**“TECHNICAL SPECIFICATION FOR EVALUATION, SUPPLY AND TESTING”**

**S.T.V.F.C. 9994300**

Flow partition system on pressure reduction systems

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# PRELIMINARY INFORMATION

## Cancels and replaces

This specification cancels and replaces Technical Specification 9994300, edition 1, dated 30.05.2013 "Flow partition system on pressure reduction systems".

## Reason for issue

The update of the Technical Specification 9994300 was required as a result of:

1. New legislative context;
2. issuing of new national and European standards (e.g. UNI, CEI, EN, etc.);
3. updating of Supply and Testing Criteria.

## Company departments mentioned in the document

* + - * PROMA-CMMAT = Material Management
      * SERTEC-NORM = Standard

## Definitions

*Cabinet:*

Containment building of reduced size with free ventilation openings, designed to contain the equipment of the flow partition system, easily accessible and installable inside the relevant buildings of the WRMP, IRP and FRU reduction plants.

*Thermal plant:*

Thermal plant for the production of hot water by means of thermal generators (boilers), intended for pre-heating the gas supplied by the reduction plant (e.g. WRMP, IRP), obtained by heat exchange in shell-and-tube heat exchangers installed on each individual reduction line.

*FRU:*

Final Reduction Unit, installed on gas distribution network, with downstream pressure <0.04 bar.

*Reduction unit:*

An assembled set of pressure regulators, safety devices, auxiliary equipment, special parts and pipes connecting them), having the essential function of decompressing a ducted gas from a variable upstream pressure to a regulated downstream pressure at a fixed value.

*Reduction plant:*

Assembly consisting of a reduction unit and related housing.

*WRMP:*

Methane Gas Withdrawal, Reduction and Metering Plants from transport pipeline, with or without accessory thermal plant.

*IRP:*

Intermediate Reduction Plant, installed on gas distribution network, with downstream pressure >0.04 bar, with or without accessory thermal plant.

NOTE: a comparable IRP is understood to be a system which, depending on the delivery flow rate, the geometrical dimensions and dimensions of the housing (e.g. brick) and the possible presence of a thermal gas preheating system, may be similar to a WRMP.

Or, if small and housed in a metal cabinet, similar to an FRU.

*Reduction line:*

An assembled set of the pressure regulator, safety devices, auxiliary equipment (pilots, pressure intakes), special parts and connecting pipes between the shut-off devices located upstream and downstream of the regulating equipment (the latter included).

*Delivery flow rate:*

Maximum flow rate to be ensured by the reduction unit at predetermined supply pressure values.

*Nominal flow rate of the plant:*

Delivery flow rate of the reduction system/unit at nominal design pressure, with the required control pressure.

*Motorisation pressure:*

Regulated pressure that the pilot group of the reduction line must ensure so as to power the regulators and ensure that the flow rates for which the system/unit has been sized are guaranteed under all conditions.

*Required regulation pressure:*

Regulated pressure which the reduction unit, operating within the required range of inlet pressure variation, must provide downstream with the required accuracy class.

*Maximum inlet operating pressure (OPmax):*

Maximum pressure upstream of the system on which the flow partition system can be installed, in the range of 0.5 ÷ 75 bar.

*Flow partition system:*

Automatic auxiliary system that controls and regulates the flow rate delivered by the system/unit, by means of flow partition on the decompression lines present, while maintaining the regulated downstream pressure at predetermined values.

# PURPOSE AND FIELD OF APPLICATION

## Purpose

To define the technical characteristics, the accompanying documentation, the criteria for supply and testing, and the procedures for carrying out the technical inspections to be performed for the approval for company use of flow partition systems of the delivery flow rate from WRMP, IRP and FRU type reduction plants.

## Field of application

This technical specification applies whenever material covered by this specification must be authorised for company use, produced by a new potential Supplier or by an existing one.

The flow partition system must be suitable for installation on any type of reduction plant managed by Italgas Reti, such as WRMP, IRP and FRU, provided they are equipped with pilot-type pressure reducers-regulators.

# SPECIFICATIONS

1. These technical specifications must be understood as an integral part of the "ASSESSMENT AND QUALIFICATION SYSTEM FOR SUPPLIERS OF ITALGAS."
2. This specification contains the **minimum** technical requirements demanded by Italgas Reti based on the reference Legislative and Technical Standards.
3. It is the Supplier's responsibility to ensure that the products supplied fully comply with the provisions of this technical specification and the applicable standards.
4. if the products in question are supplied by an installer, the installer must document their compliance as required under “Documentation required from the Supplier”.
5. It is the Supplier's responsibility, during the product design, production and control process, to verify that there are no construction faults in the finished products (e.g. sharp edges, incorrect directions for use and maintenance, etc.), which may jeopardise the health and safety of the Client's workers in relation to the provisions of Legislative Decree no. 81/08, as amended and supplemented.
6. For any technical and operational aspects that conflict with or are not mentioned in this technical specification but that nevertheless pertain to the design, installation, maintenance and use of the products themselves, it is the Supplier's responsibility to refer to the regulations in force.

