THIRD-PARTY CERTIFIED, EXPLOSION-PROOF AND NFPA-COMPLIANT VACUUMS

Safely collect combustible dust

NILFISK

Safe collection of combustible dust

For a compliant and efficient environment

The threat of an explosion in your facility is very real. That is why OSHA recommends, and sometimes requires, manufacturers to use properly-equipped industrial vacuums as part of a regular plant maintenance program to collect hazardous dust.

Nilfisk offers a full line of industrial vacuum cleaners to meet NFPA 652 housekeeping requirements for collecting combustible dust in Class I, Group D and Class II and non-classified environments.

Expert support

We support you with a highly-trained direct sales team. Dedicated to solving your combustible dust challenges, our team analyzes your processes and recommends the best vacuums and features for your particular application.

Locate your sales rep at:
https://www.nilfisk.com/en-us/pages/find-a-sales-rep/

Call customer and technical support:
800-989-2235

Dedicated engineering department

Dedicated sales team

Worldwide technical assistance

Nilfisk solutions

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Legend

Available features

Accessory kit

HEPA filter

ULPA filter

Stainless steel construction standard

Meets NFPA 660 safe housekeeping requirements*

Approvals

ATEX certified

CSA certified

ETL listed

UL listed

**Some modifications may be required. The NFPA does not endorse or approve specific products. The NFPA has laid out product design recommendations in Standard 660, which Nilfisk interprets in order to design compliant vacuums.*

Get to know NFPA & OSHA standards

Select compliant, safe equipment for housekeeping

Steps to safely collect combustible dust in any environment

Step 1: Understand your facility and your responsibilities

It is ultimately your and your company's responsibility to select safe equipment. You can be held accountable by multiple authorities having jurisdiction (AHJ), including your insurance company, local officials and OSHA.

Step 2: Get to know the regulations, standards and recommendations

Stay up-to-date on the current state of NFPA and OSHA regulations, standards and recommendations so you make informed decisions.

Step 3: Select the safest industrial vacuum for your application

Select equipment that will help you become safe, and stay safe—meeting all requirements set forth by your facility, AHJ, insurance company, NFPA, OSHA and, most importantly, your users.

NFPA 660: Must-know facts

- Applies to **all facilities and operations** that manufacture, process, blend, convey, repackage, generate, or handle combustible dusts or combustible particulate solid (1.3.2)
- **Dust tests must be conducted** to determine combustibility or explosibility. Documentation of these tests must be available for review by the Authority Having Jurisdiction (AHJ).
- **A Dust Hazard Analysis (DHA)** is required if your dust has a Kst value greater than 0 (indicating explosibility). This analysis is an essential part of safety compliance and must be completed for all relevant operations.
- Vacuuming is the preferred method of cleaning
- Blow-down is only permitted when other methods have already been used
- **Housekeeping procedures must** be documented
- Vacuum cleaners must meet the requirements laid out in Section 8.4.2.2.1

OSHA recommendations for decreasing risk of combustible dust fires and explosions:

1. Utilize properly-equipped vacuums for source capture and as portable suction device to prevent fugitive dust from accumulating
2. Make housekeeping as easy and ergonomic as possible by using lightweight, adjustable tools, flexible hoses and overhead cleaning accessories
3. Keep dust levels below 1/32" by cleaning with an industrial vacuum cleaner that meets the requirements for explosion hazard locations and/or materials
4. Inspect all equipment (especially older) for possible ignition sources and for needed deflagration venting upgrades

Class II, Division 2 design requirements

Carefully adapted to meet or exceed requirements

NFPA 660 specifies in Section 8.4.2.2.1 that all facilities handling combustible dust, including non-classified environments, must use vacuum cleaners that meet strict design requirements. These requirements ensure safe operation and include:

Conductive or static-dissipative hoses. Proper grounding of all conductive components to prevent static discharge. Filtration systems suitable for combustible dust collection. Compliance with these specifications is essential to minimize fire and explosion risks in facilities handling combustible dust.

