

***IGEM/GM/PRS/28***  
***Communication 1791***

***Medium pressure single-stage regulators  
for gas flow rates not exceeding  $6 \text{ m}^3 \text{ h}^{-1}$***



*Founded 1863*  
*Royal Charter 1929*  
*Patron: Her Majesty the Queen*



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© The Institution of Gas Engineers and Managers  
IGEM House  
High Street  
Kegworth  
Derbyshire, DE74 2DA  
Tel: 0844 375 4436  
Fax: 01509 678198  
Email: [general@igem.org.uk](mailto:general@igem.org.uk)

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## SECTION 1 : INTRODUCTION

1.1 This Specification is part of a series of Institution of Gas Engineers and Managers (IGEM) publications, providing a specification for selecting medium pressure (MP) meter regulators.

1.2 British Gas and latterly, National Grid Metering (NGM) developed a series of specifications for key metering components based on its own suite of product requirements. These documents were made available to meter installers and purchasers under the title of Product Requirement Specification (PRS) 'e' documents. Originally, these Specifications were made available through Advantica, as they were known at the time.

NGM has transferred the ownership of these documents to IGEM to make them available to the wider industry. It is some years since the original 'e' documents were updated and these have been withdrawn.

1.3 This Specification has been drafted by an IGEM Working Group, appointed and subsequently approved by IGEM's Gas Measurement Committee, and has been approved by IGEM's Technical Coordinating Committee on behalf of the Council of IGEM.

1.4 Manufacturers supplying single stage regulators for gas flow rates not exceeding  $6 \text{ m}^3 \text{ h}^{-1}$  and inlet pressures exceeding 75 mbar but not exceeding 2 bar are to conform to the requirements of this Specification and to any other relevant documents to which reference is made herein.

1.5 Details on the installation of domestic-sized gas meters and associated components are given in BS 6400-2.

1.6 Terms such as "maximum operating pressure" (MOP), "maximum incidental pressure" (MIP) and "operating pressure" (OP) are used to reflect gas pressure terminology used in European standards. These terms will arise in all relevant IGEM Standards and, possibly, in other standards. Other terms have been introduced to assist in recognition of design information to be transferred between interested parties.

1.7 This Specification makes use of the term "must", "shall" and "should" when prescribing particular requirements.

- the term "must" identifies a requirement by law in Great Britain (GB) 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 a term 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.

1.8 New and improved products, materials or production methods 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.

- 1.9 Requests for interpretation of this Specification in relation to matters within its scope, but not precisely covered by the current text, should be addressed to Technical Services, IGEM, IGEM House, High Street, Kegworth, Derbyshire, DE74 2DA. Such requests will be submitted to the relevant Committee. Any advice given by or on behalf of IGEM does not imply acceptance of any liability, and does not relieve any party of their obligations.
- 1.10 This Specification was published in September 2016.

## SECTION 2 : SCOPE

- 2.1 This Specification defines the requirements for single stage MP meter regulators with integral slam-shut device for use with 2<sup>nd</sup> family gas (see BS EN 437) at flow rates not exceeding 6 m<sup>3</sup> h<sup>-1</sup>. Each regulator will have to be suitable for use on a pressure tier, or range of tiers, as defined in Table 1.

*Note 1: Requirements for low pressure (LP) meter regulators for gas flow rates not exceeding 6 m<sup>3</sup> h<sup>-1</sup> are given in IGEN/GM/PRS/3.*

*Note 2: Requirements for two-stage MP meter regulators for gas flow rates not exceeding 6 m<sup>3</sup> h<sup>-1</sup> are given in IGEN/GM/PRS/29.*

PRESSURE TIER	OPERATIONAL PRESSURES AT OUTLET OF EMERGENCY CONTROL VALVE (ECV)			DESIGN PRESSURES AT OUTLET OF ECV	
	DESIGN MINIMUM PRESSURE (DmP) mbar	LOWEST OPERATING PRESSURE (LOP) mbar	MAXIMUM OPERATING PRESSURE (MOP)	DESIGN PRESSURE (DP) mbar	DESIGN MAXIMUM INCIDENTAL PRESSURE (DMIP) mbar
Medium <sup>35*</sup>	35	35	185 mbar	2.0	2.7
Medium <sup>65*</sup>	65	75	250 mbar	2.0	2.7
Medium <sup>105*</sup>	105	105	1.1 bar	2.0	2.7
Medium <sup>180*</sup>	180	180	1.6 bar	2.0	2.7
Medium <sup>270*</sup>	270	280	2.0 bar	2.0	2.7

\* This number refers to the DmP of the upstream network.

### TABLE 1 – STANDARD NETWORK TIERS AND CORRESPONDING PRESSURES

- 2.2 Regulators to this Specification incorporate a single stage pressure regulating device with integral relief valve and an overpressure slam-shut device that meet the requirements of Appendix 6. They have a nominal outlet pressure of 22 mbar.
- 2.3 This Specification sets out the requirements for product type and production testing.
- 2.4 This Specification requires consideration of the life cycle of the product and its potential effect on the environment.
- 2.5 All pressures quoted in this Specification are gauge pressures unless otherwise stated.
- 2.6 Italicised text is informative and does not represent formal requirements.
- 2.7 Appendices are informative and do not represent formal requirements unless specifically referenced in the main sections via the prescriptive terms "must", "shall" or "should".