

OEMs in HVAC-R

# Energy and Refrigerants under new regulations: get ready!

New energy regulations, legal obligations and labels, refrigerant bans and phase downs: how is it impacting my applications and how to optimize my system designs and applied costs? Find your way with Danfoss.

**Reduced**  
development times and maximized efficiencies with Danfoss expertise and ADCs\*



## Team up with Danfoss and get access to:

- Unique application expertise based on more than 80 years in HVACR
- A comprehensive product portfolio
- 19 product groups qualified for lower GWP refrigerants
- Application Design Centers to test and optimize OEM designs



## F-Gas affected applications

The F-Gas regulation puts in place HFC phase down from 2015 to 2030 by means of quota systems and sectorial bans on high GWP refrigerants.

**2015**      **2018**      **2020**



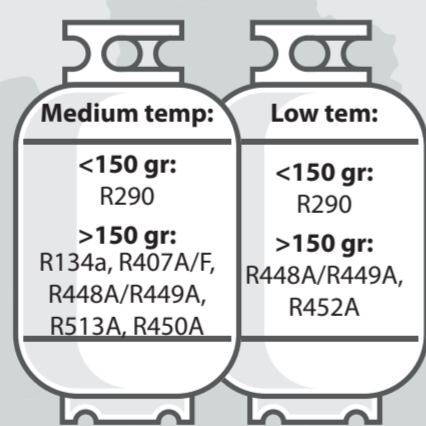
Domestic refrigerators and freezers with GWP ≥150

**-37%**  
OF CO<sub>2</sub> EQ. TONS

- Risk of shortage  
- Price impact



### Best alternatives



Movable room A/C, hermetically sealed with GWP ≥150



Stationary refrigeration equipment for temperatures above -50°C with GWP ≥ 2500



Commercial refrigerators and Freezers, hermetically sealed with GWP ≥ 2500



Servicing equipment using virgin refrigerants with GWP ≥ 2500 for temperatures ≥ -50°C and charge ≥ 40 tonnes CO<sub>2</sub>eq. Except for military equipment

**2022**      **2025**      **2030**



Commercial refrigerators and Freezers, hermetically sealed with GWP ≥150  
**Multipack centralised refrigeration systems for commercial use** with a capacity ≥40kW, GWP ≥150 and ≥1500 for primary circulation of cascades



Single split A/C systems containing less than 3kg of HFC with GWP ≥750



Servicing equipment using refrigerants with GWP ≥2500 for temperatures ≥ -50°C and charge ≥40 tonnes CO<sub>2</sub>eq. Except for military equipment



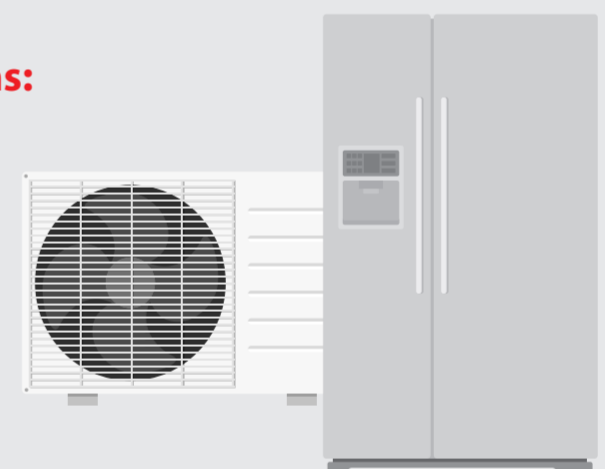
## Ecodesign and Energy Efficiency

The EU Ecodesign directive aims to improve the overall performance of products and thereby protect the environment. It includes several lots that impact the HVACR industry and may be complemented by the Energy Labelling Directive:

- ENTR Lot 1:** Regulation 2015/1095, 2015/1094. Professional Refrigeration.
- ENTR Lot 12:** Regulation not finalized. Commercial refrigerators and Freezers (Merchandising).
- ENER Lot 13:** Household refrigerators and freezers.
- ENER Lot 21:** Regulation 2016/2281. Comfort AC chillers ≥12 kW (includes high temperature process chillers).
- ENER Lot 10:** Regulation 206/2012. Air conditioning and reversible units ≤12 kW.
- ENER Lot 1:** Regulation 813/2013: space heaters and combination heaters. Regulation 814/2013: water heaters and hot water storage heaters.