# TECHNICAL CHARACTERISTICS

## General considerations

The construction criteria below are based on the following assumptions:

* + - * the gas and its additives, if any, are non-corrosive;
      * the system is subjected to stresses due to gas pressure and the effect of temperature variation;
      * the gas design temperature is between –10°C and +50°C.

The system must be suitable for installation on any type of pressure reduction plant/unit managed by Italgas Reti, such as WRMP, IRP and FRU using piloted pressure reducers, even for the sole purpose of noise reduction.

The functioning of the system must be guaranteed under all operating conditions to which the Pressure Reducing Systems/Units are subjected, in all climatic conditions.

The aim of the system is to control and regulate the flow delivered by the decompression systems, by means of flow partition on all the decompression lines present and management of the thermal plant, which is expressly dependent on the type of system it is installed in.

In particular:

* + - * For plants with an associated thermal plant (e.g. WRMP and IRP):
* optimisation of the preheating process of the delivered gas, through the partition of the gas flow over all the decompression lines installed, with a consequent reduction in the specific consumption of methane used for preheating;
* Reduction of the noise produced by the system during pressure regulation.
  + - * For plants without an associated thermal plant, such as WRMP (e.g. with upstream P < 12 bar), IRP and FRU:
* Partition of the gas flow over all the decompression lines installed and for FRUs a possible increase of the available delivery capacity over the entire system;
* Reduction of the noise produced by the system during pressure regulation.

Notes referring to the types of installations which the System can be installed on are provided below.

A limitation of the line flow rate or of the Plant/Unit may also be requested.

## WRMP and similar IRPs

The partition and control system of the flow delivered must operate autonomously and independently of the pilot function already present on the systems and, in the event of non-compliance with the plant outlet pressure, must allow overriding of the latter, allowing the system to return to operation regulated by the existing pilots on the reduction lines.

It must be designed to simultaneously ensure:

* + - * maintenance of the required regulation pressure at values compatible with the correct operation of downstream systems/equipment, with accuracy of +0.1 bar;
      * continuity of supply and, in the event of a fault, the certainty of allowing override, ensuring the correct operation of the reduction system according to the criteria and flow and pressure values originally set.

Where present, and on explicit request, the thermal plant must also regulate the temperature of the water in the thermal circuit to maintain the gas temperature at a preset value. In the event of its malfunction, determining the minimum gas temperature conditions, it must automatically allow override, allowing the boilers and/or electric-circulators to return to functioning regulated by the existing control instruments on board the same.

The system must then:

* + - * Allow the division of the flow passing through the plant by means of a system proportionally dividing the flow delivered by the plant over all the pressure reduction lines present, at the preset delivery pressure;
      * Ensure the control and/or regulation of instantaneous flow management even at minimum values, to be determined according to the plant characteristics.
      * Alternatively, the system must allow override of its functions when a preset minimum plant flow value is reached (e.g. 20% of the preset maximum system flow) and, when flow conditions greater than the preset minimum flow are restored, resume control and flow partition.
      * Allow the management, where required, of the thermal plant to optimise the water temperature in the pre-heating circuit and thereby ensure a gas temperature within the preset parameters following the pressure reduction, with a minimum gas temperature of 5°C and regulation accuracy of at least +2°C.
      * The management of the thermal plant can be automated by applying systems (e.g. PLC type) that measure the physical quantities (e.g. pressure, temperature, flow rate, etc.) of the delivered gas and the water in the thermal pre-heating circuit in the field.
      * Allow the reduction of noise emissions from the reduction plant.
      * Where required, interfacing with Italgas Reti's IT systems, which allow monitoring of the set parameters, the physical values measured and the operation of all the equipment making up both the flow partition and thermal plant management system, by means of data transmission via GPRS and specific digital protocol.

Each flow partition plant for WRMP and IRP must:

* + - * Be designed and constructed with materials suitable to withstand the maximum operating pressure for each type of reduction plant on which it may be installed.
      * In particular:
* In ANSI 600 class for pressures above 24 bar and up to 75 bar;
* In class at least ANSI 300 for pressures greater than 5 bar and less than or equal to 24 bar;
* In ANSI 150 class up to 5 bar.

where the resistance class is to be defined on a case-by-case basis in relation to the MOP value of the pipe which the system feeds into;

* + - * Function correctly, guaranteeing the regulated pressure and flow required in relation to predetermined supply pressure values within the range 0.5 ÷ 75 bar (relative);
      * Be fitted with equipment with features that automatically prevent the uncontrolled increase of the motorisation pressure at the regulators of the reduction lines (possibly also a second motorisation pressure control device or blocking device); in particular, the components that control the maintenance of the motorisation pressure must comply with the applicable standards.

