



intarSANIT-TPD is the solution for the sterilization and purification of the air in food handling rooms, industrial kitchens, clean rooms and other establishments.

Ultraviolet irradiation renders the DNA of micro-organisms useless, preventing their reproduction. HEPA filtration with 99.995 % efficiency in 300 nm particles.

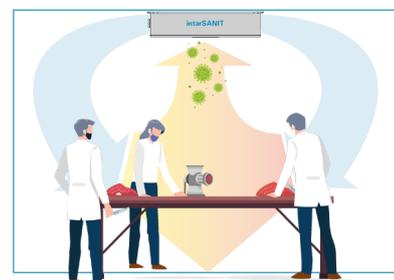
Features

- ▶ 230V 50Hz power supply. Available in 60Hz. Others voltages by request.
- ▶ Built-in a white coated aluminium frame.
- ▶ Compact and lightweight design.
- ▶ G4 pre-filter.
- ▶ UV-C germicidal irradiation.
- ▶ HEPA filters.
- ▶ Radial variable speed EC fan.



- ❄️ Air cold room filtration, sterilization and purification.
- ❄️ Double sterilizing effect: UV-C radiation and HEPA filtration.
- ❄️ Easy ceiling installation.
- ❄️ Sterilization system integrated in double flow evaporator unit.

Installation scheme



HEPA filtration

The HEPA filters have a retention efficiency of 300 nm particles of 99.995 %. That is, for every 100 thousand particles of 0.3 microns in diameter, only 5. As shown in figure 2, the droplet size (1 micron) is greater than the MPPS (300 nm), which allows to conclude that the HEPA filter is effective at retaining aerosols.

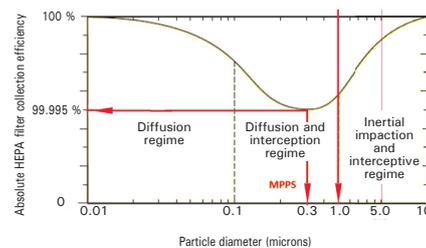


Fig. 1. Filtration efficiency of a HEPA filter. The UNE EN 1822 standard defines the filtration efficiency of a HEPA filter as the filtration performance of the particle with the highest penetration MPPS (Maximum Penetration Particle size). Particles around 0.3 μm are the most difficult for an absolute HEPA filter to trap and are what dictate the efficiency of the filter. The smallest nano-particles are easier to trap through the diffusion phenomenon, the larger ones through the impact, inertial and interception mechanisms.

230V 50Hz | Purification

Series / Model	Flow (m³/h)		Recommended room volume (m³)	Cooling capacity (kW) ⁽¹⁾ (optional)		Coil (optional)		Fan		Max. current (A)	Input power (kW)	Range (m)	Weight (kg)	SPL (dBA) from 3 m ⁽²⁾	
	Min.	Max.		SC1: 10 °C 85 % RH DT1 = 10 K	V. min.	V. max.	Fin spacing (mm)	Surf. (m²)	Vol. (litres)						Type
TPD-3	1 500	3 000	100 - 200	4.0	6.0	5.0	13	5.8	Radial EC	1x Ø 280	2.9	0.7	6	95	49
TPD-6	3 000	6 000	200 - 400	8.0	12.0	5.0	26	7.6	Radial EC	2x Ø 280	5.8	1.3	6	180	52

Options

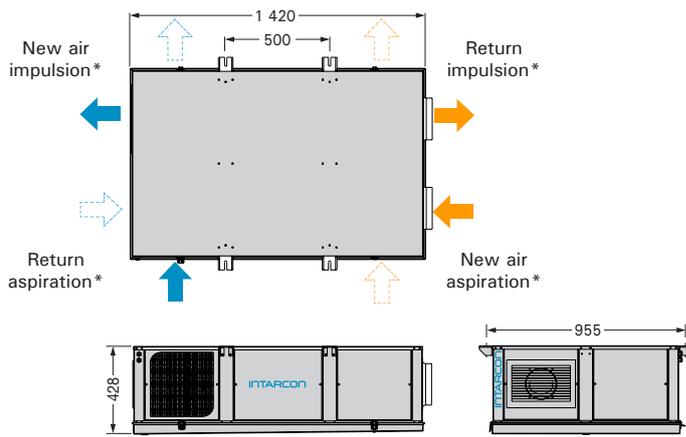
- ▶ Carbon filter.
- ▶ Evaporator coils and expansion valve (R-134a or R-449A).

