

First rain system: the LSI LASTEM solution for the management of rainwater in regulatory compliance



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Management of Rainwater in
Regulatory Compliance



A strategic priority: water resource management and regulatory compliance

In an environmental context that is increasingly attentive to sustainability and industrial responsibility, **water resource management** represents an important challenge. Among the main critical issues, **first rainwater** is a key element to monitor and treat properly. Its management is not only mandated by specific regulations, but it also significantly contributes to the protection of water bodies and to corporate reputation.

What are first rain waters: environmental risks and obligations

First rain waters are the first precipitations that, in the first 15 minutes of a meteoric event, wash away impermeable surfaces (such as yards, roads and industrial roofs) carrying with them contaminants such as hydrocarbons, oils, sand, fine dust and industrial waste. They are waters with a **high polluting potential** and, for this reason, must be treated separately from subsequent rain waters (the so-called second rain waters).

The reference legislation, primarily **Legislative Decree 152/2006**, integrated by **European directives 91/271/EEC and 91/676/EEC**, establishes the obligation to collect, separate and treat these waters before their release into water bodies or the sewer system. Each Region has specific skills in implementing these regulations, making it essential to have reliable, precise and flexible systems.

Landfills and stormwater management: an environmental priority

Landfills and waste disposal sites are particularly sensitive contexts from an environmental point of view, where stormwater management plays a fundamental role. The presence of potentially polluting substances and the constant movement of materials require the use of reliable and technologically advanced first flush systems, capable of **preventing contamination of the soil** and surrounding water bodies, while ensuring compliance with current regulations.

In addition to landfills, the following are also subject to the obligation:

- Chemical, oil, metalworking, paper and textile industries;
- Auto repair shops, service stations, body shops, intermodal areas;
- Waste treatment or vehicle demolition companies;
- Areas where hazardous substances are moved.

Each affected surface must be **waterproofed** and equipped with **collection tanks**, with a capacity of at least 50 m³ per hectare. Furthermore, an **automatic and separate conveyance system** is required for efficient water management.

LSI LASTEM first rain system: technology for sustainability

To meet these needs, LSI LASTEM offers a complete and intelligent solution: the **first rain system** developed to monitor and effectively manage rainfall and ensure **full compliance with current regulations**.

In landfills, where every meteorological event can compromise the environmental safety of the site, the **LSI LASTEM system** has proven to

be particularly effective, offering **automated**, **precise** and **customizable management** of polluted water.

The heart of the system is the **DGP020 module**, an intelligent actuator connected to a high-precision rain gauge. This system detects the start of rain in real time and automatically activates the solenoid valves that convey the water into the appropriate first rain tanks.

How the LSI LASTEM first rain system works

The system works in three programmable phases:

- **Absence of Rain:** when there is no rain for a configurable period, the system “resets” and prepares the new first rain phase;
- **First Rain:** as soon as precipitation begins, the rain gauge (e.g. **DQA230.1**) activates the DGP020 module, which keeps the condition active until the Qp threshold is reached (default: 5 mm);
- **Further Rain:** once the Qp value is exceeded, the water is no longer considered polluted and the system automatically diverts it to the normal water network.

Thanks to the fully configurable **T1**, **T2** and **Qp** parameters, the system adapts to different territorial and industrial needs.

Technical characteristics of the LSI LASTEM system

- **DGP020:** actuator display with intuitive interface, relay contacts, 24 V AC power supply, backup battery, and CE compatibility;
- **ELF020:** IP65 box for outdoor environments, with integrated power supply and pole or wall mounting;
- **WMO-Compliant Rain Gauge:** high-precision sensor compliant with international standards;
- **Complete Kit:** includes all accessories for a professional and reliable installation.

A strategic choice for the sustainability of your business

Adopting a **first rain system** is not only a regulatory requirement, but a strategic choice towards a more sustainable and responsible industrial

model. LSI LASTEM provides cutting-edge technologies to support companies in the **intelligent management of water resources**, making a concrete contribution to **environmental protection**. Discover all the technical features and applications or **contact us** to receive personalized advice on your system.