

Rare gases loading carts

Ground support equipment for satellite loading
or equipment pressure testing



- ✓ Dedicated to small or large satellites
- ✓ No contamination during filling
- ✓ Optimized propellant consumption
- ✓ Easy to operate





Air Liquide, 20+ years' experience in loading carts manufacturing

Electrically-powered thrusters benefit from enhanced propulsive performances compared with conventional thrusters. Electric propulsion can indeed achieve high speeds over long periods. Thanks to these further performances and competitiveness, electric propulsion has become a key technology for the new generations of commercial and scientific satellites. By 2022, most of the satellites will be equipped with electric thrusters, more specifically with xenon and krypton as a propellant.

With this growing demand for electrically-powered satellites, Air Liquide developed an integrated offer with technical solutions and services for xenon ground support equipment (Xe GSE).



Features of the range

Loading cart for small satellites



Gas management module Compressor module Vacuum and analyze module

Loading cart for large satellites



- Easy to operate
- Easy to move
- Easy to maintain
- High level of purity
- Minimum loss of gas during the filling
- Mass filling accuracy



Specification

	Small loading cart	Large loading cart
Mass flow rate	1g/s (high)	>10 g/s (low)
Number of cylinders connected	3 maximum	/
Options	Spare part kit, recovery line, remote technical support	/
Interfaces	Flexible hoses or rigid pipes	
Certifications	CE, ASME/UL	
Maintenance	Yearly	
In operations	• 3 in the US • 2 in Europe	2 in Europe



Services

On-demand filling service can be performed by Air Liquide's teams: propellant loading of the satellite's tank

We can also provide an all-inclusive offer including propellant supply and loading into the spacecraft

Advantages:

- No investment required on your part
- Budget defined in advance with no additional costs
- Air Liquide's worldwide presence in the main launching bases



Technical characteristics

Recommended quantity of xenon to be loaded	<100 kg for small satellites	>100 kg for large satellites
Compatible for the loading of:	Argon / krypton / xenon	
Pressure	200 up to 300 bar (on demand)	

Contact us

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