

nanoTek for Protection Against Dangerous Viruses and Pollutants

Protection against dangerous airborne viruses and pollutants as follows:

- . Covid 19 virus, Omicron and all other airborne variants (known and not yet known)
- . Influenza
- . SARS (Severe Acute Respiratory Syndrome) and MERS (Middle East RS)
- . Asthma
- . Allergic rhinitis and conjunctivitis (pollen and hay fever)
- . Fog and smog
- . Smoke (not containing toxins)
- . Vehicle exhaust and city pollution and odours
- . Particulate pollution down to 1 micron to PM2.5 (USA EPA – USA Environmental Protection approved)

Note that **nanoTek** is not suitable for protection against toxins nor fires. Neither should it be misconstrued as a normal ventilator, life support respirator or oxygen generator.

After extensive study of the Covid pandemic, WHO, the World Health Organization, confirmed that more than 90 % of the world's population suffer from life shortening lung pollution of sorts. This particularly applies to multi millions, who drive or walk in cities. They are daily inhaling factory pollution. Regardless whether they are in enclosed motor vehicles, or in open motor cycles, they will be inhaling's exhaust gases. In this respect, *shortening lives has become the norm !*

Both the general population and those courageous doctors, dentists, nurses and other health workers, who often work in close proximity to infected patients. They all actually need **nanoTek**, since just one small sneeze or cough can transfer a dangerous airborne infection of covid 19 or its variants.

Yes, it is statistically correct that at least 2 or 3 Covid 19 vaccinations will play a role in future protection. However, Professor Adam Fry, a UK Government Epidemiologist and others assert that multiple vaccinations are far from a 100% guarantee against future virus and variant infections. Sajid Javid, the UK Health Secretary, also asserted, "Vaccination against influenza is probably as important as Covid 19 and its future variants !" That was said since it is well known many people world-wide refuse or mistrust vaccinations.

From the shock start of the covid pandemic, the focus has always been to try for a cure. However, many epidemiologists assert a cure is still in doubt ! Meanwhile, scientists and engineers at **tekflo sensors**, Singapore, concentrated on a unique method to prevent catching covid, its variants and many other pollutants, referred to above. The 'solid state' operational **nanoTek** not only prevents, but does so in many harsh environments, such as in crowded, vibrating military vehicles or tanks. Similarly, gusty wind conditions, exasperates protection, since it becomes easier to transport airborne germs and pollutants. Without **nanoTek**, flying a kite has actually never been so dangerous !

Many take comfort that wearing a mask, along with vaccinations, has some acceptance. But look closely ! In truth, many masks do not air purge to prevent the ingress of dangerous airborne germs or pollutants. Besides which, one often sees masks having gaps between facial skin and the mask material itself, allowing such ingress to reach the critical danger zones, viz. ones nose and mouth ! Furthermore, the masks one normally sees have no electrostatic intermediate material in their construction , which has been shown and accepted by the USA EPA to prevent the necessary ingress of such dangerous particulate pollutants as small as 1 micron. If the forgoing were not problematic, we would not have had the huge number of world-wide virus deaths, now said to be double that of original estimates ! **tekflo sensors** are pleased to confirm, our masks have all the features necessary for optimum safety.

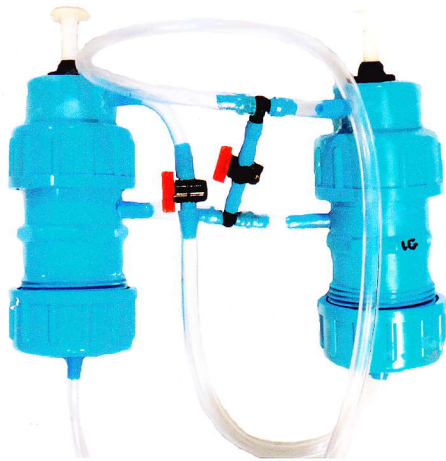
For wearers of **nanoTek**, it is virtually impossible to catch such diseases in the first place!! However, **nanoTek** provides other important advantages, including:

- * A very high probability vaccinations would NOT be necessary !
- * The elimination of high cost and space for the 2 metre social distancing rule !

