



### A2LsystemMatch Installation – 9 Systems

ASDA's refrigeration strategy towards future-proofing their refrigeration assets is based on simplicity, safety, value, compliant technology that reduces energy and supports a transition to a low carbon future.

Their Bootle store was one of the UK's first stores to fully operate on CO<sub>2</sub> (2007). In 2021 the CO<sub>2</sub> systems were replaced and Marstair were invited to work with their stakeholders to develop and deploy a solution for the store's cold rooms.

To ensure compliance, Marstair developed and supplied nine A2LsystemMatch systems to serve the main chill and frozen cold rooms (three systems in each room), as well as the produce, home shopping chill, and frozen cold rooms (one system in each of these cold rooms).

An evaluation was conducted against the former CO<sub>2</sub> solution from an Energy, Emissions, CAPEX, Volume Charge and Total Cost of Ownership, with the results as follows:

#### **Annual Energy Consumption – Reduced by 34.5%**

Marstair through its A2LsystemMatch product have helped Asda eliminate the current energy price increases in its Bootle Store.

#### **Annual Emissions – Reduced by 28.5%**

The low GWP of R454A combined with the energy efficiency of our A2LsystemMatch product is such that it significantly reduces the TCO<sub>2</sub>\*.

\*Based on a 3% leak rate and an emissions factor of 0.21233.

#### **Capital Cost – Reduced by 43.7%**

With a similar installation process to HFC equipment, A2LsystemMatch can be installed and commissioned, with very little additional training and at a much lower overall cost than CO<sub>2</sub>.

#### **Refrigerant Charge Volume – Reduced by 74.7%\*\***

Our unique design keeps the refrigerant charge level to a minimum. This allows A2LsystemMatch to keep within 20% of the LFL when installed within the smallest of cold rooms.

\*\*Each system meeting BS EN-378:2016.

#### **Total Cost of Ownership – Reduced by 35.6%\*\*\***

As the F-Gas phase down starts to bite A2LsystemMatch is a cost-effective alternative to CO<sub>2</sub> in all Coldroom applications.

\*\*\*Based on 20-year energy performance + CAPEX.

*“As we began our low carbon refrigeration journey, we realised that an important piece of the jigsaw was missing. The complexity and risk of connecting ASDA cold rooms to larger low-carbon distributed systems presented several safety and performance challenges which we needed to overcome, requiring a solution which was not only low carbon but would be a simple, safe, cost effective, and efficient technology. Marstair stepped up to the challenge and in 2021 provided nine individual Systematch A2L systems that operate all of the cold rooms at our flagship store in Bootle. These systems meet the key requirements of our refrigeration strategy whilst providing great value for money when compared to other low carbon refrigeration options.”*

**- Brian Churchyard - Asda**

