

Manufacturer Vaillant (Germany)	Appliance Name/Model Vaillant, MAG250/6
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DESCRIPTION

Vertically flued, internal wall mounted, instantaneous water heater, suitable for multi-point installations.

MODEL DESIGNATION:

Suffix A- denotes remote control.

Suffix R- denotes regulator fitted.

Suffix T1- denotes thermoelectric flame failure sensing device fitted.

Suffix Z- denotes spark ignition system fitted.

TECHNICAL DATA

MASS (kg) 12

DIMENSIONS (mm)

Width	Height	Depth
352	737	229

DATA PLATE LOCATION

Behind cover, on rear RH side of appliance.

GAS RATE (MJ/h)

NG	TG	TLP	LP(P)
84.4	84.4	84.4	84.4

INJECTOR ORIFICE (mm)

Burner	1.30	2.20	2.30	0.80
Pilot	0.40	0.65	0.65	0.18

BURNER PRESSURE (Pa)

1000	425	425	2750
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TEST POINT LOCATION

On the main burner manifold.

REGULATOR

Vaillant model Z1232-2 volumetric type.

GAS CONTROL

Vaillant model 021063 water pressure operated gas valve.

IGNITION

Manually ignited permanent pilot. Slow ignition device.

SUFFIX-Z

Vaillant model 091005, spark igniter unit.

BURNER

Ten aerated burner bars assembled onto two mounting brackets (5 burner bars per bracket).

OPERATION

LIGHTING PROCEDURE

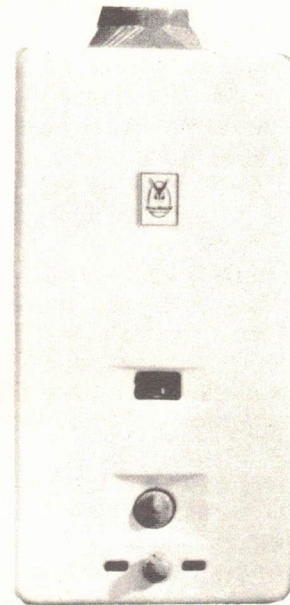
1. Turn the gas control knob anticlockwise, past the ON position, hold in this position.
2. Light pilot (operate igniter, Z model).
3. Hold control knob for 30 seconds then release. The control knob should return to the ON position with the pilot established.
4. If the pilot is not established repeat the

AGA Approval No.

1873-004

Approved for

NG, TG, TLP, LP(P)



FLAME SAFEGUARD

Bimetal strip flame safeguard, which is held and located by the pilot burner assembly.

SUFFIX-T1

Vaillant model 171123 thermoelectric flame safeguard, minimum millivolt output on an open circuit test 12 mV.

GAS FILTER

Brass gauze filter fitted inside gas inlet connection.

WATER FILTER

Brass gauze filter inserted into inlet of water housing and held by circlip.

PRESSURE/TEMPERATURE RELIEF VALVE

Spring loaded valve attached to water regulator set at less than 180°C relief.

WATER OPERATING PRESSURE

Minimum 34.5 kPa, maximum 1379 kPa.

WATER HEATING CAPACITY

Minimum 5 L/minute raised 56°C.

Maximum 10 L/minute raised 28°C.

VAILLANT MAG250/6

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES

FRONT COVER REMOVAL

1. Pull off the temperature selector knob.
2. Loosen the locking nut by turning anticlockwise. Do not remove the locking nut from the front cover.
3. Pull the bottom of the front cover forward.
4. Lift the cover upwards and unhook.

HEAT EXCHANGER REMOVAL

1. Isolate gas supply and remove front cover.
2. Remove piezo igniter (where fitted).
3. Disconnect thermocouple and pilot connections from gas valve assembly.
4. Remove burner with thermocouple and pilot assembly.
5. Disconnect side arms from heat exchanger.
6. Release locknuts on the water inlet and outlet of the heat exchanger.
7. Remove the heat exchanger by lifting up and pulling outwards from the bottom.

GAS CONTROL KNOB ASSEMBLY REMOVAL / REPLACEMENT

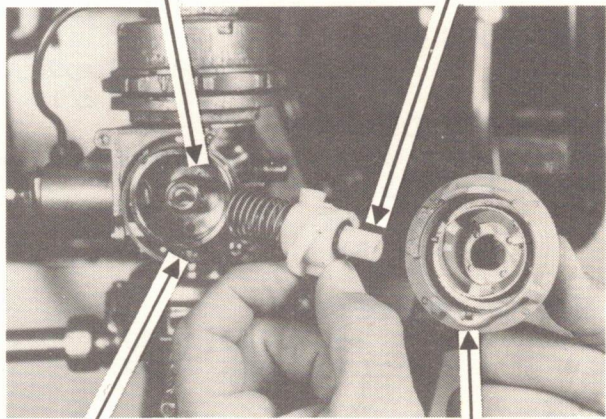
1. Remove the front cover.
2. Located behind the gas control knob is a circlip - squeeze the ends together.
3. Pull the gas control knob and fascia plate away from the cam assembly.
NOTE: The control knob and fascia plate, when pulled away, will spin as the spring tension is released.
4. Ensure that the spring remains on the cam.
5. To reassemble, place the end of the cam spring in the locating hole in the gas control assembly. Refer **Fig. 1**.
6. Turn the gas control knob to the *OFF* position

on the fascia plate.

7. Position the fascia plate so that the *OFF* setting is at the top, then place the fascia plate onto the cam. The cam key will be aligned with the recess in the control knob.
8. Place the circlip in position.
9. Rotate the fascia plate anticlockwise until the locating pin under the gas control aligns with the slot in the fascia plate. Refer **Fig. 1**.
10. Squeeze the ends of the circlip together, push the gas control knob/fascia plate firmly onto the gas assembly and release the circlip.
11. If the gas control knob has been assembled correctly, the knob will spin back when it is turned to the pilot position and released.

Cam spring locating hole

Cam key



Locating pin

Locating pin slot on fascia plate

FIG. 1 GAS CONTROL KNOB ASSEMBLY

ON COMPLETION OF WORK TEST FOR GAS ESCAPES

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

LOCATION

This appliance is to be mounted only on surfaces which are not inflammable. When installed on inflammable surfaces, a heat shield must be fitted with a minimum of 25 mm air gap between it and the wall surface. A minimum clearance of 300 mm from the top of the appliance flue outlet and the ceiling must be maintained.

FLUE

The flue outlet is designed to accept 102 mm diameter asbestos cement flue pipe.

GAS CONNECTION

A $\frac{3}{4}$ " BSP male thread is located at the centre bottom of the heater, extending 76 mm below the rear panel.

COLD WATER CONNECTION

A $\frac{1}{2}$ " BSP male thread on a special adaptor is located on the right hand side of the water control body.

HOT WATER CONNECTION

A $\frac{1}{2}$ " BSP male thread is fitted on a special adaptor.

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED

PROCEDURE

For conversion procedure refer to the Gas and Fuel Corporation's Natural Gas Conversion Manual

Page 417, test appliance No. 384.

Manufacturer Vaillant (Germany)	Appliance Name/Model Vaillant, MAG325/6
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DESCRIPTION

Vertically flued, internal wall mounted, instantaneous water heater, suitable for multi-point installations.

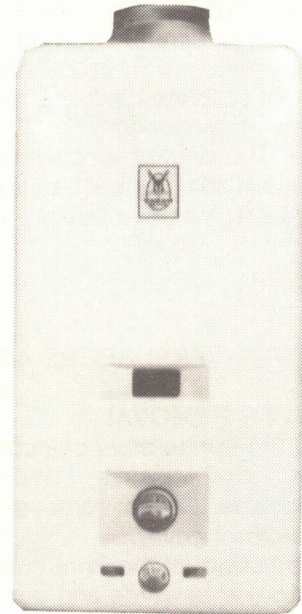
MODEL DESIGNATION:

Suffix A- denotes remote control.

Suffix R- denotes regulator fitted.

Suffix T1- denotes thermoelectric flame failure sensing device fitted.

Suffix Z- denotes spark ignition system fitted.



TECHNICAL DATA

MASS (kg)

15.43

DIMENSIONS (mm)

Width	Height	Depth
424	850	232

DATA PLATE LOCATION

Behind cover, on rear RH side of appliance.

GAS RATE (MJ/h)

NG	TG	TLP	LP(P)
110.24	110.24	110.24	110.24

INJECTOR ORIFICE (mm)

	NG	TG	TLP	LP(P)
Burner	1.35	2.20	2.30	0.80
Pilot	0.40	0.65	0.65	0.30

BURNER PRESSURE (Pa)

1000	500	500	2750
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TEST POINT LOCATION

On the main burner manifold.

REGULATOR

Vaillant model Z1232-2 volumetric type.

GAS CONTROL

Water pressure operated gas valve.

IGNITION

Manually ignited permanent pilot. Slow ignition device.

SUFFIX-Z

Vaillant spark igniter unit fitted.

BURNER

12 aerated stainless steel burner bars.

AGA Approval No.

1875-004

Approved for

NG, TG, TLP, LP(P)

FLAME SAFEGUARD

Bimetal strip flame safeguard.

SUFFIX-T1

Thermoelectric flame safeguard. Minimum millivolt output on an open circuit test 12 mV.

GAS FILTER

Brass gauze filter fitted inside gas inlet connection.

WATER FILTER

Brass gauze filter inserted into inlet of water housing and held by circlip.

PRESSURE/TEMPERATURE RELIEF VALVE

Spring loaded valve attached to water regulator.

WATER OPERATING PRESSURE

Minimum 34.5 kPa, maximum 1379 kPa.

WATER HEATING CAPACITY

Minimum 6.35 L/minute raised 55°C.

Maximum 12.7 L/minute raised 28°C.

VAILLANT MAG325/6

OPERATION

LIGHTING PROCEDURE

1. Turn the gas control knob anticlockwise, past the ON position, hold in this position.
2. Light pilot (operate igniter, Z model).
3. Hold the control knob for 30 seconds, then release. The control knob should return to the ON position with the pilot established.
4. If the pilot is not established, repeat the procedure. Wait at least 60 seconds before relighting to allow the safety latch to release.
5. Turn on a remote hot water tap and the main burner should ignite.
6. Turn off the remote hot water tap and the main burner should extinguish, the pilot should remain lit.

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES

FRONT COVER REMOVAL

1. Pull off the temperature selector knob.
2. Loosen the locking nut by turning anticlockwise. Do not remove the locking nut from the front cover.
3. Pull the bottom of the front cover forward.
4. Lift the cover upwards and unhook.
4. Remove burner with thermocouple and pilot assembly.
5. Disconnect side arms from heat exchanger.
6. Release locknuts on the water inlet and outlet of the heat exchanger.
7. Remove the heat exchanger by lifting up and pulling outwards from the bottom.

HEAT EXCHANGER REMOVAL

1. Isolate gas supply and remove front cover.
2. Remove piezo igniter (where fitted).
3. Disconnect thermocouple and pilot connections from gas valve assembly.

GAS CONTROL KNOB ASSEMBLY REMOVAL / REPLACEMENT

Refer to the Pyrox section, Vaillant Mag 250/6 Appliance Data, Page 8.

ON COMPLETION OF WORK TEST FOR GAS ESCAPES

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

LOCATION

Minimum clearance from the ceiling is 305 mm.

BSP male thread.

FLUE

The flue outlet is designed to accept 130 mm diameter asbestos cement or sheetmetal flue.

COLD WATER CONNECTION

A 1/2" BSP male thread connection situated on the water stop cock, fitted to the inlet connection of the water control body with a nut and tail.

GAS CONNECTION

The gas connection for NG, TLP and TG is 1" BSP male thread. The gas connection for LP(P) is 1/2"

HOT WATER CONNECTION

A 1/2" BSP male thread. A special offset nut and tail is supplied.

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED

PROCEDURE

For conversion procedure refer to the Gas and Fuel Corporation's Natural Gas Conversion Manual

Page 420, test appliance No. 1875.

Manufacturer Joh Vaillant K.G. (Germany)	Appliance Name/Model Vaillant MAG 125/7 MAG 125/8
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DESCRIPTION

Instantaneous, single point, water heater, available for flued or unflued installations. Provision is made for a remote hot water connection.

Model suffix designation:

- 7 = N.G., L.P.(P) (no volumetric regulator)
- 8 = N.G., T.G., T.L.P. (volumetric regulator)
- R = volumetric gas regulator
- T = thermo-electric safety device
- Z = piezo ignition
- N = tank water pressure operation

TECHNICAL DATA

MASS (kg) 6.4

DIMENSIONS (mm)

	Width	Height	Depth
Flued model	240	635	170
Unflued model	240	490	170

DATA PLATE LOCATION

On right hand side of back plate.

