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VICTORIA 20/20F
Wall-Hung On-Demand Combination Water Heater
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Victoria 20/20 F


CSA CERTIFIED FOR USA and CANADA.

**Overall view**

Victoria wall-hung waterheaters

Heating training centres
Victoria wall-hung waterheaters

Overall dimensions

Victoria 20/20 F

Heating training centres
**Pre-plumbing jig and wall Spacing Frame**

**Victoria wall-hung waterheaters**

- Wall-mounting bracket, supplied with the pre-plumbing jig
- Distance from the wall: 5.5” / 140 mm
- Gap between connections: 2.36” / 60mm

- PMI with no cocks
- PMI with cocks
- PMCA with cocks
- Wall Spacing Frame (1.38”/35 mm)

---

*ROCA*
The PMCA is supplied with the 3/4” cap nut. The PMI could do without the pump; in this case, the mains pressure and connection should be used for filling the system. Monitor the operation through the necessary controls: Pressure gauge and safety valve.
Observe current regulations and minimum distance from flammable materials.

Please refer to the Instructions delivered with the waterheater.
Please refer to the instructions which are delivered with the waterheater.

- Power supply 230V Live/Neutral. (Do not reverse polarity).
- Room thermostat connection.
- Work on the pump motor shaft to unlock it if it were jammed.
- Manually vent the boiler.
- Fill the primary loop (if no DHW cylinder has been installed) slowly until the pressure reaches 14.5 - 29 PSI / 1-2 bar. (If a DHW cylinder has been installed, then fill the secondary loop first).
- Open the DHW circuit for it to fill up and vent
- With the gas inlet cock still closed, program the Heating mode. The boiler will perform a lighting cycle and will then lock out under code 60-70-90.
- Leave it like that for five minutes so that the pump, which is still running, can help vent the circuit. Next, check the pressure level and top up if it has dropped to 14.5 PSI / 1 bar.
- Open the gas inlet cock, reset the system (code 60-70-90) and the boiler will start operating.
- Allow the waterheater to operate in the Heating mode for ten minutes, during which check that all radiators warm up. Should one radiator fail to warm up, bleed the air in it. But if it still does not warm up, then the flow rates in all radiators should be balanced, always optimizing the pump performance curve (flow rate/pressure) through its speed selector control.
- Open the DHW tap with the highest flow rate in the house. The waterheater will operate for ten minutes continuously at full output (79,366 Btu / 20,000 kcal/h). If the flue spillage detection thermostat does not trip, that means that the removal of flue gases is correct.
- If a gas meter is available, check the gas input rate, as indicated in the waterheater Instructions
Where a water column is available, connect it to the gas valve pressure test point and check the working pressure with the waterheater operating at full output (79,366 Btu / 20,000 kcal/h).

Program the Heating mode again.

Program the DHW mode again. For a higher level of comfort, particularly where substantial pressure variations in the water supply occur, set the program close to the draw-off temperature.

Remove the water column, replace the plug and washer, start the system, and using soapy water check the whole circuit for gas tightness.

Ensure that the waterheater room has a proper ventilation and air renewal system.

**Instruct the user on the following points:**

- Recommend him/her to read the User’s Instructions.
- Instruct him/her on how to program the Heating and DHW temperature and the room thermostat (if any).
- Instruct him/her on how to fill and/or top up the Heating system.
- Demonstrate how the fault codes work for insufficient gas (60-70-90 and 40-80-90) and how to reset (R) after opening the gas inlet cock or changing the gas cylinder.
- Recommend him/her to turn the selector switch to the “R” position whenever a red fault lamp lights up.
- If the red light appears two or three consecutive times, tell the user to write down the number of the temperature LEDs which light up and then to notify the nearest Service Center or Installer.
- Train him/her on the various safety devices, recommendations and maintenance operations specified in the waterheater Instructions.

**Start-up recommendations (II)**

*Victoria wall-hung waterheaters*

*Heating training centres*
It should be ON

It should be between 14.5 and 29 PSI / 1 and 2 bar

Fill and/or top up if pressure is less than 14.5 PSI / 1 bar

Start-up recommendations (III)

Victoria wall-hung waterheaters

Heating training centres
Bleed air and/or drain

Set the minimum speed possible to reduce system rumbling as much as possible. See the pump performance graph (flow rate/pressure).

