

## PACKAGED ADDITIVE INJECTION SYSTEMS

### Introduction.

Aljac Fuelling Components manufactures a range of packaged additive injection systems based on Hammonds injection units which have a proven reputation for reliable long term operation with both commercial and military customers. The Hammonds units do not require any external power supply so they are the ideal choice for use in self contained systems such as these. Systems can be manufactured to individual customer specifications or we can offer you a system based around one of our standard designs.

### HC Cart - Additive Injection Trolley.

The HC cart is a stand alone injection system designed to connect into a fuelling system where it is inappropriate to permanently install a system in the pipework.

Typical applications would be anti-icing additive for light aircraft and helicopters at small airfields, biocide injection at aircraft maintenance companies or even testing of new additives where a customer wants to demonstrate cost savings through additive use prior to investing in infrastructure.

The HC cart is a standard chassis which can be fitted with a range of fluid motors and additive pumps, accessories and additive reservoirs. This allows a complete bespoke system to be supplied in a short leadtime and without incurring the expense of a custom designed system.

The system can be fitted with inlet and outlet connections or couplings. Various hose diameters and lengths can be provided to suit individual applications.

### Skid mounted additive injection systems.

Aljac Fuelling Components can install any additive injection system into custom fabricated frames to suit specific customer requirements. Pipespools can also be provided in accordance with existing site pipework specifications and the complete system can be pre-painted and tested.

This service allows a system to be installed between existing flanged connections on customer sites without the need for hot work during installation.

Accessories and controls can be pre-installed onto skid frames including flow meters, control panels and alarms, all of which reduces the time and therefore cost of the site installation work.

All systems can be supplied fully assembled, pressure tested and flow tested. Aljac Fuelling Components operates a 3D design system so all installation drawings can be provided quickly and easily for approval.

Third party inspections can be accommodated and factory acceptance tests can be arranged. All systems can be supplied with relevant local approvals including ATEX, PED and CE marks.



## Towable Additive Injection Systems.

Aljac Fuelling Components can install additive injection units with all necessary accessories onto trailers to meet customer needs.

Any system can be installed on a trailer but typically 3" and 4" systems are most common. These systems are often used for aircraft fuelling operations and for fueller loading at the gantry.

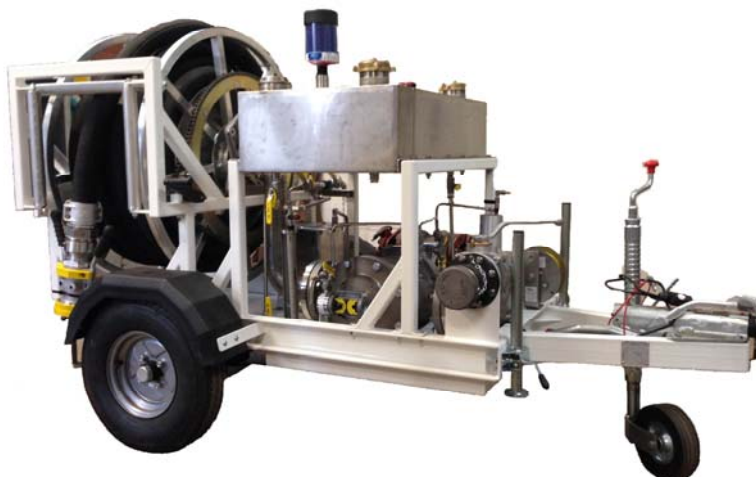
They are a cost effective solution for locations which have existing infrastructure but without additive injection capability.

The most common application is for injection of Fuel System Icing Inhibitor, Corrosion Inhibitor and Static Dissipator to convert commercially available Jet fuel into a Military specification fuel.

Trailers are often supplied to Military organisations who utilise civilian facilities or who need to satisfy NATO requirements for fuelling capability.

### **Available options:**

- 3" system - 50 to 1000 litres per minute
- 4" system - 200 to 2500 litres per minute
- Additive reservoirs in various sizes to suit application
- Hose reels
- Hose stowage brackets for shorter hoses
- Inlet and outlet couplings or nozzles to suit aviation applications
- API inlet and outlet adaptors to suit road loading applications
- Sample points with flush tanks
- Full Euro approved road going trailers
- Slow speed airfield only use trailers



Trailer systems go through a rigorous design process to ensure that the system is fully compatible with the customers operational needs and that they meet any necessary regulations.

Trailer systems are supplied fully assembled and pressure tested as standard and full calibration tests on Aljac's test rig can be completed prior to delivery.