⁽¹⁾ Nominal performance for outdoor ambient conditions of 35 °C 40 % RH.

⁽²⁾ Sound pressure level, with directivity 1, measured at 3 m from the unit (non-binding value calculated from sound power).

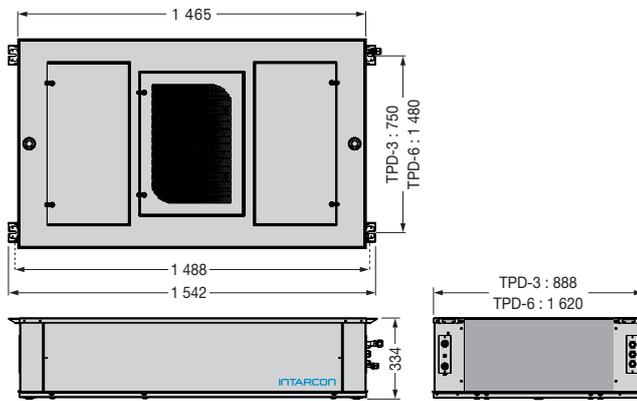
Dimensions

TCH series



* Interchangeable air connection sides.

TPD series



Dimensions in mm.

Control

iPro electronic control with distance digital display.

- ▶ Air supply temperature control.
- ▶ Room temperature control.
- ▶ Control option: remote touch display.
- ▶ Serial communication (TCH).
- ▶ Filter status control (TCH).
- ▶ Air flow control (TPD).
- ▶ External communication (TPD).



Air pathogens transmission

When talking, coughing or sneezing, small droplets are emitted that evaporate quickly and give rise to aerosols of very small particles. These micro-particles can remain in the air for hours and be transported long distances. It has been shown that the survival of viruses and bacteria in these particles is greater the lower the air temperature. The transmission of pathogens by air in closed places is favoured by the recirculation of air without sterilization or filtration treatment and the absence of ventilation with outside air, and it has been shown that these aerosols are the main contagion route of COVID-19.

The simulation of the transmission of aerosols in a process room shows that the probability of contagion in a room without ventilation is 15 times higher than a room equipped with a minimum renewal of outside air and an adequate level of filtration.

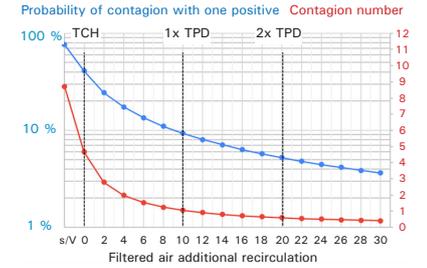


Fig. 2. Simulation of the probability of contagion given a positive in a 200 m² workroom with 13 workers at a temperature of 12 °C. Source: Prof. José L. Jiménez, Dept. of Chem. And CIRES, Univ. of Colorado-Boulder.

Ultraviolet light sterilization

Ultraviolet UV-C radiation of wavelengths of 280 nm - 200 nm damages the DNA of many micro-organisms and prevents them from reproducing. In this way, bacteria, viruses and fungi can be eliminated without leaving residues. The ultraviolet light is placed in the ventilation section to concentrate its biocidal action on the HEPA filters, the G4 pre-filter and the access doors, keeping the interior air treatment section sterile; This guarantees the best hygiene during filter replacement and unit cleaning.



Fig 3. intarSANIT complies with UNE 0048/20 June 2020, on the protection of the health and safety of workers against the risks related to exposure to artificial optical radiation.