GAS RATE (MJ/h)

	N.G.	T.G.	T.L.P.	L.P.(P)
Main burner	41.0	41.0	40.0	40.0
Pilot burner	0.3	0.3	0.3	0.35

INJECTOR ORIFICE (mm)

	N.G.	T.G.	T.L.P.	L.P.(P)
Main burner (6 off)	1.25	2.05	2.40	
Main burner (10 off)				0.62
Pilot burner	0.40	0.65	0.65	0.18

BURNER PRESSURE (Pa)

925	375	310	2700
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TEST POINT LOCATION

On main burner manifold.

REGULATOR

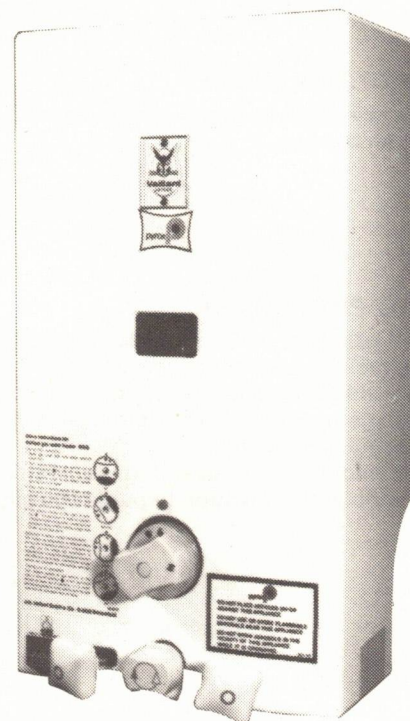
Volumetric type gas regulator, integral with gas control: (Suffix R only)

GAS CONTROL

Water-flow actuated gas control valve, incorporating 3-position gas control, thermo-electric safety shut off and main gas valve.

IGNITION

Non-aerated, target type permanent pilot. Pilot is ignited by a piezo-electric ignition system.



A.G.A. Approval No. 2695-001	Approved for N.G., T.G., T.L.P., L.P.(P)
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FLAME SAFEGUARD

Thermo-electric flame failure system, incorporated in the gas control.

BURNER

The N.G., T.G. and T.L.P. burner consists of 6 detachable burner heads mounted on a manifold of rectangular cross section.

The L.P.(P) burner has 10 detachable burner heads.

WATER HEATING CAPACITY

4.5 litres/min. raised 30°C.

WATER OPERATING PRESSURE

MAINS PRESSURE MODELS:

1200 kPa maximum
35 kPa minimum

TANK PRESSURE MODELS (Suffix N):

76 kPa maximum
9.3 kPa minimum

WATER PRESSURE RELIEF

Spring loaded relief valve, located in water section and set at 1300 kPa.

WATER DRAIN

Screw plug, fitted to the inlet side of the water housing.

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APPLIANCE DATA

VAILLANT MAG 125/7 & 8

TECHNICAL DATA Cont'd.

SLOW IGNITION VALVE

Non-adjustable slow ignition valve, located in right hand side of water section.

WATER FILTER

Brass mesh filter, inserted in the inlet of the water housing and held in position by a circlip.

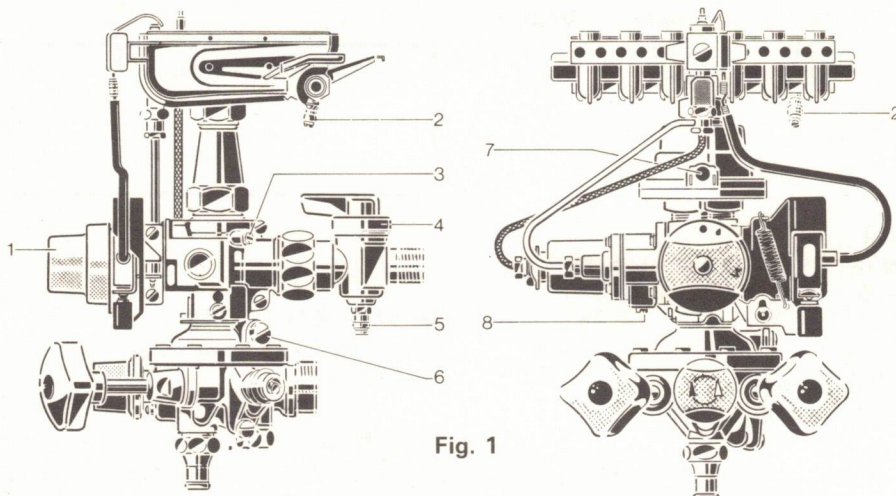
OPERATION

LIGHTING PROCEDURE

1. Open gas cock and cold water shut-off valve fully.
2. Turn the gas control knob from the OFF position ● in an anti-clockwise direction. Whilst turning, the piezo igniter will operate. Hold knob in this position for about 10 seconds.
3. If the pilot burner does not ignite, continue to hold the knob in this position to purge the pilot gas tube then repeat the lighting procedure.
4. Turn the gas control knob in a clockwise direction to the ON position O. The heater is now ready to operate.
5. The heater will automatically operate when the hot water tap is opened. Select the required hot water outlet temperature on the temperature selector.

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES



MAG 125/7 SIDE VIEW
(without gas volume regulator)

MAG 125/8 FRONT VIEW
(with gas volume regulator)

1. Gas control knob.
2. Burner pressure test point.
3. Gas adjusting screw for main burner (MAG 125/7).
4. Gas stop cock.
5. Gas inlet pressure test point.
6. Slow ignition valve (behind protective cap).
7. Gas adjusting screw for main burner (MAG 125/8).
8. Gas adjusting screw for pilot burner.

OUTER CASE REMOVAL

1. Pull off control knobs and unscrew captive nut from behind water temperature knob.
2. Pull case forward at bottom, then forward out of spring clips at top of backing plate.
3. Remove case from appliance.

WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off gas and water supplies.
3. Unscrew water connections and remove two grub screws securing water section to gas section.
4. Pull water section down and remove from appliance.

VAILLANT MAG 125/7 & 8

MAINTENANCE Cont'd.

BURNER REMOVAL

1. Remove outer case.
2. Disconnect ignition electrode and unclip thermocouple from pilot bracket.
3. Unscrew pilot line union at gas control, then remove screw on right hand side of pilot bracket.
4. Unscrew uppermost hexagon nut, directly below burner manifold.
5. Remove burner from appliance.

GAS & WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off and disconnect gas and water supplies.
3. Disconnect side arms from water section.
4. Remove screws from gas section which hold gas inlet to backing plate.
5. Complete water and gas section can now be removed from appliance.

ON COMPLETION OF WORK TEST FOR GAS ESCAPES.

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

WATER INLET CONNECTION

15 mm B.S.P. male connection at rear of appliance.

GAS CONNECTION

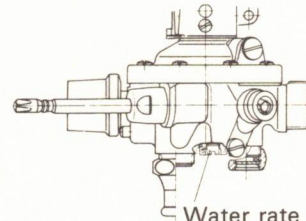
10 mm B.S.P. male connection at rear of appliance.

WATER OUTLET CONNECTION

The water outlet spout is located directly below the valve body. The remote outlet is a 10 mm B.S.P. male connection.

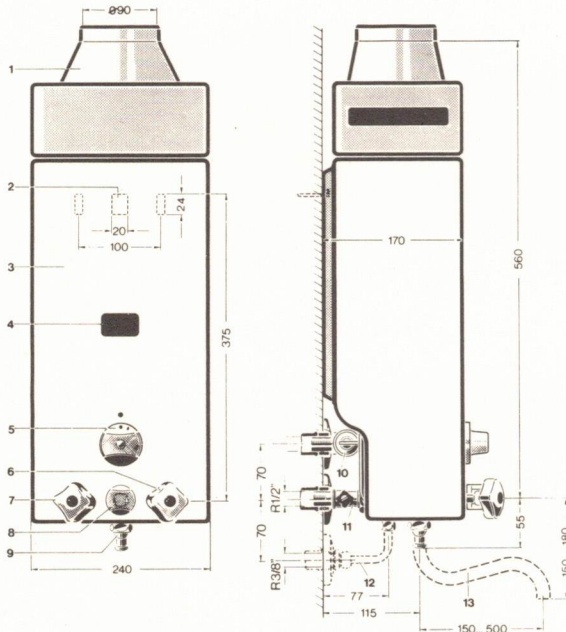
COMMISSIONING: TANK PRESSURE MODELS (Suffix N)

1. Light appliance.
2. Open hot water valve fully.
3. Turn temperature selector knob clockwise to stop.
4. Adjust the outlet water flow rate to 2.5 litres/min. by regulating the water screw Fig. 2.

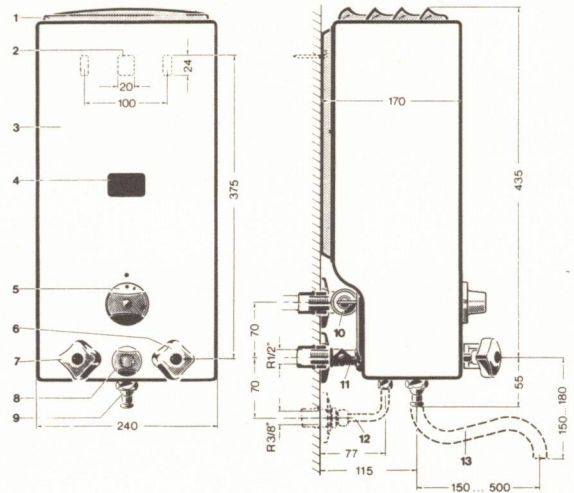


Water rate adjusting screw (tank pressure models only)

Fig. 2



MAG 125 with draught diverter.



MAG 125 with flue cap.

Fig. 3

1. Draught diverter or flue cap.
2. Mounting holes.
3. Outer case.
4. Pilot burner.
5. Gas control knob.
6. Cold water valve.
7. Hot water valve.
8. Temperature selector knob.
9. Water outlet.
10. Gas connection.
11. Cold water connection.
12. Hot water connection for remote outlets.
13. Swivel spout.

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APPLIANCE DATA

VAILLANT MAG 125/7 & 8

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED.

PROCEDURE (N.G., T.G., T.L.P.)

1. Remove outer case.
2. Remove burner assembly.
3. Replace main burner injectors with new injectors appropriate for that gas type.
4. Remove pilot injector and replace with new injector appropriate for that gas type.
5. Adjust gas pressure.
6. Adjust pilot rate.
7. Replace outer case.

REPLACEMENT PARTS

DESCRIPTION	PART NO.	QTY.	CAT. NO.
Knob, blue, cold water valve	95-0126	1	
Knob, red, hot water valve	95-0128	1	
Knob, temperature selector	14-3940	1	
Knob, gas control valve	28-0818	1	
Sealing washer, gas inlet	98-0221	1	
Thermocouple lead	17-1123	1	

Manufacturer Joh Vaillant K.G. (Germany)	Appliance Name/Model Vaillant MAG 250/7, MAG 250/8
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DESCRIPTION

Instantaneous, multi-point water heater designed for internal wall mounting.

Model suffix designation:

- 7 = N.G., L.P.(P) (no volumetric regulator)
- 8 = N.G., T.G., T.L.P. (volumetric regulator)
- A = remote tap operation
- R = volumetric gas regulator
- T = thermo-electric safety device
- W = modulating gas control
- Z = piezo ignition
- N = tank water pressure operation

TECHNICAL DATA

MASS (kg) 12.6

DIMENSIONS (mm)

Width	Height	Depth
352	710	225

DATA PLATE LOCATION

On right hand side of back plate.

GAS RATE (MJ/h)

	N.G.	T.G.	T.L.P.	L.P.(P)
Main burner	85.0	85.0	85.0	80.0
Pilot burner	0.5	0.5	0.5	0.5

INJECTOR ORIFICE (mm)

Main burner	1.40	2.50	2.50	0.78
(12 off)				
Pilot burner	0.40	0.65	0.65	0.21

BURNER PRESSURE (Pa)

850	350	400	2720
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TEST POINT LOCATION

On main burner manifold.

REGULATOR

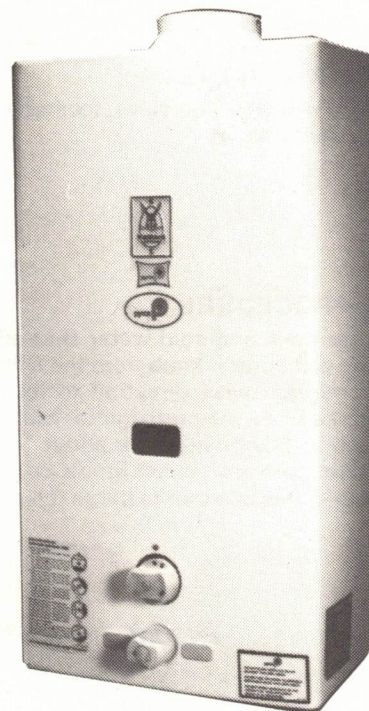
Vaillant model Z1232-2 volumetric type gas regulator (suffix R only).
Volumetric type gas regulator combined with three stage automatic output device (suffix W only).

