



Exploration & Production

GENERAL SPECIFICATION

HVAC

GS EP HVA 801

Terminology, Definitions, Abbreviations

08	01/2012	Definitions updating – Refrigerating systems updating
07	01/2011	Definitions adding
06	10/2009	Definitions adding
05	10/2008	Definitions adding
00	10/2002	First issue
Rev.	Date	Notes

Owner: DEV/TEC

Managing entity: DEV/TEC/MTH



Contents

1. Scope	3
2. Reference documents.....	3
3. Terminology.....	4
3.1 Verbs	4
3.2 Definitions	5
4. Abbreviations	23
4.1 Abbreviations specific to <i>HVAC</i> documents	23
4.2 General abbreviations	23



1. Scope

This document defines the different terms used inside all *HVAC* documents, whatever the type, and used in documents, drawings, and during meetings regarding project. Definition of terms given within this specification prevails above any other definition.

For General Specifications (listed in **GS EP HVA 000**) issued before the revision date of the present document, the definitions of the present document have to be applied even when the words, defined in the present General Specification, are not in capital and italic letters within these specifications.

When definitions are given in another document, those definitions are only available for comprehension of that document.

Note: In case of discrepancy between documents (whatever the documents and / or whatever origins), the most expensive solution shall be quoted by *BIDDER*. During the studies (Basic Engineering and / or Detailed Engineering) *CONTRACTOR(s)* shall raise the discrepancy in question to the Company *HVAC SPECIALIST* who will then review and advise which document(s) is (are) to be enforced for the project.

Within *HVAC* documents, expression in CAPITAL CHARACTERS and *italic* are defined within this "Terminology, definitions and abbreviations" specification.

When other words require a definition only to be used in the present document, then the definition is given in a dedicated paragraph of the present document and the defined word, when used, is marked in small and *italic* letters.

All pictures and figures within this specification are indicated for illustration and example purpose only.

2. Reference documents

The reference documents listed below form an integral part of this General Specification. Unless otherwise stipulated, the applicable version of these documents, including relevant appendices and supplements, is the latest revision published at the EFFECTIVE DATE of the CONTRACT.

Standards

Reference	Title
Not applicable	

Professional Documents

Reference	Title
Not applicable	



Regulations

Reference	Title
Code du travail	Article 232-5-5
Décret du 7 décembre 1984	Décret n°84-1094 du 7 décembre 1984 complétant le code du travail (deuxième partie) et fixant les règles relatives à l'aération et l'assainissement des locaux de travail auxquelles doivent se conformer les maîtres d'ouvrage entreprenant la construction ou l'aménagement de bâtiments destinés à l'exercice d'une activité industrielle, commerciale ou agricole
Directive 98/24/CE	Directive 98/24/CE du Conseil du 7 avril 1998 concernant la protection de la santé et de la sécurité des travailleurs contre les risques liés à des agents chimiques sur le lieu de travail

Codes

Reference	Title
Not applicable	

Other documents

Reference	Title
INRS document ED 984	Valeurs limites d'exposition professionnelle aux agents chimiques en France

Total General Specifications

Reference	Title
GS EP EXP 501	Equipment and piping numbering
GS EP HVA 000	List of HVAC specifications
GS EP HVA 100	HVAC Basis of design

3. Terminology

3.1 Verbs

There are four types of statements in these documents: "shall", "should", "may", "can". They have to be understood as follow:

shall: requirement (application is mandatory unless derogation is formally granted)

should: recommendation



may: permission

can: possibility

The verb "must" is used to express a regulatory obligation.

3.2 Definitions

ACCOMMODATION: space used as public or private rooms, cabins, offices, hospitals, cinemas, games and hobby rooms, hairdressing saloons, pantries and galley area.