Start-up recommendations (IV)
Victoria wall-hung waterheaters
Heating training centres
Automatic air vent Kit

Victoria wall-hung waterheaters

Heating training centres
Gas Inlet Pressure:
G20(GN): 20 mbar
G30(GB): 28 ÷ 30 mbar
G31(GP): 37 mbar

<table>
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<tr>
<th>Heat Output</th>
<th>G20</th>
<th>G30</th>
<th>G31</th>
<th>G20</th>
<th>G30</th>
<th>G31</th>
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<tr>
<td>79,366 Btu/20,000 Kcal/h</td>
<td>2.39</td>
<td>0.83</td>
<td>1.03</td>
<td>85</td>
<td>270</td>
<td>341</td>
</tr>
<tr>
<td>47,620 Btu/12,000 Kcal/h</td>
<td>1.46</td>
<td>0.57</td>
<td>0.71</td>
<td>36</td>
<td>140</td>
<td>158</td>
</tr>
<tr>
<td>27,778 Btu/7,000 Kcal/h</td>
<td>0.87</td>
<td>0.31</td>
<td>0.38</td>
<td>14</td>
<td>47</td>
<td>52</td>
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</table>

Gas input rates and pressures with Natural Gas (G20) are for a L.H.O. = 9,200kcal/m³, density = 0.62, 15 °C and 1,013mbar.

(*) measured under standard conditions (15°C and 1013mbar)
(**) burner setting pressure
**Electronic PCB**

**Victoria wall-hung waterheaters**

Heating training centres

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- **Transformer (230V/12V)**
- **Timer**
- **LH electrode**
- **RH electrode**
- **Flow Switch**
- **Ignition transformer (18,000V)**
- **Flame rod**
- **Timer connection on the electronic PCB**
- **Flue Spillage Limit Thermostat: 5Vdc**
- **Overheat Thermostat: 12V**
- **Sensors: 5Vdc**
- **Pressure switch: 5Vdc**

- **Room Stat (option)**
- **Neutral - Pump (F/T)**
- **Neutral - Fan (F/T)**
- **Live - Pump**
- **Live - Fan (F/T)**
- **Common - Solenoid Valve**
- **7th Solenoid Valve**
- **12th Solenoid Valve**
- **Safety Solenoid Valve**
- **Overheat thermostat**
- **DHW sensor**
- **Overheat thermostat**
- **Flue spill detects: th. Or**
- **Pressure switch in F/T**
- **Overheat thermostat**

---

**Neutral** - Fan (F/T), Neutral - Pump, Live - Pump, Live - Fan (F/T), Common - Solenoid Valve, 7th Solenoid Valve, 12th Solenoid Valve, Safety Solenoid Valve, Overheat thermostat, DHW sensor, Overheat thermostat, Flue spill detects: th. Or, Pressure switch in F/T, Overheat thermostat, Earth connection, Power supply, Earth, Signal, Flow Switch
Low Voltage Wiring

Indicator lights, sensors, and pressure switch connector

Earth connection to chassis

Solenoid valves connector

21.65” / 550 mm

4.72”/120 mm

5.9”/150 mm

15.79” / 400 mm

9” / 230 mm

3.94” / 100 mm

Note:
The exhaust fan, the pump and the flow switch are fed by other connectors (see “Electronic PCB” sections)

Electrical wiring

Victoria wall-hung waterheaters

Heating training centres
Room thermostat connection

Victoria wall-hung waterheaters

Heating training centres

Main power supply
Neutral (N)

Fuse

Thermostat with anticipatory resistor
Room thermostat with anticipatory resistor
Thermostat without anticipatory resistor

Remove jumper

Fuses
Fuse change
Victoria wall-hung waterheaters

Room thermostat connection

Mains power supply

Earth connection (to chassis)

Earth connection (to the mains)

Neutral

Live

Thermostat jumper is obligatory when no room thermostat has been fitted (it is supplied with it)

Fuse of 3.15 Amps
Roca genuine spare only.

The only fuse in the boiler.
It can be accessed after removing the lower LH cover in the waterheater and then pulling out the cover holding it.