GAS CONTROL

Water-flow actuated gas control valve, incorporating 3-position gas control, thermo-electric safety shut-off and main gas valve.

IGNITION

Non-aerated, target type permanent pilot. Pilot is ignited by a piezo-electric ignition system.



A.G.A. Approval No. 2696-004	Approved for N.G., T.G., T.L.P., L.P.(P)
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FLAME SAFEGUARD

Thermo-electric flame failure system, incorporated in the gas control.

BURNER

The burner assembly consists of 20 removable burner bars, each with 31 ports, mounted on a gang of 12 venturii.

WATER HEATING CAPACITY

8.34 litres/min. raised 30°C.

WATER OPERATING PRESSURE

MAINS PRESSURE MODELS:
1300 kPa maximum
30 kPa minimum
TANK PRESSURE MODELS (Suffix N):
150 kPa maximum
18.5 kPa minimum

WATER PRESSURE RELIEF

Spring loaded relief valve, located in the water section and set at 1300 kPa.

WATER DRAIN

Screw plug, fitted to the inlet side of the water housing.

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APPLIANCE DATA

VAILLANT MAG 250/7 & 8

TECHNICAL DATA Cont'd.

SLOW IGNITION VALVE

Non-adjustable slow ignition valve, located in right hand side of water section.

WATER FILTER

Brass mesh filter, inserted in the inlet of the water housing and held in position by a circlip.

OPERATION

LIGHTING PROCEDURE

1. Open gas cock and cold water shut-off valve fully.
2. Turn the gas control knob from the OFF position ● in an anti-clockwise direction to its stop. Whilst turning the knob, the piezo igniter will operate. Hold the knob in this position for about 10 seconds.
3. If the pilot burner does not ignite, continue to hold the knob in this position to purge the pilot gas tube, then repeat the lighting procedure.
4. Turn the gas control knob in a clockwise direction to the ON position ▲. The heater is now ready to operate.
5. The heater will automatically operate when a hot water tap is opened. Select the required hot water outlet temperature on the temperature selector.

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES

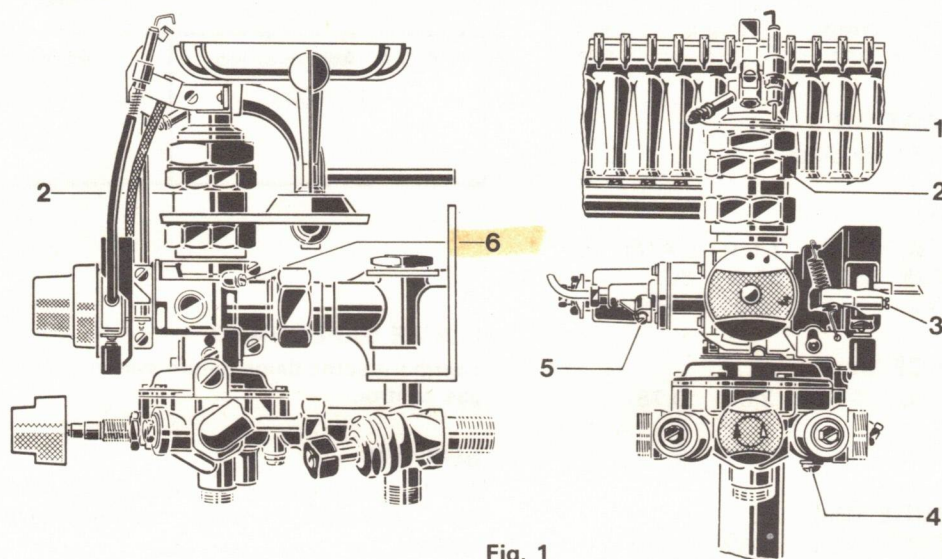


Fig. 1

MAG 250/8 SIDE VIEW
(with gas volume regulator)

MAG 250/8 FRONT VIEW
(with gas volume regulator)

1. Burner pressure test point.
2. Volumetric gas regulator housing.
3. Gas inlet pressure test point.
4. Water drain plug.
5. Gas adjusting screw for pilot burner.
6. Gas adjusting screw for main burner.

OUTER CASE REMOVAL

1. Pull off control knobs and unscrew captive nut from behind water temperature knob.
2. Pull case forward at bottom, then forward out of spring clips at top of backing plate.
3. Remove case from appliance.

WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off gas and water supplies.
3. Unscrew water connections and remove two grub screws securing water section to gas section.
4. Pull water section down and remove from appliance.

VAILLANT MAG 250/7 & 8

MAINTENANCE Cont'd.

BURNER REMOVAL

1. Remove outer case.
2. Disconnect ignition electrode and unclip thermocouple from pilot bracket.
3. Unscrew pilot line union at gas control, then remove screw on right hand side of pilot bracket.
4. Unscrew uppermost hexagon nut, directly below burner manifold.
5. Remove burner from appliance.

GAS & WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off and disconnect gas and water supplies.
3. Disconnect side arms from water section.
4. Remove screws from gas section which hold gas inlet to backing plate.
5. Complete water and gas section can now be removed from appliance.

ON COMPLETION OF WORK TEST FOR GAS ESCAPES.

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

WATER INLET CONNECTION

15 mm B.S.P. male connection at right hand side of water section.

GAS CONNECTION

25 mm B.S.P. male connection at rear of appliance.

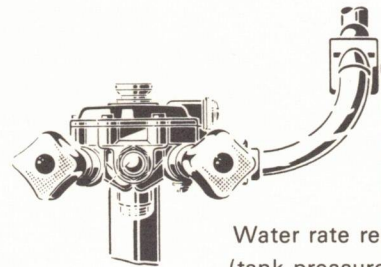
WATER OUTLET CONNECTION

15 mm B.S.P. male connection at left hand side of water section.

COMMISSIONING:

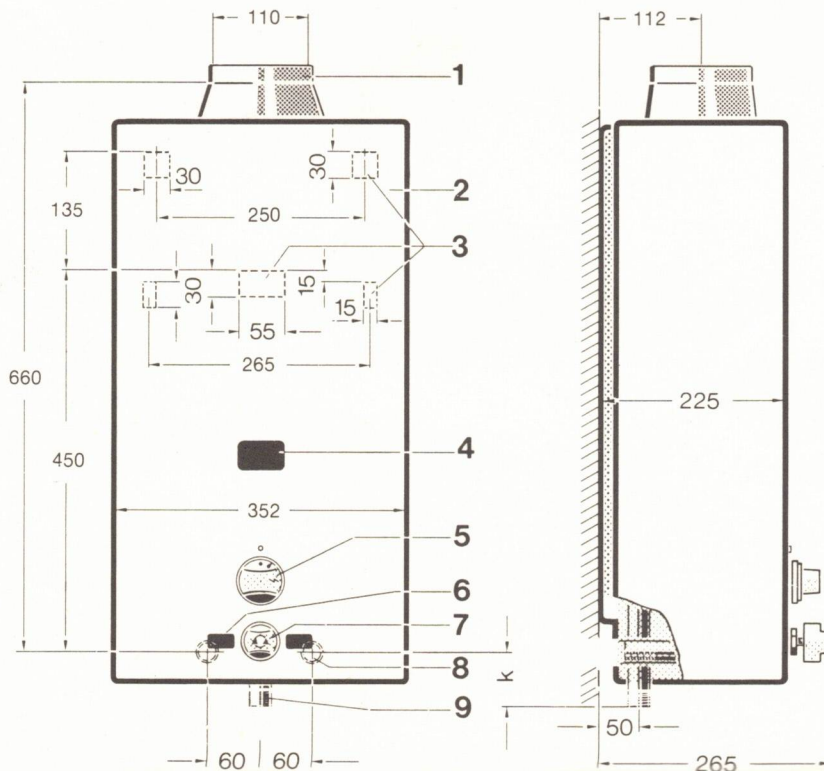
TANK PRESSURE MODELS (Suffix N)

1. Light appliance.
2. Open hot water valve fully.
3. Adjust the water regulating valve (Fig. 2) to the fully open position.
4. Adjust the outlet water flow rate to 5.0 litres/min. by adjusting the water regulating valve.



Water rate regulating valve (tank pressure models only)

Fig. 2



1. Draught diverter
2. Outer case
3. Mounting holes
4. Pilot burner
5. Gas control knob
6. Hot water connection
7. Temperature selector knob
8. Cold water connection
9. Gas connection

Fig. 3

VAILLANT MAG 250/7 & 8

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED.

PROCEDURE

1. Remove outer case.
2. Remove burner assembly.
3. Replace main burner injectors with new injectors appropriate for that gas type.
4. Remove pilot injector and replace with new injector appropriate for that gas type.
5. Adjust gas pressure.
6. Adjust pilot rate.
7. Replace outer case.

REPLACEMENT PARTS

DESCRIPTION	PART NO.	QTY.	CAT. NO.
Diaphragm, water section	01-0312	1	
Spindle seal, water section	98-0185	1	
Knob, temperature selector	14-3937	1	
Knob, gas control valve	28-0818	1	
Thermocouple lead	17-1123	1	
Piezo igniter	09-1037	1	

Manufacturer Joh Vaillant K.G. (Germany)	Appliance Name/Model Vaillant MAG 325/7, MAG 325/8
-------------------------------------------------------	-----------------------------------------------------------------

DESCRIPTION

Instantaneous, multi-point water heater designed for internal wall mounting.

Model suffix designation:

- 7 = N.G., L.P.(P) (no volumetric regulator)
- 8 = N.G., T.G., T.L.P. (volumetric regulator)
- A = remote tap operation
- R = volumetric gas regulator
- T = thermo-electric safety device
- W = modulating gas control
- Z = piezo ignition
- N = tank water pressure operation

TECHNICAL DATA

MASS (kg) 16.4

DIMENSIONS (mm)

Width	Height	Depth
422	830	225

DATA PLATE LOCATION

On right hand side of back plate.

GAS RATE (MJ/h)

	N.G.	T.G.	T.L.P.	L.P.(P)
Main burner	110.0	110.0	110.0	110.0
Pilot burner	0.35	0.35	0.35	0.35

INJECTOR ORIFICE (mm)

Main burner	1.40	2.50	2.50	0.78
(14 off)				
Pilot burner	0.34	0.55	0.55	0.18

BURNER PRESSURE (Pa)

750	325	375	2720
-----	-----	-----	------

TEST POINT LOCATION

On main burner manifold.

REGULATOR

Vaillant model Z1232-2 volumetric type gas regulator (suffix R only).

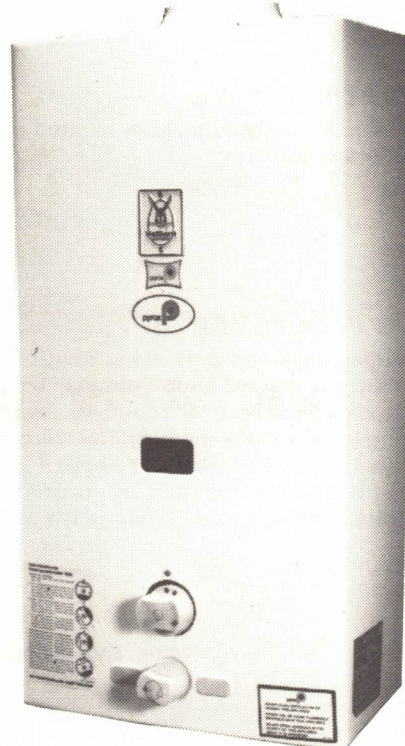
Volumetric type gas regulator combined with three stage automatic output device (suffix W only).

GAS CONTROL

Water-flow actuated gas control valve, incorporating 3-position gas control, thermo-electric safety shut-off and main gas valve.

IGNITION

Non-aerated, target type permanent pilot. Pilot is ignited by a piezo-electric ignition system.



A.G.A. Approval No. 2697-002	Approved for N.G., T.G., T.L.P., L.P.(P)
----------------------------------------	----------------------------------------------------

FLAME SAFEGUARD

Thermo-electric flame failure system, incorporated in the gas control.

BURNER

The burner assembly consists of 20 removable burner bars, each with 31 ports, mounted on a gang of 14 venturii.

WATER HEATING CAPACITY

11.7 litres/min. raised 30°C.

WATER OPERATING PRESSURE

MAINS PRESSURE MODELS:

- 1200 kPa maximum
- 35 kPa minimum

TANK PRESSURE MODELS (Suffix N):

- 76 kPa maximum
- 10 kPa minimum

WATER PRESSURE RELIEF

Spring loaded relief valve, located in the water section and set at 1200 kPa.

WATER DRAIN

Screw plug, fitted to the inlet side of the water housing.

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APPLIANCE DATA

VAILLANT MAG 325/7 & 8

TECHNICAL DATA Cont'd.

SLOW IGNITION VALVE

Non-adjustable slow ignition valve, located in right hand side of water section.

