



# Press Release

## **Metal Processing: Certified explosion protection for air pollution control systems**

**Keller Lufttechnik announces the new ProPipePlus, an explosion protection system certified in accordance with DIN EN 16009, for air pollution control systems in the metal processing industry – thereby closing an existing gap in the market. The flameless pressure relief is specifically designed to omit the established safety zones surrounding the system. This frees up new storage space and simplifies work processes.**

Kirchheim unter Teck/Stuttgart, January 20<sup>th</sup>, 2015 – Very fine particulate is created during the blasting, grinding, polishing and processing of metals. Air pollution control systems collect the foreign matter and separate it from breathable air. However, large dust concentrations may still remain to some extent inside the system, creating a potentially explosive environment. “The entry of a small spark can be sufficient to set off an accident,” explains Jens Kuhn, explosion protection specialist at Keller Lufttechnik. “Explosions rarely occur, but their impact can be severe. System operators are therefore legally obligated to adopt protective measures.”

### **Patented ProPipePlus system**

Keller Lufttechnik Kirchheim presents its patented ProPipePlus system which ensures a flameless pressure relief for explosion prone metal dust separators. The system’s main feature is the combination of a burst disk for pressure relief and a wire mesh flame trap with a large surface to reduce temperatures and extinguish flames. Both are installed vertically and are equipped with a protective shield. In the event of an explosion, only dust is released, which is discharged upward. The result is that for the first time operators no longer have to designate a safety zone. “This is a great economic advantage”, explains Christian Zöller, of the Keller Sales Department, “because floor space is expensive. A separator equipped with ProPipePlus does not require a 2.5 m safety radius, so it considerably reduces space requirements and simplifies work processes.”



### **Successful inspection in accordance with DIN EN 16009**

It is challenging to design functioning protection systems for the steel or aluminum processing industries, because explosions can create temperatures reaching 3.000 degrees Celsius. This is why the new DIN EN 16009 test standard of 2012 declares that corresponding safety components must possess special test documentation for application in the metal processing field. ProPipe Plus successfully passed these tests and is now one of the very few certified explosion protection systems for separators of metal dusts on the market. "The new standard required a complex design for newly installed metal dust separators necessitating pressure relief outdoors – either through an outside wall or the plant roof", explains Jens Kuhn. "This is now a thing of the past! With ProPipePlus we can install the separator anywhere inside the plant."

### **Application combined with VARIO 2 dry separator**

The entire system consisting of a VARIO 2 separator and ProPipePlus was tested at the FSA, Research Institute for Applied System Safety and Health in the Black Forest.

"We proved that the rotary discharge valve for separated metal dust is capable of withstanding explosions", reports Christian Zöller. "The tests further indicated that the flames do not infiltrate the clean air side behind the filter in the event of an explosion. Customers purchasing this entire system or having retrofitted their VARIO 2 now have it signed and certified. All perfectly interacting system components ensure protection in case of an emergency."

### **Links:**

Keller Lufttechnik: [www.keller-lufttechnik.de](http://www.keller-lufttechnik.de)

Explosion protection: [www.exschutz.net](http://www.exschutz.net)

Sample copies or links provided free of charge

You may request the following photographs accompanying this press release:



Image 1



Image 2



Image 3



Image 4

**Image 1: Dust explosion without ProPipePlus, with normal pressure relief** (Caption: Actually, explosions rarely occur; their consequences, however, can be severe. System operators are legally obligated to adopt protective measures)

**Image 2: With ProPipePlus prior to the explosion** (Caption: ProPipe Plus passed these tests without difficulty and is therefore one of the very few certified explosion protection systems for separators of metal dusts on the market.

**Image 3: With ProPipePlus during explosion** (Caption: In the event of an explosion, only dust escapes, which is discharged upwards. With this approach, it is no longer necessary to establish a safety zone.

**Image 4: VARIO dry separator with ProPipePlus** (Caption: With ProPipePlus, separators can be installed throughout the plant without the customary safety zones. This opens up new space and simplifies work processes)

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