The pressure equipment, together with the shut-off valves provided on the system, must be of an approved type and comply with the applicable Directives (e.g. PED Directive 2014/68/EU). In particular, they must comply with the requirements laid down in Directives 2014/34/EU and 1999/92/EC, or specify any exclusions by means of a special "ATEX Declaration" of exclusion (see example in APPENDIX 2).

In any case, they must have construction characteristics such that they can be installed in ZONE 1 classified environments.

In the case of a flow partition system operating with an electric power supply, the continuity of parameter regulation for at least 2 hours must be guaranteed, with subsequent self-override. Any system with electric power supply must have documentation of compliance for installation in areas classified with explosion hazard (ATEX) in ZONE 1.

### Electrical installations

* + - * The Supplier must prepare the executive project of the installation in accordance with the provisions of Ministerial Decree no. 37 of 22 January 2008 and subsequent updates. The project documentation must include the relevant provisions of the CEI 0-2 Guide on electrical installations;
      * Electrical installations in explosion hazard areas must be implemented "to standard" in accordance with the requirements of current legislation to ensure the safety of persons and property under reasonably foreseeable conditions. In addition, they must be manufactured in accordance with CEI EN 60079-14 (CEI 31-33) and the relevant equipment and protection systems must comply with Legislative Decree no. 85 of 19 May 2016;
      * The characteristics of the materials used and their positioning must therefore take into account the findings of the hazardous location classification document, in addition to the constraints imposed by the site-specific environmental conditions;
      * Any circuits extending within hazardous zones, e.g. relating to field instrumentation for controlling the variables involved in the process, must have characteristics suitable for the type of classified hazardous zone ATEX (zone 0, 1, 2);
      * The housing/cabinet containing the equipment and/or electrical circuits constituting the system should preferably be placed inside the building in a non-hazardous location. Alternatively, it may be located outside the premises, in a non-hazardous location, adjacent to a wall of the building itself, placed inside a cabinet made of insulating material with a minimum IP 44 protection rating (in this case, installation must be on site, when the building is already in place). Protection against external overvoltages must be provided by using suitable surge protective devices (SPDs);
      * The scope of supply of the flow partition and thermal plant system includes the supply and laying of ducts connecting the electricity and telephone supply lines to the cabinet;
      * The possibility of powering the plant by means of photovoltaic panels must also be envisaged; the manner of realisation is to be agreed upon with the Client;
      * On completion of the installation work and strictly prior to the commissioning of the systems, the Supplier shall issue all the documentation required by current legislation (e.g. material certificates, documents describing intrinsically safe systems, etc.).

### Shut-off valves

The gas supply and connection circuits of the flow partition system to the reduction plant must be interceptable and disconnectable by means of ball valves, so that all individual monitoring and maintenance operations can be carried out.

Shut-off valves must be:

* + - * Valves complying with UNI 9734 with flanged connections or via threaded connections according to UNI EN 10226 (former-ISO 7/1);
      * Ball obturator;
      * Resistance class: compatible with operating pressure;
      * Body and internal parts in carbon steel with characteristics not inferior to P265GH UNI EN 10028-2 or equivalent.

### Hydraulic connection circuits

The connecting circuits between the equipment constituting the supplied system and/or connecting the supplied system to the equipment already existing on the pressure reduction plant must be made of stainless steel and may be connected to each other by means of hermetic line joints with metal sealing elements.

## FRUs and similar IRPs

The partition and control system of the flow delivered must operate autonomously and independently of the pilot function already present on the systems and, in the event of non-compliance with the plant outlet pressure, must allow overriding of the latter, allowing the system to return to operation regulated by the existing pilots on the reduction lines.

It must be designed to simultaneously ensure:

* + - * Maintenance of the required regulation pressure at values compatible with the correct operation of downstream systems/equipment, with accuracy of +5 % of such regulation pressure;
      * Continuity of supply and, in the event of a fault, the certainty of allowing override, ensuring the correct operation of the reduction system according to the criteria and flow and pressure values originally set.

