



## DIE CLEANING

### Aluminium extrusion dies

#### The challenge

The cleaning of extrusion dies in the aluminium sector involves many risks. The chemical cleaning equipment often does not meet the requirements in terms of productivity, ergonomics and safety. The operator runs the risk of coming into contact with NaOH solution or the toxic fumes generated by the use of hazardous chemicals. This can have very serious consequences for his health. The harmful fumes (H2) also imply that measures must be taken regarding ATEX. An additional problem is that the dies are often cleaned in the dirtiest corner of the plant, which again poses many challenges.

#### Our solution

PCA developed a system that increases the speed of the cleaning process and drastically improves working conditions.

Each system needs about three buffer tanks: one contains freshly produced NaOH, one collects the used solution for reuse and one tank contains rinse water.

The cleaning process of the dies takes place in the process tanks. The dies are loaded when the tanks are empty. Then the process tank is filled with NaOH, in which the aluminium residues dissolve. Afterwards this process tank is filled with water to rinse the dies.

1. Buffer tank | 2. Process tank | 3. Extraction slot | 4. Ventilation system



Once the cleaning process is complete, the tanks empty again and the dies can be removed. Each process tank contains an extraction slot that extracts the H2 vapours and a technical space in which the sensors are shielded from the dies.

The ventilation system ensures that the H2 vapours are extracted to the outside. On one side the H2 is extracted and on the other side fresh air is supplied. The ventilation system is driven by fans.

### Safe, ergonomic and ATEX conform

The operator never comes into contact with the caustic soda or the unpleasant H2 vapours. Due to the continuous air exchange and the exhaust of H2 vapours, this is an ATEX compliant installation.

### Efficient

This system is fast and efficient and can therefore provide drastic time savings. These can be as high as 50% compared to their old system.

### Custom made turnkey concept

PCA works out complete turnkey installations from A to Z. Each installation is custom made and adapted to the specific situation of the customer: the size and number of dies, the space in which the installation will be placed and other variables. Our own automation team provides an electrical cabinet with all the programming needed to run the system. We can also supply our extraction with gas scrubbers, drift separators or other systems in collaboration with our air purification department.

**Benefits:**

- Safe
- Ergonomic
- Efficient
- Turnkey concept
- Custom made
- ATEX conform



- 3. Extraction slot
- 4. Supply
- 5. Technical space
- 6. Ventilation system
- 7. Fans
- 8. Electrical cabinet

