

Comparative differences between **O'cuatro** Precleaners and other competitors

O'cuatro dynamic air precleaners are devices destined to separate solid impurities from the air stream before they reach the main filters. They are usually installed in place of the rain cap, dust bowl, or aspirated precleaner (exhaust system). In some applications, they can be mounted directly to the air cleaner.

Air enters the system through a pre-screen that removes large debris. It then flows through static vanes causing the air to spin. As the air spins, centrifugal force separates dust, dirt, insects, rain and snow from the air stream. The swirling air drives a high velocity rotor that acts as a blower evacuating contaminants through special discharge ports at the bottom or in the side of the unit. Only purified air flows to the air filter elements.

Comparative differences with **Others** dynamic engine air precleaners

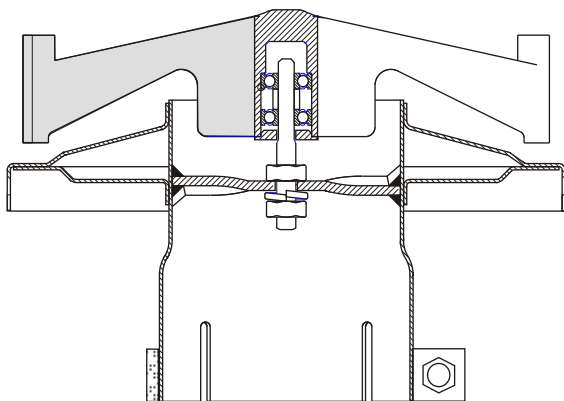
O'cuatro dynamic engine air precleaners

One piece rust-proof rotor, made of polipropilene with addition of rubber, which gives an excelent strength to impact even at low temperatures. As it is a one piece unit avoids its dismantle during operation and disbalance that could ends with the rotor total destruction.

(See figure 1 and 2 - Item 1 - Page 3)

The rotor is mounted on dual ball bearings over double-welded plate steet (it is not hanging from the precleaner body). This design gives high stability to the rotor even at maximun rpm.

(See Figure 1 and 2 - Item 2 - Page 3)



■ Differential Area
(Section against
The airflow)

The rotor blade area is differential, it decreases to the center. This desing guarantee that the air entering into the precleaner will produce the enough rotor velocity to eliminate the impurities even at low rpm of the engine.

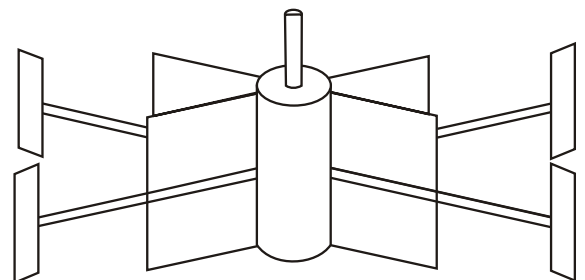
Others dynamic engine air precleaners

Compound rotor: plastic core, iron wire rays and ladle type metal blades welded to the rays.

If there is any welding failure or corrosion problem in the blades, the rotor could lose a blade and its balance starting to work improperly.

The rotor is hanging from the precleaner body.

If the body suffers knocks, vibrations or mechanical distortions it is quite probable to have interference between the rotor blades and the static vanes, avoiding the spin.



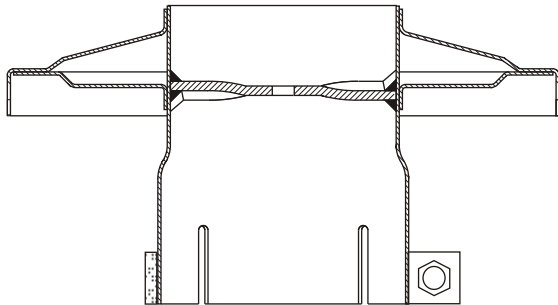
The rotor blade area is ladle type at the ends but it doesn't have section against the air flow in the middle portion of the blade. For this reason the rotor doesn't reach enough velocity to centrifugate the impurities when the engine is running at low rpm.

Comparative differences with **Others dynamic engine air precleaners**

O'cuatro dynamic engine air precleaners

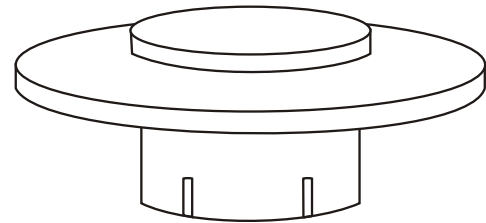
Double-welded plate steel that gives maximum strength to material fatigue caused by vibrations, avoiding breaks in the junction between the precleaner plate and the outlet pipe to filter housing.

(See Figure 1 and 2 - Item 3 - Page 3)



Others dynamic engine air precleaners

Simple-welded plate steel that doesn't give an optimum structural strength to the precleaner.



Specially designed discharge ports with a bigger and uniform area. This avoids obstructions and guarantees a maximum precleaner efficiency during its working life.

