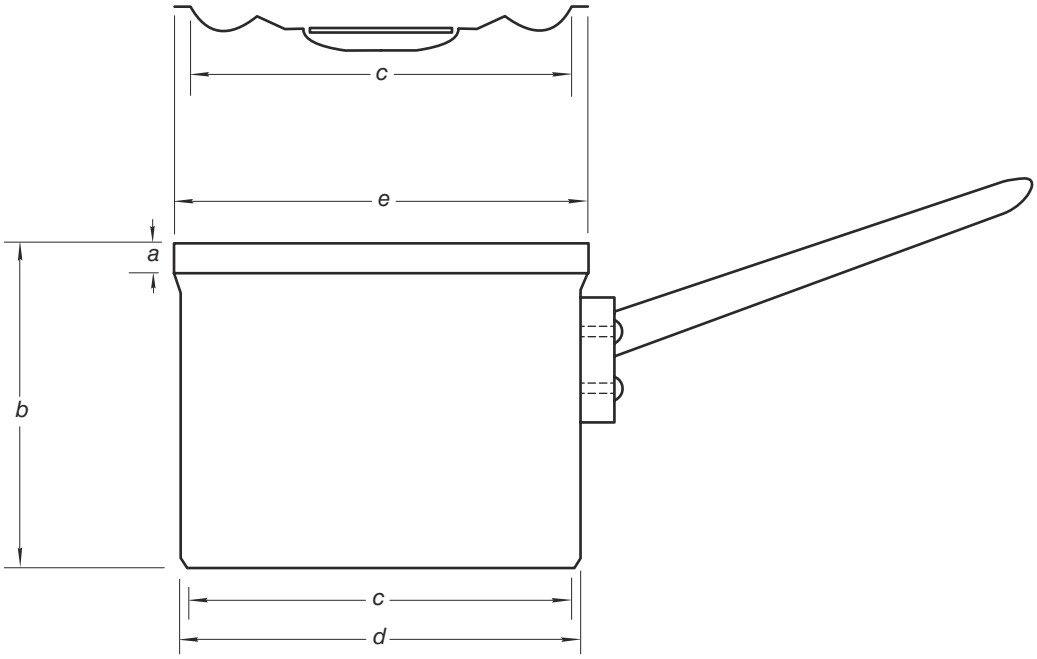


Saucepan	Dimension mm						Capacity
	a	*b*	*c*	*d*	*e*	Base radius	L
200 mm diameter	10 ± 2	141^{+3}_{-2}	193^{+8}_{-2}	199^{+8}_{-2}	205^{+3}_{-2}	3.5	4.0
Base radius is for reference only. Material: Aluminium gauge is 2.6–3.5. Vessels may have handles of any suitable design in any test where a sampling hood is not used. Where a sampling hood is used, the vessel shall not have a handle.							

