

***Non-domestic meter installations.
Flow rate exceeding $6 \text{ m}^3 \text{ h}^{-1}$ and inlet
pressure not exceeding 38 bar***

Part 5 : Notices and labels



Gas Measurement Procedures
IGE/GM/8
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Her Majesty the Queen

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Flow rate exceeding $6 \text{ m}^3 \text{ h}^{-1}$ and inlet
pressure not exceeding 38 bar

Part 5 : Notices and labels



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SECTION 1 : INTRODUCTION

- 1.1 These Procedures supersede the relevant parts of IGE/GM/1 Edition 2, Communication 1640, which is obsolete with respect to the scope of IGE/GM/8 Part 5 i.e notices and labels. The remainder of IGE/GM/1 Edition 2 will become obsolete as the further parts of IGE/GM/8 are published.
- 1.2 These Procedures have been drafted by an Institution of Gas Engineers and Managers (IGEM) Panel, appointed by IGEM's Gas Measurement Committee, and have been approved by IGEM's Technical Co-Ordinating Committee on behalf of the Council of IGEM.
- 1.3 IGE/GM/8 is published in 5 parts:
- Part 1 covering design
 - Part 2 covering locations, housings and compounds
 - Part 3 covering installation and commissioning
 - Part 4 covering operation and maintenance
 - Part 5 covering notices and labels.
- 1.4 These Procedures cover notices and labels for gas supply meter installations (see Sub-Section 2.1, Note 2) of capacity $> 6 \text{ m}^3 \text{ h}^{-1}$ and maximum operating pressure upstream (MOP_u) $\leq 38 \text{ bar}$.
- 1.5 These Procedures apply to new, onshore, gas supply meter installations only. They are not retrospective. However, where work needs to be undertaken on a meter installation, it is recommended that the notices and labels on such an installation be brought into line with these Procedures.
- 1.6 Installations covered by these Procedures have, traditionally, been owned by a gas transporter (GT) and installed by an Office of Gas Supply (OFGAS) Registered Gas Meter Installer (RGMI) or, latterly, an Office of Gas and Electricity Markets (Ofgem) Approved Meter Installer (OAMI). With the introduction of competition in metering systems, the market has opened to allow ownership and/or transfer of meter installations to other parties, including meter asset management companies (MAMs) and consumers.
- The de-regulation of the metering market has led to the need for new sets of rules, guidelines and recommendations. This has been addressed by the Ofgem Code of Practice (CoP) for MAMs, developed to cover whole life management of gas meter installations. The OFGEM CoPs 1/a, 1/b and 1/c which cover the installation of the meter only, will eventually be withdrawn as all installation aspects are covered in the MAMCoP. There has also been a review and harmonisation of industry standards and CoPs to reflect the needs of the changing market. The publication of these Procedures is part of this process.
- Note: Under the new arrangements, an Ofgem-approved MAM does not have to be an OAMI, but has an obligation to use an OAMI to install a meter.*
- Notwithstanding Sub-Section 1.11, total compliance with IGE/GM/8 is necessary for installations and modules where the meter installation has to comply with the Ofgem MAMCoP, relevant scope.
- 1.7 New terms such as MOP, "maximum incidental pressure" (MIP) and "operating pressure" (OP) have been introduced to reflect gas pressure terminology used in European standards. These terms will arise in all relevant IGEM technical publications in future and, possibly, in other standards. Other new terms have been introduced to assist in recognition of design information to be transferred between interested parties.

Referring to Figure 1, note how OP is shown to oscillate about the set point (SP). Note also that MOP can be declared at a higher value than OP. The strength test pressure (STP) has to exceed MIP. This means that, at least with respect to integrity, the meter installation will withstand a fault pressure from the upstream system.

Note: IGE/GM/8 Part 1 provides further guidance on pressure terms.