Additional features:

- When necessary, motor starter relocation and isolation from heat sources
- Bonding and grounding between assemblies to ensure additional path to ground
- Accessories and options approved as part of NRTL certification; high visibility labels for easy user identiciation

Certification applies to the entire machine (not just components) and confirms the machines meet requirements for:

- UL 1017 (Continuous-duty models)
- ISA 12.12.01
- CSA C22.2 No. 25
- CSA C22.2 No. 213
- CSA C22.2 No. 243

Marked with

Intertek

For Class II Div 2, Group F, G T4A

Antistatic hose between filter chamber and blower and (depending on machine) blower and exhaust diffuser or downstream filter housing

Power cord and class-appropriate grounding plug

TEFC motor windings are sealed from contact with ambient dust

Antistatic casters

Enclosures meeting requirements of certification

Antistatic main filter and optional HEPA are bonded to the chassis

Stainless steel collection bin and low-sparking inlet and deflector

Nilfisk VHW series

The VHW series portable vacuums make daily cleaning in production areas and process manufacturing fast and hassle-free.

Conical cartridge filters on VHW321 and larger models provide more surface area, extend filter life and resist clogging.

Technical specifications

Description	Unit	VHW201	VHW211	VHW311	VHW321
Collection type	-	Dry	Dry	Dry	Dry
Type of power	-	3-Phase	3-Phase	3-Phase	3-Phase
Voltage @ 60 Hz	V	220 / 460 / 575	220 / 460 / 575	220 / 460 / 575	220 / 460 / 575
Power @ 60 Hz	HP (W)	0.67 (500)	1.27 (950)	2.75 (2050)	2.75 (2050)
Waterlift, max.	in. (mm) H_2O	60 (1524)	64 (1626)	88 (2235)	88 (2235)
Airflow, blower max.	CFM (L/min)	58 (1642)	102 (2888)	150 (4248)	150 (4248)
Current, max.	amps	2.5 / 1.4 / 1.0	4.1 / 2.2 / 1.8	8.8 / 4.4 / 2.95	8.8 / 4.4 / 2.95
Container capacity	gallons (L)	1.7 (6.5)	1.7 (6.5)	6.6 (25)	6.6 (25)
Dimensions (L x W x H)	in. (mm)	41.1 x 19.1 x 16.9 (1045 x 485 x 430)	41.1 x 19.1 x 16.9 (1045 x 485 x 430)	50.2 x 28.1 x 18.3 (1275 x 715 x 465)	63.0 x 28.9 x 16.0 (1600 x 735 x 400)
Sound pressure level	dB(A)	56	59	64	64
Available features	-	HEPA ULPA NFPA	HEPA ULPA NFPA	HEPA ULPA NFPA	HEPA ULPA NFPA
Approvals	-	ETL Intertek	ETL Intertek	ETL Intertek	ETL Intertek

Technical specifications

Description	Unit	VHW420	VHW421	VHW440	VHW441
Collection type	-	Dry	Dry	Dry	Dry
Type of power	-	3-Phase	3-Phase	3-Phase	3-Phase
Voltage @ 60 Hz	V	220 / 460 / 575	220 / 460 / 575	220 / 460 / 575	220 / 460 / 575
Power @ 60 Hz	HP (W)	3.42 (2550)	3.42 (2550)	6.17 (4600)	6.17 (4600)
Waterlift, max.	in. (mm) H_2O	76 (1930)	76 (1930)	104 (2651)	104 (2651)
Airflow, blower max.	CFM (L/min)	222 (6286)	222 (6286)	294 (8333)	294 (8333)
Current, max.	amps	10.7 / 5.6 / 4.3	10.7 / 5.6 / 4.3	16.0 / 8.0 / 7.1	16.0 / 8.0 / 7.1
Container capacity	gallons (L)	12.2 (46)	12.2 (46)	12.2 (46)	12.2 (46)
Dimensions (L x W x H)	in. (mm)	58.0 x 37.8 x 22.5 (1475 x 960 x 570)	71.6 x 35.8 x 22.6 (1820 x 910 x 575)	58.0 x 37.8 x 22.5 (1475 x 960 x 570)	71.6 x 35.8 x 22.6 (1820 x 910 x 575)
Sound pressure level	dB(A)	66	68	70	70
Available features	-	HEPA ULPA NFPA	HEPA ULPA NFPA	HEPA ULPA NFPA	HEPA ULPA NFPA
Approvals	-	ETL Intertek	ETL Intertek	ETL Intertek	ETL Intertek

Nilfisk CTS26, T48 and T63

The CTS26, T48 and T63 three-phase, continuous-duty vacuum cleaners are equipped with motors from 2,600 up to 6,300 W, to fit a variety of air flow and suction needs within heavy industrial applications. Daily cleaning in production areas and process manufacturing is fast and hassle-free with user-friendly features including manual filter shaker, manometer, rear swiveling wheels with locking casters and stainless steel collection container with release lever. Specifications below feature 50-liter CTS26 and 100-liter T48 and T63 models.

