

**Conformity assessment procedures
within the framework of the
EC Pressure Equipment Directive
(97/23/EC)**

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DVGW Deutsche Vereinigung des Gas- und Wasserfaches e.V.
German Association of the Gas and Water industry
Technical and scientific association
Certification Body
PO Box 14 03 62
D-53058 Bonn

Tel: +49 (228) 91 88 807

Fax: +49 (228) 91 88 993

E-Mail: zert@dvwg.de

Internet: <http://www.dvgw.de>

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General

Directive 97/23/EC of the European Parliament and of the Council of 29 May 1997 on the approximation of the laws of the Member States concerning pressure equipment ("EC Pressure Equipment Directive", Official Journal of the European Communities OJ no. L 181 of 9.7.1997, pp. 1 et seq., corrected by OJ no. L 265 of 27.9.1997, p. 110) is one of the series of EC Harmonisation Directives under the "new approach" (OJ no. C 136 of 4.6.1985, pp. 1 et seq.) to eliminate technical barriers to trade while retaining a high level of protection.

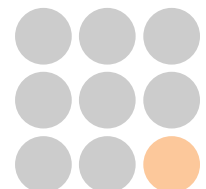
The EC Pressure Equipment Directive duly marks a further step towards technical harmonisation of products in terms of design, manufacturing and conformity assessment. However, it covers a substantially more diverse range of equipment than e.g. the EC Gas Appliance Directive. The vast majority of the equipment involved is used outside the gas industry, e.g. in chemical, refinery and conventional power plants. For the application of the EC Pressure Equipment Directive to gas industry components, special attention must accordingly be paid to their atypical conditions of application.

In line with the technical diversity, a modular system of procedures with varying levels of demands is available to assess the conformity of the equipment involved with the requirements

of the EC Pressure Equipment Directive. This makes appropriate allowance for both product-specific and use-specific hazard potential and the respective manufacturing system.

Like comparable technical EC harmonisation directives, the EC Pressure Equipment Directive is enacted into German national law for the purposes of placing on the market through the Appliances Safety Act (Gerätesicherheitsgesetz – GSG), in this case as the 14th Implementation Ordinance under the Act (14. GSGV). Irrespective of delays in the national legislative process, beneficiaries – i.e. specifically manufacturers – can rely directly on the EC Pressure Equipment Directive from **29 November 1999**. In any case there is a transitional period to **29 May 2002** within which products may still be brought onto the market in line with the existing conformity assessment procedures – in the case of gas industry products, the national certification procedures of the DVGW.

The Group for the Exchange of Experience (Erfahrungsaustauschkreis EK 6) assigned to the Central Group for the Exchange of Experience (Zentraler Erfahrungsaustauschkreis ZEK) of the Central Office of the Länder for Safety Engineering (Zentralstelle der Länder für Sicherheitstechnik ZLS), of which the DVGW is a member as a notified body within the meaning of the EC Pressure Equipment Directive, constitutes the central national advisory committee for the relevant questions of interpretation, which, if necessary, supplies agreed opinions to the corresponding European bodies.



Scope

The EC Pressure Equipment Directive applies to the placing on the market and putting into service of pressure equipment, and assemblies of these, with a maximum allowable pressure greater than 0.5 bar. A distinction is made for pressure equipment between vessels, piping, safety accessories and pressure accessories.

Although **pipelines** are excepted in principle, their so-called **standard pressure equipment** is not. All components which can be used in both pipelines and industrial plants qualify as standard pressure equipment in the view of the European Commission and the EU Member States (see guideline 1/17 in <http://ped.eurodyn.com>, containing extensive advice on the application of the EC Pressure Equipment Directive).

Fired or otherwise heated pressure equipment with the risk of overheating intended for generation of steam or super-heated water at temperatures higher than 110 °C fall di-

rectly in the scope of the EC Pressure Equipment Directive which supplements and complements the EC Gas Appliance Directive. **Components can be covered by both the EC Pressure Equipment Directive and the EC Gas Appliance Directive.** The EC Pressure Equipment Directive is, however, the only one to provide for an independent CE marking of the components supplying fuel and heat for the above steam and super-heated water generators.

The scope is delimited by numerous other exclusion provisions, including boundaries set by other technical EC harmonisation directives (e.g. for machinery and so-called simple pressure vessels). The EC Pressure Equipment Directive does not apply to compressors, gas turbines, well-control equipment, water supply and discharge systems, radiators and pipes in warm water heating systems, vehicles, transport containers, blast furnaces etc.

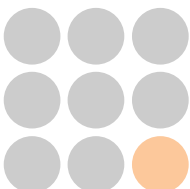
Annex 2 of this Certification Information contains all gas industry products presumably covered by the EC Pressure Equipment Directive.

Qualitative requirements for	Quantitative requirements for
strength / durability operational safety means of examination materials manufacturing procedures limiting pressure/temperature final assessment fire	design factors / safety coefficients rupture: elongation / bending energy joint coefficients pressure surge (10%) test pressures

Table 1: Qualitative and quantitative requirements

Requirements for pressure equipment with a risk of overheating	Requirements for piping
monitoring of heat input, fluid quantity and condition	avoidance of overstressing, corrosion and fatigue of material documentation of position and route

Table 2: Requirements for pressure equipment with a risk of overheating and for piping



Essential requirements

The EC Pressure Equipment Directive specifies a range of **qualitative or protective requirements** whose applicability is determined by the manufacturer on the basis of a hazard analysis (Annex I, Preliminary observations). They are in part given concrete form through precisely **quantified benchmarks** which can be deviated from within the limits of proportionality (Annex I, No. 7).

In addition there is a range of requirements which refer to specific pressure equipment, i.e. pressure equipment with a risk of overheating and piping (Annex I, Nos. 5, 6).

Presumption of conformity

Pressure equipment from category I and the corresponding assemblies must meet the technical requirements according to Annex I (Article 3, Section 1, sentence 1), unless covered by an exclusion provision (Article 1, Section 3). This is presumed (presumption of conformity), if the pressure equipment meets the **harmonised standards** under the EC Pressure Equipment Directive, which are published in the Official Journal of the European Communities (Article 3, Section 2).

If no use is made of harmonised standards, compliance with the individual requirements of Annex I is directly assessed. This obligation only applies to those requirements which promote the aversion of hazards which can actually arise from the pressure equipment under consideration or which have to be contained. To identify the relevant requirements, a **hazard analysis** is carried out (Annex I, Preliminary observations).