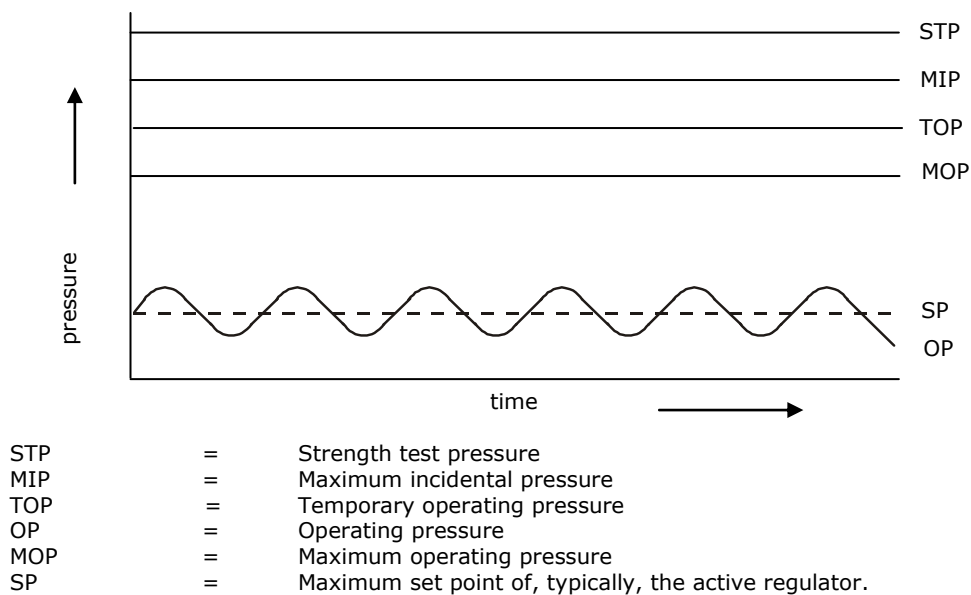


FIGURE 1 - OPERATIONAL PRESSURE LIMITS

1.8 These Procedures make use of the terms “should”, “shall” and “must” when prescribing particular procedures. Notwithstanding Sub-Section 1.11:

- the term “must” identifies a requirement by law in Great Britain (GB) at the time of publication
- the term “shall” prescribes a procedure which, it is intended, will be complied with in full and without deviation
- the term “should” prescribes a procedure which, it is intended, will be complied with unless, after prior consideration, deviation is considered to be acceptable.

Such terms may have different meanings when used in legislation, or Health and Safety Executive (HSE) Approved Codes of Practice (ACoPs) or guidance, and reference needs to be made to such statutory legislation or official guidance for information on legal obligations.

1.9 The primary responsibility for compliance with legal duties rests with the employer. The fact that certain employees, for example “responsible engineers”, are allowed to exercise their professional judgement does not allow employers to abrogate their primary responsibilities. Employers must:

- have done everything to ensure, so far as it is reasonably practicable, that “responsible engineers” have the skills, training, experience and personal qualities necessary for the proper exercise of professional judgement
- have systems and procedures in place to ensure that the exercise of professional judgement by “responsible engineers” is subject to appropriate monitoring and review
- not require “responsible engineers” to undertake tasks which would necessitate the exercise of professional judgement that is not within their competence. There should be written procedures defining the extent to which “responsible engineers” can exercise their professional judgement.

When "responsible engineers" are asked to undertake tasks which deviate from this, they should refer the matter for higher review.

- 1.10 It is now widely accepted that the majority of accidents in industry generally are in some measure attributable to human as well as technical factors in the sense that actions by people initiated or contributed to the accidents, or people might have acted in a more appropriate manner to avert them.

It is therefore necessary to give proper consideration to the management of these human factors and the control of risk. To assist in this, it is recommended that due regard be paid to HS(G)48.

- 1.11 Notwithstanding Sub-Section 1.8, these Procedures do not attempt to make the use of any method or specification obligatory against the judgement of the responsible engineer. Where new and better techniques are developed and proved, they should be adopted without waiting for modification to these Procedures. Amendments to these Procedures will be issued when necessary, and their publication will be announced in the Journal of the Institution and other publications as appropriate.

- 1.12 Requests for interpretation of these Procedures in relation to matters within their scope, but not precisely covered by the current text, should be addressed in writing to Technical Services, IGEM, Charnwood Wing, Holywell Park, Ashby Road, Loughborough, Leicester, LE11 3GH and will be submitted to the relevant Committee for consideration and advice, but in the context that the final responsibility is that of the engineer concerned. If any advice is given by or on behalf of IGEM, this does not relieve the responsible engineer of any of his or her obligations.

SECTION 2 : SCOPE

- 2.1 These Procedures apply to all new onshore gas supply meter installations (hereafter referred to as "installations") (and defined in IGE/G/1) of flow rate (capacity) $> 6 \text{ m}^3 \text{ h}^{-1}$ and MOP upstream (MOP_u) $\leq 38 \text{ bar}$.

The following types of meter are covered:

- diaphragm
- rotary displacement (RD)
- turbine
- ultrasonic (USM).

Note 1: For domestic installations of capacity $\leq 6 \text{ m}^3 \text{ h}^{-1}$, intended to carry Natural Gas, BS 6400-1 or BS 6400-2 apply, as appropriate for MOP_u .

Note 2: Primarily, IGE/GM/8 has been produced as a specification for primary meters and other meters used for billing purposes. However, its principles may be applied for other meters, for example appliance check meters or departmental charging meters, when certain procedures may not apply.

