Executive summary

The main field of TC117 is fans used for commercial/industrial purposes including the ventilation of buildings and mines, and commercial and industrial circulating fans, which have an input power greater than 125W. Fans that are excluded include ceiling, pedestal, and similar circulation types of fans less than 125W such as those commonly used for residential purposes.

Fans are manufactured and used world-wide. The world market for fans is about $5000 Million per year worldwide.

Data on units sold per annum was not available at the time of writing this business plan.

This technical committee has been in existence since the late 1960s during which time it has developed a suite of standards on the design and performance of fans. This has helped achieve trade from country to country and has begun to standardize requirements from one country to another. The continued work of TC117 will help improve on what is already a good base. The main objectives of TC117 are to complete the work programme as identified in 2020/21 and to identify any areas where there is still a need for standardization for fans.

1 Introduction

This clause 1, 1.1 and 1.2 is common across all ISO SBPs and cannot be altered.

1.1 ISO technical committees and business planning

The extension of formal business planning to ISO Technical Committees (ISO/TCs) is an important measure which forms part of a major review of business. The aim is to align the ISO work programme with expressed business environment needs and trends and to allow ISO/TCs to prioritize among different projects, to identify the benefits expected from the availability of International Standards, and to ensure adequate resources for projects throughout their development.

1.2 International standardization and the role of ISO

The foremost aim of international standardization is to facilitate the exchange of goods and services through the elimination of technical barriers to trade.

Three bodies are responsible for the planning, development and adoption of International Standards: ISO (International Organization for Standardization) is responsible for all sectors excluding Electrotechnical, which is the responsibility of IEC (International Electrotechnical Committee), and most of the Telecommunications Technologies, which are largely the responsibility of ITU (International Telecommunication Union).

ISO is a legal association, the members of which are the National Standards Bodies (NSBs) of some 164 countries (organizations representing social and economic interests at the international level), supported by a Central Secretariat based in Geneva, Switzerland.

The principal deliverable of ISO is the International Standard.
An International Standard embodies the essential principles of global openness and transparency, consensus and technical coherence. These are safeguarded through its development in an ISO Technical Committee (ISO/TC), representative of all interested parties, supported by a public comment phase (the ISO Technical Enquiry). ISO and its Technical Committees are also able to offer the ISO Technical Specification (ISO/TS), the ISO Public Available Specification (ISO/PAS) and the ISO Technical Report (ISO/TR) as solutions to market needs. These ISO products represent lower levels of consensus and have therefore not the same status as an International Standard.

ISO offers also the International Workshop Agreement (IWA) as a deliverable which aims to bridge the gap between the activities of consortia and the formal process of standardization represented by ISO and its national members. An important distinction is that the IWA is developed by ISO workshops and fora, comprising only participants with direct interest, and so it is not accorded the status of an International Standard.

2 Business Environment of the ISO/TC

2.1 Description of the Business Environment

The following political, economic, technical, regulatory, legal, and social dynamics describe the business environment of the industry sector, products, materials, disciplines or practices related to the scope of this ISO/TC, and they may significantly influence how the relevant standards development processes are conducted and the content of the resulting standards:

Political dynamics – there has been an increasing internationalization of fan companies.

Economic dynamics – the industrial fans market is mature. Consequently, the competition is significant with unit costs being driven lower. Industrial fans are now being manufactured in developing countries with lower unit labour costs.

Technical, regulatory, and legal dynamics – energy efficiency is now high on most Government’s agendas. This had an affect technically on fan design and manufacture. It is now a requirement to measure performance more accurately. The new energy efficiency regulations introduced in many regions call for greater energy efficiency and so ISO/TC117 standards play a more significant role consequently.

Social dynamics – The increasing importance of health and safety standards led ISO/TC117 to produce a standard for guarding and two for vibration. This dynamic is likely to continue.

2.2 Quantitative Indicators of the Business Environment

The following list of quantitative indicators describes the business environment in order to provide adequate information to support actions of the ISO/TC:

a. Total international trade in the products of about 15,000 million US$ over the last 3 years.

b. Fans are a mature product with little global growth, but still representing a substantial market (see point a. above)

c. Estimated number of companies (world-wide) operating in the sector or producing the commercial/industrial fans over the past three years is in excess of 800.
d. Estimated employment (world-wide) in the sector over the last 3 years is estimated to be in excess of 40,000.

e. Estimated percentage of products in the marketplace self-declared or certified to the ISO committee’s International Standards over the past 3 years is about 70%.

f. The organisations (world-wide) requiring compliance with ISO/TC117’s International Standards include
   a. All public utilities in all countries
   b. All large mining companies
   c. All reputable HVAC contracting companies

g. All Government procurement in the major industrialised nations have adopted the ISO committee’s International Standards into legislation, regulations, or procurement requirements

h. Six of the ISO committee’s International Standards have been cited as normative references in International Standards of other ISO committees

The ISO committee’s International Standards have been adopted in many countries e.g. ISO 5801 has been adopted in UK, Italy, France, Philippines, Belgium, Sweden, Australia, Finland, India, Netherlands, Poland.