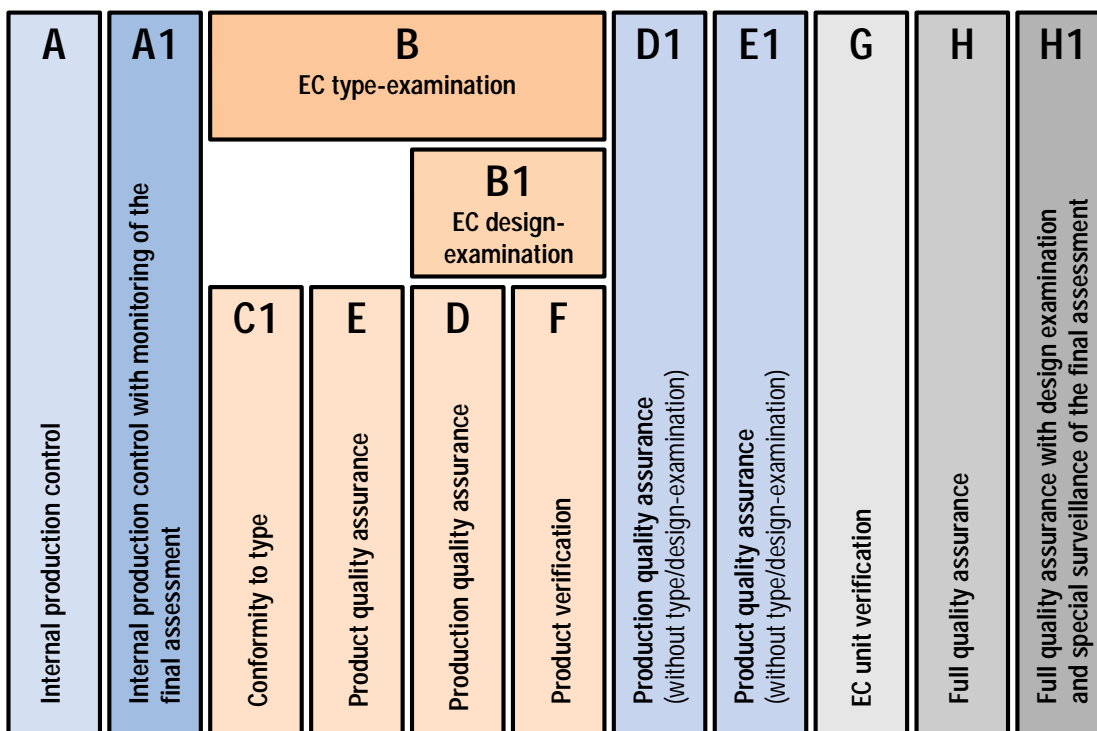
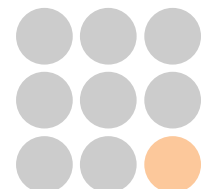


Figure 1: Conformity assessment modules of the EC Pressure Equipment Directive



All specifications which do not arise directly out of Annex I or the harmonised standards – i.e. **non-harmonised (national, European or international) standards** and other guidelines by relevant bodies (see in particular <http://ped.eurodyn.com>) – can provide valuable practical assistance in giving concrete form to the relevant requirements in line with the **state of the art** (Annex I, Preliminary observations). This can facilitate the above assessment process but not replace it as such.

In assembling the technical documentation the manufacturer states which specifications are applied and which solutions are chosen to meet the essential requirements.

Conformity assessment – categories, modules

Conformity assessment under the “new approach” technical EC harmonisation directives generally offers a choice of various **modules**, some of which apply in combination. The EC Pressure Equipment Directive distinguishes between the following **four categories** of conformity assessment, depending on the product-specific and use-specific **hazard potential**:

- category I = module A
- category II = module A1 or D1 or E1
- category III = module B1 + D or B1 + F or B + C1 or B + E or H
- category IV = module B + D or B + F or G or H1

If an item of pressure equipment falls in one of these categories, the manufacturer may also opt for a higher category where one exists (Article 10, Nos. 1.1 to 1.4). The available alternatives enable the manufacturer to choose the most suitable procedure overall for his production system.

External bodies

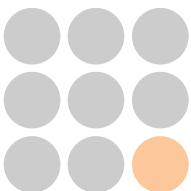
Design, manufacturing and conformity assessment of category I pressure equipment (Annex III, module A) fall within the sole responsibility of the manufacturer. From category II external bodies officially accredited in accordance with the EC Pressure Equipment Directive – so-called **notified bodies, recognised third-party organizations or user inspectorates** – are involved to different extents. This involvement occurs for permanent joints (welds etc.) from category II and for non-destructive testing from category III already before or during manufacturing (Annex I, Nos. 3.1.2/3).

The scope of activity of external bodies depends on the scope of their accreditation. All notified bodies and recognised third-party organizations are available for selection, i.e. not only those in the country where the manufacturer is domiciled. For each module another notified body can be selected, too. The following table shows some key activities of notified bodies (Article 12), which generally have the broadest range of activity among the external bodies.

Recognised third-party organizations (Article 13) are accredited in particular for approving operating procedures for permanent joining and personnel for permanent joining and non-destructive testing. Test bodies commissioned by notified bodies to carry out testing which does not relate to permanent joints and their testing are not necessarily recognised third-party organizations of the above kind.

Pressure equipment users can also set up their own user inspectorates (Article 14), which assume the functions of a notified body exclusively for the procurement of these users. However, only modules A1, C1, F and G are available for conformity assessment and CE marking under the EC Pressure Equipment Directive is excluded.

External bodies must in any case – and specifically also in the assessment of quality as-



insurance systems – have adequate product-specific assessment capability. Certification to ISO 9000 et seq. is helpful and even desirable, but not by itself sufficient within the meaning of the EC Pressure Equipment Directive. Subject to this condition the assignment given in the table below can be made (note: ISO 9001/9002/9003: 1994 are destined to be combined within ISO 9001: 2001).

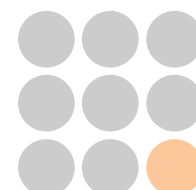
The manufacturer may not commission more than one external body for one and the

same assessment task. He can, however, appeal the decision of an external body, specifically if it refuses to grant an examination certificate or any other favourable assessment decision.

A demand-oriented exchange of information is provided for between the external bodies and the competent authorities, extending beyond general questions of interpretation (see above, General) to all concrete instances, with special attention to refused or withdrawn certification.