Victoria wall-hung waterheaters
Heating training centres
Connection of Victoria 20 + V3V kit

Victoria wall-hung waterheaters

Heating training centres
Compact casing
Top fixing: Locating pins
Bottom fixing: Screws
Removable decor. lid
“Spring-effect” flanges

Color of casing
WHITE - RAL 9016

Stages of Output:
27,778 Btu / 7,000 kcal/h
47,620 Btu / 12,000 kcal/h
79,366 Btu / 20,000 kcal/h

Adjustable for Heating

Net efficiency: 91.7%

** , as per Efficiency Directive 92/42/CEE

CSA CERTIFIED EFFICIENCY: 87%
Draught Diverter
Flue socket collar Ø 5" / 127 ID
Flue duct Ø 4.9" / 125 OD

Expansion Vessel
Fill pressure: 10.88 PSI / 0.75 bar Butyl diaphragm and nitrogen charge
Total/useful capacity: 2.1 gal/1.2 gal - 8 litres/4.5 litres

Flue Spillage Limit Thermostat
Set at: 149°F / 65°C

Heat Exchanger
Bithermal. 6 steps in DHW and Heating. Made of copper and high-temperature aluminium paint

Combustion Chamber
Compact. Side fixing rods

Burner
Stainless steel. 13 “becks” “Clover-like” flame on the ends for interlighting

Ignition electrodes and flame rod
Burner Centred

Control panel
Direct access to the boiler wiring and fuse (3.15A). Fault codes in Heating temperature leds. Ignition transformer on electronic board (18,000V)

Main components (II)
Victoria wall-hung waterheaters
Heating training centres
DHW Temp. Selector
Temperature range: 104°F/40°C ÷ 140°F/60°C

CH Temp. Selector
Temperature range: 104°F/40°C ÷ 194°F/90°C

Service Changeover Selector
Heating and DHW / DHW only / Reset / Off

Timer
Planned position in the supplied kit. Digital

Access cover for external connection
Supply Voltage: 230V
Input fuse: 3.15 Amps
Room Thermostat Power Supply (optional): 230V

Casing Fixing Screws
Bottom only.
Top - locating pins

Access Cover to Internal Wiring
All boiler’s internal wiring

Indicator leds for:
Service, Voltage, Faults

Pump
3-speed type 2.6µF, 450V Capacitor

Central Heating Temp. Leds
Fault codes

Mechanical Pressure Gauge
Recommended Fill Pressure: 21.8 PSI/1.5 bar

Pump Speed Selector
(I, II and III)

Pressure Relief Valve
Set at 43.5 PSI/3 bar. Removable

Control panel
Victoria wall-hung waterheaters
Heating training centres
Overall view of Hydroblock

Victoria wall-hung waterheaters

Flow Regulator
Limitation: 3.7gal/14 l/min.

Mains Water Inlet

Mains Water Inlet Filter
Use Allen 4 key or Screwdriver to open

Fill Point Valve
Set in the Hydroblok serviceable if captive pin is removed

By - pass

Connection to the pump

Magnetic Detector

Pressure Relief Valve
Set at 3 bar Serviceable and rotary

Outlet to the Heat Exchanger
Mains water

By - pass pipe Inlet

Pressure Relief Valve Discharge (1/2”). Route to a drain

2 Chassis Fixing Screws
Allen 4

Mains Water Inlet (3/4”)

60 mm

CH Return (3/4”)

Limitation: 3.7gal/14 l/min.
Hydroblock components

Victoria wall-hung water heaters

Heating training centres
Hydroblock operation

Victoria wall-hung waterheaters
Heating training centres

To the DHW Heat Exchanger

Magnetic Detector

Mains Water Inlet

CH Circuit Fill Point

By-pass Circuit Inlet

CH Return To pump volute and heat exchanger

Discharge to a drain

Drain and Vent
Hydroblock and pump

Victoria wall-hung waterheaters

To Heat Exchanger
Pressure Gauge Connection to Pump Volute
O-ring for fixing the Pressure Gauge. Ø 9.52 ID x Ø 1.78

