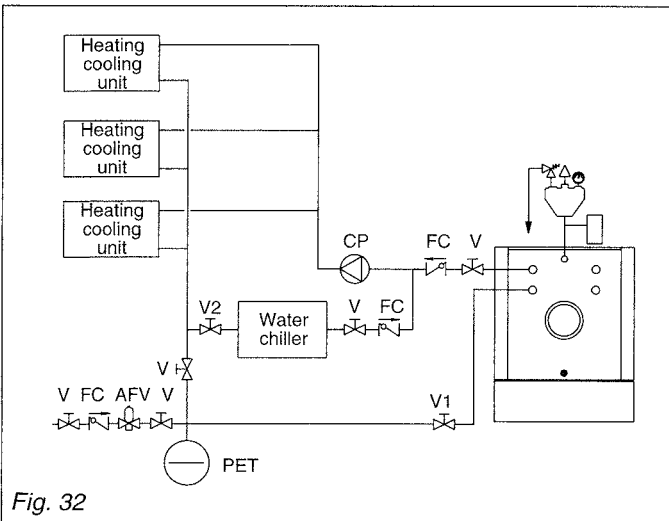


Fig. 32

Cooling season starts: Close valve V1 and open valve V2.
Heating season starts: Close valve V2 and open valve V1.

A metal tag should be attached to these valves as to purpose.

Initial system fill

Treatment for boiler feed water should be considered in areas of known problems, such as high mineral content and hardness. In areas where freezing might occur, an antifreeze may be added to the system water to protect the system. Please adhere to the specifications given by the antifreeze manufacturer.

Use of antifreeze mixtures

Use an antifreeze make which is non-toxic and, if plastic pipes are used in heating system, consult pipe manufacturer for type of antifreeze. **Do not use automotive Glycol.** Please observe that an antifreeze/water mixture may require a backflow preventer within the automatic water feed. The choice of antifreeze may influence components such as diaphragm expansion tanks, pumps, radiation, etc. A 40% antifreeze content will give freeze-up protection to -10°F (-23°C). Do not use antifreeze other than specifically made for hot water heating systems. Systems also may contain components which might be negatively affected by antifreeze. Check total system frequently when filled with antifreeze. A non-toxic antifreeze is recommended.

Venting

U.S.A.

For boilers for connection to gas vents or chimneys, vent installations shall be in accordance with Part 7, Venting of Equipment, of the National Fuel Gas Code, ANSI Z223.1, or applicable provisions of the local building codes.

Canada

For gas boilers install venting system in accordance with all applicable local codes. In the absence of local codes, follow national codes CAN/CGA B149.1 or .2.

Vitola-biferral gas boilers are Category 1.

Vent connectors serving appliances vented by natural draft shall not be connected into any portion of mechanical draft systems operating under positive pressure.

The horizontal portions of the venting system shall be supported to prevent sagging. Support must be achieved every 3 ft. of horizontal run using metal plumber's strapping. The horizontal run shall slope not less than ¼" per ft. from the boiler to the end of the horizontal run. The weight of the vent pipe must not be supported by the boiler. The vent pipe must be vertically supported.

1. Install boiler as close as possible to vertical chimney or vent.
2. Follow all national and local codes.
3. For gas and propane, B-vent may be used.
4. For oil, use a vent material approved for oil.
5. Ensure single-wall pipe is screwed to boiler vent outlet.

For all VBC boilers attach vent pipe adapter (supplied with boiler) to vent outlet on boiler using three equally spaced, corrosion-resistant, self-drilling screws and high temperature silicone (500°F).

