

SCHEDULE 1

PART 2

INSTRUMENT SPECIFIC REQUIREMENTS

Part G

Volume Conversion Devices

61. The relevant essential requirements of Part 1 and the specific requirements of this Part apply to volume conversion devices.

62. A volume conversion device constitutes a sub-assembly for the purpose of these Regulations.

Rated operating conditions

63. The manufacturer shall specify the rated operating conditions of the volume conversion device taking into account—

- (a) the temperature range of the gas, with a minimum range of 40 °C;
- (b) the volume conversion device shall be designed for the range of gases and supply pressures of the country of destination. In particular the manufacturer shall indicate—
 - (i) the gas family or group; and
 - (ii) the maximum operating pressure;
- (c) a minimum temperature range of 50 °C for the climatic environment;
- (d) the nominal value of the AC voltage supply and/or the limits of DC supply.

MPE

64. The MPEs are—

- (a) 0.5 % at ambient temperature $20\text{ °C} \pm 3\text{ °C}$, ambient humidity $60\% \pm 15\%$, nominal values for power supply;
- (b) 0.7 % for temperature conversion devices at rated operating conditions;
- (c) 1 % for other conversion devices at rated operating conditions.

Note: The error of the gas meter is not taken into account.

Permissible effect of disturbances

65.—(1) Electromagnetic immunity

(2) The effect of an electromagnetic disturbance on a volume conversion device shall be such that—

- (a) the change in the measurement result is no greater than the critical change value as defined in sub-paragraph (4), or
 - (b) the indication of the measurement result is such that it cannot be interpreted as a valid result, such as a momentary variation that cannot be interpreted, memorised or transmitted as a measuring result.
- (3) After undergoing a disturbance, the volume conversion device shall—
- (a) recover to operate within MPE, and
 - (b) have all measurement functions safeguarded, and

Status: This is the original version (as it was originally made).

(c) allow recovery of all measurement data present just before the disturbance.

(4) The critical change value is the quantity corresponding to half of the magnitude of the relevant MPE as defined at paragraph 64.

Suitability

66.—(1) A volume conversion device powered from the mains (AC or DC) shall be provided with an emergency power supply device or other means to ensure, during a failure of the principal power source, that all measuring functions are safeguarded.

(2) A dedicated power source shall have a lifetime of at least five years. After 90% of its lifetime an appropriate warning shall be shown.

(3) An indicating device shall have a sufficient number of digits to ensure that the quantity passed during 8,000 hours at Q_{\max} by the gas meter to which the volume conversion device is to be connected does not return the digits to their initial values.

(4) The volume conversion device shall be able to be installed to operate in any position declared by the manufacturer in its installation instruction.

(5) An electronic volume conversion device shall be capable of detecting when it is operating outside the operating range(s) stated by the manufacturer for parameters that are relevant for measurement accuracy. In such a case, the conversion device must stop integrating the converted quantity, and may totalise separately the converted quantity for the time it is operating outside the operating range(s).

(6) An electronic volume conversion device shall be capable of displaying all relevant data for the measurement without additional equipment.

Units

67. Metered quantity shall be displayed in cubic metres or kilograms.

Base conditions for converted quantities

68. The manufacturer shall specify the base conditions for converted quantities.

Putting into Use

69. Any volume conversion device may be used in conjunction with any gas meter put into use in accordance with Annex MI-002 of the Directive.