Diameter mm	Height mm	Water content kg
200	140	2.3
230	155	4.5
300	190	10

Figure A.6 — Standard aluminium saucepan

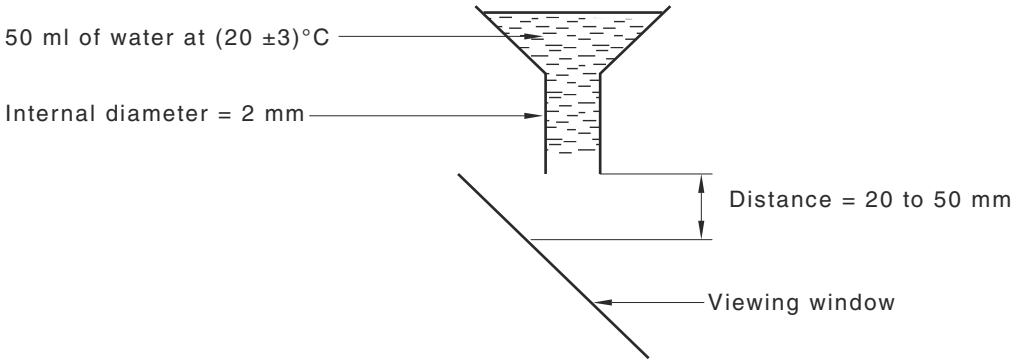


Figure A.7 — Thermal shock test apparatus

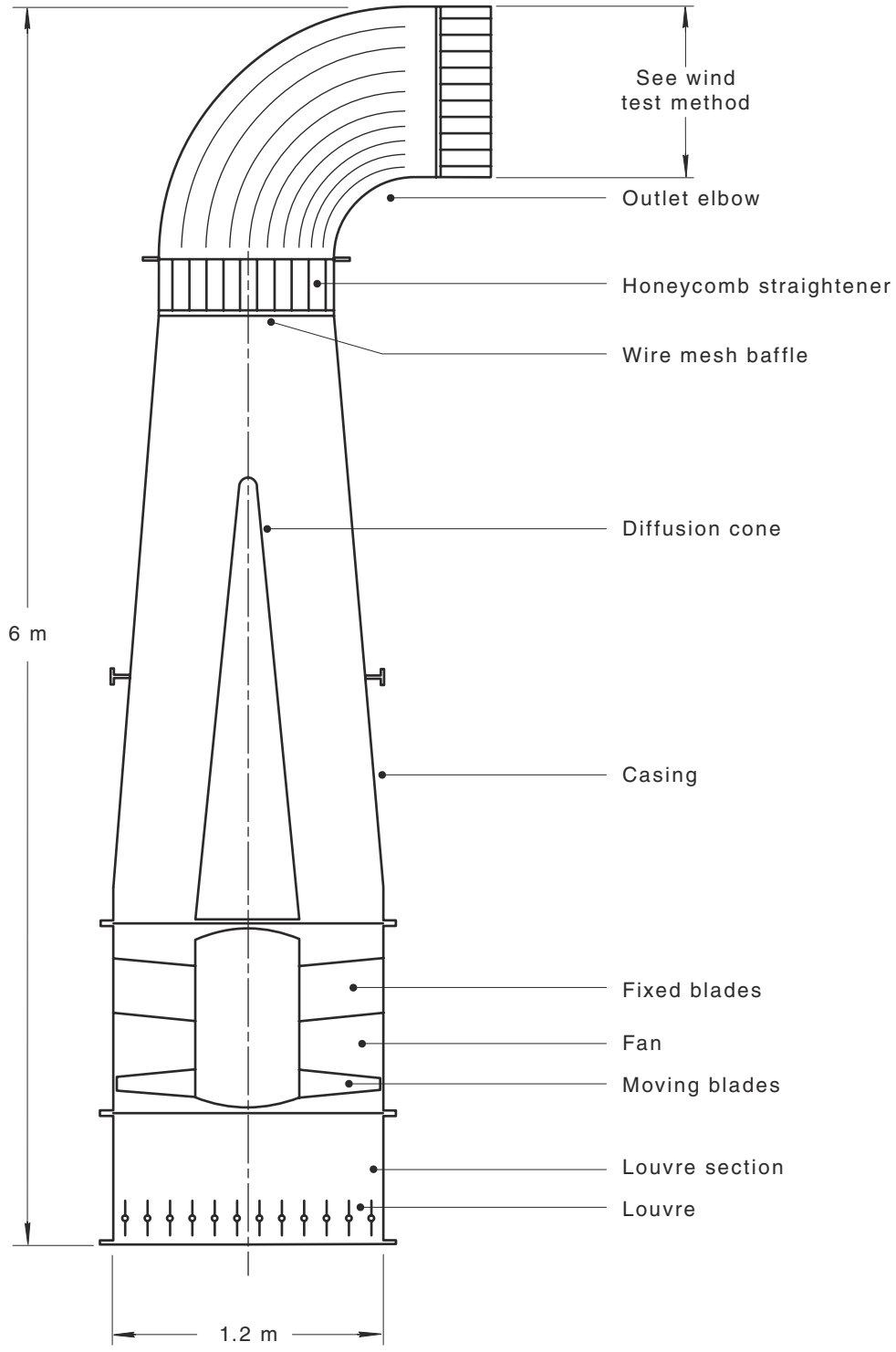
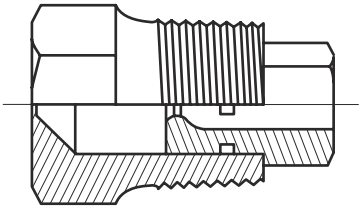
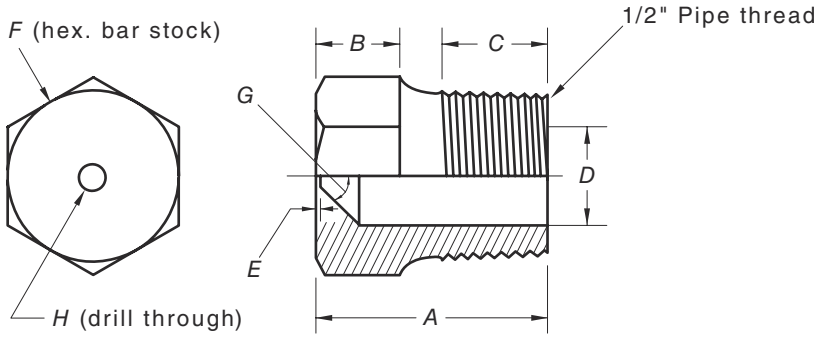


