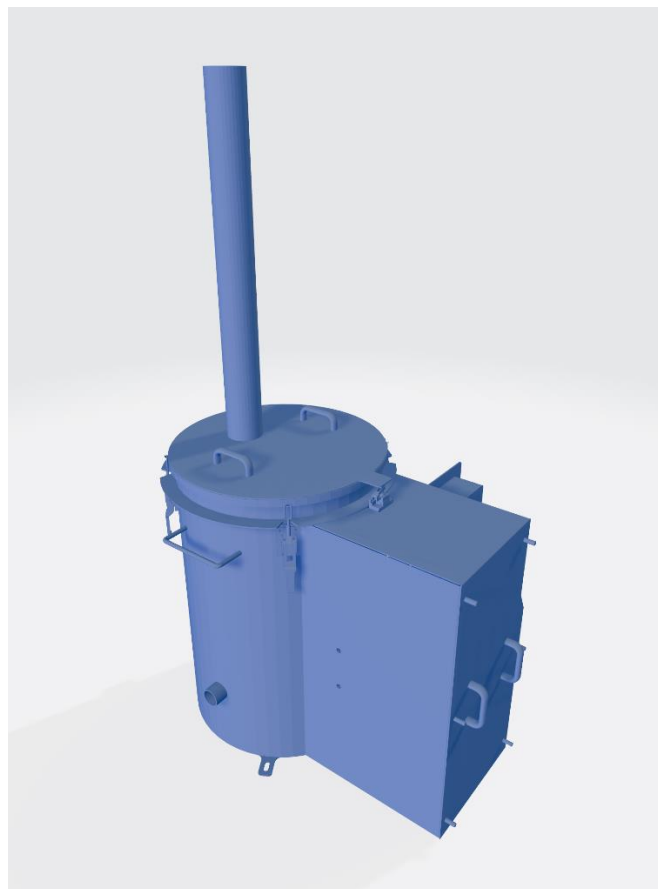


# TECHNICAL MANUAL LIME DOSING STATION PULSE 200



Type: Pulse 200



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## **INTRODUCTION**

Within this document, the installation, operation and maintenance processes of Pulse 200 lime dosing system are described. The Pulse 200 is developed to provide high durability and reliability in the process of lime dispensing.

Read this manual carefully before installing and operating as well as when maintaining the Pulse 200 system.

This manual helps you to prepare the lime dosing system for the first start-up, ensure the installation is done correctly. Following the instruction given here, minimize the risk of mistakes that eventually can lead to a non-operational system.

Also, keep this manual at hand when maintaining the system. A good maintenance procedure will extend the service life of the Pulse 200 system.

Operating the Pulse 200 without the necessary knowledge may cause mechanical or electrical failures and void any warranty from Teldust A/S.

The Pulse 200 system is tailor-made for the Teldust A/S' quality filter solutions. However, the Pulse 200 system is built with a versatile mindset. This means, the system can easily be used in other applications, where a lime dosing system is required.

## **THE PULSE 200 SYSTEM**

In Figure 1, the components of Pulse 200 system are depicted.

### **Main Components**

Main components of Pulse 200 are:

- 200 L container
- DN 100 pipe
- Electromagnetic valve 1½" 24 VAC (3 pcs.)
- Compressed air tank
- Pressure reducer: ¼" 1 pc
- Fitting level sensor 1½"

The main dimensional data and a description of the various components of the construction are shown below:

