



# NATIONAL REFRIGERANTS

## SUSPECTED LEAKING OR UNDERFILLED REFRIGERANT CYLINDER NOTICE

From time to time, we receive reports from clients that they suspect they have a possible leaking cylinder, or they believe their cylinder may have been underfilled.

This usually emerges when the engineer needs to put a certain amount of refrigerant into the system to make it function correctly.

### Example:

**System requires 18 Kg of refrigerant, engineer purchases 2 x 9 Kg cylinders of refrigerant and charges the system, after charging they find it still needs another 0.5 Kg. It is assumed that one or both cylinders were not full.**

We fill hundreds of thousands of cylinders every year and while rare, we do occasionally get the odd one or two that develop small leaks.

This can easily be checked by simply using leak detector spray around the valve area paying particular attention to the area where the valve enters the cylinder.

If you suspect a cylinder could be leaking, please quarantine the cylinder returning it back to your supplier labelled faulty.

When the cylinder is received back at National it will be leak/pressure checked with a full report and all its findings sent to the supplier.

When filling cylinders our policy is to fill each cylinder a few grams over its target weight to completely ensure customers receive the minimum amount declared on the cylinder.

Cylinders are filled using trading standards approved weighing scales calibrated to trading standards specifications.

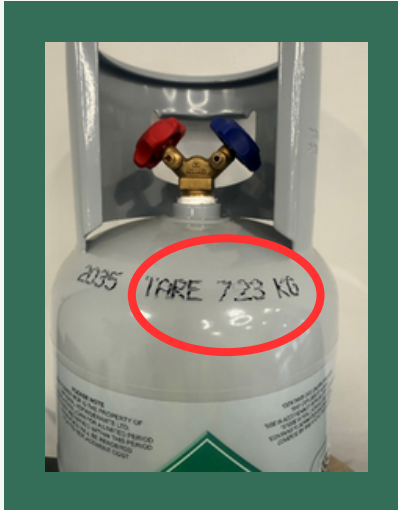
At the start of every day each scale is checked using a calibration weight to ensure they are correctly calibrated. At the beginning and throughout the day cylinders are randomly checked for filling accuracy.



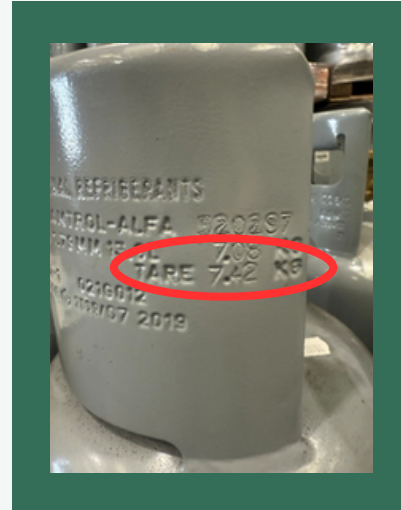
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Anyone that has purchased a cylinder of refrigerant can easily check if a cylinder has the correct amount of refrigerant prior to removing the valve seal.

**A cylinder “Tare” weight is the weight of an empty cylinder.**



**Tare weight printed on  
Cylinder**



**Tare weight stamped  
into cylinder**

If you add the fill weight (9Kg) to the tare weight (7.23);  $9+7.23$ , the full cylinder should weigh 16.23 Kg's.

## **\*NOTE:**

**Weighing scales are delicate precision instruments prone to wear, tear, and knocks that can affect calibration. They should be checked for accuracy before each use by weighing a known, calibrated weight.**

## **Refrigerant Heel**

Refrigerant heel is the vapour that forms as liquid refrigerant is drawn out. When a cylinder is emptied, the space left by the liquid must be replaced, unless the cylinder is placed under vacuum, some heel will always remain and must be factored into calculations.

Though often overlooked, the refrigerant heel, in a small cylinder, can weigh 0.5–1 kg depending on the refrigerant type and ambient temperature. Without vapour removal, you will not extract all the refrigerant from the cylinder.

**FOR MORE INFORMATION, PLEASE CONTACT CUSTOMER SUPPORT ON  
01455 630 790.**