





Association  
of the region's  
leading HVACR  
manufacturers

# The future of cooling: Evaluating trends based on recently registered patents

# Content

-  Patent search and classification
-  HVACR patents classification
-  HVACR patents deposited in 2019-2022
-  Conclusions

# Patent search and classification

## Worldwide patents database

Espacenet offers free access to information about inventions and technical developments from 1782 to today

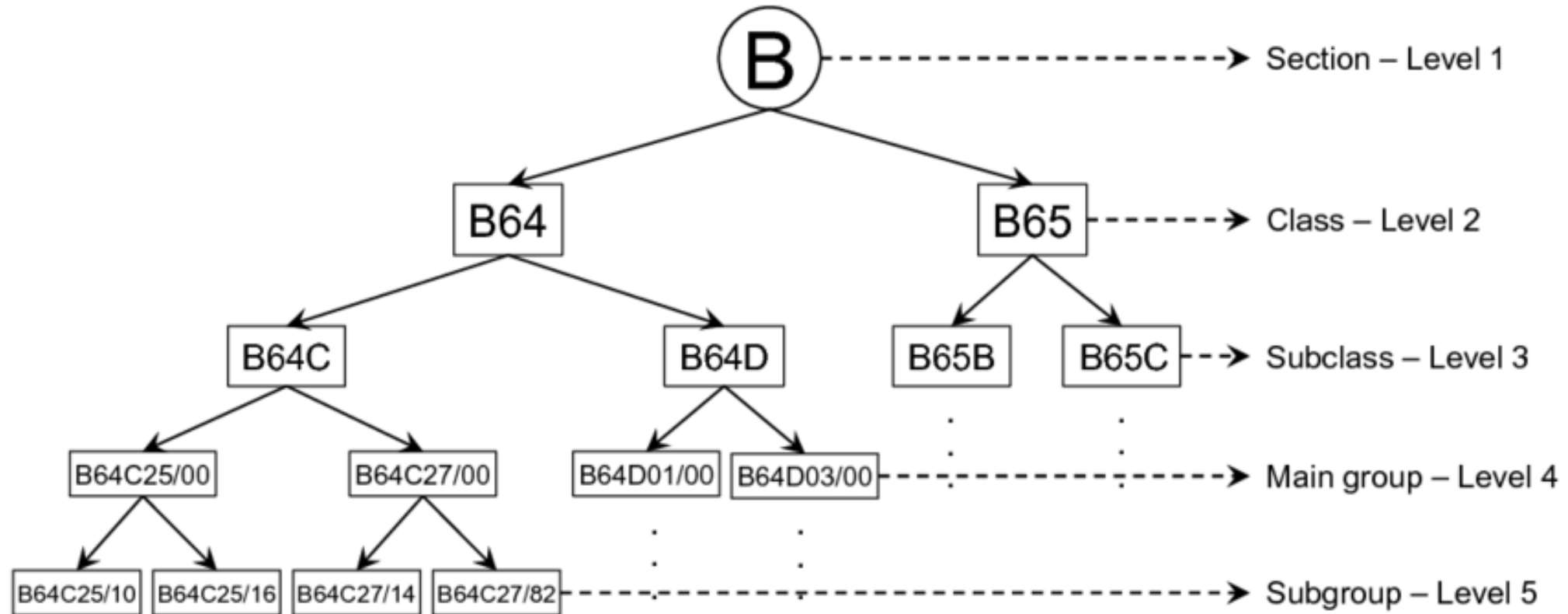
[https://worldwide.espacenet.com/advancedSearch?locale=en\\_EP](https://worldwide.espacenet.com/advancedSearch?locale=en_EP)