Modules		Notified Body
A	<i>Internal production control</i>	is not involved (manufacturer takes sole responsibility).
A1	<i>Internal production control with monitoring of the final assessment</i>	monitors the final assessment of the manufacturer by unexpected visits and takes samples.
B	<i>EC type-examination</i>	examines the technical documentation, materials, procedures and qualifications and checks a representative item of pressure equipment (type) accordingly.
B1	<i>EC design-examination</i>	examines the technical documentation, materials, procedures and qualifications (like module B) without checking a representative item of pressure equipment.
C1	<i>Conformity to type</i>	monitors the final assessment of the manufacturer by unexpected visits and takes samples (like module A1).
D/D1	<i>Production quality assurance</i>	fully (re-)assesses the quality assurance system every three years and periodically audits it in between.
E/E1	<i>Product quality assurance</i>	fully (re-)assesses the quality assurance system every three years and periodically audits it in between.
F	<i>Product verification</i>	verifies the approvals of personnel and the material certificates and carries out the final assessment of each item of pressure equipment.

Table 3: Essential duties of the notified body





Modules		Notified Body
G	<i>EC unit verification</i>	examines the technical documentation, materials, procedures and qualifications, checks the individual item of pressure equipment accordingly and carries out its final assessment.
H	<i>Full quality assurance</i>	fully (re-)assesses the quality assurance system every three years and periodically audits it in between.
H1	<i>Full quality assurance with design examination and special surveillance of the final assessment</i>	carries out all activities according to module B1, C1 and H.

Table 3: Essential duties of the notified body

Quality assurance under the EC Pressure Equipment Directive according to	Corresponding quality management system according to
Module H, H1	ISO 9001 (1994)
Module D, D1	ISO 9002 (1994)
Module E, E1	ISO 9003 (1994)

Table 4: Modules of the EC Pressure Equipment Directive and ISO 9000 et seq.

Marking and declaration of conformity

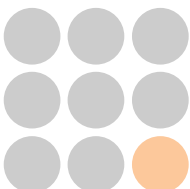
Through CE marking and the declaration of conformity the manufacturer documents to outsiders the conformity of pressure equipment with the EC Pressure Equipment directive and all other relevant EC Directives (Article 5, Section 1).

The **CE marking** is affixed to pressure equipment falling in one of categories of the EC Pressure Equipment Directive at the latest when placed on the market. For equipment in category II or higher the **identification number of the notified body (DVGW: 0085)** involved at the

production control phase is also added (Article 15, Section 1, sentence 2).

Aside from that, pressure equipment is provided with the following information (Annex I, No. 3.3):

- manufacturer's identity
- year of manufacture
- serial number or similar
- maximum/minimum allowable limits
- other technical data (volume, nominal size, test pressure, test date, output, intended use, tare mass etc.)
- any warnings required.



In addition to the CE marking, the manufacturer issues a written **EC declaration of conformity** and attaches it to the pressure equipment. The declaration of conformity specifically includes the following information (Annex VII):

- conformity assessment procedures applied
- any notified body responsible for the production control phase
- references to any existing certificates and specifications used

The manufacturer can also use the declaration of conformity for basic instructions to the user (see below, Operating instructions).

Operating instructions

All pressure equipment, when placed on the market, is accompanied with operating instructions that contain the necessary information on **mounting, putting into service, use and maintenance** (Annex I, No. 3.4).

Approach to classifying pressure equipment

The EC Pressure Equipment Directive distinguishes in its specifications for technical characteristics of pressure equipment and the associated conformity assessment on the basis of **design, purpose and hazard potential**. The level and scope of requirements and conformity assessment are determined through a corresponding classification and hazard analysis of the pressure equipment.

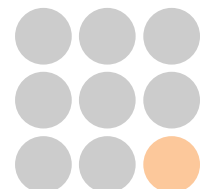
Based on the design and purpose, the **kind of pressure equipment** (vessel, piping, safety accessory or pressure accessory) and the **category** of conformity assessment are first deter-

mined (**classification**). Subsequently, **hazard analysis** is used to decide which technical requirements have to be met and to what extent.

Classification and hazard analysis cannot be strictly separated, as the hazard analysis can have implications for determining the purpose (Annex I, Preliminary observations and No. 1). **Particularly, determining the purpose must take into account not only the use intended by the manufacturer but also the foreseeable use, i.e. the fitness for purpose expected by the user.**

Determining the purpose and hazard analysis are consequently the actual starting point for classification. **The concrete approach to classification** could accordingly be as follows (see also the flow chart below):

1. It is determined, if the **EC Pressure Equipment Directive applies**. For this it is basically necessary for the pressure equipment or assembly of a number of pressure equipment items to have a maximum allowable (relative) pressure **greater than 0.5 bar** at some point (Article 1, Section 1) or to be designed as an accessory (Article 1, Nos. 2.1.3/4) of corresponding pressure equipment.
2. A check is carried out, if one of the **exclusion provisions** applies (see above Scope or Article 1, Section 3, where No. 3.6 can only be dealt with further on after the following classification).
3. The manufacturer determines the **purpose** of the pressure equipment. In doing so, he takes into account the user's foreseeable expectations of its fitness for purpose. Where all conceivable forms of use cannot or should not be considered, the manufacturer must ensure in some suitable way (e.g. through warnings, see Annex I, No. 3.3.c) that misuse is precluded as far as possible.
4. Based on the design and purpose, the **kind of pressure equipment** (see above or Article 1, Nos. 2.1.1 to 2.1.4) is identified. **Assemblies** (Article 1, No. 2.1.5), and specifically steam/super-heated water generators (Article 3, No. 1.2), are distinguished in terms of their components and integration (Article 10, Section 2).