Full training in operation and maintenance can be provided either at customer premises or Aljac's test facility.

## Frame Mounted Injection Systems.

Additive injection systems can be mounted in small, lightweight frames for applications where transportability is of paramount importance.

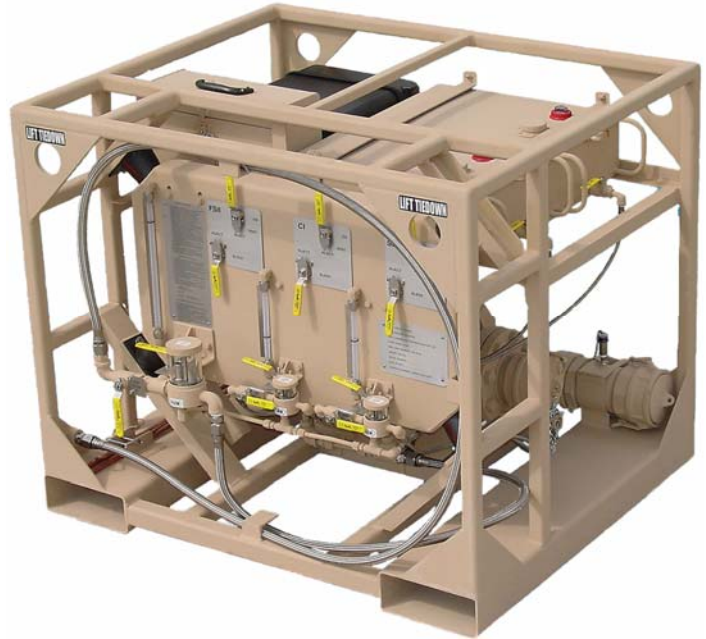
These systems can be supplied as a simple injector with separate accessories to make transportation as easy as possible, or accessories such as small additive reservoirs can be mounted in the frames.

Separate hose assemblies can be supplied in lengths and diameters to suit the application and dry break connectors can be installed on the hoses and injector for ease of use. Hoses can be supplied in their own transport bags.

A full range of connection options are available from standard industrial type dry breaks to aviation standard ISO 45 type connectors. Simple threaded or Kamlok connections can also be provided.

Drop tubes or lances for connection to additive drums can be provided, these can be stowed within the system frame along with additive connection hoses for instances where additive reservoirs are not being used.

Full document packages and training can be provided.



## Additional Services.

Aljac Fuelling Components can provide a comprehensive range of support services to support you during implementation of additive injection activities.



These include:-

- Site Survey.
- Engineering design work.
- Operational recommendation.
- Risk assessments.
- Staff operational and maintenance training.
- Calibration services.
- Maintenance work.

## How To Order

There are many options available both in the additive injection system itself and in the manner in which it is packaged.

For these reasons it is not possible to provide standard solutions, we believe that it is important to look at each individual requirement and develop the best solution for each application.

In order to achieve this we need as much information as possible. Please call our office to discuss your requirements or preferably complete the form on the following page and email it to our Sales Department. [sales@aljac.com](mailto:sales@aljac.com)

# ADDITIVE INJECTION APPLICATION SHEET

Email the form below to sales@aljac.com or complete the interactive form at www.aljac.com

Date :-		Project Title :-		
Your Company Details :-				
Your telephone number/email address :-				
<b><u>Product Information</u></b>				
Product To Be Treated :-			Viscosity :-	
Flow direction	Left to right	Right to left	Vertical up	Vertical down
<b><u>Installation Information</u></b>				
Product line size :-		Connections :-		
Operating Flowrate :-				
Maximum Flowrate :-		Minimum Flowrate :-		
Maximum Line Pressure :-				
Operating Pressure :-				
Operating Temperature :-				
<b><u>Operation Information</u></b>				
Continuous Flow :- Yes / No				
Batch Flow :- Yes / No		Batch Volume :-		
Type of installation :- Fixed / mobile/ batch loading, Please describe:-				
Estimated hours of use per day:-				
<b><u>Additive Information</u></b>				
Additive # 1 :-		Injection Ratio (ppm) :-		
Additive # 2 :-		Injection Ratio (ppm) :-		
Additive # 3 :-		Injection Ratio (ppm) :-		
Additive # 4 :-		Injection Ratio (ppm) :-		
<b><u>Other Information</u></b>				
Hazardous area certification required Y/N		What standard?		
CE Marking required Y/N				
Material certification required Y/N		What standard?		
Special testing requirements, Please list:-				
Any other information which may be of use or any accessories required:-				