Mechanical Pressure Gauge Fixing

Fixing the body to the volute Allen 5 M6 x 20

Fixing the Pump to the Hydroblok

Unblocks of the pump

Mains Water Inlet

Return to radiators

O-ring Ø 23 ID x Ø 3.6

Pressure Gauge Connection to Pump Volute

Mechanical Pressure Gauge Fixing

Return to radiators

O-ring Ø 23 ID x Ø 3.6

Pressure Gauge Connection to Pump Volute

Mechanical Pressure Gauge Fixing

Fixing the body to the volute Allen 5 M6 x 20

Fixing the Pump to the Hydroblok

Unblocks of the pump

Hydroblock and pump

Victoria wall-hung waterheaters

Heating training centres
**Expansion Vessel**
- Fill pressure: 10.88PSI/0.75 bar
- Butyl diaphragm and nitrogen charge
- Total/useful Capacity: 2.11gal/1.2 gal - 8 litres/4.5 litres

**Heat Exchanger**
- 6 steps in Heating:
  - 3 for flow and 3 for return
- Primary capacity: 0.08 gal/300 cm³
- Secondary capacity: 0.71 gal/270 cm³

**Domestic Cold Water Inlet Pipe**
- OD 0.55"/14 mm

**DHW Sensor**
- Contact-type.

**DHW Outlet Pipe**
- OD 0.55"/14 mm

**Hydroblok**

**Air vent Kit**

**CH Sensor**
- Contact-type

**Overheat Thermostat**
- Manual reset.
- Set at 221°F/105°C

**CH Return Pipe**
- Ø OD 0.71"/18 mm

**CH Flow Pipe**
- Ø OD 0.71"/18 mm

**Mechanical Pressure Gauge**

**Pump**
- 3-speed type.

---

**Water loop**

**Victoria wall-hung waterheaters**

**Heating training centres**
**Expansion Vessel**
Fill pressure: 10.88PSI/0.75 bar
Butyl diaphragm and nitrogen charge
Total/useful Capacity: 2.11gal/1.2 gal - 8 litres/4.5 litres

**Heat Exchanger**
6 steps in Heating:
3 for flow and 3 for return
Primary capacity: 0.08 gal/300 cm³
Secondary capacity: 0.71 gal/270 cm³

**To radiators**
Maximum Operating Pressure: 43.5 PSI/3 bar

**Central Heating mode operation**
Victoria wall-hung waterheaters
Heating training centres

**Air vent Kit**

**CH Sensor**
Temp. Res. kΩ
104°F/40°C  5.330
122°F/50°C  3.605
140°F/60°C  2.490
158°F/70°C  1.753
176°F/80°C  1.256
194°F/90°C  0.915

**CH Flow Pipe**
Ø OD 0.71”/18 mm
**DHW mode operation**

**Victoria wall-hung waterheaters**

*Heating training centres*

---

**Expansion Vessel**
Fill pressure: 10.88PSI/0.75 bar
Butyl diaphragm and nitrogen charge
Total/useful Capacity: 2.11gal/1.2 gal - 8 litres/4.5 litres

**DHW Sensor**

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<tr>
<th>Temp. Res. $\Omega$</th>
<th>104°F/40°C</th>
<th>122°F/50°C</th>
<th>140°F/60°C</th>
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<tr>
<td>5.330</td>
<td>3.605</td>
<td>2.490</td>
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**Mains Water Inlet Pipe**
OD 0.55”/14 mm

**Outlet to draw-off points**
OD 0.55”/14 mm

---

**Heat Exchanger**

6 Steps in DHW
Primary capacity: 0.08 gal/300 cm³
Secondary capacity: 0.71 gal/270 cm³

---

**Maximum operating pressure: 7 bar**
3-way valve

Victoria wall-hung waterheaters

Heating training centres
Outlines hydraulic Victoria 20/20 F

Victoria wall-hung waterheaters

Heating training centres
Outlines hydraulic Victoria 20/20 F
Victoria wall-hung waterheaters
Heating training centres
Call for DHW from cylinder

- Thermostat closes
  - Energized relay. Signal to PCB and pump stops (1 minute)
  - 3-way valve. Shuts off CH and opens cylinder return (35 seconds)
    - Pump starts up
      - Burner ignition

End of call for DHW from cylinder

- Thermostat opens
  - De-energized relay. End of signal to PCB and pump stop (1 minute)
  - 3-way valve Shuts off cylinder return and opens CH return (35 seconds)
    - No Heating
      - Pump start-up (2 minutes)
        - Pump shutdown
    - Heating Yes
      - Permanent pump start-up
        - Burner ignition
Operation of the Overheat Thermostat