5. Next the **category** of conformity assessment is determined:
- a. For the steam/super-heated water carrying components of **steam/super-heated water generators**, the category is determined directly:

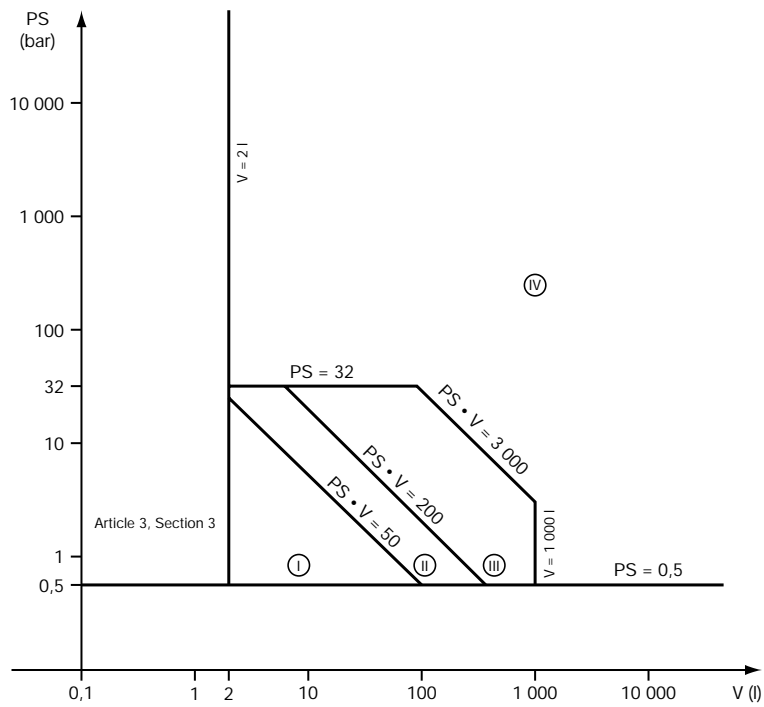
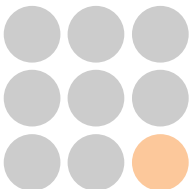


table 5

Pressure equipment referred to in Article 3, Section 1.2

Exceptionally, the design of pressure-cookers must be subject to a conformity assessment procedure equivalent to at least one of the category III modules.



b. For other pressure equipment the fluid involved is first classified as **group 1** (fluids with the characteristics explosive, flammable, toxic, oxidising) or **group 2** (fluids not covered by group 1) (Article 9, Section 2). **Gases from public networks qualify as group 1**, which is assumed below. The category is now determined on the basis of the kind of pressure equipment:

• **vessels:**

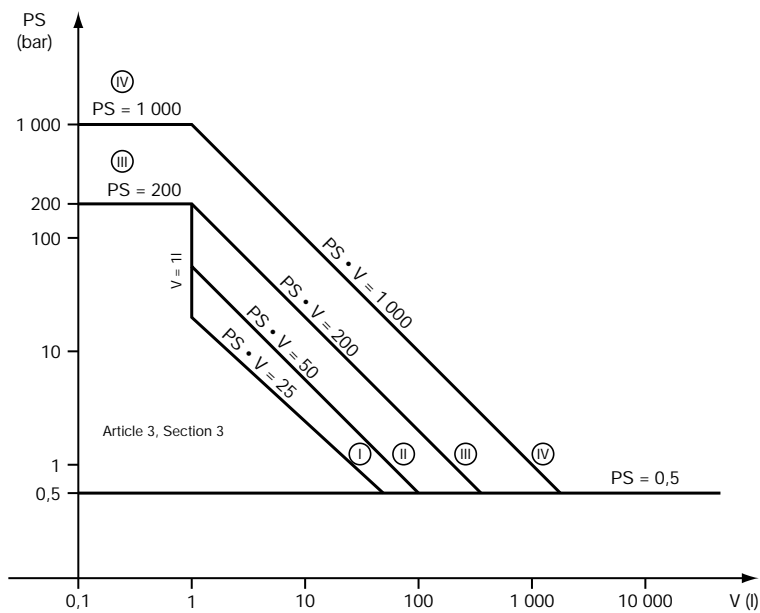


table 1

Vessels referred to in Article 3, Section 1.1 (a), first indent

Exceptionally, vessels intended to contain an unstable gas and falling within categories I or II on the basis of table 1 must be classified in category III.

• **pipings:**

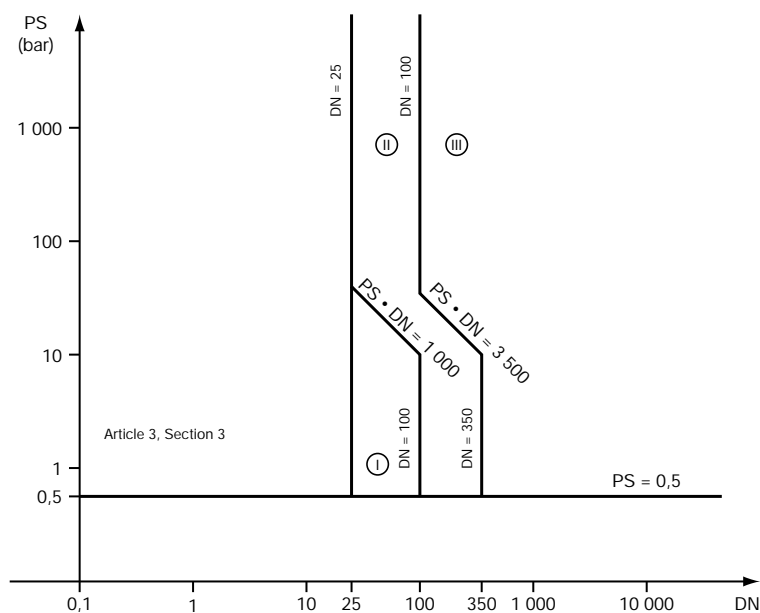
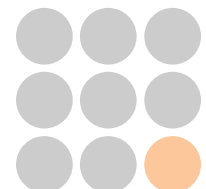


table 6

Piping referred to in Article 3, Section 1.3 (a), first indent

Exceptionally, piping intended for unstable gases and falling within categories I or II on the basis of table 6 must be classified in category III.