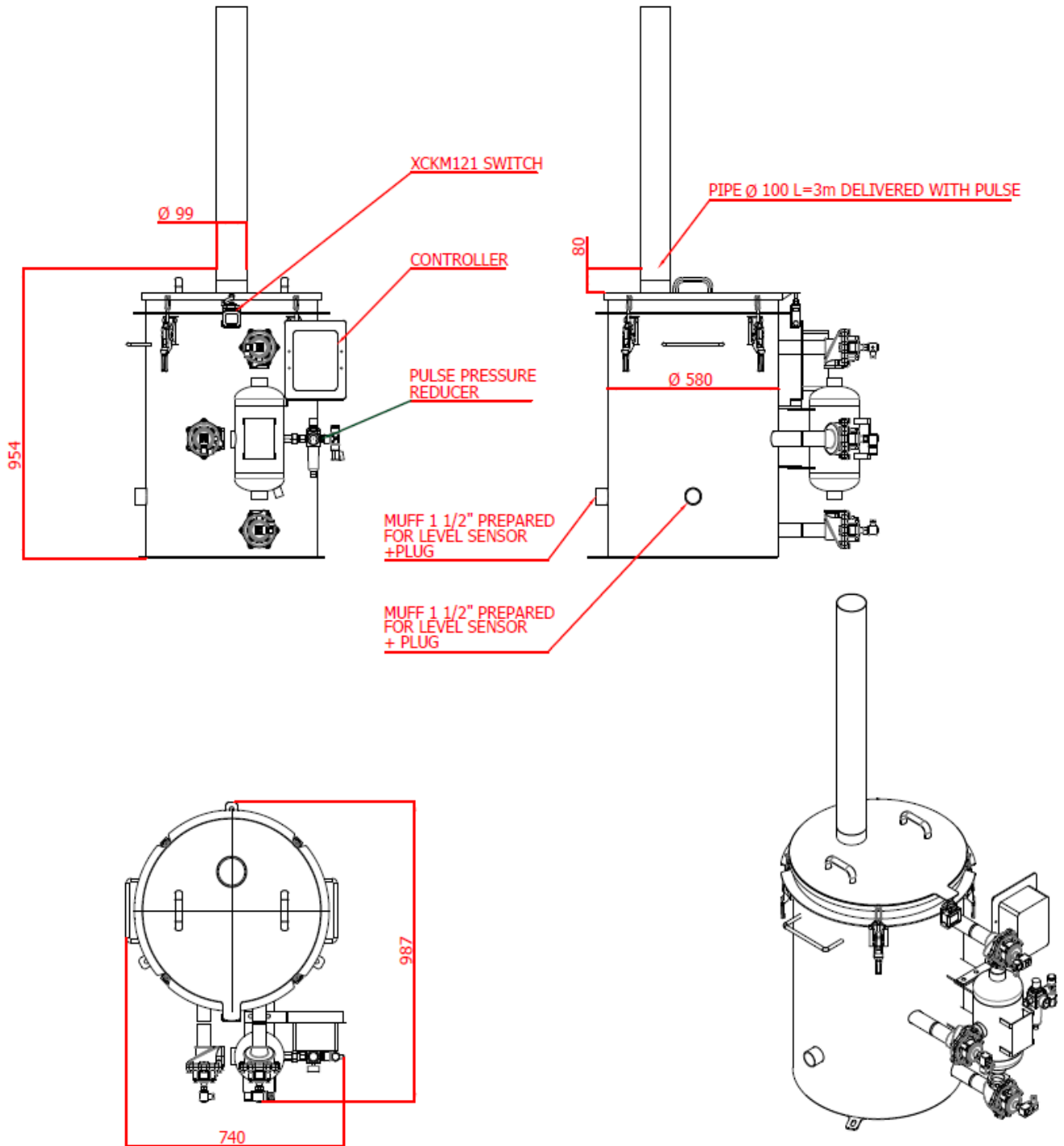


Figure 1. Construction of Pulse 200

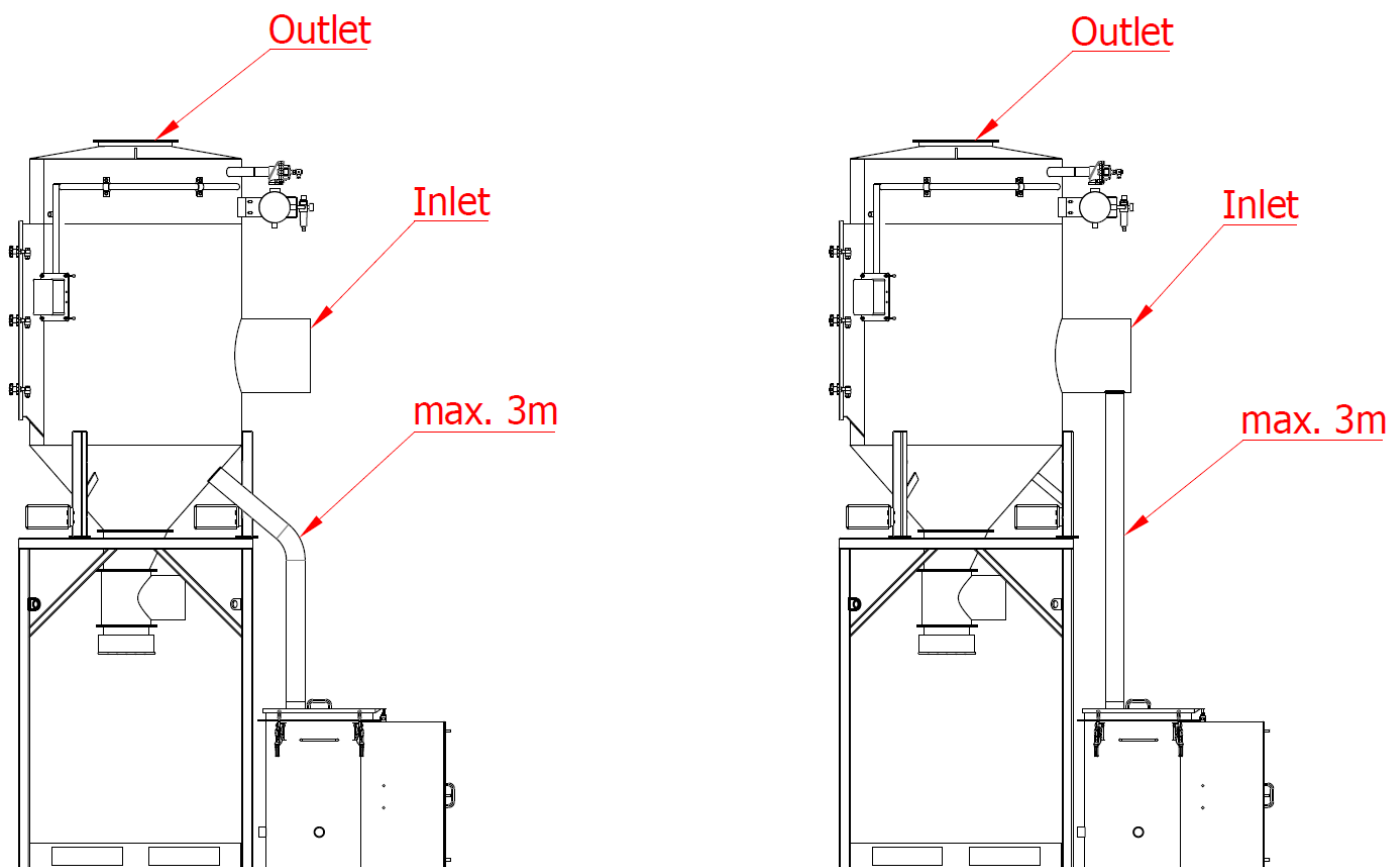


Figure 2. Pulse 200 connected to a filter

- The pipe connecting Pulse 200 to the filter must not exceed 3 m length.
- Preferably the pipe must be smooth inside.

### Principle of Pulse 200

Pulse 200 is a dosing station for bulk materials. Lime is a main bulk good intended for the device.

The principle of operation of the device is dosage of lime in powder form.

Dispensing is performed by means of compressed air which is being applied to the barrel/container by a pulse valve.