Open during service
Display of fault code 50, 60, 70, 90, and red Led

Gas supply cuts off

Fault corrected
Yes
Thermostat Reset
Press red reset button
Boiler Reset
Control knob in R position

Fault corrected
No

Open before light-up
Display of fault code 50, 60, 90, and red Led

Gas supply cuts off

Fault corrected
Yes
Thermostat Reset
Press red reset button

Service restored
Flame safeguard rectification system (I)

Victoria wall-hung waterheaters

Unlock

- End of spark ignition
- Safety solenoid valve closes
- Display of fault code 60, 70, 90, and red Led

Fault corrected

Boiler Reset

Control knob in “R” position

Light-up

- End of spark ignition
- Service available

Service now restored
Flame safeguard rectification system (II)

**Victoria wall-hung waterheaters**

Heating training centres
Chimney “pull” safety 20/20 F

Victoria wall-hung waterheaters

(1) 12 mbar in VICTORIA 20/20 T
17 mbar in VICTORIA 20/20 F
(2) 15 mbar in VICTORIA 20/20 T
19,5 mbar in VICTORIA 20/20F

Interruption of flue gas removal (insufficient chimney “pull”) →
Pressure in flue pipe lower than (1) →

Lockout
- Display of fault code 40,50,80,90 and red Led →

Automatic pressure switch resetting →

Fault corrected in less than 3 minutes →

Locked out again
- Display of fault code 60, 80, 90 and red Led →

Fault corrected →

Pressure switch open →

Exhaust fan starts
- Boiler DIP switch checking whether the pressure switch is closed (pressure in flue pipe > (2)) →

Exhaust fan stops for 1 second →

Pressure switch closed →

Exhaust fan will run for 30 seconds →

Pre-purge

Pressure in flue pipe is higher than (2) →

Call service →

Locked out again
- Display of fault code 60, 80, 90 and red Led →

Fault corrected →

Pressure switch open →

Exhaust fan starts
- Boiler DIP switch checking whether the pressure switch is open (pressure in flue pipe < (1)) →

Exhaust fan stops for 1 second →

Pressure switch closed →

Exhaust fan will run for 30 seconds →

Pre-purge

Stop
- Waiting for service call →

Service now restored →

Light-up

Service now restored

ROCA

Heating training centres
Ignition Sequence:
2 seconds at 7 Th.
4 seconds at 12 Th.
1 seconds at 7 Th

Ignition Electrodes
Centered on the middle burner 5mm higher and a 4mm electrode gap

Burner Fixing to the Gas Valve. Allen 4 x 15

Gas Valve Pressure Test Point Bracket

Baffle plate

Flame Sensing Rod
Average current: Mín: 3µA, Med: 3,6 µA, Máx: 4,1µA

13 becks
Material: Stainless Steel

Burner
Victoria wall-hung waterheaters
Heating training centres

ROCA
Do not start the water heater until the insulation panels have been properly assembled. For optimum operation it is essential that these insulation panels be in good condition.

**Side Insulation Panels.** Material: Ceramic Fibre

- Threaded Rods for Chassis Fixing
  - 8.58”/218 mm long x Ø 0.24”/6 mm

**Compact Combustion Chamber**

**Front Insulation Panels.** Material: Ceramic Fibre

- Side Tabs. Fold them after fitting Side Insulation Panels

**M5 Set Nuts**
For fixing the burner baffle plate
Kit valve G20 and G25

Victoria wall-hung waterheaters

Gas Governor
Natural Gas only
Control Range: 0.25 ÷ 0.36 PSI / 17 ÷ 25 mbar

Gas Supply Pressure Test Point
G20(GN): 0.29 PSI/20 mbar. G30(GB): 0.41 ÷ 0.44PSI/28 ÷ 30 mbar. G31(GP): 0.54PSI/37 mbar

Aluminum Profile for Burner Injector Holder

Solenoid Valve Assembly

Chassis Fixing Bracket.

Burner Setting Pressure Device

27,778 Btu/7,000 kcal/h Solenoid Valve.

