

E-PAK 500 DX

Filtro industriale depolveratore per impianti centralizzati



The E-PAK 500 DX for combustible dust handling

E-PAK 500 DX is the ideal solution for the extraction of combustible and non-combustible materials, such as sanding and grinding dust. Also suitable for cleaning of the workplace and the shop floor. The E-PAK 500 DX is a powerful vacuum unit and can serve up to six extraction points, all in use at the same time. It minimizes the risk of explosion, maximizes your production up-time and gives significant cost savings.

Dust explosion

A solid piece of any given material is normally safe and non-combustible. However, creating a fine dust from the very same material could make it combustible. Compare a solid piece of wood to wood dust! Furthermore, the finer the dust particles are, the more combustible they become.

When combustible material is dispersed as fine dust and combined with air and an ignition source, the risk for a dust explosion increases. Some examples of combustible materials:

- Synthetic organic dust: Plastic grinding dust, reinforced plastics and other composite materials, powder paint, cosmetics
- Metal dust: Fine dust of aluminium, magnesium, titanium, chromium
- Organic dust from food industry: Baking flour, soup powder, spices, sugar
- Pharmaceutical dust: A large number of powders used in pharmaceutical industries are combustible

Low operating costs

Power control can be obtained by fitting automatic vacuum valves to the extraction points. The valves provide suction power when an operation starts. When the work stops and all the valves have closed again, the E-PAK 500 DX unit will stop.

Automatic vacuum valves offer substantial energy savings and make a small unit manage the job otherwise requiring a large unit. Using automatic valves multiplies the number of working points that can be served, by three to four times.

Advantages

Low installation costs:

- Unit complete equipped with starter and control unit.
- No setting required at installation.

Low running and maintenance costs:

- Long life filters: up to 6000 hours with dust extraction.
- Efficient automatic filter cleaning method.
- Direct driven fan with lifetime-lubricated bearings.
- Automatic start/stop as option.

Wide range of applications:

- Can be used for grinding dusts, general floor cleaning and machine cleaning.

Low noise level:

- Fan mounted in acoustic enclosure


Built in safety functions:

- Built in Emergency stop switch.
- Monitored control filter to detect main filter failure.
- Monitored relief panel. Vents the explosion to a safe area and stops the unit.

ATEX Directive

E-PAK 500 DX is designed to extract combustible and non-combustible dust, but the unit "as a whole" is not to be placed in an area that is classified as a zone according to directive 1999/92/EC. It is only the inside of the filter that meets ATEX requirements.

E-PAK 500 DX may be used with duct systems internally classified as zone 20, 21 or 22.

The product has no  marking since there is no internal ignition source. The inside is to be considered a simple filter/silo and does not fall under the scope of the directive 94/9/ EC.*

*Source: ATEX working group considerations; "How should the directive be applied to filter units and vented silo bins."

Nederman has been operating in the field of environmental equipment for more than 50 years and has extensive experience in equipment and systems for potentially combustible dust.

Note! Since July 1, 2006, all existing sites, as well as new sites must be fully compliant with the ATEX directive.

Permitted materials

It is of utmost importance to know the properties of the extracted material. The E-PAK DX is intended to be a part of an extraction system collecting material with the following properties:

- Dust explosion class: St1 and St2
- Pmax: ≤10 bar
- MIE (Minimum Ignition Energy) > 3 mJ
- MIT (Minimum Ignition Temperature) > 205 °C

Materials with properties not given within the above stated values must be investigated prior to use with the E-PAK 500 DX. Contact Nederman for technical support and Dust application investigation.

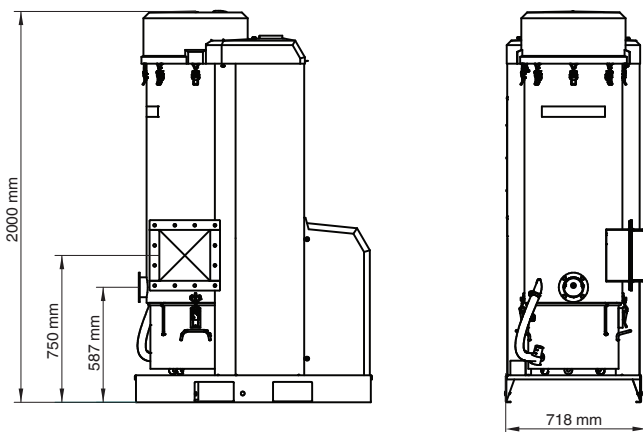
Explosion suppression system

For indoor installations, an explosion suppression system can be used instead of the explosion relief panel. With an explosion suppression system, the early stage of an explosion is detected with optical or pressure devices, and an extinguishing agent is quickly dispersed into the filter. The suppression of the explosion is initiated in an extremely short time after explosion's detection (in milliseconds), and stops the pressure rise and extinguishes (suppresses) the flames of the explosion before it reaches excessive pressure levels.

