

How Low Is “Low Charge”?

Currently, there is no clear definition for the concrete values of “low charge” refrigerating systems. There is only one figure that is commonly known in this context – it is 4,500 kilograms mainly referring to the ammonia inventory. This value was set after a devastating accident in the USA in 2013.

However, many companies and institutions use the term “low charge” in different ways. This motivated a study with the specific aim to define values for “low charge”. The study found that the best system to define these values is by comparing chillers. Chillers tend to be on a skid and do approximately the same at a standardized temperature level. The results of the study show that chillers rarely reach a charge of 4,500 kilograms ammonia. Therefore, other references are required.

The study proposes that the ammonia inventory should be given in terms of kilogram per kilowatt. Further work is necessary to detail these charge indications. Thus, the study marks a first step toward a clear definition on how low is “low charge”.

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