

POWER UNIT 350+ P

The AL-KO POWER UNIT 350+ P is a tested clean air extractor in self-supporting design made of colour-powdered sheet steel. The dust extractor is built according to the harmonized standard DIN EN 16770 and is certified with the BG-GS test mark according to GS-HO-07, with note for residual dust content level test mark H3. Dedusters of this size are therefore permitted to be set up directly in the working area without additional fire and explosion protection measures. This creates excellent production conditions with healthy air at the workplace.

The POWER UNIT 350+ P is suitable for use in workshops with a simultaneity factor of several machines, as well as for individual extraction and supplementation of a stationary system.

The dust collector is suitable as a decentralized extraction system for universal use with a wide variety of materials such as wood and wood composites, plastics, paper, metal, stones, and many more. The small dimensions make it possible to set up the dust collector even in confined workshops.



Mode of operation

The fan installed in the clean air area of the dust collector sucks the dust-laden air from an extraction pipe system into the interior of the system. There, chips and dust stick to the outside of the filters and are separated. The now filtered, clean air is blown out again at the top of the dust collector. The legally required residual dust content of the return air of 0.1 mg/m³ (H3) is reliably complied with by this design.

Design

The integrated pre-separator protects the filters from direct exposure and achieves a high degree of pre-separation by expanding the air flow of the intake air. The resulting greatly reduced filter load significantly increases the service life and service life of the filters.

The fan arranged on the clean air side is located in a flow-optimized housing. The sophisticated design of the steel impeller with backward-curved blades achieves maximum efficiency. The engine is located in the air flow of the return air, is thereby cooled and is covered with a sound-insulated hood.

Description
APU 350+ P_os

Control

In addition to a manual start, the PLC control installed in the device housing also has the possibility of an automatic start by means of a potential-free contact and a possibility to trigger the cleaning process manually. In addition to the operating status, numerous other parameters and error messages can be called up in plain text form on the display of the controller. Fault messages are highlighted in colour depending on the category.

For volume flow monitoring, the system has an adjustable pressure socket with a warning lamp on the switch box.

Optionally, an additional controller for the detection of several machines (accessories) can be connected by means of a converter coil or potential-free contact and control of electro-pneumatic sliders with 24V. The switch-on threshold of the converter coil and the overrun time can be set for each machine. The optional machine detection with slider control has a so-called bypass control, which automatically opens one or more sliders if the minimum volume flow falls below the threshold.



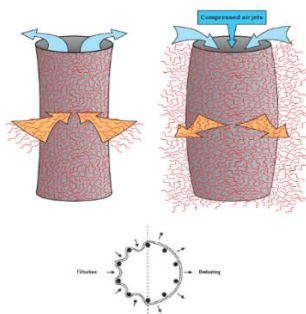
Control cabinet with PLC control and extinguishing device

Filter

The pleated bag filters used with internal plastic basket have a surface-vaporized filter material which is electrically conductive, has the BIA certificate and corresponds to dust class M. The selected external loading prevents clogging inside the filter. The easily removable device cover allows good accessibility for maintenance work in the entire clean air side filter area.

Filter cleaning

As in stationary device constructions, the proven AL-KO OPTI JET® process is used to regenerate the filters, which guarantees low residual dust content. The required compressed air is stored by a compressor required by the customer in an integrated, specially tuned and approved compressed air tank. The cleaning is carried out by means of compressed air pulse pulses, which clean the filters from the inside to the outside, against the direction of application of the filter. The resulting mechanical deformation of the filters optimizes the degree of regeneration in the event of heavy soiling.



Principle AL-KO OPTI-JET®

Description
APU 350+ P_os

During suction, the filter differential pressure is monitored and if a limit value is exceeded, this is displayed as a message and the cleaning process starts automatically. This process continues until the adjusted value drops below. And the cleaning start also after completion of each suction process, when the unit is switched off, provided that the device has previously run for at least 10 minutes. This time is added up.



Clean-air side, filter cleaning system

The uninterrupted operating time between the necessary cleaning intervals of the filters depends on the type of material to be extracted and its quantity.

Safety

The extraction of woodworking machines, in which effective ignition sparks and glow pockets are to be expected, is only possible with an additional safety device (e.g. Spark extinguishing system). No process- or environment-related ignition sources (e.g. glowing parts) may be sucked into the clean air extractor.

The automatic extinguishing device prescribed for dust collectors of this size is already integrated into the dust collector. The light metal liquid tank integrated into the system makes the dust collector independent of the water connection. The extinguishing process is triggered automatically via the device control, controlled by a temperature sensor. At the same time, the fan is switched off and the cleaning function is put out of operation. However, it can also be activated manually via the touch switch in the control panel of the device control.

Discharge

The extracted chips and dusts collect in the container inserted chip bag for low-dust removal. The filling container mounted on rollers makes it much easier to transport the deposited material to the disposal point. After emptying or changing the chip bag, the filling container is locked again by means of a generously dimensioned handle that can be operated from the front. The container is automatically secured with two locking bolts and coupled to the vacuum system via two connection points.

The patented dust compartment included as standard prevents dust falling from the filter room to the floor during the emptying process of the containers. It ensures lower dust emissions and more cleanliness at the installation site.



Chip container with dust compartment

Description
APU 350+ P_os

The delivery is ready to plug in, only the chip bag still has to be inserted. With little installation effort, the pull-out direction of the filling container, left-right extract, can be changed at any time. It is also possible to subsequently change the disposal variant to substructure with briquette press or rotary valve

Optional accessories POWER UNIT 350+ P :

- | Chip bags
- | External control cabinet
- | Machine detection with slider control 24V for 4,8,12 etc. machines
- | Frequency converter with pressure regulator for demand-oriented control of the system
- | Expansion space increase for material calming or enlargement of the filter area
- | Level monitoring by means of ultrasonic sensor, suitable for ATEX zone 21
- | Splitter silencer
- | Exhaust hood
- | Ignition protection system
- | PUR spiral hose

Technical data POWER UNIT 350+ P:

Intake nozzle	355 mm
Engine data	15 kW; 3 ~; 400 V/ 50 Hz
Max. volume-flow	10,000 m ³ /h
Volume-flow at the nozzle at 20 m/s	7,127 m ³ /h
Vacuum at the nozzle at 20 m/s	3,347 Pa / dusted and cleaned
Filter area	73 m ² · 57 pcs Ø 125 mm x 1,000 mm
Filter material	Sponbond polyester, alu-coated, Cat. M, el. cond.
Impact on filter	98 m ³ /(m ² xh)
Residual dust content	H3 (< 0,1 mg/m ³)
Filter cleaning	Compressed air cleaning, AL-KO OPTI JET®
Max. noise level	73 dB(A) (free-field measurement according to DIN EN ISO 1120, measured in a distance of 1 meter)
Swarf collection volume	3 x 250 liter
Basic control	Micro-PLC-LOGO Siemens with plain text display
Electrical connection	without cable and plug, fuse protection 50A required
Power consumption	26.5 A
Compressed air supply	½" standard plug Compressed air consumption 140 NI/ 4 bar
Volume flow monitoring	Differential pressure socket with warning lamp at the control box

Description
APU 350+ P_os

Dimension (L x W x H)	3,129x 1,058 x 2,361 mm
Chassis	4 plastic castors 125 mm, two of them steerable, one with locking
Weight	1,040 kg
Finishing	RAL 7001 (silver grey) and RAL 7035 (light grey)



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