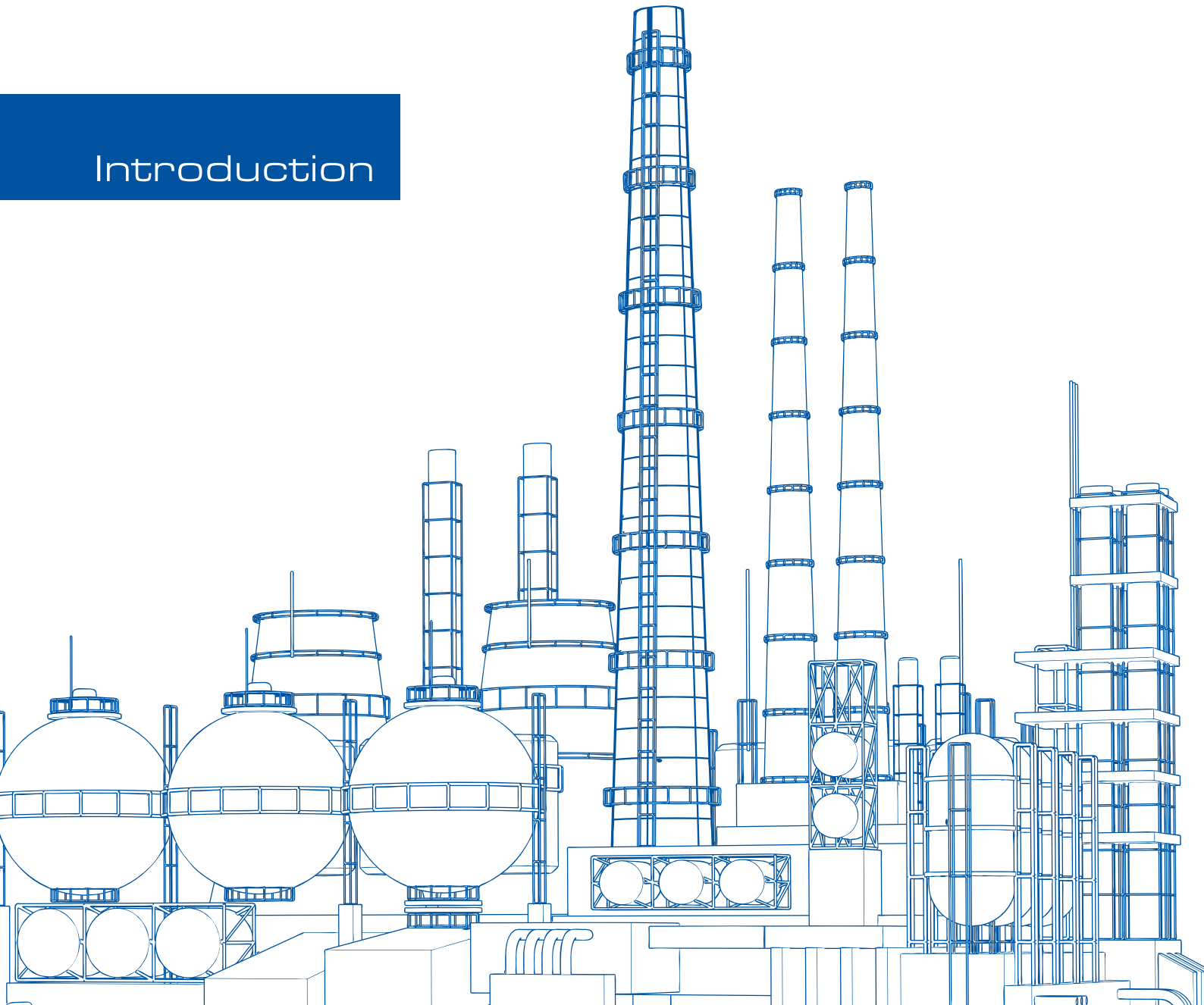
RSG®
TOTAL RESPIRATORY

# QUANTIFIT

...the gold standard in respirator fit testing

Product Information Brochure

# Introduction



# The Gold Standard in Respirator Fit Testing.

## The History of Fit Testing

Quantitative respirator fit testing is a practice that has existed since the late 1960's. While there have been several ways in which to perform a respirator fit test, there were never any scientific studies to prove that these methods actually worked. These technologies have simply been accepted because they were the only way to do quantitative fit testing.