Gas Governor

47,620 Btu/12,000 kcal/h Solenoid Valve.

27,778 Btu/20,000 kcal/h Solenoid Valve.

Safety Solenoid Valve.
Cross-section of gas valve

Victoria wall-hung waterheaters

Stages of Output Bore Size

27,778 Btu/7,000 kcal/h
Solenoid Valve.

47,620 Btu/12,000 kcal/h
Solenoid Valve.

79,366 Btu/20,000 kcal/h
Solenoid Valve.

Aluminum Profile for Burner Injector Holder

Burner Fixing.

To Pressure Test Point

Valve Gasket
Material: Cork + Nitrile

Gas Valve Body
Material: Aluminium

Solenoid Assembly Gasket
Material: Cork + Nitrile

Solenoid Valve Assembly
Any adjustments and/or settings must be carried out by a qualified technician

**Natural Gas Kit**
(To convert a Propane/Butane Gas waterheater into Natural Gas)

**Propane/Butane Gas Kit**
(To convert a Natural Gas waterheater into Propane/Butane Gas)

Kit G20 / G25

Kit G30 / G31

Gas changeover kit
Victoria wall-hung waterheaters
Heating training centres
Components of the waterheaters F

Victoria wall-hung waterheaters

Pressure Switch
Setting Range for VICTORIA 20/20F:
17 ÷ 19.5 mm.w.g.

Socket for connection to specific flue duct
Outlet Ø 2.36"/60mm

Pressure Switch
Connecting Pipes

Exhaust Fan
r.p.m.: 2720
Average current : 0.41A
Kit 140040030-03 for F waterheaters (supplied as standard)
**Configuration C12:** Room-sealed water heater. Horizontal concentric flue pipe. Flue gases discharged directly into the atmosphere. Exhaust fan located above the combustion chamber.
**Configuration C42:** Room-sealed water heater. Horizontal concentric flue pipe connected to a twin common shunt or stack. Exhaust fan located above the combustion chamber.

- **140040030-03** Configurations C12 / C42: Directional, concentric horizontal flue pipe kit with Ø 60/100 damper. Quick connect coupling. 1m horizontal flue length. SUPPLIED AS STANDARD.
- **140040061-01** Configurations C12 / C42: Directional, concentric horizontal flue pipe kit with Ø 60/100 damper. Quick connect coupling. 1m horizontal flue length and 0.2m vertical flue length.
- **140040084-00** Configurations C12 / C42: Directional, concentric horizontal flue pipe kit with Ø 80/125 damper. Quick connect coupling. 1m horizontal flue length.
**Victoria 20/20 F (C - 82)**

**Configuration C82:** Room-sealed water heater. Single, horizontal flue pipes. Fresh air intake. Flue gas outlet to a standard common shunt. Exhaust fan located above the combustion chamber.

**140040039-02** Configuration C82. Directional, twin-pipe horizontal flue kit with Ø 80 damper. Quick connect coupling. 1 m horizontal flue length for both runs.

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**Flue duct kit (IV)**

*Victoria wall-hung waterheaters*  
Heating training centres
**Victoria 20/20 F (C - 32)**

Configuration **C32**: Room-sealed waterheater. Vertical concentric flue pipe. Flue gases discharged directly into the atmosphere. Exhaust fan located above the combustion chamber.

140040034-03 Configuration C32. Directional, concentric vertical flue pipe kit with Ø 60/100 damper. Quick connect coupling. 1m vertical flue length.  
140040059-00 Optional vertical concentric accessory in the C32 configuration for vertical outlet to the roof.

**Flue duct kit (V)**

Victoria wall-hung waterheaters

Heating training centres
Each 90° concentric elbow Ø 100 reduces allowed length 2.3ft/0.7m
Each single 90° elbow Ø 80 reduces allowed length 1.64ft/0.5m
The first waterheater outlet elbow should not be taken into account.
No reduction is necessary when using 45° elbows.
Location of the timer connection on the electronic PCB.

Timer connections

Victoria wall-hung waterheaters

Heating training centres
Start-up
First of all, delete all stored data. To do that, press the “RES” key for 3 seconds. Release key and the following display will appear:

The days of the week are flashing

Setting the time

Finally, release the “RES” key. The colon will be flashing.
Press the "Prog" key and the following screen will be displayed.