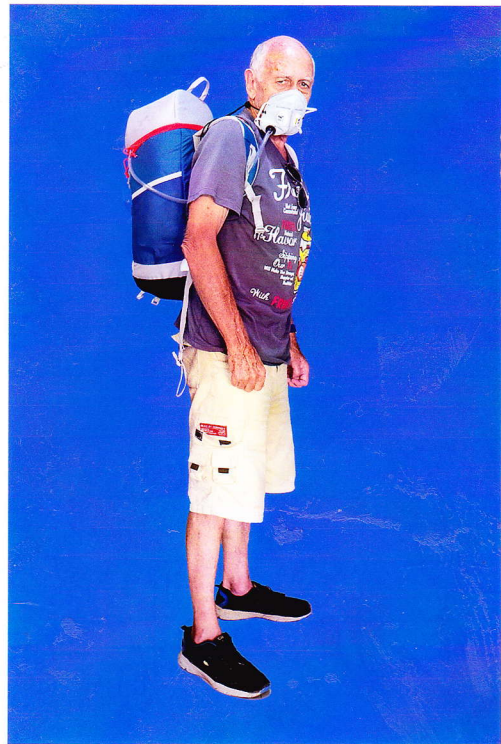
Prevention has always been better than cure !!

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nanoTek solid state low and high gain to 10000 : 1. Unique bi - directional air flow to mask up to or near Mach 1 (speed of sound). Automatic 10 mille second response protection for use against external coughs, sneezes or "fresh" wind gusts 30.6 – 38.6 km/h (19 – 24 mph) Beaufort Number 5.



nanoTek protection mask
Certified to USA Environmental Protection Agency PM2.5
Choice of colours light grey or light blue.
Air user selection with natural herbs fragrance in price or user select perfume (perfume not supplied in price)

nanoTek's Ingenious Miniature Air Compressor

An ingenious miniature air compressor, about the size of a portable phone, is supplied as standard. This is best used for typically 5 minute periods to top up the Air Canister pressure, such that the miniature compressor does not become too hot. It has a clear digital pressure display in psig and bar g. The compressor is powered by a lithium battery.

The miniature compressor may use a vehicle cigarette lighter power supply and fitted with a 5V 2A USB plug connector and 1m or longer cable..

The compressor is not for use in ambient air where the inherent oxygen level is not more than 20%.

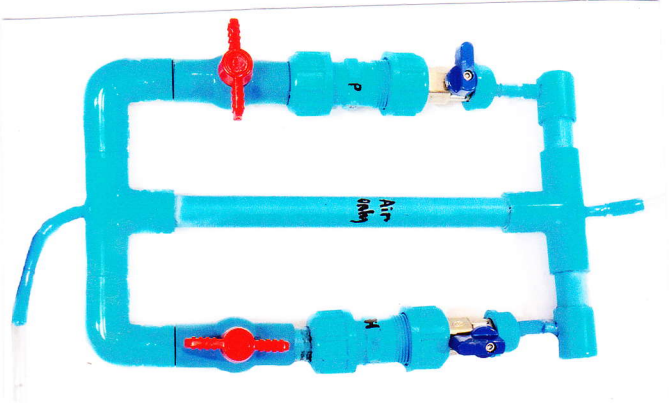
The Canister should not be removed from the portable Pak to avoid fouling any tubing. The pak may also be filled at a modern motor vehicle garage. It uses the same simple filling operation as inflating a car tyre. However, if it is found that the garage compressor is excessively oily or moisture laden, move to a better garage. The miniature compressor or a foot operated air pump may also be used (foot pump not supplied).