## Advancements in Technology

In 1992, the idea of Controlled Negative Pressure (CNP) was implemented as a whole new approach to fit testing. This revolutionary way to perform a good respirator fit measures respirator leakage in a quick and accurate way - fundamental to measuring the fit of respirators.

## Regulations

CNP-technology was accepted by OSHA (the Occupational Safety and Health Administration in the United States) in 1998, and has quickly been adopted by the industry to be the quickest and most accurate way to perform respirator fit testing. It has become to be regarded as the gold standard in respirator fit testing.

## Quick and Accurate

This new technology means that a fit test will only take 2-3 minutes to complete, with no waiting period for smokers. This superior speed and accuracy helps achieve a best fit and multiple donnings quickly assure the worker of correct donning.

## How the Quantifit Compares

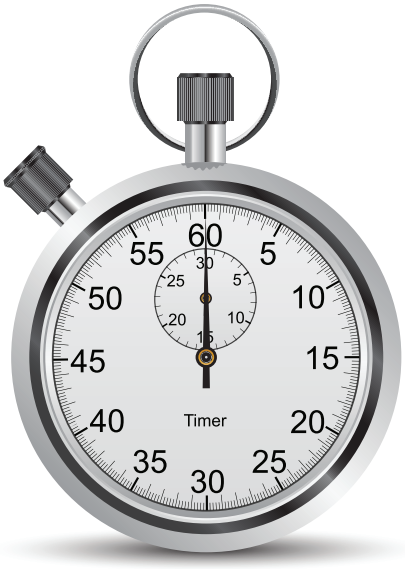
In studies, the Quantifit measured 98% of known calibrated leaks, whereas the traditional aerosol-based system measured only 37% of known calibrated leaks.

# How it works

## What happens during a Quantifit fit test?

2-3 minutes

- The respirator inlets are capped with a Quantifit test adapter.
- The inhalation valves are removed from the mask or propped open.
- The user dons the mask in accordance with normal practice and holds his or her breath for no more than ten seconds.
- During this period, the Quantifit unit establishes and maintains a slight vacuum, or controlled negative pressure, inside the mask.
- As the respirator inlets are sealed, all sources of leakage into the mask are through the face-to-facepiece seal.
- The volume of air drawn out of the mask by the Quantifit during this short period of time is equal to the leak rate into the mask through the face-to-facepiece seal.



# Features & Benefits

## Proven Technology

Scientifically-proven and patented CNP*.

Accepted by OSHA in the US.

Appears in the Federal Regulations governing fit testing. [29 CFR 1910.134]

Included in the the UK HSE Standards (EN132-149) and the Canadian Standards (CSA Z94.4-02).

## Most Rigorous Test

The use of ambient air as a non-varying standard, gaseous challenge agent provides a more rigorous test of mask fit than an aerosol agent which only measures some of the particles that may enter the mask.

## Fastest Fit Testing Available

Fit test protocol enables a 2-3 minute fit test.

No waiting period for smokers.

Delivery of superior speed and accuracy to help achieve best fit.

Multiple donnings quickly assures workers of correct donning.

## NIST (The National Institute of Standards and Technology in the US) Calibration

The ability to calibrate the Quantifit with readily available primary calibration systems assures a higher standard of test results (NIST traceable standard).

## Record Data Storage

500 fit test records can be stored on the unit

Records may be transferred to the FitTrack software on individual PC.

## USB Computer/Memory Stick Interface/Printer

Quantifit can be directly connected to a computer to operate through FitTrack Software.

Greater user control and advanced record keeping.

Printer port allows for tests to be printed directly from the Quantifit, without the need for a PC.

Navigational Button enables rapid navigation through the menu path.

## Ease of Use

Easy to read menu path for test protocol.

No time needed to pre-instruct the employee being tested.

No instrument warm-up period.

One-minute daily calibration.

*** CNP**
Controlled Negative Pressure
*The technology used to directly measure respirator leakage.*

# Features & Benefits

## Direct Measurement of Leak

Quantifit directly measures facepiece leakage.

No specific conditions or environmental concerns when testing.

Exact measurement of leak rate (in cc/min) by determining the amount of air that leaks into the respirator during the fit test.