Figure A.8 — Wind machine



BODY



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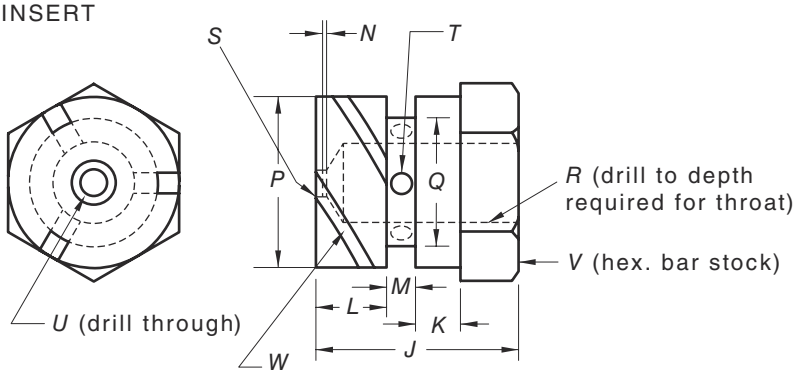

Key

A	=	31 mm	*J*	=	18.3 mm	*R*	=	6.35 mm
B	=	11 mm	*K*	=	4 mm	*S*	=	45° Countersink, 0.8 mm deep
C	=	14 mm	*L*	=	6.35 mm	*T*	=	3 holes, space 120°, 2.8 mm (No 35)
D	=	14.68–14.73 mm	*M*	=	2.4 mm	*U*	=	2.5 mm (No 40)
F	=	25 mm	*N*	=	0.8 mm (max)	*V*	=	16 mm
G	=	38.5°	*P*	=	14.8 mm	*W*	=	3 square section slots, 1.6 mm × 1.6 mm, space 120°, 60° helix, leading edges tangent to radial holes
H	=	5 mm (No 9)	*Q*	=	11.51–11.53 mm			