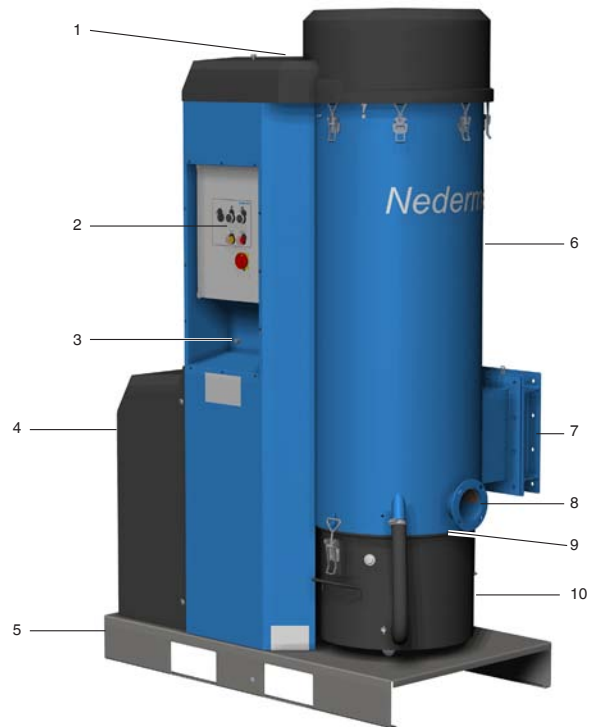


Note! The explosion suppression system must be quoted on project basis. Contact Nederman for technical support and Dust application investigation.

Dimensions

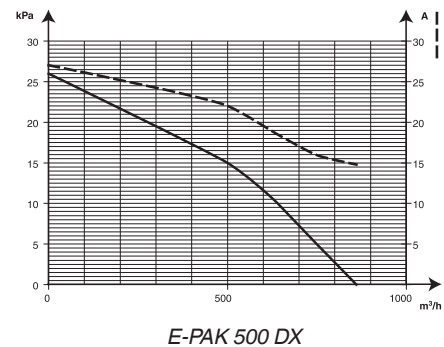


Main components



- | | |
|---------------------------------|---------------------------|
| 1. Discharge/Exhaust | 6. Dust separator |
| 2. Control panel & Control unit | 7. Explosion relief panel |
| 3. Compressed air inlet | 8. Flanged inlet |
| 4. Acoustic enclosure | 9. Antistatic bag |
| 5. Frame for fork lift handling | 10. Dust collector |

Fan diagram



E-PAK 500 DX units for multi purpose use



On-tool extraction of sanding dust



On-tool trimming composites



Cleaning in a bakery






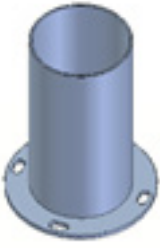
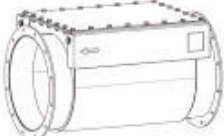
Work floor cleaning

Technical Data




Model	E-PAK 500 DX 230 V 50 Hz	E-PAK 500 DX 400 V 50/60 Hz	E-PAK 500 DX 460 V 60 Hz	E-PAK 500 DX 380 V 60 Hz
Article number	051425	051439	051464	051459
Effect	13 kW (17,43 hp)	13 kW (17,43 hp)	13 kW (17,43 hp)	13 kW (17,43 hp)
Mains voltage/frequency	230 V±10%/50 Hz	400 V±10%/50–60 Hz	460 V±10%/60 Hz	380 V±10%/60 Hz
Capacity free blowing	860 m ³ /h (506 CFM)	860 m ³ /h (506 CFM)	860 m ³ /h (506 CFM)	860 m ³ /h (506 CFM)
Capacity at -15 kPa/60 in W.G.	500 m ³ /h (294 CFM)	500 m ³ /h (294 CFM)	500 m ³ /h (294 CFM)	500 m ³ /h (294 CFM)
Maximum vacuum	-25/100 kP/in W.G.	-25/100 kP/in W.G.	-25/100 kP/in W.G.	-25/100 kP/in W.G.
Filter area*	3.4 m ² (32 sq.ft.)	3.4 m ² (32 sq.ft.)	3.4 m ² (32 sq.ft.)	3.4 m ² (32 sq.ft.)
Filter life	4000 - 6000 h	4000 - 6000 h	4000 - 6000 h	4000 - 6000 h
Noise level ISO (at 1 m / 39 in.)	67 dB(A)	67 dB(A)	67 dB(A)	67 dB(A)
Weight	333 kg (734 lbs)	333 kg (734 lbs)	333 kg (734 lbs)	333 kg (734 lbs)

* Main filter material is classified as category L, and control filter material is classified as category M according to DIN EN 60335-2-69.

Accessories

	Name	Part No
	Application: Pressure resistant pipe for connection of Isolation valve. Pipe is installed between filter inlet and the Isolation valve.	
	Flanged pipe ø 100 mm, 1 m. Fasteners and seals are included. Galvanized	376521
	Application: Pressure resistant pipe for connection of Isolation valve. Pipe is installed between filter inlet and the Isolation valve.	
	Flanged pipe ø 100 mm, 0,5 m. Fasteners and seals are included. Galvanized	376522
	Application: Pressure resistant pipe for connection of Isolation valve. Pipe is installed between filter inlet and the Isolation valve.	
	Flanged Bend 90° Ø 100 mm Fasteners and seals are included. Galvanized	376523
	Application: Pressure resistant pipe for connection of Isolation valve. Pipe is installed between filter inlet and the Isolation valve.	
	Transition flanged pipe Ø 100 mm. Fasteners and seals are included. Galvanized	376524
	Isolation valves The Isolation valve prevents a possible explosion from spreading from the filter, backwards to the workplace.	
	Isolation valve Ø 100 mm length 355 mm	374401

Consumables

	Name	Part No
	<p>Plastic Bag Dust collecting bag made of special conductive material for EX applications. Dimensions: 730 x 900 m For FlexFilter EX standard 70 l (18.5 gal) bin 20 pcs</p> <p><i>Use only Nederman conductive containers when collecting combustible material.</i></p>	118800
	<p>Antistatic filter Main filter replacement Area: 3.4 m² (36.6 square feet) Weight: 12 kg (26.5 lbs)</p>	376777
	<p>Control filter insert Control filter replacement Area: 2.25 m² (24.2 square feet) Weight: 4.9 kg (10.8 lbs)</p>	050950

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