

# NIVELCO CASE STUDIES

## Level detection in dust collectors

**NIVOSWITCH vibrating fork level switches for solids**

**PLYMOVENT Group** is considered as one of the leading global manufacturer of extraction and filtration products, systems and services suitable for cleaning polluted indoor air, welding and cutting fumes, grinding dust and oil mist in the metalworking industry and removal of vehicle exhaust gases and tobacco smoke. Their Hungarian subsidiary the **AC PLYMOVENT Ltd.** is a successful company in the domestic and the Central European ventilation technology industry for more than two decades.



According to the agreement made two years ago between **NIVELCO** and **PLYMOVENT**, the company builds **NIVELCO** manufactured level switches into their dust collection tanks of car factory halls, air quality systems, community smoke and dust extractor systems, vehicle exhaust extractor systems,

and extractor systems for cutting, grinding or welding machines. **NIVOSWITCH** vibrating forks operates in these applications with great reliability.

The main purpose of the different filtration technologies is the removal of the various size visible and invisible air pollutants. The dust extraction unit transmits the filtered dust to a dust collector vessel. The saturation of these vessels should be monitored and when the upper level is reached, the control unit should send a shutdown signal to the filter unit and make alert to the personnel in order to empty the dust collector vessels. In the dust collector equipment the removable dust containers are located at the bottom. There are two different types of **NIVOSWITCH** vibrating fork level switches for solids working in these applications.



The primary type is **NIVOSWITCH RFM-301-0**, a 230V AC powered version with paint coated aluminium housing and wired through cable glands. These units have relay output directly connected to the electronic control unit.

These types with casted vibrating part and fork were built into older equipments where only 1" process connection was available.

Due to the design of the dust removal system explosion-proof protection was not required.



Thanks to the development of the electronic technology the newer series of the dust collector equipment are already operating from low supply voltage 24 V DC.

Here the newer construction **NIVOSWITCH RLH-301-3** level switches with non-parallel vibrating forks could be used to perform reliable detection of the accumulated dusts. The process connection size is 1 1/2 inch because the size of the vibrating element.

When the maximum level is reached the open-collector output of the three-wired devices with DIN connector transmits the signal to the electronic control unit system.

The **NIVELCO** manufactured **NIVOSWITCH** vibrating fork level switches has been successfully used for many years since the instruments are able to operate with high reliability in many media within wide density range.

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