Enter the status of the day's first command by pressing ".smart_water" and taking into account that this symbol indicates that the "Waterheater is operating". With no centre black dot, it means that the waterheater is OFF.

Enter the day's first switching command. To do that, press the "h+" and "m+" keys.

Enter the required switching day(s) by pressing the "Day" key. See "Possible Day Combinations" table. The screen displayed will be similar to the one in this figure.

Possible Day Combinations are:
1 2 3 4 5 6 7 = Mo, Tu, We, Th, Fr, Sa, Su
1 2 3 4 5 6 = Mo, Tu, We, Th, Fr, Sa,
1 2 3 4 5 = Mo, Tu, We, Th, Fr,
6 7 = Sa, Su

Or each individual day of the week.

To continue programming, press the "Prog" key and repeat steps 2 to 4 as many times as necessary to complete the whole week.

Finally, after entering the last switching status required, close the programming mode by pressing the "Off" key. The standard screen in the operating mode will be similar to the one shown here.

Manual Operation
Press the "Water" key. The screen will be similar to the one shown in this figure.

Programming instructions (II)
Victoria wall-hung waterheaters
Heating training centres
In the manual mode, stored data will not be altered. In addition, there are specific functions to this operating mode, which are as follows:

The following switching output status are possible:
- ☐ ☛= Advance OFF (if current switching status is ☐ =ON
- ☐ ☜= Advance ON (if current switching status is ☐ =OFF

Above two manually altered switching commands will be cancelled by the next automatic switching time.

☐ =Permanently OFF
☐ =Permanently ON

Return automatic mode is only possible by pressing the “☐” key.

**Switching Times Display**
Press the “Prog” key repeatedly. The stored switching times will be displayed in sequence. To exit the display mode, press the “☐” key.

Once all programmed status have been displayed, the following screen will appear again.

After the last occupied memory block, the number of free memory blocks are displayed on the screen Fr 00 = indicates that all memory blocks are occupied.

**Changing:**
Press the “Prog” key several times until reaching the program to be changed. Alter the settings by following steps 2 to 6 in the “Programming” section.

**Deleting:**
Press the “Prog” key several times until reaching the program to be deleted. Press the “h+” ”m+” keys until the “--” symbol is displayed on the screen. Keep the “Prog” key pressed for 3 seconds. This will delete all stored data. Press the “☐” key to exit the deleting mode.

---

**Programming instructions (III)**

Victoria wall-hung waterheaters

Heating training centres
Access to DIP Switches
Remove the control panel fascia

Location of DIP switches on the electronic board.

Output Adjustment

<table>
<thead>
<tr>
<th></th>
<th>SW1</th>
<th>SW2</th>
</tr>
</thead>
<tbody>
<tr>
<td>79,366 Btu/20,000 kcal/h</td>
<td>ON</td>
<td>ON</td>
</tr>
<tr>
<td>47,620 Btu/12,000 kcal/h</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>27,778 Btu/7,000 kcal/h</td>
<td>OFF</td>
<td>OFF</td>
</tr>
</tbody>
</table>

DIP SWITCHES 1 & 2: Central Heating Output Adjustment
DIP SWITCH 3: CH pump operation
DIP SWITCH 4: Time-delay between ON and OFF
DIP SWITCHES 5 & 6: Hysteresis Selection

<table>
<thead>
<tr>
<th>Hysteresis</th>
<th>SW5</th>
<th>SW6</th>
</tr>
</thead>
<tbody>
<tr>
<td>71.6°F/22°C</td>
<td>OFF</td>
<td>OFF</td>
</tr>
<tr>
<td>62.6°F/17°C</td>
<td>OFF</td>
<td>ON</td>
</tr>
<tr>
<td>53.6°F/12°C</td>
<td>ON</td>
<td>OFF</td>
</tr>
<tr>
<td>46.4°F/8°C</td>
<td>ON</td>
<td>ON</td>
</tr>
</tbody>
</table>

Circulating Pump Operation

<table>
<thead>
<tr>
<th></th>
<th>SW3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Continuous operation</td>
<td>OFF</td>
</tr>
<tr>
<td>30 seconds after Room Thermostat stops</td>
<td>ON</td>
</tr>
</tbody>
</table>