Wearers of the lightweight nanoTek system with back or front pack and air purged mask have protection to USA approved EPA PM2.5 against viruses and their variants, influenza, asthma, allergies, odours and 1 micron particulant pollutants.





nanoTek air canister with pressure connector and gauge at the top.
 Max. pressure 300 psig (29.7 bar g)
 Stainless steel AISI 316
 Weight 2.4 kg (5.3 lb lb)



nanoTek herbal and perfume unit
 Provides natural herbal fragrance perfume (perfume not supplied),
 User air or fragrance to mask
 Material PVC
 Weight 1.1 kg (2.4 lb)



nanoTek back or front pack.
 Houses complete assembly.
 Storm proof. Colours may vary
 Total weight 6.7 kg (14.7 lbs)



nanoTek assembly plus mask
 connected as picture below

Important, Unique and Interesting nanoTek Facts:

The amplifiers may be described as 'solid state' design. There are no moving parts, no levers, springs, pulleys, bellows, nor pressure balancing metallic diaphragms, all of which are normally used in pneumatic instruments.

The amplifiers supplies constant air purge. The elimination of passageway crevices or corners from the amplifiers to the protection mask greatly contribute to eliminating internal condensation or micron oil droplets, as well as signal drift due to temperature change. In this way, the solid state **nanoTek** design has virtually negligible flow impedance, rendering the complete system highly insensitive to shock by accidental dropping or by external vibration sources, caused for example from use in military vehicles or tanks or similar vibrating 'pink' noise vibration !

The low gain amplifier LGA is basically the same design as the high gain amplifier HGA, but differ in inner dimensions. Pressure differentials and hence flow is achieved by the use of a thin, but strong, near nano molecular membrane stretched over a curved surface. **tekflo sensor** scientists found the optimum relationship between the pressure difference across the membrane, which is dependent on the aperture diameter of a pressure outlet in the curved surface, the radius of the curved surface, and minimal distance between the membrane and the curved surface,

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tekflo sensor's definition of an ideal membrane is one as having infinite tensile strength and virtually zero mass. While such an ideal is actually practically not possible, our minimum resolution of 0.0064 mm water column (0.00025 inches) and a typical full scale differential pressure across a membrane of less than 125 mm water column, our ideal membrane definition is sufficiently met.

Our **nanoTek** technology would not be possible using a so-called traditional diaphragm. Diaphragms fail to meet our definition. They are normally made from metal and are designed to displace a large enough pneumatic or electrical output to produce a useable signal. Such 'diaphragm' technology and 'mechanisms' cannot be effectively used effectively in **nanoTek** technology and are certainly not "solid state"

nanoTek system operates at near atmospheric pressures. The system would not be effective operating at higher pressures. With **nanotek** the operational air (or oxygen if ever used) from the amplifiers to the mask is virtually unimpeded. It is a fluidic gas law that at near atmospheric pressures most gases behave like a 'free' gas and are virtually incompressible ! In effect, one molecule pushes the next molecule in succession, as though forming one long 'chain' of molecules, from amplifier to mask. There are 2 major advantages in this. It has been well shown that the mean velocity of the air from **nanoTek** amplifiers is at or near Mach 1, yes the speed of sound ! This in turn provides a response time of around 10 mille seconds. Such fast response time is necessary because it is not known when an infected person near to you will sneeze or cough, nor when a gust of contaminated air could occur. The mask is internally and constantly purged to approximately 10 - 50mm water gauge, which is not uncomfortable for the user, but it is at a higher pressure than all airborne Covid viruses, their variants, influenza, SARS, MERS, pollen (hayfever), smoke, fog, odours, vehicle exhaust and city and industrial particulates down to 1 micron (PM2.5 USA EPA Approved). Consequently, the higher pressure within the mask prevents the ingress of all these viruses and pollutants and provides health protection. Note that the mask breathing respirators are also protected to PM2.5.

Copyright Warning: **tekflo sensors nanoTek** unique designs are lawfully and strongly protected by formal agreements world - wide. **Tampering or disassembling nanoTek units may consequently result in copyright 3rd party litigation.** People's lives could be affected ! We take that seriously!

What About Gusts of Wind ?

Viruses and particulate pollutants mentioned above may be as small as approximately 1 micron in size (1 millionth of a metre) and are airborne. This means they are easily transported in normal external to mask air flow, with both low or high air velocity. It is exactly why such viruses and pollutants are so dangerous. Even a small cough, sneeze, close breath or clap of the hands will act as a reliable carrier and infect an unprotected person. It is why we have costly "social distancing" and "lockdowns" to reduce or prevent close contact with possibly infected people. It is also why we should "wear a mask", although the majority of masks are far from ideal, as reported above.

