What to consider when upgrading to a condensing water heater system

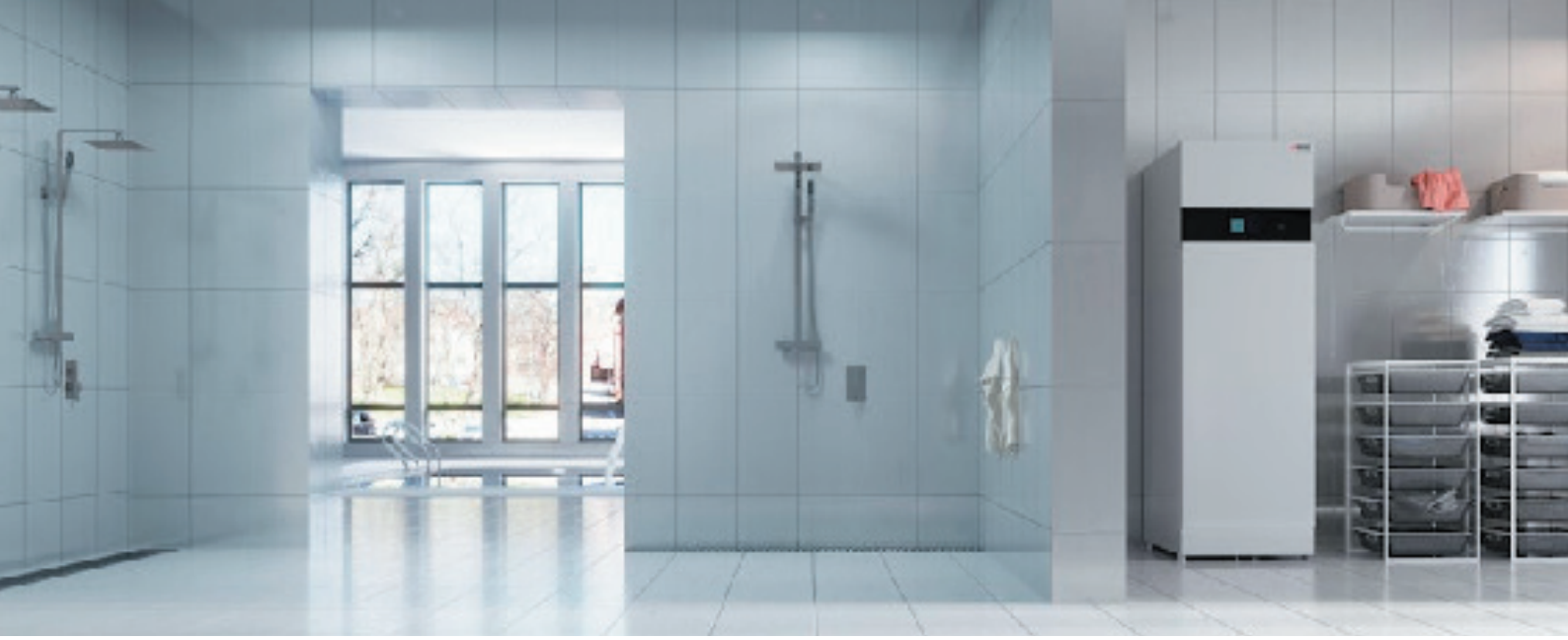
Following the updates to Approved Document L of Building Regulations and the uplift that ends the option to carry out like-for-like non-condensing water heater replacements in most commercial buildings, we assess the key practical factors to consider when upgrading to a new energy efficient hot water system.

SIZING UP FOR THE JOB

To be forewarned is to be forearmed, so the best starting point is to gather as much information as possible about the building and its current usage. This is particularly important for refurb projects in buildings such as hotels, sports facilities, or care homes, which may have experienced an extension, sanitary fittings upgrade or increase in occupancy since the previous installation. Oversize and you could be faced with a reduction in system efficiency and increased energy wastage. Undersize and you could end up with very frustrated building occupants and the risk of a bad reputation.

CONSIDER EXISTING FLUE REQUIREMENTS

Once hot water demand is established, it's important to recognise the type and condition of the existing flue system and its route. When changing commercial non-condensing water heaters to condensing systems, existing flues often need to be replaced or lined to cope with condensate, which is acidic. As part of the upgrade, new flue systems need to be watertight and pressure-tight and designed to drain the condensate back into the water heater to then be drained out fully. To enable this condensate to drain properly (and to subsequently avoid it sitting or traveling back up the flue system), ACV specifies a minimum slope requirement of 5cm per meter (3°) for installation of their flue systems.



COPING WITH CONDENSATE DRAINAGE

As part of the upgrade, a provision must also be put in place to remove condensate. Without this, condensate can leak, corrode and ultimately cause damage to other equipment on the plant room floor. To avoid this, a suitable drainage system can be installed next to the water heater. For plant rooms where this is not an option, a condensate drain, or trap using corrosion-resistant material can be connected to the drainage system. For basement plant room installations, installing a condensate pump is also another consideration.

FURTHER THOUGHTS

Things can and do change over time, so it's also worthwhile to take a look at the whole hot water system as part of your final assessment. This can highlight any other potential updates that might be required, such as the specification of a flow-through expansion vessel. This will also provide the opportunity to ensure unvented accessories are in full working order. In addition to improving overall efficiency, these additional checks can also help to enhance service life and guard against the breeding of harmful bacteria, most notably Legionella.

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Our range of corrosion-resistant stainless steel condensing water heaters with tank-in-tank technology deliver exceptional peak and continuous volumes of hot water with long-term cost savings. A range of bespoke unvented kits that include appropriately sized expansion vessels for all our hot water products are also available.

For more information, visit: https://www.acv.com/gb/technology/water-heaters1

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