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**Healthcare organization management  
— Pandemic response (respiratory)  
— Walk-through screening station**

*Management des organisations de soins de santé — Réponse en cas  
de pandémie (respiratoire) — Station de dépistage ambulatoire*

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Published in Switzerland

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 304, *Healthcare organization management*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

Pandemics demand swift, decisive and sustained action by governments and public health authorities. Actions that have proved effective are widespread testing, contact tracing and rigorous treating. For testing, walk-through screening stations (WTSS) can be used to test thousands of people each day. A WTSS involves a test subject going through the screening process of a medical interview, a temperature check and specimen collection in a positive, negative or adaptable pressure booth. The use of WTSS can reduce the risk of transmission of the disease (including in hospital waiting rooms), relieve pressure on hospitals (which otherwise can be inundated with requests for testing) and free hospital resources for treating people the disease (including those that are otherwise necessary to disinfect areas used for specimen-taking).

This document was developed based on experience gained from, and procedures implemented to deal with, the COVID-19 pandemic, which was characterized as a pandemic by the World Health Organization (WHO) in March 2020. South Korea, in particular, used WTSS to control the spread of the virus without shutting down the country and without imposing extreme restrictions on people's movement.

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# Healthcare organization management — Pandemic response (respiratory) — Walk-through screening station

## 1 Scope

This document specifies the operation of a walk-through screening station (WTSS) for mass testing as part of pandemic response management.

NOTE COVID-19 is an exemplary disease for which such a station is developed.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at <https://www.iso.org/obp>

— IEC Electropedia: available at <https://www.electropedia.org/>

### 3.1

#### **adaptable pressure booth**

booth with switchable directions of airflow

EXAMPLE From negative to positive pressure or from positive to *negative pressure* (3.7).

[SOURCE: Non-pharmaceutical Standard Models for Managing Pandemic<sup>[5]</sup>]

### 3.2

#### **confirmed case**

person confirmed to be infected with the pathogen of the infectious disease according to the testing criteria for diagnosis, irrespective of clinical signs and symptoms

[SOURCE: Central Disaster and Safety Countermeasures Headquarters<sup>[6]</sup>]

### 3.3

#### **coronavirus**

virus that is part of a large family of viruses that cause illness in animals or humans

Note 1 to entry: In humans, several coronaviruses are known to cause respiratory infections ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). The coronavirus discovered in 2019 causes the coronavirus disease *COVID-19* (3.4).

[SOURCE: WHO Western Pacific, 2020<sup>[7]</sup>]

### 3.4

#### **COVID-19**

infectious disease caused by the *coronavirus* (3.3) discovered in 2019

Note 1 to entry: This virus and disease were unknown before the outbreak began in Wuhan, China, in December 2019.

[SOURCE: WHO, 2020<sup>[8]</sup>]

### 3.5 disinfection

process to reduce the number of microorganisms, but not usually of bacterial spores, without necessarily killing or removing all organisms

[SOURCE: ISO 15190:2020, 3.9]

### 3.6 high efficiency particulate air filter HEPA filter

retentive matrix having a minimum particle-collection efficiency of 99,97 % (that is, a maximum particle penetration of 0,03 % for 0,3 µm particles)

[SOURCE: ISO 13408-1:2008, 3.23]

### 3.7 negative pressure

pressure less than that of the ambient atmosphere

### 3.8 negative pressure room

room in which the air pressure differential between the room and the adjacent indoor airspace directs the air flowing into the room (i.e. room air is prevented from leaking out of the room and into adjacent areas such as the corridor)

[SOURCE: WHO<sup>[10]</sup>]

### 3.9 negative pressurized medical container NPMC

portable screening/testing facility that ensures the safety of the healthcare workers and testees by maximizing ventilation with *HEPA filters* (3.6), *negative pressure* (3.7) and managing the direction of airflow to prevent cross infection during disease testing

[SOURCE: Kyunggido Screening Station<sup>[11]</sup>]

### 3.10 pandemic

worldwide spread of a disease

[SOURCE: ISO/PAS 45005:2020, 3.5]

### 3.11 personal protective equipment PPE

device or appliance designed to be worn or held by an individual for protection against one or more health and safety hazards

EXAMPLE Clothing, gloves, helmets, footwear, face protection.

[SOURCE: ISO 15384:2018, 3.12, modified — The example has been added.]