Figure A.9 — Detail of rain test spray head assembly

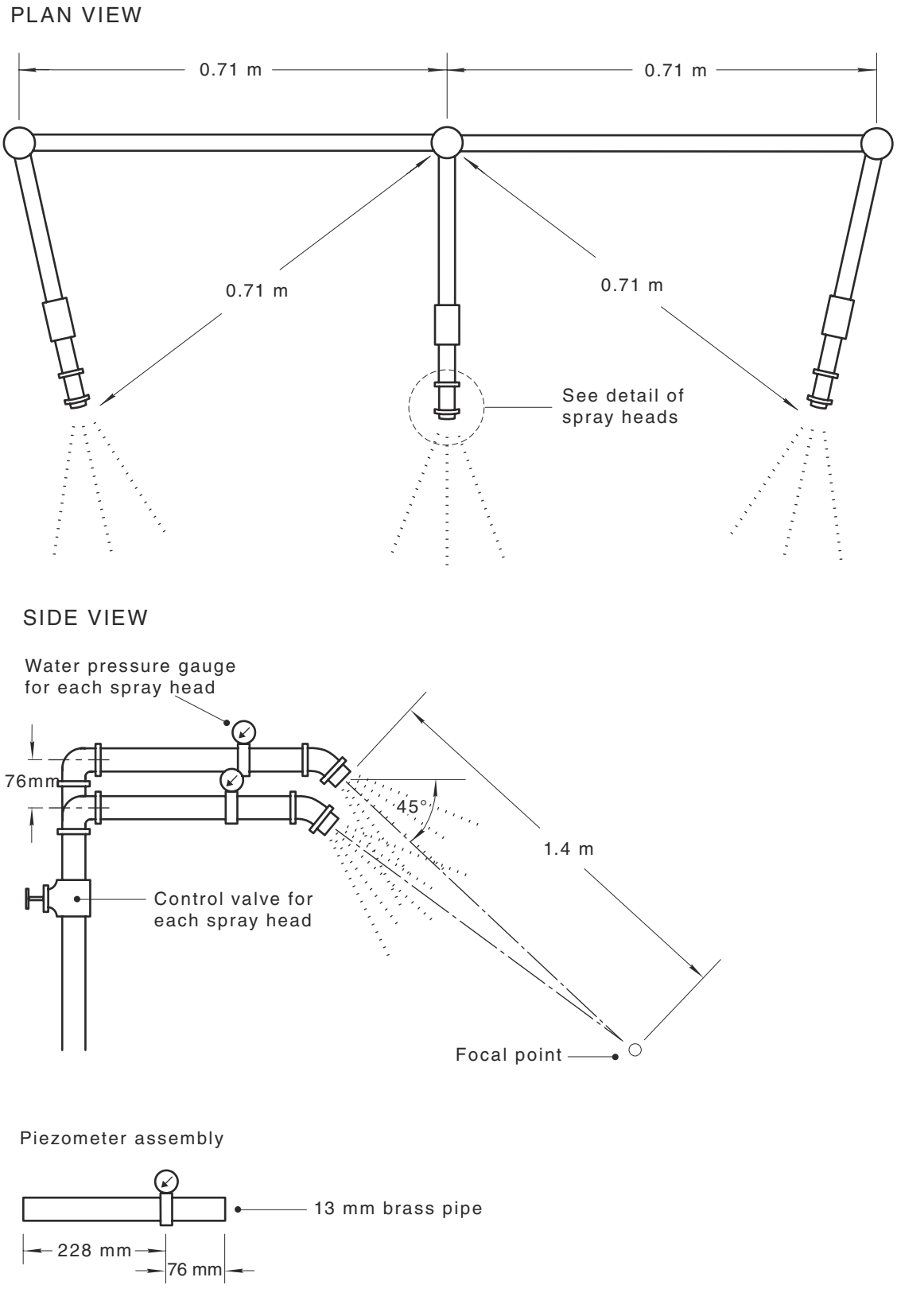

Figure A.10 — Rain test spray head pipe rack

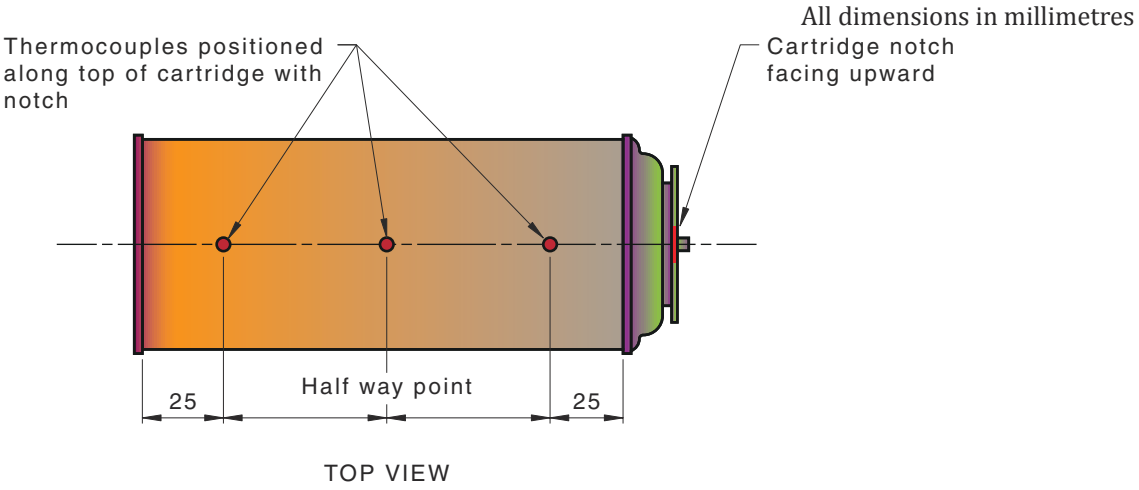

Figure A.11 — Cartridge temperature probe location

Appendix B
(normative)

Methods of test

B.1 Gas leakage — Fully assembled appliances

B.1.1 Scope

This test applies to fully assembled appliances.

B.1.2 Principle

The appliance is connected to a supply of air at the applicable pressure and any leakage is observed and measured.

B.1.3 Apparatus

The following apparatus shall be used:

(a) Leak detector capable of measuring 1 mL/min with an accuracy of ± 0.3 mL/min, e.g. bubble leak detector (see Figure A.2) or an electronic leak detector.

(b) Two pressure gauges with an appropriate range and an accuracy of ± 5 %.

(c) For appliances with an overpressure safety device, a suitable water bath.

B.1.4 Materials

The following materials shall be used:

(a) A means for sealing injectors without removal.

(b) A supply of air at adjustable pressure.

B.1.5 Preparation of apparatus

The apparatus shall be prepared as follows:

(a) Prepare the appliance for testing in accordance with Clause 3.3.

(b) Where a leak detector is used, check its fittings for gas-tightness and if using a bubble leak detector, adjust to the correct water level.

B.1.6 Procedures

B.1.6.1 Procedure for unregulated parts of appliances without an overpressure safety device

The procedure shall be as follows:

(a) Connect the leak detector to the gas inlet connection of the appliance and connect a means to measure the supply pressure.

(b) For appliances supplied with a hose, apply a force of 150 N for 1 min to the axis of the hose, with the hose connected to the appliance.

(c) Close all control valves on the appliance and supply air at —