# Patent search and classification

## Patents Classification




# HVACR patents classification


## Two major families



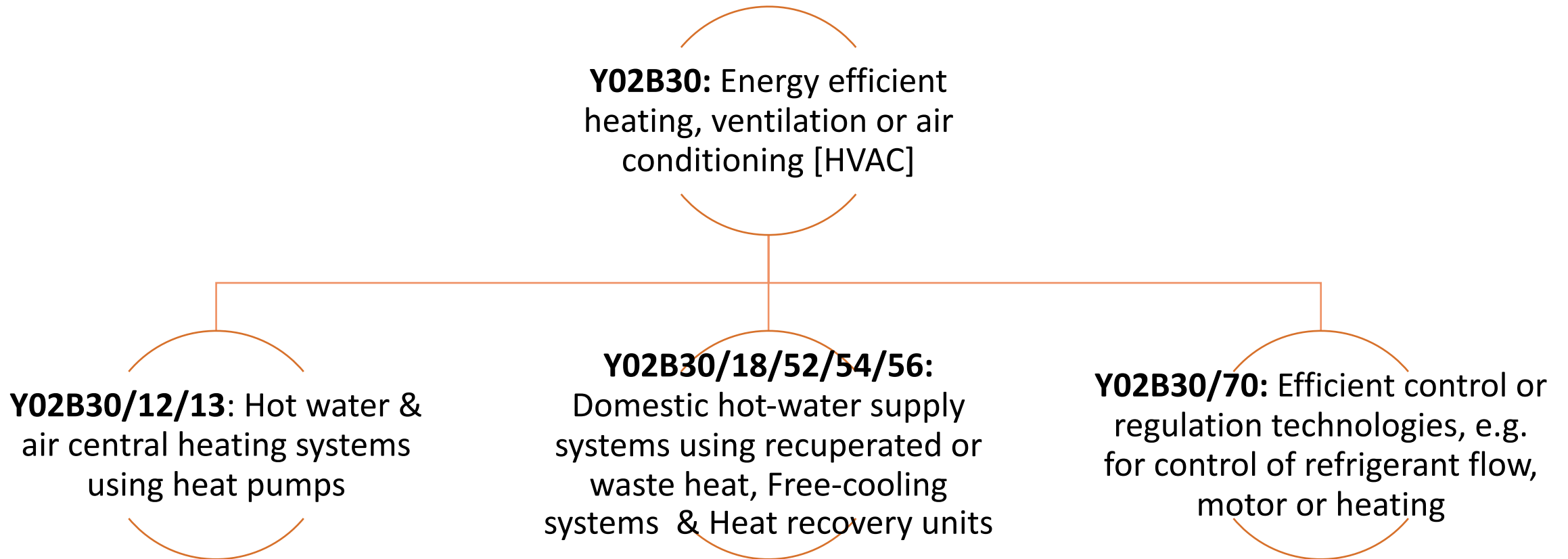
**Y02B30:** Energy Efficient heating, ventilation or air conditioning [HVAC]



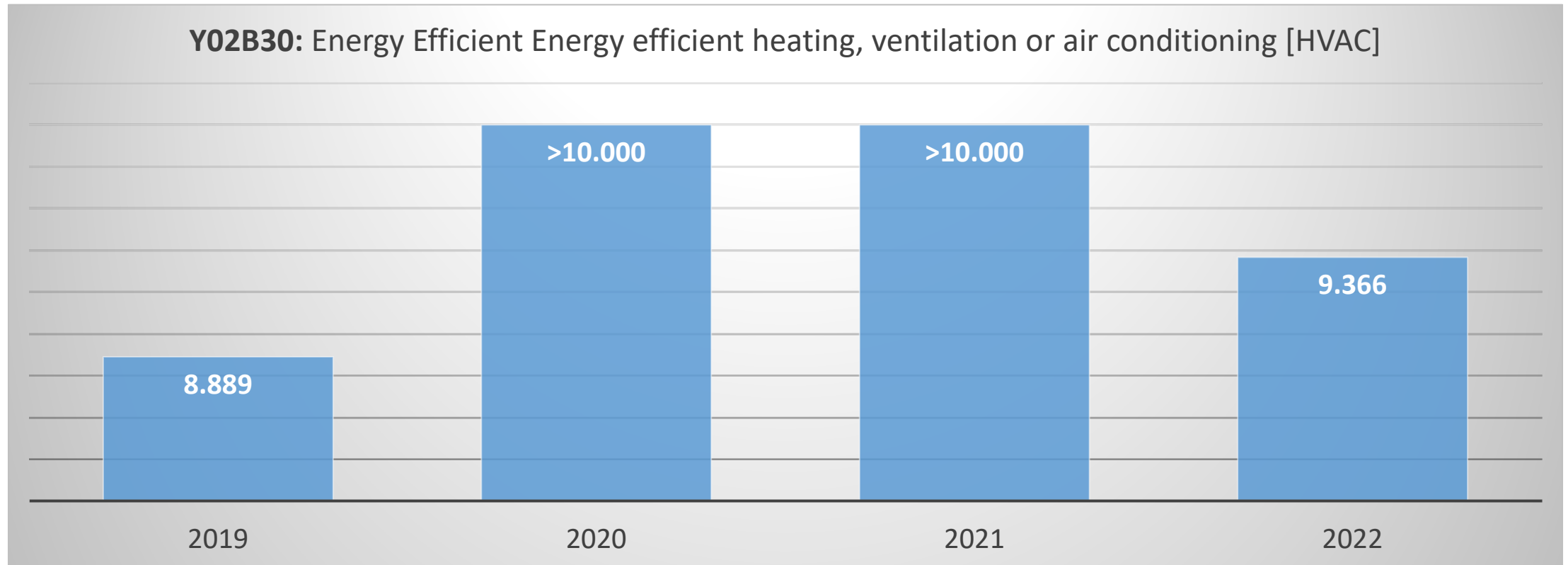
**F25B:** Refrigeration machines, plants or systems; Combined heating and refrigeration systems; heat pump system