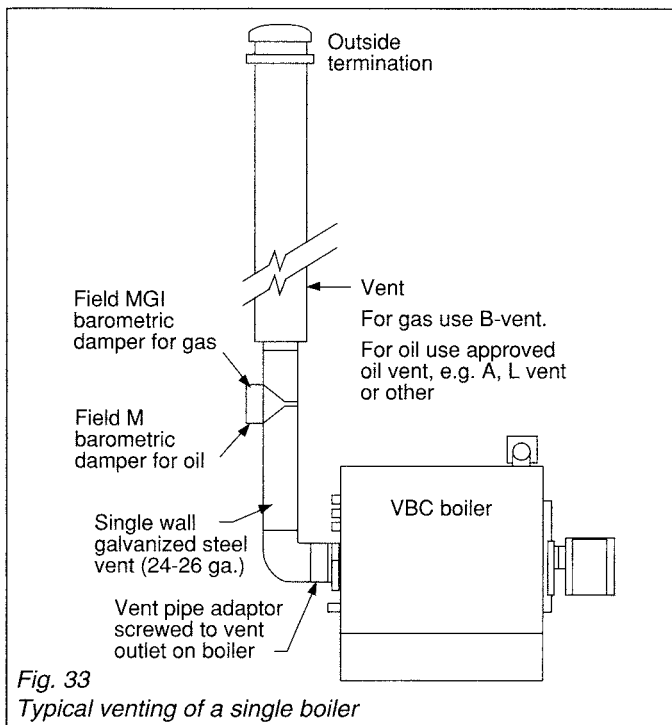


Fig. 33
Typical venting of a single boiler

Chimney

A corrosion-resistant approved liner must be installed in masonry or unlined chimneys. The liner should be insulated to prevent condensation of flue gas in cold weather.

Proper consideration must be given to shortest possible vent connection, type of vent, and chimney size.

Before connecting boiler to existing chimney, inspect chimney for inside and outside conditions. Repair or replace as necessary.

In replacement installations where the previous boiler experienced chimney or vent condensation problems, the Vitola-biferral boiler must be installed as close as possible to the vertical chimney (relocate water piping if necessary), and if a liner is used, it must be insulated. These measures will help reduce the likelihood of chimney or vent flue gas condensation.



Warning:

Improper sizing, maintenance, termination of vent or chimney can cause flue gases to enter living space. Any blockage of vent or chimney by birds' nests, ice, snow, debris, or other materials can cause flue gases to enter living space. Flue gases entering living space can cause carbon monoxide poisoning which can result in severe personal injury or loss of life.

Increasing flue gas temperature

(see Fig. 34)

It may be necessary to increase flue gas temperature to prevent condensation in chimney.

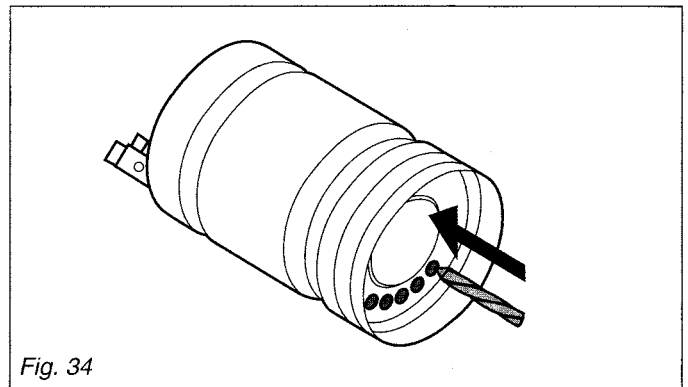


Fig. 34

In order to increase the flue gas temperature of the boiler, the required number of openings may be drilled out in the bottom of the combustion chamber with a 1/2" drill bit (see Fig. 34).

The flue gas temperature will increase by 10°C (18°F) per hole drilled.

Note: The drilling of one opening will increase the flue gas temperature by 10°C (18°F). This will reduce the combustion efficiency by 0.4% per hole. Therefore this measure should only be taken if absolutely necessary. Other measures, such as correctly sized chimney and use of a barometric regulator are preferable due to the fact that by drilling the holes, combustion efficiency will be reduced.

Removal of existing boiler

(Applies to gas-fired boilers)

When an existing boiler is removed from a common venting system, the common venting is likely to be too large for proper venting of the appliances remaining connected to it.

At the time of removal of an existing boiler, the following steps shall be followed with each appliance remaining connected to the common venting system placed in operation, while the other appliances remaining connected to the common venting system are not in operation.

1. Seal any unused openings in the common venting system.
2. Visually inspect the venting system for proper size and horizontal pitch and determine there is no blockage or restriction, leakage, corrosion, or any other deficiency which could cause an unsafe condition.
3. Insofar as is practical, close all building doors and windows and all doors between the space in which the appliances remaining connected to the common venting system are located and other spaces of the building. Turn on any exhaust fans such as range hoods and bathroom exhausts, so they will operate at maximum speed. Do not operate a summer exhaust fan. Close fireplace dampers.
4. Place in operation the appliance being inspected. Follow the lighting instructions. Adjust thermostat so appliance will operate continuously.
5. Test for spillage at the draft hood relief opening after 5 minutes of main burner operation. Use the flame of a match or a candle, or smoke from a cigarette, cigar, or pipe.