(i) 2 600 kPa for appliances designed for use with propane and Universal LP Gas; or

(ii) 1 000 kPa for appliances designed for use with butane only;

to the inlet of the bubble leak detector, where used, with the detector valves open, or where a pressure gauge or electronic leak detector is used, to the appliance inlet.

(d) When the appliance is fully pressurized, isolate the appliance from the air supply.

(e) Open the regulator valve and all intermediate valves, and open any safety shut off valve(s).

(f) Observe the bubble leak detector, electronic leak detector or pressure gauge, as applicable.

(g) Allow approximately 1 min for pressure to stabilize.

(h) Where the bubble leak detector is used, operate the detector valves so that the air is directed through the dip tube.

(i) Check for gas leakage over an appropriate period with the appliance gas controls or valves closed.

(j) Systematically check for leakage up to and including each injector by opening each control or valve and sealing the injector orifice. Perform each check over an appropriate period.

(k) Measure the leakage rate.

B.1.6.2 Procedure for regulated parts of appliances

The procedure shall be as follows:

(a) Connect the leak detector to the appliance such that the required pressure is delivered to the regulated part of the appliance.

(b) Close all control valves on the appliance and supply air at 14.0 kPa or twice the overload pressure specified in Clause 3.2, whichever is greater, to the inlet of the leak detector.

(c) Open the pressure regulator valve and any safety shut off valve by heating the actuating element or by other means.

(d) Allow approximately 1 min for pressure to stabilize.

(e) If using a bubble leak detector, ensure valve “A” is closed and valves “B” and “C” are opened so that the air is detected through the dip tube (see Figure A.2).

