

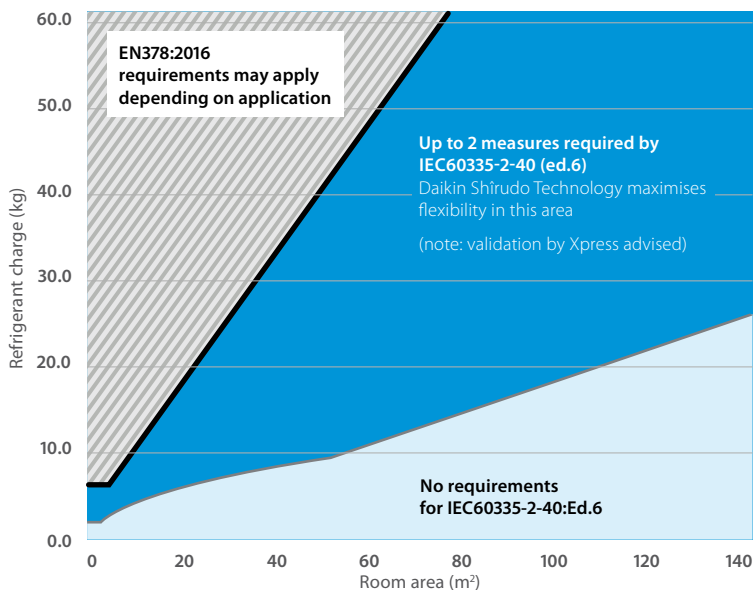
Did you know ...

different standards regarding safety exist?

Refrigerants can be classified according to 2 safety groups:

- > Flammability (1, 2L, 2, 3): covered by the specific heat pump standard **IEC60335-2-40 (Ed. 6)** as it prevails over EN378:2016
- > Toxicity (A or B): covered by the generic standard on refrigerants **EN378:2016**.

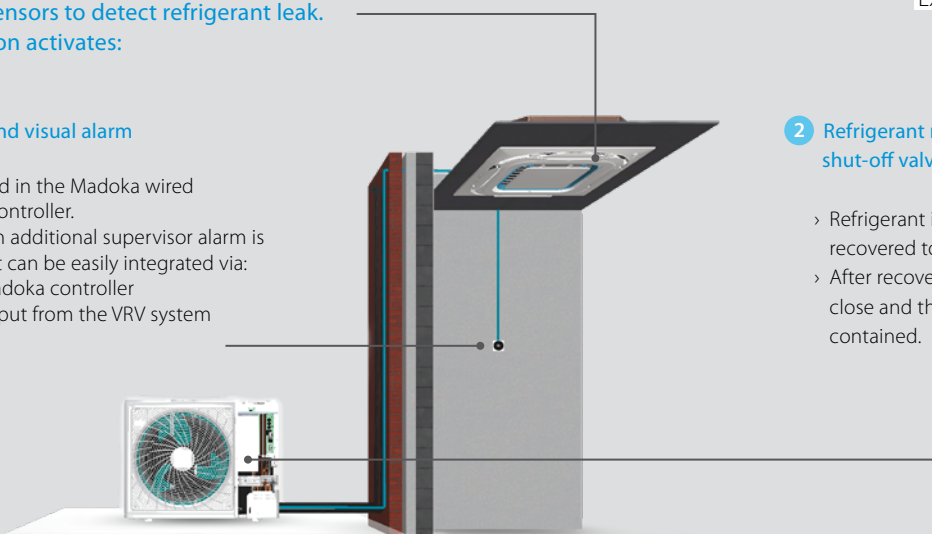
Shirudo Technology focuses on offering maximum flexibility within the IEC60335-2-40 (Ed.6) requirements as limitations for flammability of A2L refrigerants are stricter than the ones for toxicity.



Integrated sensors to detect refrigerant leak. Leak detection activates:

1 Audible and visual alarm

- > Integrated in the Madoka wired remote controller.
- > In case an additional supervisor alarm is needed it can be easily integrated via:
 - > The Madoka controller
 - > An output from the VRV system



2 Refrigerant recovery and shut-off valves

- > Refrigerant is automatically recovered to the outdoor unit.
- > After recovery, shut-off valves close and the refrigerant is safely contained.

Example for VRV 5 S-series



Peace of mind



With Shîrudo Technology, Daikin ensures compliance to the product standard IEC60335-2-40 (Ed. 6) for indoor units. With factory-integrated refrigerant control measures, these systems are also the quickest and most flexible to design.

There is **no need for complex and time consuming calculations**, even for small room applications. And BSSV boxes come with a ventilated enclosure for quick and simple integration of any potential additional measures – making installation in demanding spaces easier than ever.

For stress free design of any commercial building, validate your project in our Xpress software, featuring floor plan integration.

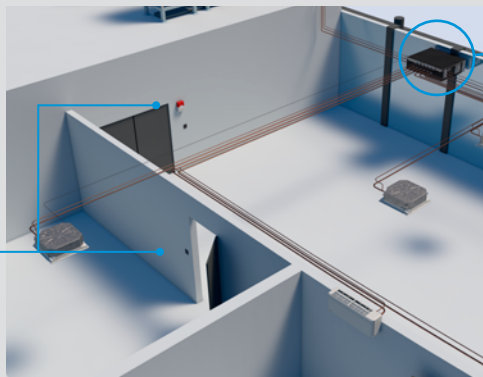
Refrigerant control measures factory-integrated

Shîrudo Technology includes 2 factory measures and sensors built into a VRV 5 system.

Integrated sensors to detect refrigerant leak.
Leak detection activates:

1 Audible and visual alarm

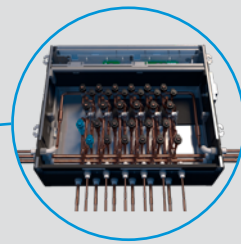
- › Integrated in the Madoka wired remote controller
- › In case an additional supervisor alarm is needed it can be easily integrated



Example for VRV 5 Heat Recovery

2 Refrigerant recovery and shut-off valves

- › Shut off valves of the affected refrigerant branch are closed, containing the leak
- › The rest of the system remains in operation



Compliance taken care of

- › No study or calculations needed on where and how to install outdoor or indoor units.
- › No need for studies to decide if and what safety measures are required.
- › Third party CB certified by a notified body (SGS CEBEC).

Automatic, real time leak detection and refrigerant containment controls

- › Fully compliant to product standard (IEC60335-2-40 (Ed.6)), reducing the risk of direct CO₂ eq. impact from a refrigerant leak.
- › Real time leak detection sensors, triggering refrigerant containment measures in the unlikely event of a leak.
- › No leak check requirement for majority of VRV 5 S-series installations (up to 7,4 kg of refrigerant charge) and reduced intervals of leak check for bigger installations.

(1) Refer to Xpress selection software to ensure compliance to specific product standard. Field supplied duct and fan may be required to install the BS box in very small spaces.

Check out the
Shîrudo Technology
video!

