

IGEM/G/10
Communication 1785

Non-return valves



Founded 1863
Royal Charter 1929
Patron: Her Majesty the Queen



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Communication 1785

Non-return valves



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SECTION 1 : INTRODUCTION

- 1.1 This Specification is intended to provide information for the provision and requirements for the use of non-return valves (NRVs) in gas installations.
- 1.2 The content of this Specification is based upon a requirement for NRVs agreed between British Gas and the Society of British Gas Industries (SBGI), now named the Energy & Utilities Alliance (EUA) in 1989 and published as IM14. More recently, the requirements have been set out in IGE/GM/8 Part 1. As the need for NRVs is not limited to meter installations, the subject is separately detailed in this Specification.
- 1.3 This Specification has been drafted by a Panel appointed by the Institution of Gas Engineers and Managers' (IGEM's) Technical Co-ordinating Committee, subsequently approved by that Committee; the Gas Utilization Committee, the Gas Measurement Committee and the Gas Transmission and Distribution Committee and published by the authority of the Council of IGEM.
- 1.4 This Specification makes use of the terms "must", "shall" and "should" notwithstanding Sub-Section 1.5:
- the term "must" identifies a requirement by law in (UK) at the time of publication
 - the term "shall" prescribes a requirement which, it is intended, will be complied with in full and without deviation
 - the term "should" prescribes a requirement 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, reference needs to be made to such statutory Legislation or official guidance for information on legal obligations.
- 1.5 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 is reasonably practicable, that there are no better protective measures that can be taken other than relying on the exercise of professional judgement by "responsible engineers"
 - have done everything to ensure, so far as 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.
- 1.6 Notwithstanding Sub-Section 1.4, this Specification does not make obligatory the use of any method or standard against the judgement of the "responsible engineer". New and improved practices may be adopted prior to this Specification being updated. Amendments to this Specification will be issued

when necessary and their publication will be announced in the Journal of IGEM and elsewhere as appropriate.

- 1.7 It is now widely accepted that the majority of accidents in industry are in some measure attributable to human as well as technical factors in the sense that people's actions initiated or contributed to the accidents or people might have acted better to avert them.

It is therefore necessary to give proper consideration to the management of these human factors and to the control of risk. To assist in this, it is recommended that due cognisance be taken of HSG65 and HSG48.

- 1.8 Requests for interpretation of this Specification in relation to matters within its scope, but not precisely covered by the current text, should be addressed in writing to Technical Services, IGEM, IGEM House, High Street, Kegworth, Derbyshire, DE74 2DA, or emailed to technical@igem.org.uk 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.

- 1.9 This Specification was published in January 2016.

SECTION 2 : SCOPE

- 2.1 This Specification applies to NRVs used in gas supply installations and gas fired plant to prevent the admission of extraneous gases into the gas supply as specified under the requirements of the Gas Act 1986 (as amended 1995), Schedule 4, para. 18.
- 2.2 This Specification applies to NRVs for use on first and second family gases. It does not apply to valves used in oxygen or oxygen enriched air supplies. However, they may be used for protection of the gas supply in oxy-gas systems provided the oxygen pressure is limited to below 2 bar (29 lbs in⁻²).
- Note: Further information on oxy-gas system is provided in IGEM/UP/12.*
- 2.3 This Specification applies to NRVs used in gas installations with a maximum operating pressure (MOP) not exceeding 7 bar.
- 2.4 This Specification applies to both general purpose NRVs for normal low pressure duty and to special purpose NRVs for use where higher operating pressure differentials are available. The requirements are identical in all respects except for flow characteristics.
- 2.5 This Specification applies to NRVs in the size range of a nominal diameter 15 mm (DN15) to DN300 nominal pipe size.
- Note: For sizes above DN150 to DN300 additional guidance may be sought from the manufacturer and in compliance with BS EN 12266-1.*
- 2.6 This Specification does not apply to NRVs using external power sources to open or close the valve. However, the general performance requirements may be considered relevant.
- 2.7 All pressures are gauge pressures unless otherwise stated.
- 2.8 Italicised text is informative and does not represent formal requirements.
- 2.9 Appendices are informative but can represent formal requirements if referred to via the prescriptive terms "must", "shall" or "should".