The system must then:

* + - * Allow the division of the flow passing through the plant by means of a system proportionally dividing the flow delivered by the plant among all the pressure reduction lines present, at the preset regulation pressure;
      * Ensure the control and/or regulation of the instantaneous flow even at minimum values, to be determined according to the plant characteristics.
      * Alternatively, the system must allow override of its functions when a preset minimum plant flow value is reached (e.g. 20% of the preset maximum system flow) and, when flow conditions greater than the preset minimum flow are restored, resume control and flow partition.
      * Allow the reduction of noise emissions from the reduction plant.

Each flow partition plant for FRU and IRP must:

* + - * Be designed and constructed with materials suitable to withstand the maximum operating pressure, class NP 16 / ANSI 150;
      * Function correctly, guaranteeing the regulated pressure and flow required in relation to predetermined supply pressure values within the range 0.5 ÷ 12 bar (relative);
      * Be fitted with equipment with features that automatically prevent the uncontrolled increase of the motorisation pressure at the regulators of the reduction lines (possibly also a second motorisation pressure control device or blocking device); in particular, the components that control the maintenance of the motorisation pressure must comply with the applicable standards;
      * In the event of abnormal variations in the parameters under control, the system must go into override; in this case, the reduction plant must be able to return to normal operation.

The pressure equipment, together with the shut-off valves provided on the system, must be of an approved type and comply with the applicable Directives (e.g. PED Directive 2014/68/EU). In particular, they must comply with the requirements laid down in Directives 2014/34/EU and 1999/92/EC, or specify any exclusions by means of a special "ATEX Declaration" of exclusion (see example in APPENDIX 2).

In any case, they must have construction characteristics such that they can be installed in ZONE 1 classified environments.

In the case of a flow partition system operating with an electric power supply, the continuity of parameter regulation for at least 2 hours must be guaranteed, with subsequent self-override. Any system with electric power supply must have documentation of compliance for installation in areas classified with explosion hazard (ATEX) in ZONE 1.

### Electrical installations

In the event that the flow partition system for FRUs and similar IRPs is electrically powered, the following must be observed:

* + - * The Supplier must prepare the executive project of the installation in accordance with the provisions of Ministerial Decree no. 37 of 22 January 2008 and subsequent updates. The project documentation must include the relevant provisions of the CEI 0-2 Guide on electrical installations;
      * Electrical installations in explosion hazard areas must be implemented "to standard" in accordance with the requirements of current legislation to ensure the safety of persons and property under reasonably foreseeable conditions. In addition, they must be manufactured in accordance with CEI EN 60079-14 (CEI 31-33) and the relevant equipment and protection systems must comply with Legislative Decree no. 85 of 19 May 2016;
      * The characteristics of the materials used and their positioning must therefore take into account the findings of the hazardous location classification document, in addition to the constraints imposed by the site-specific environmental conditions;
      * Any circuits extending within hazardous zones, e.g. relating to field instrumentation for controlling the variables involved in the process, must have characteristics suitable for the type of hazardous zone (0, 1 or 2);
      * The housing/cabinet containing the equipment and/or electrical circuits constituting the system should preferably be placed inside the building in a non-hazardous location. Alternatively, it may be located outside the premises, in a non-hazardous location, adjacent to a wall of the building itself, placed inside a cabinet made of insulating material with a minimum IP 44 protection rating (in this case, installation must be on site, when the building is already in place). Protection against external overvoltages must be provided by using suitable surge protective devices (SPDs);
      * The scope of supply of the flow partition and thermal plant system includes the supply and laying of ducts connecting the electricity and telephone supply lines to the cabinet;
      * The possibility of powering the plant by means of photovoltaic panels must also be envisaged; the manner of realisation is to be agreed upon with the Client;
      * On completion of the installation work and strictly prior to the commissioning of the systems, the Supplier shall issue all the documentation required by current legislation (e.g. material certificates, documents describing intrinsically safe systems, etc.).

### Shut-off valves

The gas supply and connection circuits of the flow partition system to the reduction plant must be interceptable and disconnectable by means of ball valves, so that all individual monitoring and maintenance operations can be carried out.

Shut-off valves must be:

* + - * Valves complying with UNI 9734 with flanged connections or via threaded connections according to UNI EN 10226 (former-ISO 7/1);
      * Ball obturator;
      * Resistance class: compatible with operating pressure;
      * Body and internal parts in carbon steel with characteristics not inferior to P265GH UNI EN 10028-2 or equivalent.

### Hydraulic connection circuits

The hydraulic connection circuits between the equipment constituting the supplied system and/or connecting the supplied system to the equipment already existing on the pressure reduction plant must be made of stainless steel and may be connected to each other by means of hermetic line joints with metal sealing elements.

## Technical assessment

In relation to Legislative Decree 81/08, as amended and supplemented, Italgas Reti reserves the right, in its evaluation of the use of the proposed products, to consider the operational consequences deriving from the conditions of use of the equipment as prescribed by the Supplier in the "Use and Maintenance Manual".