(See Figure 1 - Item 4 - Page 3)

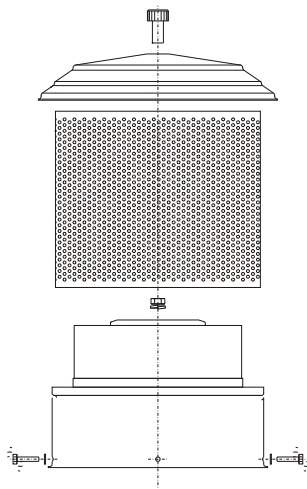
Wedge shape discharge ports.

Big particles can obstruct the discharge ports decreasing precleaner efficiency or even stop completely its functioning.

The perforated metal pre-screen at the inlet has the same diameter than the precleaner external body.

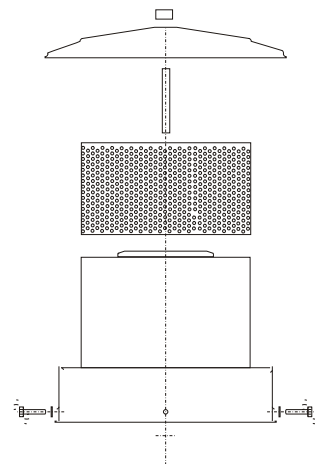
In this way it has a larger inlet surface and less restriction to the airflow.

The screen holes are circular shape with special arrangement and small diameter, giving a big inlet total surface and avoiding larger contaminants to enter.



The perforated metal pre-screen at the inlet has the diameter of the static vanes body. So the inlet surface is quite small and could be obstructed by large contaminants, specially in harvester machines.

The screen holes are rhomb shape or circular shape with big diameter, so larger contaminants could enter the precleaner and then plug exhaust port areas.



O'cuatro has 3 different lines of dynamic air precleaners with more than 28 standard models, giving the better choice for each application.

Limited quantity of models and options.

Comparative differences with **Others dynamic engine air precleaners**

o'cuatro dynamic engine air precleaners

Others dynamic engine air precleaners

The precleaner outlet tube is provided in different diameters.
This outlet tube can be also adapted with the supplied reducing sleeves for a variety of outlet choices.
(See Figure 1 and 2 - Item 6 - Page 3).

Limited variety of coupling diameters.

Due to the exclusive discharge ports design the eliminated particles can't be recirculated by the precleaner.

In stationary engines and slow-moving machinery some models present a high recirculation percentage of particles already eliminated by the air precleaner.

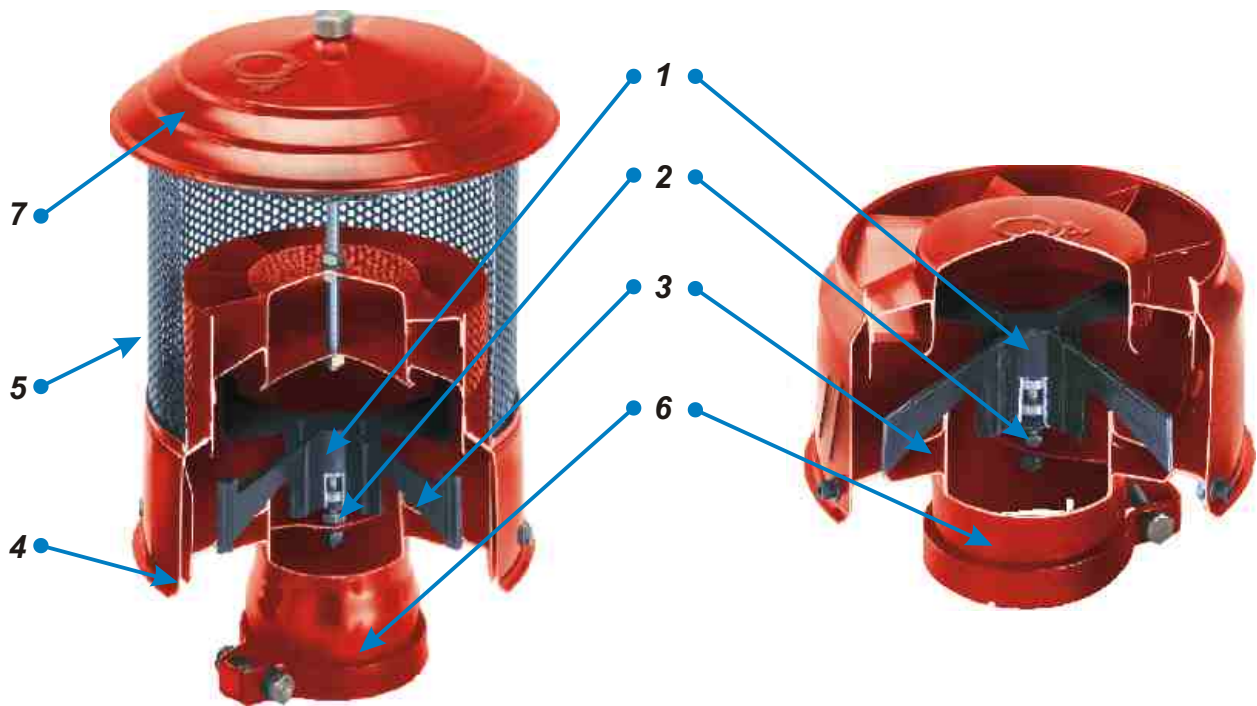


Fig 1

Fig 2

Available application airflows from 18 to 1411 CFM (0,5 to 40 m³/min.). For larger airflows precleaners can be installed in parallel.