Time-delay

<table>
<thead>
<tr>
<th></th>
<th>SW4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enabled (6 minutes running)</td>
<td>OFF</td>
</tr>
<tr>
<td>Disabled</td>
<td>ON</td>
</tr>
</tbody>
</table>

Control DIP switches

Victoria wall-hung water heaters
Heating training centres
Carry out the following maintenance operations at least once a year, and preferably at the beginning of the Heating season:

**DHW**
- Clean the cold water filter
- Check the DHW temperature

**Heating**
- Check the system pressure
- Check the water heater water temperature
- Check the pump operation
- Bleed the air in the radiators and boiler
- Check the room thermostat
- Check the safety valve

**Gas**
- Check the burner setting pressure
- Check the input rate
- Check the circuit for gas tightness
- Clean the burner Venturis

**Combustion and Ventilation**
- Check the flue duct tightness
- Check the effectiveness of ventilation and air renewal system. Ensure there are no obstructions. Conduct a flue gas analysis.

**Maintenance**

*Victoria wall-hung waterheaters*

*Heating training centres*
The following parameters are factory-set as shown:

<table>
<thead>
<tr>
<th>Feature</th>
<th>Victoria 20/20 F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Output to Central Heating</td>
<td>79,366 Btu/20,000 kcal/h SW1 (ON) SW2 (ON)</td>
</tr>
<tr>
<td>Output to Domestic Hot Water System</td>
<td>79,366 Btu/20,000 kcal/h</td>
</tr>
<tr>
<td>Pump Speed Position</td>
<td>2a</td>
</tr>
<tr>
<td>Pump Operation Time (*)</td>
<td>30 secs following stoppage of Room Stat SW3 (ON)</td>
</tr>
<tr>
<td>6-minute Time Delay</td>
<td>De-energized SW4 (ON)</td>
</tr>
<tr>
<td>CH Hysteresis</td>
<td>62.6°F/17°C SW5 (OFF) SW6 (ON)</td>
</tr>
</tbody>
</table>

(*) It is governed by the Room Thermostat. If no Room Thermostat has been installed, it will operate continuously.
<table>
<thead>
<tr>
<th>Fault Code</th>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>DHW Sensor interrupted</td>
<td>40-90</td>
</tr>
<tr>
<td>CH Sensor interrupted</td>
<td>50-90</td>
</tr>
<tr>
<td>Faulty Flame Relay: Stuck</td>
<td>60-90</td>
</tr>
<tr>
<td>Faulty Safety Circuit (*)</td>
<td>40-60-90</td>
</tr>
<tr>
<td>Overheat Thermostat open during ignition</td>
<td>50-60-90</td>
</tr>
<tr>
<td>Flue Spillage Limit Thermostat open before ignition</td>
<td>40-50-60-90</td>
</tr>
<tr>
<td>Faulty Safety Relay (energized)</td>
<td>40-70-90</td>
</tr>
<tr>
<td>Faulty Safety Relay (will not close following demand) (*)</td>
<td>50-70-90</td>
</tr>
<tr>
<td>Burner off. Ignition time-delay too short</td>
<td>40-50-70-90</td>
</tr>
<tr>
<td>Burner off for lack of gas at lighting up (*)&amp;</td>
<td>60-70-90</td>
</tr>
<tr>
<td>Safety Relay. Ignition Time-delay too long</td>
<td>40-60-70-90</td>
</tr>
<tr>
<td>Overheat Thermostat open during operation (*)&amp;</td>
<td>50-60-70-90</td>
</tr>
<tr>
<td>Flue Gas Spillage during operation (*)</td>
<td>40-50-60-70-90</td>
</tr>
<tr>
<td>Safety Fuse open during operation (*)</td>
<td>40-80-90</td>
</tr>
<tr>
<td>Faulty Safety Relay. Lack of gas or electrical fault (*)</td>
<td>40-50-80-90</td>
</tr>
<tr>
<td>Pressure Switch Opening Time-delay</td>
<td>60-80-90</td>
</tr>
</tbody>
</table>

(*)Whenever these fault codes appear, reset the waterheater by turning the selector knob to the “R” position. For other codes, the waterheater will reset automatically once the fault is cleared.