# Marking

## System Identification

An identification plate must be affixed to each "Flow partition system" in a position which is easy to identify and read, indicating:

* + - * Type of Plant (Supplier's ref.);
      * Maximum upstream operating pressure;
      * Maximum downstream operating pressure;
      * Year of construction;
      * Weight in kg;
      * Serial number or other data identifying the flow partition system.

## Identification of equipment composing the System

Similarly, on each main piece of equipment composing the “Flow partition system” such as valves, filters, possible safety devices, regulators, pilots etc., an identification plate must be affixed containing, as a minimum requirement, the following data:

* + - * Manufacturer's name and/or trademark;
      * Type and model of equipment;
      * Year of construction;
      * Features (see Supplier's);
      * Serial number or other identifying data;
      * Pressures (max. supply, operating, flanging, etc.);
      * Nominal flow rate expressed in Sm3/h;
      * Calibration range;
      * Operating temperature range;
      * Any references for spare parts (e.g. filter cartridge, etc.).

The system must also be accompanied by a technical file containing the functional and descriptive diagram of the system, together with the user and maintenance manual required by law and, in any case, the information under points 5.1 and 5.2.

Furthermore, for equipment falling under the PED Directive 2014/68/EU (e.g. pressure reducer-regulators), in addition to the above, the provisions of subsection 3.3, letter a) of Annex I of Legislative Decree no. 93 of 25 February 2000 as amended shall apply.

# TYPE TEST

“Type tests" are to be carried out at the Manufacturer's premises or at recognised laboratories and are aimed at verifying compliance with this specification.

In particular, the following are required:

* + - * Visual and dimensional inspections of the entire unit and individual components (control devices, valves, etc.);
      * Mechanical strength tests of the main gas circuit under the installation conditions for which the system is required;
      * Functional testing of the individual reduction devices (to be carried out in accordance with the requirements of the European Standard UNI EN 334) and appliances and/or the fully assembled unit with regard to:
    - Precision and stability of regulation over the entire range of flow rates and pressures;
    - Repeated tripping tests of safety devices (where envisaged) or anything else deemed important to ensure the correct and reliable operation of the system.

Pressure reducers, pilots, safety equipment and filters may be excluded from the test, for which factory testing must be carried out in accordance with the relevant standards.

# DOCUMENTATION REQUIRED FROM THE SUPPLIER

## Supplier[[1]](#footnote-1)

The potential Supplier must be qualified as an ITALGAS Supplier and must be able to provide after sales services directly in Italy.

## Documentation for the company approval process

The potential Supplier must submit the following documentation to the SERTEC-NORM Department:

1. “Declaration of Conformity” with this technical specification and any specific documents (legislative provisions, applied standards, etc.) to which the Supplier refers for the design and construction of its appliances or equipment, in accordance with the requirements of UNI CEI EN ISO/IEC 17050-1 (see the example in APPENDIX 1 to this Technical Specification), UNI CEI EN ISO/IEC 17050-2;
2. Copy of the “EC Declaration of Conformity” relating to applicable directives (e.g. ATEX, PED, BT, EMC, etc.);
3. Copy of the "EC type inspection certificate" for appliances for which the applied directives require the intervention of a Notified Body (e.g. ATEX);
4. Copy of the Technical Specifications of the systems produced, including the certifications required by the applicable Technical Standards;
5. Type test report;
6. Product patents;
7. Manuals, in Italian, for the installation, use and maintenance of the equipment included in the supply;
8. Schematic drawings of the systems showing general dimensions and identifying characteristics of the main materials;
9. Statement certifying ownership to market the product;
10. Any list of references of the main customers using the proposed materials;
11. Any other documentation required by the relevant standards.
12. Whatever else the potential Supplier considers useful to better qualify the proposed product.

## Test Documentation

The Supplier must issue a “Type 3.1” Inspection and Material Certificate in accordance with UNI EN 10204, declaring:

* + - That the products supplied comply with the requirements of this specification as well as with the technical reference standards and legislative provisions referred to in paragraph 10 "Reference standards";
    - The success of the tests carried out in the factory for the conditions defined by the characteristics of the reduction system on which the System will be installed, according to the applicable technical standards;

Registration of the full production/test documentation completed by the Supplier must be kept (on the basis of legal provisions) for 10 years under its responsibility, and must be made available whenever requested by the Client.