WATER FILTER

Brass mesh filter, inserted in the inlet of the water housing and held in position by a circlip.

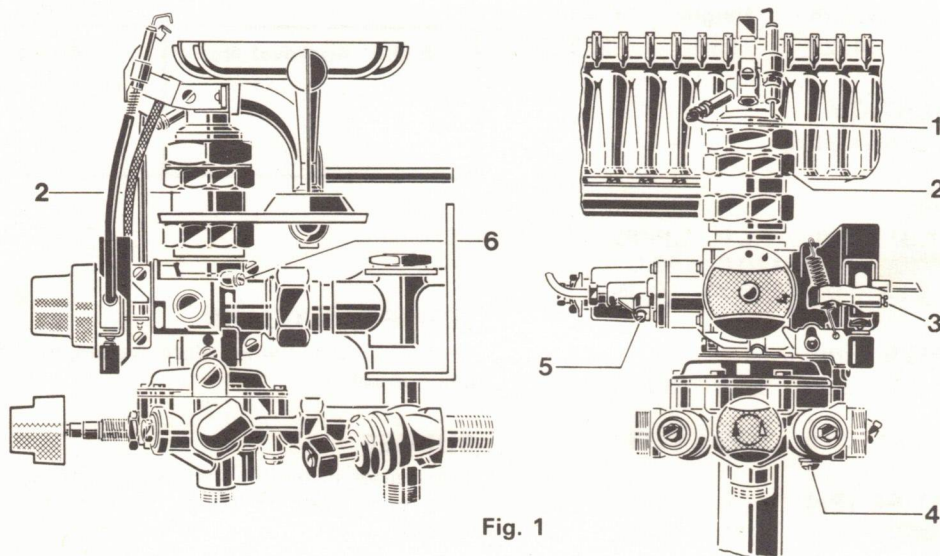
OPERATION

LIGHTING PROCEDURE

1. Open gas cock and cold water shut-off valve fully.
2. Turn the gas control knob from the OFF position ● in an anti-clockwise direction to its stop. Whilst turning the knob, the piezo igniter will operate. Hold the knob in this position for about 10 seconds.
3. If the pilot burner does not ignite, continue to hold the knob in this position to purge the pilot gas tube, then repeat the lighting procedure.
4. Turn the gas control knob in a clockwise direction to the ON position ▲. The heater is now ready to operate.
5. The heater will automatically operate when a hot water tap is opened. Select the required hot water outlet temperature on the temperature selector.

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES



MAG 325/8 SIDE VIEW
(with gas volume regulator)

MAG 325/8 FRONT VIEW
(with gas volume regulator)

1. Burner pressure test point.
2. Volumetric gas regulator housing.
3. Gas inlet pressure test point.
4. Water drain plug.
5. Gas adjusting screw for pilot burner.
6. Gas adjusting screw for main burner.

OUTER CASE REMOVAL

1. Pull off control knobs and unscrew captive nut from behind water temperature knob.
2. Pull case forward at bottom, then forward out of spring clips at top of backing plate.
3. Remove case from appliance.

WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off gas and water supplies.
3. Unscrew water connections and remove two grub screws securing water section to gas section.
4. Pull water section down and remove from appliance.

VAILLANT MAG 325/7 & 8

MAINTENANCE Cont'd.

BURNER REMOVAL

1. Remove outer case.
2. Disconnect ignition electrode and unclip thermocouple from pilot bracket.
3. Unscrew pilot line union at gas control, then remove screw on right hand side of pilot bracket.
4. Unscrew uppermost hexagon nut, directly below burner manifold.
5. Remove burner from appliance.

GAS & WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off and disconnect gas and water supplies.
3. Disconnect side arms from water section.
4. Remove screws from gas section which hold gas inlet to backing plate.
5. Complete water and gas section can now be removed from appliance.

ON COMPLETION OF WORK TEST FOR GAS ESCAPES.

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

WATER INLET CONNECTION

15 mm B.S.P. male connection at right hand side of water section.

GAS CONNECTION

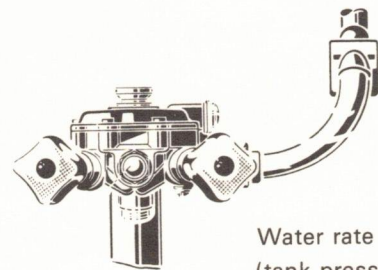
25 mm B.S.P. male connection at rear of appliance.

WATER OUTLET CONNECTION

15 mm B.S.P. male connection at left hand side of water section.

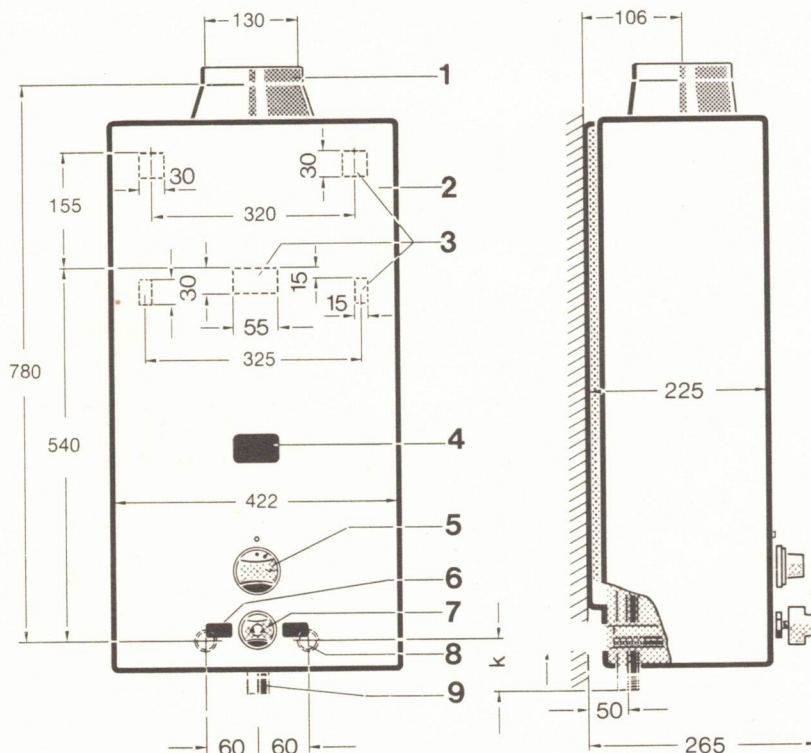
**COMMISSIONING:
TANK PRESSURE MODELS (Suffix N)**

1. Light appliance.
2. Open hot water valve fully.
3. Adjust the water regulating valve (Fig. 2) to the fully open position.
4. Adjust the outlet water flow rate of 6.0 litres/min. by adjusting the water regulating valve.



Water rate regulating valve (tank pressure models only)

Fig. 2



1. Draught diverter
2. Outer case
3. Mounting holes
4. Pilot burner
5. Gas control knob
6. Hot water connection
7. Temperature selector knob
8. Cold water connection
9. Gas connection

Fig. 3

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VAILLANT MAG 325/7 & 8

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED.

PROCEDURE

1. Remove outer case.
2. Remove burner assembly.
3. Replace main burner injectors with new injectors appropriate for that gas type.
4. Remove pilot injector and replace with new injector appropriate for that gas type.
5. Adjust gas pressure.
6. Adjust pilot rate.
7. Replace outer case.

REPLACEMENT PARTS

DESCRIPTION	PART NO.	QTY.	CAT. NO.
Diaphragm, water section	01-0312	1	
Spindle seal, water section	98-0185	1	
Knob, temperature selector	14-3937	1	
Knob, gas control valve	28-0818	1	
Thermocouple lead	17-1123	1	
Piezo igniter	09-1037	1	

Manufacturer Joh Vaillant K.G. (Germany)	Appliance Name/Model Vaillant MAG 400/7 TZW
-------------------------------------------------------	----------------------------------------------------------

DESCRIPTION

Instantaneous, multi-point water heater designed for internal wall mounting.

Model suffix designation:

T = thermo-electric safety device

W = modulating gas control

Z = piezo ignition

TECHNICAL DATA

MASS (kg) 17.4

DIMENSIONS (mm)

Width	Height	Depth
422	910	225

DATA PLATE LOCATION

On right hand side of back plate.

GAS RATE (MJ/h)

	N.G.	L.P.(P)
Main burner	134.0	134.0
Pilot burner	0.5	0.5

INJECTOR ORIFICE (mm)

Main burner	1.50	0.85
(16 off)		
Pilot burner	0.40	0.21

BURNER PRESSURE (Pa)

640	2450
-----	------

TEST POINT LOCATION

On main burner manifold.

REGULATOR

Volumetric type gas regulator combined with three stage automatic output device.

GAS CONTROL

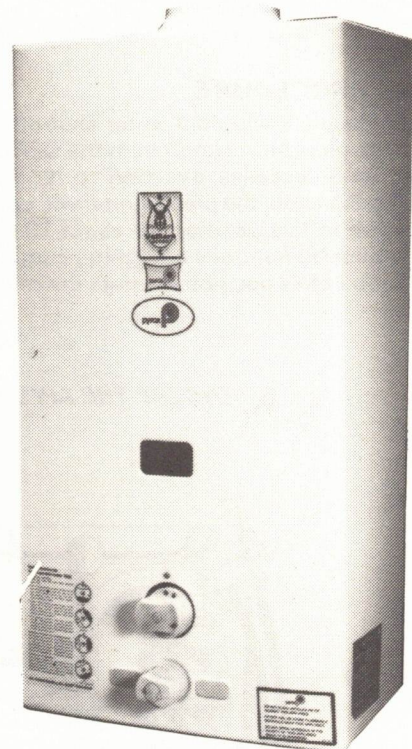
Water-flow actuated gas control valve, incorporating 3-position gas control, thermo-electric safety shut-off and main gas valve.

IGNITION

Non-aerated, target type permanent pilot. Pilot is ignited by a piezo-electric ignition system.

FLAME SAFEGUARD

Thermo-electric flame failure system, incorporated in the gas control.



A.G.A. Approval No.

2811-004

Approved for

N.G., L.P.(P)

BURNER

The burner assembly consists of 22 removable burner bars, each with 31 ports, mounted on a gang of 16 venturii.

WATER HEATING CAPACITY

13.32 litres/min. raised 30°C.

WATER OPERATING PRESSURE

MAXIMUM: 1300 kPa
MINIMUM: 15 kPa at 3 litres/min. output
60 kPa at 8 litres/min. output

WATER PRESSURE RELIEF

Spring loaded relief valve, located in the water section and set at 1300 kPa.

SLOW IGNITION VALVE

Not fitted to this appliance.

WATER FILTER

Brass mesh filter, inserted in the inlet of the water housing and held in position by a circlip.

WATER DRAIN

The water section is drained by removing the pressure relief valve.

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APPLIANCE DATA

VAILLANT MAG 400/7 TZW

OPERATION

LIGHTING PROCEDURE

1. Open gas cock and cold water shut-off valve fully.
2. Turn the gas control knob from the OFF position ● in an anti-clockwise direction to its stop. Whilst turning the knob, the piezo igniter will operate. Hold the knob in this position for about 10 seconds.
3. If the pilot burner does not ignite, continue to hold the knob in this position to purge the pilot gas tube, then repeat the lighting procedure.
4. Turn the gas control knob in a clockwise direction to the ON position ▲. The heater is now ready to operate.
5. The heater will automatically operate when a hot water tap is opened. Select the required hot water outlet temperature on the temperature selector.

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES

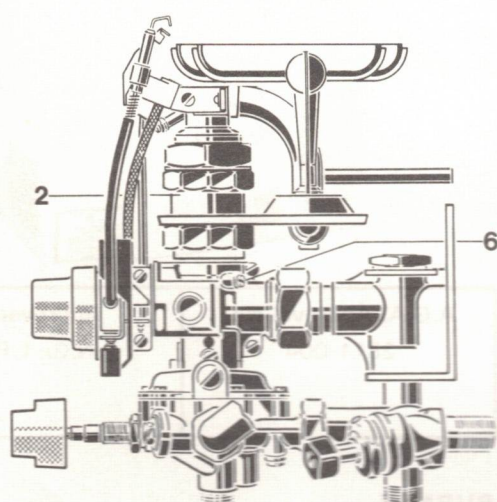
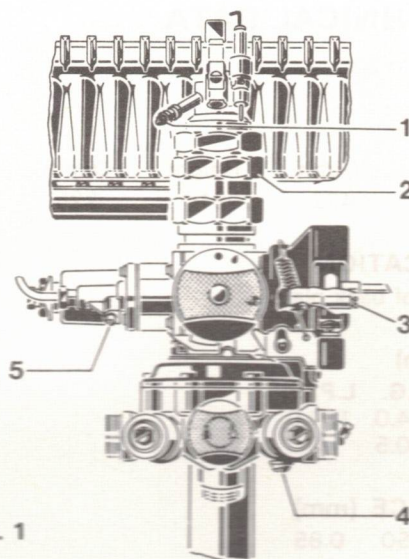


Fig. 1



MAG 400/7 SIDE VIEW

MAG 400/7 FRONT VIEW

1. Burner pressure test point.
2. Volumetric gas regulator housing.
3. Gas inlet pressure test point.
4. Water drain plug.
5. Gas adjusting screw for pilot burner.
6. Gas adjusting screw for main burner.

