

Daikin VRV 5 compliance with relevant safety standards: FAQs

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Is VRV 5 compliant with EN 378?

Yes, EN 378 (which is a generic standard) specifically refers in its scope and clause 6 (excerpt 1) to the specific product standards, in this case, IEC60335-2-40. So, compliance with the IEC60335-2-40 means compliance with EN 378.

Should I look only at IEC when designing or installing a VRV 5 system?

Yes, by following IEC 60335-2-40, we can ensure compliance with EN 378 and, as such, ensure that all required checks related to the maximum refrigerant concentration per room are carried out. For other elements, for which IEC is not offering guidance, such as the installation of outdoor units in open air, you should specifically look to EN 378.

We used to follow EN 378 for refrigerant concentration evaluation towards toxicity limits. Was this wrong?

No, however, as previously explained, following IEC 60335-2-40 is sufficient to ensure your system complies with the safety requirements for both toxicity and flammability.

To which ranges do these changes apply?

These changes apply to all VRV 5 ranges, including S-series, H/P and HR. Through the use of Shîrudo technology, or where room concentration is sufficiently low, such as in large spaces, Daikin ensures that toxicity limits are not exceeded.

When can these changes be communicated towards the market?

These changes are the result of extensive, in-depth analyses and tests conducted by Daikin European Design Centre. As there were no physical adaptations to the product, this message can be applied and communicated immediately.

What happens in terms of power loss to the system?

For short-term power loss during servicing, the standard states that it is acceptable for leak detection to be disabled.

For longer-term power loss, the system will revert to a low-pressure state. In this state, there would be no reason for leaks to develop, except in the case of catastrophic loss, i.e. cutting through pipework or serious fire (>800°C), which is outside the scope of both IEC 60335-2-40 and EN 378.

What are the independent power supply requirements for leak detection?

The latest edition of IEC 60335-2-40 no longer requires independent power supplies.

IEC defines in Ed 7 of the standard that no backup or separate power supply is required, either for the shut-off valves or alarms. As we strictly comply with the requirements of Ed. 7, by extension, we therefore intrinsically comply with EN 378.

In practice, the probability of a space exceeding the toxicity concentration in the event of a leak at the same time as a power failure is deemed to be negligible. Hence, the removal of the need for back-up power in the IEC 60335-2-40 standard.

By complying with the requirements of the IEC standard, all parts of EN 378 are met by default.

Why is Daikin updating its IEC and EN 378 messaging now?

Daikin's priority is to communicate clearly, accurately and with confidence. We conducted detailed internal reviews and worked closely with relevant standards bodies to ensure our position fully aligns with the latest interpretations of the standards. This process took time, but it means we can stand behind our statements.

In turn, you can communicate this information to customers with confidence, knowing it is correct and fully supported by Daikin.