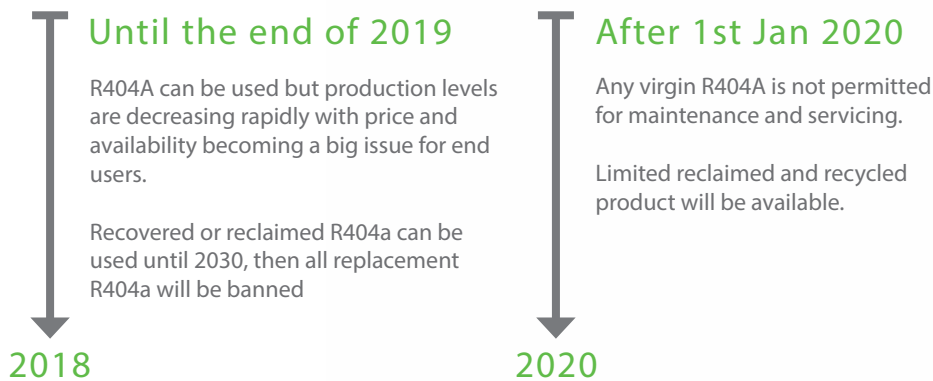




## ▶ R404A PHASE OUT

### THE BAN COMES INTO FORCE 1st JAN 2020

#### ARE YOU READY?



### THE J & E HALL SOLUTION

J & E Hall offer comprehensive support to assist customers in various sectors with changes in legislation including:

- ▶ HFC drop-in replacements for R404A
- ▶ Integration with renewable energy sources for minimum carbon footprint
- ▶ New equipment and systems with a choice of ammonia, CO<sub>2</sub>, hydrocarbons and low GWP HFC refrigerants
- ▶ Low primary refrigerant charge chillers/systems
- ▶ Cold storage and heat recovery units
- ▶ Fixed speed and variable speed drive, primary and secondary refrigerant systems, integrated for best performance under any operating condition

#### EXPERTISE

J & E Hall aim to develop the most suitable products for each application, ensuring cost effective and energy efficient system solutions.

##### HALLSCREW COMPRESSORS

Open and semi hermetic single screw compressors

- ▶ For use with most refrigerants
- ▶ High efficiency, low running costs
- ▶ Capacity: 175 - 2,983 m<sup>3</sup>/hr

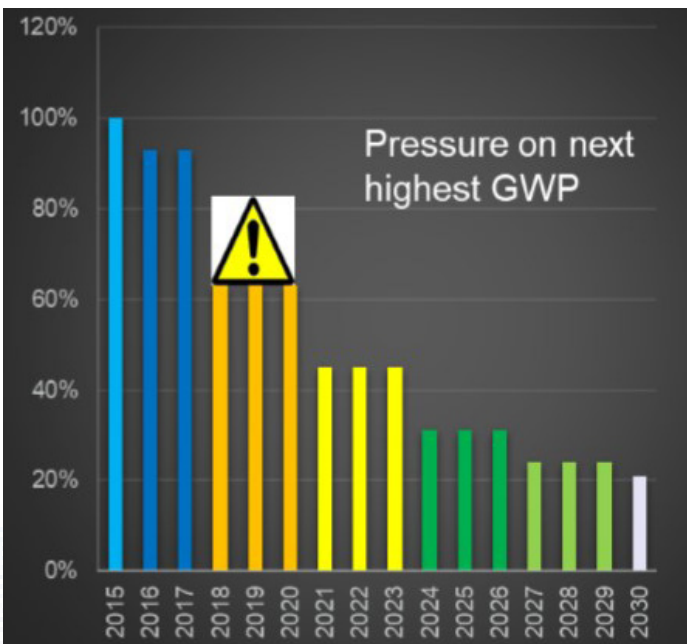
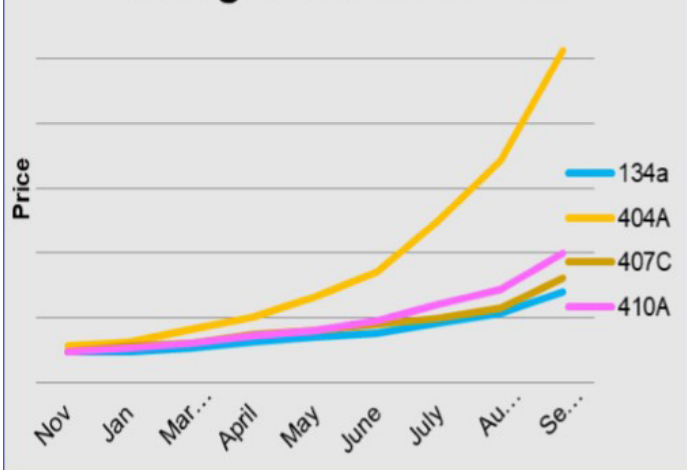
##### HALLSCREW COMPRESSOR PACKS

- ▶ Capacity range up to 6,600kW
- ▶ Fridgwatch control
- ▶ High efficiency and VFD options

##### REFRIGERATION PROJECTS

- ▶ Tailor made solutions
- ▶ From original design to commissioning
- ▶ Turnkey project capability
- ▶ Extensive industrial experience

## Refrigerant Prices 2017



## Case Study: London Brewery

Increased capacity NH3 system with reduced footprint for central London brewery

### CUSTOMER REQUIREMENTS:

- ▶ Energy efficiency
- ▶ Increased cooling capacity
- ▶ Smaller footprint

### ACHIEVED BY:

- ▶ VSD adoption for compressors
- ▶ Common condenser and evaporator
- ▶ Single screw compressor technology

### OLD SYSTEM:

COP = 3.20  
HFC = 825kg  
Footprint = 36m<sup>2</sup>

### NEW SYSTEM:

COP = 4.96  
NH3 = 600kg  
Footprint = 10m<sup>2</sup>

## REFRIGERATION & AIR CONDITIONING

Design, installation, maintenance & service

### Service & Maintenance Solutions

- ▶ Detailed system inspections
- ▶ 24/7 emergency callout service
- ▶ Customer specific contracts
- ▶ Reliability centred maintenance
- ▶ Condition based monitoring
- ▶ Refrigerant contingency planning
- ▶ Equipment dilapidation reports
- ▶ F Gas compliant
- ▶ Engineering technical support
- ▶ Critical spares evaluation

### Refrigeration Plant Upgrades

- ▶ Equipment life cycle evaluation
- ▶ Dedicated contracting department
- ▶ Compressor remanufacturing
- ▶ Condenser replacement
- ▶ Water treatment modification
- ▶ Evaporator replacement
- ▶ Control modification
- ▶ Refrigerant retrofitting
- ▶ Coil replacement options
- ▶ Motor upgrade and replacement

### Environment Health & Safety

- ▶ Site specific safe systems of work
- ▶ DSEAR inspection reports
- ▶ Refrigerant data management
- ▶ Site specific equipment logbook
- ▶ Refrigerant retrofits R404A
- ▶ F Gas refrigerant & oil disposal
- ▶ Refrigerant leak detection
- ▶ Safety assessment
- ▶ Legislative advice
- ▶ EPBD advice

### Refrigeration Energy Solutions

- ▶ Energy surveys
- ▶ SCADA control system upgrades
- ▶ Variable speed drives
- ▶ Electronic expansion valves
- ▶ Automatic air purger installation
- ▶ Water dirt oil purification
- ▶ Refrigerant & oil analysis
- ▶ Remote monitoring & diagnostics
- ▶ Technical support
- ▶ Refrigeration control system sequencing

Ref: R404a 1.1\_0318