Note 3: IGE/GM/6 provides procedures for "standard" installations of $\text{MOP} \leq 100 \text{ mbar}$. For other, "non-standard", installations of $\text{MOP} \leq 100 \text{ mbar}$, IGE/GM/8 applies. For the purposes of notices and labels, the Procedures for IGE/GM/6 and IGE/GM/8 will be similar.

- 2.2 These Procedures apply to installations intended to carry Natural Gas only (a 2nd family gas as defined by BS EN 437).

Note: The Gas Safety (Installation and Use) Regulations (GS(I&U)R) (see Section 3) define "gas" to include 1st, 2nd and 3rd family gases as well as other gases. The principles of IGE/GM/8 may be used for gases other than Natural Gas but suitable adjustments to parameters and procedures will need to be considered by a competent person.

- 2.3 This Part 5 of IGE/GM/8 deals with the provision of notices and labels for relevant installations.

- 2.4 All pressures are gauge pressures unless otherwise stated.

- 2.5 Italicised text is informative and does not represent formal Procedures.

- 2.6 Appendices are informative and do not represent formal Procedures unless specifically referenced in the main sections via the prescriptive terms "should", "shall" or "must".

- 2.7 Unless otherwise stated, the term "notice" means "notice or label".

SECTION 3 : LEGAL AND ALLIED CONSIDERATIONS

3.1 GENERAL

- 3.1.1 These Procedures are set out against a background of legislation in force in GB at the time of publication. Similar considerations are likely to apply in other countries, where reference to appropriate national legislation is necessary.

All relevant legislation must be applied and relevant ACoPs, official guidance and referenced CoPs, standards, etc. shall be taken into account.

Note: Appendix 2 is relevant in this respect.

Where British Standards, etc. are quoted, equivalent national or international standards, etc. equally may be appropriate.

- 3.1.2 Persons who design meter installations must have a knowledge and understanding of the standards and regulations that apply to ensure that the completed plans will produce a safe and satisfactory installation (see IGE/GM/8 Parts 1 and 2, respectively).

Persons who install or maintain meter installations must be competent to do so and compliance with GS(I&U)R (see Sub-Section 3.4) must be achieved where those regulations apply (see IGE/GM/8 Parts 3 and 4, respectively).

At the time of publication, the body with HSE approval to operate and maintain a register of businesses who are "members of a class of persons" is the Council for Registered Gas Installers (CORGI). Therefore, all businesses and self-employed gas fitters working on meter installations where GS(I&U)R apply must be registered with CORGI.

Persons deemed competent to carry out gas work are those who hold a current certificate of competence in the type of activity to be conducted issued by a certification body accredited by the United Kingdom Accreditation Service (UKAS), to issue certificates of competence under the Nationally Accredited Certification Scheme for Individual Gas Fitting Operatives (ACS).

- 3.1.3 Any meter installation shall be designed, installed, commissioned and maintained in accordance with the Ofgem MAMCoP.

- 3.1.4 Any meter of capacity $\leq 1600 \text{ m}^3 \text{ h}^{-1}$, used to render a charge, must be approved and stamped as required by the Gas Act.

3.2 HEALTH AND SAFETY AT WORK ETC. ACT (HSWA)

HSWA applies to all persons involved with work activities, including employers, the self-employed, employees, designers, manufacturers, suppliers etc. as well as the owners of premises. It places general duties on such people to ensure, so far as is reasonably practicable, the health, safety and welfare of employees and the health and safety of other persons such as members of the public who may be affected by the work activity.

3.3 MANAGEMENT OF HEALTH AND SAFETY AT WORK REGULATIONS (MHSWR)

In addition to specific duties under GS(I&U)R (see Sub-Section 3.4), MHSWR impose a duty on employers and the self-employed to make assessments of risks to the health and safety of employees, and non-employees affected by their work. They also require effective planning and review of protective measures.

3.4 **GAS SAFETY (INSTALLATION AND USE) REGULATIONS (GS(I&U)R)**

3.4.1 GS(I&U)R are relevant statutory provisions of HSWA setting out general and detailed requirements dealing with the safe installation, maintenance and use of gas systems, including gas fittings, appliances and flues.

3.4.2 GS(I&U)R define the type of work that requires persons carrying out such work, or their employers, to be an "approved class of person", i.e. CORGI registered.

3.4.3 The installer must check the safety of any meter installation they install or work on and take appropriate action where they find faults. Where the premises are let or hired out, the landlord or hirer has special responsibilities to ensure that any installer they use for the gas fitting, service or maintenance or safety is a member of an approved class of persons (see clause 3.4.2) and is competent to carry out such work. If any serious fault is found, the installer must inform both the landlord/hirer, as well as the user, so that such faults can be rectified before further use.