OUTER CASE REMOVAL

1. Pull off control knobs and unscrew captive nut from behind water temperature knob.
2. Pull case forward at bottom, then forward out of spring clips at top of backing plate.
3. Remove case from appliance.

BURNER REMOVAL

1. Remove outer case.
2. Disconnect ignition electrode and unclip thermocouple from pilot bracket.
3. Unscrew pilot line union at gas control, then remove screw on right hand side of pilot bracket.
4. Unscrew uppermost hexagon nut, directly below burner manifold.
5. Remove burner from appliance.

WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off gas and water supplies.
3. Unscrew water connections and remove two grub screws securing water section to gas section.
4. Pull water section down and remove from appliance.

GAS & WATER SECTION REMOVAL

1. Remove outer case.
2. Turn off and disconnect gas and water supplies.
3. Disconnect side arms from water section.
4. Remove screws from gas section which hold gas inlet to backing plate.
5. Complete water and gas section can now be removed from appliance.

VAILLANT MAG 400/7 TZW

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

WATER INLET CONNECTION

20 mm B.S.P. male connection at right hand side of water section.

GAS CONNECTION

25 mm B.S.P. for N.G. or 15 mm B.S.P. for L.P.(P) male connection directed downwards at rear centre of case.

WATER OUTLET CONNECTION

20 mm B.S.P. male connection at left hand side of water section.

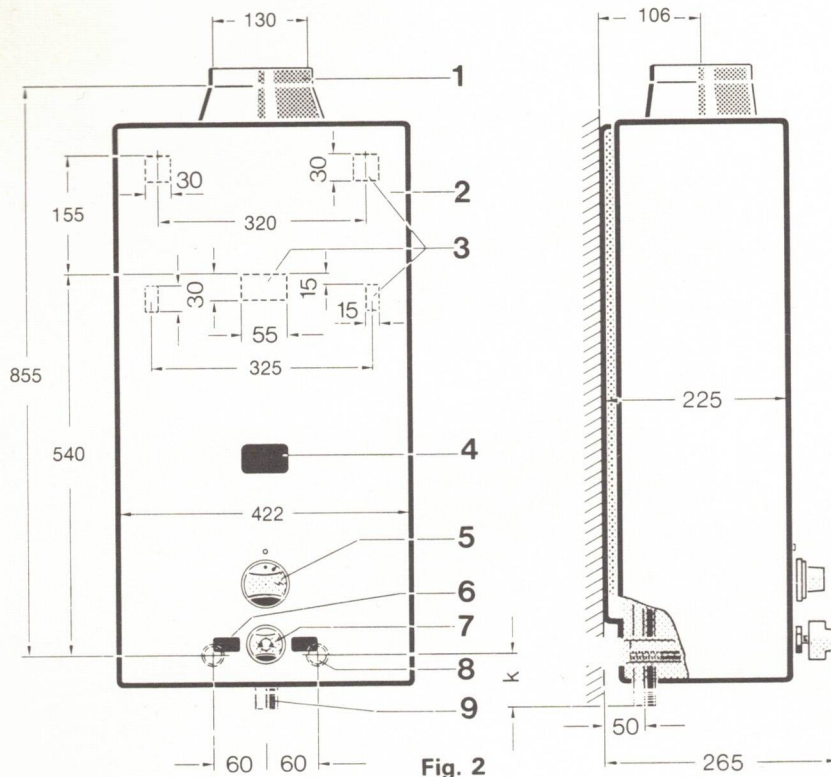


Fig. 2

1. Draught diverter
2. Outer case
3. Mounting holes
4. Pilot burner
5. Gas control knob
6. Hot water connection
7. Temperature selector knob
8. Cold water connection
9. Gas connection

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED.

PROCEDURE

1. Remove outer case.
2. Remove burner assembly.
3. Replace main burner injectors with new injectors appropriate for that gas type.
4. Remove pilot injector and replace with new injector appropriate for that gas type.
5. Adjust gas pressure.
6. Adjust pilot rate.
7. Replace outer case.

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APPLIANCE DATA

VAILLANT MAG 400/7 TZW

REPLACEMENT PARTS

DESCRIPTION	PART NO.	QTY.	CAT. NO.
Diaphragm, water section	01-0312	1	
Spindle seal, water section	98-0185	1	
Knob, temperature selector	14-3937	1	
Knob, gas control valve	28-0818	1	
Thermocouple lead	17-1123	1	
Piezo igniter	09-1037	1	



Manufacturer Joh Vaillant K.G. (Germany)	Appliance Name/Model Pyrox MAG 250 EBF Pyrox MAG 325 EBF
-------------------------------------------------------	-----------------------------------------------------------------------

DESCRIPTION

A multi-point instantaneous, balanced flue, water heater for external installations.

APPLIANCE MODELS:

- MAG 250 / 8 ARTZ – E.B.F. for N.G., T.G., T.L.P.
- MAG 250 / 7 ATZ – E.B.F. for L.P.G.
- MAG 250 / 7 TZW – E.B.F. for N.G., L.P.G.
- MAG 325 / 8 ARTZ – E.B.F. for N.G., T.G., T.L.P.
- MAG 325 / 7 ATZ – E.B.F. for L.P.G.
- MAG 325 / 7 TZW – E.B.F. for N.G., L.P.G.

MODEL EXPLANATION

- 7 = N.G., L.P.(P) (no volumetric regulator)
- 8 = N.G., T.G., T.L.P. (volumetric regulator)
- A = multi point operation
- R = volumetric gas regulator
- T = thermo - electric safety device
- W = modulating gas control
- Z = piezo ignition
- N = low water pressure operation
- E.B.F. = external balanced flue

TECHNICAL DATA

MASS (kg)	MAG 250:	21	
	MAG 325:	27	
DIMENSIONS (mm)	Width	Height	Depth
	MAG 250	355	818
MAG 325	424	915	455

DATA PLATE LOCATION

Adhesive label on inside of front panel.

GAS RATE (MJ/h)

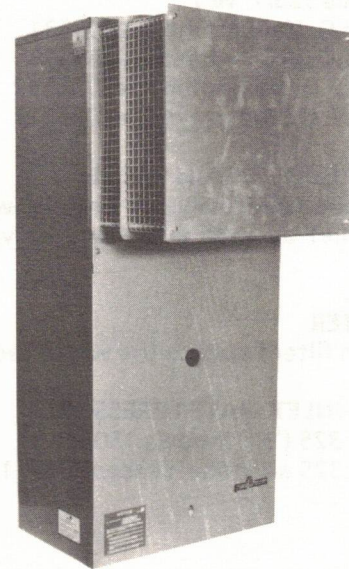
	N.G.	T.G.	T.L.P.	L.P.(P)	L.P.(B)
Burner, 250:	76	76	76	76	
Burner, 325:	110	110	110	110	
Pilot	0.50	0.50	0.50	0.35	

RATED OUTPUT (kW)

Model 250:	17.4	17.4	17.4	17.4
Model 325:	22.7	22.7	22.7	22.7

INJECTOR ORIFICE (mm)

Burner, 250:	1.30	2.10	2.50	0.78
Burner, 325:	1.40	2.50	2.50	0.78
Pilot	0.40	0.65	0.65	0.21



A.G.A. Approval No. 2989-008 (250 EBF) 2990-004 (325 EBF)	Approved for N.G., T.G., T.L.P., L.P. (P)
--------------------------------------------------------------------------	-----------------------------------------------------

MODULATING VALVE RESTRICTOR ORIFICE (mm)

	N.G.	T.G.	T.L.P.	L.P.(P)	L.P.(B)
250/7W	2.60			1.55	
325/7W	3.50			1.95	

BURNER PRESSURE (Pa)

MAG 250:	840	600	350	2700
MAG 325:	750	325	375	2720

TEST POINT LOCATION

On the main burner manifold.

REGULATOR

MAG 250/8 & MAG 325/8

Volumetric gas governor, Vaillant model Z1232-2 is incorporated in the gas control.

MAG 250/7 & MAG 325/7 (N.G.)

Gas regulator, Beckley (Aust.) model 24 - 3 - 120 fitted to gas inlet.

IGNITION

Piezo ignited permanent pilot.

Pilot has adjustable gas rate.

FLAME SAFEGUARD

Thermo-electric flame failure system.

BURNER

Stainless steel aerated burner.

MAG 250 EBF & MAG 325 EBF

TECHNICAL DATA Cont'd.

MODULATING GAS VALVE ADAPTOR (MAG 250/7 'W' and MAG 325/7 'W')

250 / 7 W, N.G. Vaillant model 085531
325 / 7 W, N.G. Vaillant model 085519
250 / 7 W, L.P.G. Vaillant model 085532
325 / 7 W, L.P.G. Vaillant model 085521

PRESSURE RELIEF / DRAIN VALVE

Spring loaded relief valve in base of water section, pressure relief at 1300 kPa. Remove valve to drain unit.

WATER FILTER

Plastic mesh filter fitted to the water section inlet.

MAXIMUM INLET WATER PRESSURE

MAG 250 & 325 ('N') models 150kPa
MAG 250 & 325 all models except ('N') 1300kPa

MINIMUM WORKING WATER PRESSURE DIFFERENCE (MAG 250)

'TZW' model, 60kPa. at 5 litres / min.
'N' model, 18.5kPa. at 5 litres / min.
'ARTZ' model, 30kPa. Temp. selector at 'HOT'.
'ARTZ' model, 120kPa. Temp. selector at 'WARM'.

MINIMUM WORKING WATER PRESSURE DIFFERENCE (MAG 325)

'TZW' model, 60kPa. at 6 litres / min.
'N' model, 10.3kPa. at 6 litres / min.
'ARTZ' model, 35kPa. Temp. selector at 'HOT'.
'ARTZ' model, 135kPa. Temp. selector at 'WARM'

NOTE:

The above are pressure differences between the inlet and outlet water pressures.

OPERATION

ACCESS TO CONTROLS

1. Unscrew the front panel retention screw, lower centre of panel.
2. Pull the front panel down and outwards.

OFF POSITION



IGNITION POSITION



PILOT POSITION



ON POSITION



CONTROL DETAILS



LIGHTING PROCEDURE

1. Turn the gas control knob fully anti-clockwise from the 'OFF' • position to the ignition stop position. (The piezo will automatically operate and the pilot should ignite.) Hold the knob in this position for 10-15 seconds to establish thermocouple operation, then release knob. If the pilot fails to remain alight, repeat the above procedure, returning the knob to the 'OFF' position after each attempt.
2. Turn the gas control knob clockwise from the PILOT • position to the 'ON' • position.
3. The unit will automatically operate when a hot tap connected to the unit is opened.

NOTE:

When the gas control knob is turned to 'OFF' it cannot be turned to 'ON' again until the thermo-electric control snaps to the closed position, this could take approximately one minute. Do not try to force the knob as this could cause damage to the unit.

WATER TEMPERATURE CONTROL

1. Turn the water temperature control knob clockwise  to increase the water temperature
2. Turn the water temperature control knob anti-clockwise  to reduce the water temperature.



MODULATING VALVE (MAG 250 / 7 W & 325 / 7 W)

A three stage modulating gas valve and adaptor is fitted to the gas section. Mains water pressure is required for correct operation.

When a draw off tap is partially opened, stage one of the modulator will open giving a reduced gas rate. When the draw off tap is opened further, stages two and three of the modulator will increase the gas rate.

MAG 250 EBF & MAG 325 EBF

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES

LOWER FRONT PANEL REMOVAL

1. Unscrew the front panel retention screw, lower centre of panel.
2. Pull the front panel down and outwards.

GAS PRESSURE ADJUSTMENT (MAG 250/8 & MAG 325/8 ARTZ)

1. Remove the lower front panel.
2. Loosen the pressure test point screw on burner manifold.
3. Fit manometer.
4. Remove the spring clip from the front of the volumetric gas regulator.
5. Turn on the main burner and open a hot tap fully.
6. Adjust the manifold pressure by rotating the adjustment screw on the volumetric regulator.
7. Shut down the appliance, remove the manometer and tighten test point screw.
8. Replace front panel.