## Superior Performance

In studies, the Quantifit measured 98% of known calibrated leaks, whereas aerosol-based systems measured only 37%.

## Tilted Backlit Display

Display can be adjusted for any lighting situation, and is tilted for optimum viewing whether operator is standing or sitting.

## Keyboard Interface

Quantifit can use a keyboard to input data into the local memory.

Ease of data input of employee and respirator details.

## Latest Software

The on-board software allows the Quantifit to be extremely flexible.

Upgrade software can be downloaded from the internet.

## Flexible Data Management Software

FitTrack software allows for easy testing and dependable record keeping through a PC.

FitTrack can print individual reports or summary reports in many configurations.

Data can be imported and exported to meet various needs.

## Universal Power Cord

The power cord adjusts to the proper voltage of the country in which the testing is being performed when using the local plug configuration.

# Technical Specifications

## Selectable Test Model Parameters

Equivalent Fit Factors are calculated from actual measured respirator leak rates, based on the following modelled test parameters which are user selectable.

## Inspiratory Work Rate

Measurement of energy expended by test subject in the normal working environment; indicated in thousands of calories per hour (K-Cal/hr). Selections include:
100 (light activity)
200 (moderate activity)
300 (heavy activity) and
350 (extreme activity)

## Mask Type

Selections available for full-face or half mask respirator types.

## Cartridge Type

Selections for low, medium, or high density cartridge types.

## Subject Gender

Selections for male & female test subject are available.

Selection choices affect modeled CNP challenge pressure levels and inspiration volume.

## Dynamic Range

Leak Test Measurement
2 – 5000 cc/min
Resolution
0.1 cc/min
Fit Factor Computation
6– 53,000
Resolution
1

## Pressure Sensor Parameters

Pressure Range
0-20 inches H2O
Resolution
0.01 inch H2O
Accuracy
± 0.25% FS
Over-Pressure Limit
60 inches H2O
Temperature compensation
15 – 30 Celcius

## Instrument Accuracy Challenge Pressure

± 5 %

## Leak Rate Measurement

±3% or ±3 cc/min,
(Whichever is greater)

## Display

LCD Graphical 128 X 64 Pixels

## USB Interface

Dual Type A Ports
Supports Keyboard, HP Inkjet printer, or memory stick

Single Type B Port
For connection to PC

## Setup Memory

EEPROM, All Parameters

## Data Retention

10 Years w/o Power

## RTC

Datalog Memory - Rechargeable Battery

## Data Retention

6 Months w/o Power

## Operating Range
15 to 30 Degrees C

## Storage Range
-40 to 60 Degrees C

## Construction
Enclosure
Polyethylene Plastic
Chassis: 1/8” Aluminum
Face: Lexan, Back Printed
Size
5.5 x 10 x 15.5 inches / 139.7 x 25.4 x 393.7 mm
Weight
< 7.5 lbs. (3.4 kg)
Connections
Pressure:  Quick Connect
Vent
Female Luer
Trigger Button
Phono Jack
Power Source 1
00 –240 VAC, 50/60 Hz
Power Supply Adapter
9 VDC, 5000 mA
Power Consumption
Less than 1000 mA

## Certifications
UL, CE, CSA

## Warranty
Instrument Coverage: Two-Years Parts and Labour

## Technical Support
enquiries@rsgsafety.com

## Standard Accessories
Hard case with roller wheels and retractable handle
USB Keyboard
Power Cord
Trigger Button
Triple Tube Assembly
PC USB Cable
FitTrack Software
Operator’s Manual

## Optional Accessories
Fit Test Respirator Adapter
USB Printer
Fit Test Card Laminator Kit
Extended Warranty
Prepaid Service Agreement
Optional Respirator Fit Test
FitTrack Software

## Adapters:
3M Company
Bacou/Dalloz
Draeger
Glendale
International Safety Inst.
Interspiro
Kemira
Mine Safety Appliances
Moldex
North Safety
Protech
Scott
Sperian (formerly Survivair)
US Safety

Call us for information on additional respirator manufacturers & models.

Tel: +31 (0)85 4870395

## PC Requirements
Pentium 133 MHz or better RAM
64 MB or greater operating System
Windows 2000, XP, or Vista
Digital Interface
USB 2.0 Port
Disc Space: 25MB minimum
Any Windows-compatible printer

# Technical Specifications

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## CONTACT US

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