### 3.12 mobile walk-through screening station mobile WTSS

disinfected single mobile booth, which requires minimized consumption of *personal protective equipment* (3.11) and is targeted to provide rapid testing for early detection of viruses and mitigates cross-infection between healthcare workers and test subjects in a *pandemic* (3.10)

[SOURCE: Government of the Republic of Korea<sup>[9]</sup>]



### 3.13

#### **suspected case**

case that is compatible with the clinical description and has an epidemiological link to a confirmed or suspected case

[SOURCE: WHO<sup>[12]</sup>]

### 3.14

#### **walk-through screening station**

##### **WTSS**

screening station with disinfected, single or multiple, mobile or fixed booths with negative, positive or an adaptable pressure which enables minimized consumption of *personal protective equipment* (3.11)

[SOURCE: Government of the Republic of Korea<sup>[9]</sup>]

## 4 Overview of WTSS

### 4.1 Fundamental concept

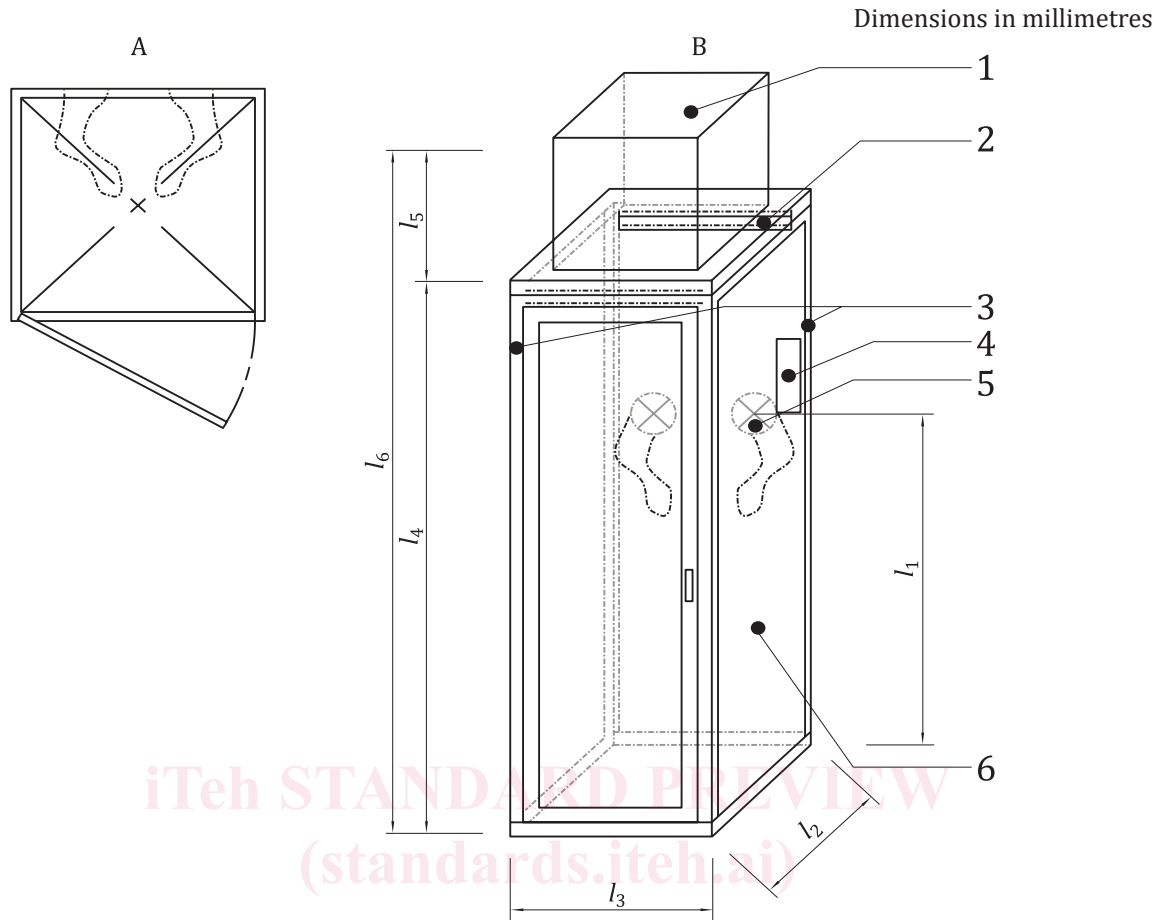
Rapid and safe testing capabilities are an integral part of the fight against an endemic or pandemic. An infectious agent can be transmitted by direct contact, droplet spread or airborne. Therefore, effective ways to minimize contact between test subjects and testers are critical.