If we are out in parks, or where people tend to accumulate, the viruses and pollutants can be transported with even more effectiveness by gusts of wind. Thankfully, nanoTek has the answer to that. With reference to the nanoTek system layout below, it will be noted that the output from the High Gain Amplifier HGA is bi-directional, actually the first ever bi-directional solid state air pressure amplifier ! Should an infected wind strike the mask with a “gusty” higher than normal impact pressure, there is a double nanoTek protection called immediately to action, actually within 10 milliseconds! The resultant micron sized germs or pollutant will also be stopped immediately by a large area of electrostatic protection built into the mask and its 2 breather respirators. You probably need to check your existing mask of sorts for these important life saving features ! Your checking will probably be in vain, but Tekflo sensors are ready to help.

The gust impact pressure is immediately detected by the HGA amplifier within 10 milliseconds. Remember, the HGA responds at or near Mach 1, the speed of sound and produces an amplified pressure significantly greater than gusts of wind pressure up to 40 km/h, 24 mph, or a Beaufort Number 5.

Net result: you remain protected, but you must be wearing the nanoTek system!

Note: It is easy and fun to simulate this wind gust reaction to your own satisfaction. In a safe environment, take the inside of the mask and try blowing down the aperture of the A – M tube leading from the mask. This simulates an attack from a infected gust of wind. No matter how hard or soft you try to pressurize your puff, you will be immediately greeted at the speed of or at Mach 1 with a pressurised answer from the first ever nanoTek solid state, bi-directional amplifier. It won't blow your tongue off, but it will make you aware that your nanoTek HGA amplifier turned on is always there to protect you, as nothing else ever could !

The nanotech Mask – You Breath What You Like To Breath

The diagram below shows the layout of the nanoTek Herbal and Perfume Unit HPA. This facilitates the use of just fresh air to the Mask M. Alternatively, the air may be mixed as required with a pleasant herbal or a perfume with a make of your choice. Herb aromas have been shown to enhance memory and pleasantly activate your emotion.

We do not supply the perfume, but we do supply normally supply Thai herbs with a refreshing Aroma. The air input from the Low and High Gain Amplifiers enters the HPA Unit.

When a wind gust occurs on the outside of the mask there is a momentary reverse flow and pressure from the HPA to the High Gain Amplifier. This reverse flow lasts not more than 10 milliseconds, since it causes an immediate HGA reaction to negate the wind gust by a return to a normal flow mean velocity at or near Mach 1, at a pressure of approximately 10 mm water column. Thus wind gust effects are of no consequence.

The two Perfume Aroma Valves PAV and Herbal Aroma Valves HAV shown in the circuit diagram and below the PC and HC valves may be carefully adjusted according to the amount of perfume or herb mixed with air to the preference of the user.

For air only preference to the mask M then the PAV and HAV valves must be completely closed.