# HVAC(R) patents classification

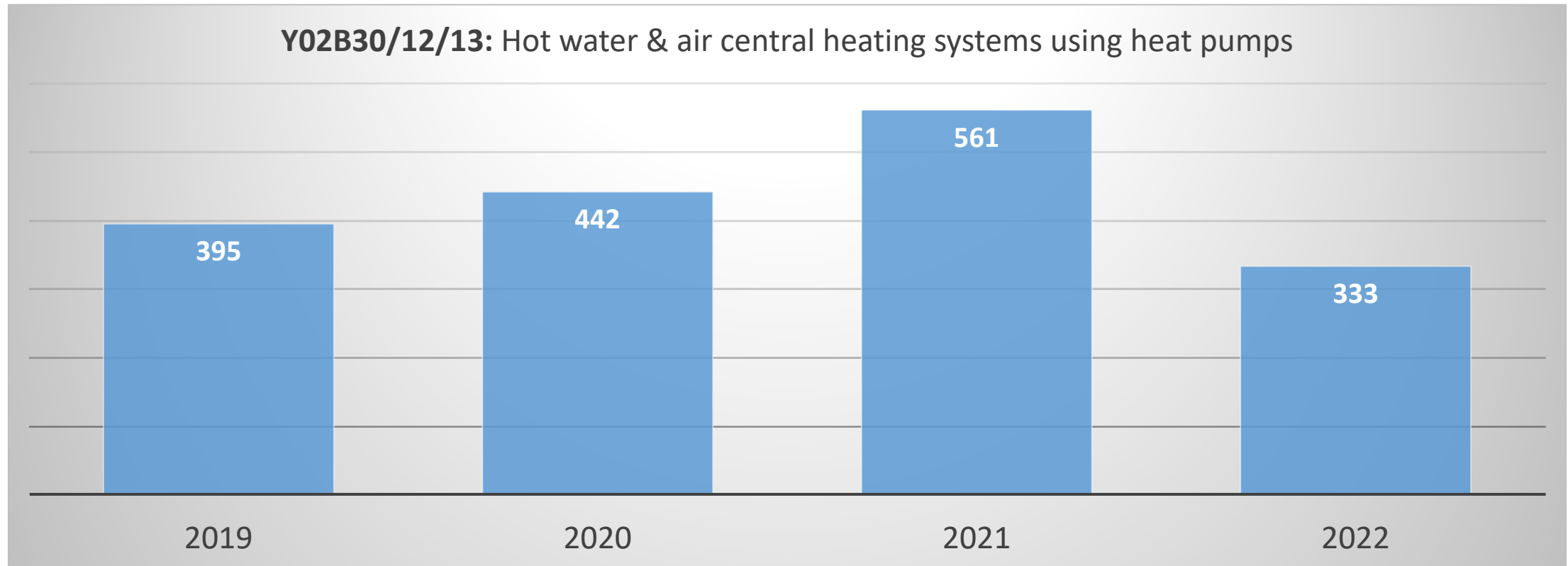


# HVACR patents deposited in 2019-22

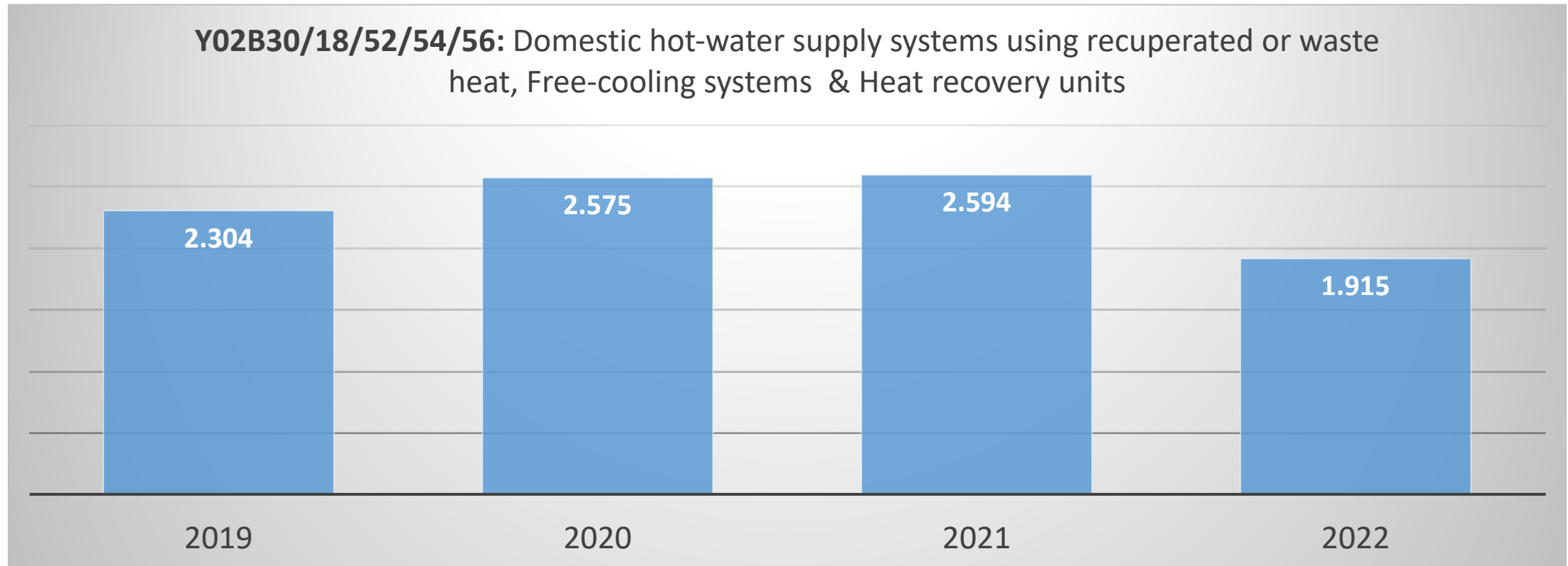




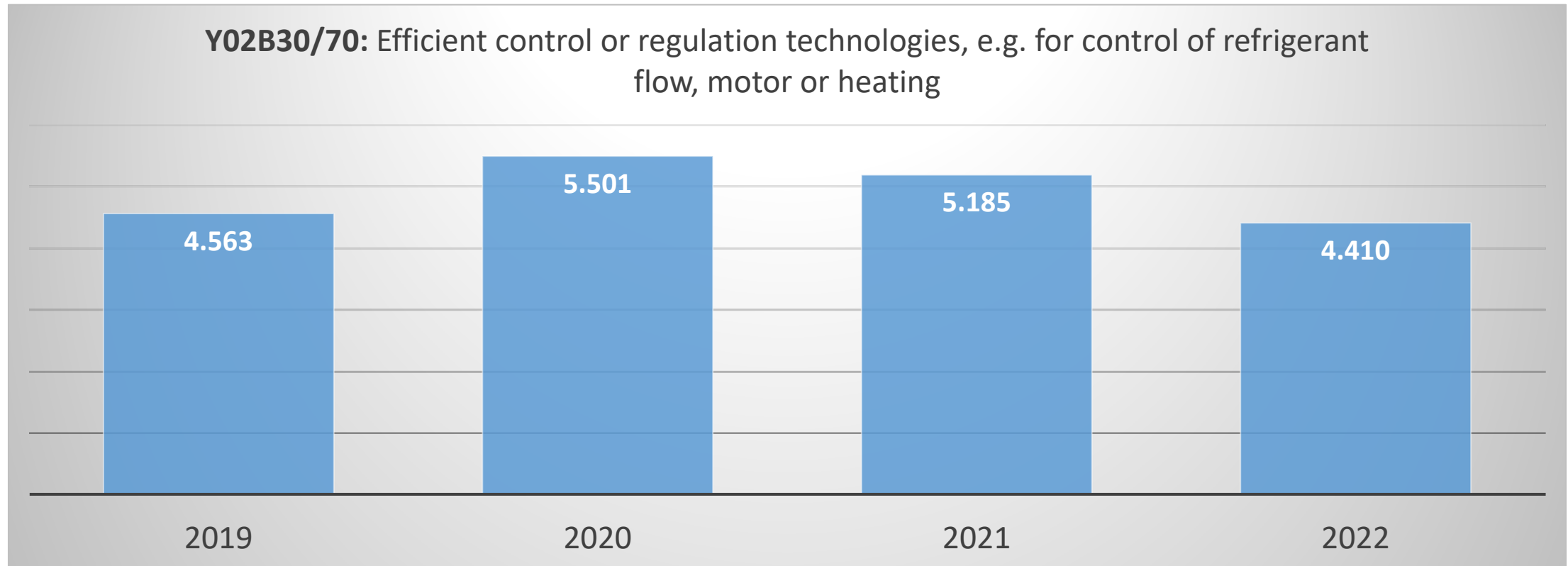
# HVACR patents deposited in 2019-22



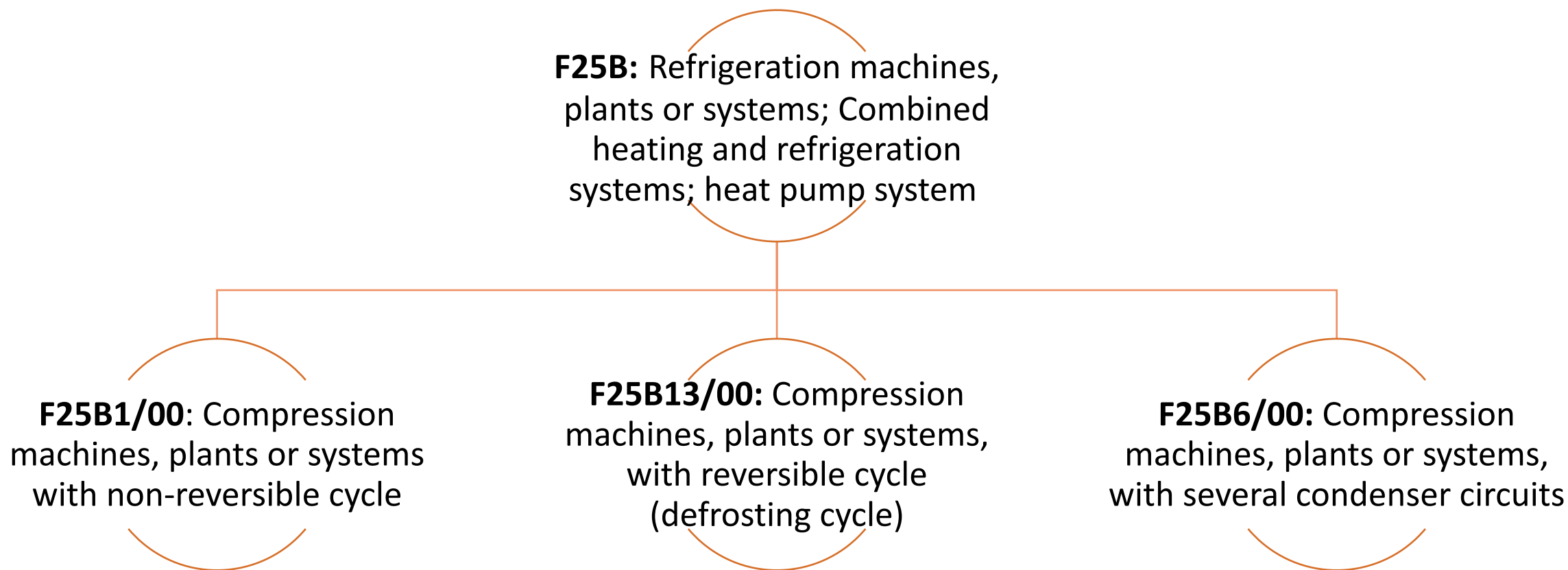