3.5 **PRESSURE SYSTEMS SAFETY REGULATIONS (PSSR)**

3.5.1 These Regulations impose duties on designers, importers, suppliers, installers and user or owners to ensure that pressure systems do not give rise to danger. This is done by the correct design installation and maintenance, provision of information, operation within safe operating limits and, where applicable, examination in accordance with a written scheme of examination drawn up or approved by a competent person (as defined by PSSR).

3.5.2 Relevant fluids for the purpose of this document would be natural gas at a pressure greater than 0.5 bar above atmospheric pressure. A pressure system would include bulk storage tanks, pressure vessels, pipelines and protective devices. Once the pressure in the pipework drops below 0.5 bar, and the user/owner can show clear evidence that the system does not contain, and is not liable to contain, a relevant fluid under foreseeable operating conditions, then that part of the system is no longer covered by the Regulations. This is likely to be the case after the pressure relief valve associated with a pressure reducing valve which takes the pressure to below 0.5 bar, for example at the entry to a building.

Note the special requirements placed on protective devices in such systems (see para 110b of HS(L)122). The regulations also apply to pipelines and their protective devices in which the pressure exceeds 2 bar (see Sch 1 part 1 item 5 of HS(L)122).

3.6 **DANGEROUS SUBSTANCES AND EXPLOSIVE ATMOSPHERES REGULATIONS (DSEAR)**

These Regulations are concerned with protection against risks from fire, explosion and similar events arising from dangerous substances used or present in the workplace. The Regulations require that risks from dangerous substances are assessed, eliminated or reduced. They contain specific requirements to be applied where an explosive atmosphere may be present and require the provision of arrangements to deal with accidents, emergencies etc. and provision of information, training and use of dangerous substances. The Regulations also require the identification of pipelines and containers containing hazardous substances.

The following publications contain details of the Regulations and their application:

- HS(L)138
- HS(L)137

- HS(L)136
- HS(L)135
- HS(L)134
- INDG 370.

SECTION 4 : GENERAL

For certain notices, it is permitted (and is preferred) to include them in a composite notice (see Section 5). Whether or not this is permitted is noted in each sub-section of Sections 6 and 7.

- 4.1 In addition to compliance with legal obligations, the primary objectives of notices shall be:
- the safety of persons and plant
 - reliability of operation
 - continuous accurate measurement.

- 4.2 Notices are an important part of any meter installation and, generally, they shall be maintained up to date, in a legible condition and in their correct positions. The minimum size shall be as indicated on the example drawings given in this publication.

- 4.3 Notices shall be constructed from a durable, weather-resistant material that will not deteriorate under the effects of sunlight, rain, etc.

Note: A material such as vinyl would be likely to fulfil this requirement.

Any information applied by the installer on site, either when first applied or on subsequent occasions, shall be indelible and resistant to fading.

- 4.4 In addition to the main message, any notice shall contain the following statement:

“This notice must not be removed by unauthorized persons”.

Note: It is also advisable to include a means of identifying the notice type, the date of issue of the notice type and any revision to the notice type. For example, xyz/01/99/2.

- 4.5 Any party that changes any aspect of the installation or service, subsequent to the provision of any notice, shall update the relevant notice or replace it to reflect the changed information. The MAM should be informed of such a change.

Note: This is particularly important when a change in gas supplier involves a change of emergency service provider (ESP).

- 4.6 Any notice shall be attached securely to the installation, housing or compound, as appropriate, in a prominent position. Where it is attached to a component of the installation, it shall be secured using permanent fasteners, such as self-locking plastic cable ties.

Note: Attaching notices to the walls of pre-fabricated, sandwich construction meter houses can compromise the weather resistance of the housing if the housing manufacturer's recommendations are not followed..

- 4.7 The position of any notice shall not result in obstruction of any ventilation openings, the meter index or convertor indexes.

- 4.8 The majority of notices that are required by legislation (Section 6), required by these Procedures (Sections 7, 9 and 10), or optional under these Procedures (Section 8), can be represented in one composite notice (Section 5). Certain notices have to be provided individually, usually but not exclusively at a location different to the composite notice.

Consideration shall be given to providing, where possible and where permitted, a composite notice in preference to numerous individual notices.

Note 1: The advantages of composite notices are:

- information is, generally, more readily accessible
- generally, they are less expensive to produce
- generally, they are less expensive to apply, amend and maintain
- where a notice is missing, its absence is more readily noticed. For example, the absence of an individual notice identifying the presence of a compressor would not be noticed in many cases whereas the absence of a composite notice would be more obvious.