GAS PRESSURE ADJUSTMENT (MAG 250/7 & MAG 325/7 TZW)

1. Remove the lower front panel.
2. Loosen the pressure test point screw on burner manifold.
3. Fit manometer.
4. Locate the gas flow adjustment point on the right rear side of the gas control beneath the modulating adaptor.
5. Remove the brass knurled cap for access to adjusting screw.
6. Unscrew the gas flow adjusting screw fully.
7. Rotate the temperature selector control fully clockwise.
8. Turn the gas control to 'ON' and open a hot tap fully.
9. Adjust the gas pressure regulator to obtain the correct manifold pressure.
10. Screw the gas flow adjusting screw inwards until the manifold pressure just begins to drop, then screw outwards until the manifold pressure is correct.
11. Replace the brass knurled cap.
12. Shut down the appliance, remove the manometer and tighten test point screw.
13. Replace front panel.

HEAT EXCHANGER REMOVAL

1. Turn off the gas and water supplies.
2. Remove the lower front panel.
3. Remove one screw each side of upper front panel and remove panel.
4. Remove screw top centre of balanced flue and lift off balanced flue.
5. Drain the unit.
6. Remove the burner.
7. Disconnect the water connections from the heat exchanger.
8. Lift out the heat exchanger.

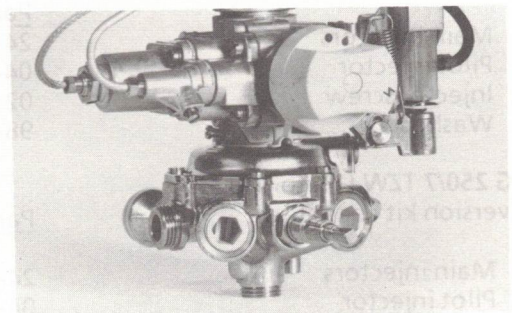
WATER SECTION REMOVAL

1. Turn off the gas and water supplies.
2. Remove the lower front panel.
3. Unscrew the two screws from the access panel beneath the water section and remove the panel.
4. Drain the unit.
5. Disconnect the four water connections at the water section.
6. Remove the two screws which retain water section to gas section.
7. Pull the water section out from the gas section.



GAS AND WATER SECTION (COMPLETE ASSEMBLY) REMOVAL

1. Turn off the gas and water supplies.
2. Remove the front panel.
3. Remove the burner.
4. Unscrew the two screws from the access panel beneath the water section and remove the panel.
5. Drain the unit.
6. Disconnect the four water connections at the water section.
7. Remove the hexagonal slotted bolts from the gas control retention bracket.
7. Slide out the gas and water section complete.



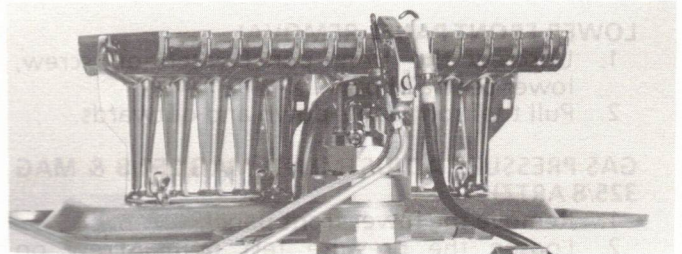
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MAG 250 EBF & MAG 325 EBF

MAINTENANCE Cont'd.

MAIN BURNER REMOVAL

1. Remove the front panel.
2. Pull out thermocouple from the pilot bracket and high tension lead from electrode.
3. Disconnect pilot supply pipe at gas section.
4. Remove screw from right side of pilot bracket and remove pilot bracket.
5. Unscrew uppermost hexagonal nut, directly below burner.
6. Angle the burner and ease out.



MAIN BURNER

ON COMPLETION OF WORK TEST FOR GAS ESCAPES

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

GAS CONNECTION

MAG 250 - 20mm male connection.
 MAG 325/7 - 20mm male connection.
 MAG 325/8 - 25mm male connection.
 MAG 250/7 and 325/7 models require a gas regulator before the gas inlet to the unit.

WATER CONNECTIONS

15mm male connection. An approved gate valve is required in the cold water supply to the appliance.

INSTALLATION ON AN EXTERNAL WALL

The unit should be hung securely by the mounting brackets provided on the rear of the unit.

INSTALLATION INTO AN EXTERNAL WALL SOLID BRICK CONSTRUCTIONS.

1. Prepare aperture in wall, allowing a 25mm clearance between back and sides of wallbox, and any combustible materials, (unless

fireproof material is placed between the two surfaces).

2. Ensure that the wallbox front will protrude a minimum distance of 25mm from finished external wall surface, to permit removal of front cover.
3. Provide and fit flashing strips to weather - proof unit in wall cavity.

BRICK VENEER & WEATHERBOARD CONSTRUCTION:

1. Prepare aperture in external wall and provide and fit a metal box, lined with 6mm millboard, so that the internal dimensions allow 25mm clearance between back and sides of wallbox.
2. If securing metal box to wooden batten/s, provide a sheet of fire-proof material between the two surfaces.
3. Provide and fit flashing strips to weather - proof unit in wall cavity.

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED

MAG 250/8 RTZ T.G./T.L.P. to N.G.

Conversion kit consists of:

	<u>Vaillant</u>
	<u>Part No.</u>
10 Main injectors	24-7140
1 Pilot injector	04-2818
1 Injector screw	02-0359
1 Washer	98-0212

MAG 250/7 TZW L.P. to N.G.

Conversion kit consists of:

	<u>Part No.</u>
10 Main injectors	24-7140
1 Pilot injector	04-2818
1 Modulating control	08-5531
1 Injector screw	02-0371
1 Washer	98-0212
1 Water deficiency valve seal	02-005
1 Washer	98-0210

MAG 325/8 T.G. to N.G.

Conversion kit consists of:

	<u>Vaillant</u>
	<u>Part No.</u>
1 Aerated pilot assembly	04-0841
14 Main injectors	24-7140
1 Pilot injector	04-0548
1 Injector screw	02-0359
1 Burner gasket	98-0212
1 Rating label	6728 P1
1 Pilot injector gasket	98/0225

MAG 325/7 ATZ OR ATZW L.P. to N.G.

Conversion kit consists of:

	<u>Part No.</u>
14 Main injectors	24-7140
1 Pilot injector	04-0548
1 Modulating control	08-5519
1 Injector screw	02-0359
1 Washer	98-0213

Manufacturer Joh Vaillant K.G. (Germany)	Appliance Name/Model Pyrox MAG 250 EBF Pyrox MAG 325 EBF
-------------------------------------------------------	-----------------------------------------------------------------------

DESCRIPTION

A multi-point instantaneous, balanced flue, water heater for external installations.

APPLIANCE MODELS:

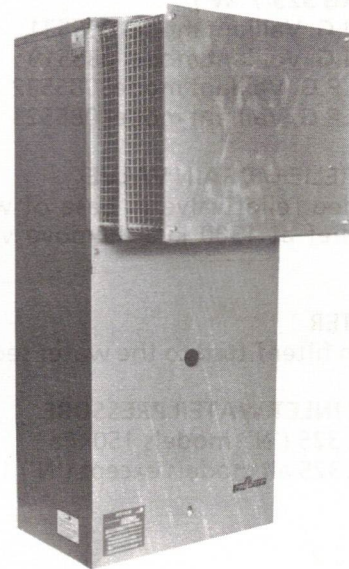
- MAG 250 / 8 ARTZ – E.B.F. for N.G., T.G., T.L.P.
- MAG 250 / 7 ATZ – E.B.F. for L.P.G.
- MAG 250 / 7 TZW – E.B.F. for N.G., L.P.G.
- MAG 325 / 8 ARTZ – E.B.F. for N.G., T.G., T.L.P.
- MAG 325 / 7 ATZ – E.B.F. for L.P.G.
- MAG 325 / 7 TZW – E.B.F. for N.G., L.P.G.

MODEL EXPLANATION

- 7 = N.G., L.P.(P) (no volumetric regulator)
- 8 = N.G., T.G., T.L.P. (volumetric regulator)
- A = multi point operation
- R = volumetric gas regulator
- T = thermo - electric safety device
- W = modulating gas control
- Z = piezo ignition
- N = low water pressure operation
- E.B.F. = external balanced flue

TECHNICAL DATA

MASS (kg)	MAG 250:	21			
	MAG 325:	27			
DIMENSIONS (mm)					
	Width	Height	Depth		
MAG 250	355	818	435		
MAG 325	424	915	455		
DATA PLATE LOCATION	Adhesive label on inside of front panel.				
GAS RATE (MJ/h)					
	N.G.	T.G.	T.L.P.	L.P.(P)	L.P.(B)
Burner, 250:	76	76	76	76	
Burner, 325:	110	110	110	110	
Pilot	0.50	0.50	0.50	0.35	
RATED OUTPUT (kW)					
Model 250:	17.4	17.4	17.4	17.4	
Model 325:	22.7	22.7	22.7	22.7	
INJECTOR ORIFICE (mm)					
Burner, 250:	1.30	2.10	2.50	0.78	
Burner, 325:	1.40	2.50	2.50	0.78	
Pilot	0.40	0.65	0.65	0.21	



A.G.A. Approval No. 2989-008 (250 EBF) 2990-004 (325 EBF)	Approved for N.G., T.G., T.L.P., L.P. (P)
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MODULATING VALVE RESTRICTOR ORIFICE (mm)

	N.G.	T.G.	T.L.P.	L.P.(P)	L.P.(B)
250/7W	2.60			1.55	
325/7W	3.50			1.95	

BURNER PRESSURE (Pa)

MAG 250:	840	600	350	2700
MAG 325:	750	325	375	2720

TEST POINT LOCATION

On the main burner manifold.

REGULATOR

MAG 250/8 & MAG 325/8
Volumetric gas governor, Vaillant model Z1232-2 is incorporated in the gas control.
MAG 250/7 & MAG 325/7 (N.G.)
Gas regulator, Beckley (Aust.) model 24 - 3 - 120 fitted to gas inlet.

IGNITION

Piezo ignited permanent pilot.
Pilot has adjustable gas rate.

FLAME SAFEGUARD

Thermo-electric flame failure system.

BURNER

Stainless steel aerated burner.

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APPLIANCE DATA

MAG 250 EBF & MAG 325 EBF

TECHNICAL DATA Cont'd.

MODULATING GAS VALVE ADAPTOR (MAG 250/7 'W' and MAG 325/7 'W')

250 / 7 W, N.G. Vaillant model 085531
325 / 7 W, N.G. Vaillant model 085519
250 / 7 W, L.P.G. Vaillant model 085532
325 / 7 W, L.P.G. Vaillant model 085521

PRESSURE RELIEF / DRAIN VALVE

Spring loaded relief valve in base of water section, pressure relief at 1300 kPa. Remove valve to drain unit.

WATER FILTER

Plastic mesh filter fitted to the water section inlet.

MAXIMUM INLET WATER PRESSURE

MAG 250 & 325 ('N') models 150kPa
MAG 250 & 325 all models except ('N') 1300kPa

MINIMUM WORKING WATER PRESSURE DIFFERENCE (MAG 250)

'TZW' model, 60kPa. at 5 litres / min.
'N' model, 18.5kPa. at 5 litres / min.
'ARTZ' model, 30kPa. Temp. selector at 'HOT'.
'ARTZ' model, 120kPa. Temp. selector at 'WARM'.

MINIMUM WORKING WATER PRESSURE DIFFERENCE (MAG 325)

'TZW' model, 60kPa. at 6 litres / min.
'N' model, 10.3kPa. at 6 litres / min.
'ARTZ' model, 35kPa. Temp. selector at 'HOT'.
'ARTZ' model, 135kPa. Temp. selector at 'WARM'

NOTE:

The above are pressure differences between the inlet and outlet water pressures.

OPERATION

ACCESS TO CONTROLS

1. Unscrew the front panel retention screw, lower centre of panel.
2. Pull the front panel down and outwards.

OFF POSITION



IGNITION POSITION



PILOT POSITION



ON POSITION



CONTROL DETAILS



LIGHTING PROCEDURE

1. Turn the gas control knob fully anti-clockwise from the 'OFF' • position to the ignition stop position. (The piezo will automatically operate and the pilot should ignite.) Hold the knob in this position for 10-15 seconds to establish thermocouple operation, then release knob. If the pilot fails to remain alight, repeat the above procedure, returning the knob to the 'OFF' position after each attempt.
2. Turn the gas control knob clockwise from the PILOT • position to the 'ON' • position.
3. The unit will automatically operate when a hot tap connected to the unit is opened.

NOTE:

When the gas control knob is turned to 'OFF' it cannot be turned to 'ON' again until the thermo-electric control snaps to the closed position, this could take approximately one minute. Do not try to force the knob as this could cause damage to the unit.

WATER TEMPERATURE CONTROL

1. Turn the water temperature control knob clockwise  to increase the water temperature
2. Turn the water temperature control knob anti-clockwise  to reduce the water temperature.



MODULATING VALVE (MAG 250 / 7 W & 325 / 7 W)

A three stage modulating gas valve and adaptor is fitted to the gas section. Mains water pressure is required for correct operation. When a draw off tap is partially opened, stage one one of the modulator will open giving a reduced gas rate. When the draw off tap is opened further, stages two and three of the modulator will increase the gas rate.

