



BREATHING LIFE INTO THE AEROSOL WORLD

2016

## THE SALFORD VALVE COMPANY LTD

A BREATH OF FRESH AIR FOR AEROSOLS  
& LESS VOC'S FOR THE WORLD

## SALVALCO **ECO-VALVE** BROCHURE

### OUR MISSION:

- Revolutionise the Aerosol Industry
- Make Aerosol Environmentally Friendly
- Reduce the Risks in Producing and Using Aerosols
- Reduce Costs Across the whole Aerosol Supply Chain

[www.salvalco.com](http://www.salvalco.com)

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# About Us

Decades of research by the Spray Research Group at Salford University in the UK resulted in the interlocking patented 'Bubbly Flow' technology that is now used by SALVALCO ECO-VALVES.

The 'Bubbly Flow' technology enables aerosols to be propelled successfully by harmless compressed inert gases such as nitrogen, compressed air and carbon dioxide.

Salvalco is the trading name of The Salford Valve Company Ltd, which has been established to commercialise this significant technology.

Three types of inert gas propelled aerosol valves make up the SALVALCO ECO VALVE range. Salvalco Eco Valves can meet 85% of all aerosol applications.

- **Significant reduction in the use of Volatile Organic Compounds (VOC's)**
- **Significant reduction in the dangers of highly flammable propellants**
- **Reduction in the cost of storage, transportation and insurance for aerosols**
- **Greater safety and reduced risk through aerosols categorised as non-hazardous.**

## SSG & Bi-VALVES

Continuous spray for Hair Sprays, Deodorants, Polish, Air Fresheners and Insecticides



## METERED VALVE

Pharmaceutical Products + Medicines, Air fresheners and Insecticides which require metered doses



## LOW LOSS VALVE

Viscous and Oil based products such as Gels, Antiperspirants and Oil



# Salvalco Solutions

There are major commitments by governments and communities worldwide to reduce the use of environmentally harmful gases. **Salvalco Eco-Valve** facilitates their reduction in the aerosol industry.

- The **Eco-Valve** is the only nitrogen / air based valve system that has an equal or better performance (in terms of atomisation, spray pattern and dispersion) than the traditional LPG/ Butane propelled valves.
- The **Eco-Valve** bubbly flow technology has been developed and refined to produce a more consistent flow throughout use of aerosols.
- The use of **Salvalco Eco-Valve** with nitrogen or air keeps harmful propellants, volatile organic compounds (VOC) and greenhouse gases out of the environment.
- Use of non hazardous compressed gas propellants with **Salvalco Eco-Valves** will reduce risks and dangers to employees of aerosol fillers and the public at large.
- Ease of filling - standard machinery can be used for filling aerosols which include the **Eco-Valves**.



## Cost Savings Potential

- Inert gases are cheaper than hydrocarbons
- Reduced cost of transportation
- Reduced cost of storage
- Reduced cost of insurance
- Potential reduced cost of packaging components by concentrating formulations and "compressing the product".

## Manufacturing Capability

- Investment in manufacturing equipment to produce the SALVALCO ECO-VALVES in commercial quantities and scale is currently under way, and will be early 2016

## Plus Ecological Gain and Public Safety

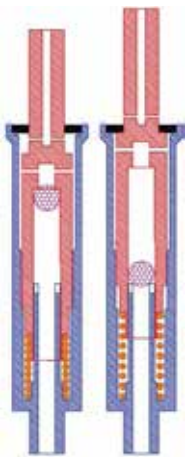


## University of Salford, **Spray Research Group (SRG)**

- The **Salvalco Eco-Valve** range was initially developed by the Spray Research Group (SRG) at the University of Salford, in the UK under the Leadership of Professor Ghasem Nasr.
- The SRG has a longstanding international reputation and specialises in the production of sprays and atomiser design as well as in turbulent spray structures, spray and fluid flow boundary interaction and multiphase spray.
- SRG's experience in these fields led to the development of the SALVALCO ECO-VALVE family, plus its associated products.



### The Breakthrough



Redesign of the aerosol valve components has enabled a percentage of compressed gas propellant to be introduced directly into the valve stem for the 'Bubbly Flow' technology.

This significantly enhances the ability to atomise liquids directly before they are dispensed through actuators with or without Mechanical Breakup (MBU) capability.

The key innovation in the new, patent protected valve design is the control of the flow of the liquid product and the propellant gas by separate inlets, prior to entering the main valve stem.

The relationship between the size and positioning of the liquid and gas holes within the valve stem is varied to fine tune spray characteristics according to the requirements of products and customers.

### Assurance of Quality

All components are manufactured to the standard conditions of the European Aerosol Federation. All products meet and exceed REACH standards.



Full packaging, design and technical service can be provided in association with Spray Research Group of Salford University and global partner companies. Salvalco staff have many years experience in the aerosol packaging industry.

Our development of the "Bubbly Flow" should change and enhance the use of aerosols for most products, whilst reducing costs for everyone

- **Professor Ghasem Nasr**

# Salvalco Products

Standard metered valves with dosages from 35 microlitres to 120 micro litres. Plastic & metal stem versions available.

Metered valves are for use with metered dose wall dispensers. These will fit and operate all available industry units.

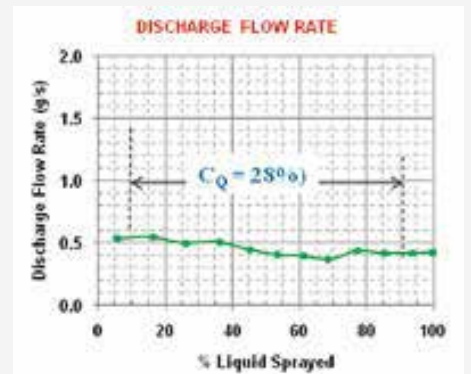
Battery operated wall mounted aerosol dispensing units. Single walled and double walled screw valve and other specialist valves.

A full range of standard aerosol actuators with dispensing systems that include triggers and spray caps.

## Eco-Valve Super Single gasket (SSG) and Bi Valves (Prototype / Performance) Patents: PCT/GB2010/052028) (WO2011/061531, WO2011/128607)



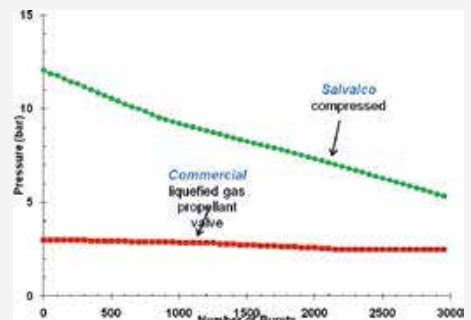
For majority of low viscosity products: Hair Sprays, Deodorants & Polishes.



## Metered Valve: Patents PCT/GB2010/051689) (WO2011/042751 WO2011/042752)



For specialised products requiring metered release: Pharmaceutical Products and Medicines



## Low Loss Valve : Patents PCT/GB2010/002101) (WO2011/061481)



For viscous & oil based products: Gels, Oils, Antiperspirants, Industrial Products & Surface Coatings.