Nilfisk VHS110

The VHS110 is CSA-certified for use in Class II, Division 2, Groups F & G environments and ensures compliance with NFPA 652 housekeeping recommendations for the safe collection of combustible dust. Featuring a brushless motor, PullClean™ filter cleaning technology, and HEPA filtration, the VHS110 offers the highest performance and safety for long product life and flexible, easy use—from overhead cleaning to confined areas around equipment.

Technical specifications

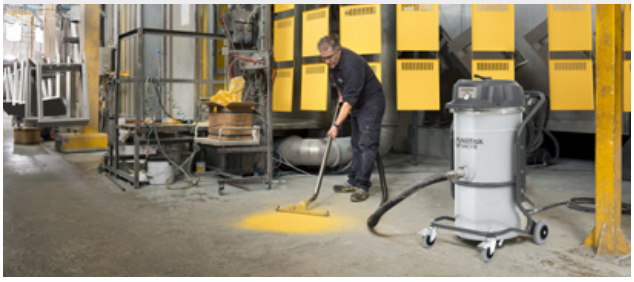
Description	Unit	CTS26	T48	T63	VHS110
Collection type	-	Dry	Dry	Dry	Dry
Type of power	-	3-Phase	3-Phase	3-Phase	1-phase
Voltage @ 60 Hz	V	220 / 460 / 575	220 / 460 / 575	220 / 460 / 575	120
Power @ 60 Hz	HP (W)	3.42 (2550)	6.43 (4800)	8.45 (6300)	1.34 (1000)
Waterlift, max.	in. (mm) H_2O	76 (1930)	141 (3569)	83 (2100)	82.4 (2093)
Airflow, blower max.	CFM (L/min)	222 (6286)	222 (6286)	354 (9769)	103 (2900)
Current, max.	amps	10.7 / 5.6 / 4.3	16.8 / 9.7 / 7.1	23.4 / 12.4 / 9.7	11.5
Container capacity	gallons (L)	13 (50)	26 (100)	26 (100)	9.8 (37)
Dimensions (L x W x H)	in. (mm)	44.5 x 23.8 x 49.2 (1130 x 605 x 1250)	60 x 47.6 x 24.8 (1525 x 1210 x 630)	60 x 47.6 x 24.8 (1525 x 1210 x 630)	22 x 22.x 49 (560 x 560 x 1240)
Sound pressure level	dB(A)	71	74	74	76
Available features	-	HEPA, ULPA, NFPA	HEPA, NFPA	HEPA, NFPA	HEPA, ULPA, SST, NFPA
Approvals	-	ETL	ETL	ETL	CSA

Hazardous location, pneumatic vacuums

For use when electricity is unavailable or undesirable

Although there is no North American certifying body for air-operated vacuums, Nilfisk pneumatic vacuums are built to meet the same design standards as ATEX (Ex) hazardous location equipment. The vacuums are designed to meet the requirements for safe use in Class I, Group D, and Class II, Groups E*, F & G environments.

Air-operated Models offer the same level of performance as electric Nilfisk models while maintaining the same features and low noise level.



Nilfisk VHC110 EXP and VHC120 EXP

The VHC110 EXP and VHC120 EXP air-operated, hazardous location vacuums provide the same high suction power you expect with Nilfisk, but using 60% less compressed air. These vacuums include multi-stage filtration with a PullClean™ filter cleaning system and COAX® compressed air cartridges in addition to grounding cable and clamp. HEPA variants as well as complete stainless steel configurations are available. Variants designed for Liquids collection are also available.

Nilfisk VHC200 EXP

The VHC200 EXP stainless steel, pneumatic vacuum is ideal for a variety of general cleaning tasks, as well as heavy-duty applications involving denser debris. This model can be used in continuous-duty applications. Smaller collection capacity is available upon request.

**Additional equipment may be necessary to meet Group E requirements. Nilfisk reserves the right to evaluate on a case-by-case basis.*