Manufacturer Joh Vaillant K.G. (Germany)	Appliance Name/Model Pyrox MAG 325 T / EBF Pyrox MAG 400 T / EBF (Topliner Series)
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DESCRIPTION

A multi-point instantaneous, balanced flue, water heater for external installations.

APPLIANCE MODELS:

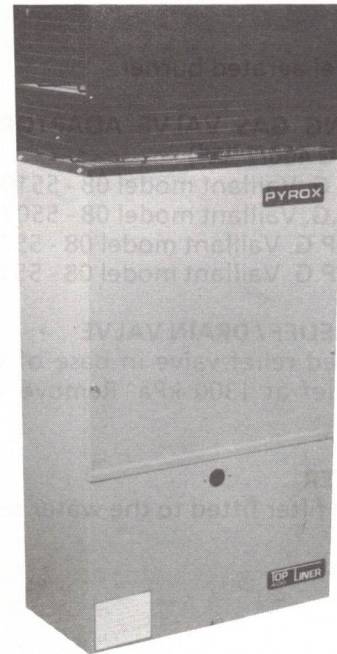
- MAG 325 / 8 ARTZ – T / E.B.F. for N.G., T.G., T.L.P.
- MAG 325 / 7 ATZ – T / E.B.F. for L.P.G.
- MAG 325 / 7 ATZW – T / E.B.F. for N.G., L.P.G.
- MAG 400 / 7 ATZW – T / E.B.F. for N.G.
- MAG 400 / 7 ATZW – T / E.B.F. for L.P.G.

MODEL EXPLANATION

- 7 = N.G., L.P.(P) (no volumetric regulator)
- 8 = N.G., T.G., T.L.P. (volumetric regulator)
- A = multi point operation
- R = volumetric gas regulator
- T = thermo - electric safety device
- W = modulating gas control
- Z = piezo ignition
- N = low water pressure operation
- T = topline series
- E.B.F. = external balanced flue

TECHNICAL DATA

MASS (kg)	MAG 325:	27			
	MAG 400:	31			
DIMENSIONS (mm)					
		Width	Height	Depth	
MAG 325		464	1060	285	
MAG 400		545	1105	285	
DATA PLATE LOCATION	Inside of lower front panel.				
GAS RATE (MJ/h)					
	N.G.	T.G.	T.L.P.	L.P.(P)	L.P.(B)
Burner, 325:	110	110	110	110	
Burner, 400:	134	—	—	134	
Pilot	0.50	0.50	0.50	0.50	
RATED OUTPUT (kW)					
Model 325:	22.7	22.7	22.7	22.7	
Model 400:	27.9	—	—	27.9	
INJECTOR ORIFICE (mm)					
Burner, 325:	1.40	2.50	2.50	0.78	
Burner, 400:	1.50	—	—	0.75	
Pilot	0.40	0.65	0.65	0.21	



A.G.A. Approval No. 3465-001 (MAG 325) 3466-002 (MAG 400)	Approved for N.G., T.G., T.L.P., L.P. (P)
------------------------------------------------------------------------	-----------------------------------------------------

MODULATING VALVE RESTRICTOR ORIFICE (mm)

	N.G.	T.G.	T.L.P.	L.P.(P)	L.P.(B)
325/7W	3.50			1.95	
400/7W	4.45			2.20	

BURNER PRESSURE (Pa)

MAG 325:	750	325	375	2720
MAG 400:	640	—	—	2650

TEST POINT LOCATION

On burner manifold, left side, suitable for a 6mm tubing connection.

REGULATOR

MAG 325/8
Volumetric gas governor, Vaillant Part No. 03 - 1212, is incorporated in the gas control.
MAG 325/7 & MAG 400/7 (N.G.)
Constant pressure gas regulator, Beckley (Aust.) model 24 - 3 - 120 (Vaillant Part No. GC0121) fitted to gas inlet.

IGNITION

Piezo ignited permanent pilot, with adjustable gas rate.
Piezo, Vaillant Part No. 09 - 1037.

FLAME SAFEGUARD

Thermo-electric flame failure system.
Thermocouple is Vaillant Part No. 17 - 1123.

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APPLIANCE DATA

MAG 325 TEBF & MAG 400 TEBF

TECHNICAL DATA Cont'd.

BURNER

Stainless steel aerated burner.

MODULATING GAS VALVE ADAPTOR (MAG 325/7 'W' and MAG 400/7 'W')

325 / 7 W, N.G. Vaillant model 08 - 5519

400 / 7 W, N.G. Vaillant model 08 - 5507

325 / 7 W, L.P.G. Vaillant model 08 - 5521

400 / 7 W, L.P.G. Vaillant model 08 - 5517

PRESSURE RELIEF / DRAIN VALVE

Spring loaded relief valve in base of water section, pressure relief at 1300 kPa. Remove valve to drain unit.

WATER FILTER

Plastic mesh filter fitted to the water section inlet.

MAXIMUM INLET WATER PRESSURE

MAG 325 & 400 ('N') models 150kPa.

MAG 325 & 400 all models except ('N') 1300kPa.

MINIMUM WORKING WATER PRESSURE DIFFERENCE

(Between the inlet and outlet water pressures.)

'ATZW' model, 60kPa. at 6 litres / min.

'N' model, 10.3kPa. at 6 litres / min.

'ARTZ' model, 35kPa. Temp. selector at 'HOT'.

'ARTZ' model, 135kPa. Temp. selector at 'WARM'.

MAXIMUM WATER FLOW AND CONSEQUENT TEMPERATURE RISE

MAG 325, 8 litres per min, raised 40°C.

MAG 400, 10 litres per min, raised 40°C.

OPERATION

ACCESS TO CONTROLS

1. Unscrew the front panel retention screw, lower centre of panel.
2. Pull the front panel down and outwards.

OFF POSITION



IGNITION POSITION



PILOT POSITION



ON POSITION



CONTROL DETAILS



LIGHTING PROCEDURE

1. Turn the gas control knob fully anti-clockwise from the 'OFF' • position to the ignition stop position. (The piezo will automatically operate and the pilot should ignite.) Hold the knob in this position for 10-15 seconds to establish thermocouple operation, then release knob. If the pilot fails to remain alight, repeat the above procedure, returning the knob to the 'OFF' position after each attempt.
2. Turn the gas control knob clockwise from the PILOT • position to the 'ON' • position.
3. The unit will automatically operate when a hot tap connected to the unit is opened.

NOTE:

When the gas control knob is turned to 'OFF' it cannot be turned to 'ON' again until the thermo-electric control snaps to the closed position, this could take approximately one minute. Do not try to force the knob as this could cause damage to the unit.

WATER TEMPERATURE CONTROL

1. Turn the water temperature control knob clockwise  to increase the water temperature
2. Turn the water temperature control knob anti-clockwise  to reduce the water temperature.



MODULATING VALVE (MAG 325 / 7 W & 400 / 7 W)

A three stage modulating gas valve and adaptor is fitted to the gas section. Mains water pressure is required for correct operation.

When a draw off tap is partially opened, stage one of the modulator will open giving a reduced gas rate. When the draw off tap is opened further, stages two and three of the modulator will increase the gas rate.

MAG 325 TEBF & MAG 400 TEBF

MAINTENANCE

ENSURE THE APPLIANCE IS ELECTRICALLY SAFE AT ALL TIMES

LOWER FRONT PANEL REMOVAL

1. Unscrew the front panel retention screw, lower centre of panel.
2. Pull the front panel down and outwards.

GAS PRESSURE ADJUSTMENT (MAG 325/8 & MAG 400/8 ARTZ)

1. Remove the lower front panel.
2. Loosen the pressure test point screw on burner manifold.
3. Fit manometer.
4. Remove the spring clip from the front of the volumetric gas regulator.
5. Turn on the main burner and open a hot tap fully.
6. Adjust the manifold pressure by rotating the adjustment screw on the volumetric regulator.
7. Shut down the appliance, remove the manometer and tighten test point screw.
8. Replace front panel.

GAS PRESSURE ADJUSTMENT (MAG 325/7 & MAG 400/7 TZW)

1. Remove the lower front panel.
2. Loosen the pressure test point screw on burner manifold.
3. Fit manometer.
4. Locate the gas flow adjustment point on the right rear side of the gas control beneath the modulating adaptor.
5. Remove the brass knurled cap for access to adjusting screw.
6. Unscrew the gas flow adjusting screw fully.
7. Rotate the temperature selector control fully clockwise.
8. Turn the gas control to 'ON' and open a hot tap fully.
9. Adjust the gas pressure regulator to obtain the correct manifold pressure.
10. Screw the gas flow adjusting screw inwards until the manifold pressure just begins to drop, then screw outwards until the manifold pressure is correct.
11. Replace the brass knurled cap.
12. Shut down the appliance, remove the manometer and tighten test point screw.
13. Replace front panel.

HEAT EXCHANGER REMOVAL

1. Turn off the gas and water supplies.
2. Remove the lower front panel.
3. Remove one screw each side of upper front panel and remove panel.
4. Remove six screws from flue terminal, two each side of air inlet and one each side of flue duct and lift off flue terminal.
5. Drain the unit.
6. Disconnect the water connections from the heat exchanger and lift out the heat exchanger.
7. On re-assembly ensure that the flue terminal is properly located over the heat exchanger.

MAIN BURNER REMOVAL

1. Remove the front panel.
2. Pull out thermocouple from the pilot bracket and high tension lead from electrode.
3. Disconnect pilot supply pipe at gas section.
4. Remove screw from right side of pilot bracket and remove pilot bracket.
5. Unscrew uppermost hexagonal nut, directly below burner.
6. Angle the burner and ease out.

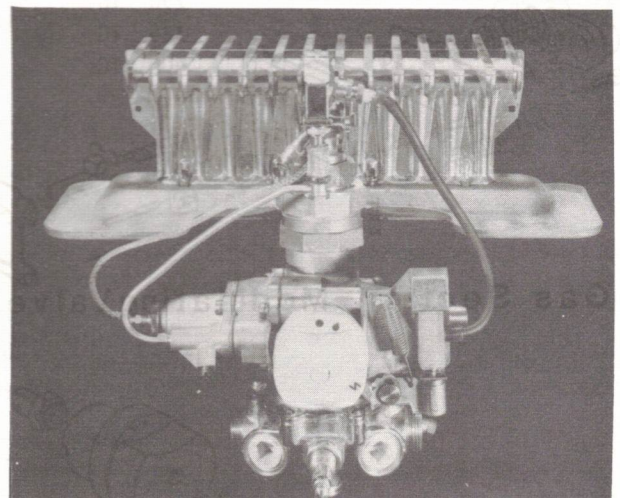
WATER SECTION REMOVAL

1. Turn off the gas and water supplies.
2. Remove the lower front panel.
3. Unscrew the two screws from the access panel beneath the water section and remove the panel.
4. Drain the unit.
5. Disconnect the four water connections at the water section.
6. Remove the two screws which retain water section to gas section.
7. Pull the water section out from the gas section.

GAS AND WATER SECTION (COMPLETE ASSEMBLY) REMOVAL

1. Turn off the gas and water supplies.
2. Remove the front panel.
3. Remove the burner.
4. Unscrew the two screws from the access panel beneath the water section and remove the panel.
5. Drain the unit.
6. Disconnect the four water connections at the water section.
7. Remove the hexagonal slotted bolts from the gas control retention bracket.
7. Slide out the gas and water section complete.

GAS SECTION, WATER SECTION AND BURNER ASSEMBLY (COMPLETE ASSEMBLY)



ON COMPLETION OF WORK TEST FOR GAS ESCAPES

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APPLIANCE DATA

MAG 325 TEBF & MAG 400 TEBF

REPLACEMENT PARTS

Heat Exchanger & Burner Assembly - All Models.

