

The Nilfisk range of ATEX-certified vacuum cleaners

Nilfisk has ATEX certified vacuums that comply with the ATEX directive, as follows:



Nilfisk A500 / 1000

The ATEX-compliant versions of these compressed air vacuum units are flameproof and can be fitted with HEPA filters. Both are fully portable on wheels, and include a simple emptying system.



Nilfisk IV 040

This 3-phase, 4.0 kW electric powered machine provides heavy-duty cleaning for dry pick-up applications. Certified for Zones 21 and 22.



Nilfisk IVB 7X

This latest addition to the Nilfisk range of specialized industrial vacuums is featured on page 6 of this brochure. Certified for Zone 22.



Nilfisk IV 022-IV 150

These 3-phase electrical units provide power and flexibility in a range of industrial vacuuming applications. Certified for Zone 22.

Examples of Zone 22 materials

Food:

Orange pips
Banana (powder)
Glucose
Fish
Grain
Coffee
Cocoa
Carrot
Malt
Milk powder
Red carrot
Strength
Tea
Tomato
Wheat
Sugar



Non-Food:

Aluminium
Brake dust
Developer
Rubber
Jute
Cork
Leather
Paper
Powder
Soot
Textile fibres
Peat
Cellulose



Introducing the Nilfisk IVB 7X



A SINGLE-PHASE ELECTRIC VACUUM CERTIFIED FOR USE IN ATEX ZONE 22 AREAS

While it is easy to think of industrial vacuum cleaners as being large 3-phase or pneumatic units for use in ATEX zoned areas collecting large quantities of dust and debris, there also exists a need for smaller, more flexible units for lighter-duty applications.

The Nilfisk IVB 7X meets just this need. Being a single-phase unit it can be plugged into any normal electrical outlet. Being ATEX approved, it meets the stringent requirements for operating in ATEX Zone 22 environments. The unit meets Dust Class M standards for use in collecting dusts with an Occupational Exposure Limit (OEL) of $>0.1 \text{ mg/m}^3$. With a rated power of 1200 W and a 70 litre capacity container, this machine is extremely effective in providing fast, mobile cleaning of workshops and smaller industrial areas.

www.nilfisk-advance.com

TECHNICAL SPECIFICATIONS



Description	Unit	IVB 7X
IP protection class		IPX4
Dustclass		M
Rated Power	W	1200
Suction power end of tube	W	270
Airflow without hose	l/sec	56
Sound pressure level at 1.5 m (ISO 3744)	dB(A)	53.5
Vacuum max.	Kpa	25
Container capacity	l	70
Main filter type		PET
Main filter area	cm ²	3000
Inlet	mm	50/ATEX
Length x width x height	cm	58x60.5x97
Weight	Kg	27.2

Specifications and details are subject to change without prior notice.



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Industrial vacuum cleaners

Nilfisk ATEX guide

Safety first !

The ATEX Directive, what it means to you.



ATEX Zones 1/2 and 21/22



Industrial cleaning demands an intelligent approach

WHAT IS ATEX?

The acronym ATEX is taken from the French "ATmosphere EXplosive". The ATEX directive took effect from July 1, 2003 and is intended to provide the technical requirements to be applied to equipment for use in potentially explosive atmospheres.

The potential for explosive atmospheres can exist in a range of mainly industrial locations such as mines, factories, agricultural silos, oil and gas platforms, chemical processing and other such facilities. Nilfisk-Advance aims to inform its sales people, distributors and customers about the ATEX directive, and about the risks involved in operating electrical or mechanical equipment in potentially explosive atmospheres. We urge everyone to whom this directive may concern to become thoroughly familiar with these facts, and to promote safety at all times.

KNOW THE RISKS BEFOREHAND

In industrial cleaning it is essential to understand that the dust being collected may not be the simple, harmless material that we associate with normal household dust. It is also important to know that while certain solid materials, such as aluminium for example, won't burn, the powder form of that same material may be extremely flammable and could under certain conditions, be explosive.



Vacuuming of industrial applications where the dust is, or may be potentially hazardous, requires the use of equipment specifically certified for use in that area.

ATEX legislation

-is designed to prevent the risk of fire and explosion in work areas where there exists a potential for such accidents to occur.

This legislation is aimed at both the manufacturers of mechanical and electrical equipment to be used in such an environment, as well the users of such machinery.

ATEX 100a directive

- 94/9/EC refers to equipment and protective systems intended for use in potentially explosive atmospheres.

This directive makes it mandatory under European law that once an area has been classified as potentially explosive, only electrical and mechanical equipment that has been formally certified by a notified body can be used. Products intended for use in such areas, are not legally allowed to be placed on the European market without the appropriate certification after June 2003.

