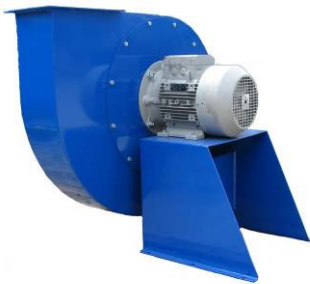

General information

Guidelines for dimensioning air fans, cyclones, air ducts



Air fan RVK



Dust cyclone ON



Air roof hood

The dimensioning of a possible fan, cyclone or duct system is very important to achieve a correct aspiration of the entire system

To choose a correct fan to be mounted on a cleaning machine, it is necessary to calculate the total pressure drop in the line.

All cleaning machines can be connected to an existing central aspiration unit but before such a connection is made, the supplier should be consulted regarding the placement. We recommend own fan for some machines (e.g. destoner, KUTR, etc.) due to the high sensitivity settings of device. Incorrect placement of the aspiration inlet can reduce the suction in parts of the system.

The dirty aspiration air from the fan of a cleaning machine can also be led direct to a separate cyclone.

The cyclone should have the correct dimensions, be correctly installed, and be suitable for the maximum air output of the machine in question. Undersize cyclones give too much back pressure and result in bad aspiration at the cleaning machine; oversize cyclones, on the other hand, give poor dust separation.

In places where there is high demand for exhausting air quality; air filters should be installed.

The ductwork should have as few bends as possible; furthermore it should not have sharp bends. Avoid changing the direction of the air flow where ever possible as this will cause additional pressure drop and turbulence thus giving a poor efficiency and a higher consumption.

The distance between a cleaning machine and cyclone should normally be a maximum of 10 meters; if the ductwork has only a single bend, up to 50% larger distance is acceptable.

The exhaust from a cyclone should be vertical and deviation from vertical must not exceed 20 degrees; if the cyclone is correctly dimensioned, a rotary valve is not necessary on the outlet.

A vertical exhaust duct should be terminated with a air roof hood; a horizontal exhaust duct (not such a good) should be cut diagonally and fitted with a mesh at the open end.

The air velocity in vertical pipes should be sufficient, as the dust will otherwise settle out.

Duct joints should give as little turbulence as possible; avoid putting screws through the ducting and ensure any slip joints are made to go with the airflow. It is necessary to check that every single part of the duct is clear.