## Supply Documentation

For each individual Flow partition system, on delivery, the Supplier must provide:

* + - Documents compliant with Legislative Decree no. 286 of 21 November 2005, as amended;
    - “Type 3.1” Inspection and Material Certificates in accordance with UNI EN 10204;
    - Technical dossier (Data-Book) containing at least the following documentation:
      * Use and Maintenance manual of the system;
      * Flow chart and equipment list;
      * Recommended spare parts list of equipment subject to preventive maintenance;
* Copy of the declaration of conformity and compliance with the applicable UNI standards. (e.g. UNI 9167, UNI 10619, UNI 8827).

# Tests and inspections

Italgas Reti reserves the right:

* + - * To be present with its own Inspectors and/or Inspection Companies appointed by the same to carry out tests/checks c/o your plant and at your care and expense, to check the constructive and functional compliance of the materials in accordance with the specifications and/or reference standards.
      * To verify, upon receipt and/or under actual conditions of use, the perfect compliance of the goods with the functional technical characteristics expressly indicated in the Contract.

It is understood that the favourable outcome of our inspection and checking of the materials shall not release you in any way from the responsibilities and obligations arising from each individual contract.

## Functional tests

The following functional tests must be carried out on each fully assembled system:

### Motorisation pressure calibration check

This must comply, in terms of value and flow rate, with the characteristics of the equipment installed on the individual reduction lines (pilots and regulators).

### Motorisation pressure check with zero flow

It must be correctly maintained at values that do not impair the functionality of the reduction lines.

### Motorisation pressure check with trigger of safety device (if fitted)

It must be correctly maintained at values that do not impair the functionality of the reduction lines.

## Tests

Acceptance Tests of Flow partition systems:

* + - * Visual and dimensional inspections of the entire system and individual components (reducers-regulators, pilots, valves, etc.);
      * Leak test.

The following tests/inspections must be carried out on the components:

### Dimensional inspection

In addition to the content of the construction drawing approved by Italgas Reti during the approval of the product for company use, construction and dimensional compliance must be checked.

Visual and dimensional inspections of all fully assembled systems ready for shipment must be conducted.

### Functional testing

Upon installation of the System, the Supplier must carry out the following field tests:

* + - * No leakage from joints;
      * Correct functioning of all components of the reduction line (e.g. the flow partition must not generate pendulum phenomena on the monitors);
      * Correct operation with flow rate partition over all the pressure-reducing lines with respect to the flow of gas in transit;
      * Final check of the operational stability of the pressure reduction system, following installation of the flow partition system;
      * Report any faults or anomalies.

Within six months of activation of the supplied System, if malfunctions and/or failures are ascertained, Italgas Reti has the right to request the Supplier, free of charge, to carry out a full functional check of the system, in any case in accordance with the provisions of the supply contract with particular reference to the "Warranty" clause.

## Right of the client

***It is Italgas Reti's right, for each purchase order, to request from the Supplier:***

* Further technical and/or graphic documentation,
* additional laboratory and/or field tests,

in order to verify the conformity of the proposed products with this technical specification and the cited standards to which reference is made.

# Conditions of Supply

The flow partition systems and their electrical, electromechanical and pneumatic components must be supplied assembled in appropriate housings that are suitably designed and constructed to allow and facilitate the operation of the shut-off devices as well as the inspection and general maintenance of all the equipment present, also providing for suitable fastening/anchoring systems, sized and constructed so as not to compromise the safety of service personnel.

The arrangement of the equipment must therefore be such as to allow the correct operation of the Reduction Systems/Units and their maintenance, and the assembly must be carried out up to standard. In particular, the layout of the pipes must not give rise to additional stresses on the equipment connected to them.

All electrical equipment must be designed, manufactured and installed with appropriate characteristics according to the ATEX classification of the premises of the Reduction Plant/Unit .

## Packaging

Supplier's Standard in compliance with Legislative Decree no. 152 of 3 April 2006 as amended and supplemented.