ATEX 137 directive

- 94/9/EC refers to the protection of workers in potentially explosive atmospheres. This directive makes it mandatory under European law to assess for an explosion risk, and to classify the area accordingly. This classification divides such areas into Zones.

When cleaning involving the use of machinery is to be done in an area where there exists the potential for fire and/or explosion, it is of critical importance, therefore, that care is taken to ensure that the machine to be used is ATEX certified. Similarly, before cleaning commences, check that the machine is certified for use in that particular zoned area. For information concerning the different categories of zoned areas, read the section headed "ATEX DIRECTIVE 94/9/EC" on page 4



Working together to prevent unnecessary accidents

TAKING RESPONSIBILITY

Nilfisk-Advance, like all responsible equipment manufacturers, puts a premium on safety and the protection of employees working with or in the vicinity of the products they produce. Particular care has, therefore, gone into the design and construction of the Nilfisk range of industrial vacuum cleaners. There are ATEX certified Nilfisk machines for use in various specified ATEX work zones. Each machine has been specifically designed to meet the needs and safety requirements of the ATEX zone for which it is intended.

However, it is the customer's responsibility to ensure that the machine is not used in an area for which it is not intended, and for which it has not been certified. In other words, the customer is responsible for the correct matching of machine selection with the zoned area where the cleaning is to take place.

RISK ASSESMENT

The characteristics of the dust or gas will determine the correct choice of equipment for each zone. An integral part of such risk assessments is a 'hazardous area classification'. A competent person should carry out this risk assessment in order to identify those places or areas where controls over ignition sources are required (hazardous), and where they are not (non-hazardous). Hazardous areas are then further divided into zones to distinguish those places where the risk of an explosion is high, and those where an explosive atmosphere may only occur occasionally or in abnormal circumstances. Note that if the plant does not have in-house capability of carrying out a professional risk assessment to determine the classification of the area, then a qualified independent consultant should be hired to make the assessment. The responsibility for a competent risk assessment of the facilities lies with the owners and operators of the plant.

The overriding motto for anyone responsible for utilising a cleaning machine in an area where there may be the potential for the dust to ignite or explode should be: "When in doubt seek professional advice before operating the machine."



The ATEX directive is divided into two parts aimed at both the manufacturer of the machine, and at the employees of the facility where the machine is to be used. The responsibility for safety is shared between both.



All Nilfisk ATEX vacuums comply with the ATEX directive for zone 22. Additionally, models IV 040 and A500 /A 1000 are certified for use in more stringent zoned areas. In general, the greater the concentration of dust the higher the risk of explosion. Regular cleaning helps minimize such risk.

Understanding ATEX

CLEANING MINIMIZES THE RISK OF EXPLOSIONS

When certain types of dust are allowed to accumulate, they represent a fire and/or explosion risk.

An inflammable dust, such as sawdust, aluminium powder, flour or soot for example, when combined with oxygen and an ignition source, such as a spark from a motor, will burn and possibly explode.

While such a fire may, initially, be relatively harmless, it can create a first small explosion that starts a catastrophic chain reaction. The first explosion will inevitably swirl more of the explosive dust into the air, thus creating more and bigger explosions and causing a fire. A clean work area is, an important step and safeguard in minimizing the risk of explosions.



In areas where gas or vapours are present, the difference between the three zones can be summarised as follows:

Zone 0	Areas where a dangerous, explosive atmosphere exists either constantly, or over a long period of time
Zone 1	Areas where a dangerous, explosive atmosphere exists occasionally
Zone 2	Areas where it is assumed that a dangerous, explosive atmosphere exists only seldom and then only for a short period of time

ATEX DIRECTIVE 94/9/EC

This directive deals with equipment suitable for use in explosive atmospheres. Under this directive, GROUP II deals with equipment for surface industries and is, therefore, the one relevant to Nilfisk equipment. There are three categories of zoned areas, each divided into two categories. Single digit numbered zones relate to the presence of gas or vapour, while double-digit numbered zones relate to dust.

Zone	0	20	1	21	2	22
Atmosphere	Gas	Dust	Gas	Dust	Gas	Dust
Explosive risk	Continual		Intermittent		Episodic	
Category of equipment -to be used as per 94/9/EC	1		2		3	

In areas where inflammable dust is present, the difference between the three zones can be summarised as follows:

Zone 20	Areas where combustible dust, as a cloud, is present continuously or frequently. Typically such situations occur inside processing equipment
Zone 21	Areas where combustible dust, as a cloud, is likely to occur during normal operation. For example, areas in the immediate vicinity of powder filling or emptying points
Zone 22	Areas where combustible dust clouds may occur infrequently and persist for only a short time, or where such dust may be present only in abnormal conditions. Typically, such an area would be in the vicinity of equipment containing dust.