

# David Livingstone

Managing Director and lead  
Authorising Engineer (AE)  
for Ventilation of DRLC Ltd



David set DRLC up in November 2016 after over 30 years of experience of Building Services Engineering in the Public Sector

*In conversation David told us:*



I started my career as a Marine Engineer in the Merchant Navy. I moved into hospital Building Services in my 20's and at one time I believe I was the youngest Senior Engineer in the country.

Running the engineering services on a ship and in a hospital have many similarities especially as they both have to operate 24/7 and 365 days of the year.

I set up our Consultancy with the aim of improving the efficiency and safety, especially microbiological cleanliness, of Critical Ventilation in Healthcare premises.

We have grown from the early days and now, in addition to myself, we have two Junior Ventilation Engineers and also offer AE Fire Safety and AE Pressure Systems. DRLC offer Mechanical Systems Design Review and have recently launched a pre-CQC Inspection audit package.

I personally get satisfaction from troubleshooting and investigating long standing and intractable engineering issues and formulating solutions. I have recently been instrumental in solving a commissioning problem in a hospital with a Low Temperature Hot Water system (LTHW) and chilled water which had been ongoing for 5 years and was costing the Trust money on a daily basis due to energy wastage.



*David's view is that currently there are two main drivers for Healthcare Ventilation improvements. These are dealing with the challenge of airborne infection from Covid-19 and changing systems and practices to adapt to Net Zero Carbon (NZC) systems. We've summarised his advice overleaf.*



Wind farm on the moors outside Sheffield generating Net Zero Carbon energy (Photo © Dr Louise Webb)

*In conclusion David said:*



I am looking forward to a happy and healthy 2022 for you all. If you are curious to see how we at DRLC Ltd can help you please contact me on: [David@drlc.uk](mailto:David@drlc.uk)



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## Reducing Covid-19 transmission by Ventilation Systems

- ✓ Check ventilation ductwork from intake to pre-filter annually and clean if required
- ✓ Air Scrubbers play a part in clean air systems however ensure a maintenance policy is agreed and that they are on the Asset Register
- ✓ Wall mounted Air Conditioning Units are prone to throw the air across rooms. Restrict their use in Healthcare premises to the minimum
- ✓ HTM03-01 (2012) guidance is to inspect Critical Ventilation Quarterly and carry out Annual maintenance
- ✓ Treatment and waiting rooms with opening windows can use natural ventilation to dilute any airborne virus
- ✓ Ensure AHU filters are checked regularly and when they are changed check they are fitted correctly. A filter with an air gap will not deliver clean air.

## Net Zero Carbon and Ventilation

- ✓ AHU being newly installed or refurbished should be fitted with EC plug fans
- ✓ Large belt driven fans which use a lot of energy can be effectively replaced by fan walls
- ✓ Plan to upgrade old AHU units - the cost of replacement can be recouped by the energy savings from new plant
- ✓ Ensure filters are kept clean as this reduces the power required to drive the fans
- ✓ Inspect ventilation ducts and repair any leaks
- ✓ Switch off ventilation that is not required
- ✓ Ensure all new and refurbished plant has an energy recovery unit



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