



# Focus harder on leak reduction

Peter Dinnage, Commercial Manager with IDS Climalife, is a well-known and highly respected speaker on refrigerants and on F Gas legislation.

The recession has had a big impact on refrigerant sales. After nearly 25 years in the refrigerant business I can safely say that the last two years have been nothing like anything that went before. Although the market conditions are tough, at IDS, we have continued to try and give an excellent service to our customers with the ever changing supply situation. As for the next 12 months I am positive that it will reward those who are proactive and listen to their customers and help them.

## R22 replacement

There is still an ongoing demand for both R22 reclaim and R22 alternatives. We have many regular customers still doing conversions to the ISCEON 9 Series and many others asking for help in choosing the right R22 replacement for their application. Some who planned to put in new equipment are now looking at conversion because of market uncertainty and the economic climate.

Direct replacement refrigerants have been very successful across Europe. The main refrigerant of choice is R422D (ISCEON MO29) but there are some applications where other alternatives are better suited. We have never claimed that there is a one size fits all and care is needed in converting any equipment to get the best out of it. Following conversion guidelines, knowing how a system operates and seeking good sensible advice is key to a successful conversion.

There is also still a significant bank of R22 equipment out there. Many have made a big effort to ensure they have as few leaks as possible. If we weren't getting back R22 to reclaim, we wouldn't have any reclaimed R22 to sell. There is a much wider picture though, as there is a legal requirement to recover all refrigerant, particularly at the end of equipment life. Obviously it is good to reclaim as much as is feasibly possible and we are seeing increasing quantities of other refrigerants returned to us for reclamation.

## Review of the F Gas Regulation

There are some good things, but the full potential has yet to be realized, not least because of policing and the lack of implementation in some countries. There is definitely scope to reduce leaks further, under current legislation.

## An acceleration towards natural refrigerants?

That is not how I read the report. Yes there are some interesting options to use other fluids, but some carry other risks that also need to be properly addressed over the equipment lifetime.

The message is clear, refrigerant emissions need to be reduced much further and that should be the main focus, not banning the use of any one refrigerant in a specific application.

It is worth noting that the P in GWP stands for Potential and that potential to affect global warming is only realized if it leaks or is not recovered at end of life. No one designs or installs equipment with the intention of it leaking, irrespective of the refrigerant used. With ammonia and hydrocarbons there are potential safety issues with leaks, therefore the equipment design and ongoing maintenance is much more robust, similarly with CO<sub>2</sub> and its higher pressures.

As equipment gets older it can become more prone to leak. If there is no maintenance or it is poorly maintained, it can also become less energy efficient. How many are tempted to keep costs down by only doing maintenance after a leak?

If the problem is global warming, then energy efficiency and leak elimination should be the key drivers. A leaking 'natural refrigerant' will make a system use more energy and require greater quantities to be produced by chemical plants and therefore purified to get them to a grade that is acceptable for refrigeration use.

## Is refrigerant leakage reducing?

Yes it is, but there is scope to improve further and that is where I believe more effort should be taken to enforce the current legislation. Fixing all leaks or ensuring actions are taken to prevent leaks cost money and some are reluctant to spend unless compelled to do so. It is clear that there are those that ignore the current legislation, will they pay any attention to any additional requirements?

## Low-GWP/ HFO refrigerants?

Industry should be looking for the best option for their application taking into account, energy efficiency, performance, cost, safety and the environment. If HFC's or HFO's can meet those



requirements, then they should be considered part of the solution. There is a very good case for moving to low GWP refrigerants if they also offer energy savings, as is the case with Performax LT, when compared with R404A.

However, HFOs are not commercially available for refrigeration or air conditioning applications yet. With production for 2012 & 2013 of 1234yf likely to be swallowed up by demand in the automotive industry it could be 2014 before we'll start to see their use.

## A changing mindset

Manufacturers should be looking to use the safest, most efficient product for the application, whatever refrigerant that may be. The onus is on the industry to make sure the systems stay sealed and don't leak irrespective of the refrigerant.

The average engineer does see refrigerants as valuable but not as a hazardous commodity. The new generation of engineer will need to be better trained than ever before.