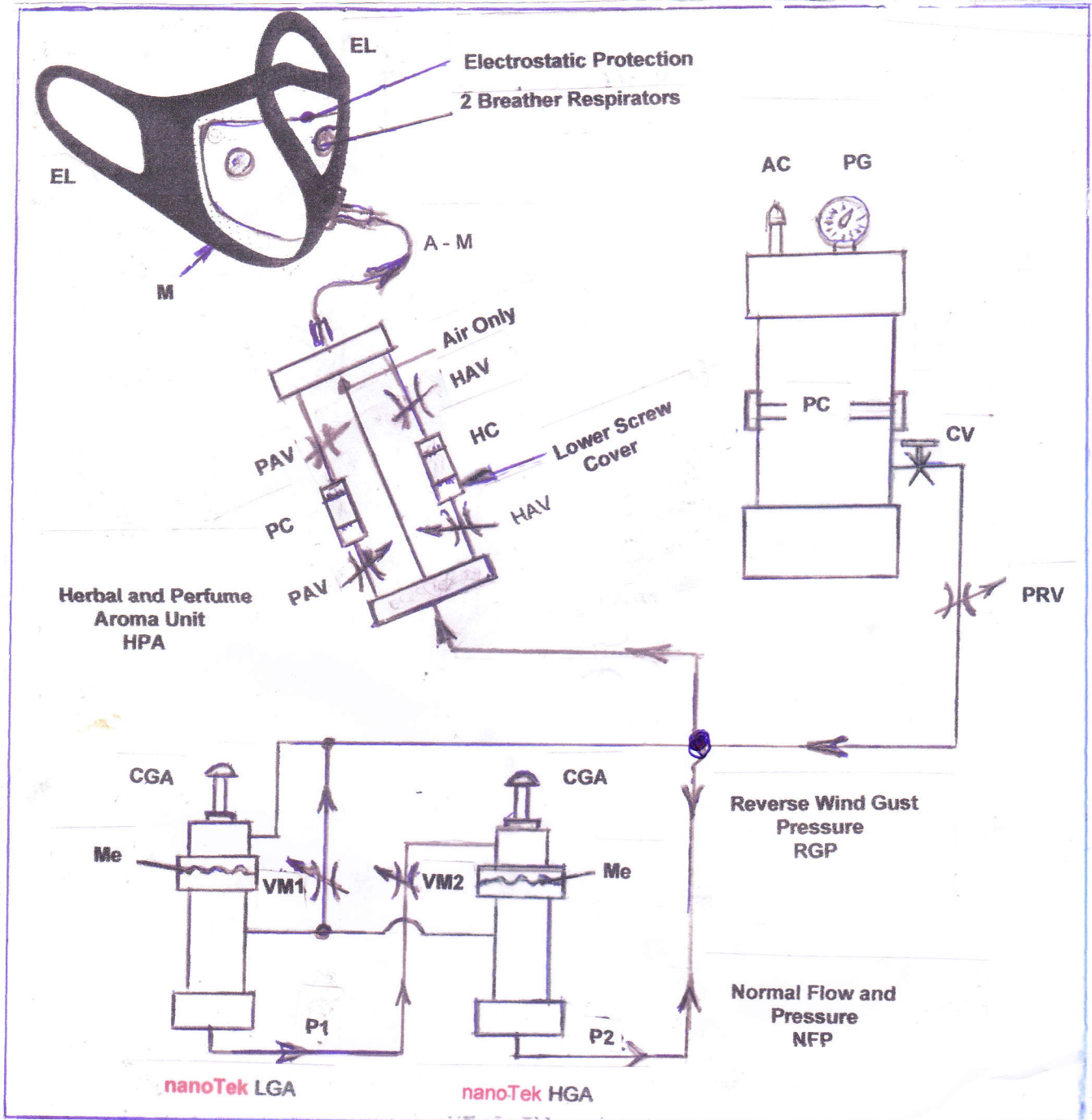
NanoTek System Connection Diagram

Warning: The NanoTek system is supplied in a back pack. This may be worn on your back or to your front. All connection tubing and parts have been factory checked. There should be no reason to remove the assembly from its pack, unless for replenishing the Herbal or Perfume Aroma Unit. Remove parts without interfering with the connection tubing. Take care the tubing is not disconnected. When reassembled there must be no disconnection, tubing folds or tight bends. This, together with tampering or disassembling any components, except for replenishing herbs or perfume in the HPA unit, will negate our warranty and illegally contravene our world-wide legal agreements.

12 nanoTek System Diagram

Warning: The nanotek system is supplied in a carrier pack. This may be worn on your back or to your front. All connection tubing and parts have been factory checked. There should be no reason to remove the assembly, unless for replenishing the Herbal Or Perfume Aroma Unit. Remove parts without interfering with the connection tubing. Take care the tubing is not disconnected. If reassembled there must be no disconnection, tubing folds or tight bends.

Caution: Tampering with any components, except for tubing, or replenishing herbs or perfume will negate our warranty, perhaps with legal consequences.



Tekflo Sensors

'Sensing the pulse of industry and health'