Technical specifications

Description	Unit	VHC110 EXP	VHC120 EXP	VHC200 EXP
Collection type	-	Dry (Wet Option)	Dry (Wet Option)	Dry (Wet Option)
Air consumption @ 90 psi	CFM (L/min)	22 (623)	44.5 (1260)	94 (1982)
Waterlift, max.	in. (mm) H_2O	130 (3302)	130 (3302)	153 (3875)
Airflow, max.	CFM (L/min)	70 (1982)	119 (3370)	184 (5200)
Air line diameter	in. (mm)	0.5 (13)	0.75 (19)	0.75 (19)
Recommended air pressure	psi (bar)	101 (7)	101 (7)	90 (6)
Container capacity	gal. (L)	9.8 (37)	9.8 (37)	26 (100)
Dimensions (L x W x H)	in. x in. x in. (mm x mm x mm)	22.5 x 22 x 49 (572 x 560 x 1245)	22.5 x 22 x 49 (572 x 560 x 1245)	31.5 x 23.6 x 62.6 (800 x 600 x 1590)
Sound pressure level	dB(A)	71	72	70
Available features	-	ACC, HEPA, SST, NFPA	ACC, HEPA, SST, NFPA	HEPA, SST, NFPA
Approvals	-	Ex	Ex	Ex

NRTL-certified explosion-proof vacuums

For use in classified (hazardous) environments

OSHA and NFPA recommend, and in some cases require, manufacturers with combustible materials to use certified explosion-proof/dust ignition-proof vacuums as part of a regular plant maintenance program.

Review the following standards for recommendations regarding your environment and application:

1. Electrical Standards:
   - National Electrical Code (NEC): Article 500 (Hazardous Locations).
   - Canadian Electrical Code (CEC): Section 18 (Hazardous Locations).
2. Regulatory Programs:
   - OSHA Combustible Dust National Emphasis Program: Provides enforcement guidance for recognizing and mitigating combustible dust hazards.
3. National Fire Protection Association (NFPA) Standards:
   - NFPA 660 – Comprehensive standard for the prevention of fire and dust explosions in industries handling combustible particulate solids.
   - NFPA 61 – Standard for the prevention of fire and dust explosions in agricultural and food processing facilities.
   - NFPA 484 – Standard for combustible metals and their dusts.
   - NFPA 654 – Standard for the prevention of fire and dust explosions in facilities handling combustible particulate solids (e.g., plastics, pharmaceuticals).
   - NFPA 655 – Standard for the prevention of sulfur fires and explosions.

Technical specifications

Description	Unit	VHS110EXP	VHS110EXPW
Collection type	-	Dry	Wet
Type of power	-	1-Phase	1-Phase
Voltage @ 60 Hz	V	120	120
Power @ 60 Hz	HP (W)	1.61 (1200)	1.61 (1200)
Waterlift, controlled	in. (mm) H_2O	65 (1654)	65 (1654)
Airflow, blower max.	CFM (L/min)	106 (3681)	106 (3681)
Current, max.	amps	10	10
Container capacity	gallons (L)	9.8 (37)	9.8 (37)
Dimensions (L x W x H)	in. (mm)	22 x 30 x 50 (559 x 762 x 1270)	22 x 30 x 50
Sound pressure level	dB(A)	76	76
Available features	-	ACC HEPA ULPA SST NFPA	ACC HEPA ULPA SST NFPA
Approvals	-	CSA	CSA

Nilfisk's line of explosion-proof/dust ignition-proof vacuums are certified for use in hazardous environments, including Class I, Group D and Class II, Division 1 and 2, Groups E*, F, and G locations.

Nilfisk VHS110EXP – Certified Class I & Class II

The VHS110EXP vacuum line is CSA-certified for use in Class I, Group D and Class II, Groups E*, F & G environments. It features a brushless with Class I & II motor, PullClean™ filter cleaning technology and downstream HEPA filtration. Variants designed for liquids collection are also available.

Nilfisk VHT437EXP and VHT456EXP – Certified Class I, Group D & Class II, Groups E, F & G

The VHT437EXP and VHT456EXP are certified explosion-proof/dust ignition-proof vacuum cleaners with exceptional performance for continuous-duty needs in hazardous environments. They are ideal for use in portable or small central system applications. The VHT437EXP and VHT456EXP meet the requirements for use in Class I, Group D, and Class II, Groups E*, F & G environments. Smaller collection capacity is available upon request.