As a result, pressure produced bulk material is pressed out through the outlet port opening, having a diameter of 100 mm.

Filling the barrel with the bulk material is done by removing the top cover.

## **Electrical Installation**

Have in mind, that connecting the Pulse 200 system to any power source requires a skilled, well-educated electrician. An improper electrical installation can cause serious damages to the system.

## **MAIN APPLICATION**

Pulse 200 is a device for dosing granular materials mainly lime.

Pulse 200 may operate in a batching of lime during start-up and shut down, as well as continuous dosing system.

Any use for other purposes without the written consent of Teldust A / S implies acceptance of full responsibility for the state of the device.

## **SETUP AND DAILY OPERATION**

Filter regulator valve of the pressured air for Pulse 200 should be set in the range of 2-4 bar.

Too high-pressure setting can cause blocking of the dispensing system.

The standard time of lime dosage should be adjusted according to the following guidelines:

- Work time (P2) – 1 sec.
- Pause time (P1) – 300 sec.
- Medium usage of calc with above settings: 2,7 kg/8h

Usage of calc can vary, it depends on many factors like moisture, type of used calc, under pressure inside the filter and placement of inlet pipe of calc system.

There is a possibility to change controller settings P1 and P2, which can change usage of calc by system (please refer to controller instruction manual).

Daily use should include checking the condition of the valves.

It is generally recommended to use lower dosage supplied over longer periods of time for better coating of filtration material.

## **FILTER LIMING INSTRUCTIONS**

Liming aims to protect the filter bags from the impact of aggressive environment, which is created each time you turn off and on the dust collection installation. (at times when the flue gas temperature going into the filter will pass through the acid dew point of the flue gas).

## Preparation for Liming

Fill the tank with lime through the top cover for a single application. It is advised to use 200 g of lime per 1 m<sup>2</sup> of filtration area installed in the dust collector.

## Starting Lime Dispenser

In case of start-up, lime dispenser must run when the throttle controlling the exhaust is opened to the filter, by providing power supply.

In case of planned operations shutdown, start in enough time to completely empty the dispenser.

Service life of the device depends on the correct usage and in accordance with the schedule of maintenance work carried out.

## MAINTENANCE

For a smooth operation of the Pulse 200 system, we suggest a frequent maintenance routine that as a minimum includes the actions below. That will ensure the operation of the system for a long time.

### Checks

Check the level of lime in the lime container.

Inspect the barrel for any water.

### Actions

Before adding lime, disconnect the power source to the system, including disconnecting the filter fan.

Empty the barrel.

Please check level control of calc each month

- Take off the barrel lid using lever from the buckle.
- Check level of calc and its condition (if moist is present, calc can turn to clod)
- Check permeability of the elastic pipe connected to the filter.

## SAFETY INSTRUCTIONS

During the assembly, installation and use of Pulse 200 all the main health and safety regulations should be considered.

The most important requirements are listed below:

- Staff should be familiar with guide, read thoroughly the instruction manual before installation, operation, maintenance and repair.

- Area of responsibility for installation, operation, maintenance and repair of the dosing station should be clearly defined.
- During the installation and management of the device, all the local laws must be respected.
- During transportation, all health and safety issues and regulations related to transportation must be kept.
- The person responsible for the installation of the device at the destination must ensure that the load-bearing structures or buildings that are available to install the dispenser should meet the requirements in terms of strength and stability of the soil.
- The responsible person is obliged to make sure that the dispenser is correctly operated, according to the intention of the guide.
- Before starting the dispenser, it is required from the persons responsible, according to local rules of safety, to provide protective equipment, installation if the need for protective covers and control device for safety.
- All electrical work on the device must be performed by authorized personnel.
- If you have any doubts about the installation, operation, maintenance, repair information and technical assistance of the dispenser you should contact the equipment supplier.

Any use of the machine for other purposes than specified or authorized by the manufacturer is prohibited.