# HVACR patents deposited in 2019-22



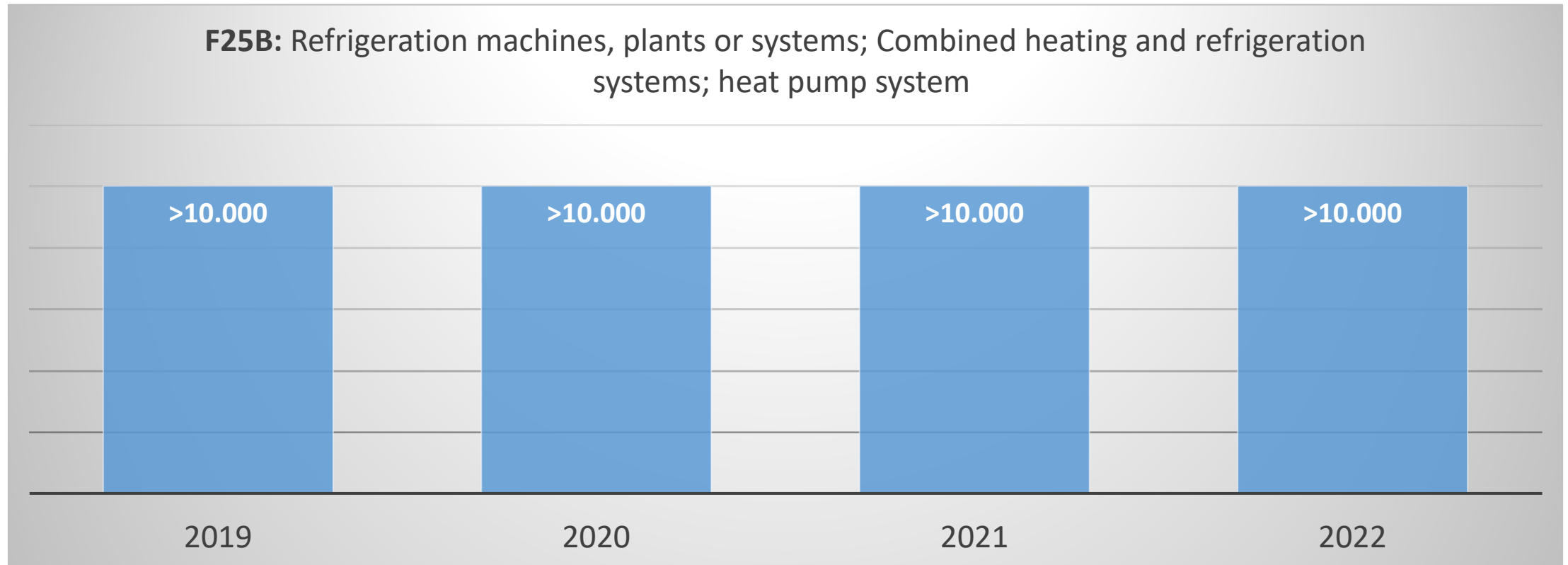
# HVACR patents deposited in 2019-22



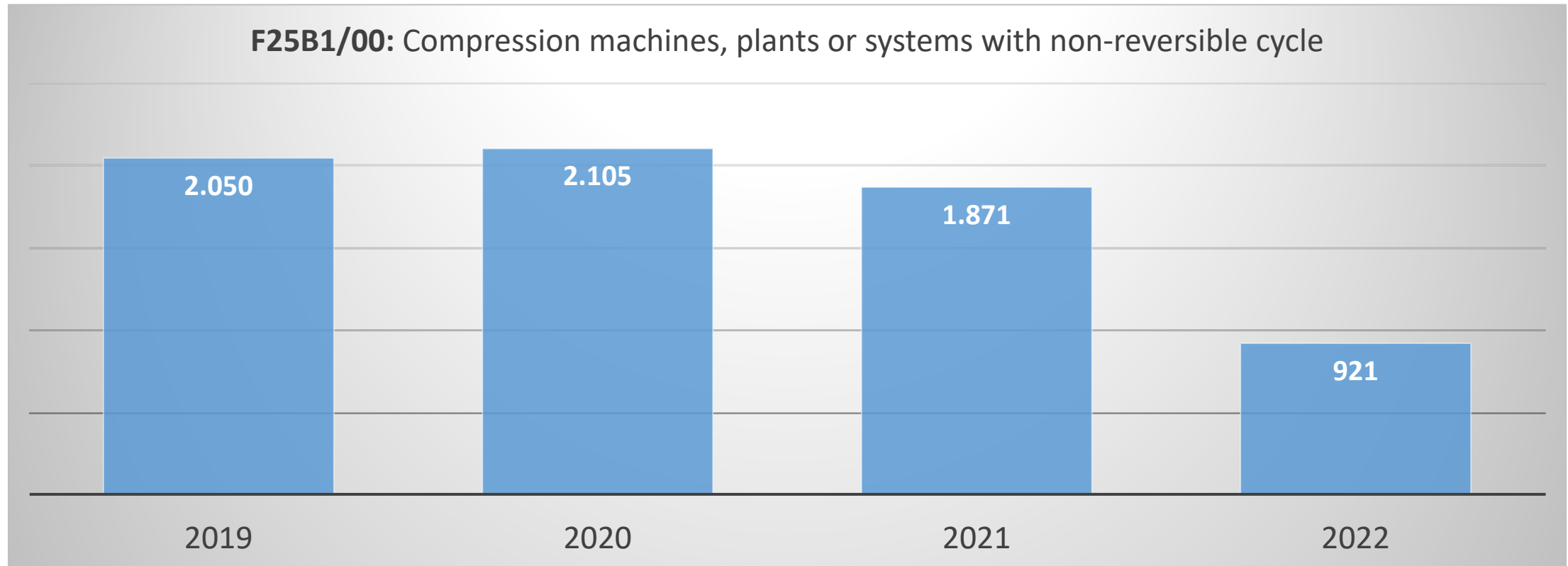
# (HVAC)R patents classification



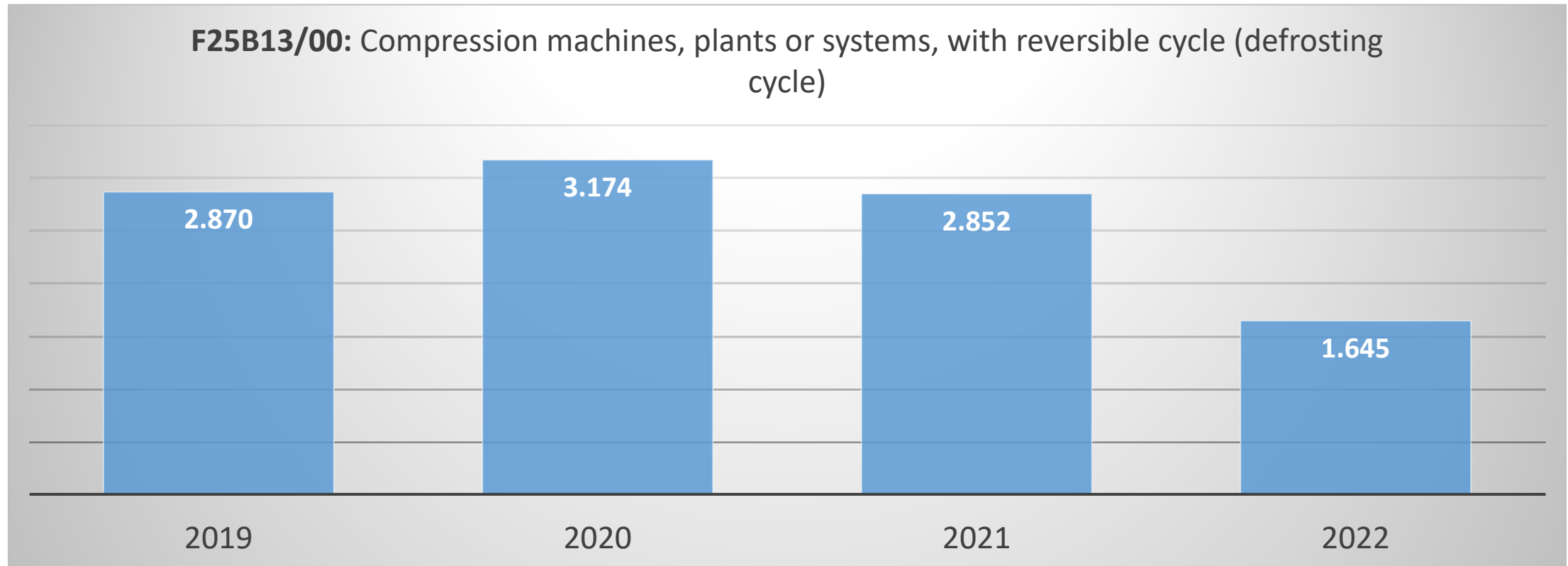