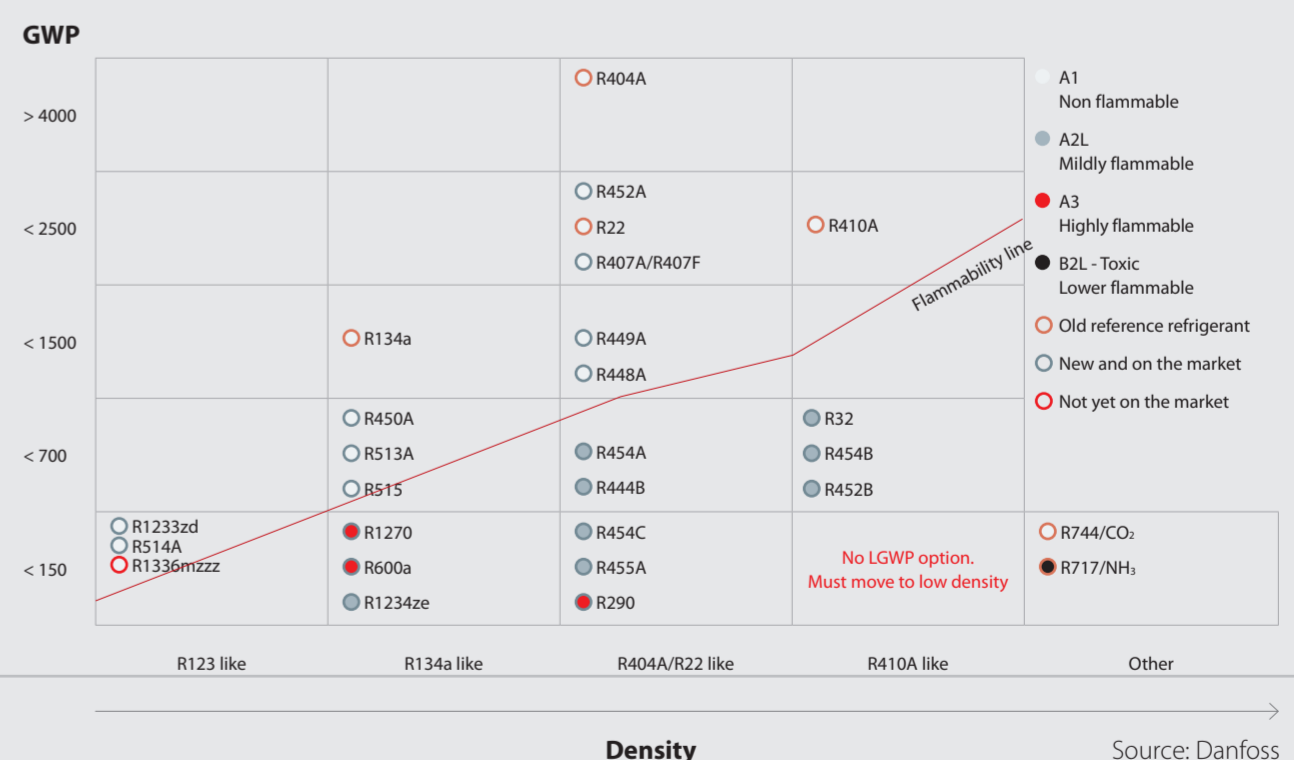
### ENTR Lot 1, affected applications:

- Service cabinets
- Blast cabinets
- Condensing units
- Process chillers



## Main refrigerants in play

Today's pictures of the key refrigerants for air conditioning and refrigeration.



## Let's talk

At Danfoss, we believe that long-term business relationships start with a conversation.

So contact your local Danfoss representative – and let's talk.



Scan the QR code to visit [refrigerants.danfoss.com](http://refrigerants.danfoss.com)