SIMPLE, STRAIGHTFORWARD, EFFICIENT

BASIC

In order to provide simple and efficient operation, all dedusters in the DeDust Pro range are fitted with PLC and touch panel controls.

DISPLAY

The straightforward menu-driven system and the setting of all important parameters allows the operator to respond to the optimal requirements of the operation.

USER-FRIENDLY

The sensor response is displayed on the screen. Additionally, text is displayed in order to support the operator in the best possible way. A message history is available as standard.

ADAPTABILITY

Due to the intuitive menu-driven system, it’s possible to adapt to the requirements of the operation at any time. This may be in terms of energy savings, flexibility and rapid amortisation.

VARIO AND SEPAS 8000

All connected machines are summarised in a list. Separate parameters can be set for each machine.

ENERGY EFFICIENCY

Essential consumption values may be viewed at all times. The average utilisation rate of the system is also recorded as a general operating hours meter.
STANDARD: FOR ONE MASCHINE

Control
Basic at fixed speed. The fan operates at nominal speed. A start / stop contact is provided in the control cabinet for every machine which switches the associated fan on or off.

Application
Extraction at machine. This was the original idea behind the inception of the deduster.

Minimum air volume – conveyance velocity
The minimum conveyance velocity is already taken into account at the design stage of the main pipework.

Consequently there is no air volume control and no secondary air control.

OPTION: BASIC FOR SEVERAL MACHINES

Extraction of several machines totally simultaneously.

Control
Basic at fixed speed. The fan operates at nominal speed. A start / stop contact is provided in the control cabinet for every machine which switches the associated fan on or off.

Application
Mostly for machines or groups of machines with invariably constant capacity / synchronisation.

Minimum air volume – conveyance speed
The minimum conveyance velocity is already taken into account at the design stage of the main pipework.

Consequently there is no air volume control and no secondary air control.

* In connection with the nominal air volume and the main pipe measurements, the maximum speed in the main pipe is normally between 22 und 26 m/s
** False air to insure the conveying speed in the main pipe (waste / inefficiency of the exhaust system)
STANDARD: FIXED SPEED

Control
slide valve control at fixed speed.
The fan operates at nominal speed.

Slide valve control
A start / stop contact is provided for every machine which opens or closes the associated slide valve. The fan is switched on or off at the same time.

Minimum air volume – conveyance speed
In order to ensure the minimum conveyance speed in the main pipe, additional automatic gate valves for processing machines are opened.

Machine safety - extraction air volume
If the maximum extraction air volume is exceeded then no further slide valves may be opened. (additional warning lights on the control cabinet)

OPTION: VARIABLE SPEED

Control
Slide valve control with variable speed.
The fan controls the required operational negative pressure via the frequency convertor.

Machine negative pressure
The appropriate negative pressure is allocated to each machine. One of three negative pressure levels (high, medium or low) can be allocated to each machine.

Energy saving
Significant energy savings can be realised via frequency convertor control. An air velocity of 15 m/s can be regulated in the lower capacity zone. The amortisation time period is between four and five years.***

* In connection with the nominal air volume and the main pipe measurements, the maximum speed in the main pipe is normally between 22 and 28 m/s.
** False air to insure the conveying speed in the main pipe (waste / inefficiency of the exhaust system)
***Based on 12 cents/kWh with medium load i.e. 50% and 8h per day
Control
SEPAS 8000 with variable speed.
The fan controls the required operational negative pressure via the frequency convertor.

Machine negative pressure
The appropriate negative pressure is allocated to each machine. One of three negative pressure levels (high, medium or low) can be allocated to each machine.

Energy saving
Significant energy savings can be realised via the frequency convertor control. An air velocity of 7 m/s can be regulated in the lower capacity range. The amortisation time period is between one and two years.***

Slide valve control
A start / stop contact is provided for every machine which opens or closes the associated slide valve. The fan is switched on or off at the same time.

Minimum air volume – conveyance speed
In order to ensure the minimum conveyance velocity in the main pipeline, the patented activation pipe comes into play for material conveyance, even at low velocities. Regulation of 2,000 to 8,000 m³/h – this corresponds to double the control-led capacity when compared to the standard design.