BURNER L/H LPG	Vaillant
Model 2	Part No.
325	04-2334
400	04-2336

BURNER L/H NG	
250	04-2372
325	04-2374
400	04-2376

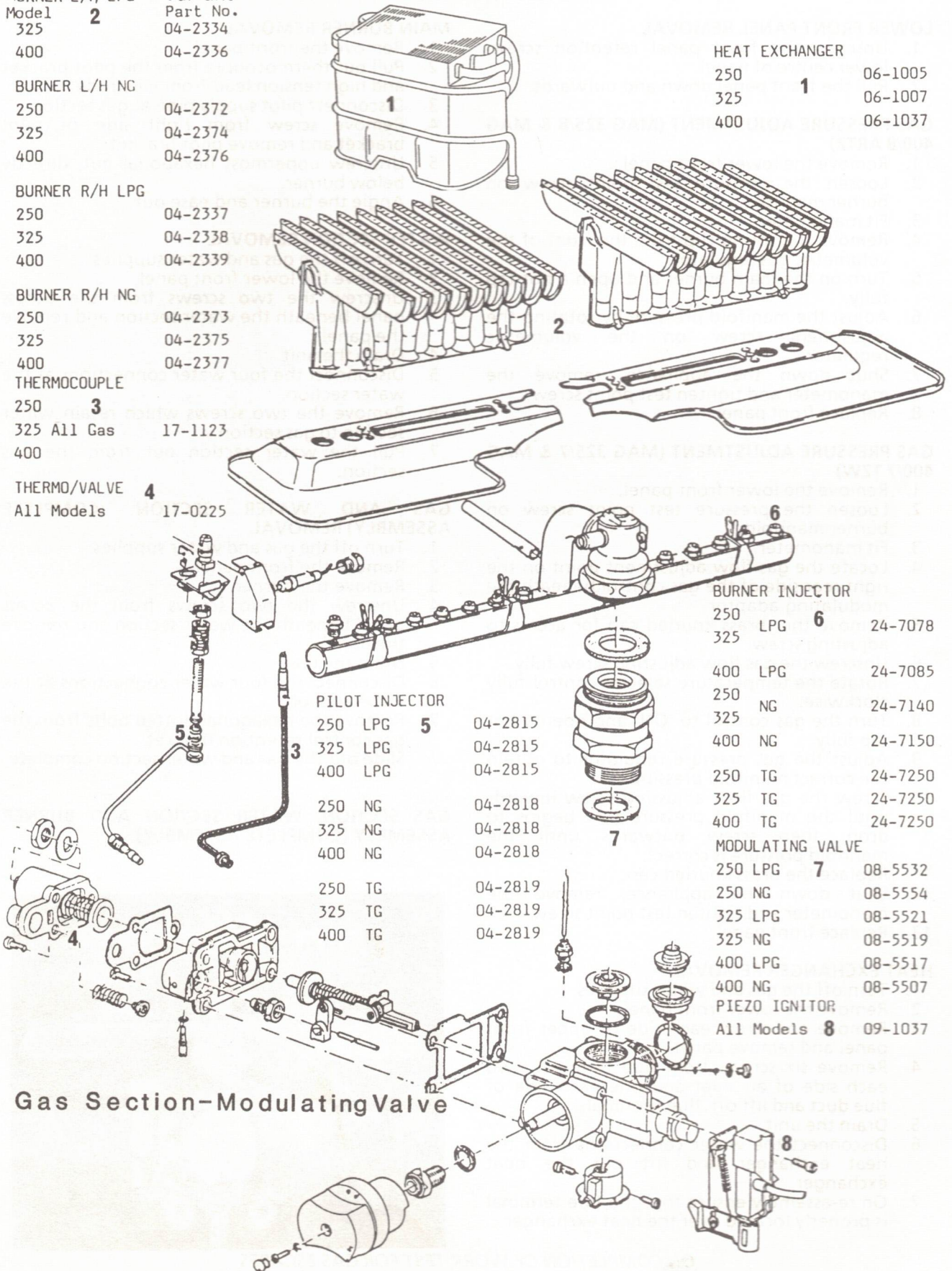
BURNER R/H LPG	
250	04-2337
325	04-2338
400	04-2339

BURNER R/H NG	
250	04-2373
325	04-2375
400	04-2377

THERMOCOUPLE	
250 3	
325 All Gas	17-1123
400	

THERMO/VALVE	4
All Models	17-0225

HEAT EXCHANGER	
250	06-1005
325 1	06-1007
400	06-1037



PILOT INJECTOR	
250 LPG 5	04-2815
325 LPG	04-2815
400 LPG	04-2815
250 NG	04-2818
325 NG	04-2818
400 NG	04-2818
250 TG	04-2819
325 TG	04-2819
400 TG	04-2819

BURNER INJECTOR	
250 LPG 6	24-7078
325 LPG	
400 LPG	24-7085
250 NG	24-7140
325 NG	
400 NG	24-7150
250 TG	24-7250
325 TG	24-7250
400 TG	24-7250

MODULATING VALVE	
250 LPG 7	08-5532
250 NG	08-5554
325 LPG	08-5521
325 NG	08-5519
400 LPG	08-5517
400 NG	08-5507
PIEZO IGNITOR	
All Models 8	09-1037

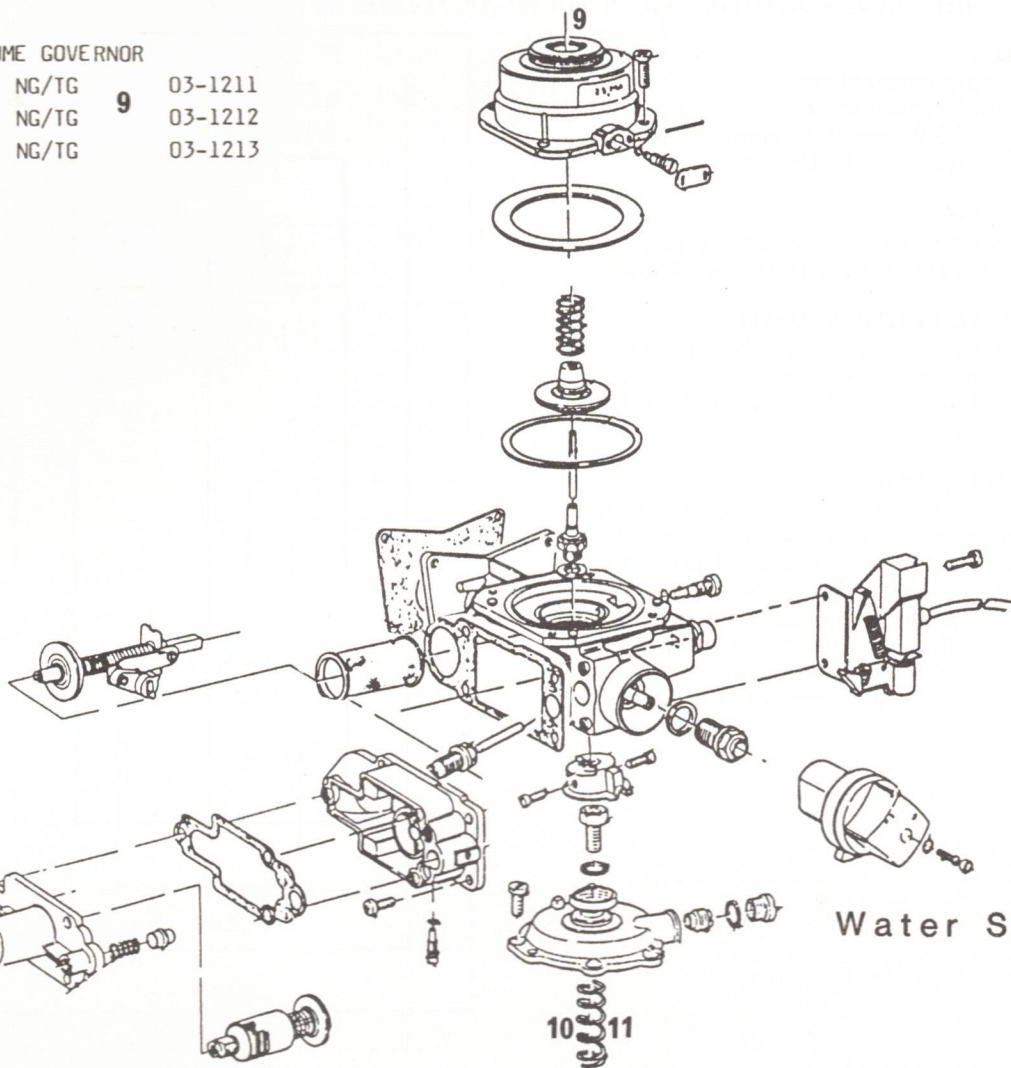
Gas Section-Modulating Valve

MAG 325 TEBF & MAG 400 TEBF

**REPLACEMENT PARTS Cont'd.
Gas Section-Volumetric Model**

VOLUME GOVERNOR

250 NG/TG	9	03-1211
325 NG/TG		03-1212
400 NG/TG		03-1213



Water Section

**MODULATING VALVE
Models**

WATER SECTION

All Models	10-4255	10
All Models	01-0312	12
All Models	01-0163	13
All Models	20-3012	14

VENTURI

250	01-2811	
325	01-2812	15
400	01-2814	

All Models	01-0053	17
All Models	01-0129	18

**VOLUME GOVERNOR
Models**

WATER SECTION

11	All Models	01-0081
12	All Models	01-0312
13	All Models	01-0163

VENTURI

16	250	01-0014
	325	01-0021
	400	01-0064

17	All Models	01-0053
18	All Models	01-0129
19	All Models	01-2528

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APPLIANCE DATA

MAG 325 TEBF & MAG 400 TEBF

INSTALLATION

THE APPLIANCE SHALL BE INSTALLED ACCORDING TO THE MANUFACTURERS INSTRUCTIONS AND ALL RELEVANT STATUTORY REGULATIONS AND CODES OF PRACTICE.

GAS CONNECTION

MAG 325 - 20mm male connection.
MAG 400 - 20mm male connection.
MAG 325/7 and 400/7 models require a gas regulator before the gas inlet to the unit.

WATER CONNECTIONS

15mm male connection. An approved gate valve is required in the cold water supply to the appliance.

INSTALLATION ON AN EXTERNAL WALL

The unit should be hung securely by the mounting brackets provided on the rear of the unit. Flue terminal should be free from any combustible material e.g. trees, etc.

COMBUSTIBLE WALL SURFACE

If the appliance is to be installed on a combustible wall, a heat shield must be fitted. The heat shield is available as an optional extra from the manufacturer. The lower edge should be far enough above the appliance mounting brackets to allow removal of appliance from the wall. Refer to Fig 1. The heat shield should be mounted in such a way that there is at least a 15mm gap between it and the wall.

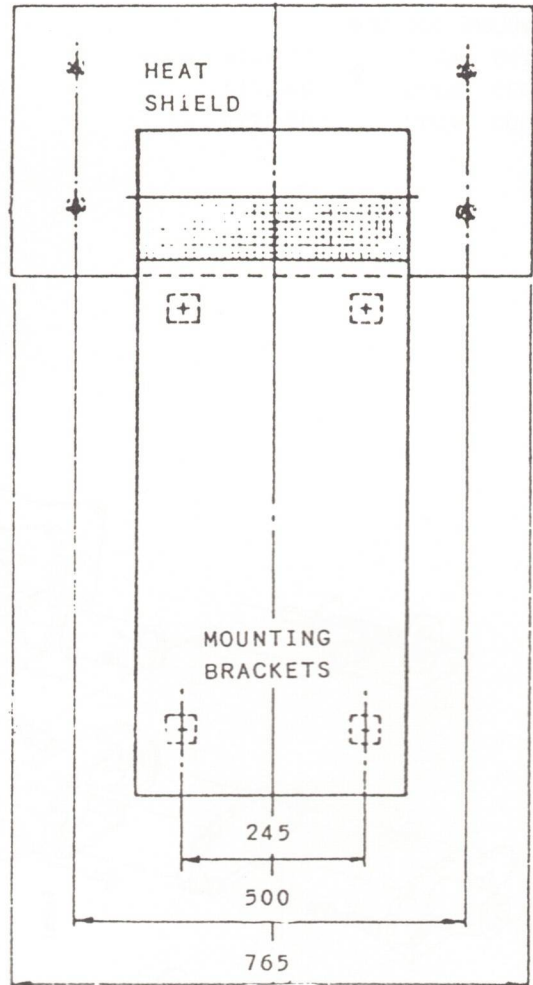


Fig. 1

CONVERSION

THE APPLIANCE SHALL ONLY BE CONVERTED TO A GAS FOR WHICH IT HAS BEEN APPROVED

PROCEDURE

1. Remove front panels.
2. Remove burner assembly.
3. Replace parts with conversion kit parts appropriate for that gas type.
4. Replace modulating valve 'W' models.
5. Fit regulator 'W' models.
6. Adjust gas pressure
7. Adjust pilot rate.
8. Replace front panels.

MAG 400/7 ATZW L.P. to N.G.

Conversion kit consists of:

	<u>Vaillant</u>	<u>Part No.</u>
16 Main injectors	24-7140	
1 Pilot injector	04-0548	
1 Modulating control	08-5507	
1 Injector screw	02-0359	
1 Washer	98-0225	
1 Regulator, Beckley	24-3120	

MAG 325/8 ARTZ T.G. / T.L.P. to N.G.

Conversion kit consists of:

	<u>Vaillant</u>	<u>Part No.</u>
14 Main injectors	24-7140	
1 Pilot injector	04-0548	
1 Injector screw	02-0359	
1 Washer	98-0213	

MAG 325/7 ATZW L.P. to N.G.

Conversion kit consists of:

	<u>Part No.</u>
14 Main injectors	24-7140
1 Pilot injector	04-0548
1 Modulating control	08-5519
1 Injector screw	02-0359
1 Washer	98-0213
1 Regulator, Beckley	24-3120