# HVACR patents deposited in 2019-22



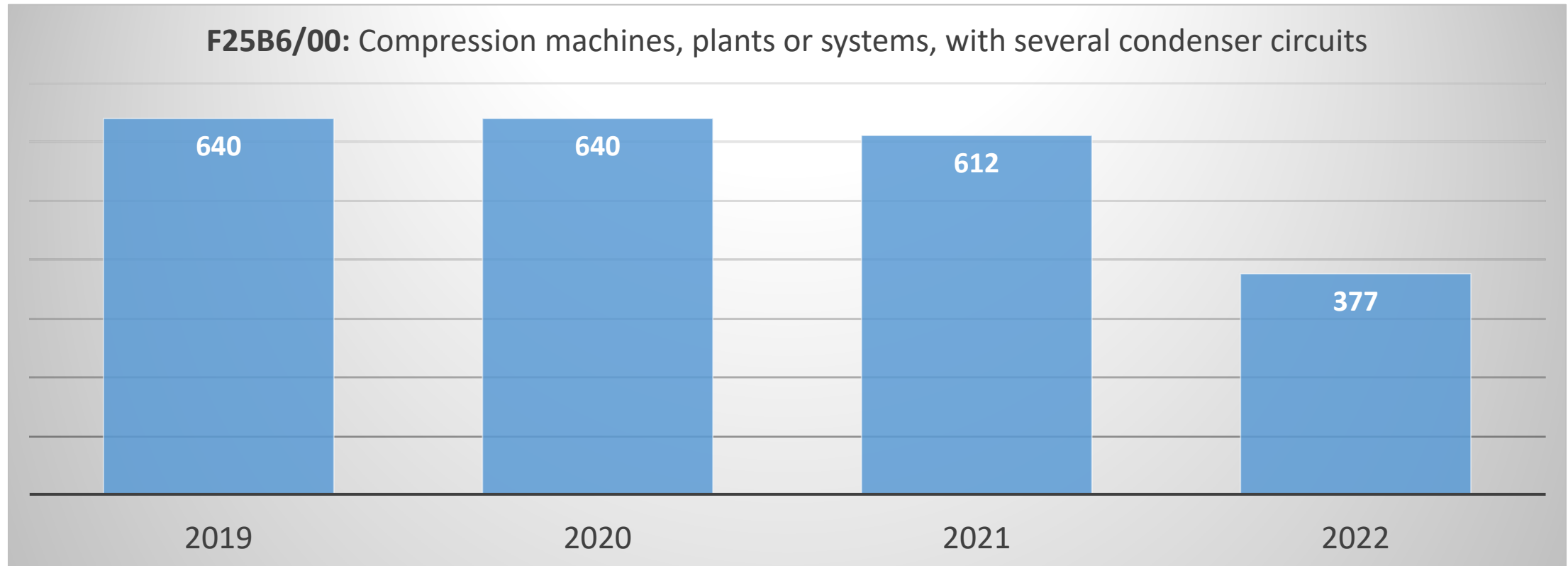
# HVACR patents deposited in 2019-22



# HVACR patents deposited in 2019-22



# HVACR patents deposited in 2019-22





# Conclusions

## Average number of deposited patents

**Y02B30:** Energy