More limited application airflows: 50 to 1100 CFM (1,5 to 30 m³/min) in general.

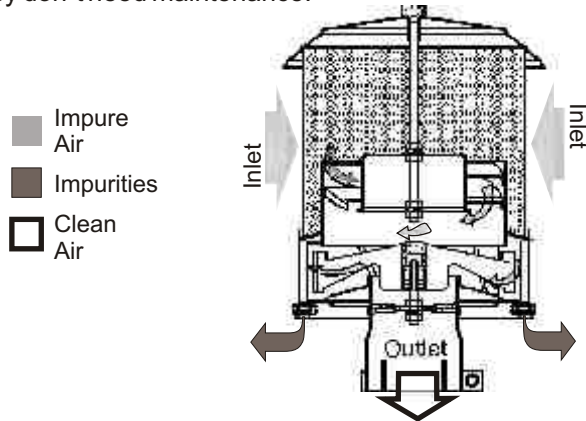
They are ateel made by stamping and welding with an excelent mechanical strength. Precleaners are powder coated for a durable, corrosion resistant finish.
(See Figure 1 - Item 7 - Page 3)

Some of them are plastic made with low mechanical strength and not resistant to climate effects (u.v. rays and rain).

Comparative differences with **Dust Bowl** air precleaners

O'cuatro dynamic engine air precleaners

They don't need maintenance.



They are steel made by stamping and welding with an excellent mechanical strength.

Precleaners are powder coated for a durable, corrosion resistant finish. They are resistant to climate effects (U.V. rays and rain).



They can be mounted in the up-right or in horizontal position depending the preclener model and application.



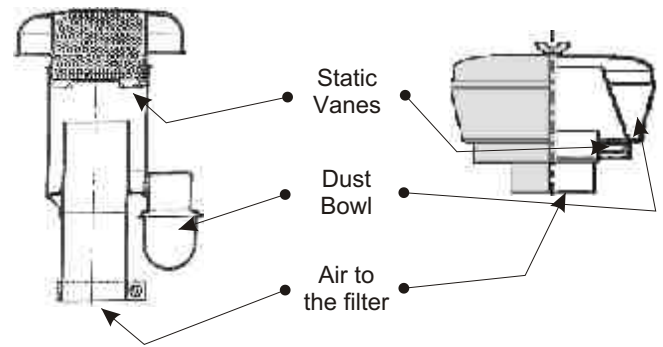
O'cuatro dynamic precleaners work efficiently with all kind of solid particles, either heavy or light ones. These particles include dust, dirt, insects, rain, snow, etc.

Precleaner efficiency remains constant in the time.

It is a system that combines a static vanes body and a dynamic body (rotor). It removes up to 90% of impurities from intake air before the air enters the filter elements.

Dust Bowl air precleaners

They need an average of 6 minutes maintenance a day. So they are 30 to 45 minutes of maintenance a week with the cost it involves.



They are plastic made, most of the times, with a low strength to impact and suffer the climate effects (material degradation).

These static precleaners are frequently damage by knocks, by excessive fasten in the bolt after maintenance or by temperature differences.



They must be mounted only in the up-right position in order to acumulate the dust and other contaminants.




Dust Bowl precleaners work efficiently only with heavy solid particles colecting dust, dirt, insects, rain and snow but they are not effective with light or fine particles.

Precleaner efficiency is variable (it decreases as the bowl starts to fill up and it is low for low engine rpm).

It is a centrifugal system with a static vanes body only. Due to this the precleaner efficiency is much lower than a dynamic system.

Comparative differences with **Oil Bath air precleaners**

<i>o'cuatro dynamic engine air precleaners</i>	<i>Oil Bath air precleaners</i>
<p>Precleaner efficiency remains constant in the time.</p>	<p>Precleaner efficiency is variable, it depends on the airflow and the contaminants oil saturation.</p> <div style="text-align: center;">  </div>
<p>They can be mounted up-right or in horizontal position depending the precleaner model and application.</p>	<p>They must be mounted only up-right to avoid oil spilling.</p>
<p>They do a clean and safe precleaning.</p>	<p>Oil entries to engine air intake may happen in case of excessive engine vibrations or irregular terrain surfaces.</p>
<p><i>They don't need maintenance.</i></p>	<p><i>These oil entries damage the turbochargers.</i></p>