Note: the market data in above list is taken from Market study for improving energy efficiency for fans by Peter Radgen of Fraunhofer Institute; 2003

3 Benefits expected from the work of the ISO/TC

- It ensures a level playing field in a global market.
- The standards work has been effective in removing technical barriers to trade – it has saved a company having to test to several national standards with resulting cost savings to the company.
- The standards produced by ISO/TC117 to date have been adopted in their entirety by several nations.
- ISO/TC117 standards have been cited by ISO and CEN standards e.g. EN 12101-3 cites ISO 5801:2017.
- ISO/TC117 standards have been used to improve energy efficiency and reduce carbon via legislative measures.
- Circular economy aspects (life cycle impact; material efficiency etc.)

4 Representation and participation in the ISO/TC

4.1 Membership

Countries/ISO member bodies that are P and O members of the ISO committee

4.2 Analysis of the participation

The participation amongst developed countries has been very good; amongst developing countries it has been good. In addition, several developing countries are “observers” in the TC117 work.

The participation has good coverage across all parts of the world.
There is no lack of participation from specific countries or regions that has a negative impact on the standards work. With TC117 being in existence for around 50 years, all countries and regions that have an impact have been encouraged to participate.

Other ISO technical committees, IEC and CEN technical committees, EUROVENT-CECOMAF, AMCA and the World Customs Organization are in liaison with ISO/TC117. During 2019 to 2021 ISO played a pivotal part informing the joint ISO/IEC CAISEMS project (Coordination and Alignment of IEC & ISO Standards for Energy Efficient Electric Motor Driven Systems). At the conclusion of the project, ISO/TC 117 joined the resulting ISO/IEC Joint Advisory Group IEC/TC 22/SC 22G/JAG 22 (Optimized Energy and Power Consumption of Electric Driven Machine Units [e.g. pump, fan, compressor]) and currently hold the position of chair of that JAG.

ISO/CS and ISO/TC 117 continues to reach out and welcome participation/observation from all regions/NSBs to become involved if they wish to do so.

Each NSB decides in which ISO committees they wish to participate and observe (the NSBs can make membership updates themselves, directly in the ISO Global Directory), and where to appoint their experts. This all depends on their stakeholders and interests. We cannot insist any NSB to get involved. If there is a special case, it is OK to contact the NSB but normally the TC leadership is not contacting NSBs directly on a regular basis to encourage participation (this would rather come from the NSBs towards the committees).

Whenever we get a request of interest directly from an expert to become involved, we refer the expert to contact the ISO Member Body in their country directly.

5 Objectives of the ISO/TC and strategies for their achievement

5.1 Defined objectives of the ISO/TC

Around 1990 TC117 identified the standards that needed to be produced and it has been steadily working through its work programme in order of importance. It identified standards for:

- Performance measurement
- On-site performance measurement
- Noise testing
- Safety standards
- Dimensional standards
- Vibration standards
- Terminology
- Efficiency classification
- Computational Performance Prediction

5.2 Identified strategies to achieve the ISO/TC’s defined objectives

- The priority was to produce “performance” standards first, then design standards
- Some industry standards were used (e.g., AMCA standards) and some from the European Trade Association – EUROVENT
• ISO/TC117 conduct their work through correspondence, annual meetings, e-mail, and the Internet using ISO Documents. Increasingly, TC/117 uses remote meetings especially for its working groups.
• Development of standards for air curtains in WG09 has required some research/test work. Testing of two different fans with and without an Etoile flow straightener to see if the flow straightener is needed.
• The structure of ISO/TC117 is one main TC and eight working groups to deal with the active work items. This structure was chosen after first trying sub-committees. The working group structure has seemed to work better.
• This committee contributes with 23 standards to the following Sustainable Development Goals: #3 Good health & wellbeing; #7 Affordable and clean energy; #9 Industry, Innovation and Infrastructure; #13 Climate actions.

6 Factors affecting completion and implementation of the ISO/TC work programme

There are no factors that the TC has identified as affecting the completion and implementation of its work programme.

7 Structure, current projects and publications of the ISO/TC

Information on ISO online

The link below is to the TC’s page on ISO’s website:  
ISO TC 117 on ISO Online

Click on the tabs and links on this page to find the following information:
• About (Secretariat, Committee Manager, Chair, Date of creation, Scope, etc.)
• Contact details
• Structure (Subcommittees and working groups)
• Liaisons
• Meetings
• Tools
• Work programme (published standards and standards under development)

Reference information

• Glossary of terms and abbreviations used in ISO/TC Business Plans
• General information on the principles of ISO’s technical work including information on:
  o Governance of technical work
  o Technical management board
  o TMB communiqué
  o Key policies and guidance
  o ISO’s global relevance policy
  o ISO/IEC standards and patents
  o Code of conduct
  o Selection criteria for people leading the technical work