WTSS have received attention as demand for screening tests has soared while test resources such as negative pressure tents are limited, and reduction time for disinfection and ventilation after specimen collection is much sought after. Schematic blueprint of walk-through booth is given in [Figure 1](#).

Healthcare workers in a WTSS do not have to wear personal protective equipment (PPE), as shown in the benefits listed in [Figure 2](#), as it takes only one or two minutes for each sampling, especially in a positive-pressure booth.

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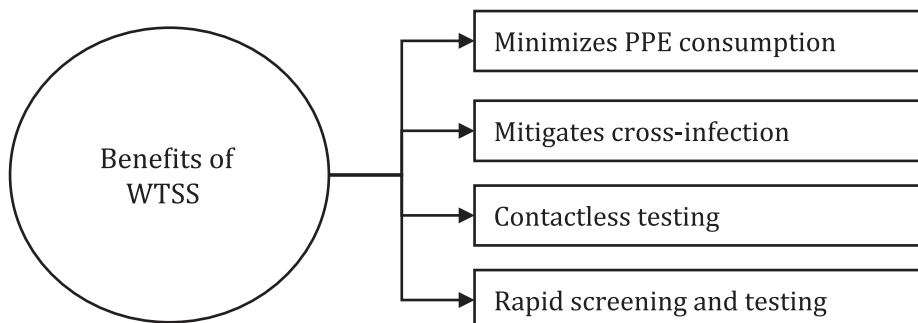


$l_1$	$l_2$	$l_3$	$l_4$	$l_5$	$l_6$
1,150	700	700	2,100	500	2,600
1,250					
1,400					

**Key**

- A top view
- B perspective view
- 1 HEPA filter (99,999 %)
- 2 LED lamp
- 3 frame (made of 1,2 mm thick stainless steel)
- 4 interphone
- 5 sanitary glove hole
- 6 wall (made of 5 mm thick polycarbonate)

**Figure 1 — Schematic blueprint of walk-through booth (negative pressure booth example)**



**Figure 2 — Benefits of WTSS**

## 4.2 Four types of WTSS

The key principle is to improve the way in which people are tested. There are four types of WTSS:

- a) open, applicable to inspection of entrants at any open areas (see [Clause 5](#));
- b) negative pressure (see [Clause 6](#));
- c) positive pressure (see [Clause 7](#));
- d) adaptable pressure (see [Clause 8](#)).

## 5 Open WTSS

### 5.1 Operational principles

For an asymptomatic case, a diagnostic test is performed in an open-space screening clinic. For a symptomatic case, a test should be performed in a separate space (i.e. quarantine laboratory, quarantine facility/room). This type of station uses natural ventilation, so the risk of environmental disinfection is low. However, it requires sufficient outdoor space, and inspections can be subject to weather conditions. An example snapshot of an open walk-through station is given in [Figure A.1](#).

### 5.2 Screening process

#### 5.2.1 Registration

A test subject shall provide information (name, passport number, contact information, etc.) on an application form during registration.

Personal data shall be processed lawfully, fairly and in a transparent manner. Personal data shall be adequate and relevant to the purpose of collection and limited to only the data necessary for the registration purpose. The application form shall specify explicitly the purpose for personal data collection.

NOTE Local, regional or national guidelines for the processing of personal data can apply.

A staff member should guide the test subject to fill in the form in a dedicated waiting area in the arrival hall to reduce the time required for registration.

A guide (a staff member) should guide the test subject to the medical staff for examination.

#### 5.2.2 Examination

The medical staff should check the identification (ID), the history of contact with confirmed cases, symptoms and other relevant data.

When necessary, additional checks should be performed, including checks on body temperature and respiratory symptoms.

The guide should guide the test subject to an available booth.

#### 5.2.3 Specimen collection

Specimen collection procedures should follow the manufacturers' instructions or public health guidance on sample collection and storage.

#### 5.2.4 Notification of test result

The laboratory notifies the test result to the screening station.