

SAFE AS HOUSES

Coach operators who want to coax customers back onboard have to adopt a proactive approach towards combating COVID-19, reports Steve Banner

This is a message that has been taken on board by Anthony's Travel, among others. With 11

coaches ranging from 32- to 49-seaters plus five minibuses, the Runcorn, Cheshire-based company has adopted a variety of measures in a bid to build client confidence, says managing partner, Richard Bamber. They include equipping all of its coaches with both the Hispacold eco3 (pictured right) and PEPA-F air filters.

The former, produced by a subsidiary of Irizar Group, sits in the part of the climate-control system that controls air flow and supply. First introduced in 2008, its ability to combat major health risks has only recently been fully appreciated. It allows ozone to be blown into the passenger saloon at a rate of up to 0.05ppm along with negative ions, sterilising the atmosphere. Doing so eliminates viruses such as SARS-CoV-2 – which causes COVID-19 – as well as micro-organisms, germs and allergens, says the manufacturer.

Tests carried out by biological defence specialists at Spain's National Institute of Aerospace Technology last



October in a 15m coach fitted with two eco3 air purifiers indicated that they could deactivate 99.7% of the SARS-Cov-2 virus. Bio-safety requirements dictated that the trial had to be conducted with the MS2 virus rather than SARS-Cov-2. However the conclusions reached are valid, Hispacold believes, because MS2 is ten times more resistant to elimination than SARS-Cov-2.

The eco3 purifier can be installed in all makes of coach heating, ventilation and air conditioning system, says Hispacold, comes with a 20,000-hour guarantee, and requires no maintenance.

OEM PROGRAMME

Volvo Bus outlines a variety of anti-COVID-19 measures operators can take under its Clean & Care Programme. They include the use of a transportable ozone generator for 20 minutes daily. It weighs 3kg and requires mains power.

The vehicle should be empty while the generator is being used, Volvo Bus advises. It should then be left to stand for 20 minutes once the generator has been switched off before passengers are allowed to board.

Such caution is perhaps understandable given the criticism the use of ozone generators has attracted from a number of bodies worldwide. The Canadian government advises against their use in the home on health grounds, and in Australia the government of New South Wales discourages their deployment too. The US EPA says: "When inhaled, ozone can damage the lungs. Relatively low amounts can cause chest pain, coughing, shortness of breath and throat irritation" (see also www.is.gd/labara).

It should be stressed, however, that there are no reports of generators such as eco3 harming travellers, and Hispacold has supplied over 10,000 of them. Any risk that generated ozone may

"After we've fogged our vehicles they have to be left to stand for around four hours before they can be used again. In practice, we usually leave them for six hours"

James Sharpe

present has to be balanced against the undoubted threat of SARS-Cov-2.

The Health and Safety Executive advises that any disinfectant applied as a fog, mist or vapour must comply with the Biocidal Products Regulation. So must ozone generation.

The PEPA-F (Pathogen Eliminating Particulate Air Filter) purifier referred to earlier is a dual- or triple-laminated foam filter impregnated with silver (an antibiotic material) that can also be installed in the climate control unit. Made by FCL - Filtration Control Ltd - it is said to capture almost 100% of airborne particles which may contain pathogens and SARS-Cov-2.

Distributor Airconco points out that the filter only takes ten minutes to install and can last for up to six months. Changing it does not put technicians at risk, the company stresses, as it kills viruses as opposed to blocking them.

Other steps taken by Anthony's Travel include fogging the interiors of its vehicles and spraying them with a disinfectant mist. "Spraying only takes a minute or two and we treat our vehicles two or three times a week," says Bamber.

NEW PROCEDURES

Says James Sharpe, a director of coach firm Sharpes of Nottingham: "We fog our vehicles every four weeks and spray their interiors with Virosol every couple of days." Virosol is a disinfectant made by Virosmart.

"After we've fogged our vehicles they have to be left to stand for around four hours before they can be used again," he adds. "In practice, we usually leave them for six hours.

"Once they've been sprayed we leave them to stand for two hours prior to use."

Sharpes operates some 35 buses and coaches.

As the foregoing suggests, operators who want to protect their customers and employees against COVID-19 have to be willing to invest.



Ionic Systems offers a petrol-powered fogging machine with a £1,250 price tag. It employs a disinfectant, called Vanoquat from Evan Vanodine International, approved to EN 14476.

Says Ionic UK sales manager Patrick Whittaker: "It takes a couple of minutes or so to fog a coach; then we suggest you leave it for an hour." The recommended length of time during which vehicles should remain idle after treatments clearly varies according to the equipment and the material used. Ionic has supplied fogging equipment to Rotala, which owns Diamond Bus and Preston Bus, among other operations.

Any expenditure has to be viewed in the light of the benefits it can accrue, and need not be enormous. "Retrofitting eco3 in a coach will typically cost you £450 plus labour," says Irizar UK sales director, Julie Hartley. "It is available through Masterpart and Airconco, and we've been installing it as OE in our i8 and i6S coaches for some time now."

Irizar Group offers a package that involves fitting a permanently-installed inlet to its coaches to be connected to an external nebuliser which can fog the interior automatically. The coach can be used again three to four hours after the 15-30 minute process.

Fogging, spraying, using ozone generators,

and installing special filters are not the only measures that can be taken in the ongoing fight against COVID-19 in coaches. Valeo has developed an air sterilisation module that relies on ultraviolet light technology. It is said to eliminate over 95% of viruses as well as any bacteria or mould present in air circulating in the passenger saloon. It can be integrated in the vehicle's climate control system or installed in a standalone box. A so-called light labyrinth ensures that passengers are not exposed to ultraviolet rays. Only the air passing through the box is purified.

The modules can be installed as OE or retrofitted, says Valeo. It argues that they can be used as an alternative to other disinfection methods, thus avoiding the use of chemical products. Another brand of UV-based system is Soluva, sold by Heraeus Noblelight.

National Express is using ultraviolet in its coaches as well as extra filtration plus fogging to address the virus risk.

Valeo too has come up with cabin air filters designed to shield the occupants from hazards such as pollen allergens and SARS-Cov-2. Made from three layers of non-woven material with a coating created out of polyphenols from plants, fruits and other natural sources, they have been certified as being capable of blocking 99.8% of viruses, including coronavirus. The independent certification bodies are TUV Sud, based in Germany, and CATARC (China Automotive Technology and Research Centre), says Valeo.

Finally, one way of reducing the risk of virus transmission in coaches, suggests Irizar, is to run the climate-control system with the inlets always fully open. That means that the air is renewed every three

to six minutes, reducing the risk of infection being spread. Simple; and hopefully, effective. **TE**

