



ATMO
sphere



NOVUM'S NATURAL REFRIGERANT CHOICE:

Novum have been manufacturing self-contained, display cases for worldwide sale, for more than 50 years.

All from our manufacturing base in Dublin Ireland,





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Over the years we have made the changes from CFC's to HFC's and now HC systems.



Novum's Propane history

- ▶ The first Novum Propane store was installed back in 1999. This was for a UK customer, who today we supply nothing but R290 cases.
- ▶ It wasn't until 2010 that we had any significant volume of production with R290.
- ▶ In the last 3 years we have had a complete change over for our European customers, to 100% R290 production.
- ▶ The only HFC customers are some non EU or US customers who have not yet made the change.

Why HC's and Propane in particular?

The "Pro's"

- ▶ High Efficiency, gains seen of up to 40% saving.
- ▶ Higher heat transfer coefficient
- ▶ Similar system design/configuration
- ▶ Similar Pressure / Temp relationship to R404a
- ▶ Uses same POE oil as HFC's
- ▶ Lower discharge temp
- ▶ Very good miscibility with POE oil
- ▶ Low moisture absorption ratio

Why HC's and Propane in particular?

The "Con's"

- ▶ Flammability risk. Flammable between 2% and 9% mix with air.
- ▶ Higher cost cabinet, due to higher spec/cost components.
- ▶ Service tech training & equipment availability locally.
- ▶ Factory investment in HC plant & equipment
- ▶ 150gram gas charge limit.

Higher charge levels require ATEX approved components and restrictions on quantity V store air volume.

Novum solutions

- ▶ We have redesigned all our systems to achieve a gas charge level of less than 100grms per system.
- ▶ All our R290 cases use EC motors for safety and efficiency
- ▶ Only Hot Gas defrost used as it is intrinsically safe with R290
- ▶ Novum developed the NCS (Novum Cassette System)
- ▶ The NCS can be removed in minutes, with minimal disruption on the shop floor
- ▶ Servicing of the system can be carried out off site or on a service exchange basis.



Large remote plant



Wrap up.

- ▶ Propane is an efficient and reliable refrigerant solution.
- ▶ Novum have developed a simple, safe, reliable & effective solution for the end user and service providers with the NCS.
- ▶ Thank you for listening, any questions?

Novum Cassette