# REFERENCE STANDARDS

* + - * Legislative Decree No. 85 of 19 May 2016 - "Implementation of Directive 2014/34/EU on the harmonisation of the laws of the Member States relating to equipment and protective systems intended for use in potentially explosive atmospheres".
      * Legislative Decree No. 233 of 12 June 2003 - 'Implementation of Directive 1999/92/EC on minimum requirements for improving the safety and health protection of workers exposed to the risk of explosive atmospheres'.
      * Legislative Decree No. 93 of 25 February 2000 as subsequently amended and supplemented. - "Implementation of Directive 97/23/EC on pressure equipment and Directive 2014/68/EU on the harmonisation of the laws of the Member States relating to the making available on the market of pressure equipment (recast), providing for its repeal”.
      * Legislative Decree No. 81 of 9 April 2008 as subsequently amended and supplemented. - “Implementation of Article 1 of Law no. 123 of 3 August 2007 on the protection of health and safety in the workplace”.
      * Legislative Decree No. 152 of 3 April 2006 as subsequently amended and supplemented. “Environmental standards”.
      * Legislative Decree No. 286 of 21 November 2005 as subsequently amended and supplemented. “Provisions for the regulatory reorganisation of the regulated liberalisation of the road haulage business”.
      * Law no. 447 of 26/10/1995, as amended. - Framework law on noise pollution.
      * Ministerial Decree of 19 February 2007 - "Approval of the technical regulation on the chemical-physical characteristics and presence of other components in combustible gas to be transported".
      * Ministerial Decree of 16 April 2008 - “Technical regulations for the design, construction, testing, operation and supervision of works and distribution systems and direct lines for natural gas with a density not exceeding 0.8”.
      * UNI 9165 - “Gas distribution networks - Pipeworks with maximum operating pressure up to 5 bar - Design, construction, testing, operation, maintenance and rehabilitation”.
      * UNI 9167 "Natural gas receiving, first reduction and measuring systems - Design, construction and testing".
      * UNI 10390 "Natural gas final pressure reduction systems operating with upstream pressure between 5 and 12 bar – Design, construction and testing".
      * UNI 10619 "Natural gas pressure regulating systems and/or metering systems operating with upstream pressure of 12 bar for industrial and civil use – Design, construction and testing";
      * UNI 8827-1 "Gas pressure control systems operating with upstream pressure between 0.04 bar and 5 bar - Design, construction and testing - Part 1: General considerations”.
      * UNI 8827-2 "Gas pressure control systems operating with upstream pressure between 0.04 bar and 5 bar - Design, construction and testing - Part 2: Control Systems".
      * UNI 11354 "Shut-off devices for gas distribution and/or transportation networks - Butterfly valves”.
      * UNI 9734 “Shut-off devices for gas pipelines. Steel valves with ball obturator”.
      * UNI CEI EN ISO/IEC 17050-1 "Conformity assessment - Supplier's declaration of conformity - Part 1: General requirements”.
      * UNI CEI EN ISO/IEC 17050-2 "Conformity assessment - Supplier's declaration of conformity - Part 2: Supporting documentation".
      * UNI EN 10204 “Metallic products - Types of inspection documents”.
      * UNI EN 12279 "Transport and distribution of gas - Gas pressure regulating installations on distribution networks - Functional requirements".
      * UNI EN ISO 22768-1 "General tolerances. Tolerances for linear and angular dimensions without individual tolerance indications".
      * UNI EN ISO 22768-2 "General tolerances. Geometrical tolerances for features without individual tolerance indications".
      * UNI EN 10028-2 "Flat products made of steel for pressure vessels - Part 2: Non-alloy and alloy steels with specified high-temperature properties".
      * UNI EN 10226 "Pipe threads for thread seal coupling - Designation, dimensions and tolerances".
      * UNI EN 334 "Gas pressure regulators for inlet pressures up to 100 bar".
      * UNI EN 12186 "Gas infrastructure - Gas pressure regulating stations for transport and distribution - Functional requirements".
      * UNI EN 12327 "Gas infrastructures - Pressure testing, commissioning and decommissioning procedures - Functional requirements".
      * UNI EN ISO 9712 "Non-destructive testing - Qualification and certification of non-destructive testing personnel".
      * UNI EN ISO 286-1 "Geometrical product specifications (GPS) - ISO code system for tolerances on linear sizes - Part 1: Basis of tolerances, deviations and fits".
      * UNI EN ISO 286-2 "Geometrical product specifications (GPS) - ISO code system for tolerances on linear sizes - Part 2: Tables of standard tolerance classes and limit deviations for holes and shafts".
      * UNI EN ISO 3183 - “Petroleum and natural gas industries - Steel pipe for pipeline transportation systems”.

# APPENDICES

* + - * APPENDIX 1 – “Sample declaration of conformity with this technical specification”
      * APPENDIX 2 – “Sample declaration of exclusion from Directive 2014/34/EU”

## Appendix 1

***Supplier's Declaration of Conformity***

(in accordance with the UNI CEI EN lSO/IEC 17050-1 standard)

(1) **No.** ...............................................

(2) **Name of the issuer**:..............................................................................................................................................................................

**Address of the issuer:** ................................................................................*.*........................................................................................