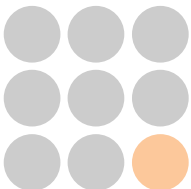


- **pressure accessories** are either classified by their volume, like vessels (see above), or by their nominal size, like piping (see above). **If volume and nominal size are both possible, the higher category, if any, applies** (Annex II, No. 3).
 - **safety accessories come under category IV** (Annex II, No. 2, sentence 1). Lower classification is possible in principle, if the pressure equipment to be protected can be specified exactly and an alternative use can be ruled out (Annex II, No. 2, sentence 2 in combination with the above determination of purpose). Generally these conditions do not apply in the gas industry.
6. Following the above classification, **design and manufacture** on the basis of hazard analysis in accordance with Annex I of the EC Pressure Equipment Directive can start, whereby the classification needs to be verified by the hazard analysis, and the **conformity assessment** can be performed in accordance with Annex III of the EC Pres-

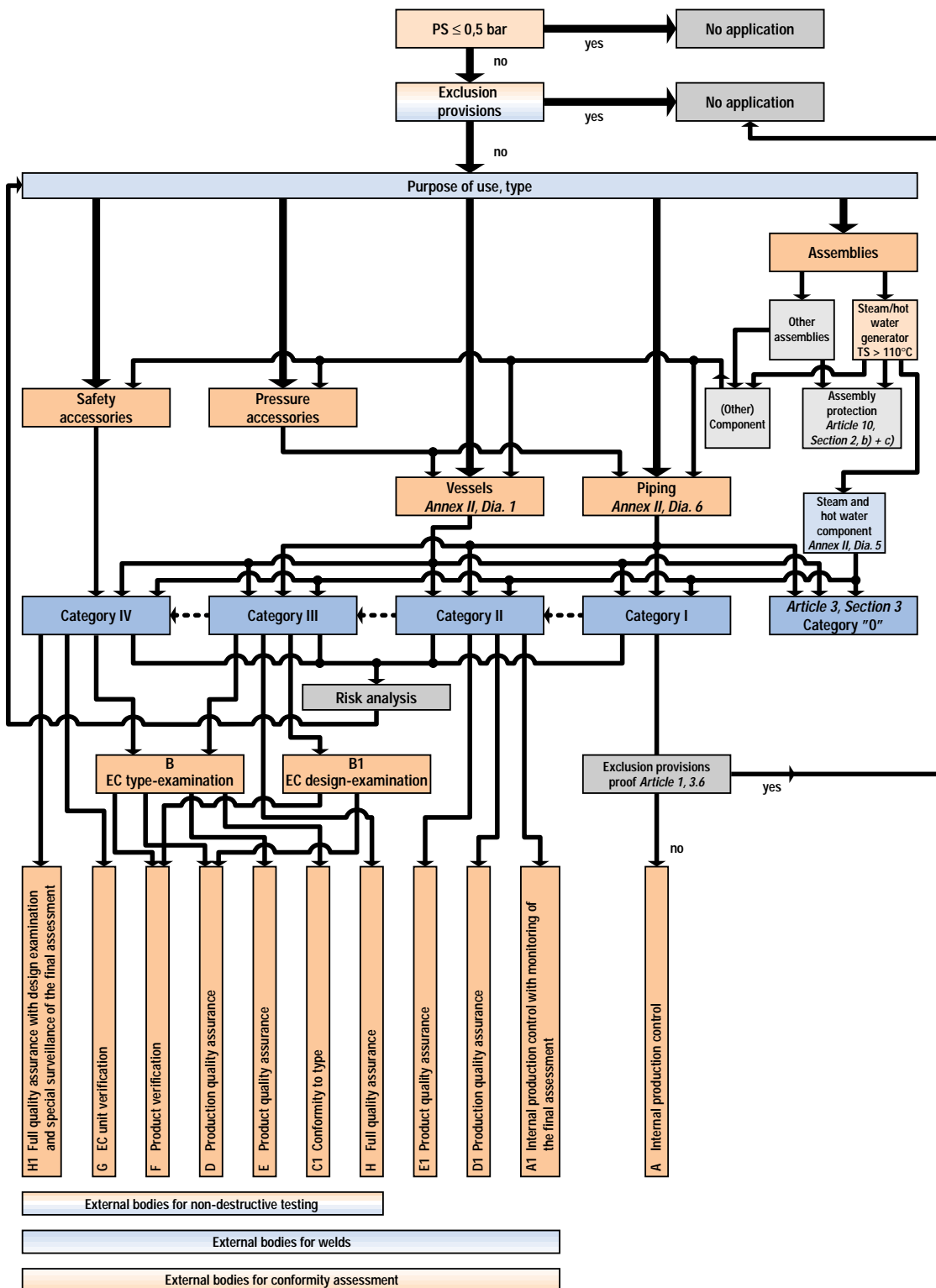
sure Equipment Directive, unless one of the two following cases applies:

- a. For pressure equipment which does not come in any of the categories I-IV, although it has a maximum allowable pressure greater than 0.5 bar, CE marking based on the EC Pressure Equipment Directive is precluded (Article 3, Section 3).
- b. For pressure equipment coming in category I which is simultaneously covered by another technical EC harmonisation directive (gas appliances, machinery etc.) the EC Pressure Equipment Directive is irrelevant (Article 1, No. 3.6).

This completes the determination of the kind of pressure equipment and category of conformity assessment. The other tables for determining the category of pressure equipment, which are relatively atypical in the gas industry, are given in Annex 1 of this Certification Information. The following flow chart illustrates the above steps.



Flow chart for classification and conformity assessment



Conformity assessment through the DVGW

In addition to the EC Gas Appliance and the EC Boiler Efficiency Directives, the DVGW is accredited by the Central Office of the Länder for Safety Engineering (Zentralstelle der Länder für Sicherheitstechnik ZLS) according to the standards series EN 45.000 and officially notified by the Federal Government of Germany for all modules and equipment under the EC Pressure Equipment Directive. The **DVGW** is accordingly a **notified body within the meaning of the EC Pressure Equipment Directive**.

The application of the EC Pressure Equipment Directive in the individual case needs to be carefully examined and specified, in particular where relevant harmonised standards are not yet available. **Annex 2 of this Certification Information provides some essential guidance**. With its certification body and test laboratories the DVGW is happy to assist on all issues of conformity assessment to the EC Pressure Equipment Directive. Taking into account some peculiarities, most procedures of the EC Pressure Equipment Directive correspond with the procedures of the EC Gas Appliance Directive. **The basis for involving the DVGW in the conformity assessment are the relevant Rules of Procedures of the DVGW Certification body**.

If a conformity assessment procedure covers **two independent modules**, two different notified bodies can be commissioned for these. If an application to the DVGW Certification Body covers both modules, the respective tests can equally be done by two different DVGW Test Laboratories (see below Flow chart for conformity assessment through the DVGW).

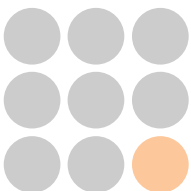
The technical documentation to be submitted needs to cover **evidence relating to materials** (Annex I, No. 4) **as well as permant joints and non-destructive testing** (Annex I, Nos. 3.1.2/3), if relevant.