**Additional equipment may be necessary to meet Group E requirements. Nilfisk reserves the right to evaluate on a case-by-case basis.*

Technical specifications

Description	Unit	VHT437EXP	VHT456EXP
Collection type	-	Dry (Wet option)	Dry (Wet option)
Type of power	-	3-phase	3-phase
Voltage @ 60 Hz	V	220 / 460 / 575	460 / 575
Power @ 60 Hz	HP (W)	5 (3700)	7.5 (5600)
Waterlift, controlled	in. (mm) H_2O	85 (2159)	72 (1820)
Airflow, blower max.	CFM (L/min)	218 (6167)	367 (10384)
Current, max.	amps	11.2 / 5.6 / 4.5	9.5 / 7.6
Container capacity	gallons (L)	26 (100)	26 (100)
Dimensions (L x W x H)	in. (mm)	50.8 x 23.6 x 60.6 (1290 x 600 x 1540)	50.8 x 23.6 x 60.6 (1290 x 600 x 1540)
Sound pressure level	dB(A)	72	77
Available features	-	ACC HEPA ULPA SST NFPA	ACC HEPA SST NFPA
Approvals	-		

Safely collect Group E metal dust

For explosion-proof/dust-ignition proof vacuums

Nilfisk immersion separators comply with NFPA 484 for the safe collection of explosive metal dusts and built to the same high standards associated with the Nilfisk explosion-proof/dust ignition proof vacuum line. Collect and render inert Group E metal dusts, such as aluminum, magnesium and other commercial alloys, in an inert fluid bath.*

Integrated immersion separator

Stand-alone immersion separator

Integrated immersion separator

All-in-one design is easy to use and saves space in your work area, sold with or available as retrofit to the following Nilfisk models:

- **VHS110EXP** (electric-powered, CSA-certified for use in Group E environments)
- **VHC200EXP** (pneumatic-powered, suitable for use in Group E environments)
- **VHT437EXP or VHT456EXP** (electric-powered, CSA-certified for use in Group E environments)
- **VHC110EXP or VHC120EXP** (pneumatic-powered, suitable for use in Group E environments)

Stand alone immersion separator

Constructed of low-sparking 304 stainless steel; offered for use with the following Nilfisk models:

- **VHS110EXP** (electric-powered, CSA-certified for use in Group E environments)
- **VHC200 EXP** (pneumatic-powered, suitable for use in Group E environments)
- **VHT437EXP or VHT456EXP** (electric-powered, CSA-certified for use in Group E environments)
- **VHC110EXP or VHC120EXP** (pneumatic-powered, suitable for use in Group E environments)

Technical specifications

Description	Unit	Stand-alone immersion separator	Integrated immersion separator (400 mm)	Integrated immersion separator (460 mm)
Separator inlet diameter	mm	50	50	70
Capacity	gallons (L)	2 (7.6) dust; 11 (41.6) fluid	1 (4) dust; 4 (15) fluid	1.58 (6) dust; 6.6 (25) fluid
Dimensions (Dia x H)	in. x in. (mm x mm)	18.1 x 33.9 (459.7 x 861.1)	16.5 x 14.4 (420 x 365)	18.1 x 27 (459.7 x 685.8)
Weight, separator only	lb. (kg)	47 (21)	16.5 (7.5)	51.5 (23.4)

Specifications and details are subject to change without prior notice.

*Collection of commercial alloys is subject to individual approval by our application engineer. The fluid in the separator is not supplied by Nilfisk, Inc., Industrial Vacuum Division and should not be reactive to the metals/materials being collected. *A light mineral oil is recommended. 400 mm machines feature a low fluid shut off option.*

Explosion-proof/ dust ignition-proof accessories

Safety is one of the most important concept in Nilfisk philosophy. For this reason, we are always developing new solutions which can increase the efficiency of the production companies, while protecting the working environment and the operators.

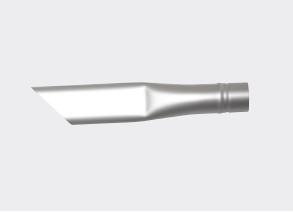
Finishing tools and brushes for hazardous locations

Wheeled floor nozzle

Conductive rubber cone

Conductive rubber nozzle

Crevice nozzle



Aluminum crevice nozzle

Aluminum dust brush

EXP pipe brush

EXP wall brush

Antistatic hose & cuffs

40 mm conductive
(<= 10^4 ohms) polyurethane
hose (per meter)
40 mm antistatic hose cuff

50 mm conductive
(<= 10^4 ohms) polyurethane
hose (per meter)
50 mm antistatic hose cuff

**Only the most typical accessories are represented. Contact us for additional diameters, materials and more.*
Please refer to the EXA Accessories for industrial vacuums brochure for more details on the EXA accessory range.

Safe choice commitment

At Nilfisk, we understand that you face many risks each day, just by operating your business. That is why Nilfisk is dedicated to helping you make smart choices to keep your facility and your workers safe. Our team of experts is ready to tackle any cleaning challenge – because in a world full of risk, you have to make safe choices.

We are committed to being that safe choice. To learn more visit nilfisk.us

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