6. After it has been determined that each appliance remaining connected to the common venting system properly vents when tested as outlined above, return doors, windows, exhaust fans, fireplace dampers, and any other gas burning appliance to their previous condition of use.
7. Any improper operation of the common venting system should be corrected so the installation conforms with the National Fuel Gas Code, ANSI Z223.1. When resizing, any portion of the common venting system should be resized to approach the minimum size as determined using the appropriate tables in Appendix G in the National Fuel Gas Code, ANSI Z223.1, latest edition.

The above test can be applied when an existing boiler is replaced by a boiler having a lower heating capacity and/or smaller diameter vent connection.

The above test can be applied when an existing boiler is replaced by a boiler with horizontal side wall vent kit. The remaining potable water heater (or other appliance) left connected to the common vertical vent must be checked for proper venting.

Steps 2 through 7 in the above test can be applied during annual service and maintenance calls to check for proper vent system operation.

Downdraft problems must be corrected.

Gas piping

Before connecting gas boiler to gas line, install main gas shut-off valve, union, and capped drip leg.

Size and install gas supply piping to boiler according to local utility requirements.

Identify the main shut-off valve as such with a tag and familiarize owner of boiler with this valve.

Support piping by proper suspension method. Piping must not rest on or be supported by boiler.

Gas piping pressure test

The boiler and its gas connection must be leak tested before placing the boiler in operation.

The boiler and its individual shut-off valve must be disconnected from the gas supply piping system during any pressure testing of that system at pressures in excess of 0.5 psig (3.5 kPa).

The boiler must be isolated from the gas supply piping system by closing its individual manual shut-off valve during any pressure testing of the gas supply piping system at a test pressure equal to or less than 0.5 psig (3.5 kPa).

Unions and manifold have been factory-tested. Leak test must be repeated during initial operation of burner by mechanical contractor.

Never check for gas leaks with an open flame. Use approved spray liquid or soap water solution for bubble test.

Additional attention must be given to the following paragraphs:

1. Once system water is heated, disconnect circulating pump and vent system of any remaining air within piping, radiation, and boiler.
2. Check for proper boiler circulation, pump, zone valve, thermostat, or operating control function.
3. Check high limit aquastat by adjusting it to a setting below the water temperature in the boiler. The gas burner must be shut off. Turning the dial back to a setting higher than the present boiler water temperature must result in ignition of the main burner.
4. Cycle boiler on/off with the operating control (thermostat or indoor/outdoor control) to verify proper operation.

Annual shut-down

If boiler is used for heating only and not for domestic hot water as well, the boiler/heating system should be shut down during the summertime.

1. Turn down operating control (thermostat).
2. If boiler control SR-V, SR-VR or Trimatik is installed only: Push control switch to "off" ("O") position.
3. Disconnect main power switch.
4. Close main gas shut-off valve and turn gas valve knob on gas valve to "off" position.

ATTENTION

If system is subject to freezing temperatures and is not filled with antifreeze for protection, the system including the boiler must be drained of water. Valve before automatic feed valve (if installed) must be closed; all other valves, air vents, and drain valves must stay open.

Advise the user(s) or ultimate owner

1. of the proper system operation sequence. See Fig. 38 for gas-fired boilers.
2. Explain the equipment as well as the need for combustion air.
3. Demonstrate an emergency shut-down, what to do and what not. See Fig. 38 for gas-fired boilers.

Annually

Boiler servicing – heat exchanger cleaning

A service/inspection of the boiler, burner, and the system is recommended once a year, before the heating season starts.

Cleaning the heat exchanger (flue gas passages)

(See Fig. 35, 36, and 37)

1. Disconnect main power supply to boiler and all heating related components.
2. Close main oil or gas shut-off valve. (On gas burner open gas union and remove gas pipe).