In deviation from the EC Gas Appliance Directive the EC type-examination certificate according to the EC Pressure Equipment Directive is valid for **10 years** (with possible extension) and the content of the **EC declaration of conformity** is prescribed (Annex VII).

Formal **quality assurance** systems are only required within the framework of modules D/D1, E/E1 and H/H1. If no extended application is filed, quality assurance is assessed, approved and monitored exclusively in accordance with the provisions of the Directive. The DVGW Certification Body does, however, recommend generally the introduction of internationally recognised quality management systems to **DIN EN ISO 9000 et seq.** and offers certification and monitoring for these.

When assessing and auditing quality assurance/management systems, the DVGW Certification Body takes into account already existing and up-to-date certificates (from recognised organizations) and the monitoring associated with these. This entitles manufacturers to use the identification number 0085 of DVGW with reduced expenses. Concerning product-related tests, already existing, up-to-date certificates and test reports of DVGW are taken into account as far as the relevant requirements are covered.

Examinations and certifications are basically procedures with undetermined results. **To avoid procedural imponderables as far as possible, it is advisable to file the application first with the DVGW Certification Body and clarify unresolved issues in a binding way, particularly regarding the applicability of the EC Pressure Equipment Directive and test specifications, prior to actual testing in a mutual agreement among the manufacturer, DVGW Certification Body and DVGW Test Laboratory.**



Product identification number and (DIN) DVGW test mark

All EC examination certificates issued by the DVGW Certification Body bear a **product identification number** that the manufacturer may use alongside his markings similar to the previously applied (DIN) DVGW test mark and registration number. It consists of the letters CE, DVGW's identification number, two letters representing the year of issue and a unique serial number within this year (e.g. **CE-0085AB1234**). A registration certificate with product identification number is also issued for module A1 and, on request, for other modules of the production control phase, if DVGW is involved only there.

All previous (DIN) DVGW certificates remain valid until their given expiry dates. An (automatic) replacement by EC type-examination certificates according to the EC Pressure Equipment Directive or withdrawal after 29 May 2002 will not take place. Carrying out conformity assessment procedures according to the EC Pressure Equipment Directive is basically unassociated with the previous procedures for issuing and monitoring (DIN) DVGW test marks.

Also within the framework of the EC Pressure Equipment Directive, the DVGW continues to test and certify, where possible, on the basis of DVGW's standards and codes of practice (in particular the relevant DIN/EN standards) **and cites the applied test specifications in the EC type-examination certificates. However, the content of the CE marking**, primarily aimed at the authorities responsible for market surveillance, **is not accessible for the user**, except for its very abstract message that all relevant EC Directives have been observed. **For this reason, the (DIN) DVGW test mark continues to be available for all interested manufacturers** who wish to demonstrate compliance with DVGW's standards and codes of practice on their product's markings.

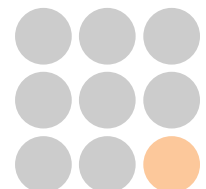
DVGW Test Laboratories

The DVGW Certification Body cooperates with the following DVGW Test Laboratories for product-related testing:

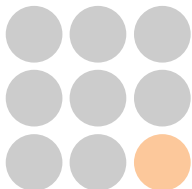
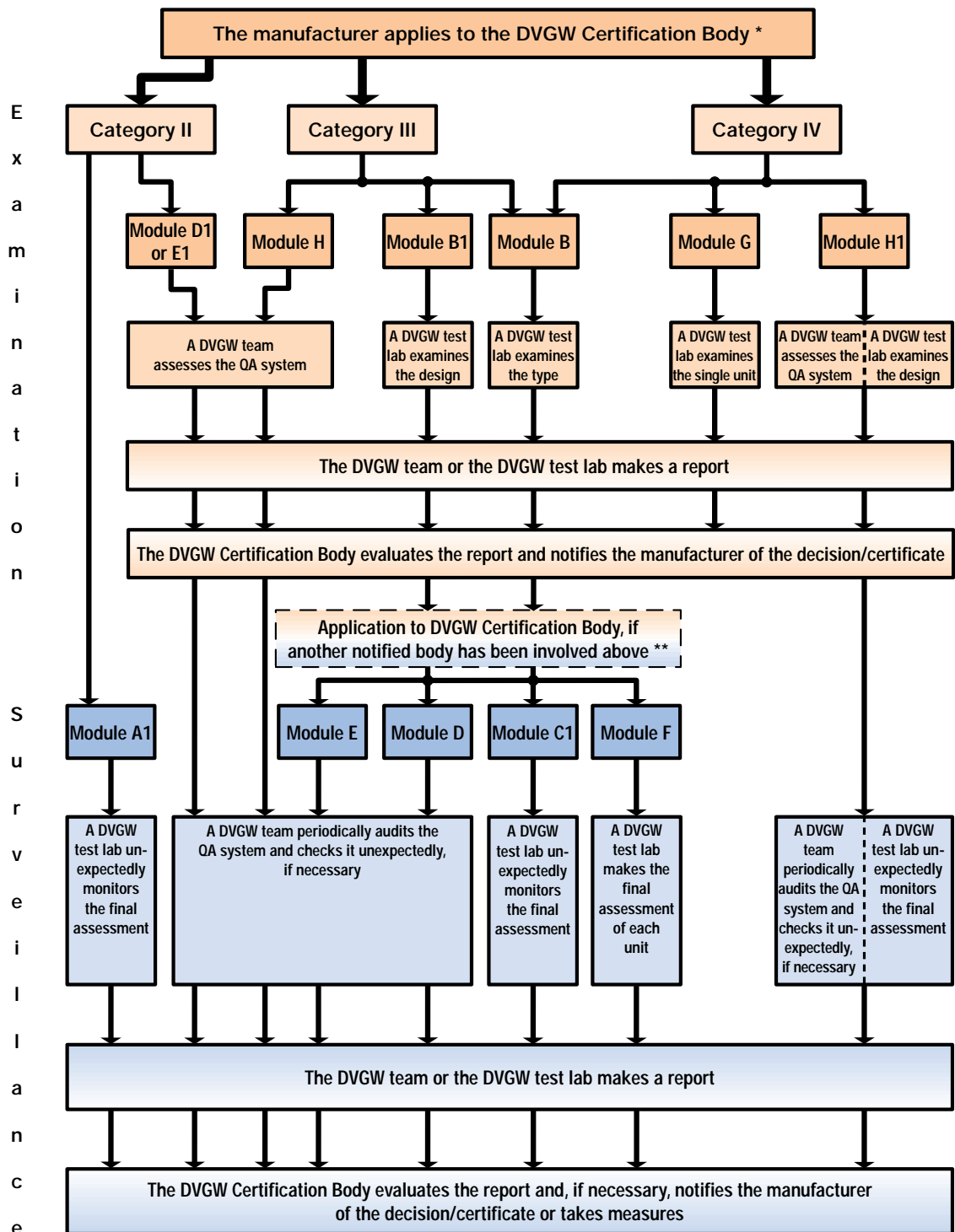
- **DVGW-Forschungsstelle, Karlsruhe**
Contact:
M. John, Phone: +49-721-96402-45,
john@dvgw-ebi.de
J. Stenger, Phone: +49-721-96402-44,
stenger@dvgw-ebi.de
- **DBI Gas- und Umwelttechnik GmbH, Leipzig**
Contact:
F. Brödner, Phone: +49-341-3010-342,
dbi.gut.l85@t-online.de
- **Gaswärme-Institut e.V., Essen**
Contact:
P. Lübke, Phone: +49-201-3618-160,
luebke@gwi-essen.de
- **TÜV Rheinland/Berlin-Brandenburg - Immissionsschutz und Energiesysteme GmbH, Köln**
Contact:
F. Rick, Phone: +49-221-806-2020,
rickf@de.tuv.com
- **TÜV Süddeutschland - Bau und Betrieb GmbH, München**
Contact:
J. Steiglechner, Phone: +49-89-5190-1008,
johannes.steiglechner@tuevs.de