ADEQUATE VENTILATION: air volume mechanically blown into a room in order to maintain:

- The level of gas and dust at lower value(s) than the inferior limit of explosivity
- The level of pollutant(s) at lower value(s) than limited values for professional exposure to chemical agents (Refer to "INRS document ED 984" and Directive 98/24/CE)
- The ambient air temperature and ambient air *RELATIVE HUMIDITY* inside range of "WINTER / SUMMER temperature tolerance" associated to "WINTER / SUMMER temperature design point" (Refer to GS EP HVA 100)
- The temperature at lower value than flash point of chemical products
- The quantity of inhalable particles to a lower value than 10 mg/m³, for an exposure of 8 hours (Refer to Décret du 7 décembre 1984 and to "Code du travail, article 232-5-5")
- Level of pollutant(s) (gas, dust) which shall not be increased due to the ventilation, even if final concentration concerned pollutant is lower than limit value.

AIR CHANGE VOLUME: the number of time that air shall be replaced during the time unit. The blown air can be recycled air from other rooms, except when that air is polluted. This parameter shall be expressed in volume per hour (Vol/h); that means volume of the concerned room per hour.

AIR CONDITIONING: defines the process equipment requested to maintain one or several of the following criteria inside a room: temperature, *RELATIVE HUMIDITY*, dust quantity and particles sizes, gas quantity, smell, pressure. These parameters are controlled within the prescribed limits for the enclosure to be air-conditioned.

AIR HANDLING UNIT: factory made encased unit serving as a prime mover of a *VENTILATION* or *AIR CONDITIONING* installation where *OUTDOOR AIR (ODA)*, *RECIRCULATION AIR (REC)*, *EXHAUST AIR (EHA)*, *EXTRACT AIR (ETA)*, is / are treated, etc. It consists of a combination of one or several of the following components:

- Mixing section
- Filter section
- Heat exchanger (water, oil, electrical, ...)
- Heat recovery or heat transfer section
- Humidification section
- FAN section
- SHUT-OFF DAMPER(s)



- Sound attenuator
- Additional equipment such as measuring section, control section...

A unit, serving for *VENTILATION*, air treatment, air *RECIRCULATION*, *EXTRACT* air, is an *AIR HANDLING UNIT*.

AIR VELOCITY (through cooling coil and / or heating coil): *AIR VELOCITY* across the coil is calculated considering the real free air passing section through the coil, in the section of a coil row (front surface of piping, front surface of fins and their corrosion protection shall be deducted from the internal frame section).

APPROVED: means approved in writing, including subsequent confirmation of previous verbal approvals.

AREA: an area is a three-dimensional volume or space.

AUTHORITY: means a statutory body responsible for the regulation of specific codes, standards and practices.

BIDDER: person or Company producing an offer.

BOILER(S) room: rooms where heating equipment uses liquid or gaseous combustibles.

CAPITAL SPARES: expensive or long delivery time spares required to prevent operational failure that may have heavy technical and / or financial consequences. They are part of the scope of supply of the related equipment and only concern vital and critical items.

CERTIFYING AUTHORITY: an independent third party organization that reviews, tests and certifies designs and equipment.

CHECK POINT: a check point is associated to a construction phase. At a period of the construction, *CONTRACTOR* and / or *MANUFACTURER* have to inform *COMPANY* that a piece of equipment, a part of installation concerned by the check point can be inspected. *COMPANY* has to be informed by a fax or e-mail, one month before the date of check point.

CHILLED WATER UNIT: LIQUID CHILLING PACKAGE designed to cool water with or without additive. The water temperature issued from *CHILLED WATER UNIT* must be positive.

COMMISSIONING: the final tests made to verify that the systems fulfill their design purpose and intended services. Commissioning will comprise operational testing under real or simulated conditions for systems or sub-systems.

CONSTRUCTION SPARES: spares required to prevent any delay or pause in the construction / installation works as a consequence of a failure in quantity and/or quality of materials and/or items of equipment.

CONTRACTOR: Organization to which the *ENTITY* has entrusted work, the performance of which is governed by a contract between the *ENTITY* and that organization.

DESIGN POINT: datum which shall be used for calculation notes, selection of equipment, balancing, adjustment during *COMMISSIONING*, *FCT*. The datum is a physical characteristic of machine, equipment, basis of design resulting or not from calculation in accordance with "Basis of design" specification, including over-design as defined by specifications.

DESIGN VALUES: equivalent to *DESIGN POINT*.