3. Allow boiler to cool down if necessary.
4. Ensure that combustion chamber door hinge pin is in place.

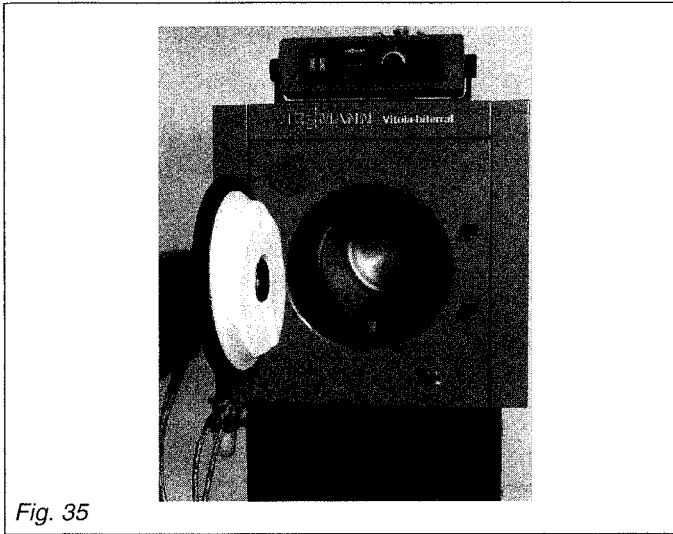


Fig. 35

5. Remove the four or six 8mm hexagon combustion chamber door bolts and swing door in open position.

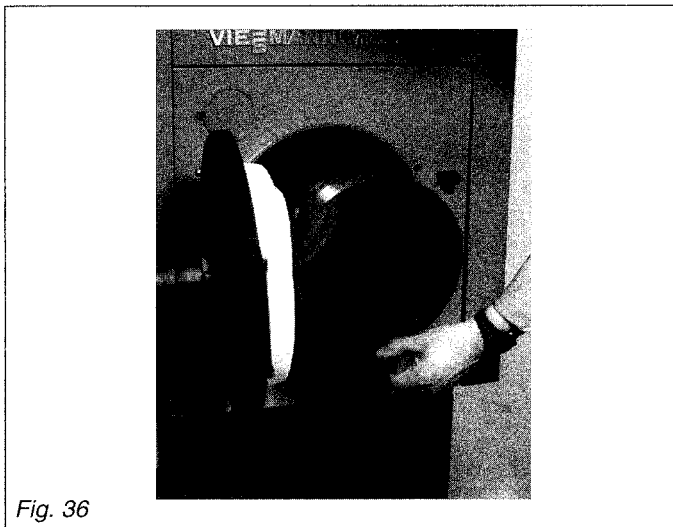


Fig. 36

6. Pull out stainless steel combustion chamber.

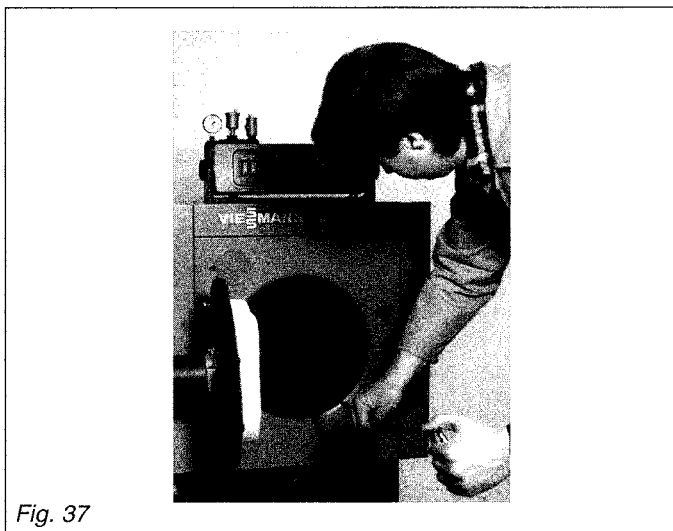


Fig. 37

7. Brush heat exchanger with cleaning brush supplied and, if necessary, use vacuum cleaner to remove loose deposits. Re-assemble unit in reverse sequence.

Additional check points of annual service inspection

Check flue pipe condition, chimney connection, and chimney itself, both inside and outside, for rust, deterioration, blockage, or leakage. Repair or replace as necessary.

Check pressure relief valve and system pressure, and verify proper operation of automatic feed if installed.

Check heating pipe joints, valves, air vents, etc. System leaks must be corrected immediately to avoid damages. The cause of any system defect must be determined and corrected in order to prevent property damage, personal injury, or loss of life.

Check for proper combustion air supply and ventilation for the boiler. Never block air openings.

Check for combustible materials or chemicals stored too close to the boiler. Operate high limits by dialing lower settings, switching burner on/off to verify functioning of same. If low water cut-off is installed, check and verify proper function according to manufacturer's instructions.

When circulating pump is field-installed or existing, check requirements for maintenance or lubrication according to manufacturer's specifications.

Check for oil-tight fuel lines; clean or exchange fuel oil filters annually. Check and inspect oil tank.