(f) Measure the leakage rate.

(g) Where practicable, systematically check for leakage up to and including each injector by opening each control valve in turn and sealing the injector orifice, including the pilot line.

B.1.6.3 Procedure for appliances incorporating an overpressure safety device

B.1.6.3.1 Test 1 — Leakage at operating pressure

The procedure shall be as follows:

(a) Connect a means to measure the supply pressure and leakage.

(b) Close all control valves on the appliance and supply air to the appliance.

(c) Immerse the appliance in a water bath.

(d) Starting from 0 kPa increase the test pressure progressively at a rate of approximately 5 to 7 kPa per second until the overpressure safety device mechanism operates and ejects the cartridge. As the pressure is being increased, monitor for gas leakage especially at the actuating pin of the overpressure safety device and the coupling between the cartridge and the control valve. If leakage is observed, note the leakage rate and the test pressure at which the leakage occurs. A momentary leak occurring as the cartridge ejects shall be disregarded.

B.1.6.3.2 Test 2 — Leakage at overpressure

The procedure shall be as follows:

(a) Re-engage the cartridge and ensure that the cartridge ejection mechanism cannot eject the cartridge.

(b) Keep all appliance control valves closed and supply air to the test cartridge nozzle, at a pressure of 1 000 kPa for appliances designed for use with butane only.

(c) Allow approximately 1 min for pressure to stabilize and then check for gas leakage at the coupling between the cartridge and the overpressure protection device.

(d) Seal the injector orifice and open the control valve. For appliances with a secondary over pressure shut off device in the gas control, supply air downstream of the overpressure safety device.

(e) Allow approximately 1 min for pressure to stabilize and then check for gas leakage up to the injector.

B.1.7 Test report

All relevant observations shall be reported, including the leakage rate in m/L min and the test pressure for each of the relevant tests.

B.2 Gas consumption test

B.2.1 Scope

This test applies to the burners of all appliances.

B.2.2 Principle

The appliance is operated with the applicable test gas at the normal test conditions. The mass of gas passing per hour is measured accurately and used to calculate gas consumption.

B.2.3 Apparatus

The following apparatus shall be used:

(a) A suitable timing device.

(b) A balance to weigh up to 20 kg with an accuracy of 1.0 g.

(c) Means to determine the pressure of the gas within an accuracy of ± 5 %.

B.2.4 Materials

A container of applicable test gas as specified in Clause 3.1 at normal test conditions specified in Clause 3.2.

B.2.5 Preparation of apparatus

The apparatus shall be prepared as follows:

(a) Prepare the appliance for testing in accordance with Clause 3.3.

(b) Weigh the container of test gas while connected to the appliance, and record the mass.

(c) If appropriate, stabilize the container of test gas to achieve normal test conditions as shown in Clause 3.2.

B.2.6 Procedure

The procedure shall be as follows:

(a) Turn on the gas fully, light the burner and simultaneously start the timing device.

(b) Check the gas inlet pressure and adjust if necessary.

(c) After 30 min, turn off the gas and stop the timing device.

(d) Reweigh the container of test gas, connected to the appliance, record result. Determine the mass of gas consumed (m), in kilograms.

(e) Calculate the gas consumption as follows:

$$\text{Gas consumption (g/h)} = \frac{m \times 60 \times 1\,000}{t}$$

$$\text{Gas consumption (MJ/h)} = \frac{m \times 60 \times \mu}{t}$$

where

m = mass of gas consumed (kg)

t = time elapsed (min)

μ = specific energy of the test gas (MJ/kg)

B.2.7 Test report

All relevant observations shall be reported including the calculated gas consumption, in MJ/h and g/h.

B.3 Holding time of thermoelectric flame safeguard test

B.3.1 Scope

This test applies to all manually ignited atmospheric burners protected by a thermoelectric flame safeguard system.

B.3.2 Principle

The burner actuating the flame safeguard system is lit, with the appliance at ambient temperature. After 20 s, it is observed if the flame safeguard is holding open.

B.3.3 Apparatus

Suitable timing device.