DIFFUSER: device which ensures an air distribution inside a room.



DISCREPANCY (applicable for *SHUT-OFF DAMPER*, fire damper): information issued from position switches indicating that damper is open and closed in the same time.

DRY BULB TEMPERATURE: temperature indicated by a dry temperature-sensing element shielded from the effects of radiation.

DUTY RATIO: the ratio of active time to total time.

ENGINEERING: Company working for studies under control of the *COMPANY* or under the control of *CONTRACTOR*.

Note: Any Company which is qualified as "*ENGINEERING*" does not mean that this Company is qualified as "*MANUFACTURER*" and / or "*VENDOR*" and / or "*INTEGRATOR*".

ENTITY: Any unit of the Direction Générale Exploration & Production placed under the responsibility of a Managing Director appointed by the President Exploration Production. The Direction Générale Exploration & Production itself, an affiliate, a project group are all considered as an *ENTITY*.

EMERGENCY SHUT-DOWN: control action undertaken to shut-down equipment or process in response to a hazardous situation.

ESSENTIAL HVAC system: two simultaneous principles define this system:

- the failure of one component of the *HVAC* system shall not affect the performances of the *HVAC* system, in terms of temperature, pressure, humidity, air filtration (particles and gas)
- the maintenance of one component of the *HVAC* system shall not affect the performance of the *HVAC* system, in terms of temperature, pressure, humidity, air filtration (particles and gas).

Ducting must not be considered as part of the system when examination of these two principles.

FACTORY ACCEPTANCE TESTS: checking and performance measurement realized by the *MANUFACTURER* of a piece of equipment to ensure that compliance with Project Specifications, General Specifications, detailed engineering studies, data sheets and drawings, are reached. Dynamic tests are included within *FACTORY ACCEPTANCE TESTS*. These last are realized under Company *HVAC SPECIALIST* supervision (mandatory - no deviation granted).

FACTORY COMPLIANCE TESTS: checking and performance measurement realized by the *MANUFACTURER* of a package or piece of equipment to ensure that compliance with Project Specifications, General Specifications, detailed engineering studies, data sheets and drawings, are reached. Dynamic tests are included within *FACTORY COMPLIANCE TESTS*. These last are realized under Company *HVAC SPECIALIST* supervision (mandatory - no deviation granted).

FAILURE: improper performance of a device or equipment item that prevents design function to be reached.

FAN: rotary-bladed machine which receives mechanical energy and utilizes it by means of one or more impellers fitted with blades to maintain a continuous flow of air or gas passing through it and whose work per unit mass does not normally exceed 25 kJ/kg. The term *FAN* shall be understood as the *FAN* is supplied without any addition to the inlet or outlet.



Figure 1 -Example of *FAN* (casing is not shown)

FAN UNIT: assembled unit supporting the *FAN*, *FAN* motor, pulleys, belt(s) and belt(s) guard (when impeller is not fixed on motor shaft).



Figure 2 - Examples of *FAN UNIT* (casing is not shown)

FINAL DOCUMENTATION: collection of documents and drawings that includes design, engineering, construction, installation, tests, start-up, operation and maintenance of *HVAC* equipment and/or *HVAC* systems.

FIRE DAMPER: equipment installed on a ducting to isolate a part of ducting in case of fire. The isolating capacity is applicable to the fire and the gas. The acceptable leakage of the *FIRE DAMPER* is defined within paragraphs regarding the *FIRE DAMPERS*.

FIRE & GAS SYSTEM: the safety system which monitors the temperature or / and energy flux, the concentration of flammable or / and toxic gases and initiates relevant actions at pre-determinate levels.

FPSO (unit): Floating, Process, Storage and Off-loading unit.

FPU: Floating and Process Unit.

HAZARDOUS AREA: a three dimensional space in which a flammable atmosphere may be expected to be present at such frequencies as to require special precautions for the control of potential ignition sources.

HVAC: Heating, *VENTILATION* and *AIR CONDITIONING*.

HVAC CONTRACTOR: Company which built *HVAC* installation as per detail engineering produced by the *HVAC ENGINEERING* and checks the selected equipment before to buy it.