efficient heating, ventilation or air conditioning [HVAC]

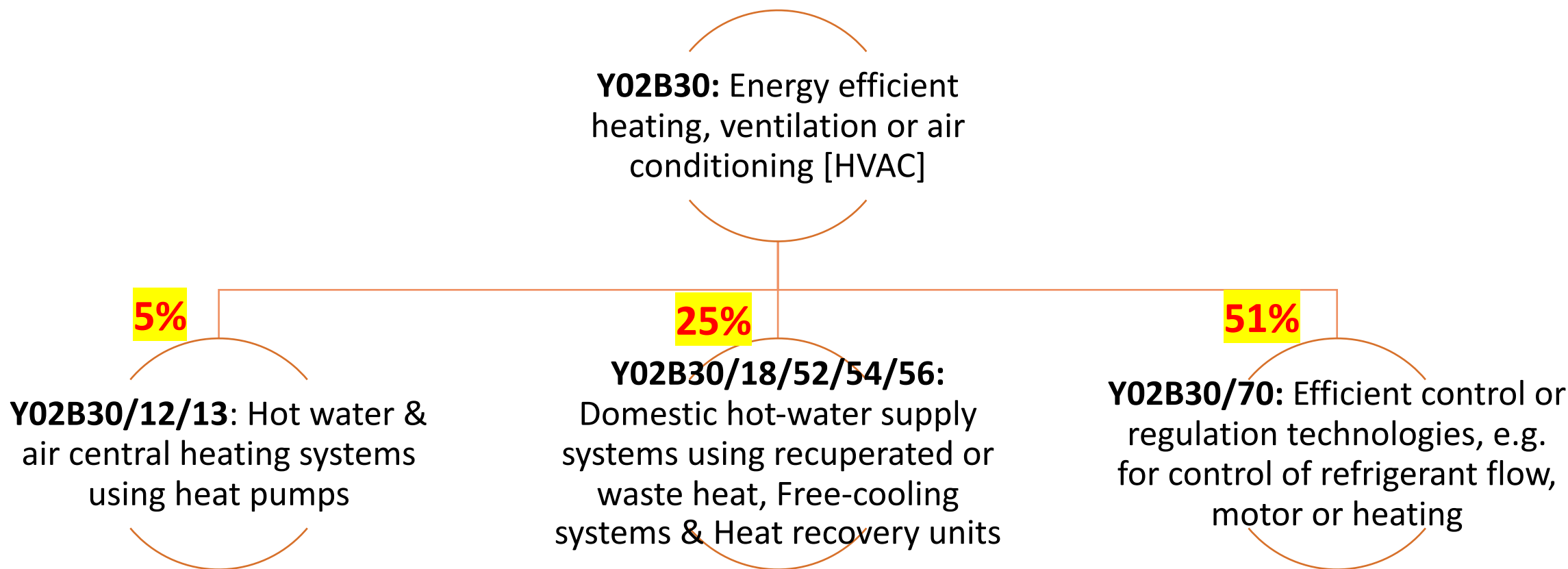
**9.564**

**F25B:** Refrigeration machines, plants or systems; Combined heating and refrigeration systems; heat pump system

**>10.000**

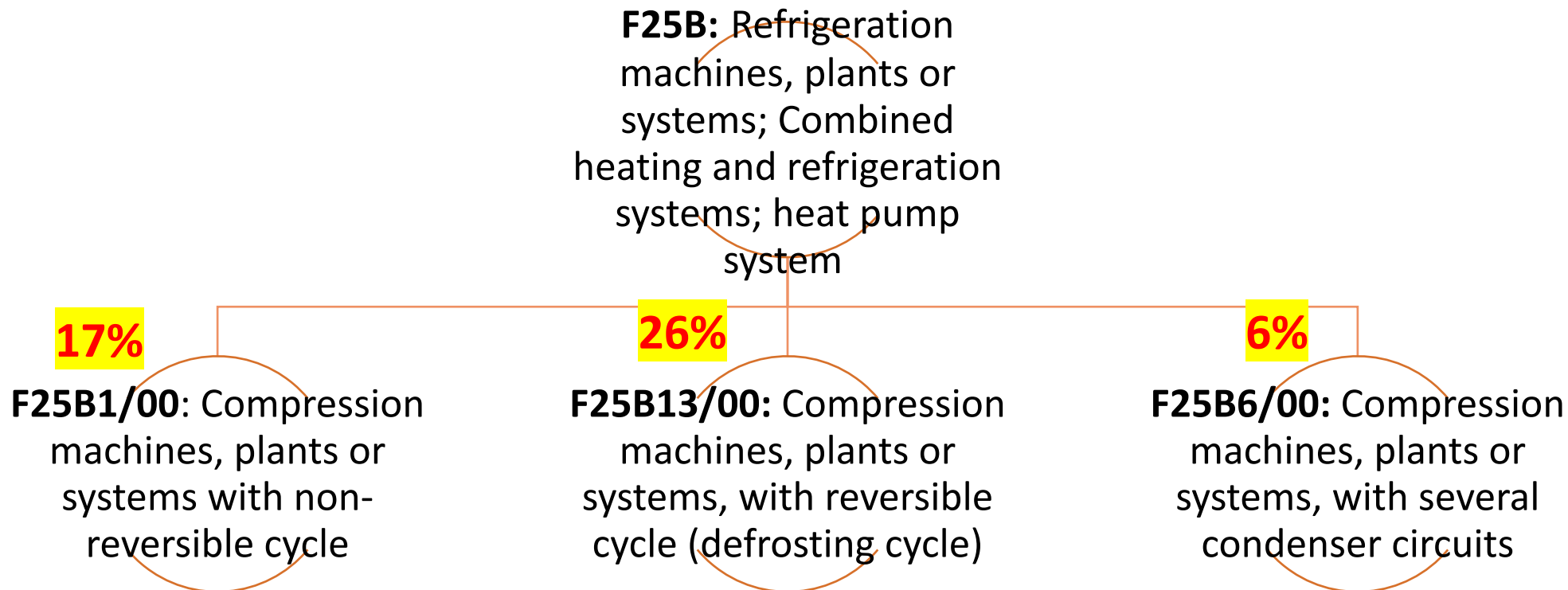
# Conclusions

## Ongoing innovation trends



# Conclusions

## Ongoing innovation trends



# Conclusions

## Key takeaway

- Both the Refrigeration and Climate Industry are at the forefront of the innovation
- Efficient control or regulation technologies of refrigerant flow, motor or heating played, play and will play a major role within the Climate Industry
- F25B13/00: Compression machines, plants or systems, with reversible cycle played, play and will play a major role within the Refrigeration Industry

# Thank You!