Further reading

- For a **basic introduction** see:
van Rienen, W.; Wasser, U.: EG-Recht der Gas- und Wasserversorgungstechnik, Wirtschafts- und Verlagsgesellschaft Gas und Wasser mbH, Bonn 1999.
- A **detailed commentary on critical issues of interpretation** is given in:
Büschel, K.; John, M.; Wasser, U.: Applying the EC Pressure Equipment Directive in the Gas Industry, gwf-Gas/Erdgas 141 (2000) No. 2.



Flow chart for conformity assessment through the DVGW



Annex 2, Components for gas supply and utilisation within the scope of the EC Pressure Equipment Directive

For the products listed below (subject to change!) as well as assemblies made from them the **applicability** of the EC Pressure Equipment Directive – for “pressure accessories”, “vessels” and “piping” only if certain limits are exceeded (see above or Annex II) – is assumed. The application is mandatory (subject to a transitional period, see above General), unless an exclusion provision prevails.

DVGW's standards and codes of practice (including the relevant DIN/EN standards) are used as detailed **test specifications**, if possible. Other test specifications may be used after consultation.

For gas appliances and their fittings that also fall under the EC Pressure Equipment Directive these test specifications include in particular those standards that are already used routinely within the framework of the EC Gas Appliance Directive (see <http://europa.eu.int/comm/enterprise/newapproach/standardization/harmstds/reflist/appligas.html> as well as the lists pertaining to the 7th GSGV published in the Bundesanzeiger and the Bundesarbeitsblatt; concerning the development in standardization see <http://www.cenorm.be/sectors/gas.htm>).

For components used in gas supply (without gas appliances) the relevant test specifications can be found in **DIN 30690-2** (the references given there are subject to change, see also <http://www.wvgw.de> or <http://www.dvgw.de>; DIN 334 replaces DIN 3380 for gas pressure regulators up to 100 bar; for an up-to-date list of harmonised standards under the EC Pressure Equipment Directive see <http://europa.eu.int/comm/enterprise/newapproach/standardization/harmstds/reflist/equippre.html>; concerning the development in standardization see <http://www.cenorm.be/sectors/pressure.htm>).

Several general guidelines as well as other information on the EC Pressure Equipment Di-

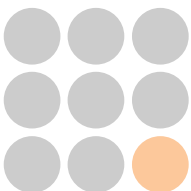
rective can be found in <http://ped.eurodyn.com>, bearing in mind that these guidelines are neither binding nor covering each individual case.

For both safety accessories and pressure accessories, the integrity and performance of internal components (internal tightness, movability of parts, durability etc.) **are considered essential for the control and containment of the pressure risk** (comprehensive protection of downstream equipment) and will therefore be subjected to the conformity assessment according to the relevant test specifications. This does not cover the metrological characteristics of gas meters.

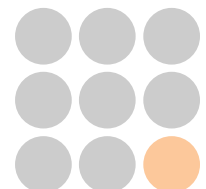
Items of pressure equipment, in particular (pressure or safety) accessories, can consist of individual components, **whose classification of pressure equipment is disputable**, that, nonetheless, can be placed on the market separately (e.g. pressure or temperature sensors or burners that may have an essential function within a pressure safety system). Upon request of the manufacturer, EC examination certificates can be issued for such components, too, with a reservation relating to CE marking under the EC Pressure Equipment Directive.

Similarly, if a model range does not fall under the EC Pressure Equipment Directive completely (as may be the case for the smaller sizes of a valve), the EC examination certificate will cover the whole range, if requested by the manufacturer.

Unless specified otherwise by the manufacturer, it is assumed that the equipment under consideration is intended for use with the **gases from public networks** (DVGW Code of Practice G 260-1/2; see also EN 437). If **other fluids** (e.g. biogases, gases from purification plants or the chemical industry) need to be considered as well, this should be clarified in due time when filing the application.