Securing the machines - extraction air volume
If the maximum extraction air volume is exceeded then no further slide valves may be opened. (additional warning lights on the control cabinet)
CONVEYANCE / STORAGE

PNEUMATIC CONVEYANCE

Conveyance / ring pipe system
Material is conveyed using a ring-pipe conveyance system. The fan blows separated material into the conveyance pipe towards the storage location. The air which is fed back is guided towards the fan. In such a way, the air is guided into circular motion and no dust escapes.

Container filled with compressed air
The open container is fitted with a combination of filter and cover tarp.

No explosive pressure may build up due to the open construction. No particular constructive measures are therefore required to be taken. (Pressure relief systems and decoupling measures) Only fire protection need to be observed for in compliance with local regulation.

Silo with axial fill
The material is directly introduced into the Silo through a non-return flap via compressed air conveyance piping. The conveyed air is fed back again via a pressure relief vent which acts as a non-return flap in terms of the technical explosion decoupling mechanism.

Fewer decompression areas are required inside the silo thanks to the special Scheuch filling process combined with the explosion protection mechanisms in the silo. Practical tried and tested flame profiles are also available for both lateral and upward decompression. As a result, there is a practical and cost-effective solution available for nearly all applications, including existing masoned silos for which there is otherwise no safe and legal solution. Specially created reports for the applications mentioned are available from Scheuch to complement the offerings.

Silo – pressure-free filling via rotary valves
The material separated in the cyclone is introduced into the silo through a rotary valve. The rotary valve performs the role of fire and explosion decoupling.

Fewer pressure relief areas are required inside the silo thanks to the special Scheuch filling process combined with the explosion protection mechanisms in the silo. Practical tried and tested flame profiles are also available for both lateral and upward decompression. As a result, there is a practical
GENERAL CONDITIONS

REGULATED BY EN 16770

INTERFACES

The extraction plant begins at the extraction hood and terminates with intermediate deposit of the separated material.

CE-MARKING

The entire extraction plant must be marketed. It is not sufficient to rely purely on CE conformity. The overall system with its interlinked safety engineering aspects must be considered. The extraction plant distributor can either be the machinery supplier or the extraction plant manufacturer. To ease this process, Scheuch has developed the Vario, Basic and SEPAS 8000 exhaust systems. The distributor can resort to a standardised system with existing safety analysis.

FUNDAMENTAL SECURITY REQUIREMENTS

- Adherence to the specified conveyance velocity in order to avoid deposits.
- Fire and explosion protection
- Dust residue < 0.1 mg/Nm³/h
- Ensuring the required extraction air volume for each machine in varying operating conditions.
- Storage and disposal of the extracted material.
- Minimising running costs due to high efficiency extraction design.
- Flexibility in adding machinery

EXTRACT FROM EN 16770

INTERFACE TO WOODWORKING MACHINES

INTERFACE

The extraction plant should interface to an external start / stop signal which serves to automatically start and stop the extraction plant (see image). If a woodworking machine requires a monitoring system for volumetric flow, then this monitoring system is not part of the extraction plant design but rather that of the machine itself (from the manufacturer).

SLIDE VALVES

Slide valves to shut off individual woodworking machines or other extraction points must open and close automatically. Manual valves may, in exceptional cases, be used to block individual woodworking machines with a small air volume flow, based on the total volume of air flow. Even if part of the slide valve is closed, the required minimum air conveyance velocity must be achieved in all sections of the pipeline system being used and for all operating states (capacity) involved in conveying materials. Note: this can be achieved with bypass systems or via air injection.

EXTRACT FROM EN 16770

PLANNING AND DESIGN GUIDELINES

EXTRACTION AIR VOLUME

The construction and design of the extraction plant must ensure that all machinery operated under the specified operating conditions can perform the extraction of the air flow volumes indicated by the manufacturer at the very least.

Legend
1: Interface between extraction plant and woodworking machine
2: Access for external starting of the extraction plant
3: Gate valve
4: Monitoring of the volumetric air flow for internal locking of a woodworking machine
WE ARE
TECHNOLOGY
FOR CLEAN AIR