

## How Pinocchio clouds over the costs of power supply...

A warning campaign against Pinocchio's manipulations

### Catalogue values are hardly ever based on measurements

Have you ever calculated the power consumption of the air cleaners on your machine tools? It is very simple and the result will surprise you.



An air cleaner running in three-shift operation has an annual power consumption of approximately 1,000 euros per kilowatt of connected load. This is a common rule of thumb. If you have 50 machines with a connected load of 2 kW, the costs of your power supply amount to 100,000 euros and with 100 machines to 200,000 euros per year. Carefully selecting the right separator by comparing the power consumption of various appliances with the same airflow rate is therefore bound to pay off.

This is precisely where some suppliers start cheating: they do not specify measured values or characteristic curves, but have the cheek to indicate a lower power consumption and a higher airflow rate than the leading competitors. Still not convinced?

If so, just have it checked and compare the measured values to the specified ones. You will be surprised how the Pinnocchios of the air-filtering sector pull the wool over your eyes.



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#### A simple way to check energy efficiency

There is a simple method to unmask Pinocchio's lies – just calculate the energy efficiency of your air cleaners by setting the measured airflow rate in m<sup>3</sup>/hr in relation to the specified connected load in watts. If the quotient is greater than one, the separator operates economically. If the ratio is less than one, the operation is highly inefficient and the energy consumption too high.

# RELÉN

For example: an air cleaner with a connected load of 600 watts conveys a measured air volume of 1,200 m<sup>3</sup>/hr. The resulting parameter is 1,200 : 600 = 2. The separator operates very efficiently as long as the airflow rate remains unchanged.

On request, our customer service representatives will measure the air-handling capacity of your air cleaners. If you prefer, we will provide you with an airflow rate meter free of charge.

### Filters are not the same as separators

Another tip: check the airflow rate of a new air cleaner about six months after commissioning. In some cases, you will be surprised at how dramatically the measured values differ from the nominal ones. They often even drop below half of the specified rating. What is the reason for this?

Well, many separators have filter media that become saturated and virtually clogged with time if you do not replace them at regular intervals. Consequently, the airflow rate drops dramatically. These devices are not separators in the strict sense, but rather common filters which require a lot of maintenance. Only cyclone separators maintain their airflow rate at a constant level, because they do not absorb the separated oil; they drain it off via their polished blade surfaces. They are self-cleaning and their energy efficiency remains on a high level even in the long term. Just like the X-CYCLONE® separators by REVEN®, which often drive Pinocchio to despair.

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### **Rotating mass guzzles energy**

Centrifugal separators in particular have the disadvantage of inconstant airflow rates combined with rising power consumption costs, but this is not only due to the clogging effect. In most centrifuges, not only the fan but also the whole filter drum rotates in operation.

In a compact RECOJET<sup>®</sup> separator with X-CYCLONE<sup>®</sup> basic elements, however, only the fan rotates. This concept saves energy and offers two additional benefits: low-noise running free of vibrations.

#### Halving power consumption

The Spanish metal-processing company GKN recently replaced 200 air cleaners all at once in its machine production factory in Bilbao. Measurements on the centrifuges used until then revealed alarming power consumption and the annual power supply costs amounted to 200,000 euros. With a power consumption of 2 kW, most of the centrifuges achieved an airflow rate of merely 200 m<sup>3</sup>/hr six months after commissioning – a fraction of the nominal value.

### Air cleaners must comply with Eco Design

Finally, another of Pinocchio's fat lies: he boldly maintains that the motor and fan impellor of his air cleaner do not have to comply with the new directive on energy-related products ErP, which requires a minimum efficiency rate. The reason, according to Pinocchio, is that the directive does not apply because the drive is exclusively used for the conveyance and not the cleaning of the air. Do you know any air cleaner that functions without conveying air? Nor do we.

It is a fact that the motor/fan unit of air cleaners must comply with ErP requirements and this was confirmed recently by the German Engineering Federation VDMA.



Give your old grease mist separators with disposable filters a new lease of life. Just ask for the X-CYCLONE® retrofitting kit.

Filter replacement is quick and easy thanks to the standardised dimensions of the removable rack units.



RECOJET<sup>®</sup> – a smart solution only offered by REVEN<sup>®</sup>. You'd be better buying centrifuges from Pinocchio.



The power guzzlers were replaced with X-CYCLONE® air cleaners by REVEN® that cut down power consumption by half. Pay-off period: 1.5 years. When Pinocchio learned this, he fell into a deep depression.

Ask for additional references or order our  $REVEN^{\circledast}$  air cleaners programme on a USB stick.



Standard dimensions		
Width	Height	Depth
450 mm	300 mm	50 mm
450 mm	400 mm	50 mm
490 mm	490 mm	50 mm
500 mm	500 mm	50 mm
610 mm	610 mm	50 mm

This is where constructive creativity is required, even though this is reflected in the price. Pinocchio does not like this at all, because he is a cheap-skate who wants to sell the cheapest solution all the time. You should look out for a CE mark under all circumstances when buying an air cleaner, because it provides evidence of ErP conformity.

But watch out: when retrofitting your air cleaning equipment, it is not enough to simply replace the motor of the air cleaner with an energy-efficient EC drive. Only a motor/fan unit aligned to each other and fitted with a suitable electronic power control can ensure minimum energy conversion efficiency as required by the ErP Directive.

### By the way, all components of our grease mist separators are quality products made in Germany!