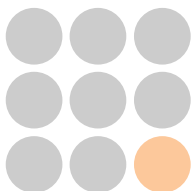


Product code	Product group/Product type
22 2220	<p>Non-industrial commercial appliances</p> <p>Pressure cooking appliance (table 5)</p>
25 2502 2505 2510 2511 2530 2540 2560	<p>Industrial appliances and accessories</p> <p>Steam generator > 110 °C (table 5) The following components are covered by the EC Pressure Equipment Directive, only if regarding super-heated water or steam (tripping) temperatures can exceed 110 °C. They will be classified as PA or SA, where applicable; SA only if there is a relevant pressure or temperature limiting function.</p> <p>Industrial burner for heating processes (PA or SA) Automatic burner control for burning processes (SA) Control for burning processes (SA) Burner control (SA) Tightness control (PA or SA) Fuel/air ratio control (PA or SA)</p>
31/32/35	<p>Boilers and burners</p> <p>Boilers and burners are covered by the EC Pressure Equipment Directive in addition to the EC Gas Appliance Directive, only if regarding super-heated water or steam (tripping) temperatures can exceed 110 °C. Burners will be classified as PA or SA, where applicable; SA only if there is a relevant pressure or temperature limiting function.</p>
41 4101 4102 4103 4104 4105 4107 4110 4112 4115 4117 4121 4122 4123 4124 4125 4126 4128 4130 4131	<p>Fittings for gas appliances</p> <p>The following fittings are covered by the EC Pressure Equipment Directive in addition to the EC Gas Appliance Directive, only if regarding super-heated water or steam (tripping) temperatures can exceed 110 °C. They will be classified as PA or SA, where applicable; SA only if there is a relevant pressure or temperature limiting function.</p> <p>Governor for natural gas and all-gas (SA) Governor for LPG (SA) Functional control (PA or SA) Multi-functional control (SA) Control, thermally operated (PA or SA) Pressure monitor for gas, air and flue gas ≤ 4 bar (PA or SA) Shut-off valve, manually operated (PA) Temperature monitor/limiter/control, mechanical (PA or SA) Tightness control (SA) Filter (PA) Thermally triggered shut-off device (SA) Speed monitor (SA) Fuel/air ratio control, mechanical (PA or SA) Fuel/air ratio control, pneumatic (PA or SA) Fuel/air ratio control, electronic (PA or SA) Control, automatic, with regulating function (PA or SA) Shut-off valve, automatic, without regulating function (SA) Automatic burner control unit (SA) Flame monitor (SA)</p>





Product code	Product group/Product type
<p><i>Note on classification:</i></p> <ul style="list-style-type: none"> • according to the tables in Annex II of the EC Pressure Equipment Directive, see above • SA: safety accessory, category IV • PA: pressure accessory, table 1 or 6 <p><i>In case of doubt, pressure accessories are classified according to both tables 1 and 6; the higher category, if any, prevails.</i></p>	
<p>43</p> <p>4301</p> <p>4302</p> <p>4303</p> <p>4304</p> <p>4305</p> <p>4306</p> <p>4307</p> <p>4308</p> <p>4309</p> <p>4310</p> <p>4311</p> <p>4312</p> <p>4313</p> <p>4314</p> <p>4315</p> <p>4316</p> <p>4320</p> <p>4321</p> <p>4322</p> <p>4323</p> <p>4324</p> <p>4330</p> <p>4331</p> <p>4339</p> <p>4340</p> <p>4341</p> <p>4346</p> <p>4347</p> <p>4348</p> <p>4349</p> <p>4360</p> <p>4375</p> <p>4390</p> <p>4391</p> <p>4392</p> <p>4393</p> <p>4394</p> <p>4396</p> <p>4397</p>	<p>Valves for gas installation and supply systems</p> <p>Pressure regulator for natural gas and all-gas (SA)</p> <p>Pressure regulator for LPG (SA)</p> <p>Safety shut-off device for natural gas and all-gas (SA)</p> <p>Safety shut-off device for LPG (SA)</p> <p>Safety relief device for natural gas and all-gas (SA)</p> <p>Safety relief device for LPG (SA)</p> <p>Shut-off valve, magnetic, motor operated (SA)</p> <p>Pressure regulator with safety shut-off device for natural gas (SA)</p> <p>Pressure regulator with safety shut-off device for LPG (SA)</p> <p>Shut-off valve (PA)</p> <p>Shut-off valve for LPG (PA)</p> <p>Shut-off valve for gas installation \leq PN 4 or MOP 5 (PA)</p> <p>Shut-off valve for local gas distribution $>$ PN 4, \leq PN 16 (PA)</p> <p>Shut-off valve for gas transmission $>$ PN 16 (PA)</p> <p>Shut-off valve for manometers (PA)</p> <p>Multi-way ball valve (PA)</p> <p>Switch valve for LPG (PA)</p> <p>Cylinder regulator for LPG (SA)</p> <p>Regulator, two-step (SA)</p> <p>Regulator for LPG, high temperature resistant (SA)</p> <p>Leakage control for LPG (SA)</p> <p>Domestic regulator for natural gas (SA)</p> <p>Domestic regulator for LPG (SA)</p> <p>Thermically triggered shut-off device, high temperature resistant (SA)</p> <p>Thermically triggered shut-off device (SA)</p> <p>Valve combined with thermically triggered shut-off device (SA)</p> <p>Pressure monitor for gas, air and flue gas \leq 4 bar (SA)</p> <p>Pressure monitor for gas, air and flue gas $>$ 4 bar (SA)</p> <p>Pressure sensor (if SA)</p> <p>Temperature sensor (if SA)</p> <p>Flue gas flow monitor (SA)</p> <p>Buried vessel-type gas pressure regulating station (SA)</p> <p>Gas back flow safety device (SA)</p> <p>Shut-off valve, manually operated with regulating function (PA or SA)</p> <p>Shut-off valve, manually operated (PA)</p> <p>Shut-off valve, manually operated without regulating function (PA)</p> <p>HDPE shut-off valve (PA)</p> <p>Actuator, automatic with regulating function (SA)</p> <p>Multi-functional control (SA)</p>



Product code	Product group/Product type
45 4501 4502 4503 4504 4505 4506 4507 4508 4509 4510 4511 4513 4515 4517 4550 4561 4571 4572	Pipework components and accessories <i>Note on classification:</i> <ul style="list-style-type: none"> • according to the tables in Annex II of the EC Pressure Equipment Directive, see above • SA: safety accessory, category IV • PA: pressure accessory, table 1 or 6 <i>In case of doubt, pressure accessories are classified according to both tables 1 and 6; the higher category, if any, prevails.</i> Filter for indoor gas pipework (PA) Pipe connection (table 6) Pipe connection, movable, buried (table 6) Steel/rubber bellows compensator (PA) Filter for stations (PA) Isolating joint (table 6) Compression connection metal/HDPE (table 6) Transition joint metal/HDPE (table 6) Pipe cap (table 6) Tapping valve for metallic pipes (PA) Tapping valve for HDPE pipes (PA) Test coupling (PA) Protection device for pressure gauge (SA) Small filter for pilot pipes (PA) Compression joint for metallic gas pipes (table 6) Fitting (table 6) Silencer (PA) Oil/gas separator (PA)
47	Gas meter/volumetric flow measurement devices (PA)
53 5305 5380	Components for gas transmission systems Gas preheater (PA) Condensate trap (PA)
54 5405	CNG/LNG/LPG components LPG vaporiser (PA)