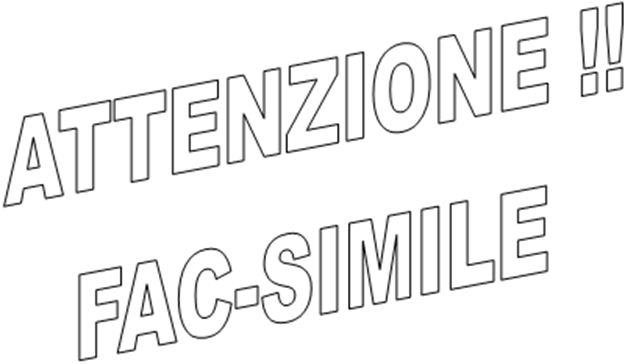
(3) **Subject of the declaration:** ...................................................................................................................................................................

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**The subject of the above declaration complies with the requirements of the following documents:**

Document nos. Title Edition/Date of issue

(4) *S.T.V.F.C. 9994300* *FLOW RATE PARTITION SYSTEM Edition 2 of 15/06/2017*

*ON PRESSURE REDUCTION SYSTEMS*

**Additional information:**

(5) ...................................................................................................................................................................................................................

...................................................................................................................................................................................................................

...................................................................................................................................................................................................................

Signed for and on behalf of:

.............................................................

(Place and date of issue)

(6) ............................................................. ......................................................................................................................

(Name and position) (Signature or equivalent mark authorised by the issuer)

KEY:

1. The Declaration must be issued on headed paper or, if visible, on applied stamps and be uniquely identified (e.g. by a log number).
2. The person issuing the Declaration (Supplier) must be unequivocally specified.
3. List all the products for which approval for company use is requested (name, type, model), stating any codes assigned by the Supplier itself and, where existing, the relevant material codes assigned by Italgas Reti.
4. Include references to the Italgas Reti documents for the proposed products.
5. Indicate any deviations from the reference documentation and any other information deemed useful by the Supplier for product evaluation purposes (see note 6) of appendix A of UNI CEI EN ISO/IEC 17050-1).
6. Include the handwritten signature of the person authorised to issue the Declaration, stating their full Name, Surname and Position within the Organisation.

## Appendix 2

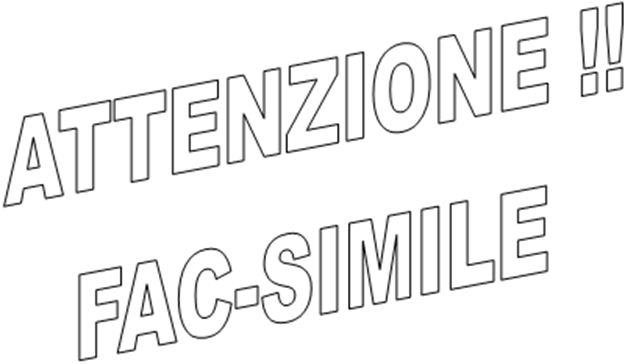
***ATEX Exclusion Declaration***

We ..............................................................................................................................................................

(name of organisation)

with registered office in .............................................................................................................

(address)



as the .................................................................................................................................................

(Manufacturer / Authorised Representative)

declare under our sole responsibility that the products series

.....................................................................................................................................................................

.....................................................................................................................................................................

.....................................................................................................................................................................

(name, type or model, batch, group or serial numbers)

described in the Technical Specification / document(s)

.....................................................................................................................................................................

.....................................................................................................................................................................

(when necessary)

to which this declaration refers, comply with the following legislative / regulatory document(s)

.....................................................................................................................................................................

.....................................................................................................................................................................

(title(s) and/or number(s) and date(s) of publication of the standard(s) or other legislative and/or regulatory document(s))

and, according to Article 1, subsection 1a) of Directive 2014/34/EU of 26 February 2014 (Legislative Decree no. 85 of 19 May 2016) and Chapter 1 of ATEX 2014/34/EU GUIDELINES (first edition), based on an *ATEX analysis* (see subsection 32 of the aforementioned ATEX 2014/34/EU GUIDELINES), do **not fall within the scope of the Directive 2014/34/EU,** as they do not risk causing an explosion due to the lack of potential ignition sources, as defined in Standard UNI EN 1127-1, when used in systems that comply with the following legislative and/or regulatory documents

.....................................................................................................................................................................

.....................................................................................................................................................................

(title and/or number and date of publication of legislative and/or regulatory documents)

They can therefore be installed **in all types of zones** as defined in Legislative Decree no. 81 of 9 April 2008, as amended, Title XI (Directive 1999/92/EC of 16 December 1999).

.................................................................. ..................................................................................................................................

(place and date of issue) (name and signature or equivalent stamp of authorised person)

1. Supplier means the entity responsible for the design and construction of the products or its legal representative as defined in Legislative Decree no. 206 of 6 September 2005 as subsequently amended and supplemented - “CONSUMER CODE” pursuant to Article 7 of Law no. 229 of 29 July 2003. [↑](#footnote-ref-1)