Check for gas-tight connection of gas piping, unions, gas valve, and manifold.

Check proper ignition and oil or gas burner operation.

Combustion test must be performed by a competent service technician.

Do not use gasoline crankcase drainings or any oil containing gasoline.

Do not attempt to start the burner when excess oil has accumulated, when the unit is full of vapor, or when the combustion chamber is very hot.

Always keep the manual fuel supply valve shut off if the burner is shut down for an extended period of time.

Do not start the burner unless all cleanout doors are secured in place.

Do not tamper with the unit or controls.

Never burn garbage or paper in the boiler and never leave combustible material around it.

Caution

Boiler must be installed in such a way that gas or oil ignition system components are protected from water (dripping, spraying, rain, etc.) during boiler operation and service (circulator replacement, control replacement, etc.).

Safe lighting and other performance criteria were met with the gas manifold and control assembly provided on the boiler when the boiler underwent tests specified in ANSI Z21.13 boiler standard.



APPLIES TO GAS-FIRED BOILERS ONLY

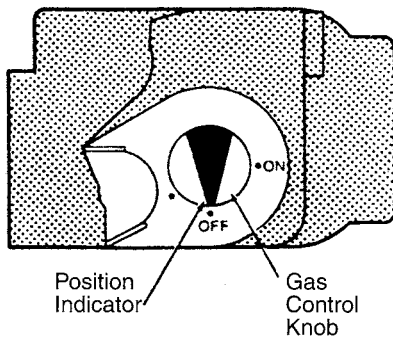
FOR YOUR SAFETY READ BEFORE OPERATING

WARNING: If you do not follow these instructions exactly, a fire or explosion may result causing property damage, personal injury, or loss of life.

- A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- B. BEFORE OPERATING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.
- WHAT TO DO IF YOU SMELL GAS**
- Do not try to light any appliance.
 - Do not touch any electric switch; do not use any phone in your building.
 - Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.
- C. Use only your hand to turn the gas control knob. Never use tools. If the knob will not turn by hand, don't try to repair it; call a qualified service technician. Force or attempted repair may result in a fire or explosion.
- D. Do not use this appliance if any part has been under water. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been under water.

OPERATING INSTRUCTIONS

1. STOP! Read the safety information above on this label.
2. Set the thermostat or other operating control to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Turn gas control knob clockwise  to "OFF".
6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you smell gas, STOP! Follow "B" in the safety information above on this label. If you don't smell gas, go to the next step.
7. Turn gas control knob counterclockwise  to "ON".
8. Turn on all electric power to the appliance.
9. Set thermostat or other operating control to desired setting.
10. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas supplier.



TO TURN OFF GAS TO APPLIANCE


1. Set the thermostat or other operating control to lowest setting.
2. Turn off all the electric power to the appliance if service is to be performed.
3. Turn gas control knob clockwise  to "OFF". Do not force.

Fig. 38
Lighting and operating instructions for gas boilers

Maintenance

ATTENTION

Keep boiler clear and free from combustible materials, gasoline, and other flammable vapors and liquids. Do not obstruct the flow of combustion and ventilation air. All inspection, maintenance, service and cleaning work must be performed by a qualified service agency.

Inspections during heating season – Periodically:

Inspect low water cut-offs, including flushing of float types (if used).

Inspect flow switch (if used).

Inspect main burner flame and follow burner manufacturer's instruction manual for detailed service and maintenance guidelines. Manual shipped with burner.

Maintenance record:

Record the following for service reference:

Boiler Model No. _____

Boiler Serial No. _____

Burner Model No. _____

Burner Serial No. _____

Fuel used _____

Installed by _____

Control SR-V SR-VR Trimatik

Year of installation _____

Have the above information at hand whenever contacting Viessmann Manufacturing or a Viessmann dealer.

Maintenance record

	Year	Service contractor (name, phone number)	Clean boiler heat exchanger	Check for proper supply of combustion air	Vent system inspected for soot, leaks, deterioration, proper draft, adherence to codes, blockage *	Burner serviced and combustion test performed **
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						

* Any defects, blockages, etc. in vent system must be corrected to ensure safe operation. The boiler/burner unit shall be connected to a flue having sufficient draft at all times, to assure safe, proper operation.

** For oil burners, replace Viessmann filter cartridge and O-ring (Part No. 9500 329) every year. Refer to burner service manuals for additional burner service information. Replacement parts are available through your Viessmann dealer.

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